APPENDIX O

CONCEPTUAL IMPROVEMENT EVALUATION/DESIGN REPORT



FINAL

Interstate 95 Corridor Planning Study
Miami-Dade County
US 1/SR 5 to Broward County Line
FM# 414964-6-22-01

Conceptual Improvement Evaluation/Design Report

KHA 040006342

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INTRODUCTION

Interstate 95 is the most traveled corridor in South Florida with over 250,000 vehicles traveling through parts of the corridor daily, within Miami-Dade County. With significant long-term population and employment growth projected in the region, travel demand is expected to continue to increase over the next 20 years and beyond. Geometric roadway expansion opportunities along the corridor are challenging due to right-of-way limitations and constraints. Express lanes (also referred to as managed lanes or EL) were constructed along the corridor from the Golden Glades Interchange (GGI) to south of Interstate 195 (I-195)/State Road 112 (SR 112) (95 Express - Phase 1), which opened in both northbound/southbound directions in 2010. As part of the 95 Express - Phase 1 implementation, interchange ramp metering and express bus service utilizing the express lanes were implemented along the corridor. 95 Express - Phase 2 extended the express lanes facility to the north into Broward County. 95 Express - Phase 2 was under construction at the onset of this project and is now open. 95 Express - Phase 3 is programmed for construction and continues the express lanes 29 miles north from Stirling Road in Broward County to Linton Boulevard in Palm Beach County.

The purpose of this Corridor Planning Study (CPS) is to develop and evaluate improvement concepts and perform a planning level operational analysis for the Interstate 95 corridor within Miami-Dade County. The analysis includes the evaluation of the study interchanges, interchange influence areas, and ramp junctions. The purpose of the evaluation is necessary to identify deficiencies focusing on recurring bottlenecks and to develop a series of proposed improvements to address the existing and future demands in the corridor.

As part of the study, a series of concepts were developed, evaluated, and ultimately refined from 45 initial alternatives to two corridor-wide concepts; hereafter referred to as Build Concept 1 and Build Concept 2. In general, Build Concept 1 elevates the express lanes above the general purpose lanes while Build Concept 2 maintains the express lanes at grade with the general purpose lanes. The purpose of this evaluation report is to summarize the process in which Build Concepts 1 and 2 were developed and to determine an appropriate refined concept to move forward in the project development process. Based on the results of the evaluation of Build Concepts 1 and 2 along with input and feedback from District 6 staff, a refined concept referred to as Refined Build Concept was developed. Note the Refined Build Concept was preliminarily developed at the direction of the District and, for purposes of this study, is considered the final concept.

PROJECT LOCATION

The study area is located within Miami-Dade County along Interstate 95, South Florida's busiest thoroughfare. The southern extent of the project limits is at SR 5/US 1/Dixie Highway and SW 16 Avenue in the City of Miami, which is approximately one-half mile south of the terminus of Interstate 95. The northern extent of the project limits is the Broward/Miami-Dade County line, north of Ives Dairy Road. The eastern and western project limits for most of the corridor consists of one adjacent signalized intersection east and west of Interstate 95 interchanges, referred to as the interchange influence area. Project limits were extended at some interchanges due to the complexity of traffic operations, such as the Golden Glades Interchange and SR 970/Downtown Distributor.

The corridor was divided into five segments for purposes of conceptual improvement development:

1. Central Business District - SR 5/US 1/Dixie Highway to north of the SR 836/I-395 interchange (CBD)
2. North of the SR 836/I-395 interchange to north of the SR 112/I-195 interchange (South)
3. North of the SR 112/I-195 interchange to south of the GGI (Central)
4. Golden Glades Interchange (GGI)
5. North of the GGI to the Broward/Miami-Dade County line (North)

The remainder of this study will refer to the five segments by the names in parenthesis, as noted above. A project location map is shown in Figure 1.

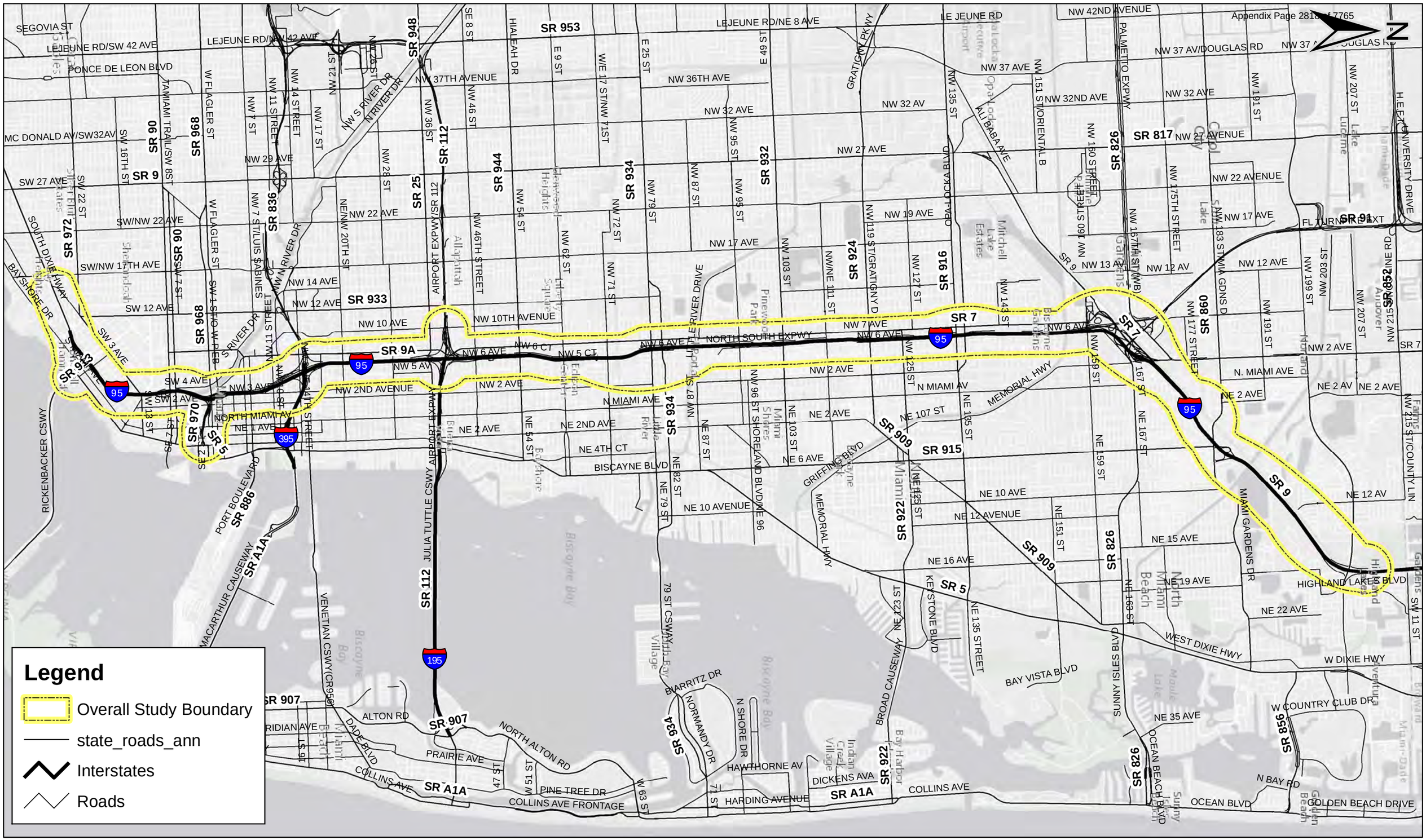


Figure 1. Project Location

EXISTING CONDITIONS OPERATIONAL ANALYSIS

An existing conditions operational analysis was completed for this corridor planning study. Traffic operations of interchanges, interchange influence areas, and ramp junctions were evaluated with the VISSIM simulation model. In addition to VISSIM modeling, operations along the Interstate 95 mainline were evaluated with the McTrans *Highway Capacity Software* (HCS 2010 v6.50) Facilities Module. Capacity analyses for ramp-terminal and facility-adjacent intersections along the Interstate 95 corridor were also performed using Trafficware's *Synchro* (Version 9.1) software, which applies methodologies of the 2000/2010 Editions of the *Highway Capacity Manual.*

Simulation models provide Measures of Performance (MOP) metrics, which are used to evaluate the corridor's traffic operations. Major input parameters included turning movement volumes, peak hour factors (PHF), and roadway geometry. Design hour truck (DHT) values were calculated based upon historical data from FDOT count sites that were obtained from FDOT's Florida Traffic Online.

For more information on initial data collection, Level of Service (LOS) targets, and operational analysis results, please refer to the Existing Conditions Operational Analysis report included in Appendix A.

FUTURE NO-BUILD CONDITIONS

A future no-build conditions operational analysis was completed in December 2016 following the methodology outlined in the Existing Conditions Operational Analysis report. Future no-build traffic volumes used in the analysis are the sum of the existing traffic plus additional traffic generated by growth and the change in traffic patterns from the programmed improvements included within the following section.

Programmed Improvements

GGI Interchange PD&E Study

A Project Development & Environment (PD&E) study for the Golden Glades Interchange (GGI) was completed in March 2014 with the purpose of providing improvements to two vehicular routes through the GGI: (1) from SR 826/Palmetto Expressway eastbound to Interstate 95 northbound and (2) from Florida's Turnpike southbound to Interstate 95 southbound. The key elements of the proposed ultimate build alternative include:

- New three-lane off-ramp for SR 826/Palmetto Expressway eastbound to Interstate 95 northbound and southbound.
- New flyover ramp for the SR 826/Palmetto Expressway eastbound to Interstate 95 northbound, which begins from the SR 826/Palmetto Expressway eastbound to Interstate 95 southbound ramp and continues over the Turnpike Connector and underneath the Interstate 95 Express Flyover Ramps. The new connection then crosses over Interstate 95 and merges with the existing SR 7/US 441 northbound to Interstate 95 northbound ramp, before joining Interstate 95 using the existing on-ramp alignment.
- Relocation of the NW 12 Avenue on-ramp to connect with the three-lane off-ramp to Interstate 95 northbound and southbound, as a barrier separated auxiliary lane.
- Reconstruction of the Turnpike Connector southbound lanes to shift the alignment to the west to accommodate a future direct express lane connection from the Florida's Turnpike southbound to the Interstate 95 southbound express lanes.
- Widening of the Turnpike Connector southbound lanes to accommodate two lanes from the Florida's Turnpike and three lanes from SR 826 eastbound to Interstate 95 southbound.
- Relocation of the off-ramp to SR 7/US 441 to the south to increase the weaving distance along the Turnpike Connector southbound lanes.
- Texas U-Turns (matching the existing bridge vertical clearances) underneath the SR 826/Palmetto Expressway mainline bridges over NW 17 Avenue and NW 12 Avenue.

For more details, please refer to the Golden Glades Interchange PD&E study included in Appendix B.

SR 924 East Extension PD&E Study

A PD&E study for the SR 924/Gratigny Parkway East Extension from west of NW 32 Avenue to Interstate 95 was completed in May 2013. The segment between NW 32 Avenue and Interstate 95, NW 119 Street, was analyzed with the goal to provide a more integrated highway system to serve the needs of the area and to improve access and mobility to and from the major origins and destinations in northern Miami-Dade County. The key elements of the proposed build alternative include:

- Reduction of the typical section for the at-grade roadway from eight lanes to six lanes along the segment from NW 32 Avenue to NW 27 Avenue.

- Reduction of the typical section for the at-grade roadway from six lanes to four lanes along the segment from NW 27 Avenue to NW 7 Avenue.
- Elevated east extension of Gratigny Parkway from west of NW 32 Avenue to Interstate 95. Note that typical sections of the elevated extension consist of two eastbound and two westbound lanes.
- New system-to-system connection at Gratigny Parkway/Interstate 95, for all movements to and from the north and south.
- New ramp connections at Gratigny Parkway/NW 27 Avenue/NW 32 Avenue, including an eastbound entrance ramp east of NW 27 Avenue and a westbound exit ramp east of NW 32 Avenue.

For more information, please refer to the SR 924 East Extension PD&E study included in Appendix D.

I-395 PD&E and IMR Study

Metric Engineering Inc, on behalf of FDOT, performed PD&E Study and Interchange Modification Report (IMR) evaluation of I-395 from the Midtown interchange to the MacArthur Causeway Bridge. The objective of the study was to assess possible facility improvements and to develop solutions to address existing deficiencies and anticipated substandard conditions. The study recommended an elevated alternative with new ramps at N Miami Avenue, along with roadway and bridge reconstruction and widening, geometric improvements, interchange modifications, and upgrades to standards wherever feasible. The key elements provided as part of the proposed build alternative include:

- Expansion of the I-395 GPLs from two to three lanes in each direction.
- New entrance and exit ramps to and from N Miami Avenue.
- New connector facility road to connect westbound I-395 to northbound and southbound Interstate 95.
- New right-hand exit and entrance for each ramp.

For more information, please refer to the I-395 PD&E and IMR Study included in Appendix D.

State Road 90/SW 7/8 Streets PD&E and IMR Study

HNTB Corporation, on behalf of FDOT, is performing a PD&E and IMR study for SR 90/US 41/SW 8/7 Streets between SR 9/SW 27 Avenue and SR 5/US 1/Brickell Avenue. The purpose of the study was to develop capacity and safety improvements. The study recommended an alternative with new ramps at the Interstate 95 interchange, along with geometric improvements and intersection modifications. The proposed alternative includes the following key elements:

- SW 7/8 Streets are maintained three lanes in each direction, consistent with the existing condition.
- A new flyover ramp is added from southbound Interstate 95 to eastbound SW 8 Street.
- A new flyover ramp is added from westbound SW 7 Street to northbound Interstate 95.
- Direct access to northbound Interstate 95 from SW 3 Avenue is removed.
- Geometric modifications are added to prohibit the southbound through movement at the intersection of SW 8 Street and SW 3 Avenue.

For more information, please refer to the State Road 90/SW 7/8 Street PD&E and IMR Study included in Appendix E.

Note that this project is currently in the PD&E phase and the engineering design process is anticipated to begin later this year. Therefore, it is anticipated that construction will begin prior to the implementation of the CPS.

Volume Forecasting

A travel demand forecasting methodology memorandum completed in August 2015 describes the approach and processes used to validate the base year travel demand models, which formed the basis for the future year forecasting for the alternatives. This memorandum also summarizes the approach for forecasting future year traffic volumes and demands (origins-destinations) used in the operational models.

Average daily traffic, design hour volumes, and AM and PM peak hour turning movement volumes were developed for the present year (2015), mid-term horizon (year 2025), and a long-term horizon (year 2045), consistent with the policies and procedures outlined in the FDOT Project Traffic Forecasting Handbook and Project Traffic Forecasting Procedure (#525 030 120).

Future year volumes were forecast with the Southeast Florida Regional Planning Model (SERPM) Version 7.0. A review of the highway and transit networks for the study area was conducted to confirm the future no-build transportation network for the study corridor. This future no-build network included the aforementioned programmed improvements.

When compared to present year (2015) volumes, forecasted 2045 build volumes indicate an increase of approximately 27% in vehicle miles travelled (VMT) and approximately 34% in vehicle hours travelled (VHT) during the AM peak hour, and an increase of approximately 26% in VMT and approximately 32% in VHT during the PM peak hour.

Please refer to the Design Traffic Technical Memorandum, along with the inclusion of the methodology, included in Appendix F for existing, future no-build, and future build volumes. Note the mid-term horizon (year 2025) volumes were developed but no further analysis was conducted per the scope of services.

Future No-Build Operational Analysis

A future no-build conditions operational analysis was completed in December 2016 following the methodology outlined in the Existing Conditions Operational Analysis report. Future no-build traffic volumes used in the analysis are the sum of the existing traffic plus additional traffic generated by growth and programmed improvements in the study area. Traffic operations of interchanges, interchange influence areas, and ramp junctions were evaluated with the VISSIM simulation model. In addition to VISSIM modeling, operations along the Interstate 95 mainline were evaluated with McTrans Highway Capacity Software (HCS 2010 v6.50) Facilities Module. Capacity analyses for intersections along the Interstate 95 corridor were also performed using Trafficware's Synchro (Version 9.1) software, which applies methodologies of the 2000/2010 Editions of the Highway Capacity Manual.

The future year (2045) No-Build (background) results were compiled into a report entitled *FDOT D6 I-95 CPS – Future (2045) No-Build Conditions Traffic Operational Analysis,* which has been included in Appendix G.

CONCEPT EVALUATION

Build concepts for the corridor were developed using a two-tier process. Tier 1 identified all potential alternative cross sections for the corridor and performed a qualitative evaluation/fatal flaw analysis to identify a set of Tier 2 alternatives. Tier 2 alternatives were evaluated using a more detailed qualitative evaluation including macroscopic quantitative assessment. The highest ranked Tier 2 alternatives were then evaluated for each segment to determine the most appropriate application of each alternative for each given segment.

The highest ranked Tier 2 alternatives were developed as Build Concepts 1 and 2. Interchange improvements were developed for each Build Concept to provide a basis for a detailed evaluation and operational analyses. Build Concepts 1 and 2 were also evaluated to determine estimated construction costs and potential right-of-way needs as well as other impacts.

Tier 1

Tier 1, the first level of evaluation, identified 45 cross section alternatives for the study corridor. In general, the alternatives consisted of the following groups of options: at-grade, below grade/tunnel, asymmetrical, and elevated concepts by lane group (express or EL/general purpose or GPL); non-reversible, unbalanced reversible, and fully reversible express lanes; various express lane barrier types (hard, delineators, or virtual); frontage roads/collector-distributor roads; dedicated transit and truck lanes; and/or, combinations of these concepts.

Asymmetrical concepts consist of a specific lane groups in which both directions of travel are placed on one side of the corridor (e.g. northbound and southbound express lanes placed on the east side or west side of the general purpose lanes) rather than a symmetrical orientation. Asymmetrical concepts include at-grade or elevated lane groups. The unbalanced reversible concepts refer to alternatives where the majority of express lane capacity is provided in the peak direction and the peak direction reverses between the morning and afternoon peak directions. Fully reversible concepts would utilize all lane group capacity in the peak direction during the peak period.

Three barrier types are included in the Tier 1 concepts. Hard barriers were defined as rigid concrete barriers with paved shoulders adjacent to the travel lanes, while delineator-separated barriers use flexible express lane markers consistent with existing conditions. Virtual barriers are defined by signage and pavement markings only and are enforced electronically or by law enforcement officers.

Other concepts examined included potential policy changes such as all tolled lanes, congestion pricing, time-of-day pricing, autonomous vehicle lanes, express lane violation photo enforcement, and super express lanes. The super express lane concept creates a separate express lane facility for longer trips; where vehicles could not enter or exit the facility upon entering it at either end (CBD or Broward/Miami-Dade County Line) of the study limits. For purposes of conducting a qualitative evaluation and identifying fatal flaws, each alternative was categorized as one of the following six alternative groupings:

1. No-Build
2. At-Grade Center Express Lanes/Non-Reversible
3. At-Grade Center Express Lanes/Fully or Unbalanced Reversible
4. Elevated Express Lanes At-Grade General Purpose Lanes
5. Tunnel (Express or General Purpose Lanes)
6. Combinations of each concept

Tier 1 Evaluation Criteria

The 45 initial alternatives were evaluated against four major criteria: engineering issues, costs, environmental impacts, and public impacts. Each concept was assigned one of four evaluation rankings based on their expected impact, as follows: No/Minimal Impact, Intermediate Impact, Substantial Impact, and Fatal Flaw. The items included for each criterion is presented in Table 1 below.

Table 1: Tier 1 Evaluation Criteria

Evaluation Criteria	Criterion Items
Engineering Issues	Traffic – addresses long-term travel demand needs of corridor
	Access – maintains existing access points along corridor
	Constructability – level of complexity of construction/ maintenance of traffic (MOT)
Costs	Right-of-way – potential right-of-way acquisition costs
	Construction – order of magnitude costs of construction
Environmental Impact	Noise, Lighting, and Viewshed – potential impacts to adjacent communities
Public Impact	Community – impacts including tolls, right-of-way and access (cohesion), etc.

The Tier 1 evaluation identified the following fatal flaws:

- Fully Reversible Express Lanes (EL) – The directional split of traffic does not support the use of peak-hour fully reversible express lanes.
- Asymmetrical EL – Access/interchange ramp design for the general purpose lanes (GPL) adjacent to the opposing EL was considered a fatal flaw.
- At-Grade Widening, Asymmetrical EL/Non-Reversible, Delineators or Virtual Barrier – This concept placed both directions of the express lanes on one side of the corridor and both directions of the general purpose lanes on the opposite side. As a result, vehicles traveling in opposing flows would be adjacent to each other and separated only by a delineator/virtual barrier. Though the use of a non-hard barrier would reduce the need for widening, their use may result in unsafe conditions because it would not provide rigid, physical separation of opposing, high-speed traffic flows.
- Elevated One-Way GPL/At-Grade One-Way GPL – Interchange access is considered a fatal flaw with each direction of the GPL at different levels.
- Tunnel GPL – Difficulty providing access between the underground GPL and each interchange was considered a fatal flaw.
- At-Grade, Partial Reversible GPL – The current directional split of traffic does not support use of an unbalanced GPL concept.
- Over SR 7/US 441 EL – Concept would significantly impact the community along the west side of the corridor.

Concepts that did not include these fatally flawed components were advanced to the next level of evaluation. It should be noted that, although the directional split of traffic does not support the application of peak-hour reversible express lanes, one reversible lane concept was advanced. Additionally, concepts with dedicated truck or bus lanes, frontage road/C-D (Collector-Distributor) systems and Super EL were not further analyzed as they (1) require policy change and/or (2) can be incorporated with other concepts without materially changing the design of the concept. The 14 concepts that remained where advanced to a Tier 2 evaluation. The Tier 1 Evaluation is included in Appendix H.

Tier 2

A more detailed evaluation was performed for the 14 concepts that were advanced into Tier 2. The Tier 2 concepts are as follows:

1. No-Build
2. At-grade Widening, Non-Reversible Center EL with Hard Barrier
3. At-grade Widening, Non-Reversible Center EL with Delineator/Virtual Barrier
4. At-grade Widening, Non-Reversible Asymmetrical EL with Hard Barrier
5. At-grade Widening, Asymmetrical Reversible Center EL with Hard Barrier
6. At-grade Widening, Asymmetrical Reversible Center EL with Delineator/Virtual Barrier
7. At-grade Widening, Asymmetrical Reversible Asymmetrical EL with Hard Barrier
8. At-grade GPL & Elevated/Stacked EL, One Way EL At-grade & One-Way EL Elevated
9. At-grade GPL & Elevated EL, Two-Way, Non-reversible EL
10. At-grade GPL & Elevated EL, Two-Way, Asymmetrical Reversible EL
11. At-grade GPL & EL, Unbalanced Reversible Partially Elevated Center EL with Hard Barrier
12. Tunnel/One-Way GPL/EL Tunnel, One-Way At-grade GPL/EL
13. Tunnel/Two-Way Non-Reversible Tunnel EL, At-grade GPL
14. Tunnel/Two-Way Partial Reversible Tunnel EL, At-grade GPL

Typical Sections for concepts advanced to Tier 2 are included in Appendix I.

Tier 2 Evaluation Criteria

The 14 concepts were evaluated based on four categories: engineering issues, costs, environmental impacts, and public impacts. Each criterion was further expanded to provide 10 weighted scores with maximum point value of 100 points. The items considered for each criterion is presented in Table 2. A detailed evaluation matrix is included as Table 3.

Table 2: Tier 2 Evaluation Criteria

Evaluation Criteria	Point Value	Criterion Items
Engineering	15	Traffic – Addresses long-term travel demand needs
	15	Safety – Addresses crash patterns, emergency vehicle access, barrier separation between EL/GPL, congestion, and minimizes left-side access points.
	10	Access – Feasibility of access to/from EL and ease of access at interchanges.
	10	Constructability – Level of complexity, staging, and schedule duration.
	5	Design – Addresses design variations/exceptions, level of complexity for interchange/ramp design.
Cost	10	Right-of-way – Additional square feet per mile required for mainline cross section only. Higher score assigned for needing less right-of-way.
	10	O&M – Costs associated with operations, repairs (including delineators), maintenance and manual enforcement. Higher score assigned for lower O&M costs.
	10	Construction – Estimated cost per mile for mainline cross section only. Higher score assigned for lower cost.
Public	10	Community Cohesion – Community access and impact to community facilities. Higher score assigned for less potential impact.
Environmental	15	Environmental Impacts – Noise, lighting, viewshed, and air quality. Impacts from widening/grade separation. Higher score assigned for less potential impact.
Total	**100**	

Table 3: Tier 2 Evaluation Summary

Concept No.	Concepts			Engineering					Cost			Community	Environmental	Total	Rank
				Traffic	Safety	Access	Constructability/ MOT	Design	Right-of-way	O&M	Construction	Cohesion	Noise, Lighting, Viewshed, and Air Quality		
				Accommodate future traffic demand	Includes crashes, emergency access, barrier presence, congestion, left-access	Feasibility of access to/from Express Lanes & access at interchanges	Level of complexity, staging, schedule, fix deficiencies, and vertical curves	Variations and exceptions & interchange complexity/ ramp design	Square foot per mile for mainline cross section only	Includes operating costs, repairing delineators, enforcement	Cost per mile for mainline cross section only	Community access, potential impact to community facilities, socio-economic	Impacts from widening / grade separation, air quality		
				15	15	10	10	5	10	10	10	10	5		
1	No Build			0.0	3.0	3.0	10.0	1.0	10.0	4.0	10.0	8.0	2.0	**51**	**14**
2	At-Grade Widening	Center Express Lanes / Non-Reversible	Hard Barrier	15.0	12.0	10.0	7.0	5.0	6.0	8.0	9.0	6.0	3.0	**81**	**2**
3			Virtual/ Delineators	15.0	7.5	10.0	8.0	4.0	8.0	5.0	9.0	8.0	4.0	**78.5**	**3**
4		Asymmetrical Express Lanes / Non-Reversible	Hard Barrier	15.0	12.0	6.0	7.0	3.0	3.0	8.0	9.0	3.0	1.5	**67.5**	**9**
5		Center Express Lanes / Partial Reversible	Hard Barrier	15.0	12.0	10.0	7.0	5.0	5.0	7.0	9.0	5.0	2.5	**77.5**	**7**
6			Virtual/ Delineators	15.0	7.5	10.0	8.0	4.0	7.0	5.0	9.0	7.0	3.5	**76**	**6**
7		Asymmetrical Express Lanes / Partial Reversible	Hard Barrier	15.0	12.0	6.0	5.0	3.0	0.0	7.0	9.0	0.0	0.0	**57**	**13**
8	At-Grade General Purpose Lanes & Elevated Express Lanes	One-Way Express Lanes At-Grade and One-Way Express Lanes Elevated (assume hard barrier At-Grade)		15.0	10.5	10.0	6.0	3.5	8.0	7.0	8.0	8.0	3.5	**79.5**	**4**
9		Two-Way - Non-Reversible Express Lanes		15.0	13.5	10.0	6.0	3.5	9.0	7.0	7.0	9.0	4.0	**84**	**1**
10		Two-Way - Partial Reversible Express Lanes		15.0	12.0	8.0	6.0	2.0	9.0	6.0	7.0	9.0	4.0	**78**	**5**
11		Unbalanced Reversible Partially Elevated Express Lanes		15.0	13.5	9.0	7.0	2.5	6.0	7.0	8.0	6.0	1.0	**75**	**8**
12	Tunnel	One-Way Tunnel	One-Way At-Grade	15.0	12.0	0.0	2.0	1.0	8.0	4.0	6.0	10.0	4.0	**62**	**11**
13	Tunnel Express Lanes	At-Grade General Purpose	Two-Way / Non-Reversible	15.0	12.0	2.0	2.0	1.0	10.0	4.0	3.0	10.0	5.0	**64**	**10**
14			Two-Way / Partial Reversible	15.0	10.5	2.0	1.0	0.5	10.0	4.0	0.0	10.0	5.0	**58**	**12**

Notes: (1) - Each criterion was given a value (weighting) between 5 and 15 points.
(2) - Each concept was assigned a score between 0.0 (0%) and 1.0 (100%).
1.0 - Fully addresses need / No Impact
0.5 – Partially addresses need / Moderate Impact
0.0 - Does not address need / Significant Impact
Highest Ranked Concepts

BUILD CONCEPTS

The two highest ranking concepts from the Tier 2 evaluation were advanced and further developed as Build Concepts 1 and 2. The study corridor was divided into the following five segments:

- Segment 1 – SR 5/US 1/Dixie Highway to North of SR 836/I-395 (CBD)
- Segment 2 – North of SR 836/I-395 to North of SR 112/I-195 (South)
- Segment 3 – North of SR 112/I-195 to South of GGI (Central)
- Segment 4 – Golden Glades Interchange (GGI)
- Segment 5 – North of GGI to Broward County Line (North)

A description of Build Concepts 1 and 2 by segment is provided in the following sections. Each Build Concept was developed using readily available information regarding existing horizontal and vertical alignments, structures data, utility information, drainage/retention basins, lighting and sign structures. Note that that the feasibility analysis performed in the development of each Build Concept was limited by the existing information available. Conceptual plans for Build Concept 1 and Build Concept 2 are included in Appendix J and Appendix K, respectively.

Build Concept 1

In general, Build Concept 1 provides additional mainline capacity by constructing additional express lanes above the existing corridor and extending the express lane system from NW 29 Street to south of SR 90/SW 7/8 Street. The concept also provides additional express lane connections to I-195 and the planned express lanes along SR 826 at the GGI. Interchange improvement concepts were developed as part of the concept.

The estimated construction cost of Build Concept 1 is $6.82 billion. Note that the estimated construction cost provides an allowance for Intelligent Transportation Systems (ITS) improvements such as corridor/incident management, active traffic management, and transportation systems management and operations (TSM&O) improvements. The concept may require acquisition of approximately 175 acres of right-of-way. Detailed information regarding cost and right-of-way is included in Appendix L. It should be noted that planning level right-of-way acquisition estimates were performed by parcel for all build concepts presented in this report assuming complete acquisition for residential properties and commercial properties where structures are impacted. Partial acquisition was assumed for commercial properties where structures were not impacted.

The following sections describe each segment of Build Concept 1:

Segment 1 - SR 5/US 1/Dixie Highway to North of SR 836/I-395 (CBD)

The eastbound ramps from the Rickenbacker Causeway to SR 5/US 1/Dixie Highway southbound and Interstate 95 northbound are reconstructed to address geometric deficiencies. The northbound on-ramp from SW 25 Road is reconstructed as a separate bridge structure to the east of the Interstate 95 mainline from SW 25 Road to SW 8 Street. This proposed structure is generally within the existing right-of-way with the exception of the area near SW 13 Street and SW 25 Road, where right-of-way acquisition will be required.

Elevated express lanes begin/end south of the Interstate 95 interchange at SR 90/SW 7/8 Street providing one express lane in each direction. Between the interchange at SR 90/SW 7/8 Streets and the SR 970/Downtown Distributor interchange, the elevated express lanes (one lane in each direction) are located in the center of Interstate 95 as a third level bridge above the second level general purpose lanes. Build Concept 1 reconstructs the

interchange at SR 90/SW 7/8 Street. However, access is not provided between the express lanes and this interchange. Note that the current concept proposed as part of the SR 90/SW 7/8 Street Project Development and Environment (PD&E) study does not consider improvements to the mainline of Interstate 95. Therefore, Build Concept 1 would require the reconstruction of the interchange currently proposed in the PD&E study and will require additional right-of-way acquisition.

In order to accommodate the proposed express lane extension south of the Miami River, Build Concept 1 requires complete reconstruction of the SR 970/Downtown Distributor interchange. The concept proposed to maintain the SR 970/Downtown Distributor ramps as elevated due to the required clearance over the Miami River. The proposed improvements would provide for southbound general purpose lanes on the second level, northbound general purpose lanes on the third level, express lanes to and from the north on the fifth level, and additional intersecting ramps on varying levels. Build Concept 1 proposed an additional express lane in each direction north of the SR 970/Downtown Distributor interchange to provide for a four-lane express lane facility. One of the two southbound express lanes has a direct connection to the SR 970/Downtown Distributor as a exit lane. Correspondingly, a direct connection from the SR 970/Downtown Distributor to the northbound express lanes is accommodated as an entry lane (i.e. second northbound express lane). From north of the Downtown Distributor interchange to the SR 836/I-395 interchange, there are two elevated express lanes in each direction. Right-of-way acquisition is required in this section as the existing horizontal curvature of the mainline alignment of this section is proposed to be improved in addition to the improvements described.

This concept reconstructs most of the existing SR 836/I-395 interchange and significantly modifies the concepts in the current SR 836/I-395 reconstruction project as the current reconstruction plan does not account for capacity improvements along the mainline of Interstate 95. Express lanes are proposed on the sixth level through this interchange, the northbound general purpose lanes on the third level, the southbound general purpose lanes on the second level, and the ramps will be on varying levels. A portion of proposed ramp connections will require right-of-way acquisition.

North of the SR 836/I-395 interchange, the northbound elevated express lanes shift to the east of the northbound general purpose lanes while the southbound elevated express lanes remain in the center. Right-of-way acquisition is required for the northbound elevated express lanes structure and for the collector-distributor (C-D) system.

Segment 2 – North of SR 836/I-395 to North of SR 112/I-195 (South)

The northbound elevated express lanes shift to the center of the corridor adjacent to the southbound elevated express lanes near NW 23 Street. Build Concept 1 provides a new Wynwood/Health District interchange at NW 29 Street in conjunction with the C-D system along NW 6 Avenue. The C-D system in his area provides for access to/from the Wynwood/Health District interchange and SR 836/I-395. The northbound express lanes expand to three lanes in each direction via an entry lane from the northbound C-D facility north of the NW 29 Street interchange. Correspondingly, the southbound express lanes reduce from three lanes to two lanes via an exit lane from the southbound C-D facility. The northbound C-D facility is primarily located within the Interstate 95 or NW 6 Avenue right-of-way. However, the southbound C-D facility will require significant right-of-way acquisition on the west side of Interstate 95/east side of NW 7 Avenue.

This concept maintains the elevation of most of the existing structures within the SR 112/I-195 interchange at the second and third levels and adds a fourth level for the elevated express lanes. Through this interchange, the northbound elevated express lanes shift to the east of the Interstate 95 mainline and the southbound elevated express lanes shift to the west of the Interstate 95 mainline.

North of the SR 112/I-195 interchange, the elevated express lanes are on a second level directly above the first level general purpose lanes. The northbound express lanes expand to a four-lane section via a direct entry lane from SR 112 eastbound consistent with existing conditions. An intermediate access northbound entry ramp is also provided for I-195 westbound from Miami Beach near NW 44 Street. Correspondingly, the southbound express lanes reduce from a four-lane section to a three-lane section via an exit lane to SR 112 westbound, consistent with existing conditions. Southbound express lane egress to I-195 eastbound is provided via an exit near NW 41 Street. This majority of the proposed improvements can be accommodated within the existing right-of-way, as the express lanes are directly above the general purpose lanes and there is no C-D system in this section. Right-of-way acquisition would be required along the west side of Interstate 95 along NW 6 Court from NW 42 Street to NW 50 Street.

Segment 3 – North of SR 112/I-195 to South of Golden Glades Interchange (Central)

For the entire segment between SR 112/I-195 and the GGI, there are four elevated express lanes in each direction above the existing level general purpose lanes. This concept proposes to modify the interchange at NW 62 Street to provide additional operational capacity at the interchange. Additionally, the existing NW 69 Street is proposed to be removed as it current does not meet gore spacing standards and has substandard geometry. The interchange improvements at NW 62 Street and the expanded mainline cross section may require right-of-way acquisition on the west side of Interstate 95.

This concept proposes a C-D system in both directions between NW 95 Street and Opa-Locka Boulevard/NW 135 Street. This C-D system consolidates several closely-spaced interchanges to reduce Interstate 95 mainline turbulence. Right-of-way acquisition may necessary on both sides of the Interstate 95 for the C-D system.

Modifications are required to the improvements at the SR 924/NW 119 Street interchange that were previously identified in the SR 924 East Extension PD&E study prepared by the Miami-Dade Expressway Authority (MDX). Coordination between projects is necessary to confirm the SR 924 PD&E Study and the Interstate 95 improvements are compatible.

South of the GGI, the elevated express lanes descend to the same level as the general purpose lanes. The express lanes are in the center of the facility and the general purpose lanes shift outward. This alignment will require right-of-way acquisition on both sides of the corridor.

Segment 4 – Golden Glades Interchange (GGI)

This concept would require significant modifications to the programmed improvements within the GGI that are currently under design. The programmed improvements for the GGI did not account for improvements in this study including the expansion of Interstate 95 express lanes and system-to-system connections with SR 826 and Florida's Turnpike.

South of the GGI, the four northbound express lanes split into two destination groups. The two inside northbound express lanes connect to Golden Glades Intermodal Transportation Facility/Park and Ride and Interstate 95 northbound express lanes. Two adjacent northbound express lanes connect to the Florida's Turnpike northbound, Interstate 95 northbound general purpose lanes, the planned SR 826 westbound express lanes, and SR 826/NW 167 Street. The existing flyover accommodating the Interstate 95 express lanes through the GGI is expanded to two lanes in each direction in the center of Interstate 95. The four southbound express lanes that form south of the GGI originate from Florida's Turnpike southbound, the Golden Glades Intermodal Transportation Facility/Park and

Ride, Interstate 95 southbound general purpose lanes, and the planned SR 826 eastbound express lanes. In addition, express-to-express ramp connections are provided from northbound Interstate 95 to westbound SR 826 and from eastbound SR 826 to southbound Interstate 95 to complement other planned express-to-express connections at this interchange.

This concept proposes to modify the intersection of NW 2 Avenue and SR 826/NW 167 Street to provide capacity improvements including grade separation of the northbound left-turn and through movements. Additional geometric improvements are proposed within the GGI area to address geometric deficiencies.

Right-of-way acquisition beyond acquisitions associated with the ongoing and planned GGI projects is required for Build Concept 1. Acquisition is required along the east of Interstate 95 from NW 151 Street to north of NW 162 Street, and acquisition is required along the west side of the corridor from NW 153 Street to NW 156 Street. Additional right-of-way is needed along NW 2 Avenue from NW 165 Street to NW 167 Street to accommodate the proposed intersection improvements at NW 2 Avenue and SR 826/NW 167 Street.

Segment 5 – North of GGI to Broward County Line (North)

Build Concept 1 extends the elevated portion of the express lanes from north of the GGI to near SR 860/Miami Gardens Drive. There are two elevated express lanes in each direction above the general purpose lanes in the center of the facility. Express lane access connections are provided near the SR 860/Miami Gardens Drive interchange for both the northbound and southbound directions. Improvements are proposed at the SR 860/Miami Gardens Drive interchange which may require additional right-of-way.

Improvements to the Ives Dairy Road interchange consist of flyover ramp from southbound Interstate 95 to eastbound Ives Dairy Road. This improvement will serve the heavy southbound to eastbound movement at the interchange to provide more efficient operations.

Build Concept 2

In general, Build Concept 2 provides additional mainline capacity by constructing additional mainline express lanes at grade adjacent to the general purpose lanes. Build Concept 2 provides similar features when compared to Build Concept 1 with the exception that it does not incorporate a new interchange serving Wynwood/Health District. Conceptual plans for Build Concept 2 are included in Appendix K. The estimated construction cost of Build Concept 2 is $3.40 billion, which is less than Build Concept 1. Note that the estimated construction cost provides an allowance for Intelligent Transportation Systems (ITS) improvements such as corridor/incident management, active traffic management, and transportation systems management and operations (TSM&O) improvements. However, there is a potential need to acquire approximately 282 acres of right-of-way, which is greater than Build Concept 1. Additional cost and right-of-way information is presented in Appendix M.

The following sections describe each segment of Build Concept 2.

Segment 1 – US 1 to North of SR 836/I-395 (CBD)

The ramps from the eastbound Rickenbacker Causeway to Interstate 95 northbound is reconstructed to address geometric deficiencies under this concept. The northbound entrance to the express lane is provided near NW 21 Road with an additional elevated connection being provided from the Rickenbacker Causeway on-ramp. The southbound express lane ends near SW 17 Road. Note that express lane access is not provided from traffic to/from SR 90/SW 7/8 Street. The express lane facility widens to two lanes in each direction north of SR 970/Downtown Distributor, with ramp connections to the express provided at this interchange.

Consistent with Build Concept 1, Concept 2 reconstructs the interchange at SR 90/SW 7/8 Street, as proposed in the ongoing PD&E study for this interchange, to accommodate improvements to the Interstate 95 mainline. Build Concept 2 also requires reconstruction of the SR 970/Downtown Distributor interchange. The SR 970/Downtown Distributor ramps remain elevated due to the required clearance of Interstate 95 over the Miami River. The SR 970/Downtown Distributor interchange is reconstructed to provide southbound general purpose lanes on the fourth level, northbound general purpose lanes on the third level, express lanes on the fourth level, and ramps on several levels. Between the Downtown Distributor interchange and the SR 836/I-395 interchange, the express lanes ascend to the sixth vertical level.

This concept reconstructs most of the existing SR 836/I-395 interchange, modifying concepts in the current SR 836/I-395 reconstruction project. However, the modifications proposed are not expected to impact the proposed I-395 signature bridge. Through this interchange, the express lanes are on a sixth level, the northbound and southbound general purpose lanes are on a third level, and ramps will be on several levels. Two express lanes in each direction are proposed in the center of Interstate 95 to the north of this interchange.

Right-of-way acquisition is required in this this segment to improve the existing curvature of the mainline and accommodate mainline and interchange capacity improvements.

Segment 2 – North of SR 836/I-395 to North of SR 112/I-195 (South)

In Build Concept 2, express lanes and C-D system improvements are generally at-grade with the Interstate 95 mainline, which widens the footprint of the corridor and necessitates additional right-of-way acquisition. A southbound C-D system is proposed from NW 53 Street to SR 836/I-395 and a northbound C-D system is proposed from SR 836/I-395 to NW 61 Street to address weaving and congestion at the two system-to-system interchanges (SR 836/I-395 and SR 112/I-195). This concept maintains the elevation of most of the existing structures at the second and third levels within the SR 112/I-195 interchange. Concept 2 does not provide a new interchange at NW 29 Street to serve Wynwood and the Health District.

Access between the express lanes and both SR 836/I-395 and SR 112/I-195 are provided via intermediate access point connections. Express lane access is provided for SR 836/I-395 near NW 34 Street, where the express lanes expand from two lanes to three lanes per direction. Express lane access is provided for SR 112/I-195 near NW 51 Street, where the express lanes expand from three lanes to four lanes per direction.

Right-of-way acquisition is required along most of segment for at-grade widening accommodate additional express lanes and the C-D system.

Segment 3 – North of SR 112/I-195 to South of Golden Glades Interchange (Central)

The entire segment from north of SR 112/I-195 to south of the GGI has four express lanes in each direction that are at the same level as the general purpose lanes. There are no proposed intermediate access points to the express lanes in this segment. The interchange at NW 62 Street is proposed to be reconfigured as a Single-Point Urban Interchange (SPUI). The NW 69 Street slip ramps are proposed to be remove, consistent with Concept 1. The interchanges at NW 95 Street, NW 103 Street, and NW 125 Street are also proposed to be reconfigured as SPUIs. A C-D system is introduced in both directions from NW 95 Street to NW 135 Street. The widening of the corridor necessary to accommodate the additional express lanes at the same level as the general purpose lanes requires the relocation of interchange ramps and shifting the alignment of surface streets.

Modifications are required to the planned improvements at the SR 924/NW 119 Street interchange that were identified in the SR 924 East Extension PD&E study prepared by MDX. Coordination with the MDX project is necessary to confirm the concepts for the SR 924 PD&E Study and the Interstate 95 improvements are compatible.

Right-of-way acquisition is required in this segment for at-grade widening to accommodate the additional express lanes, C-D systems, and interchange improvements.

Segment 4 – Golden Glades Interchange (GGI)

Build Concept 2 provides design features similar to Concept 1 within the GGI. The differences with Concept 2 are as follows:

- New ramp from Interstate 95 general purpose lanes southbound to SR 7/US 441/NW 2 Avenue northbound.
- Reconstructed ramp from Interstate 95 general purpose lanes southbound to SR 826/NW 167th Street eastbound.
- New ramp connection from Florida's Turnpike southbound to the general purpose lanes of Interstate 95 northbound.

Right-of-way acquisition requirements for this segment are similar to Build Concept 1.

Segment 5 – North of GGI to Broward County Line (North)

Build Concept 2 provide design features similar to Concept 1 within this segment with the following exceptions:

- Express lane intermediate access is provided north of the Snake Creek Canal, not including the braided ramp improvements proposed in Concept 1. The express lanes transition from four lanes in each direction south of the GGI to two lanes in each direction north of the GGI.
- Different interchange concepts are proposed at both SR 860/Miami Gardens Drive and Ives Dairy Road. The Ives Dairy Road interchange is proposed to be reconfigured to a "Diverging Diamond" interchange (DDI).

Right-of-way acquisition is required in this segment for the at-grade widening and to provide for hard barrier separation for the express lanes.

BUILD CONCEPT 1 AND 2 OPERATIONAL ANALYSIS

An operational analysis was completed for the future year (2045) conditions for Build Concept 1 and Build Concept 2. For purposes of comparing the expected operating conditions between Build Concepts 1 and 2, traffic operations of interchanges, interchange influence areas, and ramp junctions were evaluated using the VISSIM simulation model only. Results of the operational analysis show that Build Concept 1 is expected to provide more favorable operating conditions in comparison to Build Concept 2. Note that VISSIM models for these concepts informed the development of the Refined Build Concept, although the simulation results indicate that neither of these concepts is expected to fully accommodate the projected future travel demands.

Due to the nature of the corridor, express lanes, and service roads configurations, traffic assignment was performed using the Dynamic Traffic Assignment (DTA) feature within VISSIM. This iterative process was completed to identify potential locations where configuration changes were necessary prior to developing the Refined Build Concept.

Detailed VISSIM assumptions, configuration adjustments, and result tables and corresponding heat maps are included in Appendix N.

EVALUATION CRITERIA / SCREENING

The two build concepts were evaluated against five groupings of criteria: Traffic, Design, Right-of-Way, Cost, and Environmental Impacts. These five groupings were segmented into nine weighted evaluation criteria, with a cumulative maximum point value of 100, as shown below in Table 4.

Table 4: Build Concepts Evaluation Criteria

Traffic		Design		Right-of-Way		Cost	Environmental Impacts	
Traffic and Transit Operations	Demand/ Capacity Reliability	Constructability / MOT	Design	Area	Parcels	Engineering Opinion of Probable Cost	Number of Sensitive Sites	Noise
15	15	10	10	10	10	20	7	3

The scoring system was developed to compare Build Concept 1 and Build Concept 2 by segments. For each segment, a baseline score multiplier of 1.0 was given to the concept that provided the more desirable result (i.e. highest volume served, lowest cost, lowest environmental impact, etc.). A corresponding proportional weighted score was then calculated for the other concept. For example, if Build Concept 1 served a volume of 100,000 vehicles and Build Concept 2 served a volume of 80,000 vehicles, then Concept 1 was given a score multiplier of 1.0 for "Traffic and Transit Operations" because it serves the higher volume. Build Concept 2 was assigned a score of 0.80 (80,000 vehicles/100,000 vehicles). The total score for that criteria was then determined by multiplying the criterion weighting by the concept multiplier (i.e. for "Traffic and Transit Operations" the weighting is 15. Therefore, the score for the Build Concept 1 example is 1.0 (multiplier) x 15 (weight) = 15 and the score for Build Concept 2 is 0.8 (multiplier) x 15 (weight) = 12). Descriptions of the scoring of each criterion are provided below.

Traffic

The Traffic evaluation was based on the following criteria:

- Traffic and Transit Operations (15 points) – Addresses long-term travel demand needs of the corridor, including transit. (combined AM and PM peak four-hour period volume served)
- Demand/Capacity Reliability (15 points) – Ability of the concept to provide a consistent/reliable travel experience (consistency of multiple model simulation results)

Table 5 presents the Traffic criterion point values for Concept 1 and Concept 2 for the entire Interstate 95 network. Due to the complexity of the VISSIM micro-simulation model evaluation tool, results were not provided on a segment-by-segment basis.

Traffic and Transit Operations

Traffic and Transit Operations assesses the level at which a concept addresses the long-term travel demands on Interstate 95. The VISSIM metric "Number of Arrived Vehicles" was applied. Number of Arrived Vehicles is defined the total number of vehicles in the VISSIM model that were able to reach their destination and leave the Interstate 95 network during the analysis periods (6:00 AM – 10:00 AM and 4:00 PM – 8:00 PM) (i.e. "Volume Served"). For "Volume Served," the concept with the higher volume served received a score (multiplier) of 1.0 multiplier and the concept with the lower volume served received a score (multiplier) based on its proportion to the higher volume

served. As shown in Table 5, there is minimal difference between the concepts (approximately 15,500 vehicles or 2 percent). Therefore, when rounding to the nearest tenth both concepts received a score of 1.0.

For Demand/Capacity Reliability, a reliability factor was devised to measure the consistency of the VISSIM micro-simulation results. The concept that provides more consistent results was considered more desirable than the concept that provides more unstable results. The goal of this criterion is to identify the concept that will provide more consistent/reliable travel times. The VISSIM metric applied to calculate the consistency factor was "Active Vehicles," which are defined as the total number of vehicles on the network at the end of the simulation (i.e. vehicles that did not reach their destination). Ten (10) VISSIM iterations were performed for each concept and a standard deviation in the network was determined for each concept. A lower standard deviation indicates that data points are closer together and the model results are more consistent for the concept.

An equation was formulated to compare Build Concept 1 and Build Concept 2. The equation is (Standard Deviation AM + Standard Deviation PM) / (Average Active Vehicles AM + Average Active Vehicles PM). The standard deviation percentage calculation is as follows:

- Concept 1: $\frac{(500+565)}{(17{,}186+17{,}261)} = 0.309 = 3.1$ percent
- Concept 2: $\frac{(479+1{,}063)}{(17{,}097+18{,}128)} = 0.438 = 4.4$ percent

For Demand/Capacity Reliability, Concept 1 with the lower standard deviation percentage received a score (multiplier) of 1.0, and Concept 2 received a score (multiplier) based on its proportional comparison to Concept 1.

Table 5: Build Concepts – Traffic Criteria Evaluation

Segment	Traffic						
	Traffic and Transit Operations				Demand/Capacity Reliability		
	Units	Volume Served (Combined AM and PM Peak Period)	Weight	Total Points	Consistency of Micro-Simulation Model Results (percentage)	Weight	Total Points
All Segments	Concept 1	913,468	1.0	15.0	3.1	1.0	15.0
	Concept 2	897,916	1.0	15.0	4.4	0.7	10.5

Design

Table 6 presents the design criteria point values for each concept for the five segments of the corridor. An engineering analysis was conducted for each of the criteria to provide a score (from 0 to 10) based on the design adherence to the criteria goals. For Constructability/MOT, a higher score represented less impact to the existing roadway and surrounding area from construction or MOT. For Design, a higher score represented a less complex design and/or fewer design variations. The higher score received a 1.0 multiplier and the lower score received a multiplier proportional to the higher score.

Table 6: Build Concepts – Design Criteria Evaluation

Segment	Category	Design					
	Subset	Constructability/ MOT			Design		
	Units	Impacts	Weight	Total Points	Design Complexities/ Design Variations Needed	Weight	Total Points
Segment 1 - CBD	Concept 1	5	0.6	6.0	8	0.8	8.0
	Concept 2	8	1.0	10.0	10	1.0	10.0
Segment 2 - South	Concept 1	6	0.7	7.0	6	0.6	6.0
	Concept 2	9	1.0	10.0	10	1.0	10.0
Segment 3 - Central	Concept 1	7	0.8	8.0	9	0.9	9.0
	Concept 2	9	1.0	10.0	10	1.0	10.0
Segment 4 - GGI	Concept 1	8	1.0	10.0	10	1.0	10.0
	Concept 2	4	0.5	5.0	8	0.8	8.0
Segment 5 - North	Concept 1	9	1.0	10.0	10	1.0	10.0
	Concept 2	4	0.4	4.0	10	1.0	10.0

Right-of-Way Impacts

The Right-of-Way evaluation was based on the following criteria:

- Area (10 points) – Based on preliminary conceptual plans and assumes only the right-of-way needed to accommodate the construction of the concept. (measured in acres)
- Parcels (10 points) – Based on preliminary conceptual plans and includes every parcel impacted by the construction of the concept, regardless of portion of the parcel impacted by the construction. (Number of Parcels)

Table 7 presents the Right-of-Way criteria point values for each concept for the five segments of the corridor. For Area, the smaller area (i.e. fewer acres impacted) received a 1.0 multiplier and the larger area (i.e. more acres impacted) received a multiplier proportional (inverse) to the smaller area. For Parcels, the fewer parcels impacted received a 1.0 multiplier and the greater parcels impacted received a multiplier proportional (inverse) to the lesser number of parcels.

Table 7: Build Concepts – Right-of-Way Criteria Evaluation

Segment	Category	Right-of-Way					
	Subset	Area			Parcels		
	Units	Acres	Weight	Total Points	Number of Parcels	Weight	Total Points
Segment 1 - CBD	Concept 1	79.5	0.9	9.0	341	1.0	10.0
	Concept 2	74.5	1.0	10.0	370	0.9	9.0
Segment 2 - South	Concept 1	19.3	1.0	10.0	118	1.0	10.0
	Concept 2	29.1	0.7	7.0	162	0.7	7.0
Segment 3 - Central	Concept 1	51.2	1.0	10.0	263	1.0	10.0
	Concept 2	159.6	0.3	3.0	618	0.4	4.0
Segment 4 - GGI	Concept 1	22.2	0.5	5.0	29	1.0	10.0
	Concept 2	11.8	1.0	10.0	35	0.8	8.0
Segment 5 - North	Concept 1	2.4	1.0	10.0	27	1.0	10.0
	Concept 2	6.9	0.3	3.0	80	0.3	3.0

Cost

Table 8 presents the cost criterion point values for each concept for the five segments of the corridor. The estimates outlined in the table include costs for design, construction, and construction engineering and inspection (CEI). The costs estimated for design and CEI services were calculated as 20 percent (20%) of the construction cost. The lower cost received a 1.0 multiplier and the higher cost was assigned proportionally (inverse) to the lower cost.

Table 8: Build Concepts – Cost Criteria Evaluation

Segment	Category	Cost		
	Subset	Engineering Opinion of Probable Cost (Design, Construction, and CEI)		
	Units	Dollars	Weight	Total Points
Segment 1 - CBD	Concept 1	$2,618,177,306.00	0.3	6.0
	Concept 2	$749,890,096.00	1	20.0
Segment 2 - South	Concept 1	$975,950,852.00	0.6	12.0
	Concept 2	$625,605,871.00	1	20.0
Segment 3 - Central	Concept 1	$2,150,455,407.00	0.5	10.0
	Concept 2	$1,052,444,993.00	1	20.0
Segment 4 - GGI	Concept 1	$621,479,829.00	1	20.0
	Concept 2	$618,053,678.00	1	20.0
Segment 5 - North	Concept 1	$423,637,521.00	0.8	16.0
	Concept 2	$320,141,221.00	1	20.0
Tolling(1)	Concept 1	$14,400,000.00	-	-
	Concept 2	$14,400,000.00	-	-
Signalization	Concept 1(2)	$14,880,000.00	-	-
	Concept 2(3)	$18,720,000.00	-	-
Total	**Concept 1**	$6,818,980,915.00	3.2	64
	Concept 2	$3,399,255,862.00	5	100

Note: (1) Tolling cost is based on an estimate of $3 million per tolling site for four sites.
(2) Signalization cost is based on an estimate of $400,000 per intersection for 31 intersections.
(3) Signalization cost is based on an estimate of $400,000 per intersection for 39 intersections.

Environmental Impacts

Area of Interest

A preliminary environmental review of the corridor was conducted to identify key issues and to support the future Efficient Transportation Decision Making (ETDM) process. For purposes of this review, the project corridor was split into three segments consistent with the limits of the current planned PD&E studies, as depicted in Figure 2.

The preliminary environmental analysis for the build concepts was conducted using available background information, which was entered into the Department's Environmental Screening Tool (EST) to produce six (6) Area of Interest (AOI) datasets. GIS information for both proposed concepts were entered into the EST, including a 100-foot buffer around each of the project areas.

As shown in Table 9, AOI data is broken into four broad impact categories: social/economic, cultural, natural, and physical. A larger number corresponds to a greater number of potential adverse impacts. Therefore, Concept 1 is expected to be slightly less impactful in comparison to Concept 2. Upcoming PD&E studies (segmentation subject to change) will provide a more in-depth environmental analysis, focusing on the categories highlighted herein. Future ETDM screenings will also help identify potential fatal flaws for applying a concept in a particular area of the corridor.

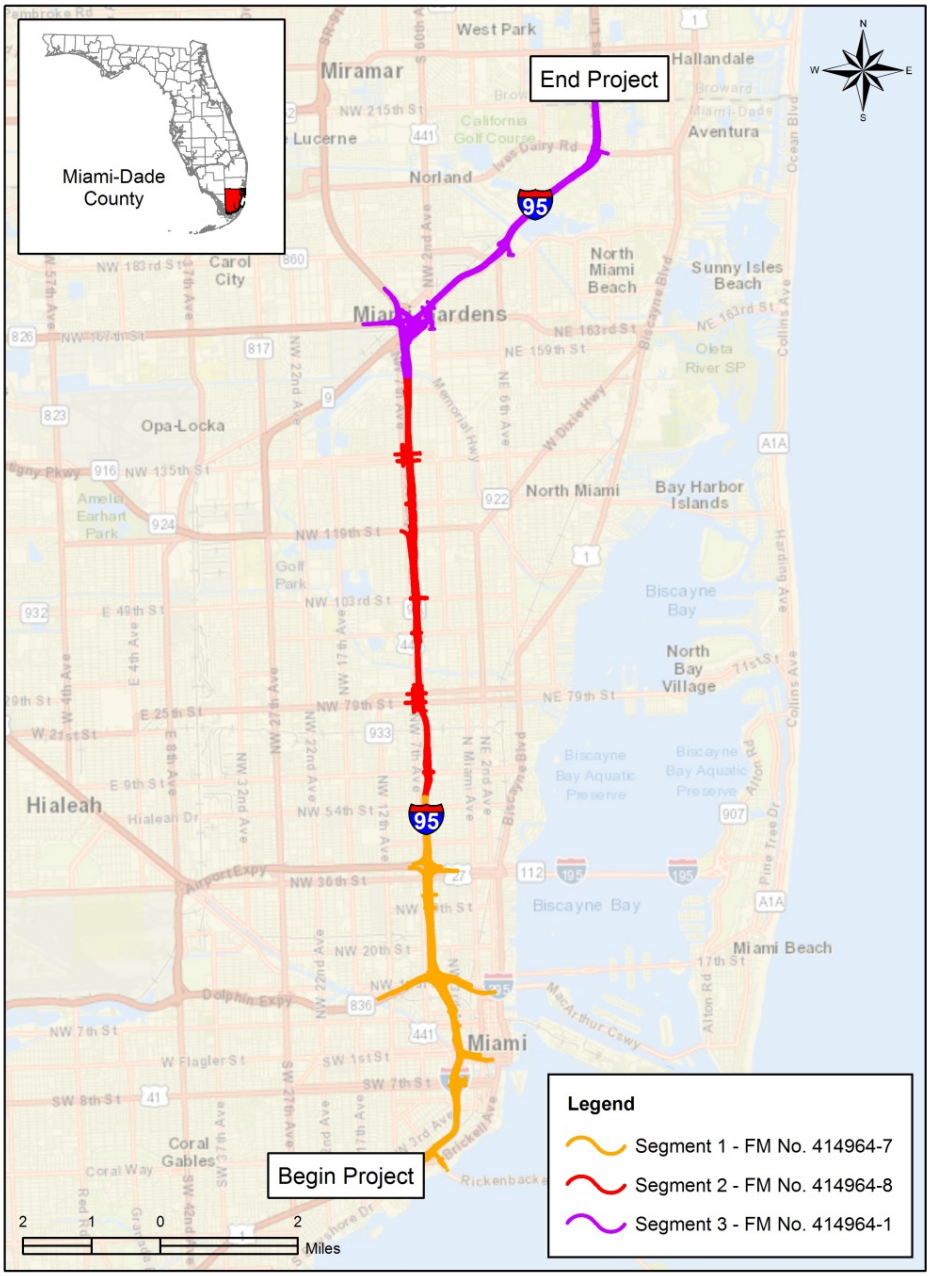


Figure 2: ETDM/Initial PD&E Segmentation Map

Table 9: Build Concepts – Environmental Analysis Summary

Category	Issue	Item	Build Concept 1				Build Concept 2			
			PD&E Segment			Total	PD&E Segment			Total
			1	2	3		1	2	3	
Social/ Economic	Social	Cultural Centers	5	2	0	7	5	2	0	7
		Assisted Housing	2	1	0	3	4	2	0	6
		Fire Stations	0	1	0	1	0	1	0	1
		Health Care Facilities	4	1	10	15	1	2	10	13
		Law Enforcement Facilities	2	0	0	2	2	1	0	3
		Schools	1	1	0	2	1	2	0	3
		Veterans Facilities	0	1	0	1	0	1	0	1
		Religious Centers	9	12	5	26	9	15	5	29
Cultural	Sec 4(f) Potential									
		Trails	10	2	1	13	8	2	1	11
	Historical/ Archeological Sites									
		Florida Site File Arch/Historic Sites	4	0	0	4	3	0	0	3
		Florida Site File Historic Bridges	0	0	10	10	1	0	10	11
		Florida Site File Historic Standing Structures	98	80	38	216	98	127	70	295
		National Register of Historic Places	3	0	0	3	3	0	0	3
		State Historic Highways	3	0	0	3	3	0	0	3
	Rec Areas									
		Parks/Rec Facilities	13	3	2	18	15	4	2	21
Natural	Wetlands									
		National Wetlands Inventory	6	0	5	11	6	0	5	11
	Wildlife									
		Critical Habitat West Indian Manatee	2	0	2	4	2	0	2	4
		Manatee Protection Zones	1	0	2	3	1	0	2	3
		Woodstork Core Foraging Area	1	1	0	2	1	1	0	2
		Consultation Area for T&E Species	5	4	3	12	6	4	3	13
Physical	Contamination									
		Brownfields	2	4	3	9	2	4	3	9
		Potentially Contaminated Site	51	53	8	112	38	66	9	113
	Special Designation									
		Aquatic Preserves	1	0	0	1	1	0	0	1
		Outstanding Florida Waters	1	0	0	1	1	0	0	1
Total Per Segment			**224**	**166**	**89**	**-**	**211**	**234**	**122**	**-**

**The total impacts for all three segments of the build concepts is not presented to avoid double counting of impacts that span across multiple segments. The total impacts per segment for the build concepts is provided for comparative purposes only.*

Noise Analysis

A preliminary review was performed to determine (1) if noise levels are expected to increase as a result of the proposed build concepts, (2) if noise sensitive receptor sites are located within the project area, and/or (3) if noise impacts are likely to occur.

A GIS review identified approximately 1,665 noise sensitive receptor sites along the project corridor. Of the total 1,665 sites, 631 were identified in PD&E Segment 1, 632 in PD&E Segment 2, and 402 in PD&E Segment 3. These noise sensitive receptor sites include residences, schools, religious facilities, parks, and medical facilities, amongst others.

Planning-level data for the two build concepts, including typical roadway cross-sections and traffic data, were used to generate noise-level contours with FHWA's Traffic Noise Model (TNM) Version 2.5. The preliminary analysis indicates that planned improvements are predicted to generate noise impacts at noise sensitive receptor sites in the study corridor. Noise abatement, via noise barrier walls, was considered for mitigation at noise sensitive receptor sites where design year traffic noise levels are predicted to approach or exceed FHWA's noise abatement criteria. After examination of existing noise barrier walls along the corridor, it was determined that Build Concept 1 requires approximately an additional 71,000 feet of walls, while Build Concept 2 requires approximately an additional 76,000 feet of walls. A corresponding noise barrier wall cost estimate was developed using FDOT's current statewide average noise barrier unit cost of $30 per square-foot, assuming an average wall height of 16 feet. Estimated requirements of noise barrier wall length and cost per segment is summarized in Table 10.

Table 10: Build Concepts – Noise Barrier Cost Summary

PD&E Segment	Build Concept 1		Build Concept 2	
	Cost	Length (ft.)	Cost	Length (ft.)
Segment 1	$22,554,240	46,988	$25,833,600	53,820
Segment 2	$4,171,200	8,690	$3,540,000	7,375
Segment 3	$7,159,200	14,915	$6,869,760	14,312
Total	**$33,884,640**	**70,593**	**$36,243,360**	**75,507**

Environmental Impact Evaluation Criteria

The Environmental Impact evaluation criteria consisted of the following two criterion:

- Sensitive Sites (7 points) – Number of social/economic, cultural, natural, and physical resources potentially impacted by the concept.
- Noise (3 points) – Total length of Noise Wall needed to be added or modified to accommodate the concept.

Table 11 presents the environmental criteria point values for the five segments of the two build concepts. For the sensitive sites calculation, the lower number of impacts received a 1.0 multiplier and the higher number of impacts received a score proportionally (inverse) to the lower number. For the noise calculation, the lesser length of wall received a 1.0 multiplier and the greater length of wall received a multiplier proportionally (inverse) to the lesser length. Note that the environmental impact analysis was conducted based on the preliminary Interstate 95 PD&E studies limits. Generally, Segment 1 and Segment 2 of this CPS match the south PD&E Study Segment (PD&E Study Segment 1), Segment 3 of this CPS matches the central PD&E Segment (PD&E Study Segment 2), and Segment 4 and Segment 5 of this CPS match the north PD&E Study Segment (PD&E Study Segment 3).

Table 11: Build Concepts – Environmental Impact Criterion Evaluation

PD&E Segment	Study Segment	Build Concept	Environmental Impacts					
			Sensitive Sites			Noise		
			Number of Impacts	Weight	Total Points	Linear feet of Noise Wall	Weight	Total Points
PD& E Segment 1	Segment 1 - CBD	Concept 1	224	0.9	6.3	46,988	1.0	3.0
		Concept 2	211	1.0	7.0	53,820	0.9	2.7
	Segment 2 - South	Concept 1	224	0.9	6.3	46,988	1.0	3.0
		Concept 2	211	1.0	7.0	53,820	0.9	2.7
PD& E Segment 2	Segment 3 - Central	Concept 1	166	1.0	7.0	8,690	0.8	2.4
		Concept 2	234	0.7	4.9	7,375	1.0	3.0
PD& E Segment 3	Segment 4 - GGI	Concept 1	89	1.0	7.0	14,915	1.0	3.0
		Concept 2	122	0.7	4.9	14,312	1.0	3.0
	Segment 5 - North	Concept 1	89	1.0	7.0	14,915	1.0	3.0
		Concept 2	122	0.7	4.9	14,312	1.0	3.0

Concept Evaluation Rankings

Table 12 presents the total points and rankings by segment for the two build concepts. Build Concept 1, where the primarily elevated express lanes are proposed, is ranked higher for Segments 1, 3, 4, and 5. Build Concept 2, the at-grade express lanes concept, is ranked higher for Segment 2. For Segment 1 and Segment 2, the point differential between Build Concept 1 and Build Concept 2 is 2.6 and 2.4 points, respectively, which was considered minimal. For the other Segments, the point differential is 7.5 points or more with Concept 1 performing better. Build Concept 1 was the higher ranked concept for 4 of the 5 Segments.

Table 12: Build Concepts – Overall Evaluation Summary

Segment	Category	Traffic		Design		Right-of-Way Impacts		Cost	Environmental Impacts		Total	Rank
	Subset	Traffic and Transit Operations	Demand/Capacity Reliability	Constructability/ MOT	Design	Acreage Impacts	Parcel Impacts	Engineering Opinion of Probable Cost	Sensitive Sites	Noise		
Segment 1 - CBD	Concept 1	15	15	6	8	9	10	16	6.3	3	78.3	2
	Concept 2	13.5	10.5	10	10	10	9	20	7	2.7	92.7	1
Segment 2 - South	Concept 1	15	15	7	6	10	10	12	6.3	3	84.3	2
	Concept 2	13.5	10.5	10	10	7	7	20	7	2.7	87.7	1
Segment 3 - Central	Concept 1	15	15	8	9	10	10	10	7	2.4	86.4	1
	Concept 2	13.5	10.5	10	10	3	4	20	4.9	3	78.9	2
Segment 4 - GGI	Concept 1	15	15	10	10	5	10	20	7	3	95	1
	Concept 2	13.5	10.5	5	8	10	8	20	4.9	3	82.9	2
Segment 5 - North	Concept 1	15	15	10	10	10	10	16	7	3	96	1
	Concept 2	13.5	10.5	4	10	3	3	20	4.9	3	71.9	2

BUILD CONCEPT REVIEW

Based on the results of the evaluation of Build Concepts 1 and 2 along with input and feedback from District 6 staff, a refined concept referred to as Refined Build Concept was developed.

Additional review and evaluation was conducted by FDOT District 6 after the completion of the evaluation of Build Concept 1 and Concept 2. The evaluation included both a reexamination of the purpose and goals of future projects along the corridor, and an independent review of this CPS in a Cost Risk Assessment and Value Engineering (CRAVE) analysis.

CRAVE Analysis

A CRAVE analysis was performed for the Build Concepts in June 2018. The primary objectives of the CRAVE analysis were to verify or improve various concepts for the project, identify high risk areas for delivering the project, improve the value of the project through innovative measures aimed at improving the performance while reducing costs, and perform a cost risk assessment on the baseline design.

The CRAVE team identified 32 independent risks that carry both potential schedule and cost impacts, and they generated 79 ideas for the project. These ideas were compared to the baseline concept developed by the project team. The ideas that performed the best were further developed by the CRAVE team, resulting in 16 value engineering (VE) recommendations. Key VE recommendations include the following:

- Eliminate ‘throw away’ programmed improvements
- Consider construction of elevated express lanes on separate structures to the outside of general purpose lanes
- Minimize right-of-way acquisition in Segment 1
- Consider a separate connection from SR 836 EB to SR 970/ Downtown Distributor

The CRAVE analysis estimated a risk loaded project cost between $7 and $9 billion. See Appendix O.

District Review and Directives

FDOT District 6 identified the following concerns upon completion of their review of Build Concept 1 and Build Concept 2:

- The estimated overall construction costs for Build Concept 1 of $6.82 Billion may not be cost feasible based on future funding availability.
- The estimated amount right-of-way acquisition for Build Concept 2 of 282 acres may create significant community impacts and may not be supported by local officials.
- The maintenance of traffic during construction for both concepts may require additional right-of-way acquisition and may create an unacceptable level of motorist inconvenience and delay.
- Build Concepts 1 and 2 require the reconstruction and/or significant modification to current planned and programmed improvements in the corridor.
- There is currently a regional emphasis on transit infrastructure investments (Strategic Miami Area Rapid Transit (SMART) Plan) in Miami-Dade County and a highway infrastructure project of this magnitude may not be supported by local officials.

Upon completion of the CRAVE analysis and in response to the concerns outlined by FDOT District 6, the CPS developed a third build concept, hereafter referred to as the Refined Build Concept.

Interstate 95 Mainline Improvement Goals

The following goals were identified for mainline improvements:

- Upgrade corridor to American Association of State Highway and Transportation Officials (AASHTO) standards, where feasible.
- Construct new, elevated express lanes on each side of corridor (outside the general purpose lanes) between SR 112/I-195 and the GGI to provide three lanes in each direction, per the CRAVE analysis recommendation. It was subsequently determined that at-grade widening to provide three express lanes in each direction can be accomplished at lower costs while not requiring more right-of-way than the CRAVE analysis concept. Therefore, the goal was revised to provide at-grade expansion to add express lanes in this segment.
- Widen HOV flyover at Golden Glades Interchange to provide two lanes in each direction.
- Widen express lanes from Miami Gardens Drive to Broward County line to provide two continuous express lanes in each direction.
- Minimize right-of-way acquisition.

Express Lane Network Goals

The following goals were identified for express lane network improvements:

- Complete the express lanes network connections between the Interstate 95 express lanes and Miami Beach north of SR 112/I-195 interchange (southbound to eastbound/westbound to northbound) and between the planned SR 826 express lanes (northbound to westbound/eastbound to southbound). The SR 826 direct connect express-to-express ramp connections complement the ramp connections between SR 826 express lanes and the Interstate 95 express lanes north of GGI proposed by the ongoing programmed improvements at the GGI.
- Maintain existing express lane terminus south of SR 836/I-395 near NW 29 Street.
- Minimize right-of-way acquisition.

Interchange Improvement Goals

The following goals were identified for interchange improvements:

- Construct a new full/partial interchange near NW 29 Street to provide access to the Wynwood/Heath District area access.
- Match programmed/planned improvements at the following locations:
  - GGI – FDOT improvements currently in design and programming phases
  - SR 924 East – MDX improvements currently in the PD&E study phase
  - SR 90/SW 7/8 Street – FDOT improvements currently in the PD&E study phase
  - SR 836/I-395 – FDOT improvements in construction phase
- Improve SR 970/Downtown Distributor/NW 3 Street/NW 3 Court interchanges where feasible.
- Improve interchanges from NW 62 Street to NW 151 Street.
- Eliminate/consolidate the NW 69 Street slip ramps.
- Improve Miami Gardens Drive/Ives Dairy Road interchanges.
- Minimize right-of-way acquisition.

EXISTING GEOMETRIC DEFICIENCIES

Based on analysis of existing plans, data provided by FDOT, and field reviews; deficiencies related to lane width, shoulder width, horizontal curve length, gore-to-gore ramp spacing, vertical curve length, vertical clearance, cross slope, border width, stopping sight distance, and super elevation were identified. A goal for the Refined Build Concept was to address these deficiencies to bring the corridor in compliance with current design standards, where feasible.

Proposed improvements to Segments 2 through 5 include mainline and shoulder expansions accomplished through widening or reconstruction. Existing deficiencies in these segments, with the exception of gore spacing, are generally addressed in the Refined Concept. Therefore, a detailed review of those deficiencies was not required. Information on gore spacing is included in Appendix P. Since the proposed improvements in Segment 1 do not include mainline expansion (i.e. widening), existing roadway deficiencies were identified and examined in detail. Information on deficiencies in Segment 1 is included in Appendix Q.

Most of the corridor currently consists of 11-foot lanes with varying inside and outside shoulder widths that are generally less than 10 feet, which is the minimum shoulder width per FDOT's *Florida Design Manual* (FDM) standards. Although the AASHTO standard allows 11-foot lanes, the parameters identified for the Refined Concept included providing 12-foot lanes in Segments 2 through 5, where possible. Note that transitions to 11-foot lanes are required to match programmed/planned improvements from other projects on the corridor. Gore spacing was maximized to the extent possible throughout the corridor to meet to AASHTO/FDOT standards.

The existing horizontal alignment was evaluated with readily available information for deficiencies in curve length and radii, based on the corridor's design speed of 60 mph. Horizontal curve deficiencies were identified with the intent that the Refined Concept could correct these deficiencies, where feasible, while minimizing right-of-way impacts. To accommodate the additional express lanes, new system-to-system connections between limited access facilities, and interchange improvements in Segments 2 through 5, several elevated ramps require replacement as part of the Refined Concept to provide the minimum required vertical clearance. Additionally, many of the bridge structures require replacement to address existing vertical geometric deficiencies or for conditions created by the capacity improvements proposed in the Refined Concept.

The additional express lanes in Segments 3 through 5 and the proposed four-foot express lane buffer in Segment 2 require a shift in the crown of the road. This modification, in addition to the vertical clearance deficiencies described above, shift in alignment to minimize right-of-way impacts, and improvements to the horizontal alignment, require the mainline to be reconstructed in most areas in Segments 2 through 5. Cross slopes and super elevation rates will also be corrected with this reconstruction.

According to FDM *211 Limited Access Facilities, Section 211.6.1 Border Width on Reconstruction & Resurfacing Projects*, ramps and mainline lanes where roadside barriers are used where clear zone is not applicable, the minimum border width from the back of a barrier or retaining wall must be 10 feet for maintenance vehicles to have sufficient access from public right-of-way that is contiguous and unimpeded to the facility or a sufficient turnaround area must be provided. Potential right-of-way needs were identified to address this requirement.

DESIGN STANDARDS

In accordance with AASHTO Standards and the Florida Design Manual (FDM), and in accordance with FDOT District 6direction, every segment must meet the following minimum design standards:

- Eleven-foot travel lane minimum width (12-foot travel lane desirable) width
- Twelve-foot travel lane ideal width
- Ten-foot EL inside shoulder width
- Ten-foot GPL outside shoulder width
- Four-foot EL buffer with Express Lane Markers (ELMs)
- Maintain existing design speeds (mainline/ramps)
- Replace only structurally deficient structures if possible

Detailed design criteria used for each design element for GPL, ELs and ramps, and the corresponding design standard source for each is included in Appendix R.

REFINED BUILD CONCEPT

Concept Description

The Refined Build Concept was preliminarily developed at the direction of the District and, for purposes of this study, is considered the final concept.

In general, this concept includes additional express lane capacity from SR 112/I-195 to the Broward/Miami-Dade County line and mainline geometric and interchange improvements throughout the corridor. The concept minimizes modifications to programmed/planned improvements from other projects at SR 90/SW 7/8 Street, SR 836/I-395, SR 924/SW 119 Street, and the GGI. The goal for the concept was to provide additional mainline and interchange capacity while minimizing right-of-way acquisition/impacts and construction costs. General design parameters include a minimum 11-foot travel lane width, 10-foot wide express lane inside shoulders, and a 4-foot buffer with express lane markers between the express lanes and general purpose lanes. Note that 12-foot lanes are generally provided in segments that include more extensive reconstruction/widening, and 11-foot lanes are only utilized in areas where modifications are less extensive or to match the existing/programmed/planned geometry.

The following sections summarize proposed improvements to the five study segments. The laneage at interchange ramp terminal intersections was developed based on the future no-build traffic forecasts, as the traffic forecasts for the future build (with Refined Build Concept) conditions were not available at the time of the concept development. Additional improvements to laneage at the interchange ramp terminal intersections are expected to be minimal.

Segment 1 – US 1 to North of SR 836/I-395 (CBD)

The Refined Build Concept proposes to address existing geometric design variations and exceptions in Segment 1, where feasible. Improvements include roadway/structure widening to provide adequate shoulder widths, reconstruction of two SR 970/Downtown Distributor ramps to address vertical clearance deficiencies and widening/lengthening of the Rickenbacker Causeway northbound on-ramp to address a merge length deficiency. Mainline capacity or interchange capacity improvements are not proposed in this segment. The interchange at SR 90/SW 7/8 Street is part of an ongoing PD&E study and the interchange at NW 3 Avenue/NW 3 Court is within the limits of the ongoing SR 836/I-395 construction project. This concept includes right-of-way acquisition of less than one acre.

Segment 2 – North of SR 836/I-395 to North of SR 112/I-195 (South)

The Refined Build Concept provides a new full interchange at NW 29 Street/NW 32 Street in conjunction with a proposed C-D system in this section to serve Wynwood/Health District. Modifications to ramps from SR 836 eastbound, I-395 westbound, and Interstate 95 northbound are required to provide northbound access to this new interchange. The new interchange at NW 29 Street/NW 32 Street requires right-of-way acquisition along the east side of the corridor from south of NW 17 Street to NW 21 Terrace and from NW 31 Street to NW 36 Street, and along the west side of the corridor from NW 21 Terrace to NW 36 Street.

The beginning of the northbound express lanes and the end of the southbound express lanes remain north of the NW 29 Street. New express lane ramp connections from Interstate 95 southbound to I-195 eastbound and from I-195 westbound to Interstate 95 northbound are provided, and the existing express lane connections to and from SR 112 are maintained. This concept utilizes most of the existing structures at the second and third levels within the SR 112/I-195 interchange; new bridges are added at the third and fourth levels to accommodate access to the express lanes north of the interchange. The improvements at this interchange can be accommodated within the

existing right-of-way. The express lane facility widens to 3 lanes in each direction north of this interchange, where the new connections to SR 112/I-195 merge/diverge into the center of the corridor. Additional right-of-way is needed in this transition area between NW 46 Street and NW 51 Street. Ramp improvements along I-195 eastbound are proposed to address operational deficiencies at the North Miami Avenue eastbound off-ramp.

Segment 3 – North of SR 112/I-195 to South of Golden Glades Interchange (Central)

Three express lanes with a four-foot separator in each direction are provided in the center of the corridor throughout this segment. To accommodate this expansion and the reconstruction of on- and off-ramps at interchanges, right-of-way is required on both sides of the corridor intermittently throughout this segment. This concept proposes interchange improvements at NW 62 Street and the removal of the slip ramps at NW 69 Street. The new ramps at NW 62 Street will require right-of-way acquisition to the west of Interstate 95.

C-D systems are proposed from NW 95 Street to NW 103 Street in the northbound and southbound directions to improve interchange spacing. Interchange improvements are proposed at SR 924/NW 119 Street to match MDX's planned improvements in the SR 924 East Extension PD&E study. Coordination between these projects is necessary to confirm the concepts in the PD&E study and the Interstate 95 improvements are compatible.

Segment 4 – Golden Glades Interchange (GGI)

Segment 4 proposes to widen the existing express lane flyover structure from one lane in each direction to two lanes in each direction. Additional express lane connections beyond those in the current planned/programmed projects at the interchange include Interstate 95 northbound to SR 826 westbound and SR 826 eastbound to Interstate 95 southbound. Reconstruction of the south approach to the GGI is required to accommodate the express lane flyover widening and the corresponding reconstruction of ramps in this area. Minor modifications to other ramps within the GGI are proposed to address geometric deficiencies and to accommodate support columns for the express lanes flyover widening. Minor right-of-way acquisition is required along the west side of the corridor between NW 153 Street and NW 157 Street.

Segment 5 – North of GGI to Broward County Line (North)

Segment 5 provides two continuous express lanes in each direction from the GGI to the Broward County line and interchange improvements are proposed at SR 860/Miami Gardens Drive and Ives Dairy Road. Coordination with FDOT District 4 is required to maintain two continuous express lanes in each direction in Broward County. Interchange improvements at SR 860/Miami Gardens Drive add new ramps to provide a single interchange ramp terminal intersection on the east side of the corridor with an expanded Turbo 'T' intersection. Improvements at Ives Diary Road interchange include the introduction of a Diverging Diamond Interchange (DDI) consistent with Build Concept 2. Minor right-of-way acquisition is required from some interchange improvements.

Conceptual plans and detailed design plans for the Refined Build Concept are included in Appendix S and Appendix T, respectively.

Concept Analysis

Analysis for the Refined Build Concept were performed including estimating preliminary construction costs and right-of-way impacts. An analysis of the maintenance of traffic required for the construction of the improvements was also performed for the Refined Build Segment.

Construction Costs

Construction cost estimates for the Refined Build Concept are summarized in Table 13.

Table 13: Refined Build Concept Construction Estimate

Segment	Engineering Opinion of Probable Cost (Design, Construction, and CEI)
Segment 1 – CBD	$344,227,057
Segment 2 – South	$720,793,958
Segment 3 – Central	$950,664,852
Segment 4 – GGI	$177,936,637
Segment 5 – North	$268,323,011
Tolling(1)	$14,400,000
Signalization(2)	$11,760,000
Total	**$2,487,565,515**

Note: (1) Tolling cost is based on an estimate of $3.0 million per tolling site for four sites.
(2) Signalization cost is based on an estimate of $400,000 per intersection for 25 intersections.

The Refined Build Concept reduces construction costs by $4.33 Billion when compared to Build Concept 1 and by $911 Million when compared to Build Concept 2.

Right-of-Way Impacts

Planning-level right-of-acquisition estimates were performed for the Refined Build Concept. Complete parcel acquisition was assumed for both residential properties and commercial properties where structures are impacted. Partial acquisition was assumed for commercial properties where structures were not impacted. Table 14 provides a summary of the right-of-way needs by segment.

Table 14: Refined Build Concept Right-of-Way Estimate

Segment	Acres	Parcels
Segment 1 - CBD	0.28	8
Segment 2 - South	10.15	65
Segment 3 - Central	83.69	310
Segment 4 - GGI	1.27	6
Segment 5 - North	1.92	8
Total	**97.31**	**397**

The Refined Concept reduces potential right-of-way acquisition by 78 acres when compared to Build Concept 1 and by 185 acres in Build Concept 2.

Detailed information regarding cost and right-of-way is included in Appendix U.

REFINED BUILD CONCEPT OPERATIONAL ANALYSIS

A future year (2045) conditions operational analysis was completed for the Refined Build Concept. Operations along the Interstate 95 mainline were evaluated with McTrans Highway Capacity Software (HCS 2010 v6.50) Facilities Module. Capacity analyses for ramp-terminal and facility-adjacent intersections along the Interstate 95 corridor were performed using Trafficware's *Synchro* (Version 10.2) software, which applies methodologies of the 2000/2010/6th Editions of the *Highway Capacity Manual.* At the direction of the District, VISSIM analyses of the Refined Build Concept was not conducted given the results of the future no-build analyses and the design parameters of the Refined Build Concept.

HCS Mainline Operational Analysis

Traffic capacity analyses were performed to evaluate expected freeway operational conditions along Interstate 95 for the Refined Build Concept. HCS was used to examine basic, weaving, and ramp merge/diverge operational conditions for the Interstate 95 general purpose lanes. Density was used as the measure of effectiveness (MOE) to estimate the LOS.

Synchro Intersection Capacity Operational Analysis

Trafficware's *Synchro* software was used to conduct analyses for ramp-terminal and adjacent intersections along the study area. Results were reported using the HCM 2010 output when possible. Otherwise, results were reported using the HCM 2000 output. The MOEs used in the analysis included LOS, delay, and queue length.

The future year (2045) build results were compiled into a report entitled *FDOT D6 I-95 CPS – Future (2045) Build Conditions Traffic Operational Analysis,* which has been included in Appendix V.

Summary

The Refined Build Concept utilized in this analysis minimized potential right-of-way acquisition at the direction of FDOT D6, resulting in no additional general purpose lanes capacity improvements (but one (1) additional express lane in each direction). Therefore, although additional mainline capacity was allocated to the Interstate 95 corridor via the Express Lanes, the results indicate multiple mainline failures along Interstate 95 during both the AM peak hour and the PM peak hour. Most failures identified in the No-Build analysis for the mainline lanes remain.

Additionally, some improvements were proposed at study intersections to address failures associated with Interstate 95 traffic. Improvements were proposed for deficient approaches where traffic from those approaches would impact traffic accessing/exiting Interstate 95. However, failures at movements not associated with Interstate 95 traffic (i.e. parallel north-south movement at adjacent intersections) were not addressed as the focus of this concept is to address the Interstate 95 corridor. Also, including geometric improvements not associated with Interstate 95 traffic is not consistent with the FDOT D6 directive to minimize right-of-way acquisition.

Appendix A

EXISTING CONDITIONS OPERATIONAL ANALYSIS



FINAL

Interstate 95 Corridor Planning Study Miami-Dade County

US 1/SR 5 to Broward County Line

FM# 414964-6-22-01

Existing Conditions Operational Analysis

July 2017

Project No. 040006342

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Appendix D: Field Reviews Documentation

INTRODUCTION

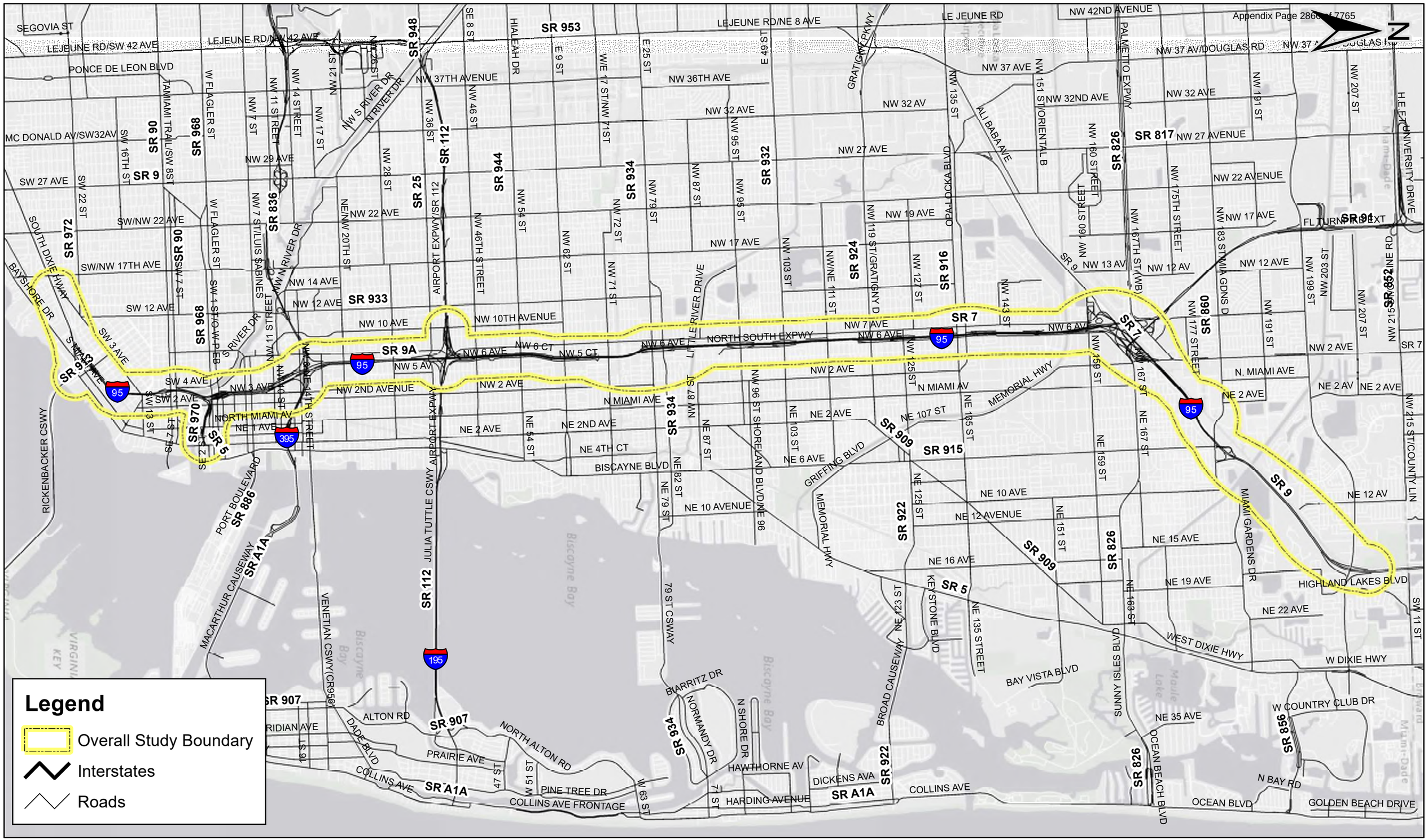
Interstate 95 is the most highly traveled corridor in South Florida with over 250,000 vehicles traveling through parts of the corridor daily in Miami-Dade County. With long-term population growth projected in the region, travel demand in the corridor is expected to continue to increase over the next 20 years. The purpose of the Interstate 95 Corridor Planning Study (CPS) is to perform a detailed planning-level analysis for the Interstate 95 corridor within Miami-Dade County and develop improvement concepts. This report summarizes traffic operational analyses conducted as part of the Interstate 95 CPS.

The southern project limit is SR-5/US-1/Dixie Highway at SW 16 Avenue in the City of Miami, approximately one-half mile south of the beginning of Interstate 95. The northern project limit is the Broward/Miami-Dade County line. East-west study area limits generally included one adjacent signalized intersection east and west of Interstate 95 interchanges along the corridor, per the scope of services. A project map is shown in Figure 1.

Traffic operations of interchanges, interchange influence areas, and ramp junctions were evaluated with the VISSIM simulation model. In addition to VISSIM modeling, operations along the mainline facility were evaluated with McTrans *Highway Capacity Software* (HCS 2010 v6.50) Facilities Module. Furthermore, capacity analyses for ramp-terminal and facility-adjacent intersections along the Interstate 95 corridor were performed with Trafficware's *Synchro* (Version 9.1) software, which is based on the 2000/2010 Editions of the *Highway Capacity Manual*.

Simulation models provide Measures of Performance (MOP) metrics, which are used to evaluate the corridor's traffic operations. Major analysis parameters included turning movement volumes, peak hour factors (PHF), and roadway geometry. Design hour truck (DHT) values were calculated using historical data from Florida Department of Transportation (FDOT) count sites within the study area, and were obtained from FDOT's Florida Traffic Online.

The operational analysis of the corridor study is presented in the following sections: initial data collection, Level of Service (LOS) standards, and operational analyses.


SEGOVIA ST
LEJEUNE RD/SW 42 AVE
LEJEUNE RD/NW 42 AVE
PONCE DE LEON BLVD
MC DONALD AV/SW32AV
SW 27 AVE
SOUTH DIXIE HWY
BAYSHORE DR
SW/NW 22 AVE
SW/NW 17TH AVE
SW 12 AVE
SW 4 AVE
SW 2 AVE
SW 3 AVE
SW 1 ST
SW 1 AVE
SW 13 ST
SW 7 ST
SW 16TH ST
SW 22 ST
SW 1 ST/OW PEB
W FLAGLER ST
TAMIAMI TRAIL/SW 8ST
NW 7 ST
NW 11 STREET
NW 14 STREET
NW 17 ST
NW 21 ST
NW 29 AVE
NW 7 ST/LUIS $ABINES
NW 11 STREET
NW 22 AVE
NW 14 AVE
NW 12 AVE
NW 10 AVE
NW 6 AVE
NW 5 AV
NW 3 AVE
NW 2ND AVENUE
NW 2 AVE
NW 6 CT
NW 5 CT
NW 4TH STREET
NW 10 ST
NW 20TH ST
NW 28 ST
NW 36 ST
NW 37TH AVENUE
NW 36TH AVE
NW 32 AVE
NW 27 AVE
NW 19 AVE
NW 17 AVE
NW 10TH AVENUE
NW 7 AVE
NW 6 AVE
NW 46 ST
NW 46TH $TREET
NW 54 ST
NW 62 ST
NW 72 ST
NW 79 ST
NW 87 ST
NW 95 ST
NW 103 ST
NW 111 ST
NW 119 $T/GRATIGNY D
NW 127 ST
NW 135 ST
NW 143 ST
NW 151 ST/ORIENTAL B
NW 160 STREET
NW 167TH ST (WB)
NW 175TH STREET
NW 177 STREET
NW 183 ST MIA GDNS D
NW 191 ST
NW 199 ST
NW 203 ST
NW 207 ST
NW 215 ST/COUNTY LIN
NW 42ND AVENUE
NW 37 AV/DOUGLAS RD
NW 37 AVE
NW 32ND AVE
NW 22 AVENUE
NW 17 AVE
NW 12 AV
NW 12 AVE
NW 2 AVE
NW 159 ST
NW 167 ST
NW 96 ST SHORELAND BLVD
NW 87 ST
NW 82 ST
NW 79 ST
NW 36 ST
NW 21 ST
NW 7 ST
NW 11 STREET
NW 14 STREET
NW 17 ST
NW 22 AVE
NW 28 ST
NW 46 ST
NW 54 ST
NW 62 ST
NW 72 ST
NW 79 ST
NW 87 ST
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NW 103 ST
NW 111 ST
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NW 175TH STREET
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NE 2 AVE
NE 2ND AVE
NE 4TH CT
NE 10 AVE
NE 10 AVENUE
NE 12 AVENUE
NE 15 AVE
NE 16 AVE
NE 19 AVE
NE 22 AVE
NE 35 AVE
NE 2 AVE
NE 2 AV
NE 12 AV
NE 2 AVE
NE 2 AVE
NE 2 AVE

DATA COLLECTION

Traffic data were gathered or collected from various sources for each of the operational analysis tools as detailed in the following sections. AM and PM corridor-wide peak periods were determined in a previous analysis using FDOT count stations traffic data. Turning movement counts (TMCs) were conducted between the dates of 3/16/2015 to 6/21/2015, on weekdays, during two (2) consecutive hours in the AM and PM peak periods (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM).

VISSIM Data

Traffic count data from various sources and dates were collected or gathered for intersections at most interchanges within the study area. A count normalization process was undertaken to develop a final set of counts for validation. Base year volumes for approach and turning movements, and lane configuration for the 77 study intersections have been included in **Appendix A**. This process is further detailed in a Design Traffic Technical Memorandum (DTTM) prepared for FDOT.

Hourly Automated Traffic Recorder (ATR) tube counts were assembled at freeway and arterial roadways in the study corridor. ATRs were collected for the AM (6:00 to 10:00 AM) and the PM (3:00 PM to 7:00 PM) peak periods. Classification (cars or trucks) of counts were not available for the ATRs; therefore, truck percentages were imputed from TMCs of adjacent intersections and the classification of hourly counts were synthetized for ATR count locations.

In addition, field data, geometric and satellite survey, origin-destination and routing information from SERPM 7.0 regional planning model were gathered for the development of the VISSIM microsimulation model.

HCS Data

Geometric and traffic data were collected or gathered from various sources for the HCS freeway capacity operational analysis. Geometric data were obtained from FDOT Straight Line Diagrams (SLDs), Google Earth, and field visits.

Synchro Data

Data were gathered or collected for the 77 study intersections including classified (autos and trucks) turning movement counts (TMCs), traffic signal timing/phasing information, and FDOT Peak Season

Factor Category Report (PSFCR) data. These data have been included in **Appendix A**. System-wide peak hours (7:45 AM to 8:45 AM and 4:30 PM to 5:30 PM) were used for the intersections capacity operational analysis, consistent with the analyses presented in the March 9, 2015, Peak Period Determination Memorandum. Please note that the AM and PM peak hours established in the Synchro analysis are different than the AM and PM peak hours/periods established in the VISSIM and HCS analysis. Consequently, the peak hour volumes at study intersections also differ between the analysis types.

Approach volumes between intersections were compared to ensure a +/- 5 percent difference between adjacent intersections, with the exception of some locations where the land use between intersections result in large volume discrepancies. In addition, TMCs were adjusted per FDOT standards for peak-seasonal and directionality characteristics to better reflect existing conditions.

LOS STANDARDS/ANALYSIS CRITERION

FDOT Topic No. 525-000-006 provides LOS standards for the State Highway System (SHS). The following LOS criteria were considered for the analysis since the study area meets the condition of urbanized areas with population over 500,000.

- SIS Facilities – LOS D
- Other State Roads – LOS D

Operational analysis criteria also included the comparison of queue and available storage for turning movements. Passenger car vehicle lengths, accounting for space between vehicles, were assumed to be 25 feet. The 95th percentile queue lengths (in feet) were gathered from the Synchro/HCM 2010 results for intersection approaches. HCM 2000 results were used for lane configurations not supported by the HCM 2010 methodology.

Field reviews were conducted at interchanges to identify preliminary operational deficiencies on the mainline, interchanges, and interchange influence areas during the AM and PM weekday peak hours. Vehicular queues were observed and tabulated for critical lane approaches during successive cycle lengths. These have been included in **Appendix D**.

OPERATIONAL ANALYSIS

VISSIM Freeway Operations

Freeway Operations

A VISSIM microsimulation model was developed for the assessment of existing operational conditions along Interstate 95. The VISSIM model is intended to be a planning tool for FDOT to use in future projects. Therefore, the model was developed to be sensitive to the geometry, driving behavior, and the dynamic tolling express lanes facility along the Interstate 95 corridor. The following sections provide a summary of the existing conditions along the mainline of Interstate 95 based upon the data collected, compiled, and analyzed for the VISSIM microsimulation model. Refer to the VISSIM Model Calibration Report for additional analysis and detail.

AM Peak Period

The AM peak period experiences significant congestion, bottlenecks, and reduced speed in the southbound direction as commuters from Broward County and the Florida's Turnpike use the Interstate 95 corridor to access the downtown core of Miami. There are a number of locations in the corridor where geometry and driver behavior have a detrimental impact on the general purpose lane operations. This significant reduction in speed in the general purpose lanes results in motorists choosing to use the express lanes with tolls in the southbound Interstate 95 Express lanes increasing steadily throughout the period. Despite the increasing toll cost, drivers continue to use the express lanes in an attempt to avoid the congestion.

The major bottleneck along the southbound Interstate 95 corridor during the AM peak period is near the off-ramp to I-195/SR 112. The general purpose cross-section is five (5) lanes wide approaching this major junction, with the right-most two (2) lanes exiting to I-195/SR 112, the left two (2) lanes continuing on southbound Interstate 95, while the center lane can choose either option. This constitutes a significant reduction in through lanes along the Interstate 95 mainline, which results in a reduction of speed. The two (2) drop exit lanes results in braking shockwaves that spread through all five (5) lanes approaching the junction. This bottleneck starts early around 6:15 AM when traffic begins to increase in the corridor, and this effect causes almost immediate spillback to occur along the mainline back to SR 916/NE 135 Street. This large area of influence persists throughout the AM peak period and does not begin to

dissipate until after 10:00 AM. This bottleneck and resultant queue spillback are shown below in Figure 2.

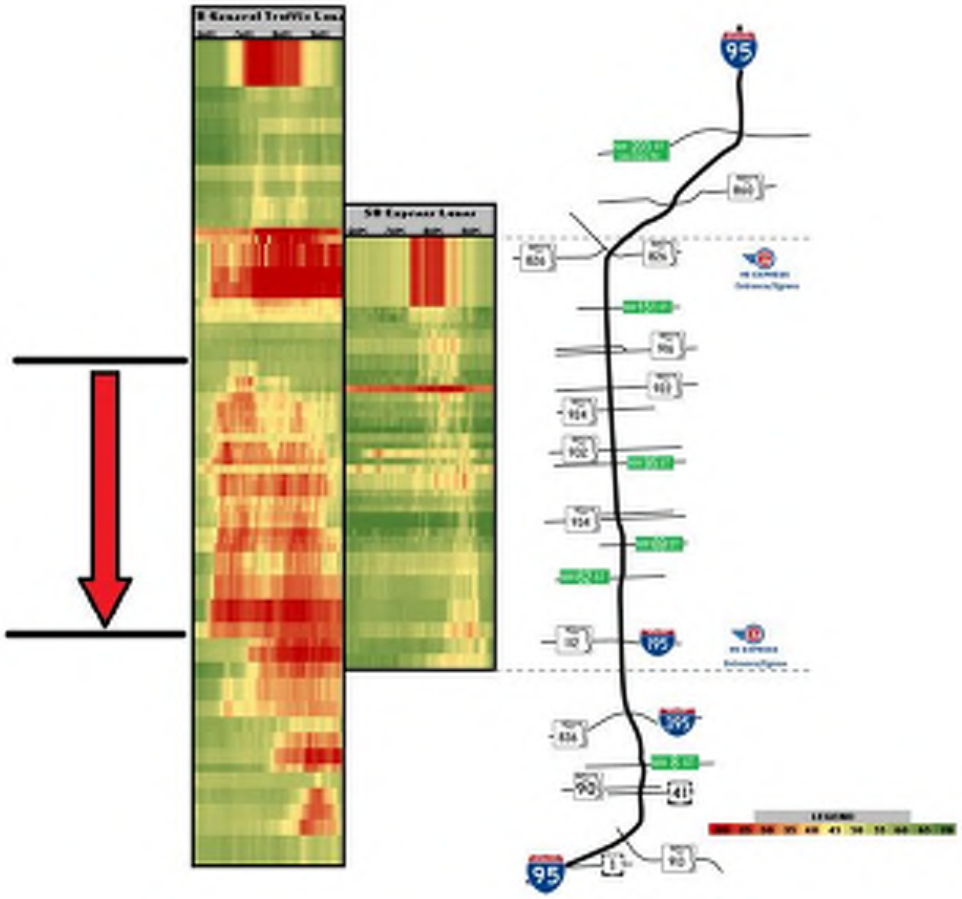


Figure 2: AM Peak - SB Bottleneck at I-195/SR 112

Another major area of influence in the southbound direction of Interstate 95 during the AM peak period is between the Golden Glades Interchange (GGI) and the NW 151 Street Interchange/Interstate 95 Express entrance. This is a major confluence area of traffic which includes several decision points and heavy weaving within a relatively short distance. A significant amount of volume entering Interstate 95 from SR 826 and the Florida's Turnpike occurs at this location, with a significant portion destined to enter the southbound 95 Express facility to continue to Downtown Miami. This confluence causes friction that results in greatly reduced speeds and causes spillback into the Golden Glades Interchange and along the general purpose lanes on Interstate 95. This congestion begins at 6:30 AM and persists without

dissipation throughout the AM analysis period. The bottleneck and area of influence around the Golden Glades Interchange is shown in Figure 3.

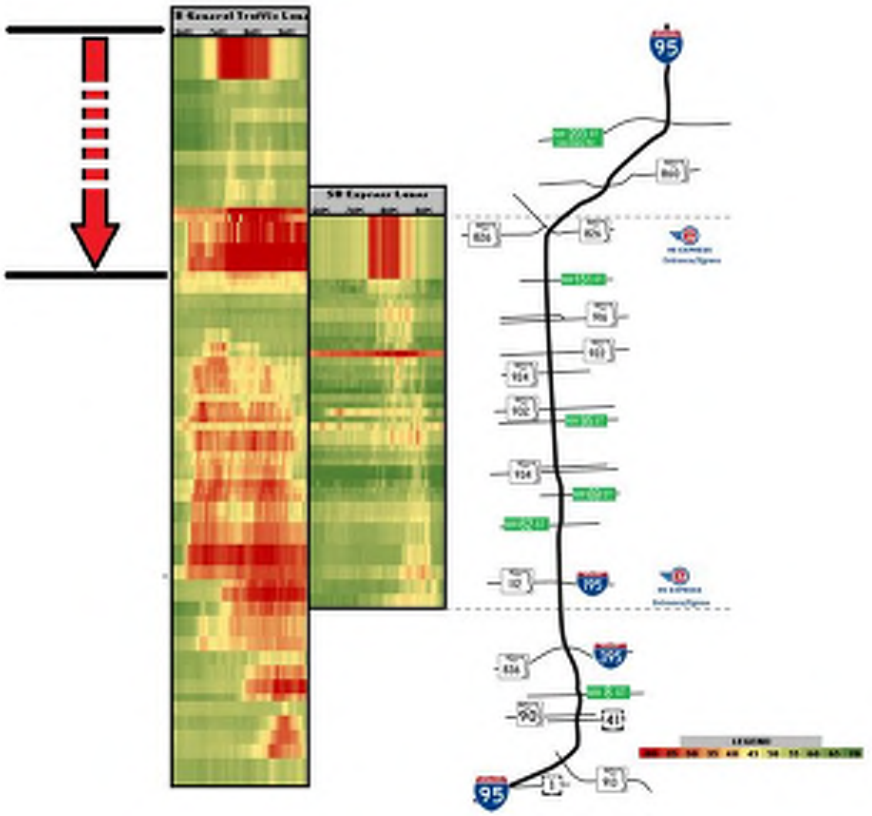


Figure 3: AM Peak - SB Bottleneck at Golden Glades Interchange

There are other bottlenecks throughout the Interstate 95 corridor in the southbound direction that are not as significant as the two previously discussed, but still impact the operations on the corridor. The area from I-395 to the SR 970/Downtown Distributor is characteristic of frequent lane additions and drops in multiple locations. This causes significant merging, diverging, and friction resulting in speed reduction and bottlenecks. At the I-395 off-ramp to westbound SR 836, speed reductions begin around 7:00 AM and traffic spills back into the existing congestion at the I-195 interchange within 30 minutes, which exacerbates this existing queue. This condition persists throughout the analysis period beyond 10:00 AM. In addition, the area near the SR 970/Downtown Distributor, which consists of many off and on-ramps, begins to become congested at 8:00 AM and spills back to the other existing queues, persisting throughout the AM peak period. The various locations of influence at and south of I-395 are shown in below in Figure 4.

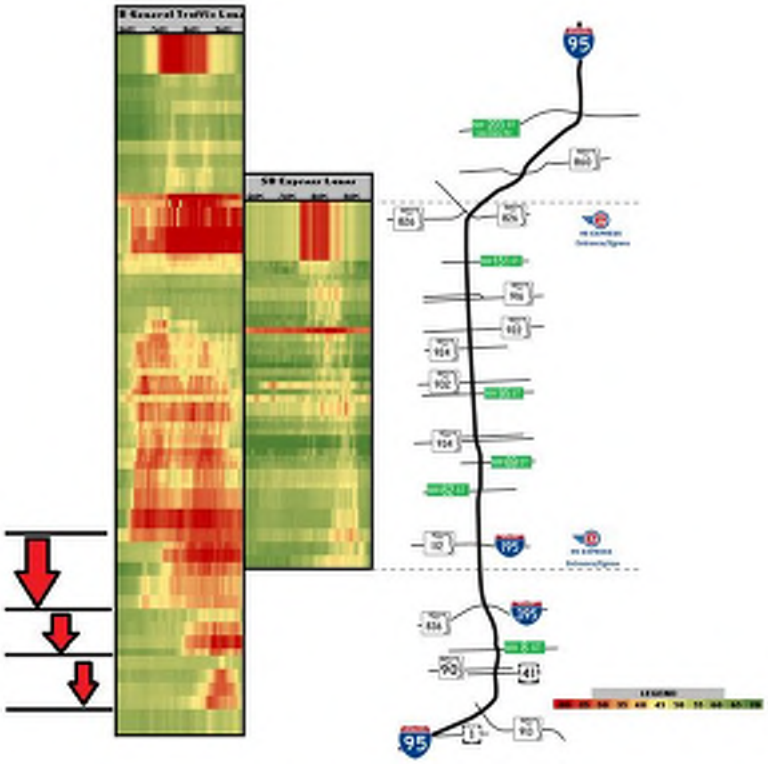


Figure 4: AM Peak - SB Bottlenecks at I-395/SR 836, Downtown Distributor, and SW 26 Rd

All the southbound bottlenecks and queues in the southern half of the analysis area eventually combine by about 8:00 AM, which creates one connected queue of vehicles from the SW 26 Road off-ramps in the south, all the way to the SR 916/NE 135 Street interchange, which persists beyond the AM peak analysis period.

Although 95 Express is designed to maintain free-flow speeds through dynamic tolling despite the general purpose lane conditions; increasing congestion, lane diving, and weaving result in congestion. When congestion in the southbound general purpose lanes reaches peak queue around 8:30-9:00 AM, the vehicles exiting the express lanes experience reduced speed due to lack of receiving capacity, which ultimately spills back into the express lanes. In addition, there is a significant reduction of speed in the northern section of the express lanes, which is caused by the merging of vehicles into the express lanes near NW 151 Street. The reductions of speed in the lanes of the 95 Express facility can be seen in Figure 5.

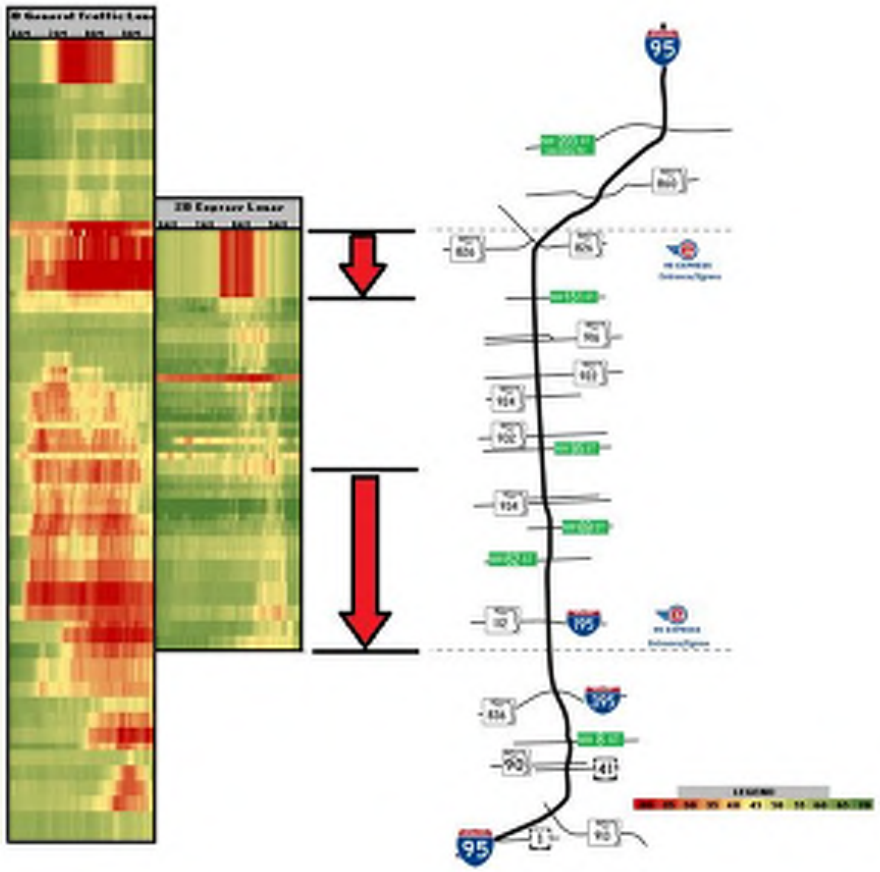


Figure 5: AM Peak – SB Speed Reductions within the I-95 Express lanes

Northbound travel in the AM peak period is not significantly affected by congestion or reduced speed, since the peak direction is in the southbound direction. Therefore, both the general purpose and express lanes are moving near free-flow speed throughout the study corridor.

PM Peak Period

Similar to the AM peak period, the PM peak period experiences significant congestion, bottlenecks, and reduced speed in the peak direction (northbound) of commuter travel. The PM peak operations are affected mainly in the northbound travel direction as vehicles travel from Downtown Miami to the Florida's Turnpike and other areas north of the study analysis area and to Broward County. The PM peak period experiences more bottleneck locations in the study area than the AM peak period, creating a detrimental impact on the general purpose lanes and impacting operations throughout the corridor.

The degradation of operations results in toll increases in the northbound 95 Express facility at the beginning of the analysis period that remain constant throughout the period. Despite the high toll rates being charged, vehicles continue to use the express lanes to avoid the deteriorating conditions. Even when conditions also degrade within the express lanes, vehicles continue to use the 95 Express facility.

Although the congestion along the northbound Interstate 95 general purpose lanes appear to be one (1) unified queue throughout the analysis area, multiple locations contribute to the degradation of system operations. One of most affected areas of the corridor is the confluence area of the 95 Express egress slip ramp to the general purpose lanes and the off-ramp to the Golden Glades Interchange. A significant amount of the vehicles traveling northbound in Interstate 95 general purpose lanes desire to merge to the left to exit to Florida's Turnpike and SR 826/Palmetto Expressway. At the same time, vehicles exiting 95 Express must merge to the right to either continue northbound in the general purpose lanes of Interstate 95 or to exit to SR 826/NW167 Street. Driver uncertainty and braking causes friction and significant speed reduction that start around 3:00 PM and persist throughout the analysis period and beyond. This queue spills back quickly and meets other bottlenecks throughout the corridor. This bottleneck and resultant queue spillback can be seen below in Figure 6.

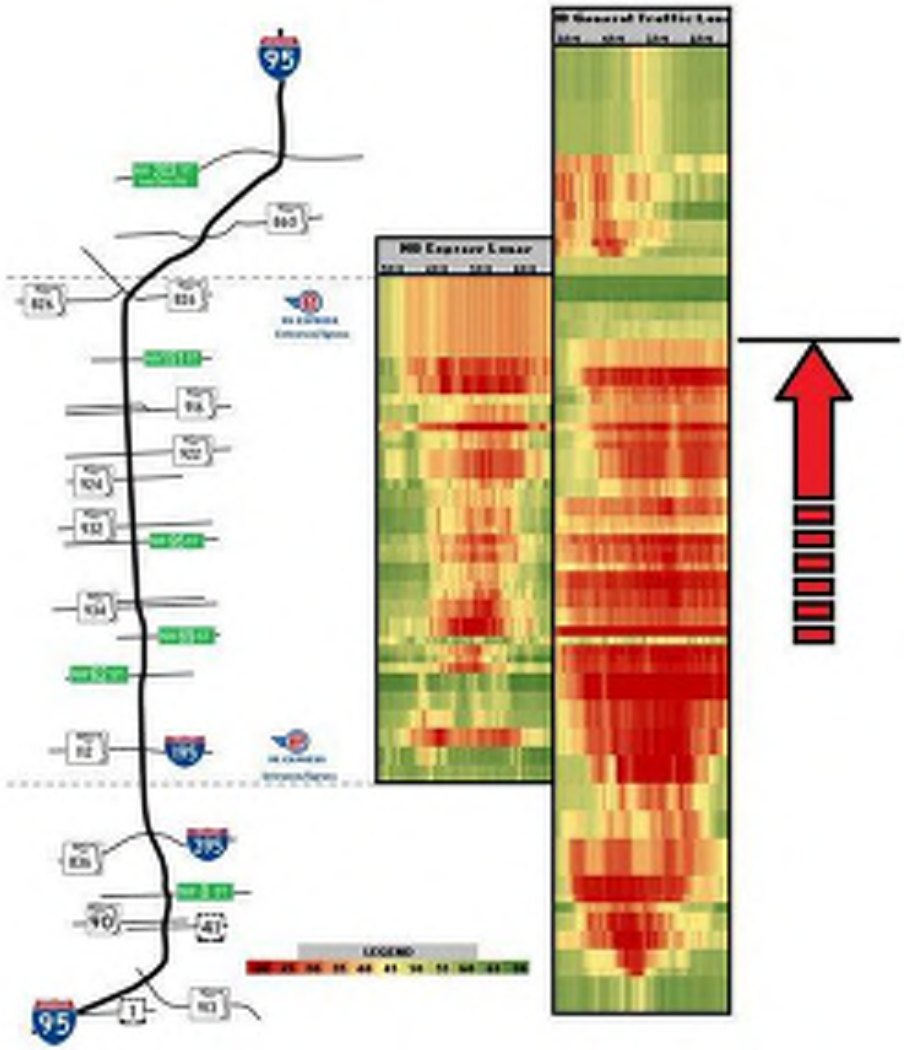


Figure 6: PM Peak – NB Bottleneck at the Golden Glades Interchange

The subject bottleneck has a significant impact on the express lanes due to the significant reduction in speed in the general purpose lanes where the 95 Express egress lane enters the Interstate 95 general purpose lanes. This reduction of speed has a major impact on the operations of 95 Express, causing a spillback of queue to approximately NW 62 Street. This begins around 3:30 PM and reaches its maximum queue length by about 4:00 PM, and persists to about 6:30 PM. Despite this issue, vehicles continue to use the express lanes to avoid the poor conditions on the mainline. This ultimately exacerbates the issue in a cyclical manner and the maximum toll is not a deterrent to reduce the overall volume in the express lanes and improve operations. The speed reductions in the 95 Express lanes can be seen below in Figure 7.

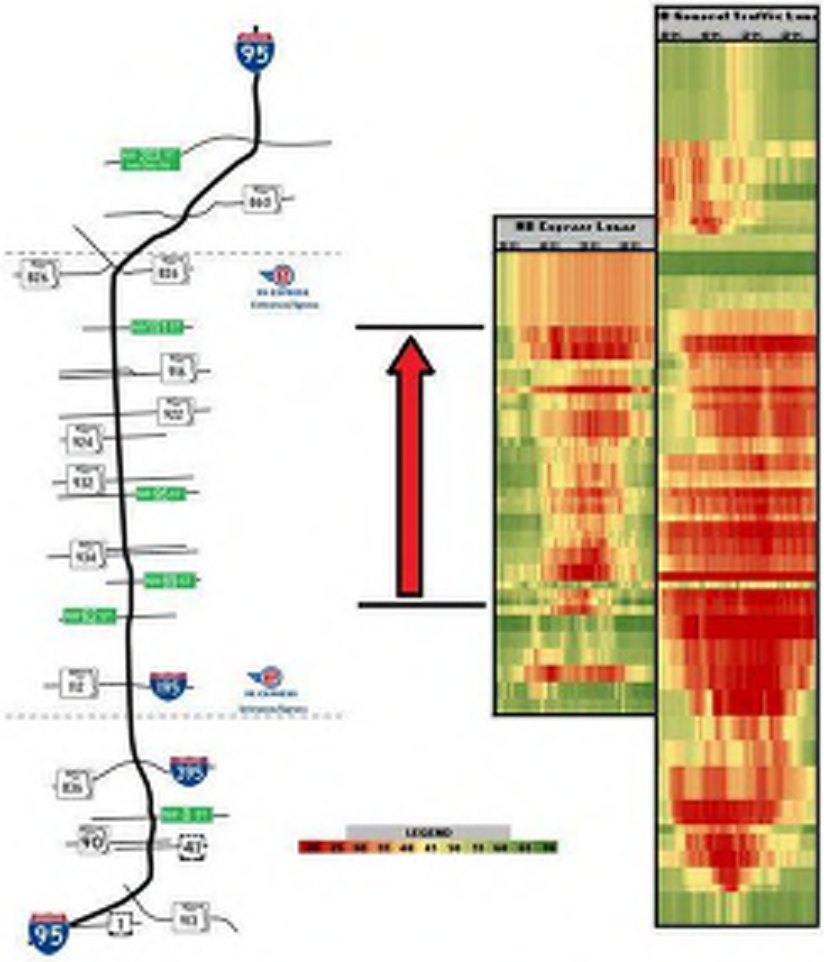


Figure 7: PM Peak – NB Speed Reductions in the I-95 Express lanes

Another northbound bottleneck location is the area between the NW 62 and NW 69 Street interchanges. There are a number of on and off-ramps in a small area, as well as several sharp horizontal curves. This congestion is already apparent at the beginning of the analysis and persists throughout the PM peak period. A queue forms and spills back to I-395 by 4:00 PM. The queue begins to dissipate around 6:30 PM, but it does not clear by the end of the analysis period. This major bottleneck and queue caused by the NW 62 Street and NW 69 Street Interchanges is shown below in Figure 8.

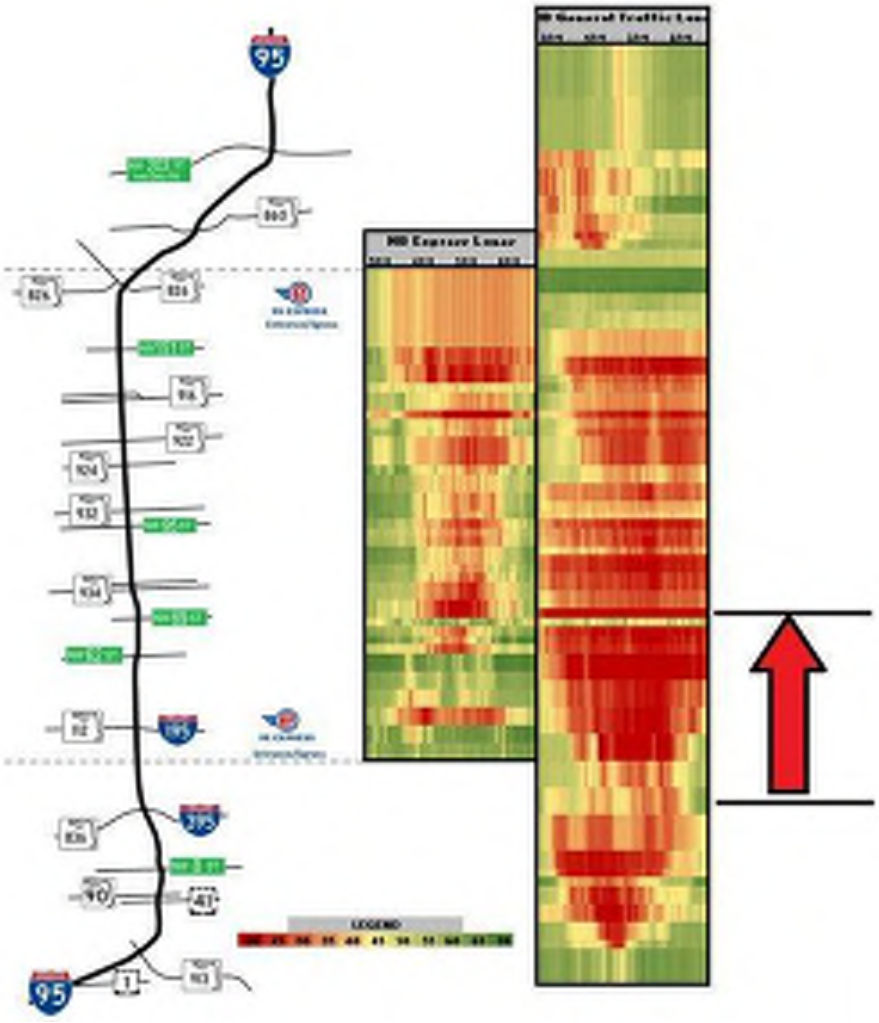


Figure 8: PM Peak – NB Bottleneck at NW 62/69 Street Interchanges

Similar to the AM peak period, the area south of I-395 interchange, consisting of SR 90, US-41, NW 8 Street, and the Downtown Distributor, has many on and off-ramps with lane additions and drops. Furthermore, the entrance to the northbound 95 Express has a lane drop of the left two (2) lanes, forcing general purpose traffic to merge to the right to continue northbound. This results in a queue that begins around 3:30 PM and spills back to US-1 by around 4:15 PM. While this queue only lasts until 5:00 PM before it begins to dissipate, the reduction in speed in the confluence area around the I-395 interchange persists throughout the analysis period. This area of influence of speed reductions caused by the various interchanges and geometry issues south of I-395 is shown below in Figure 9.

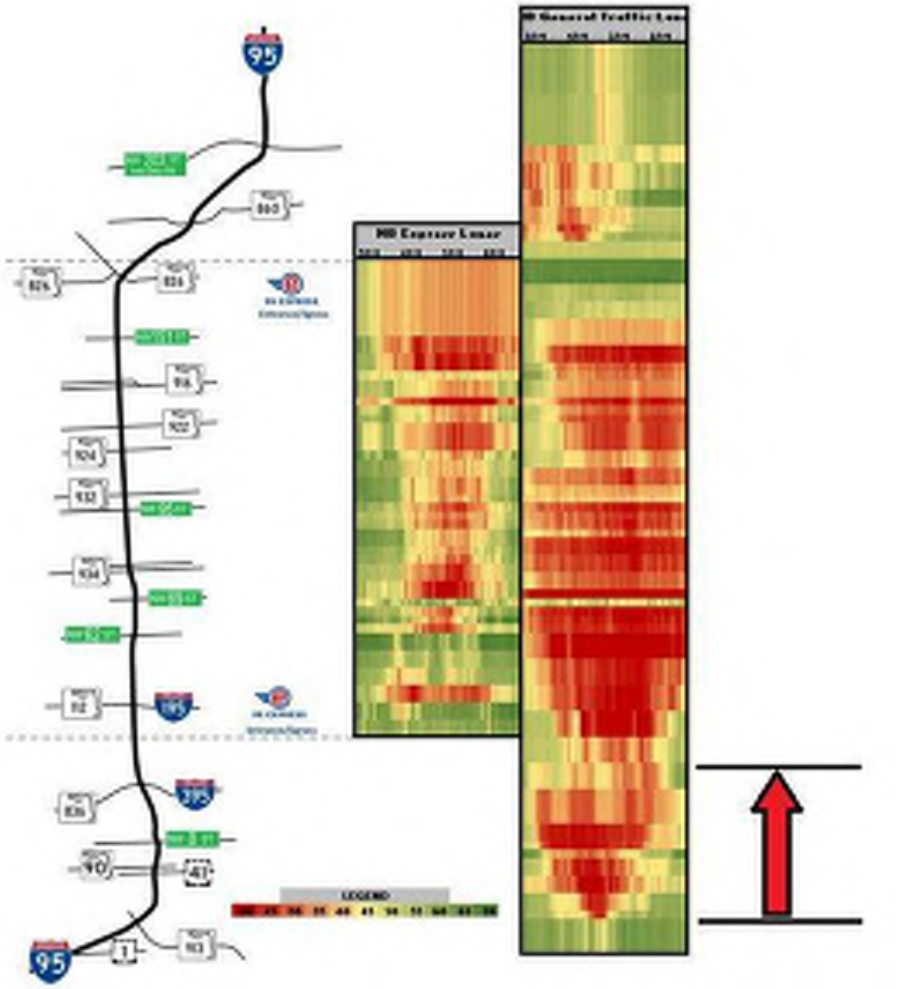


Figure 9: PM Peak – Area of Speed Reductions in NB Direction South of I-395

In addition to the major bottlenecks discussed above, there are significant reductions in speed at nearly every interchange in the northbound direction from NW 62 Street to the Golden Glades Interchange. This is apparent at interchange off-ramps that have a lane drop and corresponding merge/weave conditions. These are all similarly persistent throughout the analysis period, and have the appearance of a constant queue throughout the corridor, joining with the queue spillback from the Golden Glades Interchange in the north and the major bottleneck at NW 62/NW 69 Street in the south. The locations of these various interchanges of influence are noted below in Figure 10.

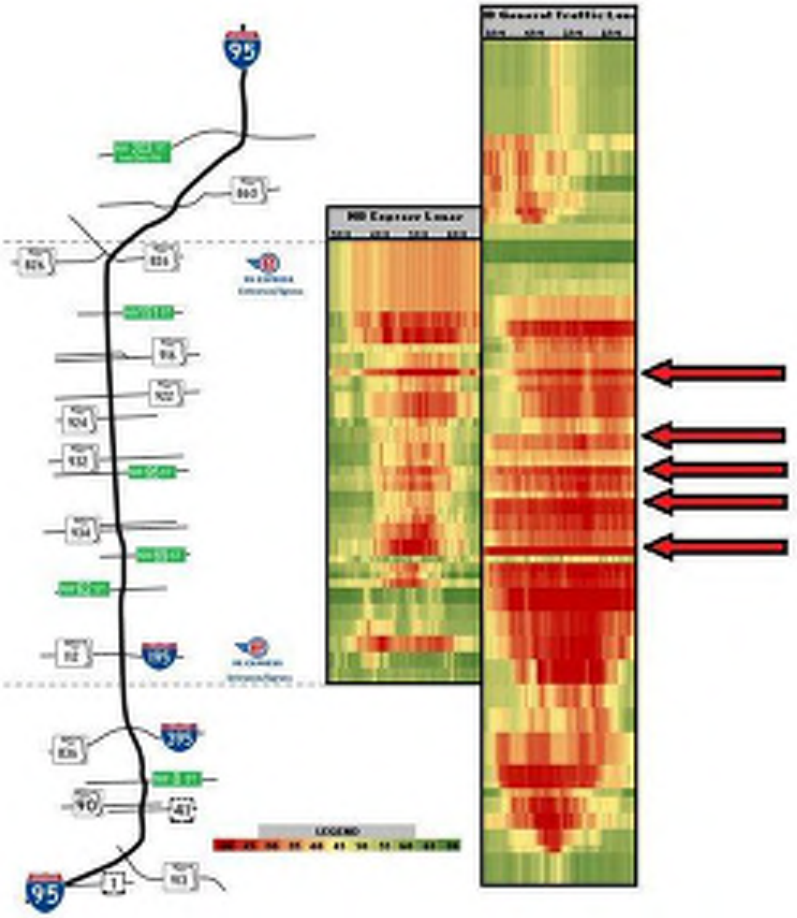


Figure 10: PM Peak – Locations of Speed Reductions at Various NB Interchanges

Similar to the AM peak period, the off-peak direction (southbound) in the PM peak period is not significantly affected by congestion or reduced speed. Both the general purpose and express lanes are moving at free-flow speed throughout the study analysis corridor. There are only a few minor reductions in speed that can be seen during the analysis period. The off-ramp to SW 26 Road/Rickenbacker Causeway in the southern boundary of the analysis area starts to back up and spill back on the mainline around 4:30 and the queue moves back to about SR 90/US 41 by 5:00 PM. This queue is sustained throughout the remainder of the analysis period. In addition, there is some minor friction and reductions in speed around the Golden Glades Interchange/95 Express south entrance, but this does not cause any significant queue or spillback in the corridor. The locations of influence in the southbound direction are shown below in Figure 11.

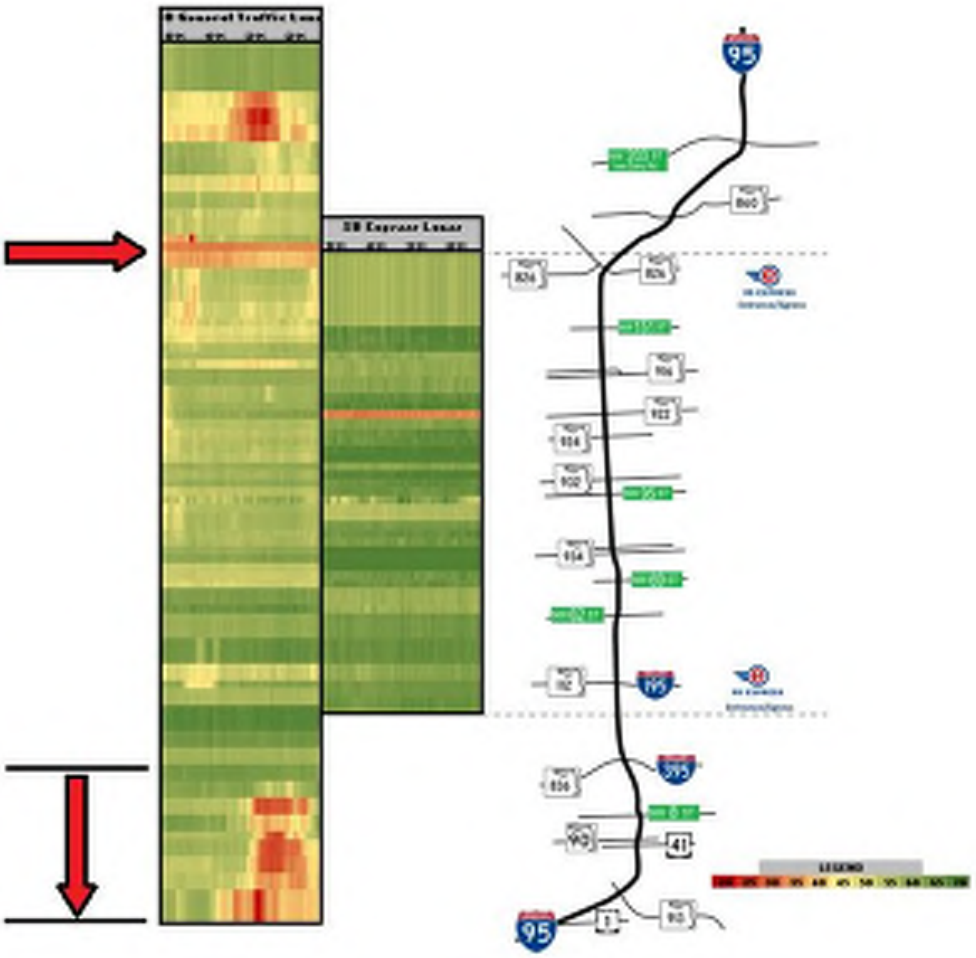


Figure 11: PM Peak – SB Bottlenecks and Speed Reductions

HCS Mainline Operational Analysis

Traffic capacity analyses were performed to evaluate freeway operational conditions along Interstate 95. HCS was used to examine ramp areas and merge/diverge areas along the study corridor.

The existing general purpose, weaving, and ramp merge/diverge analysis results for Interstate 95 operational conditions are summarized in **Tables 1** through **4**. Density was used as the measure of effectiveness to estimate the LOS of facility segments. The HCS results are presented by northbound and southbound approach and have been included in **Appendix B**. The corridor was divided into two segments for the analysis.

Table 1 summarizes the northbound AM and PM HCS results for Segment 1 (Rickenbacker Causeway to NW 95 Street). The results indicate that three (3) of the thirty-one (31) observed segments operated at LOS E or worse during at least one of the peak periods. Note, the subject segments are shown in blue.

Table 1: I-95 NB Segment 1 Freeway Analysis Results

From MP	To MP	I-95 Segment	Analysis Type	Adj. Demand (veh)	v/c	Density (pc/mi/ln)	LOS
0.000	0.726	US 1/I-95 Mainline to Westbound Rickenbacker Causeway On-Ramp	Basic	3,072 (1,975)	0.64 (0.42)	22.5 (14.4)	C (B)
0.726	1.010	Westbound Rickenbacker Causeway On-Ramp	Merge	5,007 (3,914)	1.00 (0.83)	45.8 (33.1)	F (D)
1.010	1.035	Westbound Rickenbacker Causeway On-Ramp to SW 8 Street Off-Ramp	Basic	5,007 (3,914)	0.67 (0.55)	24.6 (19.8)	C (C)
1.035	1.319	SW 8 Street Off-Ramp	Diverge	5,007 (3,914)	0.67 (0.55)	26.6 (21.1)	C (C)
1.319	1.496	SW 8 Street Off-Ramp to SW 8 Street On-Ramp (East side connection)	Basic	4,738 (3,381)	0.63 (0.48)	22.2 (16.6)	C (B)
1.496	1.556	SW 8 Street On-Ramp (East side connection) to SW 8 Street On-Ramp (West side connection)	Merge	5,212 (3,803)	0.70 (0.54)	27.1 (20.3)	C (C)
1.556	2.163	SW 8 St On-Ramp (West side connection) to SR 970/Downtown Distributor Off-Ramp	Weaving	5,937 (4,645)	0.78 (0.64)	21.1 (16.8)	C (B)
2.163	2.178	NW 2 Street Off-Ramp to SR 970/Downtown Distributor On-Ramp	Basic	4,481 (3,751)	0.60 (0.54)	20.9 (18.5)	C (C)
2.178	2.702	SR 970 On-Ramp to I-395 Off-Ramp	Weaving	5,514 (5,759)	0.58 (0.78)	17.8 (17.3)	B (B)
2.702	2.726	I-395 Off-Ramp to SR 836 Off-Ramp	Basic	4,548 (4,869)	0.46 (0.52)	16.1 (17.9)	B (B)
2.726	3.010	SR 836 Off-Ramp	Diverge	4,548 (4,869)	0.62 (0.69)	37.6 (53.9)	E (E)
3.010	3.127	SR 836 Off-Ramp to NW 8 Street On-Ramp	Basic	3,256 (3,816)	0.44 (0.55)	17.4 (22.4)	B (C)
3.127	3.258	NW 8 Street On-Ramp	Merge	3,799 (4,763)	0.52 (0.67)	19.8 (26.3)	B (C)

From MP	To MP	I-95 Segment	Analysis Type	Adj. Demand (veh)	v/c	Density (pc/mi/ln)	LOS
2.974	3.258	I-395 Flyover Bypass Off-Ramp	Diverge	3,799 (4,763)	0.52 (0.67)	20.7 (26.6)	C (C)
3.411	3.547	I-395 Flyover Bypass Off-Ramp to I-395/SR 836 On-Ramp	Basic	3,799 (4,763)	0.52 (0.67)	18.2 (23.7)	C (C)
3.547	3.831	I-395/SR 836 On-Ramp	Merge	6,283 (7,110)	0.82 (0.97)	33.2 (43.7)	D (F)
3.803	4.359	I-395 Flyover Bypass On-Ramp to I-95 Managed Lanes Ingress	Weaving	6,283 (7,110)	0.49 (0.60)	8.4 (11.8)	A (B)
4.220	4.504	I-195/SR 112 Off-Ramp	Diverge	5,092 (5,194)	0.50 (0.54)	18.5 (20.2)	B (C)
4.504	5.228	I-195/SR 112 Off-Ramp to I-195/SR 112 On-Ramp	Basic	3,637 (3,578)	0.48 (0.50)	16.5 (17.1)	B (B)
5.228	5.512	I-195/SR 112 On-Ramp	Merge	4,458 (4,743)	0.59 (0.66)	21.9 (24.7)	C (C)
5.512	5.738	I-195/SR 112 On-Ramp to NW 62 Street Off-Ramp	Basic	4,458 (4,743)	0.35 (0.40)	12.3 (13.7)	B (B)
5.738	6.022	NW 62 Street Off-Ramp	Diverge	4,458 (4,743)	0.44 (0.49)	15.9 (18.1)	B (B)
6.022	6.426	NW 62 Street Off-Ramp to NW 62 Street On-Ramp	Basic	4,079 (4,009)	0.41 (0.42)	14.1 (14.4)	B (B)
6.426	6.710	NW 62 Street On-Ramp	Merge	4,905 (4,507)	0.49 (0.47)	18.3 (17.3)	B (B)
6.640	6.795	Westbound NW 69 Street On-Ramp	Merge	5,094 (4,600)	0.51 (0.48)	19.0 (17.8)	B (B)
6.795	6.924	Westbound NW 69 Street On-Ramp to NW 79 Street Off-Ramp	Ramp Overlap	5,094 (4,600)	0.51 (0.48)	19.0 (17.8)	C (B)
6.924	7.079	NW 79 Street Off-Ramp	Diverge	5,094 (4,600)	0.51 (0.48)	18.7 (17.5)	B (B)
7.079	7.526	NW 79 Street Off-Ramp to NW 81 Street On-Ramp	Basic	4,464 (4,013)	0.46 (0.42)	15.7 (14.4)	B (B)
7.526	7.775	NW 81 Street On-Ramp	Merge	5,199 (4,740)	0.53 (0.49)	19.6 (18.2)	B (B)
7.775	7.813	NW 81 Street On-Ramp to NW 95 Street Off-Ramp	Ramp Overlap	5,199 (4,740)	0.53 (0.49)	19.6 (18.2)	C (C)
7.813	8.063	NW 95 Street Off-Ramp	Diverge	5,199 (4,740)	0.53 (0.49)	19.2 (17.9)	B (B)

Legend: AM (PM)

Table 2 summarizes the northbound results for Segment 2 (NW 95 Street to north of Ives Dairy Road/NE 205 Street). The results indicate that two (2) of the thirty-three (33) observed segments operated at LOS E or worse during at least one of the peak periods, as highlighted in blue.

Table 2: I-95 NB Segment 2 Freeway Analysis Results

From MP	To MP	I-95 Segment	Analysis Type	Adj. Demand (veh)	v/c	Density (pc/mi/ln)	LOS
8.063	8.358	NW 95 Street Off-Ramp to NW 95 Street On-Ramp	Basic	4,761 (4,316)	0.51 (0.46)	17.4 (15.9)	B (B)
8.358	8.694	NW 95 Street On-Ramp to NW 103 Street Off-Ramp	Weaving	5,346 (4,722)	0.51 (0.45)	17.9 (15.7)	B (B)
8.694	9.027	NW 103 Street Off-Ramp to NW 103 Street On-Ramp	Basic	4,959 (4,321)	0.53 (0.46)	18.3 (16.0)	C (B)
9.027	9.279	NW 103 Street On-Ramp	Merge	5,691 (4,968)	0.61 (0.53)	22.7 (19.7)	C (B)
9.279	9.317	NW 103 Street On-Ramp to NW 119 Street Off-Ramp	Ramp Overlap	5,691 (4,968)	0.61 (0.53)	22.7 (19.7)	C (C)
9.317	9.568	NW 119 Street Off-Ramp	Diverge	5,691 (4,968)	0.61 (0.53)	21.4 (18.6)	C (B)
9.568	9.664	NW 119 Street Off-Ramp to NW 125 Street Off-Ramp	Basic	5,151 (4,570)	0.55 (0.49)	19.8 (17.5)	C (B)
9.664	9.948	NW 125 Street Off-Ramp	Diverge	5,151 (4,570)	0.55 (0.49)	19.3 (17.0)	B (B)
9.948	10.275	NW 125 Street Off-Ramp to NW 125 Street On-Ramp	Basic	4,641 (4,219)	0.50 (0.45)	17.0 (15.5)	B (B)
10.275	10.680	NW 125 Street On-Ramp to NW 135 Street Off-Ramp	Weaving	5,494 (4,937)	0.59 (0.47)	20.7 (17.6)	C (B)
10.680	11.009	NW 135 Street Off-Ramp to Opa Locka Blvd On-Ramp	Basic	4,862 (4,596)	0.52 (0.49)	18.0 (17.0)	B (B)
11.009	11.701	Opa Locka Blvd On-Ramp to NW 151 Street Off-Ramp	Weaving	5,753 (5,416)	0.52 (0.49)	20.6 (19.1)	C (B)
11.667	11.951	Managed Lanes Egress	Merge	6,278 (6,472)	0.67 (0.69)	24.8 (25.8)	C (C)
11.951	12.021	Managed Lanes Egress to Northbound Turnpike Off-Ramp	Basic	6,278 (6,472)	0.53 (0.55)	18.6 (19.2)	C (C)
12.021	12.062	Northbound Turnpike Off-Ramp	Diverge	6,278 (6,472)	0.89 (0.92)	36.0 (36.6)	E (E)
12.062	12.346	NW 167 Street Off-Ramp	Diverge	3,032 (3,480)	0.43 (0.49)	15.6 (18.0)	B (B)
12.346	12.570	NW 167 Street Off-Ramp to Northbound SR 7/US 441 Off-Ramp	Basic	2,664 (3,057)	0.38 (0.44)	13.0 (15.0)	B (B)
12.570	12.854	Northbound SR 7/US-441 Off-Ramp	Diverge	2,664 (3,057)	0.38 (0.44)	14.3 (16.5)	B (B)
12.854	13.146	Northbound US-441 Off-Ramp to Northbound SR 7/US 441 On-Ramp	Basic	1,867 (2,105)	0.26 (0.30)	9.1 (10.4)	A (A)
13.146	13.430	Northbound SR 7/US-441 On-Ramp	Merge	4,415 (4,501)	0.63 (0.64)	23.8 (24.4)	C (C)

From MP	To MP	I-95 Segment	Analysis Type	Adj. Demand (veh)	v/c	Density (pc/mi/ln)	LOS
13.430	13.733	Northbound SR 7/US-441 On-Ramp to End of 4-Lane Section	Basic	4,415 (4,501)	0.47 (0.48)	16.3 (16.7)	B (B)
13.733	13.923	Beginning of 3-Lane Section to Managed Lanes Ingress	Basic	4,415 (4,501)	0.63 (0.64)	21.8 (22.5)	C (C)
13.923	14.208	Managed Lanes Ingress	Diverge	4,415 (5,853)	0.63 (0.83)	25.3 (34.7)	C (D)
14.167	14.451	Miami Gardens Drive Off-Ramp	Diverge	3,409 (5,853)	0.49 (0.83)	17.8 (32.4)	B (D)
14.451	14.696	Miami Gardens Drive Off-Ramp to Miami Gardens Drive On-Ramp	Basic	2,873 (5,245)	0.41 (0.75)	14.1 (27.2)	B (D)
14.696	14.980	Miami Gardens Drive On-Ramp	Merge	3,894 (6,429)	0.55 (0.91)	20.5 (37.9)	C (E)
14.980	15.142	Miami Gardens Drive On-Ramp to Managed Lanes Egress	Basic	3,894 (6,429)	0.41 (0.68)	14.4 (24.3)	B (C)
15.142	15.426	Managed Lanes Egress	Merge	3,894 (6,429)	0.41 (0.68)	15.0 (25.6)	B (C)
15.426	15.777	Managed Lanes Egress to Ives Dairy Road Off-Ramp	Basic	3,894 (6,429)	0.33 (0.55)	11.4 (18.9)	B (C)
15.777	16.061	Ives Dairy Road Off-Ramp	Diverge	3,894 (6,429)	0.41 (0.68)	14.6 (24.5)	B (C)
16.061	16.885	Ives Dairy Road Off-Ramp to Ives Dairy Road On-Ramp	Basic	3,313 (5,562)	0.35 (0.59)	12.1 (20.5)	B (C)
16.885	17.169	Ives Dairy Road On-Ramp	Merge	5,294 (7,434)	0.56 (0.79)	20.9 (30.6)	C (D)
17.169	17.260	Ives Dairy Road On-Ramp to Broward County Line	Basic	5,294 (7,434)	0.45 (0.63)	15.6 (22.1)	B (C)

Legend: AM (PM)

Table 3 summarizes the southbound results for Segment 1 (NW 95 Street to SW 26 Road). The results indicate six (6) of the thirty-one (31) observed segments operated at LOS E or worse during one or both of the observed peak periods, as highlighted in blue.

Table 3: I-95 SB Segment 1 Freeway Analysis Results

From MP	To MP	I-95 Segment	Analysis Type	Adj. Demand (veh)	v/c	Density (pc/mi/ln)	LOS
8.379	8.048	NW 95 Street Off-Ramp to NW 95 Street On-Ramp	Basic	6,240 (6,113)	0.66 (0.66)	23.2 (23.3)	C (C)
8.048	7.887	NW 95 Street On-Ramp	Merge	6,995 (6,586)	0.74 (0.71)	28.9 (27.0)	D (C)
7.887	7.764	NW 95 Street On-Ramp to NW 81 St Off-Ramp	Ramp Overlap	6,995 (6,586)	0.74 (0.71)	28.9 (27.0)	D (D)
7.764	7.603	NW 81 Street Off-Ramp	Diverge	6,995 (6,586)	0.74 (0.71)	27.2 (25.5)	C (C)
7.603	7.167	NW 81 Street Off-Ramp to NW 79 St On-Ramp	Basic	6,487 (5,747)	0.68 (0.62)	24.2 (21.7)	C (C)
7.167	6.536	NW 79 Street On-Ramp to NW 69 St Off-Ramp	Weaving	7,156 (6,583)	0.62 (0.60)	27.2 (24.6)	C (C)
6.536	6.420	NW 62 Street Off-Ramp	Diverge	7,074 (6,244)	0.75 (0.68)	27.3 (24.1)	C (C)
6.420	5.996	NW 62 Street Off-Ramp to NW 62 Street On-Ramp	Basic	6,642 (5,524)	0.70 (0.60)	25.1 (20.8)	C (C)
5.996	5.712	NW 62 Street On-Ramp	Merge	7,442 (6,140)	0.79 (0.66)	30.4 (24.7)	D (C)
5.712	5.424	NW 62 Street On-Ramp to SR 112/I-195 Off-Ramp	Basic	7,442 (6,140)	0.60 (0.53)	51.8 (18.3)	F (C)
5.424	5.140	SR 112/I-195 Off-Ramp	Diverge	7,442 (6,140)	1.00 (0.89)	39.9 (34.5)	F (D)
5.140	4.324	SR 112/I-195 Off-Ramp to SR 112/I-195 On-Ramp	Basic	5,581 (3,725)	0.75 (0.54)	27.5 (18.6)	D (C)
4.324	4.040	SR 112/I-195 On-Ramp	Merge	7,256 (5,329)	0.99 (0.77)	42.8 (29.7)	F (D)
4.040	3.992	Managed Lanes Egress	Merge	9,616 (6,926)	0.96 (0.74)	37.9 (28.3)	F (D)
3.992	3.773	Managed Lanes Egress to SR 836 Off-Ramp	Basic	9,616 (6,926)	0.64 (0.49)	22.4 (17.1)	C (B)
3.773	3.489	SR 836 Off-Ramp	Diverge	9,616 (6,926)	0.96 (0.74)	37.1 (27.2)	F (C)
3.489	3.383	I-395 Off-Ramp	Diverge	7,331 (4,884)	0.73 (0.52)	27.2 (18.4)	C (B)
3.383	3.098	NW 8 Street Off-Ramp	Diverge	5,891 (3,888)	0.78 (0.55)	30.9 (20.8)	D (C)
3.098	2.866	NW 8 Street Off-Ramp to I-395/SR 836 On-Ramp	Basic	4,641 (3,089)	0.61 (0.44)	21.4 (15.1)	C (B)
2.866	2.582	I-395/SR 836 On-Ramp	Merge	5,811 (5,583)	0.59 (0.59)	21.9 (22.8)	C (C)
2.582	2.518	I-395/SR 836 On-Ramp to SW 7 Street Off-Ramp	Basic	5,811 (5,583)	0.59 (0.59)	20.5 (20.8)	C (C)
2.518	2.234	SW 7 Street Off-Ramp	Diverge	5,811 (5,583)	0.59 (0.59)	22.0 (21.7)	C (C)

From MP	To MP	I-95 Segment	Analysis Type	Adj. Demand (veh)	v/c	Density (pc/mi/ln)	LOS
2.234	2.160	Downtown Distributor Off-Ramp	Diverge	4,625 (3,969)	0.47 (0.42)	17.1 (15.0)	B (B)
2.160	2.023	Downtown Distributor Off-Ramp to NW 2 Street On-Ramp	Basic	3,328 (2,594)	0.44 (0.36)	15.4 (12.5)	B (B)
2.023	1.739	NW 2 Street On-Ramp	Merge	3,478 (3,149)	0.47 (0.44)	17.7 (16.6)	B (B)
1.739	1.638	Downtown Distributor On-Ramp	Merge	3,773 (4,179)	0.51 (0.58)	19.1 (22.2)	B (C)
1.638	1.365	Downtown Distributor On-Ramp to SW 8 Street On-Ramp	Basic	3,773 (4,179)	0.51 (0.58)	17.7 (20.2)	B (C)
1.365	1.081	SW 8 Street On-Ramp	Merge	3,995 (4,388)	0.54 (0.61)	20.2 (23.2)	C (C)
1.081	0.974	SW 8 Street On-Ramp to SW 26 Road Off-Ramp	Basic	3,995 (4,388)	0.54 (0.61)	18.7 (21.4)	C (C)
0.974	0.690	SW 26 Road Off-Ramp	Diverge	3,995 (4,388)	0.81 (0.92)	35.0 (40.8)	D (E)
0.690	0.000	SW 26 Road Off-Ramp to US 1	Basic	2,176 (2,107)	0.44 (0.44)	15.1 (15.1)	B (B)

Legend: AM (PM)

Table 4 summarizes the southbound results for Segment 2 (North of Ives Dairy Road to south of NW 95 Street). The results indicate that nineteen (19) of the thirty-six (36) observed segments operated at LOS E or worse during one or both of the observed peak periods, as highlighted in blue.

Table 4: I-95 SB Segment 2 Freeway Analysis Results

From MP	To MP	I-95 Segment	Analysis Type	Adj. Demand (veh)	v/c	Density (pc/mi/ln)	LOS
17.328	17.303	Broward County Line to Ives Dairy Road Off-Ramp	Basic	7,131 (7,079)	1.00 (1.00)	45.3 (44.6)	F (F)
17.303	17.019	Ives Dairy Road Off-Ramp	Diverge	7,131 (7,079)	1.00 (1.00)	39.6 (39.9)	F (F)
17.019	16.148	Ives Dairy Road Off-Ramp to Ives Dairy Road On-Ramp	Basic	5,732 (5,170)	0.61 (0.55)	21.0 (19.0)	C (C)
16.148	15.864	Ives Dairy Rd On-Ramp	Merge	6,921 (6,452)	0.97 (0.91)	41.8 (38.1)	F (E)
15.864	15.462	Ives Dairy Rd On-Ramp to Managed Lanes Ingress	Basic	6,921 (6,452)	0.97 (0.91)	41.9 (37.3)	F (E)
15.462	15.178	Managed Lanes Ingress	Diverge	6,921 (6,452)	0.97 (0.91)	35.3 (34.4)	F (D)
15.178	14.952	Managed Lanes Ingress to Miami Gardens Drive	Basic	6,921 (6,452)	0.96 (0.91)	43.0 (37.3)	F (E)
14.952	14.668	Miami Gardens Drive Off-Ramp	Diverge	6,921 (6,452)	0.94 (0.91)	41.3 (35.7)	F (E)
14.668	14.507	Miami Gardens Drive Off-Ramp to Miami Gardens Drive On-Ramp	Basic	6,172 (5,245)	0.82 (0.75)	47.0 (27.5)	F (D)
14.507	14.233	Miami Gardens Drive On-Ramp	Merge	6,837 (5,828)	0.83 (0.83)	3.3 (-83.7)*	A (A)*
14.233	14.208	Miami Gardens Drive On-Ramp to Managed Lanes Egress	Basic	6,837 (5,828)	0.82 (0.83)	68.7 (45.3)	F (F)
14.208	13.923	Managed Lanes Egress	Merge	8,190 (6,891)	1.00 (0.99)	82.8 (48.2)	F (E)
13.923	13.490	Managed Lanes Egress to Turnpike/SR 826 Off-Ramp	Basic	8,190 (6,891)	0.75 (0.74)	27.3 (26.9)	D (D)
13.490	13.205	Florida Turnpike/SR 826 Off-Ramp	Diverge	8,190 (5,261)	0.75 (0.74)	30.2 (27.7)	D (C)
13.205	12.977	Florida Turnpike/SR 826 Off-Ramp to SR 7/US 441 On-Ramp	Basic	5,096 (6,221)	0.62 (0.75)	21.5 (27.6)	C (D)
12.977	12.693	SR 7/US 441 On-Ramp	Merge	5,871 (6,221)	0.73 (0.90)	31.3 (64.4)	D (E)
12.693	12.633	SR 7/US 441 On-Ramp to NW 167 Street On-Ramp	Basic	5,871 (6,593)	0.73 (0.90)	26.2 (36.2)	D (E)
12.633	12.349	NW 167 Street On-Ramp	Merge	6,206 (6,593)	0.78 (0.95)	-294.1* (-313.7)*	A* (A)*
12.349	12.336	NW 167 Street On-Ramp to Florida Turnpike/SR 826 On-Ramp	Basic	6,206 (6,593)	0.78 (0.95)	38.4 (47.1)	E (F)
12.336	12.052	Florida Turnpike/SR 826 On-Ramp	Merge	9,380 (9,325)	0.80 (0.94)	36.3 (44.3)	E (F)
12.052	11.880	Florida Turnpike/SR 826 On-Ramp to Managed Lanes Ingress	Basic	9,380 (9,325)	0.80 (0.94)	30.2 (39.2)	D (F)
11.880	11.596	Managed Lanes Ingress	Diverge	9,380 (9,325)	0.80 (0.94)	30.4 (35.0)	D (F)

From MP	To MP	I-95 Segment	Analysis Type	Adj. Demand (veh)	v/c	Density (pc/mi/ln)	LOS
11.596	11.488	Managed Lanes Ingress to NW 151 Street On-Ramp	Basic	8,096 (8,510)	0.69 (0.86)	24.5 (33.7)	C (D)
11.488	11.388	NW 151 Street On-Ramp	Merge	8,370 (8,743)	0.72 (0.88)	28.3 (34.7)	D (D)
11.388	11.204	NW 151 Street On-Ramp to Opa Locka Boulevard Off-Ramp	Overlap	8,370 (8,743)	0.72 (0.88)	28.3 (34.7)	D (D)
11.204	11.103	Opa Locka Boulevard Off-Ramp	Diverge	8,370 (8,743)	0.72 (0.88)	26.3 (32.7)	C (D)
11.103	10.670	Opa Locka Boulevard Off-Ramp to NW 135 Street On-Ramp	Basic	8,064 (8,000)	0.70 (0.81)	24.8 (30.6)	C (D)
10.670	10.247	NW 135 Street On-Ramp to NW 125 Street Off-Ramp	Weaving	8,640 (8,556)	0.63 (0.73)	27.1 (34.4)	C (D)
10.247	9.950	NW 125 Street Off-Ramp to NW 125 Street On-Ramp	Basic	8,180 (7,818)	0.72 (0.80)	25.7 (29.9)	C (D)
9.950	9.666	NW 125 Street On-Ramp	Merge	8,472 (8,363)	0.75 (0.85)	29.1 (33.3)	D (D)
9.666	9.576	NW 125 Street On-Ramp to NW 119 Street On-Ramp	Basic	8,472 (8,363)	0.75 (0.85)	27.3 (33.3)	D (D)
9.576	9.292	NW 119 Street On-Ramp	Merge	8,998 (9,018)	0.81 (0.92)	31.5 (36.5)	D (E)
9.292	9.256	NW 119 Street On-Ramp to NW 103 Street Off-Ramp	Basic	8,998 (9,018)	0.81 (0.92)	30.3 (38.3)	D (E)
9.256	8.972	NW 103 Street Off-Ramp	Diverge	8,998 (9,018)	0.81 (0.92)	29.6 (34.5)	D (D)
8.972	8.689	NW 103 Street Off-Ramp to NW 103 Street On-Ramp	Basic	8,488 (8,220)	0.76 (0.84)	27.9 (32.5)	D (D)
8.689	8.379	NW 103 Street On-Ramp to NW 95 Street Off-Ramp	Weaving	9,212 (8,747)	0.71 (0.77)	30.7 (35.0)	D (E)

Legend: AM (PM)

Note: (*) – HCS incorrectly calculating Density as negative (-); however, v/c appears consistent with upstream and downstream segments. Therefore, LOS is likely also consistent with upstream and downstream segments.

Synchro Intersection Capacity Operational Analysis

Trafficware's *Synchro* software was used to conduct analyses for ramp-terminal and adjacent intersections along the study area. Results were reported using the HCM output when possible, otherwise results were reported using the HCM 2000 output. The system-wide peak hours were established as 7:45 AM to 8:45 AM and 4:30 PM to 5:30 PM for the intersection-level capacity analysis. The following sections summarize the operational analysis results for each interchange area along the corridor. Intersection ID numbers were used to denote each intersection in a manner that is consistent with the Synchro operations model. The MOEs used in the analysis included LOS, delay, and queue length. The intersection analyses are presented in **Appendix C**

Based on field review observations, including the observation of cycle failures, oversaturated conditions may exist at many of the study intersections. These oversaturated conditions result in latent or suppressed demand, where the vehicles counted at the intersections during the peak hours are less than the unconstrained demand. Since the number of vehicles counted at the intersections are less than the demand, the Synchro LOS results provided in this section may be better than actual conditions experienced by drivers. Therefore, in addition to the LOS, queue length is also provided as a supplemental MOE.

Table 5 summarizes the intersection capacity analysis results for the AM and PM peak hours at the SR 5/US 1/South Dixie Highway interchange. The results indicate that the intersection at this interchange operates at LOS D or better for the AM and PM peak periods.

Table 5: SR 5/US 1/S Dixie Highway – Intersection Analysis Results

IID	Roadway	Intersecting Road	Intersection Delay (s)		LOS	
			AM	PM	AM	PM
101	SW 16 Ave	SR 5/US 1/S Dixie Hwy	44.4	29.0	D	C

Source: Synchro (Version 9.1) results

Table 6 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SR 5/US 1/S Dixie Highway intersection with SW 16 Avenue. The results indicate that the 95th percentile queue lengths exceeded available storage for four (4) of the six (6) observed approach lane movements for at least one peak period. The lanes in which queues exceed storage length have

been shaded in blue. Queueing traffic was observed during AM and PM peak hours at intersection approaches during site visits.

Table 6: SR 5/US-1/S Dixie Highway – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	95th Pt. Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
101	SW 16 Ave	SR 5/US 1/S Dixie Hwy	EB[3]	L	165[1]	200	650	125	2,475
				T	585[2]	1,450	650	150	2,475
			WB[3]	TR	(-)	825	1,150	425	750
			SB	L	130[2]	1,700	475	575	300
				R	95[2]	700	1,100	125	575

[1] Available storage length measured from the stop bar to end of taper
[2] Available storage length measured from stop bar to upstream intersection
[3] US 1 is aligned east-west through the SW 16 Avenue intersection. The EB approach corresponds to US 1 NB and the WB approach corresponds to US 1 SB,
[-] Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 7 summarizes the intersection analysis results for the AM and PM peak hours at the SR 913/SW 26 Road/SW 25 Road interchange. The results indicate that two (2) of the six (6) observed intersections operate at LOS E or F for at least one peak period.

Table 7: SR 913/SW 26 Road/SW 25 Road – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay (s)		LOS	
			AM	PM	AM	PM
201	SW 26 Rd	SB Off-Ramp	[1]		[1]	
202	SW 26 Rd	NB On-Ramp	[4]		[4]	
203	SW 26 Rd	Miami Ave	68.7	38.0	E	D
204	SW 26 Rd	Brickell Ave	23.1	27.3	C	C
205	SW 25 Rd	SB Off-Ramp	25.1	24.0	C	C
206	SW 25 Rd	NB On-Ramp	73.1	30.5	E	C

Source: Synchro (Version 9.1) results
[1] Unsignalized intersection
[3] Free flow, uncontrolled intersection
[4] Intersection sign configuration not allowed in HCM analysis

Table 8 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SW 913/SW 26 Road/SW 25 Road interchange. The results indicate that the 95th percentile

queue lengths exceeded available storage for twelve (12) of the twenty-four (24) observed approach lane movements for at least one peak period. The lanes in which queues exceed capacity have been shaded in blue.

Table 8: SW 913/SW 26 Road/SW 25 Road – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
203	SW 26 Rd	Miami Ave	EB	L	150(1)	25	50	-	50
				T	670 (2)	975	550	375	25
			WB	L	90(1)	150	250	100	100
				T	290(2)	175	250	75	50
			NB	L	175(1)	225	175	25	325
				T	540(2)	100	100	100	50
			SB	L	145(1)	50	75	-	-
				T	260(2)	50	100	50	275
204	SW 26 Rd	Brickell Ave	EB	L	105(1)	275	300	125	150
				T	290(2)	375	325	100	-
			WB	T	-	200	350	-	50
			NB	T	735(2)	350	225	300	200
				R	735(2)	475	425	-	200
			SB	L	185(4)	75	75	75	475
				T	-	175	275	100	475
205(+)	SW 25 Rd	SB Off-Ramp	EB	T	100(2)	350	200	375	75
			WB	T	150(2)	50	200	25	150
			SB	T	1,000(9)	475	700	175	150
206(+)	SW 25 Rd	NB On-Ramp	EB	L	120(2)	325	150	25	150
				T	120(2)	125	75	25	150
			WB	T	300(2)	275	325	75	125
				R	300(2)	925	300	325	125
			NB	L	245(2)	50	125	50	-
				T	245(2)	650	200	450	400

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(4) Available storage length measured from the stop bar to the end of dual left-turn lanes
(9) Available storage length measured from stop bar to gore
(+) Synchro result
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection.

Table 9 summarizes the intersection analysis results for the AM and PM peak hours at the SR 90/SW 7 Street/SW 8 Street interchange. The results indicate that the eight (8) observed intersections operate at LOS D or better for both AM and PM peak periods.

Table 9: SR 90/SW 7 Street/SW 8 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay (s)		LOS	
			AM	PM	AM	PM
301	SW 8 St / US 41 /SR 90	SW 5 Ave	45.0	53.0	D	D
302	SW 8 St / US 41 /SR 90	SW 4 Ave/SB Ramps	23.2	25.2	C	C
303	SW 8 St / US 41 /SR 90	NB On-Ramp 170	(3)		(3)	
304	SW 8 St / US 41 /SR 90	SW 3 Ave NB Ramps	43.4	46.6	D	D
305	SW 8 St / US 41 /SR 90	SW 2 Ave	23.4	35.6	C	D
306(+)	SW 7 St / US 41 /SR 90	SW 4 Ave/SB Ramps	30.3	45.0	C	D
307	SW 7 St / US 41 /SR 90	SW 3 Ave NB Ramps	10.8	13.3	B	B
308	SW 7 St / US 41 /SR 90	SW 2 Ave	32.8	35.4	C	D

Source: Synchro (Version 9.1) results
(3) Free flow, uncontrolled intersection
(+) HCM 2000 results

Table 10 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SR 90/SW 7 Street/SW 8 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for seventeen (17) of the thirty-seven (37) observed approach lane movements for at least one peak period. The failing approach lane movements have been shaded in blue.

Table 10: SR 90/SW 7 Street/SW 8 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
301	SW 8 St / US 41 / SR 90	SW 5 Ave	EB	L	500(2)	550	575	775	225
				T	500(2)	500	525	775	225
				R	500(2)	525	550	775	225
			NB	T/R	-	725	650	575	275
302	SW 8 St / US 41 / SR 90	SW 4 Ave / SB Ramps	EB	T	500(2)	325	225	675	200
				R	70(1)	375	275	-	350
			SB	L	290(2)	575	400	250	300
				T	290(2)	425	625	125	300
304	SW 8 St / US 41 / SR 90	SW 3 Ave / NB Ramps	EB	L	440(2)	700	625	150	200
				T	440(2)	525	500	125	200
			NB	T	-	475	700	200	175
				R	180(9)	675	375	175	100
			SB	L	135(8)	25	25	25	25
				T	280(2)	750	525	325	325
305	SW 8 St / US 41 / SR 90	SW 2 Ave	EB	L	480(2)	900	650	200	200
				T	475(2)	675	550	200	175
				R	150(1)	175	225	175	175
			NB	T	180	150	150	125	150
				R	170(1)	175	125	50	150
			SB	T	275(1)	125	50	50	150
306(+)	SW 7 St / US 41 / SR 90	SW 4 Ave / SB Ramps	WB	L	465(2)	100	400	175	700
				T	465(2)	125	400	175	700
			SB	T	220(2)	250	150	125	175
			SWB	L	-	625	675	200	-
				R	-	350	825	725	525
307	SW 7 St / US 41 / SR 90	SW 3 Ave NB Ramps	WB	L	475(2)	25	50	300	425
				T	475(2)	25	50	175	150
				R	475(2)	25	50	75	150
			NB	L	135(8)	225	325	-	150
				T	140(1)	150	275	75	50

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
308	SW 7 St / US 41 / SR 90	SW 2 Ave	WB	L	500(2)	175	325	275	200
				T	485(2)	125	275	275	1000
				R	485(2)	150	275	275	1000
			NB	L	270(2)	50	100	50	100
				T	285(2)	125	175	175	100
			SB	T	-	575	675	75	200
				R	-	575	625	125	-

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(8) Available storage length measured from stop bar to half way to upstream intersection
(9) Available storage length measured from stop bar to gore
(+) Synchro results
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection.

Table 11 summarizes the intersection analysis results for the AM and PM peak hours at the SR 970/Downtown Distributor interchange. The results indicate that one (1) of the nine (9) observed intersection operates at LOS E or F for at least one peak period.

Table 11: SR 970/Downtown Distributor – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay (s)		LOS	
			AM	PM	AM	PM
401(+)	SW 3 St	Miami Ave	8.5	4.7	A	A
402(+)	SE 4 St/SR 970 EB Off-Ramp	Fort Dallas Park Dr	4.9	3.4	A	A
403(+)	SR 970 Off-Ramp	SE 2 Ave	21.0	21.5	C	C
404(+)	SR 970 Off-Ramp	Miami Ave	6.6	10.0	A	A
405	SR 970 On-Ramp	SE 2 Ave	(4)		(4)	
406	SW 2 St	Miami Ave	29.7	27.7	C	C
407	NB On-Ramp	Miami Ave	(3)		(3)	
408	SE 2 St	SE 1 Ave	34.8	144.5	C	F
409(+)	SE 2 St	SE 2 Ave	21.9	18.7	C	B

Source: Synchro (Version 9.1) results
(3) Free flow, uncontrolled intersection
(4) Intersection sign configuration not allowed in HCM analysis
(+) HCM 2000 results

Table 12 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SR 970/Downtown Distributor interchange. The results indicate that the 95th percentile queue

lengths exceeded available storage for seven (7) of the twenty-one (21) observed approach lane movements for at least one peak period. The failing approach lane movements have been shaded in blue.

Table 12: SR 970/Downtown Distributor – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
401(+)	SW 3 St	Miami Ave	EB	T	315(2)	50	50	150	150
			NB	L	105(1)	50	75	25	125
			SB	L	50(2)	50	25	75	50
				T	320(2)	25	25	50	50
402	SE 4 St/ SR 970 EB Off-Ramp	Fort Dallas Park Dr	SB	L	30	75	25	125	50
403(+)	SR 970 Off-Ramp	SE 2 Ave	EB	T	700(9)	300	150	450	225
				R	700(9)	300	150	450	225
			SB	T	280(2)	275	225	275	250
404(+)	SR 970 Off-Ramp	Miami Ave	EB	R	625(9)	25	0	175	125
			SB	T	220(2)	50	50	125	100
406	SW 2 St	Miami Ave	WB	L	475(7)	400	575	50	100
				T	475(2)	375	500	100	275
			SB	T	240(2)	25	50	75	125
408	SE 2 St	SE 1 Ave	WB	T	475(2)	450	450	25	100
				R	475(2)	450	425	50	100
			NB	L	275(2)	475	3,375	100	175
				T	275(2)	425	200	100	175
409(+)	SE 2 St	SE 2 Ave	WB	L	335(2)	150	350	275	400
				T	335(2)	425	300	100	400
			SB	T	230(2)	125	150	25	200
				R	225(2)	50	75	50	200

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(9) Available storage length measured from stop bar to gore
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection.

Table 13 summarizes the intersection analysis results for the AM and PM peak hours at the NW 2 Street interchange. The results indicate that the four (4) intersections perform at LOS D or better.

Table 13: NW 2 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
501	NW 2 St	NW 3 Ct/SB On-Ramp	17.6	14.8	B	B
502	NW 2 St	NW 3 Ave/Off-Ramp	34.7	43.5	C	D
503	NW 3 St	NW 3 Ct	4.4	11.7	A	B
504	NW 3 St	NW 3 Ave	17.4	18.3	B	B

Source: Synchro (Version 9.1) results

Table 14 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the NW 2 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for six (6) of the twenty-four (24) observed approach lane movements for at least one peak period. The failing approach lane movements have been shaded in blue.

Table 14: NW 2 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	95 Pt. Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
501	NW 2 St	NW 3 Ct/SB On-Ramp	EB	T	500(2)	25	50	25	75
				R	500(2)	50	100	25	50
			WB	L	145(2)	50	275	25	225
			SB	L	240(1)	200	25	25	0
				T	290(2)	250	375	75	350
502(+)	NW 2 St	NW 3 Ave/Off-Ramp	EB	L	145(2)	25	50	25	25
				T	145(2)	125	50	150	0
			WB	T	440(2)	25	175	0	150
				R	440(2)	0	50	0	100
			NB	T	-	475	250	250	175
			NWB	L	320(2)	75	50	75	150
				R	225(9)	25	25	0	0
503	NW 3 St	NW 3 Ct	WB	L	145(2)	100	125	50	75
				T	145(2)	100	150	50	0
			SB	L	170(1)	25	50	100	0
				T	290(2)	25	200	25	325
				R	290(2)	25	200	75	325
504	NW 3 St	NW 3 Ave	EB	L	490(2)	125	50	0	150
				T	490(2)	325	100	150	75
			WB	T	145(2)	125	250	25	225
				R	145(2)	225	300	50	225
			NB	L	280(2)	75	125	75	150
				T	280(2)	50	100	275	250
				R	50(1)	25	25	50	0

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(9) Available storage length measured from stop bar to gore
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 15 summarizes the intersection analysis results for the AM and PM peak hours at the NW 8 Street interchange. The results indicate that all the intersections perform at LOS D or better.

Table 15: NW 8 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay (s)		LOS	
			AM	PM	AM	PM
601	NW 8 St	NW 3 Ct/Off-Ramp	7.3	14.2	A	B
602	NW 8 St	NW 3 Ave/On-Ramp	21.1	21.7	C	C

Source: Synchro (Version 9.1) results

Table 16 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the NW 8 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for three (3) of the twelve (12) observed approach lane movements for at least one peak period. The failing approach lane movements have been shaded in blue.

Table 16: NW 8 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
601	NW 8 St	NW 3 Ct/Off-Ramp	EB	R	135(2)	275	250	225	350
			WB	L	230(2)	50	50	25	100
				T	230(2)	100	100	25	150
			SB	L	-	50	150	200	125
				T	-	25	125	225	125
				R	125(1)	50	125	75	75
602	NW 8 St	NW 3 Ave/On-Ramp	EB	L	255(2)	175	225	175	275
				T	240(2)	475	275	225	150
			WB	R	490(2)	225	425	100	175
			NB	L	200(1)	25	25	0	0
				T	285(2)	100	250	100	550
				R	250(1)	25	25	0	50

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 17 summarizes the intersection analysis results for the AM and PM peak hours at the NW 62 Street interchange. The results indicate that the three intersections perform at LOS D or better.

Table 17: NW 62 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
701	NW 62 St	SR 7/NW 7 Ave	30.5	35.4	C	D
702	NW 62 St	SB Ramps	11.9	17.9	B	B
703	NW 62 St	NB Ramps	28.0	30.5	C	C
704	NW 62 St	NW 2 Ave	15.6	34.2	B	C

Source: Synchro (Version 9.1) results

Table 18 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the NW 62 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for nine (9) of the thirty-six (36) observed approach lane movements for at least one peak period. The failing approach lane movements have been shaded in blue.

Table 18: NW 62 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
701	NW 62 St	SR 7/NW 7 Ave	EB	L	120(1)	125	125	0	75
				T	585(2)	475	300	400	100
				R	600(2)	475	325	400	100
			WB	L	145(1)	175	100	100	125
				T	425(2)	250	400	650	450
				R	425(2)	275	400	50	450
			NB	L	145	50	75	50	50
				T	610(2)	250	450	150	850
				R	610(2)	250	450	75	375
			SB	L	130	175	100	50	50
				T	215(2)	300	225	100	125
				R	215(2)	325	225	150	125
702	NW 62 St	SB Ramps	EB	T	305(2)	150	275	450	400
				R	305(2)	175	300	450	400
			WB	L	210(2)	125	175	200	425
				T	200(2)	25	150	175	425
			SB	L	245	175	150	75	275
				R	245	350	350	100	275
703	NW 62 St	NB Ramps	EB	L	180(2)	275	175	0	0
				T	180(2)	50	100	0	0
			WB	T	595(2)	225	250	100	400
				R	595(2)	250	300	125	400
			NB	L	-	625	725	350	275
				R	585	500	550	275	275
704	NW 62 St	NW 2 Ave	EB	L	80(1)	25	100	25	50
				T	-	150	325	75	300
				R	260(2)	150	325	175	75
			WB	L	110(1)	25	25	25	100
				T	280(2)	125	225	150	125
				R	270(2)	125	250	75	125
			NB	L	70(1)	75	200	25	100
				T	580(2)	100	575	75	400
				R	110(1)	25	75	25	400
			SB	L	60(1)	25	50	50	400
				T	255(2)	125	250	150	300
				R	60	75	200	25	0

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 19 summarizes the intersection analysis results for the AM and PM peak hours at the SR 934/NW 79 Street/NW 81 Street interchange. The results indicate that the six (6) intersections perform at LOS D or better.

Table 19: SR 934/NW 79 Street/NW 81 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
901	NW 79 St / SR 934	SR-7/NW 7 Ave	23.1	32.4	C	C
902(+)	NW 79 St / SR 934	SB Ramps/NW 6th Ct	26.3	23.3	C	C
903(+)	NW 79 St / SR 934	NB Ramps/NW 6th Ave	32.0	22.9	C	C
904	NW 81 St	SR 7/NW 7 Ave	13.5	40.2	B	D
905(+)	NW 81 St	SB Ramps/NW 6th Ct	20.7	15.5	C	B
906	NW 81 St	NB Ramps/NW 6th Ave	21.0	20.0	C	C

Source: Synchro (Version 9.1) results
(+) HCM 2000 results

Table 20 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SW 913/SW 26 Road/SW 25 Road interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for nine (9) of the thirty-five (35) observed approach lane movements for at least one peak period. The failing approach lane movements have been shaded in blue.

Table 20: SR 934/NW 79 Street/NW 82 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
901	NW 79 St/SR 934	SR-7/NW 7 Ave	EB	L	250	175	225	300	450
				T	595(2)	525	425	450	375
				R	595(2)	550	425	300	375
			WB	L	160(1)	100	75	25	75
				T	260(2)	150	225	75	125
				R	260(2)	150	225	50	125
			NB	L	120	50	50	25	75
				T	595(2)	200	325	150	250
				R	345(1)	225	325	100	250
			SB	L	160	250	150	325	175
				T	275(2)	25	250	375	125
				R	275(2)	25	100	0	50
902(+)	NW 79 St/SR 934	SB Ramps/NW 6 Ct	EB	T	225(2)	250	300	125	200
				R	225(2)	75	50	125	25
			WB	T	265(2)	25	75	0	75
			SB	L	475(2)	275	350	100	125
				T	585(2)	650	500	475	400
				R	585(2)	50	50	25	0
903(+)	NW 79 St/SR 934	NB Ramps/NW 6 Ave	EB	L	190(1)	125	125	150	100
				T	250(2)	150	125	100	125
			WB	T	265(2)	325	425	225	400
			NB	T	-	275	150	100	100
				R	800(9)	100	75	175	75
904	NW 81 St	SR-7/NW 7 Ave	WB	L	250(2)	225	-	200	150
				T	250(2)	275	50	200	200
				R	250(2)	450	1,800	75	175
			NB	L	190	25	25	25	75
				T	590(2)	25	200	75	175
			SB	T	590(2)	25	-	200	125
				R	590(2)	25	625	75	75
905(+)	NW 81 St	SB Ramps/NW 6 Ct	WB	T	290(2)	25	25	50	75
			SB	T	910(9)	325	300	325	300
906(+)	NW 81 St	NB Ramps/NW 6 Ave	WB	T	280(2)	250	325	375	250
				R	280(2)	400	75	125	175
			NB	T	585(2)	125	125	325	350

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(9) Available storage length measured from stop bar to gore
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection
(+) Synchro results

Table 21 summarizes the intersection analysis results for the AM and PM peak hours at the NW 95 Street interchange. The results indicate that one (1) of the three (3) observed intersections operates at LOS E or F for at least one peak period.

Table 21: NW 95 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
1001	NW 95 St	SR-7/NW 7 Ave	24.4	29.4	C	C
1002	NW 95 St	SB Ramps	6.9	183.5	A	F
1003	NW 95 St	NB Ramps	18.8	10.7	B	B

Source: Synchro (Version 9.1) results

Table 22 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the NW 95 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for ten (10) of the twenty-three (23) observed approach lane movements for at least one peak period. The failing approach lane movements have been shaded in blue.

Table 22: NW 95 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1001	NW 95 St	SR-7/NW 7 Ave	EB	L	115(1)	100	175	100	175
				T	595(2)	375	350	350	275
				R	90(1)	100	125	0	0
			WB	L	140(1)	250	200	200	175
				T	235(2)	200	250	150	200
				R	235(2)	75	200	0	50
			NB	L	160	75	125	125	125
				T	-	200	500	100	425
				R	-	225	550	200	425
			SB	L	150	250	125	350	200
				T	430(2)	400	150	350	175
				R	430(2)	425	175	300	200
1002	NW 95 St	SB Ramps	EB	T	210(2)	25	150	200	175
			WB	L	260(2)	225	75	300	200
				T	260(2)	25	75	100	100
			SB	L	1,065(9)	125	500	75	150
				R	1,065(9)	225	1,325	25	150
1003	NW 95 St	NB Ramps	EB	L	275(2)	325	175	275	150
				T	275(2)	50	25	125	175
			WB	T	275(2)	325	125	350	400
				R	275(2)	325	150	325	400
			NB	LT	1,025(9)	225	225	175	125
				R	270(2)	375	275	150	25

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(9) Available storage length measured from stop bar to gore
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 23 summarizes the intersection analysis results for the AM and PM peak hours at the SR 932/NW 103 Street interchange. The results indicate the four (4) observed intersections operate at LOS D or better for both AM and PM peak periods.

Table 23: SR 932/NW 103 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
1101	NW 103 St	SR-7/NW 7 Ave	33.5	36.3	C	D
1102	NW 103 St	SB Ramps	20.1	16.4	C	B
1103	NW 103 St	NB Ramps	10.8	13.6	B	B
1104	NW 103 St	NW 5 Ave	8.0	6.0	A	A

Source: Synchro (Version 9.1) results

Table 24 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SR 932/NW 103 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for eleven (11) of the twenty-eight (28) observed approach lane movements for at least one peak period. The lane approach movements in which queues exceeded capacity have been shaded in blue.

Table 24: SR 932/NW 103 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1101	NW 103 St	SR-7/NW 7 Ave	EB	L	360(1)	100	175	125	150
				T	595(2)	350	250	325	250
				R	595(2)	525	375	325	250
			WB	L	180(1)	225	100	50	100
				T	245(2)	250	400	125	300
				R	205(2)	275	425	125	300
			NB	L	115	75	175	75	150
				T	-	200	575	150	325
				R	-	225	625	150	300
			SB	L	125	175	175	100	125
				T	575(2)	450	225	225	200
				R	575(2)	500	250	225	200
1102	NW 103 St	SB Ramps	EB	T	230(2)	425	25	150	100
			WB	L	210(2)	125	100	75	75
				T	210(2)	50	25	175	225
			SB	L	1,005(9)	325	325	75	200
				R	1,005(9)	300	1,175	125	275
1103	NW 103 St	NB Ramps	EB	L	215(2)	150	200	125	200
				T	215(2)	25	175	175	200
			WB	T	125(2)	175	275	200	425
				R	125(2)	150	200	50	150
			NB	L	865(9)	150	175	125	100
				LT	190(9)	200	175	100	125
				R	200(2)	250	225	100	50
1104	NW 103 St	NW 5 Ave	EB	L	175	50	50	25	50
				T	425(2)	50	25	150	125
				TR	425(2)	50	50	175	125
			WB	L	200(1)	25	25	0	25
				T	985(2)	175	75	150	250
				TR	985(2)	175	75	150	125
			NB	L	205(2)	125	150	50	100
			SB	L	280(2)	300	200	150	75

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(9) Available storage length measured from stop bar to gore point
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 25 summarizes the intersection analysis results for the AM and PM peak hours at the SR 92/NW 119 Street interchange. The results indicate the four (4) observed intersections operate at LOS D or better for both AM and PM peak periods.

Table 25: SR 924/NW 119 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
1201	NW 119 St / SR 924	SR-7/NW 7 Ave	40.9	35.5	D	D
1202	NW 119 St / SR 924	SB On-Ramp	(3)		(3)	
1203	NW 119 St / SR 924	NB Off-Ramp	14.2	12.4	B	B
1204	NW 119 St / SR 924	NW 5 Ave	6.4	6.1	A	A

Source: Synchro (Version 9.1) results
(3) Free flow, uncontrolled intersection

Table 26 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SR 924/NW 119 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for one (1) of the twenty-seven (27) observed approach lane movements for at least one peak period. The lane approach movements in which queues exceeded capacity have been shaded in blue.

Table 26: SR 924/NW 119 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1201	NW 119 St/SR 924	SR-7/NW 7 Ave	EB	L	305(1)	250	200	100	425
				T	555(2)	475	400	750	125
				R	585(2)	525	425	750	125
			WB	L	250(1)	125	125	75	150
				T	555(2)	375	400	225	250
				R	-	425	425	125	125
			NB	L	290(1)	125	225	75	475
				T	-	175	425	125	100
				R	-	200	475	125	150
			SB	L	155(1)	100	125	100	175
				T	215(2)	575	350	300	1000
				R	-	625	350	200	100
1203	NW 119 St/SR 924	NB Off-Ramp	EB	L	115(1)	100	100	100	175
				T	570(2)	50	50	175	100
			WB	T	600(2)	150	225	200	300
				R	600(2)	150	225	125	300
			NB	L	-	325	300	200	450
				R	-	150	75	25	175
1204	NW 119 St/SR 924	NW 5 Ave	EB	L	175	-	25	0	0
				T	595(2)	25	25	75	50
				R	595(2)	25	25	50	25
			WB	L	175	25	25	0	125
				T	-	25	25	125	225
				R	-	25	25	100	75
			NB	L	125(1)	100	100	25	75
				R	205(2)	100	175	50	50
			SB	L	120	25	25	25	0
				R	245(2)	175	100	100	75

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 27 summarizes the intersection analysis results for the AM and PM peak hours at the SR 922/NW 125 Street interchange. The results indicate the three (3) observed intersections operate at LOS D or better for both AM and PM peak periods.

Table 27: SR 922/NW 125 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
1301	NW 125 St	SR 7	21.7	20.8	C	C
1302	NW 125 St	SB Ramps	17.9	23.7	B	C
1303	NW 125 St	NB Ramps	29.9	20.6	C	C

Source: Synchro (Version 9.1) results

Table 28 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SR 922/NW 125 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for twelve (12) of the twenty-four (24) observed approach lane movements for at least one peak period. The lane approach movements in which queues exceeded capacity have been shaded in blue.

Table 28: SR 922/NW 125 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1301	NW 125 St	SR-7/NW 7 Ave	EB	L	145(1)	50	50	50	25
				T	590(2)	125	100	150	75
				R	145(1)	125	125	125	75
			WB	L	225(1)	300	250	200	275
				T	245(2)	375	300	125	225
				R	245(2)	100	175	75	50
			NB	L	200(1)	25	25	0	25
				T	-	175	300	125	150
				R	-	175	300	25	200
			SB	L	205(1)	175	100	25	125
				T	-	250	75	125	100
				R	250(2)	275	100	75	75
1302	NW 125 St	SB Ramps	EB	T	270(2)	150	175	200	175
				R	270(2)	175	225	25	125
			WB	L	230(2)	125	225	50	25
				T	235(2)	50	75	75	75
			SB	LT	960(2)	475	600	225	375
				R	200	175	225	25	0
1303	NW 125 St	NB Ramps	EB	L	220(2)	175	100	125	75
				T	220(2)	175	125	200	100
			WB	T	-	575	475	350	500
				R	-	625	525	350	500
			NB	LT	1,010(9)	500	400	125	200
				TR	265(2)	475	325	200	100

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(9) Available storage length measured from stop bar to gore
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 29 summarizes the intersection analysis results for the AM and PM peak hours at the SR 916/NW 135 Street/NW 136 Street interchange. The results indicate that the six (6) observed intersections operate at LOS D or better for both AM and PM peak periods.

Table 29: SR 916/NW 135 Street/NW 136 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
1401	NW 135 St / SR 916	SR-7/NW 7 Ave	15.7	18.3	B	B
1402(+)	NW 135 St / SR 916	SB Ramps	23.2	26.6	C	C
1403(+)	NW 135 St / SR 916	NB Ramps	17.3	8.2	B	A
1404	Opa Locka Blvd / SR 916	SR-7/NW 7 Ave	22.5	17.0	C	B
1405(+)	Opa Locka Blvd / SR 916	SB Ramps	10.7	14.5	B	B
1406	Opa Locka Blvd / SR 916	NB Ramps	18.6	21.0	B	C

Source: Synchro (Version 9.1) results
(+) HCM 2000 results

Table 30 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the NW 95 Street interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for five (5) of the twenty-eight (28) observed approach lane movements for at least one peak period. The lane approach movements in which queues exceeded capacity have been shaded in blue.

Table 30: SR 916/NW 135 Street/NW 136 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1401	NW 135 St/SR 916	SR-7/NW 7 Ave	EB	L	205(1)	200	200	50	50
				T	-	325	350	225	200
				R	255(1)	200	100	50	100
			NB	T	280(2)	125	300	50	175
				R	280(2)	125	300	125	175
			SB	L	130(1)	125	125	50	150
				T	245(2)	200	75	275	100
1402(+)	NW 135 St/SR 916	SB Ramps	EB	T	305(2)	300	375	100	125
				R	215(2)	50	50	50	0
			SB	L	320(10)	100	300	25	275
				T	450(2)	100	275	150	275
1403(+)	NW 135 St/SR 916	NB Ramps	EB	L	205(2)	-	25	0	50
				T	205(2)	50	75	175	175
			NB	T	950(9)	425	175	150	100
				R	-	350	75	75	125
1404	Opa Locka Blvd/SR 916	SR-7/NW 7 Ave	WB	L	290(2)	275	300	275	125
				T	290(2)	275	300	275	125
				R	290(2)	125	150	0	125
			NB	L	205(1)	75	125	50	125
				T	445(2)	75	75	50	125
			SB	T	-	450	225	175	225
				R	-	475	250	175	225
1405(+)	Opa Locka Blvd/SR 916	SB Ramps	WB	L	190(2)	25	25	0	0
				T	190(2)	25	25	0	0
			SB	T	1100(9)	150	250	225	250
1406(+)	Opa Locka Blvd/SR 916	NB Ramps	WB	T	385(2)	175	250	225	250
				R	250(1)	75	175	225	250
			NB	T	475(2)	200	175	150	250

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(9) Available storage length measured from stop bar to gore
(10) Available storage length is average of dual lanes; from stop bar to end of taper, and from stop bar to upstream intersection
(-) Available storage length is significantly greater than 95th percentile queue, and is outside of the influence area of the intersection

Table 31 summarizes the intersection analysis results for the AM and PM peak hours at the NW 151 Street interchange. The results indicate that the three (3) observed intersections operate at LOS D or better for both AM and PM peak periods.

Table 31: NW 151 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
1501	NW 151 St	SR 7	16.6	12.9	B	B
1502	NW 151 St	SB On-Ramp	(4)		(4)	
1503	NW 151 St	NB Off-Ramp	21.9	14.5	C	B

Source: Synchro (Version 9.1) results
(4) Intersection sign configuration not allowed in HCM analysis

Table 32 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the NW 151 Street interchange. The results indicate that 95th percentile queue lengths were within the available storage at all eighteen (18) observed approach lane movements.

Table 32: NW 151 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1501	NW 151 St	SR-7/NW 7 Ave	EB	L	150(1)	100	50	150	75
				T	-	75	50	50	75
				R	150(1)	75	50	50	25
			WB	L	260(1)	200	225	0	200
				T	580(2)	150	100	0	75
				R	580(2)	225	150	75	0
			NB	L	120(1)	25	25	125	75
				T	-	150	175	75	0
				R	-	150	200	75	0
			SB	L	135(1)	100	125	25	0
				T	-	350	50	50	275
				R	-	375	50	50	0
1503	NW 151 St	NB Off-Ramp	EB	L	210(2)	25	25	150	125
				T	220(2)	25	25	50	75
			WB	R	-	25	25	50	0
			NB	L	895(9)	200	125	75	25
				T	895(9)	300	200	250	0
				R	-	100	50	0	0

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(9) Available storage length measured from stop bar to gore

Table 33 summarizes the intersection analysis results for the AM and PM peak hours at the Golden Glades Park and Ride Lot/South Express Ramps interchange. The results indicate that two (2) of the six (6) observed intersections operate at LOS E or F for at least one peak period.

Table 33: Golden Glades Park & Ride Lot/SB Express Ramps – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
1601	SR 7	GGI SB Off-Ramp	9.9	8.1	A	A
1602	SR 7	Park and Ride Dr/NW 16000 Blk	12.3	12.7	B	B
1603(+)	NW 167 St	NW 2 Ave	56.2	87.4	E	F
1604	NW 167 St	Miami Ave	11.0	27.2	B	C
1605	NW 7 Ave Ext	Turnpike NB On-Ramp	(3)		(3)	
1606(+)	NW 7 Ave Ext	NW 4 Ave & NW 171 St	27.2	57.6	C	E

Source: Synchro (Version 9.1) results
(3) Free flow, uncontrolled intersection
(+) HCM 2000 results

Table 34 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the Golden Glades Park and Ride Lot/South Express Ramps interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for eight (8) of the thirty-nine (39) observed approach lane movements for at least one peak period. The lane approach movements in which queues exceeded capacity have been shaded in blue.

Table 34: Golden Glades Park & Ride Lot/SB Express Ramps – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1601	SR 7/NW 7 Ave	GGI SB Off-Ramp	WB	L	530(11)	125	150	100	400
			NB	T	-	250	25	200	0
			SB	T	470(2)	275	25	200	375
1602	SR 7/NW 7 Ave	Park and Ride Dr/NW 16000 Blk	EB	L	260(2)	25	25	25	25
				T	260(2)	25	25	150	25
			WB	L	85	25	25	0	25
				T	85	25	25	50	0
			NB	L	230(1)	100	75	200	25
				T	-	350	225	425	425
			SB	L	150(1)	25	25	50	50
				T	-	350	125	375	175
1603(+)	SR 826/NW 167 St	NW 2 Ave	EB	L	230(4)	325	375	1,000	1,075
				T	-	800	575	350	300
				R	290(1)	575	125	100	300
			WB	L	310(1)	75	50	225	0
				T	1,225(2)	950	1,275	300	900
				R2	220(1)	0	50	0	0
			NB	L	500(2)	1,162	1,230	450	700
				T	500(2)	200	175	300	0
			SB	T	610(1)	125	400	75	450
1604	SR 826/NW 167 St	Miami Ave	EB	L	275(1)	100	175	200	200
				T	-	275	475	625	625
				R	-	300	525	625	625
			WB	L	315(1)	75	75	100	100
				T	-	300	650	375	375
				R	-	325	700	375	375
			NB	L	180(1)	250	250	150	150
				R	155(1)	225	375	200	200
			SB	L	-	75	125	75	75
				R	105(1)	200	275	125	125
1606(+)	NW 7 Ave Ext at NW 4 Ave	NW 171 St	NB	L	-	75	150	50	100
			SEB	T	-	300	125	200	100
				R	-	100	75	0	100
			NWB	T	-	125	300	75	175
			NEB	L	270(1)	50	500	25	125
				T	-	350	375	325	325
			SWB	L	200(1)	75	75	50	25
				T	-	300	350	200	250
				R	300(1)	-	25	50	0

Table 34 footnotes:
(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(4) Available storage length is average of dual left turn lanes; measured from stop bar to each respective end of taper
(11) Available storage length is average of dual lanes; from stop bar to end of taper, and from stop bar to gore

Table 35 summarizes the results for the signalized intersection analyses for the AM and PM peak hours at the SR 860/NE 181 Street/Miami Gardens Drive interchange. The results indicate that one (1) of the three (3) observed intersections operates at LOS E or F for at least one peak period.

Table 35: SR 860/NE 181 Street – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay(s)		LOS	
			AM	PM	AM	PM
1701(+)	Miami Gardens Dr / SR 860	NE 2 Ct	20.5	21.8	C	C
1702	Miami Gardens Dr / SR 860	SB Ramps	78.4	52.7	E	D
1703(+)	Miami Gardens Dr / SR 860	NB Ramps	26.8	30.5	C	C

Source: Synchro (Version 9.1) results
(+) HCM 2000 results

Table 36 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the SR 860/NE 181 Street/Miami Gardens interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for five (5) of the twenty-two (22) observed approach lane movements for at least one peak period. The lane approach movements in which queues exceeded capacity have been shaded in blue.

Table 36: SR 860/NE 181 Street – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1701	Miami Gardens Dr/SR 860	NE 2 Ct	EB	L	165(1)	50	25	50	0
				T	245(2)	675	500	175	250
				R	245(2)	750	550	50	250
			WB	L	230(1)	50	50	0	50
				T	-	300	450	125	50
				R	-	300	500	125	100
			NB	L	110(1)	25	75	50	25
				R	720(2)	200	225	150	0
			SB	L	-	50	100	25	75
				R	-	75	250	150	25
1702	Miami Gardens Dr/SR 860	SB Ramps	EB	L	480(1)	25	125	0	75
				T	-	1,425	725	675	175
			WB	L	175(2)	100	75	75	100
				T	805(2)	200	325	100	175
			NB	L	165(4)	350	700	500	625
				R	-	325	300	100	0
			SB	L	100(4)	300	250	175	300
				T	-	950	625	625	325
1703(+)	Miami Gardens Dr/SR 860	NB Ramps	EB	L	410(4)	300	400	525	575
			WB	T	-	550	525	625	625
			SB	L	275	350	325	350	350
				R	345(1)	-	50	0	0

(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(4) Available storage length measured from the stop bar to the end of dual left-turn lanes
(+) HCM 2000 results

Table 37 summarizes the intersection analysis results for the AM and PM peak hours at the Ives Dairy Road interchange. The results indicate that two (2) of the four (4) observed intersections operates at LOS E or F for at least one peak period.

Table 37: Ives Dairy Road – Intersection Analysis Results

IID	Roadway	Intersecting Road	Delay		LOS	
			AM	PM	AM	PM
1801	Ives Dairy Rd	NE 16 Ave	4.4	10.5	A	B
1802	Ives Dairy Rd	SB Ramps	42.7	32.7	D	C
1803	Ives Dairy Rd	NB Ramps	246.9	169.9	F	F
1804	Ives Dairy Rd	Highland Lakes Blvd	46.5	194.8	D	F

Source: Synchro (Version 9.1) results

Table 38 summarizes queueing analysis results and available storage values for the AM and PM peak hours at the Ives Dairy Road interchange. The results indicate that the 95th percentile queue lengths exceeded available storage for ten (10) of the thirty-three (33) observed approach lane movements for at least one peak period. The lane approach movements in which queues exceeded capacity have been shaded in blue.

Table 38: Ives Dairy Rd – Queueing Analysis Results

IID	Roadway	Intersecting Road	Approach	Movement	Available Storage (ft)	Queue (ft)		Highest Observed Queue (ft)	
						AM	PM	AM	PM
1801	Ives Dairy Rd	NE 16 Ave	EB	L	145(1)	25	50	0	0
				T	260(2)	125	200	250	275
				R	260(2)	150	200	125	275
			WB	L	370(1)	200	50	50	0
				T	-	25	275	25	325
				R	-	25	300	0	325
			NB	L	100(1)	50	125	50	50
				T	-	-	25	0	50
				R	75(1)	100	275	25	0
			SB	L	-	100	25	75	75
				R	-	75	150	0	125
1802	Ives Dairy Rd	SB Ramps	EB	T	555(4)	450	300	400	350
			WB	L	380(2)	525	800	425	425
				T	380(2)	225	450	425	425
			SB	L	-	800	825	650	625
1803	Ives Dairy Rd	NB Ramps	EB	L	395(2)	325	275	300	200
				T	395(2)	25	25	300	200
			WB	T	395(12)	550	925	400	825
				R	510(9)	8,250	-	400	825
			NB	L	500	325	475	200	250
				R	455(12)	-	175	0	250
1804	Ives Dairy Rd	Highland Lakes Blvd	EB	L	580(1)	900	250	50	500
				T	800(2)	800	425	200	500
				R	725(2)	-	2,350	25	0
			WB	L	355(1)	75	50	450	1000
				T	-	925	1,150	450	1000
				R	-	1,025	-	200	0
			NB	L	380(13)	650	650	250	475
				T	-	-	750	250	475
				R	-	425	-	75	0
			SB	L	260(4)	25	50	50	100
				T	-	225	200	50	100
				R	270(1)	950	275	50	100

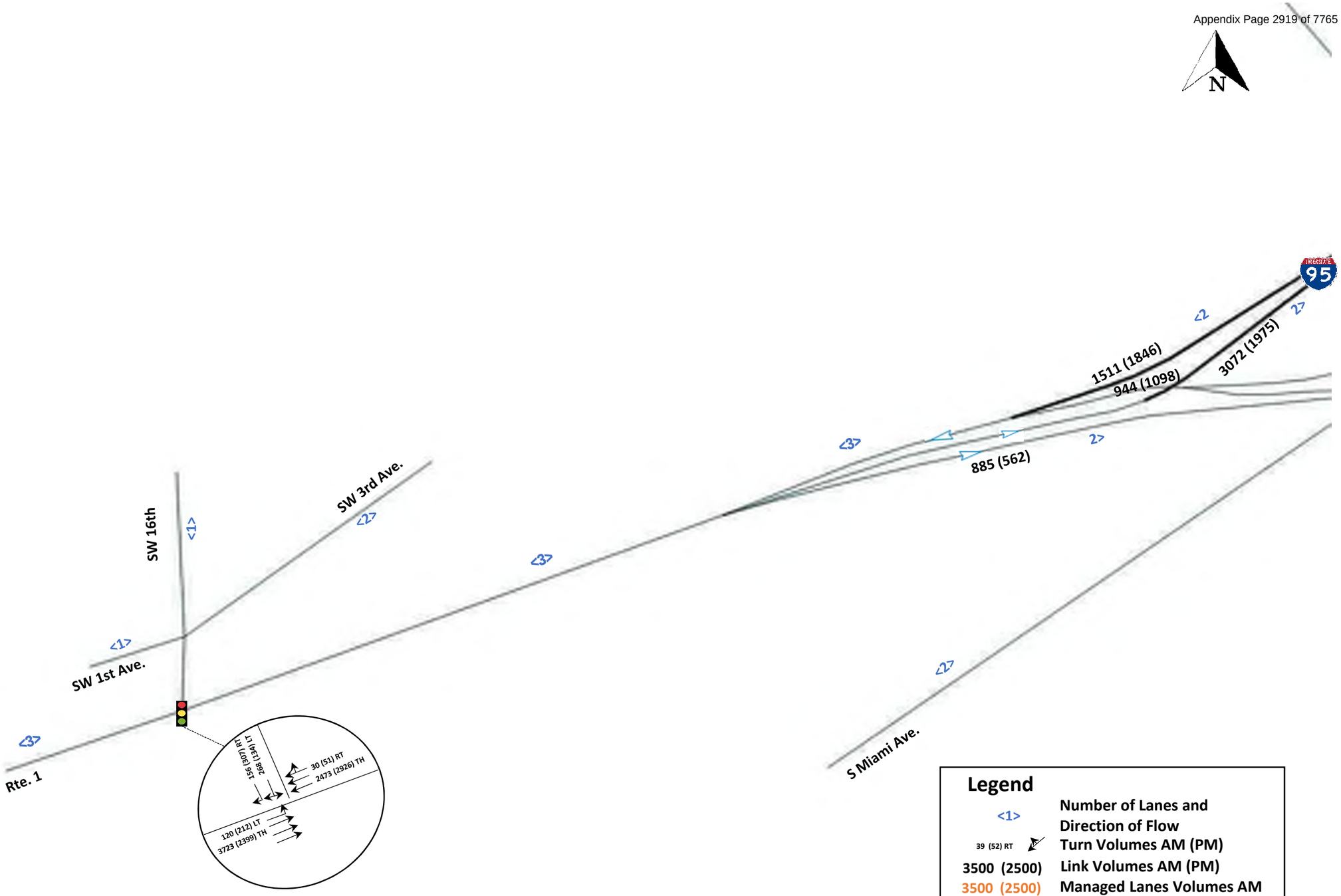
(1) Available storage length measured from the stop bar to end of taper
(2) Available storage length measured from stop bar to upstream intersection
(4) Available storage length is average of dual left turn lanes; measured from stop bar to each respective end of taper
(9) Available storage length measured from stop bar to gore
(12) Available storage length is average of dual lanes; measured from stop bar to each respective end of taper
(13) Available storage length is average of dual lanes, and shared through-left lane; measured from stop bar to point of convergence upstream

CONCLUSION

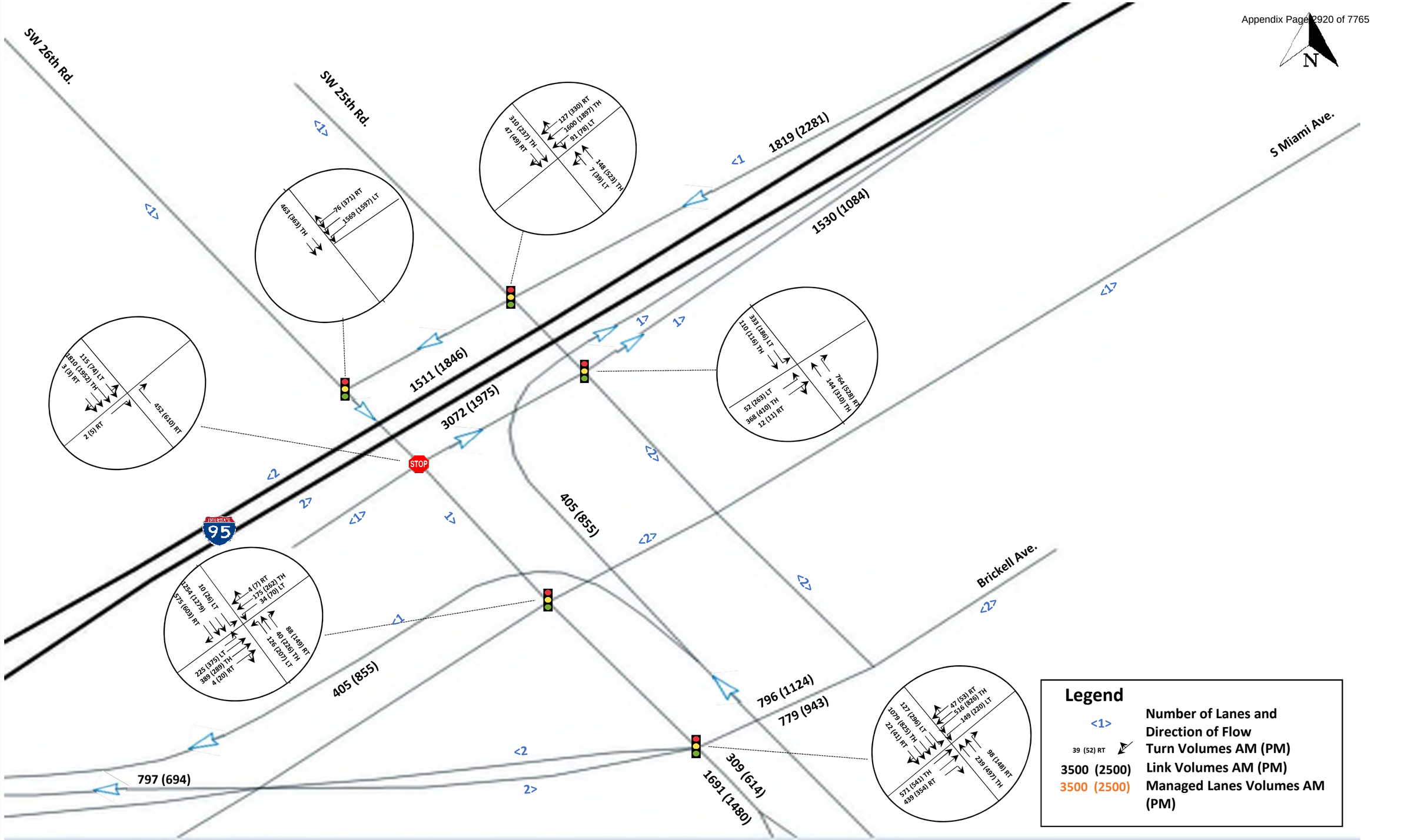
Capacity analyses were performed to assess the operational conditions of the intersections, freeway corridor, and interchange influence areas within the study corridor. Capacity analyses were conducted with software based on HCM (2000/2010 Editions), as applicable, and VISSIM software. Density, LOS, delay, V/C ratio, queue length, throughput and speed were among the MOEs used in the evaluation of the corridor's operations. Weaving between general purpose lanes and the 95 Express results in a decrease of speed on the freeway at the interfaces south of SR 112/I-195 and at the Golden Glades Interchange.

Appendix A
Data Collection

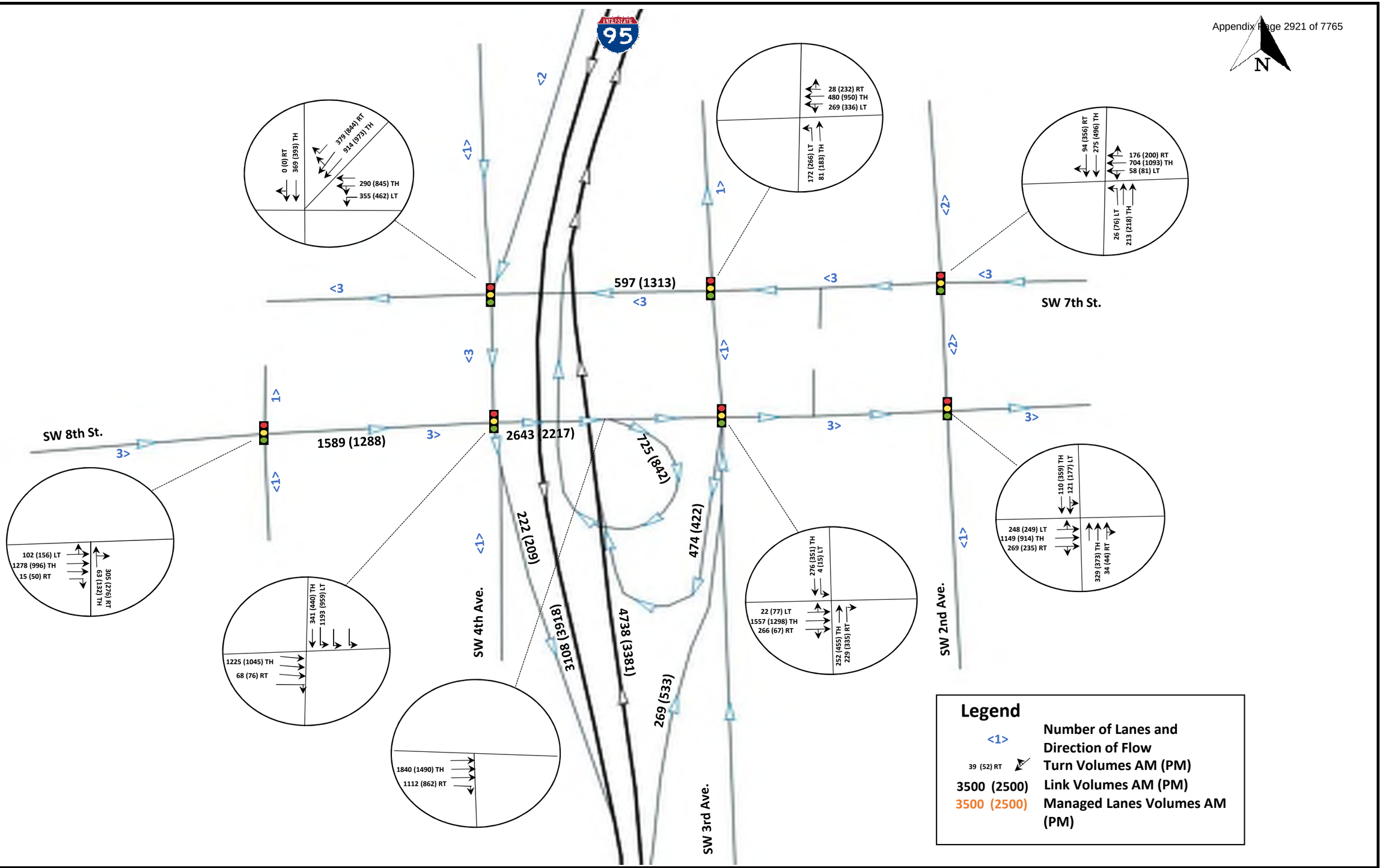
Base Year (2015)
Approach Configuration Figures



CAMBRIDGE SYSTEMATICS Think Forward	**I-95 CPS Base Year (2015)**	**AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes**	**SHEET No. 1 / 23**



CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 2 / 23

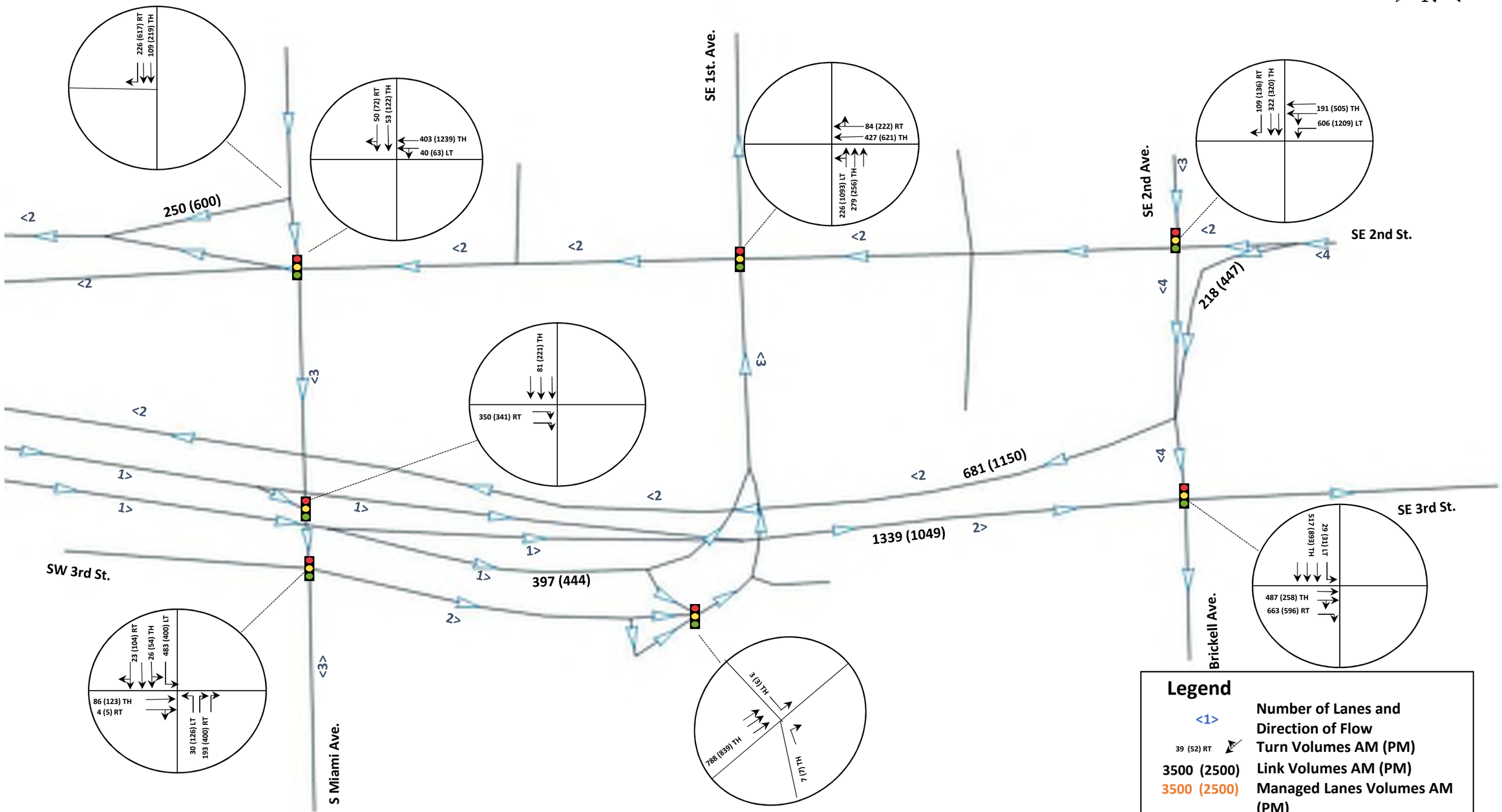


CAMBRIDGE SYSTEMATICS
Think Forward

I-95 CPS Base Year (2015)

AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes

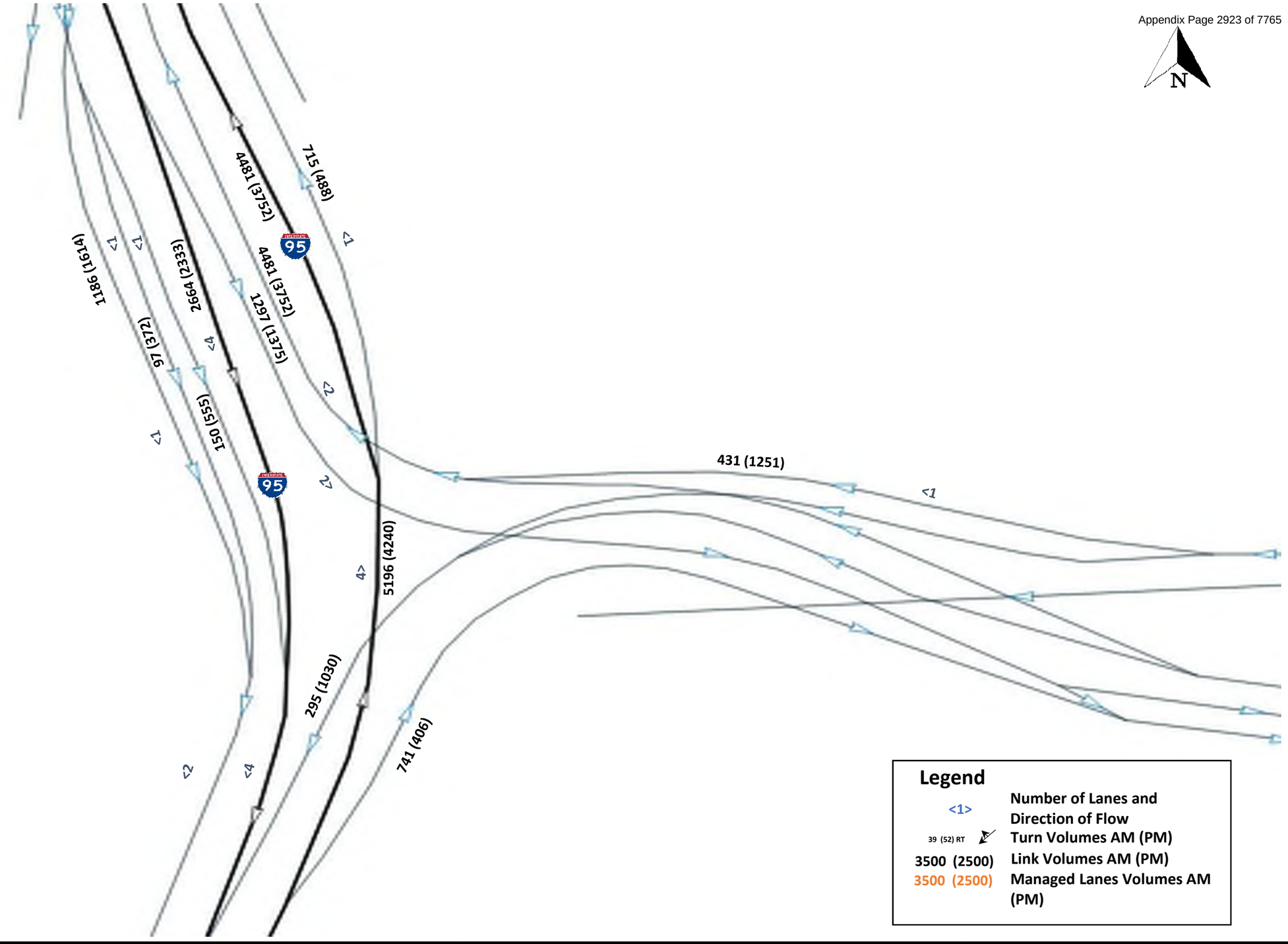
SHEET No. 3 / 23



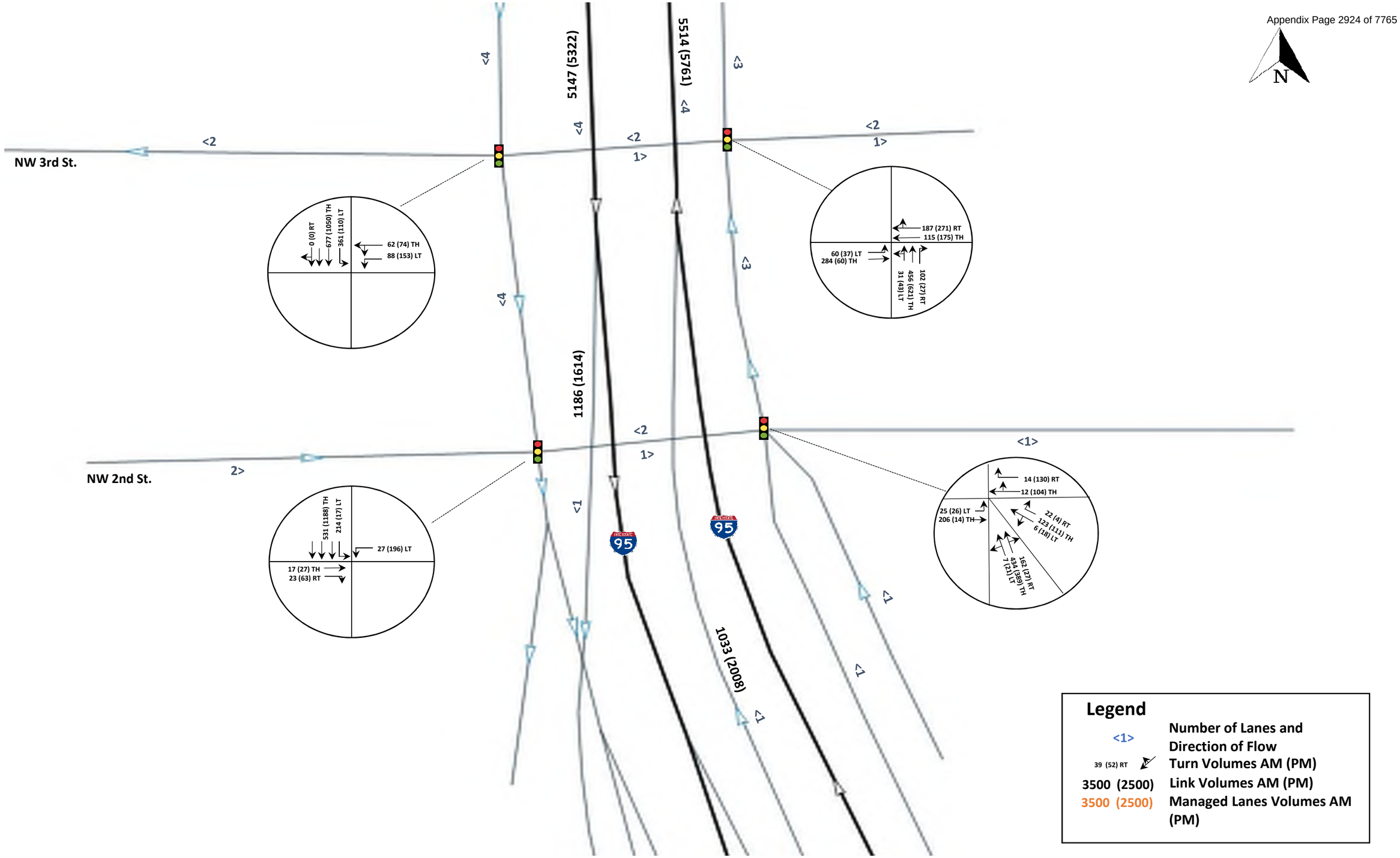
Legend

<1>	Number of Lanes and Direction of Flow
39 (52) RT	Turn Volumes AM (PM)
3500 (2500)	Link Volumes AM (PM)
3500 (2500)	Managed Lanes Volumes AM (PM)

CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 4 / 23



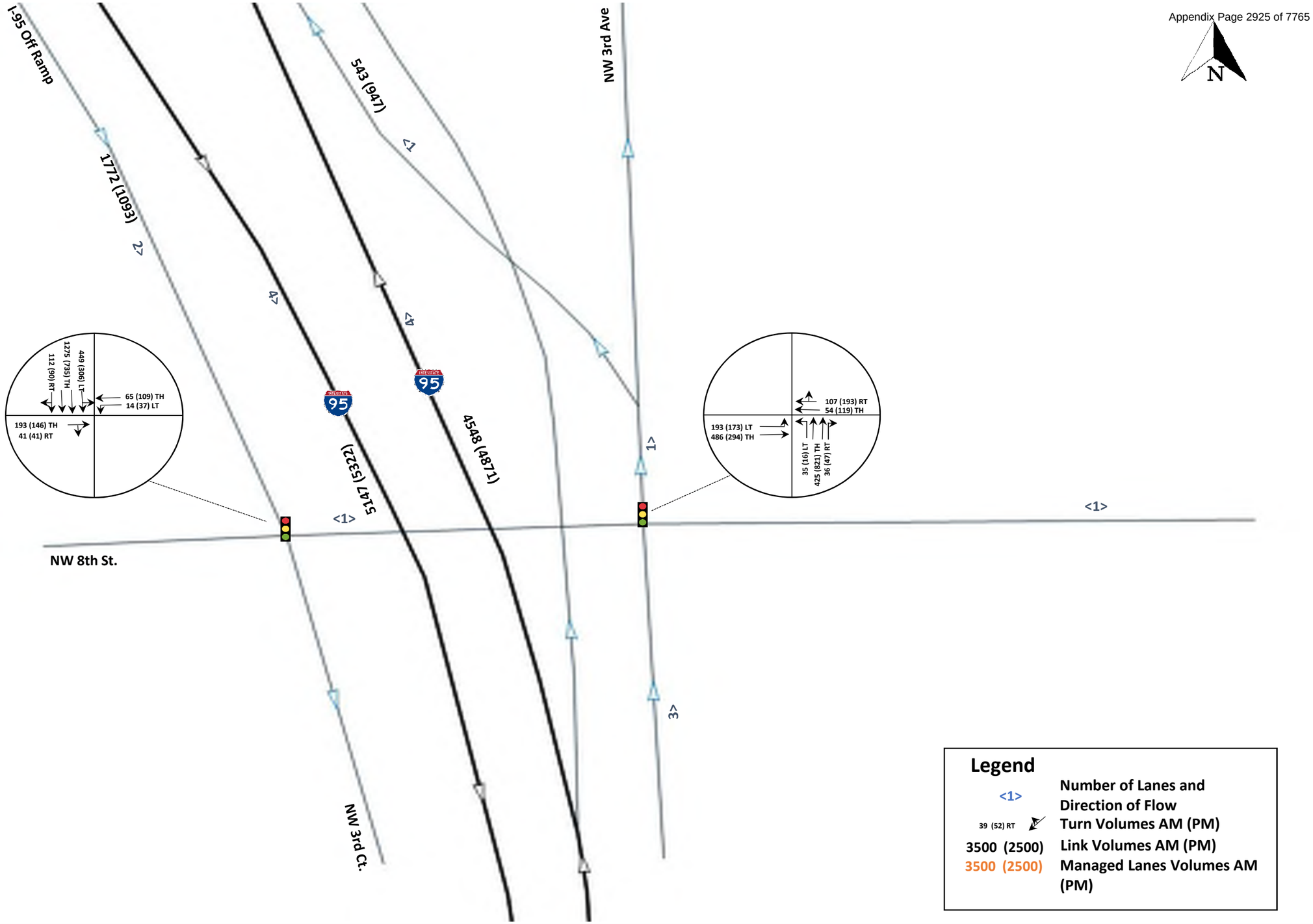
CAMBRIDGE SYSTEMATICS Think Forward	**I-95 CPS Base Year (2015)**	**AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes**	**SHEET No. 5 / 23**



Legend

<1>	Number of Lanes and Direction of Flow
39 (52) RT	Turn Volumes AM (PM)
3500 (2500)	Link Volumes AM (PM)
3500 (2500)	Managed Lanes Volumes AM (PM)

CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 6 / 23



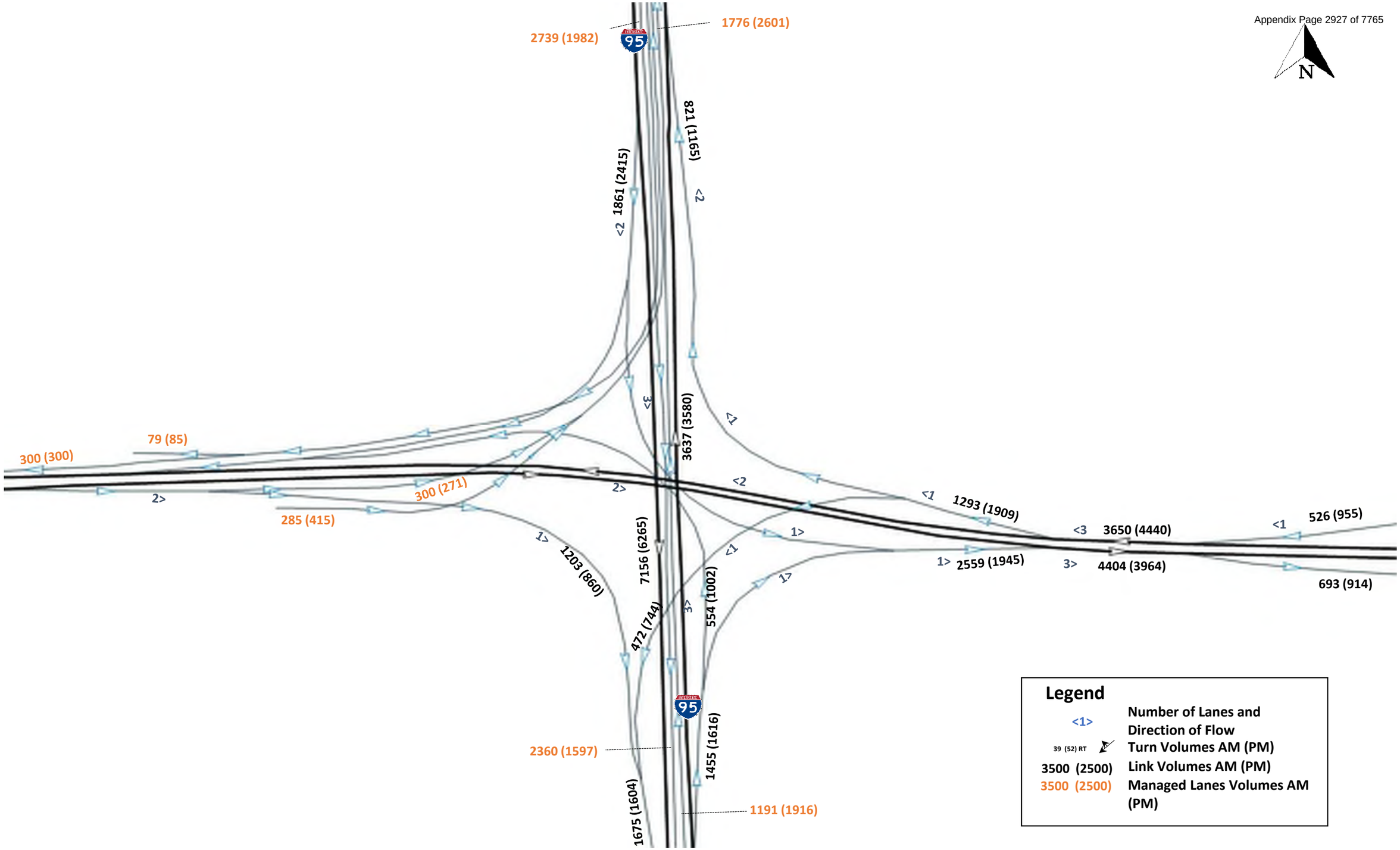
Legend

<1>	Number of Lanes and Direction of Flow
39 (52) RT	Turn Volumes AM (PM)
3500 (2500)	Link Volumes AM (PM)
3500 (2500)	Managed Lanes Volumes AM (PM)

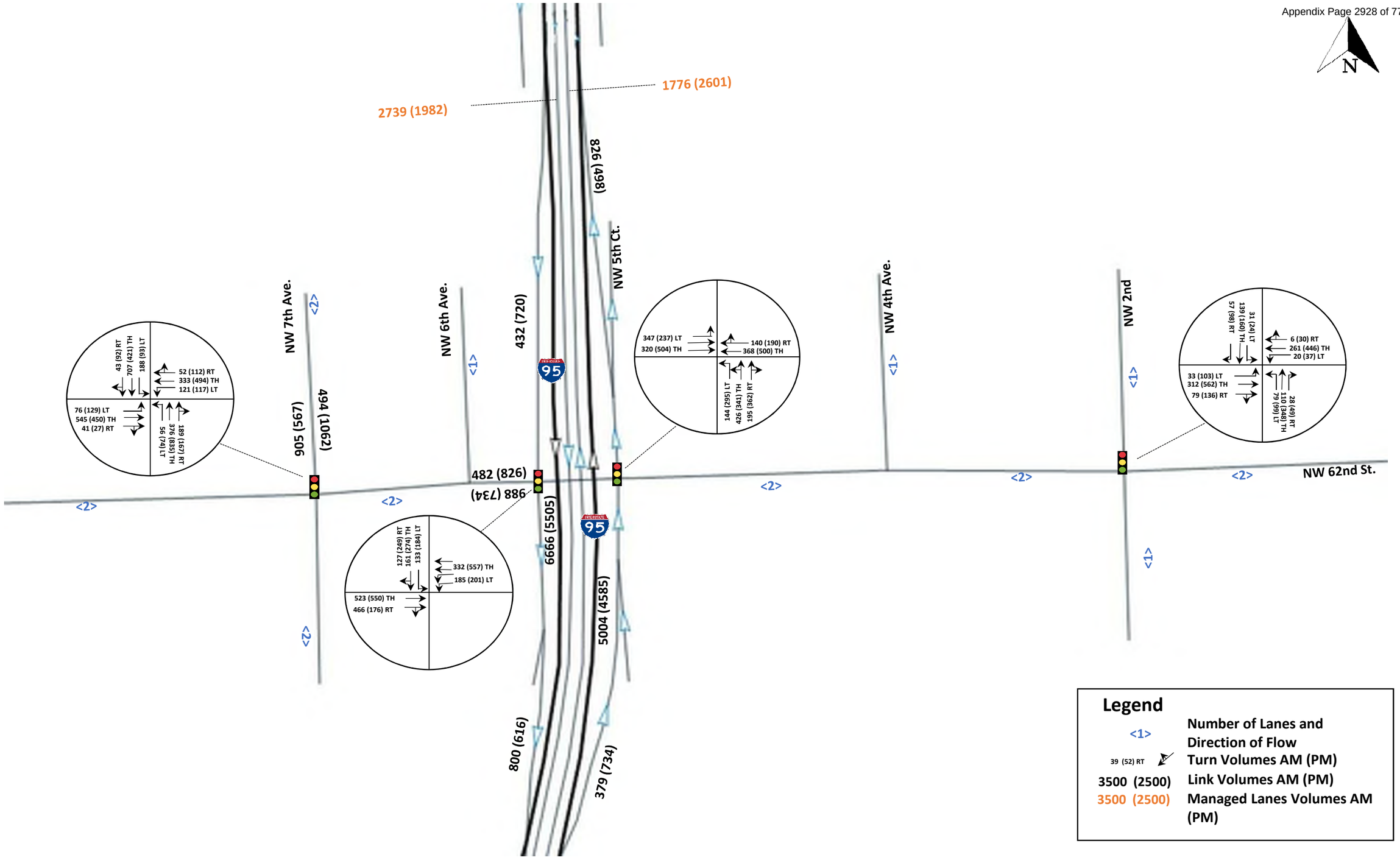
CAMBRIDGE SYSTEMATICS Think Forward	**I-95 CPS Base Year (2015)**	**AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes**	**SHEET No. 7 / 23**



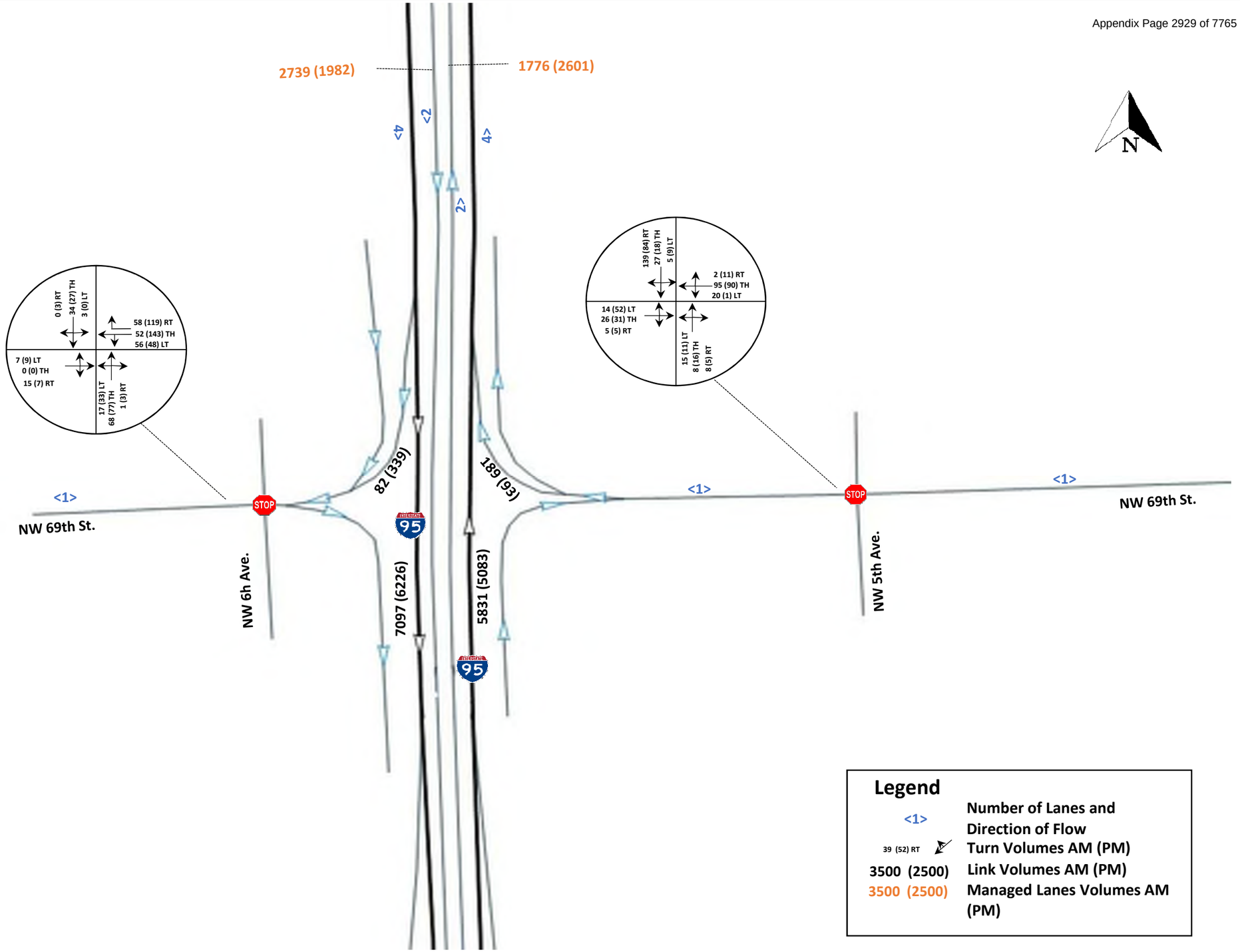
CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 8 / 23



CAMBRIDGE SYSTEMATICS Think Forward	**I-95 CPS Base Year (2015)**	**AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes**	**SHEET No. 9 / 23**



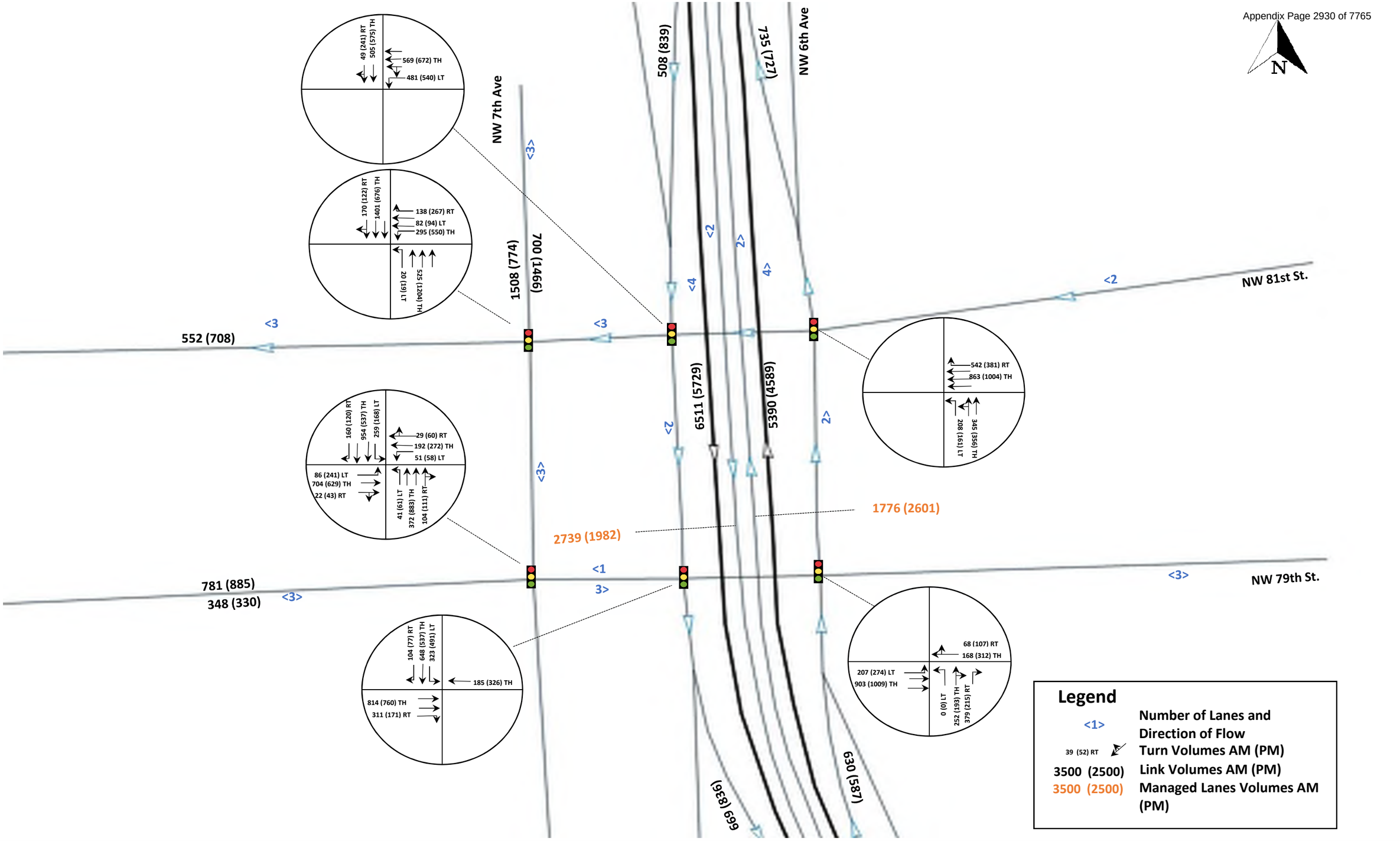
CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 10 / 23



Legend

<1>	Number of Lanes and Direction of Flow
39 (52) RT	Turn Volumes AM (PM)
3500 (2500)	Link Volumes AM (PM)
3500 (2500)	Managed Lanes Volumes AM (PM)

CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 11 / 23

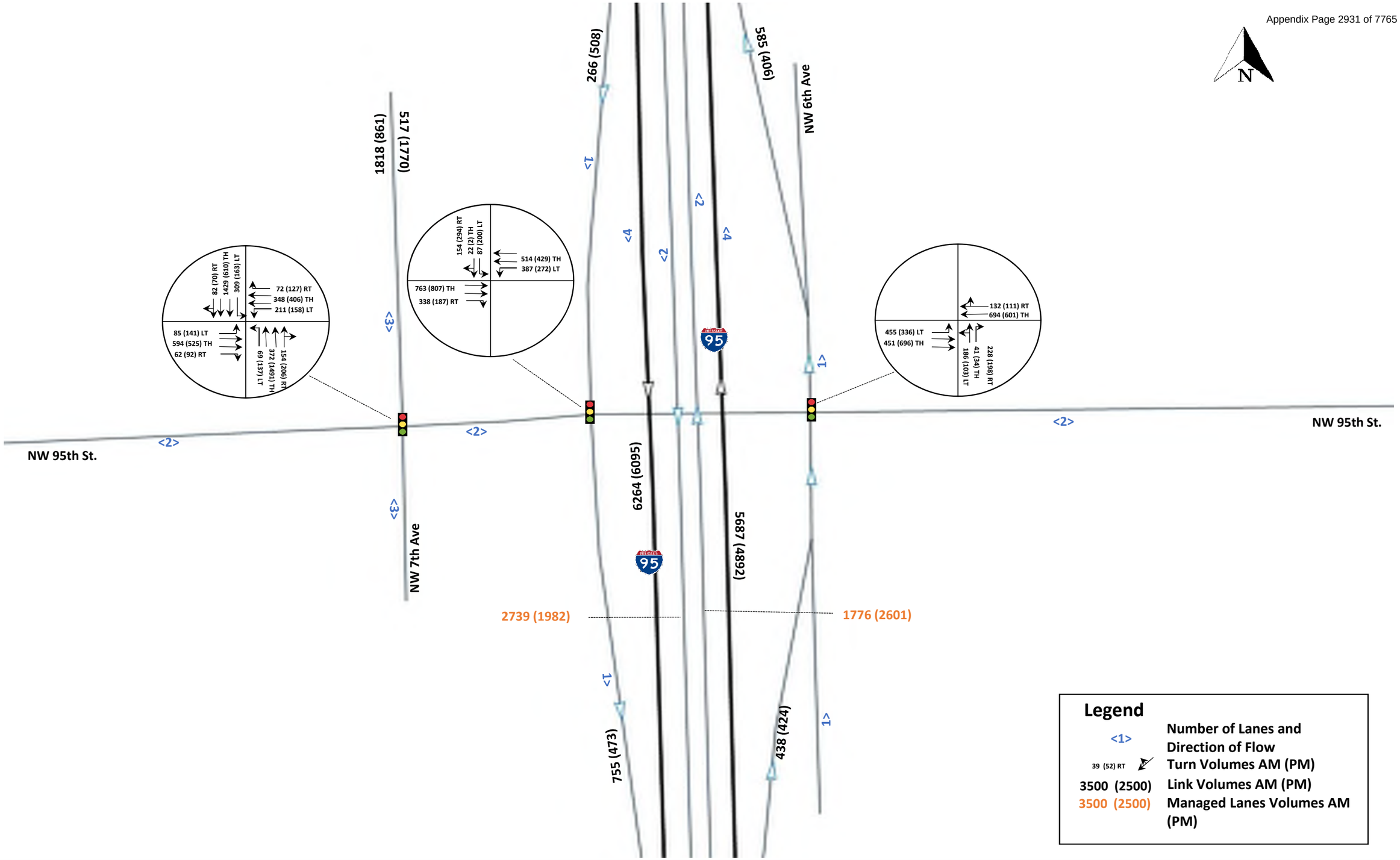


CAMBRIDGE SYSTEMATICS
Think Forward

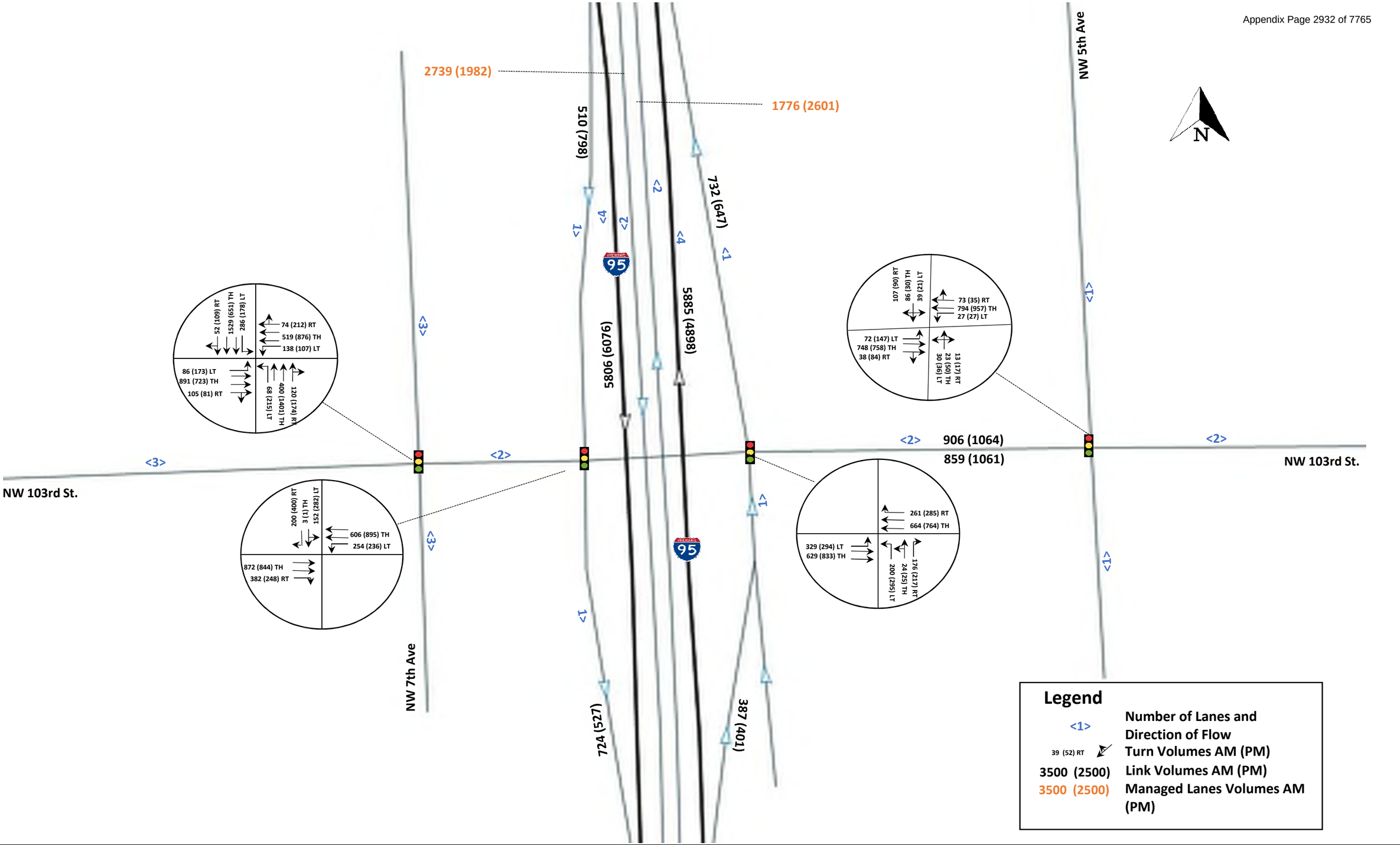
I-95 CPS Base Year (2015)

AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes

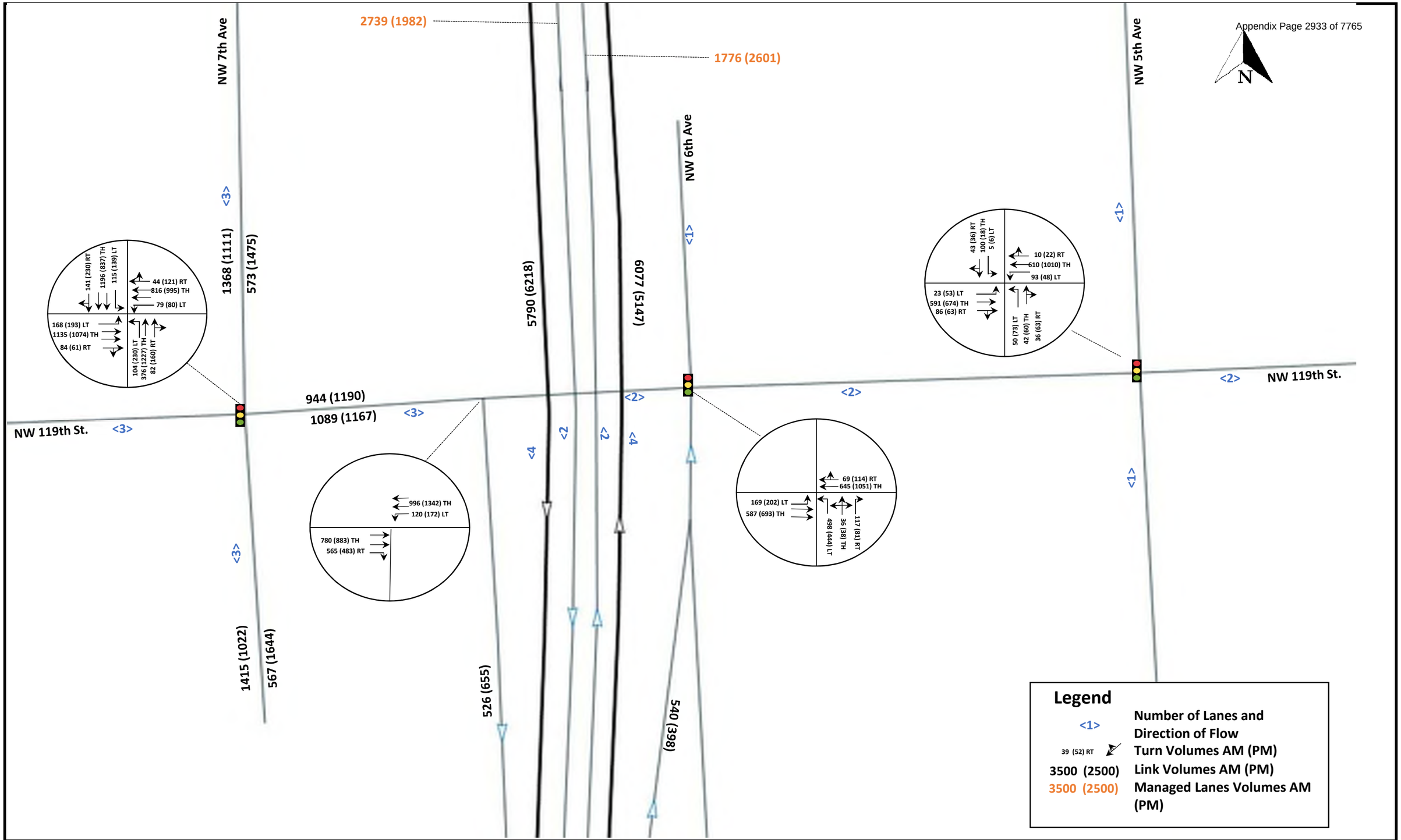
SHEET No. 12 / 23



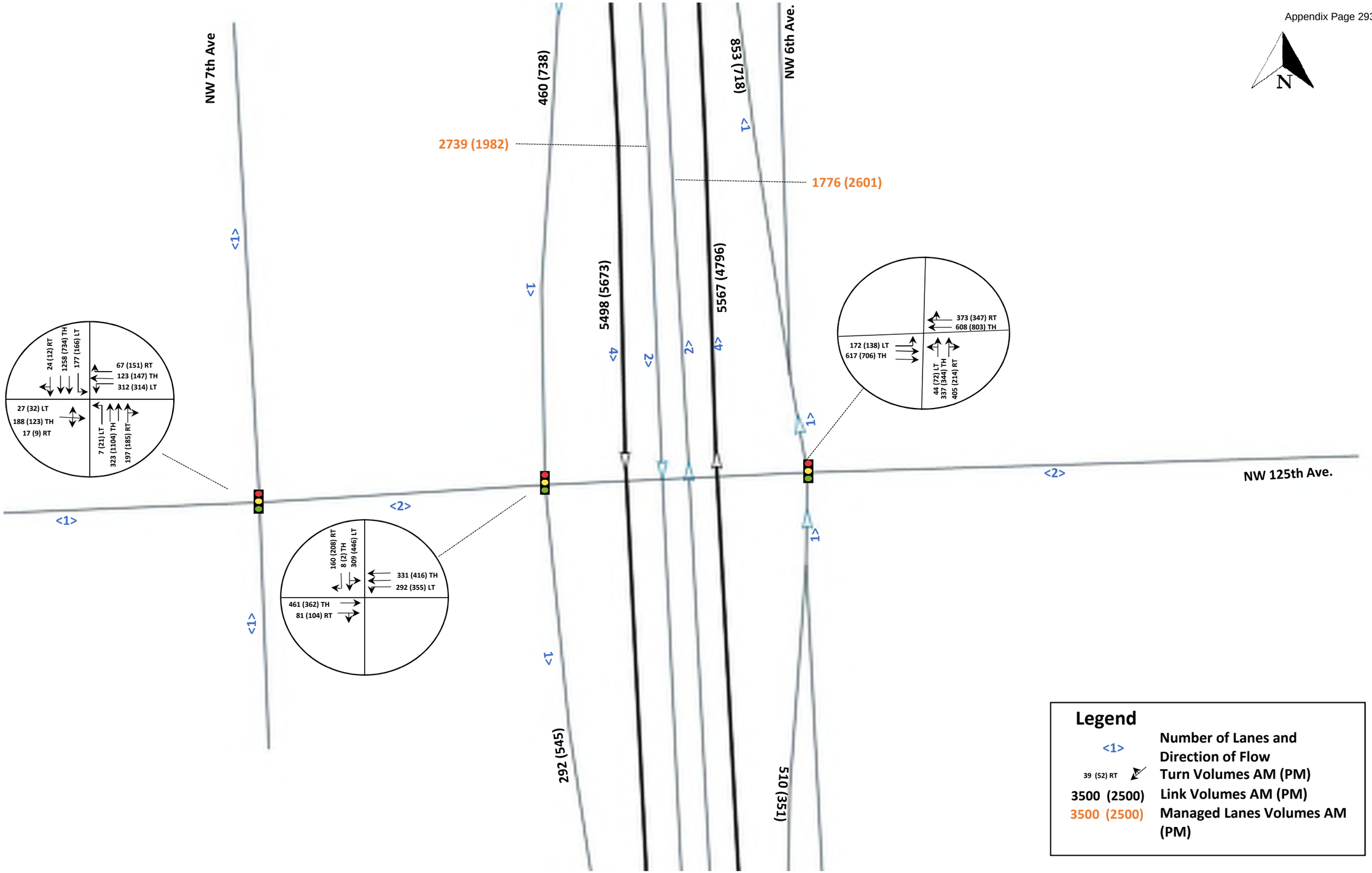
CAMBRIDGE SYSTEMATICS Think Forward	**I-95 CPS Base Year (2015)**	**AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes**	**SHEET No. 13 / 23**



CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 14 / 23



CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 15 / 23

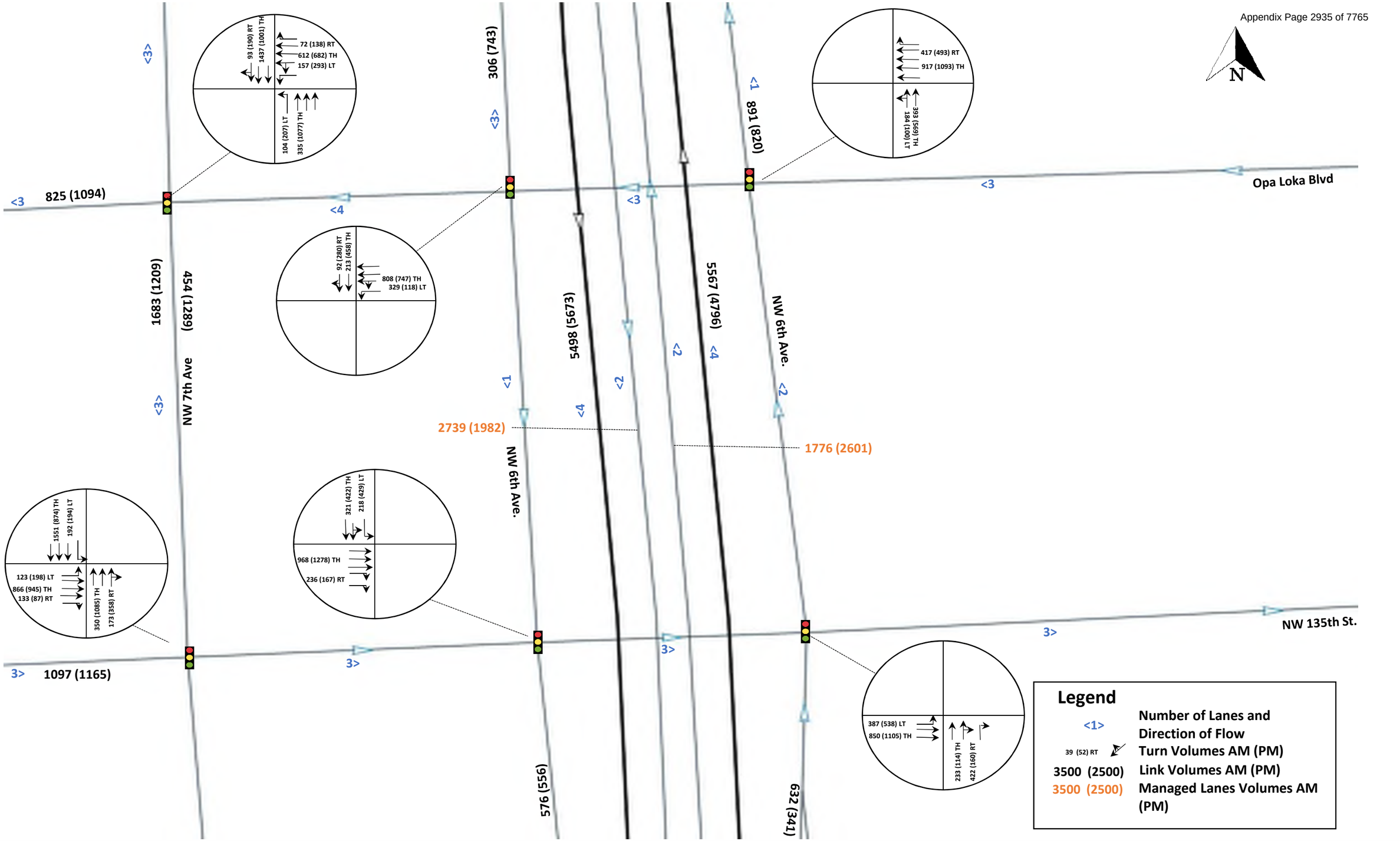


CAMBRIDGE SYSTEMATICS
Think Forward

I-95 CPS Base Year (2015)

AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes

SHEET No. 16 / 23

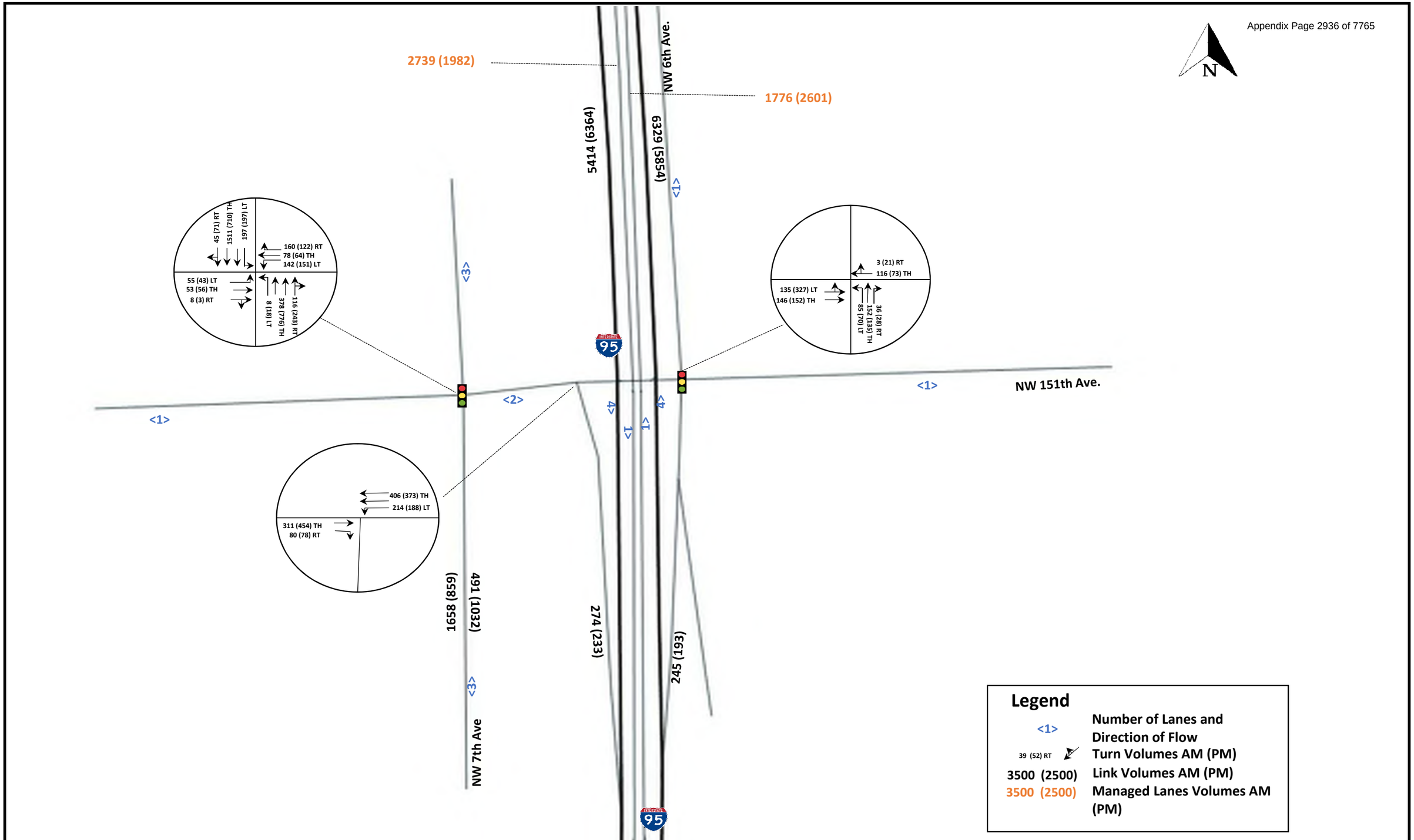


CAMBRIDGE SYSTEMATICS
Think Forward

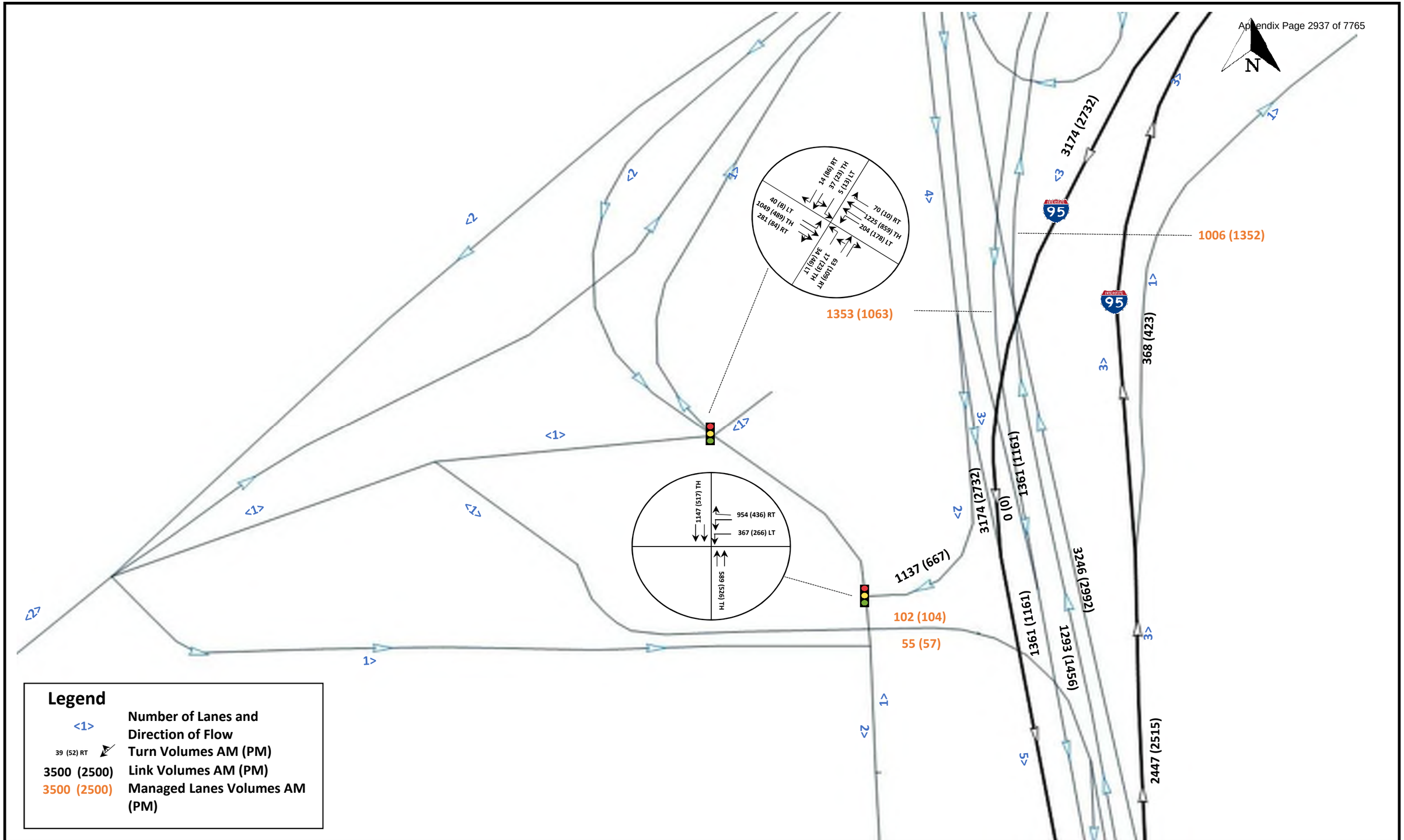
I-95 CPS Base Year (2015)

AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes

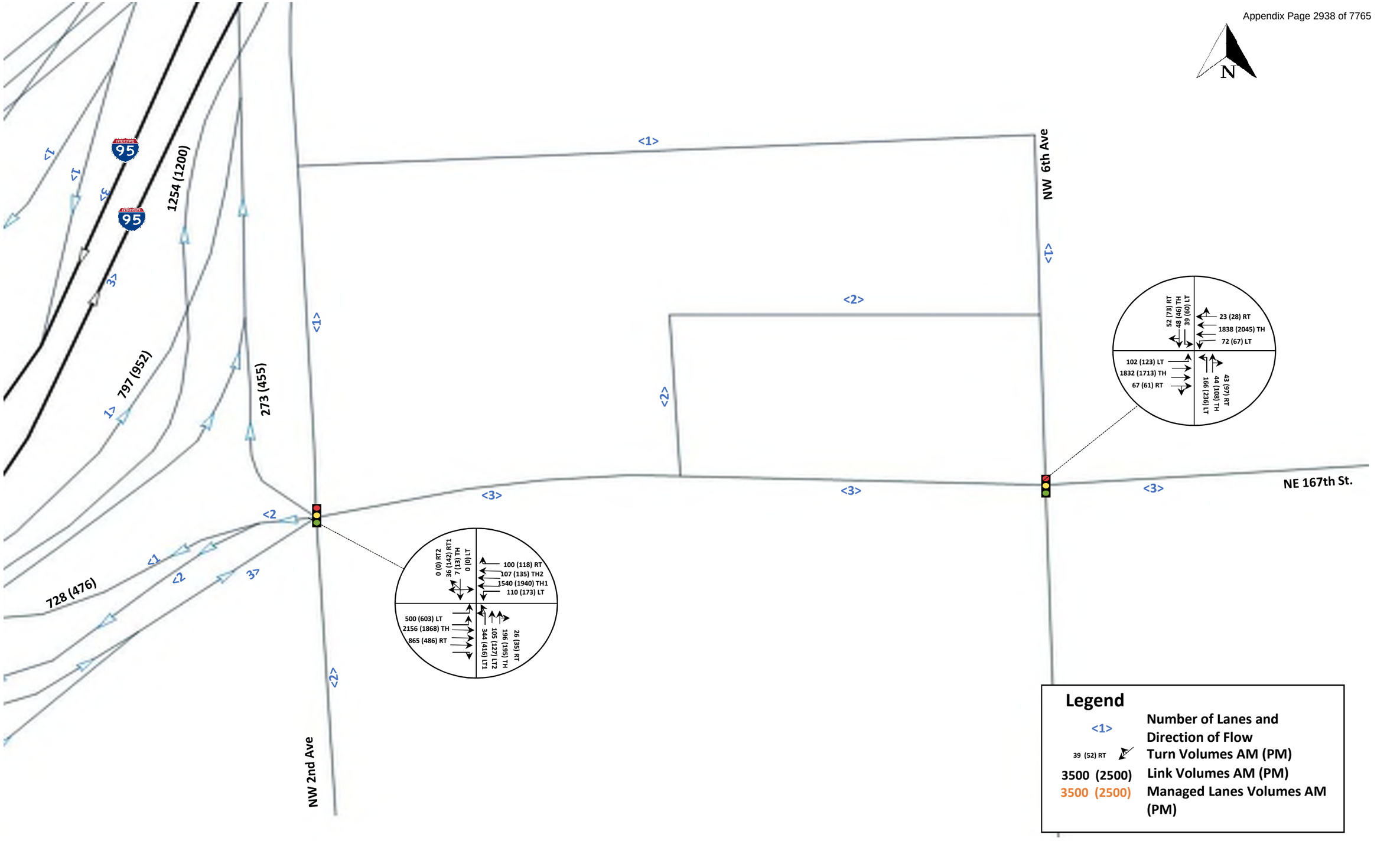
SHEET No. 17 / 23



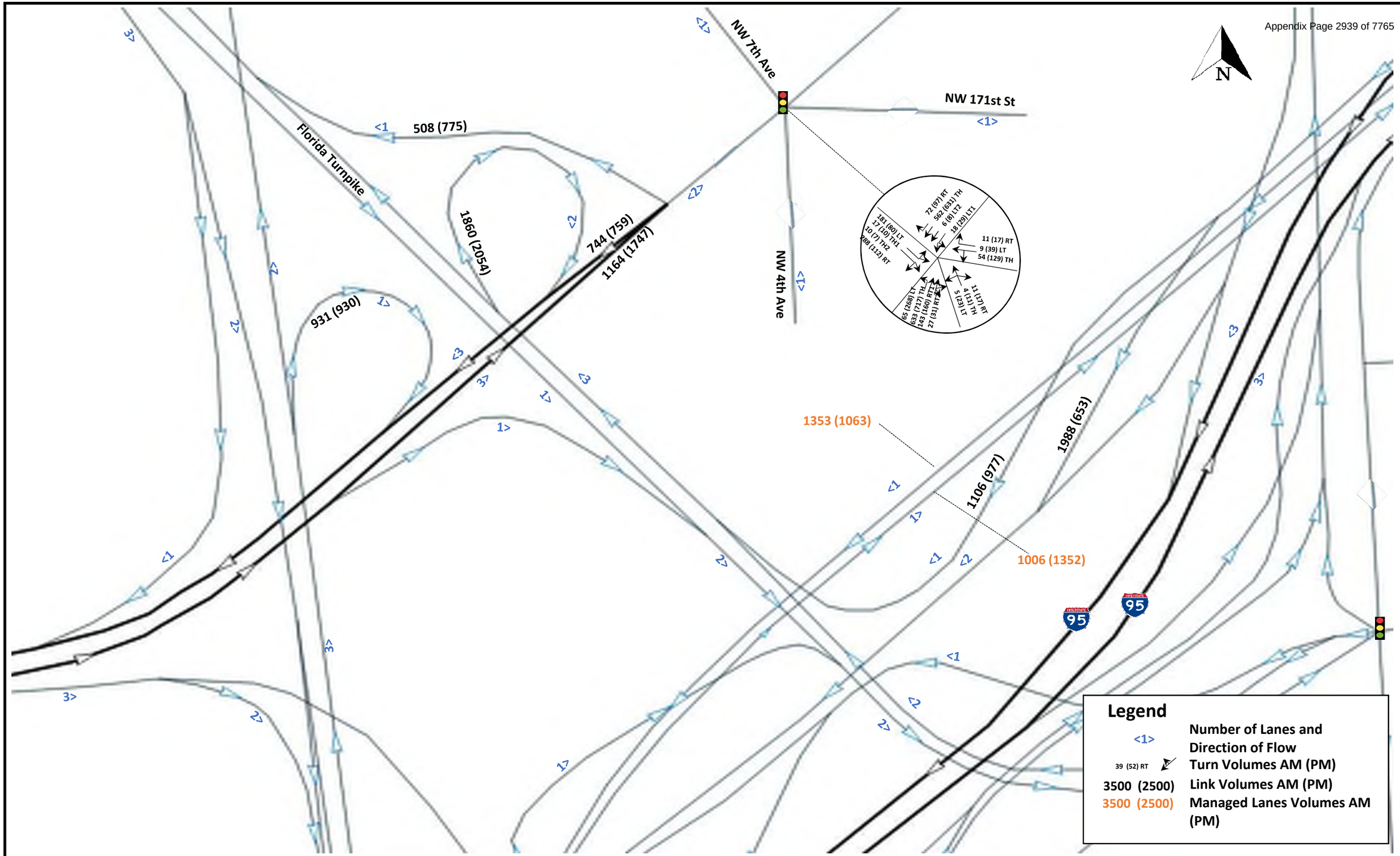
CAMBRIDGE SYSTEMATICS Think Forward	**I-95 CPS Base Year (2015)**	**AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes**	**SHEET No. 18 / 23**



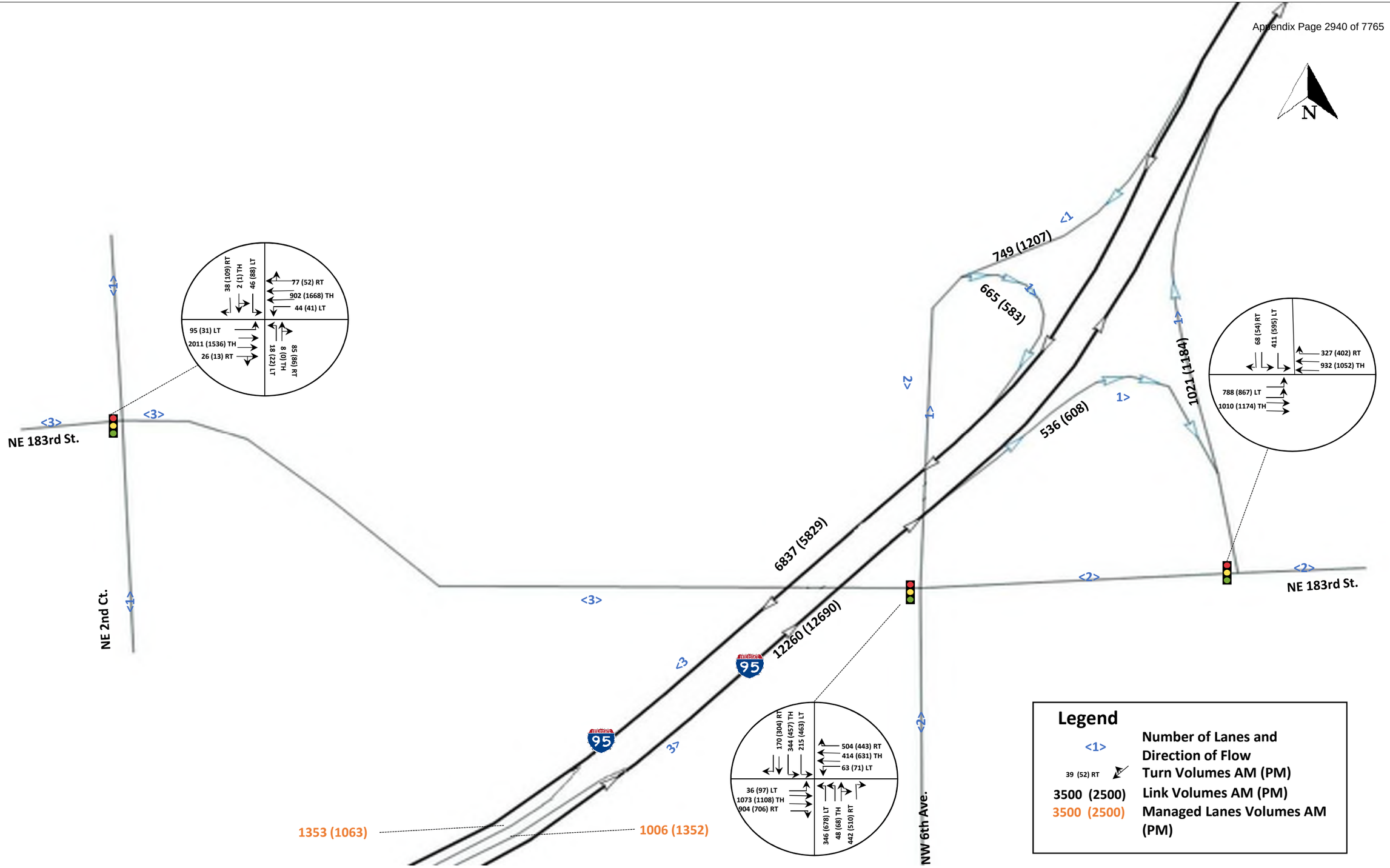
CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 19 / 23



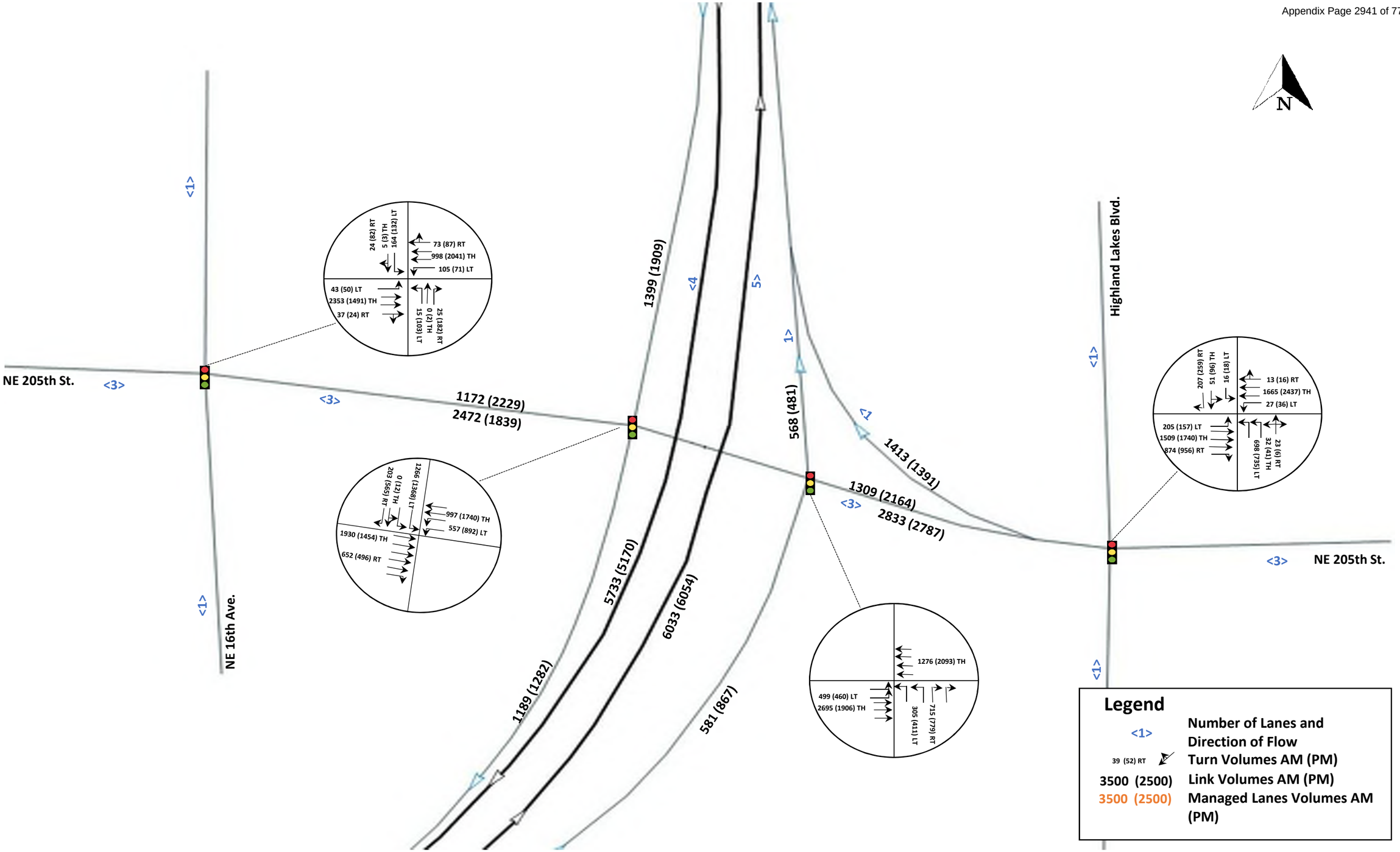
CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 20 / 23



CAMBRIDGE SYSTEMATICS Think Forward	I-95 CPS Base Year (2015)	AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes	SHEET No. 21 / 23



CAMBRIDGE SYSTEMATICS Think Forward	**I-95 CPS Base Year (2015)**	**AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes**	**SHEET No. 22 / 23**



CAMBRIDGE SYSTEMATICS Think Forward	**I-95 CPS Base Year (2015)**	**AM (7-8 AM) and PM (5-6 PM) Peak Hour Volumes**	**SHEET No. 23 / 23**

Automated Traffic Recorder (ATR)
Tube Counts Data

F.R. Aleman & Associates, Inc

10305 NW 41st Street, Suite 200
Miami,FL. 33178
Phone: (305) 591-8777
Fax: (305) 599-8749

Client: K&H
Intersection Name: SW 16 AVE & US-1_SR5
Opertaors Name: CV & OC
Weather: Sunny

File Name : SW16AVE_US-1_SR5
Site Code : 00000101
Start Date : 4/16/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	US-1/SR5 Northbound					US-1/SR5 Southbound					SW 16 AVENUE Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	34	902	0	0	936	0	526	7	2	535	46	0	43	4	93	0	0	0	0	0	1564
07:15 AM	37	933	0	0	970	0	686	7	3	696	55	0	33	1	89	0	0	0	0	0	1755
07:30 AM	20	982	0	0	1002	0	609	6	0	615	58	0	33	2	93	0	0	0	0	0	1710
07:45 AM	29	906	0	0	935	0	652	10	1	663	109	0	47	0	156	0	0	0	0	0	1754
Total	120	3723	0	0	3843	0	2473	30	6	2509	268	0	156	7	431	0	0	0	0	0	6783
08:00 AM	34	948	0	0	982	0	662	12	3	677	85	0	51	2	138	0	0	0	0	0	1797
08:15 AM	18	947	0	0	965	0	728	10	1	739	125	0	42	3	170	0	0	0	0	0	1874
08:30 AM	18	928	0	0	946	0	665	14	2	681	93	0	41	7	141	0	0	0	0	0	1768
08:45 AM	34	1085	0	0	1119	0	662	16	1	679	94	0	41	2	137	0	0	0	0	0	1935
Total	104	3908	0	0	4012	0	2717	52	7	2776	397	0	175	14	586	0	0	0	0	0	7374
*** BREAK ***																					
04:00 PM	0	52	587	0	639	0	686	12	2	700	40	0	53	0	93	0	0	0	0	0	1432
04:15 PM	0	53	619	0	672	0	675	9	3	687	32	0	38	5	75	0	0	0	0	0	1434
04:30 PM	0	51	739	0	790	0	628	9	0	637	37	0	55	1	93	0	0	0	0	0	1520
04:45 PM	1	62	637	0	700	0	741	11	1	753	38	0	69	3	110	0	0	0	0	0	1563
Total	1	218	2582	0	2801	0	2730	41	6	2777	147	0	215	9	371	0	0	0	0	0	5949
05:00 PM	0	43	654	0	697	0	725	19	5	749	31	0	71	11	113	0	0	0	0	0	1559
05:15 PM	0	52	530	0	582	0	752	8	2	762	34	0	96	3	133	0	0	0	0	0	1477
05:30 PM	0	67	621	0	688	0	744	11	7	762	30	0	53	2	85	0	0	0	0	0	1535
05:45 PM	0	59	585	0	644	0	705	13	5	723	39	0	87	0	126	0	0	0	0	0	1493
Total	0	221	2390	0	2611	0	2926	51	19	2996	134	0	307	16	457	0	0	0	0	0	6064
Grand Total	225	8070	4972	0	13267	0	10846	174	38	11058	946	0	853	46	1845	0	0	0	0	0	26170
Apprch %	1.7	60.8	37.5	0		0	98.1	1.6	0.3		51.3	0	46.2	2.5		0	0	0	0		
Total %	0.9	30.8	19	0	50.7	0	41.4	0.7	0.1	42.3	3.6	0	3.3	0.2	7.1	0	0	0	0	0	
Pass Cars	216	7977	4972	0	13165	0	10749	171	38	10958	943	0	848	46	1837	0	0	0	0	0	25960
% Pass Cars	96	98.8	100	0	99.2	0	99.1	98.3	100	99.1	99.7	0	99.4	100	99.6	0	0	0	0	0	99.2
Trucks	9	93	0	0	102	0	97	3	0	100	3	0	5	0	8	0	0	0	0	0	210
% Trucks	4	1.2	0	0	0.8	0	0.9	1.7	0	0.9	0.3	0	0.6	0	0.4	0	0	0	0	0	0.8

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Opertaors Name: CV & OC
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File Name : SW16AVE_US-1_SR5
Site Code : 00000101
Start Date : 4/16/2015
Page No : 2

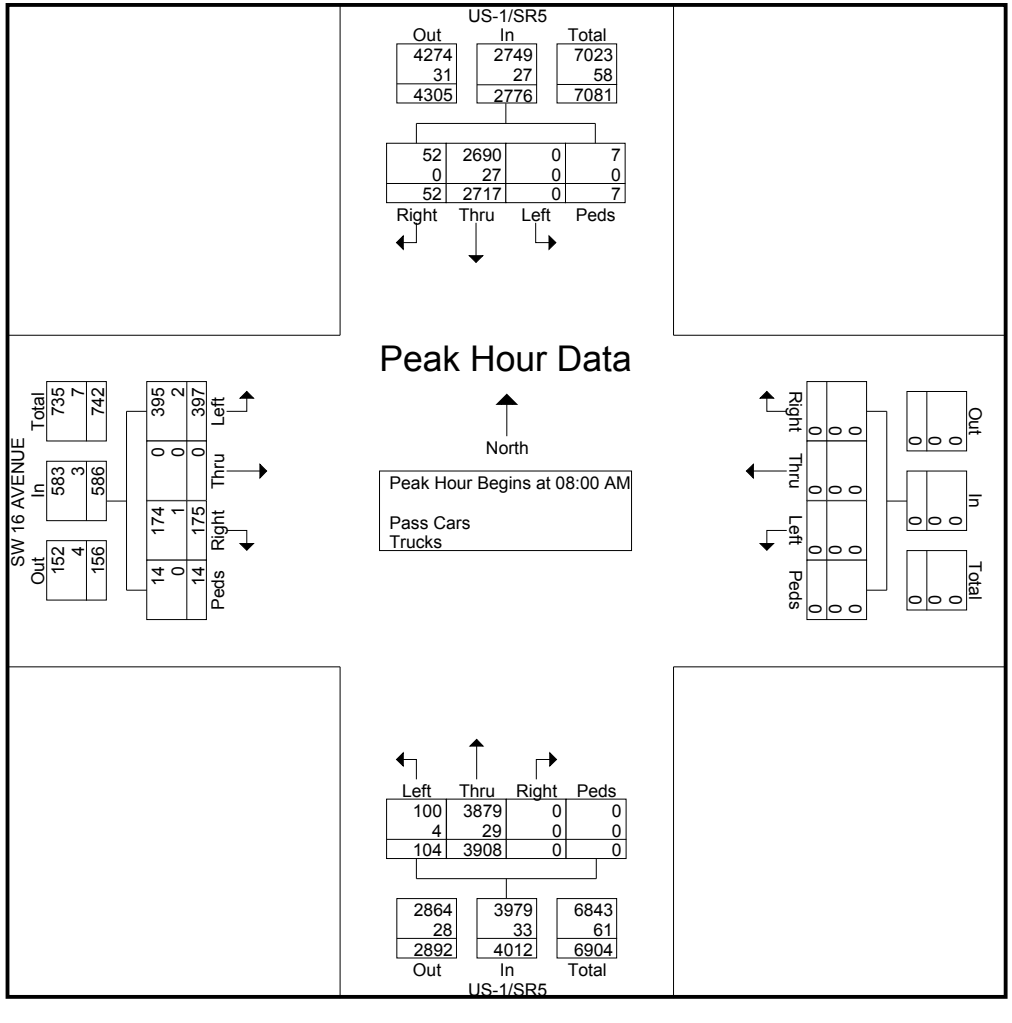
	US-1/SR5 Northbound					US-1/SR5 Southbound					SW 16 AVENUE Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**34**	948	0	0	982	0	662	12	**3**	677	85	0	**51**	2	138	0	0	0	0	0	1797
08:15 AM	18	947	0	0	965	0	**728**	10	1	**739**	**125**	0	42	3	**170**	0	0	0	0	0	1874
08:30 AM	18	928	0	0	946	0	665	14	2	681	93	0	41	**7**	141	0	0	0	0	0	1768
08:45 AM	34	**1085**	0	0	**1119**	0	662	**16**	1	679	94	0	41	2	137	0	0	0	0	0	**1935**
Total Volume	104	3908	0	0	4012	0	2717	52	7	2776	397	0	175	14	586	0	0	0	0	0	7374
% App. Total	2.6	97.4	0	0		0	97.9	1.9	0.3		67.7	0	29.9	2.4		0	0	0	0		
PHF	.765	.900	.000	.000	.896	.000	.933	.813	.583	.939	.794	.000	.858	.500	.862	.000	.000	.000	.000	.000	.953
Pass Cars	100	3879	0	0	3979	0	2690	52	7	2749	395	0	174	14	583	0	0	0	0	0	7311
% Pass Cars	96.2	99.3	0	0	99.2	0	99.0	100	100	99.0	99.5	0	99.4	100	99.5	0	0	0	0	0	99.1
Trucks	4	29	0	0	33	0	27	0	0	27	2	0	1	0	3	0	0	0	0	0	63
% Trucks	3.8	0.7	0	0	0.8	0	1.0	0	0	1.0	0.5	0	0.6	0	0.5	0	0	0	0	0	0.9

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Intersection Name: SW 16 AVE & US-1_SR5
Opertaors Name: CV & OC
Weather: Sunny

File Name : SW16AVE_US-1_SR5
Site Code : 00000101
Start Date : 4/16/2015
Page No : 3



F.R. Aleman & Associates, Inc

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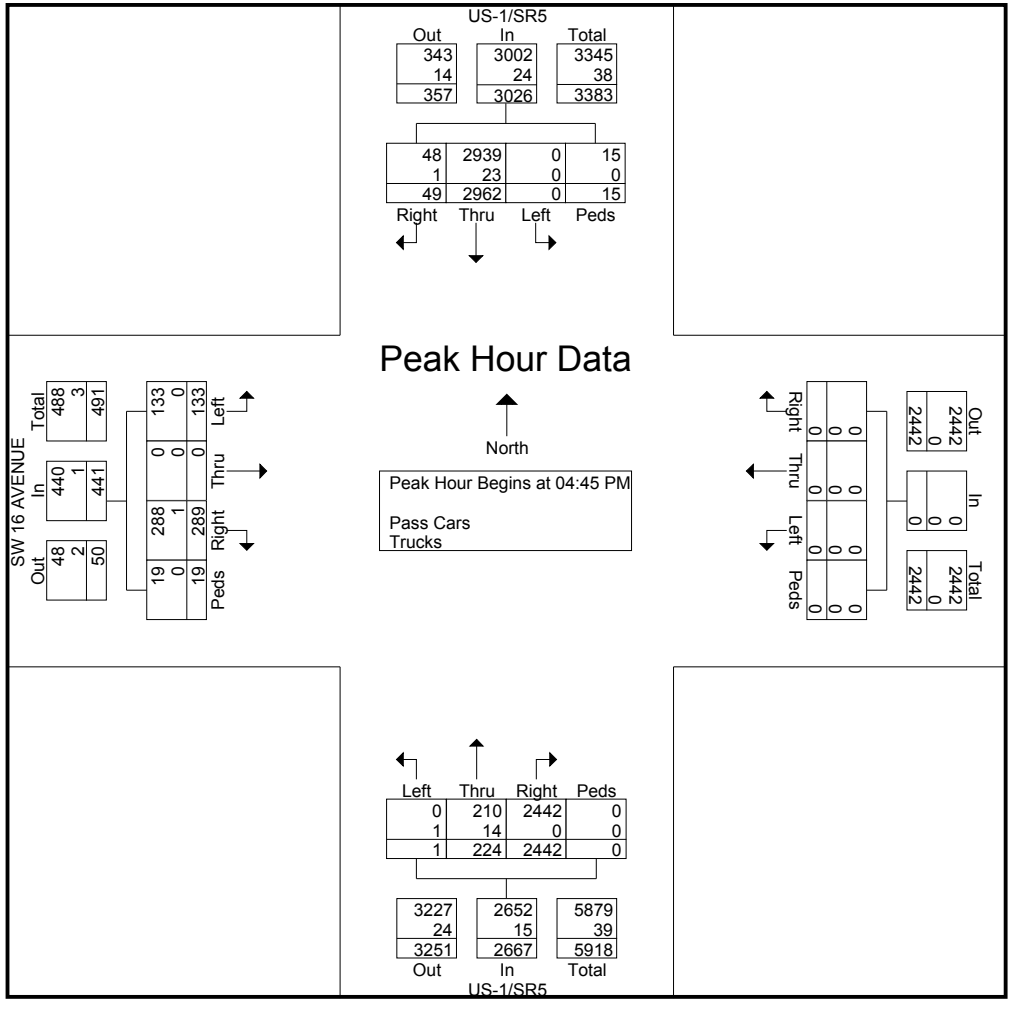
	US-1/SR5 Northbound					US-1/SR5 Southbound					SW 16 AVENUE Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**1**	62	637	0	**700**	0	741	11	1	753	**38**	0	69	3	110	0	0	0	0	0	**1563**
05:00 PM	0	43	**654**	0	697	0	725	**19**	5	749	31	0	71	**11**	113	0	0	0	0	0	1559
05:15 PM	0	52	530	0	582	0	**752**	8	2	**762**	34	0	**96**	3	**133**	0	0	0	0	0	1477
05:30 PM	0	**67**	621	0	688	0	744	11	**7**	762	30	0	53	2	85	0	0	0	0	0	1535
Total Volume	1	224	2442	0	2667	0	2962	49	15	3026	133	0	289	19	441	0	0	0	0	0	6134
% App. Total	0	8.4	91.6	0		0	97.9	1.6	0.5		30.2	0	65.5	4.3		0	0	0	0		
PHF	.250	.836	.933	.000	.953	.000	.985	.645	.536	.993	.875	.000	.753	.432	.829	.000	.000	.000	.000	.000	.981
Pass Cars	0	210	2442	0	2652	0	2939	48	15	3002	133	0	288	19	440	0	0	0	0	0	6094
% Pass Cars	0	93.8	100	0	99.4	0	99.2	98.0	100	99.2	100	0	99.7	100	99.8	0	0	0	0	0	99.3
Trucks	1	14	0	0	15	0	23	1	0	24	0	0	1	0	1	0	0	0	0	0	40
% Trucks	100	6.3	0	0	0.6	0	0.8	2.0	0	0.8	0	0	0.3	0	0.2	0	0	0	0	0	0.7

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Client: K&H
Intersection Name: SW 16 AVE & US-1_SR5
Opertaors Name: CV & OC
Weather: Sunny

File Name : SW16AVE_US-1_SR5
Site Code : 00000101
Start Date : 4/16/2015
Page No : 5



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File Name : SW16AVE_US-1_SR5
Site Code : 00000101
Start Date : 4/16/2015
Page No : 1

Groups Printed- Trucks

	US-1/SR5 Northbound					US-1/SR5 Southbound					SW 16 AVENUE Eastbound					Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	10	0	0	10	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	14
07:15 AM	4	8	0	0	12	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	16
07:30 AM	0	8	0	0	8	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	13
07:45 AM	0	10	0	0	10	0	11	1	0	12	0	0	0	0	0	0	0	0	0	0	22
Total	4	36	0	0	40	0	24	1	0	25	0	0	0	0	0	0	0	0	0	0	65
08:00 AM	2	8	0	0	10	0	7	0	0	7	1	0	0	0	1	0	0	0	0	0	18
08:15 AM	1	8	0	0	9	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	16
08:30 AM	0	8	0	0	8	0	9	0	0	9	1	0	0	0	1	0	0	0	0	0	18
08:45 AM	1	5	0	0	6	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	11
Total	4	29	0	0	33	0	27	0	0	27	2	0	1	0	3	0	0	0	0	0	63
*** BREAK ***																					
04:00 PM	0	6	0	0	6	0	5	0	0	5	0	0	1	0	1	0	0	0	0	0	12
04:15 PM	0	5	0	0	5	0	6	0	0	6	1	0	0	0	1	0	0	0	0	0	12
04:30 PM	0	2	0	0	2	0	8	1	0	9	0	0	1	0	1	0	0	0	0	0	12
04:45 PM	1	6	0	0	7	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	12
Total	1	19	0	0	20	0	24	1	0	25	1	0	2	0	3	0	0	0	0	0	48
05:00 PM	0	3	0	0	3	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	8
05:15 PM	0	4	0	0	4	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	10
05:30 PM	0	1	0	0	1	0	8	0	0	8	0	0	1	0	1	0	0	0	0	0	10
05:45 PM	0	1	0	0	1	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	6
Total	0	9	0	0	9	0	22	1	0	23	0	0	2	0	2	0	0	0	0	0	34
Grand Total	9	93	0	0	102	0	97	3	0	100	3	0	5	0	8	0	0	0	0	0	210
Apprch %	8.8	91.2	0	0		0	97	3	0		37.5	0	62.5	0		0	0	0	0		
Total %	4.3	44.3	0	0	48.6	0	46.2	1.4	0	47.6	1.4	0	2.4	0	3.8	0	0	0	0	0	

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Client: K&H
Intersection Name: SW 26 RD & SBOFF RAMP
Opertaors Name:PQ & MR
Weather: Sunny

File Name : SW26 Rd_SBOff Ramp
Site Code : 0000201
Start Date : 3/31/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	Northbound					SW 26 RD Southbound					SW 26 RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	429	0	19	0	448	0	87	0	0	87	0	0	0	0	0	535
07:15 AM	0	0	0	0	0	402	0	25	0	427	0	106	0	0	106	0	0	0	0	0	533
07:30 AM	0	0	0	0	0	383	0	17	0	400	0	133	0	0	133	0	0	0	0	0	533
07:45 AM	0	0	0	0	0	355	0	15	0	370	0	137	0	0	137	0	0	0	0	0	507
Total	0	0	0	0	0	1569	0	76	0	1645	0	463	0	0	463	0	0	0	0	0	2108
08:00 AM	0	0	0	0	0	351	0	38	0	389	0	127	0	0	127	0	0	0	0	0	516
08:15 AM	0	0	0	0	0	378	0	31	0	409	0	180	0	0	180	0	0	0	0	0	589
08:30 AM	0	0	0	0	0	372	0	21	0	393	0	195	0	0	195	0	0	0	0	0	588
08:45 AM	0	0	0	0	0	252	0	20	1	273	0	99	0	0	99	0	0	0	0	0	372
Total	0	0	0	0	0	1353	0	110	1	1464	0	601	0	0	601	0	0	0	0	0	2065
*** BREAK ***																					
04:00 PM	0	0	0	0	0	330	0	62	0	392	0	67	2	0	69	0	0	0	0	0	461
04:15 PM	0	0	0	0	0	362	0	80	0	442	0	74	0	0	74	0	0	0	0	0	516
04:30 PM	0	0	0	0	0	390	0	74	1	465	0	88	0	0	88	0	0	0	0	0	553
04:45 PM	0	0	0	0	0	362	0	103	0	465	0	82	0	0	82	0	0	0	0	0	547
Total	0	0	0	0	0	1444	0	319	1	1764	0	311	2	0	313	0	0	0	0	0	2077
05:00 PM	0	0	0	0	0	384	0	108	0	492	0	76	0	0	76	0	0	0	0	0	568
05:15 PM	0	0	0	0	0	408	0	92	0	500	0	96	1	0	97	0	0	0	0	0	597
05:30 PM	0	0	0	0	0	398	0	89	0	487	0	99	0	0	99	0	0	0	0	0	586
05:45 PM	0	0	0	0	0	407	0	82	0	489	0	92	0	0	92	0	0	0	0	0	581
Total	0	0	0	0	0	1597	0	371	0	1968	0	363	1	0	364	0	0	0	0	0	2332
Grand Total	0	0	0	0	0	5963	0	876	2	6841	0	1738	3	0	1741	0	0	0	0	0	8582
Apprch %	0	0	0	0		87.2	0	12.8	0		0	99.8	0.2	0		0	0	0	0		
Total %	0	0	0	0	0	69.5	0	10.2	0	79.7	0	20.3	0	0	20.3	0	0	0	0	0	
Pass Cars	0	0	0	0	0	5866	0	863	2	6731	0	1701	3	0	1704	0	0	0	0	0	8435
% Pass Cars	0	0	0	0	0	98.4	0	98.5	100	98.4	0	97.9	100	0	97.9	0	0	0	0	0	98.3
Trucks	0	0	0	0	0	97	0	13	0	110	0	37	0	0	37	0	0	0	0	0	147
% Trucks	0	0	0	0	0	1.6	0	1.5	0	1.6	0	2.1	0	0	2.1	0	0	0	0	0	1.7

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Intersection Name: SW 26 RD & SBOFF RAMP
Opertaors Name:PQ & MR
Weather: Sunny

File Name : SW26 Rd_SBOff Ramp
Site Code : 0000201
Start Date : 3/31/2015
Page No : 2

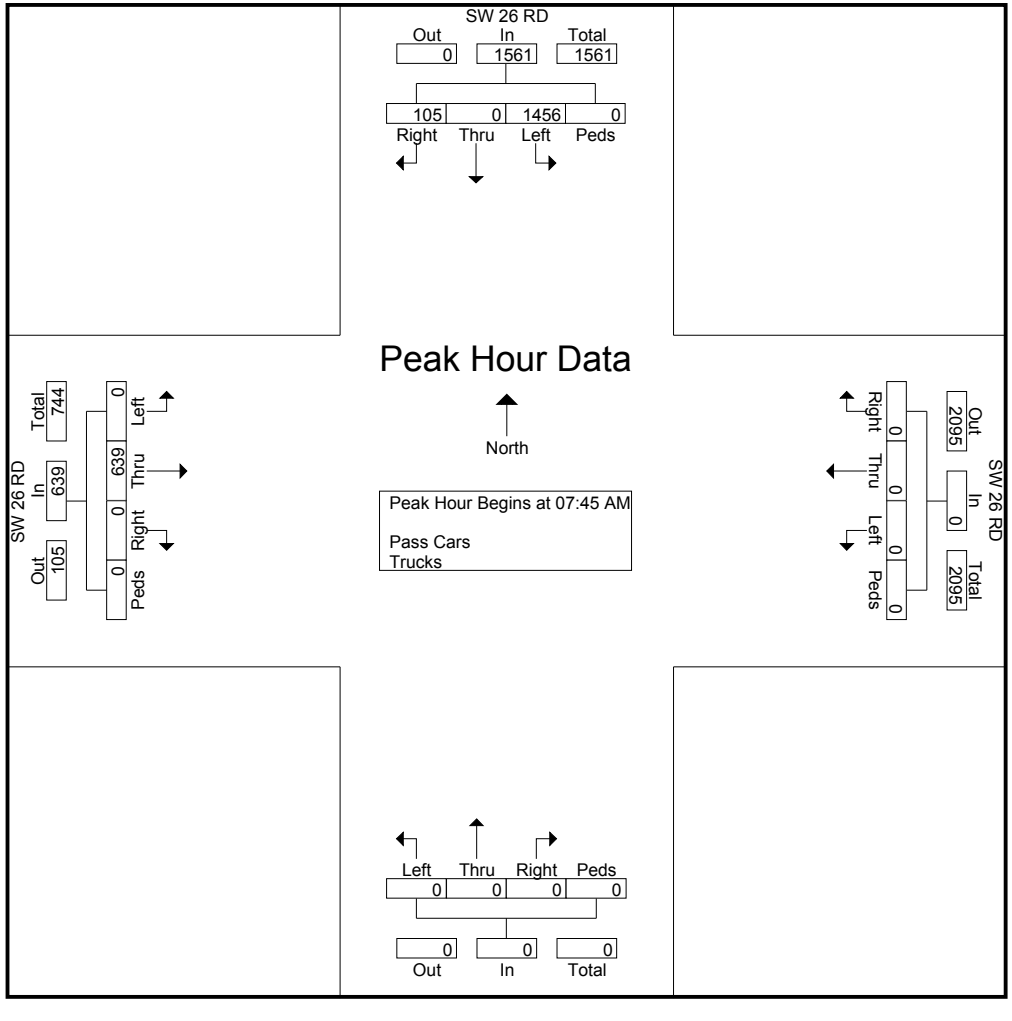
	Northbound					SW 26 RD Southbound					SW 26 RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	355	0	15	0	370	0	137	0	0	137	0	0	0	0	0	507
08:00 AM	0	0	0	0	0	351	0	**38**	0	389	0	127	0	0	127	0	0	0	0	0	516
08:15 AM	0	0	0	0	0	**378**	0	31	0	**409**	0	180	0	0	180	0	0	0	0	0	**589**
08:30 AM	0	0	0	0	0	372	0	21	0	393	0	**195**	0	0	**195**	0	0	0	0	0	588
Total Volume	0	0	0	0	0	1456	0	105	0	1561	0	639	0	0	639	0	0	0	0	0	2200
% App. Total	0	0	0	0		93.3	0	6.7	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.963	.000	.691	.000	.954	.000	.819	.000	.000	.819	.000	.000	.000	.000	.000	.934

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Opertaors Name:PQ & MR
Weather: Sunny

File Name : SW26 Rd_SBOff Ramp
Site Code : 0000201
Start Date : 3/31/2015
Page No : 3



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Client: K&H
Intersection Name: SW 26 RD & SBOFF RAMP
Opertaors Name:PQ & MR
Weather: Sunny

File Name : SW26 Rd_SBOff Ramp
Site Code : 0000201
Start Date : 3/31/2015
Page No : 4

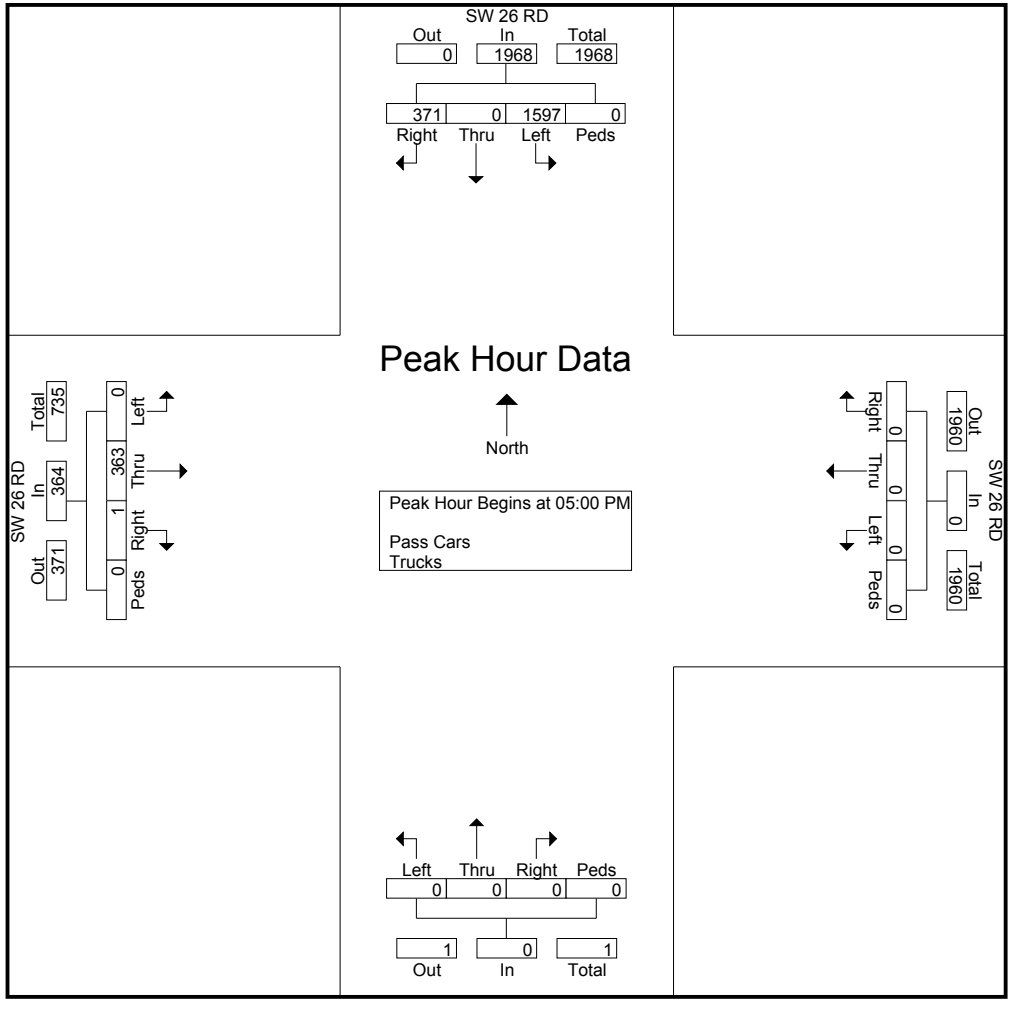
	Northbound					SW 26 RD Southbound					SW 26 RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	384	0	**108**	0	492	0	76	0	0	76	0	0	0	0	0	568
05:15 PM	0	0	0	0	0	**408**	0	92	0	**500**	0	96	**1**	0	97	0	0	0	0	0	**597**
05:30 PM	0	0	0	0	0	398	0	89	0	487	0	**99**	0	0	**99**	0	0	0	0	0	586
05:45 PM	0	0	0	0	0	407	0	82	0	489	0	92	0	0	92	0	0	0	0	0	581
Total Volume	0	0	0	0	0	1597	0	371	0	1968	0	363	1	0	364	0	0	0	0	0	2332
% App. Total	0	0	0	0		81.1	0	18.9	0		0	99.7	0.3	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.979	.000	.859	.000	.984	.000	.917	.250	.000	.919	.000	.000	.000	.000	.000	.977

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Client: K&H
Intersection Name: SW 26 RD & SBOFF RAMP
Opertaors Name:PQ & MR
Weather: Sunny

File Name : SW26 Rd_SBOff Ramp
Site Code : 0000201
Start Date : 3/31/2015
Page No : 5



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File Name : SW26 Rd_SBOff Ramp
Site Code : 0000201
Start Date : 3/31/2015
Page No : 1

Groups Printed- Trucks

	Northbound					SW 26 RD Southbound					SW 26 RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	4	0	3	0	7	0	4	0	0	4	0	0	0	0	0	11
07:15 AM	0	0	0	0	0	14	0	3	0	17	0	4	0	0	4	0	0	0	0	0	21
07:30 AM	0	0	0	0	0	11	0	0	0	11	0	3	0	0	3	0	0	0	0	0	14
07:45 AM	0	0	0	0	0	11	0	0	0	11	0	3	0	0	3	0	0	0	0	0	14
Total	0	0	0	0	0	40	0	6	0	46	0	14	0	0	14	0	0	0	0	0	60
08:00 AM	0	0	0	0	0	14	0	1	0	15	0	3	0	0	3	0	0	0	0	0	18
08:15 AM	0	0	0	0	0	7	0	1	0	8	0	6	0	0	6	0	0	0	0	0	14
08:30 AM	0	0	0	0	0	15	0	0	0	15	0	5	0	0	5	0	0	0	0	0	20
08:45 AM	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
Total	0	0	0	0	0	43	0	2	0	45	0	14	0	0	14	0	0	0	0	0	59
*** BREAK ***																					
04:00 PM	0	0	0	0	0	2	0	2	0	4	0	1	0	0	1	0	0	0	0	0	5
04:15 PM	0	0	0	0	0	3	0	0	0	3	0	3	0	0	3	0	0	0	0	0	6
04:30 PM	0	0	0	0	0	1	0	2	0	3	0	2	0	0	2	0	0	0	0	0	5
04:45 PM	0	0	0	0	0	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	4
Total	0	0	0	0	0	9	0	4	0	13	0	7	0	0	7	0	0	0	0	0	20
*** BREAK ***																					
05:15 PM	0	0	0	0	0	3	0	1	0	4	0	1	0	0	1	0	0	0	0	0	5
*** BREAK ***																					
05:45 PM	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	3
Total	0	0	0	0	0	5	0	1	0	6	0	2	0	0	2	0	0	0	0	0	8
Grand Total	0	0	0	0	0	97	0	13	0	110	0	37	0	0	37	0	0	0	0	0	147
Apprch %	0	0	0	0		88.2	0	11.8	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	66	0	8.8	0	74.8	0	25.2	0	0	25.2	0	0	0	0	0	

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Client: K&H
Intersection Name: SW26RD_NBON RAMP
Opertaors Name: ZV/GP
Weather: Sunny

File Name : SW26Rd_NBOnRamp
Site Code : 00000202
Start Date : 3/31/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	UNNAMED Northbound					NB ON RAMPS Southbound					SW 26RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	12	349	0	2	363	0	0	78	0	78	441
07:15 AM	0	0	0	0	0	0	0	0	0	0	11	475	14	1	501	0	0	49	1	50	551
07:30 AM	0	0	2	0	2	0	0	0	0	0	35	384	33	1	453	0	0	80	1	81	536
07:45 AM	0	0	1	0	1	0	0	0	0	0	29	450	3	0	482	0	0	122	0	122	605
Total	0	0	3	0	3	0	0	0	0	0	87	1658	50	4	1799	0	0	329	2	331	2133
08:00 AM	0	0	2	3	5	0	0	0	0	0	49	415	3	0	467	0	0	110	1	111	583
08:15 AM	0	0	2	6	8	0	0	0	0	0	61	480	7	0	548	0	0	126	0	126	682
08:30 AM	0	0	1	5	6	0	0	0	0	0	74	638	2	0	714	0	0	151	1	152	872
08:45 AM	0	0	2	6	8	0	0	0	0	0	49	575	0	0	624	0	0	125	0	125	757
Total	0	0	7	20	27	0	0	0	0	0	233	2108	12	0	2353	0	0	512	2	514	2894
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	10	350	59	2	421	0	0	211	0	211	632
04:15 PM	0	0	6	1	7	0	0	0	0	0	12	438	4	1	455	0	0	152	0	152	614
04:30 PM	0	0	2	1	3	0	0	0	0	0	8	350	13	1	372	0	0	126	0	126	501
04:45 PM	0	0	0	0	0	0	0	0	0	0	14	317	2	0	333	0	0	143	0	143	476
Total	0	0	8	2	10	0	0	0	0	0	44	1455	78	4	1581	0	0	632	0	632	2223
05:00 PM	0	0	4	1	5	0	0	0	0	0	13	424	4	1	442	0	0	154	0	154	601
05:15 PM	0	0	3	0	3	0	0	0	0	0	19	449	4	0	472	0	0	169	0	169	644
05:30 PM	0	0	4	4	8	0	0	0	0	0	11	432	2	0	445	0	0	165	0	165	618
05:45 PM	0	0	5	2	7	0	0	0	0	0	13	463	7	0	483	0	0	148	0	148	638
Total	0	0	16	7	23	0	0	0	0	0	56	1768	17	1	1842	0	0	636	0	636	2501
Grand Total	0	0	34	29	63	0	0	0	0	0	420	6989	157	9	7575	0	0	2109	4	2113	9751
Apprch %	0	0	54	46		0	0	0	0		5.5	92.3	2.1	0.1		0	0	99.8	0.2		
Total %	0	0	0.3	0.3	0.6	0	0	0	0	0	4.3	71.7	1.6	0.1	77.7	0	0	21.6	0	21.7	
Pass Cars	0	0	34	29	63	0	0	0	0	0	417	6881	156	9	7463	0	0	2086	4	2090	9616
% Pass Cars	0	0	100	100	100	0	0	0	0	0	99.3	98.5	99.4	100	98.5	0	0	98.9	100	98.9	98.6
Trucks	0	0	0	0	0	0	0	0	0	0	3	108	1	0	112	0	0	23	0	23	135
% Trucks	0	0	0	0	0	0	0	0	0	0	0.7	1.5	0.6	0	1.5	0	0	1.1	0	1.1	1.4

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Client: K&H
Intersection Name: SW26RD_NBON RAMP
Opertaors Name: ZV/GP
Weather: Sunny

File Name : SW26Rd_NBOnRamp
Site Code : 00000202
Start Date : 3/31/2015
Page No : 2

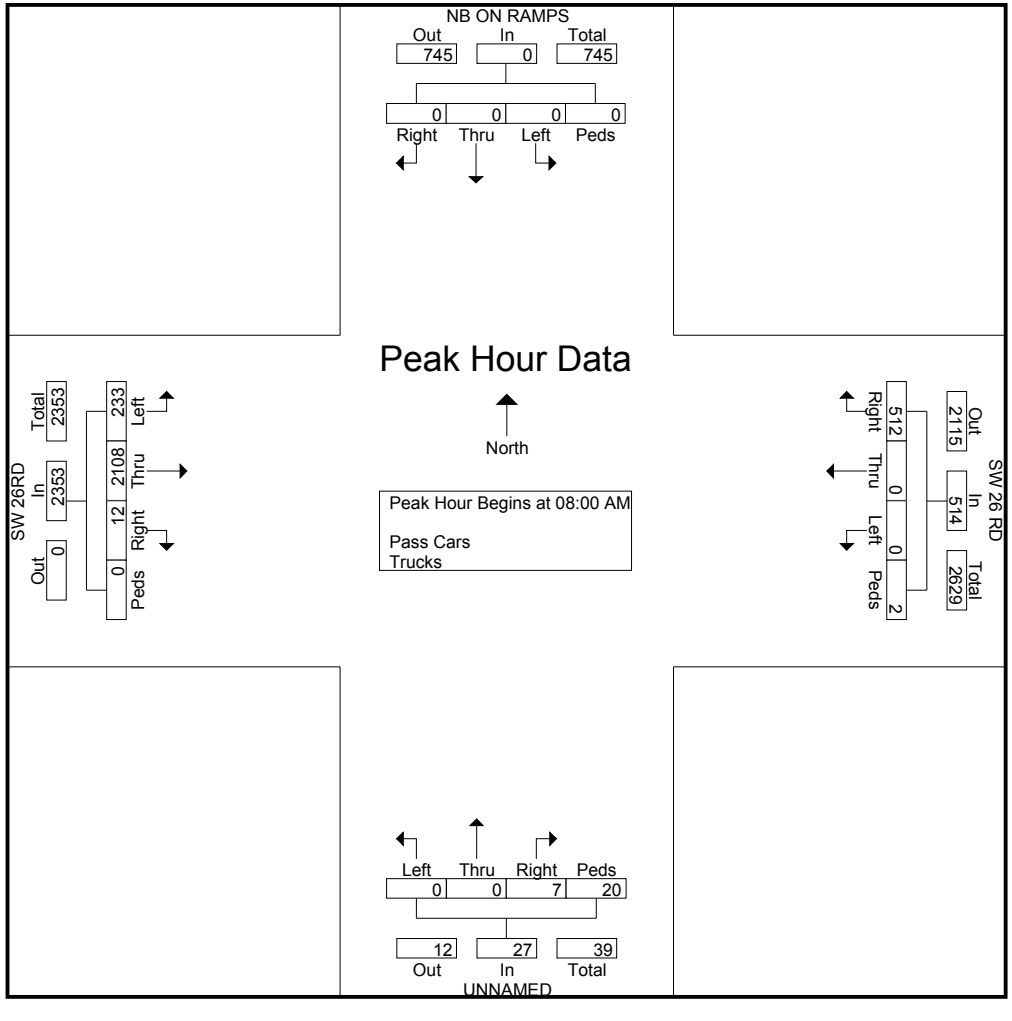
	UNNAMED Northbound					NB ON RAMPS Southbound					SW 26RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	**2**	3	5	0	0	0	0	0	49	415	3	0	467	0	0	110	**1**	111	583
08:15 AM	0	0	2	**6**	**8**	0	0	0	0	0	61	480	**7**	0	548	0	0	126	0	126	682
08:30 AM	0	0	1	5	6	0	0	0	0	0	**74**	**638**	2	0	**714**	0	0	**151**	1	**152**	**872**
08:45 AM	0	0	2	6	8	0	0	0	0	0	49	575	0	0	624	0	0	125	0	125	757
Total Volume	0	0	7	20	27	0	0	0	0	0	233	2108	12	0	2353	0	0	512	2	514	2894
% App. Total	0	0	25.9	74.1		0	0	0	0		9.9	89.6	0.5	0		0	0	99.6	0.4		
PHF	.000	.000	.875	.833	.844	.000	.000	.000	.000	.000	.787	.826	.429	.000	.824	.000	.000	.848	.500	.845	.830

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Intersection Name: SW26RD_NBON RAMP
Opertaors Name: ZV/GP
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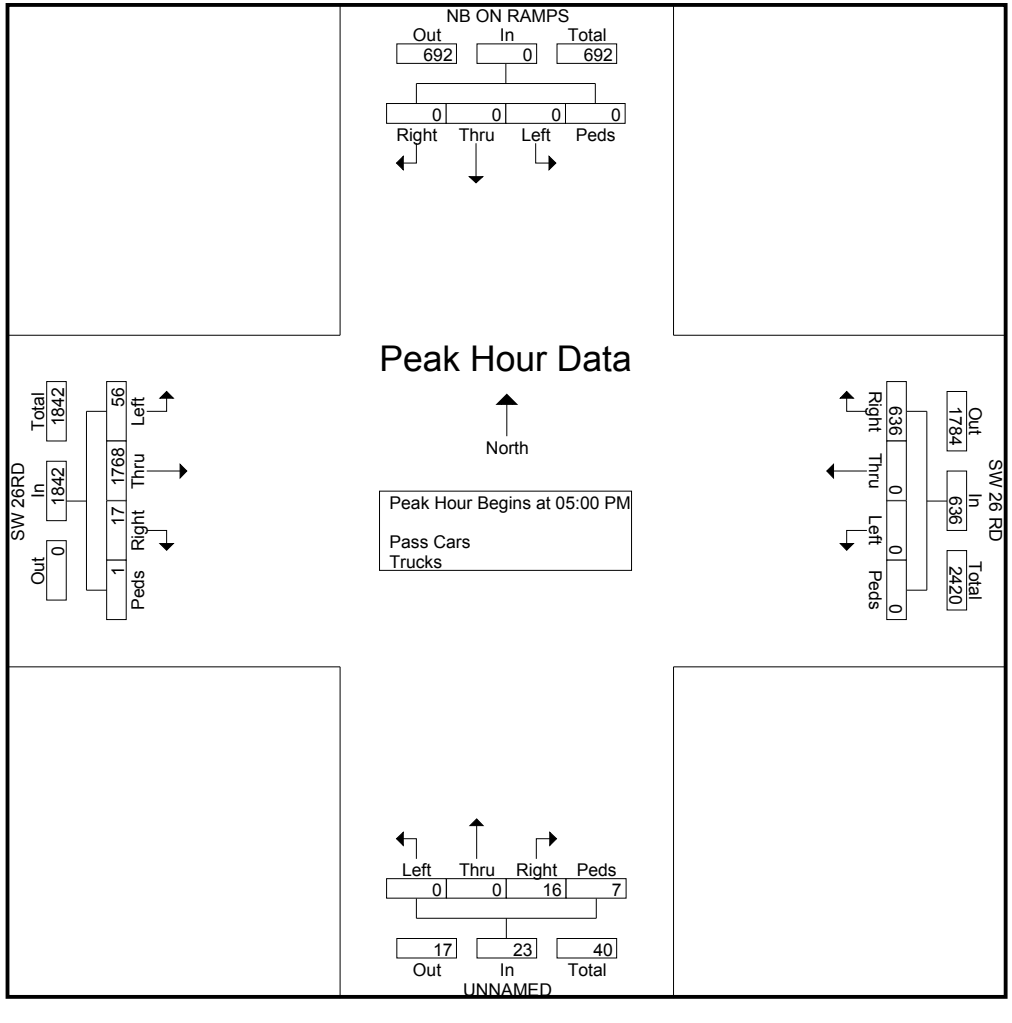
	UNNAMED Northbound					NB ON RAMPS Southbound					SW 26RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	4	1	5	0	0	0	0	0	13	424	4	**1**	442	0	0	154	0	154	601
05:15 PM	0	0	3	0	3	0	0	0	0	0	**19**	449	4	0	472	0	0	**169**	0	**169**	**644**
05:30 PM	0	0	4	**4**	**8**	0	0	0	0	0	11	432	2	0	445	0	0	165	0	165	618
05:45 PM	0	0	**5**	2	7	0	0	0	0	0	13	**463**	**7**	0	**483**	0	0	148	0	148	638
Total Volume	0	0	16	7	23	0	0	0	0	0	56	1768	17	1	1842	0	0	636	0	636	2501
% App. Total	0	0	69.6	30.4		0	0	0	0		3	96	0.9	0.1		0	0	100	0		
PHF	.000	.000	.800	.438	.719	.000	.000	.000	.000	.000	.737	.955	.607	.250	.953	.000	.000	.941	.000	.941	.971

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File Name : SW26Rd_NBOnRamp
Site Code : 00000202
Start Date : 3/31/2015
Page No : 1

Groups Printed- Trucks

	UNNAMED Northbound					NB ON RAMPS Southbound					SW 26RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	15
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	11	0	0	12	0	0	1	0	1	13
Total	0	0	0	0	0	0	0	0	0	0	1	41	0	0	42	0	0	1	0	1	43
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	6
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	14	0	0	15	0	0	2	0	2	17
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	5	0	5	13
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	1	0	1	11
Total	0	0	0	0	0	0	0	0	0	0	1	37	1	0	39	0	0	8	0	8	47
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	3	0	3	8
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	3	0	3	8
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	2	0	2	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	7
Total	0	0	0	0	0	0	0	0	0	0	0	20	0	0	20	0	0	9	0	9	29
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	1	0	1	8
*** BREAK ***																					
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	4
Total	0	0	0	0	0	0	0	0	0	0	1	10	0	0	11	0	0	5	0	5	16
Grand Total	0	0	0	0	0	0	0	0	0	0	3	108	1	0	112	0	0	23	0	23	135
Apprch %	0	0	0	0		0	0	0	0		2.7	96.4	0.9	0		0	0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	2.2	80	0.7	0	83	0	0	17	0	17	

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Client: K&H
Intersection Name:SW 26 RD_MIAMI AVE
Opertaors Name: EB & CG
Weather: Sunny

File Name : SW 26 Rd_MIAMI AVE
Site Code : 00000203
Start Date : 3/31/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	MIAMI AVE Northbound					MIAMI AVE Southbound					SW 26 RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	95	0	1	97	3	44	4	0	51	1	237	189	0	427	23	9	25	1	58	633
07:15 AM	6	138	4	0	148	5	58	0	0	63	1	277	183	0	461	43	0	27	1	71	743
07:30 AM	102	80	0	4	186	12	31	0	0	43	8	375	117	1	501	31	15	15	2	63	793
07:45 AM	116	76	0	1	193	14	42	0	3	59	0	371	86	0	457	29	16	21	3	69	778
Total	225	389	4	6	624	34	175	4	3	216	10	1260	575	1	1846	126	40	88	7	261	2947
08:00 AM	92	65	1	0	158	12	37	4	1	54	4	277	116	0	397	35	33	9	2	79	688
08:15 AM	118	84	1	7	210	10	41	3	1	55	4	346	98	0	448	19	49	24	1	93	806
08:30 AM	82	77	0	0	159	14	31	7	1	53	11	346	106	0	463	35	36	19	6	96	771
08:45 AM	96	93	2	1	192	9	64	3	0	76	12	329	111	0	452	20	30	28	1	79	799
Total	388	319	4	8	719	45	173	17	3	238	31	1298	431	0	1760	109	148	80	10	347	3064
*** BREAK ***																					
04:00 PM	104	75	11	1	191	9	61	4	1	75	1	280	112	1	394	54	47	37	3	141	801
04:15 PM	101	45	2	3	151	13	70	4	0	87	12	297	145	3	457	58	55	31	3	147	842
04:30 PM	88	56	5	3	152	10	69	0	0	79	12	264	184	3	463	51	38	20	3	112	806
04:45 PM	91	56	5	2	154	24	31	4	0	59	9	281	161	2	453	42	66	28	1	137	803
Total	384	232	23	9	648	56	231	12	1	300	34	1122	602	9	1767	205	206	116	10	537	3252
05:00 PM	84	65	9	4	162	11	47	2	0	60	5	290	156	4	455	60	65	34	2	161	838
05:15 PM	97	71	2	0	170	22	57	1	0	80	9	311	150	0	470	53	57	38	0	148	868
05:30 PM	107	81	7	2	197	15	83	0	0	98	5	328	165	2	500	50	53	45	0	148	943
05:45 PM	87	72	4	3	166	22	75	4	0	101	7	350	132	3	492	44	51	32	0	127	886
Total	375	289	22	9	695	70	262	7	0	339	26	1279	603	9	1917	207	226	149	2	584	3535
Grand Total	1372	1229	53	32	2686	205	841	40	7	1093	101	4959	2211	19	7290	647	620	433	29	1729	12798
Apprch %	51.1	45.8	2	1.2		18.8	76.9	3.7	0.6		1.4	68	30.3	0.3		37.4	35.9	25	1.7		
Total %	10.7	9.6	0.4	0.3	21	1.6	6.6	0.3	0.1	8.5	0.8	38.7	17.3	0.1	57	5.1	4.8	3.4	0.2	13.5	
Pass Cars	1367	1225	53	31	2676	204	836	40	7	1087	101	4857	2173	19	7150	637	617	425	29	1708	12621
% Pass Cars	99.6	99.7	100	96.9	99.6	99.5	99.4	100	100	99.5	100	97.9	98.3	100	98.1	98.5	99.5	98.2	100	98.8	98.6
Trucks	5	4	0	1	10	1	5	0	0	6	0	102	38	0	140	10	3	8	0	21	177
% Trucks	0.4	0.3	0	3.1	0.4	0.5	0.6	0	0	0.5	0	2.1	1.7	0	1.9	1.5	0.5	1.8	0	1.2	1.4

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Client: K&H
Intersection Name:SW 26 RD_MIAMI AVE
Opertaors Name: EB & CG
Weather: Sunny

File Name : SW 26 Rd_MIAMI AVE
Site Code : 00000203
Start Date : 3/31/2015
Page No : 2

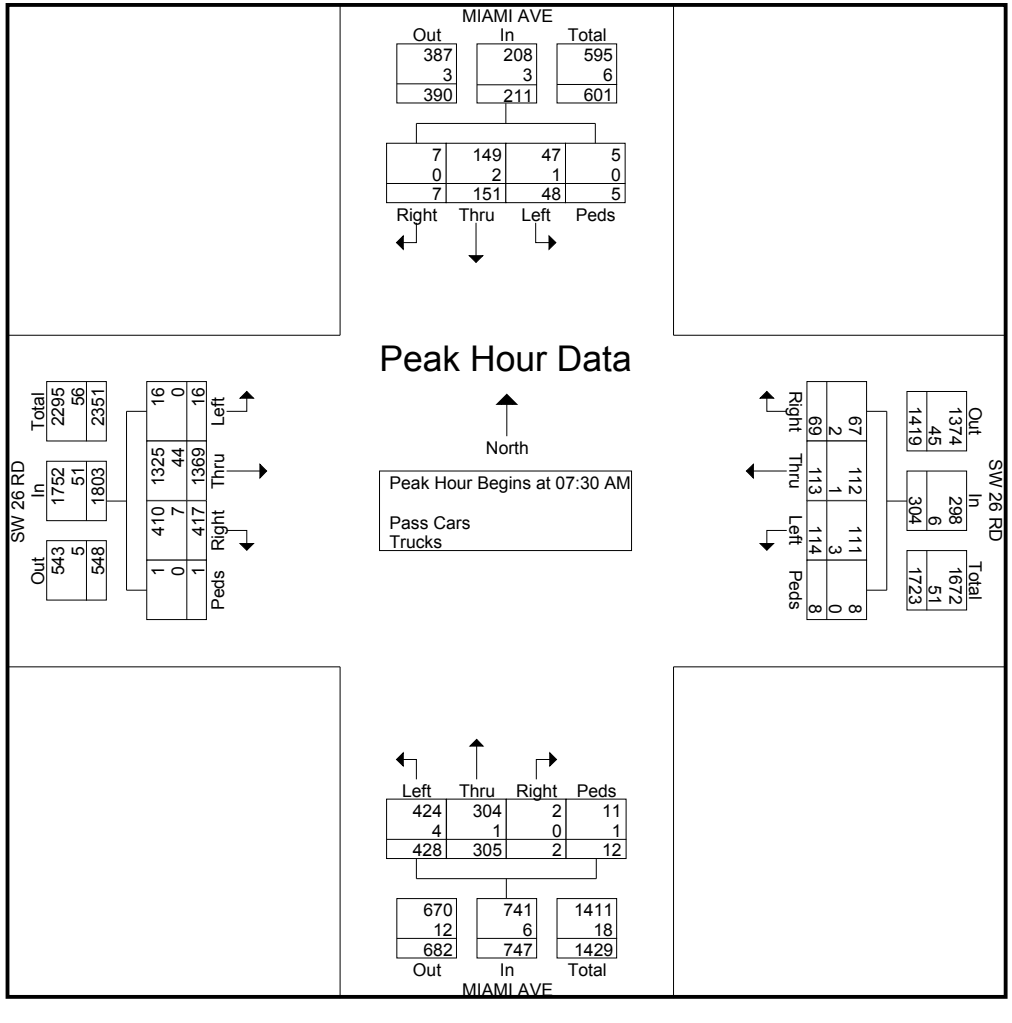
	MIAMI AVE Northbound					MIAMI AVE Southbound					SW 26 RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	102	80	0	4	186	12	31	0	0	43	**8**	**375**	**117**	**1**	**501**	31	15	15	2	63	793
07:45 AM	116	76	0	1	193	**14**	**42**	0	**3**	**59**	0	371	86	0	457	29	16	21	**3**	69	778
08:00 AM	92	65	**1**	0	158	12	37	**4**	1	54	4	277	116	0	397	**35**	33	9	2	79	688
08:15 AM	**118**	**84**	1	**7**	**210**	10	41	3	1	55	4	346	98	0	448	19	**49**	**24**	1	**93**	**806**
Total Volume	428	305	2	12	747	48	151	7	5	211	16	1369	417	1	1803	114	113	69	8	304	3065
% App. Total	57.3	40.8	0.3	1.6		22.7	71.6	3.3	2.4		0.9	75.9	23.1	0.1		37.5	37.2	22.7	2.6		
PHF	.907	.908	.500	.429	.889	.857	.899	.438	.417	.894	.500	.913	.891	.250	.900	.814	.577	.719	.667	.817	.951
Pass Cars	424	304	2	11	741	47	149	7	5	208	16	1325	410	1	1752	111	112	67	8	298	2999
% Pass Cars	99.1	99.7	100	91.7	99.2	97.9	98.7	100	100	98.6	100	96.8	98.3	100	97.2	97.4	99.1	97.1	100	98.0	97.8
Trucks	4	1	0	1	6	1	2	0	0	3	0	44	7	0	51	3	1	2	0	6	66
% Trucks	0.9	0.3	0	8.3	0.8	2.1	1.3	0	0	1.4	0	3.2	1.7	0	2.8	2.6	0.9	2.9	0	2.0	2.2

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Opertaors Name: EB & CG
Weather: Sunny

File Name : SW 26 Rd_MIAMI AVE
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File Name : SW 26 Rd_MIAMI AVE
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Page No : 4

	MIAMI AVE Northbound					MIAMI AVE Southbound					SW 26 RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	84	65	**9**	**4**	162	11	47	2	0	60	5	290	156	**4**	455	**60**	**65**	34	**2**	**161**	838
05:15 PM	97	71	2	0	170	**22**	57	1	0	80	**9**	311	150	0	470	53	57	38	0	148	868
05:30 PM	**107**	**81**	7	2	**197**	15	**83**	0	0	98	5	328	**165**	2	**500**	50	53	**45**	0	148	**943**
05:45 PM	87	72	4	3	166	22	75	**4**	0	**101**	7	**350**	132	3	492	44	51	32	0	127	886
Total Volume	375	289	22	9	695	70	262	7	0	339	26	1279	603	9	1917	207	226	149	2	584	3535
% App. Total	54	41.6	3.2	1.3		20.6	77.3	2.1	0		1.4	66.7	31.5	0.5		35.4	38.7	25.5	0.3		
PHF	.876	.892	.611	.563	.882	.795	.789	.438	.000	.839	.722	.914	.914	.563	.959	.863	.869	.828	.250	.907	.937
Pass Cars	375	288	22	9	694	70	261	7	0	338	26	1273	596	9	1904	204	224	148	2	578	3514
% Pass Cars	100	99.7	100	100	99.9	100	99.6	100	0	99.7	100	99.5	98.8	100	99.3	98.6	99.1	99.3	100	99.0	99.4
Trucks	0	1	0	0	1	0	1	0	0	1	0	6	7	0	13	3	2	1	0	6	21
% Trucks	0	0.3	0	0	0.1	0	0.4	0	0	0.3	0	0.5	1.2	0	0.7	1.4	0.9	0.7	0	1.0	0.6

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Groups Printed- Trucks

	MIAMI AVE Northbound					MIAMI AVE Southbound					SW 26 RD Eastbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	4	0	10	1	0	3	0	4	14
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	11	3	0	14	0	0	1	0	1	15
07:30 AM	0	0	0	1	1	0	0	0	0	0	0	10	1	0	11	2	1	2	0	5	17
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	15	2	0	17	0	0	0	0	0	18
Total	1	0	0	1	2	0	0	0	0	0	0	42	10	0	52	3	1	6	0	10	64
08:00 AM	1	1	0	0	2	0	1	0	0	1	0	9	3	0	12	0	0	0	0	0	15
08:15 AM	2	0	0	0	2	1	1	0	0	2	0	10	1	0	11	1	0	0	0	1	16
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	10	2	0	12	1	0	0	0	1	13
08:45 AM	0	0	0	0	0	0	1	0	0	1	0	12	6	0	18	2	0	0	0	2	21
Total	3	1	0	0	4	1	3	0	0	4	0	41	12	0	53	4	0	0	0	4	65
*** BREAK ***																					
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	7
04:15 PM	1	0	0	0	1	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	7
04:30 PM	0	1	0	0	1	0	1	0	0	1	0	1	3	0	4	0	0	1	0	1	7
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	6
Total	1	2	0	0	3	0	1	0	0	1	0	13	9	0	22	0	0	1	0	1	27
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	4	5	0	9	0	1	1	0	2	12
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	1	0	0	0	1	4
Total	0	1	0	0	1	0	1	0	0	1	0	6	7	0	13	3	2	1	0	6	21
Grand Total	5	4	0	1	10	1	5	0	0	6	0	102	38	0	140	10	3	8	0	21	177
Apprch %	50	40	0	10		16.7	83.3	0	0		0	72.9	27.1	0		47.6	14.3	38.1	0		
Total %	2.8	2.3	0	0.6	5.6	0.6	2.8	0	0	3.4	0	57.6	21.5	0	79.1	5.6	1.7	4.5	0	11.9	

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Client: K&H
Intersection Name: SW 26 RD &BRICKELL AV
Opertaors Name: MA & MS
Weather: Sunny

File Name : SW26RD_BRICKELL AVE
Site Code : 00000204
Start Date : 3/31/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	BRICKELL AVE Northbound					SW 26 RD Eastbound					BRICKELL AVE Southbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	71	111	11	193	18	168	0	1	187	16	124	4	3	147	0	50	6	15	71	598
07:15 AM	0	128	172	27	327	26	271	0	1	298	40	141	3	5	189	0	60	14	22	96	910
07:30 AM	0	131	178	12	321	36	323	0	2	361	49	133	15	7	204	0	60	35	67	162	1048
07:45 AM	0	203	143	4	350	44	381	0	2	427	51	132	16	3	202	0	34	53	6	93	1072
Total	0	533	604	54	1191	124	1143	0	6	1273	156	530	38	18	742	0	204	108	110	422	3628
08:00 AM	0	152	168	13	333	44	244	0	1	289	35	149	27	0	211	0	39	51	7	97	930
08:15 AM	0	247	131	0	378	78	292	0	1	371	40	141	44	0	225	0	53	73	5	131	1105
08:30 AM	0	262	142	8	412	60	298	0	2	360	42	156	29	0	227	0	50	123	36	209	1208
08:45 AM	0	262	131	9	402	82	316	0	2	400	46	147	22	0	215	0	70	106	12	188	1205
Total	0	923	572	30	1525	264	1150	0	6	1420	163	593	122	0	878	0	212	353	60	625	4448
*** BREAK ***																					
04:00 PM	0	118	159	23	300	62	225	5	4	296	61	204	15	0	280	0	145	72	23	240	1116
04:15 PM	0	132	142	4	278	64	225	9	1	299	33	162	18	0	213	0	168	47	6	221	1011
04:30 PM	0	128	131	13	272	60	232	4	0	296	67	189	18	0	274	0	121	41	8	170	1012
04:45 PM	0	138	132	21	291	64	207	3	1	275	72	163	13	0	248	0	163	60	6	229	1043
Total	0	516	564	61	1141	250	889	21	6	1166	233	718	64	0	1015	0	597	220	43	860	4182
05:00 PM	0	163	148	4	315	55	243	6	0	304	65	226	14	0	305	0	240	88	1	329	1253
05:15 PM	0	145	237	6	388	84	251	2	0	337	83	232	13	0	328	0	226	97	4	327	1380
05:30 PM	0	196	171	3	370	71	276	8	0	355	78	198	14	1	291	0	260	118	0	378	1394
05:45 PM	0	224	203	12	439	84	296	6	0	386	81	186	15	0	282	0	213	86	6	305	1412
Total	0	728	759	25	1512	294	1066	22	0	1382	307	842	56	1	1206	0	939	389	11	1339	5439
Grand Total	0	2700	2499	170	5369	932	4248	43	18	5241	859	2683	280	19	3841	0	1952	1070	224	3246	17697
Apprch %	0	50.3	46.5	3.2		17.8	81.1	0.8	0.3		22.4	69.9	7.3	0.5		0	60.1	33	6.9		
Total %	0	15.3	14.1	1	30.3	5.3	24	0.2	0.1	29.6	4.9	15.2	1.6	0.1	21.7	0	11	6	1.3	18.3	
Pass Cars	0	2668	2452	170	5290	922	4142	43	18	5125	825	2646	271	19	3761	0	1918	1030	224	3172	17348
% Pass Cars	0	98.8	98.1	100	98.5	98.9	97.5	100	100	97.8	96	98.6	96.8	100	97.9	0	98.3	96.3	100	97.7	98
Trucks	0	32	47	0	79	10	106	0	0	116	34	37	9	0	80	0	34	40	0	74	349
% Trucks	0	1.2	1.9	0	1.5	1.1	2.5	0	0	2.2	4	1.4	3.2	0	2.1	0	1.7	3.7	0	2.3	2

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Client: K&H
Intersection Name: SW 26 RD &BRICKELL AV
Opertaors Name: MA & MS
Weather: Sunny

File Name : SW26RD_BRICKELL AVE
Site Code : 00000204
Start Date : 3/31/2015
Page No : 2

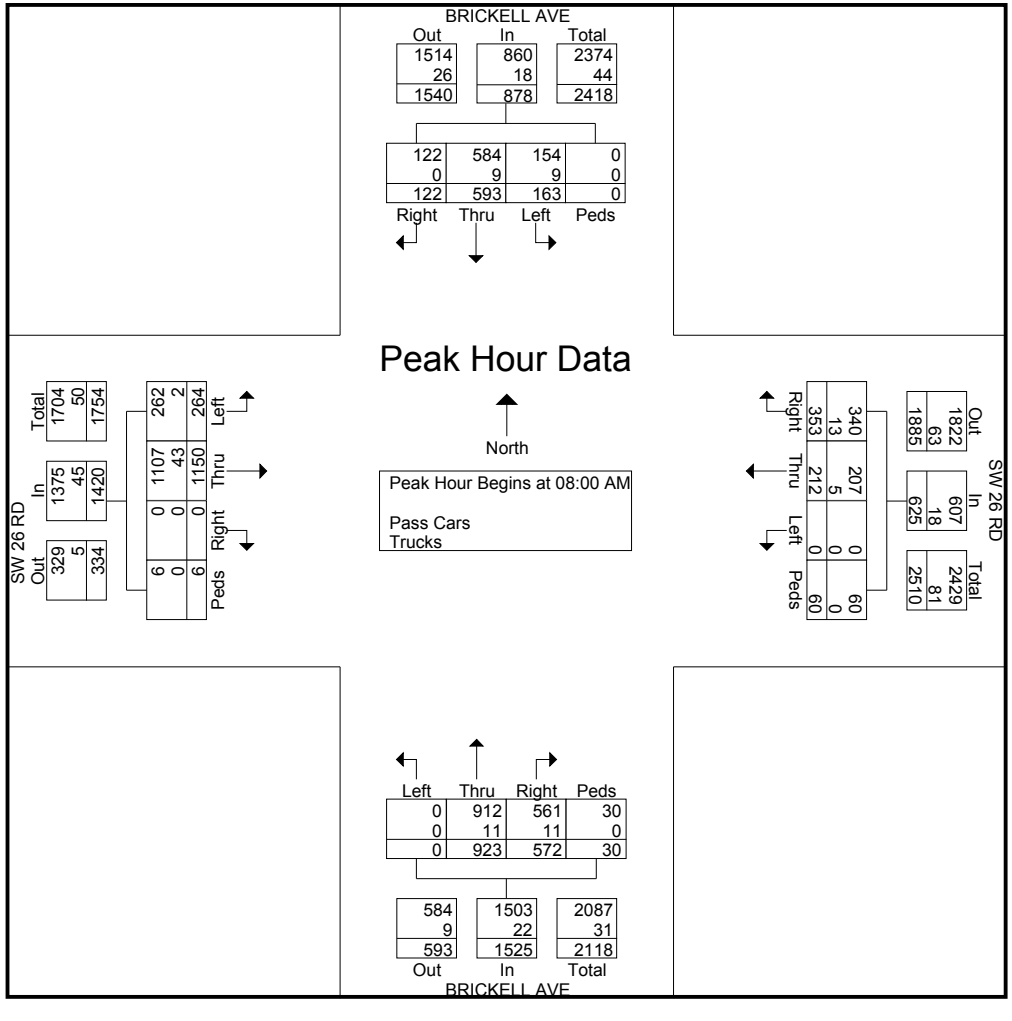
	BRICKELL AVE Northbound					SW 26 RD Eastbound					BRICKELL AVE Southbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	152	**168**	**13**	333	44	244	0	1	289	35	149	27	0	211	0	39	51	7	97	930
08:15 AM	0	247	131	0	378	78	292	0	1	371	40	141	**44**	0	225	0	53	73	5	131	1105
08:30 AM	0	**262**	142	8	**412**	60	298	0	**2**	360	42	**156**	29	0	**227**	0	50	**123**	**36**	**209**	**1208**
08:45 AM	0	262	131	9	402	**82**	**316**	0	2	**400**	**46**	147	22	0	215	0	**70**	106	12	188	1205
Total Volume	0	923	572	30	1525	264	1150	0	6	1420	163	593	122	0	878	0	212	353	60	625	4448
% App. Total	0	60.5	37.5	2		18.6	81	0	0.4		18.6	67.5	13.9	0		0	33.9	56.5	9.6		
PHF	.000	.881	.851	.577	.925	.805	.910	.000	.750	.888	.886	.950	.693	.000	.967	.000	.757	.717	.417	.748	.921
Pass Cars	0	912	561	30	1503	262	1107	0	6	1375	154	584	122	0	860	0	207	340	60	607	4345
% Pass Cars	0	98.8	98.1	100	98.6	99.2	96.3	0	100	96.8	94.5	98.5	100	0	97.9	0	97.6	96.3	100	97.1	97.7
Trucks	0	11	11	0	22	2	43	0	0	45	9	9	0	0	18	0	5	13	0	18	103
% Trucks	0	1.2	1.9	0	1.4	0.8	3.7	0	0	3.2	5.5	1.5	0	0	2.1	0	2.4	3.7	0	2.9	2.3

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Opertaors Name: MA & MS
Weather: Sunny

File Name : SW26RD_BRICKELL AVE
Site Code : 00000204
Start Date : 3/31/2015
Page No : 3



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File Name : SW26RD_BRICKELL AVE
Site Code : 00000204
Start Date : 3/31/2015
Page No : 4

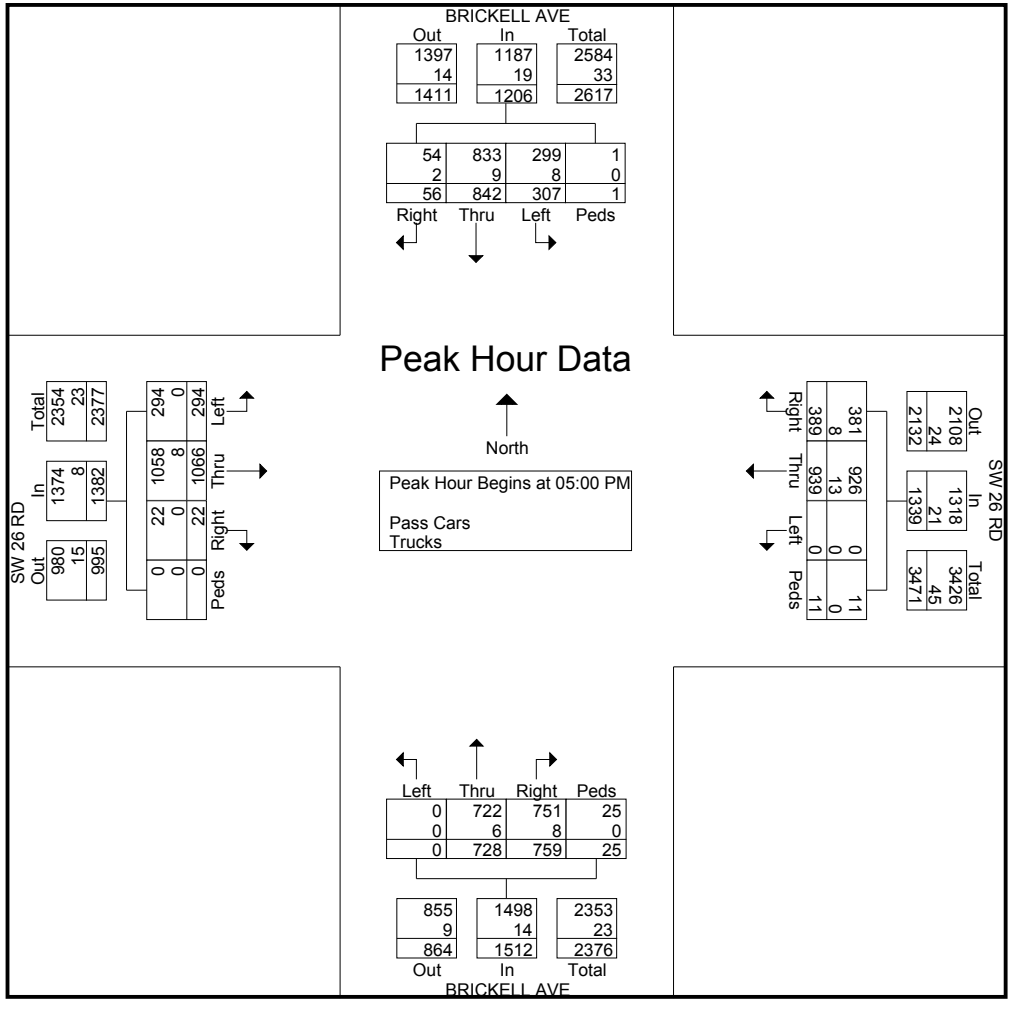
	BRICKELL AVE Northbound					SW 26 RD Eastbound					BRICKELL AVE Southbound					SW 26 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	163	148	4	315	55	243	6	0	304	65	226	14	0	305	0	240	88	1	329	1253
05:15 PM	0	145	**237**	6	388	**84**	251	2	0	337	**83**	**232**	13	0	**328**	0	226	97	4	327	1380
05:30 PM	0	196	171	3	370	71	276	**8**	0	355	78	198	14	**1**	291	0	**260**	**118**	0	**378**	1394
05:45 PM	0	**224**	203	**12**	**439**	84	**296**	6	0	**386**	81	186	**15**	0	282	0	213	86	**6**	305	**1412**
Total Volume	0	728	759	25	1512	294	1066	22	0	1382	307	842	56	1	1206	0	939	389	11	1339	5439
% App. Total	0	48.1	50.2	1.7		21.3	77.1	1.6	0		25.5	69.8	4.6	0.1		0	70.1	29.1	0.8		
PHF	.000	.813	.801	.521	.861	.875	.900	.688	.000	.895	.925	.907	.933	.250	.919	.000	.903	.824	.458	.886	.963
Pass Cars	0	722	751	25	1498	294	1058	22	0	1374	299	833	54	1	1187	0	926	381	11	1318	5377
% Pass Cars	0	99.2	98.9	100	99.1	100	99.2	100	0	99.4	97.4	98.9	96.4	100	98.4	0	98.6	97.9	100	98.4	98.9
Trucks	0	6	8	0	14	0	8	0	0	8	8	9	2	0	19	0	13	8	0	21	62
% Trucks	0	0.8	1.1	0	0.9	0	0.8	0	0	0.6	2.6	1.1	3.6	0	1.6	0	1.4	2.1	0	1.6	1.1

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Client: K&H
Intersection Name: SW 26 RD &BRICKELL AV
Opertaors Name: MA & MS
Weather: Sunny

File Name : SW26RD_BRICKELL AVE
Site Code : 00000204
Start Date : 3/31/2015
Page No : 5



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Client: K&H
Intersection Name: SW 26 RD &BRICKELL AV
Opertaors Name: MA & MS
Weather: Sunny

File Name : SW26RD_BRICKELL AVE
Site Code : 00000204
Start Date : 3/31/2015
Page No : 1

Groups Printed- Trucks

	BRICKELL AVE Northbound				SW 26 RD Eastbound				BRICKELL AVE Southbound				SW 26 RD Westbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00 AM	0	1	5	0	1	6	0	0	3	1	0	0	0	2	2	0	21
07:15 AM	0	4	3	0	2	10	0	0	3	2	0	0	0	2	3	0	29
07:30 AM	0	1	3	0	2	8	0	0	3	2	3	0	0	4	2	0	28
07:45 AM	0	1	7	0	1	18	0	0	2	3	1	0	0	1	4	0	38
Total	0	7	18	0	6	42	0	0	11	8	4	0	0	9	11	0	116
08:00 AM	0	3	2	0	0	10	0	0	4	2	0	0	0	0	2	0	23
08:15 AM	0	5	4	0	1	12	0	0	3	2	0	0	0	1	2	0	30
08:30 AM	0	0	2	0	0	7	0	0	2	3	0	0	0	1	6	0	21
08:45 AM	0	3	3	0	1	14	0	0	0	2	0	0	0	3	3	0	29
Total	0	11	11	0	2	43	0	0	9	9	0	0	0	5	13	0	103
*** BREAK ***																	
04:00 PM	0	2	5	0	2	5	0	0	3	3	0	0	0	2	0	0	22
04:15 PM	0	2	2	0	0	3	0	0	0	2	2	0	0	1	3	0	15
04:30 PM	0	2	0	0	0	1	0	0	0	3	1	0	0	0	1	0	8
04:45 PM	0	2	3	0	0	4	0	0	3	3	0	0	0	4	4	0	23
Total	0	8	10	0	2	13	0	0	6	11	3	0	0	7	8	0	68
05:00 PM	0	2	2	0	0	1	0	0	6	5	0	0	0	4	0	0	20
05:15 PM	0	2	3	0	0	4	0	0	0	2	2	0	0	3	2	0	18
05:30 PM	0	1	0	0	0	1	0	0	1	1	0	0	0	3	4	0	11
05:45 PM	0	1	3	0	0	2	0	0	1	1	0	0	0	3	2	0	13
Total	0	6	8	0	0	8	0	0	8	9	2	0	0	13	8	0	62
Grand Total	0	32	47	0	10	106	0	0	34	37	9	0	0	34	40	0	349
Apprch %	0	40.5	59.5	0	8.6	91.4	0	0	42.5	46.2	11.2	0	0	45.9	54.1	0	
Total %	0	9.2	13.5	0	2.9	30.4	0	0	9.7	10.6	2.6	0	0	9.7	11.5	0	

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Client: K&H
Intersection Name: SW 25 RD & I95 SB RMP
Opertaors Name: OC & ED
Weather: Sunny

File Name : SW25st_SB Off ramp
Site Code : 00000205
Start Date : 3/31/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	I95 SB OFF RAMPS Northbound					I95 SB OFF RAMPS Southbound					SW 25 RD Eastbound					SW 25 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	9	394	15	2	420	0	58	9	0	67	3	14	0	0	17	504
07:15 AM	0	0	0	0	0	20	433	29	5	487	0	70	10	0	80	1	30	0	0	31	598
07:30 AM	0	0	0	1	1	29	411	44	3	487	0	93	15	0	108	1	41	0	0	42	638
07:45 AM	0	0	0	0	0	33	362	39	0	434	0	89	13	0	102	2	63	0	0	65	601
Total	0	0	0	1	1	91	1600	127	10	1828	0	310	47	0	357	7	148	0	0	155	2341
08:00 AM	0	0	0	1	1	45	391	49	1	486	0	77	11	0	88	1	60	0	0	61	636
08:15 AM	0	0	0	7	7	41	371	56	2	470	0	89	16	0	105	4	85	0	0	89	671
08:30 AM	0	0	0	3	3	49	380	49	4	482	0	95	25	0	120	1	74	0	0	75	680
08:45 AM	0	0	0	1	1	46	400	48	1	495	0	90	29	0	119	2	67	0	0	69	684
Total	0	0	0	12	12	181	1542	202	8	1933	0	351	81	0	432	8	286	0	0	294	2671
*** BREAK ***																					
04:00 PM	0	0	0	3	3	13	402	59	0	474	0	54	14	0	68	16	142	0	0	158	703
04:15 PM	0	0	0	1	1	22	445	67	0	534	0	64	4	0	68	6	107	0	0	113	716
04:30 PM	0	0	0	6	6	25	459	90	1	575	0	65	8	0	73	9	90	0	0	99	753
04:45 PM	0	0	0	1	1	29	457	79	10	575	0	60	5	0	65	9	120	0	0	129	770
Total	0	0	0	11	11	89	1763	295	11	2158	0	243	31	0	274	40	459	0	0	499	2942
05:00 PM	0	0	0	0	0	31	465	89	2	587	0	49	12	0	61	9	128	0	0	137	785
05:15 PM	0	0	0	0	0	16	481	79	3	579	0	65	12	0	77	12	137	0	0	149	805
05:30 PM	0	0	0	1	1	12	456	90	2	560	0	67	9	0	76	8	133	0	0	141	778
05:45 PM	0	0	0	4	4	19	495	72	1	587	0	56	16	0	72	10	125	0	0	135	798
Total	0	0	0	5	5	78	1897	330	8	2313	0	237	49	0	286	39	523	0	0	562	3166
Grand Total	0	0	0	29	29	439	6802	954	37	8232	0	1141	208	0	1349	94	1416	0	0	1510	11120
Apprch %	0	0	0	100		5.3	82.6	11.6	0.4		0	84.6	15.4	0		6.2	93.8	0	0		
Total %	0	0	0	0.3	0.3	3.9	61.2	8.6	0.3	74	0	10.3	1.9	0	12.1	0.8	12.7	0	0	13.6	
Pass Cars	0	0	0	29	29	433	6692	944	37	8106	0	1136	205	0	1341	89	1393	0	0	1482	10958
% Pass Cars	0	0	0	100	100	98.6	98.4	99	100	98.5	0	99.6	98.6	0	99.4	94.7	98.4	0	0	98.1	98.5
Trucks	0	0	0	0	0	6	110	10	0	126	0	5	3	0	8	5	23	0	0	28	162
% Trucks	0	0	0	0	0	1.4	1.6	1	0	1.5	0	0.4	1.4	0	0.6	5.3	1.6	0	0	1.9	1.5

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Client: K&H
Intersection Name: SW 25 RD & I95 SB RMP
Opertaors Name: OC & ED
Weather: Sunny

File Name : SW25st_SB Off ramp
Site Code : 00000205
Start Date : 3/31/2015
Page No : 2

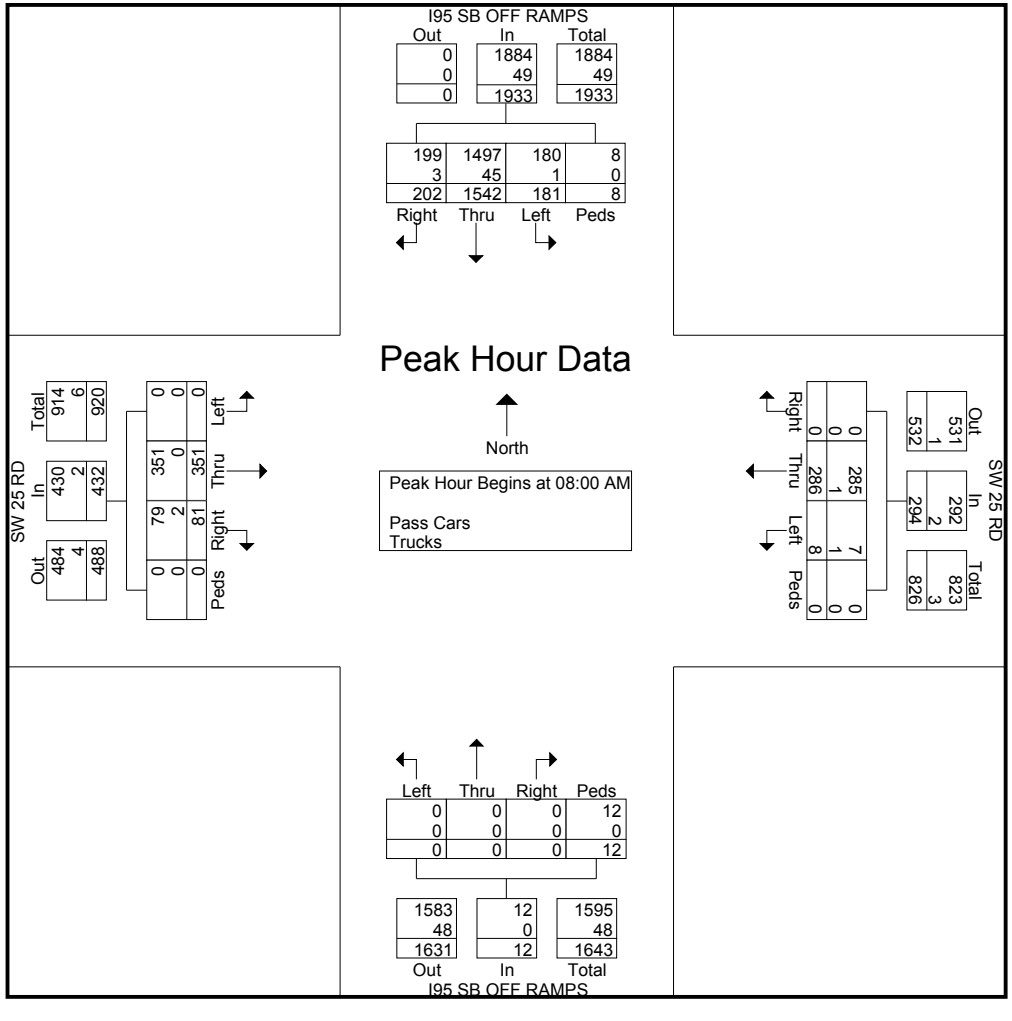
	I95 SB OFF RAMPS Northbound					I95 SB OFF RAMPS Southbound					SW 25 RD Eastbound					SW 25 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	1	1	45	391	49	1	486	0	77	11	0	88	1	60	0	0	61	636
08:15 AM	0	0	0	**7**	**7**	41	371	**56**	2	470	0	89	16	0	105	**4**	**85**	0	0	**89**	671
08:30 AM	0	0	0	3	3	**49**	380	49	**4**	482	0	**95**	25	0	**120**	1	74	0	0	75	680
08:45 AM	0	0	0	1	1	46	**400**	48	1	**495**	0	90	**29**	0	119	2	67	0	0	69	**684**
Total Volume	0	0	0	12	12	181	1542	202	8	1933	0	351	81	0	432	8	286	0	0	294	2671
% App. Total	0	0	0	100		9.4	79.8	10.5	0.4		0	81.2	18.8	0		2.7	97.3	0	0		
PHF	.000	.000	.000	.429	.429	.923	.964	.902	.500	.976	.000	.924	.698	.000	.900	.500	.841	.000	.000	.826	.976
Pass Cars	0	0	0	12	12	180	1497	199	8	1884	0	351	79	0	430	7	285	0	0	292	2618
% Pass Cars	0	0	0	100	100	99.4	97.1	98.5	100	97.5	0	100	97.5	0	99.5	87.5	99.7	0	0	99.3	98.0
Trucks	0	0	0	0	0	1	45	3	0	49	0	0	2	0	2	1	1	0	0	2	53
% Trucks	0	0	0	0	0	0.6	2.9	1.5	0	2.5	0	0	2.5	0	0.5	12.5	0.3	0	0	0.7	2.0

F.R. Aleman & Associates, Inc

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Client: K&H
Intersection Name: SW 25 RD & I95 SB RMP
Opertaors Name: OC & ED
Weather: Sunny

File Name : SW25st_SB Off ramp
Site Code : 00000205
Start Date : 3/31/2015
Page No : 3



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Client: K&H
Intersection Name: SW 25 RD & I95 SB RMP
Opertaors Name: OC & ED
Weather: Sunny

File Name : SW25st_SB Off ramp
Site Code : 00000205
Start Date : 3/31/2015
Page No : 4

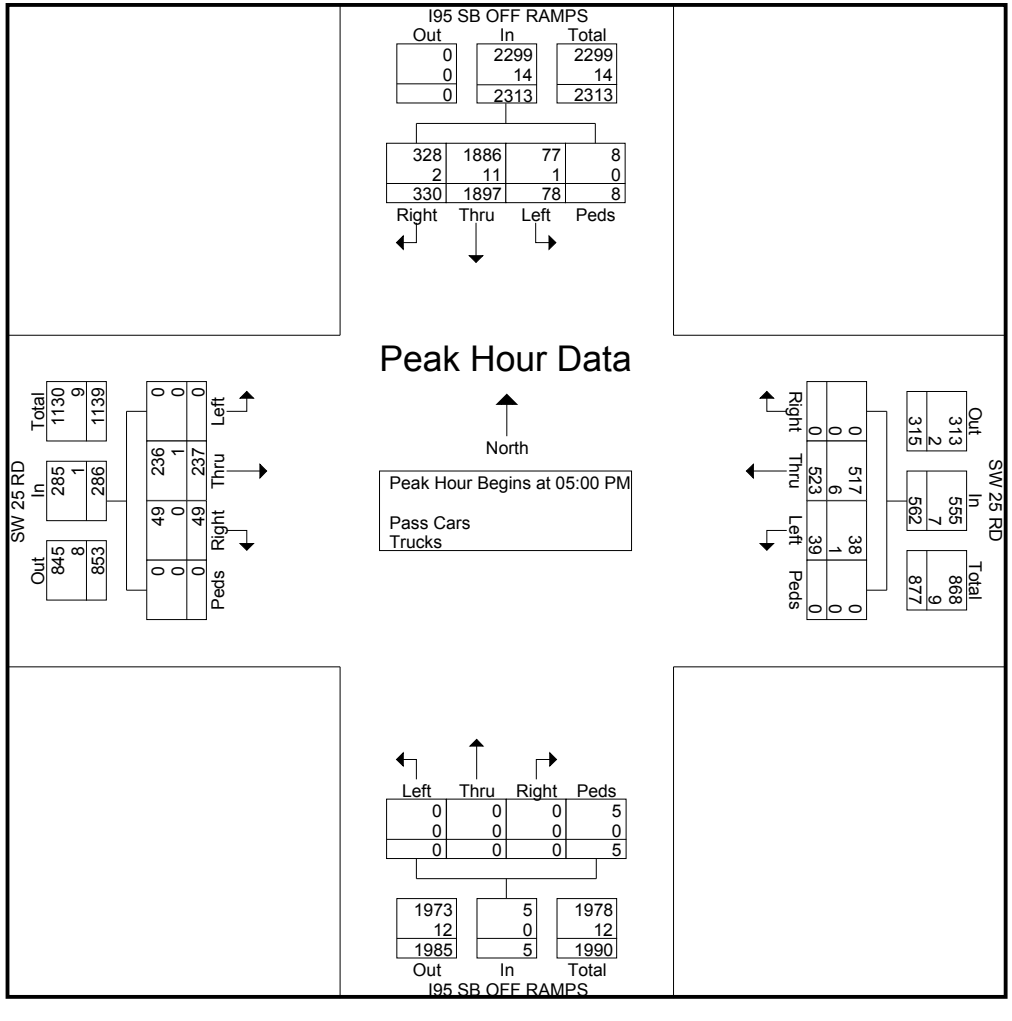
	I95 SB OFF RAMPS Northbound					I95 SB OFF RAMPS Southbound					SW 25 RD Eastbound					SW 25 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	**31**	465	89	2	**587**	0	49	12	0	61	9	128	0	0	137	785
05:15 PM	0	0	0	0	0	16	481	79	**3**	579	0	65	12	0	**77**	**12**	**137**	0	0	**149**	**805**
05:30 PM	0	0	0	1	1	12	456	**90**	2	560	0	**67**	9	0	76	8	133	0	0	141	778
05:45 PM	0	0	0	**4**	**4**	19	**495**	72	1	587	0	56	**16**	0	72	10	125	0	0	135	798
Total Volume	0	0	0	5	5	78	1897	330	8	2313	0	237	49	0	286	39	523	0	0	562	3166
% App. Total	0	0	0	100		3.4	82	14.3	0.3		0	82.9	17.1	0		6.9	93.1	0	0		
PHF	.000	.000	.000	.313	.313	.629	.958	.917	.667	.985	.000	.884	.766	.000	.929	.813	.954	.000	.000	.943	.983
Pass Cars	0	0	0	5	5	77	1886	328	8	2299	0	236	49	0	285	38	517	0	0	555	3144
% Pass Cars	0	0	0	100	100	98.7	99.4	99.4	100	99.4	0	99.6	100	0	99.7	97.4	98.9	0	0	98.8	99.3
Trucks	0	0	0	0	0	1	11	2	0	14	0	1	0	0	1	1	6	0	0	7	22
% Trucks	0	0	0	0	0	1.3	0.6	0.6	0	0.6	0	0.4	0	0	0.3	2.6	1.1	0	0	1.2	0.7

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Client: K&H
Intersection Name: SW 25 RD & I95 SB RMP
Opertaors Name: OC & ED
Weather: Sunny

File Name : SW25st_SB Off ramp
Site Code : 00000205
Start Date : 3/31/2015
Page No : 5



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File Name : SW25st_SB Off ramp
Site Code : 00000205
Start Date : 3/31/2015
Page No : 1

Groups Printed- Trucks

	I95 SB OFF RAMPS Northbound					I95 SB OFF RAMPS Southbound					SW 25 RD Eastbound					SW 25 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	2	3	0	0	5	13
07:15 AM	0	0	0	0	0	3	9	0	0	12	0	3	1	0	4	0	1	0	0	1	17
07:30 AM	0	0	0	0	0	0	10	2	0	12	0	0	0	0	0	0	4	0	0	4	16
07:45 AM	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	0	2	0	0	2	14
Total	0	0	0	0	0	3	37	4	0	44	0	3	1	0	4	2	10	0	0	12	60
08:00 AM	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	1	0	0	0	1	11
08:15 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	10
08:30 AM	0	0	0	0	0	1	12	0	0	13	0	0	2	0	2	0	1	0	0	1	16
08:45 AM	0	0	0	0	0	0	14	2	0	16	0	0	0	0	0	0	0	0	0	0	16
Total	0	0	0	0	0	1	45	3	0	49	0	0	2	0	2	1	1	0	0	2	53
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	1	1	0	0	2	7
04:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
04:30 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	2	0	0	2	6
04:45 PM	0	0	0	0	0	0	7	0	0	7	0	1	0	0	1	0	1	0	0	1	9
Total	0	0	0	0	0	1	17	1	0	19	0	1	0	0	1	1	6	0	0	7	27
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
05:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	1	2	0	0	3	9
05:30 PM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	2	0	0	2	6
05:45 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	0	0	1	11	2	0	14	0	1	0	0	1	1	6	0	0	7	22
Grand Total	0	0	0	0	0	6	110	10	0	126	0	5	3	0	8	5	23	0	0	28	162
Apprch %	0	0	0	0		4.8	87.3	7.9	0		0	62.5	37.5	0		17.9	82.1	0	0		
Total %	0	0	0	0	0	3.7	67.9	6.2	0	77.8	0	3.1	1.9	0	4.9	3.1	14.2	0	0	17.3	

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Client: K&H
Intersection Name:: SW 25 RD & NB ON RMP
Opertaors Name: CV & ML
Weather: Sunny

File Name : SW25rd_NBOnRamp
Site Code : 00000206
Start Date : 3/31/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SW MIAMI CT Northbound					NB ON RAMP Southbound					SW 25 RD Eastbound					SW 25 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	12	28	3	0	43	0	0	0	0	0	63	4	0	3	70	0	22	159	0	181	294
07:15 AM	4	24	3	0	31	0	0	0	0	0	93	26	0	2	121	0	28	217	0	245	397
07:30 AM	16	148	4	0	168	0	0	0	0	0	82	27	0	2	111	0	33	187	0	220	499
07:45 AM	20	168	2	0	190	0	0	0	0	0	95	53	0	0	148	0	61	201	0	262	600
Total	52	368	12	0	432	0	0	0	0	0	333	110	0	7	450	0	144	764	0	908	1790
08:00 AM	15	165	0	1	181	0	0	0	0	0	66	49	0	0	115	0	53	199	0	252	548
08:15 AM	18	224	0	1	243	0	0	0	0	0	86	75	0	1	162	0	72	205	0	277	682
08:30 AM	21	193	1	3	218	0	0	0	0	0	84	69	0	3	156	0	72	206	0	278	652
08:45 AM	22	165	2	0	189	0	0	0	0	0	93	78	0	1	172	0	55	200	0	255	616
Total	76	747	3	5	831	0	0	0	0	0	329	271	0	5	605	0	252	810	0	1062	2498
*** BREAK ***																					
04:00 PM	75	128	2	0	205	0	0	0	0	0	48	17	0	0	65	0	84	116	0	200	470
04:15 PM	47	118	3	1	169	0	0	0	0	0	64	42	0	0	106	0	69	113	0	182	457
04:30 PM	40	103	4	0	147	0	0	0	0	0	51	26	0	1	78	0	60	117	0	177	402
04:45 PM	70	105	2	0	177	0	0	0	0	0	52	31	0	1	84	0	63	105	0	168	429
Total	232	454	11	1	698	0	0	0	0	0	215	116	0	2	333	0	276	451	0	727	1758
05:00 PM	57	91	1	0	149	0	0	0	0	0	39	38	0	2	79	0	78	142	0	220	448
05:15 PM	73	104	2	0	179	0	0	0	0	0	47	29	0	3	79	0	83	137	0	220	478
05:30 PM	69	120	4	3	196	0	0	0	0	0	56	20	0	2	78	0	76	133	0	209	483
05:45 PM	64	95	4	1	164	0	0	0	0	0	44	29	0	1	74	0	73	116	1	190	428
Total	263	410	11	4	688	0	0	0	0	0	186	116	0	8	310	0	310	528	1	839	1837
Grand Total	623	1979	37	10	2649	0	0	0	0	0	1063	613	0	22	1698	0	982	2553	1	3536	7883
Apprch %	23.5	74.7	1.4	0.4		0	0	0	0		62.6	36.1	0	1.3		0	27.8	72.2	0		
Total %	7.9	25.1	0.5	0.1	33.6	0	0	0	0	0	13.5	7.8	0	0.3	21.5	0	12.5	32.4	0	44.9	
Pass Cars	622	1977	37	10	2646	0	0	0	0	0	1055	610	0	22	1687	0	960	2538	1	3499	7832
% Pass Cars	99.8	99.9	100	100	99.9	0	0	0	0	0	99.2	99.5	0	100	99.4	0	97.8	99.4	100	99	99.4
Trucks	1	2	0	0	3	0	0	0	0	0	8	3	0	0	11	0	22	15	0	37	51
% Trucks	0.2	0.1	0	0	0.1	0	0	0	0	0	0.8	0.5	0	0	0.6	0	2.2	0.6	0	1	0.6

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Client: K&H
Intersection Name:: SW 25 RD & NB ON RMP
Opertaors Name: CV & ML
Weather: Sunny

File Name : SW25rd_NBOnRamp
Site Code : 00000206
Start Date : 3/31/2015
Page No : 2

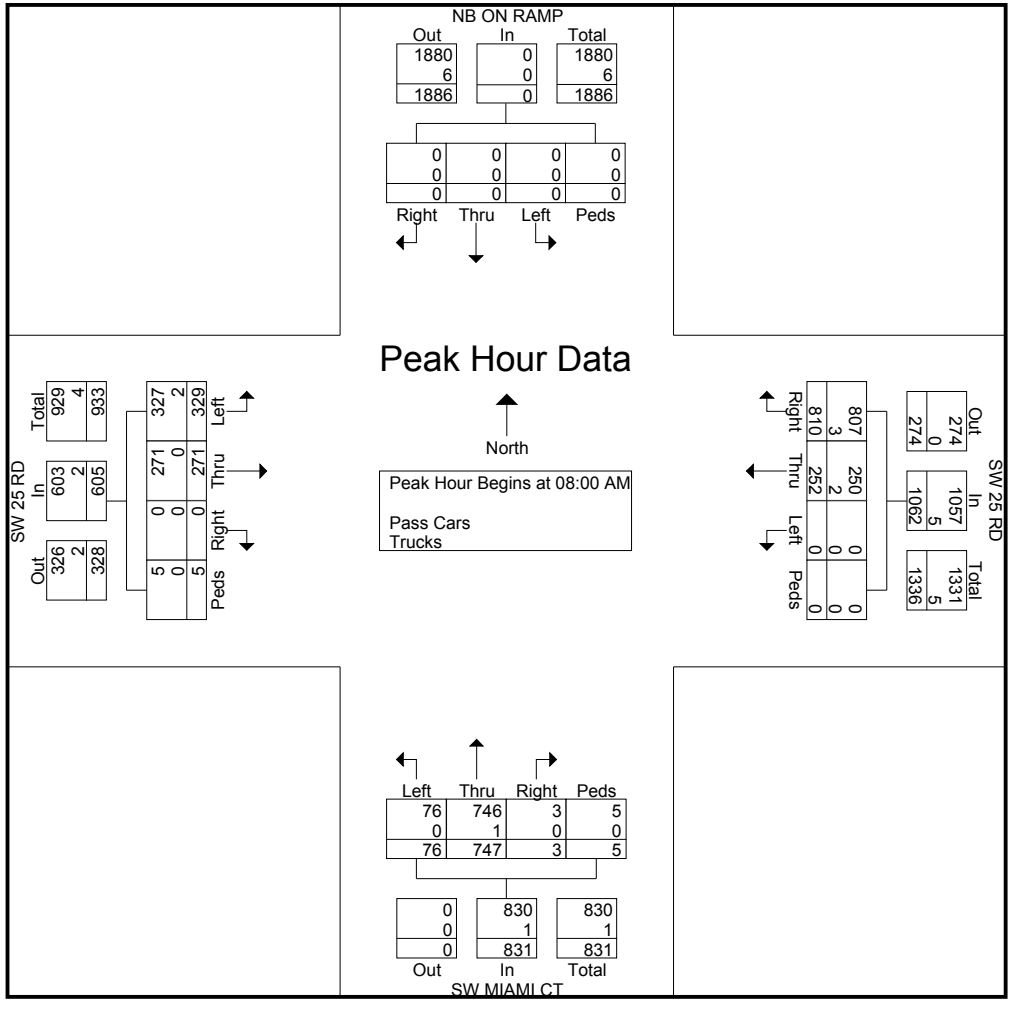
	SW MIAMI CT Northbound					NB ON RAMP Southbound					SW 25 RD Eastbound					SW 25 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	15	165	0	1	181	0	0	0	0	0	66	49	0	0	115	0	53	199	0	252	548
08:15 AM	18	**224**	0	1	**243**	0	0	0	0	0	86	75	0	1	162	0	**72**	205	0	277	**682**
08:30 AM	21	193	1	**3**	218	0	0	0	0	0	84	69	0	**3**	156	0	72	**206**	0	**278**	652
08:45 AM	**22**	165	**2**	0	189	0	0	0	0	0	**93**	**78**	0	1	**172**	0	55	200	0	255	616
Total Volume	76	747	3	5	831	0	0	0	0	0	329	271	0	5	605	0	252	810	0	1062	2498
% App. Total	9.1	89.9	0.4	0.6		0	0	0	0		54.4	44.8	0	0.8		0	23.7	76.3	0		
PHF	.864	.834	.375	.417	.855	.000	.000	.000	.000	.000	.884	.869	.000	.417	.879	.000	.875	.983	.000	.955	.916
Pass Cars	76	746	3	5	830	0	0	0	0	0	327	271	0	5	603	0	250	807	0	1057	2490
% Pass Cars	100	99.9	100	100	99.9	0	0	0	0	0	99.4	100	0	100	99.7	0	99.2	99.6	0	99.5	99.7
Trucks	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	0	2	3	0	5	8
% Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0.6	0	0	0	0.3	0	0.8	0.4	0	0.5	0.3

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Intersection Name:: SW 25 RD & NB ON RMP
Opertaors Name: CV & ML
Weather: Sunny

File Name : SW25rd_NBOnRamp
Site Code : 00000206
Start Date : 3/31/2015
Page No : 3



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File Name : SW25rd_NBOnRamp
Site Code : 00000206
Start Date : 3/31/2015
Page No : 4

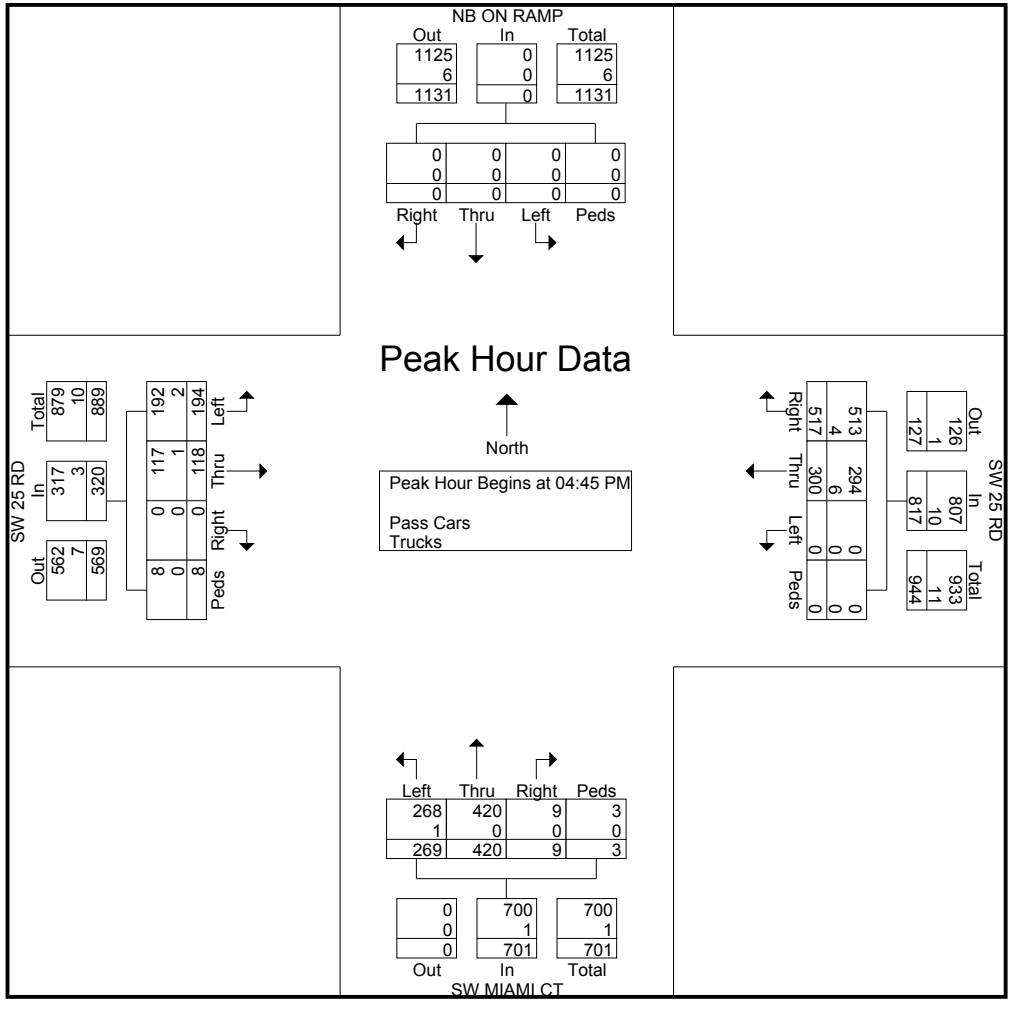
	SW MIAMI CT Northbound					NB ON RAMP Southbound					SW 25 RD Eastbound					SW 25 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	70	105	2	0	177	0	0	0	0	0	52	31	0	1	**84**	0	63	105	0	168	429
05:00 PM	57	91	1	0	149	0	0	0	0	0	39	**38**	0	2	79	0	78	**142**	0	**220**	448
05:15 PM	**73**	104	2	0	179	0	0	0	0	0	47	29	0	**3**	79	0	**83**	137	0	220	478
05:30 PM	69	**120**	**4**	**3**	**196**	0	0	0	0	0	**56**	20	0	2	78	0	76	133	0	209	**483**
Total Volume	269	420	9	3	701	0	0	0	0	0	194	118	0	8	320	0	300	517	0	817	1838
% App. Total	38.4	59.9	1.3	0.4		0	0	0	0		60.6	36.9	0	2.5		0	36.7	63.3	0		
PHF	.921	.875	.563	.250	.894	.000	.000	.000	.000	.000	.866	.776	.000	.667	.952	.000	.904	.910	.000	.928	.951
Pass Cars	268	420	9	3	700	0	0	0	0	0	192	117	0	8	317	0	294	513	0	807	1824
% Pass Cars	99.6	100	100	100	99.9	0	0	0	0	0	99.0	99.2	0	100	99.1	0	98.0	99.2	0	98.8	99.2
Trucks	1	0	0	0	1	0	0	0	0	0	2	1	0	0	3	0	6	4	0	10	14
% Trucks	0.4	0	0	0	0.1	0	0	0	0	0	1.0	0.8	0	0	0.9	0	2.0	0.8	0	1.2	0.8

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Client: K&H
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Opertaors Name: CV & ML
Weather: Sunny

File Name : SW25rd_NBOnRamp
Site Code : 00000206
Start Date : 3/31/2015
Page No : 5



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File Name : SW25rd_NBOnRamp
Site Code : 00000206
Start Date : 3/31/2015
Page No : 1

Groups Printed- Trucks

	SW MIAMI CT Northbound					NB ON RAMP Southbound					SW 25 RD Eastbound					SW 25 RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	3	2	0	0	5	0	2	6	0	8	13
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	3	2	0	0	5	0	8	6	0	14	19
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
Total	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	0	2	3	0	5	8
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	5
*** BREAK ***																					
04:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	5
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	3
Total	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	0	8	2	0	10	13
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	3
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	5
*** BREAK ***																					
Total	1	0	0	0	1	0	0	0	0	0	1	1	0	0	2	0	4	4	0	8	11
Grand Total	1	2	0	0	3	0	0	0	0	0	8	3	0	0	11	0	22	15	0	37	51
Apprch %	33.3	66.7	0	0		0	0	0	0		72.7	27.3	0	0		0	59.5	40.5	0		
Total %	2	3.9	0	0	5.9	0	0	0	0	0	15.7	5.9	0	0	21.6	0	43.1	29.4	0	72.5	

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Client: K&H
Intersection Name: SW 8 ST & SW 5 AVE
Opertaors Name: ZV
Weather: Sunny

File Name : SW8ST_SW5AVE
Site Code : 00000301
Start Date : 4/1/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SW 5 AVE Northbound					SW 5 AVE Southbound					SW 8 ST Eastbound					SW 8 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	14	45	0	59	0	0	0	7	7	11	309	6	7	333	0	0	0	0	0	399
07:15 AM	0	22	64	2	88	0	0	0	7	7	23	292	3	9	327	0	0	0	3	3	425
07:30 AM	0	15	69	0	84	0	0	0	5	5	23	304	0	7	334	0	0	0	2	2	425
07:45 AM	0	18	68	2	88	0	0	0	4	4	22	326	0	14	362	0	0	0	4	4	458
Total	0	69	246	4	319	0	0	0	23	23	79	1231	9	37	1356	0	0	0	9	9	1707
08:00 AM	0	18	102	1	121	0	0	0	5	5	17	320	2	12	351	0	0	0	1	1	478
08:15 AM	0	19	97	9	125	0	0	0	12	12	31	310	3	15	359	0	0	0	2	2	498
08:30 AM	0	15	114	6	135	0	0	0	9	9	19	304	10	15	348	0	0	0	2	2	494
08:45 AM	0	16	90	2	108	0	0	0	6	6	16	226	2	20	264	0	0	0	2	2	380
Total	0	68	403	18	489	0	0	0	32	32	83	1160	17	62	1322	0	0	0	7	7	1850
*** BREAK ***																					
04:00 PM	0	24	53	8	85	0	0	0	4	4	34	200	10	15	259	0	0	0	2	2	350
04:15 PM	0	34	62	14	110	0	0	0	11	11	29	209	11	16	265	0	0	0	5	5	391
04:30 PM	0	29	68	11	108	0	0	0	15	15	33	224	12	18	287	0	0	0	3	3	413
04:45 PM	0	32	54	8	94	0	0	0	16	16	43	237	7	16	303	0	0	0	5	5	418
Total	0	119	237	41	397	0	0	0	46	46	139	870	40	65	1114	0	0	0	15	15	1572
05:00 PM	0	30	79	8	117	0	0	0	4	4	27	262	13	26	328	0	0	0	8	8	457
05:15 PM	0	33	63	2	98	0	0	0	21	21	36	246	8	10	300	0	0	0	2	2	421
05:30 PM	0	28	58	6	92	0	0	0	11	11	42	277	8	17	344	0	0	0	9	9	456
05:45 PM	0	36	74	6	116	0	0	0	8	8	39	262	12	17	330	0	0	0	8	8	462
Total	0	127	274	22	423	0	0	0	44	44	144	1047	41	70	1302	0	0	0	27	27	1796
Grand Total	0	383	1160	85	1628	0	0	0	145	145	445	4308	107	234	5094	0	0	0	58	58	6925
Apprch %	0	23.5	71.3	5.2		0	0	0	100		8.7	84.6	2.1	4.6		0	0	0	100		
Total %	0	5.5	16.8	1.2	23.5	0	0	0	2.1	2.1	6.4	62.2	1.5	3.4	73.6	0	0	0	0.8	0.8	
Pass Cars	0	374	1141	85	1600	0	0	0	145	145	440	4222	103	234	4999	0	0	0	58	58	6802
% Pass Cars	0	97.7	98.4	100	98.3	0	0	0	100	100	98.9	98	96.3	100	98.1	0	0	0	100	100	98.2
Trucks	0	9	19	0	28	0	0	0	0	0	5	86	4	0	95	0	0	0	0	0	123
% Trucks	0	2.3	1.6	0	1.7	0	0	0	0	0	1.1	2	3.7	0	1.9	0	0	0	0	0	1.8

F.R. Aleman & Associates, Inc

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Client: K&H
Intersection Name: SW 8 ST & SW 5 AVE
Opertaors Name: ZV
Weather: Sunny

File Name : SW8ST_SW5AVE
Site Code : 00000301
Start Date : 4/1/2015
Page No : 2

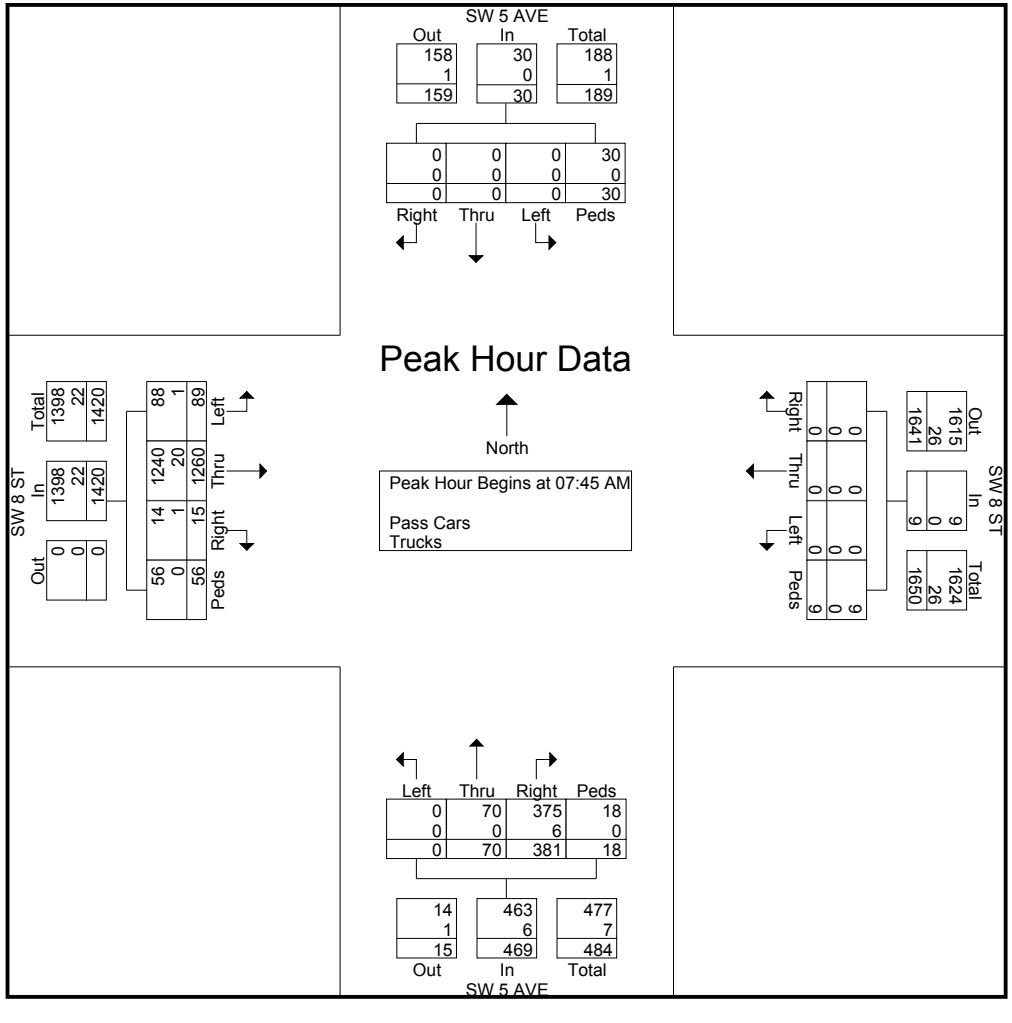
	SW 5 AVE Northbound					SW 5 AVE Southbound					SW 8 ST Eastbound					SW 8 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	18	68	2	88	0	0	0	4	4	22	**326**	0	14	**362**	0	0	0	**4**	**4**	458
08:00 AM	0	18	102	1	121	0	0	0	5	5	17	320	2	12	351	0	0	0	1	1	478
08:15 AM	0	**19**	97	**9**	125	0	0	0	**12**	**12**	**31**	310	3	**15**	359	0	0	0	2	2	**498**
08:30 AM	0	15	**114**	6	**135**	0	0	0	9	9	19	304	**10**	15	348	0	0	0	2	2	494
Total Volume	0	70	381	18	469	0	0	0	30	30	89	1260	15	56	1420	0	0	0	9	9	1928
% App. Total	0	14.9	81.2	3.8		0	0	0	100		6.3	88.7	1.1	3.9		0	0	0	100		
PHF	.000	.921	.836	.500	.869	.000	.000	.000	.625	.625	.718	.966	.375	.933	.981	.000	.000	.000	.563	.563	.968
Pass Cars	0	70	375	18	463	0	0	0	30	30	88	1240	14	56	1398	0	0	0	9	9	1900
% Pass Cars	0	100	98.4	100	98.7	0	0	0	100	100	98.9	98.4	93.3	100	98.5	0	0	0	100	100	98.5
Trucks	0	0	6	0	6	0	0	0	0	0	1	20	1	0	22	0	0	0	0	0	28
% Trucks	0	0	1.6	0	1.3	0	0	0	0	0	1.1	1.6	6.7	0	1.5	0	0	0	0	0	1.5

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Opertaors Name: ZV
Weather: Sunny

File Name : SW8ST_SW5AVE
Site Code : 00000301
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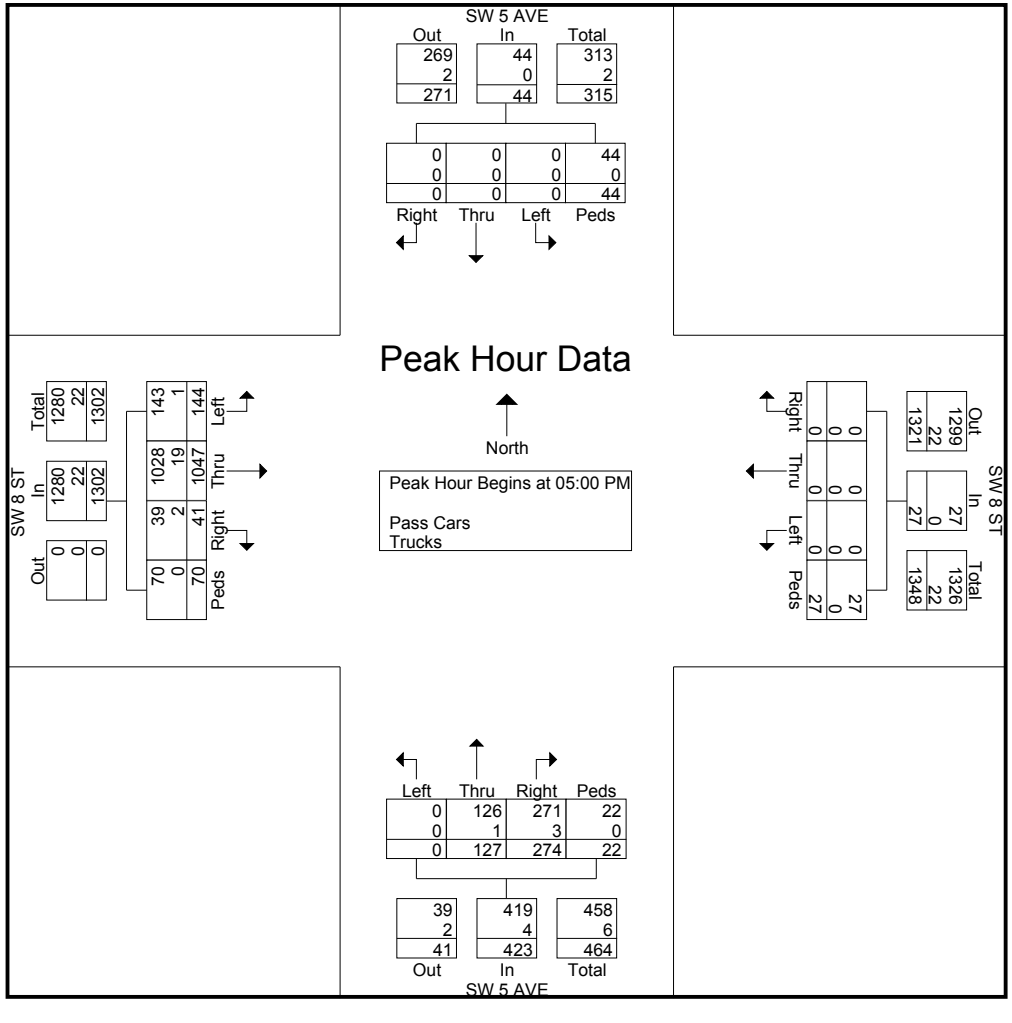
	SW 5 AVE Northbound					SW 5 AVE Southbound					SW 8 ST Eastbound					SW 8 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	30	**79**	**8**	**117**	0	0	0	4	4	27	262	**13**	**26**	328	0	0	0	8	8	457
05:15 PM	0	33	63	2	98	0	0	0	**21**	**21**	36	246	8	10	300	0	0	0	2	2	421
05:30 PM	0	28	58	6	92	0	0	0	11	11	**42**	**277**	8	17	**344**	0	0	0	**9**	**9**	456
05:45 PM	0	**36**	74	6	116	0	0	0	8	8	39	262	12	17	330	0	0	0	8	8	**462**
Total Volume	0	127	274	22	423	0	0	0	44	44	144	1047	41	70	1302	0	0	0	27	27	1796
% App. Total	0	30	64.8	5.2		0	0	0	100		11.1	80.4	3.1	5.4		0	0	0	100		
PHF	.000	.882	.867	.688	.904	.000	.000	.000	.524	.524	.857	.945	.788	.673	.946	.000	.000	.000	.750	.750	.972
Pass Cars	0	126	271	22	419	0	0	0	44	44	143	1028	39	70	1280	0	0	0	27	27	1770
% Pass Cars	0	99.2	98.9	100	99.1	0	0	0	100	100	99.3	98.2	95.1	100	98.3	0	0	0	100	100	98.6
Trucks	0	1	3	0	4	0	0	0	0	0	1	19	2	0	22	0	0	0	0	0	26
% Trucks	0	0.8	1.1	0	0.9	0	0	0	0	0	0.7	1.8	4.9	0	1.7	0	0	0	0	0	1.4

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Weather: Sunny

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Site Code : 00000301
Start Date : 4/1/2015
Page No : 5



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File Name : SW8ST_SW5AVE
Site Code : 00000301
Start Date : 4/1/2015
Page No : 1

Groups Printed- Trucks

	SW 5 AVE Northbound					SW 5 AVE Southbound					SW 8 ST Eastbound					SW 8 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	1	1	0	2	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	12
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	10
07:30 AM	0	5	1	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	8
07:45 AM	0	0	1	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
Total	0	7	3	0	10	0	0	0	0	0	1	24	1	0	26	0	0	0	0	0	36
08:00 AM	0	0	1	0	1	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	7
08:15 AM	0	0	1	0	1	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	10
08:30 AM	0	0	3	0	3	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	5
08:45 AM	0	0	2	0	2	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	10
Total	0	0	7	0	7	0	0	0	0	0	1	23	1	0	25	0	0	0	0	0	32
*** BREAK ***																					
04:00 PM	0	1	3	0	4	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	9
04:15 PM	0	0	2	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	7
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
04:45 PM	0	0	1	0	1	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	8
Total	0	1	6	0	7	0	0	0	0	0	2	20	0	0	22	0	0	0	0	0	29
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
05:15 PM	0	0	2	0	2	0	0	0	0	0	1	6	2	0	9	0	0	0	0	0	11
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
05:45 PM	0	1	1	0	2	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	6
Total	0	1	3	0	4	0	0	0	0	0	1	19	2	0	22	0	0	0	0	0	26
Grand Total	0	9	19	0	28	0	0	0	0	0	5	86	4	0	95	0	0	0	0	0	123
Apprch %	0	32.1	67.9	0		0	0	0	0		5.3	90.5	4.2	0		0	0	0	0		
Total %	0	7.3	15.4	0	22.8	0	0	0	0	0	4.1	69.9	3.3	0	77.2	0	0	0	0	0	

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Client: K&H
Intersection Name: SW 8 ST & SB OFF RMP
Opertaors Name: ML
Weather: Sunny

File Name : SW8ST_SW4AVE_SBONRamps
Site Code : 00000302
Start Date : 4/1/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SW 4 AVE Northbound					I-95 SB OFF RAMP Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	253	87	0	6	346	0	258	20	9	287	0	0	0	0	0	633
07:15 AM	0	0	0	0	0	323	71	0	11	405	0	300	19	1	320	0	0	0	0	0	725
07:30 AM	0	0	0	0	0	304	91	0	10	405	0	380	16	0	396	0	0	0	0	0	801
07:45 AM	0	0	0	0	0	313	92	0	6	411	0	287	13	3	303	0	0	0	0	0	714
Total	0	0	0	0	0	1193	341	0	33	1567	0	1225	68	13	1306	0	0	0	0	0	2873
08:00 AM	0	0	0	0	0	357	88	0	7	452	0	352	15	4	371	0	0	0	0	0	823
08:15 AM	0	0	0	0	0	472	99	0	9	580	0	337	21	3	361	0	0	0	0	0	941
08:30 AM	0	0	0	0	0	400	106	0	13	519	0	332	13	7	352	0	0	0	0	0	871
08:45 AM	0	0	0	0	0	341	88	0	7	436	0	247	10	3	260	0	0	0	0	0	696
Total	0	0	0	0	0	1570	381	0	36	1987	0	1268	59	17	1344	0	0	0	0	0	3331
*** BREAK ***																					
04:00 PM	0	0	0	0	0	226	83	0	11	320	0	199	17	2	218	0	0	0	0	0	538
04:15 PM	0	0	0	0	0	220	113	0	13	346	0	232	12	4	248	0	0	0	0	0	594
04:30 PM	0	0	0	0	0	217	95	0	18	330	0	228	21	3	252	0	0	0	0	0	582
04:45 PM	0	0	0	0	0	232	105	0	23	360	0	250	22	6	278	0	0	0	0	0	638
Total	0	0	0	0	0	895	396	0	65	1356	0	909	72	15	996	0	0	0	0	0	2352
05:00 PM	0	0	0	0	0	231	93	0	27	351	0	263	24	9	296	0	0	0	0	0	647
05:15 PM	0	0	0	0	0	224	105	0	16	345	0	247	16	7	270	0	0	0	0	0	615
05:30 PM	0	0	0	0	0	247	117	0	23	387	0	263	18	2	283	0	0	0	0	0	670
05:45 PM	0	0	0	0	0	257	125	0	11	393	0	272	18	9	299	0	0	0	0	0	692
Total	0	0	0	0	0	959	440	0	77	1476	0	1045	76	27	1148	0	0	0	0	0	2624
Grand Total	0	0	0	0	0	4617	1558	0	211	6386	0	4447	275	72	4794	0	0	0	0	0	11180
Apprch %	0	0	0	0		72.3	24.4	0	3.3		0	92.8	5.7	1.5		0	0	0	0		
Total %	0	0	0	0	0	41.3	13.9	0	1.9	57.1	0	39.8	2.5	0.6	42.9	0	0	0	0	0	
Pass Cars	0	0	0	0	0	4538	1538	0	211	6287	0	4392	274	72	4738	0	0	0	0	0	11025
% Pass Cars	0	0	0	0	0	98.3	98.7	0	100	98.4	0	98.8	99.6	100	98.8	0	0	0	0	0	98.6
Trucks	0	0	0	0	0	79	20	0	0	99	0	55	1	0	56	0	0	0	0	0	155
% Trucks	0	0	0	0	0	1.7	1.3	0	0	1.6	0	1.2	0.4	0	1.2	0	0	0	0	0	1.4

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File Name : SW8ST_SW4AVE_SBONRamps
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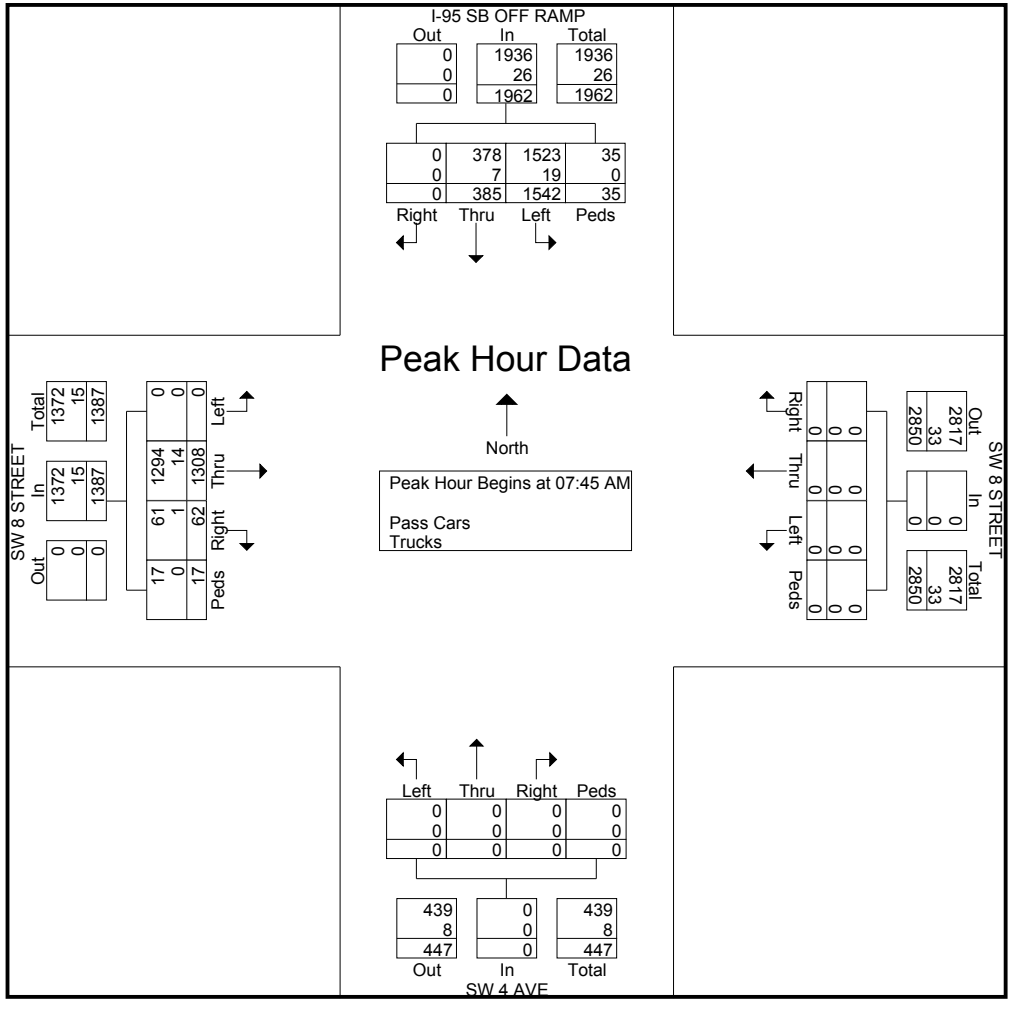
	SW 4 AVE Northbound					I-95 SB OFF RAMP Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	313	92	0	6	411	0	287	13	3	303	0	0	0	0	0	714
08:00 AM	0	0	0	0	0	357	88	0	7	452	0	**352**	15	4	**371**	0	0	0	0	0	823
08:15 AM	0	0	0	0	0	**472**	99	0	9	**580**	0	337	**21**	3	361	0	0	0	0	0	**941**
08:30 AM	0	0	0	0	0	400	**106**	0	**13**	519	0	332	13	**7**	352	0	0	0	0	0	871
Total Volume	0	0	0	0	0	1542	385	0	35	1962	0	1308	62	17	1387	0	0	0	0	0	3349
% App. Total	0	0	0	0		78.6	19.6	0	1.8		0	94.3	4.5	1.2		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.817	.908	.000	.673	.846	.000	.929	.738	.607	.935	.000	.000	.000	.000	.000	.890
Pass Cars	0	0	0	0	0	1523	378	0	35	1936	0	1294	61	17	1372	0	0	0	0	0	3308
% Pass Cars	0	0	0	0	0	98.8	98.2	0	100	98.7	0	98.9	98.4	100	98.9	0	0	0	0	0	98.8
Trucks	0	0	0	0	0	19	7	0	0	26	0	14	1	0	15	0	0	0	0	0	41
% Trucks	0	0	0	0	0	1.2	1.8	0	0	1.3	0	1.1	1.6	0	1.1	0	0	0	0	0	1.2

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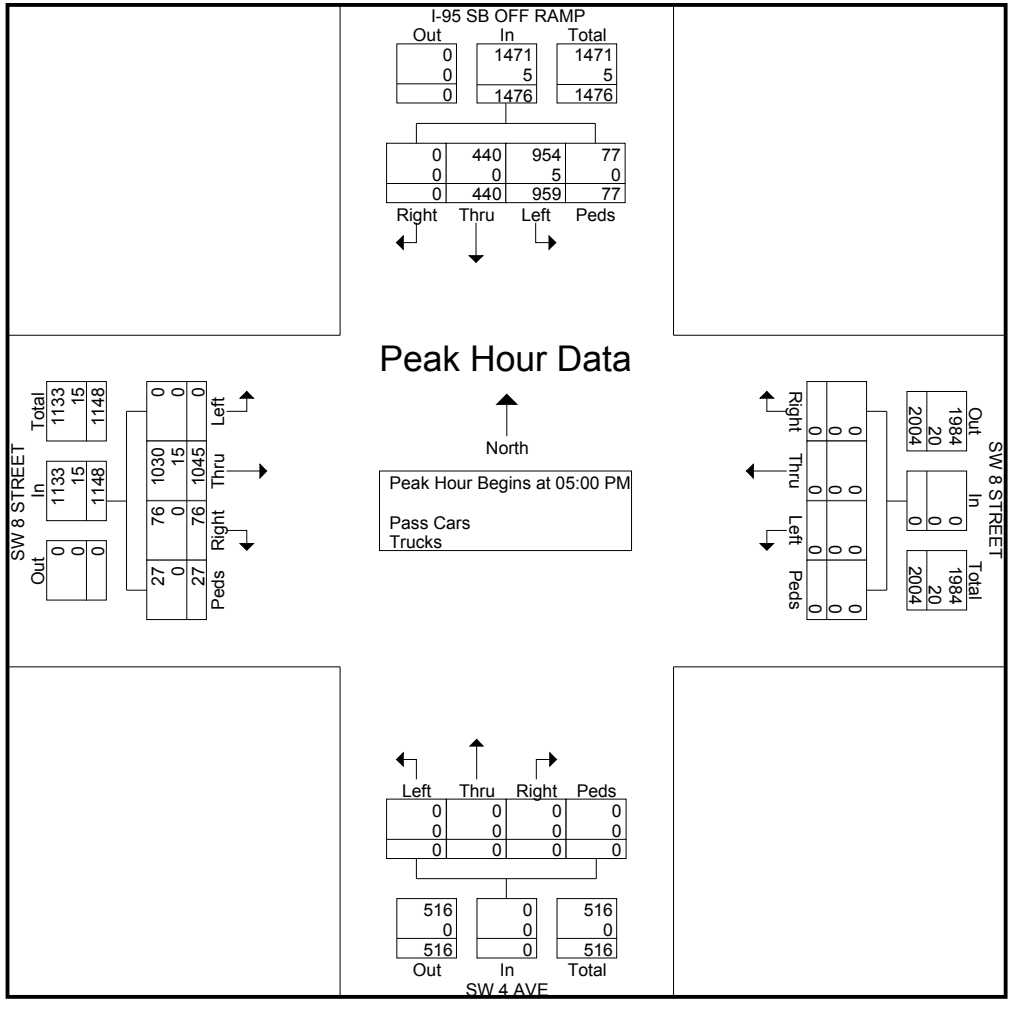
	SW 4 AVE Northbound					I-95 SB OFF RAMP Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	231	93	0	**27**	351	0	263	**24**	**9**	296	0	0	0	0	0	647
05:15 PM	0	0	0	0	0	224	105	0	16	345	0	247	16	7	270	0	0	0	0	0	615
05:30 PM	0	0	0	0	0	247	117	0	23	387	0	263	18	2	283	0	0	0	0	0	670
05:45 PM	0	0	0	0	0	**257**	**125**	0	11	**393**	0	**272**	18	9	**299**	0	0	0	0	0	**692**
Total Volume	0	0	0	0	0	959	440	0	77	1476	0	1045	76	27	1148	0	0	0	0	0	2624
% App. Total	0	0	0	0		65	29.8	0	5.2		0	91	6.6	2.4		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.933	.880	.000	.713	.939	.000	.960	.792	.750	.960	.000	.000	.000	.000	.000	.948
Pass Cars	0	0	0	0	0	954	440	0	77	1471	0	1030	76	27	1133	0	0	0	0	0	2604
% Pass Cars	0	0	0	0	0	99.5	100	0	100	99.7	0	98.6	100	100	98.7	0	0	0	0	0	99.2
Trucks	0	0	0	0	0	5	0	0	0	5	0	15	0	0	15	0	0	0	0	0	20
% Trucks	0	0	0	0	0	0.5	0	0	0	0.3	0	1.4	0	0	1.3	0	0	0	0	0	0.8

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Client: K&H
Intersection Name: SW 8 ST & SB OFF RMP
Opertaors Name: ML
Weather: Sunny

File Name : SW8ST_SW4AVE_SBONRamps
Site Code : 00000302
Start Date : 4/1/2015
Page No : 5



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File Name : SW8ST_SW4AVE_SBONRamps
Site Code : 00000302
Start Date : 4/1/2015
Page No : 1

Groups Printed- Trucks

	SW 4 AVE Northbound					I-95 SB OFF RAMP Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	13	3	0	0	16	0	7	0	0	7	0	0	0	0	0	23
07:15 AM	0	0	0	0	0	14	3	0	0	17	0	2	0	0	2	0	0	0	0	0	19
07:30 AM	0	0	0	0	0	15	3	0	0	18	0	0	0	0	0	0	0	0	0	0	18
07:45 AM	0	0	0	0	0	9	5	0	0	14	0	3	0	0	3	0	0	0	0	0	17
Total	0	0	0	0	0	51	14	0	0	65	0	12	0	0	12	0	0	0	0	0	77
08:00 AM	0	0	0	0	0	5	1	0	0	6	0	3	1	0	4	0	0	0	0	0	10
08:15 AM	0	0	0	0	0	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	6
08:30 AM	0	0	0	0	0	3	1	0	0	4	0	4	0	0	4	0	0	0	0	0	8
08:45 AM	0	0	0	0	0	5	3	0	0	8	0	1	0	0	1	0	0	0	0	0	9
Total	0	0	0	0	0	15	5	0	0	20	0	12	1	0	13	0	0	0	0	0	33
*** BREAK ***																					
04:00 PM	0	0	0	0	0	6	1	0	0	7	0	7	0	0	7	0	0	0	0	0	14
04:15 PM	0	0	0	0	0	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	5
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
Total	0	0	0	0	0	8	1	0	0	9	0	16	0	0	16	0	0	0	0	0	25
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
05:30 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	7
Total	0	0	0	0	0	5	0	0	0	5	0	15	0	0	15	0	0	0	0	0	20
Grand Total	0	0	0	0	0	79	20	0	0	99	0	55	1	0	56	0	0	0	0	0	155
Apprch %	0	0	0	0		79.8	20.2	0	0		0	98.2	1.8	0		0	0	0	0		
Total %	0	0	0	0	0	51	12.9	0	0	63.9	0	35.5	0.6	0	36.1	0	0	0	0	0	

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Client: K&H
Intersection Name: SW 8 ST & I95 NBON RP
Opertaors Name: ED
Weather: Sunny

File Name : SW8ST_NBON RAMP
Site Code : 00000303
Start Date : 4/1/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	I95 NB ON RAMPS Northbound					I95 NB ON RAMPS Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	2	2	0	0	0	0	0	0	374	241	0	615	0	0	0	1	1	618
07:15 AM	0	0	0	6	6	0	0	0	0	0	0	402	266	14	682	0	0	0	2	2	690
07:30 AM	0	0	0	1	1	0	0	0	0	0	0	481	312	12	805	0	0	0	1	1	807
07:45 AM	0	0	0	5	5	0	0	0	0	0	0	481	292	2	775	0	0	0	1	1	781
Total	0	0	0	14	14	0	0	0	0	0	0	1738	1111	28	2877	0	0	0	5	5	2896
08:00 AM	0	0	0	2	2	0	0	0	0	0	0	531	318	7	856	0	0	0	0	0	858
08:15 AM	0	0	0	7	7	0	0	0	0	0	0	592	314	5	911	0	0	0	0	0	918
08:30 AM	0	0	0	4	4	0	0	0	0	0	0	563	302	20	885	0	0	0	0	0	889
08:45 AM	0	0	0	4	4	0	0	0	0	0	0	492	217	8	717	0	0	0	0	0	721
Total	0	0	0	17	17	0	0	0	0	0	0	2178	1151	40	3369	0	0	0	0	0	3386
*** BREAK ***																					
04:00 PM	0	0	0	7	7	0	0	0	0	0	0	340	243	20	603	0	0	0	0	0	610
04:15 PM	0	0	0	8	8	0	0	0	0	0	0	331	207	27	565	0	0	0	0	0	573
04:30 PM	0	0	0	10	10	0	0	0	0	0	0	361	231	32	624	0	0	0	1	1	635
04:45 PM	0	0	0	7	7	0	0	0	0	0	0	391	224	29	644	0	0	0	0	0	651
Total	0	0	0	32	32	0	0	0	0	0	0	1423	905	108	2436	0	0	0	1	1	2469
05:00 PM	0	0	0	9	9	0	0	0	0	0	0	367	228	32	627	0	0	0	0	0	636
05:15 PM	0	0	0	5	5	0	0	0	0	0	0	379	211	22	612	0	0	0	0	0	617
05:30 PM	0	0	0	14	14	0	0	0	0	0	0	415	192	30	637	0	0	0	0	0	651
05:45 PM	0	0	0	5	5	0	0	0	0	0	0	391	213	16	620	0	0	0	0	0	625
Total	0	0	0	33	33	0	0	0	0	0	0	1552	844	100	2496	0	0	0	0	0	2529
Grand Total	0	0	0	96	96	0	0	0	0	0	0	6891	4011	276	11178	0	0	0	6	6	11280
Apprch %	0	0	0	100		0	0	0	0		0	61.6	35.9	2.5		0	0	0	100		
Total %	0	0	0	0.9	0.9	0	0	0	0	0	0	61.1	35.6	2.4	99.1	0	0	0	0.1	0.1	
Pass Cars	0	0	0	96	96	0	0	0	0	0	0	6796	3971	276	11043	0	0	0	6	6	11145
% Pass Cars	0	0	0	100	100	0	0	0	0	0	0	98.6	99	100	98.8	0	0	0	100	100	98.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	95	40	0	135	0	0	0	0	0	135
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.4	1	0	1.2	0	0	0	0	0	1.2

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Client: K&H
Intersection Name: SW 8 ST & I95 NBON RP
Opertaors Name: ED
Weather: Sunny

File Name : SW8ST_NBON RAMP
Site Code : 00000303
Start Date : 4/1/2015
Page No : 2

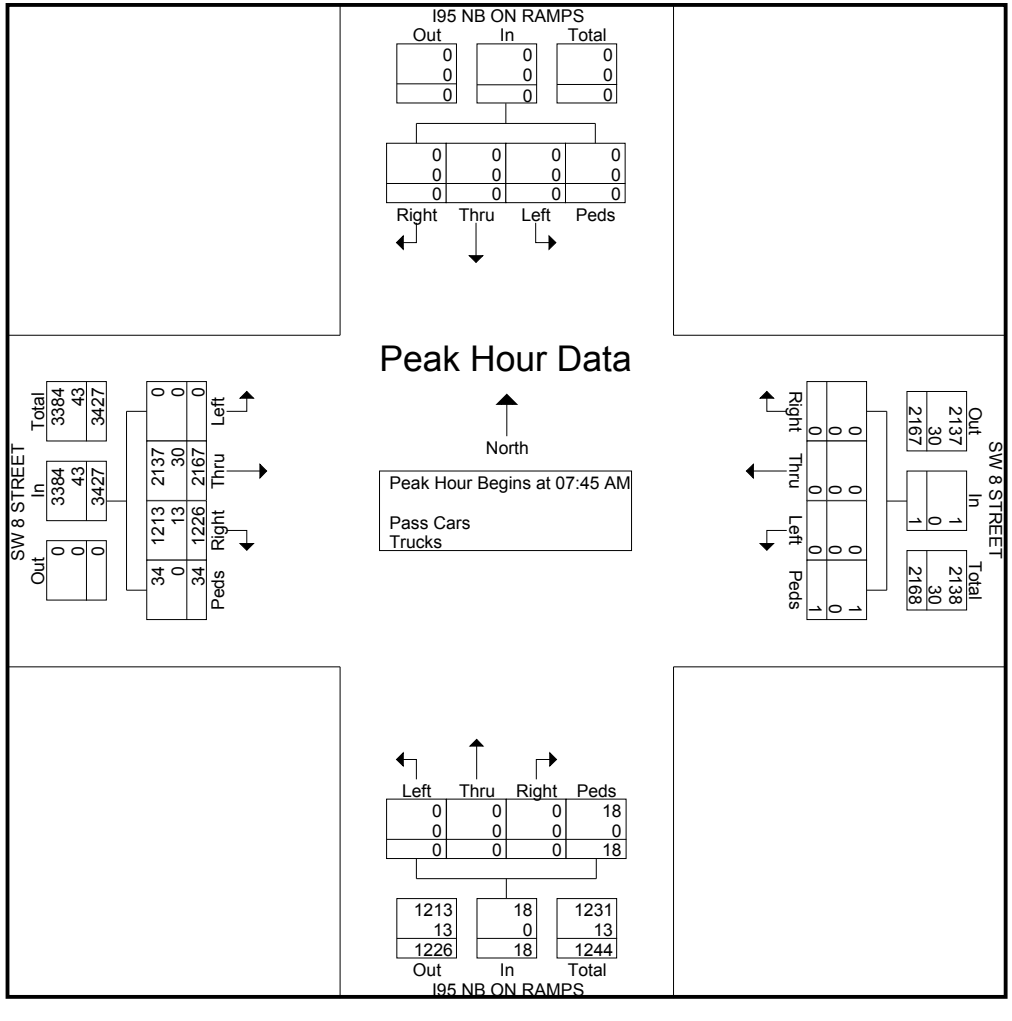
	I95 NB ON RAMPS Northbound					I95 NB ON RAMPS Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	5	5	0	0	0	0	0	0	481	292	2	775	0	0	0	**1**	**1**	781
08:00 AM	0	0	0	2	2	0	0	0	0	0	0	531	**318**	7	856	0	0	0	0	0	858
08:15 AM	0	0	0	**7**	**7**	0	0	0	0	0	0	**592**	314	5	**911**	0	0	0	0	0	**918**
08:30 AM	0	0	0	4	4	0	0	0	0	0	0	563	302	**20**	885	0	0	0	0	0	889
Total Volume	0	0	0	18	18	0	0	0	0	0	0	2167	1226	34	3427	0	0	0	1	1	3446
% App. Total	0	0	0	100		0	0	0	0		0	63.2	35.8	1		0	0	0	100		
PHF	.000	.000	.000	.643	.643	.000	.000	.000	.000	.000	.000	.915	.964	.425	.940	.000	.000	.000	.250	.250	.938
Pass Cars	0	0	0	18	18	0	0	0	0	0	0	2137	1213	34	3384	0	0	0	1	1	3403
% Pass Cars	0	0	0	100	100	0	0	0	0	0	0	98.6	98.9	100	98.7	0	0	0	100	100	98.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	30	13	0	43	0	0	0	0	0	43
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.4	1.1	0	1.3	0	0	0	0	0	1.2

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Client: K&H
Intersection Name: SW 8 ST & I95 NBON RP
Opertaors Name: ED
Weather: Sunny

File Name : SW8ST_NBON RAMP
Site Code : 00000303
Start Date : 4/1/2015
Page No : 3



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Client: K&H
Intersection Name: SW 8 ST & I95 NBON RP
Opertaors Name: ED
Weather: Sunny

File Name : SW8ST_NBON RAMP
Site Code : 00000303
Start Date : 4/1/2015
Page No : 4

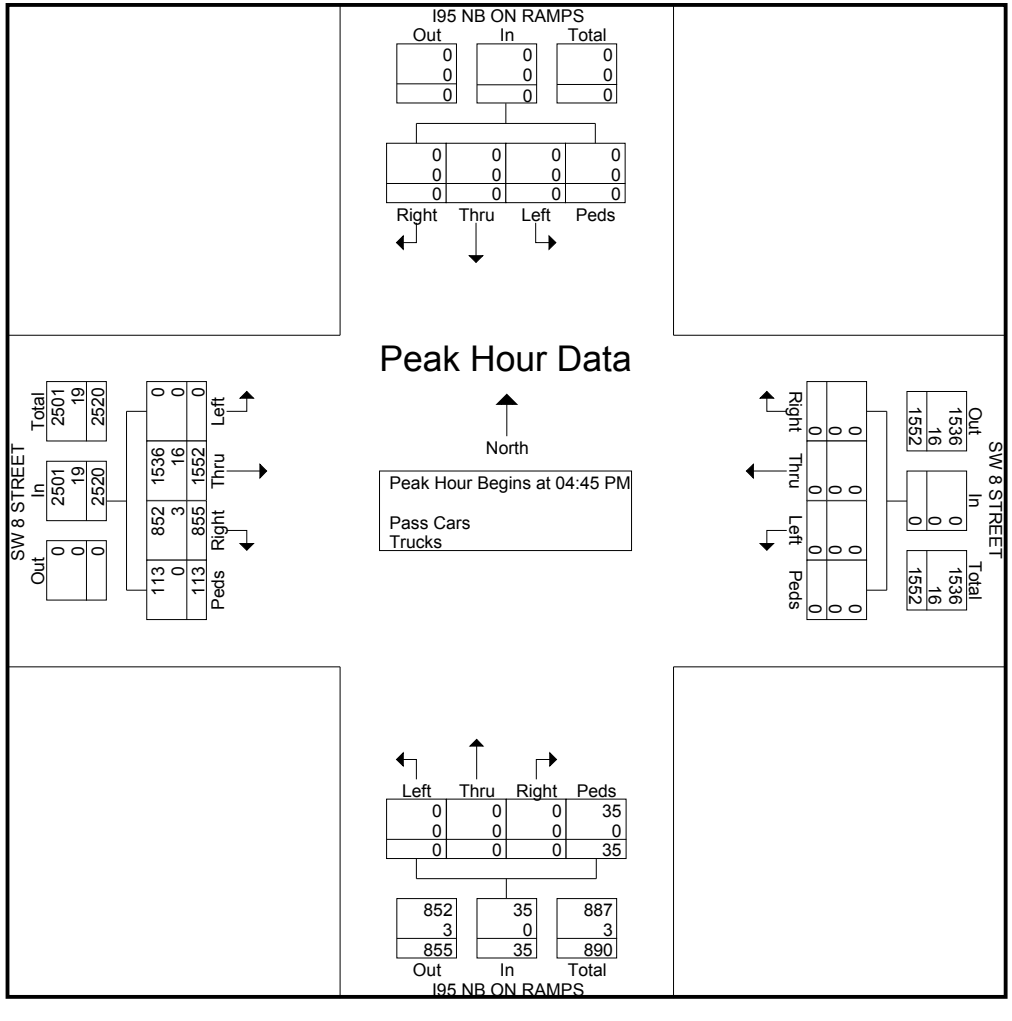
	I95 NB ON RAMPS Northbound					I95 NB ON RAMPS Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	7	7	0	0	0	0	0	0	391	224	29	**644**	0	0	0	0	0	**651**
05:00 PM	0	0	0	9	9	0	0	0	0	0	0	367	**228**	**32**	627	0	0	0	0	0	636
05:15 PM	0	0	0	5	5	0	0	0	0	0	0	379	211	22	612	0	0	0	0	0	617
05:30 PM	0	0	0	**14**	**14**	0	0	0	0	0	0	**415**	192	30	637	0	0	0	0	0	651
Total Volume	0	0	0	35	35	0	0	0	0	0	0	1552	855	113	2520	0	0	0	0	0	2555
% App. Total	0	0	0	100		0	0	0	0		0	61.6	33.9	4.5		0	0	0	0		
PHF	.000	.000	.000	.625	.625	.000	.000	.000	.000	.000	.000	.935	.938	.883	.978	.000	.000	.000	.000	.000	.981
Pass Cars	0	0	0	35	35	0	0	0	0	0	0	1536	852	113	2501	0	0	0	0	0	2536
% Pass Cars	0	0	0	100	100	0	0	0	0	0	0	99.0	99.6	100	99.2	0	0	0	0	0	99.3
Trucks	0	0	0	0	0	0	0	0	0	0	0	16	3	0	19	0	0	0	0	0	19
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.0	0.4	0	0.8	0	0	0	0	0	0.7

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Client: K&H
Intersection Name: SW 8 ST & I95 NBON RP
Opertaors Name: ED
Weather: Sunny

File Name : SW8ST_NBON RAMP
Site Code : 00000303
Start Date : 4/1/2015
Page No : 5



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File Name : SW8ST_NBON RAMP
Site Code : 00000303
Start Date : 4/1/2015
Page No : 1

Groups Printed- Trucks

	I95 NB ON RAMPS Northbound					I95 NB ON RAMPS Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	7
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	5	0	12	0	0	0	0	0	12
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	7
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	5	5	0	10	0	0	0	0	0	10
Total	0	0	0	0	0	0	0	0	0	0	0	20	16	0	36	0	0	0	0	0	36
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	12	2	0	14	0	0	0	0	0	14
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8	0	0	0	0	0	8
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	7	4	0	11	0	0	0	0	0	11
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8	0	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	0	0	31	10	0	41	0	0	0	0	0	41
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	6	4	0	10	0	0	0	0	0	10
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	10	5	0	15	0	0	0	0	0	15
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	4
Total	0	0	0	0	0	0	0	0	0	0	0	25	11	0	36	0	0	0	0	0	36
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	7
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	0	0	0	0	19	3	0	22	0	0	0	0	0	22
Grand Total	0	0	0	0	0	0	0	0	0	0	0	95	40	0	135	0	0	0	0	0	135
Apprch %	0	0	0	0		0	0	0	0		0	70.4	29.6	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	70.4	29.6	0	100	0	0	0	0	0	

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Client: K&H
Intersection Name: SW 8ST & NB ON-OFF RP
Opertaors Name:EB & CG
Weather: Sunny

File Name : SW 8ST_SW 3 Ave-NB RAMPS
Site Code : 00000304
Start Date : 4/1/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NB ON_OFF RAMP Northbound					SW 3 AVE Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	59	48	0	107	0	60	0	1	61	9	289	66	3	367	0	0	0	0	0	535
07:15 AM	0	40	60	0	100	1	57	0	3	61	13	346	51	5	415	0	0	0	0	0	576
07:30 AM	0	64	70	3	137	1	66	8	3	78	4	366	56	3	429	0	0	0	0	0	644
07:45 AM	0	64	63	0	127	3	62	0	1	66	2	398	54	3	457	0	0	0	0	0	650
Total	0	227	241	3	471	5	245	8	8	266	28	1399	227	14	1668	0	0	0	0	0	2405
08:00 AM	0	75	81	2	158	1	81	0	1	83	5	419	49	10	483	0	0	0	0	0	724
08:15 AM	0	66	83	2	151	1	70	0	1	72	9	497	45	1	552	0	0	0	0	0	775
08:30 AM	0	54	71	1	126	3	80	0	1	84	9	486	37	9	541	0	0	0	0	0	751
08:45 AM	0	47	74	2	123	3	65	0	0	68	8	430	18	2	458	0	0	0	0	0	649
Total	0	242	309	7	558	8	296	0	3	307	31	1832	149	22	2034	0	0	0	0	0	2899
*** BREAK ***																					
04:00 PM	0	90	64	3	157	3	93	0	0	96	17	307	23	12	359	0	0	0	0	0	612
04:15 PM	0	117	97	2	216	4	86	0	0	90	24	299	11	9	343	0	0	0	0	0	649
04:30 PM	0	129	74	4	207	5	96	0	0	101	16	326	23	9	374	0	0	0	0	0	682
04:45 PM	0	110	77	0	187	4	99	0	0	103	18	338	20	7	383	0	0	0	0	0	673
Total	0	446	312	9	767	16	374	0	0	390	75	1270	77	37	1459	0	0	0	0	0	2616
05:00 PM	0	113	71	0	184	8	79	0	0	87	23	322	14	9	368	0	0	0	0	0	639
05:15 PM	0	103	84	1	188	2	83	0	0	85	22	329	20	8	379	0	0	0	0	0	652
05:30 PM	0	113	79	8	200	5	81	0	2	88	15	390	13	9	427	0	0	0	0	0	715
05:45 PM	0	93	86	0	179	7	94	0	1	102	17	369	16	8	410	0	0	0	0	0	691
Total	0	422	320	9	751	22	337	0	3	362	77	1410	63	34	1584	0	0	0	0	0	2697
Grand Total	0	1337	1182	28	2547	51	1252	8	14	1325	211	5911	516	107	6745	0	0	0	0	0	10617
Apprch %	0	52.5	46.4	1.1		3.8	94.5	0.6	1.1		3.1	87.6	7.7	1.6		0	0	0	0		
Total %	0	12.6	11.1	0.3	24	0.5	11.8	0.1	0.1	12.5	2	55.7	4.9	1	63.5	0	0	0	0	0	
Pass Cars	0	1336	1179	28	2543	51	1246	8	14	1319	203	5730	504	107	6544	0	0	0	0	0	10406
% Pass Cars	0	99.9	99.7	100	99.8	100	99.5	100	100	99.5	96.2	96.9	97.7	100	97	0	0	0	0	0	98
Trucks	0	1	3	0	4	0	6	0	0	6	8	181	12	0	201	0	0	0	0	0	211
% Trucks	0	0.1	0.3	0	0.2	0	0.5	0	0	0.5	3.8	3.1	2.3	0	3	0	0	0	0	0	2

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Client: K&H
Intersection Name: SW 8ST & NB ON-OFF RP
Opertaors Name:EB & CG
Weather: Sunny

File Name : SW 8ST_SW 3 Ave-NB RAMPS
Site Code : 00000304
Start Date : 4/1/2015
Page No : 2

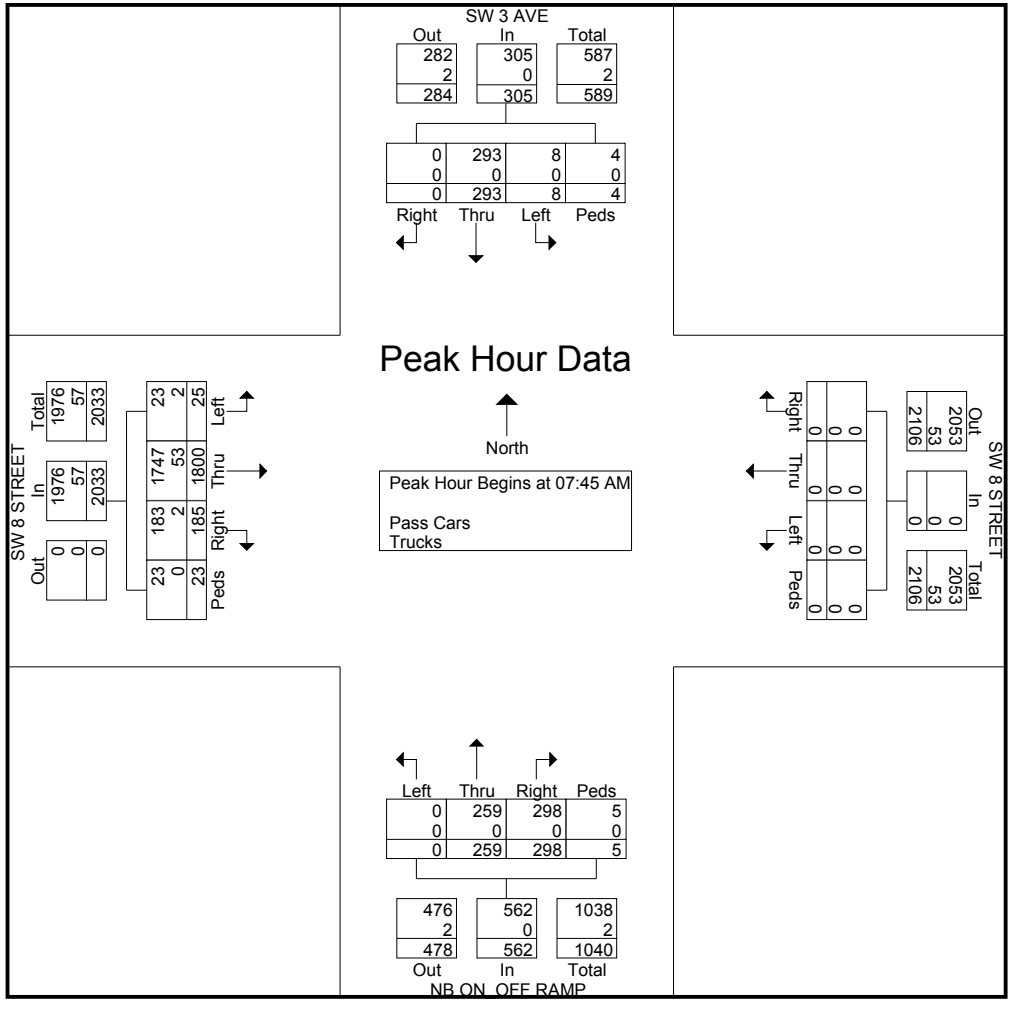
	NB ON_OFF RAMP Northbound					SW 3 AVE Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	64	63	0	127	**3**	62	0	**1**	66	2	398	**54**	3	457	0	0	0	0	0	650
08:00 AM	0	**75**	81	**2**	**158**	1	**81**	0	1	83	5	419	49	**10**	483	0	0	0	0	0	724
08:15 AM	0	66	**83**	2	151	1	70	0	1	72	**9**	**497**	45	1	**552**	0	0	0	0	0	**775**
08:30 AM	0	54	71	1	126	3	80	0	1	**84**	9	486	37	9	541	0	0	0	0	0	751
Total Volume	0	259	298	5	562	8	293	0	4	305	25	1800	185	23	2033	0	0	0	0	0	2900
% App. Total	0	46.1	53	0.9		2.6	96.1	0	1.3		1.2	88.5	9.1	1.1		0	0	0	0		
PHF	.000	.863	.898	.625	.889	.667	.904	.000	1.00	.908	.694	.905	.856	.575	.921	.000	.000	.000	.000	.000	.935
Pass Cars	0	259	298	5	562	8	293	0	4	305	23	1747	183	23	1976	0	0	0	0	0	2843
% Pass Cars	0	100	100	100	100	100	100	0	100	100	92.0	97.1	98.9	100	97.2	0	0	0	0	0	98.0
Trucks	0	0	0	0	0	0	0	0	0	0	2	53	2	0	57	0	0	0	0	0	57
% Trucks	0	0	0	0	0	0	0	0	0	0	8.0	2.9	1.1	0	2.8	0	0	0	0	0	2.0

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Client: K&H
Intersection Name: SW 8ST & NB ON-OFF RP
Opertaors Name:EB & CG
Weather: Sunny

File Name : SW 8ST_SW 3 Ave-NB RAMPS
Site Code : 00000304
Start Date : 4/1/2015
Page No : 3



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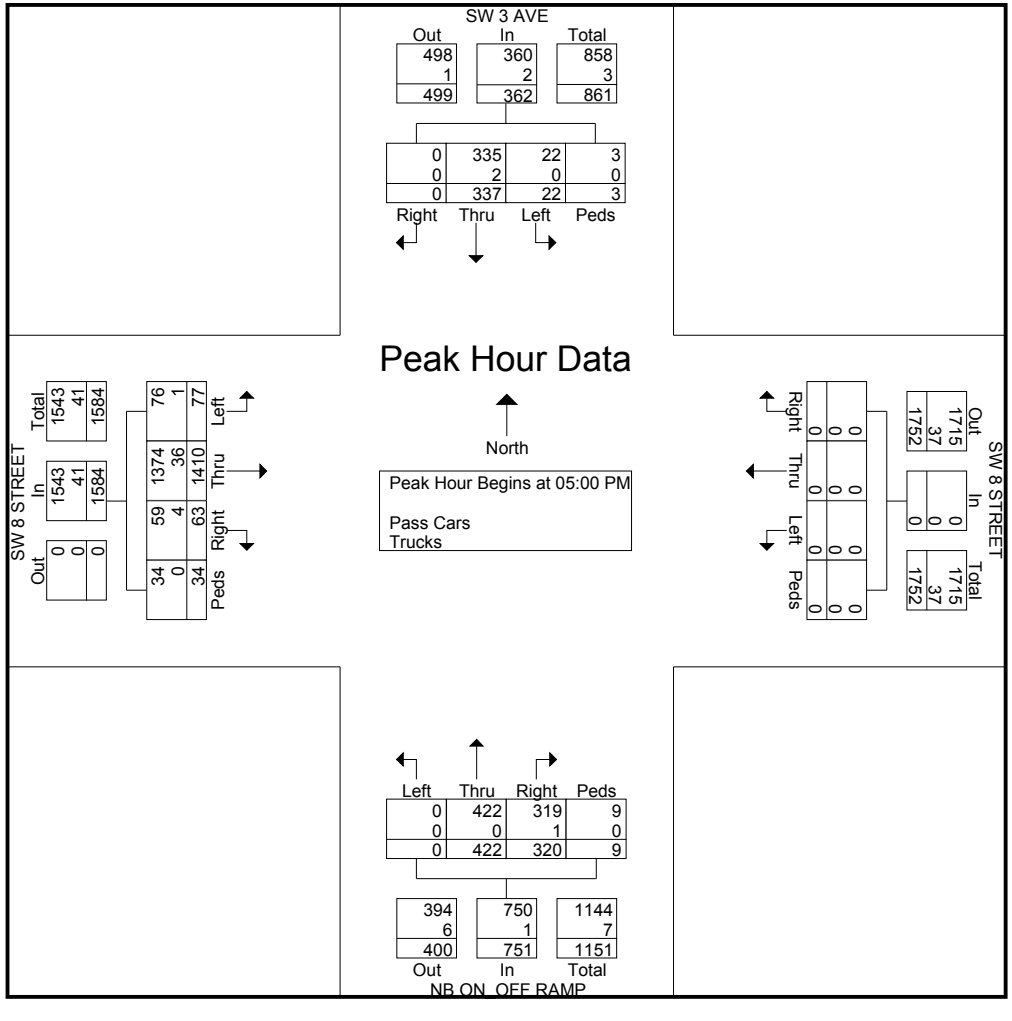
	NB ON_OFF RAMP Northbound					SW 3 AVE Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	**113**	71	0	184	**8**	79	0	0	87	**23**	322	14	**9**	368	0	0	0	0	0	639
05:15 PM	0	103	84	1	188	2	83	0	0	85	22	329	**20**	8	379	0	0	0	0	0	652
05:30 PM	0	113	79	**8**	**200**	5	81	0	**2**	88	15	**390**	13	9	**427**	0	0	0	0	0	**715**
05:45 PM	0	93	**86**	0	179	7	**94**	0	1	**102**	17	369	16	8	410	0	0	0	0	0	691
Total Volume	0	422	320	9	751	22	337	0	3	362	77	1410	63	34	1584	0	0	0	0	0	2697
% App. Total	0	56.2	42.6	1.2		6.1	93.1	0	0.8		4.9	89	4	2.1		0	0	0	0		
PHF	.000	.934	.930	.281	.939	.688	.896	.000	.375	.887	.837	.904	.788	.944	.927	.000	.000	.000	.000	.000	.943
Pass Cars	0	422	319	9	750	22	335	0	3	360	76	1374	59	34	1543	0	0	0	0	0	2653
% Pass Cars	0	100	99.7	100	99.9	100	99.4	0	100	99.4	98.7	97.4	93.7	100	97.4	0	0	0	0	0	98.4
Trucks	0	0	1	0	1	0	2	0	0	2	1	36	4	0	41	0	0	0	0	0	44
% Trucks	0	0	0.3	0	0.1	0	0.6	0	0	0.6	1.3	2.6	6.3	0	2.6	0	0	0	0	0	1.6

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Client: K&H
Intersection Name: SW 8ST & NB ON-OFF RP
Opertaors Name:EB & CG
Weather: Sunny

File Name : SW 8ST_SW 3 Ave-NB RAMPS
Site Code : 00000304
Start Date : 4/1/2015
Page No : 5



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File Name : SW 8ST_SW 3 Ave-NB RAMPS
Site Code : 00000304
Start Date : 4/1/2015
Page No : 1

Groups Printed- Trucks

	NB ON_OFF RAMP Northbound					SW 3 AVE Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	14
07:15 AM	0	0	0	0	0	0	0	0	0	0	2	15	1	0	18	0	0	0	0	0	18
07:30 AM	0	0	0	0	0	0	1	0	0	1	1	9	0	0	10	0	0	0	0	0	11
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	11
Total	0	0	0	0	0	0	1	0	0	1	3	49	1	0	53	0	0	0	0	0	54
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	19
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	11	2	0	13	0	0	0	0	0	13
08:30 AM	0	0	0	0	0	0	0	0	0	0	2	12	0	0	14	0	0	0	0	0	14
08:45 AM	0	0	0	0	0	0	3	0	0	3	1	20	0	0	21	0	0	0	0	0	24
Total	0	0	0	0	0	0	3	0	0	3	3	62	2	0	67	0	0	0	0	0	70
*** BREAK ***																					
04:00 PM	0	1	0	0	1	0	0	0	0	0	1	6	1	0	8	0	0	0	0	0	9
04:15 PM	0	0	1	0	1	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	12
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	11
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	8	2	0	10	0	0	0	0	0	11
Total	0	1	2	0	3	0	0	0	0	0	1	34	5	0	40	0	0	0	0	0	43
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	11	1	0	12	0	0	0	0	0	13
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	11	1	0	12	0	0	0	0	0	13
05:30 PM	0	0	1	0	1	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	7
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	9	1	0	11	0	0	0	0	0	11
Total	0	0	1	0	1	0	2	0	0	2	1	36	4	0	41	0	0	0	0	0	44
Grand Total	0	1	3	0	4	0	6	0	0	6	8	181	12	0	201	0	0	0	0	0	211
Apprch %	0	25	75	0		0	100	0	0		4	90	6	0		0	0	0	0		
Total %	0	0.5	1.4	0	1.9	0	2.8	0	0	2.8	3.8	85.8	5.7	0	95.3	0	0	0	0	0	

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Client: K&H
Intersection Name: SW8ST_SW2AVE
Operators Name: MA & CV
Weather: Sunny

File Name : SW8st_SW2 Ave
Site Code : 00000305
Start Date : 4/1/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	SW 2 AVENUE Northbound					SW 2 AVENUE Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	35	9	0	6	50	49	278	31	2	360	0	0	0	0	0	410
07:15 AM	0	0	0	0	0	41	17	2	11	71	55	302	29	7	393	0	0	0	0	0	464
07:30 AM	0	0	0	0	0	47	25	0	10	82	77	306	33	4	420	0	0	0	0	0	502
07:45 AM	0	0	0	0	0	54	20	0	13	87	60	399	35	8	502	0	0	0	0	0	589
Total	0	0	0	0	0	177	71	2	40	290	241	1285	128	21	1675	0	0	0	0	0	1965
08:00 AM	0	0	0	0	0	64	28	0	7	99	49	386	33	4	472	0	0	0	0	0	571
08:15 AM	0	0	0	0	0	97	31	0	6	134	56	476	26	1	559	0	0	0	0	0	693
08:30 AM	0	0	0	0	0	127	49	0	12	188	35	452	17	3	507	0	0	0	0	0	695
08:45 AM	0	0	0	0	0	120	45	2	9	176	41	433	35	5	514	0	0	0	0	0	690
Total	0	0	0	0	0	408	153	2	34	597	181	1747	111	13	2052	0	0	0	0	0	2649
*** BREAK ***																					
04:00 PM	0	0	0	0	0	50	40	0	27	117	62	269	35	16	382	0	0	0	0	0	499
04:15 PM	0	0	0	0	0	61	42	2	26	131	63	263	47	10	383	0	0	0	0	0	514
04:30 PM	0	0	0	0	0	81	53	0	30	164	62	266	43	11	382	0	0	0	0	0	546
04:45 PM	0	0	0	0	0	70	43	1	21	135	60	282	51	9	402	0	0	0	0	0	537
Total	0	0	0	0	0	262	178	3	104	547	247	1080	176	46	1549	0	0	0	0	0	2096
05:00 PM	0	0	0	0	0	70	64	1	16	151	62	291	28	2	383	0	0	0	0	0	534
05:15 PM	0	0	0	0	0	82	74	0	21	177	68	290	35	13	406	0	0	0	0	0	583
05:30 PM	0	0	0	0	0	73	75	2	25	175	74	339	30	8	451	0	0	0	0	0	626
05:45 PM	0	0	0	0	0	98	65	2	18	183	55	293	31	18	397	0	0	0	0	0	580
Total	0	0	0	0	0	323	278	5	80	686	259	1213	124	41	1637	0	0	0	0	0	2323
Grand Total	0	0	0	0	0	1170	680	12	258	2120	928	5325	539	121	6913	0	0	0	0	0	9033
Apprch %	0	0	0	0		55.2	32.1	0.6	12.2		13.4	77	7.8	1.8		0	0	0	0		
Total %	0	0	0	0	0	13	7.5	0.1	2.9	23.5	10.3	59	6	1.3	76.5	0	0	0	0	0	
Unshifted	0	0	0	0	0	1096	660	12	258	2026	912	5164	521	120	6717	0	0	0	0	0	8743
% Unshifted	0	0	0	0	0	93.7	97.1	100	100	95.6	98.3	97	96.7	99.2	97.2	0	0	0	0	0	96.8
Bank 1	0	0	0	0	0	74	20	0	0	94	16	161	18	1	196	0	0	0	0	0	290
% Bank 1	0	0	0	0	0	6.3	2.9	0	0	4.4	1.7	3	3.3	0.8	2.8	0	0	0	0	0	3.2

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Client: K&H
Intersection Name: SW8ST_SW2AVE
Operators Name: MA & CV
Weather: Sunny

File Name : SW8st_SW2 Ave
Site Code : 00000305
Start Date : 4/1/2015
Page No : 2

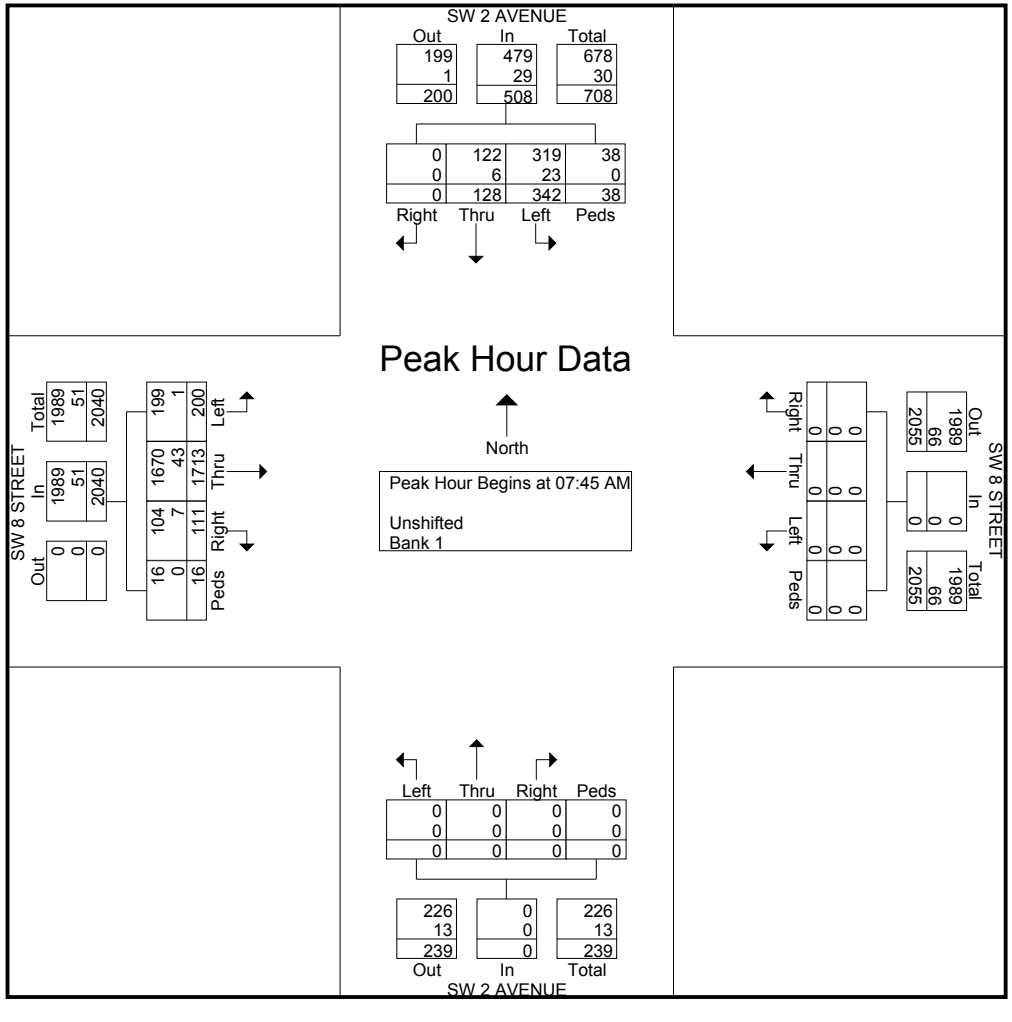
	SW 2 AVENUE Northbound					SW 2 AVENUE Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	54	20	0	**13**	87	**60**	399	**35**	**8**	502	0	0	0	0	0	589
08:00 AM	0	0	0	0	0	64	28	0	7	99	49	386	33	4	472	0	0	0	0	0	571
08:15 AM	0	0	0	0	0	97	31	0	6	134	56	**476**	26	1	**559**	0	0	0	0	0	693
08:30 AM	0	0	0	0	0	**127**	**49**	0	12	**188**	35	452	17	3	507	0	0	0	0	0	**695**
Total Volume	0	0	0	0	0	342	128	0	38	508	200	1713	111	16	2040	0	0	0	0	0	2548
% App. Total	0	0	0	0		67.3	25.2	0	7.5		9.8	84	5.4	0.8		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.673	.653	.000	.731	.676	.833	.900	.793	.500	.912	.000	.000	.000	.000	.000	.917
Unshifted	0	0	0	0	0	319	122	0	38	479	199	1670	104	16	1989	0	0	0	0	0	2468
% Unshifted	0	0	0	0	0	93.3	95.3	0	100	94.3	99.5	97.5	93.7	100	97.5	0	0	0	0	0	96.9
Bank 1	0	0	0	0	0	23	6	0	0	29	1	43	7	0	51	0	0	0	0	0	80
% Bank 1	0	0	0	0	0	6.7	4.7	0	0	5.7	0.5	2.5	6.3	0	2.5	0	0	0	0	0	3.1

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Intersection Name: SW8ST_SW2AVE
Operators Name: MA & CV
Weather: Sunny

File Name : SW8st_SW2 Ave
Site Code : 00000305
Start Date : 4/1/2015
Page No : 3



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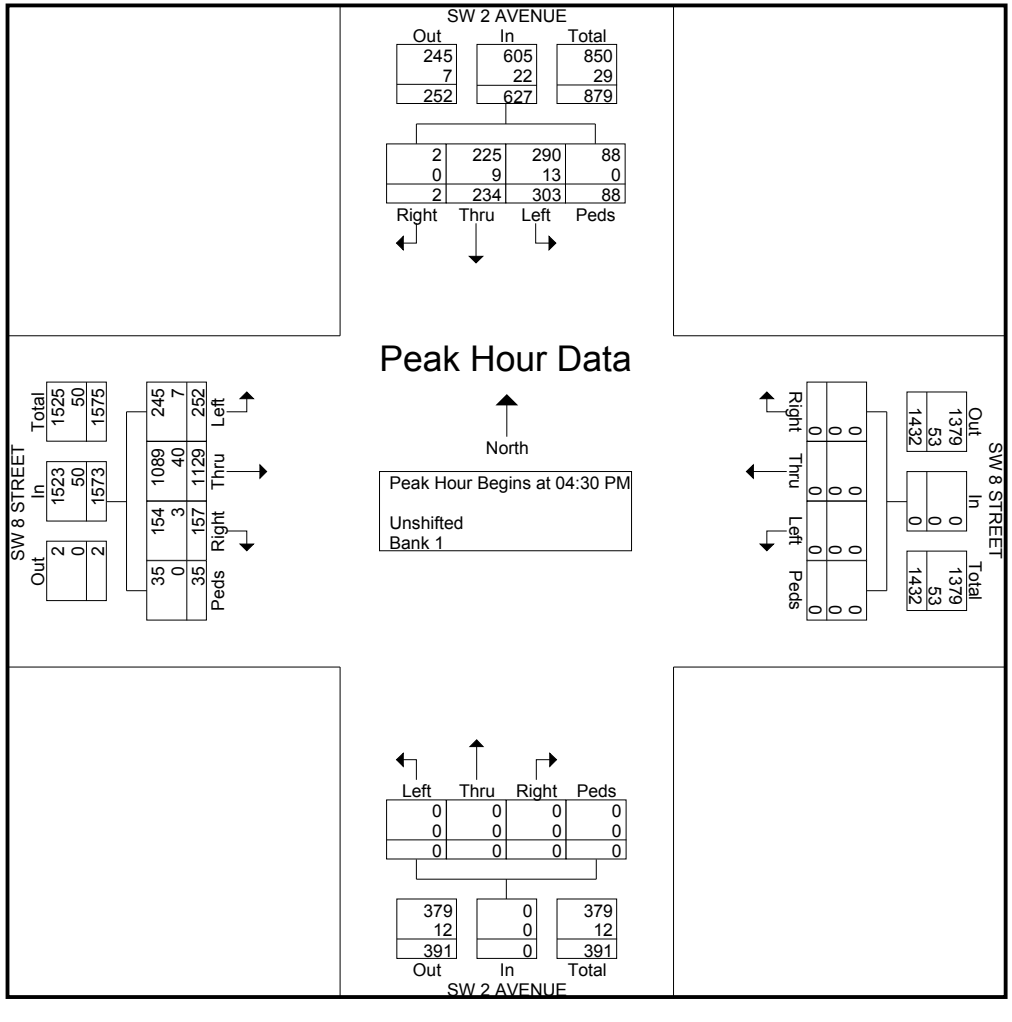
	SW 2 AVENUE Northbound					SW 2 AVENUE Southbound					SW 8 STREET Eastbound					SW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	81	53	0	**30**	164	62	266	43	11	382	0	0	0	0	0	546
04:45 PM	0	0	0	0	0	70	43	**1**	21	135	60	282	**51**	9	402	0	0	0	0	0	537
05:00 PM	0	0	0	0	0	70	64	1	16	151	62	**291**	28	2	383	0	0	0	0	0	534
05:15 PM	0	0	0	0	0	**82**	**74**	0	21	**177**	**68**	290	35	**13**	**406**	0	0	0	0	0	**583**
Total Volume	0	0	0	0	0	303	234	2	88	627	252	1129	157	35	1573	0	0	0	0	0	2200
% App. Total	0	0	0	0		48.3	37.3	0.3	14		16	71.8	10	2.2		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.924	.791	.500	.733	.886	.926	.970	.770	.673	.969	.000	.000	.000	.000	.000	.943
Unshifted	0	0	0	0	0	290	225	2	88	605	245	1089	154	35	1523	0	0	0	0	0	2128
% Unshifted	0	0	0	0	0	95.7	96.2	100	100	96.5	97.2	96.5	98.1	100	96.8	0	0	0	0	0	96.7
Bank 1	0	0	0	0	0	13	9	0	0	22	7	40	3	0	50	0	0	0	0	0	72
% Bank 1	0	0	0	0	0	4.3	3.8	0	0	3.5	2.8	3.5	1.9	0	3.2	0	0	0	0	0	3.3

F.R. Aleman & Associates, Inc

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Tax: (305)599-8749

Client: K&H
Intersection Name: SW8ST_SW2AVE
Operators Name: MA & CV
Weather: Sunny

File Name : SW8st_SW2 Ave
Site Code : 00000305
Start Date : 4/1/2015
Page No : 5



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Client: K&H
Intersection Name: SW7 St_SW4Av_SB Rmps
Opertaors Name: OC & DL
Weather: Sunny

File Name : SW7ST_SW4 AVE_SB RAMPS-ADJ
Site Code : 00000013
Start Date : 4/11/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	Northbound					SB OFF RAMP Southbound					SW 4 AVE Eastbound					SW 7 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	238	81	2	321	0	65	1	3	69	88	78	0	1	167	557
07:15 AM	0	0	0	0	0	0	217	93	0	310	0	66	1	2	69	71	78	0	4	153	532
07:30 AM	0	0	0	0	0	0	238	87	1	326	0	74	4	0	78	100	64	0	5	169	573
07:45 AM	0	0	0	0	0	0	300	104	3	407	0	85	8	0	93	96	70	0	6	172	672
Total	0	0	0	0	0	0	993	365	6	1364	0	290	14	5	309	355	290	0	16	661	2334
08:00 AM	0	0	0	0	0	0	313	122	3	438	0	72	4	0	76	126	107	0	5	238	752
08:15 AM	0	0	0	0	0	0	345	119	7	471	0	97	3	0	100	119	109	0	4	232	803
08:30 AM	0	0	0	0	0	0	360	62	5	427	0	84	1	0	85	138	128	0	5	271	783
08:45 AM	0	0	0	0	0	0	402	101	0	503	0	66	1	0	67	108	107	0	9	224	794
Total	0	0	0	0	0	0	1420	404	15	1839	0	319	9	0	328	491	451	0	23	965	3132
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	257	198	2	457	1	59	2	4	66	120	179	0	9	308	831
04:15 PM	0	0	0	0	0	0	260	193	1	454	0	48	3	1	52	113	196	0	7	316	822
04:30 PM	0	0	0	0	0	0	247	188	2	437	0	43	10	0	53	112	196	0	6	314	804
04:45 PM	0	0	0	0	0	0	287	191	4	482	0	57	2	3	62	121	183	0	8	312	856
Total	0	0	0	0	0	0	1051	770	9	1830	1	207	17	8	233	466	754	0	30	1250	3313
05:00 PM	0	0	0	0	0	0	272	197	4	473	0	36	2	0	38	111	199	0	14	324	835
05:15 PM	0	0	0	0	0	0	259	214	2	475	0	52	6	0	58	113	197	0	9	319	852
05:30 PM	0	0	0	0	0	0	294	206	0	500	0	60	7	0	67	121	240	0	10	371	938
05:45 PM	0	0	0	0	0	0	320	209	2	531	0	73	3	1	77	117	209	0	8	334	942
Total	0	0	0	0	0	0	1145	826	8	1979	0	221	18	1	240	462	845	0	41	1348	3567
Grand Total	0	0	0	0	0	0	4609	2365	38	7012	1	1037	58	14	1110	1774	2340	0	110	4224	12346
Apprch %	0	0	0	0		0	65.7	33.7	0.5		0.1	93.4	5.2	1.3		42	55.4	0	2.6		
Total %	0	0	0	0	0	0	37.3	19.2	0.3	56.8	0	8.4	0.5	0.1	9	14.4	19	0	0.9	34.2	
Pass Cars	0	0	0	0	0	0	4485	2325	38	6848	1	1026	56	14	1097	1729	2268	0	110	4107	12052
% Pass Cars	0	0	0	0	0	0	97.3	98.3	100	97.7	100	98.9	96.6	100	98.8	97.5	96.9	0	100	97.2	97.6
Trucks	0	0	0	0	0	0	124	40	0	164	0	11	2	0	13	45	72	0	0	117	294
% Trucks	0	0	0	0	0	0	2.7	1.7	0	2.3	0	1.1	3.4	0	1.2	2.5	3.1	0	0	2.8	2.4

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Client: K&H
Intersection Name: SW7 St_SW4Av_SB Rmps
Opertaors Name: OC & DL
Weather: Sunny

File Name : SW7ST_SW4 AVE_SB RAMPS-ADJ
Site Code : 00000013
Start Date : 4/11/2015
Page No : 2

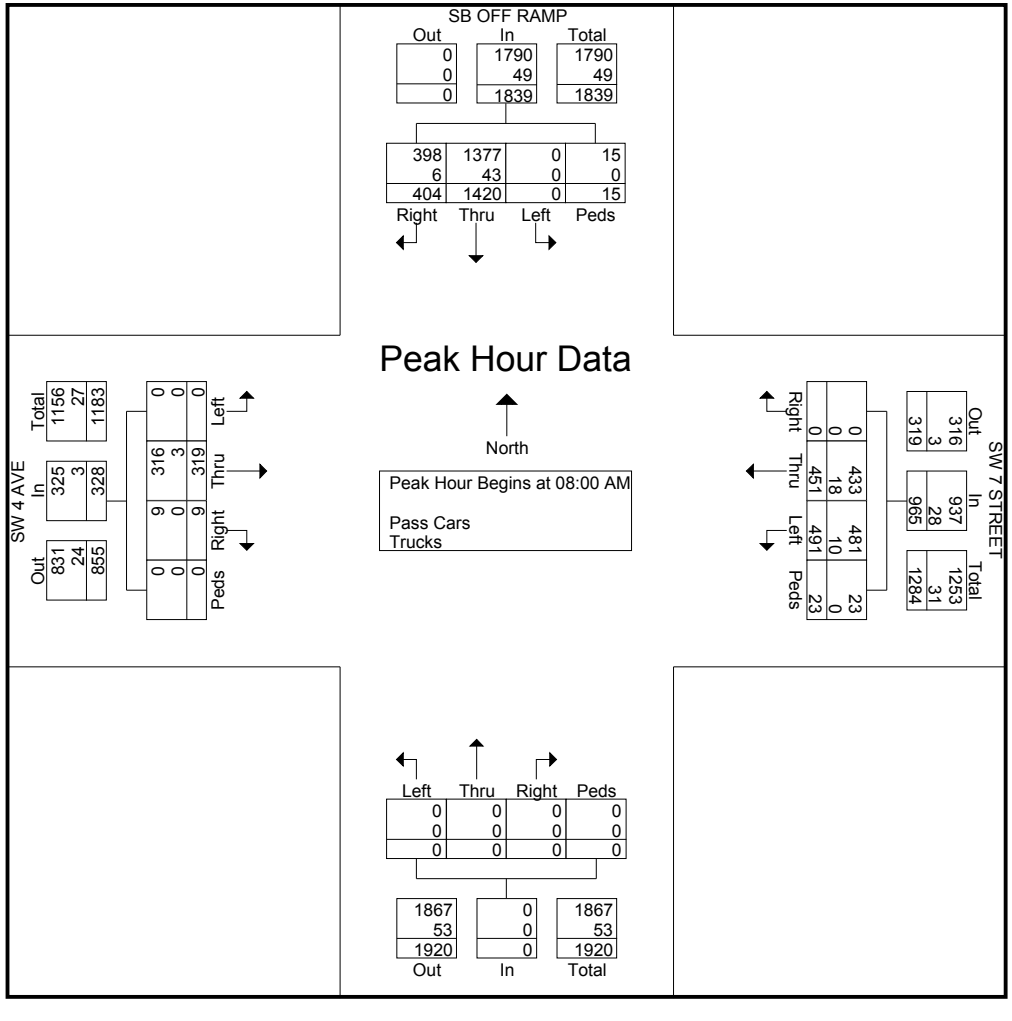
	Northbound					SB OFF RAMP Southbound					SW 4 AVE Eastbound					SW 7 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	313	**122**	3	438	0	72	**4**	0	76	126	107	0	5	238	752
08:15 AM	0	0	0	0	0	0	345	119	**7**	471	0	**97**	3	0	**100**	119	109	0	4	232	**803**
08:30 AM	0	0	0	0	0	0	360	62	5	427	0	84	1	0	85	**138**	**128**	0	5	**271**	783
08:45 AM	0	0	0	0	0	0	**402**	101	0	**503**	0	66	1	0	67	108	107	0	**9**	224	794
Total Volume	0	0	0	0	0	0	1420	404	15	1839	0	319	9	0	328	491	451	0	23	965	3132
% App. Total	0	0	0	0		0	77.2	22	0.8		0	97.3	2.7	0		50.9	46.7	0	2.4		
PHF	.000	.000	.000	.000	.000	.000	.883	.828	.536	.914	.000	.822	.563	.000	.820	.889	.881	.000	.639	.890	.975
Pass Cars	0	0	0	0	0	0	1377	398	15	1790	0	316	9	0	325	481	433	0	23	937	3052
% Pass Cars	0	0	0	0	0	0	97.0	98.5	100	97.3	0	99.1	100	0	99.1	98.0	96.0	0	100	97.1	97.4
Trucks	0	0	0	0	0	0	43	6	0	49	0	3	0	0	3	10	18	0	0	28	80
% Trucks	0	0	0	0	0	0	3.0	1.5	0	2.7	0	0.9	0	0	0.9	2.0	4.0	0	0	2.9	2.6

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Opertaors Name: OC & DL
Weather: Sunny

File Name : SW7ST_SW4 AVE_SB RAMPS-ADJ
Site Code : 00000013
Start Date : 4/11/2015
Page No : 3



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Client: K&H
Intersection Name: SW7 St_SW4Av_SB Rmps
Opertaors Name: OC & DL
Weather: Sunny

File Name : SW7ST_SW4 AVE_SB RAMPS-ADJ
Site Code : 00000013
Start Date : 4/11/2015
Page No : 4

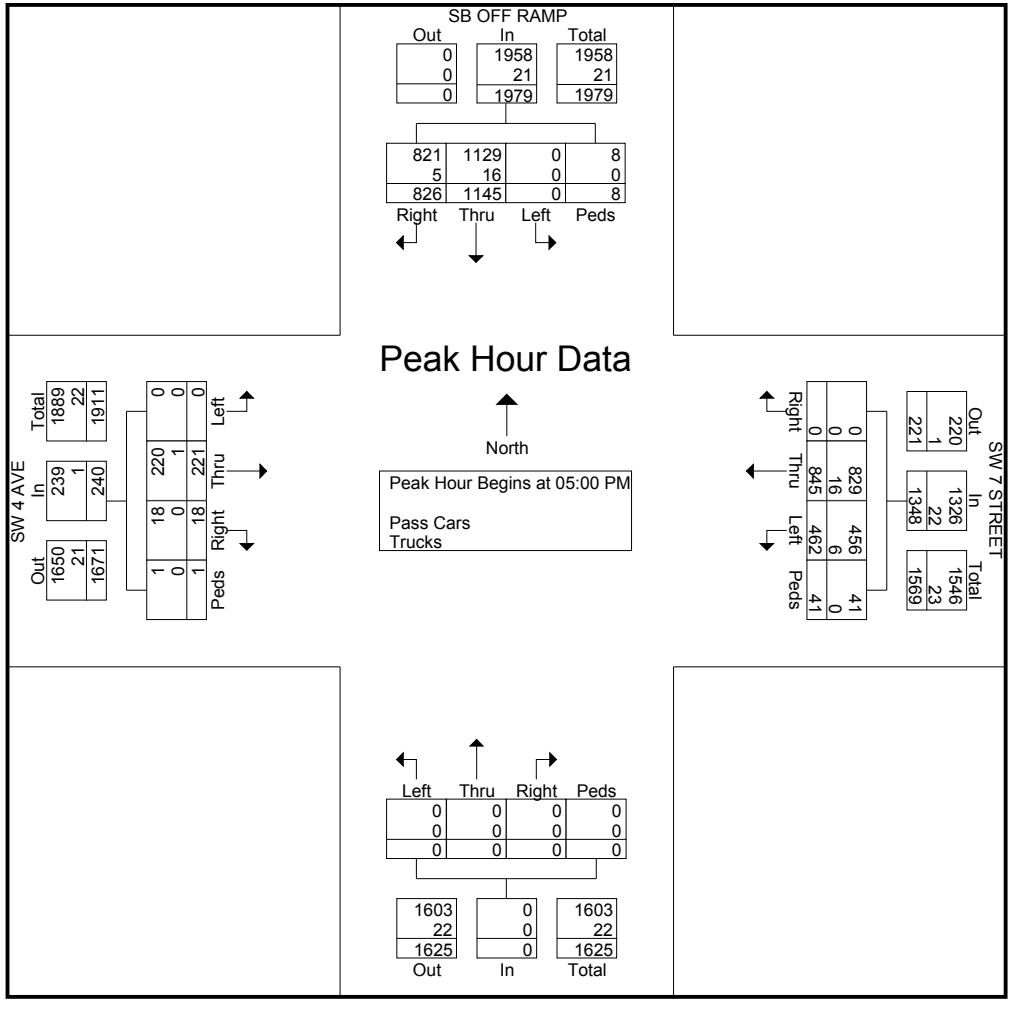
	Northbound					SB OFF RAMP Southbound					SW 4 AVE Eastbound					SW 7 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	272	197	**4**	473	0	36	2	0	38	111	199	0	**14**	324	835
05:15 PM	0	0	0	0	0	0	259	**214**	2	475	0	52	6	0	58	113	197	0	9	319	852
05:30 PM	0	0	0	0	0	0	294	206	0	500	0	60	**7**	0	67	**121**	**240**	0	10	**371**	938
05:45 PM	0	0	0	0	0	0	**320**	209	2	**531**	0	**73**	3	**1**	**77**	117	209	0	8	334	**942**
Total Volume	0	0	0	0	0	0	1145	826	8	1979	0	221	18	1	240	462	845	0	41	1348	3567
% App. Total	0	0	0	0		0	57.9	41.7	0.4		0	92.1	7.5	0.4		34.3	62.7	0	3		
PHF	.000	.000	.000	.000	.000	.000	.895	.965	.500	.932	.000	.757	.643	.250	.779	.955	.880	.000	.732	.908	.947
Pass Cars	0	0	0	0	0	0	1129	821	8	1958	0	220	18	1	239	456	829	0	41	1326	3523
% Pass Cars	0	0	0	0	0	0	98.6	99.4	100	98.9	0	99.5	100	100	99.6	98.7	98.1	0	100	98.4	98.8
Trucks	0	0	0	0	0	0	16	5	0	21	0	1	0	0	1	6	16	0	0	22	44
% Trucks	0	0	0	0	0	0	1.4	0.6	0	1.1	0	0.5	0	0	0.4	1.3	1.9	0	0	1.6	1.2

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Client: K&H
Intersection Name: SW7 St_SW4Av_SB Rmps
Opertaors Name: OC & DL
Weather: Sunny

File Name : SW7ST_SW4 AVE_SB RAMPS-ADJ
Site Code : 00000013
Start Date : 4/11/2015
Page No : 5



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File Name : SW7ST_SW4 AVE_SB RAMPS-ADJ
Site Code : 00000013
Start Date : 4/11/2015
Page No : 1

Groups Printed- Trucks

	Northbound					SB OFF RAMP Southbound					SW 4 AVE Eastbound					SW 7 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	11	5	0	16	0	0	0	0	0	3	3	0	0	6	22
07:15 AM	0	0	0	0	0	0	8	1	0	9	0	3	1	0	4	3	3	0	0	6	19
07:30 AM	0	0	0	0	0	0	15	6	0	21	0	0	0	0	0	4	3	0	0	7	28
07:45 AM	0	0	0	0	0	0	11	3	0	14	0	3	1	0	4	2	4	0	0	6	24
Total	0	0	0	0	0	0	45	15	0	60	0	6	2	0	8	12	13	0	0	25	93
08:00 AM	0	0	0	0	0	0	11	2	0	13	0	1	0	0	1	1	3	0	0	4	18
08:15 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	1	7	0	0	8	17
08:30 AM	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	4	6	0	0	10	22
08:45 AM	0	0	0	0	0	0	12	3	0	15	0	2	0	0	2	4	2	0	0	6	23
Total	0	0	0	0	0	0	43	6	0	49	0	3	0	0	3	10	18	0	0	28	80
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	1	3	0	4	0	1	0	0	1	7	10	0	0	17	22
04:15 PM	0	0	0	0	0	0	6	5	0	11	0	0	0	0	0	1	3	0	0	4	15
04:30 PM	0	0	0	0	0	0	6	4	0	10	0	0	0	0	0	5	5	0	0	10	20
04:45 PM	0	0	0	0	0	0	7	2	0	9	0	0	0	0	0	4	7	0	0	11	20
Total	0	0	0	0	0	0	20	14	0	34	0	1	0	0	1	17	25	0	0	42	77
05:00 PM	0	0	0	0	0	0	4	1	0	5	0	1	0	0	1	0	5	0	0	5	11
05:15 PM	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	2	2	0	0	4	11
05:30 PM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	3	3	0	0	6	10
05:45 PM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	1	6	0	0	7	12
Total	0	0	0	0	0	0	16	5	0	21	0	1	0	0	1	6	16	0	0	22	44
Grand Total	0	0	0	0	0	0	124	40	0	164	0	11	2	0	13	45	72	0	0	117	294
Apprch %	0	0	0	0		0	75.6	24.4	0		0	84.6	15.4	0		38.5	61.5	0	0		
Total %	0	0	0	0	0	0	42.2	13.6	0	55.8	0	3.7	0.7	0	4.4	15.3	24.5	0	0	39.8	

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Client: K&H
Intersection Name: SW 7 ST& SW3 AV_NB RM
Opertaors Name: PQL
Weather: Sunny

File Name : SW 7 ST _SW 3 Ave_NB_WB-All
Site Code : 00000307
Start Date : 4/1/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SW 3 AVE Northbound					SW3 AVE Southbound					SW 7 ST Eastbound					SW 7 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	46	15	0	3	64	0	0	0	0	0	0	0	0	0	0	65	118	6	0	189	253
07:15 AM	37	18	0	5	60	0	0	0	0	0	0	0	0	0	0	58	100	4	5	167	227
07:30 AM	39	19	0	4	62	0	0	0	0	0	0	0	0	0	0	81	139	7	7	234	296
07:45 AM	50	29	0	6	85	0	0	0	0	0	0	0	0	0	0	65	123	11	15	214	299
Total	172	81	0	18	271	0	0	0	0	0	0	0	0	0	0	269	480	28	27	804	1075
08:00 AM	43	30	0	3	76	0	0	0	0	0	0	0	0	0	0	80	172	18	16	286	362
08:15 AM	40	31	0	2	73	0	0	0	0	0	0	0	0	0	0	60	204	21	15	300	373
08:30 AM	37	15	0	1	53	0	0	0	0	0	0	0	0	0	0	76	202	6	9	293	346
08:45 AM	43	15	0	1	59	0	0	0	0	0	0	0	0	0	0	65	169	18	22	274	333
Total	163	91	0	7	261	0	0	0	0	0	0	0	0	0	0	281	747	63	62	1153	1414
*** BREAK ***																					
04:00 PM	59	24	0	2	85	0	0	0	0	0	0	0	0	0	0	81	236	26	6	349	434
04:15 PM	60	49	0	1	110	0	0	0	0	0	0	0	0	0	0	78	236	27	6	347	457
04:30 PM	64	51	0	5	120	0	0	0	0	0	0	0	0	0	0	80	238	48	15	381	501
04:45 PM	54	57	0	4	115	0	0	0	0	0	0	0	0	0	0	77	229	56	22	384	499
Total	237	181	0	12	430	0	0	0	0	0	0	0	0	0	0	316	939	157	49	1461	1891
05:00 PM	64	49	0	5	118	0	0	0	0	0	0	0	0	0	0	81	236	69	15	401	519
05:15 PM	70	49	0	8	127	0	0	0	0	0	0	0	0	0	0	85	228	75	27	415	542
05:30 PM	72	41	0	6	119	0	0	0	0	0	0	0	0	0	0	74	249	43	15	381	500
05:45 PM	60	44	0	8	112	0	0	0	0	0	0	0	0	0	0	96	237	45	22	400	512
Total	266	183	0	27	476	0	0	0	0	0	0	0	0	0	0	336	950	232	79	1597	2073
Grand Total	838	536	0	64	1438	0	0	0	0	0	0	0	0	0	0	1202	3116	480	217	5015	6453
Apprch %	58.3	37.3	0	4.5		0	0	0	0		0	0	0	0		24	62.1	9.6	4.3		
Total %	13	8.3	0	1	22.3	0	0	0	0	0	0	0	0	0	0	18.6	48.3	7.4	3.4	77.7	
Pass Cars	830	529	0	64	1423	0	0	0	0	0	0	0	0	0	0	1195	3092	479	216	4982	6405
% Pass Cars	99	98.7	0	100	99	0	0	0	0	0	0	0	0	0	0	99.4	99.2	99.8	99.5	99.3	99.3
Trucks	8	7	0	0	15	0	0	0	0	0	0	0	0	0	0	7	24	1	1	33	48
% Trucks	1	1.3	0	0	1	0	0	0	0	0	0	0	0	0	0	0.6	0.8	0.2	0.5	0.7	0.7

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Client: K&H
Intersection Name: SW 7 ST& SW3 AV_NB RM
Opertaors Name: PQL
Weather: Sunny

File Name : SW 7 ST _SW 3 Ave_NB_WB-All
Site Code : 00000307
Start Date : 4/1/2015
Page No : 2

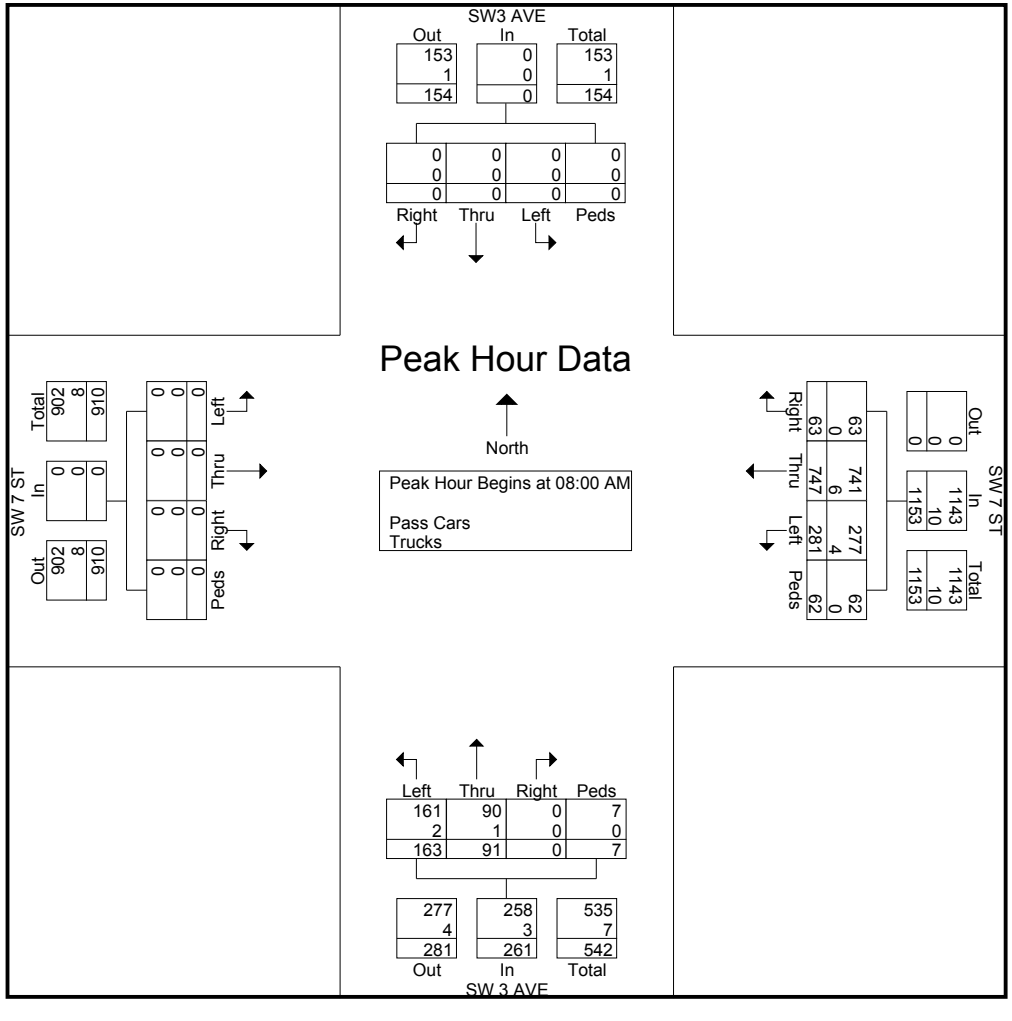
	SW 3 AVE Northbound					SW3 AVE Southbound					SW 7 ST Eastbound					SW 7 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**43**	30	0	**3**	**76**	0	0	0	0	0	0	0	0	0	0	**80**	172	18	16	286	362
08:15 AM	40	**31**	0	2	73	0	0	0	0	0	0	0	0	0	0	60	**204**	**21**	15	**300**	**373**
08:30 AM	37	15	0	1	53	0	0	0	0	0	0	0	0	0	0	76	202	6	9	293	346
08:45 AM	43	15	0	1	59	0	0	0	0	0	0	0	0	0	0	65	169	18	**22**	274	333
Total Volume	163	91	0	7	261	0	0	0	0	0	0	0	0	0	0	281	747	63	62	1153	1414
% App. Total	62.5	34.9	0	2.7		0	0	0	0		0	0	0	0		24.4	64.8	5.5	5.4		
PHF	.948	.734	.000	.583	.859	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.878	.915	.750	.705	.961	.948
Pass Cars	161	90	0	7	258	0	0	0	0	0	0	0	0	0	0	277	741	63	62	1143	1401
% Pass Cars	98.8	98.9	0	100	98.9	0	0	0	0	0	0	0	0	0	0	98.6	99.2	100	100	99.1	99.1
Trucks	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4	6	0	0	10	13
% Trucks	1.2	1.1	0	0	1.1	0	0	0	0	0	0	0	0	0	0	1.4	0.8	0	0	0.9	0.9

F.R. Aleman & Associates, Inc

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Client: K&H
Intersection Name: SW 7 ST& SW3 AV_NB RM
Opertaors Name: PQL
Weather: Sunny

File Name : SW 7 ST _SW 3 Ave_NB_WB-All
Site Code : 00000307
Start Date : 4/1/2015
Page No : 3



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File Name : SW 7 ST _SW 3 Ave_NB_WB-All
Site Code : 00000307
Start Date : 4/1/2015
Page No : 4

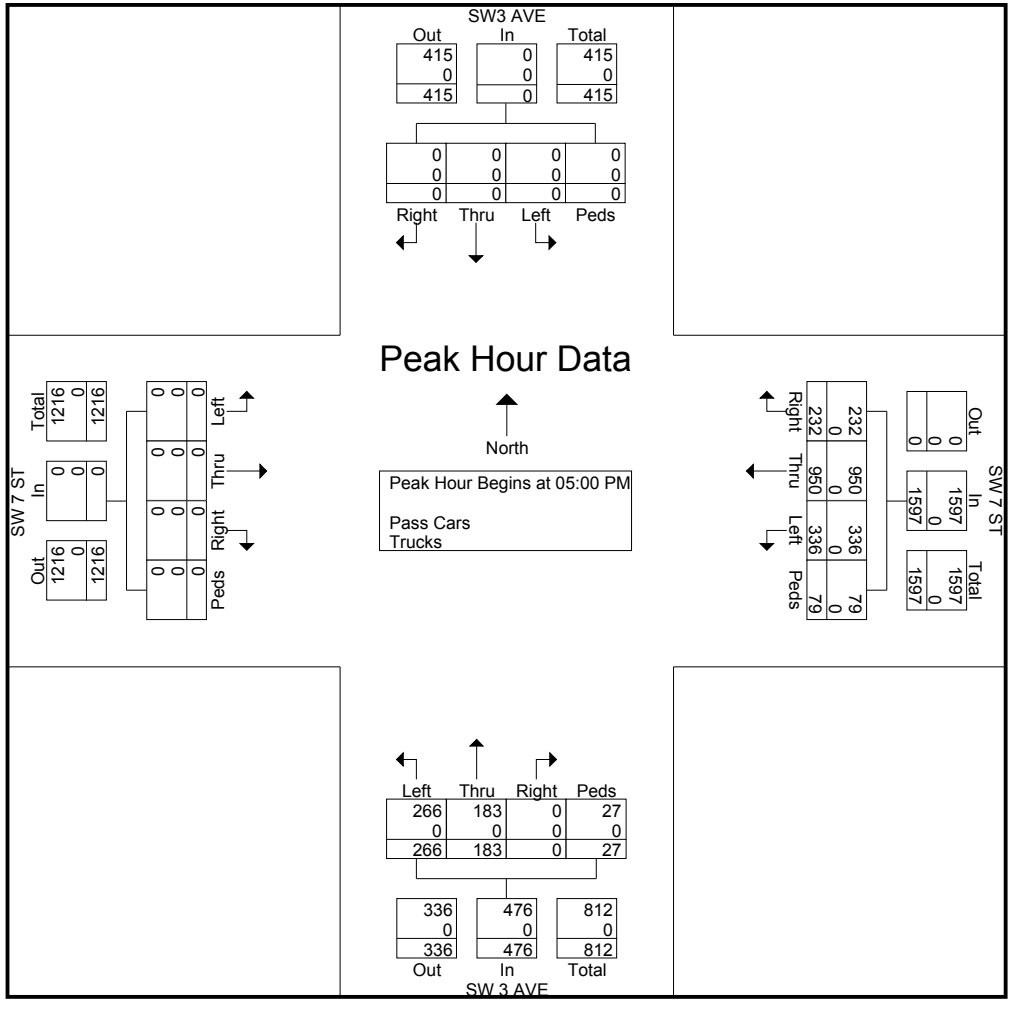
	SW 3 AVE Northbound					SW3 AVE Southbound					SW 7 ST Eastbound					SW 7 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	64	**49**	0	5	118	0	0	0	0	0	0	0	0	0	0	81	236	69	15	401	519
05:15 PM	70	49	0	**8**	**127**	0	0	0	0	0	0	0	0	0	0	85	228	**75**	**27**	**415**	**542**
05:30 PM	**72**	41	0	6	119	0	0	0	0	0	0	0	0	0	0	74	**249**	43	15	381	500
05:45 PM	60	44	0	8	112	0	0	0	0	0	0	0	0	0	0	**96**	237	45	22	400	512
Total Volume	266	183	0	27	476	0	0	0	0	0	0	0	0	0	0	336	950	232	79	1597	2073
% App. Total	55.9	38.4	0	5.7		0	0	0	0		0	0	0	0		21	59.5	14.5	4.9		
PHF	.924	.934	.000	.844	.937	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.875	.954	.773	.731	.962	.956
Pass Cars	266	183	0	27	476	0	0	0	0	0	0	0	0	0	0	336	950	232	79	1597	2073
% Pass Cars	100	100	0	100	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Opertaors Name: PQL
Weather: Sunny

File Name : SW 7 ST _SW 3 Ave_NB_WB-All
Site Code : 00000307
Start Date : 4/1/2015
Page No : 5



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File Name : SW 7 ST _SW 3 Ave_NB_WB-All
Site Code : 00000307
Start Date : 4/1/2015
Page No : 1

Groups Printed- Trucks

	SW 3 AVE Northbound					SW3 AVE Southbound					SW 7 ST Eastbound					SW 7 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
07:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	4	0	1	6	9
07:30 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	1	7	0	0	8	11
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3	1	0	5	6
Total	3	6	0	0	9	0	0	0	0	0	0	0	0	0	0	3	17	1	1	22	31
08:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	4
08:30 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	4
Total	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4	6	0	0	10	13
*** BREAK ***																					
04:00 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
*** BREAK ***																					
Total	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
*** BREAK ***																					
Grand Total	8	7	0	0	15	0	0	0	0	0	0	0	0	0	0	7	24	1	1	33	48
Apprch %	53.3	46.7	0	0		0	0	0	0		0	0	0	0		21.2	72.7	3	3		
Total %	16.7	14.6	0	0	31.2	0	0	0	0	0	0	0	0	0	0	14.6	50	2.1	2.1	68.8	

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Client: K&H
Intersection Name: SW 7 ST & SW 2 AVE
Opertaors Name: GP & CV
Weather: Sunny

File Name : SW7ST_SW2AVE
Site Code : 00000308
Start Date : 4/1/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SW 2 AVE Northbound					SW 2 AVE Southbound					SW 7 ST Eastbound					SW 7 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	53	0	3	59	0	63	17	7	87	0	0	0	0	0	17	136	39	1	193	339
07:15 AM	8	62	0	0	70	0	63	16	5	84	0	0	0	0	0	11	178	47	2	238	392
07:30 AM	5	46	0	2	53	0	67	29	15	111	0	0	0	0	0	8	187	48	4	247	411
07:45 AM	10	52	0	2	64	0	82	32	4	118	0	0	0	0	0	22	203	42	2	269	451
Total	26	213	0	7	246	0	275	94	31	400	0	0	0	0	0	58	704	176	9	947	1593
08:00 AM	7	43	0	1	51	0	130	38	9	177	0	0	0	0	0	15	277	61	1	354	582
08:15 AM	8	48	0	7	63	0	144	39	10	193	0	0	0	0	0	17	212	54	1	284	540
08:30 AM	11	31	0	11	53	0	161	40	17	218	0	0	0	0	0	17	222	57	0	296	567
08:45 AM	15	41	0	8	64	0	144	46	8	198	0	0	0	0	0	20	200	49	0	269	531
Total	41	163	0	27	231	0	579	163	44	786	0	0	0	0	0	69	911	221	2	1203	2220
*** BREAK ***																					
04:00 PM	23	52	0	8	83	0	64	57	18	139	0	0	0	0	0	16	282	44	7	349	571
04:15 PM	16	44	0	12	72	0	74	63	15	152	0	0	0	0	0	25	258	47	12	342	566
04:30 PM	17	46	0	3	66	0	107	71	23	201	0	0	0	0	0	15	246	48	10	319	586
04:45 PM	24	53	0	14	91	0	92	72	18	182	0	0	0	0	0	9	275	46	17	347	620
Total	80	195	0	37	312	0	337	263	74	674	0	0	0	0	0	65	1061	185	46	1357	2343
05:00 PM	21	51	0	13	85	0	111	86	16	213	0	0	0	0	0	22	255	42	2	321	619
05:15 PM	13	58	0	5	76	0	127	95	10	232	0	0	0	0	0	16	297	52	4	369	677
05:30 PM	27	56	0	5	88	0	128	84	12	224	0	0	0	0	0	23	268	54	7	352	664
05:45 PM	15	53	0	17	85	0	130	91	32	253	0	0	0	0	0	20	273	52	33	378	716
Total	76	218	0	40	334	0	496	356	70	922	0	0	0	0	0	81	1093	200	46	1420	2676
Grand Total	223	789	0	111	1123	0	1687	876	219	2782	0	0	0	0	0	273	3769	782	103	4927	8832
Apprch %	19.9	70.3	0	9.9		0	60.6	31.5	7.9		0	0	0	0		5.5	76.5	15.9	2.1		
Total %	2.5	8.9	0	1.3	12.7	0	19.1	9.9	2.5	31.5	0	0	0	0	0	3.1	42.7	8.9	1.2	55.8	
Pass Cars	221	785	0	111	1117	0	1669	866	219	2754	0	0	0	0	0	271	3710	760	103	4844	8715
% Pass Cars	99.1	99.5	0	100	99.5	0	98.9	98.9	100	99	0	0	0	0	0	99.3	98.4	97.2	100	98.3	98.7
Trucks	2	4	0	0	6	0	18	10	0	28	0	0	0	0	0	2	59	22	0	83	117
% Trucks	0.9	0.5	0	0	0.5	0	1.1	1.1	0	1	0	0	0	0	0	0.7	1.6	2.8	0	1.7	1.3

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Client: K&H
Intersection Name: SW 7 ST & SW 2 AVE
Opertaors Name: GP & CV
Weather: Sunny

File Name : SW7ST_SW2AVE
Site Code : 00000308
Start Date : 4/1/2015
Page No : 2

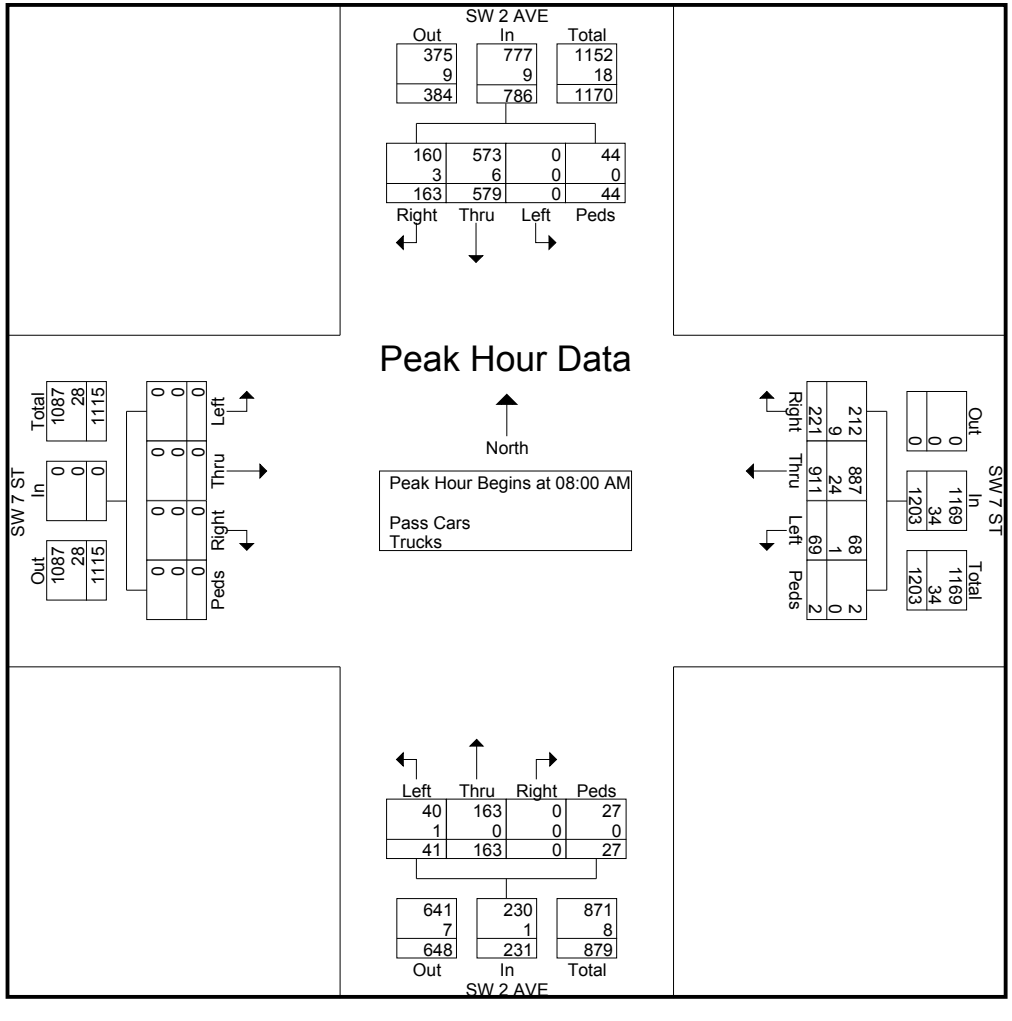
	SW 2 AVE Northbound					SW 2 AVE Southbound					SW 7 ST Eastbound					SW 7 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	7	43	0	1	51	0	130	38	9	177	0	0	0	0	0	15	**277**	**61**	**1**	**354**	**582**
08:15 AM	8	**48**	0	7	63	0	144	39	10	193	0	0	0	0	0	17	212	54	1	284	540
08:30 AM	11	31	0	**11**	53	0	**161**	40	**17**	**218**	0	0	0	0	0	17	222	57	0	296	567
08:45 AM	**15**	41	0	8	**64**	0	144	**46**	8	198	0	0	0	0	0	**20**	200	49	0	269	531
Total Volume	41	163	0	27	231	0	579	163	44	786	0	0	0	0	0	69	911	221	2	1203	2220
% App. Total	17.7	70.6	0	11.7		0	73.7	20.7	5.6		0	0	0	0		5.7	75.7	18.4	0.2		
PHF	.683	.849	.000	.614	.902	.000	.899	.886	.647	.901	.000	.000	.000	.000	.000	.863	.822	.906	.500	.850	.954
Pass Cars	40	163	0	27	230	0	573	160	44	777	0	0	0	0	0	68	887	212	2	1169	2176
% Pass Cars	97.6	100	0	100	99.6	0	99.0	98.2	100	98.9	0	0	0	0	0	98.6	97.4	95.9	100	97.2	98.0
Trucks	1	0	0	0	1	0	6	3	0	9	0	0	0	0	0	1	24	9	0	34	44
% Trucks	2.4	0	0	0	0.4	0	1.0	1.8	0	1.1	0	0	0	0	0	1.4	2.6	4.1	0	2.8	2.0

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Client: K&H
Intersection Name: SW 7 ST & SW 2 AVE
Opertaors Name: GP & CV
Weather: Sunny

File Name : SW7ST_SW2AVE
Site Code : 00000308
Start Date : 4/1/2015
Page No : 3



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File Name : SW7ST_SW2AVE
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Page No : 4

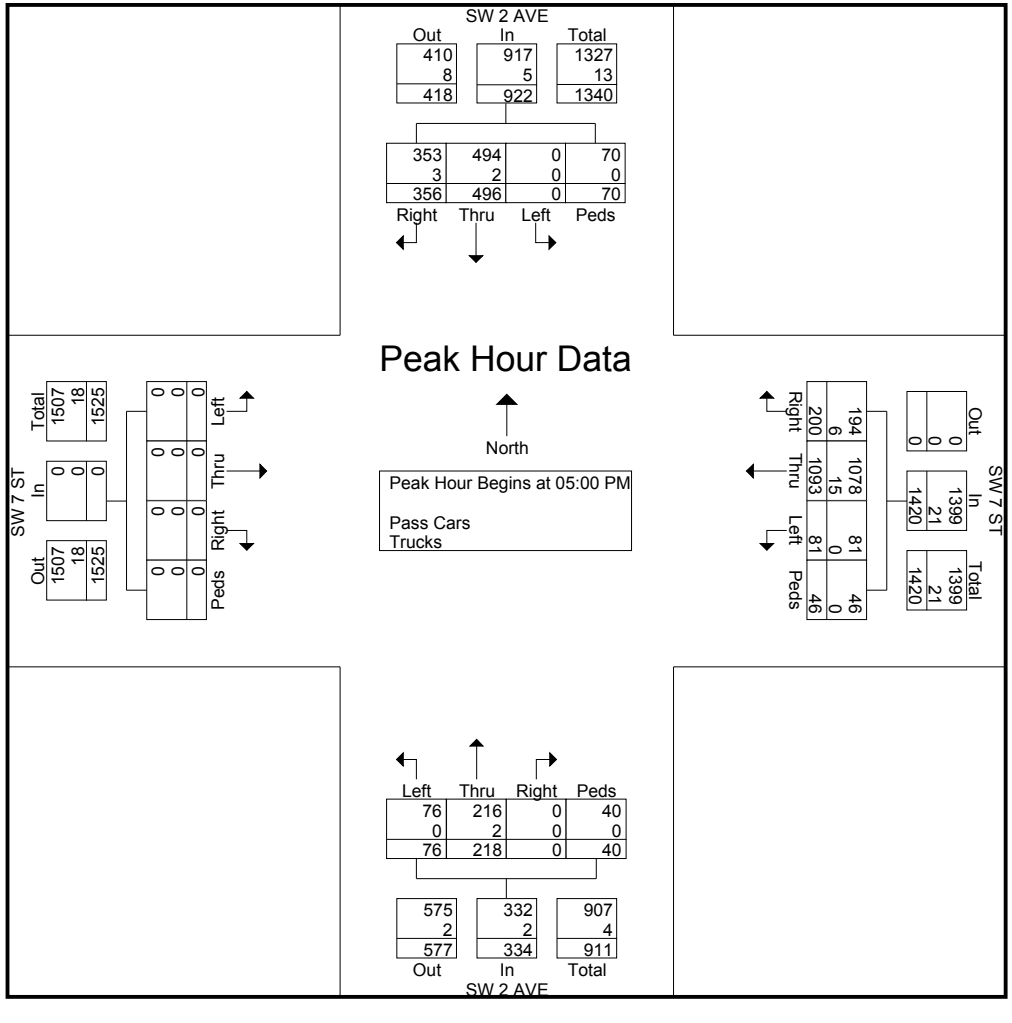
	SW 2 AVE Northbound					SW 2 AVE Southbound					SW 7 ST Eastbound					SW 7 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	21	51	0	13	85	0	111	86	16	213	0	0	0	0	0	22	255	42	2	321	619
05:15 PM	13	**58**	0	5	76	0	127	**95**	10	232	0	0	0	0	0	16	**297**	52	4	369	677
05:30 PM	**27**	56	0	5	**88**	0	128	84	12	224	0	0	0	0	0	**23**	268	**54**	7	352	664
05:45 PM	15	53	0	**17**	85	0	**130**	91	**32**	**253**	0	0	0	0	0	20	273	52	**33**	**378**	**716**
Total Volume	76	218	0	40	334	0	496	356	70	922	0	0	0	0	0	81	1093	200	46	1420	2676
% App. Total	22.8	65.3	0	12		0	53.8	38.6	7.6		0	0	0	0		5.7	77	14.1	3.2		
PHF	.704	.940	.000	.588	.949	.000	.954	.937	.547	.911	.000	.000	.000	.000	.000	.880	.920	.926	.348	.939	.934
Pass Cars	76	216	0	40	332	0	494	353	70	917	0	0	0	0	0	81	1078	194	46	1399	2648
% Pass Cars	100	99.1	0	100	99.4	0	99.6	99.2	100	99.5	0	0	0	0	0	100	98.6	97.0	100	98.5	99.0
Trucks	0	2	0	0	2	0	2	3	0	5	0	0	0	0	0	0	15	6	0	21	28
% Trucks	0	0.9	0	0	0.6	0	0.4	0.8	0	0.5	0	0	0	0	0	0	1.4	3.0	0	1.5	1.0

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Client: K&H
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Opertaors Name: GP & CV
Weather: Sunny

File Name : SW7ST_SW2AVE
Site Code : 00000308
Start Date : 4/1/2015
Page No : 5



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File Name : SW7ST_SW2AVE
Site Code : 00000308
Start Date : 4/1/2015
Page No : 1

Groups Printed- Trucks

	SW 2 AVE Northbound					SW 2 AVE Southbound					SW 7 ST Eastbound					SW 7 ST Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	4
07:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
07:45 AM	1	0	0	0	1	0	2	2	0	4	0	0	0	0	0	0	0	1	0	1	6
Total	1	0	0	0	1	0	6	3	0	9	0	0	0	0	0	1	2	2	0	5	15
08:00 AM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	5	2	0	7	10
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8	8
08:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5	4	0	10	11
08:45 AM	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	0	8	1	0	9	15
Total	1	0	0	0	1	0	6	3	0	9	0	0	0	0	0	1	24	9	0	34	44
*** BREAK ***																					
04:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	8	1	0	9	11
04:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	1	0	3	4
04:30 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	4	3	0	7	9
04:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
Total	0	2	0	0	2	0	4	1	0	5	0	0	0	0	0	0	18	5	0	23	30
05:00 PM	0	1	0	0	1	0	1	2	0	3	0	0	0	0	0	0	4	1	0	5	9
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6	7
05:30 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	4	1	0	5	7
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	5
Total	0	2	0	0	2	0	2	3	0	5	0	0	0	0	0	0	15	6	0	21	28
Grand Total	2	4	0	0	6	0	18	10	0	28	0	0	0	0	0	2	59	22	0	83	117
Apprch %	33.3	66.7	0	0		0	64.3	35.7	0		0	0	0	0		2.4	71.1	26.5	0		
Total %	1.7	3.4	0	0	5.1	0	15.4	8.5	0	23.9	0	0	0	0	0	1.7	50.4	18.8	0	70.9	

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Client: K&H
Intersection Name: SW3ST_MiamiAve
Opertaors Name: DM & MR
Weather: Sunny

File Name : SW 3 St _Miami Ave
Site Code : 00000401
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	5	0	37	6	48	64	4	2	1	71	0	12	1	6	19	0	0	0	0	0	138
07:15 AM	6	0	38	9	53	86	6	6	0	98	0	24	0	4	28	0	0	0	5	5	184
07:30 AM	9	0	47	10	66	99	5	8	2	114	0	27	1	6	34	0	0	0	10	10	224
07:45 AM	5	0	62	12	79	97	5	9	1	112	0	28	0	4	32	0	0	0	13	13	236
Total	25	0	184	37	246	346	20	25	4	395	0	91	2	20	113	0	0	0	28	28	782
08:00 AM	13	0	90	6	109	136	9	14	0	159	0	31	0	5	36	0	0	0	8	8	312
08:15 AM	6	0	52	3	61	192	4	9	3	208	0	50	5	6	61	0	0	0	5	5	335
08:30 AM	17	0	95	2	114	209	6	12	0	227	0	26	2	3	31	0	0	0	14	14	386
08:45 AM	6	0	79	8	93	215	3	18	1	237	0	47	4	4	55	0	0	0	2	2	387
Total	42	0	316	19	377	752	22	53	4	831	0	154	11	18	183	0	0	0	29	29	1420
*** BREAK ***																					
04:00 PM	15	0	61	2	78	69	18	14	1	102	0	32	1	5	38	0	0	0	5	5	223
04:15 PM	31	0	109	4	144	70	18	18	2	108	0	27	2	3	32	0	0	0	6	6	290
04:30 PM	24	0	91	2	117	72	8	19	1	100	0	21	0	3	24	0	0	0	4	4	245
04:45 PM	12	0	64	2	78	75	16	24	0	115	0	24	2	8	34	0	0	0	4	4	231
Total	82	0	325	10	417	286	60	75	4	425	0	104	5	19	128	0	0	0	19	19	989
05:00 PM	34	0	110	0	144	79	16	21	0	116	0	38	1	4	43	0	0	0	2	2	305
05:15 PM	27	0	97	3	127	76	12	29	1	118	0	26	1	10	37	0	0	0	3	3	285
05:30 PM	37	0	113	3	153	126	6	26	7	165	0	28	0	3	31	0	0	0	2	2	351
05:45 PM	28	0	80	7	115	119	20	28	0	167	0	31	3	13	47	0	0	0	7	7	336
Total	126	0	400	13	539	400	54	104	8	566	0	123	5	30	158	0	0	0	14	14	1277
Grand Total	275	0	1225	79	1579	1784	156	257	20	2217	0	472	23	87	582	0	0	0	90	90	4468
Apprch %	17.4	0	77.6	5		80.5	7	11.6	0.9		0	81.1	4	14.9		0	0	0	100		
Total %	6.2	0	27.4	1.8	35.3	39.9	3.5	5.8	0.4	49.6	0	10.6	0.5	1.9	13	0	0	0	2	2	
Pass Cars	273	0	1197	79	1549	1757	155	254	20	2186	0	468	23	87	578	0	0	0	90	90	4403
% Pass Cars	99.3	0	97.7	100	98.1	98.5	99.4	98.8	100	98.6	0	99.2	100	100	99.3	0	0	0	100	100	98.5
Trucks	2	0	28	0	30	27	1	3	0	31	0	4	0	0	4	0	0	0	0	0	65
% Trucks	0.7	0	2.3	0	1.9	1.5	0.6	1.2	0	1.4	0	0.8	0	0	0.7	0	0	0	0	0	1.5

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Client: K&H
Intersection Name: SW3ST_MiamiAve
Opertaors Name: DM & MR
Weather: Sunny

File Name : SW 3 St _Miami Ave
Site Code : 00000401
Start Date : 5/6/2015
Page No : 2

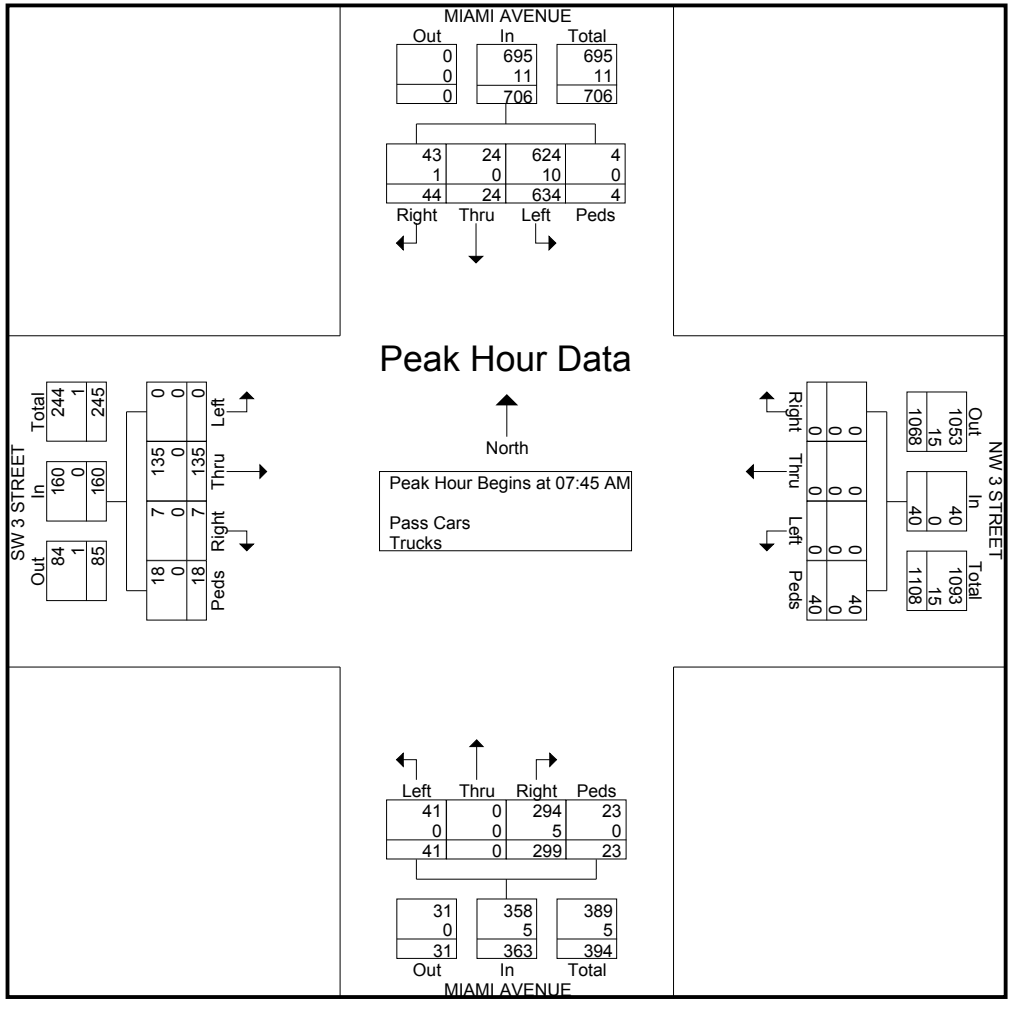
	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	5	0	62	**12**	79	97	5	9	1	112	0	28	0	4	32	0	0	0	13	13	236
08:00 AM	13	0	90	6	109	136	**9**	**14**	0	159	0	31	0	5	36	0	0	0	8	8	312
08:15 AM	6	0	52	3	61	192	4	9	**3**	208	0	**50**	**5**	**6**	**61**	0	0	0	5	5	335
08:30 AM	**17**	0	**95**	2	**114**	**209**	6	12	0	**227**	0	26	2	3	31	0	0	0	**14**	**14**	**386**
Total Volume	41	0	299	23	363	634	24	44	4	706	0	135	7	18	160	0	0	0	40	40	1269
% App. Total	11.3	0	82.4	6.3		89.8	3.4	6.2	0.6		0	84.4	4.4	11.2		0	0	0	100		
PHF	.603	.000	.787	.479	.796	.758	.667	.786	.333	.778	.000	.675	.350	.750	.656	.000	.000	.000	.714	.714	.822
Pass Cars	41	0	294	23	358	624	24	43	4	695	0	135	7	18	160	0	0	0	40	40	1253
% Pass Cars	100	0	98.3	100	98.6	98.4	100	97.7	100	98.4	0	100	100	100	100	0	0	0	100	100	98.7
Trucks	0	0	5	0	5	10	0	1	0	11	0	0	0	0	0	0	0	0	0	0	16
% Trucks	0	0	1.7	0	1.4	1.6	0	2.3	0	1.6	0	0	0	0	0	0	0	0	0	0	1.3

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Opertaors Name: DM & MR
Weather: Sunny

File Name : SW 3 St _Miami Ave
Site Code : 00000401
Start Date : 5/6/2015
Page No : 3



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Page No : 4

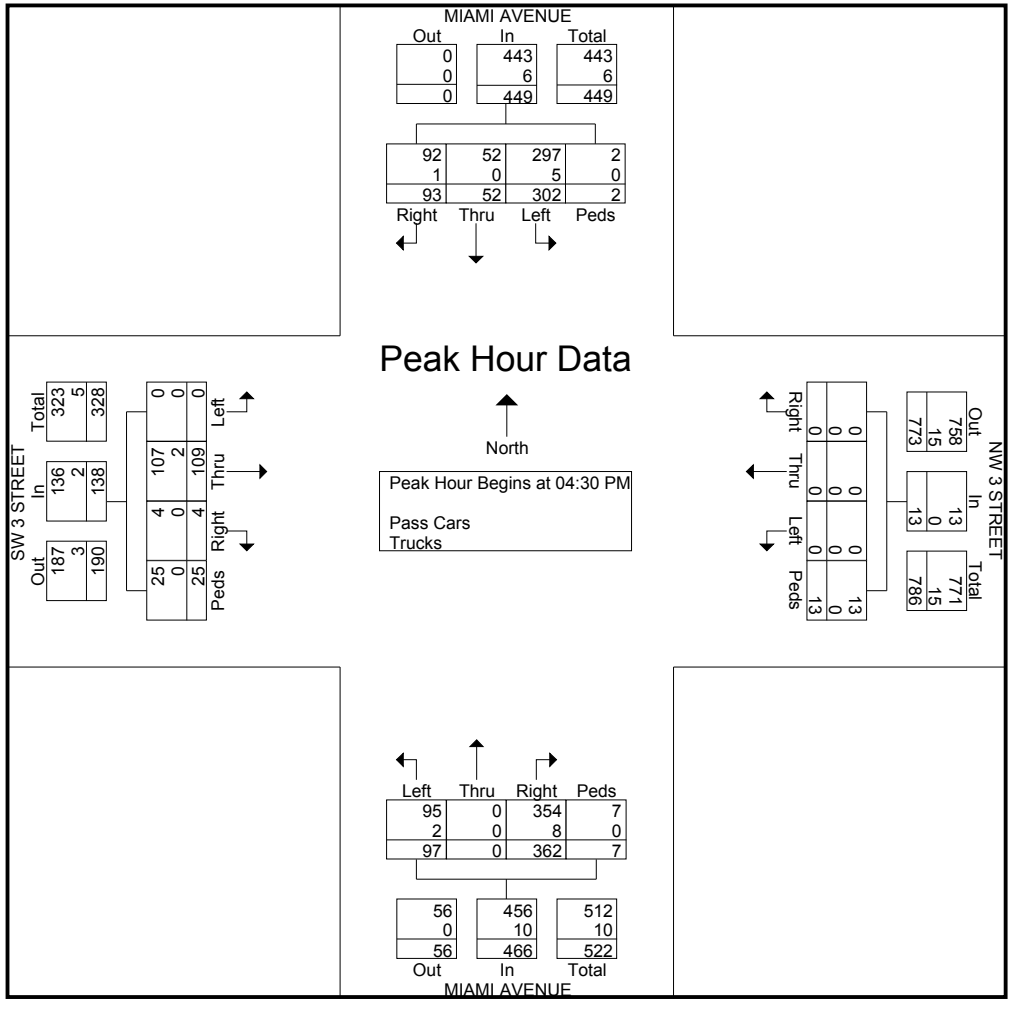
	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	24	0	91	2	117	72	8	19	**1**	100	0	21	0	3	24	0	0	0	**4**	**4**	245
04:45 PM	12	0	64	2	78	75	**16**	24	0	115	0	24	**2**	8	34	0	0	0	4	4	231
05:00 PM	**34**	0	**110**	0	**144**	**79**	16	21	0	116	0	**38**	1	4	**43**	0	0	0	2	2	**305**
05:15 PM	27	0	97	**3**	127	76	12	**29**	1	**118**	0	26	1	**10**	37	0	0	0	3	3	285
Total Volume	97	0	362	7	466	302	52	93	2	449	0	109	4	25	138	0	0	0	13	13	1066
% App. Total	20.8	0	77.7	1.5		67.3	11.6	20.7	0.4		0	79	2.9	18.1		0	0	0	100		
PHF	.713	.000	.823	.583	.809	.956	.813	.802	.500	.951	.000	.717	.500	.625	.802	.000	.000	.000	.813	.813	.874
Pass Cars	95	0	354	7	456	297	52	92	2	443	0	107	4	25	136	0	0	0	13	13	1048
% Pass Cars	97.9	0	97.8	100	97.9	98.3	100	98.9	100	98.7	0	98.2	100	100	98.6	0	0	0	100	100	98.3
Trucks	2	0	8	0	10	5	0	1	0	6	0	2	0	0	2	0	0	0	0	0	18
% Trucks	2.1	0	2.2	0	2.1	1.7	0	1.1	0	1.3	0	1.8	0	0	1.4	0	0	0	0	0	1.7

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Weather: Sunny

File Name : SW 3 St _Miami Ave
Site Code : 00000401
Start Date : 5/6/2015
Page No : 5



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Client: K&H
Intersection Name: SE4ST_SR970EBOFFRAMPS
Opertaors Name: ED
Weather: Sunny

File Name : SE 4 ST_SR 970 EB OFF ramp
Site Code : 00000402
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	FORT DALLAS PARK DRIVE Northbound					FORT DALLAS PARK DRIVE Southbound					SE 4 STREET/SR 970 EB OFF RAMPS Eastbound					SE 4 STREET/SR 970 EB OFF RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	18	0	18	0	0	0	0	0	0	185	0	1	186	0	0	0	0	0	204
07:15 AM	0	0	11	0	11	0	0	0	0	0	0	167	0	1	168	0	0	0	0	0	179
07:30 AM	0	0	24	0	24	0	0	0	0	0	0	202	0	0	202	0	0	0	0	0	226
07:45 AM	0	0	19	0	19	0	0	0	0	0	0	236	0	0	236	0	0	0	0	0	255
Total	0	0	72	0	72	0	0	0	0	0	0	790	0	2	792	0	0	0	0	0	864
08:00 AM	0	0	25	0	25	0	0	0	0	0	0	307	0	3	310	0	0	0	0	0	335
08:15 AM	0	0	29	0	29	0	0	0	0	0	0	409	0	0	409	0	0	0	0	0	438
08:30 AM	0	0	41	0	41	0	0	0	0	0	0	500	0	3	503	0	0	0	0	0	544
08:45 AM	0	0	16	0	16	0	0	0	0	0	0	214	0	0	214	0	0	0	0	0	230
Total	0	0	111	0	111	0	0	0	0	0	0	1430	0	6	1436	0	0	0	0	0	1547
*** BREAK ***																					
04:00 PM	0	0	17	0	17	0	0	0	0	0	0	156	0	0	156	2	0	0	13	15	188
04:15 PM	0	0	24	0	24	0	0	0	0	0	0	211	0	0	211	0	0	0	0	0	235
04:30 PM	0	0	20	0	20	0	0	0	0	0	0	177	0	0	177	0	0	0	0	0	197
04:45 PM	0	0	21	0	21	0	0	0	0	0	0	182	0	1	183	0	0	0	4	4	208
Total	0	0	82	0	82	0	0	0	0	0	0	726	0	1	727	2	0	0	17	19	828
05:00 PM	0	0	24	0	24	0	0	0	0	0	0	282	0	0	282	0	0	0	1	1	307
05:15 PM	0	0	28	0	28	0	0	0	0	0	0	194	0	0	194	0	0	0	0	0	222
05:30 PM	0	0	15	0	15	0	0	0	0	0	0	279	0	0	279	0	0	0	0	0	294
05:45 PM	0	0	32	1	33	0	0	0	0	0	0	238	0	0	238	0	0	0	0	0	271
Total	0	0	99	1	100	0	0	0	0	0	0	993	0	0	993	0	0	0	1	1	1094
Grand Total	0	0	364	1	365	0	0	0	0	0	0	3939	0	9	3948	2	0	0	18	20	4333
Apprch %	0	0	99.7	0.3		0	0	0	0		0	99.8	0	0.2		10	0	0	90		
Total %	0	0	8.4	0	8.4	0	0	0	0	0	0	90.9	0	0.2	91.1	0	0	0	0.4	0.5	
Pass Cars	0	0	364	0	364	0	0	0	0	0	0	3855	0	9	3864	2	0	0	18	20	4248
% Pass Cars	0	0	100	0	99.7	0	0	0	0	0	0	97.9	0	100	97.9	100	0	0	100	100	98
Trucks	0	0	0	1	1	0	0	0	0	0	0	84	0	0	84	0	0	0	0	0	85
% Trucks	0	0	0	100	0.3	0	0	0	0	0	0	2.1	0	0	2.1	0	0	0	0	0	2

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Client: K&H
Intersection Name: SE4ST_SR970EBOFFRAMPS
Opertaors Name: ED
Weather: Sunny

File Name : SE 4 ST_SR 970 EB OFF ramp
Site Code : 00000402
Start Date : 5/6/2015
Page No : 2

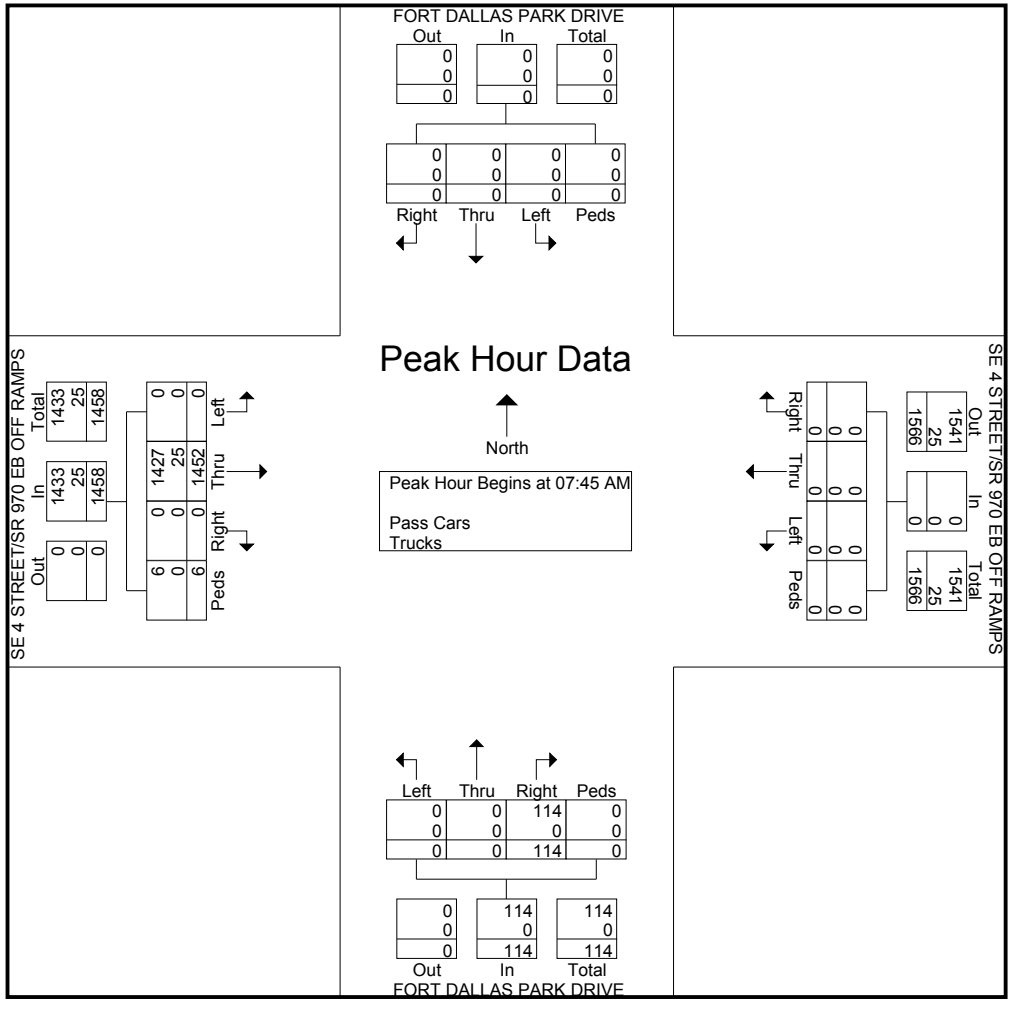
	FORT DALLAS PARK DRIVE Northbound					FORT DALLAS PARK DRIVE Southbound					SE 4 STREET/SR 970 EB OFF RAMPS Eastbound					SE 4 STREET/SR 970 EB OFF RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	19	0	19	0	0	0	0	0	0	236	0	0	236	0	0	0	0	0	255
08:00 AM	0	0	25	0	25	0	0	0	0	0	0	307	0	**3**	310	0	0	0	0	0	335
08:15 AM	0	0	29	0	29	0	0	0	0	0	0	409	0	0	409	0	0	0	0	0	438
08:30 AM	0	0	**41**	0	**41**	0	0	0	0	0	0	**500**	0	3	**503**	0	0	0	0	0	**544**
Total Volume	0	0	114	0	114	0	0	0	0	0	0	1452	0	6	1458	0	0	0	0	0	1572
% App. Total	0	0	100	0		0	0	0	0		0	99.6	0	0.4		0	0	0	0		
PHF	.000	.000	.695	.000	.695	.000	.000	.000	.000	.000	.000	.726	.000	.500	.725	.000	.000	.000	.000	.000	.722
Pass Cars	0	0	114	0	114	0	0	0	0	0	0	1427	0	6	1433	0	0	0	0	0	1547
% Pass Cars	0	0	100	0	100	0	0	0	0	0	0	98.3	0	100	98.3	0	0	0	0	0	98.4
Trucks	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	25
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.7	0	0	1.7	0	0	0	0	0	1.6

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Opertaors Name: ED
Weather: Sunny

File Name : SE 4 ST_SR 970 EB OFF ramp
Site Code : 00000402
Start Date : 5/6/2015
Page No : 3



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Page No : 4

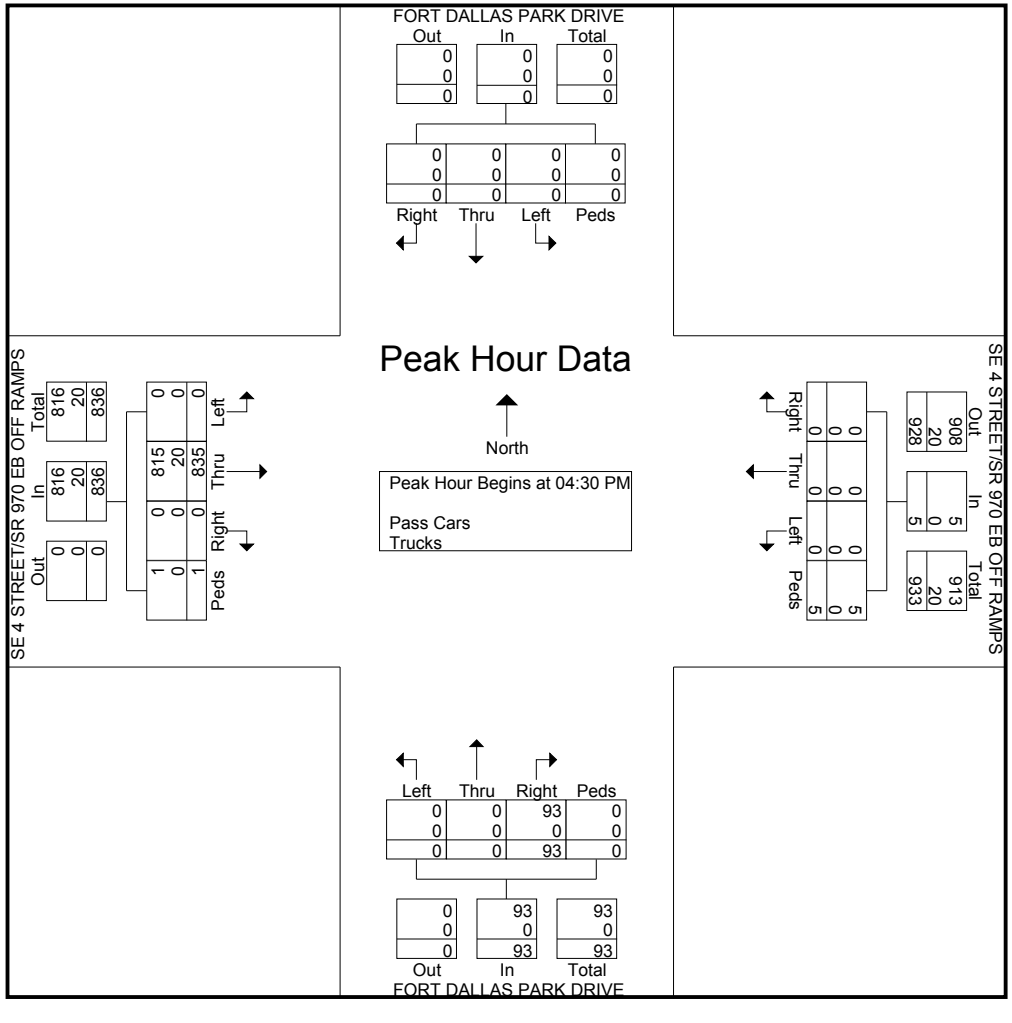
	FORT DALLAS PARK DRIVE Northbound					FORT DALLAS PARK DRIVE Southbound					SE 4 STREET/SR 970 EB OFF RAMPS Eastbound					SE 4 STREET/SR 970 EB OFF RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	20	0	20	0	0	0	0	0	0	177	0	0	177	0	0	0	0	0	197
04:45 PM	0	0	21	0	21	0	0	0	0	0	0	182	0	**1**	183	0	0	0	**4**	**4**	208
05:00 PM	0	0	24	0	24	0	0	0	0	0	0	**282**	0	0	**282**	0	0	0	1	1	**307**
05:15 PM	0	0	**28**	0	**28**	0	0	0	0	0	0	194	0	0	194	0	0	0	0	0	222
Total Volume	0	0	93	0	93	0	0	0	0	0	0	835	0	1	836	0	0	0	5	5	934
% App. Total	0	0	100	0		0	0	0	0		0	99.9	0	0.1		0	0	0	100		
PHF	.000	.000	.830	.000	.830	.000	.000	.000	.000	.000	.000	.740	.000	.250	.741	.000	.000	.000	.313	.313	.761
Pass Cars	0	0	93	0	93	0	0	0	0	0	0	815	0	1	816	0	0	0	5	5	914
% Pass Cars	0	0	100	0	100	0	0	0	0	0	0	97.6	0	100	97.6	0	0	0	100	100	97.9
Trucks	0	0	0	0	0	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	20
% Trucks	0	0	0	0	0	0	0	0	0	0	0	2.4	0	0	2.4	0	0	0	0	0	2.1

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Intersection Name: SE4ST_SR970EBOFFRAMPS
Opertaors Name: ED
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File Name : SE 4 ST_SR 970 EB OFF ramp
Site Code : 00000402
Start Date : 5/6/2015
Page No : 5



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Client: K&H
Intersection Name: SR970OFFRAMP_SE2AVE
Opertaors Name: CG
Weather: Sunny

File Name : SR 970 Off Ramp_SE 2 Ave
Site Code : 00000403
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SR 970 OFF RAMP Eastbound					SR 970 OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	1	1	6	77	0	4	87	0	96	119	2	217	0	0	0	0	0	305
07:15 AM	0	0	0	0	0	8	121	0	1	130	0	109	140	11	260	0	0	0	4	4	394
07:30 AM	0	0	0	0	0	2	147	0	16	165	0	119	185	23	327	0	0	0	3	3	495
07:45 AM	0	0	0	0	0	13	172	0	24	209	0	163	219	18	400	0	0	0	1	1	610
Total	0	0	0	1	1	29	517	0	45	591	0	487	663	54	1204	0	0	0	8	8	1804
08:00 AM	0	0	0	0	0	13	219	0	25	257	0	195	246	26	467	0	0	0	1	1	725
08:15 AM	0	0	0	0	0	7	98	0	22	127	0	128	87	31	246	0	0	0	1	1	374
08:30 AM	0	0	0	0	0	24	320	0	25	369	0	191	178	32	401	0	0	0	0	0	770
08:45 AM	0	0	0	0	0	27	258	0	25	310	0	234	135	26	395	0	0	0	0	0	705
Total	0	0	0	0	0	71	895	0	97	1063	0	748	646	115	1509	0	0	0	2	2	2574
*** BREAK ***																					
04:00 PM	0	0	0	0	0	6	177	0	21	204	0	76	136	36	248	0	0	3	0	3	455
04:15 PM	0	0	0	0	0	7	189	0	20	216	0	66	140	37	243	0	0	6	0	6	465
04:30 PM	0	0	0	0	0	8	180	0	23	211	0	66	142	29	237	0	0	0	0	0	448
04:45 PM	0	0	0	0	0	7	163	0	19	189	0	109	168	36	313	0	0	0	11	11	513
Total	0	0	0	0	0	28	709	0	83	820	0	317	586	138	1041	0	0	9	11	20	1881
05:00 PM	0	0	0	0	0	8	174	0	24	206	0	55	124	47	226	0	0	0	0	0	432
05:15 PM	0	0	0	0	0	7	220	0	42	269	0	84	158	38	280	0	0	3	0	3	552
05:30 PM	0	0	0	0	0	6	231	0	41	278	0	52	123	38	213	0	0	6	0	6	497
05:45 PM	0	0	0	0	0	10	217	0	19	246	0	67	191	57	315	0	0	6	0	6	567
Total	0	0	0	0	0	31	842	0	126	999	0	258	596	180	1034	0	0	15	0	15	2048
Grand Total	0	0	0	1	1	159	2963	0	351	3473	0	1810	2491	487	4788	0	0	24	21	45	8307
Apprch %	0	0	0	100		4.6	85.3	0	10.1		0	37.8	52	10.2		0	0	53.3	46.7		
Total %	0	0	0	0	0	1.9	35.7	0	4.2	41.8	0	21.8	30	5.9	57.6	0	0	0.3	0.3	0.5	
Pass Cars	0	0	0	1	1	157	2940	0	351	3448	0	1791	2477	487	4755	0	0	24	21	45	8249
% Pass Cars	0	0	0	100	100	98.7	99.2	0	100	99.3	0	99	99.4	100	99.3	0	0	100	100	100	99.3
Trucks	0	0	0	0	0	2	23	0	0	25	0	19	14	0	33	0	0	0	0	0	58
% Trucks	0	0	0	0	0	1.3	0.8	0	0	0.7	0	1	0.6	0	0.7	0	0	0	0	0	0.7

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Client: K&H
Intersection Name: SR970OFFRAMP_SE2AVE
Opertaors Name: CG
Weather: Sunny

File Name : SR 970 Off Ramp_SE 2 Ave
Site Code : 00000403
Start Date : 5/6/2015
Page No : 2

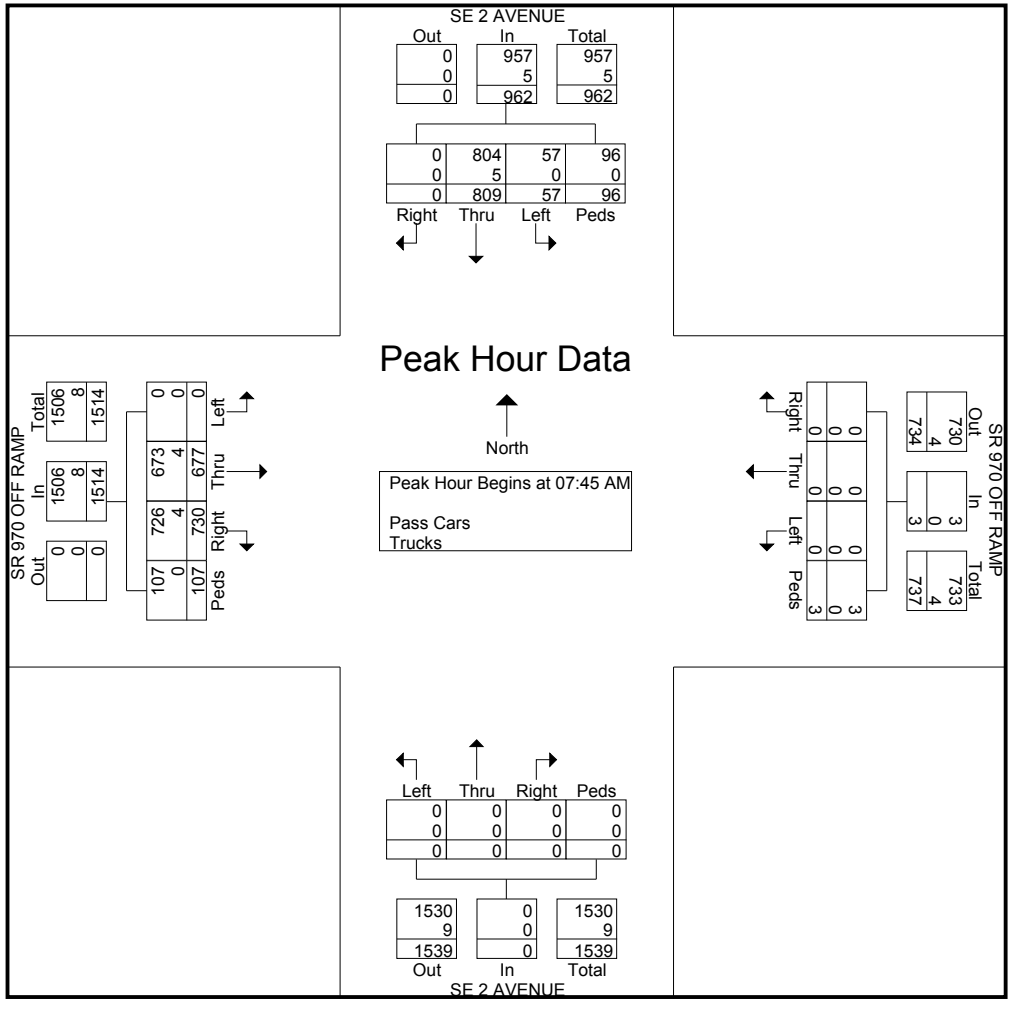
	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SR 970 OFF RAMP Eastbound					SR 970 OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	13	172	0	24	209	0	163	219	18	400	0	0	0	**1**	**1**	610
08:00 AM	0	0	0	0	0	13	219	0	**25**	257	0	**195**	**246**	26	**467**	0	0	0	1	1	725
08:15 AM	0	0	0	0	0	7	98	0	22	127	0	128	87	31	246	0	0	0	1	1	374
08:30 AM	0	0	0	0	0	**24**	**320**	0	25	**369**	0	191	178	**32**	401	0	0	0	0	0	**770**
Total Volume	0	0	0	0	0	57	809	0	96	962	0	677	730	107	1514	0	0	0	3	3	2479
% App. Total	0	0	0	0		5.9	84.1	0	10		0	44.7	48.2	7.1		0	0	0	100		
PHF	.000	.000	.000	.000	.000	.594	.632	.000	.960	.652	.000	.868	.742	.836	.810	.000	.000	.000	.750	.750	.805
Pass Cars	0	0	0	0	0	57	804	0	96	957	0	673	726	107	1506	0	0	0	3	3	2466
% Pass Cars	0	0	0	0	0	100	99.4	0	100	99.5	0	99.4	99.5	100	99.5	0	0	0	100	100	99.5
Trucks	0	0	0	0	0	0	5	0	0	5	0	4	4	0	8	0	0	0	0	0	13
% Trucks	0	0	0	0	0	0	0.6	0	0	0.5	0	0.6	0.5	0	0.5	0	0	0	0	0	0.5

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Opertaors Name: CG
Weather: Sunny

File Name : SR 970 Off Ramp_SE 2 Ave
Site Code : 00000403
Start Date : 5/6/2015
Page No : 3



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Page No : 4

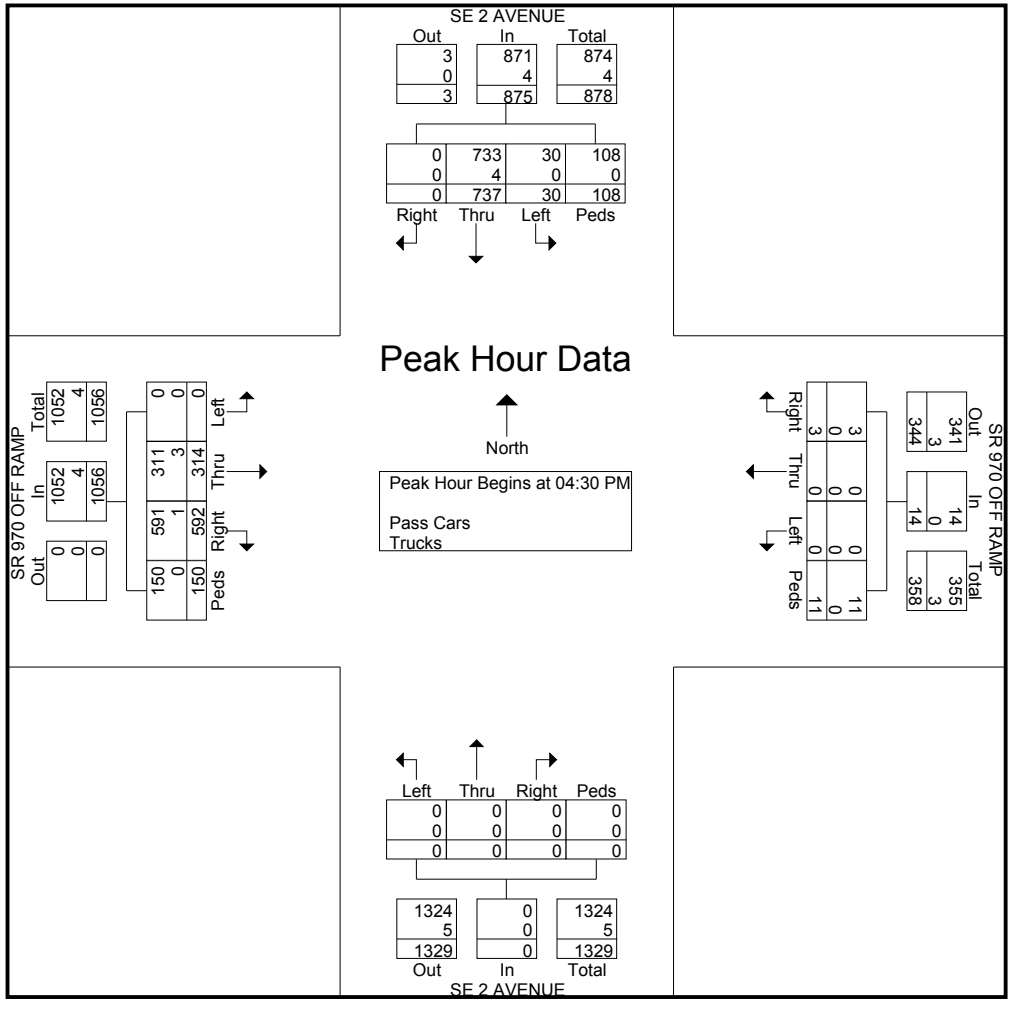
	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SR 970 OFF RAMP Eastbound					SR 970 OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	**8**	180	0	23	211	0	66	142	29	237	0	0	0	0	0	448
04:45 PM	0	0	0	0	0	7	163	0	19	189	0	**109**	**168**	36	**313**	0	0	0	**11**	**11**	513
05:00 PM	0	0	0	0	0	8	174	0	24	206	0	55	124	**47**	226	0	0	0	0	0	432
05:15 PM	0	0	0	0	0	7	**220**	0	**42**	**269**	0	84	158	38	280	0	0	**3**	0	3	**552**
Total Volume	0	0	0	0	0	30	737	0	108	875	0	314	592	150	1056	0	0	3	11	14	1945
% App. Total	0	0	0	0		3.4	84.2	0	12.3		0	29.7	56.1	14.2		0	0	21.4	78.6		
PHF	.000	.000	.000	.000	.000	.938	.838	.000	.643	.813	.000	.720	.881	.798	.843	.000	.000	.250	.250	.318	.881
Pass Cars	0	0	0	0	0	30	733	0	108	871	0	311	591	150	1052	0	0	3	11	14	1937
% Pass Cars	0	0	0	0	0	100	99.5	0	100	99.5	0	99.0	99.8	100	99.6	0	0	100	100	100	99.6
Trucks	0	0	0	0	0	0	4	0	0	4	0	3	1	0	4	0	0	0	0	0	8
% Trucks	0	0	0	0	0	0	0.5	0	0	0.5	0	1.0	0.2	0	0.4	0	0	0	0	0	0.4

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Opertaors Name: CG
Weather: Sunny

File Name : SR 970 Off Ramp_SE 2 Ave
Site Code : 00000403
Start Date : 5/6/2015
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Client: K&H
Intersection Name: SR970OFFRAMP_MIAMIAVE
Opertaors Name: CV
Weather: Sunny

File Name : SR 970Off RAmp_Miami Ave
Site Code : 00000404
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SR 970 OFF RAMP Eastbound					SR 970 OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	18	0	0	18	0	0	74	5	79	0	0	0	2	2	99
07:15 AM	0	0	0	0	0	0	17	0	0	17	0	0	80	1	81	0	0	0	1	1	99
07:30 AM	0	0	0	0	0	0	23	0	7	30	0	0	95	0	95	0	0	0	10	10	135
07:45 AM	0	0	0	0	0	0	23	0	2	25	0	0	101	0	101	0	0	0	13	13	139
Total	0	0	0	0	0	0	81	0	9	90	0	0	350	6	356	0	0	0	26	26	472
08:00 AM	0	0	0	0	0	0	41	0	6	47	0	0	127	4	131	0	0	0	10	10	188
08:15 AM	0	0	0	0	0	0	37	0	5	42	0	0	170	0	170	0	0	0	1	1	213
08:30 AM	0	0	0	0	0	0	45	0	1	46	0	0	187	0	187	0	0	0	0	0	233
08:45 AM	0	0	0	0	0	0	65	0	1	66	0	0	174	0	174	0	0	0	0	0	240
Total	0	0	0	0	0	0	188	0	13	201	0	0	658	4	662	0	0	0	11	11	874
*** BREAK ***																					
04:00 PM	0	0	1	0	1	0	42	0	3	45	0	0	59	0	59	0	0	0	0	0	105
04:15 PM	0	0	0	0	0	0	60	0	2	62	0	0	49	0	49	0	0	0	0	0	111
04:30 PM	0	0	0	0	0	0	42	0	9	51	0	0	56	0	56	0	0	0	0	0	107
04:45 PM	0	0	0	0	0	0	54	0	7	61	0	0	60	0	60	0	0	0	0	0	121
Total	0	0	1	0	1	0	198	0	21	219	0	0	224	0	224	0	0	0	0	0	444
05:00 PM	0	0	0	0	0	0	47	0	7	54	0	0	73	0	73	0	0	0	0	0	127
05:15 PM	0	0	0	0	0	0	52	0	3	55	0	0	65	0	65	0	0	0	0	0	120
05:30 PM	0	0	0	0	0	0	62	0	8	70	0	0	96	0	96	0	0	0	0	0	166
05:45 PM	0	0	0	0	0	0	60	0	14	74	0	0	107	0	107	0	0	0	0	0	181
Total	0	0	0	0	0	0	221	0	32	253	0	0	341	0	341	0	0	0	0	0	594
Grand Total	0	0	1	0	1	0	688	0	75	763	0	0	1573	10	1583	0	0	0	37	37	2384
Apprch %	0	0	100	0		0	90.2	0	9.8		0	0	99.4	0.6		0	0	0	100		
Total %	0	0	0	0	0	0	28.9	0	3.1	32	0	0	66	0.4	66.4	0	0	0	1.6	1.6	
Pass Cars	0	0	1	0	1	0	679	0	75	754	0	0	1562	10	1572	0	0	0	37	37	2364
% Pass Cars	0	0	100	0	100	0	98.7	0	100	98.8	0	0	99.3	100	99.3	0	0	0	100	100	99.2
Trucks	0	0	0	0	0	0	9	0	0	9	0	0	11	0	11	0	0	0	0	0	20
% Trucks	0	0	0	0	0	0	1.3	0	0	1.2	0	0	0.7	0	0.7	0	0	0	0	0	0.8

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Client: K&H
Intersection Name: SR970OFFRAMP_MIAMIAVE
Opertaors Name: CV
Weather: Sunny

File Name : SR 970Off RAmp_Miami Ave
Site Code : 00000404
Start Date : 5/6/2015
Page No : 2

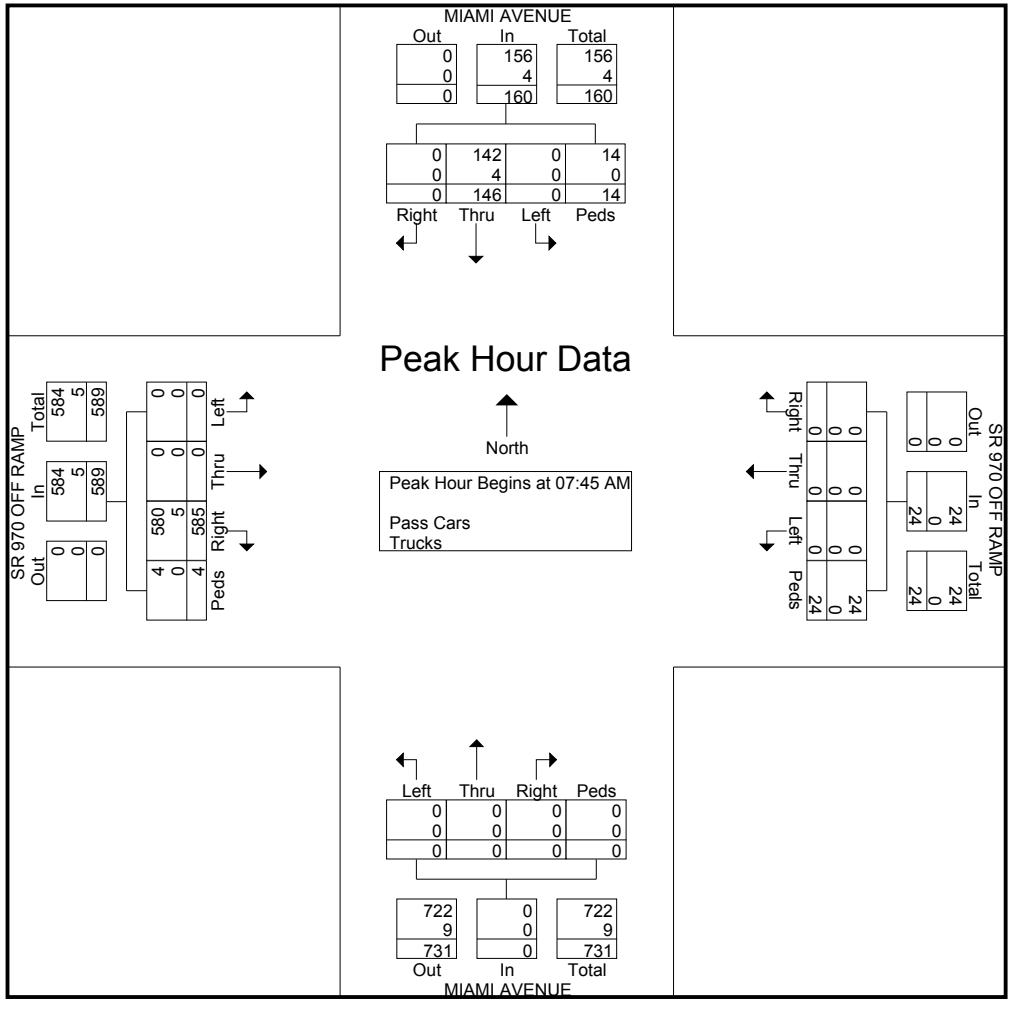
	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SR 970 OFF RAMP Eastbound					SR 970 OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	23	0	2	25	0	0	101	0	101	0	0	0	**13**	**13**	139
08:00 AM	0	0	0	0	0	0	41	0	**6**	**47**	0	0	127	**4**	131	0	0	0	10	10	188
08:15 AM	0	0	0	0	0	0	37	0	5	42	0	0	170	0	170	0	0	0	1	1	213
08:30 AM	0	0	0	0	0	0	**45**	0	1	46	0	0	**187**	0	**187**	0	0	0	0	0	**233**
Total Volume	0	0	0	0	0	0	146	0	14	160	0	0	585	4	589	0	0	0	24	24	773
% App. Total	0	0	0	0		0	91.2	0	8.8		0	0	99.3	0.7		0	0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.811	.000	.583	.851	.000	.000	.782	.250	.787	.000	.000	.000	.462	.462	.829
Pass Cars	0	0	0	0	0	0	142	0	14	156	0	0	580	4	584	0	0	0	24	24	764
% Pass Cars	0	0	0	0	0	0	97.3	0	100	97.5	0	0	99.1	100	99.2	0	0	0	100	100	98.8
Trucks	0	0	0	0	0	0	4	0	0	4	0	0	5	0	5	0	0	0	0	0	9
% Trucks	0	0	0	0	0	0	2.7	0	0	2.5	0	0	0.9	0	0.8	0	0	0	0	0	1.2

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Opertaors Name: CV
Weather: Sunny

File Name : SR 970Off RAmp_Miami Ave
Site Code : 00000404
Start Date : 5/6/2015
Page No : 3



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File Name : SR 970Off RAmp_Miami Ave
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Page No : 4

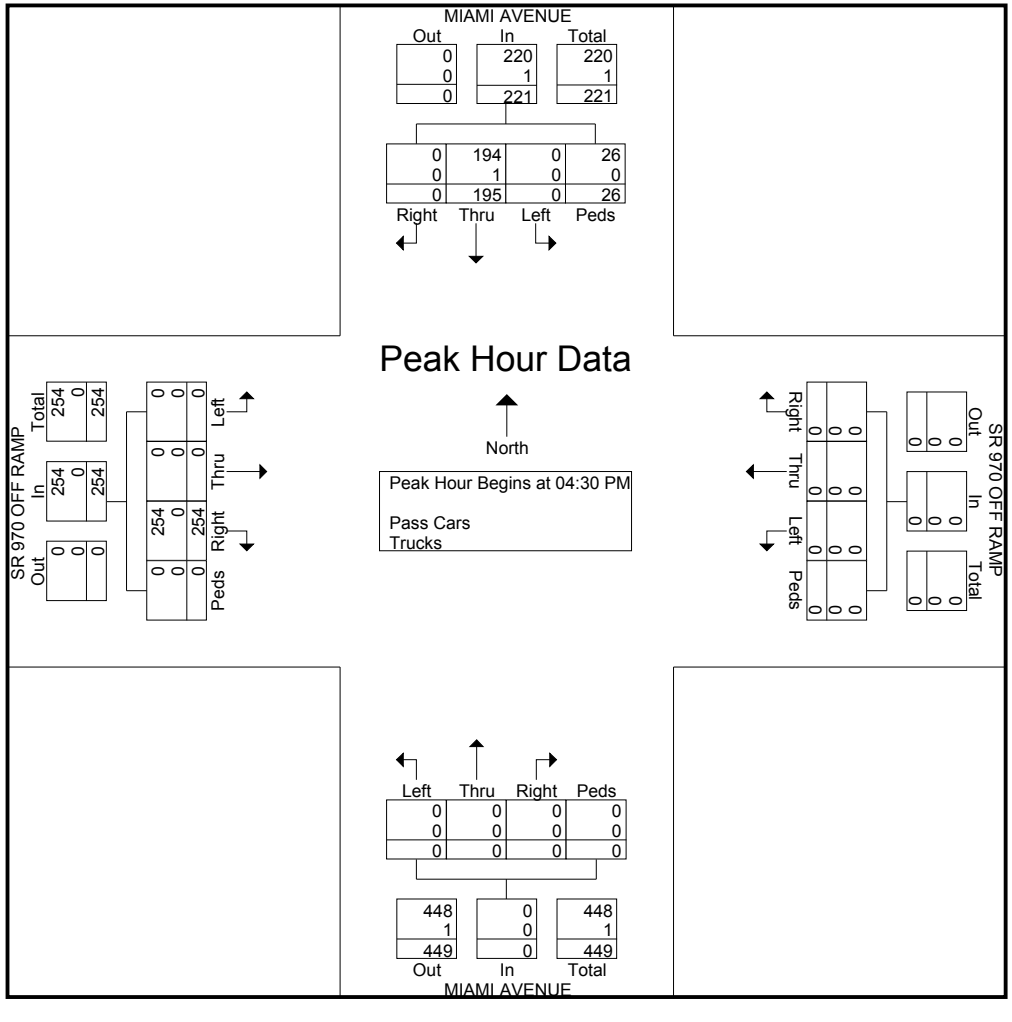
	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SR 970 OFF RAMP Eastbound					SR 970 OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	42	0	**9**	51	0	0	56	0	56	0	0	0	0	0	107
04:45 PM	0	0	0	0	0	0	**54**	0	7	**61**	0	0	60	0	60	0	0	0	0	0	121
05:00 PM	0	0	0	0	0	0	47	0	7	54	0	0	**73**	0	**73**	0	0	0	0	0	**127**
05:15 PM	0	0	0	0	0	0	52	0	3	55	0	0	65	0	65	0	0	0	0	0	120
Total Volume	0	0	0	0	0	0	195	0	26	221	0	0	254	0	254	0	0	0	0	0	475
% App. Total	0	0	0	0		0	88.2	0	11.8		0	0	100	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.903	.000	.722	.906	.000	.000	.870	.000	.870	.000	.000	.000	.000	.000	.935
Pass Cars	0	0	0	0	0	0	194	0	26	220	0	0	254	0	254	0	0	0	0	0	474
% Pass Cars	0	0	0	0	0	0	99.5	0	100	99.5	0	0	100	0	100	0	0	0	0	0	99.8
Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0.2

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Client: K&H
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Opertaors Name: CV
Weather: Sunny

File Name : SR 970Off RAmp_Miami Ave
Site Code : 00000404
Start Date : 5/6/2015
Page No : 5



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Client: K&H
Intersection Name: SR970ONRAMP_SE2IAVE
Opertaors Name: EB
Weather: Sunny

File Name : SR 970 On Ramp_SE 2 Avn
Site Code : 00000405
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SR 970 ON RAMP Eastbound					SR 970 ON RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	117	135	0	252	0	0	0	0	0	0	0	0	0	0	252
07:15 AM	0	0	0	0	0	0	150	168	0	318	0	0	0	0	0	0	0	0	0	0	318
07:30 AM	0	0	0	0	0	0	176	149	0	325	0	0	0	0	0	0	0	0	0	0	325
07:45 AM	0	0	0	0	0	0	231	183	0	414	0	0	0	0	0	0	0	0	0	0	414
Total	0	0	0	0	0	0	674	635	0	1309	0	0	0	0	0	0	0	0	0	0	1309
08:00 AM	0	0	0	0	0	0	105	55	0	160	0	0	0	0	0	0	0	0	0	0	160
08:15 AM	0	0	0	0	0	0	372	73	0	445	0	0	0	0	0	0	0	0	0	0	445
08:30 AM	0	0	0	0	0	0	356	84	0	440	0	0	0	0	0	0	0	0	0	0	440
08:45 AM	0	0	0	0	0	0	379	52	0	431	0	0	0	0	0	0	0	0	0	0	431
Total	0	0	0	0	0	0	1212	264	0	1476	0	0	0	0	0	0	0	0	0	0	1476
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	237	238	0	475	0	0	0	0	0	0	0	0	0	0	475
04:15 PM	0	0	0	0	0	0	165	203	0	368	0	0	0	0	0	0	0	0	0	0	368
04:30 PM	0	0	0	0	0	0	223	230	0	453	0	0	0	0	0	0	0	0	0	0	453
04:45 PM	0	0	0	0	0	0	137	199	0	336	0	0	0	0	0	0	0	0	0	0	336
Total	0	0	0	0	0	0	762	870	0	1632	0	0	0	0	0	0	0	0	0	0	1632
05:00 PM	0	0	0	0	0	0	267	230	0	497	0	0	0	0	0	0	0	0	0	0	497
05:15 PM	0	0	0	0	0	0	290	285	0	575	0	0	0	0	0	0	0	0	0	0	575
05:30 PM	0	0	0	0	0	0	241	282	0	523	0	0	0	0	0	0	0	0	0	0	523
05:45 PM	0	0	0	0	0	0	267	307	0	574	0	0	0	0	0	0	0	0	0	0	574
Total	0	0	0	0	0	0	1065	1104	0	2169	0	0	0	0	0	0	0	0	0	0	2169
Grand Total	0	0	0	0	0	0	3713	2873	0	6586	0	0	0	0	0	0	0	0	0	0	6586
Apprch %	0	0	0	0		0	56.4	43.6	0		0	0	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	56.4	43.6	0	100	0	0	0	0	0	0	0	0	0	0	
Pass Cars	0	0	0	0	0	0	3628	2794	0	6422	0	0	0	0	0	0	0	0	0	0	6422
% Pass Cars	0	0	0	0	0	0	97.7	97.3	0	97.5	0	0	0	0	0	0	0	0	0	0	97.5
Trucks	0	0	0	0	0	0	85	79	0	164	0	0	0	0	0	0	0	0	0	0	164
% Trucks	0	0	0	0	0	0	2.3	2.7	0	2.5	0	0	0	0	0	0	0	0	0	0	2.5

F.R. Aleman & Associates, Inc

10305 NW 41st Street, Suite 200
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Tax: (305)599-8749

Client: K&H
Intersection Name: SR970ONRAMP_SE2IAVE
Opertaors Name: EB
Weather: Sunny

File Name : SR 970 On Ramp_SE 2 Avn
Site Code : 00000405
Start Date : 5/6/2015
Page No : 2

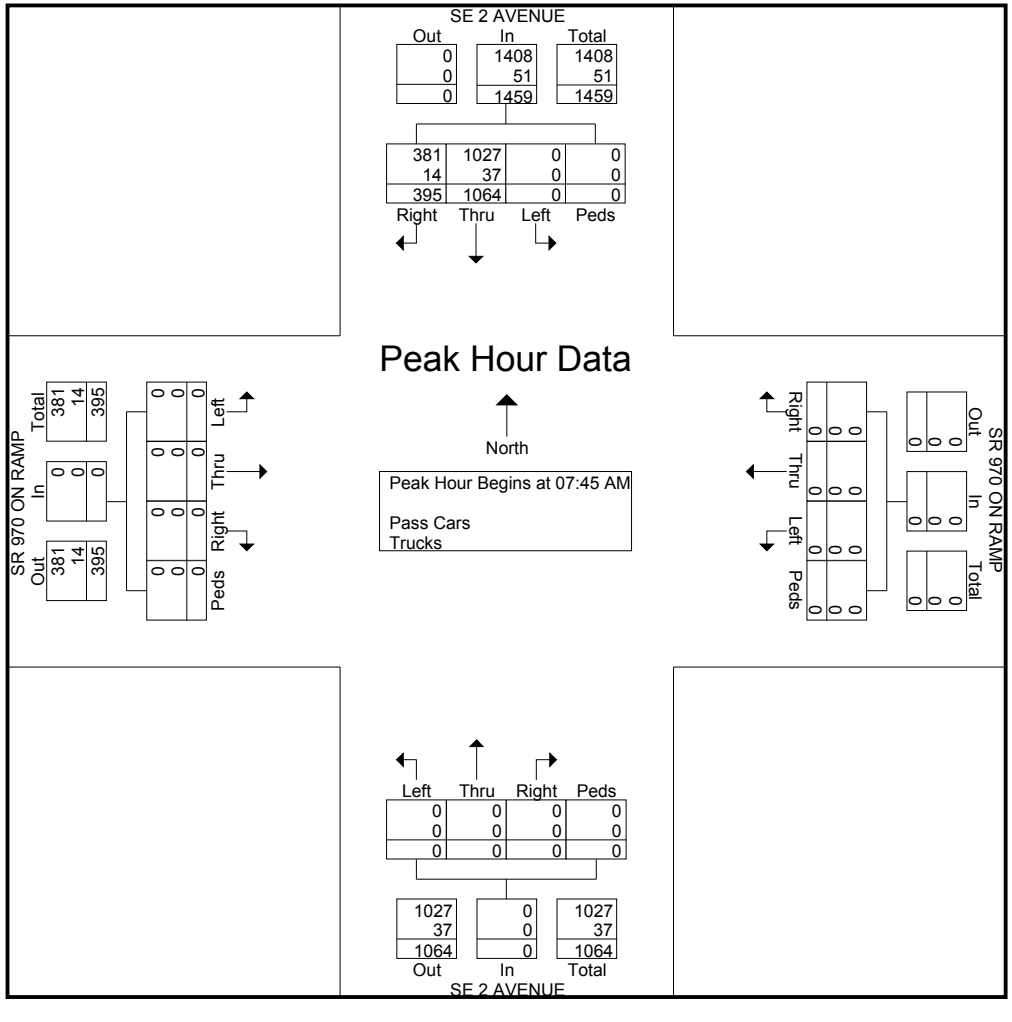
	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SR 970 ON RAMP Eastbound					SR 970 ON RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	231	**183**	0	414	0	0	0	0	0	0	0	0	0	0	414
08:00 AM	0	0	0	0	0	0	105	55	0	160	0	0	0	0	0	0	0	0	0	0	160
08:15 AM	0	0	0	0	0	0	**372**	73	0	**445**	0	0	0	0	0	0	0	0	0	0	**445**
08:30 AM	0	0	0	0	0	0	356	84	0	440	0	0	0	0	0	0	0	0	0	0	440
Total Volume	0	0	0	0	0	0	1064	395	0	1459	0	0	0	0	0	0	0	0	0	0	1459
% App. Total	0	0	0	0		0	72.9	27.1	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.715	.540	.000	.820	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.820
Pass Cars	0	0	0	0	0	0	1027	381	0	1408	0	0	0	0	0	0	0	0	0	0	1408
% Pass Cars	0	0	0	0	0	0	96.5	96.5	0	96.5	0	0	0	0	0	0	0	0	0	0	96.5
Trucks	0	0	0	0	0	0	37	14	0	51	0	0	0	0	0	0	0	0	0	0	51
% Trucks	0	0	0	0	0	0	3.5	3.5	0	3.5	0	0	0	0	0	0	0	0	0	0	3.5

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Opertaors Name: EB
Weather: Sunny

File Name : SR 970 On Ramp_SE 2 Avn
Site Code : 00000405
Start Date : 5/6/2015
Page No : 3



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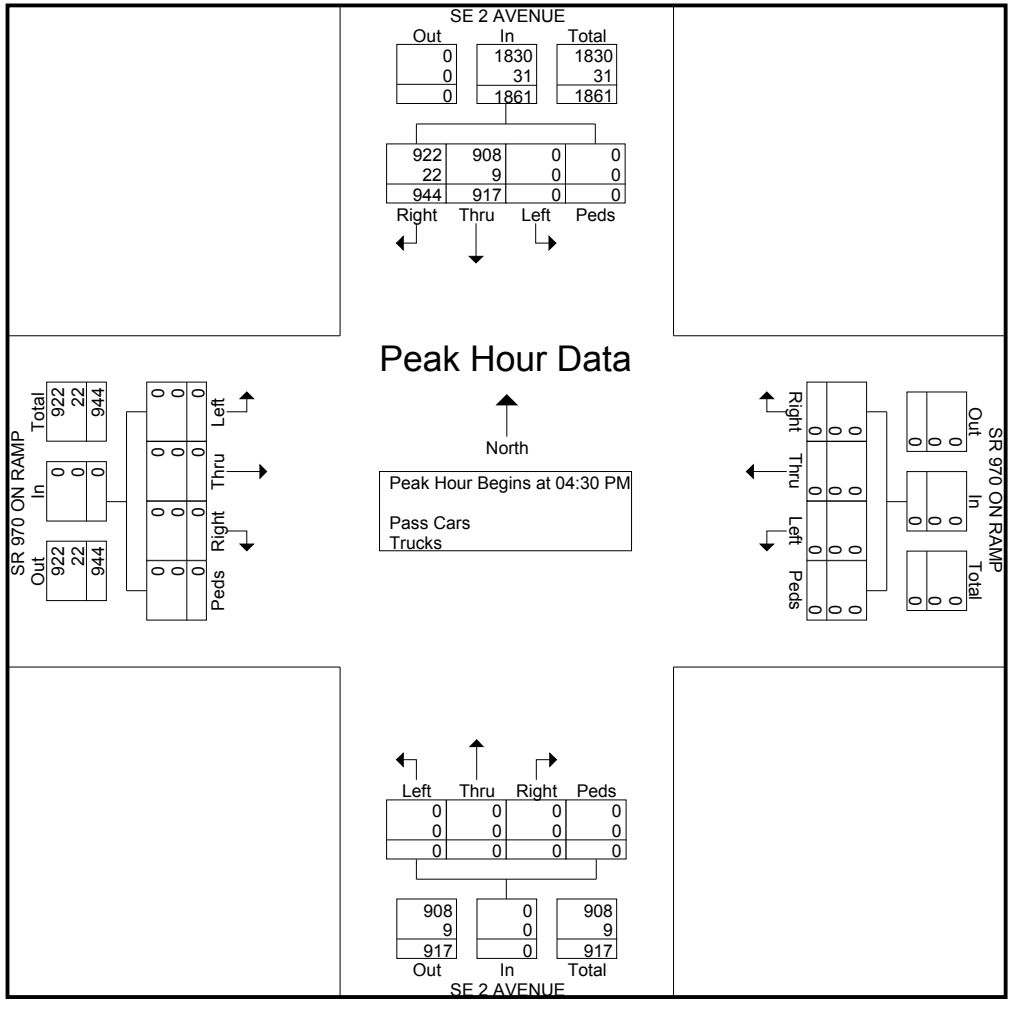
	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SR 970 ON RAMP Eastbound					SR 970 ON RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	223	230	0	453	0	0	0	0	0	0	0	0	0	0	453
04:45 PM	0	0	0	0	0	0	137	199	0	336	0	0	0	0	0	0	0	0	0	0	336
05:00 PM	0	0	0	0	0	0	267	230	0	497	0	0	0	0	0	0	0	0	0	0	497
05:15 PM	0	0	0	0	0	0	**290**	**285**	0	**575**	0	0	0	0	0	0	0	0	0	0	**575**
Total Volume	0	0	0	0	0	0	917	944	0	1861	0	0	0	0	0	0	0	0	0	0	1861
% App. Total	0	0	0	0		0	49.3	50.7	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.791	.828	.000	.809	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.809
Pass Cars	0	0	0	0	0	0	908	922	0	1830	0	0	0	0	0	0	0	0	0	0	1830
% Pass Cars	0	0	0	0	0	0	99.0	97.7	0	98.3	0	0	0	0	0	0	0	0	0	0	98.3
Trucks	0	0	0	0	0	0	9	22	0	31	0	0	0	0	0	0	0	0	0	0	31
% Trucks	0	0	0	0	0	0	1.0	2.3	0	1.7	0	0	0	0	0	0	0	0	0	0	1.7

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Opertaors Name: EB
Weather: Sunny

File Name : SR 970 On Ramp_SE 2 Avn
Site Code : 00000405
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Client: K&H
Intersection Name: SW2St_MiamiAve
Opertaors Name: MA
Weather: Sunny

File Name : SW 2 St_Miami Ave
Site Code : 00000406
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 2 STREET/I-95 ON RAMP Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	9	10	1	20	0	0	0	0	0	15	83	0	2	100	120
07:15 AM	0	0	0	0	0	0	13	10	3	26	0	0	0	0	0	10	86	0	2	98	124
07:30 AM	0	0	0	0	0	0	14	13	5	32	0	0	0	0	0	9	110	0	15	134	166
07:45 AM	0	0	0	0	0	0	17	17	5	39	0	0	0	0	0	6	124	0	14	144	183
Total	0	0	0	0	0	0	53	50	14	117	0	0	0	0	0	40	403	0	33	476	593
08:00 AM	0	0	0	0	0	0	30	26	8	64	0	0	0	0	0	6	162	0	16	184	248
08:15 AM	0	0	0	0	0	0	27	21	4	52	0	0	0	0	0	16	178	0	6	200	252
08:30 AM	0	0	0	0	0	0	26	22	0	48	0	0	0	0	0	19	205	0	18	242	290
08:45 AM	0	0	0	0	0	0	44	21	4	69	0	0	0	0	0	14	221	0	21	256	325
Total	0	0	0	0	0	0	127	90	16	233	0	0	0	0	0	55	766	0	61	882	1115
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	27	25	8	60	0	0	0	0	0	14	224	0	21	259	319
04:15 PM	0	0	0	0	0	0	28	22	5	55	0	0	0	0	0	27	185	0	7	219	274
04:30 PM	0	0	0	0	0	0	23	12	1	36	0	0	0	0	0	16	250	0	6	272	308
04:45 PM	0	0	0	0	0	0	30	23	0	53	0	0	0	0	0	13	230	0	11	254	307
Total	0	0	0	0	0	0	108	82	14	204	0	0	0	0	0	70	889	0	45	1004	1208
05:00 PM	0	0	0	0	0	0	25	13	1	39	0	0	0	0	0	4	300	0	5	309	348
05:15 PM	0	0	0	0	0	0	27	18	5	50	0	0	0	0	0	16	316	0	11	343	393
05:30 PM	0	0	0	0	0	0	32	12	3	47	0	0	0	0	0	18	322	0	14	354	401
05:45 PM	0	0	0	0	0	0	38	29	4	71	0	0	0	0	0	25	301	0	5	331	402
Total	0	0	0	0	0	0	122	72	13	207	0	0	0	0	0	63	1239	0	35	1337	1544
Grand Total	0	0	0	0	0	0	410	294	57	761	0	0	0	0	0	228	3297	0	174	3699	4460
Apprch %	0	0	0	0		0	53.9	38.6	7.5		0	0	0	0		6.2	89.1	0	4.7		
Total %	0	0	0	0	0	0	9.2	6.6	1.3	17.1	0	0	0	0	0	5.1	73.9	0	3.9	82.9	
Pass Cars	0	0	0	0	0	0	401	225	57	683	0	0	0	0	0	225	3244	0	174	3643	4326
% Pass Cars	0	0	0	0	0	0	97.8	76.5	100	89.8	0	0	0	0	0	98.7	98.4	0	100	98.5	97
Trucks	0	0	0	0	0	0	9	69	0	78	0	0	0	0	0	3	53	0	0	56	134
% Trucks	0	0	0	0	0	0	2.2	23.5	0	10.2	0	0	0	0	0	1.3	1.6	0	0	1.5	3

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Client: K&H
Intersection Name: SW2St_MiamiAve
Opertaors Name: MA
Weather: Sunny

File Name : SW 2 St_Miami Ave
Site Code : 00000406
Start Date : 5/6/2015
Page No : 2

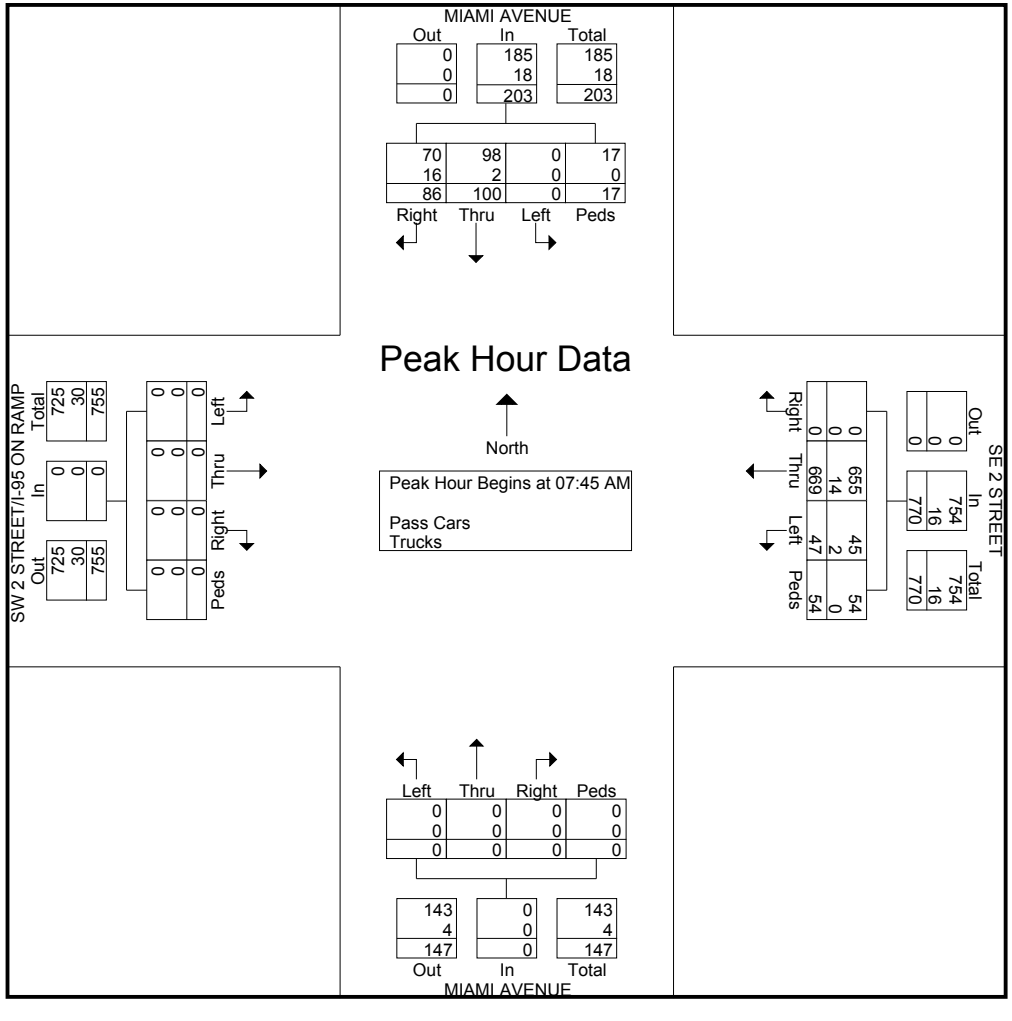
	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 2 STREET/I-95 ON RAMP Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	17	17	5	39	0	0	0	0	0	6	124	0	14	144	183
08:00 AM	0	0	0	0	0	0	**30**	**26**	**8**	**64**	0	0	0	0	0	6	162	0	16	184	248
08:15 AM	0	0	0	0	0	0	27	21	4	52	0	0	0	0	0	16	178	0	6	200	252
08:30 AM	0	0	0	0	0	0	26	22	0	48	0	0	0	0	0	**19**	**205**	0	**18**	**242**	**290**
Total Volume	0	0	0	0	0	0	100	86	17	203	0	0	0	0	0	47	669	0	54	770	973
% App. Total	0	0	0	0		0	49.3	42.4	8.4		0	0	0	0		6.1	86.9	0	7		
PHF	.000	.000	.000	.000	.000	.000	.833	.827	.531	.793	.000	.000	.000	.000	.000	.618	.816	.000	.750	.795	.839
Pass Cars	0	0	0	0	0	0	98	70	17	185	0	0	0	0	0	45	655	0	54	754	939
% Pass Cars	0	0	0	0	0	0	98.0	81.4	100	91.1	0	0	0	0	0	95.7	97.9	0	100	97.9	96.5
Trucks	0	0	0	0	0	0	2	16	0	18	0	0	0	0	0	2	14	0	0	16	34
% Trucks	0	0	0	0	0	0	2.0	18.6	0	8.9	0	0	0	0	0	4.3	2.1	0	0	2.1	3.5

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Client: K&H
Intersection Name: SW2St_MiamiAve
Opertaors Name: MA
Weather: Sunny

File Name : SW 2 St_Miami Ave
Site Code : 00000406
Start Date : 5/6/2015
Page No : 3



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Intersection Name: SW2St_MiamiAve
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Page No : 4

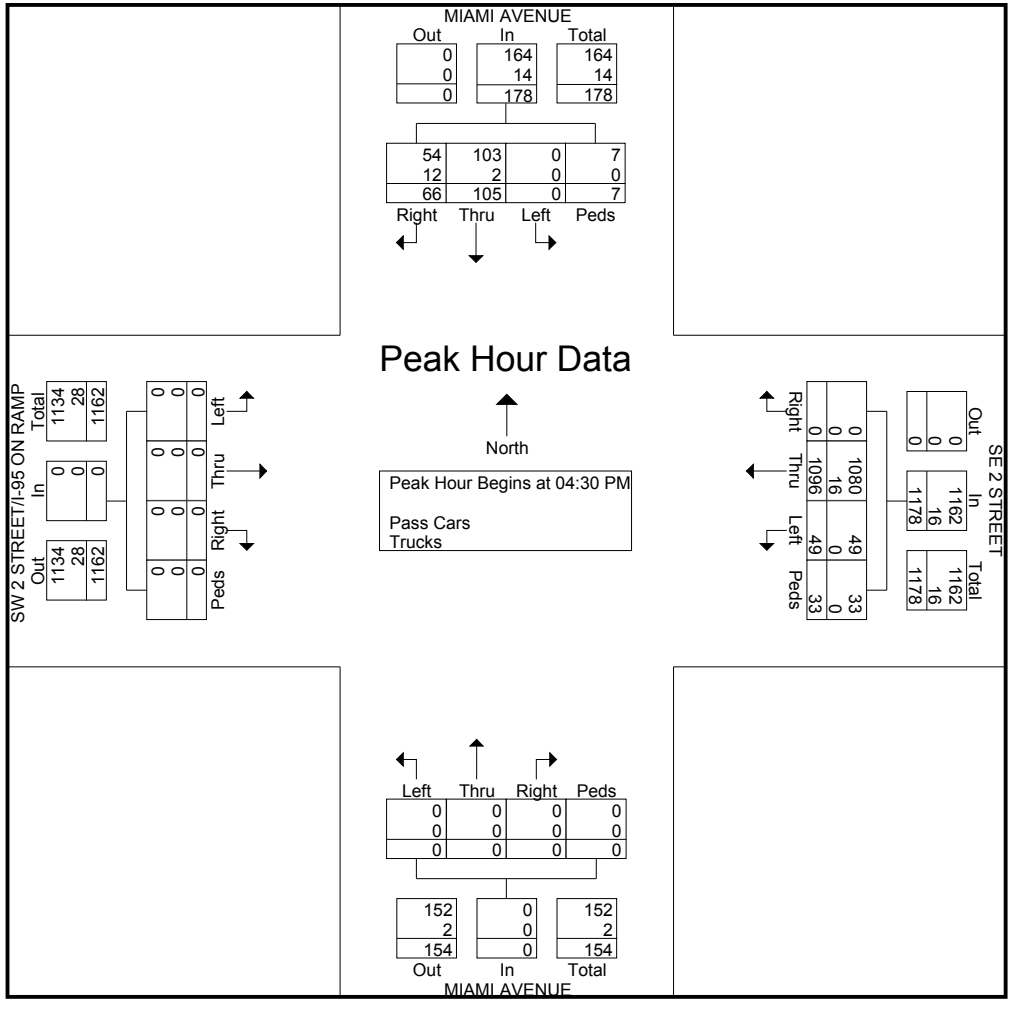
	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 2 STREET/I-95 ON RAMP Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	23	12	1	36	0	0	0	0	0	**16**	250	0	6	272	308
04:45 PM	0	0	0	0	0	0	**30**	**23**	0	**53**	0	0	0	0	0	13	230	0	**11**	254	307
05:00 PM	0	0	0	0	0	0	25	13	1	39	0	0	0	0	0	4	300	0	5	309	348
05:15 PM	0	0	0	0	0	0	27	18	**5**	50	0	0	0	0	0	16	**316**	0	11	**343**	**393**
Total Volume	0	0	0	0	0	0	105	66	7	178	0	0	0	0	0	49	1096	0	33	1178	1356
% App. Total	0	0	0	0		0	59	37.1	3.9		0	0	0	0		4.2	93	0	2.8		
PHF	.000	.000	.000	.000	.000	.000	.875	.717	.350	.840	.000	.000	.000	.000	.000	.766	.867	.000	.750	.859	.863
Pass Cars	0	0	0	0	0	0	103	54	7	164	0	0	0	0	0	49	1080	0	33	1162	1326
% Pass Cars	0	0	0	0	0	0	98.1	81.8	100	92.1	0	0	0	0	0	100	98.5	0	100	98.6	97.8
Trucks	0	0	0	0	0	0	2	12	0	14	0	0	0	0	0	0	16	0	0	16	30
% Trucks	0	0	0	0	0	0	1.9	18.2	0	7.9	0	0	0	0	0	0	1.5	0	0	1.4	2.2

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Opertaors Name: MA
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File Name : SW 2 St_Miami Ave
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Client: K&H
Intersection Name: NBONRAMP_MIAMIAVE
Opertaors Name: MS
Weather: Sunny

File Name : NBON ramp_Miami Ave
Site Code : 00000407
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 2 STREET/I-95 NB ON RAMP Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	21	51	0	72	0	0	0	0	0	0	0	0	0	0	72
07:15 AM	0	0	0	0	0	0	27	64	0	91	0	0	0	0	0	0	0	0	0	0	91
07:30 AM	0	0	0	0	0	0	27	57	0	84	0	0	0	0	0	0	0	0	0	0	84
07:45 AM	0	0	0	0	0	0	34	54	0	88	0	0	0	0	0	0	0	0	0	0	88
Total	0	0	0	0	0	0	109	226	0	335	0	0	0	0	0	0	0	0	0	0	335
08:00 AM	0	0	0	0	0	0	61	48	0	109	0	0	0	0	0	0	0	0	0	0	109
08:15 AM	0	0	0	0	0	0	57	89	0	146	0	0	0	0	0	0	0	0	0	0	146
08:30 AM	0	0	0	0	0	0	49	98	0	147	0	0	0	0	0	0	0	0	0	0	147
08:45 AM	0	0	0	0	0	0	62	103	0	165	0	0	0	0	0	0	0	0	0	0	165
Total	0	0	0	0	0	0	229	338	0	567	0	0	0	0	0	0	0	0	0	0	567
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	48	145	0	193	0	0	0	0	0	0	0	0	0	0	193
04:15 PM	0	0	0	0	0	0	54	146	0	200	0	0	0	0	0	0	0	0	0	0	200
04:30 PM	0	0	0	0	0	0	37	132	0	169	0	0	0	0	0	0	0	0	0	0	169
04:45 PM	0	0	0	0	0	0	55	132	0	187	0	0	0	0	0	0	0	0	0	0	187
Total	0	0	0	0	0	0	194	555	0	749	0	0	0	0	0	0	0	0	0	0	749
05:00 PM	0	0	0	0	0	0	54	189	0	243	0	0	0	0	0	0	0	0	0	0	243
05:15 PM	0	0	0	0	0	0	48	162	0	210	0	0	0	0	0	0	0	0	0	0	210
05:30 PM	0	0	0	0	0	0	53	152	0	205	0	0	0	0	0	0	0	0	0	0	205
05:45 PM	0	0	0	0	0	0	64	114	0	178	0	0	0	0	0	0	0	0	0	0	178
Total	0	0	0	0	0	0	219	617	0	836	0	0	0	0	0	0	0	0	0	0	836
Grand Total	0	0	0	0	0	0	751	1736	0	2487	0	0	0	0	0	0	0	0	0	0	2487
Apprch %	0	0	0	0		0	30.2	69.8	0		0	0	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	30.2	69.8	0	100	0	0	0	0	0	0	0	0	0	0	
Pass Cars	0	0	0	0	0	0	674	1698	0	2372	0	0	0	0	0	0	0	0	0	0	2372
% Pass Cars	0	0	0	0	0	0	89.7	97.8	0	95.4	0	0	0	0	0	0	0	0	0	0	95.4
Trucks	0	0	0	0	0	0	77	38	0	115	0	0	0	0	0	0	0	0	0	0	115
% Trucks	0	0	0	0	0	0	10.3	2.2	0	4.6	0	0	0	0	0	0	0	0	0	0	4.6

F.R. Aleman & Associates, Inc

10305 NW 41st Street, Suite 200
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Phone: (305)591-8777
Tax: (305)599-8749

Client: K&H
Intersection Name: NBONRAMP_MIAMIAVE
Opertaors Name: MS
Weather: Sunny

File Name : NBON ramp_Miami Ave
Site Code : 00000407
Start Date : 5/6/2015
Page No : 2

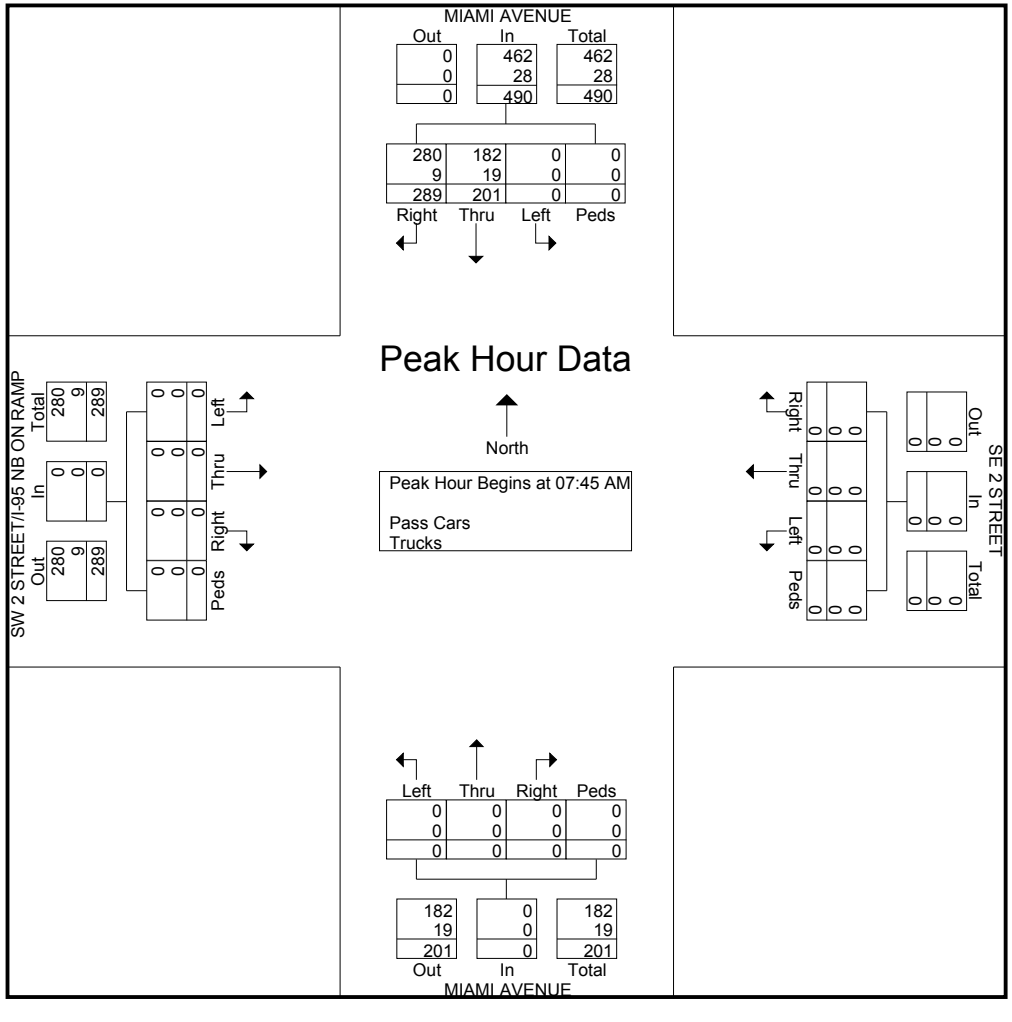
	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 2 STREET/I-95 NB ON RAMP Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	34	54	0	88	0	0	0	0	0	0	0	0	0	0	88
08:00 AM	0	0	0	0	0	0	**61**	48	0	109	0	0	0	0	0	0	0	0	0	0	109
08:15 AM	0	0	0	0	0	0	57	89	0	146	0	0	0	0	0	0	0	0	0	0	146
08:30 AM	0	0	0	0	0	0	49	**98**	0	**147**	0	0	0	0	0	0	0	0	0	0	**147**
Total Volume	0	0	0	0	0	0	201	289	0	490	0	0	0	0	0	0	0	0	0	0	490
% App. Total	0	0	0	0		0	41	59	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.824	.737	.000	.833	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.833
Pass Cars	0	0	0	0	0	0	182	280	0	462	0	0	0	0	0	0	0	0	0	0	462
% Pass Cars	0	0	0	0	0	0	90.5	96.9	0	94.3	0	0	0	0	0	0	0	0	0	0	94.3
Trucks	0	0	0	0	0	0	19	9	0	28	0	0	0	0	0	0	0	0	0	0	28
% Trucks	0	0	0	0	0	0	9.5	3.1	0	5.7	0	0	0	0	0	0	0	0	0	0	5.7

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Intersection Name: NBONRAMP_MIAMIAVE
Opertaors Name: MS
Weather: Sunny

File Name : NBON ramp_Miami Ave
Site Code : 00000407
Start Date : 5/6/2015
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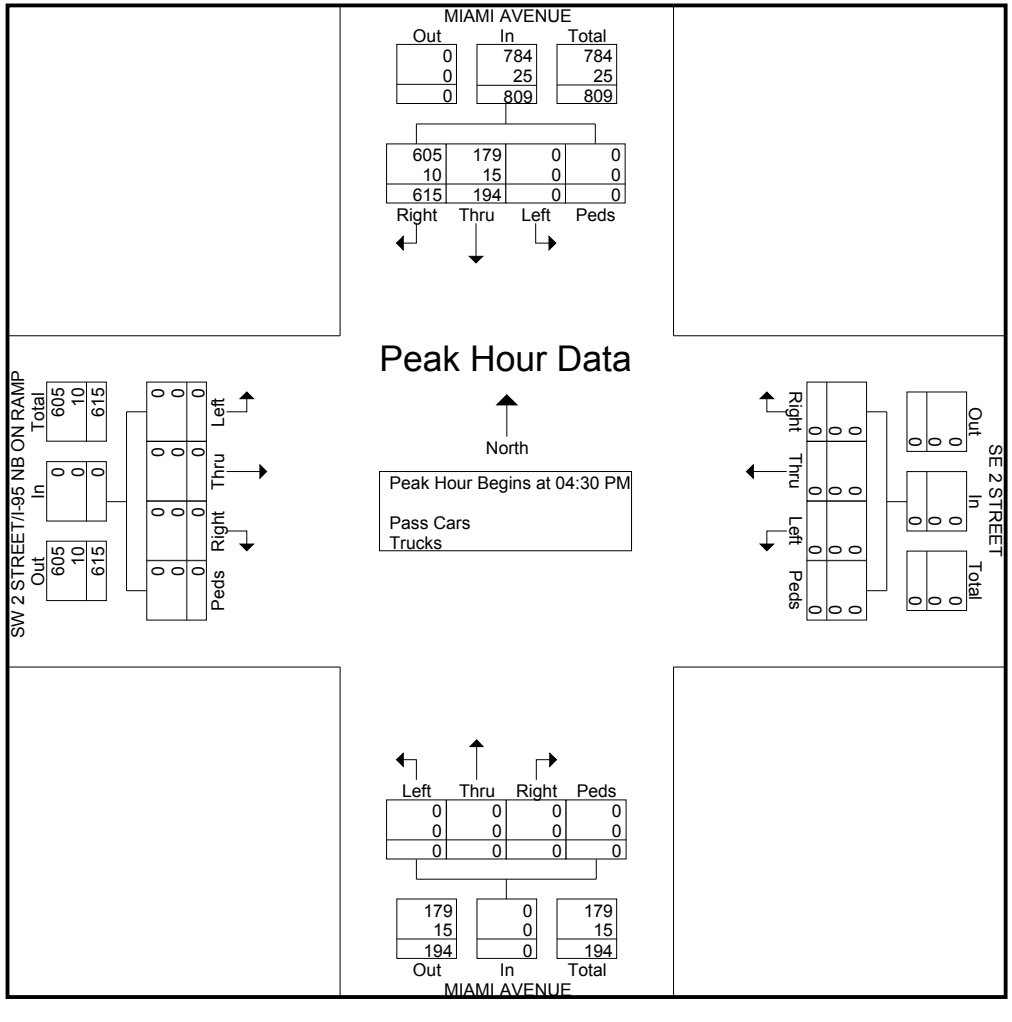
	MIAMI AVENUE Northbound					MIAMI AVENUE Southbound					SW 2 STREET/I-95 NB ON RAMP Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	37	132	0	169	0	0	0	0	0	0	0	0	0	0	169
04:45 PM	0	0	0	0	0	0	**55**	132	0	187	0	0	0	0	0	0	0	0	0	0	187
05:00 PM	0	0	0	0	0	0	54	**189**	0	**243**	0	0	0	0	0	0	0	0	0	0	**243**
05:15 PM	0	0	0	0	0	0	48	162	0	210	0	0	0	0	0	0	0	0	0	0	210
Total Volume	0	0	0	0	0	0	194	615	0	809	0	0	0	0	0	0	0	0	0	0	809
% App. Total	0	0	0	0		0	24	76	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.882	.813	.000	.832	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.832
Pass Cars	0	0	0	0	0	0	179	605	0	784	0	0	0	0	0	0	0	0	0	0	784
% Pass Cars	0	0	0	0	0	0	92.3	98.4	0	96.9	0	0	0	0	0	0	0	0	0	0	96.9
Trucks	0	0	0	0	0	0	15	10	0	25	0	0	0	0	0	0	0	0	0	0	25
% Trucks	0	0	0	0	0	0	7.7	1.6	0	3.1	0	0	0	0	0	0	0	0	0	0	3.1

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Opertaors Name: MS
Weather: Sunny

File Name : NBON ramp_Miami Ave
Site Code : 00000407
Start Date : 5/6/2015
Page No : 5



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Client: K&H
Intersection Name: SE 2 ST_SE 1 AVE
Opertaors Name: AO
Weather: Sunny

File Name : SE 2St_SE 1 Ave
Site Code : 00000408
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SE 1AVE Northbound					SE 1AVE Southbound					SE 2 STREET Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	45	68	0	0	113	0	0	0	0	0	0	0	0	0	0	0	78	20	0	98	211
07:15 AM	35	59	0	0	94	0	0	0	0	0	0	0	0	0	0	0	76	21	0	97	191
07:30 AM	84	76	0	0	160	0	0	0	0	0	0	0	0	0	0	0	129	23	0	152	312
07:45 AM	62	76	0	0	138	0	0	0	0	0	0	0	0	0	0	0	159	20	0	179	317
Total	226	279	0	0	505	0	0	0	0	0	0	0	0	0	0	0	442	84	0	526	1031
08:00 AM	48	132	2	2	184	0	0	0	0	0	0	0	0	0	0	0	158	47	0	205	389
08:15 AM	50	176	0	0	226	0	0	0	0	0	0	0	0	0	0	0	33	92	0	125	351
08:30 AM	77	318	0	0	395	0	0	0	0	0	0	0	0	0	0	0	102	78	0	180	575
08:45 AM	87	269	0	0	356	0	0	0	0	0	0	0	0	0	0	0	274	67	0	341	697
Total	262	895	2	2	1161	0	0	0	0	0	0	0	0	0	0	0	567	284	0	851	2012
*** BREAK ***																					
04:00 PM	100	149	0	0	249	0	0	0	0	0	0	0	0	0	0	0	42	62	0	104	353
04:15 PM	119	178	0	0	297	0	0	0	0	0	0	0	0	0	0	0	276	131	0	407	704
04:30 PM	288	122	0	0	410	0	0	0	0	0	0	0	0	0	0	0	117	130	0	247	657
04:45 PM	261	22	0	0	283	0	0	0	0	0	0	0	0	0	0	0	93	32	0	125	408
Total	768	471	0	0	1239	0	0	0	0	0	0	0	0	0	0	0	528	355	0	883	2122
05:00 PM	298	26	0	0	324	0	0	0	0	0	0	0	0	0	0	0	114	76	0	190	514
05:15 PM	193	57	0	0	250	0	0	0	0	0	0	0	0	0	0	0	129	34	0	163	413
05:30 PM	347	114	0	0	461	0	0	0	0	0	0	0	0	0	0	0	191	68	0	259	720
05:45 PM	255	59	0	0	314	0	0	0	0	0	0	0	0	0	0	0	207	54	0	261	575
Total	1093	256	0	0	1349	0	0	0	0	0	0	0	0	0	0	0	641	232	0	873	2222
Grand Total	2349	1901	2	2	4254	0	0	0	0	0	0	0	0	0	0	0	2178	955	0	3133	7387
Apprch %	55.2	44.7	0	0		0	0	0	0		0	0	0	0		0	69.5	30.5	0		
Total %	31.8	25.7	0	0	57.6	0	0	0	0	0	0	0	0	0	0	0	29.5	12.9	0	42.4	
Pass Cars	2342	1892	0	2	4236	0	0	0	0	0	0	0	0	0	0	0	2169	954	0	3123	7359
% Pass Cars	99.7	99.5	0	100	99.6	0	0	0	0	0	0	0	0	0	0	0	99.6	99.9	0	99.7	99.6
Trucks	7	9	2	0	18	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	28
% Trucks	0.3	0.5	100	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0.4	0.1	0	0.3	0.4

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Client: K&H
Intersection Name: SE 2 ST_SE 1 AVE
Opertaors Name: AO
Weather: Sunny

File Name : SE 2St_SE 1 Ave
Site Code : 00000408
Start Date : 5/6/2015
Page No : 2

	SE 1AVE Northbound					SE 1AVE Southbound					SE 2 STREET Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	62	76	0	0	138	0	0	0	0	0	0	0	0	0	0	0	**159**	20	0	179	317
08:00 AM	48	132	**2**	**2**	184	0	0	0	0	0	0	0	0	0	0	0	158	47	0	**205**	389
08:15 AM	50	176	0	0	226	0	0	0	0	0	0	0	0	0	0	0	33	**92**	0	125	351
08:30 AM	**77**	**318**	0	0	**395**	0	0	0	0	0	0	0	0	0	0	0	102	78	0	180	**575**
Total Volume	237	702	2	2	943	0	0	0	0	0	0	0	0	0	0	0	452	237	0	689	1632
% App. Total	25.1	74.4	0.2	0.2		0	0	0	0		0	0	0	0		0	65.6	34.4	0		
PHF	.769	.552	.250	.250	.597	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.711	.644	.000	.840	.710
Pass Cars	236	698	0	2	936	0	0	0	0	0	0	0	0	0	0	0	449	236	0	685	1621
% Pass Cars	99.6	99.4	0	100	99.3	0	0	0	0	0	0	0	0	0	0	0	99.3	99.6	0	99.4	99.3
Trucks	1	4	2	0	7	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	11
% Trucks	0.4	0.6	100	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0.7	0.4	0	0.6	0.7

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Intersection Name: SE 2 ST_SE 1 AVE
Opertaors Name: AO
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File Name : SE 2St_SE 1 Ave
Site Code : 00000408
Start Date : 5/6/2015
Page No : 3

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Opertaors Name: AO
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File Name : SE 2St_SE 1 Ave
Site Code : 00000408
Start Date : 5/6/2015
Page No : 4

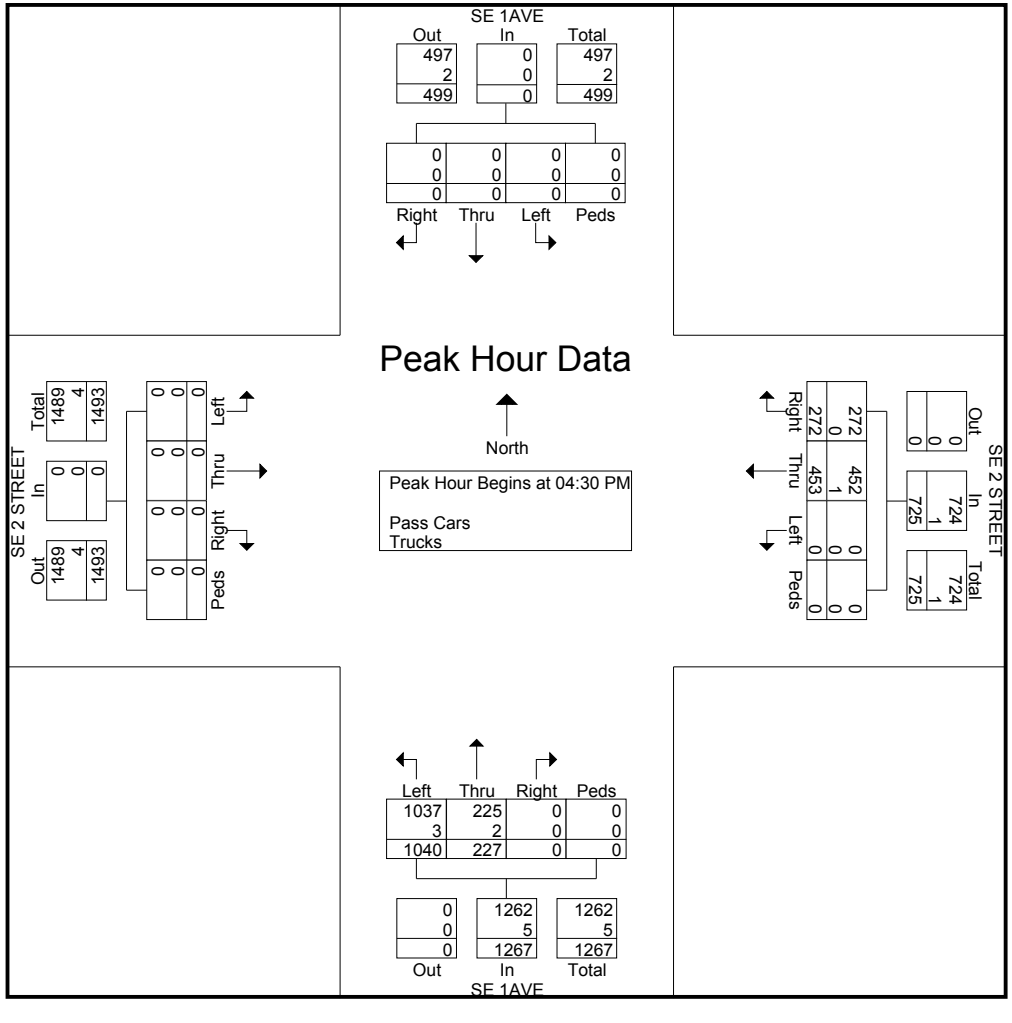
	SE 1AVE Northbound					SE 1AVE Southbound					SE 2 STREET Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	288	**122**	0	0	**410**	0	0	0	0	0	0	0	0	0	0	0	117	**130**	0	**247**	**657**
04:45 PM	261	22	0	0	283	0	0	0	0	0	0	0	0	0	0	0	93	32	0	125	408
05:00 PM	**298**	26	0	0	324	0	0	0	0	0	0	0	0	0	0	0	114	76	0	190	514
05:15 PM	193	57	0	0	250	0	0	0	0	0	0	0	0	0	0	0	**129**	34	0	163	413
Total Volume	1040	227	0	0	1267	0	0	0	0	0	0	0	0	0	0	0	453	272	0	725	1992
% App. Total	82.1	17.9	0	0		0	0	0	0		0	0	0	0		0	62.5	37.5	0		
PHF	.872	.465	.000	.000	.773	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.878	.523	.000	.734	.758
Pass Cars	1037	225	0	0	1262	0	0	0	0	0	0	0	0	0	0	0	452	272	0	724	1986
% Pass Cars	99.7	99.1	0	0	99.6	0	0	0	0	0	0	0	0	0	0	0	99.8	100	0	99.9	99.7
Trucks	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6
% Trucks	0.3	0.9	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1	0.3

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File Name : SE 2St_SE 1 Ave
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Client: K&H
Intersection Name: SE2ST_SE2AVE
Opertaors Name: ZV
Weather: Sunny

File Name : SE 2 St_SE 2 Ave
Site Code : 00000409
Start Date : 5/6/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SE 2 STREET Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	3	3	0	69	22	5	96	0	0	0	7	7	115	41	0	5	161	267
07:15 AM	0	0	0	1	1	0	91	25	18	134	0	0	0	7	7	142	32	0	8	182	324
07:30 AM	0	0	0	5	5	0	83	22	8	113	0	0	0	16	16	171	42	0	2	215	349
07:45 AM	0	0	0	0	0	0	79	30	29	138	0	0	0	30	30	178	66	0	6	250	418
Total	0	0	0	9	9	0	322	99	60	481	0	0	0	60	60	606	181	0	21	808	1358
08:00 AM	0	0	0	0	0	0	105	41	32	178	0	0	0	30	30	187	61	0	3	251	459
08:15 AM	0	0	0	0	0	0	50	44	36	130	0	0	0	43	43	60	100	0	5	165	338
08:30 AM	0	0	0	0	0	0	125	43	22	190	0	0	0	36	36	164	97	0	6	267	493
08:45 AM	0	0	0	0	0	0	110	47	24	181	0	0	0	35	35	157	103	0	2	262	478
Total	0	0	0	0	0	0	390	175	114	679	0	0	0	144	144	568	361	0	16	945	1768
*** BREAK ***																					
04:00 PM	0	0	0	3	3	0	61	22	13	96	0	0	0	20	20	231	126	0	6	363	482
04:15 PM	0	0	0	0	0	0	50	19	17	86	0	0	0	23	23	242	104	0	5	351	460
04:30 PM	0	0	0	2	2	0	67	23	26	116	0	0	0	26	26	233	115	0	12	360	504
04:45 PM	0	0	0	3	3	0	79	37	25	141	0	0	0	35	35	272	111	0	21	404	583
Total	0	0	0	8	8	0	257	101	81	439	0	0	0	104	104	978	456	0	44	1478	2029
05:00 PM	0	0	0	6	6	0	61	20	33	114	0	0	0	51	51	173	119	0	11	303	474
05:15 PM	0	0	0	0	0	0	95	26	25	146	0	0	0	42	42	316	124	0	6	446	634
05:30 PM	0	0	0	0	0	0	76	31	23	130	0	0	0	67	67	308	118	0	13	439	636
05:45 PM	0	0	0	0	0	0	88	33	42	163	0	0	0	38	38	312	144	0	13	469	670
Total	0	0	0	6	6	0	320	110	123	553	0	0	0	198	198	1109	505	0	43	1657	2414
Grand Total	0	0	0	23	23	0	1289	485	378	2152	0	0	0	506	506	3261	1503	0	124	4888	7569
Apprch %	0	0	0	100		0	59.9	22.5	17.6		0	0	0	100		66.7	30.7	0	2.5		
Total %	0	0	0	0.3	0.3	0	17	6.4	5	28.4	0	0	0	6.7	6.7	43.1	19.9	0	1.6	64.6	
Pass Cars	0	0	0	23	23	0	1206	478	378	2062	0	0	0	506	506	3201	1481	0	124	4806	7397
% Pass Cars	0	0	0	100	100	0	93.6	98.6	100	95.8	0	0	0	100	100	98.2	98.5	0	100	98.3	97.7
Trucks	0	0	0	0	0	0	83	7	0	90	0	0	0	0	0	60	22	0	0	82	172
% Trucks	0	0	0	0	0	0	6.4	1.4	0	4.2	0	0	0	0	0	1.8	1.5	0	0	1.7	2.3

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Opertaors Name: ZV
Weather: Sunny

File Name : SE 2 St_SE 2 Ave
Site Code : 00000409
Start Date : 5/6/2015
Page No : 2

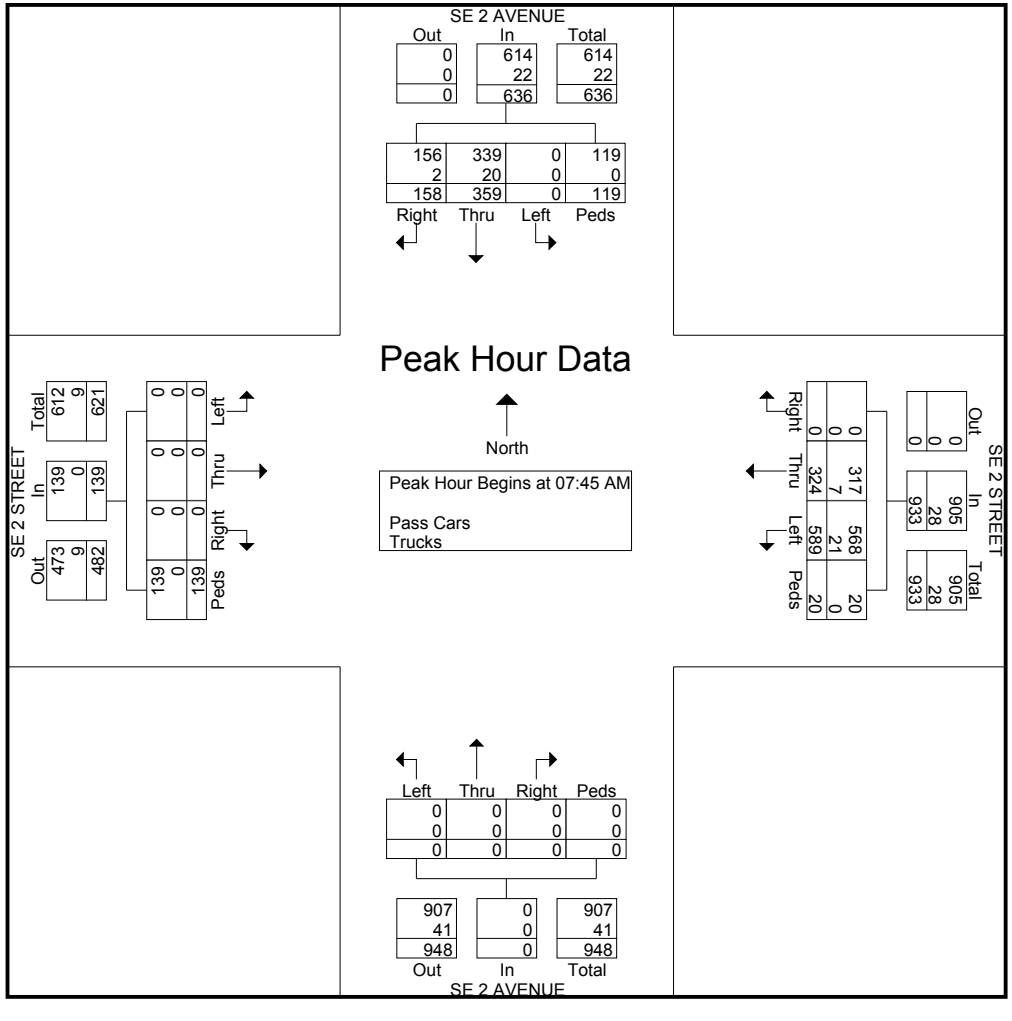
	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SE 2 STREET Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	79	30	29	138	0	0	0	30	30	178	66	0	**6**	250	418
08:00 AM	0	0	0	0	0	0	105	41	32	178	0	0	0	30	30	**187**	61	0	3	251	459
08:15 AM	0	0	0	0	0	0	50	**44**	**36**	130	0	0	0	**43**	**43**	60	**100**	0	5	165	338
08:30 AM	0	0	0	0	0	0	**125**	43	22	**190**	0	0	0	36	36	164	97	0	6	**267**	**493**
Total Volume	0	0	0	0	0	0	359	158	119	636	0	0	0	139	139	589	324	0	20	933	1708
% App. Total	0	0	0	0		0	56.4	24.8	18.7		0	0	0	100		63.1	34.7	0	2.1		
PHF	.000	.000	.000	.000	.000	.000	.718	.898	.826	.837	.000	.000	.000	.808	.808	.787	.810	.000	.833	.874	.866
Pass Cars	0	0	0	0	0	0	339	156	119	614	0	0	0	139	139	568	317	0	20	905	1658
% Pass Cars	0	0	0	0	0	0	94.4	98.7	100	96.5	0	0	0	100	100	96.4	97.8	0	100	97.0	97.1
Trucks	0	0	0	0	0	0	20	2	0	22	0	0	0	0	0	21	7	0	0	28	50
% Trucks	0	0	0	0	0	0	5.6	1.3	0	3.5	0	0	0	0	0	3.6	2.2	0	0	3.0	2.9

F.R. Aleman & Associates, Inc

10305 NW 41st Street, Suite 200
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Phone: (305) 591-8777
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Client: K&H
Intersection Name: SE2ST_SE2AVE
Opertaors Name: ZV
Weather: Sunny

File Name : SE 2 St_SE 2 Ave
Site Code : 00000409
Start Date : 5/6/2015
Page No : 3



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File Name : SE 2 St_SE 2 Ave
Site Code : 00000409
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Page No : 4

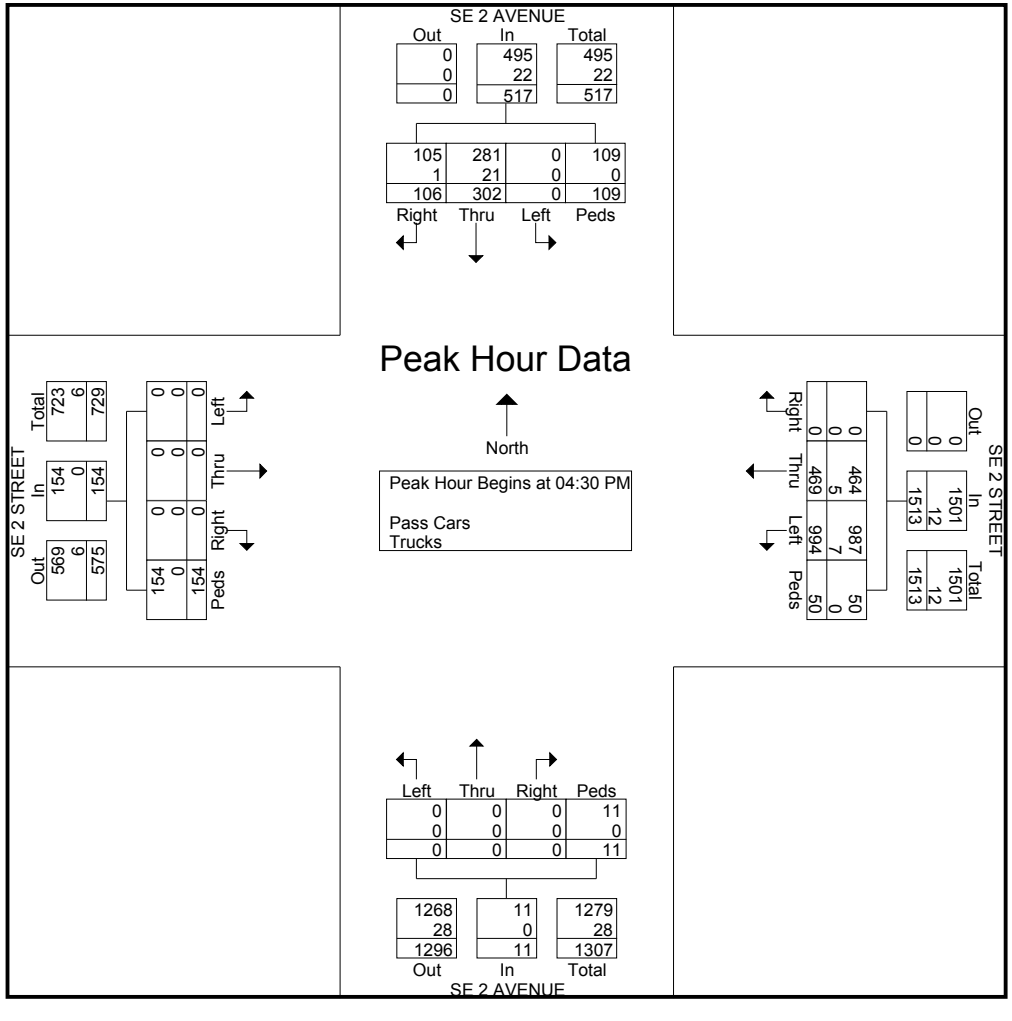
	SE 2 AVENUE Northbound					SE 2 AVENUE Southbound					SE 2 STREET Eastbound					SE 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	2	2	0	67	23	26	116	0	0	0	26	26	233	115	0	12	360	504
04:45 PM	0	0	0	3	3	0	79	**37**	25	141	0	0	0	35	35	272	111	0	**21**	404	583
05:00 PM	0	0	0	**6**	**6**	0	61	20	**33**	114	0	0	0	**51**	**51**	173	119	0	11	303	474
05:15 PM	0	0	0	0	0	0	**95**	26	25	**146**	0	0	0	42	42	**316**	**124**	0	6	**446**	**634**
Total Volume	0	0	0	11	11	0	302	106	109	517	0	0	0	154	154	994	469	0	50	1513	2195
% App. Total	0	0	0	100		0	58.4	20.5	21.1		0	0	0	100		65.7	31	0	3.3		
PHF	.000	.000	.000	.458	.458	.000	.795	.716	.826	.885	.000	.000	.000	.755	.755	.786	.946	.000	.595	.848	.866
Pass Cars	0	0	0	11	11	0	281	105	109	495	0	0	0	154	154	987	464	0	50	1501	2161
% Pass Cars	0	0	0	100	100	0	93.0	99.1	100	95.7	0	0	0	100	100	99.3	98.9	0	100	99.2	98.5
Trucks	0	0	0	0	0	0	21	1	0	22	0	0	0	0	0	7	5	0	0	12	34
% Trucks	0	0	0	0	0	0	7.0	0.9	0	4.3	0	0	0	0	0	0.7	1.1	0	0	0.8	1.5

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Client: K&H
Intersection Name: SE2ST_SE2AVE
Opertaors Name: ZV
Weather: Sunny

File Name : SE 2 St_SE 2 Ave
Site Code : 00000409
Start Date : 5/6/2015
Page No : 5



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Client: K&H
Intersection Name: NW 2 ST&NW 3CT-SB RP
Opertaors Name: MA&CG
Weather: Sunny

File Name : NW2St_Nw3Ct_SB RAMPS
Site Code : 00000501
Start Date : 3/17/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 3 CT _SB ON RMP Northbound					I-95 SB OFF RAMP Southbound					NW 2 STREET Eastbound					NW 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	35	135	0	0	170	0	2	2	2	6	5	0	0	0	5	181
07:15 AM	0	0	0	0	0	61	141	0	0	202	0	4	10	0	14	7	0	0	0	7	223
07:30 AM	0	0	0	0	0	65	122	0	0	187	0	5	3	0	8	6	0	0	0	6	201
07:45 AM	0	0	0	0	0	53	133	0	1	187	0	6	8	3	17	9	0	0	1	10	214
Total	0	0	0	0	0	214	531	0	1	746	0	17	23	5	45	27	0	0	1	28	819
08:00 AM	0	0	0	0	0	52	179	0	0	231	0	4	9	1	14	8	0	0	1	9	254
08:15 AM	0	0	0	0	0	43	183	0	1	227	0	4	14	2	20	12	0	0	5	17	264
08:30 AM	0	0	0	0	0	33	206	0	1	240	0	4	8	3	15	8	0	0	1	9	264
08:45 AM	0	0	0	0	0	43	211	0	0	254	0	5	10	0	15	10	0	0	1	11	280
Total	0	0	0	0	0	171	779	0	2	952	0	17	41	6	64	38	0	0	8	46	1062
*** BREAK ***																					
04:00 PM	0	0	0	0	0	5	233	0	6	244	0	5	29	1	35	44	0	0	1	45	324
04:15 PM	0	0	0	0	0	7	249	0	4	260	0	3	12	2	17	32	0	0	5	37	314
04:30 PM	0	0	0	0	0	5	267	0	2	274	0	8	16	2	26	32	0	0	0	32	332
04:45 PM	0	0	0	0	0	3	252	0	1	256	0	2	12	1	15	36	0	0	0	36	307
Total	0	0	0	0	0	20	1001	0	13	1034	0	18	69	6	93	144	0	0	6	150	1277
05:00 PM	0	0	0	0	0	4	274	0	6	284	0	5	21	2	28	93	0	0	0	93	405
05:15 PM	0	0	0	0	0	4	303	0	2	309	0	15	9	2	26	39	0	0	0	39	374
05:30 PM	0	0	0	0	0	9	300	0	0	309	0	5	17	1	23	36	0	0	4	40	372
05:45 PM	0	0	0	0	0	0	311	0	1	312	0	2	16	0	18	28	0	0	0	28	358
Total	0	0	0	0	0	17	1188	0	9	1214	0	27	63	5	95	196	0	0	4	200	1509
Grand Total	0	0	0	0	0	422	3499	0	25	3946	0	79	196	22	297	405	0	0	19	424	4667
Apprch %	0	0	0	0		10.7	88.7	0	0.6		0	26.6	66	7.4		95.5	0	0	4.5		
Total %	0	0	0	0	0	9	75	0	0.5	84.6	0	1.7	4.2	0.5	6.4	8.7	0	0	0.4	9.1	
Pass Cars	0	0	0	0	0	418	3447	0	25	3890	0	77	196	21	294	403	0	0	19	422	4606
% Pass Cars	0	0	0	0	0	99.1	98.5	0	100	98.6	0	97.5	100	95.5	99	99.5	0	0	100	99.5	98.7
Trucks	0	0	0	0	0	4	52	0	0	56	0	2	0	1	3	2	0	0	0	2	61
% Trucks	0	0	0	0	0	0.9	1.5	0	0	1.4	0	2.5	0	4.5	1	0.5	0	0	0	0.5	1.3

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Client: K&H
Intersection Name: NW 2 ST&NW 3CT-SB RP
Opertaors Name: MA&CG
Weather: Sunny

File Name : NW2St_Nw3Ct_SB RAMPS
Site Code : 00000501
Start Date : 3/17/2015
Page No : 2

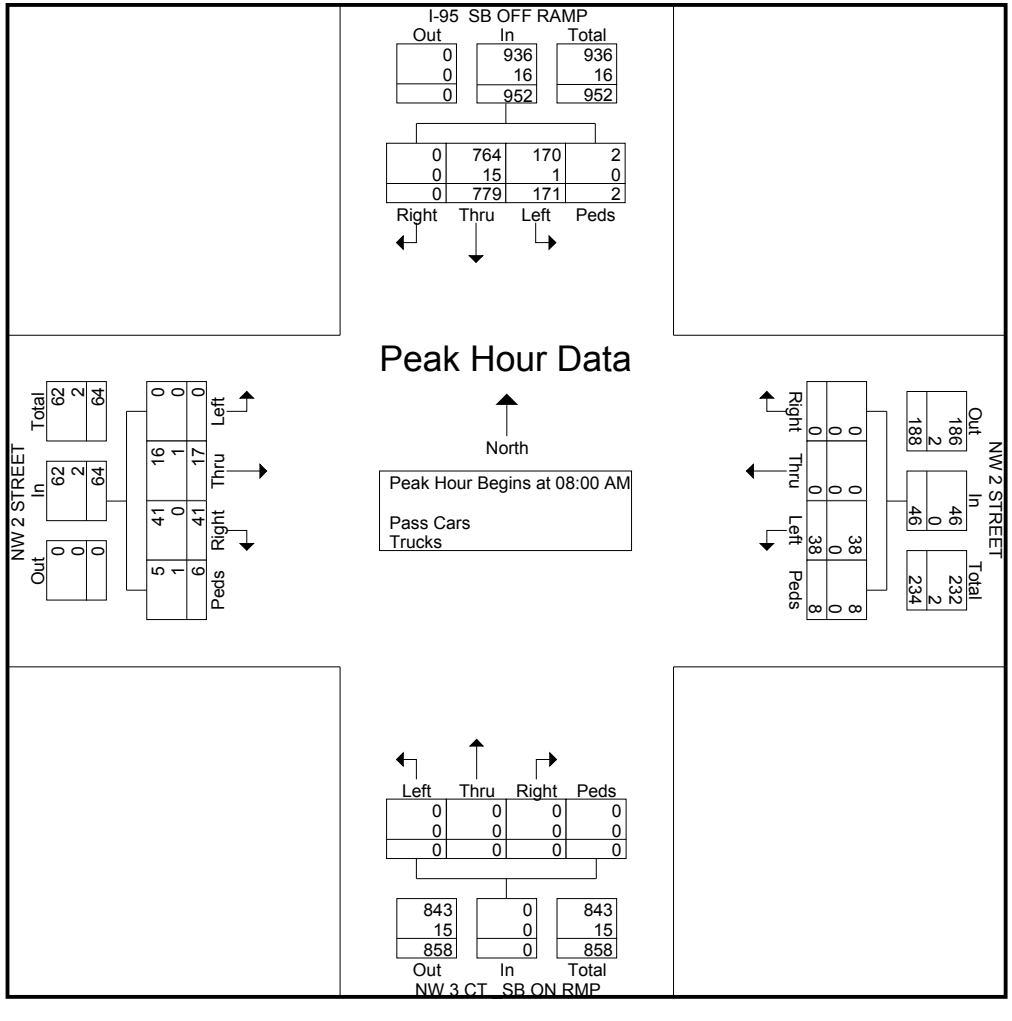
	NW 3 CT _SB ON RMP Northbound					I-95 SB OFF RAMP Southbound					NW 2 STREET Eastbound					NW 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	**52**	179	0	0	231	0	4	9	1	14	8	0	0	1	9	254
08:15 AM	0	0	0	0	0	43	183	0	**1**	227	0	4	**14**	2	**20**	**12**	0	0	**5**	**17**	264
08:30 AM	0	0	0	0	0	33	206	0	1	240	0	4	8	**3**	15	8	0	0	1	9	264
08:45 AM	0	0	0	0	0	43	**211**	0	0	**254**	0	**5**	10	0	15	10	0	0	1	11	**280**
Total Volume	0	0	0	0	0	171	779	0	2	952	0	17	41	6	64	38	0	0	8	46	1062
% App. Total	0	0	0	0		18	81.8	0	0.2		0	26.6	64.1	9.4		82.6	0	0	17.4		
PHF	.000	.000	.000	.000	.000	.822	.923	.000	.500	.937	.000	.850	.732	.500	.800	.792	.000	.000	.400	.676	.948
Pass Cars	0	0	0	0	0	170	764	0	2	936	0	16	41	5	62	38	0	0	8	46	1044
% Pass Cars	0	0	0	0	0	99.4	98.1	0	100	98.3	0	94.1	100	83.3	96.9	100	0	0	100	100	98.3
Trucks	0	0	0	0	0	1	15	0	0	16	0	1	0	1	2	0	0	0	0	0	18
% Trucks	0	0	0	0	0	0.6	1.9	0	0	1.7	0	5.9	0	16.7	3.1	0	0	0	0	0	1.7

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Client: K&H
Intersection Name: NW 2 ST&NW 3CT-SB RP
Opertaors Name: MA&CG
Weather: Sunny

File Name : NW2St_Nw3Ct_SB RAMPS
Site Code : 00000501
Start Date : 3/17/2015
Page No : 3



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Client: K&H
Intersection Name: NW 2 ST&NW 3CT-SB RP
Opertaors Name: MA&CG
Weather: Sunny

File Name : NW2St_Nw3Ct_SB RAMPS
Site Code : 00000501
Start Date : 3/17/2015
Page No : 4

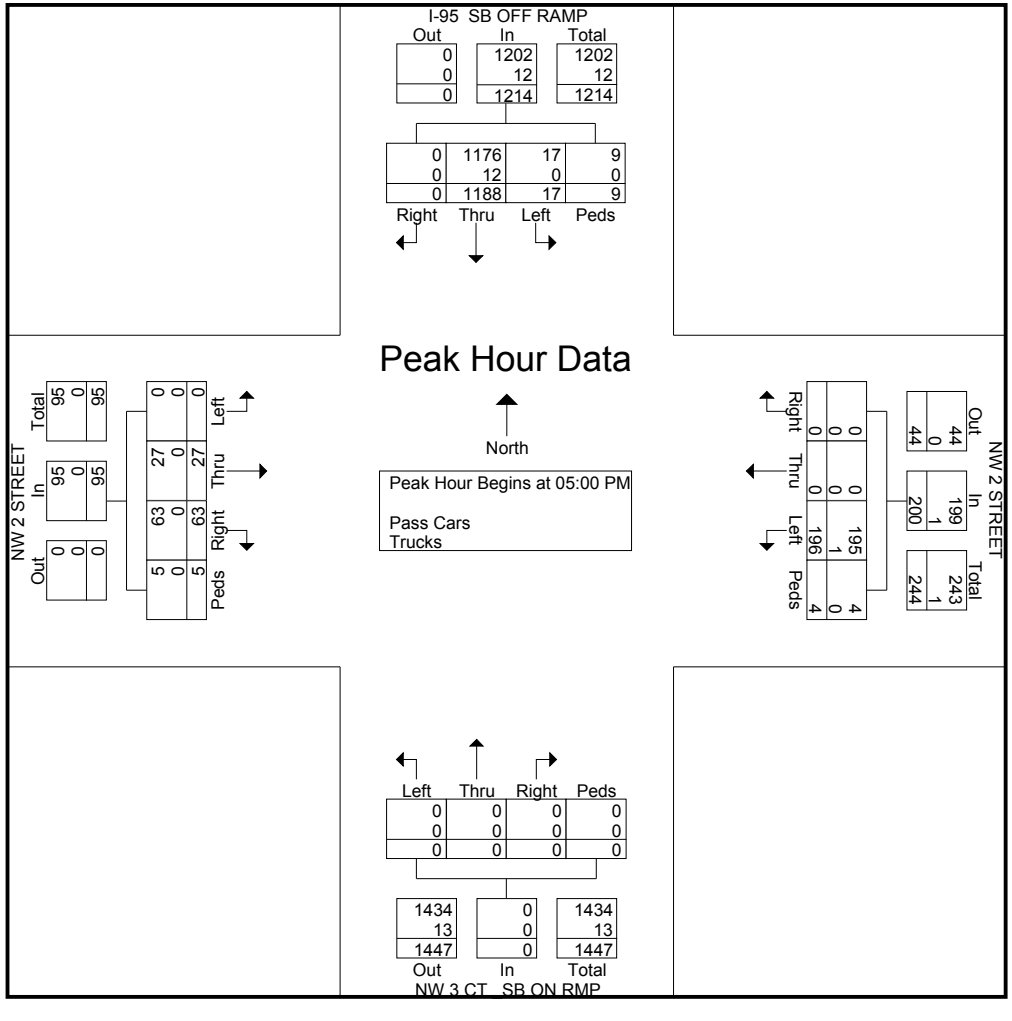
	NW 3 CT _SB ON RMP Northbound					I-95 SB OFF RAMP Southbound					NW 2 STREET Eastbound					NW 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	4	274	0	**6**	284	0	5	**21**	**2**	**28**	**93**	0	0	0	**93**	**405**
05:15 PM	0	0	0	0	0	4	303	0	2	309	0	**15**	9	2	26	39	0	0	0	39	374
05:30 PM	0	0	0	0	0	**9**	300	0	0	309	0	5	17	1	23	36	0	0	**4**	40	372
05:45 PM	0	0	0	0	0	0	**311**	0	1	**312**	0	2	16	0	18	28	0	0	0	28	358
Total Volume	0	0	0	0	0	17	1188	0	9	1214	0	27	63	5	95	196	0	0	4	200	1509
% App. Total	0	0	0	0		1.4	97.9	0	0.7		0	28.4	66.3	5.3		98	0	0	2		
PHF	.000	.000	.000	.000	.000	.472	.955	.000	.375	.973	.000	.450	.750	.625	.848	.527	.000	.000	.250	.538	.931
Pass Cars	0	0	0	0	0	17	1176	0	9	1202	0	27	63	5	95	195	0	0	4	199	1496
% Pass Cars	0	0	0	0	0	100	99.0	0	100	99.0	0	100	100	100	100	99.5	0	0	100	99.5	99.1
Trucks	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	1	0	0	0	1	13
% Trucks	0	0	0	0	0	0	1.0	0	0	1.0	0	0	0	0	0	0.5	0	0	0	0.5	0.9

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Client: K&H
Intersection Name: NW 2 ST&NW 3CT-SB RP
Opertaors Name: MA&CG
Weather: Sunny

File Name : NW2St_Nw3Ct_SB RAMPS
Site Code : 00000501
Start Date : 3/17/2015
Page No : 5



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File Name : NW2St_Nw3Ct_SB RAMPS
Site Code : 00000501
Start Date : 3/17/2015
Page No : 1

Groups Printed- Trucks

	NW 3 CT _SB ON RMP Northbound					I-95 SB OFF RAMP Southbound					NW 2 STREET Eastbound					NW 2 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	1	0	0	0	1	5
Total	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	1	0	0	0	1	10
08:00 AM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	1	1	0	0	0	0	0	6
08:45 AM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	1	15	0	0	16	0	1	0	1	2	0	0	0	0	0	18
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	4
04:15 PM	0	0	0	0	0	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	9
04:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
04:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	2	17	0	0	19	0	1	0	0	1	0	0	0	0	0	20
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	10
05:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																					
Total	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	1	0	0	0	1	13
Grand Total	0	0	0	0	0	4	52	0	0	56	0	2	0	1	3	2	0	0	0	2	61
Apprch %	0	0	0	0		7.1	92.9	0	0		0	66.7	0	33.3		100	0	0	0		
Total %	0	0	0	0	0	6.6	85.2	0	0	91.8	0	3.3	0	1.6	4.9	3.3	0	0	0	3.3	

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Client: K&H
Intersection Name: NW2ST & NW 3AV_NB RMP
Opertaors Name: OC & ML
Weather: Sunny

File Name : NW 2 ST_NW 3 Ave-NBRAMP
Site Code : 00000502
Start Date : 3/17/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	I-95 NB OFF RAMP Northbound						NW 3 AVE Northwestbound						I-95 NB ON RAMP Southbound						NW 2 ST Eastbound						NWNW 2 ST Westbound						
Start Time	Left	Thru	Right	Hard Right	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Hard Left	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	97	20	0	0	117	0	0	20	18	0	38	0	0	0	0	0	0	4	26	0	0	0	30	0	0	3	3	0	6	191
07:15 AM	4	130	29	0	1	164	0	0	17	22	0	39	0	0	0	0	0	0	6	63	0	0	0	69	0	0	4	2	0	6	278
07:30 AM	4	110	32	0	1	147	0	0	19	10	0	29	0	0	0	0	0	0	8	62	0	0	0	70	0	0	2	5	0	7	253
07:45 AM	2	149	42	0	2	195	0	3	15	11	0	29	0	0	0	0	0	0	7	55	0	0	0	62	0	0	3	4	0	7	293
Total	10	486	123	0	4	623	0	3	71	61	0	135	0	0	0	0	0	0	25	206	0	0	0	231	0	0	12	14	0	26	1015
08:00 AM	5	173	32	0	1	211	0	1	12	8	0	21	0	0	0	0	0	0	5	56	0	0	0	61	0	0	3	5	3	11	304
08:15 AM	7	124	32	0	1	164	0	1	17	7	0	25	0	0	0	0	0	0	4	42	0	0	0	46	0	0	2	3	0	5	240
08:30 AM	6	129	30	0	2	167	0	1	17	8	0	26	0	0	0	0	0	0	3	32	0	0	0	35	0	0	1	11	4	16	244
08:45 AM	4	136	39	0	0	179	0	2	0	7	0	9	0	0	0	0	0	0	8	36	0	0	0	44	0	0	7	6	1	14	246
Total	22	562	133	0	4	721	0	5	46	30	0	81	0	0	0	0	0	0	20	166	0	0	0	186	0	0	13	25	8	46	1034
*** BREAK ***																															
04:00 PM	5	89	8	0	2	104	0	2	26	3	0	31	0	0	0	0	0	0	5	5	0	0	0	10	0	0	35	33	0	68	213
04:15 PM	5	88	7	0	5	105	0	0	22	4	0	26	0	0	0	0	0	0	5	5	0	0	0	10	0	0	26	23	3	52	193
04:30 PM	4	101	8	0	2	115	0	6	22	0	0	28	0	0	0	0	0	0	8	6	0	0	0	14	0	0	20	48	1	69	226
04:45 PM	2	71	8	0	3	84	0	1	14	4	0	19	0	0	0	0	0	0	2	8	0	0	0	10	0	0	34	43	0	77	190
Total	16	349	31	0	12	408	0	9	84	11	0	104	0	0	0	0	0	0	20	24	0	0	0	44	0	0	115	147	4	266	822
05:00 PM	6	110	7	0	2	125	0	3	24	3	0	30	0	0	0	0	0	0	6	1	0	0	0	7	0	0	35	51	0	86	248
05:15 PM	4	80	3	0	3	90	0	3	14	1	0	18	0	0	0	0	0	0	15	4	0	0	0	19	0	0	30	31	0	61	188
05:30 PM	8	105	4	0	0	117	0	3	29	4	0	36	0	0	0	0	0	0	4	8	0	0	0	12	0	0	23	28	4	55	220
05:45 PM	11	115	9	0	0	135	0	1	23	0	0	24	0	0	0	0	0	0	1	1	0	0	0	2	0	0	16	20	0	36	197
Total	29	410	23	0	5	467	0	10	90	8	0	108	0	0	0	0	0	0	26	14	0	0	0	40	0	0	104	130	4	238	853
Grand Total	77	1807	310	0	25	2219	0	27	291	110	0	428	0	0	0	0	0	0	91	410	0	0	0	501	0	0	244	316	16	576	3724
Apprch %	3.5	81.4	14	0	1.1		0	6.3	68	25.7	0		0	0	0	0	0		18.2	81.8	0	0	0		0	0	42.4	54.9	2.8		
Total %	2.1	48.5	8.3	0	0.7	59.6	0	0.7	7.8	3	0	11.5	0	0	0	0	0	0	2.4	11	0	0	0	13.5	0	0	6.6	8.5	0.4	15.5	
Pass Cars	75	1780	307	0	25	2187	0	27	287	110	0	424	0	0	0	0	0	0	85	409	0	0	0	494	0	0	244	315	16	575	3680
% Pass Cars	97.4	98.5	99	0	100	98.6	0	100	98.6	100	0	99.1	0	0	0	0	0	0	93.4	99.8	0	0	0	98.6	0	0	100	99.7	100	99.8	98.8
Trucks	2	27	3	0	0	32	0	0	4	0	0	4	0	0	0	0	0	0	6	1	0	0	0	7	0	0	0	1	0	1	44
% Trucks	2.6	1.5	1	0	0	1.4	0	0	1.4	0	0	0.9	0	0	0	0	0	0	6.6	0.2	0	0	0	1.4	0	0	0	0.3	0	0.2	1.2

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Client: K&H
Intersection Name: NW2ST & NW 3AV_NB RMP
Opertaors Name: OC & ML
Weather: Sunny

File Name : NW 2 ST_NW 3 Ave-NBRAMP
Site Code : 00000502
Start Date : 3/17/2015
Page No : 2

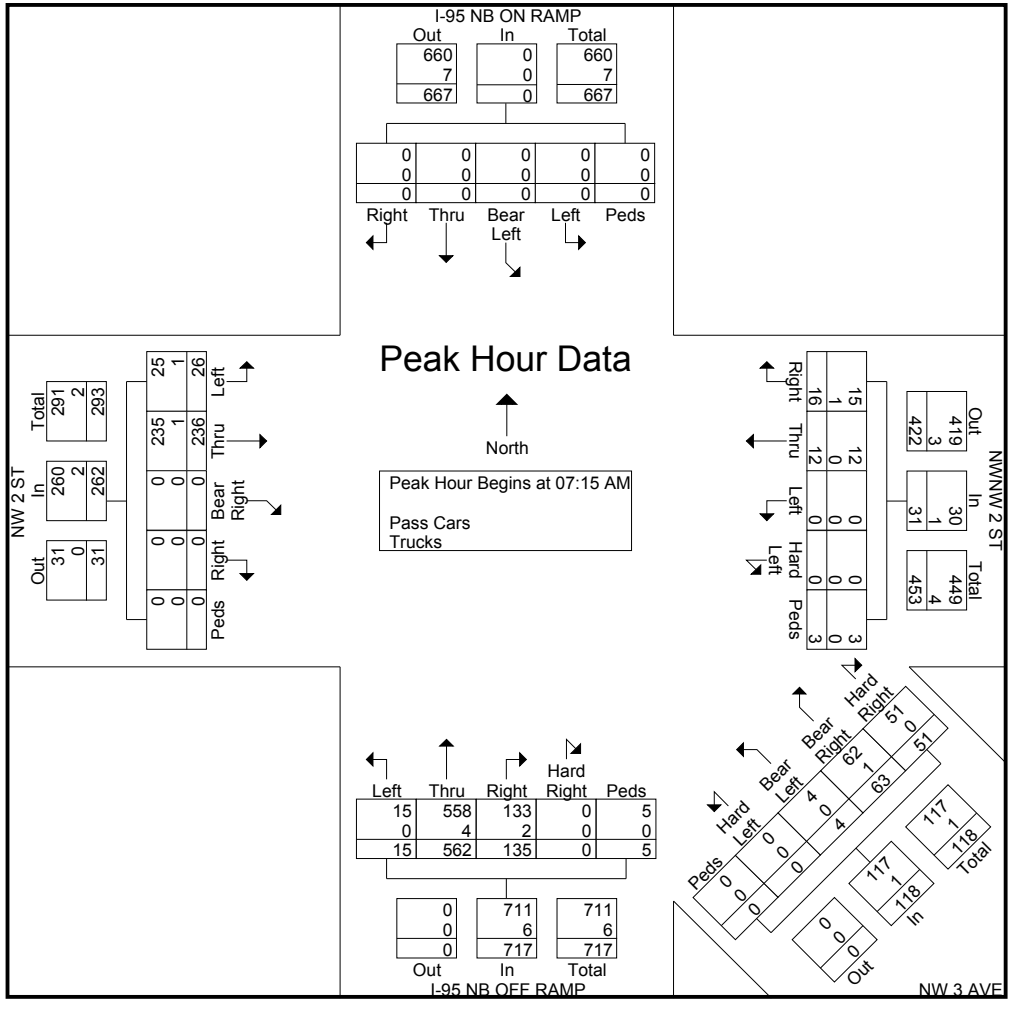
	I-95 NB OFF RAMP Northbound						NW 3 AVE Northwestbound						I-95 NB ON RAMP Southbound						NW 2 ST Eastbound						NWNW 2 ST Westbound						
Start Time	Left	Thru	Right	Hard Right	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Hard Left	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:15 AM																															
07:15 AM	**4**	**130**	**29**	**0**	**1**	**164**	**0**	**0**	**17**	22	0	39	0	0	0	0	0	0	6	63	0	0	0	69	0	0	4	2	0	6	278
07:30 AM	4	110	32	0	1	147	0	0	**19**	10	0	29	0	0	0	0	0	0	**8**	62	0	0	0	**70**	0	0	2	**5**	0	7	253
07:45 AM	2	149	**42**	0	**2**	195	0	**3**	15	11	0	29	0	0	0	0	0	0	7	55	0	0	0	62	0	0	3	4	0	7	293
08:00 AM	**5**	**173**	32	0	1	**211**	0	1	12	8	0	21	0	0	0	0	0	0	5	56	0	0	0	61	0	0	3	5	**3**	**11**	**304**
Total Volume	15	562	135	0	5	717	0	4	63	51	0	118	0	0	0	0	0	0	26	236	0	0	0	262	0	0	12	16	3	31	1128
% App. Total	2.1	78.4	18.8	0	0.7		0	3.4	53.4	43.2	0		0	0	0	0	0		9.9	90.1	0	0	0		0	0	38.7	51.6	9.7		
PHF	.750	.812	.804	.000	.625	.850	.000	.333	.829	.580	.000	.756	.000	.000	.000	.000	.000	.000	.813	.937	.000	.000	.000	.936	.000	.000	.750	.800	.250	.705	.928
Pass Cars	15	558	133	0	5	711	0	4	62	51	0	117	0	0	0	0	0	0	25	235	0	0	0	260	0	0	12	15	3	30	1118
% Pass Cars	100	99.3	98.5	0	100	99.2	0	100	98.4	100	0	99.2	0	0	0	0	0	0	96.2	99.6	0	0	0	99.2	0	0	100	93.8	100	96.8	99.1
Trucks	0	4	2	0	0	6	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	1	0	1	10
% Trucks	0	0.7	1.5	0	0	0.8	0	0	1.6	0	0	0.8	0	0	0	0	0	0	3.8	0.4	0	0	0	0.8	0	0	0	6.3	0	3.2	0.9

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Client: K&H
Intersection Name: NW2ST & NW 3AV_NB RMP
Opertaors Name: OC & ML
Weather: Sunny

File Name : NW 2 ST_NW 3 Ave-NBRAMP
Site Code : 00000502
Start Date : 3/17/2015
Page No : 3



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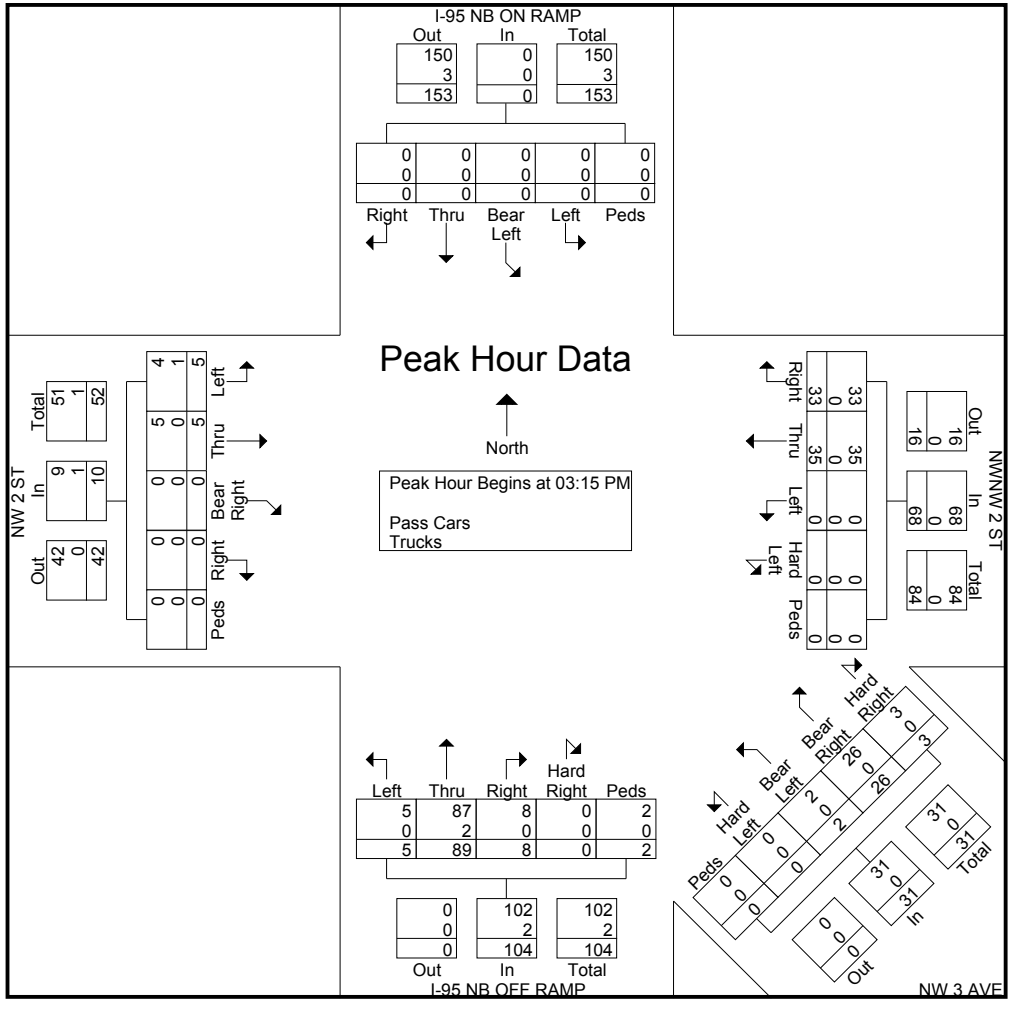
	I-95 NB OFF RAMP Northbound						NW 3 AVE Northwestbound						I-95 NB ON RAMP Southbound						NW 2 ST Eastbound						NWNW 2 ST Westbound						
Start Time	Left	Thru	Right	Hard Right	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Hard Left	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 04:00 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 03:15 PM																															
03:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
03:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
03:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
04:00 PM	5	89	8	0	2	**104**	0	**2**	**26**	**3**	0	**31**	0	0	0	0	0	0	**5**	**5**	0	0	0	**10**	0	0	**35**	**33**	0	**68**	**213**
Total Volume	5	89	8	0	2	104	0	2	26	3	0	31	0	0	0	0	0	0	5	5	0	0	0	10	0	0	35	33	0	68	213
% App. Total	4.8	85.6	7.7	0	1.9		0	6.5	83.9	9.7	0		0	0	0	0	0		50	50	0	0	0		0	0	51.5	48.5	0		
PHF	.250	.250	.250	.000	.250	.250	.000	.250	.250	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250	.000	.000	.250	.250	.000	.250	.250
Pass Cars	5	87	8	0	2	102	0	2	26	3	0	31	0	0	0	0	0	0	4	5	0	0	0	9	0	0	35	33	0	68	210
% Pass Cars	100	97.8	100	0	100	98.1	0	100	100	100	0	100	0	0	0	0	0	0	80.0	100	0	0	0	90.0	0	0	100	100	0	100	98.6
Trucks	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
% Trucks	0	2.2	0	0	0	1.9	0	0	0	0	0	0	0	0	0	0	0	0	20.0	0	0	0	0	10.0	0	0	0	0	0	0	1.4

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Opertaors Name: OC & ML
Weather: Sunny

File Name : NW 2 ST_NW 3 Ave-NBRAMP
Site Code : 00000502
Start Date : 3/17/2015
Page No : 5



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File Name : NW 2 ST_NW 3 Ave-NBRAMP
Site Code : 00000502
Start Date : 3/17/2015
Page No : 1

Groups Printed- Trucks

	I-95 NB OFF RAMP Northbound						NW 3 AVE Northwestbound						I-95 NB ON RAMP Southbound						NW 2 ST Eastbound						NWNW 2 ST Westbound						
Start Time	Left	Thru	Right	Hard Right	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Hard Left	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	1	1	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	2
Total	0	3	2	0	0	5	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	9
08:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
08:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	1	1	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
Total	0	4	1	0	0	5	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	9
*** BREAK ***																															
04:00 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
04:15 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	7
04:30 PM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	12	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	15
05:00 PM	1	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
05:30 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	2	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	11
Grand Total	2	27	3	0	0	32	0	0	4	0	0	4	0	0	0	0	0	0	6	1	0	0	0	7	0	0	0	1	0	1	44
Apprch %	6.2	84.4	9.4	0	0		0	0	100	0	0		0	0	0	0	0		85.7	14.3	0	0	0		0	0	0	100	0		
Total %	4.5	61.4	6.8	0	0	72.7	0	0	9.1	0	0	9.1	0	0	0	0	0	0	13.6	2.3	0	0	0	15.9	0	0	0	2.3	0	2.3	

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Client: K&H
Intersection Name: NW 3 ST& NW 3 CT
Opertaors Name: ZV
Weather: Sunny

File Name : NW 3 St_NW 3 Ct
Site Code : 00000503
Start Date : 3/17/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 3 COURT Northbound					NW 3 COURT Southbound					NW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	2	2	59	138	4	0	201	0	0	0	0	0	22	16	0	0	38	241
07:15 AM	0	0	0	3	3	64	177	3	1	245	0	0	0	1	1	32	6	0	0	38	287
07:30 AM	0	0	0	3	3	113	173	4	2	292	0	0	0	0	0	20	12	0	0	32	327
07:45 AM	0	0	0	6	6	109	189	5	4	307	0	0	0	0	0	14	28	0	1	43	356
Total	0	0	0	14	14	345	677	16	7	1045	0	0	0	1	1	88	62	0	1	151	1211
08:00 AM	0	0	0	3	3	92	211	6	3	312	0	0	0	0	0	19	10	0	0	29	344
08:15 AM	0	0	0	9	9	74	221	1	1	297	0	0	0	2	2	12	8	0	0	20	328
08:30 AM	0	0	0	5	5	49	224	6	1	280	0	0	0	2	2	17	10	0	1	28	315
08:45 AM	0	0	0	3	3	75	255	7	2	339	0	0	0	0	0	11	10	0	0	21	363
Total	0	0	0	20	20	290	911	20	7	1228	0	0	0	4	4	59	38	0	1	98	1350
*** BREAK ***																					
04:00 PM	0	0	0	0	0	15	188	5	4	212	0	0	0	2	2	51	13	0	1	65	279
04:15 PM	0	0	0	5	5	10	213	2	4	229	0	0	0	0	0	33	16	0	0	49	283
04:30 PM	0	0	0	1	1	21	230	1	1	253	0	0	0	0	0	45	12	0	0	57	311
04:45 PM	0	0	0	1	1	25	226	2	0	253	0	0	0	1	1	48	12	0	0	60	315
Total	0	0	0	7	7	71	857	10	9	947	0	0	0	3	3	177	53	0	1	231	1188
05:00 PM	0	0	0	5	5	17	250	5	4	276	0	0	0	2	2	41	20	0	0	61	344
05:15 PM	0	0	0	2	2	30	246	4	1	281	0	0	0	0	0	49	25	0	1	75	358
05:30 PM	0	0	0	2	2	22	283	3	1	309	0	0	0	1	1	36	13	0	0	49	361
05:45 PM	0	0	0	4	4	24	271	5	1	301	0	0	0	1	1	27	16	0	1	44	350
Total	0	0	0	13	13	93	1050	17	7	1167	0	0	0	4	4	153	74	0	2	229	1413
Grand Total	0	0	0	54	54	799	3495	63	30	4387	0	0	0	12	12	477	227	0	5	709	5162
Apprch %	0	0	0	100		18.2	79.7	1.4	0.7		0	0	0	100		67.3	32	0	0.7		
Total %	0	0	0	1	1	15.5	67.7	1.2	0.6	85	0	0	0	0.2	0.2	9.2	4.4	0	0.1	13.7	
Pass Cars	0	0	0	54	54	788	3459	62	30	4339	0	0	0	12	12	464	224	0	5	693	5098
% Pass Cars	0	0	0	100	100	98.6	99	98.4	100	98.9	0	0	0	100	100	97.3	98.7	0	100	97.7	98.8
Trucks	0	0	0	0	0	11	36	1	0	48	0	0	0	0	0	13	3	0	0	16	64
% Trucks	0	0	0	0	0	1.4	1	1.6	0	1.1	0	0	0	0	0	2.7	1.3	0	0	2.3	1.2

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Intersection Name: NW 3 ST& NW 3 CT
Opertaors Name: ZV
Weather: Sunny

File Name : NW 3 St_NW 3 Ct
Site Code : 00000503
Start Date : 3/17/2015
Page No : 2

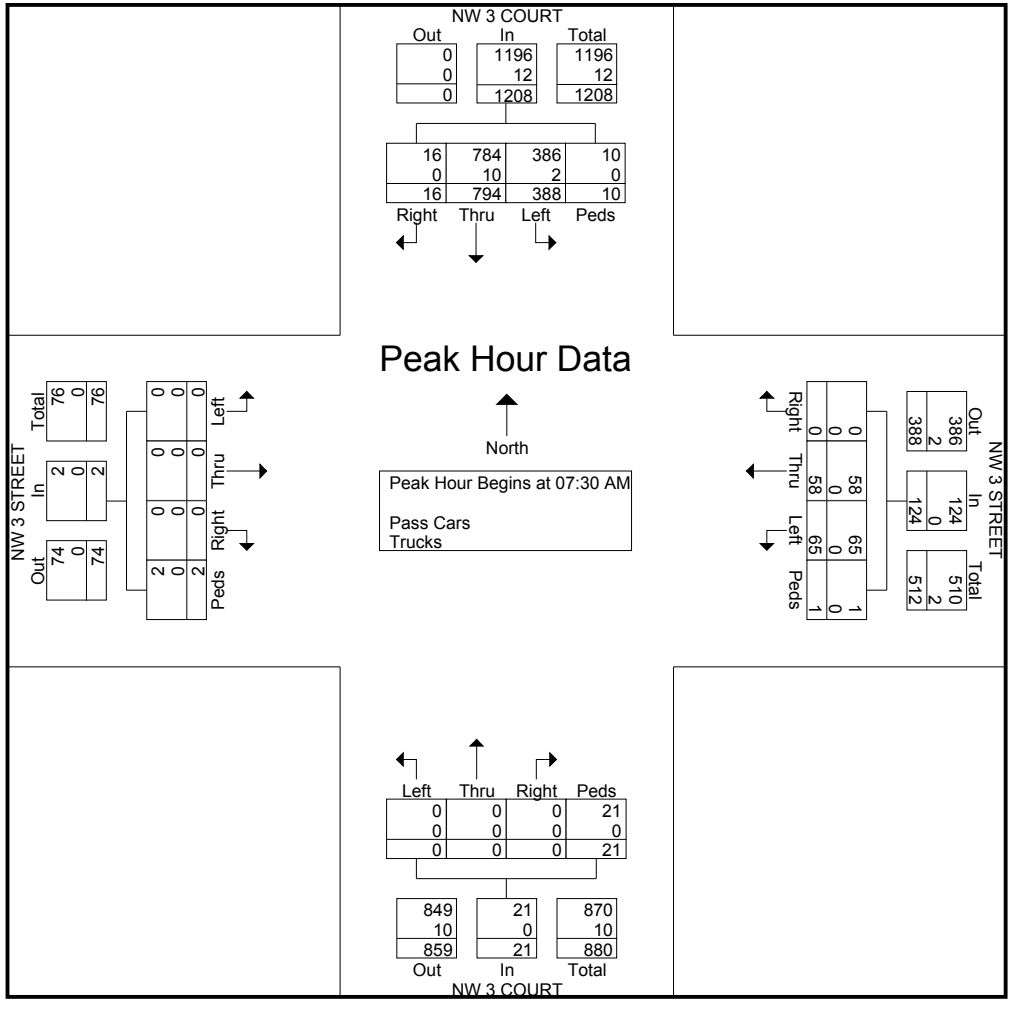
	NW 3 COURT Northbound					NW 3 COURT Southbound					NW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	3	3	**113**	173	4	2	292	0	0	0	0	0	**20**	12	0	0	32	327
07:45 AM	0	0	0	6	6	109	189	5	**4**	307	0	0	0	0	0	14	**28**	0	**1**	**43**	**356**
08:00 AM	0	0	0	3	3	92	211	**6**	3	**312**	0	0	0	0	0	19	10	0	0	29	344
08:15 AM	0	0	0	**9**	**9**	74	**221**	1	1	297	0	0	0	**2**	**2**	12	8	0	0	20	328
Total Volume	0	0	0	21	21	388	794	16	10	1208	0	0	0	2	2	65	58	0	1	124	1355
% App. Total	0	0	0	100		32.1	65.7	1.3	0.8		0	0	0	100		52.4	46.8	0	0.8		
PHF	.000	.000	.000	.583	.583	.858	.898	.667	.625	.968	.000	.000	.000	.250	.250	.813	.518	.000	.250	.721	.952
Pass Cars	0	0	0	21	21	386	784	16	10	1196	0	0	0	2	2	65	58	0	1	124	1343
% Pass Cars	0	0	0	100	100	99.5	98.7	100	100	99.0	0	0	0	100	100	100	100	0	100	100	99.1
Trucks	0	0	0	0	0	2	10	0	0	12	0	0	0	0	0	0	0	0	0	0	12
% Trucks	0	0	0	0	0	0.5	1.3	0	0	1.0	0	0	0	0	0	0	0	0	0	0	0.9

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Client: K&H
Intersection Name: NW 3 ST& NW 3 CT
Opertaors Name: ZV
Weather: Sunny

File Name : NW 3 St_NW 3 Ct
Site Code : 00000503
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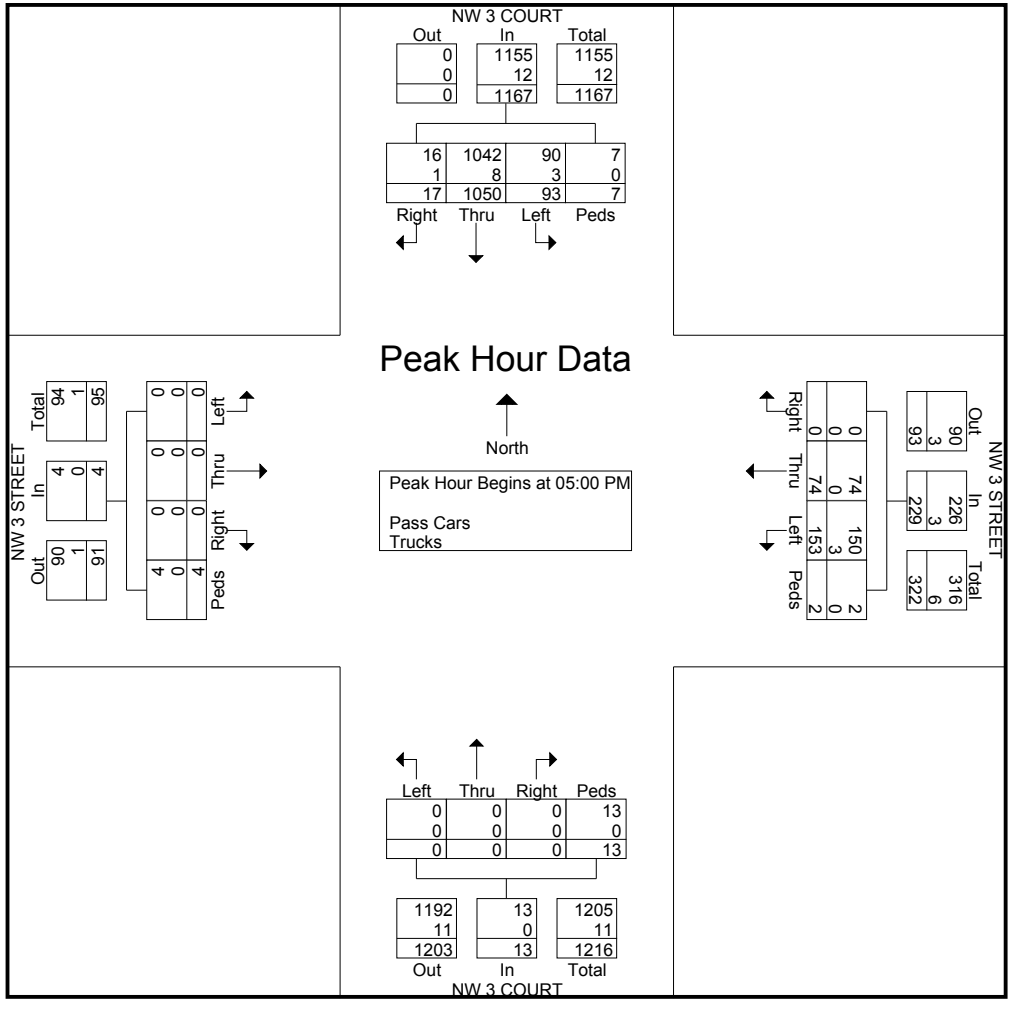
	NW 3 COURT Northbound					NW 3 COURT Southbound					NW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	**5**	**5**	17	250	**5**	**4**	276	0	0	0	**2**	**2**	41	20	0	0	61	344
05:15 PM	0	0	0	2	2	**30**	246	4	1	281	0	0	0	0	0	**49**	**25**	0	**1**	**75**	358
05:30 PM	0	0	0	2	2	22	**283**	3	1	**309**	0	0	0	1	1	36	13	0	0	49	**361**
05:45 PM	0	0	0	4	4	24	271	5	1	301	0	0	0	1	1	27	16	0	1	44	350
Total Volume	0	0	0	13	13	93	1050	17	7	1167	0	0	0	4	4	153	74	0	2	229	1413
% App. Total	0	0	0	100		8	90	1.5	0.6		0	0	0	100		66.8	32.3	0	0.9		
PHF	.000	.000	.000	.650	.650	.775	.928	.850	.438	.944	.000	.000	.000	.500	.500	.781	.740	.000	.500	.763	.979
Pass Cars	0	0	0	13	13	90	1042	16	7	1155	0	0	0	4	4	150	74	0	2	226	1398
% Pass Cars	0	0	0	100	100	96.8	99.2	94.1	100	99.0	0	0	0	100	100	98.0	100	0	100	98.7	98.9
Trucks	0	0	0	0	0	3	8	1	0	12	0	0	0	0	0	3	0	0	0	3	15
% Trucks	0	0	0	0	0	3.2	0.8	5.9	0	1.0	0	0	0	0	0	2.0	0	0	0	1.3	1.1

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Opertaors Name: ZV
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File Name : NW 3 St_NW 3 Ct
Site Code : 00000503
Start Date : 3/17/2015
Page No : 5



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File Name : NW 3 St_NW 3 Ct
Site Code : 00000503
Start Date : 3/17/2015
Page No : 1

Groups Printed- Trucks

	NW 3 COURT Northbound					NW 3 COURT Southbound					NW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	9
08:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	5
08:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	0	0	0	3	5
08:45 AM	0	0	0	0	0	3	3	0	0	6	0	0	0	0	0	2	1	0	0	3	9
Total	0	0	0	0	0	5	11	0	0	16	0	0	0	0	0	5	1	0	0	6	22
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
04:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	3	0	0	0	3	8
04:30 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	1	1	0	0	2	5
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
Total	0	0	0	0	0	1	10	0	0	11	0	0	0	0	0	5	2	0	0	7	18
05:00 PM	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	2	0	0	0	2	10
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
*** BREAK ***																					
Total	0	0	0	0	0	3	8	1	0	12	0	0	0	0	0	3	0	0	0	3	15
Grand Total	0	0	0	0	0	11	36	1	0	48	0	0	0	0	0	13	3	0	0	16	64
Apprch %	0	0	0	0		22.9	75	2.1	0		0	0	0	0		81.2	18.8	0	0		
Total %	0	0	0	0	0	17.2	56.2	1.6	0	75	0	0	0	0	0	20.3	4.7	0	0	25	

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Client: K&H
Intersection Name: NW3 ST& NW3 AV_NB RMP
Opertaors Name: MS & CG
Weather: Sunny

File Name : NW 3St_Nw 3 Av_NB Ramp
Site Code : 00000504
Start Date : 3/17/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 3 ST-NB RAMPS Northbound					NW 3ST-NB RAMPS Southbound					NW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	7	87	22	0	116	0	0	0	0	0	3	51	0	1	55	0	37	47	10	94	265
07:15 AM	4	125	29	0	158	0	0	0	0	0	6	53	0	3	62	0	30	28	3	61	281
07:30 AM	8	110	24	0	142	0	0	0	0	0	23	96	0	9	128	0	23	43	20	86	356
07:45 AM	12	134	27	0	173	0	0	0	0	0	28	84	0	19	131	0	25	69	41	135	439
Total	31	456	102	0	589	0	0	0	0	0	60	284	0	32	376	0	115	187	74	376	1341
08:00 AM	6	159	30	2	197	0	0	0	0	0	29	63	2	27	121	0	19	43	21	83	401
08:15 AM	3	121	20	0	144	0	0	0	0	0	9	62	0	22	93	0	19	29	23	71	308
08:30 AM	6	121	23	0	150	0	0	0	0	0	5	51	0	9	65	0	22	25	9	56	271
08:45 AM	7	139	14	0	160	0	0	0	0	0	3	67	0	9	79	0	9	21	4	34	273
Total	22	540	87	2	651	0	0	0	0	0	46	243	2	67	358	0	69	118	57	244	1253
*** BREAK ***																					
04:00 PM	7	143	5	0	155	0	0	0	0	0	0	16	1	0	17	0	55	71	4	130	302
04:15 PM	7	139	2	1	149	0	0	0	0	0	3	10	0	4	17	0	38	57	9	104	270
04:30 PM	6	171	5	0	182	0	0	0	0	0	3	17	0	2	22	0	51	64	8	123	327
04:45 PM	3	129	8	0	140	0	0	0	0	0	6	23	0	2	31	0	58	61	12	131	302
Total	23	582	20	1	626	0	0	0	0	0	12	66	1	8	87	0	202	253	33	488	1201
05:00 PM	15	182	5	1	203	0	0	0	0	0	5	13	0	9	27	0	52	72	20	144	374
05:15 PM	12	137	6	1	156	0	0	0	0	0	17	13	0	15	45	1	54	67	30	152	353
05:30 PM	6	153	7	1	167	0	0	0	0	0	10	16	0	17	43	0	37	71	56	164	374
05:45 PM	10	149	9	0	168	0	0	0	0	0	5	18	0	11	34	0	32	61	38	131	333
Total	43	621	27	3	694	0	0	0	0	0	37	60	0	52	149	1	175	271	144	591	1434
Grand Total	119	2199	236	6	2560	0	0	0	0	0	155	653	3	159	970	1	561	829	308	1699	5229
Apprch %	4.6	85.9	9.2	0.2		0	0	0	0		16	67.3	0.3	16.4		0.1	33	48.8	18.1		
Total %	2.3	42.1	4.5	0.1	49	0	0	0	0	0	3	12.5	0.1	3	18.6	0	10.7	15.9	5.9	32.5	
Pass Cars	116	2162	234	6	2518	0	0	0	0	0	154	646	3	159	962	1	549	822	308	1680	5160
% Pass Cars	97.5	98.3	99.2	100	98.4	0	0	0	0	0	99.4	98.9	100	100	99.2	100	97.9	99.2	100	98.9	98.7
Trucks	3	37	2	0	42	0	0	0	0	0	1	7	0	0	8	0	12	7	0	19	69
% Trucks	2.5	1.7	0.8	0	1.6	0	0	0	0	0	0.6	1.1	0	0	0.8	0	2.1	0.8	0	1.1	1.3

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Opertaors Name: MS & CG
Weather: Sunny

File Name : NW 3St_Nw 3 Av_NB Ramp
Site Code : 00000504
Start Date : 3/17/2015
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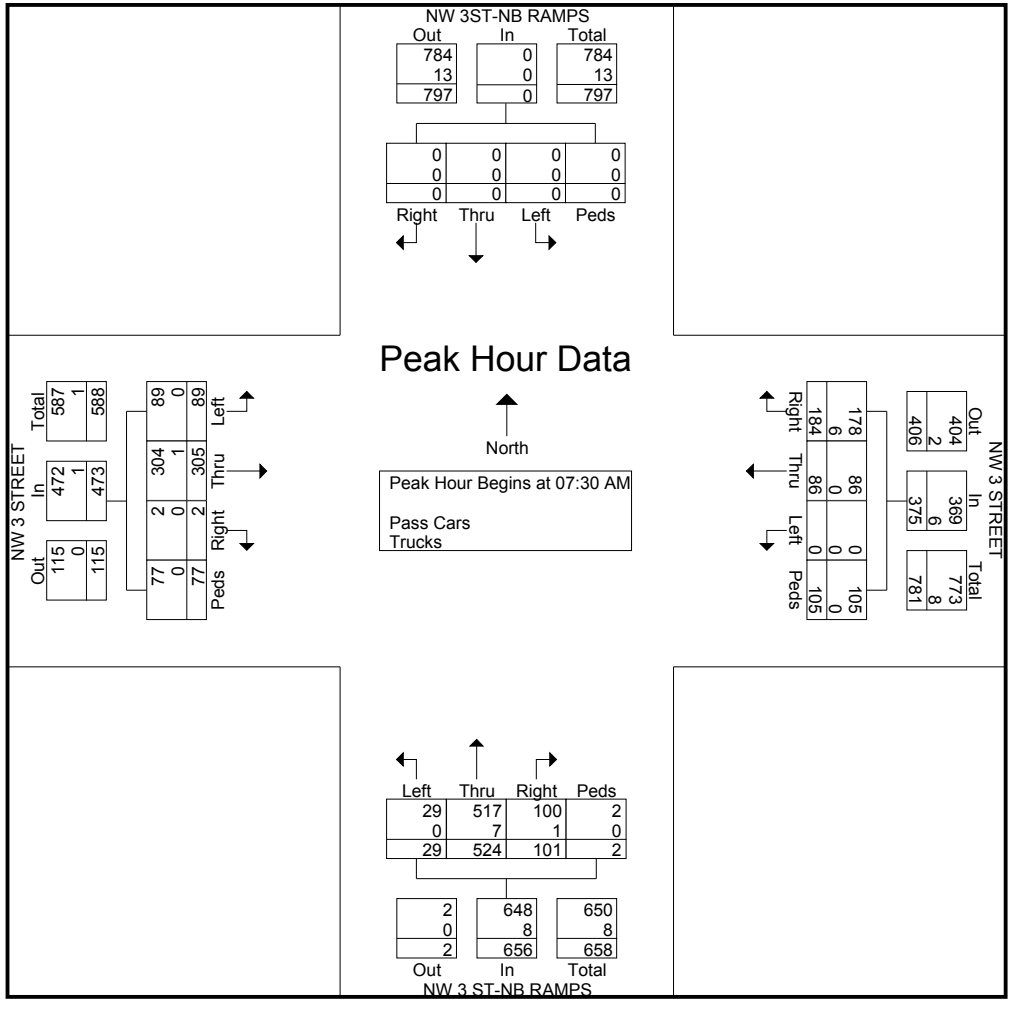
	NW 3 ST-NB RAMPS Northbound					NW 3ST-NB RAMPS Southbound					NW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	8	110	24	0	142	0	0	0	0	0	23	**96**	0	9	128	0	23	43	20	86	356
07:45 AM	**12**	134	27	0	173	0	0	0	0	0	28	84	0	19	**131**	0	**25**	**69**	**41**	**135**	**439**
08:00 AM	6	**159**	**30**	**2**	**197**	0	0	0	0	0	**29**	63	**2**	**27**	121	0	19	43	21	83	401
08:15 AM	3	121	20	0	144	0	0	0	0	0	9	62	0	22	93	0	19	29	23	71	308
Total Volume	29	524	101	2	656	0	0	0	0	0	89	305	2	77	473	0	86	184	105	375	1504
% App. Total	4.4	79.9	15.4	0.3		0	0	0	0		18.8	64.5	0.4	16.3		0	22.9	49.1	28		
PHF	.604	.824	.842	.250	.832	.000	.000	.000	.000	.000	.767	.794	.250	.713	.903	.000	.860	.667	.640	.694	.856
Pass Cars	29	517	100	2	648	0	0	0	0	0	89	304	2	77	472	0	86	178	105	369	1489
% Pass Cars	100	98.7	99.0	100	98.8	0	0	0	0	0	100	99.7	100	100	99.8	0	100	96.7	100	98.4	99.0
Trucks	0	7	1	0	8	0	0	0	0	0	0	1	0	0	1	0	0	6	0	6	15
% Trucks	0	1.3	1.0	0	1.2	0	0	0	0	0	0	0.3	0	0	0.2	0	0	3.3	0	1.6	1.0

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Opertaors Name: MS & CG
Weather: Sunny

File Name : NW 3St_Nw 3 Av_NB Ramp
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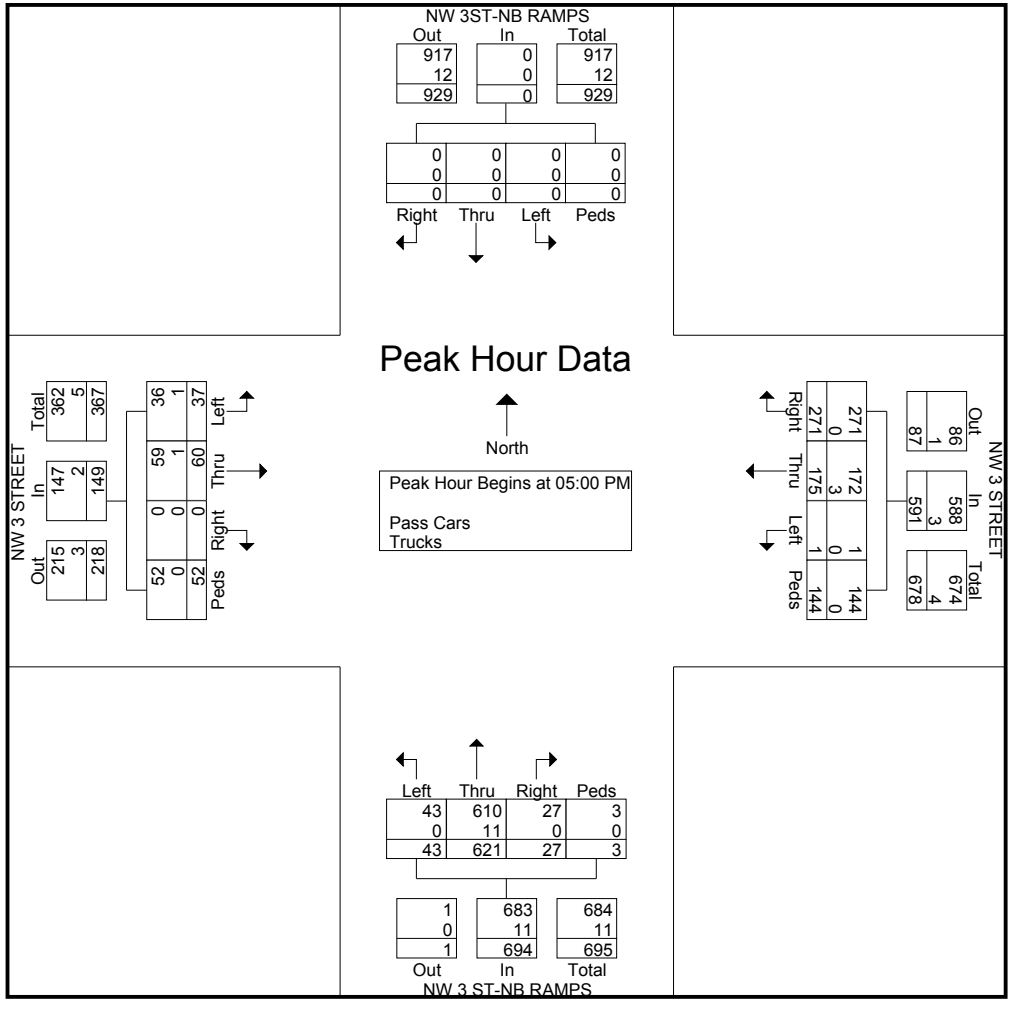
	NW 3 ST-NB RAMPS Northbound					NW 3ST-NB RAMPS Southbound					NW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**15**	**182**	5	**1**	**203**	0	0	0	0	0	5	13	0	9	27	0	52	**72**	20	144	**374**
05:15 PM	12	137	6	1	156	0	0	0	0	0	**17**	13	0	15	**45**	**1**	**54**	67	30	152	353
05:30 PM	6	153	7	1	167	0	0	0	0	0	10	16	0	**17**	43	0	37	71	**56**	**164**	374
05:45 PM	10	149	**9**	0	168	0	0	0	0	0	5	**18**	0	11	34	0	32	61	38	131	333
Total Volume	43	621	27	3	694	0	0	0	0	0	37	60	0	52	149	1	175	271	144	591	1434
% App. Total	6.2	89.5	3.9	0.4		0	0	0	0		24.8	40.3	0	34.9		0.2	29.6	45.9	24.4		
PHF	.717	.853	.750	.750	.855	.000	.000	.000	.000	.000	.544	.833	.000	.765	.828	.250	.810	.941	.643	.901	.959
Pass Cars	43	610	27	3	683	0	0	0	0	0	36	59	0	52	147	1	172	271	144	588	1418
% Pass Cars	100	98.2	100	100	98.4	0	0	0	0	0	97.3	98.3	0	100	98.7	100	98.3	100	100	99.5	98.9
Trucks	0	11	0	0	11	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	16
% Trucks	0	1.8	0	0	1.6	0	0	0	0	0	2.7	1.7	0	0	1.3	0	1.7	0	0	0.5	1.1

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Opertaors Name: MS & CG
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File Name : NW 3St_Nw 3 Av_NB Ramp
Site Code : 00000504
Start Date : 3/17/2015
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File Name : NW 3St_Nw 3 Av_NB Ramp
Site Code : 00000504
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Page No : 1

Groups Printed- Trucks

	NW 3 ST-NB RAMPS Northbound					NW 3ST-NB RAMPS Southbound					NW 3 STREET Eastbound					NW 3 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	5
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	3	0	3	10
08:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	5
08:15 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
08:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	7
08:45 AM	1	1	1	0	3	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	7
Total	1	8	2	0	11	0	0	0	0	0	0	3	0	0	3	0	5	3	0	8	22
*** BREAK ***																					
04:00 PM	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
04:15 PM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	8
04:30 PM	1	4	0	0	5	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	7
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	2	13	0	0	15	0	0	0	0	0	0	1	0	0	1	0	4	1	0	5	21
05:00 PM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	5
05:15 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	4
05:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
05:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	11	0	0	11	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	16
Grand Total	3	37	2	0	42	0	0	0	0	0	1	7	0	0	8	0	12	7	0	19	69
Apprch %	7.1	88.1	4.8	0		0	0	0	0		12.5	87.5	0	0		0	63.2	36.8	0		
Total %	4.3	53.6	2.9	0	60.9	0	0	0	0	0	1.4	10.1	0	0	11.6	0	17.4	10.1	0	27.5	

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Client: K&H
Intersection Name: NW 8 ST&NW3 CT_SB RMP
Opertaors Name: MA
Weather: Sunny

File Name : NW 8 ST_NW 3 Ct _SB RAMPS
Site Code : 00000601
Start Date : 3/18/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 3 CT_SB RAMPS Northbound					NW 3 CT_SB RAMPS Southbound					NW 8 STREET Eastbound					NW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	82	279	21	1	383	0	37	10	0	47	4	12	0	0	16	446
07:15 AM	0	0	0	0	0	115	332	29	6	482	0	62	10	2	74	4	23	0	0	27	583
07:30 AM	0	0	0	0	0	127	329	32	0	488	0	48	11	0	59	3	11	0	0	14	561
07:45 AM	0	0	0	2	2	125	335	30	3	493	0	46	10	0	56	3	19	0	0	22	573
Total	0	0	0	2	2	449	1275	112	10	1846	0	193	41	2	236	14	65	0	0	79	2163
08:00 AM	0	0	0	2	2	88	304	15	2	409	0	41	8	0	49	12	15	1	0	28	488
08:15 AM	0	0	0	1	1	96	329	20	1	446	0	41	12	0	53	8	17	0	0	25	525
08:30 AM	0	0	0	1	1	96	280	19	1	396	0	42	14	0	56	9	23	0	0	32	485
08:45 AM	0	0	0	0	0	92	373	12	0	477	0	46	12	1	59	6	25	1	0	32	568
Total	0	0	0	4	4	372	1286	66	4	1728	0	170	46	1	217	35	80	2	0	117	2066
*** BREAK ***																					
04:00 PM	0	0	0	0	0	84	152	15	3	254	0	25	15	0	40	9	21	0	1	31	325
04:15 PM	0	0	0	1	1	75	166	29	5	275	0	32	12	0	44	4	31	0	0	35	355
04:30 PM	0	0	0	5	5	77	157	29	1	264	0	38	12	0	50	10	27	0	0	37	356
04:45 PM	0	0	0	0	0	67	153	22	6	248	0	39	14	0	53	7	24	0	0	31	332
Total	0	0	0	6	6	303	628	95	15	1041	0	134	53	0	187	30	103	0	1	134	1368
05:00 PM	0	0	0	2	2	78	162	32	2	274	1	34	3	0	38	9	24	0	0	33	347
05:15 PM	0	0	0	1	1	64	203	23	5	295	0	40	12	0	52	11	24	0	0	35	383
05:30 PM	0	0	0	1	1	82	205	13	3	303	0	34	15	0	49	9	35	0	0	44	397
05:45 PM	0	0	0	2	2	82	165	22	0	269	0	38	11	1	50	8	26	0	1	35	356
Total	0	0	0	6	6	306	735	90	10	1141	1	146	41	1	189	37	109	0	1	147	1483
Grand Total	0	0	0	18	18	1430	3924	363	39	5756	1	643	181	4	829	116	357	2	2	477	7080
Apprch %	0	0	0	100		24.8	68.2	6.3	0.7		0.1	77.6	21.8	0.5		24.3	74.8	0.4	0.4		
Total %	0	0	0	0.3	0.3	20.2	55.4	5.1	0.6	81.3	0	9.1	2.6	0.1	11.7	1.6	5	0	0	6.7	
Pass Cars	0	0	0	18	18	1331	3876	355	39	5601	1	630	177	4	812	114	324	1	2	441	6872
% Pass Cars	0	0	0	100	100	93.1	98.8	97.8	100	97.3	100	98	97.8	100	97.9	98.3	90.8	50	100	92.5	97.1
Trucks	0	0	0	0	0	99	48	8	0	155	0	13	4	0	17	2	33	1	0	36	208
% Trucks	0	0	0	0	0	6.9	1.2	2.2	0	2.7	0	2	2.2	0	2.1	1.7	9.2	50	0	7.5	2.9

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Client: K&H
Intersection Name: NW 8 ST&NW3 CT_SB RMP
Opertaors Name: MA
Weather: Sunny

File Name : NW 8 ST_NW 3 Ct _SB RAMPS
Site Code : 00000601
Start Date : 3/18/2015
Page No : 2

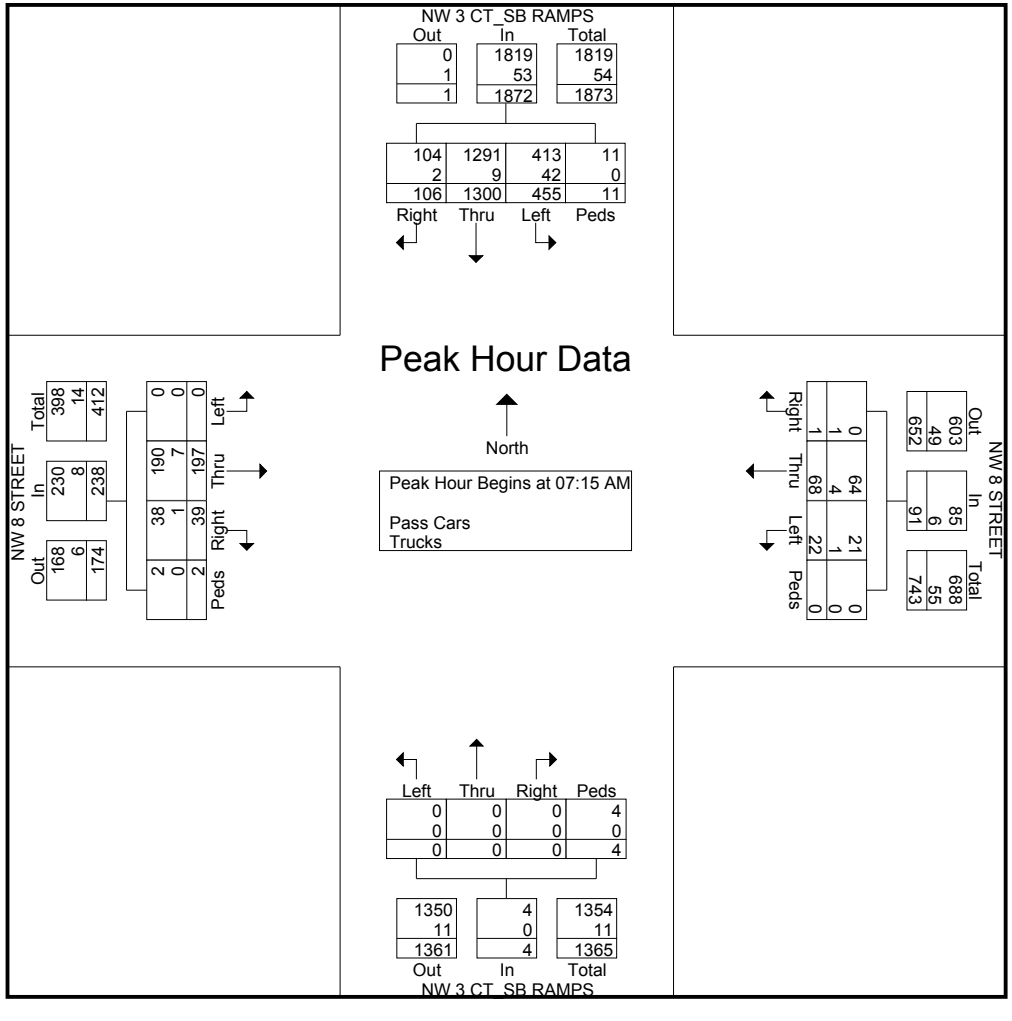
	NW 3 CT_SB RAMPS Northbound					NW 3 CT_SB RAMPS Southbound					NW 8 STREET Eastbound					NW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	115	332	29	**6**	482	0	**62**	10	**2**	**74**	4	**23**	0	0	27	**583**
07:30 AM	0	0	0	0	0	**127**	329	**32**	0	488	0	48	**11**	0	59	3	11	0	0	14	561
07:45 AM	0	0	0	**2**	**2**	125	**335**	30	3	**493**	0	46	10	0	56	3	19	0	0	22	573
08:00 AM	0	0	0	2	2	88	304	15	2	409	0	41	8	0	49	**12**	15	**1**	0	**28**	488
Total Volume	0	0	0	4	4	455	1300	106	11	1872	0	197	39	2	238	22	68	1	0	91	2205
% App. Total	0	0	0	100		24.3	69.4	5.7	0.6		0	82.8	16.4	0.8		24.2	74.7	1.1	0		
PHF	.000	.000	.000	.500	.500	.896	.970	.828	.458	.949	.000	.794	.886	.250	.804	.458	.739	.250	.000	.813	.946
Pass Cars	0	0	0	4	4	413	1291	104	11	1819	0	190	38	2	230	21	64	0	0	85	2138
% Pass Cars	0	0	0	100	100	90.8	99.3	98.1	100	97.2	0	96.4	97.4	100	96.6	95.5	94.1	0	0	93.4	97.0
Trucks	0	0	0	0	0	42	9	2	0	53	0	7	1	0	8	1	4	1	0	6	67
% Trucks	0	0	0	0	0	9.2	0.7	1.9	0	2.8	0	3.6	2.6	0	3.4	4.5	5.9	100	0	6.6	3.0

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Opertaors Name: MA
Weather: Sunny

File Name : NW 8 ST_NW 3 Ct _SB RAMPS
Site Code : 00000601
Start Date : 3/18/2015
Page No : 3



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Opertaors Name: MA
Weather: Sunny

File Name : NW 8 ST_NW 3 Ct _SB RAMPS
Site Code : 00000601
Start Date : 3/18/2015
Page No : 4

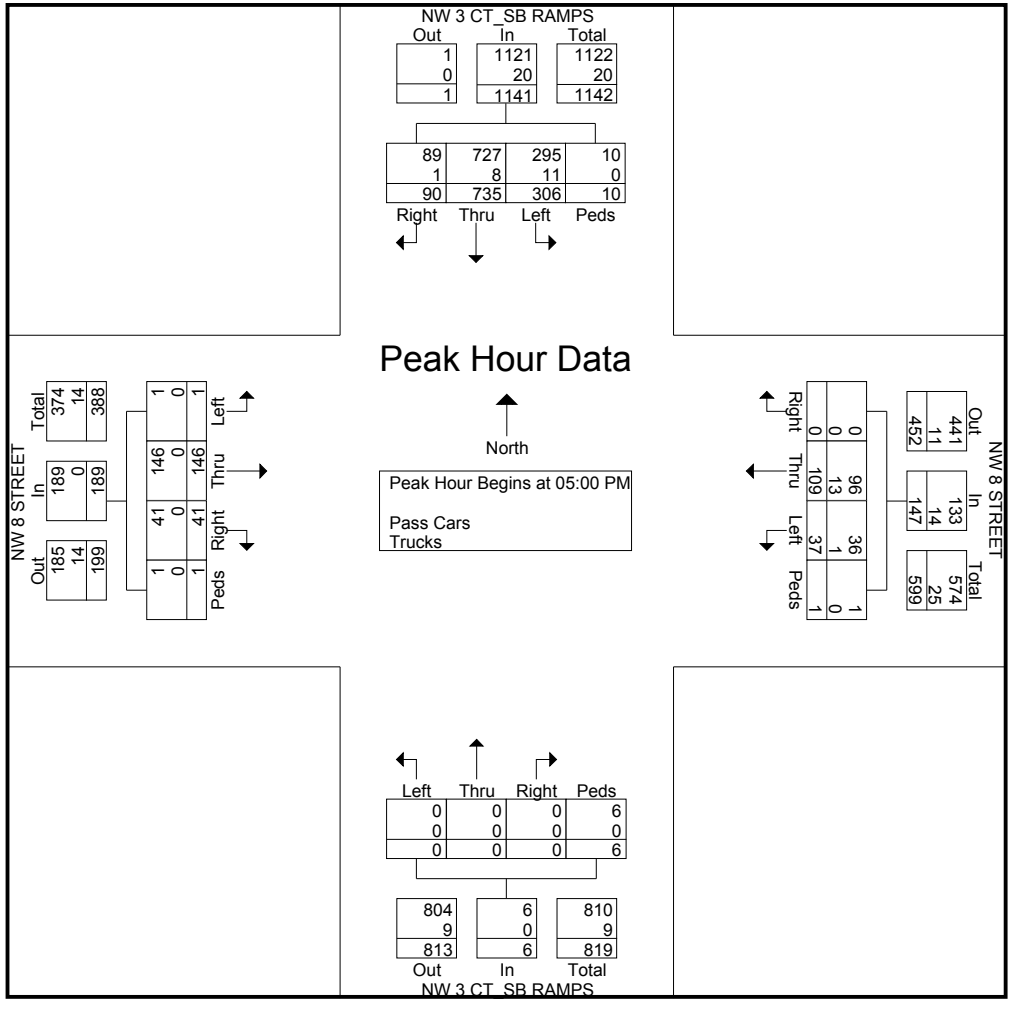
	NW 3 CT_SB RAMPS Northbound					NW 3 CT_SB RAMPS Southbound					NW 8 STREET Eastbound					NW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	**2**	**2**	78	162	**32**	2	274	**1**	34	3	0	38	9	24	0	0	33	347
05:15 PM	0	0	0	1	1	64	203	23	**5**	295	0	**40**	12	0	**52**	**11**	24	0	0	35	383
05:30 PM	0	0	0	1	1	**82**	**205**	13	3	**303**	0	34	**15**	0	49	9	**35**	0	0	**44**	**397**
05:45 PM	0	0	0	2	2	82	165	22	0	269	0	38	11	**1**	50	8	26	0	**1**	35	356
Total Volume	0	0	0	6	6	306	735	90	10	1141	1	146	41	1	189	37	109	0	1	147	1483
% App. Total	0	0	0	100		26.8	64.4	7.9	0.9		0.5	77.2	21.7	0.5		25.2	74.1	0	0.7		
PHF	.000	.000	.000	.750	.750	.933	.896	.703	.500	.941	.250	.913	.683	.250	.909	.841	.779	.000	.250	.835	.934
Pass Cars	0	0	0	6	6	295	727	89	10	1121	1	146	41	1	189	36	96	0	1	133	1449
% Pass Cars	0	0	0	100	100	96.4	98.9	98.9	100	98.2	100	100	100	100	100	97.3	88.1	0	100	90.5	97.7
Trucks	0	0	0	0	0	11	8	1	0	20	0	0	0	0	0	1	13	0	0	14	34
% Trucks	0	0	0	0	0	3.6	1.1	1.1	0	1.8	0	0	0	0	0	2.7	11.9	0	0	9.5	2.3

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Client: K&H
Intersection Name: NW 8 ST&NW3 CT_SB RMP
Opertaors Name: MA
Weather: Sunny

File Name : NW 8 ST_NW 3 Ct _SB RAMPS
Site Code : 00000601
Start Date : 3/18/2015
Page No : 5



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File Name : NW 8 ST_NW 3 Ct _SB RAMPS
Site Code : 00000601
Start Date : 3/18/2015
Page No : 1

Groups Printed- Trucks

	NW 3 CT_SB RAMPS Northbound					NW 3 CT_SB RAMPS Southbound					NW 8 STREET Eastbound					NW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	9	6	1	0	16	0	2	1	0	3	0	3	0	0	3	22
07:15 AM	0	0	0	0	0	16	6	2	0	24	0	3	1	0	4	1	1	0	0	2	30
07:30 AM	0	0	0	0	0	11	0	0	0	11	0	1	0	0	1	0	1	0	0	1	13
07:45 AM	0	0	0	0	0	8	3	0	0	11	0	1	0	0	1	0	1	0	0	1	13
Total	0	0	0	0	0	44	15	3	0	62	0	7	2	0	9	1	6	0	0	7	78
08:00 AM	0	0	0	0	0	7	0	0	0	7	0	2	0	0	2	0	1	1	0	2	11
08:15 AM	0	0	0	0	0	7	1	1	0	9	0	1	0	0	1	0	0	0	0	0	10
08:30 AM	0	0	0	0	0	12	9	0	0	21	0	1	1	0	2	0	3	0	0	3	26
08:45 AM	0	0	0	0	0	4	3	0	0	7	0	1	1	0	2	0	3	0	0	3	12
Total	0	0	0	0	0	30	13	1	0	44	0	5	2	0	7	0	7	1	0	8	59
*** BREAK ***																					
04:00 PM	0	0	0	0	0	3	5	0	0	8	0	1	0	0	1	0	0	0	0	0	9
04:15 PM	0	0	0	0	0	4	2	2	0	8	0	0	0	0	0	0	4	0	0	4	12
04:30 PM	0	0	0	0	0	4	3	0	0	7	0	0	0	0	0	0	3	0	0	3	10
04:45 PM	0	0	0	0	0	3	2	1	0	6	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	0	0	0	14	12	3	0	29	0	1	0	0	1	0	7	0	0	7	37
05:00 PM	0	0	0	0	0	4	4	0	0	8	0	0	0	0	0	0	4	0	0	4	12
05:15 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	1	4	0	0	5	7
05:30 PM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	4	0	0	4	7
05:45 PM	0	0	0	0	0	4	2	1	0	7	0	0	0	0	0	0	1	0	0	1	8
Total	0	0	0	0	0	11	8	1	0	20	0	0	0	0	0	1	13	0	0	14	34
Grand Total	0	0	0	0	0	99	48	8	0	155	0	13	4	0	17	2	33	1	0	36	208
Apprch %	0	0	0	0		63.9	31	5.2	0		0	76.5	23.5	0		5.6	91.7	2.8	0		
Total %	0	0	0	0	0	47.6	23.1	3.8	0	74.5	0	6.2	1.9	0	8.2	1	15.9	0.5	0	17.3	

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Client: K&H
Intersection Name: NW8ST& NW 3AV _NB RMP
Opertaors Name: MS & EB
Weather: Sunny

File Name : NW 8 St _ NW 3 Ave _NB RAMPS
Site Code : 00000602
Start Date : 3/18/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 3 AVE_NB RAMPS Northbound					NW 3 AVE_NB RAMPS Southbound					NW 8 STREET Eastbound					NW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	102	8	2	115	0	0	0	0	0	43	75	0	0	118	0	14	25	2	41	274
07:15 AM	14	99	3	2	118	0	0	0	0	0	61	124	0	4	189	0	17	27	3	47	354
07:30 AM	6	95	17	3	121	0	0	0	0	0	43	137	0	0	180	0	10	35	6	51	352
07:45 AM	12	129	8	0	149	0	0	0	0	0	46	150	0	3	199	0	13	20	7	40	388
Total	35	425	36	7	503	0	0	0	0	0	193	486	0	7	686	0	54	107	18	179	1368
08:00 AM	8	128	20	1	157	0	0	0	0	0	29	111	0	3	143	0	25	31	4	60	360
08:15 AM	7	119	12	1	139	0	0	0	0	0	27	106	0	2	135	0	18	37	0	55	329
08:30 AM	1	104	3	0	108	0	0	0	0	0	38	101	0	0	139	0	31	38	2	71	318
08:45 AM	9	119	14	0	142	0	0	0	0	0	31	111	0	0	142	0	24	24	1	49	333
Total	25	470	49	2	546	0	0	0	0	0	125	429	0	5	559	0	98	130	7	235	1340
*** BREAK ***																					
04:00 PM	8	224	11	2	245	0	0	0	0	0	54	53	0	2	109	0	25	59	3	87	441
04:15 PM	6	172	21	1	200	0	0	0	0	0	47	68	0	3	118	0	25	68	7	100	418
04:30 PM	4	154	20	0	178	0	0	0	0	0	44	66	0	5	115	0	27	70	2	99	392
04:45 PM	2	156	9	2	169	0	0	0	0	0	39	68	0	2	109	0	34	67	5	106	384
Total	20	706	61	5	792	0	0	0	0	0	184	255	0	12	451	0	111	264	17	392	1635
05:00 PM	3	145	8	0	156	0	0	0	0	0	41	73	0	1	115	0	22	76	7	105	376
05:15 PM	3	236	9	0	248	0	0	0	0	0	33	84	0	2	119	0	41	59	1	101	468
05:30 PM	2	214	17	0	233	0	0	0	0	0	45	70	0	4	119	0	36	36	1	73	425
05:45 PM	8	226	13	3	250	0	0	0	0	0	54	67	0	4	125	0	20	22	2	44	419
Total	16	821	47	3	887	0	0	0	0	0	173	294	0	11	478	0	119	193	11	323	1688
Grand Total	96	2422	193	17	2728	0	0	0	0	0	675	1464	0	35	2174	0	382	694	53	1129	6031
Apprch %	3.5	88.8	7.1	0.6		0	0	0	0		31	67.3	0	1.6		0	33.8	61.5	4.7		
Total %	1.6	40.2	3.2	0.3	45.2	0	0	0	0	0	11.2	24.3	0	0.6	36	0	6.3	11.5	0.9	18.7	
Pass Cars	93	2384	188	17	2682	0	0	0	0	0	659	1367	0	35	2061	0	354	681	53	1088	5831
% Pass Cars	96.9	98.4	97.4	100	98.3	0	0	0	0	0	97.6	93.4	0	100	94.8	0	92.7	98.1	100	96.4	96.7
Trucks	3	38	5	0	46	0	0	0	0	0	16	97	0	0	113	0	28	13	0	41	200
% Trucks	3.1	1.6	2.6	0	1.7	0	0	0	0	0	2.4	6.6	0	0	5.2	0	7.3	1.9	0	3.6	3.3

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Client: K&H
Intersection Name: NW8ST& NW 3AV _NB RMP
Opertaors Name: MS & EB
Weather: Sunny

File Name : NW 8 St _ NW 3 Ave _NB RAMPS
Site Code : 00000602
Start Date : 3/18/2015
Page No : 2

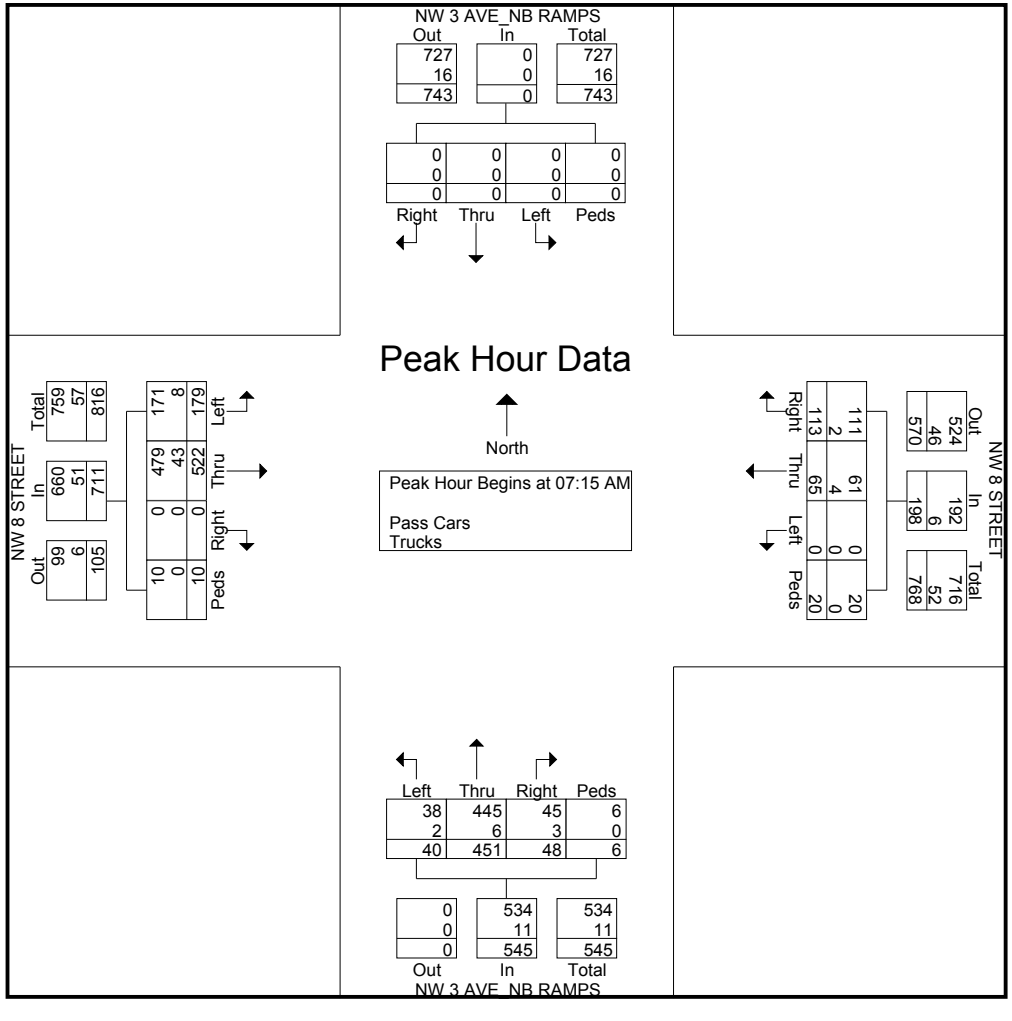
	NW 3 AVE_NB RAMPS Northbound					NW 3 AVE_NB RAMPS Southbound					NW 8 STREET Eastbound					NW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**14**	99	3	2	118	0	0	0	0	0	**61**	124	0	**4**	189	0	17	27	3	47	354
07:30 AM	6	95	17	**3**	121	0	0	0	0	0	43	137	0	0	180	0	10	**35**	6	51	352
07:45 AM	12	**129**	8	0	149	0	0	0	0	0	46	**150**	0	3	**199**	0	13	20	**7**	40	**388**
08:00 AM	8	128	**20**	1	**157**	0	0	0	0	0	29	111	0	3	143	0	**25**	31	4	**60**	360
Total Volume	40	451	48	6	545	0	0	0	0	0	179	522	0	10	711	0	65	113	20	198	1454
% App. Total	7.3	82.8	8.8	1.1		0	0	0	0		25.2	73.4	0	1.4		0	32.8	57.1	10.1		
PHF	.714	.874	.600	.500	.868	.000	.000	.000	.000	.000	.734	.870	.000	.625	.893	.000	.650	.807	.714	.825	.937
Pass Cars	38	445	45	6	534	0	0	0	0	0	171	479	0	10	660	0	61	111	20	192	1386
% Pass Cars	95.0	98.7	93.8	100	98.0	0	0	0	0	0	95.5	91.8	0	100	92.8	0	93.8	98.2	100	97.0	95.3
Trucks	2	6	3	0	11	0	0	0	0	0	8	43	0	0	51	0	4	2	0	6	68
% Trucks	5.0	1.3	6.3	0	2.0	0	0	0	0	0	4.5	8.2	0	0	7.2	0	6.2	1.8	0	3.0	4.7

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Client: K&H
Intersection Name: NW8ST& NW 3AV _NB RMP
Opertaors Name: MS & EB
Weather: Sunny

File Name : NW 8 St _ NW 3 Ave _NB RAMPS
Site Code : 00000602
Start Date : 3/18/2015
Page No : 3



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Opertaors Name: MS & EB
Weather: Sunny

File Name : NW 8 St _ NW 3 Ave _NB RAMPS
Site Code : 00000602
Start Date : 3/18/2015
Page No : 4

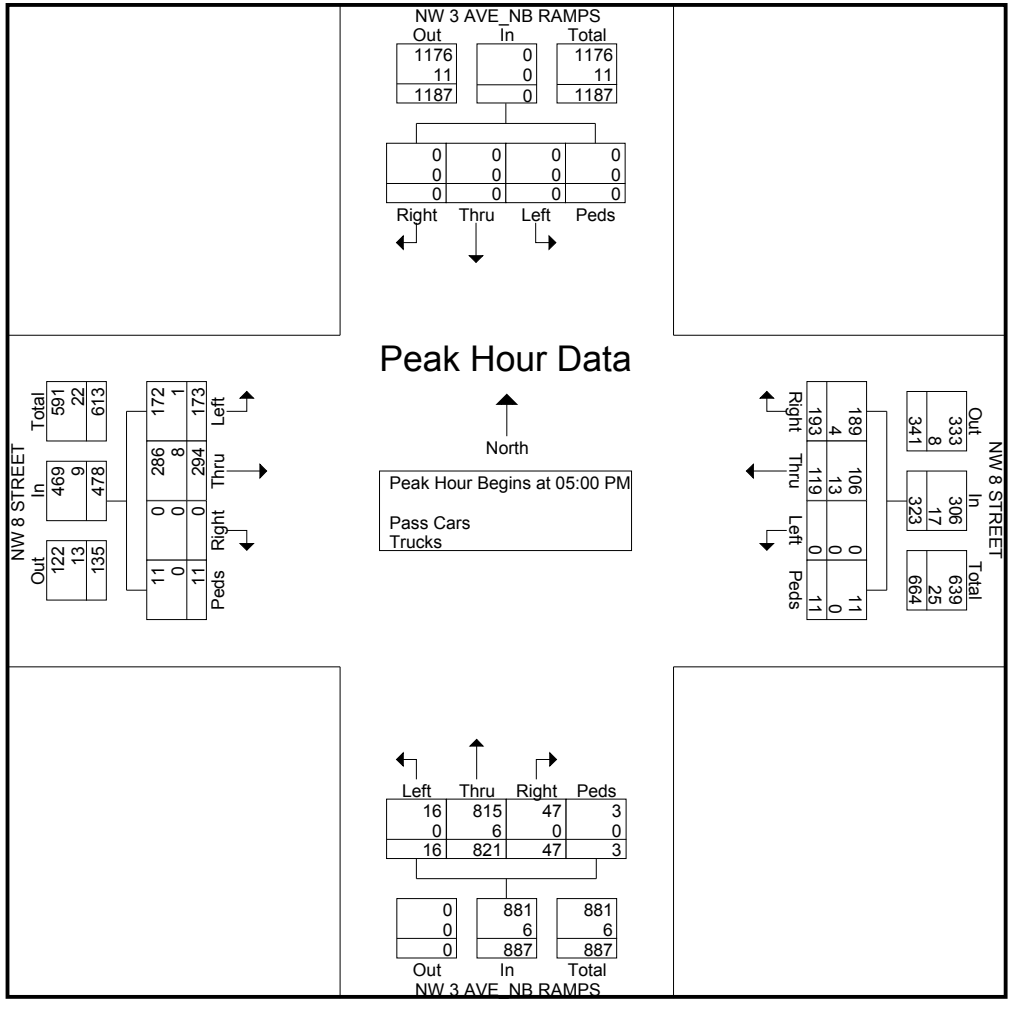
	NW 3 AVE_NB RAMPS Northbound					NW 3 AVE_NB RAMPS Southbound					NW 8 STREET Eastbound					NW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 08:45 AM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	3	145	8	0	156	0	0	0	0	0	41	73	0	1	115	0	22	**76**	**7**	**105**	376
05:15 PM	3	**236**	9	0	248	0	0	0	0	0	33	**84**	0	2	119	0	**41**	59	1	101	**468**
05:30 PM	2	214	**17**	0	233	0	0	0	0	0	45	70	0	**4**	119	0	36	36	1	73	425
05:45 PM	**8**	226	13	**3**	**250**	0	0	0	0	0	**54**	67	0	4	**125**	0	20	22	2	44	419
Total Volume	16	821	47	3	887	0	0	0	0	0	173	294	0	11	478	0	119	193	11	323	1688
% App. Total	1.8	92.6	5.3	0.3		0	0	0	0		36.2	61.5	0	2.3		0	36.8	59.8	3.4		
PHF	.500	.870	.691	.250	.887	.000	.000	.000	.000	.000	.801	.875	.000	.688	.956	.000	.726	.635	.393	.769	.902
Pass Cars	16	815	47	3	881	0	0	0	0	0	172	286	0	11	469	0	106	189	11	306	1656
% Pass Cars	100	99.3	100	100	99.3	0	0	0	0	0	99.4	97.3	0	100	98.1	0	89.1	97.9	100	94.7	98.1
Trucks	0	6	0	0	6	0	0	0	0	0	1	8	0	0	9	0	13	4	0	17	32
% Trucks	0	0.7	0	0	0.7	0	0	0	0	0	0.6	2.7	0	0	1.9	0	10.9	2.1	0	5.3	1.9

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Intersection Name: NW8ST& NW 3AV _NB RMP
Opertaors Name: MS & EB
Weather: Sunny

File Name : NW 8 St _ NW 3 Ave _NB RAMPS
Site Code : 00000602
Start Date : 3/18/2015
Page No : 5



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File Name : NW 8 St _ NW 3 Ave _NB RAMPS
Site Code : 00000602
Start Date : 3/18/2015
Page No : 1

Groups Printed- Trucks

	NW 3 AVE_NB RAMPS Northbound					NW 3 AVE_NB RAMPS Southbound					NW 8 STREET Eastbound					NW 8 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	7	0	0	8	0	2	1	0	3	11
07:15 AM	0	1	0	0	1	0	0	0	0	0	4	13	0	0	17	0	2	0	0	2	20
07:30 AM	0	2	2	0	4	0	0	0	0	0	3	11	0	0	14	0	1	0	0	1	19
07:45 AM	2	1	1	0	4	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	15
Total	2	4	3	0	9	0	0	0	0	0	8	42	0	0	50	0	5	1	0	6	65
08:00 AM	0	2	0	0	2	0	0	0	0	0	1	8	0	0	9	0	1	2	0	3	14
08:15 AM	0	7	0	0	7	0	0	0	0	0	1	8	0	0	9	0	0	1	0	1	17
08:30 AM	0	4	0	0	4	0	0	0	0	0	3	11	0	0	14	0	4	0	0	4	22
08:45 AM	1	3	0	0	4	0	0	0	0	0	1	5	0	0	6	0	1	0	0	1	11
Total	1	16	0	0	17	0	0	0	0	0	6	32	0	0	38	0	6	3	0	9	64
*** BREAK ***																					
04:00 PM	0	3	1	0	4	0	0	0	0	0	0	5	0	0	5	0	0	2	0	2	11
04:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	3	1	0	4	0	0	0	0	0	1	6	0	0	7	0	4	0	0	4	15
04:45 PM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	3	0	3	11
Total	0	12	2	0	14	0	0	0	0	0	1	15	0	0	16	0	4	5	0	9	39
05:00 PM	0	2	0	0	2	0	0	0	0	0	1	3	0	0	4	0	3	2	0	5	11
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	5	0	0	5	9
05:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	4	2	0	6	10
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
Total	0	6	0	0	6	0	0	0	0	0	1	8	0	0	9	0	13	4	0	17	32
Grand Total	3	38	5	0	46	0	0	0	0	0	16	97	0	0	113	0	28	13	0	41	200
Apprch %	6.5	82.6	10.9	0		0	0	0	0		14.2	85.8	0	0		0	68.3	31.7	0		
Total %	1.5	19	2.5	0	23	0	0	0	0	0	8	48.5	0	0	56.5	0	14	6.5	0	20.5	

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Client: K&H
Intersection Name:NW62 ST& SR 7
Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 62 ST_SR7
Site Code : 00000701
Start Date : 4/14/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SR-7 Northbound					SR-7 Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	13	73	62	0	148	51	151	8	0	210	16	122	5	0	143	33	54	17	1	105	606
07:15 AM	12	100	37	1	150	57	164	4	2	227	20	131	6	16	173	25	70	13	2	110	660
07:30 AM	13	80	56	0	149	55	175	7	1	238	1	128	2	2	133	24	66	6	1	97	617
07:45 AM	13	118	55	2	188	54	199	3	5	261	9	148	5	2	164	39	71	9	0	119	732
Total	51	371	210	3	635	217	689	22	8	936	46	529	18	20	613	121	261	45	4	431	2615
08:00 AM	8	81	34	5	128	46	233	14	9	302	22	122	4	9	157	22	67	9	2	100	687
08:15 AM	8	81	50	0	139	52	150	8	12	222	16	150	3	4	173	34	101	9	5	149	683
08:30 AM	12	86	34	0	132	45	190	6	8	249	32	130	9	3	174	36	49	13	0	98	653
08:45 AM	11	84	35	1	131	61	210	7	10	288	12	155	10	1	178	32	80	8	0	120	717
Total	39	332	153	6	530	204	783	35	39	1061	82	557	26	17	682	124	297	39	7	467	2740
*** BREAK ***																					
04:00 PM	15	183	38	0	236	33	99	23	10	165	40	105	4	1	150	24	118	19	1	162	713
04:15 PM	14	198	39	2	253	43	103	16	9	171	36	114	9	3	162	35	124	37	2	198	784
04:30 PM	21	257	34	0	312	46	112	26	11	195	15	105	10	2	132	27	113	27	1	168	807
04:45 PM	17	240	37	2	296	45	115	17	14	191	24	120	9	6	159	33	126	19	2	180	826
Total	67	878	148	4	1097	167	429	82	44	722	115	444	32	12	603	119	481	102	6	708	3130
05:00 PM	26	232	27	1	286	49	130	37	7	223	32	120	6	8	166	29	115	22	0	166	841
05:15 PM	16	257	37	0	310	34	127	27	10	198	33	119	7	2	161	32	118	22	0	172	841
05:30 PM	16	214	47	2	279	44	129	24	3	200	28	94	7	7	136	21	114	28	0	163	778
05:45 PM	21	233	23	1	278	40	126	20	3	189	28	121	6	5	160	34	124	12	0	170	797
Total	79	936	134	4	1153	167	512	108	23	810	121	454	26	22	623	116	471	84	0	671	3257
Grand Total	236	2517	645	17	3415	755	2413	247	114	3529	364	1984	102	71	2521	480	1510	270	17	2277	11742
Apprch %	6.9	73.7	18.9	0.5		21.4	68.4	7	3.2		14.4	78.7	4	2.8		21.1	66.3	11.9	0.7		
Total %	2	21.4	5.5	0.1	29.1	6.4	20.6	2.1	1	30.1	3.1	16.9	0.9	0.6	21.5	4.1	12.9	2.3	0.1	19.4	
Pass Cars	231	2456	629	17	3333	743	2360	239	114	3456	357	1854	100	71	2382	475	1409	257	17	2158	11329
% Pass Cars	97.9	97.6	97.5	100	97.6	98.4	97.8	96.8	100	97.9	98.1	93.4	98	100	94.5	99	93.3	95.2	100	94.8	96.5
Trucks	5	61	16	0	82	12	53	8	0	73	7	130	2	0	139	5	101	13	0	119	413
% Trucks	2.1	2.4	2.5	0	2.4	1.6	2.2	3.2	0	2.1	1.9	6.6	2	0	5.5	1	6.7	4.8	0	5.2	3.5

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Client: K&H
Intersection Name:NW62 ST& SR 7
Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 62 ST_SR7
Site Code : 00000701
Start Date : 4/14/2015
Page No : 2

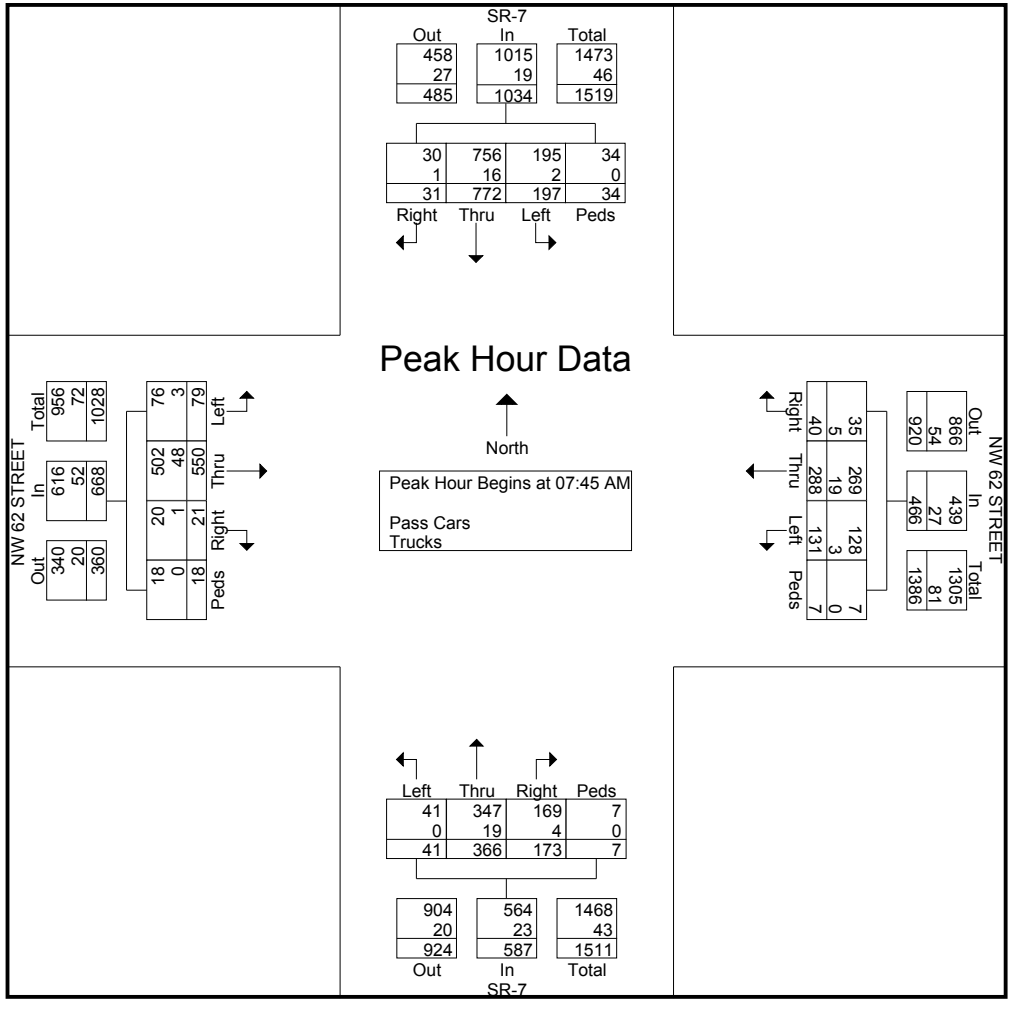
	SR-7 Northbound					SR-7 Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**13**	**118**	**55**	2	**188**	**54**	199	3	5	261	9	148	5	2	164	**39**	71	9	0	119	**732**
08:00 AM	8	81	34	**5**	128	46	**233**	**14**	9	**302**	22	122	4	**9**	157	22	67	9	2	100	687
08:15 AM	8	81	50	0	139	52	150	8	**12**	222	16	**150**	3	4	173	34	**101**	9	**5**	**149**	683
08:30 AM	12	86	34	0	132	45	190	6	8	249	**32**	130	**9**	3	**174**	36	49	**13**	0	98	653
Total Volume	41	366	173	7	587	197	772	31	34	1034	79	550	21	18	668	131	288	40	7	466	2755
% App. Total	7	62.4	29.5	1.2		19.1	74.7	3	3.3		11.8	82.3	3.1	2.7		28.1	61.8	8.6	1.5		
PHF	.788	.775	.786	.350	.781	.912	.828	.554	.708	.856	.617	.917	.583	.500	.960	.840	.713	.769	.350	.782	.941
Pass Cars	41	347	169	7	564	195	756	30	34	1015	76	502	20	18	616	128	269	35	7	439	2634
% Pass Cars	100	94.8	97.7	100	96.1	99.0	97.9	96.8	100	98.2	96.2	91.3	95.2	100	92.2	97.7	93.4	87.5	100	94.2	95.6
Trucks	0	19	4	0	23	2	16	1	0	19	3	48	1	0	52	3	19	5	0	27	121
% Trucks	0	5.2	2.3	0	3.9	1.0	2.1	3.2	0	1.8	3.8	8.7	4.8	0	7.8	2.3	6.6	12.5	0	5.8	4.4

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File Name : NW 62 ST_SR7
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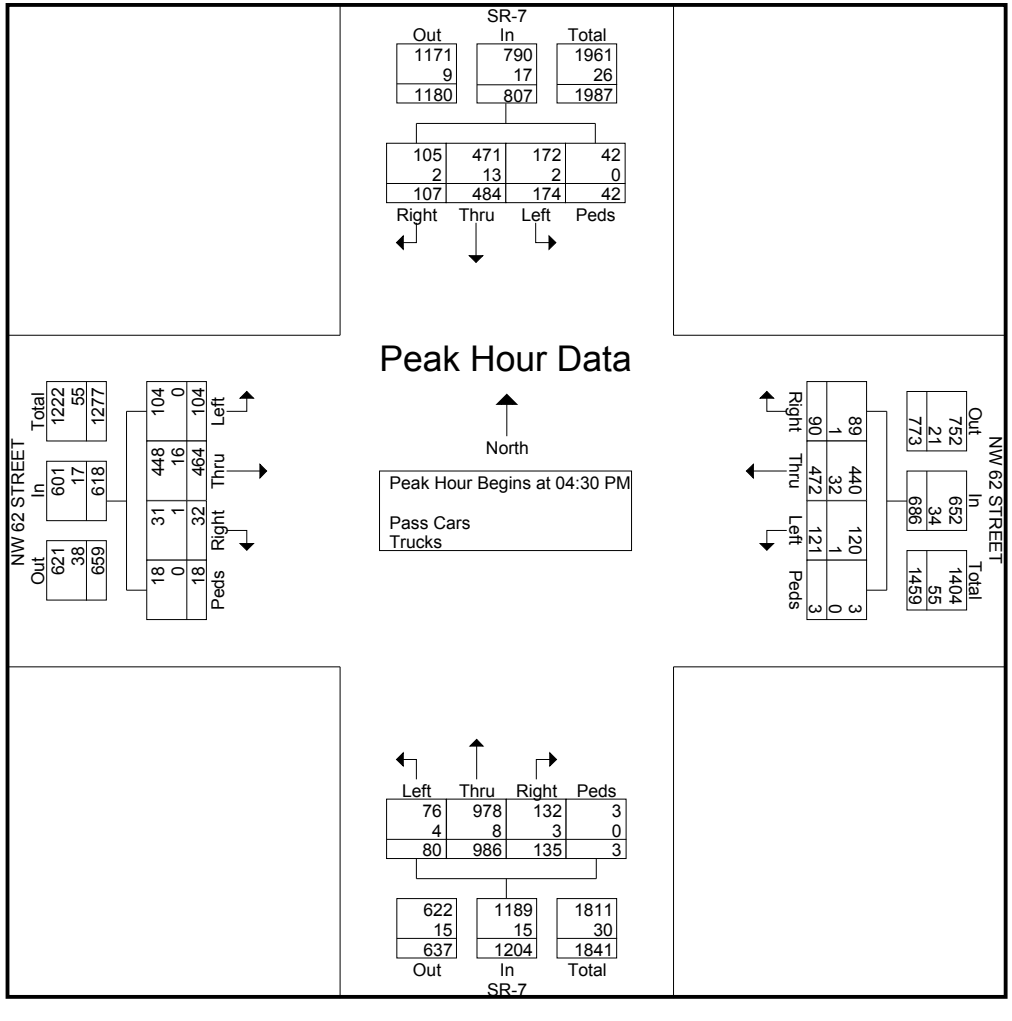
	SR-7 Northbound					SR-7 Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	21	**257**	34	0	**312**	46	112	26	11	195	15	105	**10**	2	132	27	113	**27**	1	168	807
04:45 PM	17	240	**37**	**2**	296	45	115	17	**14**	191	24	**120**	9	6	159	**33**	**126**	19	**2**	**180**	826
05:00 PM	**26**	232	27	1	286	**49**	**130**	**37**	7	**223**	32	120	6	**8**	**166**	29	115	22	0	166	**841**
05:15 PM	16	257	37	0	310	34	127	27	10	198	**33**	119	7	2	161	32	118	22	0	172	841
Total Volume	80	986	135	3	1204	174	484	107	42	807	104	464	32	18	618	121	472	90	3	686	3315
% App. Total	6.6	81.9	11.2	0.2		21.6	60	13.3	5.2		16.8	75.1	5.2	2.9		17.6	68.8	13.1	0.4		
PHF	.769	.959	.912	.375	.965	.888	.931	.723	.750	.905	.788	.967	.800	.563	.931	.917	.937	.833	.375	.953	.985
Pass Cars	76	978	132	3	1189	172	471	105	42	790	104	448	31	18	601	120	440	89	3	652	3232
% Pass Cars	95.0	99.2	97.8	100	98.8	98.9	97.3	98.1	100	97.9	100	96.6	96.9	100	97.2	99.2	93.2	98.9	100	95.0	97.5
Trucks	4	8	3	0	15	2	13	2	0	17	0	16	1	0	17	1	32	1	0	34	83
% Trucks	5.0	0.8	2.2	0	1.2	1.1	2.7	1.9	0	2.1	0	3.4	3.1	0	2.8	0.8	6.8	1.1	0	5.0	2.5

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File Name : NW 62 ST_SR7
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File Name : NW 62 ST_SR7
Site Code : 00000701
Start Date : 4/14/2015
Page No : 1

Groups Printed- Trucks

	SR-7 Northbound					SR-7 Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	2	3	0	5	3	4	1	0	8	0	10	0	0	10	0	2	1	0	3	26
07:15 AM	0	3	1	0	4	1	5	1	0	7	0	10	0	0	10	0	2	1	0	3	24
07:30 AM	1	2	0	0	3	0	4	0	0	4	0	12	0	0	12	1	4	0	0	5	24
07:45 AM	0	6	2	0	8	0	4	0	0	4	1	14	0	0	15	1	3	0	0	4	31
Total	1	13	6	0	20	4	17	2	0	23	1	46	0	0	47	2	11	2	0	15	105
08:00 AM	0	5	0	0	5	0	2	0	0	2	1	11	0	0	12	0	8	3	0	11	30
08:15 AM	0	5	2	0	7	1	5	1	0	7	0	13	0	0	13	2	5	1	0	8	35
08:30 AM	0	3	0	0	3	1	5	0	0	6	1	10	1	0	12	0	3	1	0	4	25
08:45 AM	0	4	2	0	6	3	4	1	0	8	1	16	0	0	17	0	5	0	0	5	36
Total	0	17	4	0	21	5	16	2	0	23	3	50	1	0	54	2	21	5	0	28	126
*** BREAK ***																					
04:00 PM	0	6	1	0	7	0	0	1	0	1	1	6	0	0	7	0	14	1	0	15	30
04:15 PM	0	6	1	0	7	0	3	0	0	3	1	5	0	0	6	0	12	2	0	14	30
04:30 PM	2	4	2	0	8	1	2	1	0	4	0	3	0	0	3	0	10	0	0	10	25
04:45 PM	1	2	0	0	3	0	6	0	0	6	0	5	1	0	6	1	8	0	0	9	24
Total	3	18	4	0	25	1	11	2	0	14	2	19	1	0	22	1	44	3	0	48	109
05:00 PM	1	0	1	0	2	0	3	0	0	3	0	2	0	0	2	0	10	0	0	10	17
05:15 PM	0	2	0	0	2	1	2	1	0	4	0	6	0	0	6	0	4	1	0	5	17
05:30 PM	0	5	1	0	6	1	2	1	0	4	1	4	0	0	5	0	5	1	0	6	21
05:45 PM	0	6	0	0	6	0	2	0	0	2	0	3	0	0	3	0	6	1	0	7	18
Total	1	13	2	0	16	2	9	2	0	13	1	15	0	0	16	0	25	3	0	28	73
Grand Total	5	61	16	0	82	12	53	8	0	73	7	130	2	0	139	5	101	13	0	119	413
Apprch %	6.1	74.4	19.5	0		16.4	72.6	11	0		5	93.5	1.4	0		4.2	84.9	10.9	0		
Total %	1.2	14.8	3.9	0	19.9	2.9	12.8	1.9	0	17.7	1.7	31.5	0.5	0	33.7	1.2	24.5	3.1	0	28.8	

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Fax: (305) 599-8749

Client: K&H
Intersection Name: NW 62 ST&SB RAMPS
Opertaors Name: MA & CV
Weather: Sunny

File Name : NW 62St_SB RAMPS
Site Code : 00000702
Start Date : 4/14/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SB RAMPS Northbound					SB RAMPS Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound						
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Hard Left	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	45	37	37	0	119	0	119	113	2	234	35	71	104	0	0	210	563
07:15 AM	0	0	0	0	0	29	24	38	15	106	0	129	115	0	244	21	69	77	0	3	170	520
07:30 AM	0	0	0	0	0	35	40	27	11	113	0	101	129	1	231	44	99	76	0	0	219	563
07:45 AM	0	0	0	0	0	38	32	23	12	105	0	134	111	0	245	39	105	98	0	0	242	592
Total	0	0	0	0	0	147	133	125	38	443	0	483	468	3	954	139	344	355	0	3	841	2238
08:00 AM	0	0	0	0	0	19	41	27	13	100	0	136	104	2	242	26	87	96	0	0	209	551
08:15 AM	0	0	0	0	0	14	25	19	12	70	0	137	120	0	257	22	87	108	0	0	217	544
08:30 AM	0	0	0	0	0	24	23	19	11	77	0	146	79	1	226	28	86	98	0	0	212	515
08:45 AM	0	0	0	0	0	28	25	27	14	94	0	169	94	1	264	24	64	93	0	0	181	539
Total	0	0	0	0	0	85	114	92	50	341	0	588	397	4	989	100	324	395	0	0	819	2149
*** BREAK ***																						
04:00 PM	0	0	0	3	3	43	72	48	0	163	0	180	61	0	241	42	56	150	0	0	248	655
04:15 PM	0	0	0	1	1	63	75	61	0	199	0	141	49	4	194	40	60	168	0	1	269	663
04:30 PM	0	0	0	3	3	49	49	66	1	165	0	129	64	0	193	29	62	175	0	0	266	627
04:45 PM	0	0	0	0	0	59	55	67	1	182	0	155	58	0	213	37	54	124	0	0	215	610
Total	0	0	0	7	7	214	251	242	2	709	0	605	232	4	841	148	232	617	0	1	998	2555
05:00 PM	0	0	0	0	0	43	55	66	2	166	0	147	71	0	218	32	84	172	0	0	288	672
05:15 PM	0	0	0	0	0	62	46	74	6	188	1	132	46	1	180	35	60	156	0	0	251	619
05:30 PM	0	0	0	2	2	61	63	70	8	202	0	131	55	1	187	29	62	163	0	0	254	645
05:45 PM	0	0	0	1	1	55	53	66	8	182	0	139	41	1	181	42	61	183	0	0	286	650
Total	0	0	0	3	3	221	217	276	24	738	1	549	213	3	766	138	267	674	0	0	1079	2586
Grand Total	0	0	0	10	10	667	715	735	114	2231	1	2225	1310	14	3550	525	1167	2041	0	4	3737	9528
Apprch %	0	0	0	100		29.9	32	32.9	5.1		0	62.7	36.9	0.4		14	31.2	54.6	0	0.1		
Total %	0	0	0	0.1	0.1	7	7.5	7.7	1.2	23.4	0	23.4	13.7	0.1	37.3	5.5	12.2	21.4	0	0	39.2	
Pass Cars	0	0	0	10	10	650	696	683	114	2143	1	2183	1292	14	3490	506	1133	1916	0	4	3559	9202
% Pass Cars	0	0	0	100	100	97.5	97.3	92.9	100	96.1	100	98.1	98.6	100	98.3	96.4	97.1	93.9	0	100	95.2	96.6
Trucks	0	0	0	0	0	17	19	52	0	88	0	42	18	0	60	19	34	125	0	0	178	326
% Trucks	0	0	0	0	0	2.5	2.7	7.1	0	3.9	0	1.9	1.4	0	1.7	3.6	2.9	6.1	0	0	4.8	3.4

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Client: K&H
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Opertaors Name: MA & CV
Weather: Sunny

File Name : NW 62St_SB RAMPS
Site Code : 00000702
Start Date : 4/14/2015
Page No : 2

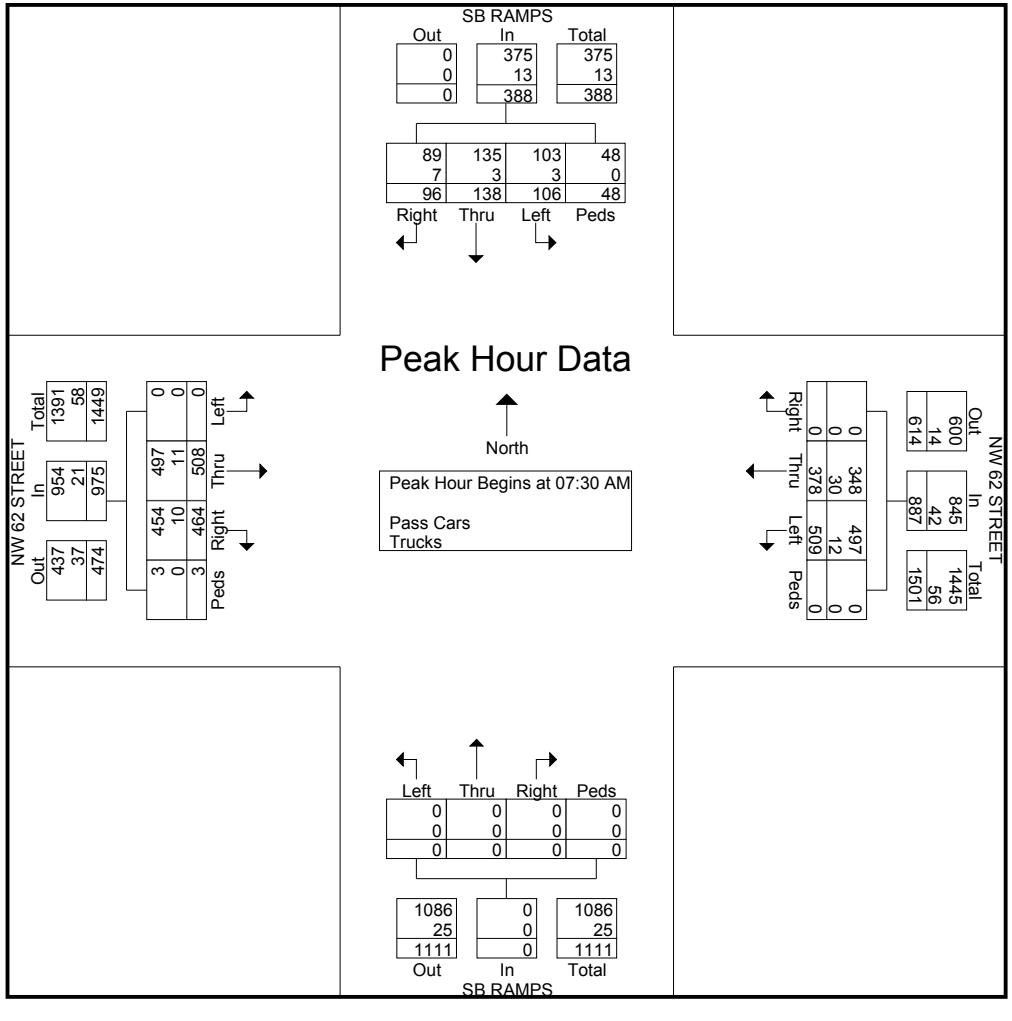
	SB RAMPS Northbound					SB RAMPS Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound						
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Hard Left	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:30 AM																						
07:30 AM	0	0	0	0	0	35	40	**27**	11	**113**	0	101	**129**	1	231	**44**	99	76	0	0	219	563
07:45 AM	0	0	0	0	0	**38**	32	23	12	105	0	134	111	0	245	39	**105**	98	0	0	**242**	**592**
08:00 AM	0	0	0	0	0	19	**41**	27	**13**	100	0	136	104	**2**	242	26	87	96	0	0	209	551
08:15 AM	0	0	0	0	0	14	25	19	12	70	0	**137**	120	0	**257**	22	87	**108**	0	0	217	544
Total Volume	0	0	0	0	0	106	138	96	48	388	0	508	464	3	975	131	378	378	0	0	887	2250
% App. Total	0	0	0	0		27.3	35.6	24.7	12.4		0	52.1	47.6	0.3		14.8	42.6	42.6	0	0		
PHF	.000	.000	.000	.000	.000	.697	.841	.889	.923	.858	.000	.927	.899	.375	.948	.744	.900	.875	.000	.000	.916	.950
Pass Cars	0	0	0	0	0	103	135	89	48	375	0	497	454	3	954	127	370	348	0	0	845	2174
% Pass Cars	0	0	0	0	0	97.2	97.8	92.7	100	96.6	0	97.8	97.8	100	97.8	96.9	97.9	92.1	0	0	95.3	96.6
Trucks	0	0	0	0	0	3	3	7	0	13	0	11	10	0	21	4	8	30	0	0	42	76
% Trucks	0	0	0	0	0	2.8	2.2	7.3	0	3.4	0	2.2	2.2	0	2.2	3.1	2.1	7.9	0	0	4.7	3.4

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File Name : NW 62St_SB RAMPS
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Page No : 4

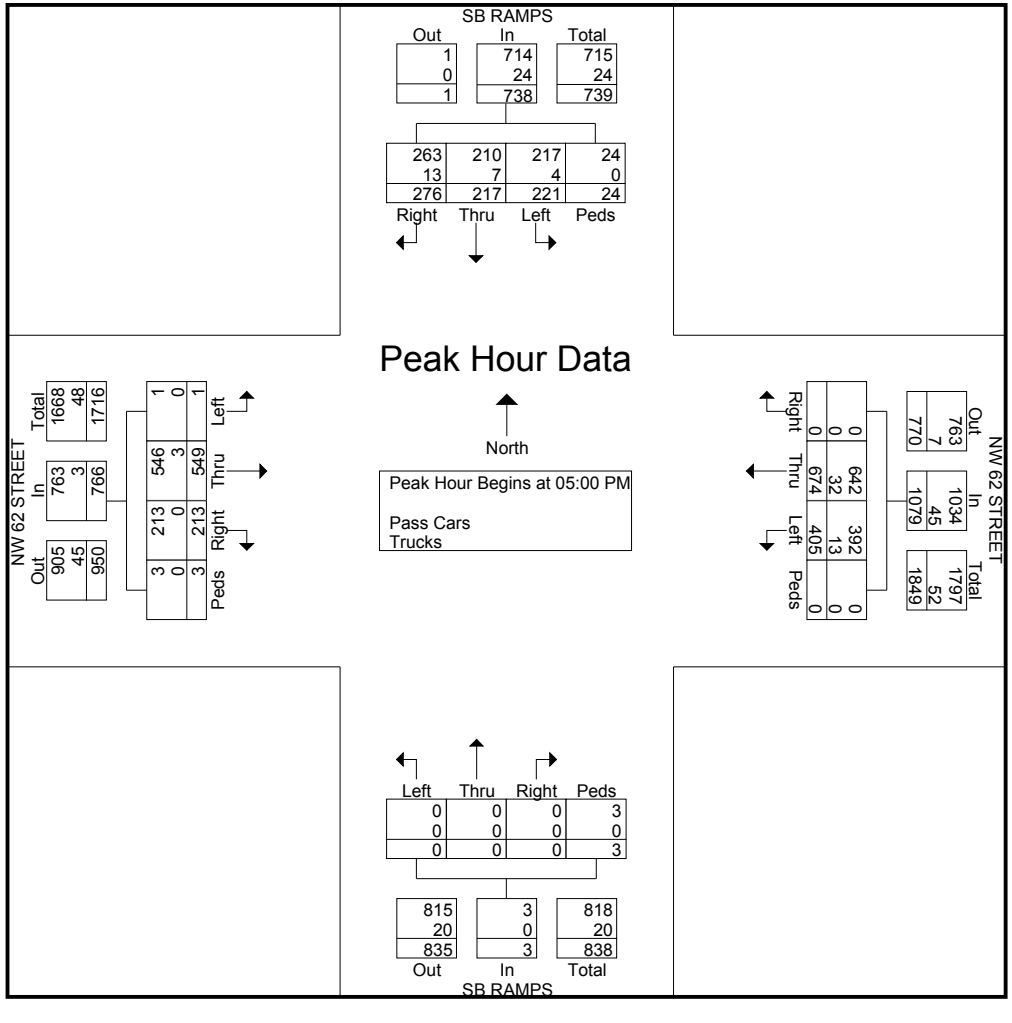
	SB RAMPS Northbound					SB RAMPS Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound						
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Hard Left	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 05:00 PM																						
05:00 PM	0	0	0	0	0	43	55	66	2	166	0	**147**	**71**	0	**218**	32	**84**	172	0	0	**288**	**672**
05:15 PM	0	0	0	0	0	**62**	46	**74**	6	188	**1**	132	46	**1**	180	35	60	156	0	0	251	619
05:30 PM	0	0	0	**2**	**2**	61	**63**	70	**8**	**202**	0	131	55	1	187	29	62	163	0	0	254	645
05:45 PM	0	0	0	1	1	55	53	66	8	182	0	139	41	1	181	**42**	61	**183**	0	0	286	650
Total Volume	0	0	0	3	3	221	217	276	24	738	1	549	213	3	766	138	267	674	0	0	1079	2586
% App. Total	0	0	0	100		29.9	29.4	37.4	3.3		0.1	71.7	27.8	0.4		12.8	24.7	62.5	0	0		
PHF	.000	.000	.000	.375	.375	.891	.861	.932	.750	.913	.250	.934	.750	.750	.878	.821	.795	.921	.000	.000	.937	.962
Pass Cars	0	0	0	3	3	217	210	263	24	714	1	546	213	3	763	130	262	642	0	0	1034	2514
% Pass Cars	0	0	0	100	100	98.2	96.8	95.3	100	96.7	100	99.5	100	100	99.6	94.2	98.1	95.3	0	0	95.8	97.2
Trucks	0	0	0	0	0	4	7	13	0	24	0	3	0	0	3	8	5	32	0	0	45	72
% Trucks	0	0	0	0	0	1.8	3.2	4.7	0	3.3	0	0.5	0	0	0.4	5.8	1.9	4.7	0	0	4.2	2.8

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Opertaors Name: MA & CV
Weather: Sunny

File Name : NW 62St_SB RAMPS
Site Code : 00000702
Start Date : 4/14/2015
Page No : 5



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File Name : NW 62St_SB RAMPS
Site Code : 00000702
Start Date : 4/14/2015
Page No : 1

Groups Printed- Trucks

	SB RAMPS Northbound					SB RAMPS Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound						
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Hard Left	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	2	0	2	0	4	0	1	5	0	6	0	5	5	0	0	10	20
07:15 AM	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	0	3	7	0	0	10	15
07:30 AM	0	0	0	0	0	0	1	2	0	3	0	2	4	0	6	2	3	3	0	0	8	17
07:45 AM	0	0	0	0	0	2	1	2	0	5	0	7	4	0	11	1	0	3	0	0	4	20
Total	0	0	0	0	0	6	2	6	0	14	0	13	13	0	26	3	11	18	0	0	32	72
08:00 AM	0	0	0	0	0	0	0	2	0	2	0	2	1	0	3	1	1	14	0	0	16	21
08:15 AM	0	0	0	0	0	1	1	1	0	3	0	0	1	0	1	0	4	10	0	0	14	18
08:30 AM	0	0	0	0	0	2	1	1	0	4	0	5	1	0	6	2	2	5	0	0	9	19
08:45 AM	0	0	0	0	0	1	1	1	0	3	0	10	1	0	11	2	2	3	0	0	7	21
Total	0	0	0	0	0	4	3	5	0	12	0	17	4	0	21	5	9	32	0	0	46	79
*** BREAK ***																						
04:00 PM	0	0	0	0	0	2	2	10	0	14	0	2	0	0	2	0	2	13	0	0	15	31
04:15 PM	0	0	0	0	0	0	0	6	0	6	0	1	0	0	1	3	4	12	0	0	19	26
04:30 PM	0	0	0	0	0	1	2	4	0	7	0	3	1	0	4	0	2	9	0	0	11	22
04:45 PM	0	0	0	0	0	0	3	8	0	11	0	3	0	0	3	0	1	9	0	0	10	24
Total	0	0	0	0	0	3	7	28	0	38	0	9	1	0	10	3	9	43	0	0	55	103
05:00 PM	0	0	0	0	0	1	2	4	0	7	0	0	0	0	0	2	2	7	0	0	11	18
05:15 PM	0	0	0	0	0	2	1	4	0	7	0	0	0	0	0	2	0	7	0	0	9	16
05:30 PM	0	0	0	0	0	0	3	5	0	8	0	1	0	0	1	3	2	9	0	0	14	23
05:45 PM	0	0	0	0	0	1	1	0	0	2	0	2	0	0	2	1	1	9	0	0	11	15
Total	0	0	0	0	0	4	7	13	0	24	0	3	0	0	3	8	5	32	0	0	45	72
Grand Total	0	0	0	0	0	17	19	52	0	88	0	42	18	0	60	19	34	125	0	0	178	326
Apprch %	0	0	0	0		19.3	21.6	59.1	0		0	70	30	0		10.7	19.1	70.2	0	0		
Total %	0	0	0	0	0	5.2	5.8	16	0	27	0	12.9	5.5	0	18.4	5.8	10.4	38.3	0	0	54.6	

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Client: K&H
Intersection Name: NW 62 ST & NB RAMPS
Opertaors Name:MS & EB
Weather: Sunny

File Name : NW62 ST_NB RAMPS
Site Code : 00000703
Start Date : 4/14/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NB OFF RAMPS Northbound						NB ON RAMPS Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	32	32	100	50	0	214	0	0	0	0	0	49	71	0	1	121	0	78	42	2	122	457
07:15 AM	21	31	105	53	0	210	0	0	0	0	0	79	90	0	0	169	0	87	47	10	144	523
07:30 AM	38	35	107	54	3	237	0	0	0	0	0	96	73	0	0	169	0	102	39	4	145	551
07:45 AM	40	45	143	67	0	295	0	0	0	0	0	84	93	0	0	177	0	117	46	1	164	636
Total	131	143	455	224	3	956	0	0	0	0	0	308	327	0	1	636	0	384	174	17	575	2167
08:00 AM	29	35	119	67	2	252	0	0	0	0	0	81	71	0	0	152	0	125	39	7	171	575
08:15 AM	24	33	106	62	0	225	0	0	0	0	0	83	83	0	0	166	0	142	39	1	182	573
08:30 AM	23	29	99	59	1	211	0	0	0	0	0	86	111	0	0	197	0	129	38	1	168	576
08:45 AM	26	31	75	78	1	211	0	0	0	0	0	76	110	0	0	186	0	102	37	5	144	541
Total	102	128	399	266	4	899	0	0	0	0	0	326	375	0	0	701	0	498	153	14	665	2265
*** BREAK ***																						
04:00 PM	41	77	110	74	3	305	0	0	0	0	0	82	142	0	0	224	0	126	38	0	164	693
04:15 PM	35	72	101	76	1	285	0	0	0	0	0	66	143	0	2	211	1	151	45	0	197	693
04:30 PM	31	79	110	67	2	289	0	0	0	0	0	66	145	0	0	211	1	162	41	2	206	706
04:45 PM	32	62	109	84	0	287	0	0	0	0	0	73	142	0	0	215	0	121	36	0	157	659
Total	139	290	430	301	6	1166	0	0	0	0	0	287	572	0	2	861	2	560	160	2	724	2751
05:00 PM	31	72	89	77	0	269	0	0	0	0	0	59	148	0	0	207	0	162	56	1	219	695
05:15 PM	40	76	85	76	1	278	0	0	0	0	0	56	161	0	0	217	0	162	39	4	205	700
05:30 PM	29	69	94	70	1	263	0	0	0	0	0	62	149	0	0	211	1	149	25	2	177	651
05:45 PM	37	68	67	77	1	250	0	0	0	0	0	48	140	0	0	188	0	157	30	0	187	625
Total	137	285	335	300	3	1060	0	0	0	0	0	225	598	0	0	823	1	630	150	7	788	2671
Grand Total	509	846	1619	1091	16	4081	0	0	0	0	0	1146	1872	0	3	3021	3	2072	637	40	2752	9854
Apprch %	12.5	20.7	39.7	26.7	0.4		0	0	0	0		37.9	62	0	0.1		0.1	75.3	23.1	1.5		
Total %	5.2	8.6	16.4	11.1	0.2	41.4	0	0	0	0	0	11.6	19	0	0	30.7	0	21	6.5	0.4	27.9	
Pass Cars	489	806	1571	1051	15	3932	0	0	0	0	0	1086	1784	0	3	2873	0	1990	618	40	2648	9453
% Pass Cars	96.1	95.3	97	96.3	93.8	96.3	0	0	0	0	0	94.8	95.3	0	100	95.1	0	96	97	100	96.2	95.9
Trucks	20	40	48	40	1	149	0	0	0	0	0	60	88	0	0	148	3	82	19	0	104	401
% Trucks	3.9	4.7	3	3.7	6.2	3.7	0	0	0	0	0	5.2	4.7	0	0	4.9	100	4	3	0	3.8	4.1

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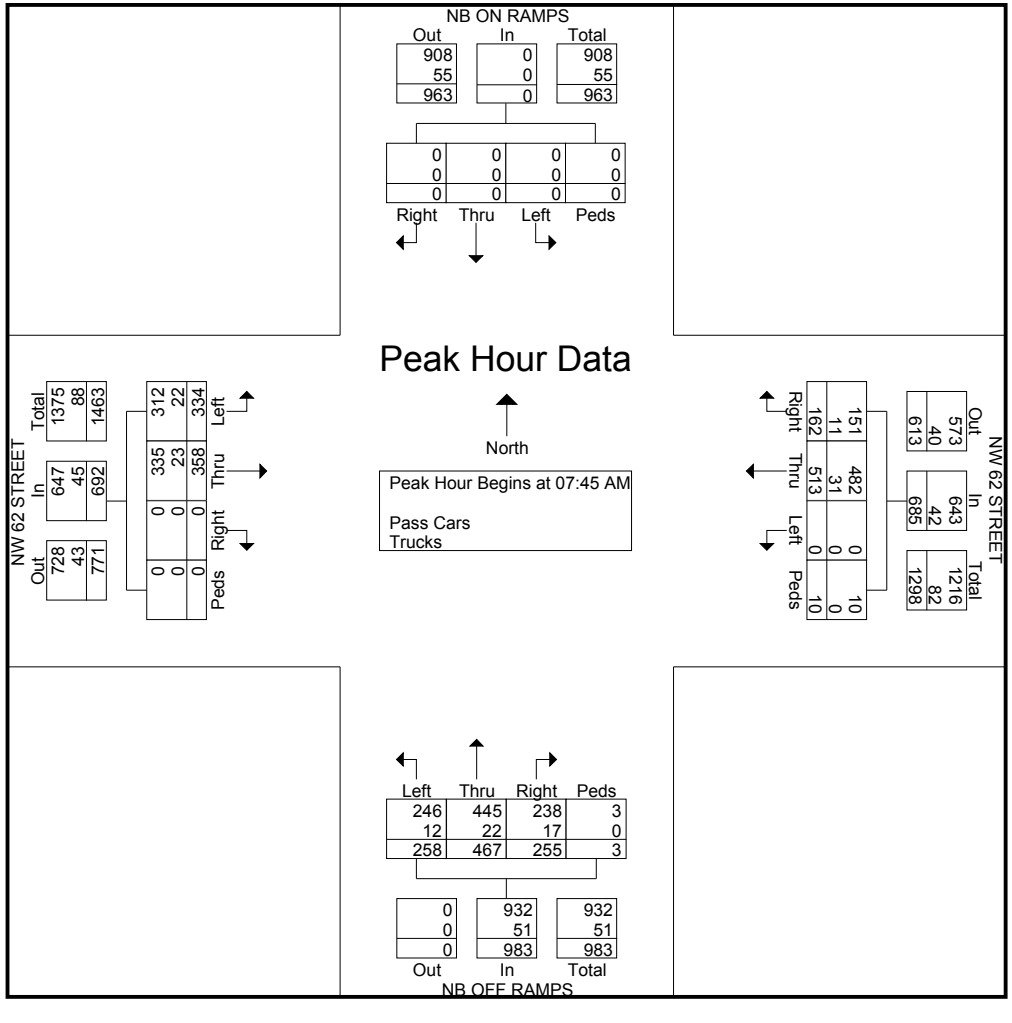
	NB OFF RAMPS Northbound						NB ON RAMPS Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:45 AM																						
07:45 AM	**40**	**45**	**143**	**67**	0	**295**	0	0	0	0	0	84	93	0	0	177	0	117	**46**	1	164	**636**
08:00 AM	29	35	119	67	**2**	252	0	0	0	0	0	81	71	0	0	152	0	125	39	**7**	171	575
08:15 AM	24	33	106	62	0	225	0	0	0	0	0	83	83	0	0	166	0	**142**	39	1	**182**	573
08:30 AM	23	29	99	59	1	211	0	0	0	0	0	**86**	**111**	0	0	**197**	0	129	38	1	168	576
Total Volume	116	142	467	255	3	983	0	0	0	0	0	334	358	0	0	692	0	513	162	10	685	2360
% App. Total	11.8	14.4	47.5	25.9	0.3		0	0	0	0		48.3	51.7	0	0		0	74.9	23.6	1.5		
PHF	.725	.789	.816	.951	.375	.833	.000	.000	.000	.000	.000	.971	.806	.000	.000	.878	.000	.903	.880	.357	.941	.928
Pass Cars	111	135	445	238	3	932	0	0	0	0	0	312	335	0	0	647	0	482	151	10	643	2222
% Pass Cars	95.7	95.1	95.3	93.3	100	94.8	0	0	0	0	0	93.4	93.6	0	0	93.5	0	94.0	93.2	100	93.9	94.2
Trucks	5	7	22	17	0	51	0	0	0	0	0	22	23	0	0	45	0	31	11	0	42	138
% Trucks	4.3	4.9	4.7	6.7	0	5.2	0	0	0	0	0	6.6	6.4	0	0	6.5	0	6.0	6.8	0	6.1	5.8

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Client: K&H
Intersection Name: NW 62 ST & NB RAMPS
Opertaors Name:MS & EB
Weather: Sunny

File Name : NW62 ST_NB RAMPS
Site Code : 00000703
Start Date : 4/14/2015
Page No : 3



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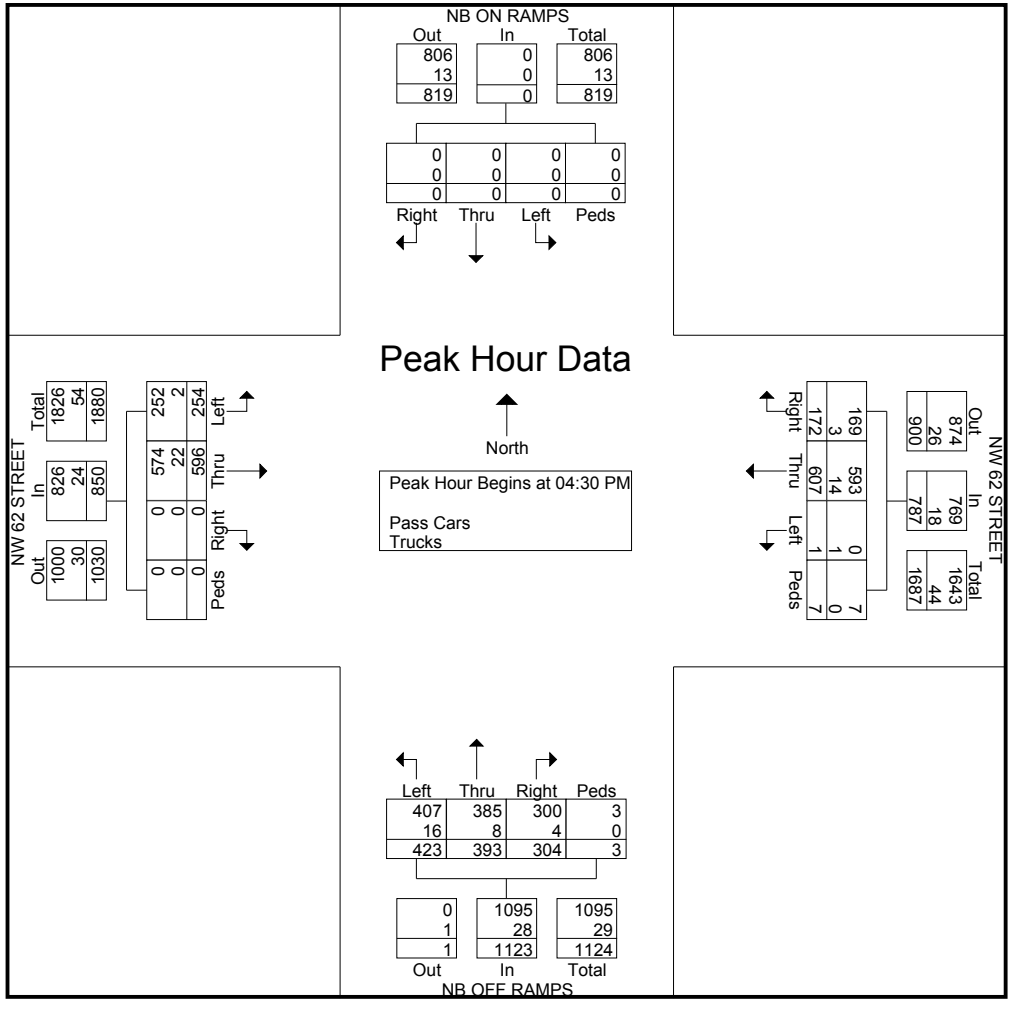
	NB OFF RAMPS Northbound						NB ON RAMPS Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:30 PM																						
04:30 PM	31	**79**	**110**	67	**2**	**289**	0	0	0	0	0	66	145	0	0	211	**1**	**162**	41	2	206	**706**
04:45 PM	32	62	109	**84**	0	287	0	0	0	0	0	**73**	142	0	0	215	0	121	36	0	157	659
05:00 PM	31	72	89	77	0	269	0	0	0	0	0	59	148	0	0	207	0	162	**56**	1	**219**	695
05:15 PM	**40**	76	85	76	1	278	0	0	0	0	0	56	**161**	0	0	**217**	0	162	39	**4**	205	700
Total Volume	134	289	393	304	3	1123	0	0	0	0	0	254	596	0	0	850	1	607	172	7	787	2760
% App. Total	11.9	25.7	35	27.1	0.3		0	0	0	0		29.9	70.1	0	0		0.1	77.1	21.9	0.9		
PHF	.838	.915	.893	.905	.375	.971	.000	.000	.000	.000	.000	.870	.925	.000	.000	.979	.250	.937	.768	.438	.898	.977
Pass Cars	128	279	385	300	3	1095	0	0	0	0	0	252	574	0	0	826	0	593	169	7	769	2690
% Pass Cars	95.5	96.5	98.0	98.7	100	97.5	0	0	0	0	0	99.2	96.3	0	0	97.2	0	97.7	98.3	100	97.7	97.5
Trucks	6	10	8	4	0	28	0	0	0	0	0	2	22	0	0	24	1	14	3	0	18	70
% Trucks	4.5	3.5	2.0	1.3	0	2.5	0	0	0	0	0	0.8	3.7	0	0	2.8	100	2.3	1.7	0	2.3	2.5

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File Name : NW62 ST_NB RAMPS
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File Name : NW62 ST_NB RAMPS
Site Code : 00000703
Start Date : 4/14/2015
Page No : 1

Groups Printed- Trucks

	NB OFF RAMPS Northbound						NB ON RAMPS Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	8	4	0	0	12	0	0	0	0	0	12
07:15 AM	0	3	2	1	0	6	0	0	0	0	0	7	5	0	0	12	0	7	0	0	7	25
07:30 AM	2	1	4	2	0	9	0	0	0	0	0	5	3	0	0	8	0	5	2	0	7	24
07:45 AM	2	1	6	3	0	12	0	0	0	0	0	4	5	0	0	9	0	1	4	0	5	26
Total	4	5	12	6	0	27	0	0	0	0	0	24	17	0	0	41	0	13	6	0	19	87
08:00 AM	2	4	4	5	0	15	0	0	0	0	0	6	5	0	0	11	0	11	1	0	12	38
08:15 AM	0	1	8	4	0	13	0	0	0	0	0	4	7	0	0	11	0	14	4	0	18	42
08:30 AM	1	1	4	5	0	11	0	0	0	0	0	8	6	0	0	14	0	5	2	0	7	32
08:45 AM	2	2	5	5	0	14	0	0	0	0	0	12	11	0	0	23	0	5	0	0	5	42
Total	5	8	21	19	0	53	0	0	0	0	0	30	29	0	0	59	0	35	7	0	42	154
*** BREAK ***																						
04:00 PM	0	4	3	2	1	10	0	0	0	0	0	1	5	0	0	6	0	6	0	0	6	22
04:15 PM	1	7	3	4	0	15	0	0	0	0	0	1	4	0	0	5	1	5	2	0	8	28
04:30 PM	0	2	1	1	0	4	0	0	0	0	0	1	7	0	0	8	1	6	0	0	7	19
04:45 PM	1	4	5	2	0	12	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	17
Total	2	17	12	9	1	41	0	0	0	0	0	3	19	0	0	22	2	19	2	0	23	86
05:00 PM	2	2	1	0	0	5	0	0	0	0	0	0	7	0	0	7	0	4	2	0	6	18
05:15 PM	3	2	1	1	0	7	0	0	0	0	0	1	5	0	0	6	0	2	1	0	3	16
05:30 PM	2	2	1	5	0	10	0	0	0	0	0	2	5	0	0	7	1	7	1	0	9	26
05:45 PM	2	4	0	0	0	6	0	0	0	0	0	0	6	0	0	6	0	2	0	0	2	14
Total	9	10	3	6	0	28	0	0	0	0	0	3	23	0	0	26	1	15	4	0	20	74
Grand Total	20	40	48	40	1	149	0	0	0	0	0	60	88	0	0	148	3	82	19	0	104	401
Apprch %	13.4	26.8	32.2	26.8	0.7		0	0	0	0		40.5	59.5	0	0		2.9	78.8	18.3	0		
Total %	5	10	12	10	0.2	37.2	0	0	0	0	0	15	21.9	0	0	36.9	0.7	20.4	4.7	0	25.9	

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Intersection Name: NW 62 ST & NW 2 AVE
Opertaors Name:PQ & MR
Weather: Sunny

File Name : NW 62 ST_NW 2 AVE
Site Code : 00000704
Start Date : 4/14/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 2 AVENUE Northbound					NW 2 AVENUE Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	11	24	4	8	47	7	32	12	4	55	8	55	19	2	84	4	58	1	4	67	253
07:15 AM	14	27	8	2	51	5	30	10	3	48	5	77	18	0	100	2	54	0	2	58	257
07:30 AM	32	22	4	2	60	13	35	15	3	66	12	75	24	2	113	4	58	1	1	64	303
07:45 AM	22	37	12	1	72	6	42	20	3	71	8	105	18	2	133	10	91	4	2	107	383
Total	79	110	28	13	230	31	139	57	13	240	33	312	79	6	430	20	261	6	9	296	1196
08:00 AM	22	31	8	0	61	10	39	19	2	70	10	87	21	1	119	14	78	2	4	98	348
08:15 AM	20	31	4	1	56	7	45	18	3	73	14	94	22	3	133	10	87	2	1	100	362
08:30 AM	23	35	7	3	68	6	40	11	4	61	8	110	24	0	142	6	88	3	1	98	369
08:45 AM	17	32	4	0	53	10	56	20	5	91	10	143	33	2	188	9	74	2	5	90	422
Total	82	129	23	4	238	33	180	68	14	295	42	434	100	6	582	39	327	9	11	386	1501
*** BREAK ***																					
04:00 PM	24	56	9	0	89	8	43	28	3	82	16	137	21	18	192	4	102	8	4	118	481
04:15 PM	24	72	8	2	106	3	32	21	3	59	15	167	30	14	226	12	123	3	4	142	533
04:30 PM	29	68	13	1	111	11	41	23	2	77	17	109	29	9	164	9	105	8	0	122	474
04:45 PM	33	79	11	1	124	6	34	27	4	71	28	174	41	12	255	4	95	8	1	108	558
Total	110	275	41	4	430	28	150	99	12	289	76	587	121	53	837	29	425	27	9	490	2046
05:00 PM	31	91	11	0	133	5	36	29	1	71	27	117	27	7	178	5	130	10	3	148	530
05:15 PM	19	89	10	0	118	7	36	25	5	73	35	131	45	7	218	14	113	7	1	135	544
05:30 PM	27	94	11	0	132	8	43	21	5	77	20	124	35	4	183	10	120	6	1	137	529
05:45 PM	22	74	17	0	113	4	45	23	3	75	21	190	29	2	242	8	83	7	0	98	528
Total	99	348	49	0	496	24	160	98	14	296	103	562	136	20	821	37	446	30	5	518	2131
Grand Total	370	862	141	21	1394	116	629	322	53	1120	254	1895	436	85	2670	125	1459	72	34	1690	6874
Apprch %	26.5	61.8	10.1	1.5		10.4	56.2	28.8	4.7		9.5	71	16.3	3.2		7.4	86.3	4.3	2		
Total %	5.4	12.5	2.1	0.3	20.3	1.7	9.2	4.7	0.8	16.3	3.7	27.6	6.3	1.2	38.8	1.8	21.2	1	0.5	24.6	
Pass Cars	366	844	135	21	1366	115	621	314	53	1103	249	1835	425	85	2594	121	1415	72	34	1642	6705
% Pass Cars	98.9	97.9	95.7	100	98	99.1	98.7	97.5	100	98.5	98	96.8	97.5	100	97.2	96.8	97	100	100	97.2	97.5
Trucks	4	18	6	0	28	1	8	8	0	17	5	60	11	0	76	4	44	0	0	48	169
% Trucks	1.1	2.1	4.3	0	2	0.9	1.3	2.5	0	1.5	2	3.2	2.5	0	2.8	3.2	3	0	0	2.8	2.5

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Opertaors Name:PQ & MR
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File Name : NW 62 ST_NW 2 AVE
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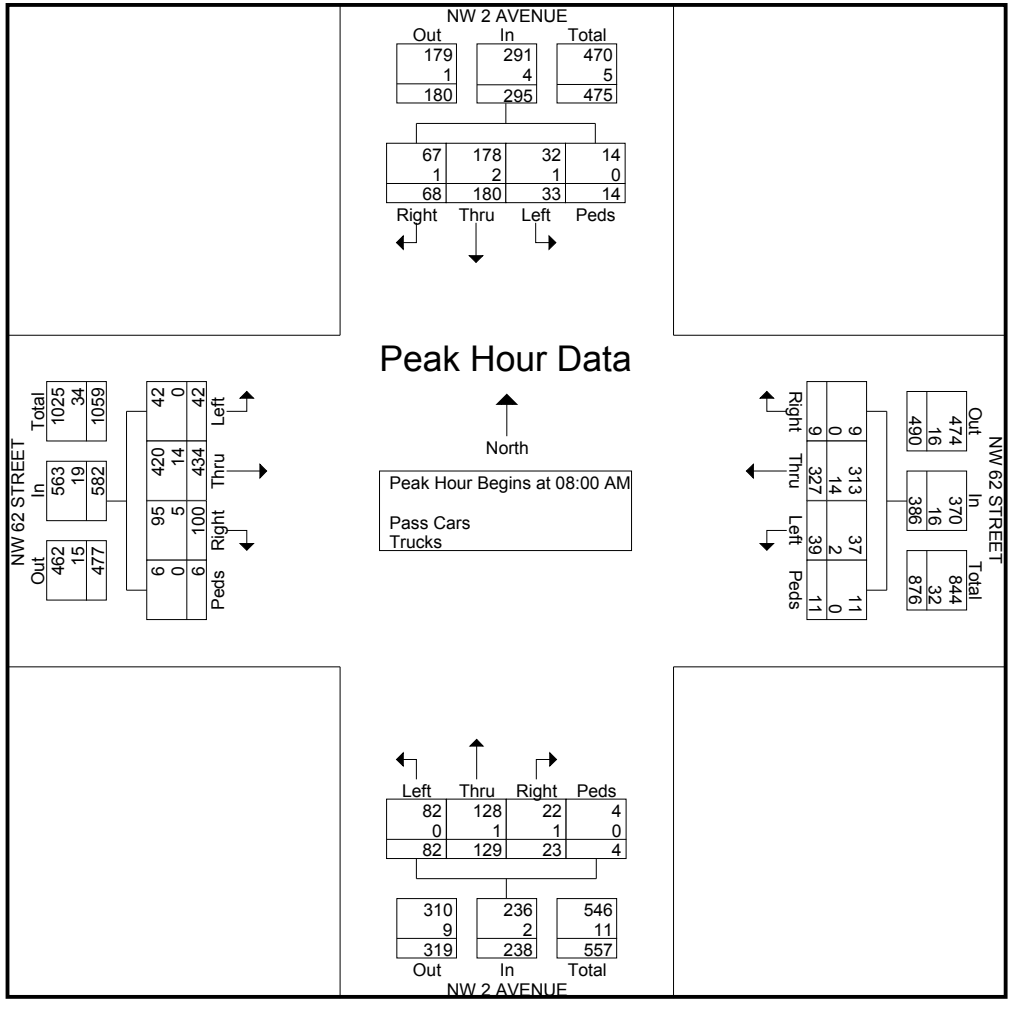
	NW 2 AVENUE Northbound					NW 2 AVENUE Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	22	31	**8**	0	61	**10**	39	19	2	70	10	87	21	1	119	**14**	78	2	4	98	348
08:15 AM	20	31	4	1	56	7	45	18	3	73	**14**	94	22	**3**	133	10	87	2	1	**100**	362
08:30 AM	**23**	**35**	7	**3**	**68**	6	40	11	4	61	8	110	24	0	142	6	**88**	**3**	1	98	369
08:45 AM	17	32	4	0	53	10	**56**	**20**	**5**	**91**	10	**143**	**33**	2	**188**	9	74	2	**5**	90	**422**
Total Volume	82	129	23	4	238	33	180	68	14	295	42	434	100	6	582	39	327	9	11	386	1501
% App. Total	34.5	54.2	9.7	1.7		11.2	61	23.1	4.7		7.2	74.6	17.2	1		10.1	84.7	2.3	2.8		
PHF	.891	.921	.719	.333	.875	.825	.804	.850	.700	.810	.750	.759	.758	.500	.774	.696	.929	.750	.550	.965	.889
Pass Cars	82	128	22	4	236	32	178	67	14	291	42	420	95	6	563	37	313	9	11	370	1460
% Pass Cars	100	99.2	95.7	100	99.2	97.0	98.9	98.5	100	98.6	100	96.8	95.0	100	96.7	94.9	95.7	100	100	95.9	97.3
Trucks	0	1	1	0	2	1	2	1	0	4	0	14	5	0	19	2	14	0	0	16	41
% Trucks	0	0.8	4.3	0	0.8	3.0	1.1	1.5	0	1.4	0	3.2	5.0	0	3.3	5.1	4.3	0	0	4.1	2.7

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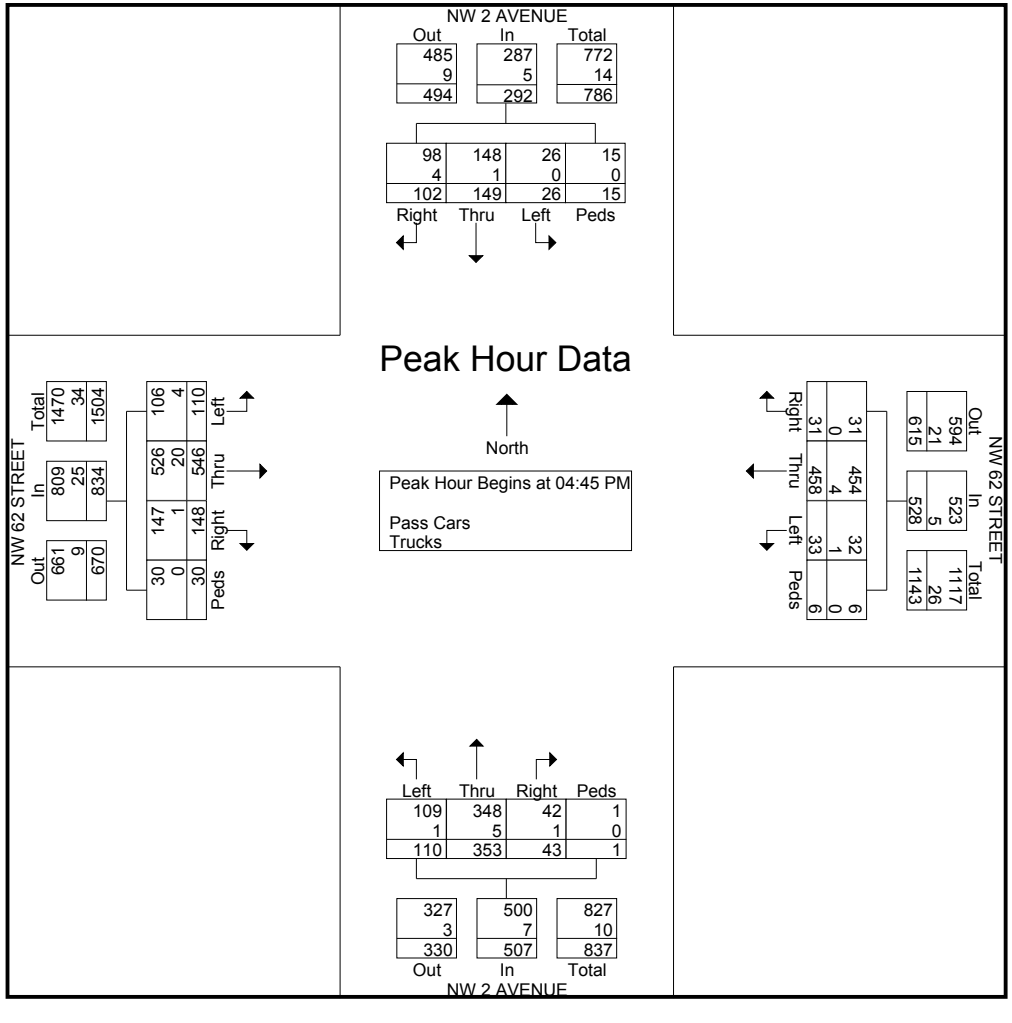
	NW 2 AVENUE Northbound					NW 2 AVENUE Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**33**	79	**11**	**1**	124	6	34	27	4	71	28	**174**	41	**12**	**255**	4	95	8	1	108	**558**
05:00 PM	31	91	11	0	**133**	5	36	**29**	1	71	27	117	27	7	178	5	**130**	**10**	**3**	**148**	530
05:15 PM	19	89	10	0	118	7	36	25	**5**	73	**35**	131	**45**	7	218	**14**	113	7	1	135	544
05:30 PM	27	**94**	11	0	132	**8**	**43**	21	5	**77**	20	124	35	4	183	10	120	6	1	137	529
Total Volume	110	353	43	1	507	26	149	102	15	292	110	546	148	30	834	33	458	31	6	528	2161
% App. Total	21.7	69.6	8.5	0.2		8.9	51	34.9	5.1		13.2	65.5	17.7	3.6		6.2	86.7	5.9	1.1		
PHF	.833	.939	.977	.250	.953	.813	.866	.879	.750	.948	.786	.784	.822	.625	.818	.589	.881	.775	.500	.892	.968
Pass Cars	109	348	42	1	500	26	148	98	15	287	106	526	147	30	809	32	454	31	6	523	2119
% Pass Cars	99.1	98.6	97.7	100	98.6	100	99.3	96.1	100	98.3	96.4	96.3	99.3	100	97.0	97.0	99.1	100	100	99.1	98.1
Trucks	1	5	1	0	7	0	1	4	0	5	4	20	1	0	25	1	4	0	0	5	42
% Trucks	0.9	1.4	2.3	0	1.4	0	0.7	3.9	0	1.7	3.6	3.7	0.7	0	3.0	3.0	0.9	0	0	0.9	1.9

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Groups Printed- Trucks

	NW 2 AVENUE Northbound					NW 2 AVENUE Southbound					NW 62 STREET Eastbound					NW 62 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	5	0	0	5	7
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	0	0	4	6
07:30 AM	1	0	1	0	2	0	3	1	0	4	0	0	0	0	0	1	1	0	0	2	8
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	5	0	0	5	9
Total	1	0	2	0	3	0	3	1	0	4	0	4	3	0	7	1	15	0	0	16	30
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	4	2	0	6	1	5	0	0	6	13
08:15 AM	0	0	1	0	1	0	0	1	0	1	0	2	1	0	3	0	2	0	0	2	7
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	2	0	5	0	3	0	0	3	9
08:45 AM	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	1	4	0	0	5	12
Total	0	1	1	0	2	1	2	1	0	4	0	14	5	0	19	2	14	0	0	16	41
*** BREAK ***																					
04:00 PM	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	0	4	0	0	4	13
04:15 PM	1	4	1	0	6	0	0	1	0	1	1	7	1	0	9	0	4	0	0	4	20
04:30 PM	1	1	0	0	2	0	2	0	0	2	0	6	0	0	6	0	1	0	0	1	11
04:45 PM	0	0	0	0	0	0	1	1	0	2	0	5	0	0	5	0	1	0	0	1	8
Total	2	9	1	0	12	0	3	2	0	5	1	22	2	0	25	0	10	0	0	10	52
05:00 PM	1	2	1	0	4	0	0	0	0	0	2	4	1	0	7	0	1	0	0	1	12
05:15 PM	0	1	0	0	1	0	0	1	0	1	0	7	0	0	7	1	0	0	0	1	10
05:30 PM	0	2	0	0	2	0	0	2	0	2	2	4	0	0	6	0	2	0	0	2	12
05:45 PM	0	3	1	0	4	0	0	1	0	1	0	5	0	0	5	0	2	0	0	2	12
Total	1	8	2	0	11	0	0	4	0	4	4	20	1	0	25	1	5	0	0	6	46
Grand Total	4	18	6	0	28	1	8	8	0	17	5	60	11	0	76	4	44	0	0	48	169
Apprch %	14.3	64.3	21.4	0		5.9	47.1	47.1	0		6.6	78.9	14.5	0		8.3	91.7	0	0		
Total %	2.4	10.7	3.6	0	16.6	0.6	4.7	4.7	0	10.1	3	35.5	6.5	0	45	2.4	26	0	0	28.4	

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Client: K&H
Intersection Name:NW69ST&NW6 AVE/5PL/RMP
Opertaors Name: EB & OC
Weather: Sunny

File Name : NW 69 ST _ SB RAMPS
Site Code : 00000801
Start Date : 4/16/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 6 AVENUE Northbound					NW 6 AVENUE Southbound					NW 69 STREET Eastbound					SB RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	4	13	1	0	18	1	11	0	1	13	1	0	1	0	2	23	25	15	0	63	96
07:15 AM	7	15	0	1	23	1	4	0	0	5	2	0	3	1	6	12	14	17	1	44	78
07:30 AM	3	13	0	0	16	0	8	0	0	8	2	0	6	0	8	13	5	13	1	32	64
07:45 AM	3	27	0	0	30	1	11	0	0	12	2	0	5	0	7	8	8	13	0	29	78
Total	17	68	1	1	87	3	34	0	1	38	7	0	15	1	23	56	52	58	2	168	316
08:00 AM	6	19	0	0	25	0	12	0	0	12	3	0	4	0	7	11	4	17	1	33	77
08:15 AM	7	9	1	0	17	0	11	0	2	13	0	0	3	0	3	12	12	13	0	37	70
08:30 AM	7	8	0	0	15	0	13	1	3	17	1	0	4	1	6	11	7	9	0	27	65
08:45 AM	2	18	0	0	20	0	7	2	0	9	1	0	2	1	4	19	12	14	1	46	79
Total	22	54	1	0	77	0	43	3	5	51	5	0	13	2	20	53	35	53	2	143	291
*** BREAK ***																					
04:00 PM	5	15	1	2	23	0	10	2	0	12	10	1	0	2	13	15	25	26	1	67	115
04:15 PM	7	30	0	0	37	1	3	0	1	5	4	1	4	1	10	12	31	19	1	63	115
04:30 PM	6	29	0	2	37	0	8	0	0	8	9	0	3	0	12	12	23	24	0	59	116
04:45 PM	11	28	0	0	39	0	5	1	0	6	7	4	0	0	11	16	38	25	0	79	135
Total	29	102	1	4	136	1	26	3	1	31	30	6	7	3	46	55	117	94	2	268	481
05:00 PM	8	26	0	1	35	0	5	1	0	6	2	0	0	1	3	10	42	32	0	84	128
05:15 PM	6	9	1	1	17	0	3	1	0	4	2	0	3	0	5	13	24	24	0	61	87
05:30 PM	8	18	0	0	26	0	8	1	0	9	3	0	1	0	4	15	36	34	2	87	126
05:45 PM	11	24	2	1	38	0	11	0	2	13	2	0	3	0	5	10	41	29	0	80	136
Total	33	77	3	3	116	0	27	3	2	32	9	0	7	1	17	48	143	119	2	312	477
Grand Total	101	301	6	8	416	4	130	9	9	152	51	6	42	7	106	212	347	324	8	891	1565
Apprch %	24.3	72.4	1.4	1.9		2.6	85.5	5.9	5.9		48.1	5.7	39.6	6.6		23.8	38.9	36.4	0.9		
Total %	6.5	19.2	0.4	0.5	26.6	0.3	8.3	0.6	0.6	9.7	3.3	0.4	2.7	0.4	6.8	13.5	22.2	20.7	0.5	56.9	
Pass Cars	101	295	6	8	410	3	128	9	9	149	49	6	42	7	104	205	339	303	8	855	1518
% Pass Cars	100	98	100	100	98.6	75	98.5	100	100	98	96.1	100	100	100	98.1	96.7	97.7	93.5	100	96	97
Trucks	0	6	0	0	6	1	2	0	0	3	2	0	0	0	2	7	8	21	0	36	47
% Trucks	0	2	0	0	1.4	25	1.5	0	0	2	3.9	0	0	0	1.9	3.3	2.3	6.5	0	4	3

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Client: K&H
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Opertaors Name: EB & OC
Weather: Sunny

File Name : NW 69 ST _ SB RAMPS
Site Code : 00000801
Start Date : 4/16/2015
Page No : 2

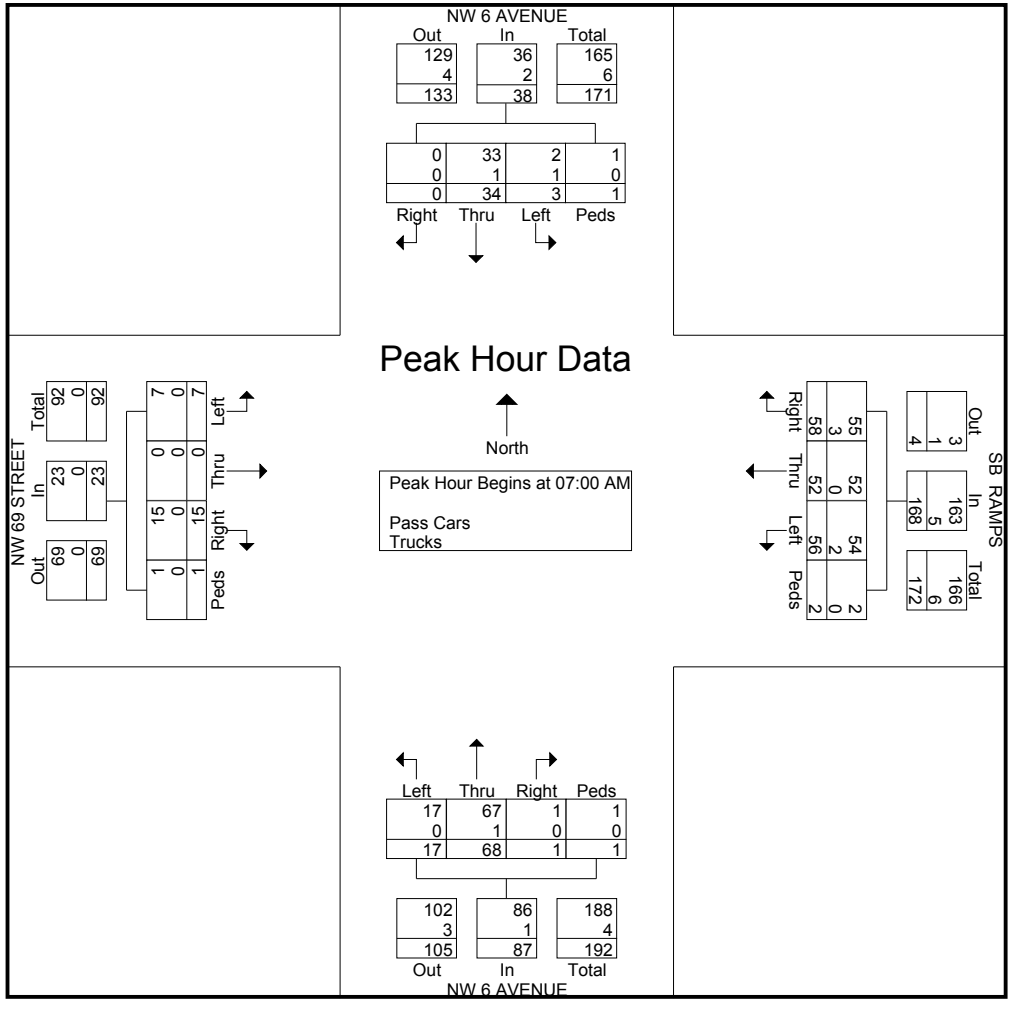
	NW 6 AVENUE Northbound					NW 6 AVENUE Southbound					NW 69 STREET Eastbound					SB RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	4	13	**1**	0	18	**1**	**11**	0	**1**	**13**	1	0	1	0	2	**23**	**25**	15	0	**63**	**96**
07:15 AM	**7**	15	0	**1**	23	1	4	0	0	5	**2**	0	3	**1**	6	12	14	**17**	**1**	44	78
07:30 AM	3	13	0	0	16	0	8	0	0	8	2	0	**6**	0	**8**	13	5	13	1	32	64
07:45 AM	3	**27**	0	0	**30**	1	11	0	0	12	2	0	5	0	7	8	8	13	0	29	78
Total Volume	17	68	1	1	87	3	34	0	1	38	7	0	15	1	23	56	52	58	2	168	316
% App. Total	19.5	78.2	1.1	1.1		7.9	89.5	0	2.6		30.4	0	65.2	4.3		33.3	31	34.5	1.2		
PHF	.607	.630	.250	.250	.725	.750	.773	.000	.250	.731	.875	.000	.625	.250	.719	.609	.520	.853	.500	.667	.823
Pass Cars	17	67	1	1	86	2	33	0	1	36	7	0	15	1	23	54	52	55	2	163	308
% Pass Cars	100	98.5	100	100	98.9	66.7	97.1	0	100	94.7	100	0	100	100	100	96.4	100	94.8	100	97.0	97.5
Trucks	0	1	0	0	1	1	1	0	0	2	0	0	0	0	0	2	0	3	0	5	8
% Trucks	0	1.5	0	0	1.1	33.3	2.9	0	0	5.3	0	0	0	0	0	3.6	0	5.2	0	3.0	2.5

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Opertaors Name: EB & OC
Weather: Sunny

File Name : NW 69 ST _ SB RAMPS
Site Code : 00000801
Start Date : 4/16/2015
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Page No : 4

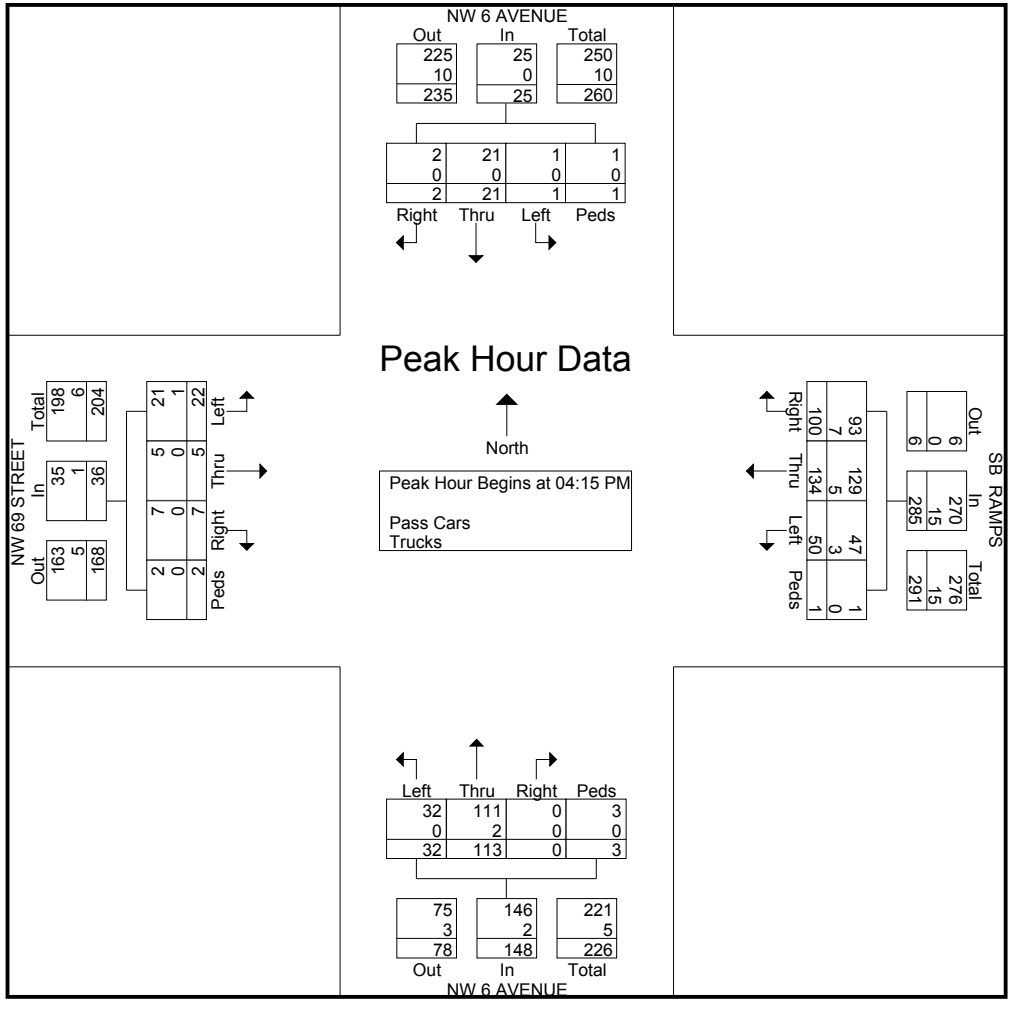
	NW 6 AVENUE Northbound					NW 6 AVENUE Southbound					NW 69 STREET Eastbound					SB RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	7	**30**	0	0	37	**1**	3	0	**1**	5	4	1	**4**	**1**	10	12	31	19	**1**	63	115
04:30 PM	6	29	0	**2**	37	0	**8**	0	0	**8**	**9**	0	3	0	**12**	12	23	24	0	59	116
04:45 PM	**11**	28	0	0	**39**	0	5	**1**	0	6	7	**4**	0	0	11	**16**	38	25	0	79	**135**
05:00 PM	8	26	0	1	35	0	5	1	0	6	2	0	0	1	3	10	**42**	**32**	0	**84**	128
Total Volume	32	113	0	3	148	1	21	2	1	25	22	5	7	2	36	50	134	100	1	285	494
% App. Total	21.6	76.4	0	2		4	84	8	4		61.1	13.9	19.4	5.6		17.5	47	35.1	0.4		
PHF	.727	.942	.000	.375	.949	.250	.656	.500	.250	.781	.611	.313	.438	.500	.750	.781	.798	.781	.250	.848	.915
Pass Cars	32	111	0	3	146	1	21	2	1	25	21	5	7	2	35	47	129	93	1	270	476
% Pass Cars	100	98.2	0	100	98.6	100	100	100	100	100	95.5	100	100	100	97.2	94.0	96.3	93.0	100	94.7	96.4
Trucks	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	3	5	7	0	15	18
% Trucks	0	1.8	0	0	1.4	0	0	0	0	0	4.5	0	0	0	2.8	6.0	3.7	7.0	0	5.3	3.6

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Client: K&H
Intersection Name:NW69ST&NW6 AVE/5PL/RMP
Opertaors Name: EB & OC
Weather: Sunny

File Name : NW 69 ST _ SB RAMPS
Site Code : 00000801
Start Date : 4/16/2015
Page No : 5



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File Name : NW 69 ST _ SB RAMPS
Site Code : 00000801
Start Date : 4/16/2015
Page No : 1

Groups Printed- Trucks

	NW 6 AVENUE Northbound					NW 6 AVENUE Southbound					NW 69 STREET Eastbound					SB RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	0	2	3
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	3
*** BREAK ***																					
07:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
Total	0	1	0	0	1	1	1	0	0	2	0	0	0	0	0	2	0	3	0	5	8
*** BREAK ***																					
08:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
Total	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	5
*** BREAK ***																					
04:00 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2	0	3	0	5	7
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	4	1	0	6	7
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	2
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	3
Total	0	3	0	0	3	0	0	0	0	0	2	0	0	0	2	5	4	5	0	14	19
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6	6
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	4
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12	0	15	15
Grand Total	0	6	0	0	6	1	2	0	0	3	2	0	0	0	2	7	8	21	0	36	47
Apprch %	0	100	0	0		33.3	66.7	0	0		100	0	0	0		19.4	22.2	58.3	0		
Total %	0	12.8	0	0	12.8	2.1	4.3	0	0	6.4	4.3	0	0	0	4.3	14.9	17	44.7	0	76.6	

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Client: K&H
Intersection Name: NW 69 ST&NW5AVE/NW5CT
Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 69 ST_NW 5 Ave &NW5CT_RAMPS
Site Code : 00000802
Start Date : 4/16/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 5 AVE/NW 5CT Northbound					NW 5AVE/NW5CT Southbound					NW 69 STREET Eastbound					NW 69 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	3	1	1	8	2	8	36	0	46	4	9	0	3	16	5	17	1	0	23	93
07:15 AM	2	1	1	1	5	0	3	34	2	39	5	8	3	0	16	0	19	0	0	19	79
07:30 AM	6	1	1	0	8	3	9	34	1	47	4	2	0	0	6	8	34	1	0	43	104
07:45 AM	4	3	5	0	12	0	7	35	2	44	1	7	2	0	10	7	25	0	7	39	105
Total	15	8	8	2	33	5	27	139	5	176	14	26	5	3	48	20	95	2	7	124	381
08:00 AM	6	6	5	0	17	3	10	43	0	56	5	7	5	0	17	7	37	1	0	45	135
08:15 AM	6	0	1	0	7	0	7	30	0	37	4	8	0	0	12	2	33	4	2	41	97
08:30 AM	6	2	1	0	9	1	5	24	3	33	6	1	2	0	9	1	14	1	0	16	67
08:45 AM	2	0	2	0	4	1	5	21	1	28	1	1	4	0	6	2	13	1	0	16	54
Total	20	8	9	0	37	5	27	118	4	154	16	17	11	0	44	12	97	7	2	118	353
*** BREAK ***																					
04:00 PM	3	1	0	0	4	1	5	29	0	35	13	9	0	0	22	0	16	3	0	19	80
04:15 PM	7	3	2	2	14	2	5	18	0	25	13	10	1	1	25	0	24	5	4	33	97
04:30 PM	1	2	3	0	6	1	6	24	0	31	13	9	2	1	25	1	22	1	0	24	86
04:45 PM	1	2	0	0	3	2	5	19	1	27	10	14	3	1	28	0	24	1	1	26	84
Total	12	8	5	2	27	6	21	90	1	118	49	42	6	3	100	1	86	10	5	102	347
05:00 PM	3	1	1	0	5	1	7	23	1	32	13	7	1	0	21	0	23	3	0	26	84
05:15 PM	2	5	0	0	7	4	7	25	3	39	7	4	2	1	14	0	25	2	0	27	87
05:30 PM	3	4	1	1	9	3	3	20	1	27	8	12	2	0	22	1	21	2	1	25	83
05:45 PM	3	6	3	0	12	1	1	16	2	20	24	8	0	1	33	0	21	4	0	25	90
Total	11	16	5	1	33	9	18	84	7	118	52	31	5	2	90	1	90	11	1	103	344
Grand Total	58	40	27	5	130	25	93	431	17	566	131	116	27	8	282	34	368	30	15	447	1425
Apprch %	44.6	30.8	20.8	3.8		4.4	16.4	76.1	3		46.5	41.1	9.6	2.8		7.6	82.3	6.7	3.4		
Total %	4.1	2.8	1.9	0.4	9.1	1.8	6.5	30.2	1.2	39.7	9.2	8.1	1.9	0.6	19.8	2.4	25.8	2.1	1.1	31.4	
Pass Cars	58	39	27	5	129	25	92	414	16	547	131	114	26	8	279	31	364	29	15	439	1394
% Pass Cars	100	97.5	100	100	99.2	100	98.9	96.1	94.1	96.6	100	98.3	96.3	100	98.9	91.2	98.9	96.7	100	98.2	97.8
Trucks	0	1	0	0	1	0	1	17	1	19	0	2	1	0	3	3	4	1	0	8	31
% Trucks	0	2.5	0	0	0.8	0	1.1	3.9	5.9	3.4	0	1.7	3.7	0	1.1	8.8	1.1	3.3	0	1.8	2.2

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Start Date : 4/16/2015
Page No : 2

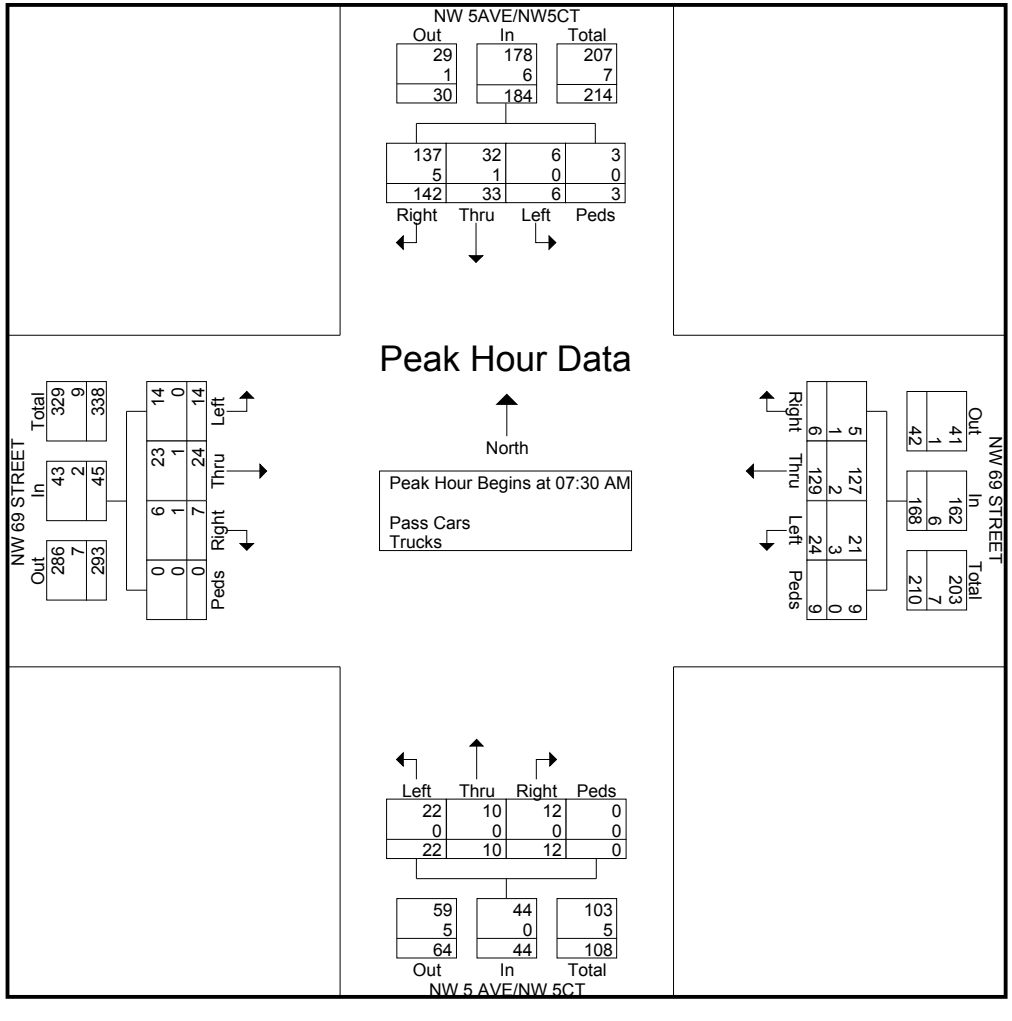
	NW 5 AVE/NW 5CT Northbound					NW 5AVE/NW5CT Southbound					NW 69 STREET Eastbound					NW 69 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**6**	1	1	0	8	**3**	9	34	1	47	4	2	0	0	6	**8**	34	1	0	43	104
07:45 AM	4	3	**5**	0	12	0	7	35	**2**	44	1	7	2	0	10	7	25	0	**7**	39	105
08:00 AM	6	**6**	5	0	**17**	3	**10**	**43**	0	**56**	**5**	7	**5**	0	**17**	7	**37**	1	0	**45**	**135**
08:15 AM	6	0	1	0	7	0	7	30	0	37	4	**8**	0	0	12	2	33	**4**	2	41	97
Total Volume	22	10	12	0	44	6	33	142	3	184	14	24	7	0	45	24	129	6	9	168	441
% App. Total	50	22.7	27.3	0		3.3	17.9	77.2	1.6		31.1	53.3	15.6	0		14.3	76.8	3.6	5.4		
PHF	.917	.417	.600	.000	.647	.500	.825	.826	.375	.821	.700	.750	.350	.000	.662	.750	.872	.375	.321	.933	.817
Pass Cars	22	10	12	0	44	6	32	137	3	178	14	23	6	0	43	21	127	5	9	162	427
% Pass Cars	100	100	100	0	100	100	97.0	96.5	100	96.7	100	95.8	85.7	0	95.6	87.5	98.4	83.3	100	96.4	96.8
Trucks	0	0	0	0	0	0	1	5	0	6	0	1	1	0	2	3	2	1	0	6	14
% Trucks	0	0	0	0	0	0	3.0	3.5	0	3.3	0	4.2	14.3	0	4.4	12.5	1.6	16.7	0	3.6	3.2

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Client: K&H
Intersection Name: NW 69 ST&NW5AVE/NW5CT
Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 69 ST_NW 5 Ave &NW5CT_RAMPS
Site Code : 00000802
Start Date : 4/16/2015
Page No : 3



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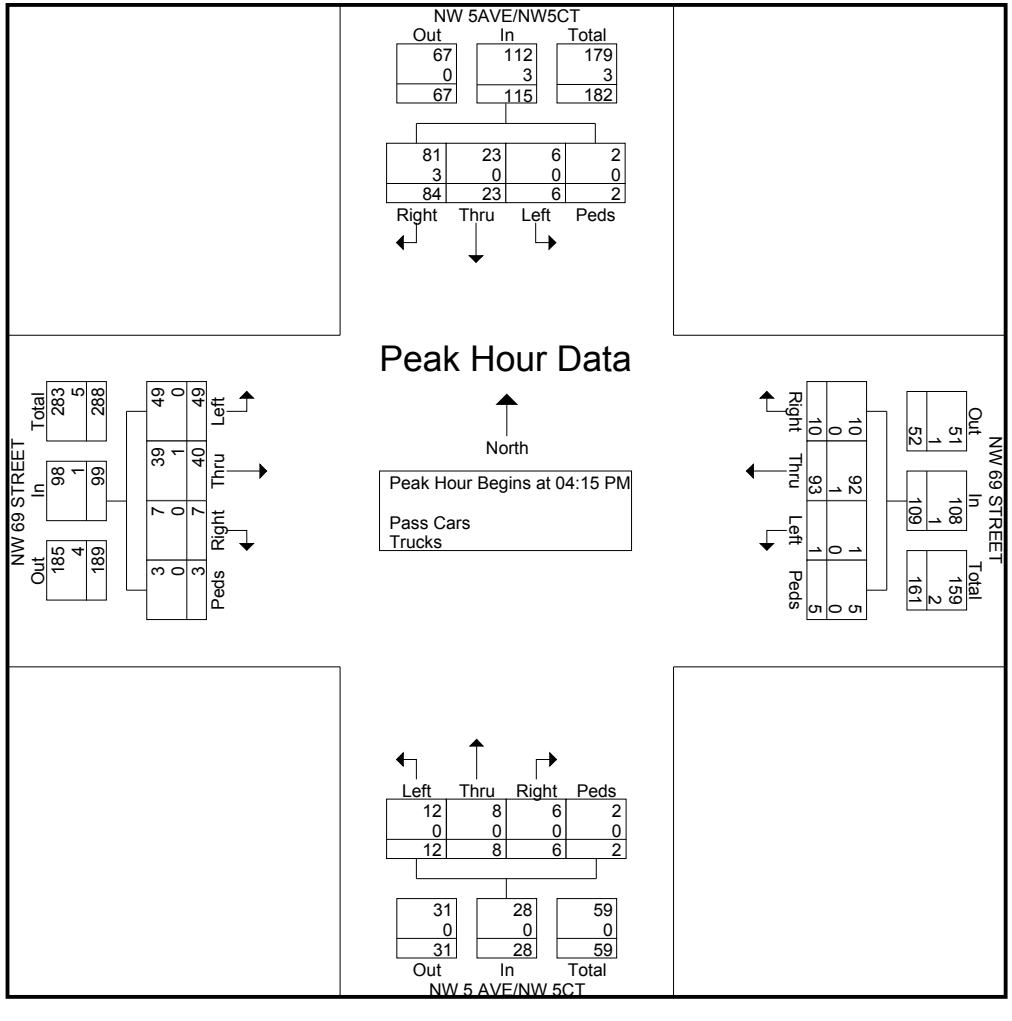
	NW 5 AVE/NW 5CT Northbound					NW 5AVE/NW5CT Southbound					NW 69 STREET Eastbound					NW 69 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	**7**	**3**	2	**2**	**14**	**2**	5	18	0	25	**13**	10	1	**1**	25	0	**24**	**5**	**4**	**33**	**97**
04:30 PM	1	2	**3**	0	6	1	6	**24**	0	31	13	9	2	1	25	**1**	22	1	0	24	86
04:45 PM	1	2	0	0	3	2	5	19	**1**	27	10	**14**	**3**	1	**28**	0	24	1	1	26	84
05:00 PM	3	1	1	0	5	1	**7**	23	1	**32**	13	7	1	0	21	0	23	3	0	26	84
Total Volume	12	8	6	2	28	6	23	84	2	115	49	40	7	3	99	1	93	10	5	109	351
% App. Total	42.9	28.6	21.4	7.1		5.2	20	73	1.7		49.5	40.4	7.1	3		0.9	85.3	9.2	4.6		
PHF	.429	.667	.500	.250	.500	.750	.821	.875	.500	.898	.942	.714	.583	.750	.884	.250	.969	.500	.313	.826	.905
Pass Cars	12	8	6	2	28	6	23	81	2	112	49	39	7	3	98	1	92	10	5	108	346
% Pass Cars	100	100	100	100	100	100	100	96.4	100	97.4	100	97.5	100	100	99.0	100	98.9	100	100	99.1	98.6
Trucks	0	0	0	0	0	0	0	3	0	3	0	1	0	0	1	0	1	0	0	1	5
% Trucks	0	0	0	0	0	0	0	3.6	0	2.6	0	2.5	0	0	1.0	0	1.1	0	0	0.9	1.4

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Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 69 ST_NW 5 Ave &NW5CT_RAMPS
Site Code : 00000802
Start Date : 4/16/2015
Page No : 5



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File Name : NW 69 ST_NW 5 Ave &NW5CT_RAMPS
Site Code : 00000802
Start Date : 4/16/2015
Page No : 1

Groups Printed- Trucks

	NW 5 AVE/NW 5CT Northbound					NW 5AVE/NW5CT Southbound					NW 69 STREET Eastbound					NW 69 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	1	2	0	0	3	5
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	6	1	8	0	0	0	0	0	1	2	0	0	3	11
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	3
08:15 AM	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	0	2	5
08:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	6	0	6	0	1	1	0	2	2	0	1	0	3	11
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
04:15 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	0	0	3	0	3	0	1	0	0	1	0	1	0	0	1	5
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1	4
Grand Total	0	1	0	0	1	0	1	17	1	19	0	2	1	0	3	3	4	1	0	8	31
Apprch %	0	100	0	0		0	5.3	89.5	5.3		0	66.7	33.3	0		37.5	50	12.5	0		
Total %	0	3.2	0	0	3.2	0	3.2	54.8	3.2	61.3	0	6.5	3.2	0	9.7	9.7	12.9	3.2	0	25.8	

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Client: K&H
Intersection Name: NW 79 ST & SR 7
Opertaors Name: MS & ZV
Weather: Sunny

File Name : NW79ST_NW_SR7
Site Code : 00000901
Start Date : 4/15/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SR- 7 Northbound					SR-7 Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	6	79	27	13	125	73	209	42	3	327	20	170	4	0	194	15	40	4	14	73	719
07:15 AM	8	100	39	14	161	52	256	41	3	352	24	167	4	0	195	12	45	10	22	89	797
07:30 AM	19	87	20	2	128	68	227	39	3	337	20	195	5	1	221	10	59	7	13	89	775
07:45 AM	8	106	18	3	135	66	262	38	1	367	22	172	9	0	203	14	48	8	11	81	786
Total	41	372	104	32	549	259	954	160	10	1383	86	704	22	1	813	51	192	29	60	332	3077
08:00 AM	10	102	26	3	141	64	257	42	5	368	38	171	11	0	220	27	67	11	12	117	846
08:15 AM	6	128	24	1	159	63	243	32	0	338	21	173	8	0	202	16	61	8	9	94	793
08:30 AM	7	101	23	2	133	63	230	55	2	350	44	176	11	2	233	12	49	7	10	78	794
08:45 AM	11	88	17	2	118	75	221	44	0	340	32	168	7	0	207	13	51	6	4	74	739
Total	34	419	90	8	551	265	951	173	7	1396	135	688	37	2	862	68	228	32	35	363	3172
*** BREAK ***																					
04:00 PM	9	164	30	0	203	58	148	41	1	248	46	144	8	1	199	20	77	10	7	114	764
04:15 PM	9	214	14	6	243	44	140	23	6	213	52	134	8	2	196	16	74	9	5	104	756
04:30 PM	9	233	36	5	283	57	135	25	4	221	46	161	8	1	216	16	80	9	9	114	834
04:45 PM	9	222	34	9	274	32	118	32	0	182	64	140	9	5	218	23	65	15	4	107	781
Total	36	833	114	20	1003	191	541	121	11	864	208	579	33	9	829	75	296	43	25	439	3135
05:00 PM	15	213	23	7	258	46	145	29	2	222	58	149	10	4	221	9	67	19	28	123	824
05:15 PM	25	205	27	4	261	47	128	30	5	210	57	158	12	3	230	13	73	19	16	121	822
05:30 PM	10	226	19	7	262	41	135	27	8	211	63	166	8	3	240	15	71	12	17	115	828
05:45 PM	11	239	42	3	295	34	129	34	1	198	63	156	13	2	234	21	61	10	19	111	838
Total	61	883	111	21	1076	168	537	120	16	841	241	629	43	12	925	58	272	60	80	470	3312
Grand Total	172	2507	419	81	3179	883	2983	574	44	4484	670	2600	135	24	3429	252	988	164	200	1604	12696
Apprch %	5.4	78.9	13.2	2.5		19.7	66.5	12.8	1		19.5	75.8	3.9	0.7		15.7	61.6	10.2	12.5		
Total %	1.4	19.7	3.3	0.6	25	7	23.5	4.5	0.3	35.3	5.3	20.5	1.1	0.2	27	2	7.8	1.3	1.6	12.6	
Pass Cars	159	2427	399	81	3066	844	2877	559	44	4324	654	2456	122	24	3256	246	899	155	200	1500	12146
% Pass Cars	92.4	96.8	95.2	100	96.4	95.6	96.4	97.4	100	96.4	97.6	94.5	90.4	100	95	97.6	91	94.5	100	93.5	95.7
Trucks	13	80	20	0	113	39	106	15	0	160	16	144	13	0	173	6	89	9	0	104	550
% Trucks	7.6	3.2	4.8	0	3.6	4.4	3.6	2.6	0	3.6	2.4	5.5	9.6	0	5	2.4	9	5.5	0	6.5	4.3

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Opertaors Name: MS & ZV
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File Name : NW79ST_NW_SR7
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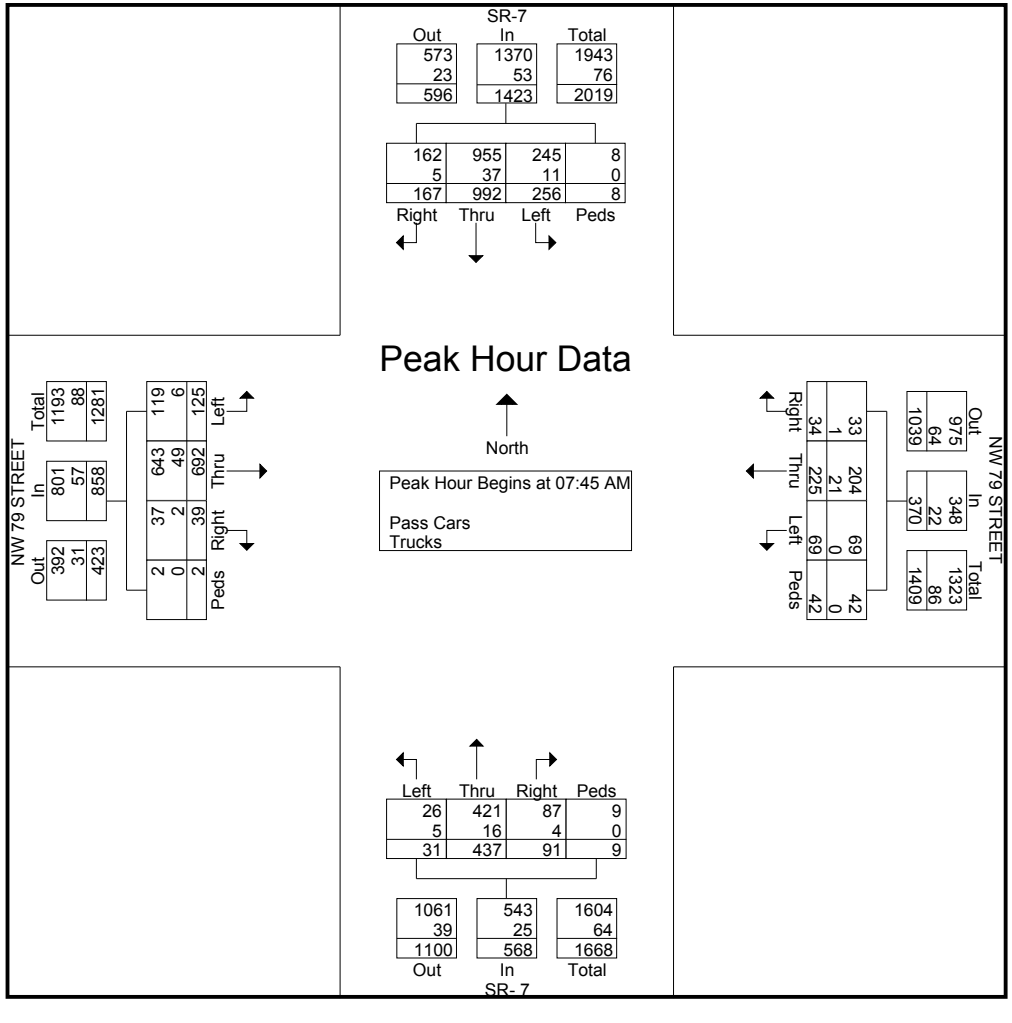
	SR- 7 Northbound					SR-7 Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	8	106	18	**3**	135	**66**	**262**	38	1	367	22	172	9	0	203	14	48	8	11	81	786
08:00 AM	**10**	102	**26**	3	141	64	257	42	**5**	**368**	38	171	**11**	0	220	**27**	**67**	**11**	**12**	**117**	**846**
08:15 AM	6	**128**	24	1	**159**	63	243	32	0	338	21	173	8	0	202	16	61	8	9	94	793
08:30 AM	7	101	23	2	133	63	230	**55**	2	350	**44**	**176**	11	**2**	**233**	12	49	7	10	78	794
Total Volume	31	437	91	9	568	256	992	167	8	1423	125	692	39	2	858	69	225	34	42	370	3219
% App. Total	5.5	76.9	16	1.6		18	69.7	11.7	0.6		14.6	80.7	4.5	0.2		18.6	60.8	9.2	11.4		
PHF	.775	.854	.875	.750	.893	.970	.947	.759	.400	.967	.710	.983	.886	.250	.921	.639	.840	.773	.875	.791	.951
Pass Cars	26	421	87	9	543	245	955	162	8	1370	119	643	37	2	801	69	204	33	42	348	3062
% Pass Cars	83.9	96.3	95.6	100	95.6	95.7	96.3	97.0	100	96.3	95.2	92.9	94.9	100	93.4	100	90.7	97.1	100	94.1	95.1
Trucks	5	16	4	0	25	11	37	5	0	53	6	49	2	0	57	0	21	1	0	22	157
% Trucks	16.1	3.7	4.4	0	4.4	4.3	3.7	3.0	0	3.7	4.8	7.1	5.1	0	6.6	0	9.3	2.9	0	5.9	4.9

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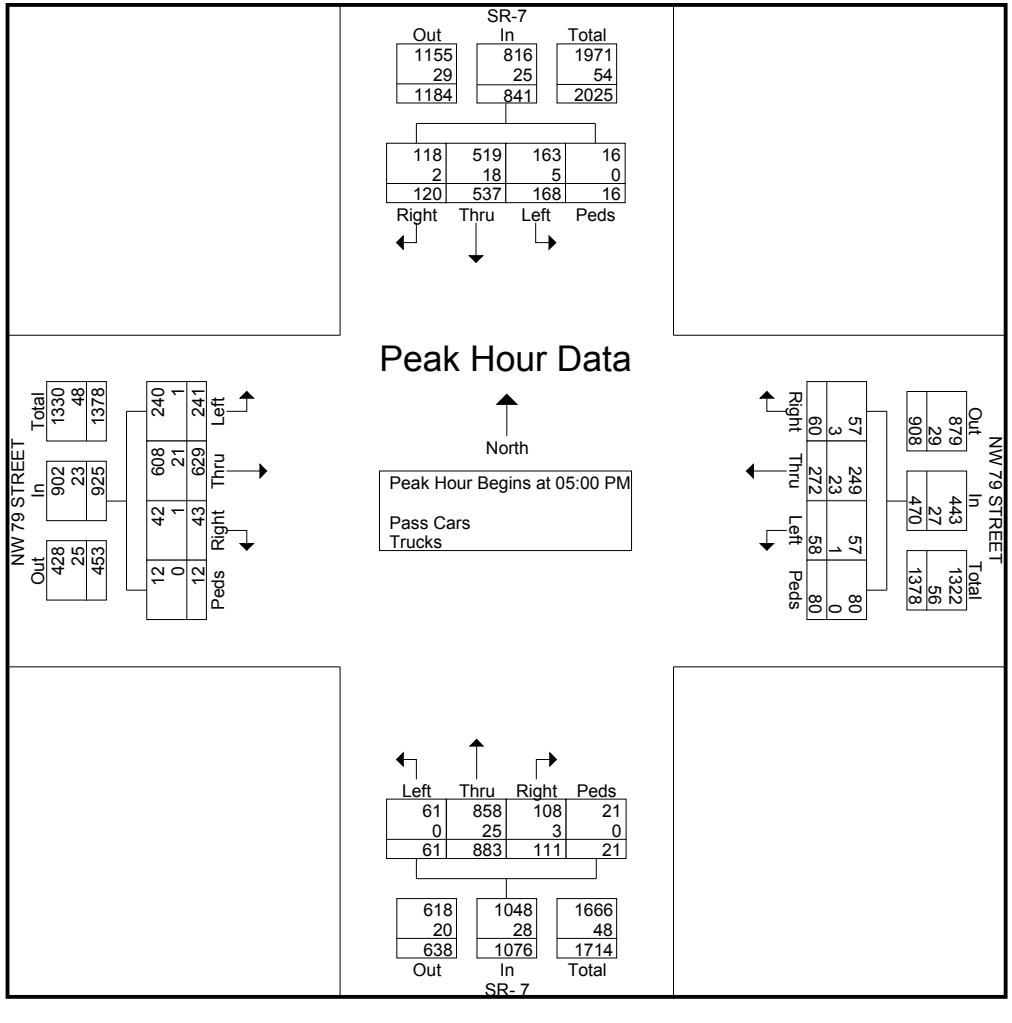
	SR- 7 Northbound					SR-7 Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	15	213	23	**7**	258	46	**145**	29	2	**222**	58	149	10	**4**	221	9	67	**19**	**28**	**123**	824
05:15 PM	**25**	205	27	4	261	**47**	128	30	5	210	57	158	12	3	230	13	**73**	19	16	121	822
05:30 PM	10	226	19	7	262	41	135	27	**8**	211	**63**	**166**	8	3	**240**	15	71	12	17	115	828
05:45 PM	11	**239**	**42**	3	**295**	34	129	**34**	1	198	63	156	**13**	2	234	**21**	61	10	19	111	**838**
Total Volume	61	883	111	21	1076	168	537	120	16	841	241	629	43	12	925	58	272	60	80	470	3312
% App. Total	5.7	82.1	10.3	2		20	63.9	14.3	1.9		26.1	68	4.6	1.3		12.3	57.9	12.8	17		
PHF	.610	.924	.661	.750	.912	.894	.926	.882	.500	.947	.956	.947	.827	.750	.964	.690	.932	.789	.714	.955	.988
Pass Cars	61	858	108	21	1048	163	519	118	16	816	240	608	42	12	902	57	249	57	80	443	3209
% Pass Cars	100	97.2	97.3	100	97.4	97.0	96.6	98.3	100	97.0	99.6	96.7	97.7	100	97.5	98.3	91.5	95.0	100	94.3	96.9
Trucks	0	25	3	0	28	5	18	2	0	25	1	21	1	0	23	1	23	3	0	27	103
% Trucks	0	2.8	2.7	0	2.6	3.0	3.4	1.7	0	3.0	0.4	3.3	2.3	0	2.5	1.7	8.5	5.0	0	5.7	3.1

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Groups Printed- Trucks

	SR- 7 Northbound					SR-7 Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	2	1	0	0	3	6	5	1	0	12	4	11	2	0	17	1	4	0	0	5	37
07:15 AM	0	4	3	0	7	0	9	2	0	11	1	11	1	0	13	0	6	0	0	6	37
07:30 AM	3	7	0	0	10	0	8	1	0	9	0	12	2	0	14	0	4	2	0	6	39
07:45 AM	2	4	0	0	6	2	8	2	0	12	2	8	1	0	11	0	6	0	0	6	35
Total	7	16	3	0	26	8	30	6	0	44	7	42	6	0	55	1	20	2	0	23	148
08:00 AM	2	3	1	0	6	6	8	0	0	14	1	14	1	0	16	0	3	1	0	4	40
08:15 AM	0	7	2	0	9	1	12	2	0	15	1	11	0	0	12	0	8	0	0	8	44
08:30 AM	1	2	1	0	4	2	9	1	0	12	2	16	0	0	18	0	4	0	0	4	38
08:45 AM	1	8	1	0	10	5	4	0	0	9	0	16	2	0	18	0	6	2	0	8	45
Total	4	20	5	0	29	14	33	3	0	50	4	57	3	0	64	0	21	3	0	24	167
*** BREAK ***																					
04:00 PM	0	6	4	0	10	3	4	1	0	8	1	4	1	0	6	1	9	0	0	10	34
04:15 PM	0	5	1	0	6	3	10	1	0	14	2	4	2	0	8	0	7	1	0	8	36
04:30 PM	2	7	3	0	12	4	5	0	0	9	0	10	0	0	10	1	6	0	0	7	38
04:45 PM	0	1	1	0	2	2	6	2	0	10	1	6	0	0	7	2	3	0	0	5	24
Total	2	19	9	0	30	12	25	4	0	41	4	24	3	0	31	4	25	1	0	30	132
05:00 PM	0	5	1	0	6	1	5	0	0	6	0	5	0	0	5	1	2	2	0	5	22
05:15 PM	0	6	0	0	6	2	6	1	0	9	0	6	0	0	6	0	6	0	0	6	27
05:30 PM	0	9	2	0	11	2	2	1	0	5	0	3	0	0	3	0	8	0	0	8	27
05:45 PM	0	5	0	0	5	0	5	0	0	5	1	7	1	0	9	0	7	1	0	8	27
Total	0	25	3	0	28	5	18	2	0	25	1	21	1	0	23	1	23	3	0	27	103
Grand Total	13	80	20	0	113	39	106	15	0	160	16	144	13	0	173	6	89	9	0	104	550
Apprch %	11.5	70.8	17.7	0		24.4	66.2	9.4	0		9.2	83.2	7.5	0		5.8	85.6	8.7	0		
Total %	2.4	14.5	3.6	0	20.5	7.1	19.3	2.7	0	29.1	2.9	26.2	2.4	0	31.5	1.1	16.2	1.6	0	18.9	

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Client: K&H
Intersection Name: NW 79 ST&NW 6CT-SBRMP
Opertaors Name: MA
Weather: Sunny

File Name : NW 79_SB RAmps _All
Site Code : 00000902
Start Date : 4/15/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 6 CT/ SB RAMPS Northbound					NW 6 CT/SB RAMPS Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	105	130	26	7	268	0	203	71	0	274	0	27	0	0	27	569
07:15 AM	0	0	0	4	4	67	174	20	6	267	0	212	69	0	281	0	54	0	0	54	606
07:30 AM	0	0	0	8	8	63	182	34	2	281	0	172	80	3	255	0	44	0	0	44	588
07:45 AM	0	0	0	3	3	88	162	24	2	276	0	227	91	0	318	0	60	0	0	60	657
Total	0	0	0	15	15	323	648	104	17	1092	0	814	311	3	1128	0	185	0	0	185	2420
08:00 AM	0	0	0	5	5	70	176	23	3	272	0	163	90	0	253	0	65	0	0	65	595
08:15 AM	0	0	0	8	8	97	159	25	4	285	0	225	74	0	299	0	59	0	0	59	651
08:30 AM	0	0	0	0	0	71	142	16	1	230	0	188	76	0	264	0	54	0	0	54	548
08:45 AM	0	0	0	3	3	72	139	12	5	228	0	216	63	0	279	0	44	0	0	44	554
Total	0	0	0	16	16	310	616	76	13	1015	0	792	303	0	1095	0	222	0	0	222	2348
*** BREAK ***																					
04:00 PM	0	0	0	2	2	115	139	34	2	290	0	189	40	3	232	0	64	0	0	64	588
04:15 PM	0	0	0	1	1	114	154	24	8	300	0	190	32	3	225	0	76	0	0	76	602
04:30 PM	0	0	0	1	1	113	152	23	3	291	0	197	52	3	252	0	88	0	1	89	633
04:45 PM	0	0	0	1	1	110	172	30	1	313	0	199	35	4	238	0	80	0	0	80	632
Total	0	0	0	5	5	452	617	111	14	1194	0	775	159	13	947	0	308	0	1	309	2455
05:00 PM	0	0	0	1	1	115	139	19	6	279	0	191	42	1	234	0	84	0	1	85	599
05:15 PM	0	0	0	0	0	131	151	20	2	304	0	196	37	4	237	0	87	0	0	87	628
05:30 PM	0	0	0	3	3	148	132	20	10	310	0	205	36	2	243	0	77	0	0	77	633
05:45 PM	0	0	0	3	3	97	115	18	2	232	0	168	56	6	230	0	78	0	0	78	543
Total	0	0	0	7	7	491	537	77	20	1125	0	760	171	13	944	0	326	0	1	327	2403
Grand Total	0	0	0	43	43	1576	2418	368	64	4426	0	3141	944	29	4114	0	1041	0	2	1043	9626
Apprch %	0	0	0	100		35.6	54.6	8.3	1.4		0	76.3	22.9	0.7		0	99.8	0	0.2		
Total %	0	0	0	0.4	0.4	16.4	25.1	3.8	0.7	46	0	32.6	9.8	0.3	42.7	0	10.8	0	0	10.8	
Pass Cars	0	0	0	43	43	1512	2348	345	64	4269	0	2898	908	29	3835	0	960	0	2	962	9109
% Pass Cars	0	0	0	100	100	95.9	97.1	93.8	100	96.5	0	92.3	96.2	100	93.2	0	92.2	0	100	92.2	94.6
Trucks	0	0	0	0	0	64	70	23	0	157	0	243	36	0	279	0	81	0	0	81	517
% Trucks	0	0	0	0	0	4.1	2.9	6.2	0	3.5	0	7.7	3.8	0	6.8	0	7.8	0	0	7.8	5.4

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Client: K&H
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Opertaors Name: MA
Weather: Sunny

File Name : NW 79_SB RAmps _All
Site Code : 00000902
Start Date : 4/15/2015
Page No : 2

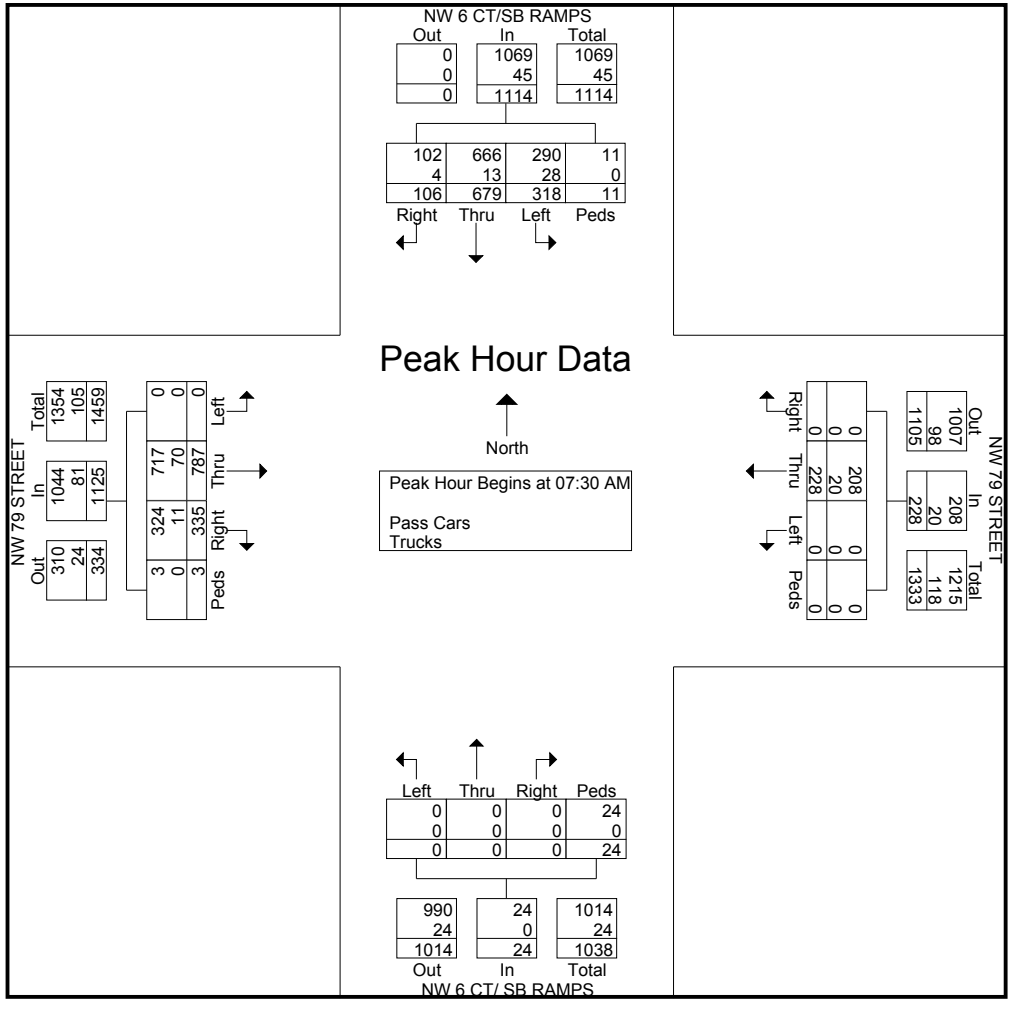
	NW 6 CT/ SB RAMPS Northbound					NW 6 CT/SB RAMPS Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	**8**	**8**	63	**182**	**34**	2	281	0	172	80	**3**	255	0	44	0	0	44	588
07:45 AM	0	0	0	3	3	88	162	24	2	276	0	**227**	**91**	0	**318**	0	60	0	0	60	**657**
08:00 AM	0	0	0	5	5	70	176	23	3	272	0	163	90	0	253	0	**65**	0	0	**65**	595
08:15 AM	0	0	0	8	8	**97**	159	25	**4**	**285**	0	225	74	0	299	0	59	0	0	59	651
Total Volume	0	0	0	24	24	318	679	106	11	1114	0	787	335	3	1125	0	228	0	0	228	2491
% App. Total	0	0	0	100		28.5	61	9.5	1		0	70	29.8	0.3		0	100	0	0		
PHF	.000	.000	.000	.750	.750	.820	.933	.779	.688	.977	.000	.867	.920	.250	.884	.000	.877	.000	.000	.877	.948
Pass Cars	0	0	0	24	24	290	666	102	11	1069	0	717	324	3	1044	0	208	0	0	208	2345
% Pass Cars	0	0	0	100	100	91.2	98.1	96.2	100	96.0	0	91.1	96.7	100	92.8	0	91.2	0	0	91.2	94.1
Trucks	0	0	0	0	0	28	13	4	0	45	0	70	11	0	81	0	20	0	0	20	146
% Trucks	0	0	0	0	0	8.8	1.9	3.8	0	4.0	0	8.9	3.3	0	7.2	0	8.8	0	0	8.8	5.9

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Opertaors Name: MA
Weather: Sunny

File Name : NW 79_SB RAmps _All
Site Code : 00000902
Start Date : 4/15/2015
Page No : 3



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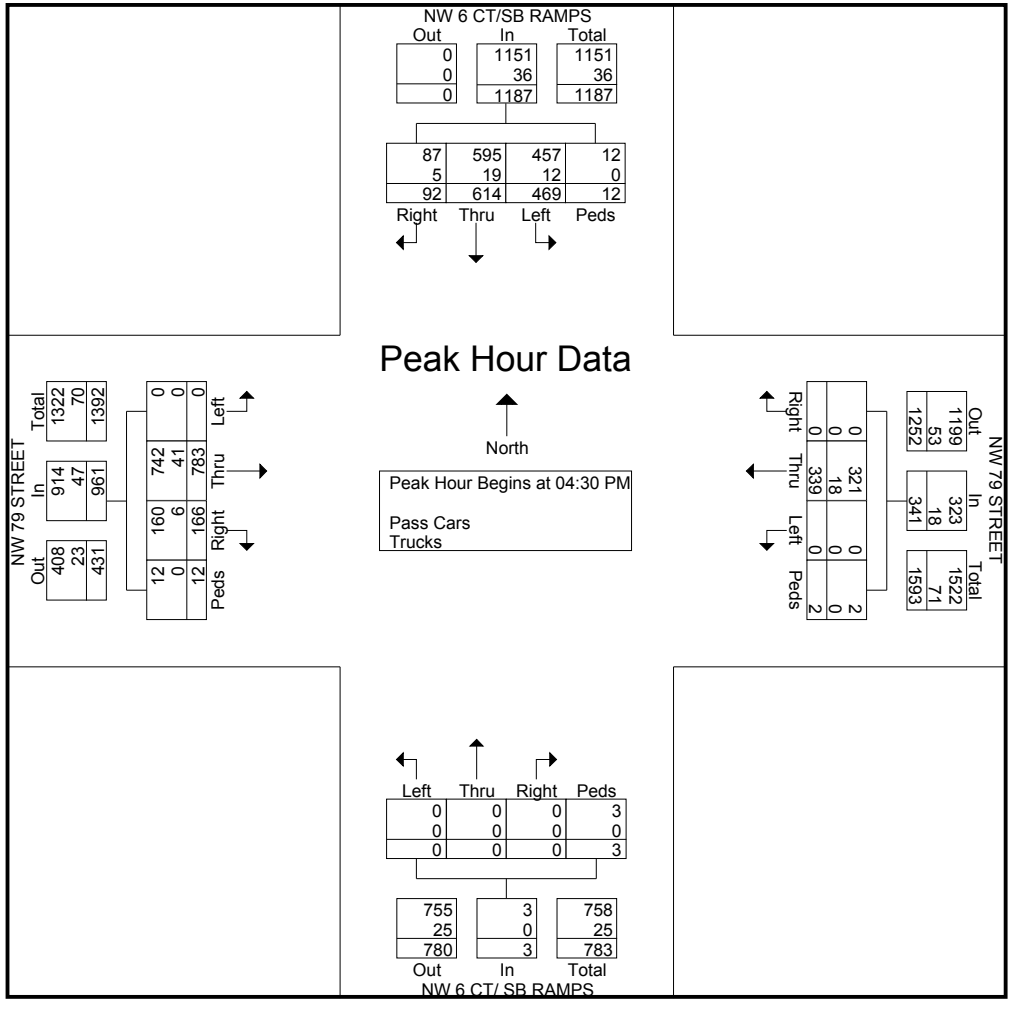
	NW 6 CT/ SB RAMPS Northbound					NW 6 CT/SB RAMPS Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	**1**	**1**	113	152	23	3	291	0	197	**52**	3	**252**	0	**88**	0	**1**	**89**	**633**
04:45 PM	0	0	0	1	1	110	**172**	**30**	1	**313**	0	**199**	35	**4**	238	0	80	0	0	80	632
05:00 PM	0	0	0	1	1	115	139	19	**6**	279	0	191	42	1	234	0	84	0	1	85	599
05:15 PM	0	0	0	0	0	**131**	151	20	2	304	0	196	37	4	237	0	87	0	0	87	628
Total Volume	0	0	0	3	3	469	614	92	12	1187	0	783	166	12	961	0	339	0	2	341	2492
% App. Total	0	0	0	100		39.5	51.7	7.8	1		0	81.5	17.3	1.2		0	99.4	0	0.6		
PHF	.000	.000	.000	.750	.750	.895	.892	.767	.500	.948	.000	.984	.798	.750	.953	.000	.963	.000	.500	.958	.984
Pass Cars	0	0	0	3	3	457	595	87	12	1151	0	742	160	12	914	0	321	0	2	323	2391
% Pass Cars	0	0	0	100	100	97.4	96.9	94.6	100	97.0	0	94.8	96.4	100	95.1	0	94.7	0	100	94.7	95.9
Trucks	0	0	0	0	0	12	19	5	0	36	0	41	6	0	47	0	18	0	0	18	101
% Trucks	0	0	0	0	0	2.6	3.1	5.4	0	3.0	0	5.2	3.6	0	4.9	0	5.3	0	0	5.3	4.1

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Client: K&H
Intersection Name: NW 79 ST&NW 6CT-SBRMP
Opertaors Name: MA
Weather: Sunny

File Name : NW 79_SB RAmps _All
Site Code : 00000902
Start Date : 4/15/2015
Page No : 5



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File Name : NW 79_SB RAmps _All
Site Code : 00000902
Start Date : 4/15/2015
Page No : 1

Groups Printed- Trucks

	NW 6 CT/ SB RAMPS Northbound					NW 6 CT/SB RAMPS Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	5	3	3	0	11	0	21	4	0	25	0	3	0	0	3	39
07:15 AM	0	0	0	0	0	3	5	3	0	11	0	18	4	0	22	0	3	0	0	3	36
07:30 AM	0	0	0	0	0	6	2	1	0	9	0	10	1	0	11	0	5	0	0	5	25
07:45 AM	0	0	0	0	0	6	2	1	0	9	0	19	2	0	21	0	7	0	0	7	37
Total	0	0	0	0	0	20	12	8	0	40	0	68	11	0	79	0	18	0	0	18	137
08:00 AM	0	0	0	0	0	6	6	1	0	13	0	16	6	0	22	0	3	0	0	3	38
08:15 AM	0	0	0	0	0	10	3	1	0	14	0	25	2	0	27	0	5	0	0	5	46
08:30 AM	0	0	0	0	0	2	3	2	0	7	0	22	4	0	26	0	2	0	0	2	35
08:45 AM	0	0	0	0	0	5	8	1	0	14	0	31	3	0	34	0	7	0	0	7	55
Total	0	0	0	0	0	23	20	5	0	48	0	94	15	0	109	0	17	0	0	17	174
*** BREAK ***																					
04:00 PM	0	0	0	0	0	3	7	3	0	13	0	10	3	0	13	0	6	0	0	6	32
04:15 PM	0	0	0	0	0	1	3	0	0	4	0	12	0	0	12	0	8	0	0	8	24
04:30 PM	0	0	0	0	0	4	7	2	0	13	0	15	1	0	16	0	7	0	0	7	36
04:45 PM	0	0	0	0	0	3	5	2	0	10	0	9	2	0	11	0	2	0	0	2	23
Total	0	0	0	0	0	11	22	7	0	40	0	46	6	0	52	0	23	0	0	23	115
05:00 PM	0	0	0	0	0	2	4	1	0	7	0	9	0	0	9	0	4	0	0	4	20
05:15 PM	0	0	0	0	0	3	3	0	0	6	0	8	3	0	11	0	5	0	0	5	22
05:30 PM	0	0	0	0	0	1	3	2	0	6	0	9	0	0	9	0	7	0	0	7	22
05:45 PM	0	0	0	0	0	4	6	0	0	10	0	9	1	0	10	0	7	0	0	7	27
Total	0	0	0	0	0	10	16	3	0	29	0	35	4	0	39	0	23	0	0	23	91
Grand Total	0	0	0	0	0	64	70	23	0	157	0	243	36	0	279	0	81	0	0	81	517
Apprch %	0	0	0	0		40.8	44.6	14.6	0		0	87.1	12.9	0		0	100	0	0		
Total %	0	0	0	0	0	12.4	13.5	4.4	0	30.4	0	47	7	0	54	0	15.7	0	0	15.7	

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Client: K&H
Intersection Name: NW 79 ST&NW6AV_NBRMP
Opertaors Name: EB & CV
Weather: Sunny

File Name : NW79ST_NW6AV_NB Ramp
Site Code : 00000903
Start Date : 4/15/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 6 AVE/NB RAMPS Northbound					NW 6 AVE/NB RAMPS Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	54	80	0	134	0	0	0	1	1	68	223	0	6	297	0	20	12	3	35	467
07:15 AM	0	72	109	0	181	0	0	0	3	3	53	228	0	3	284	0	53	22	0	75	543
07:30 AM	0	62	80	0	142	0	0	0	0	0	56	199	0	7	262	0	43	17	1	61	465
07:45 AM	0	64	110	0	174	0	0	0	3	3	30	253	0	3	286	0	52	17	0	69	532
Total	0	252	379	0	631	0	0	0	7	7	207	903	0	19	1129	0	168	68	4	240	2007
08:00 AM	0	71	96	0	167	0	0	0	2	2	42	191	0	5	238	0	67	18	0	85	492
08:15 AM	0	57	127	0	184	0	0	0	0	0	54	240	0	3	297	0	53	8	0	61	542
08:30 AM	0	43	106	0	149	0	0	0	1	1	46	212	0	1	259	0	69	11	0	80	489
08:45 AM	0	48	95	0	143	0	0	0	1	1	66	207	0	3	276	0	45	15	1	61	481
Total	0	219	424	0	643	0	0	0	4	4	208	850	0	12	1070	0	234	52	1	287	2004
*** BREAK ***																					
04:00 PM	0	68	66	0	134	0	0	0	4	4	82	222	0	4	308	0	62	27	2	91	537
04:15 PM	0	59	67	0	126	0	0	0	3	3	54	236	0	6	296	0	76	22	0	98	523
04:30 PM	0	61	44	0	105	0	0	0	2	2	56	237	0	5	298	0	84	29	0	113	518
04:45 PM	0	46	68	0	114	0	0	0	2	2	70	232	0	4	306	0	69	28	0	97	519
Total	0	234	245	0	479	0	0	0	11	11	262	927	0	19	1208	0	291	106	2	399	2097
05:00 PM	0	73	71	0	144	0	0	0	6	6	62	236	0	2	300	0	88	22	0	110	560
05:15 PM	0	35	50	0	85	0	0	0	1	1	64	281	0	7	352	0	86	24	1	111	549
05:30 PM	0	34	49	0	83	0	0	0	7	7	83	273	0	5	361	0	72	28	1	101	552
05:45 PM	0	51	45	0	96	0	0	0	4	4	65	219	0	4	288	0	66	33	0	99	487
Total	0	193	215	0	408	0	0	0	18	18	274	1009	0	18	1301	0	312	107	2	421	2148
Grand Total	0	898	1263	0	2161	0	0	0	40	40	951	3689	0	68	4708	0	1005	333	9	1347	8256
Apprch %	0	41.6	58.4	0		0	0	0	100		20.2	78.4	0	1.4		0	74.6	24.7	0.7		
Total %	0	10.9	15.3	0	26.2	0	0	0	0.5	0.5	11.5	44.7	0	0.8	57	0	12.2	4	0.1	16.3	
Pass Cars	0	865	1189	0	2054	0	0	0	40	40	903	3552	0	68	4523	0	917	303	9	1229	7846
% Pass Cars	0	96.3	94.1	0	95	0	0	0	100	100	95	96.3	0	100	96.1	0	91.2	91	100	91.2	95
Trucks	0	33	74	0	107	0	0	0	0	0	48	137	0	0	185	0	88	30	0	118	410
% Trucks	0	3.7	5.9	0	5	0	0	0	0	0	5	3.7	0	0	3.9	0	8.8	9	0	8.8	5

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Page No : 2

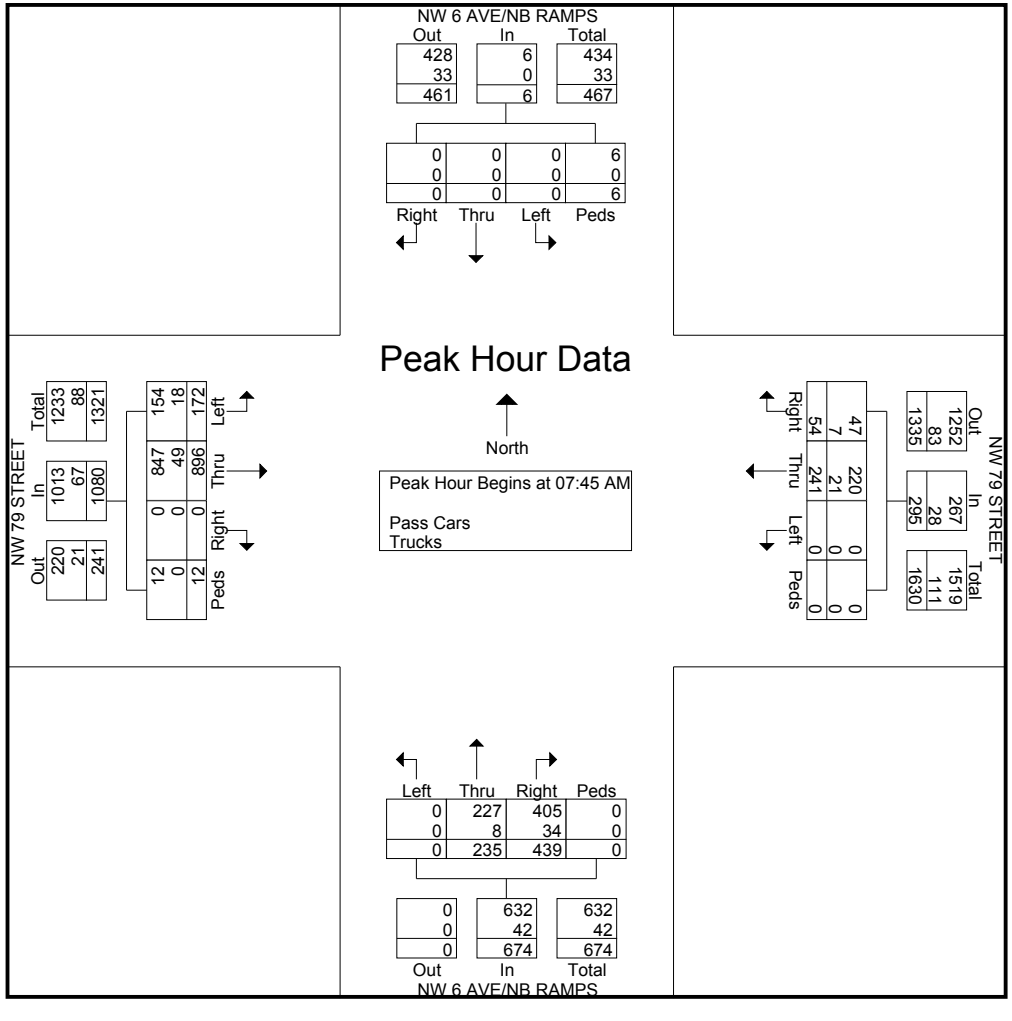
	NW 6 AVE/NB RAMPS Northbound					NW 6 AVE/NB RAMPS Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	64	110	0	174	0	0	0	**3**	**3**	30	**253**	0	3	286	0	52	17	0	69	532
08:00 AM	0	**71**	96	0	167	0	0	0	2	2	42	191	0	**5**	238	0	67	**18**	0	**85**	492
08:15 AM	0	57	**127**	0	**184**	0	0	0	0	0	**54**	240	0	3	**297**	0	53	8	0	61	**542**
08:30 AM	0	43	106	0	149	0	0	0	1	1	46	212	0	1	259	0	**69**	11	0	80	489
Total Volume	0	235	439	0	674	0	0	0	6	6	172	896	0	12	1080	0	241	54	0	295	2055
% App. Total	0	34.9	65.1	0		0	0	0	100		15.9	83	0	1.1		0	81.7	18.3	0		
PHF	.000	.827	.864	.000	.916	.000	.000	.000	.500	.500	.796	.885	.000	.600	.909	.000	.873	.750	.000	.868	.948
Pass Cars	0	227	405	0	632	0	0	0	6	6	154	847	0	12	1013	0	220	47	0	267	1918
% Pass Cars	0	96.6	92.3	0	93.8	0	0	0	100	100	89.5	94.5	0	100	93.8	0	91.3	87.0	0	90.5	93.3
Trucks	0	8	34	0	42	0	0	0	0	0	18	49	0	0	67	0	21	7	0	28	137
% Trucks	0	3.4	7.7	0	6.2	0	0	0	0	0	10.5	5.5	0	0	6.2	0	8.7	13.0	0	9.5	6.7

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Client: K&H
Intersection Name: NW 79 ST&NW6AV_NBRMP
Opertaors Name: EB & CV
Weather: Sunny

File Name : NW79ST_NW6AV_NB Ramp
Site Code : 00000903
Start Date : 4/15/2015
Page No : 3



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File Name : NW79ST_NW6AV_NB Ramp
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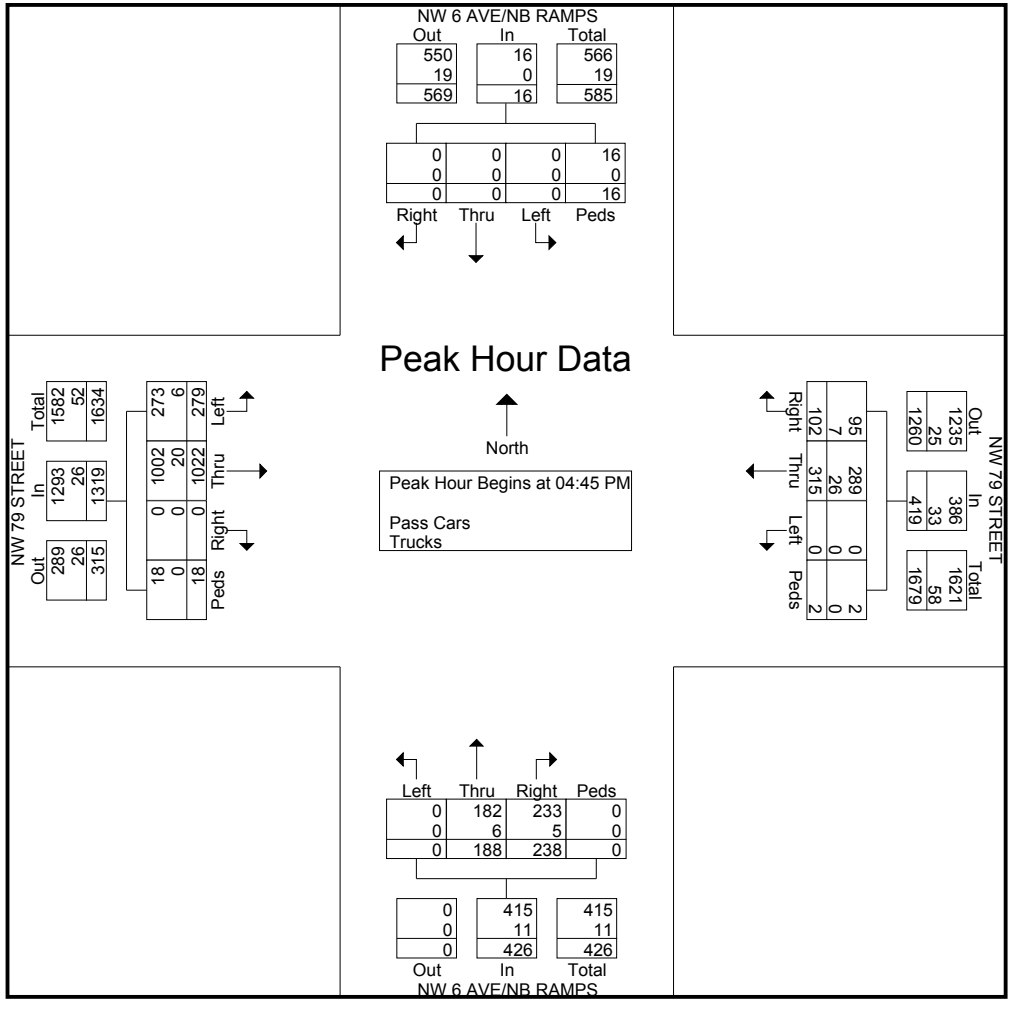
	NW 6 AVE/NB RAMPS Northbound					NW 6 AVE/NB RAMPS Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	46	68	0	114	0	0	0	2	2	70	232	0	4	306	0	69	**28**	0	97	519
05:00 PM	0	**73**	**71**	0	**144**	0	0	0	6	6	62	236	0	2	300	0	**88**	22	0	110	**560**
05:15 PM	0	35	50	0	85	0	0	0	1	1	64	**281**	0	**7**	352	0	86	24	**1**	**111**	549
05:30 PM	0	34	49	0	83	0	0	0	**7**	**7**	**83**	273	0	5	**361**	0	72	28	1	101	552
Total Volume	0	188	238	0	426	0	0	0	16	16	279	1022	0	18	1319	0	315	102	2	419	2180
% App. Total	0	44.1	55.9	0		0	0	0	100		21.2	77.5	0	1.4		0	75.2	24.3	0.5		
PHF	.000	.644	.838	.000	.740	.000	.000	.000	.571	.571	.840	.909	.000	.643	.913	.000	.895	.911	.500	.944	.973
Pass Cars	0	182	233	0	415	0	0	0	16	16	273	1002	0	18	1293	0	289	95	2	386	2110
% Pass Cars	0	96.8	97.9	0	97.4	0	0	0	100	100	97.8	98.0	0	100	98.0	0	91.7	93.1	100	92.1	96.8
Trucks	0	6	5	0	11	0	0	0	0	0	6	20	0	0	26	0	26	7	0	33	70
% Trucks	0	3.2	2.1	0	2.6	0	0	0	0	0	2.2	2.0	0	0	2.0	0	8.3	6.9	0	7.9	3.2

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Opertaors Name: EB & CV
Weather: Sunny

File Name : NW79ST_NW6AV_NB Ramp
Site Code : 00000903
Start Date : 4/15/2015
Page No : 5



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File Name : NW79ST_NW6AV_NB Ramp
Site Code : 00000903
Start Date : 4/15/2015
Page No : 1

Groups Printed- Trucks

	NW 6 AVE/NB RAMPS Northbound					NW 6 AVE/NB RAMPS Southbound					NW 79 STREET Eastbound					NW 79 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	2	12	0	14	0	0	0	0	0	4	8	0	0	12	0	0	0	0	0	26
07:15 AM	0	3	8	0	11	0	0	0	0	0	1	8	0	0	9	0	4	2	0	6	26
07:30 AM	0	4	0	0	4	0	0	0	0	0	3	9	0	0	12	0	4	3	0	7	23
07:45 AM	0	3	8	0	11	0	0	0	0	0	3	11	0	0	14	0	6	2	0	8	33
Total	0	12	28	0	40	0	0	0	0	0	11	36	0	0	47	0	14	7	0	21	108
08:00 AM	0	1	6	0	7	0	0	0	0	0	4	13	0	0	17	0	3	1	0	4	28
08:15 AM	0	1	12	0	13	0	0	0	0	0	9	22	0	0	31	0	5	2	0	7	51
08:30 AM	0	3	8	0	11	0	0	0	0	0	2	3	0	0	5	0	7	2	0	9	25
08:45 AM	0	6	10	0	16	0	0	0	0	0	4	20	0	0	24	0	7	0	0	7	47
Total	0	11	36	0	47	0	0	0	0	0	19	58	0	0	77	0	22	5	0	27	151
*** BREAK ***																					
04:00 PM	0	1	2	0	3	0	0	0	0	0	1	2	0	0	3	0	8	4	0	12	18
04:15 PM	0	2	2	0	4	0	0	0	0	0	7	3	0	0	10	0	8	2	0	10	24
04:30 PM	0	1	1	0	2	0	0	0	0	0	4	10	0	0	14	0	5	3	0	8	24
04:45 PM	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	4	4	0	8	14
Total	0	6	5	0	11	0	0	0	0	0	12	19	0	0	31	0	25	13	0	38	80
05:00 PM	0	3	3	0	6	0	0	0	0	0	2	6	0	0	8	0	6	0	0	6	20
05:15 PM	0	0	2	0	2	0	0	0	0	0	1	5	0	0	6	0	8	2	0	10	18
05:30 PM	0	1	0	0	1	0	0	0	0	0	3	5	0	0	8	0	8	1	0	9	18
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	5	2	0	7	15
Total	0	4	5	0	9	0	0	0	0	0	6	24	0	0	30	0	27	5	0	32	71
Grand Total	0	33	74	0	107	0	0	0	0	0	48	137	0	0	185	0	88	30	0	118	410
Apprch %	0	30.8	69.2	0		0	0	0	0		25.9	74.1	0	0		0	74.6	25.4	0		
Total %	0	8	18	0	26.1	0	0	0	0	0	11.7	33.4	0	0	45.1	0	21.5	7.3	0	28.8	

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Client: K&H
Intersection Name: NW 81 ST & SR-7
Opertaors Name: PQ
Weather: Sunny

File Name : NW81ST_SR7
Site Code : 00000904
Start Date : 4/15/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SR 7 Northbound					SR 7 Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	122	0	4	129	0	336	42	1	379	0	0	0	0	0	18	84	27	0	129	637
07:15 AM	4	126	0	0	130	0	374	33	10	417	0	0	0	0	0	16	67	34	9	126	673
07:30 AM	4	130	0	0	134	0	348	44	4	396	0	0	0	0	0	21	69	29	4	123	653
07:45 AM	9	147	0	2	158	0	343	51	4	398	0	0	0	0	0	27	75	48	1	151	707
Total	20	525	0	6	551	0	1401	170	19	1590	0	0	0	0	0	82	295	138	14	529	2670
08:00 AM	3	157	0	0	160	0	306	46	2	354	0	0	0	0	0	29	105	41	4	179	693
08:15 AM	2	167	0	1	170	0	321	45	1	367	0	0	0	0	0	32	72	31	1	136	673
08:30 AM	5	160	0	1	166	0	332	31	0	363	0	0	0	0	0	36	86	35	1	158	687
08:45 AM	0	147	0	0	147	0	333	47	4	384	0	0	0	0	0	26	82	36	2	146	677
Total	10	631	0	2	643	0	1292	169	7	1468	0	0	0	0	0	123	345	143	8	619	2730
*** BREAK ***																					
04:00 PM	7	252	0	0	259	0	187	40	1	228	0	0	0	0	0	25	161	102	4	292	779
04:15 PM	3	276	0	1	280	0	185	34	2	221	0	0	0	0	0	24	156	76	3	259	760
04:30 PM	9	309	0	0	318	0	180	26	5	211	0	0	0	0	0	17	150	87	5	259	788
04:45 PM	7	332	0	2	341	0	165	31	0	196	0	0	0	0	0	23	144	88	0	255	792
Total	26	1169	0	3	1198	0	717	131	8	856	0	0	0	0	0	89	611	353	12	1065	3119
05:00 PM	4	283	0	4	291	0	168	31	1	200	0	0	0	0	0	24	149	80	2	255	746
05:15 PM	6	316	0	1	323	0	170	33	2	205	0	0	0	0	0	27	139	64	3	233	761
05:30 PM	5	312	0	1	318	0	170	31	1	202	0	0	0	0	0	18	152	64	0	234	754
05:45 PM	4	293	0	2	299	0	168	27	3	198	0	0	0	0	0	25	110	59	1	195	692
Total	19	1204	0	8	1231	0	676	122	7	805	0	0	0	0	0	94	550	267	6	917	2953
Grand Total	75	3529	0	19	3623	0	4086	592	41	4719	0	0	0	0	0	388	1801	901	40	3130	11472
Apprch %	2.1	97.4	0	0.5		0	86.6	12.5	0.9		0	0	0	0		12.4	57.5	28.8	1.3		
Total %	0.7	30.8	0	0.2	31.6	0	35.6	5.2	0.4	41.1	0	0	0	0	0	3.4	15.7	7.9	0.3	27.3	
Pass Cars	74	3497	0	19	3590	0	4001	588	41	4630	0	0	0	0	0	379	1727	887	40	3033	11253
% Pass Cars	98.7	99.1	0	100	99.1	0	97.9	99.3	100	98.1	0	0	0	0	0	97.7	95.9	98.4	100	96.9	98.1
Trucks	1	32	0	0	33	0	85	4	0	89	0	0	0	0	0	9	74	14	0	97	219
% Trucks	1.3	0.9	0	0	0.9	0	2.1	0.7	0	1.9	0	0	0	0	0	2.3	4.1	1.6	0	3.1	1.9

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Client: K&H
Intersection Name: NW 81 ST & SR-7
Opertaors Name: PQ
Weather: Sunny

File Name : NW81ST_SR7
Site Code : 00000904
Start Date : 4/15/2015
Page No : 2

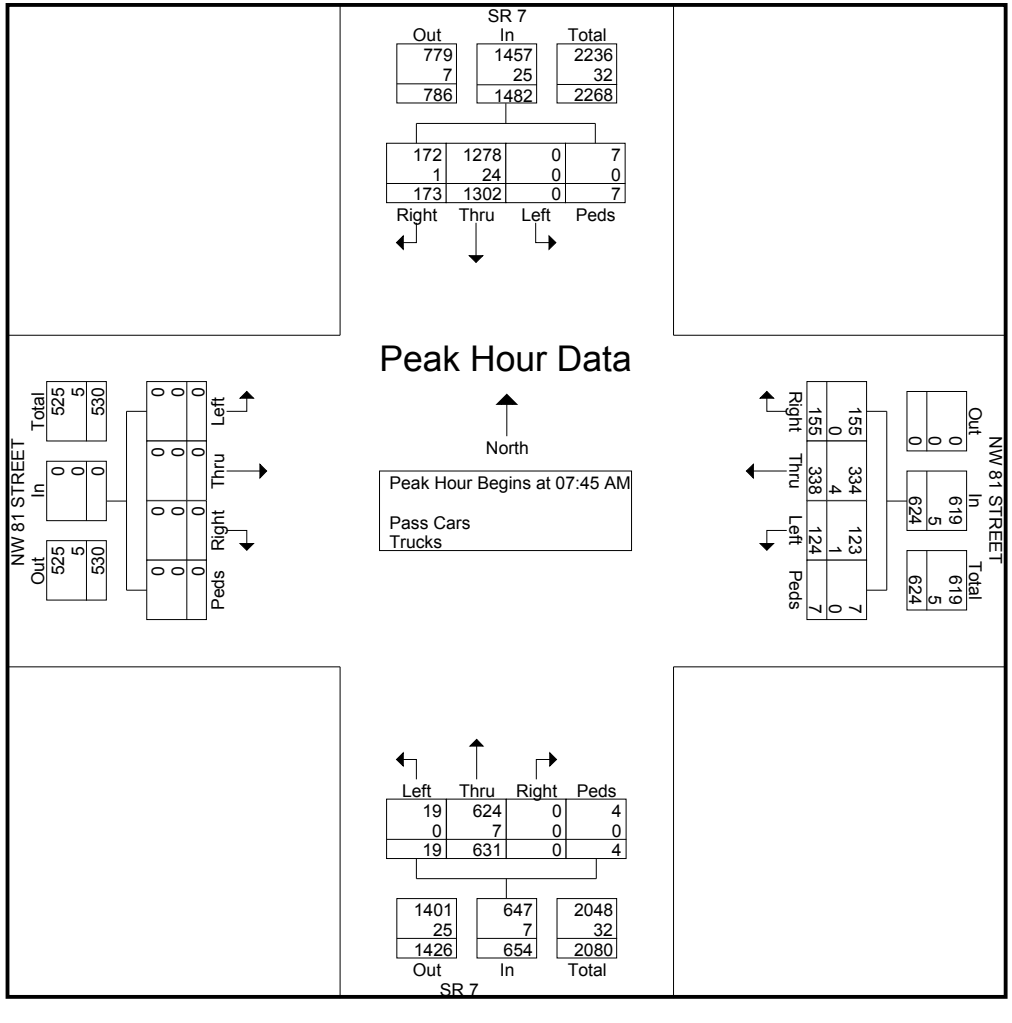
	SR 7 Northbound					SR 7 Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**9**	147	0	**2**	158	0	**343**	**51**	**4**	**398**	0	0	0	0	0	27	75	**48**	1	151	**707**
08:00 AM	3	157	0	0	160	0	306	46	2	354	0	0	0	0	0	29	**105**	41	**4**	**179**	693
08:15 AM	2	**167**	0	1	**170**	0	321	45	1	367	0	0	0	0	0	32	72	31	1	136	673
08:30 AM	5	160	0	1	166	0	332	31	0	363	0	0	0	0	0	**36**	86	35	1	158	687
Total Volume	19	631	0	4	654	0	1302	173	7	1482	0	0	0	0	0	124	338	155	7	624	2760
% App. Total	2.9	96.5	0	0.6		0	87.9	11.7	0.5		0	0	0	0		19.9	54.2	24.8	1.1		
PHF	.528	.945	.000	.500	.962	.000	.949	.848	.438	.931	.000	.000	.000	.000	.000	.861	.805	.807	.438	.872	.976
Pass Cars	19	624	0	4	647	0	1278	172	7	1457	0	0	0	0	0	123	334	155	7	619	2723
% Pass Cars	100	98.9	0	100	98.9	0	98.2	99.4	100	98.3	0	0	0	0	0	99.2	98.8	100	100	99.2	98.7
Trucks	0	7	0	0	7	0	24	1	0	25	0	0	0	0	0	1	4	0	0	5	37
% Trucks	0	1.1	0	0	1.1	0	1.8	0.6	0	1.7	0	0	0	0	0	0.8	1.2	0	0	0.8	1.3

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Intersection Name: NW 81 ST & SR-7
Opertaors Name: PQ
Weather: Sunny

File Name : NW81ST_SR7
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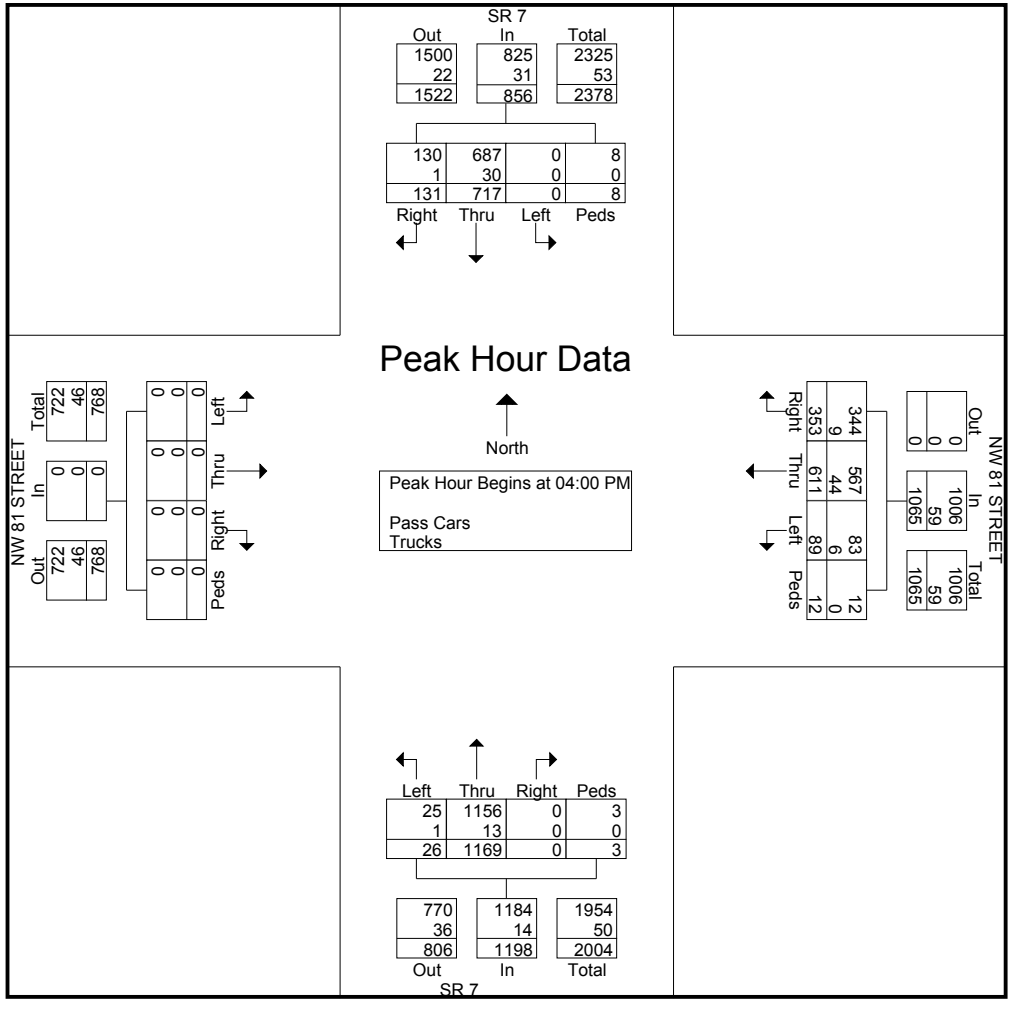
	SR 7 Northbound					SR 7 Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	7	252	0	0	259	0	**187**	**40**	1	**228**	0	0	0	0	0	**25**	**161**	**102**	4	**292**	779
04:15 PM	3	276	0	1	280	0	185	34	2	221	0	0	0	0	0	24	156	76	3	259	760
04:30 PM	**9**	309	0	0	318	0	180	26	**5**	211	0	0	0	0	0	17	150	87	**5**	259	788
04:45 PM	7	**332**	0	**2**	**341**	0	165	31	0	196	0	0	0	0	0	23	144	88	0	255	**792**
Total Volume	26	1169	0	3	1198	0	717	131	8	856	0	0	0	0	0	89	611	353	12	1065	3119
% App. Total	2.2	97.6	0	0.3		0	83.8	15.3	0.9		0	0	0	0		8.4	57.4	33.1	1.1		
PHF	.722	.880	.000	.375	.878	.000	.959	.819	.400	.939	.000	.000	.000	.000	.000	.890	.949	.865	.600	.912	.985
Pass Cars	25	1156	0	3	1184	0	687	130	8	825	0	0	0	0	0	83	567	344	12	1006	3015
% Pass Cars	96.2	98.9	0	100	98.8	0	95.8	99.2	100	96.4	0	0	0	0	0	93.3	92.8	97.5	100	94.5	96.7
Trucks	1	13	0	0	14	0	30	1	0	31	0	0	0	0	0	6	44	9	0	59	104
% Trucks	3.8	1.1	0	0	1.2	0	4.2	0.8	0	3.6	0	0	0	0	0	6.7	7.2	2.5	0	5.5	3.3

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File Name : NW81ST_SR7
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File Name : NW81ST_SR7
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Groups Printed- Trucks

	SR 7 Northbound					SR 7 Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	0	0	1	0	1	11
07:15 AM	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	3	0	0	3	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	8
07:45 AM	0	1	0	0	1	0	12	0	0	12	0	0	0	0	0	1	1	0	0	2	15
Total	0	5	0	0	5	0	27	1	0	28	0	0	0	0	0	1	2	1	0	4	37
08:00 AM	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	6
08:15 AM	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	7
08:30 AM	0	2	0	0	2	0	5	1	0	6	0	0	0	0	0	0	1	0	0	1	9
08:45 AM	0	1	0	0	1	0	6	0	0	6	0	0	0	0	0	1	5	0	0	6	13
Total	0	7	0	0	7	0	18	1	0	19	0	0	0	0	0	1	8	0	0	9	35
*** BREAK ***																					
04:00 PM	0	5	0	0	5	0	4	1	0	5	0	0	0	0	0	1	10	2	0	13	23
04:15 PM	0	2	0	0	2	0	14	0	0	14	0	0	0	0	0	3	10	3	0	16	32
04:30 PM	1	5	0	0	6	0	6	0	0	6	0	0	0	0	0	1	14	2	0	17	29
04:45 PM	0	1	0	0	1	0	6	0	0	6	0	0	0	0	0	1	10	2	0	13	20
Total	1	13	0	0	14	0	30	1	0	31	0	0	0	0	0	6	44	9	0	59	104
05:00 PM	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	0	10	4	0	14	20
05:15 PM	0	1	0	0	1	0	3	1	0	4	0	0	0	0	0	1	5	0	0	6	11
05:30 PM	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	9
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	0	7	0	0	7	0	10	1	0	11	0	0	0	0	0	1	20	4	0	25	43
Grand Total	1	32	0	0	33	0	85	4	0	89	0	0	0	0	0	9	74	14	0	97	219
Apprch %	3	97	0	0		0	95.5	4.5	0		0	0	0	0		9.3	76.3	14.4	0		
Total %	0.5	14.6	0	0	15.1	0	38.8	1.8	0	40.6	0	0	0	0	0	4.1	33.8	6.4	0	44.3	

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Client: K&H
Intersection Name: NW 81 ST &SBRMP/NW6CT
Opertaors Name: ED
Weather: Sunny

File Name : NW 81 St_SB Ramps_SB_WB-All
Site Code : 00000905
Start Date : 4/15/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SB RAMPS/ NW 6 CT Northbound					SB RAMPS/ NW 6 CT Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	4	4	0	111	17	0	128	0	0	0	0	0	111	123	0	0	234	366
07:15 AM	0	0	0	0	0	0	123	13	6	142	0	0	0	0	0	123	133	0	0	256	398
07:30 AM	0	0	0	0	0	0	119	10	3	132	0	0	0	3	3	109	141	0	0	250	385
07:45 AM	0	0	0	0	0	0	152	9	6	167	0	0	0	0	0	96	122	0	0	218	385
Total	0	0	0	4	4	0	505	49	15	569	0	0	0	3	3	439	519	0	0	958	1534
08:00 AM	0	0	0	5	5	0	118	13	5	136	0	0	0	0	0	101	148	0	0	249	390
08:15 AM	0	0	0	1	1	0	136	9	3	148	0	0	0	0	0	126	135	0	1	262	411
08:30 AM	0	0	0	1	1	0	102	15	3	120	0	0	0	0	0	112	154	0	0	266	387
08:45 AM	0	0	0	0	0	0	86	20	5	111	0	0	0	0	0	114	116	0	0	230	341
Total	0	0	0	7	7	0	442	57	16	515	0	0	0	0	0	453	553	0	1	1007	1529
*** BREAK ***																					
04:00 PM	0	0	0	1	1	0	151	67	3	221	0	0	0	0	0	123	194	0	0	317	539
04:15 PM	0	0	0	3	3	0	139	69	3	211	0	0	0	0	0	143	186	0	1	330	544
04:30 PM	0	0	0	1	1	0	137	64	4	205	0	0	0	0	0	143	201	0	0	344	550
04:45 PM	0	0	0	0	0	0	150	52	3	205	0	0	0	3	3	153	180	0	0	333	541
Total	0	0	0	5	5	0	577	252	13	842	0	0	0	3	3	562	761	0	1	1324	2174
05:00 PM	0	0	0	5	5	0	147	58	4	209	0	0	0	0	0	140	196	0	0	336	550
05:15 PM	1	0	0	0	1	0	153	58	2	213	0	0	0	1	1	143	175	0	0	318	533
05:30 PM	1	0	0	0	1	0	165	68	2	235	0	0	0	1	1	133	153	0	0	286	523
05:45 PM	0	0	0	0	0	0	110	57	5	172	0	0	0	1	1	100	148	0	0	248	421
Total	2	0	0	5	7	0	575	241	13	829	0	0	0	3	3	516	672	0	0	1188	2027
Grand Total	2	0	0	21	23	0	2099	599	57	2755	0	0	0	9	9	1970	2505	0	2	4477	7264
Apprch %	8.7	0	0	91.3		0	76.2	21.7	2.1		0	0	0	100		44	56	0	0		
Total %	0	0	0	0.3	0.3	0	28.9	8.2	0.8	37.9	0	0	0	0.1	0.1	27.1	34.5	0	0	61.6	
Pass Cars	2	0	0	21	23	0	2044	557	56	2657	0	0	0	9	9	1928	2439	0	2	4369	7058
% Pass Cars	100	0	0	100	100	0	97.4	93	98.2	96.4	0	0	0	100	100	97.9	97.4	0	100	97.6	97.2
Trucks	0	0	0	0	0	0	55	42	1	98	0	0	0	0	0	42	66	0	0	108	206
% Trucks	0	0	0	0	0	0	2.6	7	1.8	3.6	0	0	0	0	0	2.1	2.6	0	0	2.4	2.8

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Client: K&H
Intersection Name: NW 81 ST &SBRMP/NW6CT
Opertaors Name: ED
Weather: Sunny

File Name : NW 81 St_SB Ramps_SB_WB-All
Site Code : 00000905
Start Date : 4/15/2015
Page No : 2

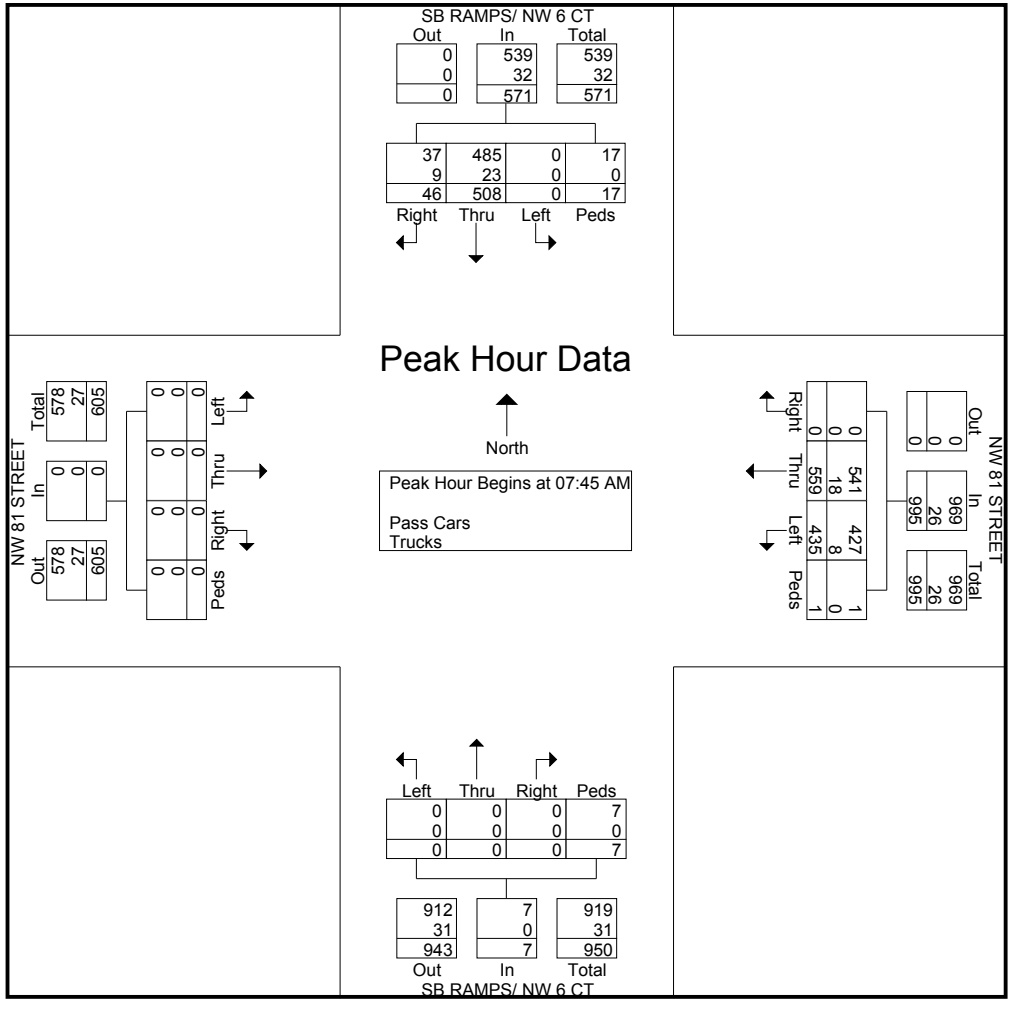
	SB RAMPS/ NW 6 CT Northbound					SB RAMPS/ NW 6 CT Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	**152**	9	**6**	**167**	0	0	0	0	0	96	122	0	0	218	385
08:00 AM	0	0	0	**5**	**5**	0	118	13	5	136	0	0	0	0	0	101	148	0	0	249	390
08:15 AM	0	0	0	1	1	0	136	9	3	148	0	0	0	0	0	**126**	135	0	**1**	262	**411**
08:30 AM	0	0	0	1	1	0	102	**15**	3	120	0	0	0	0	0	112	**154**	0	0	**266**	387
Total Volume	0	0	0	7	7	0	508	46	17	571	0	0	0	0	0	435	559	0	1	995	1573
% App. Total	0	0	0	100		0	89	8.1	3		0	0	0	0		43.7	56.2	0	0.1		
PHF	.000	.000	.000	.350	.350	.000	.836	.767	.708	.855	.000	.000	.000	.000	.000	.863	.907	.000	.250	.935	.957
Pass Cars	0	0	0	7	7	0	485	37	17	539	0	0	0	0	0	427	541	0	1	969	1515
% Pass Cars	0	0	0	100	100	0	95.5	80.4	100	94.4	0	0	0	0	0	98.2	96.8	0	100	97.4	96.3
Trucks	0	0	0	0	0	0	23	9	0	32	0	0	0	0	0	8	18	0	0	26	58
% Trucks	0	0	0	0	0	0	4.5	19.6	0	5.6	0	0	0	0	0	1.8	3.2	0	0	2.6	3.7

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Opertaors Name: ED
Weather: Sunny

File Name : NW 81 St_SB Ramps_SB_WB-All
Site Code : 00000905
Start Date : 4/15/2015
Page No : 3



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Opertaors Name: ED
Weather: Sunny

File Name : NW 81 St_SB Ramps_SB_WB-All
Site Code : 00000905
Start Date : 4/15/2015
Page No : 4

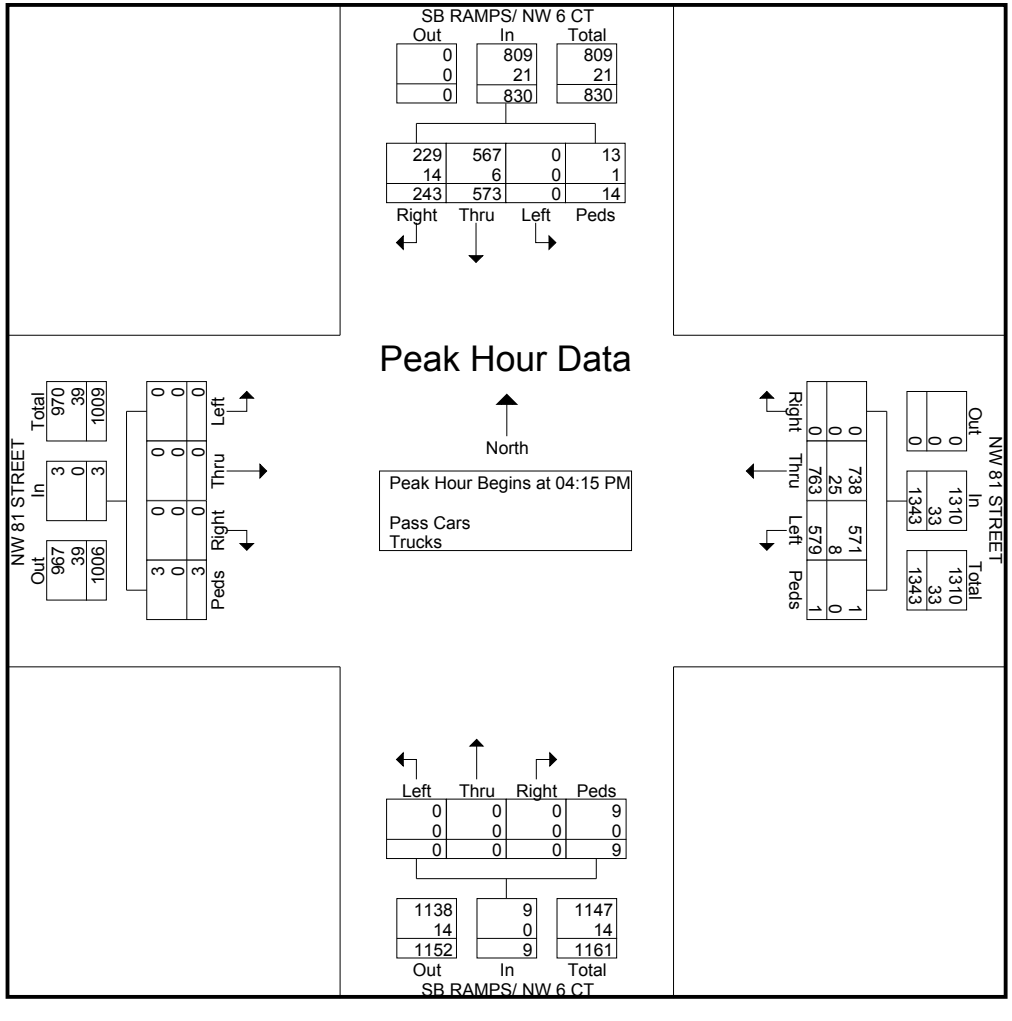
	SB RAMPS/ NW 6 CT Northbound					SB RAMPS/ NW 6 CT Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	3	3	0	139	**69**	3	**211**	0	0	0	0	0	143	186	0	**1**	330	544
04:30 PM	0	0	0	1	1	0	137	64	**4**	205	0	0	0	0	0	143	**201**	0	0	**344**	**550**
04:45 PM	0	0	0	0	0	0	**150**	52	3	205	0	0	0	**3**	**3**	**153**	180	0	0	333	541
05:00 PM	0	0	0	**5**	**5**	0	147	58	4	209	0	0	0	0	0	140	196	0	0	336	550
Total Volume	0	0	0	9	9	0	573	243	14	830	0	0	0	3	3	579	763	0	1	1343	2185
% App. Total	0	0	0	100		0	69	29.3	1.7		0	0	0	100		43.1	56.8	0	0.1		
PHF	.000	.000	.000	.450	.450	.000	.955	.880	.875	.983	.000	.000	.000	.250	.250	.946	.949	.000	.250	.976	.993
Pass Cars	0	0	0	9	9	0	567	229	13	809	0	0	0	3	3	571	738	0	1	1310	2131
% Pass Cars	0	0	0	100	100	0	99.0	94.2	92.9	97.5	0	0	0	100	100	98.6	96.7	0	100	97.5	97.5
Trucks	0	0	0	0	0	0	6	14	1	21	0	0	0	0	0	8	25	0	0	33	54
% Trucks	0	0	0	0	0	0	1.0	5.8	7.1	2.5	0	0	0	0	0	1.4	3.3	0	0	2.5	2.5

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Client: K&H
Intersection Name: NW 81 ST &SBRMP/NW6CT
Opertaors Name: ED
Weather: Sunny

File Name : NW 81 St_SB Ramps_SB_WB-All
Site Code : 00000905
Start Date : 4/15/2015
Page No : 5



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File Name : NW 81 St_SB Ramps_SB_WB-All
Site Code : 00000905
Start Date : 4/15/2015
Page No : 1

Groups Printed- Trucks

	SB RAMPS/ NW 6 CT Northbound					SB RAMPS/ NW 6 CT Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	6	4	0	10	0	0	0	0	0	2	1	0	0	3	13
07:15 AM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	4	1	0	0	5	10
07:30 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	1	1	0	0	2	9
07:45 AM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	2	3	0	0	5	11
Total	0	0	0	0	0	0	22	6	0	28	0	0	0	0	0	9	6	0	0	15	43
08:00 AM	0	0	0	0	0	0	8	3	0	11	0	0	0	0	0	1	6	0	0	7	18
08:15 AM	0	0	0	0	0	0	6	2	0	8	0	0	0	0	0	3	4	0	0	7	15
08:30 AM	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	2	5	0	0	7	14
08:45 AM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	5	6	0	0	11	17
Total	0	0	0	0	0	0	23	9	0	32	0	0	0	0	0	11	21	0	0	32	64
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	6	7	0	0	13	17
04:15 PM	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4	7	0	0	11	15
04:30 PM	0	0	0	0	0	0	2	5	0	7	0	0	0	0	0	2	5	0	0	7	14
04:45 PM	0	0	0	0	0	0	3	2	1	6	0	0	0	0	0	1	7	0	0	8	14
Total	0	0	0	0	0	0	6	14	1	21	0	0	0	0	0	13	26	0	0	39	60
05:00 PM	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	1	6	0	0	7	11
05:15 PM	0	0	0	0	0	0	1	5	0	6	0	0	0	0	0	0	5	0	0	5	11
05:30 PM	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	3	1	0	0	4	9
05:45 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	5	1	0	0	6	8
Total	0	0	0	0	0	0	4	13	0	17	0	0	0	0	0	9	13	0	0	22	39
Grand Total	0	0	0	0	0	0	55	42	1	98	0	0	0	0	0	42	66	0	0	108	206
Apprch %	0	0	0	0		0	56.1	42.9	1		0	0	0	0		38.9	61.1	0	0		
Total %	0	0	0	0	0	0	26.7	20.4	0.5	47.6	0	0	0	0	0	20.4	32	0	0	52.4	

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Client: K&H
Intersection Name: NW 81 ST&NB RMP/NW6AV
Opertaors Name:GH
Weather: Sunny

File Name : NW81 ST_NB RAMPS
Site Code : 00000906
Start Date : 4/17/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NB RAMPS/NW 6 AVE Northbound						NB RAMPS/NW 6 AVE Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	11	30	75	0	0	116	0	0	0	0	0	0	0	0	0	0	0	195	127	3	325	441
07:15 AM	10	44	94	0	0	148	0	0	0	0	0	0	0	0	0	0	0	215	129	3	347	495
07:30 AM	11	54	84	0	3	152	0	0	0	0	0	0	0	0	0	0	0	217	127	0	344	496
07:45 AM	10	38	92	0	2	142	0	0	0	0	0	0	0	0	0	0	0	236	159	0	395	537
Total	42	166	345	0	5	558	0	0	0	0	0	0	0	0	0	0	0	863	542	6	1411	1969
08:00 AM	13	53	80	0	1	147	0	0	0	1	1	0	0	0	0	0	0	205	155	0	360	508
08:15 AM	19	19	64	0	0	102	0	0	0	2	2	0	0	0	0	0	0	203	126	0	329	433
08:30 AM	15	57	107	0	3	182	0	0	0	1	1	0	0	0	0	0	0	297	210	0	507	690
08:45 AM	19	31	115	0	3	168	0	0	0	4	4	0	0	0	0	0	0	302	164	0	466	638
Total	66	160	366	0	7	599	0	0	0	8	8	0	0	0	0	0	0	1007	655	0	1662	2269
*** BREAK ***																						
04:00 PM	15	61	88	0	1	165	0	0	0	2	2	0	0	0	0	0	0	280	128	0	408	575
04:15 PM	16	39	80	0	4	139	0	0	0	0	0	0	0	0	0	0	0	311	124	0	435	574
04:30 PM	9	51	88	0	6	154	0	0	0	5	5	0	0	0	0	0	0	307	125	0	432	591
04:45 PM	3	50	96	0	1	150	0	0	0	2	2	0	0	0	0	0	0	314	118	1	433	585
Total	43	201	352	0	12	608	0	0	0	9	9	0	0	0	0	0	0	1212	495	1	1708	2325
05:00 PM	15	48	89	0	3	155	0	0	0	5	5	0	0	0	0	0	0	276	98	0	374	534
05:15 PM	5	28	69	0	1	103	0	0	0	6	6	0	0	0	0	0	0	270	82	4	356	465
05:30 PM	2	28	99	0	3	132	0	0	0	4	4	0	0	0	0	0	0	219	90	1	310	446
05:45 PM	2	33	99	0	1	135	0	0	0	1	1	0	0	0	0	0	0	239	111	0	350	486
Total	24	137	356	0	8	525	0	0	0	16	16	0	0	0	0	0	0	1004	381	5	1390	1931
Grand Total	175	664	1419	0	32	2290	0	0	0	33	33	0	0	0	0	0	0	4086	2073	12	6171	8494
Apprch %	7.6	29	62	0	1.4		0	0	0	100		0	0	0	0		0	66.2	33.6	0.2		
Total %	2.1	7.8	16.7	0	0.4	27	0	0	0	0.4	0.4	0	0	0	0	0	0	48.1	24.4	0.1	72.7	
Pass Cars	172	627	1285	0	32	2116	0	0	0	33	33	0	0	0	0	0	0	3952	2029	12	5993	8142
% Pass Cars	98.3	94.4	90.6	0	100	92.4	0	0	0	100	100	0	0	0	0	0	0	96.7	97.9	100	97.1	95.9
Trucks	3	37	134	0	0	174	0	0	0	0	0	0	0	0	0	0	0	134	44	0	178	352
% Trucks	1.7	5.6	9.4	0	0	7.6	0	0	0	0	0	0	0	0	0	0	0	3.3	2.1	0	2.9	4.1

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Opertaors Name:GH
Weather: Sunny

File Name : NW81 ST_NB RAMPS
Site Code : 00000906
Start Date : 4/17/2015
Page No : 2

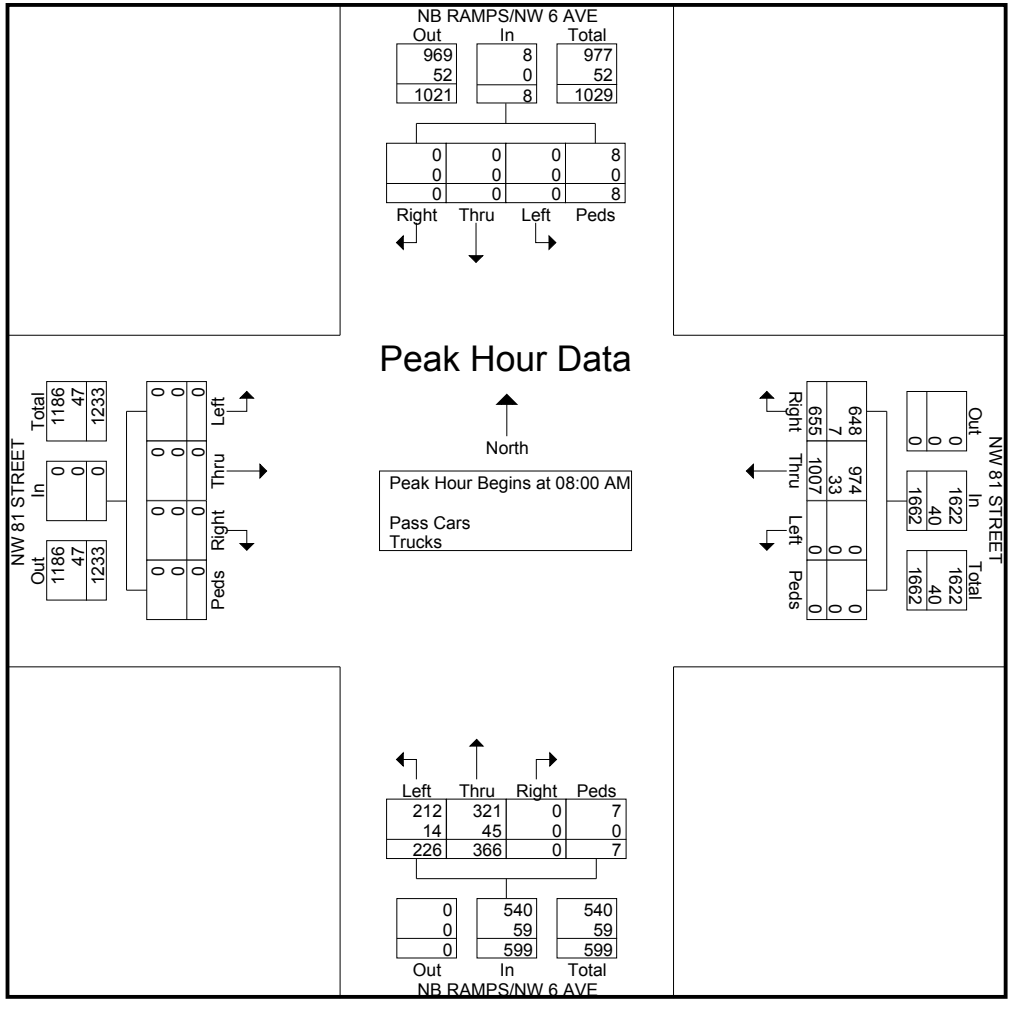
	NB RAMPS/NW 6 AVE Northbound						NB RAMPS/NW 6 AVE Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 08:00 AM																						
08:00 AM	13	53	80	0	1	147	0	0	0	1	1	0	0	0	0	0	0	205	155	0	360	508
08:15 AM	**19**	19	64	0	0	102	0	0	0	2	2	0	0	0	0	0	0	203	126	0	329	433
08:30 AM	15	**57**	107	0	**3**	**182**	0	0	0	1	1	0	0	0	0	0	0	297	**210**	0	**507**	**690**
08:45 AM	19	31	**115**	0	3	168	0	0	0	**4**	**4**	0	0	0	0	0	0	**302**	164	0	466	638
Total Volume	66	160	366	0	7	599	0	0	0	8	8	0	0	0	0	0	0	1007	655	0	1662	2269
% App. Total	11	26.7	61.1	0	1.2		0	0	0	100		0	0	0	0		0	60.6	39.4	0		
PHF	.868	.702	.796	.000	.583	.823	.000	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.834	.780	.000	.820	.822
Pass Cars	65	147	321	0	7	540	0	0	0	8	8	0	0	0	0	0	0	974	648	0	1622	2170
% Pass Cars	98.5	91.9	87.7	0	100	90.2	0	0	0	100	100	0	0	0	0	0	0	96.7	98.9	0	97.6	95.6
Trucks	1	13	45	0	0	59	0	0	0	0	0	0	0	0	0	0	0	33	7	0	40	99
% Trucks	1.5	8.1	12.3	0	0	9.8	0	0	0	0	0	0	0	0	0	0	0	3.3	1.1	0	2.4	4.4

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Client: K&H
Intersection Name: NW 81 ST&NB RMP/NW6AV
Opertaors Name:GH
Weather: Sunny

File Name : NW81 ST_NB RAMPS
Site Code : 00000906
Start Date : 4/17/2015
Page No : 3



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File Name : NW81 ST_NB RAMPS
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Start Date : 4/17/2015
Page No : 4

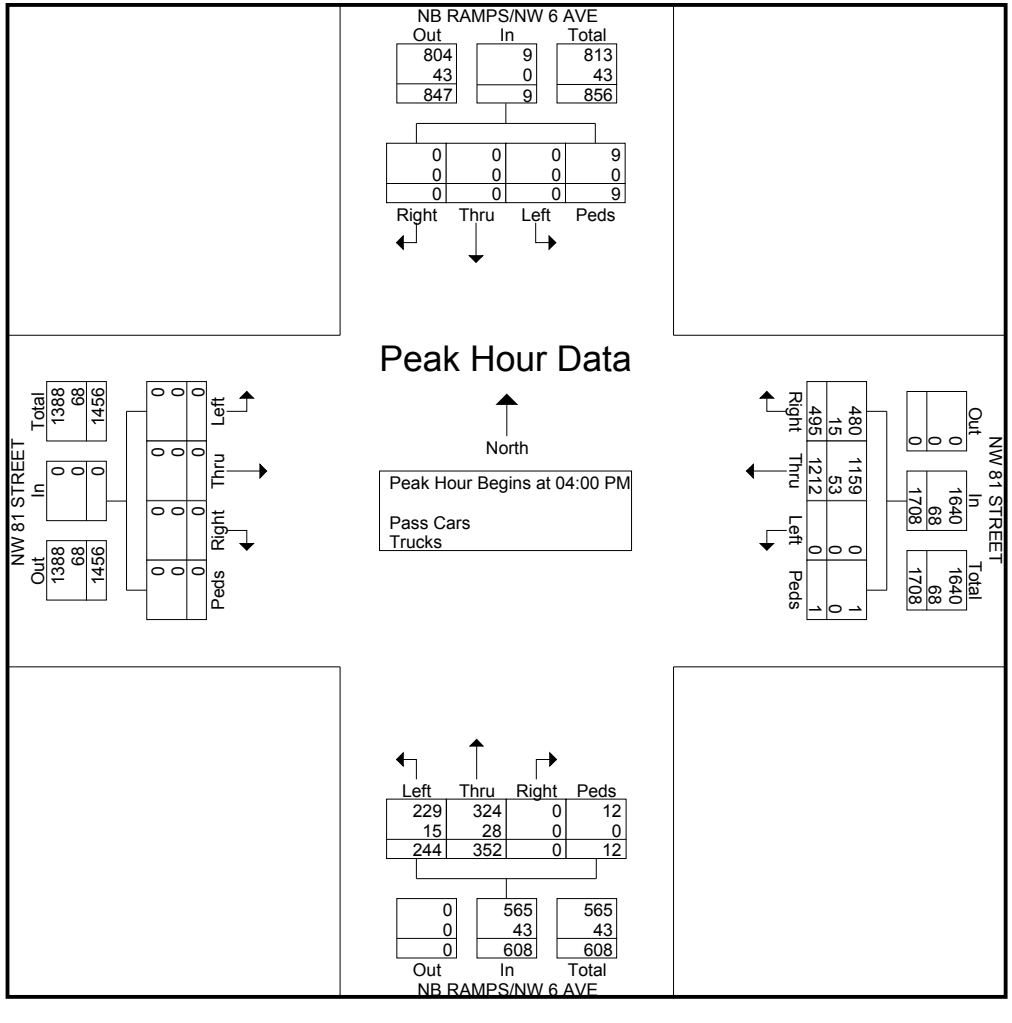
	NB RAMPS/NW 6 AVE Northbound						NB RAMPS/NW 6 AVE Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	15	**61**	88	0	1	**165**	0	0	0	2	2	0	0	0	0	0	0	280	**128**	0	408	575
04:15 PM	**16**	39	80	0	4	139	0	0	0	0	0	0	0	0	0	0	0	311	124	0	**435**	574
04:30 PM	9	51	88	0	**6**	154	0	0	0	**5**	**5**	0	0	0	0	0	0	307	125	0	432	**591**
04:45 PM	3	50	**96**	0	1	150	0	0	0	2	2	0	0	0	0	0	0	**314**	118	**1**	433	585
Total Volume	43	201	352	0	12	608	0	0	0	9	9	0	0	0	0	0	0	1212	495	1	1708	2325
% App. Total	7.1	33.1	57.9	0	2		0	0	0	100		0	0	0	0		0	71	29	0.1		
PHF	.672	.824	.917	.000	.500	.921	.000	.000	.000	.450	.450	.000	.000	.000	.000	.000	.000	.965	.967	.250	.982	.984
Pass Cars	41	188	324	0	12	565	0	0	0	9	9	0	0	0	0	0	0	1159	480	1	1640	2214
% Pass Cars	95.3	93.5	92.0	0	100	92.9	0	0	0	100	100	0	0	0	0	0	0	95.6	97.0	100	96.0	95.2
Trucks	2	13	28	0	0	43	0	0	0	0	0	0	0	0	0	0	0	53	15	0	68	111
% Trucks	4.7	6.5	8.0	0	0	7.1	0	0	0	0	0	0	0	0	0	0	0	4.4	3.0	0	4.0	4.8

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Opertaors Name:GH
Weather: Sunny

File Name : NW81 ST_NB RAMPS
Site Code : 00000906
Start Date : 4/17/2015
Page No : 5



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File Name : NW81 ST_NB RAMPS
Site Code : 00000906
Start Date : 4/17/2015
Page No : 1

Groups Printed- Trucks

	NB RAMPS/NW 6 AVE Northbound						NB RAMPS/NW 6 AVE Southbound					NW 81 STREET Eastbound					NW 81 STREET Westbound					
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	5	3	0	8	19
07:15 AM	0	3	6	0	0	9	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	14
07:30 AM	0	3	10	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	14
07:45 AM	0	1	11	0	0	12	0	0	0	0	0	0	0	0	0	0	0	3	5	0	8	20
Total	0	7	38	0	0	45	0	0	0	0	0	0	0	0	0	0	0	13	9	0	22	67
08:00 AM	0	3	8	0	0	11	0	0	0	0	0	0	0	0	0	0	0	6	1	0	7	18
08:15 AM	0	2	8	0	0	10	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	18
08:30 AM	0	3	10	0	0	13	0	0	0	0	0	0	0	0	0	0	0	7	4	0	11	24
08:45 AM	1	5	19	0	0	25	0	0	0	0	0	0	0	0	0	0	0	13	1	0	14	39
Total	1	13	45	0	0	59	0	0	0	0	0	0	0	0	0	0	0	33	7	0	40	99
*** BREAK ***																						
04:00 PM	1	3	7	0	0	11	0	0	0	0	0	0	0	0	0	0	0	11	3	0	14	25
04:15 PM	0	2	8	0	0	10	0	0	0	0	0	0	0	0	0	0	0	13	4	0	17	27
04:30 PM	1	3	11	0	0	15	0	0	0	0	0	0	0	0	0	0	0	16	4	0	20	35
04:45 PM	0	5	2	0	0	7	0	0	0	0	0	0	0	0	0	0	0	13	4	0	17	24
Total	2	13	28	0	0	43	0	0	0	0	0	0	0	0	0	0	0	53	15	0	68	111
05:00 PM	0	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0	0	13	4	0	17	24
05:15 PM	0	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	15
05:30 PM	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	5	0	12	19
05:45 PM	0	1	7	0	0	8	0	0	0	0	0	0	0	0	0	0	0	6	3	0	9	17
Total	0	4	23	0	0	27	0	0	0	0	0	0	0	0	0	0	0	35	13	0	48	75
Grand Total	3	37	134	0	0	174	0	0	0	0	0	0	0	0	0	0	0	134	44	0	178	352
Apprch %	1.7	21.3	77	0	0		0	0	0	0		0	0	0	0		0	75.3	24.7	0		
Total %	0.9	10.5	38.1	0	0	49.4	0	0	0	0	0	0	0	0	0	0	0	38.1	12.5	0	50.6	

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Client: K&H
Intersection Name: NW 95 ST &SR-7
Opertaors Name: PQ & MR
Weather: Sunny

File Name : NW95ST_SR7
Site Code : 00001001
Start Date : 4/16/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SR-7 Northbound					SR-7 Southbound					NW 95 STREET Eastbound					NW 95 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	18	80	31	1	130	41	300	16	1	358	16	110	17	3	146	60	94	15	1	170	804
07:15 AM	20	91	44	11	166	90	351	24	3	468	25	164	17	2	208	48	82	17	0	147	989
07:30 AM	11	104	35	5	155	71	392	20	2	485	17	157	16	2	192	47	80	20	3	150	982
07:45 AM	20	97	44	3	164	107	386	22	6	521	27	163	12	5	207	56	92	20	2	170	1062
Total	69	372	154	20	615	309	1429	82	12	1832	85	594	62	12	753	211	348	72	6	637	3837
08:00 AM	15	163	49	0	227	62	395	13	2	472	18	143	18	0	179	64	105	16	1	186	1064
08:15 AM	23	126	45	0	194	66	320	19	2	407	31	134	27	5	197	37	115	18	1	171	969
08:30 AM	23	111	57	5	196	72	264	14	2	352	13	142	26	6	187	58	102	30	1	191	926
08:45 AM	19	120	46	2	187	69	336	19	1	425	31	145	22	2	200	49	102	30	0	181	993
Total	80	520	197	7	804	269	1315	65	7	1656	93	564	93	13	763	208	424	94	3	729	3952
*** BREAK ***																					
04:00 PM	19	286	63	0	368	39	150	17	6	212	25	118	25	5	173	37	118	31	0	186	939
04:15 PM	31	325	68	5	429	39	154	15	0	208	35	116	31	3	185	40	102	38	0	180	1002
04:30 PM	39	363	66	0	468	41	131	10	0	182	34	140	24	8	206	42	100	48	0	190	1046
04:45 PM	30	342	59	0	431	35	141	12	1	189	40	110	34	7	191	41	120	44	0	205	1016
Total	119	1316	256	5	1696	154	576	54	7	791	134	484	114	23	755	160	440	161	0	761	4003
05:00 PM	40	357	56	6	459	44	143	14	3	204	32	150	26	2	210	43	101	35	0	179	1052
05:15 PM	32	382	43	2	459	36	159	14	5	214	37	122	24	6	189	36	92	32	0	160	1022
05:30 PM	35	381	47	1	464	37	155	25	2	219	38	134	21	4	197	42	99	31	0	172	1052
05:45 PM	30	371	60	2	463	46	153	17	3	219	34	119	21	4	178	37	114	29	0	180	1040
Total	137	1491	206	11	1845	163	610	70	13	856	141	525	92	16	774	158	406	127	0	691	4166
Grand Total	405	3699	813	43	4960	895	3930	271	39	5135	453	2167	361	64	3045	737	1618	454	9	2818	15958
Apprch %	8.2	74.6	16.4	0.9		17.4	76.5	5.3	0.8		14.9	71.2	11.9	2.1		26.2	57.4	16.1	0.3		
Total %	2.5	23.2	5.1	0.3	31.1	5.6	24.6	1.7	0.2	32.2	2.8	13.6	2.3	0.4	19.1	4.6	10.1	2.8	0.1	17.7	
Pass Cars	404	3668	801	43	4916	875	3841	268	39	5023	451	2155	360	64	3030	723	1568	445	9	2745	15714
% Pass Cars	99.8	99.2	98.5	100	99.1	97.8	97.7	98.9	100	97.8	99.6	99.4	99.7	100	99.5	98.1	96.9	98	100	97.4	98.5
Trucks	1	31	12	0	44	20	89	3	0	112	2	12	1	0	15	14	50	9	0	73	244
% Trucks	0.2	0.8	1.5	0	0.9	2.2	2.3	1.1	0	2.2	0.4	0.6	0.3	0	0.5	1.9	3.1	2	0	2.6	1.5

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Client: K&H
Intersection Name: NW 95 ST &SR-7
Opertaors Name: PQ & MR
Weather: Sunny

File Name : NW95ST_SR7
Site Code : 00001001
Start Date : 4/16/2015
Page No : 2

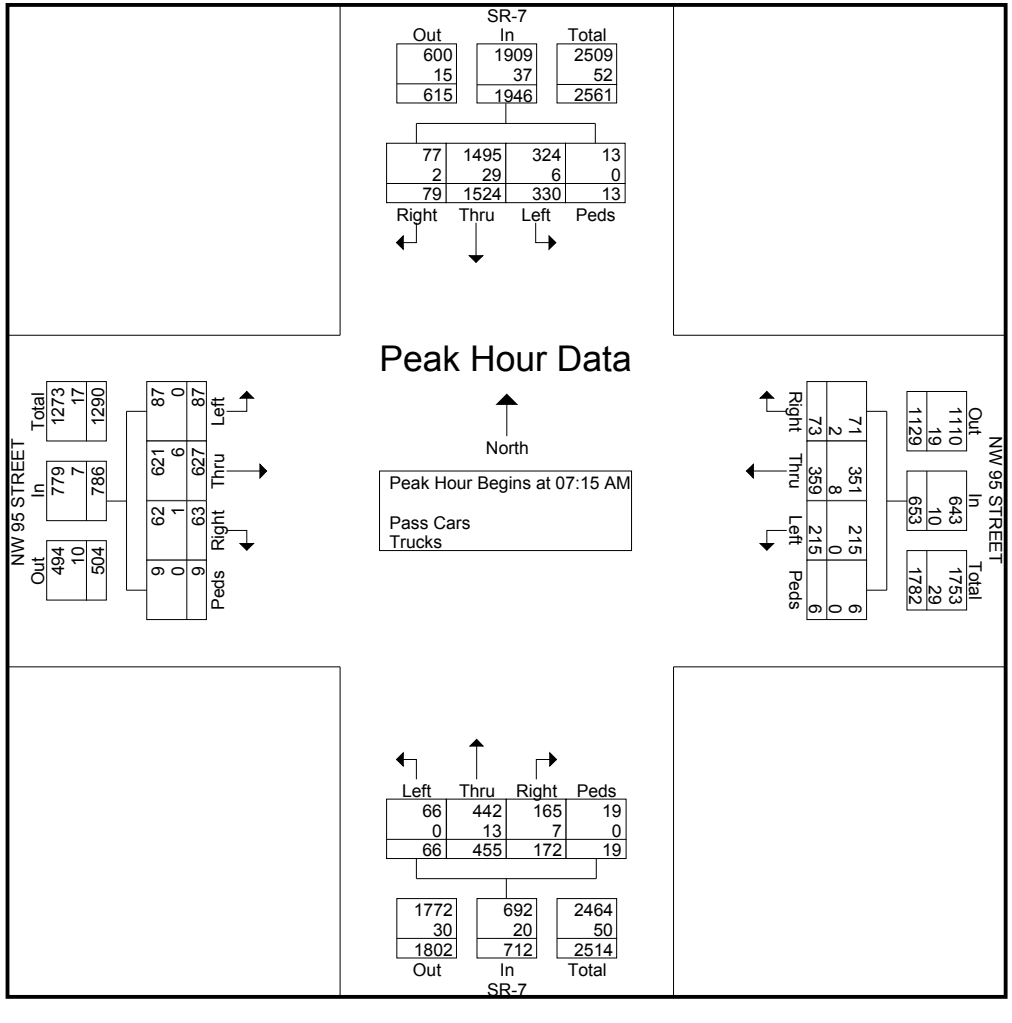
	SR-7 Northbound					SR-7 Southbound					NW 95 STREET Eastbound					NW 95 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**20**	91	44	**11**	166	90	351	**24**	3	468	25	**164**	17	2	**208**	48	82	17	0	147	989
07:30 AM	11	104	35	5	155	71	392	20	2	485	17	157	16	2	192	47	80	**20**	**3**	150	982
07:45 AM	20	97	44	3	164	**107**	386	22	**6**	**521**	**27**	163	12	**5**	207	56	92	20	2	170	1062
08:00 AM	15	**163**	**49**	0	**227**	62	**395**	13	2	472	18	143	**18**	0	179	**64**	**105**	16	1	**186**	**1064**
Total Volume	66	455	172	19	712	330	1524	79	13	1946	87	627	63	9	786	215	359	73	6	653	4097
% App. Total	9.3	63.9	24.2	2.7		17	78.3	4.1	0.7		11.1	79.8	8	1.1		32.9	55	11.2	0.9		
PHF	.825	.698	.878	.432	.784	.771	.965	.823	.542	.934	.806	.956	.875	.450	.945	.840	.855	.913	.500	.878	.963
Pass Cars	66	442	165	19	692	324	1495	77	13	1909	87	621	62	9	779	215	351	71	6	643	4023
% Pass Cars	100	97.1	95.9	100	97.2	98.2	98.1	97.5	100	98.1	100	99.0	98.4	100	99.1	100	97.8	97.3	100	98.5	98.2
Trucks	0	13	7	0	20	6	29	2	0	37	0	6	1	0	7	0	8	2	0	10	74
% Trucks	0	2.9	4.1	0	2.8	1.8	1.9	2.5	0	1.9	0	1.0	1.6	0	0.9	0	2.2	2.7	0	1.5	1.8

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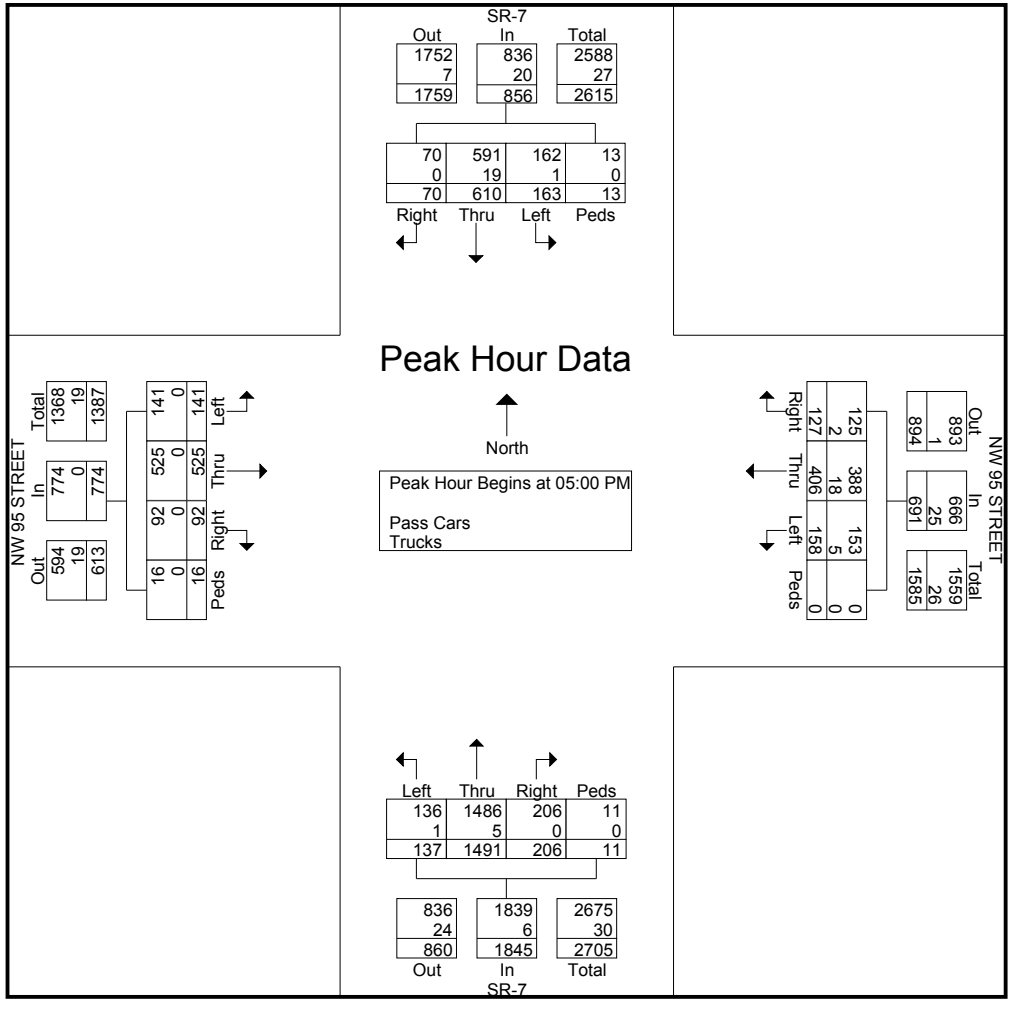
	SR-7 Northbound					SR-7 Southbound					NW 95 STREET Eastbound					NW 95 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**40**	357	56	**6**	459	44	143	14	3	204	32	**150**	**26**	2	**210**	**43**	101	**35**	0	179	**1052**
05:15 PM	32	**382**	43	2	459	36	**159**	14	**5**	214	37	122	24	**6**	189	36	92	32	0	160	1022
05:30 PM	35	381	47	1	**464**	37	155	**25**	2	**219**	**38**	134	21	4	197	42	99	31	0	172	1052
05:45 PM	30	371	**60**	2	463	**46**	153	17	3	219	34	119	21	4	178	37	**114**	29	0	**180**	1040
Total Volume	137	1491	206	11	1845	163	610	70	13	856	141	525	92	16	774	158	406	127	0	691	4166
% App. Total	7.4	80.8	11.2	0.6		19	71.3	8.2	1.5		18.2	67.8	11.9	2.1		22.9	58.8	18.4	0		
PHF	.856	.976	.858	.458	.994	.886	.959	.700	.650	.977	.928	.875	.885	.667	.921	.919	.890	.907	.000	.960	.990
Pass Cars	136	1486	206	11	1839	162	591	70	13	836	141	525	92	16	774	153	388	125	0	666	4115
% Pass Cars	99.3	99.7	100	100	99.7	99.4	96.9	100	100	97.7	100	100	100	100	100	96.8	95.6	98.4	0	96.4	98.8
Trucks	1	5	0	0	6	1	19	0	0	20	0	0	0	0	0	5	18	2	0	25	51
% Trucks	0.7	0.3	0	0	0.3	0.6	3.1	0	0	2.3	0	0	0	0	0	3.2	4.4	1.6	0	3.6	1.2

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Opertaors Name: PQ & MR
Weather: Sunny

File Name : NW95ST_SR7
Site Code : 00001001
Start Date : 4/16/2015
Page No : 5



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File Name : NW95ST_SR7
Site Code : 00001001
Start Date : 4/16/2015
Page No : 1

Groups Printed- Trucks

	SR-7 Northbound					SR-7 Southbound					NW 95 STREET Eastbound					NW 95 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	7	0	0	7	0	3	0	0	3	1	4	0	0	5	0	0	1	0	1	16
07:15 AM	0	2	2	0	4	2	3	2	0	7	0	2	0	0	2	0	1	0	0	1	14
07:30 AM	0	5	1	0	6	1	9	0	0	10	0	2	1	0	3	0	2	1	0	3	22
07:45 AM	0	2	3	0	5	1	6	0	0	7	0	2	0	0	2	0	2	0	0	2	16
Total	0	16	6	0	22	4	21	2	0	27	1	10	1	0	12	0	5	2	0	7	68
08:00 AM	0	4	1	0	5	2	11	0	0	13	0	0	0	0	0	0	3	1	0	4	22
08:15 AM	0	2	0	0	2	0	3	0	0	3	0	1	0	0	1	0	3	1	0	4	10
08:30 AM	0	2	1	0	3	3	8	0	0	11	1	0	0	0	1	0	0	0	0	0	15
08:45 AM	0	1	3	0	4	4	12	1	0	17	0	0	0	0	0	1	1	0	0	2	23
Total	0	9	5	0	14	9	34	1	0	44	1	1	0	0	2	1	7	2	0	10	70
*** BREAK ***																					
04:00 PM	0	1	0	0	1	2	4	0	0	6	0	1	0	0	1	3	9	1	0	13	21
04:15 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	2	2	2	0	6	10
04:30 PM	0	0	1	0	1	3	4	0	0	7	0	0	0	0	0	1	6	0	0	7	15
04:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	2	3	0	0	5	9
Total	0	1	1	0	2	6	15	0	0	21	0	1	0	0	1	8	20	3	0	31	55
05:00 PM	1	2	0	0	3	0	4	0	0	4	0	0	0	0	0	2	5	1	0	8	15
05:15 PM	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	1	6	1	0	8	16
05:30 PM	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	1	4	0	0	5	11
05:45 PM	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	1	3	0	0	4	9
Total	1	5	0	0	6	1	19	0	0	20	0	0	0	0	0	5	18	2	0	25	51
Grand Total	1	31	12	0	44	20	89	3	0	112	2	12	1	0	15	14	50	9	0	73	244
Apprch %	2.3	70.5	27.3	0		17.9	79.5	2.7	0		13.3	80	6.7	0		19.2	68.5	12.3	0		
Total %	0.4	12.7	4.9	0	18	8.2	36.5	1.2	0	45.9	0.8	4.9	0.4	0	6.1	5.7	20.5	3.7	0	29.9	

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Client: K&H
Intersection Name: NW 95 ST&SB RAMPS
Opertaors Name: MA
Weather: Sunny

File Name : NW 95 ST_SB Ramps
Site Code : 00001002
Start Date : 4/16/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SB RAMPS Northbound					SB RAMPS Southbound					NW 95 STREET Eastbound					NW 95 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	27	3	53	1	84	0	158	51	0	209	71	123	0	0	194	487
07:15 AM	0	0	0	0	0	22	5	37	1	65	0	198	93	0	291	89	119	0	0	208	564
07:30 AM	0	0	0	0	0	14	10	29	5	58	0	198	92	0	290	106	141	0	0	247	595
07:45 AM	0	0	0	0	0	24	4	35	10	73	0	209	102	1	312	121	131	0	0	252	637
Total	0	0	0	0	0	87	22	154	17	280	0	763	338	1	1102	387	514	0	0	901	2283
08:00 AM	0	0	0	0	0	20	6	24	7	57	0	211	80	4	295	116	148	0	0	264	616
08:15 AM	0	0	0	0	0	16	3	30	5	54	1	198	76	0	275	104	140	0	0	244	573
08:30 AM	0	0	0	0	0	32	5	45	6	88	0	217	69	0	286	97	149	0	0	246	620
08:45 AM	0	0	0	0	0	25	4	54	9	92	0	221	50	0	271	86	139	0	0	225	588
Total	0	0	0	0	0	93	18	153	27	291	1	847	275	4	1127	403	576	0	0	979	2397
*** BREAK ***																					
04:00 PM	0	0	0	0	0	32	1	78	17	128	0	193	46	0	239	86	128	0	0	214	581
04:15 PM	0	0	0	0	0	50	0	60	3	113	0	195	49	0	244	72	140	0	0	212	569
04:30 PM	0	0	0	0	0	39	1	68	14	122	0	225	56	0	281	58	121	0	0	179	582
04:45 PM	0	0	0	0	0	38	0	92	9	139	0	204	31	0	235	68	118	0	0	186	560
Total	0	0	0	0	0	159	2	298	43	502	0	817	182	0	999	284	507	0	0	791	2292
05:00 PM	0	0	0	0	0	44	0	72	6	122	0	212	56	0	268	67	114	0	0	181	571
05:15 PM	0	0	0	0	0	48	0	75	9	132	0	196	38	0	234	87	101	0	0	188	554
05:30 PM	0	0	0	0	0	47	0	80	7	134	0	202	49	0	251	53	107	0	0	160	545
05:45 PM	0	0	0	0	0	61	2	67	6	136	0	197	44	0	241	65	107	0	0	172	549
Total	0	0	0	0	0	200	2	294	28	524	0	807	187	0	994	272	429	0	0	701	2219
Grand Total	0	0	0	0	0	539	44	899	115	1597	1	3234	982	5	4222	1346	2026	0	0	3372	9191
Apprch %	0	0	0	0		33.8	2.8	56.3	7.2		0	76.6	23.3	0.1		39.9	60.1	0	0		
Total %	0	0	0	0	0	5.9	0.5	9.8	1.3	17.4	0	35.2	10.7	0.1	45.9	14.6	22	0	0	36.7	
Pass Cars	0	0	0	0	0	523	43	859	114	1539	1	3133	962	5	4101	1324	1967	0	0	3291	8931
% Pass Cars	0	0	0	0	0	97	97.7	95.6	99.1	96.4	100	96.9	98	100	97.1	98.4	97.1	0	0	97.6	97.2
Trucks	0	0	0	0	0	16	1	40	1	58	0	101	20	0	121	22	59	0	0	81	260
% Trucks	0	0	0	0	0	3	2.3	4.4	0.9	3.6	0	3.1	2	0	2.9	1.6	2.9	0	0	2.4	2.8

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Client: K&H
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Opertaors Name: MA
Weather: Sunny

File Name : NW 95 ST_SB Ramps
Site Code : 00001002
Start Date : 4/16/2015
Page No : 2

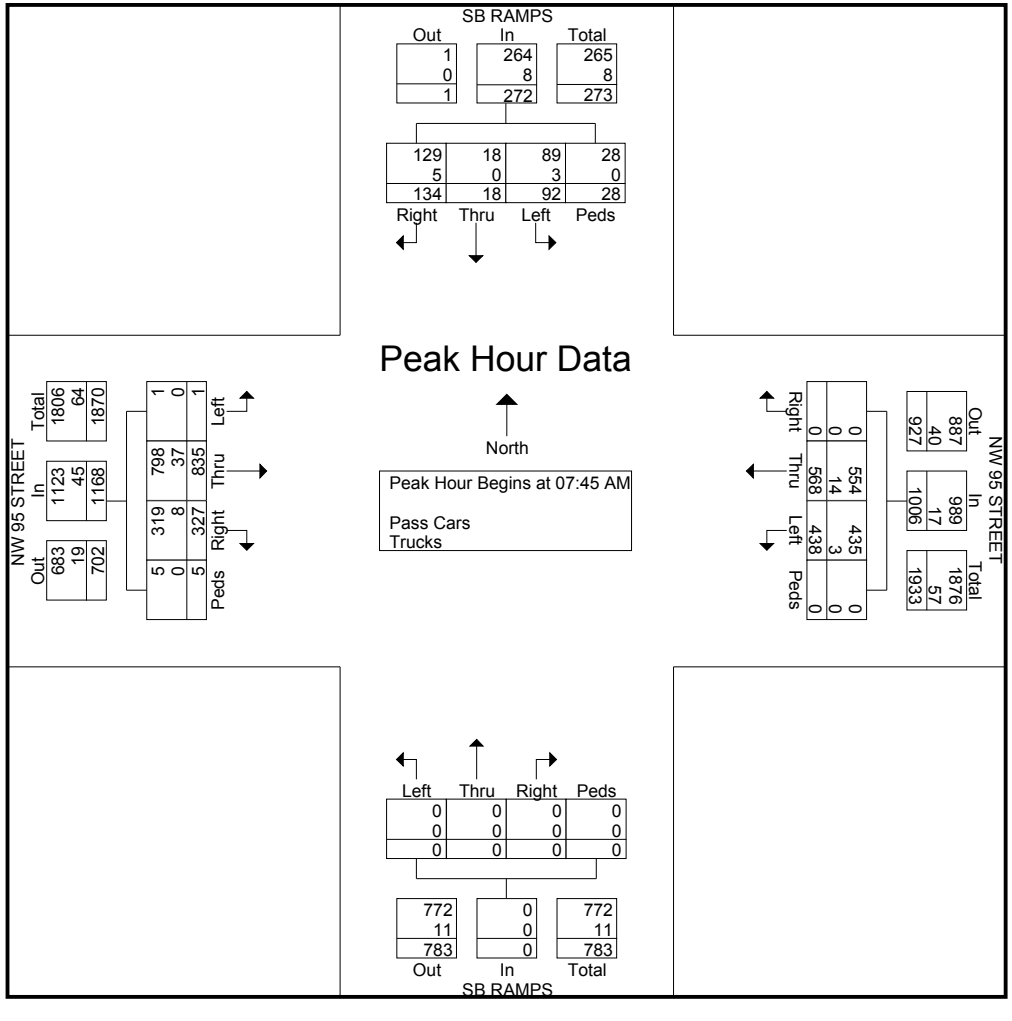
	SB RAMPS Northbound					SB RAMPS Southbound					NW 95 STREET Eastbound					NW 95 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	24	4	35	**10**	73	0	209	**102**	1	**312**	**121**	131	0	0	252	**637**
08:00 AM	0	0	0	0	0	20	**6**	24	7	57	0	211	80	**4**	295	116	148	0	0	**264**	616
08:15 AM	0	0	0	0	0	16	3	30	5	54	**1**	198	76	0	275	104	140	0	0	244	573
08:30 AM	0	0	0	0	0	**32**	5	**45**	6	**88**	0	**217**	69	0	286	97	**149**	0	0	246	620
Total Volume	0	0	0	0	0	92	18	134	28	272	1	835	327	5	1168	438	568	0	0	1006	2446
% App. Total	0	0	0	0		33.8	6.6	49.3	10.3		0.1	71.5	28	0.4		43.5	56.5	0	0		
PHF	.000	.000	.000	.000	.000	.719	.750	.744	.700	.773	.250	.962	.801	.313	.936	.905	.953	.000	.000	.953	.960
Pass Cars	0	0	0	0	0	89	18	129	28	264	1	798	319	5	1123	435	554	0	0	989	2376
% Pass Cars	0	0	0	0	0	96.7	100	96.3	100	97.1	100	95.6	97.6	100	96.1	99.3	97.5	0	0	98.3	97.1
Trucks	0	0	0	0	0	3	0	5	0	8	0	37	8	0	45	3	14	0	0	17	70
% Trucks	0	0	0	0	0	3.3	0	3.7	0	2.9	0	4.4	2.4	0	3.9	0.7	2.5	0	0	1.7	2.9

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File Name : NW 95 ST_SB Ramps
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File Name : NW 95 ST_SB Ramps
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Start Date : 4/16/2015
Page No : 4

	SB RAMPS Northbound					SB RAMPS Southbound					NW 95 STREET Eastbound					NW 95 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	32	**1**	78	**17**	128	0	193	46	0	239	**86**	128	0	0	**214**	581
04:15 PM	0	0	0	0	0	**50**	0	60	3	113	0	195	49	0	244	72	**140**	0	0	212	569
04:30 PM	0	0	0	0	0	39	1	68	14	122	0	**225**	**56**	0	**281**	58	121	0	0	179	**582**
04:45 PM	0	0	0	0	0	38	0	**92**	9	**139**	0	204	31	0	235	68	118	0	0	186	560
Total Volume	0	0	0	0	0	159	2	298	43	502	0	817	182	0	999	284	507	0	0	791	2292
% App. Total	0	0	0	0		31.7	0.4	59.4	8.6		0	81.8	18.2	0		35.9	64.1	0	0		
PHF	.000	.000	.000	.000	.000	.795	.500	.810	.632	.903	.000	.908	.813	.000	.889	.826	.905	.000	.000	.924	.985
Pass Cars	0	0	0	0	0	152	2	283	43	480	0	801	175	0	976	271	488	0	0	759	2215
% Pass Cars	0	0	0	0	0	95.6	100	95.0	100	95.6	0	98.0	96.2	0	97.7	95.4	96.3	0	0	96.0	96.6
Trucks	0	0	0	0	0	7	0	15	0	22	0	16	7	0	23	13	19	0	0	32	77
% Trucks	0	0	0	0	0	4.4	0	5.0	0	4.4	0	2.0	3.8	0	2.3	4.6	3.7	0	0	4.0	3.4

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File Name : NW 95 ST_SB Ramps
Site Code : 00001002
Start Date : 4/16/2015
Page No : 1

Groups Printed- Trucks

	SB RAMPS Northbound					SB RAMPS Southbound					NW 95 STREET Eastbound					NW 95 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	2	0	8	0	0	8	0	3	0	0	3	13
07:15 AM	0	0	0	0	0	1	0	1	0	2	0	9	1	0	10	1	3	0	0	4	16
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	7	0	0	7	1	6	0	0	7	15
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	9	2	0	11	0	3	0	0	3	15
Total	0	0	0	0	0	2	1	3	0	6	0	33	3	0	36	2	15	0	0	17	59
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	11	0	0	11	1	5	0	0	6	18
08:15 AM	0	0	0	0	0	1	0	2	0	3	0	7	2	0	9	1	4	0	0	5	17
08:30 AM	0	0	0	0	0	1	0	2	0	3	0	10	4	0	14	1	2	0	0	3	20
08:45 AM	0	0	0	0	0	2	0	2	0	4	0	11	2	0	13	0	2	0	0	2	19
Total	0	0	0	0	0	5	0	6	0	11	0	39	8	0	47	3	13	0	0	16	74
*** BREAK ***																					
04:00 PM	0	0	0	0	0	4	0	9	0	13	0	2	4	0	6	2	4	0	0	6	25
04:15 PM	0	0	0	0	0	3	0	0	0	3	0	5	0	0	5	4	9	0	0	13	21
04:30 PM	0	0	0	0	0	0	0	3	0	3	0	6	2	0	8	6	3	0	0	9	20
04:45 PM	0	0	0	0	0	0	0	3	0	3	0	3	1	0	4	1	3	0	0	4	11
Total	0	0	0	0	0	7	0	15	0	22	0	16	7	0	23	13	19	0	0	32	77
05:00 PM	0	0	0	0	0	0	0	4	0	4	0	3	0	0	3	2	4	0	0	6	13
05:15 PM	0	0	0	0	0	0	0	6	0	6	0	3	1	0	4	0	2	0	0	2	12
05:30 PM	0	0	0	0	0	0	0	4	1	5	0	4	0	0	4	0	3	0	0	3	12
05:45 PM	0	0	0	0	0	2	0	2	0	4	0	3	1	0	4	2	3	0	0	5	13
Total	0	0	0	0	0	2	0	16	1	19	0	13	2	0	15	4	12	0	0	16	50
Grand Total	0	0	0	0	0	16	1	40	1	58	0	101	20	0	121	22	59	0	0	81	260
Apprch %	0	0	0	0		27.6	1.7	69	1.7		0	83.5	16.5	0		27.2	72.8	0	0		
Total %	0	0	0	0	0	6.2	0.4	15.4	0.4	22.3	0	38.8	7.7	0	46.5	8.5	22.7	0	0	31.2	

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Client: K&H
Intersection Name:NW 95 ST_NB RAMPS
Opertaors Name: MS & CV
Weather: Sunny

File Name : NW95 ST_NB Ramps
Site Code : 00001003
Start Date : 4/16/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 95 STREET Northbound					NW 95 STREET Southbound					NB RAMPS Eastbound					NB RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	47	14	34	0	95	0	0	0	0	0	114	84	0	0	198	0	154	28	1	183	476
07:15 AM	48	8	47	0	103	0	0	0	0	0	113	117	0	0	230	0	171	29	1	201	534
07:30 AM	53	11	78	0	142	0	0	0	0	0	118	109	0	0	227	0	169	35	0	204	573
07:45 AM	38	8	69	0	115	0	0	0	0	0	110	141	0	0	251	0	200	40	1	241	607
Total	186	41	228	0	455	0	0	0	0	0	455	451	0	0	906	0	694	132	3	829	2190
08:00 AM	41	11	73	0	125	0	0	0	0	0	112	136	0	0	248	0	219	39	1	259	632
08:15 AM	38	7	79	0	124	0	0	0	0	0	101	116	0	0	217	0	207	42	4	253	594
08:30 AM	36	5	72	0	113	0	0	0	0	0	108	161	0	0	269	0	201	51	2	254	636
08:45 AM	44	4	79	0	127	0	0	0	0	0	89	135	0	0	224	0	175	35	0	210	561
Total	159	27	303	0	489	0	0	0	0	0	410	548	0	0	958	0	802	167	7	976	2423
*** BREAK ***																					
04:00 PM	25	5	49	1	80	0	0	0	0	0	94	162	0	0	256	0	144	28	1	173	509
04:15 PM	28	7	41	0	76	0	0	0	0	0	87	171	0	0	258	0	188	28	0	216	550
04:30 PM	45	6	46	4	101	0	0	0	0	0	103	176	0	0	279	0	151	32	4	187	567
04:45 PM	33	5	51	2	91	0	0	0	0	0	94	165	0	2	261	0	155	31	7	193	545
Total	131	23	187	7	348	0	0	0	0	0	378	674	0	2	1054	0	638	119	12	769	2171
05:00 PM	26	9	54	0	89	0	0	0	0	0	94	150	0	5	249	0	160	21	5	186	524
05:15 PM	25	10	28	4	67	0	0	0	0	0	73	160	0	1	234	0	157	26	0	183	484
05:30 PM	30	10	53	0	93	0	0	0	0	0	77	187	0	1	265	0	137	32	2	171	529
05:45 PM	22	5	63	3	93	0	0	0	0	0	92	199	0	3	294	0	147	32	1	180	567
Total	103	34	198	7	342	0	0	0	0	0	336	696	0	10	1042	0	601	111	8	720	2104
Grand Total	579	125	916	14	1634	0	0	0	0	0	1579	2369	0	12	3960	0	2735	529	30	3294	8888
Apprch %	35.4	7.6	56.1	0.9		0	0	0	0		39.9	59.8	0	0.3		0	83	16.1	0.9		
Total %	6.5	1.4	10.3	0.2	18.4	0	0	0	0	0	17.8	26.7	0	0.1	44.6	0	30.8	6	0.3	37.1	
Pass Cars	569	116	897	14	1596	0	0	0	0	0	1522	2287	0	12	3821	0	2698	521	30	3249	8666
% Pass Cars	98.3	92.8	97.9	100	97.7	0	0	0	0	0	96.4	96.5	0	100	96.5	0	98.6	98.5	100	98.6	97.5
Trucks	10	9	19	0	38	0	0	0	0	0	57	82	0	0	139	0	37	8	0	45	222
% Trucks	1.7	7.2	2.1	0	2.3	0	0	0	0	0	3.6	3.5	0	0	3.5	0	1.4	1.5	0	1.4	2.5

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Opertaors Name: MS & CV
Weather: Sunny

File Name : NW95 ST_NB Ramps
Site Code : 00001003
Start Date : 4/16/2015
Page No : 2

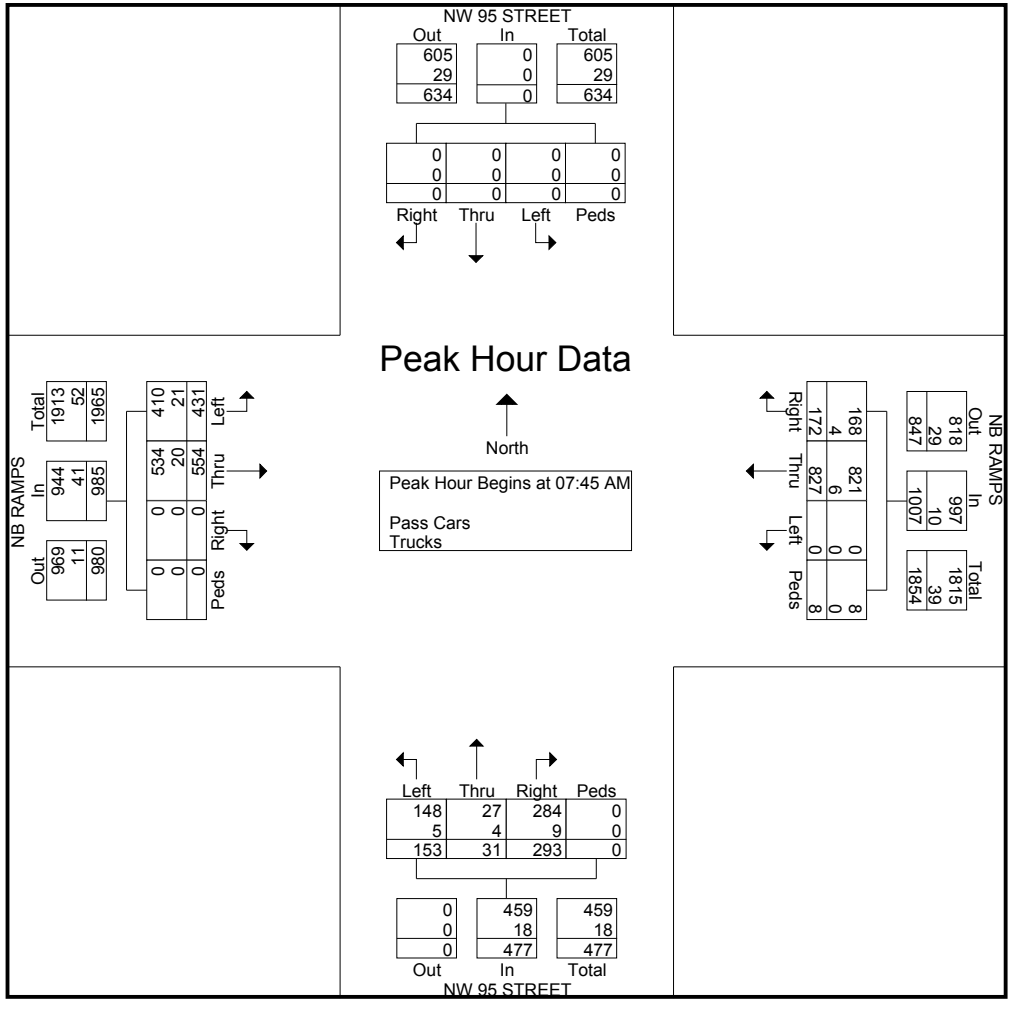
	NW 95 STREET Northbound					NW 95 STREET Southbound					NB RAMPS Eastbound					NB RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	38	8	69	0	115	0	0	0	0	0	110	141	0	0	251	0	200	40	1	241	607
08:00 AM	**41**	**11**	73	0	**125**	0	0	0	0	0	**112**	136	0	0	248	0	**219**	39	1	**259**	632
08:15 AM	38	7	**79**	0	124	0	0	0	0	0	101	116	0	0	217	0	207	42	**4**	253	594
08:30 AM	36	5	72	0	113	0	0	0	0	0	108	**161**	0	0	**269**	0	201	**51**	2	254	**636**
Total Volume	153	31	293	0	477	0	0	0	0	0	431	554	0	0	985	0	827	172	8	1007	2469
% App. Total	32.1	6.5	61.4	0		0	0	0	0		43.8	56.2	0	0		0	82.1	17.1	0.8		
PHF	.933	.705	.927	.000	.954	.000	.000	.000	.000	.000	.962	.860	.000	.000	.915	.000	.944	.843	.500	.972	.971
Pass Cars	148	27	284	0	459	0	0	0	0	0	410	534	0	0	944	0	821	168	8	997	2400
% Pass Cars	96.7	87.1	96.9	0	96.2	0	0	0	0	0	95.1	96.4	0	0	95.8	0	99.3	97.7	100	99.0	97.2
Trucks	5	4	9	0	18	0	0	0	0	0	21	20	0	0	41	0	6	4	0	10	69
% Trucks	3.3	12.9	3.1	0	3.8	0	0	0	0	0	4.9	3.6	0	0	4.2	0	0.7	2.3	0	1.0	2.8

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Client: K&H
Intersection Name:NW 95 ST_NB RAMPS
Opertaors Name: MS & CV
Weather: Sunny

File Name : NW95 ST_NB Ramps
Site Code : 00001003
Start Date : 4/16/2015
Page No : 3



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Client: K&H
Intersection Name:NW 95 ST_NB RAMPS
Opertaors Name: MS & CV
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File Name : NW95 ST_NB Ramps
Site Code : 00001003
Start Date : 4/16/2015
Page No : 4

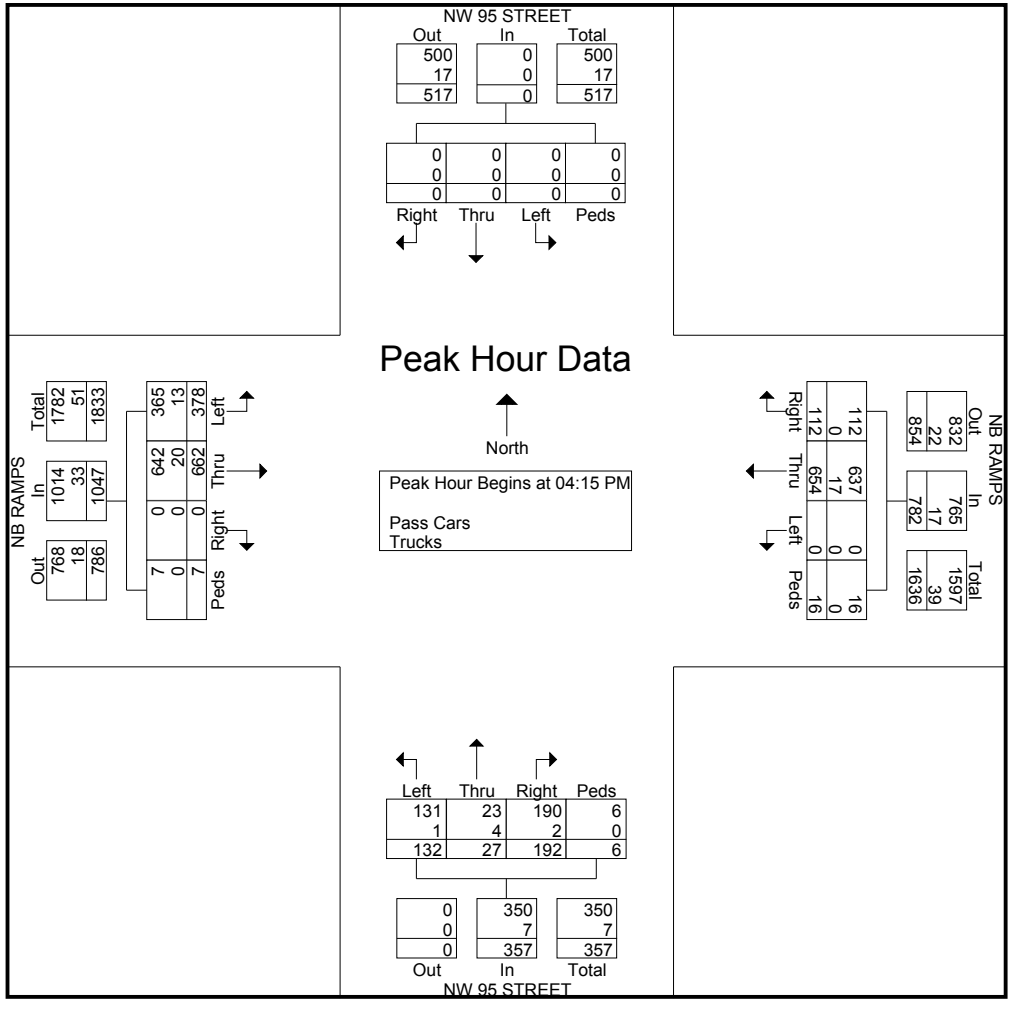
	NW 95 STREET Northbound					NW 95 STREET Southbound					NB RAMPS Eastbound					NB RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	28	7	41	0	76	0	0	0	0	0	87	171	0	0	258	0	**188**	28	0	**216**	550
04:30 PM	**45**	6	46	**4**	**101**	0	0	0	0	0	**103**	**176**	0	0	**279**	0	151	**32**	4	187	**567**
04:45 PM	33	5	51	2	91	0	0	0	0	0	94	165	0	2	261	0	155	31	**7**	193	545
05:00 PM	26	**9**	**54**	0	89	0	0	0	0	0	94	150	0	**5**	249	0	160	21	5	186	524
Total Volume	132	27	192	6	357	0	0	0	0	0	378	662	0	7	1047	0	654	112	16	782	2186
% App. Total	37	7.6	53.8	1.7		0	0	0	0		36.1	63.2	0	0.7		0	83.6	14.3	2		
PHF	.733	.750	.889	.375	.884	.000	.000	.000	.000	.000	.917	.940	.000	.350	.938	.000	.870	.875	.571	.905	.964
Pass Cars	131	23	190	6	350	0	0	0	0	0	365	642	0	7	1014	0	637	112	16	765	2129
% Pass Cars	99.2	85.2	99.0	100	98.0	0	0	0	0	0	96.6	97.0	0	100	96.8	0	97.4	100	100	97.8	97.4
Trucks	1	4	2	0	7	0	0	0	0	0	13	20	0	0	33	0	17	0	0	17	57
% Trucks	0.8	14.8	1.0	0	2.0	0	0	0	0	0	3.4	3.0	0	0	3.2	0	2.6	0	0	2.2	2.6

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Client: K&H
Intersection Name:NW 95 ST_NB RAMPS
Opertaors Name: MS & CV
Weather: Sunny

File Name : NW95 ST_NB Ramps
Site Code : 00001003
Start Date : 4/16/2015
Page No : 5



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File Name : NW95 ST_NB Ramps
Site Code : 00001003
Start Date : 4/16/2015
Page No : 1

Groups Printed- Trucks

	NW 95 STREET Northbound					NW 95 STREET Southbound					NB RAMPS Eastbound					NB RAMPS Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	3	5	0	0	8	0	0	1	0	1	9
07:15 AM	1	0	0	0	1	0	0	0	0	0	5	5	0	0	10	0	3	0	0	3	14
07:30 AM	1	1	5	0	7	0	0	0	0	0	3	6	0	0	9	0	2	0	0	2	18
07:45 AM	1	1	4	0	6	0	0	0	0	0	5	5	0	0	10	0	0	1	0	1	17
Total	3	2	9	0	14	0	0	0	0	0	16	21	0	0	37	0	5	2	0	7	58
08:00 AM	1	1	2	0	4	0	0	0	0	0	4	8	0	0	12	0	4	0	0	4	20
08:15 AM	3	1	3	0	7	0	0	0	0	0	5	3	0	0	8	0	1	1	0	2	17
08:30 AM	0	1	0	0	1	0	0	0	0	0	7	4	0	0	11	0	1	2	0	3	15
08:45 AM	1	0	1	0	2	0	0	0	0	0	7	8	0	0	15	0	0	0	0	0	17
Total	5	3	6	0	14	0	0	0	0	0	23	23	0	0	46	0	6	3	0	9	69
*** BREAK ***																					
04:00 PM	0	0	1	0	1	0	0	0	0	0	0	9	0	0	9	0	4	0	0	4	14
04:15 PM	0	1	0	0	1	0	0	0	0	0	3	7	0	0	10	0	7	0	0	7	18
04:30 PM	1	0	0	0	1	0	0	0	0	0	4	7	0	0	11	0	6	0	0	6	18
04:45 PM	0	1	0	0	1	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	5
Total	1	2	1	0	4	0	0	0	0	0	8	26	0	0	34	0	17	0	0	17	55
05:00 PM	0	2	2	0	4	0	0	0	0	0	5	3	0	0	8	0	4	0	0	4	16
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	3
05:30 PM	0	0	1	0	1	0	0	0	0	0	2	5	0	0	7	0	2	2	0	4	12
05:45 PM	1	0	0	0	1	0	0	0	0	0	2	2	0	0	4	0	3	1	0	4	9
Total	1	2	3	0	6	0	0	0	0	0	10	12	0	0	22	0	9	3	0	12	40
Grand Total	10	9	19	0	38	0	0	0	0	0	57	82	0	0	139	0	37	8	0	45	222
Apprch %	26.3	23.7	50	0		0	0	0	0		41	59	0	0		0	82.2	17.8	0		
Total %	4.5	4.1	8.6	0	17.1	0	0	0	0	0	25.7	36.9	0	0	62.6	0	16.7	3.6	0	20.3	

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Client: K&H
Intersection Name: NW 103 ST _ SR-7
Opertaors Name: MA & MS
Weather: Sunny

File Name : NW 103 ST_SR-7
Site Code : 00001101
Start Date : 4/21/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SR 7 Northbound					SR 7 Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	16	76	22	3	117	59	362	19	4	444	20	219	28	1	268	22	143	12	2	179	1008
07:15 AM	13	60	28	0	101	78	412	11	3	504	28	235	22	2	287	36	115	19	2	172	1064
07:30 AM	20	117	36	2	175	64	359	8	5	436	18	246	17	3	284	35	124	19	5	183	1078
07:45 AM	19	147	34	0	200	85	396	14	5	500	20	191	38	5	254	45	129	19	4	197	1151
Total	68	400	120	5	593	286	1529	52	17	1884	86	891	105	11	1093	138	511	69	13	731	4301
08:00 AM	18	136	29	3	186	71	353	24	4	452	15	181	31	1	228	48	120	32	2	202	1068
08:15 AM	11	97	36	2	146	57	318	22	3	400	28	188	30	3	249	42	122	35	3	202	997
08:30 AM	14	111	14	2	141	49	230	19	0	298	29	161	25	0	215	35	130	51	0	216	870
08:45 AM	22	166	32	1	221	54	296	11	0	361	33	181	23	1	238	27	111	48	0	186	1006
Total	65	510	111	8	694	231	1197	76	7	1511	105	711	109	5	930	152	483	166	5	806	3941
*** BREAK ***																					
04:00 PM	36	277	38	0	351	52	188	27	5	272	39	137	18	2	196	20	189	39	1	249	1068
04:15 PM	45	298	51	3	397	44	189	27	1	261	43	144	23	5	215	32	178	39	1	250	1123
04:30 PM	49	307	46	6	408	43	157	24	0	224	35	172	13	7	227	28	211	43	2	284	1143
04:45 PM	37	311	27	2	377	37	142	20	6	205	35	136	23	4	198	28	213	40	2	283	1063
Total	167	1193	162	11	1533	176	676	98	12	962	152	589	77	18	836	108	791	161	6	1066	4397
05:00 PM	53	360	51	1	465	39	149	28	0	216	36	157	17	3	213	23	209	51	0	283	1177
05:15 PM	50	345	45	1	441	39	165	28	2	234	52	186	19	1	258	22	242	44	4	312	1245
05:30 PM	57	360	33	0	450	48	179	26	5	258	46	188	22	2	258	27	217	65	1	310	1276
05:45 PM	55	336	45	1	437	52	158	27	11	248	39	192	23	5	259	35	208	52	0	295	1239
Total	215	1401	174	3	1793	178	651	109	18	956	173	723	81	11	988	107	876	212	5	1200	4937
Grand Total	515	3504	567	27	4613	871	4053	335	54	5313	516	2914	372	45	3847	505	2661	608	29	3803	17576
Apprch %	11.2	76	12.3	0.6		16.4	76.3	6.3	1		13.4	75.7	9.7	1.2		13.3	70	16	0.8		
Total %	2.9	19.9	3.2	0.2	26.2	5	23.1	1.9	0.3	30.2	2.9	16.6	2.1	0.3	21.9	2.9	15.1	3.5	0.2	21.6	
Pass Cars	502	3396	551	27	4476	854	3938	325	54	5171	493	2804	356	45	3698	496	2552	596	29	3673	17018
% Pass Cars	97.5	96.9	97.2	100	97	98	97.2	97	100	97.3	95.5	96.2	95.7	100	96.1	98.2	95.9	98	100	96.6	96.8
Trucks	13	108	16	0	137	17	115	10	0	142	23	110	16	0	149	9	109	12	0	130	558
% Trucks	2.5	3.1	2.8	0	3	2	2.8	3	0	2.7	4.5	3.8	4.3	0	3.9	1.8	4.1	2	0	3.4	3.2

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Client: K&H
Intersection Name: NW 103 ST _ SR-7
Opertaors Name: MA & MS
Weather: Sunny

File Name : NW 103 ST_SR-7
Site Code : 00001101
Start Date : 4/21/2015
Page No : 2

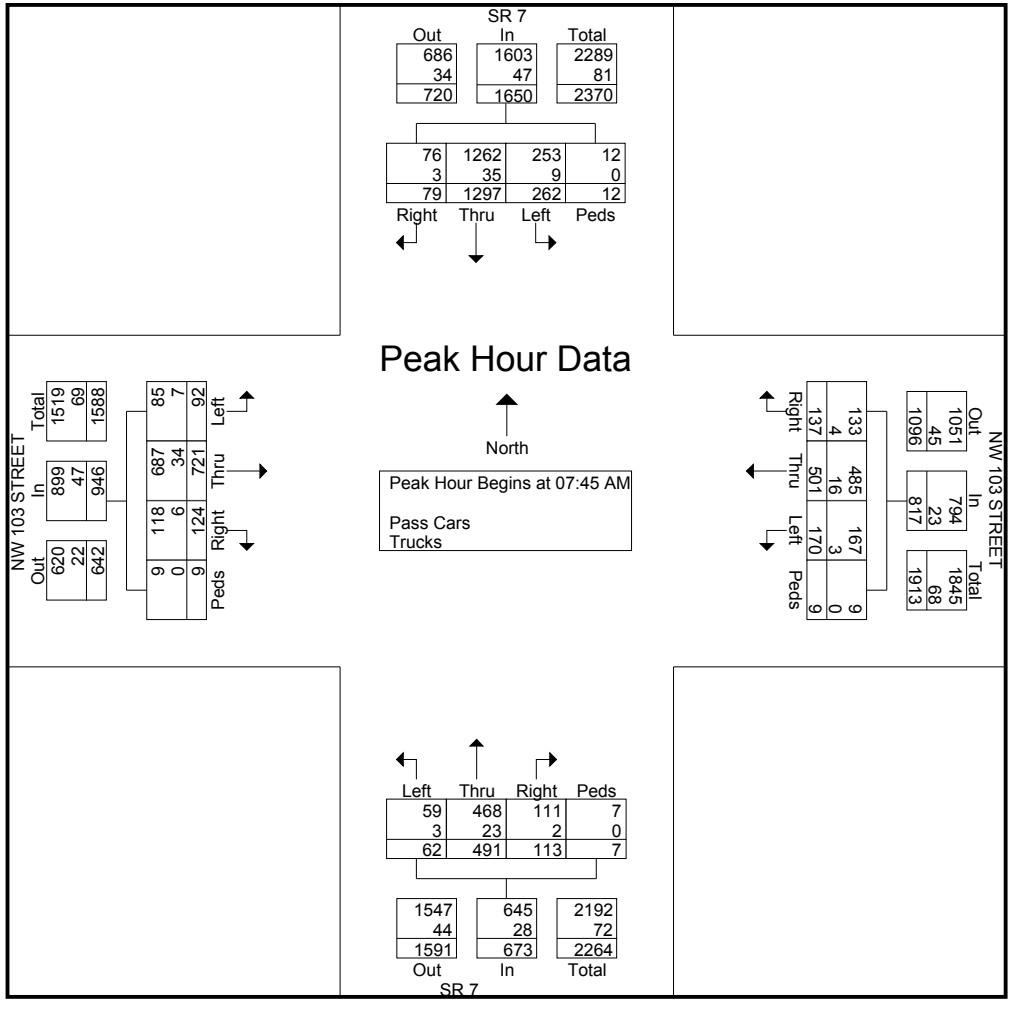
	SR 7 Northbound					SR 7 Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**19**	**147**	34	0	**200**	**85**	**396**	14	**5**	**500**	20	**191**	**38**	**5**	**254**	45	129	19	**4**	197	**1151**
08:00 AM	18	136	29	**3**	186	71	353	**24**	4	452	15	181	31	1	228	**48**	120	32	2	202	1068
08:15 AM	11	97	**36**	2	146	57	318	22	3	400	28	188	30	3	249	42	122	35	3	202	997
08:30 AM	14	111	14	2	141	49	230	19	0	298	**29**	161	25	0	215	35	**130**	**51**	0	**216**	870
Total Volume	62	491	113	7	673	262	1297	79	12	1650	92	721	124	9	946	170	501	137	9	817	4086
% App. Total	9.2	73	16.8	1		15.9	78.6	4.8	0.7		9.7	76.2	13.1	1		20.8	61.3	16.8	1.1		
PHF	.816	.835	.785	.583	.841	.771	.819	.823	.600	.825	.793	.944	.816	.450	.931	.885	.963	.672	.563	.946	.887
Pass Cars	59	468	111	7	645	253	1262	76	12	1603	85	687	118	9	899	167	485	133	9	794	3941
% Pass Cars	95.2	95.3	98.2	100	95.8	96.6	97.3	96.2	100	97.2	92.4	95.3	95.2	100	95.0	98.2	96.8	97.1	100	97.2	96.5
Trucks	3	23	2	0	28	9	35	3	0	47	7	34	6	0	47	3	16	4	0	23	145
% Trucks	4.8	4.7	1.8	0	4.2	3.4	2.7	3.8	0	2.8	7.6	4.7	4.8	0	5.0	1.8	3.2	2.9	0	2.8	3.5

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Intersection Name: NW 103 ST _ SR-7
Opertaors Name: MA & MS
Weather: Sunny

File Name : NW 103 ST_SR-7
Site Code : 00001101
Start Date : 4/21/2015
Page No : 3



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Page No : 4

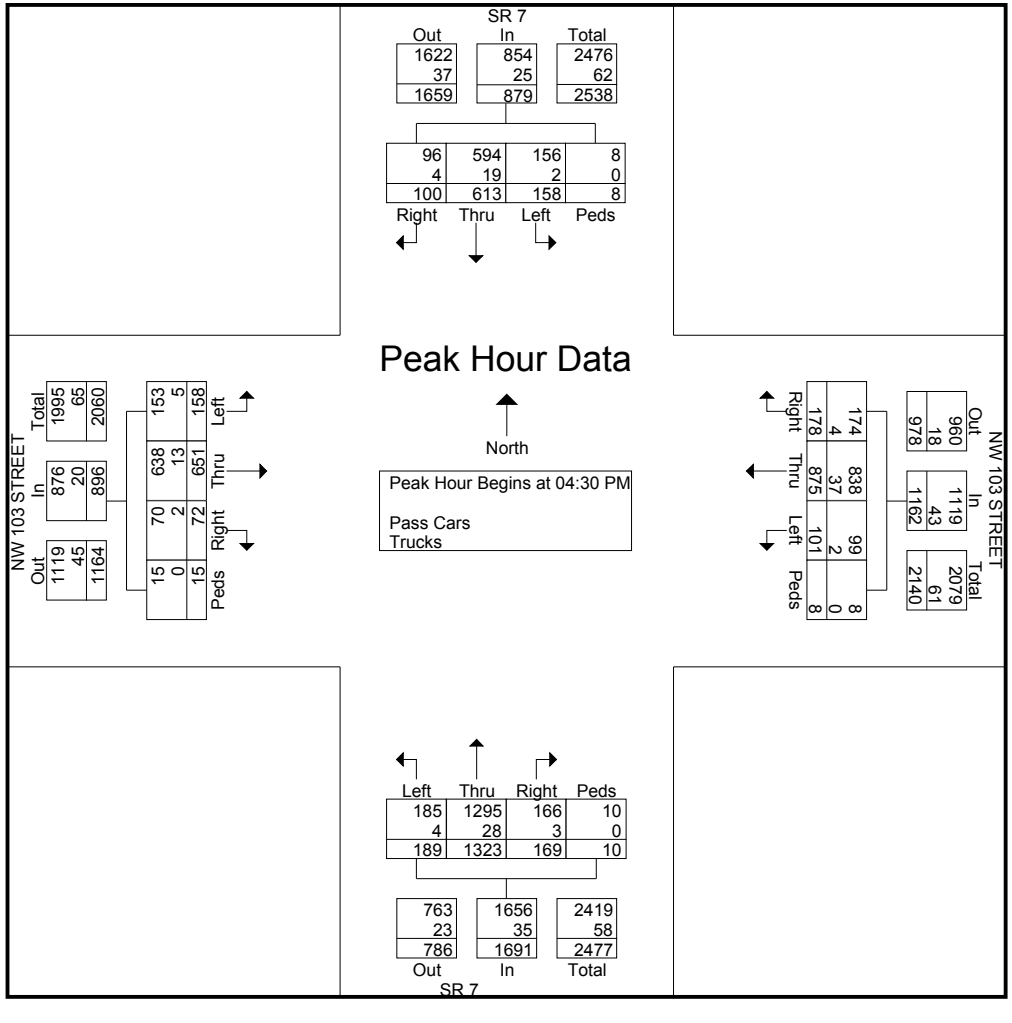
	SR 7 Northbound					SR 7 Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	49	307	46	**6**	408	**43**	157	24	0	224	35	172	13	**7**	227	**28**	211	43	2	284	1143
04:45 PM	37	311	27	2	377	37	142	20	**6**	205	35	136	**23**	4	198	28	213	40	2	283	1063
05:00 PM	**53**	**360**	**51**	1	**465**	39	149	**28**	0	216	36	157	17	3	213	23	209	**51**	0	283	1177
05:15 PM	50	345	45	1	441	39	**165**	28	2	**234**	**52**	**186**	19	1	**258**	22	**242**	44	**4**	**312**	**1245**
Total Volume	189	1323	169	10	1691	158	613	100	8	879	158	651	72	15	896	101	875	178	8	1162	4628
% App. Total	11.2	78.2	10	0.6		18	69.7	11.4	0.9		17.6	72.7	8	1.7		8.7	75.3	15.3	0.7		
PHF	.892	.919	.828	.417	.909	.919	.929	.893	.333	.939	.760	.875	.783	.536	.868	.902	.904	.873	.500	.931	.929
Pass Cars	185	1295	166	10	1656	156	594	96	8	854	153	638	70	15	876	99	838	174	8	1119	4505
% Pass Cars	97.9	97.9	98.2	100	97.9	98.7	96.9	96.0	100	97.2	96.8	98.0	97.2	100	97.8	98.0	95.8	97.8	100	96.3	97.3
Trucks	4	28	3	0	35	2	19	4	0	25	5	13	2	0	20	2	37	4	0	43	123
% Trucks	2.1	2.1	1.8	0	2.1	1.3	3.1	4.0	0	2.8	3.2	2.0	2.8	0	2.2	2.0	4.2	2.2	0	3.7	2.7

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Client: K&H
Intersection Name: NW 103 ST _ SR-7
Opertaors Name: MA & MS
Weather: Sunny

File Name : NW 103 ST_SR-7
Site Code : 00001101
Start Date : 4/21/2015
Page No : 5



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Client: K&H
Intersection Name: NW103ST_SBRAMPS
Opertaors Name: CV
Weather: Sunny

File Name : NW103ST_SB Ramps
Site Code : 00001102
Start Date : 4/21/2015
Page No : 1

Groups Printed- Pass_Cars - Trucks

	NW 103 STREET Northbound					NW 103 STREET Southbound					SB RAMP Eastbound					SB RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	4	4	30	0	41	0	71	0	223	93	2	318	54	135	0	7	196	589
07:15 AM	0	0	0	0	0	48	2	42	3	95	0	251	114	2	367	76	145	0	2	223	685
07:30 AM	0	0	0	1	1	35	1	45	0	81	0	229	104	4	337	104	144	0	3	251	670
07:45 AM	0	0	0	0	0	39	2	43	0	84	0	251	98	0	349	79	161	0	5	245	678
Total	0	0	0	5	5	152	5	171	3	331	0	954	409	8	1371	313	585	0	17	915	2622
08:00 AM	0	0	0	0	0	60	6	51	0	117	0	241	78	0	319	84	205	0	4	293	729
08:15 AM	0	0	0	1	1	50	4	76	0	130	0	241	72	1	314	66	145	0	6	217	662
08:30 AM	0	0	0	0	0	39	8	81	0	128	0	229	48	0	277	55	171	0	4	230	635
08:45 AM	0	0	0	1	1	74	6	105	0	185	0	244	54	0	298	40	156	0	5	201	685
Total	0	0	0	2	2	223	24	313	0	560	0	955	252	1	1208	245	677	0	19	941	2711
*** BREAK ***																					
04:00 PM	0	0	0	0	0	58	1	92	2	153	0	173	56	1	230	62	186	0	7	255	638
04:15 PM	0	0	0	0	0	63	2	97	0	162	0	172	57	7	236	57	230	0	5	292	690
04:30 PM	0	0	0	3	3	54	0	112	0	166	0	184	51	0	235	50	231	0	3	284	688
04:45 PM	0	0	0	2	2	50	0	112	0	162	0	176	64	1	241	52	203	0	7	262	667
Total	0	0	0	5	5	225	3	413	2	643	0	705	228	9	942	221	850	0	22	1093	2683
05:00 PM	0	0	0	1	1	57	0	99	0	156	0	194	58	3	255	52	205	0	5	262	674
05:15 PM	0	0	0	1	1	72	0	91	0	163	0	211	58	0	269	55	238	0	0	293	726
05:30 PM	0	0	0	1	1	69	0	110	0	179	0	224	57	0	281	69	256	0	2	327	788
05:45 PM	0	0	0	0	0	80	1	110	0	191	0	205	75	0	280	60	226	0	8	294	765
Total	0	0	0	3	3	278	1	410	0	689	0	834	248	3	1085	236	925	0	15	1176	2953
Grand Total	0	0	0	15	15	878	33	1307	5	2223	0	3448	1137	21	4606	1015	3037	0	73	4125	10969
Apprch %	0	0	0	100		39.5	1.5	58.8	0.2		0	74.9	24.7	0.5		24.6	73.6	0	1.8		
Total %	0	0	0	0.1	0.1	8	0.3	11.9	0	20.3	0	31.4	10.4	0.2	42	9.3	27.7	0	0.7	37.6	
Pass_Cars	0	0	0	15	15	867	33	1259	5	2164	0	3357	1116	21	4494	1008	2992	0	73	4073	10746
% Pass_Cars	0	0	0	100	100	98.7	100	96.3	100	97.3	0	97.4	98.2	100	97.6	99.3	98.5	0	100	98.7	98
Trucks	0	0	0	0	0	11	0	48	0	59	0	91	21	0	112	7	45	0	0	52	223
% Trucks	0	0	0	0	0	1.3	0	3.7	0	2.7	0	2.6	1.8	0	2.4	0.7	1.5	0	0	1.3	2

F.R. Aleman & Associates, Inc

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Client: K&H
Intersection Name: NW103ST_SBRAMPS
Opertaors Name: CV
Weather: Sunny

File Name : NW103ST_SB Ramps
Site Code : 00001102
Start Date : 4/21/2015
Page No : 2

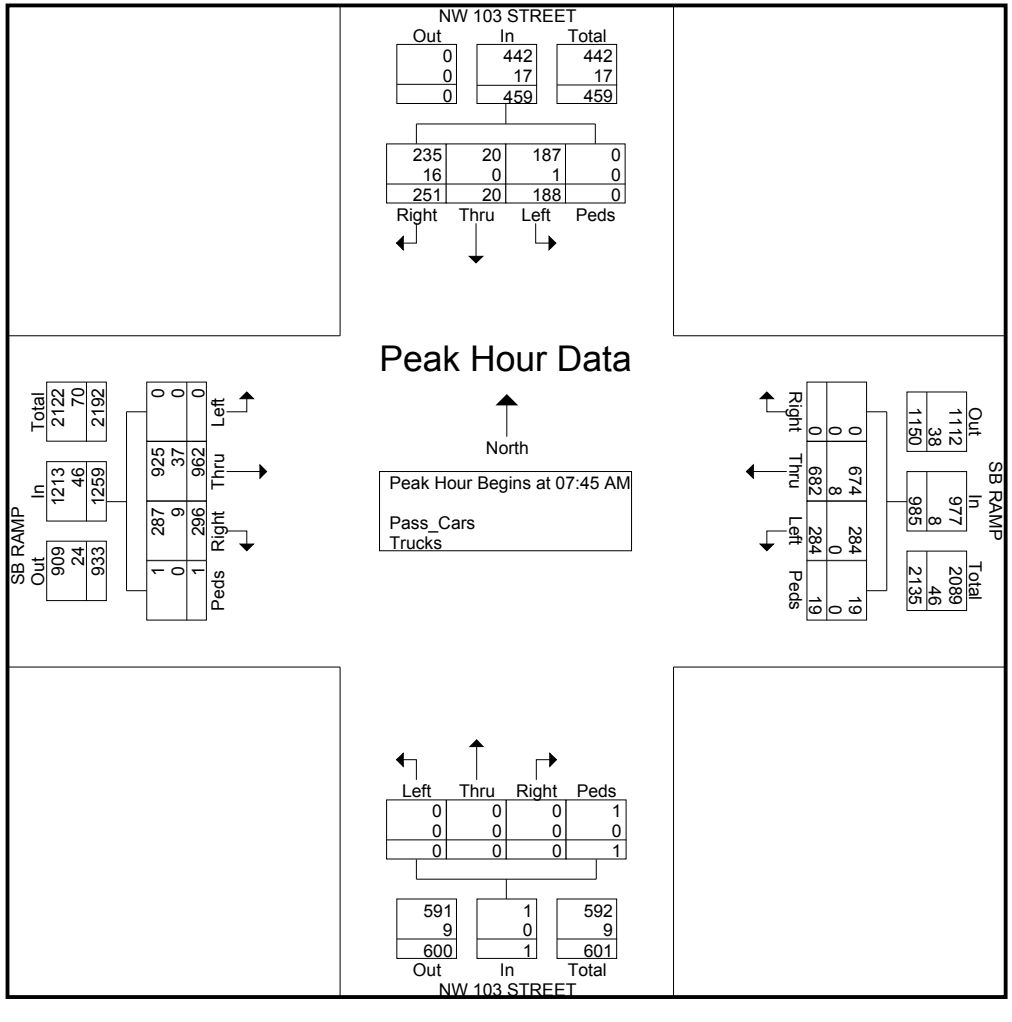
	NW 103 STREET Northbound					NW 103 STREET Southbound					SB RAMP Eastbound					SB RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	39	2	43	0	84	0	**251**	**98**	0	**349**	79	161	0	5	245	678
08:00 AM	0	0	0	0	0	**60**	6	51	0	117	0	241	78	0	319	**84**	**205**	0	4	**293**	**729**
08:15 AM	0	0	0	**1**	**1**	50	4	76	0	**130**	0	241	72	**1**	314	66	145	0	**6**	217	662
08:30 AM	0	0	0	0	0	39	**8**	**81**	0	128	0	229	48	0	277	55	171	0	4	230	635
Total Volume	0	0	0	1	1	188	20	251	0	459	0	962	296	1	1259	284	682	0	19	985	2704
% App. Total	0	0	0	100		41	4.4	54.7	0		0	76.4	23.5	0.1		28.8	69.2	0	1.9		
PHF	.000	.000	.000	.250	.250	.783	.625	.775	.000	.883	.000	.958	.755	.250	.902	.845	.832	.000	.792	.840	.927
Pass_Cars	0	0	0	1	1	187	20	235	0	442	0	925	287	1	1213	284	674	0	19	977	2633
% Pass_Cars	0	0	0	100	100	99.5	100	93.6	0	96.3	0	96.2	97.0	100	96.3	100	98.8	0	100	99.2	97.4
Trucks	0	0	0	0	0	1	0	16	0	17	0	37	9	0	46	0	8	0	0	8	71
% Trucks	0	0	0	0	0	0.5	0	6.4	0	3.7	0	3.8	3.0	0	3.7	0	1.2	0	0	0.8	2.6

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Opertaors Name: CV
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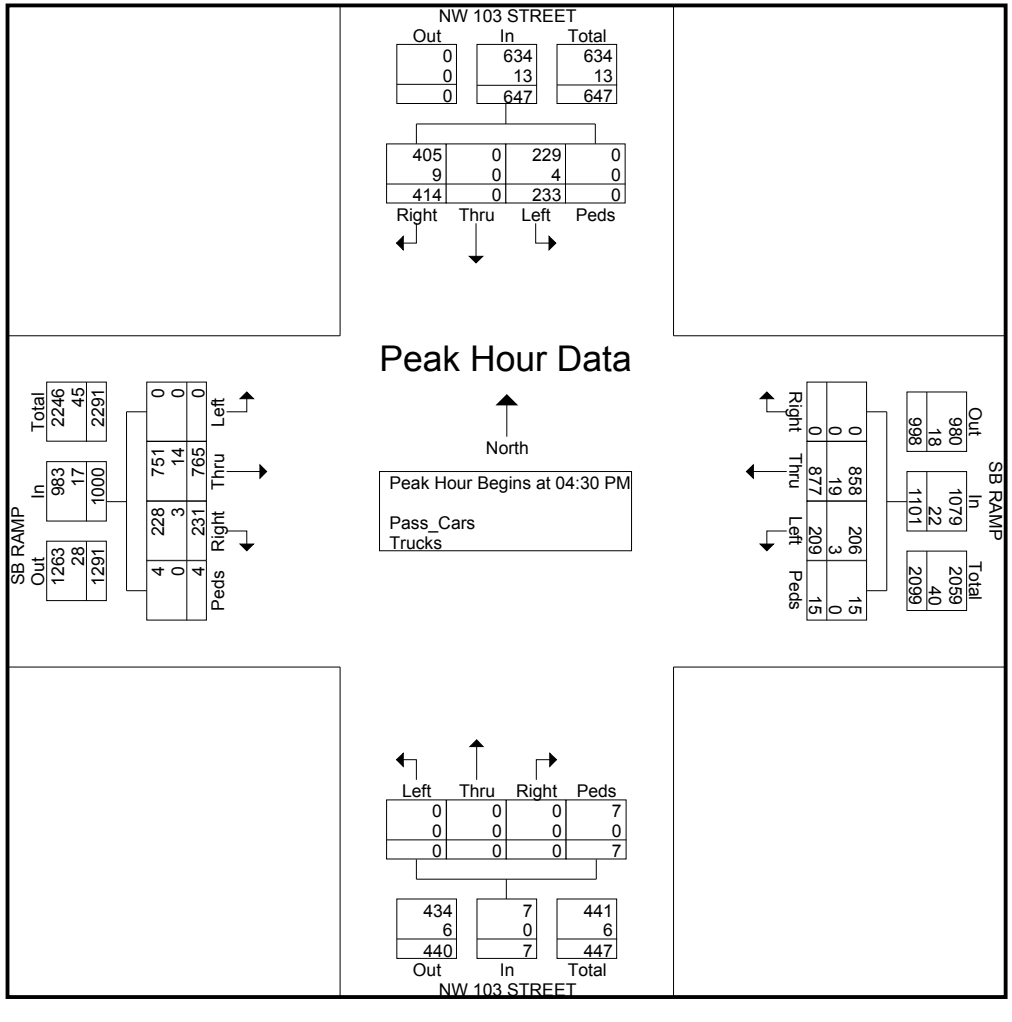
	NW 103 STREET Northbound					NW 103 STREET Southbound					SB RAMP Eastbound					SB RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	**3**	**3**	54	0	**112**	0	**166**	0	184	51	0	235	50	231	0	3	284	688
04:45 PM	0	0	0	2	2	50	0	112	0	162	0	176	**64**	1	241	52	203	0	**7**	262	667
05:00 PM	0	0	0	1	1	57	0	99	0	156	0	194	58	**3**	255	52	205	0	5	262	674
05:15 PM	0	0	0	1	1	**72**	0	91	0	163	0	**211**	58	0	**269**	**55**	**238**	0	0	**293**	**726**
Total Volume	0	0	0	7	7	233	0	414	0	647	0	765	231	4	1000	209	877	0	15	1101	2755
% App. Total	0	0	0	100		36	0	64	0		0	76.5	23.1	0.4		19	79.7	0	1.4		
PHF	.000	.000	.000	.583	.583	.809	.000	.924	.000	.974	.000	.906	.902	.333	.929	.950	.921	.000	.536	.939	.949
Pass_Cars	0	0	0	7	7	229	0	405	0	634	0	751	228	4	983	206	858	0	15	1079	2703
% Pass_Cars	0	0	0	100	100	98.3	0	97.8	0	98.0	0	98.2	98.7	100	98.3	98.6	97.8	0	100	98.0	98.1
Trucks	0	0	0	0	0	4	0	9	0	13	0	14	3	0	17	3	19	0	0	22	52
% Trucks	0	0	0	0	0	1.7	0	2.2	0	2.0	0	1.8	1.3	0	1.7	1.4	2.2	0	0	2.0	1.9

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File Name : NW103ST_SB Ramps
Site Code : 00001102
Start Date : 4/21/2015
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Client: K&H
Intersection Name: NW103ST_NBRAMPS
Operators Name: EB & CG
Weather: Sunny

File Name : NW103ST_NB Ramps
Site Code : 00001103
Start Date : 4/21/2015
Page No : 1

Groups Printed- Pass_Cars - Trucks

	NB RAMPS Northbound					NB RAMPS Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	54	9	43	3	109	0	0	0	0	0	91	143	0	0	234	0	148	70	0	218	561
07:15 AM	58	4	43	4	109	0	0	0	0	0	98	174	0	1	273	0	145	92	0	237	619
07:30 AM	57	6	64	1	128	0	0	0	0	0	92	194	0	0	286	0	161	88	0	249	663
07:45 AM	47	3	76	0	126	0	0	0	0	0	87	183	0	0	270	0	210	103	0	313	709
Total	216	22	226	8	472	0	0	0	0	0	368	694	0	1	1063	0	664	353	0	1017	2552
08:00 AM	60	3	90	2	155	0	0	0	0	0	111	203	0	0	314	0	199	106	0	305	774
08:15 AM	48	6	98	4	156	0	0	0	0	0	98	204	0	0	302	0	159	79	0	238	696
08:30 AM	57	6	83	2	148	0	0	0	0	0	111	194	0	0	305	0	178	112	0	290	743
08:45 AM	56	7	74	5	142	0	0	0	0	0	95	232	0	0	327	0	149	82	0	231	700
Total	221	22	345	13	601	0	0	0	0	0	415	833	0	0	1248	0	685	379	0	1064	2913
*** BREAK ***																					
04:00 PM	79	19	34	3	135	0	0	0	0	0	64	139	0	0	203	0	192	89	3	284	622
04:15 PM	42	13	31	0	86	0	0	0	0	0	90	164	0	0	254	0	154	75	3	232	572
04:30 PM	52	5	30	1	88	0	0	0	0	0	82	180	0	0	262	0	201	67	0	268	618
04:45 PM	58	12	51	0	121	0	0	0	0	0	80	188	0	0	268	0	208	81	0	289	678
Total	231	49	146	4	430	0	0	0	0	0	316	671	0	0	987	0	755	312	6	1073	2490
05:00 PM	67	4	40	2	113	0	0	0	0	0	87	208	0	0	295	0	197	83	0	280	688
05:15 PM	62	8	57	2	129	0	0	0	0	0	62	226	0	0	288	0	212	74	0	286	703
05:30 PM	85	7	48	1	141	0	0	0	0	0	65	212	0	0	277	0	167	74	1	242	660
05:45 PM	81	6	72	3	162	0	0	0	0	0	86	197	0	0	283	0	188	54	0	242	687
Total	295	25	217	8	545	0	0	0	0	0	300	843	0	0	1143	0	764	285	1	1050	2738
Grand Total	963	118	934	33	2048	0	0	0	0	0	1399	3041	0	1	4441	0	2868	1329	7	4204	10693
Apprch %	47	5.8	45.6	1.6		0	0	0	0		31.5	68.5	0	0		0	68.2	31.6	0.2		
Total %	9	1.1	8.7	0.3	19.2	0	0	0	0	0	13.1	28.4	0	0	41.5	0	26.8	12.4	0.1	39.3	
Pass_Cars	934	116	929	33	2012	0	0	0	0	0	1378	2997	0	1	4376	0	2803	1305	7	4115	10503
% Pass_Cars	97	98.3	99.5	100	98.2	0	0	0	0	0	98.5	98.6	0	100	98.5	0	97.7	98.2	100	97.9	98.2
Trucks	29	2	5	0	36	0	0	0	0	0	21	44	0	0	65	0	65	24	0	89	190
% Trucks	3	1.7	0.5	0	1.8	0	0	0	0	0	1.5	1.4	0	0	1.5	0	2.3	1.8	0	2.1	1.8

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Operators Name: EB & CG
Weather: Sunny

File Name : NW103ST_NB Ramps
Site Code : 00001103
Start Date : 4/21/2015
Page No : 2

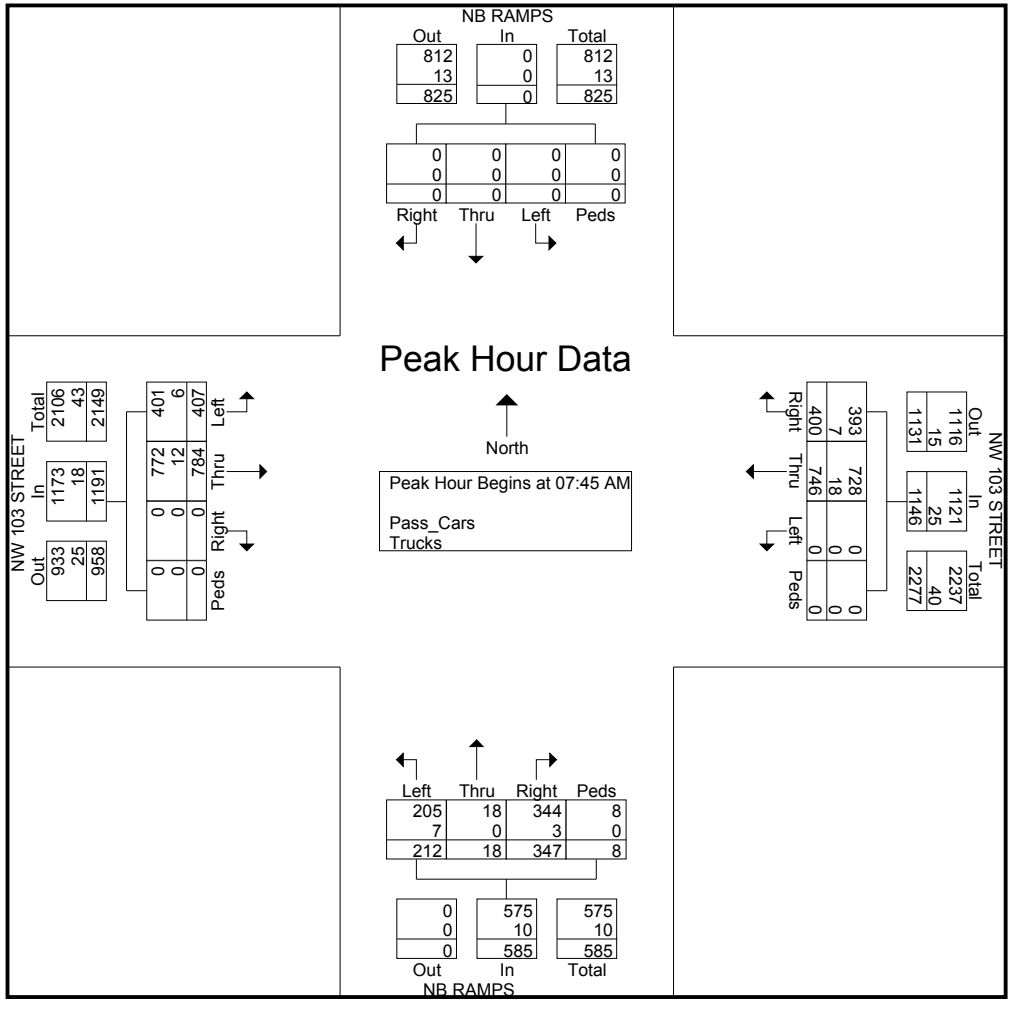
	NB RAMPS Northbound					NB RAMPS Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	47	3	76	0	126	0	0	0	0	0	87	183	0	0	270	0	**210**	103	0	**313**	709
08:00 AM	**60**	3	90	2	155	0	0	0	0	0	**111**	203	0	0	**314**	0	199	106	0	305	**774**
08:15 AM	48	**6**	**98**	**4**	**156**	0	0	0	0	0	98	**204**	0	0	302	0	159	79	0	238	696
08:30 AM	57	6	83	2	148	0	0	0	0	0	111	194	0	0	305	0	178	**112**	0	290	743
Total Volume	212	18	347	8	585	0	0	0	0	0	407	784	0	0	1191	0	746	400	0	1146	2922
% App. Total	36.2	3.1	59.3	1.4		0	0	0	0		34.2	65.8	0	0		0	65.1	34.9	0		
PHF	.883	.750	.885	.500	.938	.000	.000	.000	.000	.000	.917	.961	.000	.000	.948	.000	.888	.893	.000	.915	.944
Pass_Cars	205	18	344	8	575	0	0	0	0	0	401	772	0	0	1173	0	728	393	0	1121	2869
% Pass_Cars	96.7	100	99.1	100	98.3	0	0	0	0	0	98.5	98.5	0	0	98.5	0	97.6	98.3	0	97.8	98.2
Trucks	7	0	3	0	10	0	0	0	0	0	6	12	0	0	18	0	18	7	0	25	53
% Trucks	3.3	0	0.9	0	1.7	0	0	0	0	0	1.5	1.5	0	0	1.5	0	2.4	1.8	0	2.2	1.8

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Operators Name: EB & CG
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File Name : NW103ST_NB Ramps
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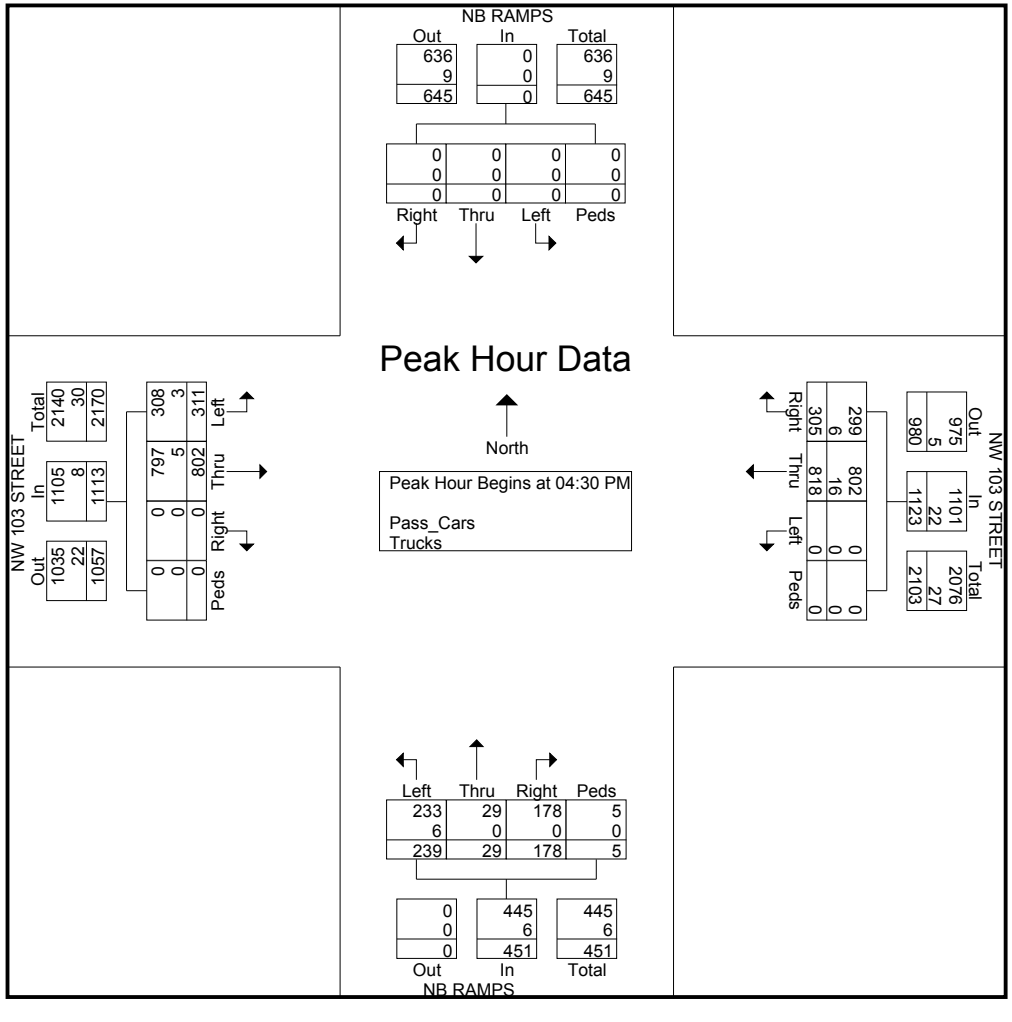
	NB RAMPS Northbound					NB RAMPS Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	52	5	30	1	88	0	0	0	0	0	82	180	0	0	262	0	201	67	0	268	618
04:45 PM	58	**12**	51	0	121	0	0	0	0	0	80	188	0	0	268	0	208	81	0	**289**	678
05:00 PM	**67**	4	40	**2**	113	0	0	0	0	0	**87**	208	0	0	**295**	0	197	**83**	0	280	688
05:15 PM	62	8	**57**	2	**129**	0	0	0	0	0	62	**226**	0	0	288	0	**212**	74	0	286	**703**
Total Volume	239	29	178	5	451	0	0	0	0	0	311	802	0	0	1113	0	818	305	0	1123	2687
% App. Total	53	6.4	39.5	1.1		0	0	0	0		27.9	72.1	0	0		0	72.8	27.2	0		
PHF	.892	.604	.781	.625	.874	.000	.000	.000	.000	.000	.894	.887	.000	.000	.943	.000	.965	.919	.000	.971	.956
Pass_Cars	233	29	178	5	445	0	0	0	0	0	308	797	0	0	1105	0	802	299	0	1101	2651
% Pass_Cars	97.5	100	100	100	98.7	0	0	0	0	0	99.0	99.4	0	0	99.3	0	98.0	98.0	0	98.0	98.7
Trucks	6	0	0	0	6	0	0	0	0	0	3	5	0	0	8	0	16	6	0	22	36
% Trucks	2.5	0	0	0	1.3	0	0	0	0	0	1.0	0.6	0	0	0.7	0	2.0	2.0	0	2.0	1.3

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Client: K&H
Intersection Name: NW103ST_NW5AVE
Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 103 st _NW 5 Ave
Site Code : 00001104
Start Date : 4/21/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 5 AVENUE Northbound					NW 5 AVENUE Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	7	1	2	0	10	5	11	29	1	46	9	124	10	0	143	6	169	5	1	181	380
07:15 AM	4	4	1	1	10	6	15	29	0	50	14	165	14	3	196	6	180	9	0	195	451
07:30 AM	12	5	6	0	23	14	35	28	0	77	25	198	6	5	234	8	206	33	6	253	587
07:45 AM	5	13	4	0	22	14	25	21	2	62	24	261	7	1	293	7	233	26	3	269	646
Total	28	23	13	1	65	39	86	107	3	235	72	748	37	9	866	27	788	73	10	898	2064
08:00 AM	7	6	8	1	22	13	24	31	3	71	11	194	16	3	224	3	232	5	2	242	559
08:15 AM	4	13	0	2	19	5	20	18	0	43	14	194	8	3	219	7	222	4	2	235	516
08:30 AM	12	5	2	0	19	9	18	18	0	45	19	178	9	0	206	6	213	5	0	224	494
08:45 AM	2	5	3	0	10	5	9	19	0	33	19	208	7	0	234	4	132	8	0	144	421
Total	25	29	13	3	70	32	71	86	3	192	63	774	40	6	883	20	799	22	4	845	1990
*** BREAK ***																					
04:00 PM	7	6	3	4	20	7	12	11	0	30	27	152	22	1	202	3	220	16	4	243	495
04:15 PM	11	10	1	0	22	6	6	29	2	43	23	174	20	4	221	3	202	16	0	221	507
04:30 PM	8	9	4	1	22	11	6	12	0	29	44	160	15	1	220	2	211	16	6	235	506
04:45 PM	11	14	3	3	31	7	2	14	4	27	28	182	20	5	235	4	261	9	0	274	567
Total	37	39	11	8	95	31	26	66	6	129	122	668	77	11	878	12	894	57	10	973	2075
05:00 PM	13	8	3	0	24	2	8	23	3	36	30	174	14	3	221	6	271	7	3	287	568
05:15 PM	11	11	6	4	32	4	12	32	1	49	39	176	27	2	244	4	244	8	1	257	582
05:30 PM	7	15	4	2	28	8	3	23	0	34	43	188	21	0	252	11	231	8	6	256	570
05:45 PM	5	16	4	1	26	7	7	12	1	27	35	216	22	2	275	6	211	12	4	233	561
Total	36	50	17	7	110	21	30	90	5	146	147	754	84	7	992	27	957	35	14	1033	2281
Grand Total	126	141	54	19	340	123	213	349	17	702	404	2944	238	33	3619	86	3438	187	38	3749	8410
Apprch %	37.1	41.5	15.9	5.6		17.5	30.3	49.7	2.4		11.2	81.3	6.6	0.9		2.3	91.7	5	1		
Total %	1.5	1.7	0.6	0.2	4	1.5	2.5	4.1	0.2	8.3	4.8	35	2.8	0.4	43	1	40.9	2.2	0.5	44.6	
Pass Cars	121	141	53	19	334	121	208	345	17	691	400	2914	235	33	3582	85	3390	186	38	3699	8306
% Pass Cars	96	100	98.1	100	98.2	98.4	97.7	98.9	100	98.4	99	99	98.7	100	99	98.8	98.6	99.5	100	98.7	98.8
Trucks	5	0	1	0	6	2	5	4	0	11	4	30	3	0	37	1	48	1	0	50	104
% Trucks	4	0	1.9	0	1.8	1.6	2.3	1.1	0	1.6	1	1	1.3	0	1	1.2	1.4	0.5	0	1.3	1.2

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Client: K&H
Intersection Name: NW103ST_NW5AVE
Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 103 st _NW 5 Ave
Site Code : 00001104
Start Date : 4/21/2015
Page No : 2

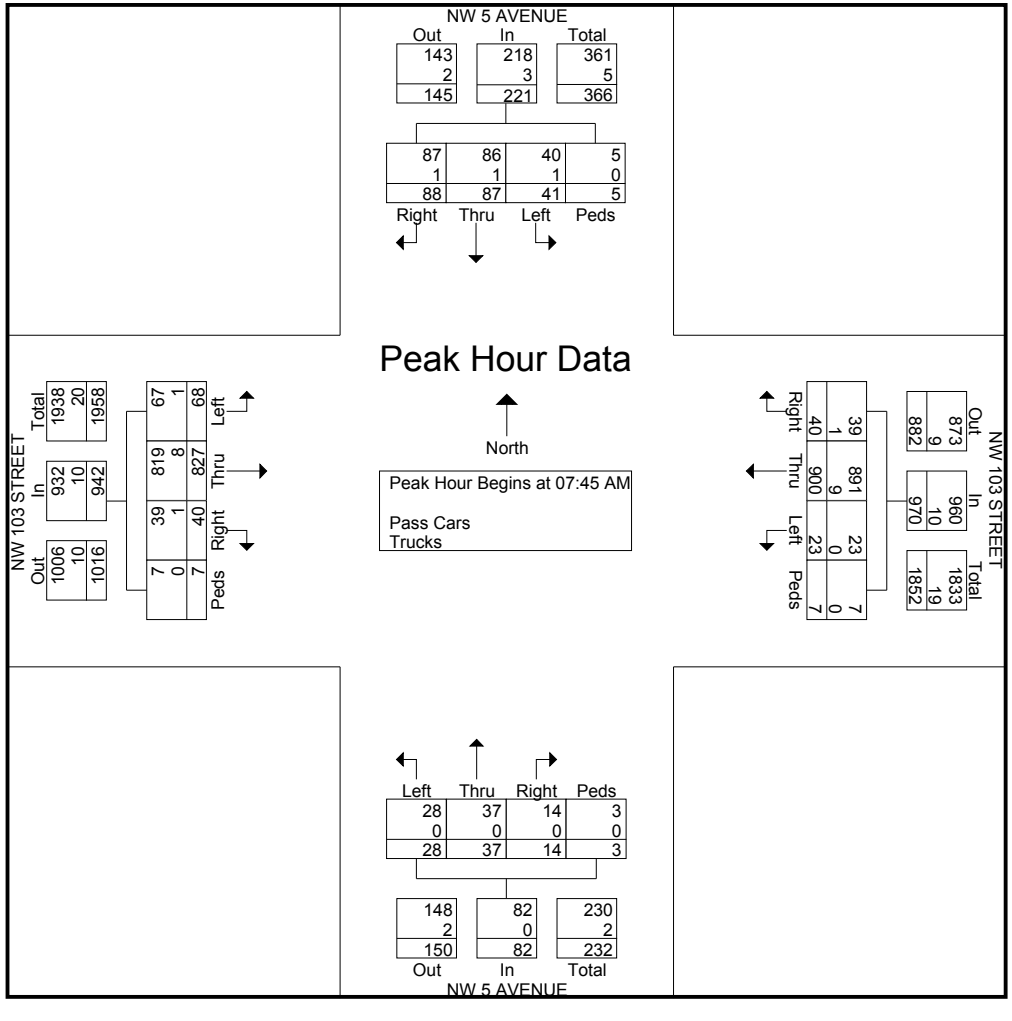
	NW 5 AVENUE Northbound					NW 5 AVENUE Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	5	**13**	4	0	**22**	**14**	**25**	21	2	62	**24**	**261**	7	1	**293**	**7**	**233**	**26**	**3**	**269**	**646**
08:00 AM	7	6	**8**	1	22	13	24	**31**	**3**	**71**	11	194	**16**	**3**	224	3	232	5	2	242	559
08:15 AM	4	13	0	**2**	19	5	20	18	0	43	14	194	8	3	219	7	222	4	2	235	516
08:30 AM	**12**	5	2	0	19	9	18	18	0	45	19	178	9	0	206	6	213	5	0	224	494
Total Volume	28	37	14	3	82	41	87	88	5	221	68	827	40	7	942	23	900	40	7	970	2215
% App. Total	34.1	45.1	17.1	3.7		18.6	39.4	39.8	2.3		7.2	87.8	4.2	0.7		2.4	92.8	4.1	0.7		
PHF	.583	.712	.438	.375	.932	.732	.870	.710	.417	.778	.708	.792	.625	.583	.804	.821	.966	.385	.583	.901	.857
Pass Cars	28	37	14	3	82	40	86	87	5	218	67	819	39	7	932	23	891	39	7	960	2192
% Pass Cars	100	100	100	100	100	97.6	98.9	98.9	100	98.6	98.5	99.0	97.5	100	98.9	100	99.0	97.5	100	99.0	99.0
Trucks	0	0	0	0	0	1	1	1	0	3	1	8	1	0	10	0	9	1	0	10	23
% Trucks	0	0	0	0	0	2.4	1.1	1.1	0	1.4	1.5	1.0	2.5	0	1.1	0	1.0	2.5	0	1.0	1.0

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Intersection Name: NW103ST_NW5AVE
Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 103 st _NW 5 Ave
Site Code : 00001104
Start Date : 4/21/2015
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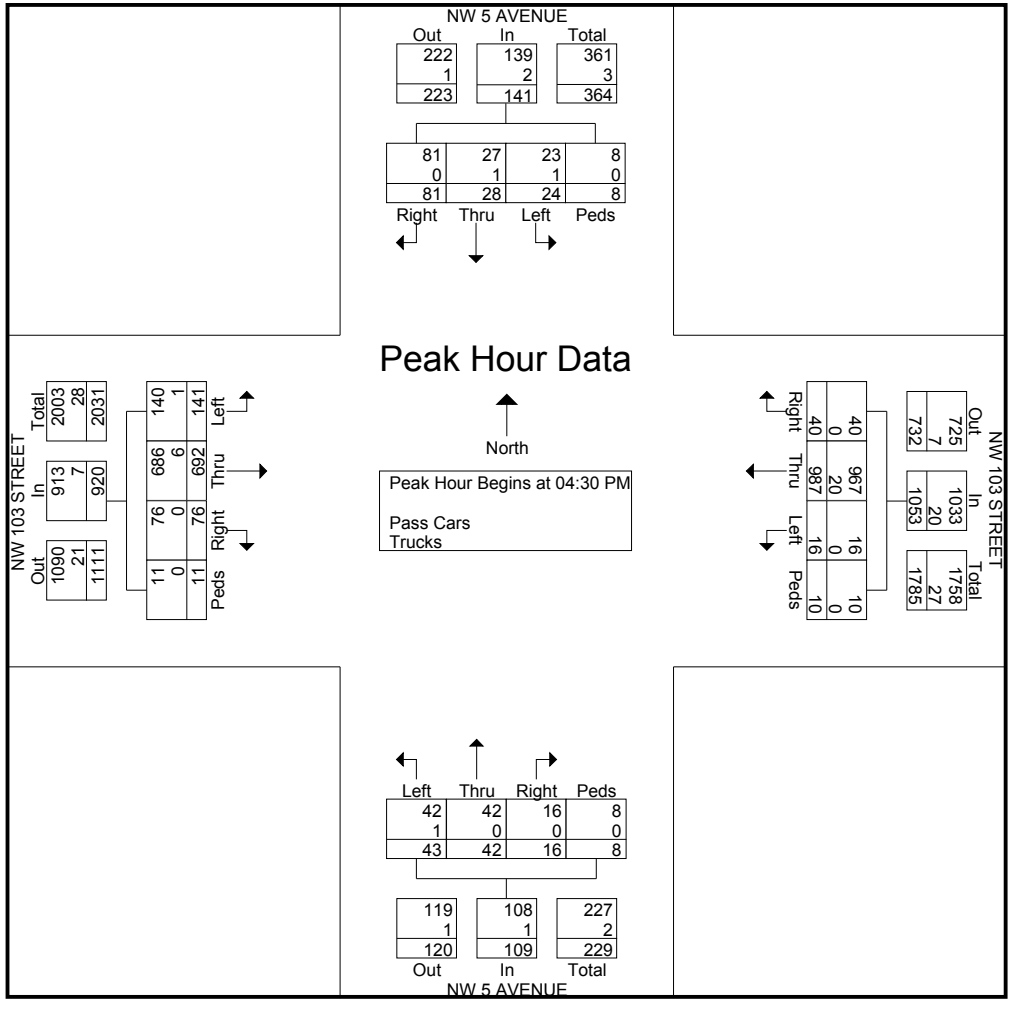
	NW 5 AVENUE Northbound					NW 5 AVENUE Southbound					NW 103 STREET Eastbound					NW 103 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	8	9	4	1	22	**11**	6	12	0	29	**44**	160	15	1	220	2	211	**16**	**6**	235	506
04:45 PM	11	**14**	3	3	31	7	2	14	**4**	27	28	**182**	20	**5**	235	4	261	9	0	274	567
05:00 PM	**13**	8	3	0	24	2	8	23	3	36	30	174	14	3	221	**6**	**271**	7	3	**287**	568
05:15 PM	11	11	**6**	**4**	**32**	4	**12**	**32**	1	**49**	39	176	**27**	2	**244**	4	244	8	1	257	**582**
Total Volume	43	42	16	8	109	24	28	81	8	141	141	692	76	11	920	16	987	40	10	1053	2223
% App. Total	39.4	38.5	14.7	7.3		17	19.9	57.4	5.7		15.3	75.2	8.3	1.2		1.5	93.7	3.8	0.9		
PHF	.827	.750	.667	.500	.852	.545	.583	.633	.500	.719	.801	.951	.704	.550	.943	.667	.911	.625	.417	.917	.955
Pass Cars	42	42	16	8	108	23	27	81	8	139	140	686	76	11	913	16	967	40	10	1033	2193
% Pass Cars	97.7	100	100	100	99.1	95.8	96.4	100	100	98.6	99.3	99.1	100	100	99.2	100	98.0	100	100	98.1	98.7
Trucks	1	0	0	0	1	1	1	0	0	2	1	6	0	0	7	0	20	0	0	20	30
% Trucks	2.3	0	0	0	0.9	4.2	3.6	0	0	1.4	0.7	0.9	0	0	0.8	0	2.0	0	0	1.9	1.3

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Opertaors Name: ZV & ED
Weather: Sunny

File Name : NW 103 st _NW 5 Ave
Site Code : 00001104
Start Date : 4/21/2015
Page No : 5



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Client: K&H
Intersection Name: NW119ST_SR7
Opertaors Name: DM & MR
Weather: Sunny

File Name : NW119 ST_SR7
Site Code : 00001201
Start Date : 4/22/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	21	61	11	2	95	31	353	30	6	420	41	236	11	0	288	29	215	8	5	257	1060
07:15 AM	12	84	18	2	116	34	361	35	5	435	38	319	13	1	371	31	203	7	5	246	1168
07:30 AM	39	120	25	0	184	27	344	25	7	403	41	305	13	0	359	25	227	9	5	266	1212
07:45 AM	23	111	29	1	164	42	351	30	0	423	43	312	10	0	365	27	238	12	1	278	1230
Total	95	376	83	5	559	134	1409	120	18	1681	163	1172	47	1	1383	112	883	36	16	1047	4670
08:00 AM	31	113	28	0	172	38	350	33	9	430	50	289	14	1	354	32	231	18	4	285	1241
08:15 AM	35	105	27	1	168	26	248	45	4	323	33	240	12	0	285	28	205	16	0	249	1025
08:30 AM	23	100	29	0	152	33	293	23	1	350	41	213	14	0	268	16	167	10	1	194	964
08:45 AM	37	177	21	0	235	36	274	34	1	345	42	254	19	0	315	24	166	20	1	211	1106
Total	126	495	105	1	727	133	1165	135	15	1448	166	996	59	1	1222	100	769	64	6	939	4336
*** BREAK ***																					
04:00 PM	48	252	36	0	336	30	213	63	5	311	43	186	22	4	255	33	208	26	2	269	1171
04:15 PM	39	283	36	1	359	33	207	57	1	298	49	243	19	2	313	32	217	14	0	263	1233
04:30 PM	50	254	40	0	344	30	206	59	4	299	49	259	20	3	331	35	221	27	0	283	1257
04:45 PM	46	271	26	1	344	26	173	44	1	244	49	253	27	0	329	30	254	25	1	310	1227
Total	183	1060	138	2	1383	119	799	223	11	1152	190	941	88	9	1228	130	900	92	3	1125	4888
05:00 PM	56	313	39	0	408	35	185	66	7	293	46	247	24	2	319	28	234	29	1	292	1312
05:15 PM	62	292	35	3	392	39	234	50	3	326	45	274	17	0	336	16	265	32	4	317	1371
05:30 PM	55	318	31	0	404	31	199	62	13	305	49	269	8	5	331	16	241	32	3	292	1332
05:45 PM	57	304	55	1	417	34	219	52	9	314	53	284	12	1	350	20	255	28	2	305	1386
Total	230	1227	160	4	1621	139	837	230	32	1238	193	1074	61	8	1336	80	995	121	10	1206	5401
Grand Total	634	3158	486	12	4290	525	4210	708	76	5519	712	4183	255	19	5169	422	3547	313	35	4317	19295
Apprch %	14.8	73.6	11.3	0.3		9.5	76.3	12.8	1.4		13.8	80.9	4.9	0.4		9.8	82.2	7.3	0.8		
Total %	3.3	16.4	2.5	0.1	22.2	2.7	21.8	3.7	0.4	28.6	3.7	21.7	1.3	0.1	26.8	2.2	18.4	1.6	0.2	22.4	
Pass Cars	619	3086	480	12	4197	518	4156	685	76	5435	694	4115	251	19	5079	417	3484	311	35	4247	18958
% Pass Cars	97.6	97.7	98.8	100	97.8	98.7	98.7	96.8	100	98.5	97.5	98.4	98.4	100	98.3	98.8	98.2	99.4	100	98.4	98.3
Trucks	15	72	6	0	93	7	54	23	0	84	18	68	4	0	90	5	63	2	0	70	337
% Trucks	2.4	2.3	1.2	0	2.2	1.3	1.3	3.2	0	1.5	2.5	1.6	1.6	0	1.7	1.2	1.8	0.6	0	1.6	1.7

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Client: K&H
Intersection Name: NW119ST_SR7
Opertaors Name: DM & MR
Weather: Sunny

File Name : NW119 ST_SR7
Site Code : 00001201
Start Date : 4/22/2015
Page No : 2

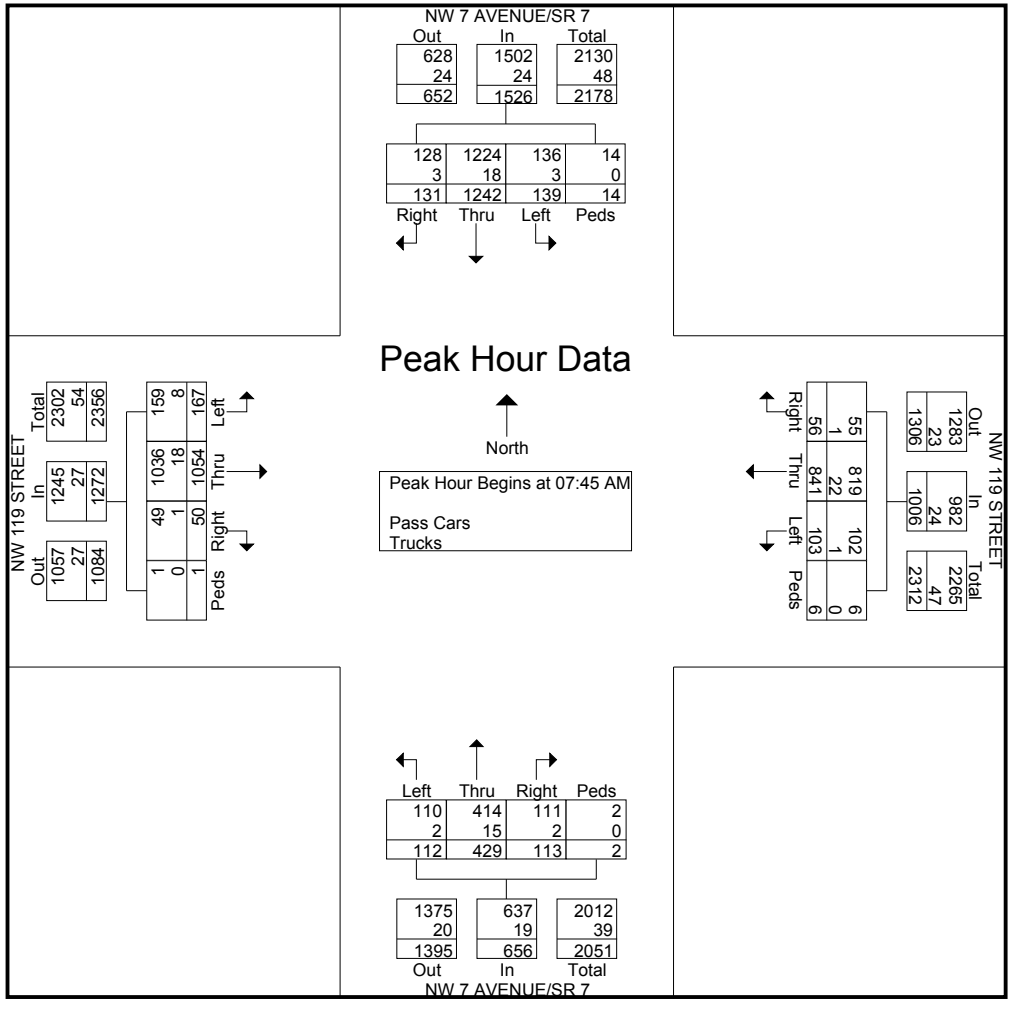
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	23	111	**29**	**1**	164	**42**	**351**	30	0	423	43	**312**	10	0	**365**	27	**238**	12	1	278	1230
08:00 AM	31	**113**	28	0	**172**	38	350	33	**9**	**430**	**50**	289	**14**	**1**	354	**32**	231	**18**	**4**	**285**	**1241**
08:15 AM	**35**	105	27	1	168	26	248	**45**	4	323	33	240	12	0	285	28	205	16	0	249	1025
08:30 AM	23	100	29	0	152	33	293	23	1	350	41	213	14	0	268	16	167	10	1	194	964
Total Volume	112	429	113	2	656	139	1242	131	14	1526	167	1054	50	1	1272	103	841	56	6	1006	4460
% App. Total	17.1	65.4	17.2	0.3		9.1	81.4	8.6	0.9		13.1	82.9	3.9	0.1		10.2	83.6	5.6	0.6		
PHF	.800	.949	.974	.500	.953	.827	.885	.728	.389	.887	.835	.845	.893	.250	.871	.805	.883	.778	.375	.882	.898
Pass Cars	110	414	111	2	637	136	1224	128	14	1502	159	1036	49	1	1245	102	819	55	6	982	4366
% Pass Cars	98.2	96.5	98.2	100	97.1	97.8	98.6	97.7	100	98.4	95.2	98.3	98.0	100	97.9	99.0	97.4	98.2	100	97.6	97.9
Trucks	2	15	2	0	19	3	18	3	0	24	8	18	1	0	27	1	22	1	0	24	94
% Trucks	1.8	3.5	1.8	0	2.9	2.2	1.4	2.3	0	1.6	4.8	1.7	2.0	0	2.1	1.0	2.6	1.8	0	2.4	2.1

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Intersection Name: NW119ST_SR7
Opertaors Name: DM & MR
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File Name : NW119 ST_SR7
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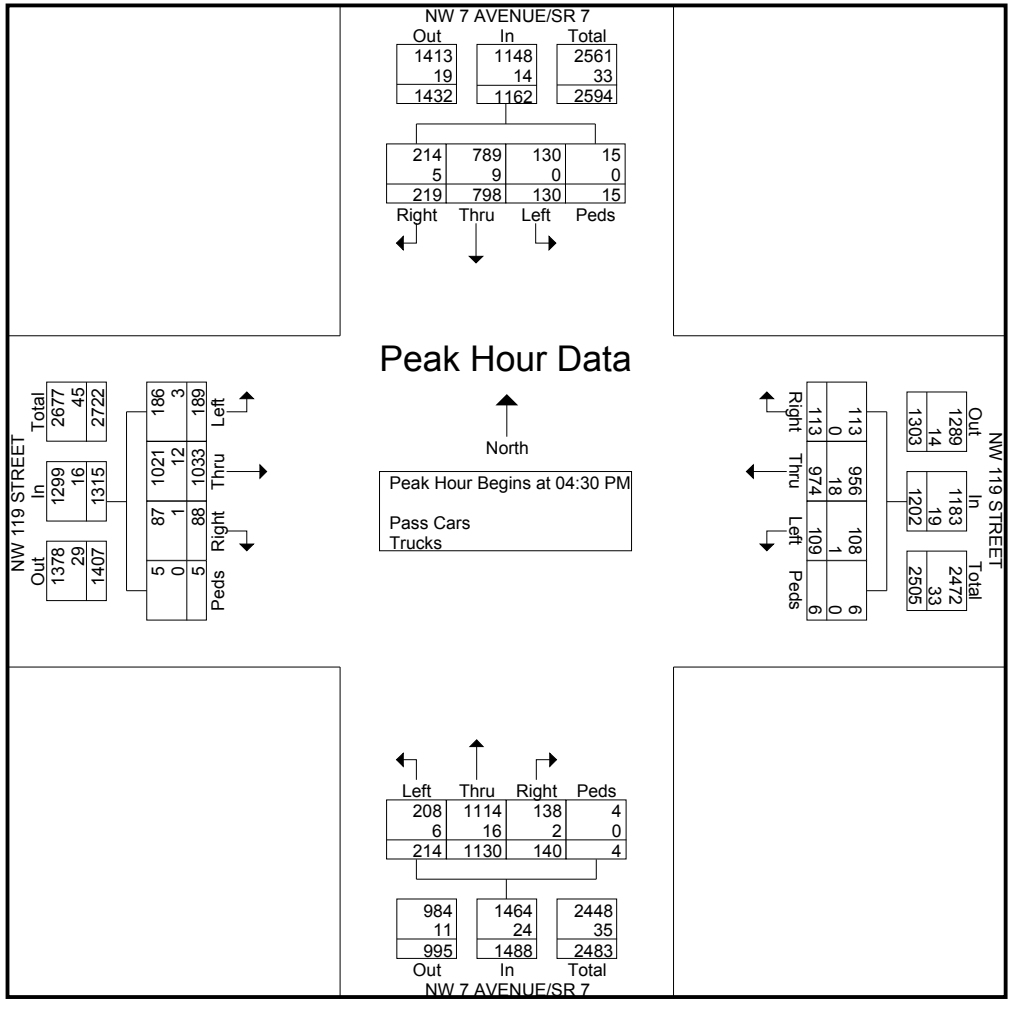
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	50	254	**40**	0	344	30	206	59	4	299	**49**	259	20	**3**	331	**35**	221	27	0	283	1257
04:45 PM	46	271	26	1	344	26	173	44	1	244	49	253	**27**	0	329	30	254	25	1	310	1227
05:00 PM	56	**313**	39	0	**408**	35	185	**66**	**7**	293	46	247	24	2	319	28	234	29	1	292	1312
05:15 PM	**62**	292	35	**3**	392	**39**	**234**	50	3	**326**	45	**274**	17	0	**336**	16	**265**	**32**	**4**	**317**	**1371**
Total Volume	214	1130	140	4	1488	130	798	219	15	1162	189	1033	88	5	1315	109	974	113	6	1202	5167
% App. Total	14.4	75.9	9.4	0.3		11.2	68.7	18.8	1.3		14.4	78.6	6.7	0.4		9.1	81	9.4	0.5		
PHF	.863	.903	.875	.333	.912	.833	.853	.830	.536	.891	.964	.943	.815	.417	.978	.779	.919	.883	.375	.948	.942
Pass Cars	208	1114	138	4	1464	130	789	214	15	1148	186	1021	87	5	1299	108	956	113	6	1183	5094
% Pass Cars	97.2	98.6	98.6	100	98.4	100	98.9	97.7	100	98.8	98.4	98.8	98.9	100	98.8	99.1	98.2	100	100	98.4	98.6
Trucks	6	16	2	0	24	0	9	5	0	14	3	12	1	0	16	1	18	0	0	19	73
% Trucks	2.8	1.4	1.4	0	1.6	0	1.1	2.3	0	1.2	1.6	1.2	1.1	0	1.2	0.9	1.8	0	0	1.6	1.4

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File Name : NW119 ST_SR7
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Client: K&H
Intersectionn Name: NW119ST_SBONRAMPS
Operators Name: CG
Weather: Sunny

File Name : NW 119 ST_SB Ramps
Site Code : 00001202
Start Date : 4/22/2015
Page No : 1

Groups Printed- Pass_Cars - Trucks

	I-95 SB ON-RAMPS Northbound					I-95 SB ON-RAMPS Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	1	1	0	0	0	0	0	0	143	118	0	261	31	162	0	1	194	456
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	193	191	1	385	27	229	0	0	256	641
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	215	140	0	355	31	299	0	0	330	685
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	229	116	9	354	31	306	0	0	337	691
Total	0	0	0	1	1	0	0	0	0	0	0	780	565	10	1355	120	996	0	1	1117	2473
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	228	105	14	347	35	310	0	0	345	692
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	205	118	1	324	28	253	0	0	281	605
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	211	126	3	340	22	302	0	0	324	664
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	258	125	1	384	25	244	0	0	269	653
Total	0	0	0	0	0	0	0	0	0	0	0	902	474	19	1395	110	1109	0	0	1219	2614
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	237	100	0	337	43	323	0	0	366	703
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	201	109	0	310	41	324	0	0	365	675
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	221	94	2	317	45	284	0	0	329	646
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	238	107	0	345	42	307	0	0	349	694
Total	0	0	0	0	0	0	0	0	0	0	0	897	410	2	1309	171	1238	0	0	1409	2718
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	223	100	0	323	42	343	0	0	385	708
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	219	124	1	344	50	336	0	0	386	730
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	239	123	0	362	36	324	0	0	360	722
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	202	136	0	338	44	339	0	0	383	721
Total	0	0	0	0	0	0	0	0	0	0	0	883	483	1	1367	172	1342	0	0	1514	2881
Grand Total	0	0	0	1	1	0	0	0	0	0	0	3462	1932	32	5426	573	4685	0	1	5259	10686
Apprch %	0	0	0	100		0	0	0	0		0	63.8	35.6	0.6		10.9	89.1	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	32.4	18.1	0.3	50.8	5.4	43.8	0	0	49.2	
Pass_Cars	0	0	0	0	0	0	0	0	0	0	0	3389	1893	31	5313	566	4551	0	1	5118	10431
% Pass_Cars	0	0	0	0	0	0	0	0	0	0	0	97.9	98	96.9	97.9	98.8	97.1	0	100	97.3	97.6
Trucks	0	0	0	1	1	0	0	0	0	0	0	73	39	1	113	7	134	0	0	141	255
% Trucks	0	0	0	100	100	0	0	0	0	0	0	2.1	2	3.1	2.1	1.2	2.9	0	0	2.7	2.4

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Client: K&H
Intersectionn Name: NW119ST_SBONRAMPS
Operators Name: CG
Weather: Sunny

File Name : NW 119 ST_SB Ramps
Site Code : 00001202
Start Date : 4/22/2015
Page No : 2

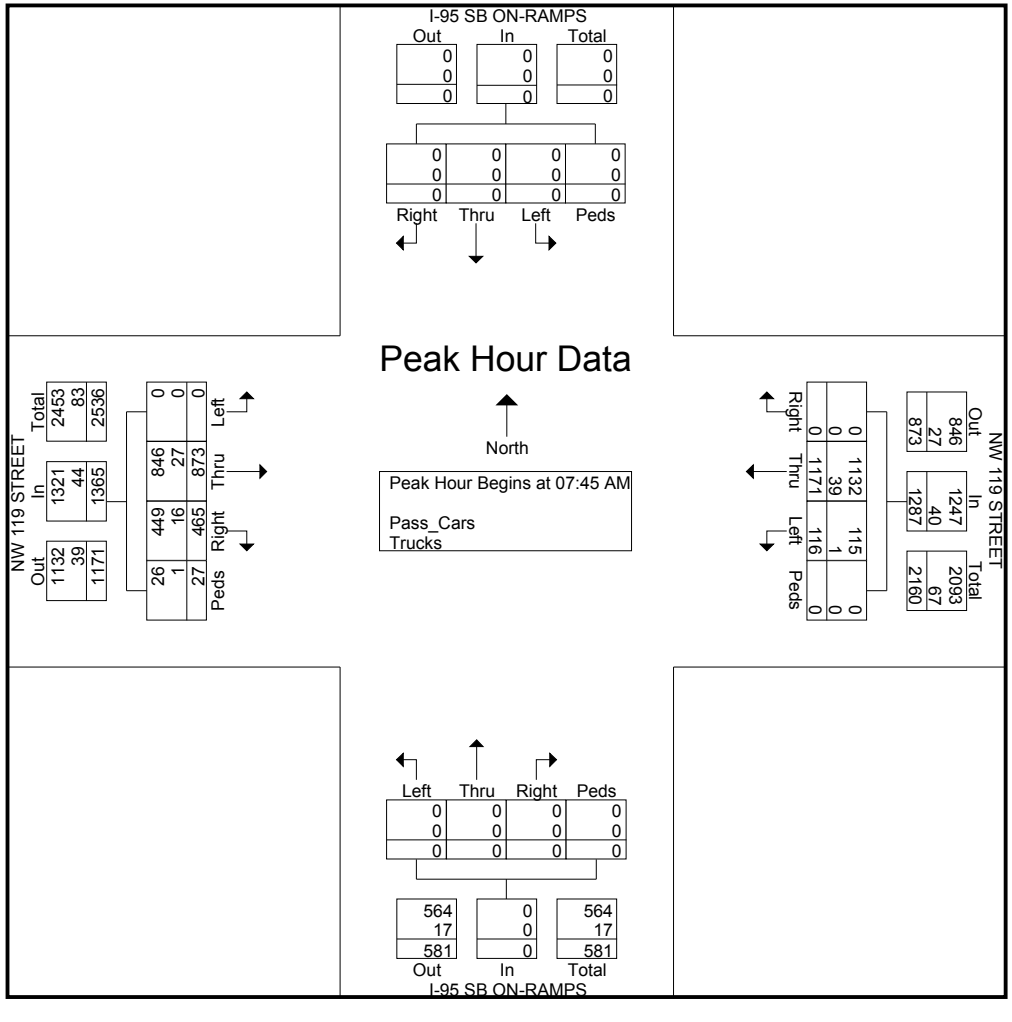
	I-95 SB ON-RAMPS Northbound					I-95 SB ON-RAMPS Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	**229**	116	9	**354**	31	306	0	0	337	691
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	228	105	**14**	347	**35**	**310**	0	0	**345**	**692**
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	205	118	1	324	28	253	0	0	281	605
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	211	**126**	3	340	22	302	0	0	324	664
Total Volume	0	0	0	0	0	0	0	0	0	0	0	873	465	27	1365	116	1171	0	0	1287	2652
% App. Total	0	0	0	0		0	0	0	0		0	64	34.1	2		9	91	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.953	.923	.482	.964	.829	.944	.000	.000	.933	.958
Pass_Cars	0	0	0	0	0	0	0	0	0	0	0	846	449	26	1321	115	1132	0	0	1247	2568
% Pass_Cars	0	0	0	0	0	0	0	0	0	0	0	96.9	96.6	96.3	96.8	99.1	96.7	0	0	96.9	96.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	27	16	1	44	1	39	0	0	40	84
% Trucks	0	0	0	0	0	0	0	0	0	0	0	3.1	3.4	3.7	3.2	0.9	3.3	0	0	3.1	3.2

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Intersectionn Name: NW119ST_SBONRAMPS
Operators Name: CG
Weather: Sunny

File Name : NW 119 ST_SB Ramps
Site Code : 00001202
Start Date : 4/22/2015
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Page No : 4

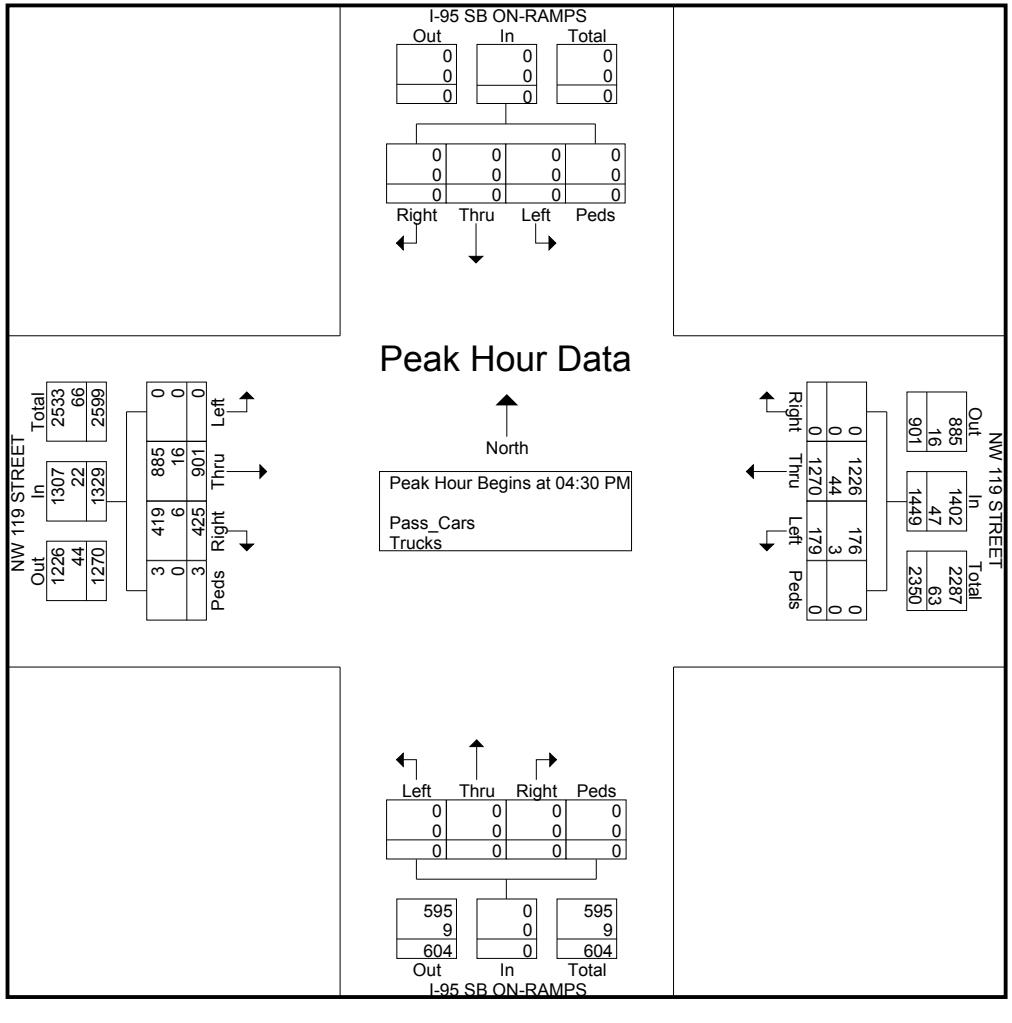
	I-95 SB ON-RAMPS Northbound					I-95 SB ON-RAMPS Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	221	94	**2**	317	45	284	0	0	329	646
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	**238**	107	0	**345**	42	307	0	0	349	694
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	223	100	0	323	42	**343**	0	0	385	708
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	219	**124**	1	344	**50**	336	0	0	**386**	**730**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	901	425	3	1329	179	1270	0	0	1449	2778
% App. Total	0	0	0	0		0	0	0	0		0	67.8	32	0.2		12.4	87.6	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.946	.857	.375	.963	.895	.926	.000	.000	.938	.951
Pass_Cars	0	0	0	0	0	0	0	0	0	0	0	885	419	3	1307	176	1226	0	0	1402	2709
% Pass_Cars	0	0	0	0	0	0	0	0	0	0	0	98.2	98.6	100	98.3	98.3	96.5	0	0	96.8	97.5
Trucks	0	0	0	0	0	0	0	0	0	0	0	16	6	0	22	3	44	0	0	47	69
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.8	1.4	0	1.7	1.7	3.5	0	0	3.2	2.5

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Operators Name: CG
Weather: Sunny

File Name : NW 119 ST_SB Ramps
Site Code : 00001202
Start Date : 4/22/2015
Page No : 5



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Client: K&H
Intersection Name:NW 119 ST _I-95NBRAMP
Opertaors Name: ZV
Weather: Sunny

File Name : NW119 st _ NB Ramps
Site Code : 00001203
Start Date : 4/22/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	I95 NB RAMPS Northbound					I95 NB RAMPS Southbound					NW119 STREET Eastbound					NW119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	84	3	21	2	110	0	0	0	0	0	27	110	0	0	137	0	146	15	0	161	408
07:15 AM	110	8	30	5	153	0	0	0	0	0	45	140	0	0	185	0	160	16	0	176	514
07:30 AM	150	13	30	0	193	0	0	0	0	0	42	175	0	0	217	0	167	21	0	188	598
07:45 AM	154	12	36	1	203	0	0	0	0	0	55	162	0	0	217	0	172	17	0	189	609
Total	498	36	117	8	659	0	0	0	0	0	169	587	0	0	756	0	645	69	0	714	2129
08:00 AM	117	3	45	0	165	0	0	0	2	2	61	186	0	0	247	0	180	21	0	201	615
08:15 AM	138	6	41	3	188	0	0	0	2	2	54	157	0	0	211	0	169	21	0	190	591
08:30 AM	105	7	38	0	150	0	0	0	2	2	42	194	0	0	236	0	174	11	1	186	574
08:45 AM	102	6	36	0	144	0	0	0	4	4	41	175	0	0	216	0	162	8	0	170	534
Total	462	22	160	3	647	0	0	0	10	10	198	712	0	0	910	0	685	61	1	747	2314
*** BREAK ***																					
04:00 PM	98	8	20	4	130	0	0	0	4	4	46	153	0	0	199	0	207	26	1	234	567
04:15 PM	116	7	25	2	150	0	0	0	1	1	49	155	0	0	204	0	203	34	0	237	592
04:30 PM	116	9	27	0	152	0	0	0	1	1	45	177	0	2	224	0	209	21	0	230	607
04:45 PM	126	10	11	0	147	0	0	0	4	4	47	167	0	5	219	0	219	45	0	264	634
Total	456	34	83	6	579	0	0	0	10	10	187	652	0	7	846	0	838	126	1	965	2400
05:00 PM	127	8	18	0	153	0	0	0	6	6	55	164	0	0	219	0	246	36	0	282	660
05:15 PM	105	13	19	1	138	0	0	0	1	1	52	177	0	0	229	0	283	33	0	316	684
05:30 PM	99	12	23	1	135	0	0	0	4	4	41	172	0	0	213	0	291	25	1	317	669
05:45 PM	113	5	21	3	142	0	0	0	6	6	54	180	0	1	235	1	231	20	0	252	635
Total	444	38	81	5	568	0	0	0	17	17	202	693	0	1	896	1	1051	114	1	1167	2648
Grand Total	1860	130	441	22	2453	0	0	0	37	37	756	2644	0	8	3408	1	3219	370	3	3593	9491
Apprch %	75.8	5.3	18	0.9		0	0	0	100		22.2	77.6	0	0.2		0	89.6	10.3	0.1		
Total %	19.6	1.4	4.6	0.2	25.8	0	0	0	0.4	0.4	8	27.9	0	0.1	35.9	0	33.9	3.9	0	37.9	
Pass Cars	1779	129	434	22	2364	0	0	0	37	37	739	2612	0	8	3359	1	3178	366	3	3548	9308
% Pass Cars	95.6	99.2	98.4	100	96.4	0	0	0	100	100	97.8	98.8	0	100	98.6	100	98.7	98.9	100	98.7	98.1
Trucks	81	1	7	0	89	0	0	0	0	0	17	32	0	0	49	0	41	4	0	45	183
% Trucks	4.4	0.8	1.6	0	3.6	0	0	0	0	0	2.2	1.2	0	0	1.4	0	1.3	1.1	0	1.3	1.9

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Client: K&H
Intersection Name:NW 119 ST _I-95NBRAMP
Opertaors Name: ZV
Weather: Sunny

File Name : NW119 st _ NB Ramps
Site Code : 00001203
Start Date : 4/22/2015
Page No : 2

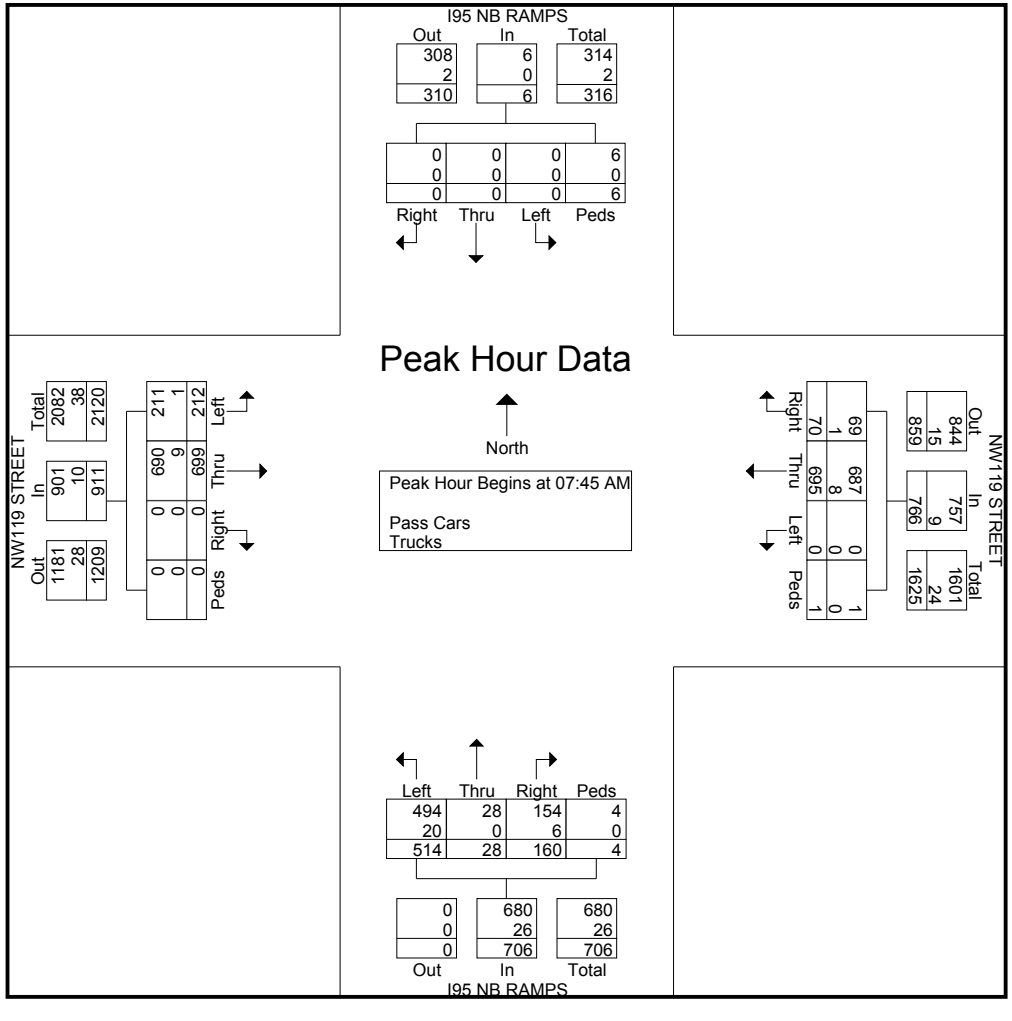
	I95 NB RAMPS Northbound					I95 NB RAMPS Southbound					NW119 STREET Eastbound					NW119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**154**	**12**	36	1	**203**	0	0	0	0	0	55	162	0	0	217	0	172	17	0	189	609
08:00 AM	117	3	**45**	0	165	0	0	0	**2**	**2**	**61**	186	0	0	**247**	0	**180**	**21**	0	**201**	**615**
08:15 AM	138	6	41	**3**	188	0	0	0	2	2	54	157	0	0	211	0	169	21	0	190	591
08:30 AM	105	7	38	0	150	0	0	0	2	2	42	**194**	0	0	236	0	174	11	**1**	186	574
Total Volume	514	28	160	4	706	0	0	0	6	6	212	699	0	0	911	0	695	70	1	766	2389
% App. Total	72.8	4	22.7	0.6		0	0	0	100		23.3	76.7	0	0		0	90.7	9.1	0.1		
PHF	.834	.583	.889	.333	.869	.000	.000	.000	.750	.750	.869	.901	.000	.000	.922	.000	.965	.833	.250	.953	.971
Pass Cars	494	28	154	4	680	0	0	0	6	6	211	690	0	0	901	0	687	69	1	757	2344
% Pass Cars	96.1	100	96.3	100	96.3	0	0	0	100	100	99.5	98.7	0	0	98.9	0	98.8	98.6	100	98.8	98.1
Trucks	20	0	6	0	26	0	0	0	0	0	1	9	0	0	10	0	8	1	0	9	45
% Trucks	3.9	0	3.8	0	3.7	0	0	0	0	0	0.5	1.3	0	0	1.1	0	1.2	1.4	0	1.2	1.9

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Client: K&H
Intersection Name:NW 119 ST _I-95NBRAMP
Opertaors Name: ZV
Weather: Sunny

File Name : NW119 st _ NB Ramps
Site Code : 00001203
Start Date : 4/22/2015
Page No : 3



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Opertaors Name: ZV
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File Name : NW119 st _ NB Ramps
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Page No : 4

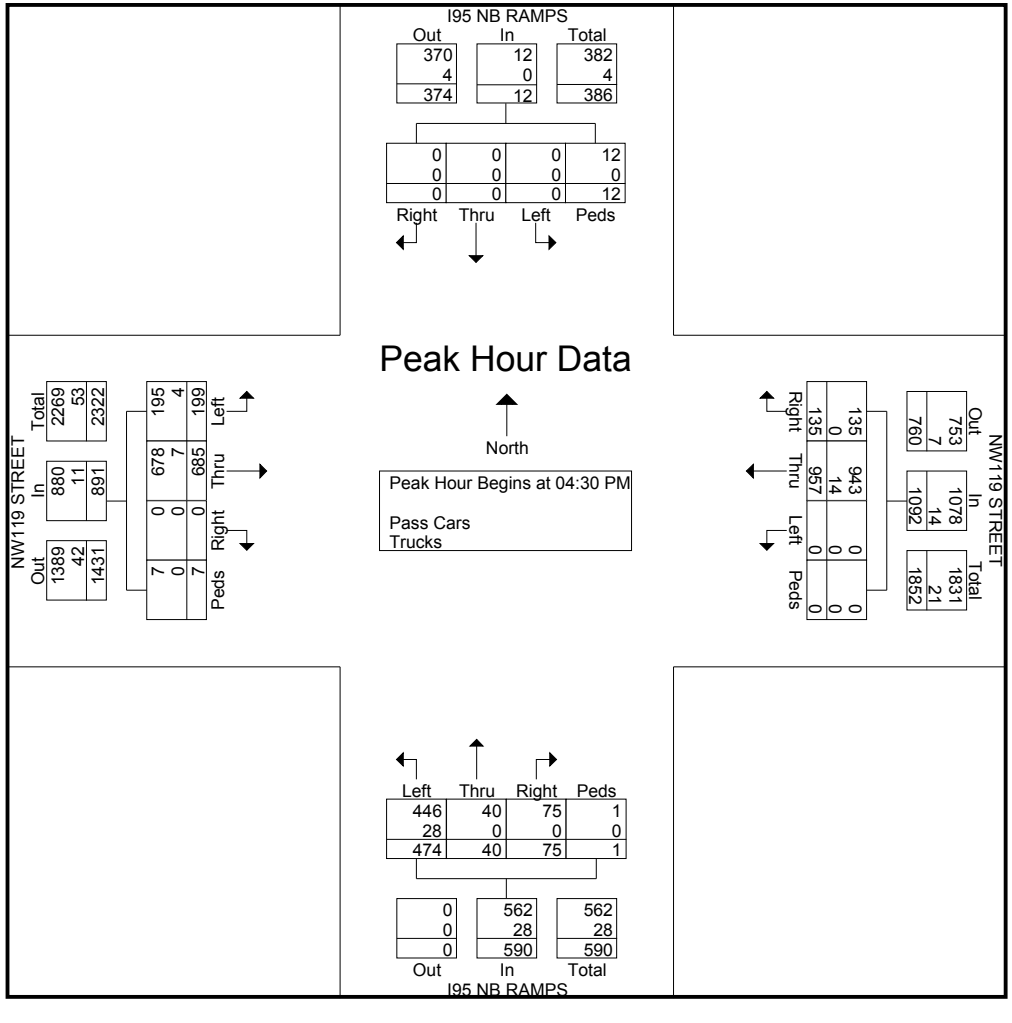
	I95 NB RAMPS Northbound					I95 NB RAMPS Southbound					NW119 STREET Eastbound					NW119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	116	9	**27**	0	152	0	0	0	1	1	45	**177**	0	2	224	0	209	21	0	230	607
04:45 PM	126	10	11	0	147	0	0	0	4	4	47	167	0	**5**	219	0	219	**45**	0	264	634
05:00 PM	**127**	8	18	0	**153**	0	0	0	**6**	**6**	**55**	164	0	0	219	0	246	36	0	282	660
05:15 PM	105	**13**	19	**1**	138	0	0	0	1	1	52	177	0	0	**229**	0	**283**	33	0	**316**	**684**
Total Volume	474	40	75	1	590	0	0	0	12	12	199	685	0	7	891	0	957	135	0	1092	2585
% App. Total	80.3	6.8	12.7	0.2		0	0	0	100		22.3	76.9	0	0.8		0	87.6	12.4	0		
PHF	.933	.769	.694	.250	.964	.000	.000	.000	.500	.500	.905	.968	.000	.350	.973	.000	.845	.750	.000	.864	.945
Pass Cars	446	40	75	1	562	0	0	0	12	12	195	678	0	7	880	0	943	135	0	1078	2532
% Pass Cars	94.1	100	100	100	95.3	0	0	0	100	100	98.0	99.0	0	100	98.8	0	98.5	100	0	98.7	97.9
Trucks	28	0	0	0	28	0	0	0	0	0	4	7	0	0	11	0	14	0	0	14	53
% Trucks	5.9	0	0	0	4.7	0	0	0	0	0	2.0	1.0	0	0	1.2	0	1.5	0	0	1.3	2.1

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Opertaors Name: ZV
Weather: Sunny

File Name : NW119 st _ NB Ramps
Site Code : 00001203
Start Date : 4/22/2015
Page No : 5



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Client: K&H
Intersection Name: NW119ST_NW5AVE
Opertaors Name: MA & MS
Weather: Sunny

File Name : NW 119 ST_NW 5 AVE
Site Code : 00001204
Start Date : 4/22/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 5 AVENUE Northbound					NW 5 AVENUE Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	5	1	4	0	10	0	1	12	1	14	6	115	10	0	131	4	126	2	1	133	288
07:15 AM	9	6	6	3	24	1	21	10	1	33	7	135	25	0	167	20	131	1	4	156	380
07:30 AM	17	13	10	1	41	1	35	10	3	49	7	170	25	3	205	20	179	2	1	202	497
07:45 AM	19	22	16	2	59	3	43	11	2	59	3	171	26	0	200	49	174	5	4	232	550
Total	50	42	36	6	134	5	100	43	7	155	23	591	86	3	703	93	610	10	10	723	1715
08:00 AM	21	12	12	0	45	2	21	8	3	34	5	203	19	0	227	9	158	3	2	172	478
08:15 AM	9	3	6	1	19	2	16	6	2	26	8	182	21	0	211	15	168	3	0	186	442
08:30 AM	7	2	5	0	14	2	8	13	2	25	6	201	21	1	229	13	179	0	1	193	461
08:45 AM	8	4	8	0	20	0	2	6	2	10	5	200	11	0	216	14	168	1	1	184	430
Total	45	21	31	1	98	6	47	33	9	95	24	786	72	1	883	51	673	7	4	735	1811
*** BREAK ***																					
04:00 PM	23	11	16	0	50	0	6	7	0	13	7	141	11	0	159	10	207	2	2	221	443
04:15 PM	21	6	16	0	43	2	4	9	0	15	9	160	15	0	184	11	230	1	0	242	484
04:30 PM	14	16	14	2	46	2	9	10	1	22	17	183	14	0	214	8	212	3	3	226	508
04:45 PM	16	7	22	0	45	1	11	6	1	19	12	158	10	0	180	13	238	2	1	254	498
Total	74	40	68	2	184	5	30	32	2	69	45	642	50	0	737	42	887	8	6	943	1933
05:00 PM	19	18	14	2	53	2	6	12	3	23	12	173	18	0	203	11	259	3	5	278	557
05:15 PM	17	11	17	0	45	3	3	8	1	15	13	166	19	1	199	15	262	7	0	284	543
05:30 PM	22	14	17	0	53	0	3	12	3	18	17	166	9	0	192	11	260	5	2	278	541
05:45 PM	15	17	15	0	47	1	6	4	2	13	11	169	17	0	197	11	229	7	2	249	506
Total	73	60	63	2	198	6	18	36	9	69	53	674	63	1	791	48	1010	22	9	1089	2147
Grand Total	242	163	198	11	614	22	195	144	27	388	145	2693	271	5	3114	234	3180	47	29	3490	7606
Apprch %	39.4	26.5	32.2	1.8		5.7	50.3	37.1	7		4.7	86.5	8.7	0.2		6.7	91.1	1.3	0.8		
Total %	3.2	2.1	2.6	0.1	8.1	0.3	2.6	1.9	0.4	5.1	1.9	35.4	3.6	0.1	40.9	3.1	41.8	0.6	0.4	45.9	
Pass Cars	241	161	195	11	608	21	193	138	27	379	143	2610	268	5	3026	231	3102	46	29	3408	7421
% Pass Cars	99.6	98.8	98.5	100	99	95.5	99	95.8	100	97.7	98.6	96.9	98.9	100	97.2	98.7	97.5	97.9	100	97.7	97.6
Trucks	1	2	3	0	6	1	2	6	0	9	2	83	3	0	88	3	78	1	0	82	185
% Trucks	0.4	1.2	1.5	0	1	4.5	1	4.2	0	2.3	1.4	3.1	1.1	0	2.8	1.3	2.5	2.1	0	2.3	2.4

F.R. Aleman & Associates, Inc

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Tax: (305)599-8749

Client: K&H
Intersection Name: NW119ST_NW5AVE
Opertaors Name: MA & MS
Weather: Sunny

File Name : NW 119 ST_NW 5 AVE
Site Code : 00001204
Start Date : 4/22/2015
Page No : 2

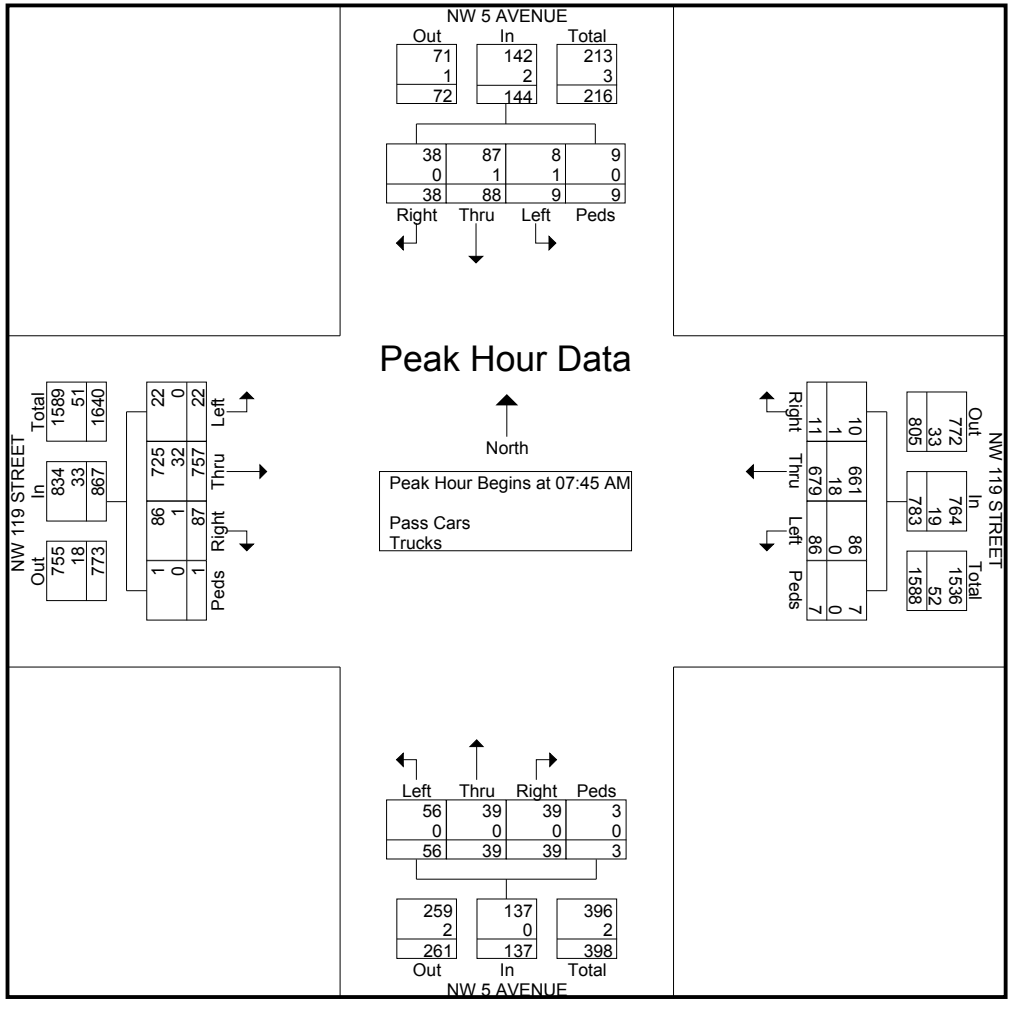
	NW 5 AVENUE Northbound					NW 5 AVENUE Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	19	**22**	**16**	**2**	**59**	**3**	**43**	11	2	**59**	3	171	**26**	0	200	**49**	174	**5**	**4**	**232**	**550**
08:00 AM	**21**	12	12	0	45	2	21	8	**3**	34	5	**203**	19	0	227	9	158	3	2	172	478
08:15 AM	9	3	6	1	19	2	16	6	2	26	**8**	182	21	0	211	15	168	3	0	186	442
08:30 AM	7	2	5	0	14	2	8	**13**	2	25	6	201	21	**1**	**229**	13	**179**	0	1	193	461
Total Volume	56	39	39	3	137	9	88	38	9	144	22	757	87	1	867	86	679	11	7	783	1931
% App. Total	40.9	28.5	28.5	2.2		6.2	61.1	26.4	6.2		2.5	87.3	10	0.1		11	86.7	1.4	0.9		
PHF	.667	.443	.609	.375	.581	.750	.512	.731	.750	.610	.688	.932	.837	.250	.947	.439	.948	.550	.438	.844	.878
Pass Cars	56	39	39	3	137	8	87	38	9	142	22	725	86	1	834	86	661	10	7	764	1877
% Pass Cars	100	100	100	100	100	88.9	98.9	100	100	98.6	100	95.8	98.9	100	96.2	100	97.3	90.9	100	97.6	97.2
Trucks	0	0	0	0	0	1	1	0	0	2	0	32	1	0	33	0	18	1	0	19	54
% Trucks	0	0	0	0	0	11.1	1.1	0	0	1.4	0	4.2	1.1	0	3.8	0	2.7	9.1	0	2.4	2.8

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Opertaors Name: MA & MS
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File Name : NW 119 ST_NW 5 AVE
Site Code : 00001204
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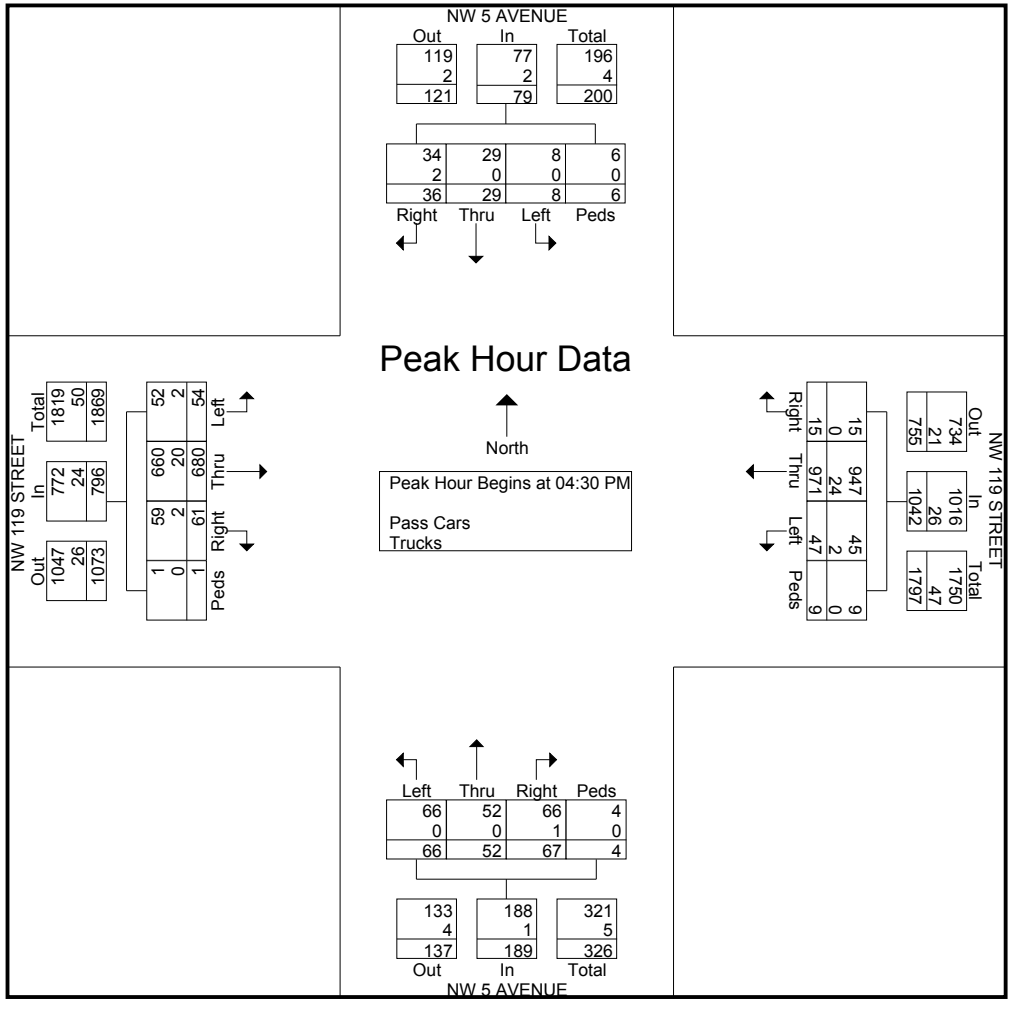
	NW 5 AVENUE Northbound					NW 5 AVENUE Southbound					NW 119 STREET Eastbound					NW 119 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	14	16	14	**2**	46	2	9	10	1	22	**17**	**183**	14	0	**214**	8	212	3	3	226	508
04:45 PM	16	7	**22**	0	45	1	**11**	6	1	19	12	158	10	0	180	13	238	2	1	254	498
05:00 PM	**19**	**18**	14	2	**53**	2	6	**12**	**3**	**23**	12	173	18	0	203	11	259	3	**5**	278	**557**
05:15 PM	17	11	17	0	45	**3**	3	8	1	15	13	166	**19**	**1**	199	**15**	**262**	**7**	0	**284**	543
Total Volume	66	52	67	4	189	8	29	36	6	79	54	680	61	1	796	47	971	15	9	1042	2106
% App. Total	34.9	27.5	35.4	2.1		10.1	36.7	45.6	7.6		6.8	85.4	7.7	0.1		4.5	93.2	1.4	0.9		
PHF	.868	.722	.761	.500	.892	.667	.659	.750	.500	.859	.794	.929	.803	.250	.930	.783	.927	.536	.450	.917	.945
Pass Cars	66	52	66	4	188	8	29	34	6	77	52	660	59	1	772	45	947	15	9	1016	2053
% Pass Cars	100	100	98.5	100	99.5	100	100	94.4	100	97.5	96.3	97.1	96.7	100	97.0	95.7	97.5	100	100	97.5	97.5
Trucks	0	0	1	0	1	0	0	2	0	2	2	20	2	0	24	2	24	0	0	26	53
% Trucks	0	0	1.5	0	0.5	0	0	5.6	0	2.5	3.7	2.9	3.3	0	3.0	4.3	2.5	0	0	2.5	2.5

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File Name : NW 119 ST_NW 5 AVE
Site Code : 00001204
Start Date : 4/22/2015
Page No : 5



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Client: K&H
Intersection Name: NW125ST_SR7
Opertaors Name: PQ & GH
Weather: Sunny

File Name : NW 125 ST_SR7
Site Code : 00001301
Start Date : 4/22/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	57	41	4	103	32	277	3	1	313	3	32	5	3	43	63	26	15	1	105	564
07:15 AM	2	73	58	1	134	36	284	8	1	329	8	36	1	1	46	63	25	19	1	108	617
07:30 AM	1	91	50	2	144	55	360	6	0	421	9	60	4	1	74	88	44	14	1	147	786
07:45 AM	3	102	48	0	153	54	337	7	0	398	7	60	7	1	75	98	28	19	0	145	771
Total	7	323	197	7	534	177	1258	24	2	1461	27	188	17	6	238	312	123	67	3	505	2738
08:00 AM	4	106	39	2	151	42	307	10	1	360	6	34	1	2	43	84	39	21	1	145	699
08:15 AM	1	127	41	1	170	66	346	6	1	419	5	30	4	3	42	106	29	28	2	165	796
08:30 AM	1	124	45	0	170	51	308	4	0	363	8	28	4	2	42	57	14	25	0	96	671
08:45 AM	6	113	46	1	166	61	294	2	0	357	8	29	4	1	42	52	16	22	1	91	656
Total	12	470	171	4	657	220	1255	22	2	1499	27	121	13	8	169	299	98	96	4	497	2822
*** BREAK ***																					
04:00 PM	2	254	39	0	295	31	142	11	0	184	11	36	0	5	52	55	28	39	1	123	654
04:15 PM	1	263	48	0	312	45	183	12	0	240	6	20	3	4	33	79	31	36	2	148	733
04:30 PM	5	306	49	2	362	33	147	6	0	186	11	20	4	1	36	74	38	31	0	143	727
04:45 PM	3	272	34	2	311	32	180	10	0	222	7	39	4	1	51	65	26	39	0	130	714
Total	11	1095	170	4	1280	141	652	39	0	832	35	115	11	11	172	273	123	145	3	544	2828
05:00 PM	8	247	44	1	300	26	205	1	0	232	8	29	4	0	41	63	42	29	0	134	707
05:15 PM	3	304	41	0	348	35	139	3	1	178	7	25	0	0	32	62	21	40	1	124	682
05:30 PM	7	274	48	5	334	41	193	3	1	238	8	40	2	1	51	82	42	40	4	168	791
05:45 PM	3	279	50	6	338	44	197	5	0	246	9	15	3	1	28	81	42	42	0	165	777
Total	21	1104	183	12	1320	146	734	12	2	894	32	109	9	2	152	288	147	151	5	591	2957
Grand Total	51	2992	721	27	3791	684	3899	97	6	4686	121	533	50	27	731	1172	491	459	15	2137	11345
Apprch %	1.3	78.9	19	0.7		14.6	83.2	2.1	0.1		16.6	72.9	6.8	3.7		54.8	23	21.5	0.7		
Total %	0.4	26.4	6.4	0.2	33.4	6	34.4	0.9	0.1	41.3	1.1	4.7	0.4	0.2	6.4	10.3	4.3	4	0.1	18.8	
Pass Cars	51	2936	710	27	3724	676	3820	94	6	4596	121	522	47	27	717	1151	481	451	15	2098	11135
% Pass Cars	100	98.1	98.5	100	98.2	98.8	98	96.9	100	98.1	100	97.9	94	100	98.1	98.2	98	98.3	100	98.2	98.1
Trucks	0	56	11	0	67	8	79	3	0	90	0	11	3	0	14	21	10	8	0	39	210
% Trucks	0	1.9	1.5	0	1.8	1.2	2	3.1	0	1.9	0	2.1	6	0	1.9	1.8	2	1.7	0	1.8	1.9

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Opertaors Name: PQ & GH
Weather: Sunny

File Name : NW 125 ST_SR7
Site Code : 00001301
Start Date : 4/22/2015
Page No : 2

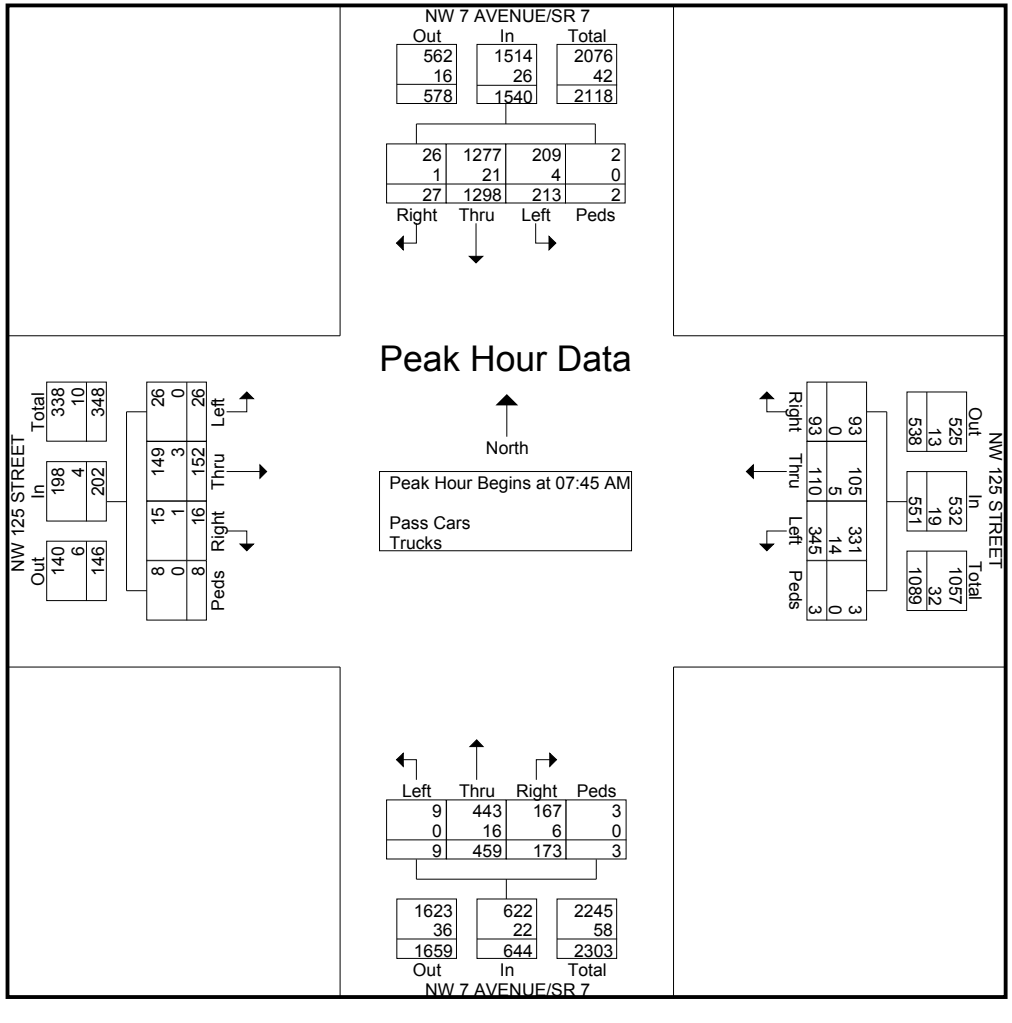
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	3	102	**48**	0	153	54	337	7	0	398	7	**60**	**7**	1	**75**	98	28	19	0	145	771
08:00 AM	**4**	106	39	**2**	151	42	307	**10**	**1**	360	6	34	1	2	43	84	**39**	21	1	145	699
08:15 AM	1	**127**	41	1	**170**	**66**	**346**	6	1	**419**	5	30	4	**3**	42	**106**	29	**28**	**2**	**165**	**796**
08:30 AM	1	124	45	0	170	51	308	4	0	363	**8**	28	4	2	42	57	14	25	0	96	671
Total Volume	9	459	173	3	644	213	1298	27	2	1540	26	152	16	8	202	345	110	93	3	551	2937
% App. Total	1.4	71.3	26.9	0.5		13.8	84.3	1.8	0.1		12.9	75.2	7.9	4		62.6	20	16.9	0.5		
PHF	.563	.904	.901	.375	.947	.807	.938	.675	.500	.919	.813	.633	.571	.667	.673	.814	.705	.830	.375	.835	.922
Pass Cars	9	443	167	3	622	209	1277	26	2	1514	26	149	15	8	198	331	105	93	3	532	2866
% Pass Cars	100	96.5	96.5	100	96.6	98.1	98.4	96.3	100	98.3	100	98.0	93.8	100	98.0	95.9	95.5	100	100	96.6	97.6
Trucks	0	16	6	0	22	4	21	1	0	26	0	3	1	0	4	14	5	0	0	19	71
% Trucks	0	3.5	3.5	0	3.4	1.9	1.6	3.7	0	1.7	0	2.0	6.3	0	2.0	4.1	4.5	0	0	3.4	2.4

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Opertaors Name: PQ & GH
Weather: Sunny

File Name : NW 125 ST_SR7
Site Code : 00001301
Start Date : 4/22/2015
Page No : 3



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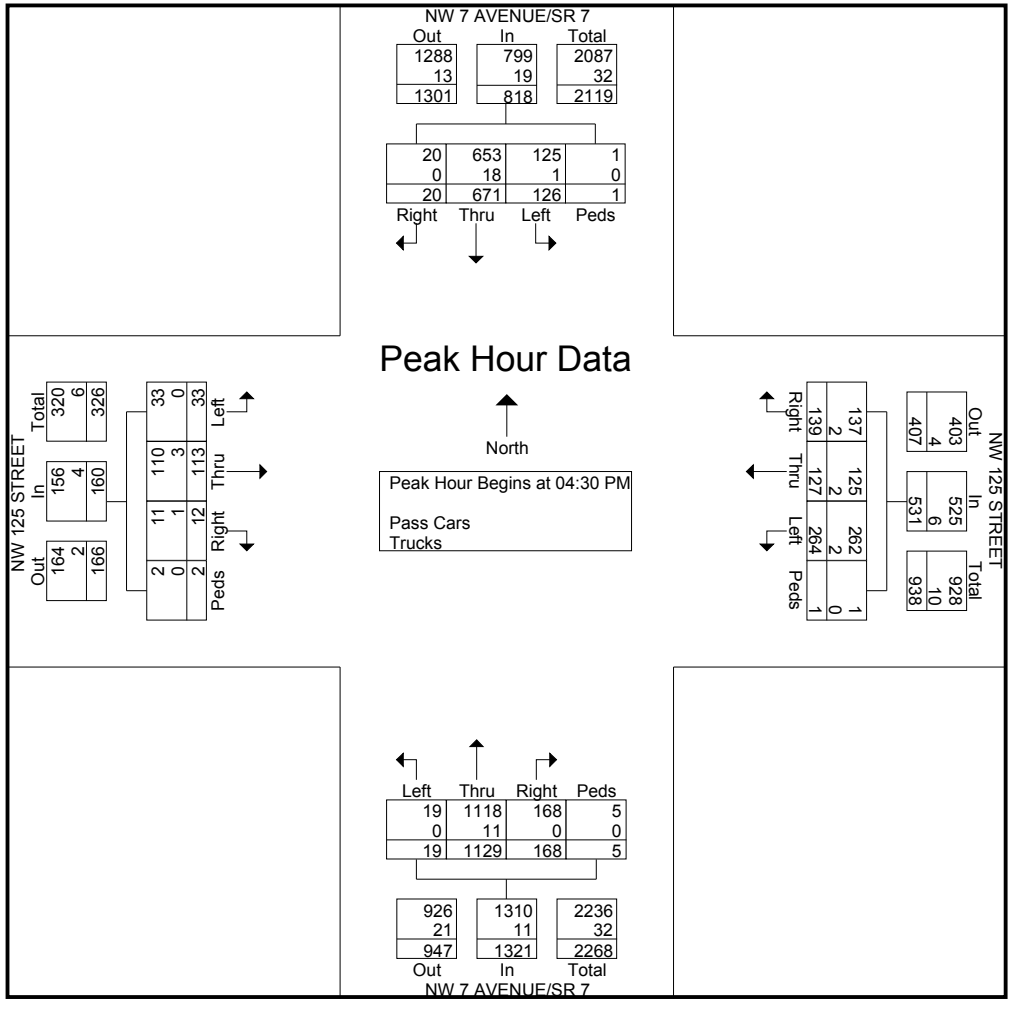
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	5	**306**	**49**	**2**	**362**	33	147	6	0	186	**11**	20	**4**	**1**	36	**74**	38	31	0	**143**	**727**
04:45 PM	3	272	34	2	311	32	180	**10**	0	222	7	**39**	4	1	**51**	65	26	39	0	130	714
05:00 PM	**8**	247	44	1	300	26	**205**	1	0	**232**	8	29	4	0	41	63	**42**	29	0	134	707
05:15 PM	3	304	41	0	348	**35**	139	3	**1**	178	7	25	0	0	32	62	21	**40**	**1**	124	682
Total Volume	19	1129	168	5	1321	126	671	20	1	818	33	113	12	2	160	264	127	139	1	531	2830
% App. Total	1.4	85.5	12.7	0.4		15.4	82	2.4	0.1		20.6	70.6	7.5	1.2		49.7	23.9	26.2	0.2		
PHF	.594	.922	.857	.625	.912	.900	.818	.500	.250	.881	.750	.724	.750	.500	.784	.892	.756	.869	.250	.928	.973
Pass Cars	19	1118	168	5	1310	125	653	20	1	799	33	110	11	2	156	262	125	137	1	525	2790
% Pass Cars	100	99.0	100	100	99.2	99.2	97.3	100	100	97.7	100	97.3	91.7	100	97.5	99.2	98.4	98.6	100	98.9	98.6
Trucks	0	11	0	0	11	1	18	0	0	19	0	3	1	0	4	2	2	2	0	6	40
% Trucks	0	1.0	0	0	0.8	0.8	2.7	0	0	2.3	0	2.7	8.3	0	2.5	0.8	1.6	1.4	0	1.1	1.4

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File Name : NW 125 ST_SR7
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Client: K&H
Intersection Name: NW125ST_SBRAMPS
Opertaors Name: AO & AH
Weather: Sunny

File Name : NW 125ST _SB Ramps
Site Code : 00001302
Start Date : 4/22/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SB RAMPS Northbound					SB RAMPS Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	3	3	45	0	14	1	60	0	75	15	0	90	76	60	0	0	136	289
07:15 AM	0	0	0	0	0	68	0	23	2	93	0	107	28	0	135	72	84	0	0	156	384
07:30 AM	0	0	0	1	1	92	3	69	1	165	0	145	24	0	169	80	82	0	0	162	497
07:45 AM	0	0	0	1	1	104	5	54	1	164	0	139	14	0	153	64	105	0	0	169	487
Total	0	0	0	5	5	309	8	160	5	482	0	466	81	0	547	292	331	0	0	623	1657
08:00 AM	0	0	0	2	2	99	11	42	1	153	0	138	9	0	147	71	117	0	0	188	490
08:15 AM	0	0	0	0	0	77	0	24	1	102	0	118	26	0	144	74	114	0	0	188	434
08:30 AM	0	0	0	2	2	74	1	14	0	89	0	111	28	0	139	61	88	0	0	149	379
08:45 AM	0	0	0	2	2	60	0	14	3	77	0	105	33	0	138	52	79	0	0	131	348
Total	0	0	0	6	6	310	12	94	5	421	0	472	96	0	568	258	398	0	0	656	1651
*** BREAK ***																					
04:00 PM	0	0	0	3	3	108	2	67	0	177	0	92	13	0	105	102	111	0	0	213	498
04:15 PM	0	0	0	2	2	104	0	67	4	175	0	118	15	0	133	104	107	0	0	211	521
04:30 PM	0	0	0	0	0	113	0	59	1	173	0	113	24	0	137	120	115	0	0	235	545
04:45 PM	0	0	0	3	3	124	0	46	2	172	0	98	16	0	114	97	118	0	0	215	504
Total	0	0	0	8	8	449	2	239	7	697	0	421	68	0	489	423	451	0	0	874	2068
05:00 PM	0	0	0	1	1	102	0	49	0	151	0	102	27	0	129	94	108	0	0	202	483
05:15 PM	0	0	0	2	2	113	0	67	4	184	0	95	29	0	124	87	111	0	0	198	508
05:30 PM	0	0	0	1	1	110	2	51	1	164	0	89	28	0	117	91	115	0	0	206	488
05:45 PM	0	0	0	3	3	121	0	56	1	178	0	76	22	0	98	83	98	0	0	181	460
Total	0	0	0	7	7	446	2	223	6	677	0	362	106	0	468	355	432	0	0	787	1939
Grand Total	0	0	0	26	26	1514	24	716	23	2277	0	1721	351	0	2072	1328	1612	0	0	2940	7315
Apprch %	0	0	0	100		66.5	1.1	31.4	1		0	83.1	16.9	0		45.2	54.8	0	0		
Total %	0	0	0	0.4	0.4	20.7	0.3	9.8	0.3	31.1	0	23.5	4.8	0	28.3	18.2	22	0	0	40.2	
Pass Cars	0	0	0	26	26	1495	24	713	23	2255	0	1697	346	0	2043	1315	1574	0	0	2889	7213
% Pass Cars	0	0	0	100	100	98.7	100	99.6	100	99	0	98.6	98.6	0	98.6	99	97.6	0	0	98.3	98.6
Trucks	0	0	0	0	0	19	0	3	0	22	0	24	5	0	29	13	38	0	0	51	102
% Trucks	0	0	0	0	0	1.3	0	0.4	0	1	0	1.4	1.4	0	1.4	1	2.4	0	0	1.7	1.4

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Client: K&H
Intersection Name: NW125ST_SBRAMPS
Opertaors Name: AO & AH
Weather: Sunny

File Name : NW 125ST _SB Ramps
Site Code : 00001302
Start Date : 4/22/2015
Page No : 2

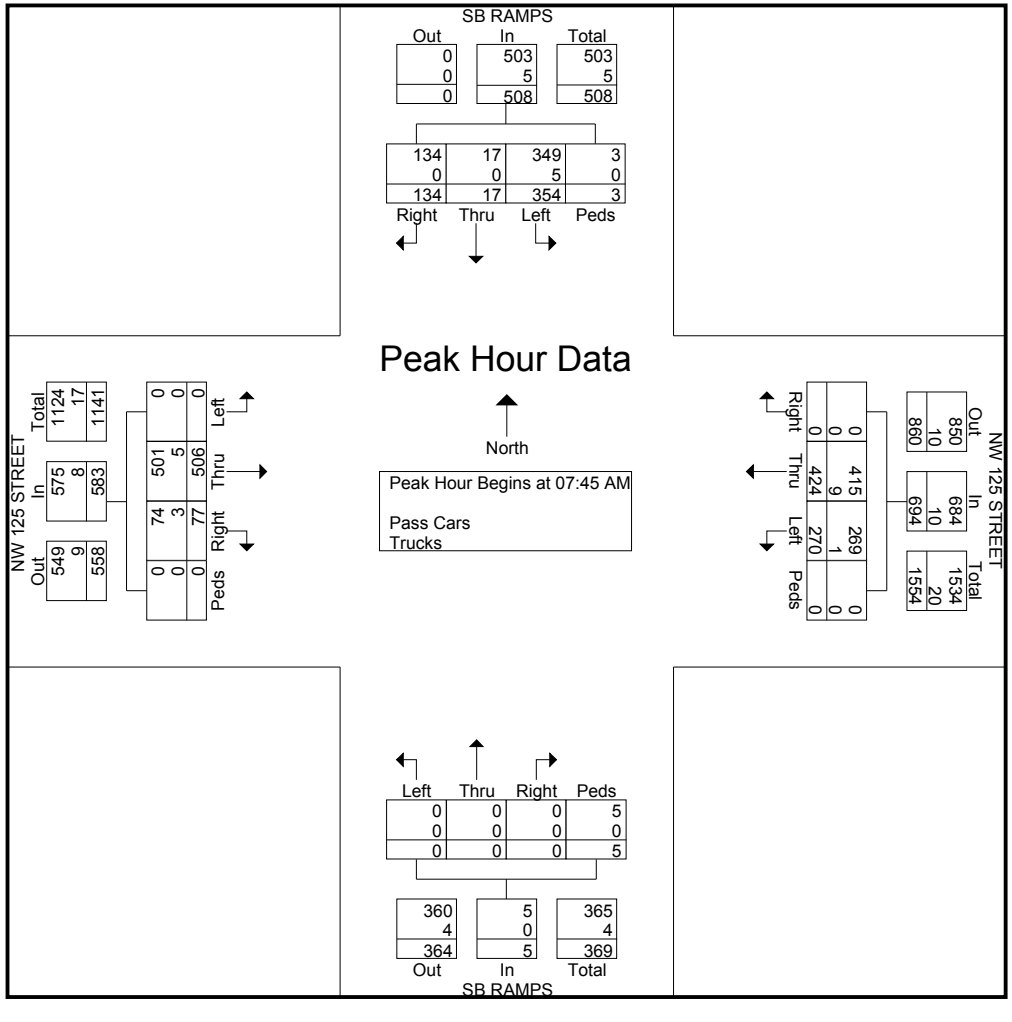
	SB RAMPS Northbound					SB RAMPS Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	1	1	**104**	5	**54**	**1**	**164**	0	**139**	14	0	**153**	64	105	0	0	169	487
08:00 AM	0	0	0	**2**	**2**	99	**11**	42	1	153	0	138	9	0	147	71	**117**	0	0	**188**	**490**
08:15 AM	0	0	0	0	0	77	0	24	1	102	0	118	26	0	144	**74**	114	0	0	188	434
08:30 AM	0	0	0	2	2	74	1	14	0	89	0	111	**28**	0	139	61	88	0	0	149	379
Total Volume	0	0	0	5	5	354	17	134	3	508	0	506	77	0	583	270	424	0	0	694	1790
% App. Total	0	0	0	100		69.7	3.3	26.4	0.6		0	86.8	13.2	0		38.9	61.1	0	0		
PHF	.000	.000	.000	.625	.625	.851	.386	.620	.750	.774	.000	.910	.688	.000	.953	.912	.906	.000	.000	.923	.913
Pass Cars	0	0	0	5	5	349	17	134	3	503	0	501	74	0	575	269	415	0	0	684	1767
% Pass Cars	0	0	0	100	100	98.6	100	100	100	99.0	0	99.0	96.1	0	98.6	99.6	97.9	0	0	98.6	98.7
Trucks	0	0	0	0	0	5	0	0	0	5	0	5	3	0	8	1	9	0	0	10	23
% Trucks	0	0	0	0	0	1.4	0	0	0	1.0	0	1.0	3.9	0	1.4	0.4	2.1	0	0	1.4	1.3

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Client: K&H
Intersection Name: NW125ST_SBRAMPS
Opertaors Name: AO & AH
Weather: Sunny

File Name : NW 125ST _SB Ramps
Site Code : 00001302
Start Date : 4/22/2015
Page No : 3



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File Name : NW 125ST _SB Ramps
Site Code : 00001302
Start Date : 4/22/2015
Page No : 4

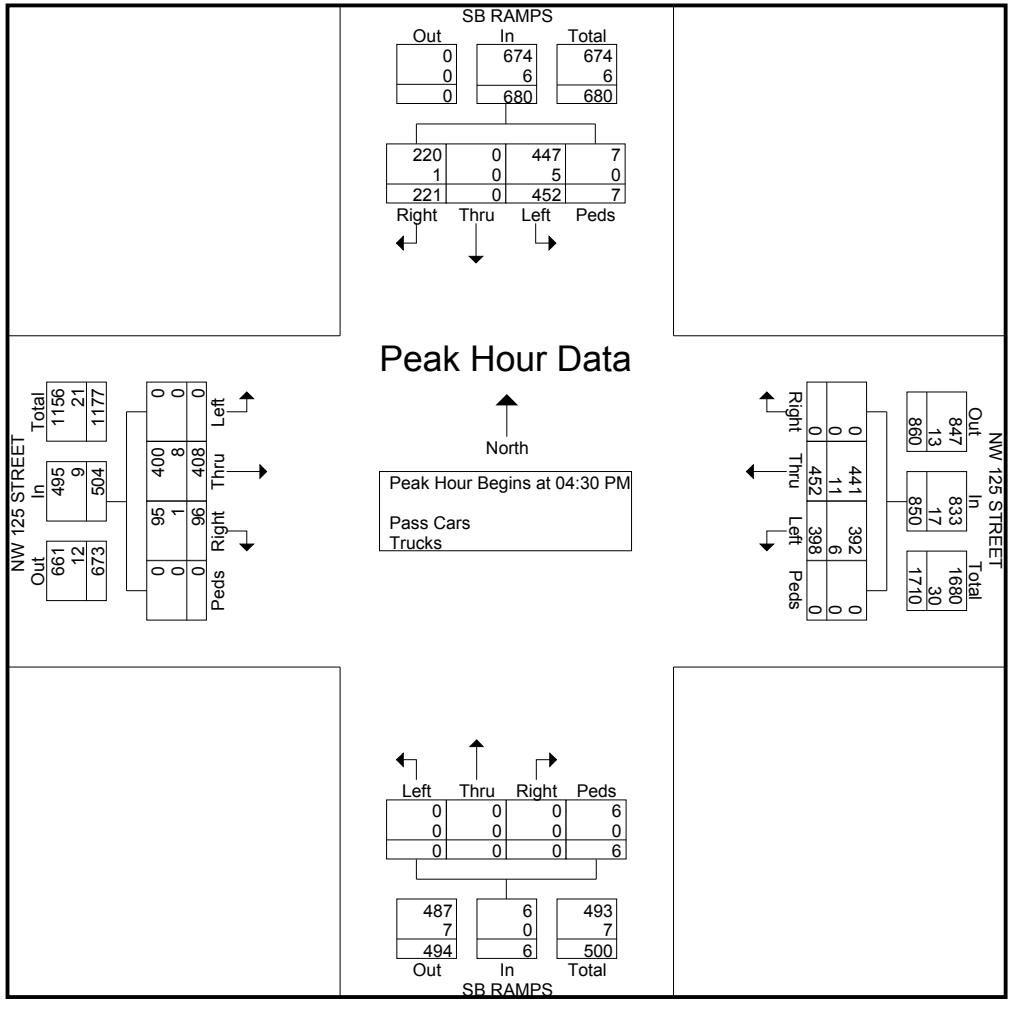
	SB RAMPS Northbound					SB RAMPS Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	113	0	59	1	173	0	**113**	24	0	**137**	**120**	115	0	0	**235**	**545**
04:45 PM	0	0	0	**3**	**3**	**124**	0	46	2	172	0	98	16	0	114	97	**118**	0	0	215	504
05:00 PM	0	0	0	1	1	102	0	49	0	151	0	102	27	0	129	94	108	0	0	202	483
05:15 PM	0	0	0	2	2	113	0	**67**	**4**	**184**	0	95	**29**	0	124	87	111	0	0	198	508
Total Volume	0	0	0	6	6	452	0	221	7	680	0	408	96	0	504	398	452	0	0	850	2040
% App. Total	0	0	0	100		66.5	0	32.5	1		0	81	19	0		46.8	53.2	0	0		
PHF	.000	.000	.000	.500	.500	.911	.000	.825	.438	.924	.000	.903	.828	.000	.920	.829	.958	.000	.000	.904	.936
Pass Cars	0	0	0	6	6	447	0	220	7	674	0	400	95	0	495	392	441	0	0	833	2008
% Pass Cars	0	0	0	100	100	98.9	0	99.5	100	99.1	0	98.0	99.0	0	98.2	98.5	97.6	0	0	98.0	98.4
Trucks	0	0	0	0	0	5	0	1	0	6	0	8	1	0	9	6	11	0	0	17	32
% Trucks	0	0	0	0	0	1.1	0	0.5	0	0.9	0	2.0	1.0	0	1.8	1.5	2.4	0	0	2.0	1.6

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Intersection Name: NW125ST_SBRAMPS
Opertaors Name: AO & AH
Weather: Sunny

File Name : NW 125ST _SB Ramps
Site Code : 00001302
Start Date : 4/22/2015
Page No : 5



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Client: K&H
Intersection Name: NW125ST_NBRAMPS
Opertaors Name: EB & CG
Weather: Sunny

File Name : NW 125 ST_NB ramps
Site Code : 00001303
Start Date : 4/22/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NB RAMPS Northbound					NB RAMPS Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	10	63	106	4	183	0	0	0	1	1	37	87	0	0	124	2	133	88	0	223	531
07:15 AM	8	77	114	0	199	0	0	0	0	0	45	137	0	0	182	0	150	77	0	227	608
07:30 AM	7	96	105	1	209	0	0	0	0	0	37	198	0	0	235	0	169	108	0	277	721
07:45 AM	19	101	80	0	200	0	0	0	0	0	53	195	0	0	248	0	156	100	0	256	704
Total	44	337	405	5	791	0	0	0	1	1	172	617	0	0	789	2	608	373	0	983	2564
08:00 AM	25	90	101	2	218	0	0	0	0	0	58	209	0	0	267	0	172	109	0	281	766
08:15 AM	10	91	107	0	208	0	0	0	0	0	42	179	0	0	221	0	158	104	0	262	691
08:30 AM	13	65	77	3	158	0	0	0	0	0	33	150	0	0	183	0	146	120	0	266	607
08:45 AM	19	75	96	3	193	0	0	0	0	0	28	145	0	1	174	0	121	111	0	232	599
Total	67	321	381	8	777	0	0	0	0	0	161	683	0	1	845	0	597	444	0	1041	2663
*** BREAK ***																					
04:00 PM	19	81	78	3	181	0	0	0	0	0	28	171	0	0	199	0	214	96	1	311	691
04:15 PM	23	79	70	2	174	0	0	0	0	0	42	202	0	0	244	0	196	82	0	278	696
04:30 PM	19	71	70	0	160	0	0	0	0	0	38	190	0	0	228	0	223	97	0	320	708
04:45 PM	15	87	51	1	154	0	0	0	0	0	35	185	0	0	220	0	206	90	0	296	670
Total	76	318	269	6	669	0	0	0	0	0	143	748	0	0	891	0	839	365	1	1205	2765
05:00 PM	15	86	60	2	163	0	0	0	0	0	40	176	0	0	216	0	218	87	0	305	684
05:15 PM	24	97	55	3	179	0	0	0	0	0	31	179	0	1	211	0	191	94	0	285	675
05:30 PM	22	83	47	4	156	0	0	0	0	0	39	179	0	0	218	0	200	81	0	281	655
05:45 PM	11	78	52	3	144	0	0	0	0	0	28	172	0	0	200	1	194	85	0	280	624
Total	72	344	214	12	642	0	0	0	0	0	138	706	0	1	845	1	803	347	0	1151	2638
Grand Total	259	1320	1269	31	2879	0	0	0	1	1	614	2754	0	2	3370	3	2847	1529	1	4380	10630
Apprch %	9	45.8	44.1	1.1		0	0	0	100		18.2	81.7	0	0.1		0.1	65	34.9	0		
Total %	2.4	12.4	11.9	0.3	27.1	0	0	0	0	0	5.8	25.9	0	0	31.7	0	26.8	14.4	0	41.2	
Pass Cars	255	1301	1243	31	2830	0	0	0	1	1	606	2659	0	2	3267	3	2784	1491	1	4279	10377
% Pass Cars	98.5	98.6	98	100	98.3	0	0	0	100	100	98.7	96.6	0	100	96.9	100	97.8	97.5	100	97.7	97.6
Trucks	4	19	26	0	49	0	0	0	0	0	8	95	0	0	103	0	63	38	0	101	253
% Trucks	1.5	1.4	2	0	1.7	0	0	0	0	0	1.3	3.4	0	0	3.1	0	2.2	2.5	0	2.3	2.4

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Client: K&H
Intersection Name: NW125ST_NBRAMPS
Opertaors Name: EB & CG
Weather: Sunny

File Name : NW 125 ST_NB ramps
Site Code : 00001303
Start Date : 4/22/2015
Page No : 2

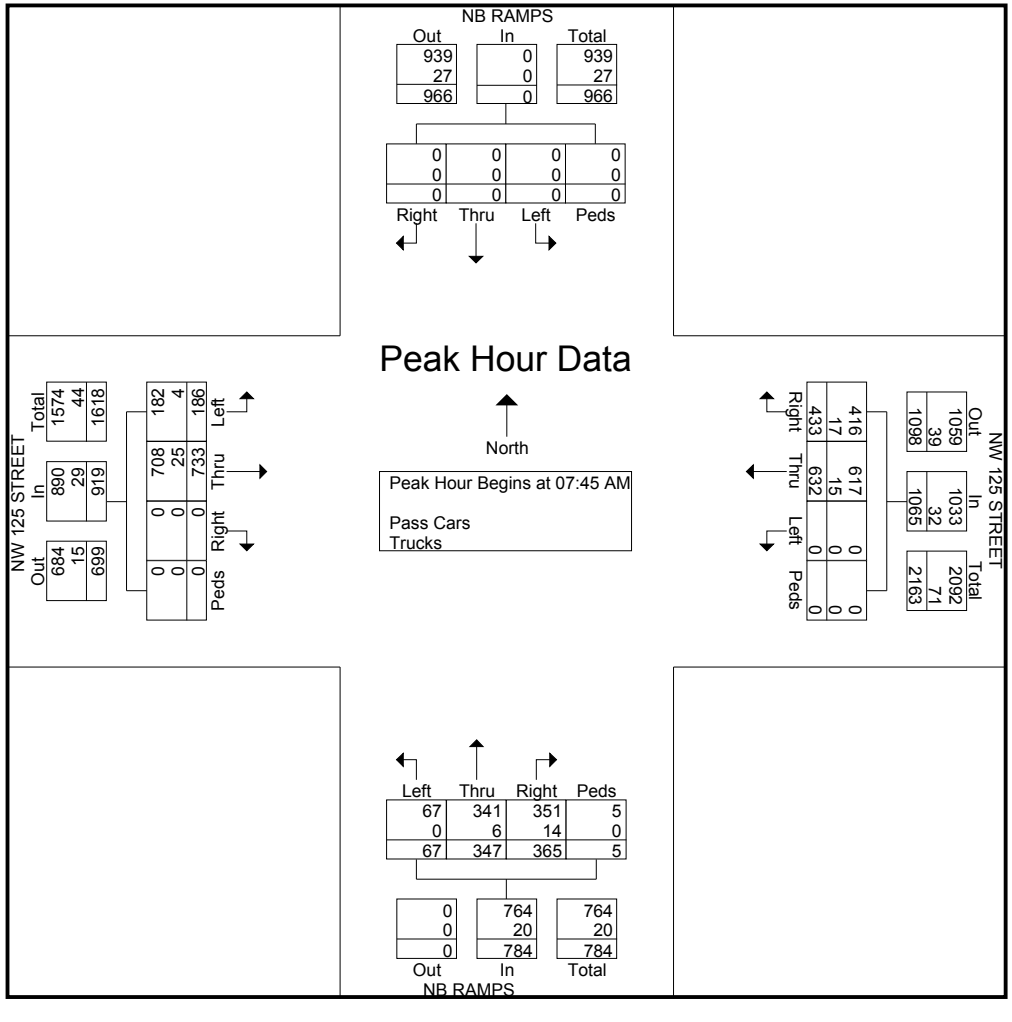
	NB RAMPS Northbound					NB RAMPS Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	19	**101**	80	0	200	0	0	0	0	0	53	195	0	0	248	0	156	100	0	256	704
08:00 AM	**25**	90	101	2	**218**	0	0	0	0	0	**58**	**209**	0	0	**267**	0	**172**	109	0	**281**	**766**
08:15 AM	10	91	**107**	0	208	0	0	0	0	0	42	179	0	0	221	0	158	104	0	262	691
08:30 AM	13	65	77	**3**	158	0	0	0	0	0	33	150	0	0	183	0	146	**120**	0	266	607
Total Volume	67	347	365	5	784	0	0	0	0	0	186	733	0	0	919	0	632	433	0	1065	2768
% App. Total	8.5	44.3	46.6	0.6		0	0	0	0		20.2	79.8	0	0		0	59.3	40.7	0		
PHF	.670	.859	.853	.417	.899	.000	.000	.000	.000	.000	.802	.877	.000	.000	.860	.000	.919	.902	.000	.948	.903
Pass Cars	67	341	351	5	764	0	0	0	0	0	182	708	0	0	890	0	617	416	0	1033	2687
% Pass Cars	100	98.3	96.2	100	97.4	0	0	0	0	0	97.8	96.6	0	0	96.8	0	97.6	96.1	0	97.0	97.1
Trucks	0	6	14	0	20	0	0	0	0	0	4	25	0	0	29	0	15	17	0	32	81
% Trucks	0	1.7	3.8	0	2.6	0	0	0	0	0	2.2	3.4	0	0	3.2	0	2.4	3.9	0	3.0	2.9

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Intersection Name: NW125ST_NBRAMPS
Opertaors Name: EB & CG
Weather: Sunny

File Name : NW 125 ST_NB ramps
Site Code : 00001303
Start Date : 4/22/2015
Page No : 3



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File Name : NW 125 ST_NB ramps
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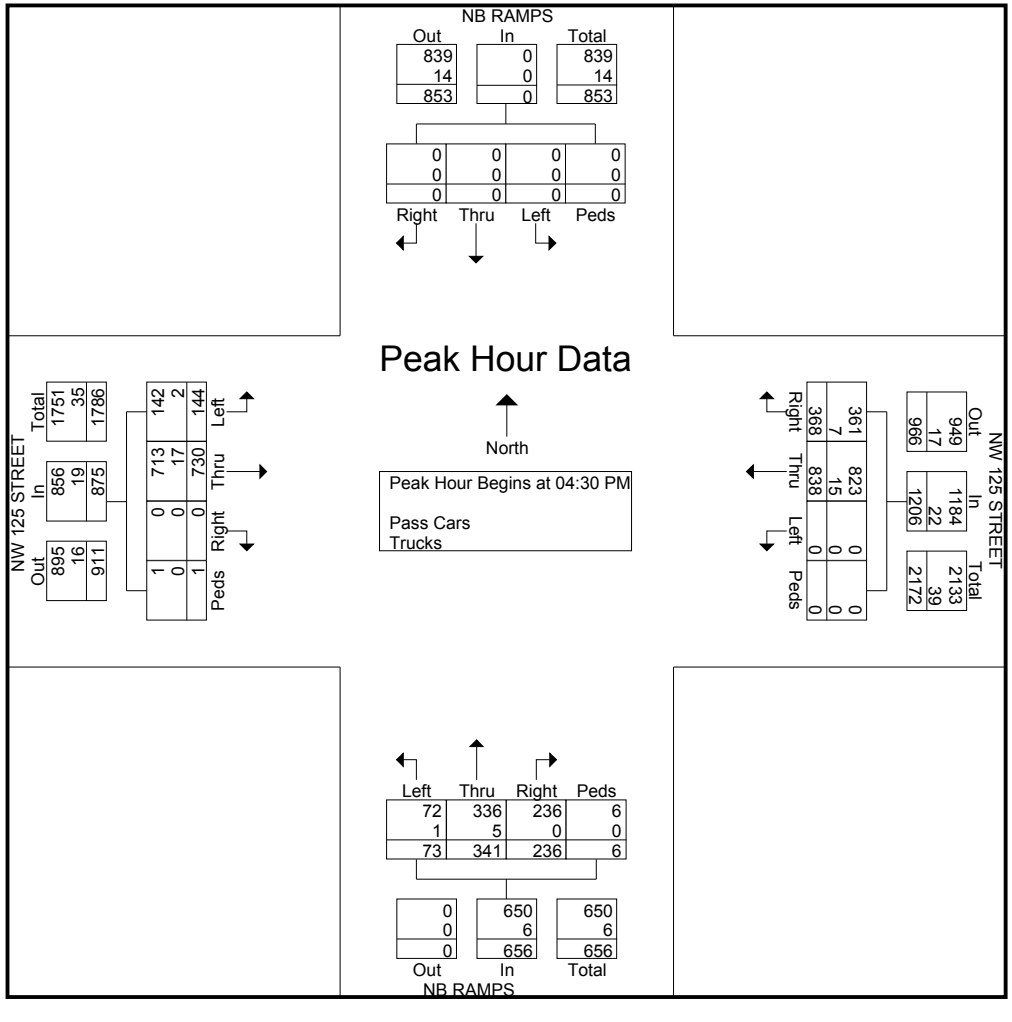
	NB RAMPS Northbound					NB RAMPS Southbound					NW 125 STREET Eastbound					NW 125 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	19	71	**70**	0	160	0	0	0	0	0	38	**190**	0	0	**228**	0	**223**	**97**	0	**320**	**708**
04:45 PM	15	87	51	1	154	0	0	0	0	0	35	185	0	0	220	0	206	90	0	296	670
05:00 PM	15	86	60	2	163	0	0	0	0	0	**40**	176	0	0	216	0	218	87	0	305	684
05:15 PM	**24**	**97**	55	**3**	**179**	0	0	0	0	0	31	179	0	**1**	211	0	191	94	0	285	675
Total Volume	73	341	236	6	656	0	0	0	0	0	144	730	0	1	875	0	838	368	0	1206	2737
% App. Total	11.1	52	36	0.9		0	0	0	0		16.5	83.4	0	0.1		0	69.5	30.5	0		
PHF	.760	.879	.843	.500	.916	.000	.000	.000	.000	.000	.900	.961	.000	.250	.959	.000	.939	.948	.000	.942	.966
Pass Cars	72	336	236	6	650	0	0	0	0	0	142	713	0	1	856	0	823	361	0	1184	2690
% Pass Cars	98.6	98.5	100	100	99.1	0	0	0	0	0	98.6	97.7	0	100	97.8	0	98.2	98.1	0	98.2	98.3
Trucks	1	5	0	0	6	0	0	0	0	0	2	17	0	0	19	0	15	7	0	22	47
% Trucks	1.4	1.5	0	0	0.9	0	0	0	0	0	1.4	2.3	0	0	2.2	0	1.8	1.9	0	1.8	1.7

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Intersection Name: NW125ST_NBRAMPS
Opertaors Name: EB & CG
Weather: Sunny

File Name : NW 125 ST_NB ramps
Site Code : 00001303
Start Date : 4/22/2015
Page No : 5



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Client: K&H
Intersection Name: NW135ST_SR7
Operators Name: MA & CV
Weather: Sunny

File Name : NW 135 ST_SR 7
Site Code : 00001401
Start Date : 4/23/2015
Page No : 1

Groups Printed- Pass_Cars - Trucks

	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	58	20	2	80	52	379	0	0	431	17	185	15	1	218	0	0	0	0	0	729
07:15 AM	0	79	39	1	119	52	369	0	2	423	22	238	24	2	286	0	0	0	0	0	828
07:30 AM	0	113	49	5	167	43	382	0	1	426	39	220	39	4	302	0	0	0	0	0	895
07:45 AM	0	100	65	3	168	45	421	0	0	466	45	223	55	1	324	0	0	0	0	0	958
Total	0	350	173	11	534	192	1551	0	3	1746	123	866	133	8	1130	0	0	0	0	0	3410
08:00 AM	0	118	42	2	162	57	411	0	0	468	55	254	44	6	359	0	0	0	0	0	989
08:15 AM	0	109	50	3	162	51	441	0	0	492	38	197	35	3	273	0	0	0	2	2	929
08:30 AM	0	98	30	1	129	62	486	0	3	551	31	184	29	4	248	0	0	0	0	0	928
08:45 AM	0	104	46	0	150	63	343	0	2	408	30	208	45	0	283	0	0	0	1	1	842
Total	0	429	168	6	603	233	1681	0	5	1919	154	843	153	13	1163	0	0	0	3	3	3688
*** BREAK ***																					
04:00 PM	0	232	73	0	305	45	195	0	3	243	48	177	23	1	249	0	0	0	0	0	797
04:15 PM	0	231	80	1	312	39	202	0	3	244	36	219	14	6	275	0	0	0	0	0	831
04:30 PM	0	231	94	1	326	47	227	0	0	274	35	199	22	5	261	0	0	0	0	0	861
04:45 PM	0	267	90	0	357	53	200	0	3	256	45	232	22	6	305	0	0	0	0	0	918
Total	0	961	337	2	1300	184	824	0	9	1017	164	827	81	18	1090	0	0	0	0	0	3407
05:00 PM	0	269	96	0	365	44	227	0	5	276	47	206	21	6	280	0	0	0	0	0	921
05:15 PM	0	257	88	2	347	53	211	0	1	265	49	249	25	6	329	0	0	0	2	2	943
05:30 PM	0	280	98	2	380	52	240	0	1	293	50	252	20	4	326	0	0	0	1	1	1000
05:45 PM	0	279	76	2	357	45	196	0	1	242	52	238	21	5	316	0	0	0	0	0	915
Total	0	1085	358	6	1449	194	874	0	8	1076	198	945	87	21	1251	0	0	0	3	3	3779
Grand Total	0	2825	1036	25	3886	803	4930	0	25	5758	639	3481	454	60	4634	0	0	0	6	6	14284
Apprch %	0	72.7	26.7	0.6		13.9	85.6	0	0.4		13.8	75.1	9.8	1.3		0	0	0	100		
Total %	0	19.8	7.3	0.2	27.2	5.6	34.5	0	0.2	40.3	4.5	24.4	3.2	0.4	32.4	0	0	0	0	0	
Pass_Cars	0	2712	999	25	3736	791	4832	0	25	5648	620	3309	443	60	4432	0	0	0	6	6	13822
% Pass_Cars	0	96	96.4	100	96.1	98.5	98	0	100	98.1	97	95.1	97.6	100	95.6	0	0	0	100	100	96.8
Trucks	0	113	37	0	150	12	98	0	0	110	19	172	11	0	202	0	0	0	0	0	462
% Trucks	0	4	3.6	0	3.9	1.5	2	0	0	1.9	3	4.9	2.4	0	4.4	0	0	0	0	0	3.2

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Client: K&H
Intersection Name: NW135ST_SR7
Operators Name: MA & CV
Weather: Sunny

File Name : NW 135 ST_SR 7
Site Code : 00001401
Start Date : 4/23/2015
Page No : 2

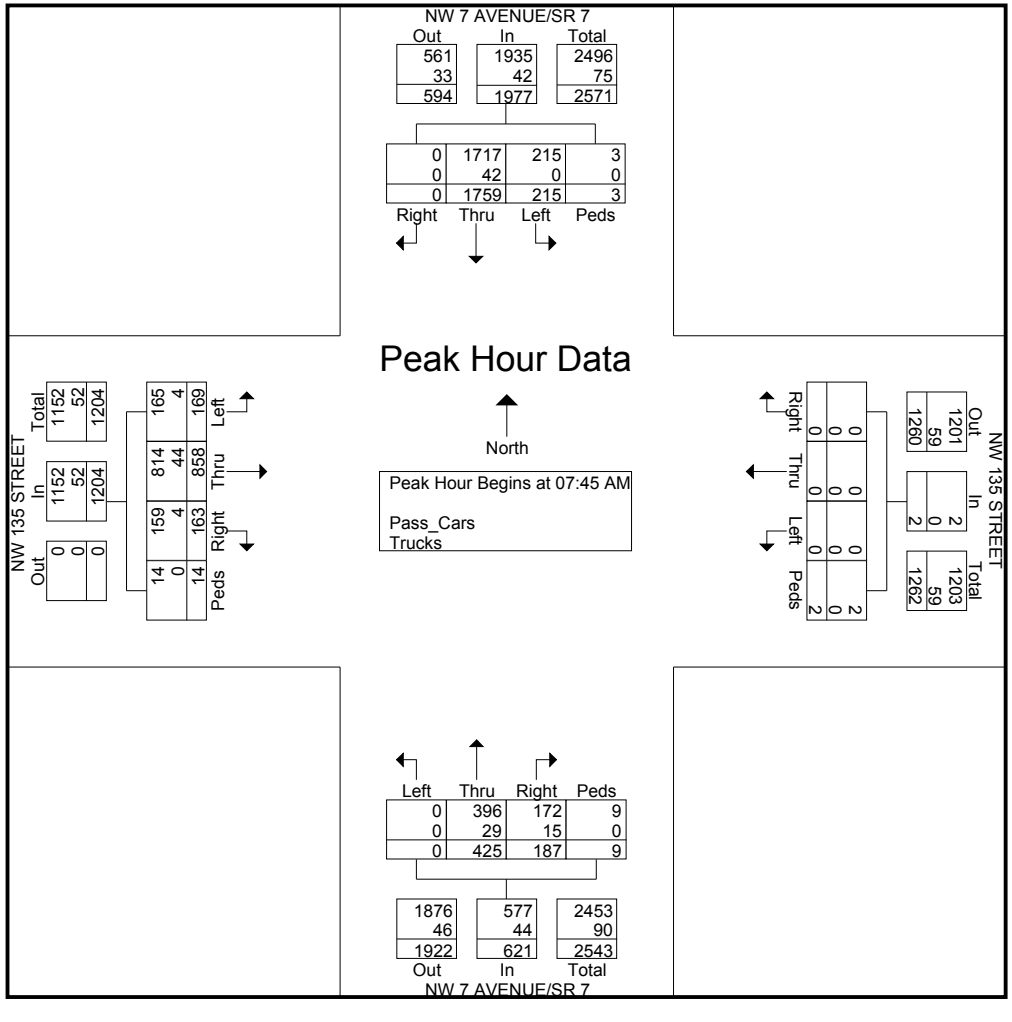
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	100	**65**	**3**	**168**	45	421	0	0	466	45	223	**55**	1	324	0	0	0	0	0	958
08:00 AM	0	**118**	42	2	162	57	411	0	0	468	**55**	**254**	44	**6**	**359**	0	0	0	0	0	**989**
08:15 AM	0	109	50	3	162	51	441	0	0	492	38	197	35	3	273	0	0	0	**2**	**2**	929
08:30 AM	0	98	30	1	129	**62**	**486**	0	**3**	**551**	31	184	29	4	248	0	0	0	0	0	928
Total Volume	0	425	187	9	621	215	1759	0	3	1977	169	858	163	14	1204	0	0	0	2	2	3804
% App. Total	0	68.4	30.1	1.4		10.9	89	0	0.2		14	71.3	13.5	1.2		0	0	0	100		
PHF	.000	.900	.719	.750	.924	.867	.905	.000	.250	.897	.768	.844	.741	.583	.838	.000	.000	.000	.250	.250	.962
Pass_Cars	0	396	172	9	577	215	1717	0	3	1935	165	814	159	14	1152	0	0	0	2	2	3666
% Pass_Cars	0	93.2	92.0	100	92.9	100	97.6	0	100	97.9	97.6	94.9	97.5	100	95.7	0	0	0	100	100	96.4
Trucks	0	29	15	0	44	0	42	0	0	42	4	44	4	0	52	0	0	0	0	0	138
% Trucks	0	6.8	8.0	0	7.1	0	2.4	0	0	2.1	2.4	5.1	2.5	0	4.3	0	0	0	0	0	3.6

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Operators Name: MA & CV
Weather: Sunny

File Name : NW 135 ST_SR 7
Site Code : 00001401
Start Date : 4/23/2015
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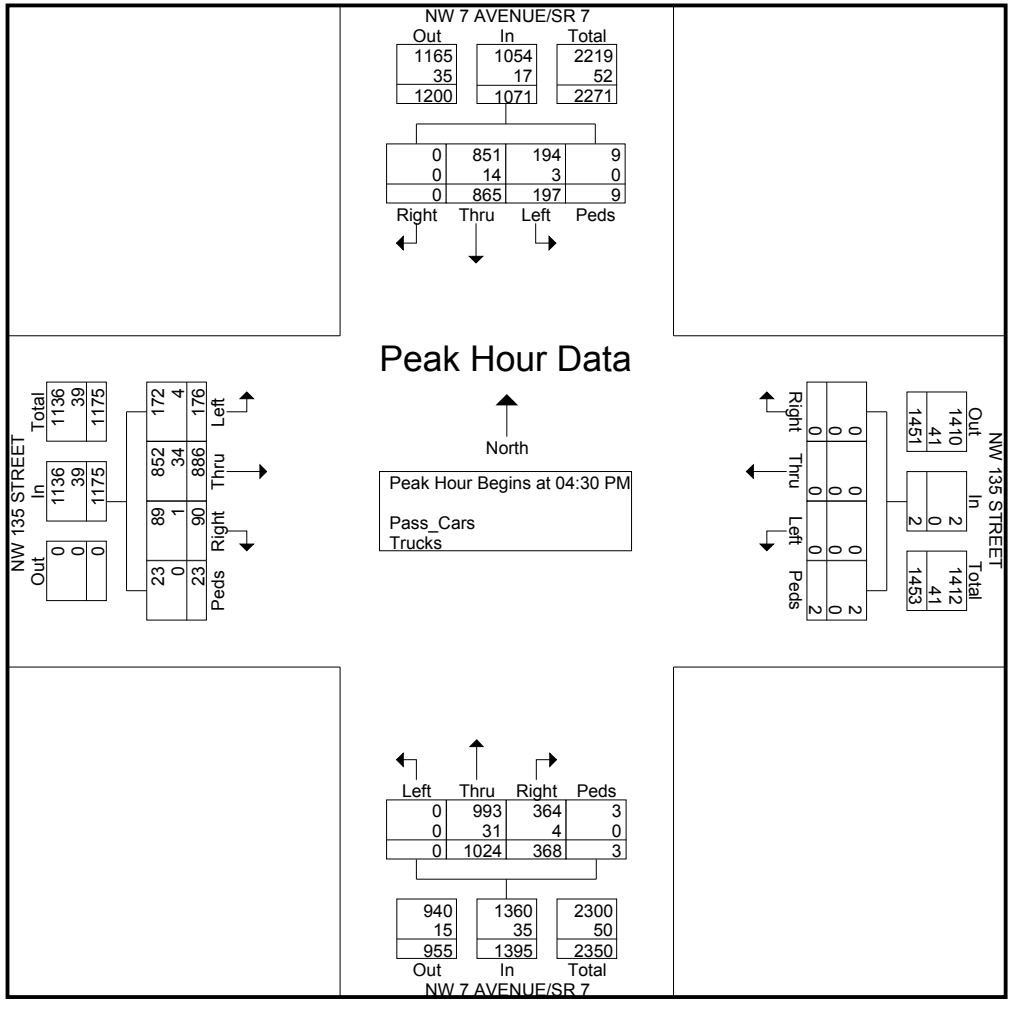
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	231	94	1	326	47	**227**	0	0	274	35	199	22	5	261	0	0	0	0	0	861
04:45 PM	0	267	90	0	357	**53**	200	0	3	256	45	232	22	**6**	305	0	0	0	0	0	918
05:00 PM	0	**269**	**96**	0	**365**	44	227	0	**5**	**276**	47	206	21	6	280	0	0	0	0	0	921
05:15 PM	0	257	88	**2**	347	53	211	0	1	265	**49**	**249**	**25**	6	**329**	0	0	0	**2**	**2**	**943**
Total Volume	0	1024	368	3	1395	197	865	0	9	1071	176	886	90	23	1175	0	0	0	2	2	3643
% App. Total	0	73.4	26.4	0.2		18.4	80.8	0	0.8		15	75.4	7.7	2		0	0	0	100		
PHF	.000	.952	.958	.375	.955	.929	.953	.000	.450	.970	.898	.890	.900	.958	.893	.000	.000	.000	.250	.250	.966
Pass_Cars	0	993	364	3	1360	194	851	0	9	1054	172	852	89	23	1136	0	0	0	2	2	3552
% Pass_Cars	0	97.0	98.9	100	97.5	98.5	98.4	0	100	98.4	97.7	96.2	98.9	100	96.7	0	0	0	100	100	97.5
Trucks	0	31	4	0	35	3	14	0	0	17	4	34	1	0	39	0	0	0	0	0	91
% Trucks	0	3.0	1.1	0	2.5	1.5	1.6	0	0	1.6	2.3	3.8	1.1	0	3.3	0	0	0	0	0	2.5

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Weather: Sunny

File Name : NW 135 ST_SR 7
Site Code : 00001401
Start Date : 4/23/2015
Page No : 5



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Client: K&H
Intersection Name: NW135ST_SBRAMPS
Opertaors Name: MA
Weather: Sunny

File Name : NW 135 ST_SB RAmps
Site Code : 00001402
Start Date : 4/23/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SB RAMPS Northbound					SB RAMPS Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	53	82	0	2	137	0	208	59	0	267	0	0	0	0	0	404
07:15 AM	0	0	0	0	0	41	89	0	2	132	0	219	69	0	288	0	0	0	0	0	420
07:30 AM	0	0	0	0	0	59	86	0	1	146	0	255	57	0	312	0	0	0	0	0	458
07:45 AM	0	0	0	0	0	65	64	0	3	132	0	286	51	0	337	0	0	0	0	0	469
Total	0	0	0	0	0	218	321	0	8	547	0	968	236	0	1204	0	0	0	0	0	1751
08:00 AM	0	0	0	0	0	63	66	0	2	131	0	294	51	2	347	0	0	0	0	0	478
08:15 AM	0	0	0	0	0	59	68	0	3	130	0	248	47	0	295	0	0	0	0	0	425
08:30 AM	0	0	0	0	0	47	72	0	1	120	0	296	49	0	345	0	0	0	0	0	465
08:45 AM	0	0	0	0	0	66	58	0	0	124	0	269	51	0	320	0	0	0	0	0	444
Total	0	0	0	0	0	235	264	0	6	505	0	1107	198	2	1307	0	0	0	0	0	1812
*** BREAK ***																					
04:00 PM	0	0	0	0	0	111	119	0	0	230	0	281	41	0	322	0	0	0	0	0	552
04:15 PM	0	0	0	0	0	128	110	0	0	238	0	304	65	0	369	0	0	0	0	0	607
04:30 PM	0	0	0	0	0	113	118	0	0	231	0	276	48	0	324	0	0	0	0	0	555
04:45 PM	0	0	0	0	0	139	113	0	3	255	0	323	41	2	366	0	0	0	0	0	621
Total	0	0	0	0	0	491	460	0	3	954	0	1184	195	2	1381	0	0	0	0	0	2335
05:00 PM	0	0	0	0	0	140	98	0	1	239	0	315	51	0	366	0	0	0	0	0	605
05:15 PM	0	0	0	0	0	106	106	0	5	217	0	301	49	3	353	0	0	0	0	0	570
05:30 PM	0	0	0	0	0	117	94	0	2	213	0	325	30	0	355	0	0	0	0	0	568
05:45 PM	0	0	0	0	0	96	124	0	4	224	0	337	37	3	377	0	0	0	0	0	601
Total	0	0	0	0	0	459	422	0	12	893	0	1278	167	6	1451	0	0	0	0	0	2344
Grand Total	0	0	0	0	0	1403	1467	0	29	2899	0	4537	796	10	5343	0	0	0	0	0	8242
Apprch %	0	0	0	0		48.4	50.6	0	1		0	84.9	14.9	0.2		0	0	0	0		
Total %	0	0	0	0	0	17	17.8	0	0.4	35.2	0	55	9.7	0.1	64.8	0	0	0	0	0	
Pass Cars	0	0	0	0	0	1359	1425	0	29	2813	0	4392	747	10	5149	0	0	0	0	0	7962
% Pass Cars	0	0	0	0	0	96.9	97.1	0	100	97	0	96.8	93.8	100	96.4	0	0	0	0	0	96.6
Trucks	0	0	0	0	0	44	42	0	0	86	0	145	49	0	194	0	0	0	0	0	280
% Trucks	0	0	0	0	0	3.1	2.9	0	0	3	0	3.2	6.2	0	3.6	0	0	0	0	0	3.4

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Intersection Name: NW135ST_SBRAMPS
Opertaors Name: MA
Weather: Sunny

File Name : NW 135 ST_SB RAmps
Site Code : 00001402
Start Date : 4/23/2015
Page No : 2

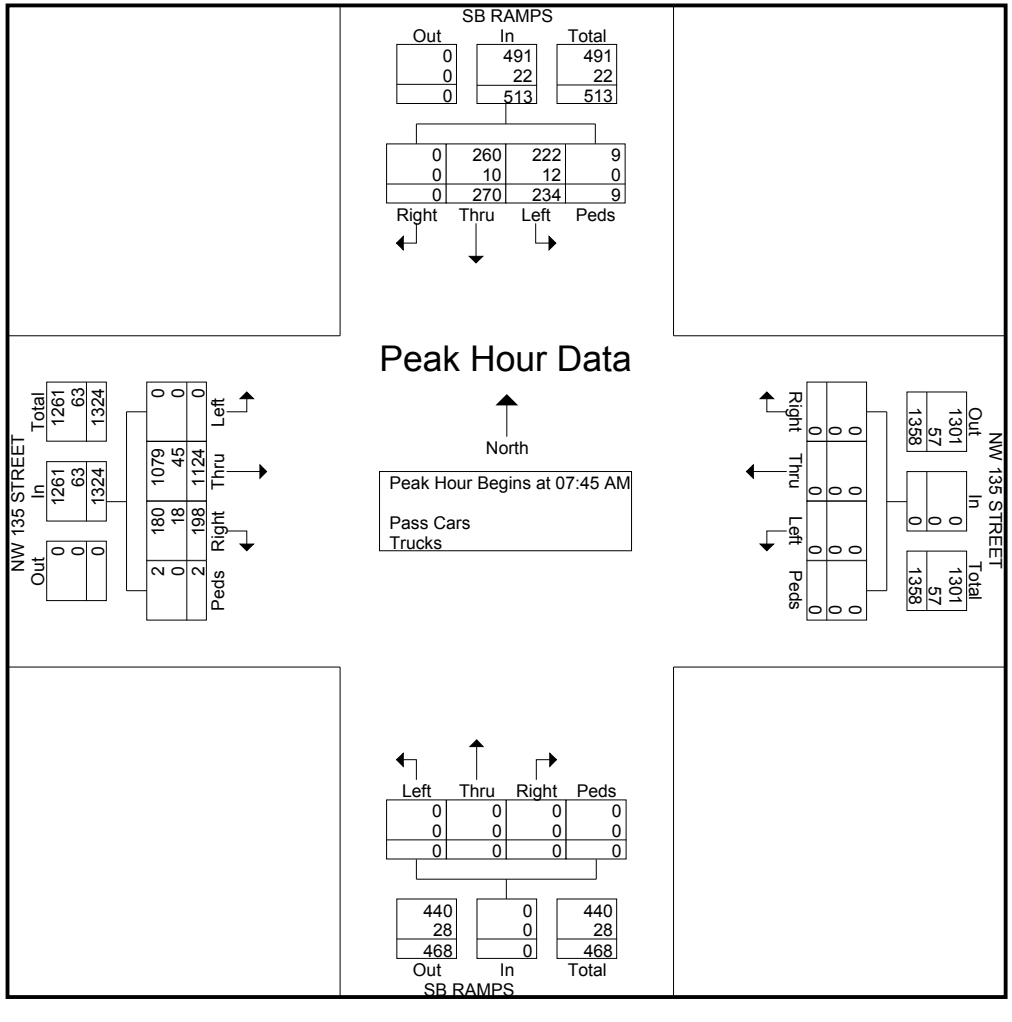
	SB RAMPS Northbound					SB RAMPS Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	**65**	64	0	**3**	**132**	0	286	**51**	0	337	0	0	0	0	0	469
08:00 AM	0	0	0	0	0	63	66	0	2	131	0	294	51	**2**	**347**	0	0	0	0	0	**478**
08:15 AM	0	0	0	0	0	59	68	0	3	130	0	248	47	0	295	0	0	0	0	0	425
08:30 AM	0	0	0	0	0	47	**72**	0	1	120	0	**296**	49	0	345	0	0	0	0	0	465
Total Volume	0	0	0	0	0	234	270	0	9	513	0	1124	198	2	1324	0	0	0	0	0	1837
% App. Total	0	0	0	0		45.6	52.6	0	1.8		0	84.9	15	0.2		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.900	.938	.000	.750	.972	.000	.949	.971	.250	.954	.000	.000	.000	.000	.000	.961
Pass Cars	0	0	0	0	0	222	260	0	9	491	0	1079	180	2	1261	0	0	0	0	0	1752
% Pass Cars	0	0	0	0	0	94.9	96.3	0	100	95.7	0	96.0	90.9	100	95.2	0	0	0	0	0	95.4
Trucks	0	0	0	0	0	12	10	0	0	22	0	45	18	0	63	0	0	0	0	0	85
% Trucks	0	0	0	0	0	5.1	3.7	0	0	4.3	0	4.0	9.1	0	4.8	0	0	0	0	0	4.6

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Opertaors Name: MA
Weather: Sunny

File Name : NW 135 ST_SB RAmps
Site Code : 00001402
Start Date : 4/23/2015
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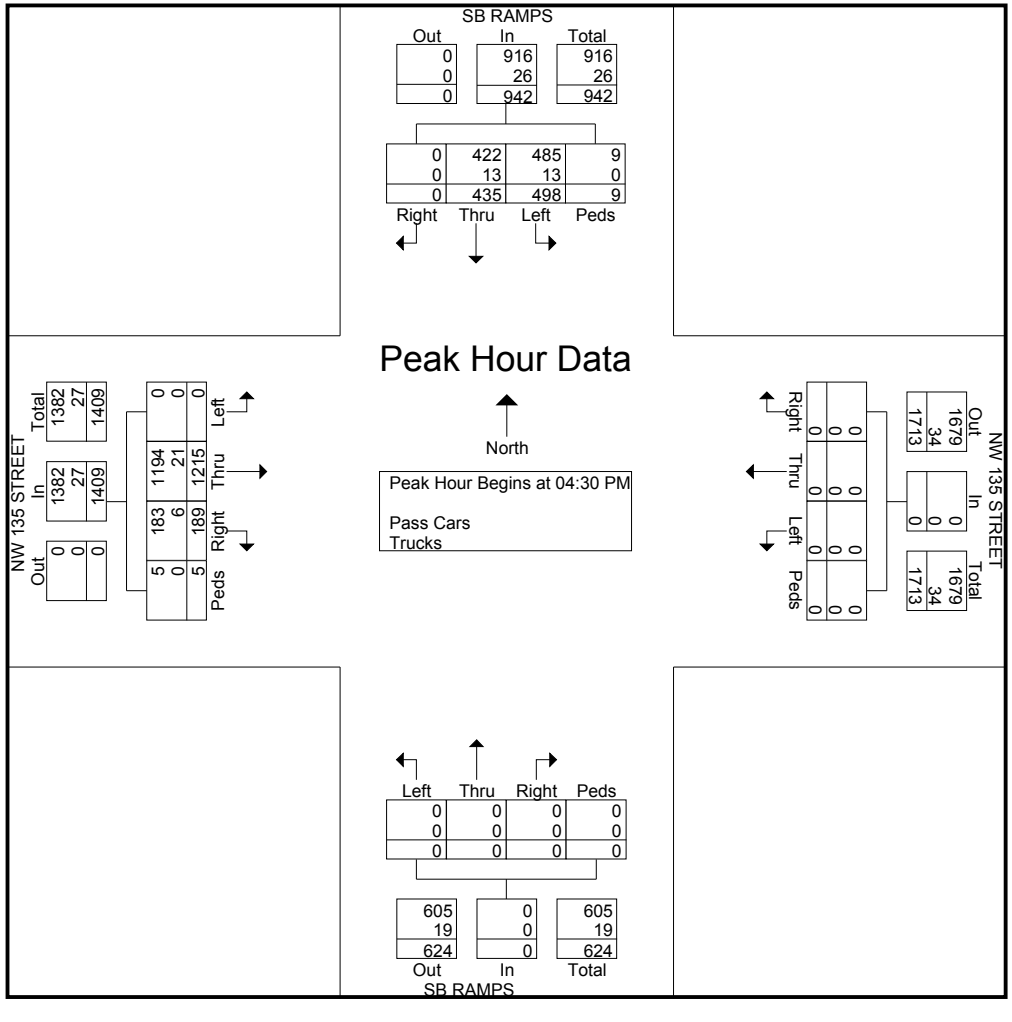
	SB RAMPS Northbound					SB RAMPS Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	113	**118**	0	0	231	0	276	48	0	324	0	0	0	0	0	555
04:45 PM	0	0	0	0	0	139	113	0	3	**255**	0	**323**	41	2	**366**	0	0	0	0	0	**621**
05:00 PM	0	0	0	0	0	**140**	98	0	1	239	0	315	**51**	0	366	0	0	0	0	0	605
05:15 PM	0	0	0	0	0	106	106	0	**5**	217	0	301	49	**3**	353	0	0	0	0	0	570
Total Volume	0	0	0	0	0	498	435	0	9	942	0	1215	189	5	1409	0	0	0	0	0	2351
% App. Total	0	0	0	0		52.9	46.2	0	1		0	86.2	13.4	0.4		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.889	.922	.000	.450	.924	.000	.940	.926	.417	.962	.000	.000	.000	.000	.000	.946
Pass Cars	0	0	0	0	0	485	422	0	9	916	0	1194	183	5	1382	0	0	0	0	0	2298
% Pass Cars	0	0	0	0	0	97.4	97.0	0	100	97.2	0	98.3	96.8	100	98.1	0	0	0	0	0	97.7
Trucks	0	0	0	0	0	13	13	0	0	26	0	21	6	0	27	0	0	0	0	0	53
% Trucks	0	0	0	0	0	2.6	3.0	0	0	2.8	0	1.7	3.2	0	1.9	0	0	0	0	0	2.3

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Client: K&H
Intersection Name: NW135ST_NBRAMPS
Opertaors Name: EB
Weather: Sunny

File Name : NW 135 ST _NB ramps-All
Site Code : 00001403
Start Date : 4/23/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NB RAMPS Northbound					NB RAMPS Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	53	92	3	148	0	0	0	0	0	83	184	0	0	267	0	0	0	0	0	415
07:15 AM	0	61	114	1	176	0	0	0	0	0	100	193	0	0	293	0	0	0	0	0	469
07:30 AM	0	53	96	0	149	0	0	0	0	0	97	218	0	0	315	0	0	0	0	0	464
07:45 AM	0	66	120	3	189	0	0	0	0	0	107	255	0	0	362	0	0	0	0	0	551
Total	0	233	422	7	662	0	0	0	0	0	387	850	0	0	1237	0	0	0	0	0	1899
08:00 AM	0	56	97	1	154	0	0	0	0	0	104	245	0	0	349	0	0	0	0	0	503
08:15 AM	0	64	100	1	165	0	0	0	0	0	68	215	9	0	292	0	0	0	0	0	457
08:30 AM	0	47	107	0	154	0	0	0	0	0	81	273	0	0	354	0	0	0	0	0	508
08:45 AM	0	54	103	0	157	0	0	0	0	0	73	252	0	0	325	0	0	0	0	0	482
Total	0	221	407	2	630	0	0	0	0	0	326	985	9	0	1320	0	0	0	0	0	1950
*** BREAK ***																					
04:00 PM	0	42	39	4	85	0	0	0	0	0	105	236	0	0	341	0	0	0	0	0	426
04:15 PM	0	39	42	0	81	0	0	0	0	0	126	252	0	0	378	0	0	0	0	0	459
04:30 PM	0	46	47	0	93	0	0	0	0	0	125	237	0	0	362	0	0	0	0	0	455
04:45 PM	0	34	49	0	83	0	0	0	0	0	127	276	0	0	403	0	0	0	0	0	486
Total	0	161	177	4	342	0	0	0	0	0	483	1001	0	0	1484	0	0	0	0	0	1826
05:00 PM	0	28	32	2	62	0	0	0	0	0	112	267	0	1	380	0	0	0	0	0	442
05:15 PM	0	34	26	1	61	0	0	0	0	0	145	287	0	0	432	0	0	0	0	0	493
05:30 PM	0	26	47	0	73	0	0	0	0	0	147	271	0	0	418	0	0	0	0	0	491
05:45 PM	0	26	55	0	81	0	0	0	0	0	134	280	0	0	414	0	0	0	0	0	495
Total	0	114	160	3	277	0	0	0	0	0	538	1105	0	1	1644	0	0	0	0	0	1921
Grand Total	0	729	1166	16	1911	0	0	0	0	0	1734	3941	9	1	5685	0	0	0	0	0	7596
Apprch %	0	38.1	61	0.8		0	0	0	0		30.5	69.3	0.2	0		0	0	0	0		
Total %	0	9.6	15.4	0.2	25.2	0	0	0	0	0	22.8	51.9	0.1	0	74.8	0	0	0	0	0	
Pass Cars	0	687	1121	16	1824	0	0	0	0	0	1677	3748	9	1	5435	0	0	0	0	0	7259
% Pass Cars	0	94.2	96.1	100	95.4	0	0	0	0	0	96.7	95.1	100	100	95.6	0	0	0	0	0	95.6
Trucks	0	42	45	0	87	0	0	0	0	0	57	193	0	0	250	0	0	0	0	0	337
% Trucks	0	5.8	3.9	0	4.6	0	0	0	0	0	3.3	4.9	0	0	4.4	0	0	0	0	0	4.4

F.R. Aleman & Associates, Inc

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Miami, FL. 33178
Phone: (305)591-8777
Tax: (305)599-8749

Client: K&H
Intersection Name: NW135ST_NBRAMPS
Opertaors Name: EB
Weather: Sunny

File Name : NW 135 ST _NB ramps-All
Site Code : 00001403
Start Date : 4/23/2015
Page No : 2

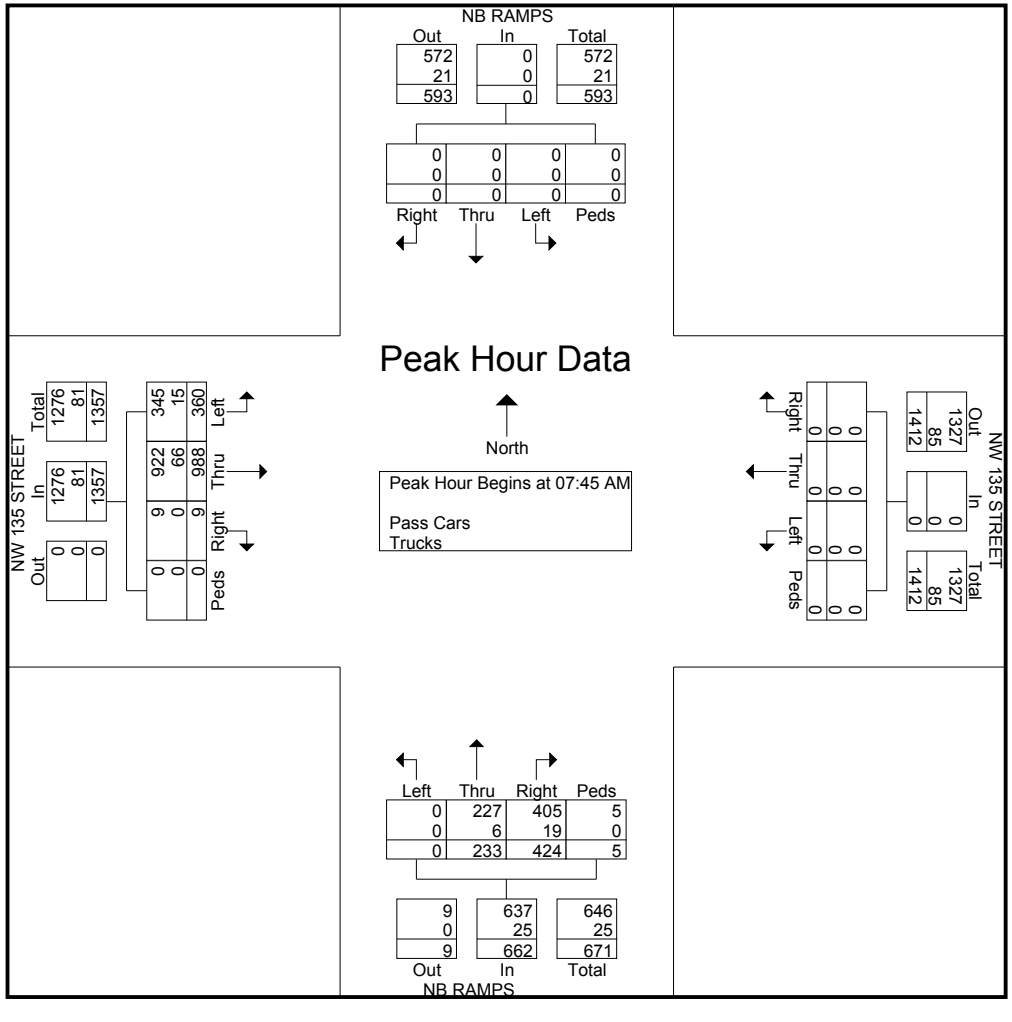
	NB RAMPS Northbound					NB RAMPS Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**66**	**120**	**3**	**189**	0	0	0	0	0	**107**	255	0	0	**362**	0	0	0	0	0	**551**
08:00 AM	0	56	97	1	154	0	0	0	0	0	104	245	0	0	349	0	0	0	0	0	503
08:15 AM	0	64	100	1	165	0	0	0	0	0	68	215	**9**	0	292	0	0	0	0	0	457
08:30 AM	0	47	107	0	154	0	0	0	0	0	81	**273**	0	0	354	0	0	0	0	0	508
Total Volume	0	233	424	5	662	0	0	0	0	0	360	988	9	0	1357	0	0	0	0	0	2019
% App. Total	0	35.2	64	0.8		0	0	0	0		26.5	72.8	0.7	0		0	0	0	0		
PHF	.000	.883	.883	.417	.876	.000	.000	.000	.000	.000	.841	.905	.250	.000	.937	.000	.000	.000	.000	.000	.916
Pass Cars	0	227	405	5	637	0	0	0	0	0	345	922	9	0	1276	0	0	0	0	0	1913
% Pass Cars	0	97.4	95.5	100	96.2	0	0	0	0	0	95.8	93.3	100	0	94.0	0	0	0	0	0	94.7
Trucks	0	6	19	0	25	0	0	0	0	0	15	66	0	0	81	0	0	0	0	0	106
% Trucks	0	2.6	4.5	0	3.8	0	0	0	0	0	4.2	6.7	0	0	6.0	0	0	0	0	0	5.3

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Client: K&H
Intersection Name: NW135ST_NBRAMPS
Opertaors Name: EB
Weather: Sunny

File Name : NW 135 ST _NB ramps-All
Site Code : 00001403
Start Date : 4/23/2015
Page No : 3



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Opertaors Name: EB
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File Name : NW 135 ST _NB ramps-All
Site Code : 00001403
Start Date : 4/23/2015
Page No : 4

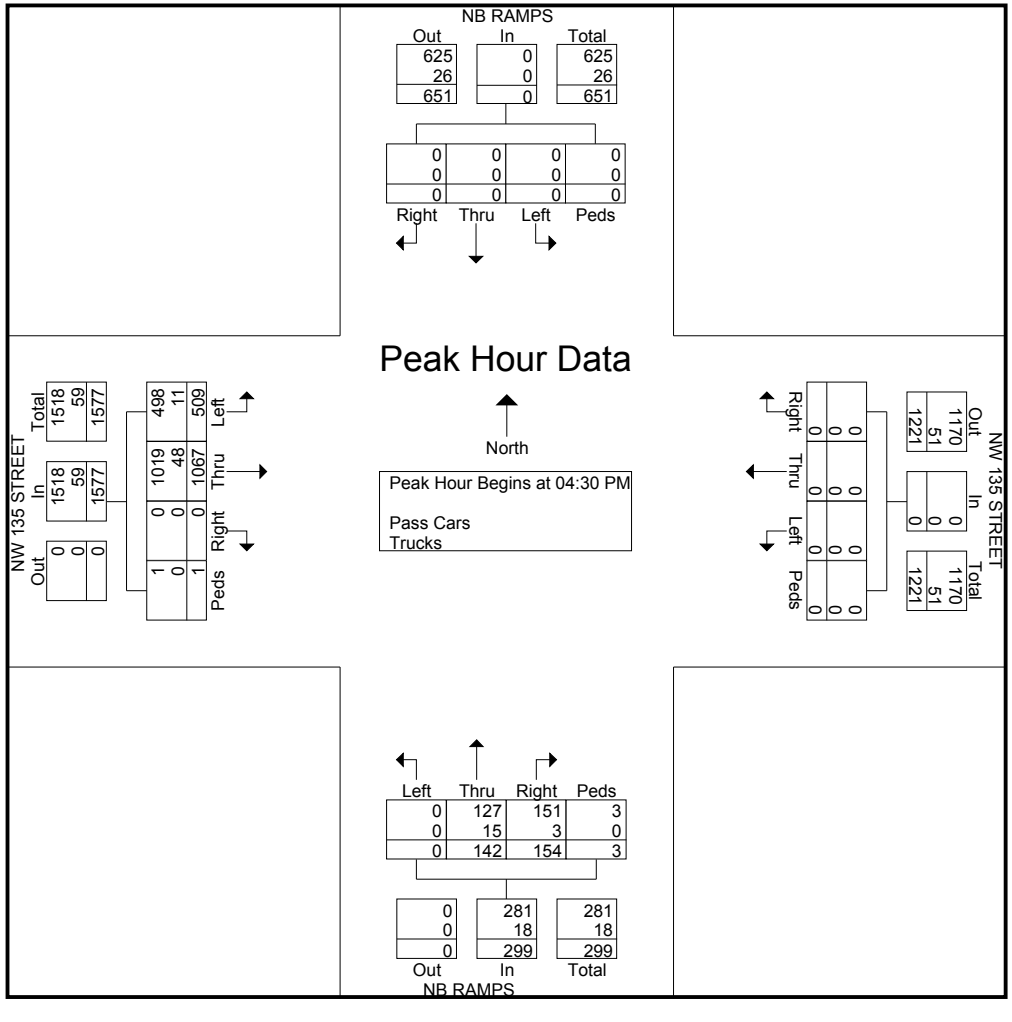
	NB RAMPS Northbound					NB RAMPS Southbound					NW 135 STREET Eastbound					NW 135 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	**46**	47	0	**93**	0	0	0	0	0	125	237	0	0	362	0	0	0	0	0	455
04:45 PM	0	34	**49**	0	83	0	0	0	0	0	127	276	0	0	403	0	0	0	0	0	486
05:00 PM	0	28	32	**2**	62	0	0	0	0	0	112	267	0	**1**	380	0	0	0	0	0	442
05:15 PM	0	34	26	1	61	0	0	0	0	0	**145**	**287**	0	0	**432**	0	0	0	0	0	**493**
Total Volume	0	142	154	3	299	0	0	0	0	0	509	1067	0	1	1577	0	0	0	0	0	1876
% App. Total	0	47.5	51.5	1		0	0	0	0		32.3	67.7	0	0.1		0	0	0	0		
PHF	.000	.772	.786	.375	.804	.000	.000	.000	.000	.000	.878	.929	.000	.250	.913	.000	.000	.000	.000	.000	.951
Pass Cars	0	127	151	3	281	0	0	0	0	0	498	1019	0	1	1518	0	0	0	0	0	1799
% Pass Cars	0	89.4	98.1	100	94.0	0	0	0	0	0	97.8	95.5	0	100	96.3	0	0	0	0	0	95.9
Trucks	0	15	3	0	18	0	0	0	0	0	11	48	0	0	59	0	0	0	0	0	77
% Trucks	0	10.6	1.9	0	6.0	0	0	0	0	0	2.2	4.5	0	0	3.7	0	0	0	0	0	4.1

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Client: K&H
Intersection Name: NW135ST_NBRAMPS
Opertaors Name: EB
Weather: Sunny

File Name : NW 135 ST _NB ramps-All
Site Code : 00001403
Start Date : 4/23/2015
Page No : 5



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Client: K&H
Intersection Name: OPALOCKABLVD_SR7
Opertaors Name: CG & RV & EB
Weather: Sunny

File Name : Opa locka Blvd_SR 7
Site Code : 00001404
Start Date : 4/23/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					OPA LOCKA BLVD Eastbound					OPA LOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	13	57	0	1	71	0	370	28	2	400	0	0	0	0	0	36	117	22	0	175	646
07:15 AM	33	72	0	0	105	0	364	31	0	395	0	0	0	0	0	42	167	21	4	234	734
07:30 AM	43	82	0	1	126	0	393	55	3	451	0	0	0	0	0	56	202	11	0	269	846
07:45 AM	43	102	0	2	147	0	416	66	2	484	0	0	0	0	0	61	195	36	2	294	925
Total	132	313	0	4	449	0	1543	180	7	1730	0	0	0	0	0	195	681	90	6	972	3151
08:00 AM	33	115	0	0	148	0	383	48	1	432	0	0	0	0	0	68	199	28	0	295	875
08:15 AM	32	121	0	1	154	0	381	39	1	421	0	0	0	0	0	55	193	17	2	267	842
08:30 AM	26	103	0	0	129	0	408	18	0	426	0	0	0	0	0	70	166	26	0	262	817
08:45 AM	22	114	0	3	139	0	332	18	0	350	0	0	0	0	0	64	133	18	3	218	707
Total	113	453	0	4	570	0	1504	123	2	1629	0	0	0	0	0	257	691	89	5	1042	3241
*** BREAK ***																					
04:00 PM	51	244	0	0	295	0	251	34	0	285	0	0	0	0	0	70	162	32	1	265	845
04:15 PM	42	260	0	1	303	0	265	35	1	301	0	0	0	0	0	68	166	31	0	265	869
04:30 PM	53	261	0	0	314	0	257	54	0	311	0	0	0	0	0	73	171	40	2	286	911
04:45 PM	55	255	0	1	311	0	228	37	0	265	0	0	0	0	0	89	189	27	2	307	883
Total	201	1020	0	2	1223	0	1001	160	1	1162	0	0	0	0	0	300	688	130	5	1123	3508
05:00 PM	64	259	0	0	323	0	264	49	0	313	0	0	0	0	0	87	173	27	3	290	926
05:15 PM	44	251	0	0	295	0	265	50	2	317	0	0	1	3	4	82	190	33	0	305	921
05:30 PM	51	295	0	0	346	0	256	43	0	299	0	0	0	0	0	64	166	38	0	268	913
05:45 PM	48	272	0	0	320	0	216	48	0	264	0	0	0	0	0	60	153	40	1	254	838
Total	207	1077	0	0	1284	0	1001	190	2	1193	0	0	1	3	4	293	682	138	4	1117	3598
Grand Total	653	2863	0	10	3526	0	5049	653	12	5714	0	0	1	3	4	1045	2742	447	20	4254	13498
Apprch %	18.5	81.2	0	0.3		0	88.4	11.4	0.2		0	0	25	75		24.6	64.5	10.5	0.5		
Total %	4.8	21.2	0	0.1	26.1	0	37.4	4.8	0.1	42.3	0	0	0	0	0	7.7	20.3	3.3	0.1	31.5	
Pass Cars	615	2725	0	10	3350	0	4965	645	12	5622	0	0	1	3	4	1016	2600	431	20	4067	13043
% Pass Cars	94.2	95.2	0	100	95	0	98.3	98.8	100	98.4	0	0	100	100	100	97.2	94.8	96.4	100	95.6	96.6
Trucks	38	138	0	0	176	0	84	8	0	92	0	0	0	0	0	29	142	16	0	187	455
% Trucks	5.8	4.8	0	0	5	0	1.7	1.2	0	1.6	0	0	0	0	0	2.8	5.2	3.6	0	4.4	3.4

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Client: K&H
Intersection Name: OPALOCKABLVD_SR7
Opertaors Name: CG & RV & EB
Weather: Sunny

File Name : Opa locka Blvd_SR 7
Site Code : 00001404
Start Date : 4/23/2015
Page No : 2

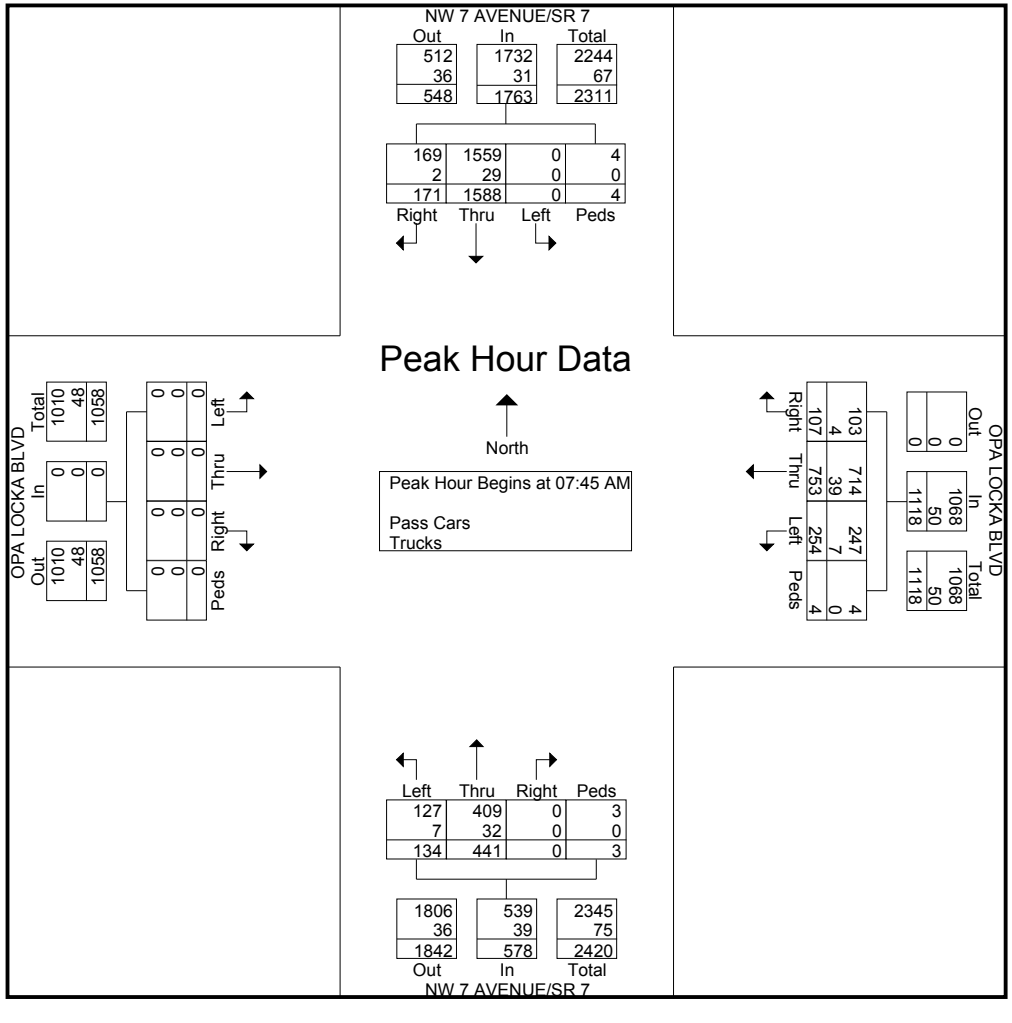
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					OPA LOCKA BLVD Eastbound					OPA LOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**43**	102	0	**2**	147	0	**416**	**66**	**2**	**484**	0	0	0	0	0	61	195	**36**	**2**	294	**925**
08:00 AM	33	115	0	0	148	0	383	48	1	432	0	0	0	0	0	68	**199**	28	0	**295**	875
08:15 AM	32	**121**	0	1	**154**	0	381	39	1	421	0	0	0	0	0	55	193	17	2	267	842
08:30 AM	26	103	0	0	129	0	408	18	0	426	0	0	0	0	0	**70**	166	26	0	262	817
Total Volume	134	441	0	3	578	0	1588	171	4	1763	0	0	0	0	0	254	753	107	4	1118	3459
% App. Total	23.2	76.3	0	0.5		0	90.1	9.7	0.2		0	0	0	0		22.7	67.4	9.6	0.4		
PHF	.779	.911	.000	.375	.938	.000	.954	.648	.500	.911	.000	.000	.000	.000	.000	.907	.946	.743	.500	.947	.935
Pass Cars	127	409	0	3	539	0	1559	169	4	1732	0	0	0	0	0	247	714	103	4	1068	3339
% Pass Cars	94.8	92.7	0	100	93.3	0	98.2	98.8	100	98.2	0	0	0	0	0	97.2	94.8	96.3	100	95.5	96.5
Trucks	7	32	0	0	39	0	29	2	0	31	0	0	0	0	0	7	39	4	0	50	120
% Trucks	5.2	7.3	0	0	6.7	0	1.8	1.2	0	1.8	0	0	0	0	0	2.8	5.2	3.7	0	4.5	3.5

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Client: K&H
Intersection Name: OPALOCKABLVD_SR7
Opertaors Name: CG & RV & EB
Weather: Sunny

File Name : Opa locka Blvd_SR 7
Site Code : 00001404
Start Date : 4/23/2015
Page No : 3



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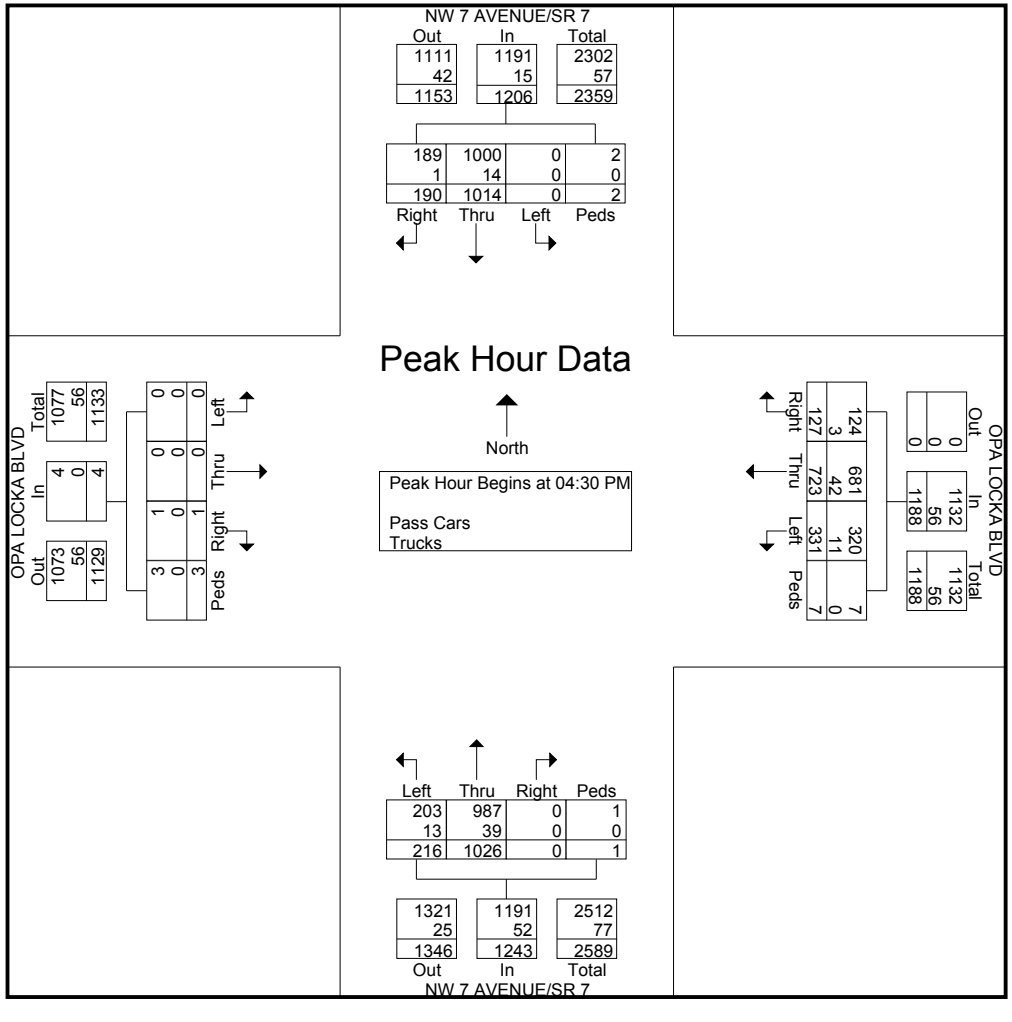
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					OPA LOCKA BLVD Eastbound					OPA LOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	53	**261**	0	0	314	0	257	**54**	0	311	0	0	0	0	0	73	171	**40**	2	286	911
04:45 PM	55	255	0	**1**	311	0	228	37	0	265	0	0	0	0	0	**89**	189	27	2	**307**	883
05:00 PM	**64**	259	0	0	**323**	0	264	49	0	313	0	0	0	0	0	87	173	27	**3**	290	**926**
05:15 PM	44	251	0	0	295	0	**265**	50	**2**	**317**	0	0	**1**	**3**	**4**	82	**190**	33	0	305	921
Total Volume	216	1026	0	1	1243	0	1014	190	2	1206	0	0	1	3	4	331	723	127	7	1188	3641
% App. Total	17.4	82.5	0	0.1		0	84.1	15.8	0.2		0	0	25	75		27.9	60.9	10.7	0.6		
PHF	.844	.983	.000	.250	.962	.000	.957	.880	.250	.951	.000	.000	.250	.250	.250	.930	.951	.794	.583	.967	.983
Pass Cars	203	987	0	1	1191	0	1000	189	2	1191	0	0	1	3	4	320	681	124	7	1132	3518
% Pass Cars	94.0	96.2	0	100	95.8	0	98.6	99.5	100	98.8	0	0	100	100	100	96.7	94.2	97.6	100	95.3	96.6
Trucks	13	39	0	0	52	0	14	1	0	15	0	0	0	0	0	11	42	3	0	56	123
% Trucks	6.0	3.8	0	0	4.2	0	1.4	0.5	0	1.2	0	0	0	0	0	3.3	5.8	2.4	0	4.7	3.4

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Weather: Sunny

File Name : Opa locka Blvd_SR 7
Site Code : 00001404
Start Date : 4/23/2015
Page No : 5



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Client: K&H
Intersection Name: OPALOCKA BLVD_SBRAMPS
Opertaors Name: ZV
Weather: Sunny

File Name : Opalocka blvd_sb Ramps All
Site Code : 00001405
Start Date : 4/23/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SB RAMPS/NW6CT Northbound					SB RAMPS/NW6CT Southbound					OPALOCKA BLVD Eastbound					OPALOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	48	22	4	74	0	0	0	1	1	88	156	0	0	244	319
07:15 AM	0	0	0	0	0	0	46	29	5	80	0	0	0	1	1	92	201	0	0	293	374
07:30 AM	0	0	0	0	0	0	53	20	5	78	0	0	0	2	2	81	211	0	0	292	372
07:45 AM	0	0	0	0	0	0	66	21	4	91	0	0	0	1	1	68	259	0	1	328	420
Total	0	0	0	0	0	0	213	92	18	323	0	0	0	5	5	329	827	0	1	1157	1485
08:00 AM	0	0	0	1	1	0	62	23	2	87	0	0	0	0	0	72	219	0	0	291	379
08:15 AM	0	0	0	1	1	0	58	9	2	69	0	0	0	0	0	75	241	0	0	316	386
08:30 AM	0	0	0	0	0	0	47	18	6	71	0	0	0	1	1	75	204	0	0	279	351
08:45 AM	0	0	0	0	0	0	65	21	3	89	0	0	0	0	0	62	193	0	0	255	344
Total	0	0	0	2	2	0	232	71	13	316	0	0	0	1	1	284	857	0	0	1141	1460
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	81	55	3	139	0	0	0	0	0	34	220	0	0	254	393
04:15 PM	0	0	0	0	0	0	179	49	0	228	0	0	0	0	0	37	333	1	0	371	599
04:30 PM	0	0	0	0	0	0	156	101	1	258	0	0	0	0	0	14	306	3	1	324	582
04:45 PM	0	0	0	0	0	0	110	17	0	127	0	0	0	0	0	44	180	0	1	225	352
Total	0	0	0	0	0	0	526	222	4	752	0	0	0	0	0	129	1039	4	2	1174	1926
05:00 PM	0	0	0	0	0	0	111	93	0	204	0	0	0	0	0	28	205	1	0	234	438
05:15 PM	0	0	0	0	0	0	108	59	1	168	0	0	0	0	0	15	199	0	0	214	382
05:30 PM	0	0	0	0	0	0	73	73	6	152	0	0	0	0	0	14	155	0	1	170	322
05:45 PM	0	0	0	0	0	0	166	55	1	222	0	0	0	0	0	61	203	0	0	264	486
Total	0	0	0	0	0	0	458	280	8	746	0	0	0	0	0	118	762	1	1	882	1628
Grand Total	0	0	0	2	2	0	1429	665	43	2137	0	0	0	6	6	860	3485	5	4	4354	6499
Apprch %	0	0	0	100		0	66.9	31.1	2		0	0	0	100		19.8	80	0.1	0.1		
Total %	0	0	0	0	0	0	22	10.2	0.7	32.9	0	0	0	0.1	0.1	13.2	53.6	0.1	0.1	67	
Pass Cars	0	0	0	2	2	0	1395	654	43	2092	0	0	0	6	6	847	3372	5	4	4228	6328
% Pass Cars	0	0	0	100	100	0	97.6	98.3	100	97.9	0	0	0	100	100	98.5	96.8	100	100	97.1	97.4
Trucks	0	0	0	0	0	0	34	11	0	45	0	0	0	0	0	13	113	0	0	126	171
% Trucks	0	0	0	0	0	0	2.4	1.7	0	2.1	0	0	0	0	0	1.5	3.2	0	0	2.9	2.6

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Client: K&H
Intersection Name: OPALOCKA BLVD_SBRAMPS
Opertaors Name: ZV
Weather: Sunny

File Name : Opalocka blvd_sb Ramps All
Site Code : 00001405
Start Date : 4/23/2015
Page No : 2

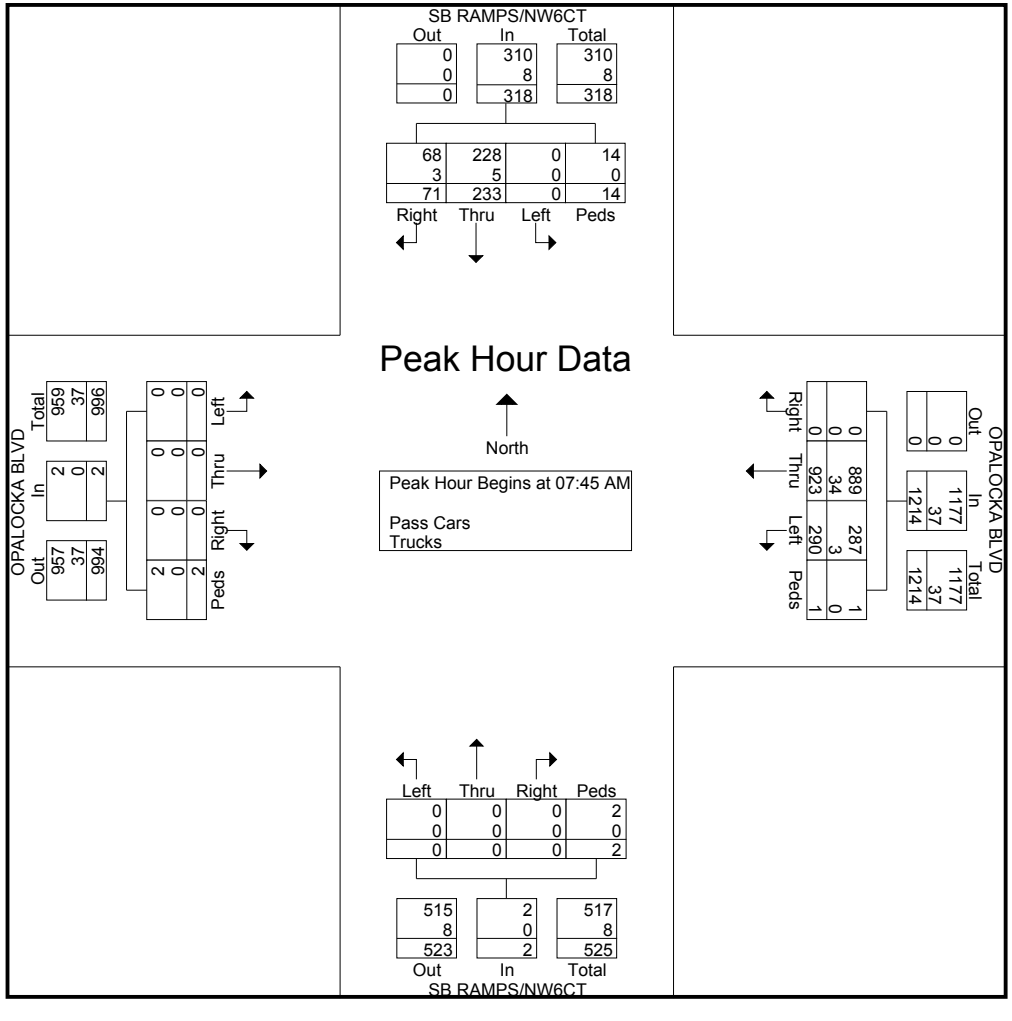
	SB RAMPS/NW6CT Northbound					SB RAMPS/NW6CT Southbound					OPALOCKA BLVD Eastbound					OPALOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	**66**	21	4	**91**	0	0	0	**1**	**1**	68	**259**	0	**1**	**328**	**420**
08:00 AM	0	0	0	**1**	**1**	0	62	**23**	2	87	0	0	0	0	0	72	219	0	0	291	379
08:15 AM	0	0	0	1	1	0	58	9	2	69	0	0	0	0	0	**75**	241	0	0	316	386
08:30 AM	0	0	0	0	0	0	47	18	**6**	71	0	0	0	1	1	75	204	0	0	279	351
Total Volume	0	0	0	2	2	0	233	71	14	318	0	0	0	2	2	290	923	0	1	1214	1536
% App. Total	0	0	0	100		0	73.3	22.3	4.4		0	0	0	100		23.9	76	0	0.1		
PHF	.000	.000	.000	.500	.500	.000	.883	.772	.583	.874	.000	.000	.000	.500	.500	.967	.891	.000	.250	.925	.914
Pass Cars	0	0	0	2	2	0	228	68	14	310	0	0	0	2	2	287	889	0	1	1177	1491
% Pass Cars	0	0	0	100	100	0	97.9	95.8	100	97.5	0	0	0	100	100	99.0	96.3	0	100	97.0	97.1
Trucks	0	0	0	0	0	0	5	3	0	8	0	0	0	0	0	3	34	0	0	37	45
% Trucks	0	0	0	0	0	0	2.1	4.2	0	2.5	0	0	0	0	0	1.0	3.7	0	0	3.0	2.9

F.R. Aleman & Associates, Inc

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Phone: (305) 591-8777
Fax: (305) 599-8749

Client: K&H
Intersection Name: OPALOCKA BLVD_SBRAMPS
Opertaors Name: ZV
Weather: Sunny

File Name : Opalocka blvd_sb Ramps All
Site Code : 00001405
Start Date : 4/23/2015
Page No : 3



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Client: K&H
Intersection Name: OPALOCKA BLVD_SBRAMPS
Opertaors Name: ZV
Weather: Sunny

File Name : Opalocka blvd_sb Ramps All
Site Code : 00001405
Start Date : 4/23/2015
Page No : 4

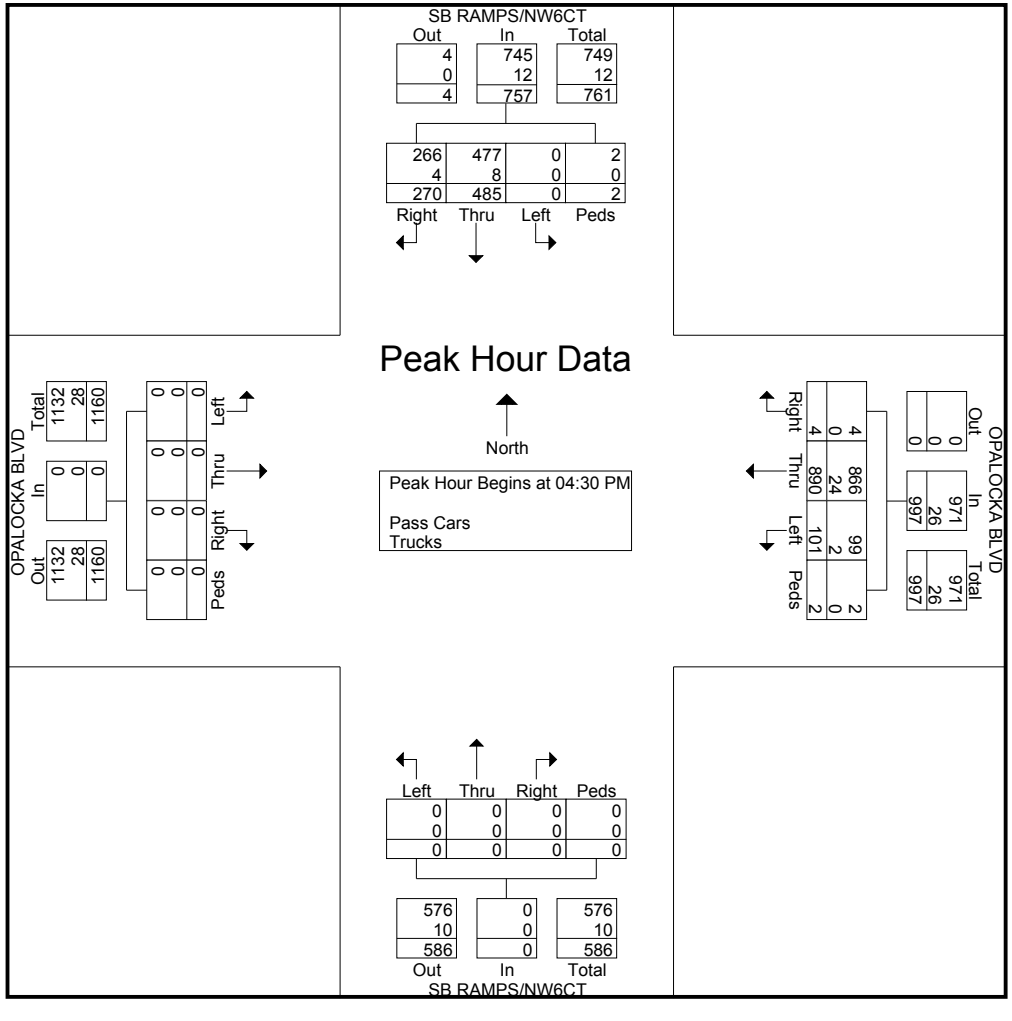
	SB RAMPS/NW6CT Northbound					SB RAMPS/NW6CT Southbound					OPALOCKA BLVD Eastbound					OPALOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	**156**	**101**	**1**	**258**	0	0	0	0	0	14	**306**	**3**	**1**	**324**	**582**
04:45 PM	0	0	0	0	0	0	110	17	0	127	0	0	0	0	0	**44**	180	0	1	225	352
05:00 PM	0	0	0	0	0	0	111	93	0	204	0	0	0	0	0	28	205	1	0	234	438
05:15 PM	0	0	0	0	0	0	108	59	1	168	0	0	0	0	0	15	199	0	0	214	382
Total Volume	0	0	0	0	0	0	485	270	2	757	0	0	0	0	0	101	890	4	2	997	1754
% App. Total	0	0	0	0		0	64.1	35.7	0.3		0	0	0	0		10.1	89.3	0.4	0.2		
PHF	.000	.000	.000	.000	.000	.000	.777	.668	.500	.734	.000	.000	.000	.000	.000	.574	.727	.333	.500	.769	.753
Pass Cars	0	0	0	0	0	0	477	266	2	745	0	0	0	0	0	99	866	4	2	971	1716
% Pass Cars	0	0	0	0	0	0	98.4	98.5	100	98.4	0	0	0	0	0	98.0	97.3	100	100	97.4	97.8
Trucks	0	0	0	0	0	0	8	4	0	12	0	0	0	0	0	2	24	0	0	26	38
% Trucks	0	0	0	0	0	0	1.6	1.5	0	1.6	0	0	0	0	0	2.0	2.7	0	0	2.6	2.2

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Client: K&H
Intersection Name: OPALOCKA BLVD_SBRAMPS
Opertaors Name: ZV
Weather: Sunny

File Name : Opalocka blvd_sb Ramps All
Site Code : 00001405
Start Date : 4/23/2015
Page No : 5



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Client: K&H
Intersection Name: OPALOCKABLVD_NB RAMPS
Opertaors Name: ED
Weather: Sunny

File Name : OPalocka Blvd_NB Ramps
Site Code : 00001406
Start Date : 4/23/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	I 95 NB RAMPS Northbound					I 95 NB RAMPS Southbound					OPA LOCKA BLVD Eastbound					OPA LOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	42	78	0	1	121	0	0	0	0	0	0	0	0	0	0	16	170	101	0	287	408
07:15 AM	42	99	0	0	141	0	0	0	5	5	0	0	0	0	0	0	241	101	2	344	490
07:30 AM	44	99	0	0	143	0	0	0	5	5	0	0	0	0	0	0	246	106	0	352	500
07:45 AM	49	104	0	0	153	0	0	0	2	2	0	0	0	0	0	0	275	102	0	377	532
Total	177	380	0	1	558	0	0	0	12	12	0	0	0	0	0	16	932	410	2	1360	1930
08:00 AM	53	89	9	0	151	0	0	0	1	1	0	5	1	0	6	0	223	110	0	333	491
08:15 AM	45	79	0	0	124	0	0	0	4	4	0	0	0	0	0	0	250	101	0	351	479
08:30 AM	41	120	0	0	161	0	0	0	4	4	0	0	0	0	0	0	207	83	0	290	455
08:45 AM	38	84	0	0	122	0	0	0	2	2	0	0	0	0	0	0	198	65	0	263	387
Total	177	372	9	0	558	0	0	0	11	11	0	5	1	0	6	0	878	359	0	1237	1812
*** BREAK ***																					
04:00 PM	33	115	0	0	148	0	0	0	1	1	0	0	0	0	0	0	249	104	0	353	502
04:15 PM	28	129	0	0	157	0	0	0	0	0	0	0	0	0	0	0	303	131	0	434	591
04:30 PM	33	148	0	0	181	0	0	0	1	1	0	0	0	0	0	0	287	129	0	416	598
04:45 PM	29	129	0	0	158	0	0	0	0	0	0	0	0	0	0	0	281	90	0	371	529
Total	123	521	0	0	644	0	0	0	2	2	0	0	0	0	0	0	1120	454	0	1574	2220
05:00 PM	17	128	0	0	145	0	0	0	4	4	0	0	0	0	0	0	289	122	1	412	561
05:15 PM	26	140	0	2	168	0	0	0	0	0	0	0	0	0	0	0	337	145	0	482	650
05:30 PM	23	131	0	11	165	0	0	0	3	3	2	0	0	0	2	0	277	148	1	426	596
05:45 PM	20	125	0	1	146	0	0	0	2	2	0	0	0	0	0	0	247	144	0	391	539
Total	86	524	0	14	624	0	0	0	9	9	2	0	0	0	2	0	1150	559	2	1711	2346
Grand Total	563	1797	9	15	2384	0	0	0	34	34	2	5	1	0	8	16	4080	1782	4	5882	8308
Apprch %	23.6	75.4	0.4	0.6		0	0	0	100		25	62.5	12.5	0		0.3	69.4	30.3	0.1		
Total %	6.8	21.6	0.1	0.2	28.7	0	0	0	0.4	0.4	0	0.1	0	0	0.1	0.2	49.1	21.4	0	70.8	
Pass Cars	544	1767	9	4	2324	0	0	0	34	34	0	5	1	0	6	16	3970	1754	4	5744	8108
% Pass Cars	96.6	98.3	100	26.7	97.5	0	0	0	100	100	0	100	100	0	75	100	97.3	98.4	100	97.7	97.6
Trucks	19	30	0	11	60	0	0	0	0	0	2	0	0	0	2	0	110	28	0	138	200
% Trucks	3.4	1.7	0	73.3	2.5	0	0	0	0	0	100	0	0	0	25	0	2.7	1.6	0	2.3	2.4

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Client: K&H
Intersection Name: OPALOCKABLVD_NB RAMPS
Opertaors Name: ED
Weather: Sunny

File Name : OPalocka Blvd_NB Ramps
Site Code : 00001406
Start Date : 4/23/2015
Page No : 2

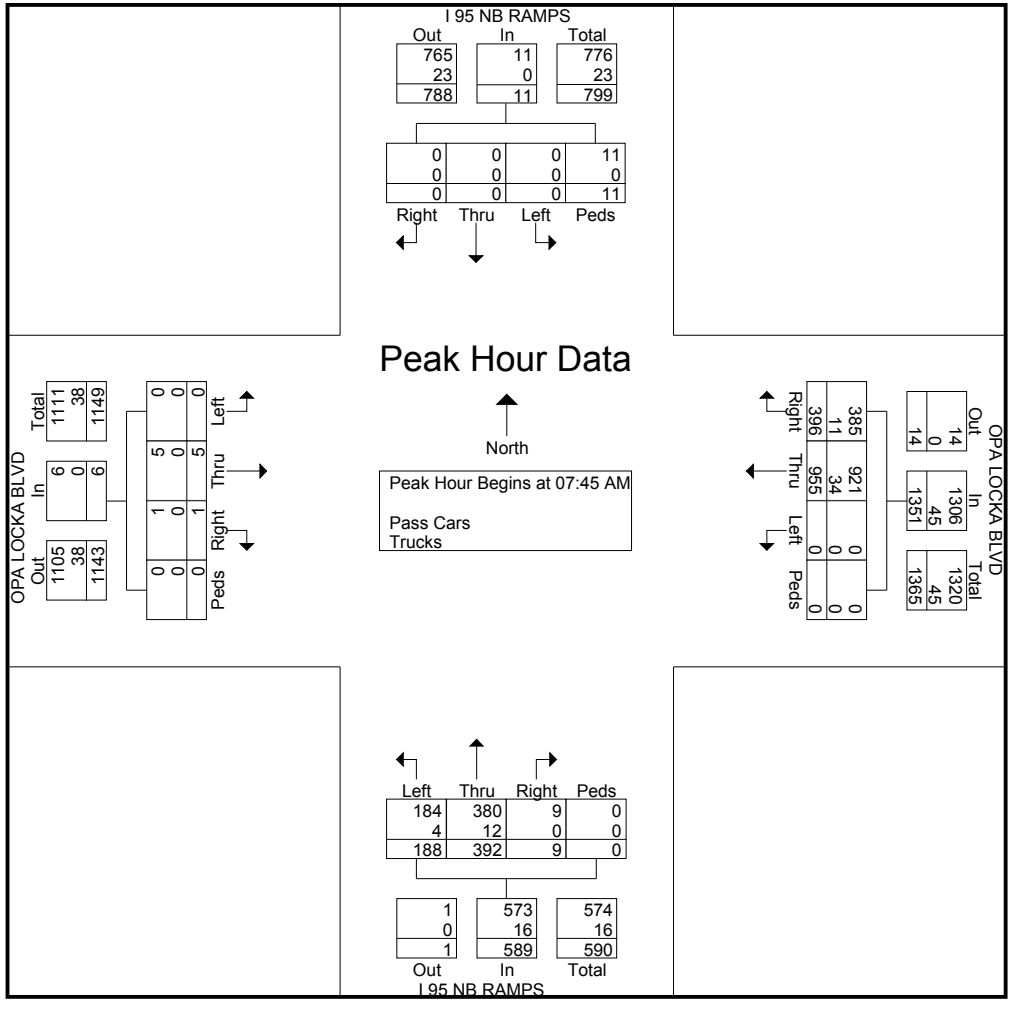
	I 95 NB RAMPS Northbound					I 95 NB RAMPS Southbound					OPA LOCKA BLVD Eastbound					OPA LOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	49	104	0	0	153	0	0	0	2	2	0	0	0	0	0	0	**275**	102	0	**377**	**532**
08:00 AM	**53**	89	**9**	0	151	0	0	0	1	1	0	**5**	**1**	0	**6**	0	223	**110**	0	333	491
08:15 AM	45	79	0	0	124	0	0	0	**4**	**4**	0	0	0	0	0	0	250	101	0	351	479
08:30 AM	41	**120**	0	0	**161**	0	0	0	4	4	0	0	0	0	0	0	207	83	0	290	455
Total Volume	188	392	9	0	589	0	0	0	11	11	0	5	1	0	6	0	955	396	0	1351	1957
% App. Total	31.9	66.6	1.5	0		0	0	0	100		0	83.3	16.7	0		0	70.7	29.3	0		
PHF	.887	.817	.250	.000	.915	.000	.000	.000	.688	.688	.000	.250	.250	.000	.250	.000	.868	.900	.000	.896	.920
Pass Cars	184	380	9	0	573	0	0	0	11	11	0	5	1	0	6	0	921	385	0	1306	1896
% Pass Cars	97.9	96.9	100	0	97.3	0	0	0	100	100	0	100	100	0	100	0	96.4	97.2	0	96.7	96.9
Trucks	4	12	0	0	16	0	0	0	0	0	0	0	0	0	0	0	34	11	0	45	61
% Trucks	2.1	3.1	0	0	2.7	0	0	0	0	0	0	0	0	0	0	0	3.6	2.8	0	3.3	3.1

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Client: K&H
Intersection Name: OPALOCKABLVD_NB RAMPS
Opertaors Name: ED
Weather: Sunny

File Name : OPalocka Blvd_NB Ramps
Site Code : 00001406
Start Date : 4/23/2015
Page No : 3



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Intersection Name: OPALOCKABLVD_NB RAMPS
Opertaors Name: ED
Weather: Sunny

File Name : OPalocka Blvd_NB Ramps
Site Code : 00001406
Start Date : 4/23/2015
Page No : 4

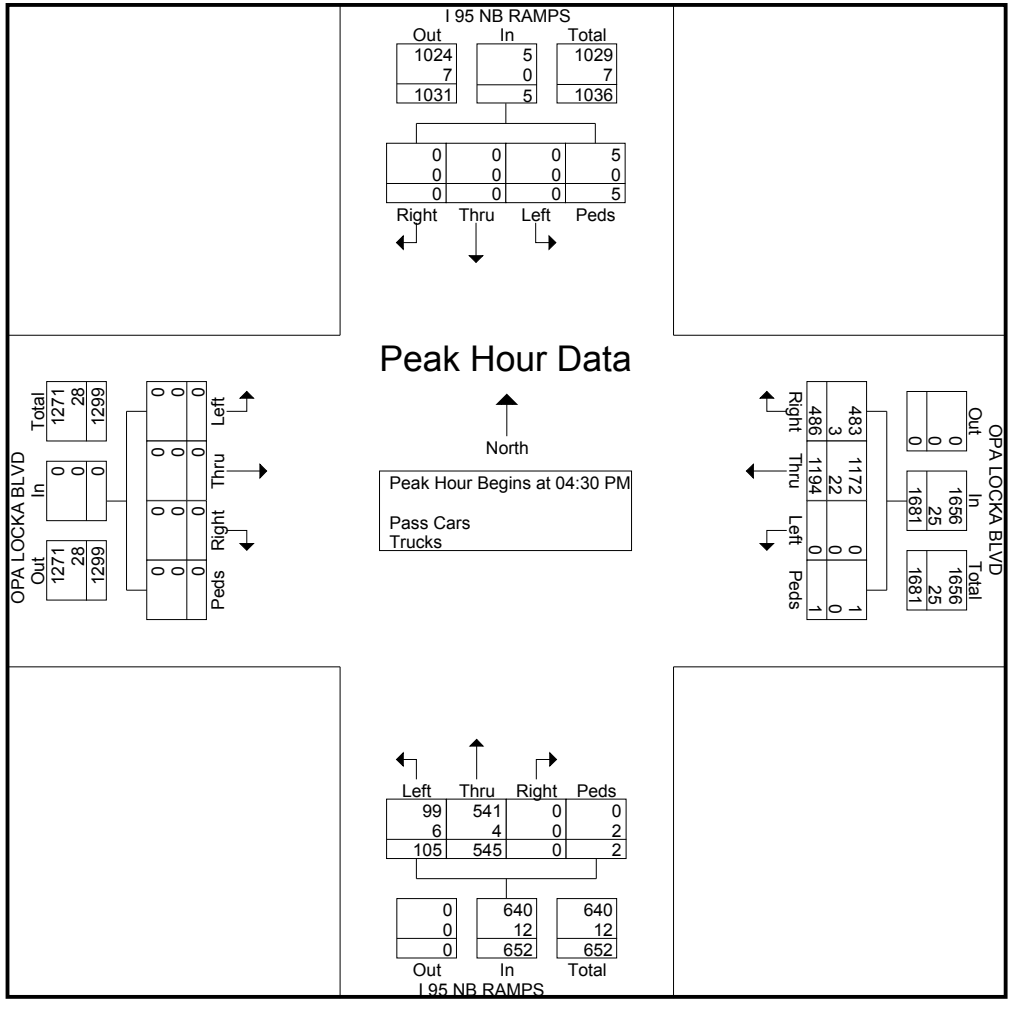
	I 95 NB RAMPS Northbound					I 95 NB RAMPS Southbound					OPA LOCKA BLVD Eastbound					OPA LOCKA BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	**33**	**148**	0	0	**181**	0	0	0	1	1	0	0	0	0	0	0	287	129	0	416	598
04:45 PM	29	129	0	0	158	0	0	0	0	0	0	0	0	0	0	0	281	90	0	371	529
05:00 PM	17	128	0	0	145	0	0	0	**4**	**4**	0	0	0	0	0	0	289	122	**1**	412	561
05:15 PM	26	140	0	**2**	168	0	0	0	0	0	0	0	0	0	0	0	**337**	**145**	0	**482**	**650**
Total Volume	105	545	0	2	652	0	0	0	5	5	0	0	0	0	0	0	1194	486	1	1681	2338
% App. Total	16.1	83.6	0	0.3		0	0	0	100		0	0	0	0		0	71	28.9	0.1		
PHF	.795	.921	.000	.250	.901	.000	.000	.000	.313	.313	.000	.000	.000	.000	.000	.000	.886	.838	.250	.872	.899
Pass Cars	99	541	0	0	640	0	0	0	5	5	0	0	0	0	0	0	1172	483	1	1656	2301
% Pass Cars	94.3	99.3	0	0	98.2	0	0	0	100	100	0	0	0	0	0	0	98.2	99.4	100	98.5	98.4
Trucks	6	4	0	2	12	0	0	0	0	0	0	0	0	0	0	0	22	3	0	25	37
% Trucks	5.7	0.7	0	100	1.8	0	0	0	0	0	0	0	0	0	0	0	1.8	0.6	0	1.5	1.6

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Client: K&H
Intersection Name: OPALOCKABLVD_NB RAMPS
Opertaors Name: ED
Weather: Sunny

File Name : OPalocka Blvd_NB Ramps
Site Code : 00001406
Start Date : 4/23/2015
Page No : 5



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Client: K&H
Intersection Name: NW151ST_SR7
Operators Name: MA & CV
Weather: Sunny

File Name : NW 151 ST_SR 7
Site Code : 00001501
Start Date : 4/28/2015
Page No : 1

Groups Printed- Pass_Cars - Trucks

	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	64	28	7	100	38	323	9	3	373	15	20	1	4	40	42	14	41	1	98	611
07:15 AM	2	87	33	4	126	43	350	8	2	403	12	8	1	3	24	42	15	42	3	102	655
07:30 AM	3	119	22	12	156	60	429	14	0	503	16	13	5	8	42	30	15	43	0	88	789
07:45 AM	2	108	33	27	170	56	409	14	5	484	12	12	1	7	32	28	34	34	6	102	788
Total	8	378	116	50	552	197	1511	45	10	1763	55	53	8	22	138	142	78	160	10	390	2843
08:00 AM	2	111	30	4	147	58	380	6	7	451	14	21	2	3	40	34	27	44	1	106	744
08:15 AM	1	93	41	5	140	73	378	10	4	465	9	15	2	4	30	27	18	51	0	96	731
08:30 AM	4	99	26	4	133	55	390	8	4	457	14	13	4	2	33	37	34	29	1	101	724
08:45 AM	2	89	28	3	122	49	336	12	1	398	12	15	3	2	32	28	26	40	4	98	650
Total	9	392	125	16	542	235	1484	36	16	1771	49	64	11	11	135	126	105	164	6	401	2849
*** BREAK ***																					
04:00 PM	5	179	65	23	272	58	206	27	0	291	12	18	5	6	41	30	16	43	1	90	694
04:15 PM	6	157	53	47	263	44	138	21	1	204	16	22	2	10	50	47	25	40	4	116	633
04:30 PM	7	166	56	0	229	66	126	15	3	210	10	4	2	5	21	44	19	32	0	95	555
04:45 PM	5	184	63	8	260	55	149	19	6	229	11	11	1	2	25	48	26	36	3	113	627
Total	23	686	237	78	1024	223	619	82	10	934	49	55	10	23	137	169	86	151	8	414	2509
05:00 PM	5	190	69	10	274	48	187	11	2	248	6	4	1	2	13	37	18	29	2	86	621
05:15 PM	3	189	58	3	253	55	168	16	0	239	11	18	2	0	31	41	17	32	4	94	617
05:30 PM	7	190	51	3	251	43	179	24	4	250	10	17	0	3	30	35	14	22	2	73	604
05:45 PM	3	207	65	5	280	51	176	20	3	250	16	17	0	1	34	38	15	39	6	98	662
Total	18	776	243	21	1058	197	710	71	9	987	43	56	3	6	108	151	64	122	14	351	2504
Grand Total	58	2232	721	165	3176	852	4324	234	45	5455	196	228	32	62	518	588	333	597	38	1556	10705
Apprch %	1.8	70.3	22.7	5.2		15.6	79.3	4.3	0.8		37.8	44	6.2	12		37.8	21.4	38.4	2.4		
Total %	0.5	20.9	6.7	1.5	29.7	8	40.4	2.2	0.4	51	1.8	2.1	0.3	0.6	4.8	5.5	3.1	5.6	0.4	14.5	
Pass_Cars	54	2123	713	165	3055	838	4280	229	45	5392	191	226	32	62	511	572	320	554	38	1484	10442
% Pass_Cars	93.1	95.1	98.9	100	96.2	98.4	99	97.9	100	98.8	97.4	99.1	100	100	98.6	97.3	96.1	92.8	100	95.4	97.5
Trucks	4	109	8	0	121	14	44	5	0	63	5	2	0	0	7	16	13	43	0	72	263
% Trucks	6.9	4.9	1.1	0	3.8	1.6	1	2.1	0	1.2	2.6	0.9	0	0	1.4	2.7	3.9	7.2	0	4.6	2.5

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Client: K&H
Intersection Name: NW151ST_SR7
Operators Name: MA & CV
Weather: Sunny

File Name : NW 151 ST_SR 7
Site Code : 00001501
Start Date : 4/28/2015
Page No : 2

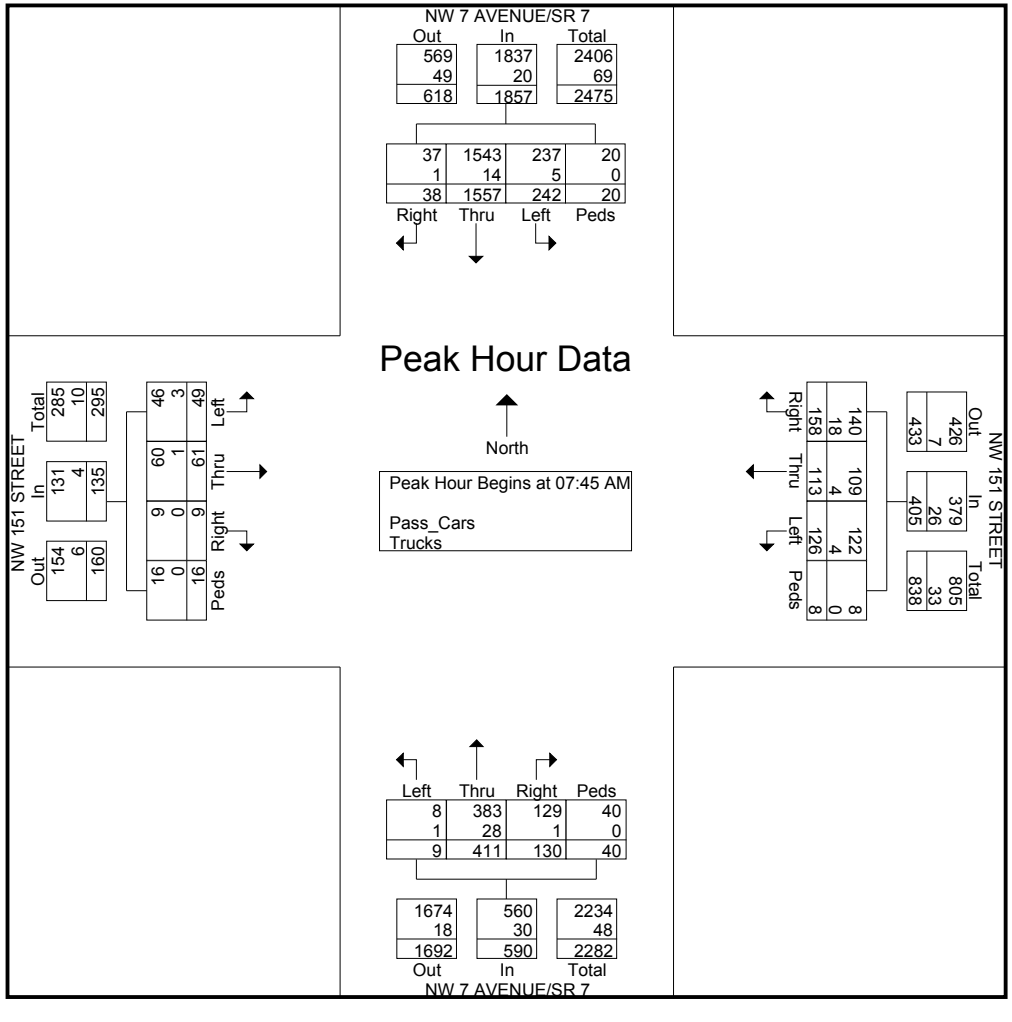
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	2	108	33	**27**	**170**	56	**409**	**14**	5	**484**	12	12	1	**7**	32	28	**34**	34	**6**	102	**788**
08:00 AM	2	**111**	30	4	147	58	380	6	**7**	451	**14**	**21**	2	3	**40**	34	27	44	1	**106**	744
08:15 AM	1	93	**41**	5	140	**73**	378	10	4	465	9	15	2	4	30	27	18	**51**	0	96	731
08:30 AM	**4**	99	26	4	133	55	390	8	4	457	14	13	**4**	2	33	**37**	34	29	1	101	724
Total Volume	9	411	130	40	590	242	1557	38	20	1857	49	61	9	16	135	126	113	158	8	405	2987
% App. Total	1.5	69.7	22	6.8		13	83.8	2	1.1		36.3	45.2	6.7	11.9		31.1	27.9	39	2		
PHF	.563	.926	.793	.370	.868	.829	.952	.679	.714	.959	.875	.726	.563	.571	.844	.851	.831	.775	.333	.955	.948
Pass_Cars	8	383	129	40	560	237	1543	37	20	1837	46	60	9	16	131	122	109	140	8	379	2907
% Pass_Cars	88.9	93.2	99.2	100	94.9	97.9	99.1	97.4	100	98.9	93.9	98.4	100	100	97.0	96.8	96.5	88.6	100	93.6	97.3
Trucks	1	28	1	0	30	5	14	1	0	20	3	1	0	0	4	4	4	18	0	26	80
% Trucks	11.1	6.8	0.8	0	5.1	2.1	0.9	2.6	0	1.1	6.1	1.6	0	0	3.0	3.2	3.5	11.4	0	6.4	2.7

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Client: K&H
Intersection Name: NW151ST_SR7
Operators Name: MA & CV
Weather: Sunny

File Name : NW 151 ST_SR 7
Site Code : 00001501
Start Date : 4/28/2015
Page No : 3



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Page No : 4

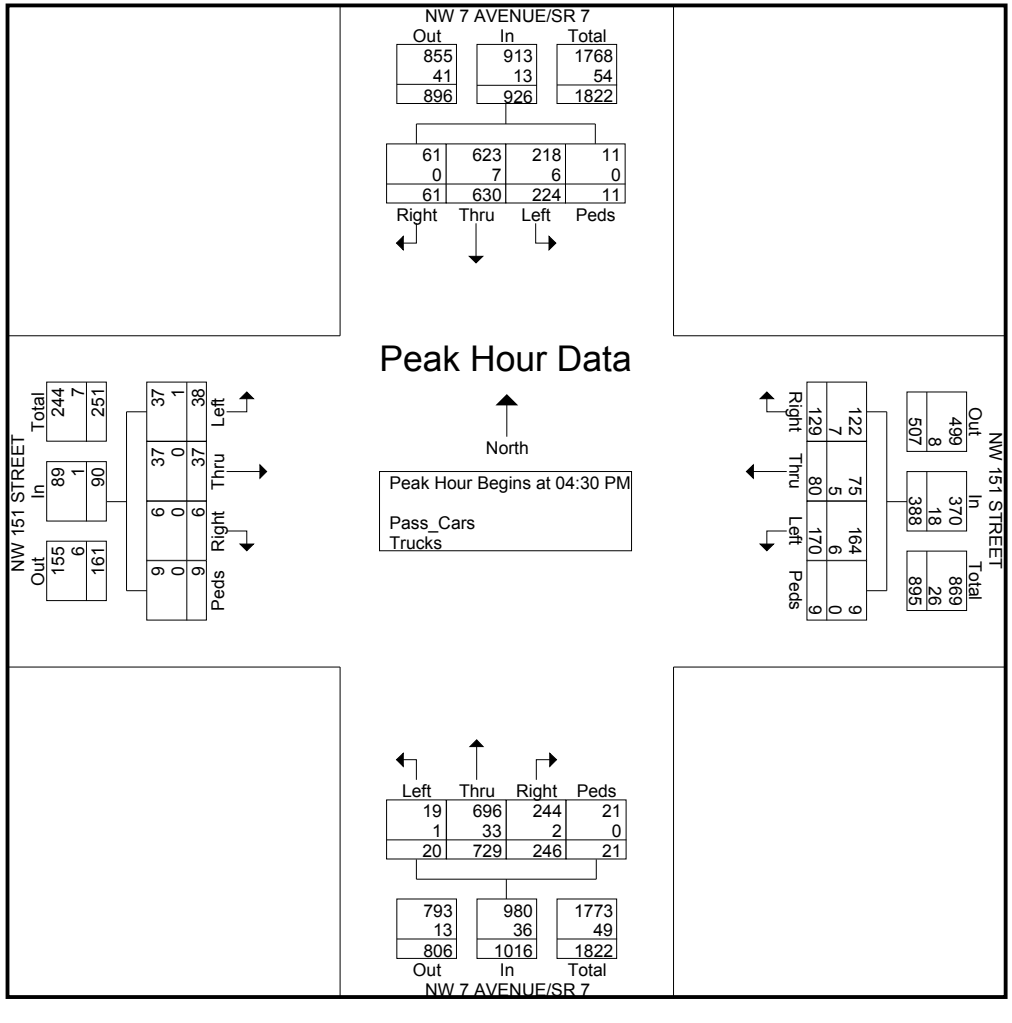
	NW 7 AVENUE/SR 7 Northbound					NW 7 AVENUE/SR 7 Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	**7**	166	56	0	229	**66**	126	15	3	210	10	4	**2**	**5**	21	44	19	32	0	95	555
04:45 PM	5	184	63	8	260	55	149	**19**	**6**	229	**11**	11	1	2	25	**48**	**26**	**36**	3	**113**	**627**
05:00 PM	5	**190**	**69**	**10**	**274**	48	**187**	11	2	**248**	6	4	1	2	13	37	18	29	2	86	621
05:15 PM	3	189	58	3	253	55	168	16	0	239	11	**18**	2	0	**31**	41	17	32	**4**	94	617
Total Volume	20	729	246	21	1016	224	630	61	11	926	38	37	6	9	90	170	80	129	9	388	2420
% App. Total	2	71.8	24.2	2.1		24.2	68	6.6	1.2		42.2	41.1	6.7	10		43.8	20.6	33.2	2.3		
PHF	.714	.959	.891	.525	.927	.848	.842	.803	.458	.933	.864	.514	.750	.450	.726	.885	.769	.896	.563	.858	.965
Pass_Cars	19	696	244	21	980	218	623	61	11	913	37	37	6	9	89	164	75	122	9	370	2352
% Pass_Cars	95.0	95.5	99.2	100	96.5	97.3	98.9	100	100	98.6	97.4	100	100	100	98.9	96.5	93.8	94.6	100	95.4	97.2
Trucks	1	33	2	0	36	6	7	0	0	13	1	0	0	0	1	6	5	7	0	18	68
% Trucks	5.0	4.5	0.8	0	3.5	2.7	1.1	0	0	1.4	2.6	0	0	0	1.1	3.5	6.3	5.4	0	4.6	2.8

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Intersection Name: NW151ST_SR7
Operators Name: MA & CV
Weather: Sunny

File Name : NW 151 ST_SR 7
Site Code : 00001501
Start Date : 4/28/2015
Page No : 5



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Client: K&H
Intersection Name: NW151ST_SBON-RAMPS
Operators Name: EB & CG
Weather: Sunny

File Name : NW 151 ST_SB ON-Ramp
Site Code : 00001502
Start Date : 4/28/2015
Page No : 1

Groups Printed- Pass_Cars - Trucks

	SB RAMPRS I 95 Northbound					SB RAMPRS I 95 Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	73	20	2	95	67	103	0	1	171	266
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	76	19	2	97	58	101	0	0	159	256
07:30 AM	0	0	0	6	6	0	0	0	0	0	0	74	23	1	98	47	101	0	1	149	253
07:45 AM	0	0	0	4	4	0	0	0	0	0	0	88	18	0	106	42	101	0	1	144	254
Total	0	0	0	10	10	0	0	0	0	0	0	311	80	5	396	214	406	0	3	623	1029
08:00 AM	0	0	0	3	3	0	0	0	0	0	0	94	16	2	112	31	96	0	2	129	244
08:15 AM	0	0	0	6	6	0	0	0	4	4	0	117	16	0	133	40	103	0	5	148	291
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	93	18	2	113	26	103	0	2	131	244
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	76	17	1	94	41	122	0	1	164	258
Total	0	0	0	9	9	0	0	0	4	4	0	380	67	5	452	138	424	0	10	572	1037
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	123	20	0	143	39	116	0	0	155	298
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	119	20	0	139	40	101	0	0	141	280
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	118	20	3	141	40	96	0	0	136	277
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	123	21	1	145	63	110	0	0	173	318
Total	0	0	0	0	0	0	0	0	0	0	0	483	81	4	568	182	423	0	0	605	1173
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	102	16	1	119	67	102	0	1	170	289
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	119	27	0	146	47	99	0	0	146	292
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	107	12	0	119	42	84	0	0	126	245
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	126	23	0	149	32	88	0	0	120	269
Total	0	0	0	0	0	0	0	0	0	0	0	454	78	1	533	188	373	0	1	562	1095
Grand Total	0	0	0	19	19	0	0	0	4	4	0	1628	306	15	1949	722	1626	0	14	2362	4334
Apprch %	0	0	0	100		0	0	0	100		0	83.5	15.7	0.8		30.6	68.8	0	0.6		
Total %	0	0	0	0.4	0.4	0	0	0	0.1	0.1	0	37.6	7.1	0.3	45	16.7	37.5	0	0.3	54.5	
Pass_Cars	0	0	0	1	1	0	0	0	4	4	0	1612	280	15	1907	693	1545	0	9	2247	4159
% Pass_Cars	0	0	0	5.3	5.3	0	0	0	100	100	0	99	91.5	100	97.8	96	95	0	64.3	95.1	96
Trucks	0	0	0	18	18	0	0	0	0	0	0	16	26	0	42	29	81	0	5	115	175
% Trucks	0	0	0	94.7	94.7	0	0	0	0	0	0	1	8.5	0	2.2	4	5	0	35.7	4.9	4

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Client: K&H
Intersection Name: NW151ST_SBON-RAMPS
Operators Name: EB & CG
Weather: Sunny

File Name : NW 151 ST_SB ON-Ramp
Site Code : 00001502
Start Date : 4/28/2015
Page No : 2

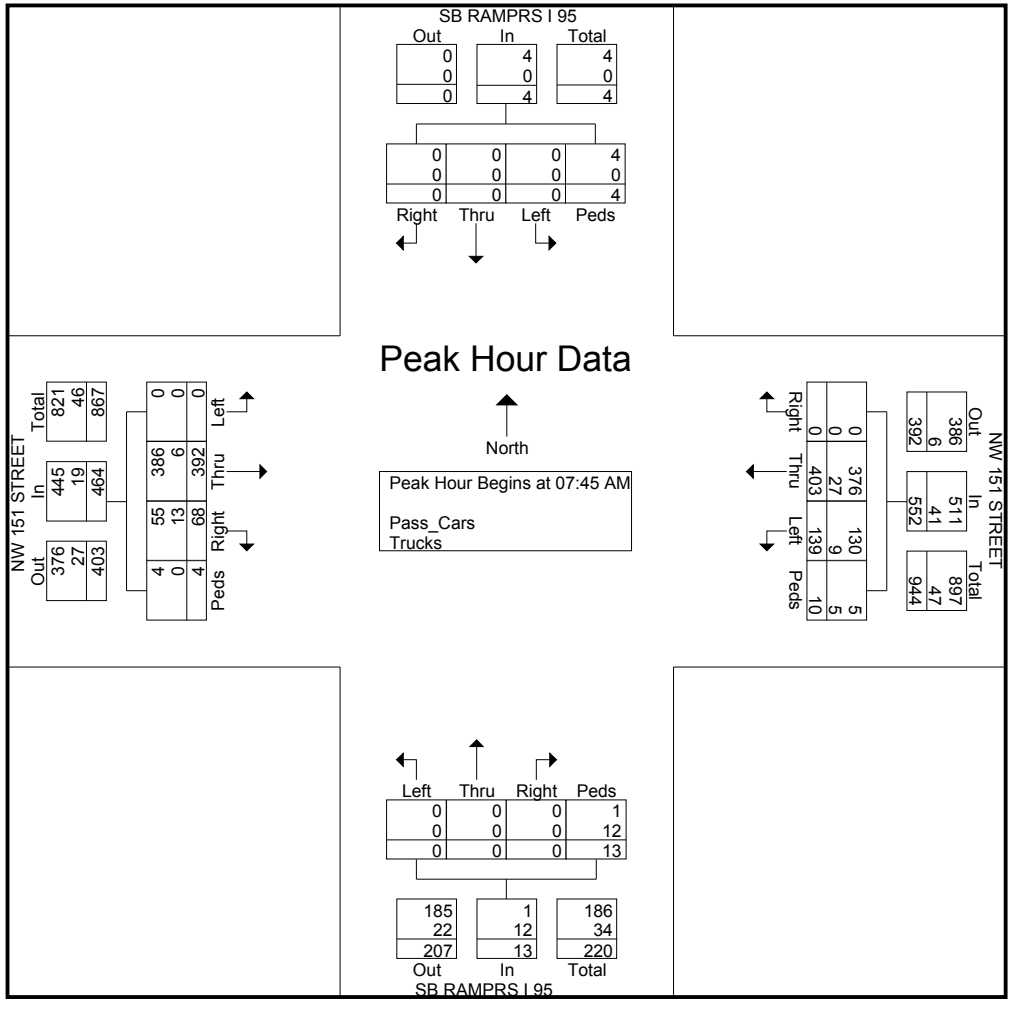
	SB RAMPRS I 95 Northbound					SB RAMPRS I 95 Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	4	4	0	0	0	0	0	0	88	**18**	0	106	**42**	101	0	1	144	254
08:00 AM	0	0	0	3	3	0	0	0	0	0	0	94	16	**2**	112	31	96	0	2	129	244
08:15 AM	0	0	0	**6**	**6**	0	0	0	**4**	**4**	0	**117**	16	0	**133**	40	**103**	0	**5**	**148**	**291**
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	93	18	2	113	26	103	0	2	131	244
Total Volume	0	0	0	13	13	0	0	0	4	4	0	392	68	4	464	139	403	0	10	552	1033
% App. Total	0	0	0	100		0	0	0	100		0	84.5	14.7	0.9		25.2	73	0	1.8		
PHF	.000	.000	.000	.542	.542	.000	.000	.000	.250	.250	.000	.838	.944	.500	.872	.827	.978	.000	.500	.932	.887
Pass_Cars	0	0	0	1	1	0	0	0	4	4	0	386	55	4	445	130	376	0	5	511	961
% Pass_Cars	0	0	0	7.7	7.7	0	0	0	100	100	0	98.5	80.9	100	95.9	93.5	93.3	0	50.0	92.6	93.0
Trucks	0	0	0	12	12	0	0	0	0	0	0	6	13	0	19	9	27	0	5	41	72
% Trucks	0	0	0	92.3	92.3	0	0	0	0	0	0	1.5	19.1	0	4.1	6.5	6.7	0	50.0	7.4	7.0

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Client: K&H
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Operators Name: EB & CG
Weather: Sunny

File Name : NW 151 ST_SB ON-Ramp
Site Code : 00001502
Start Date : 4/28/2015
Page No : 3



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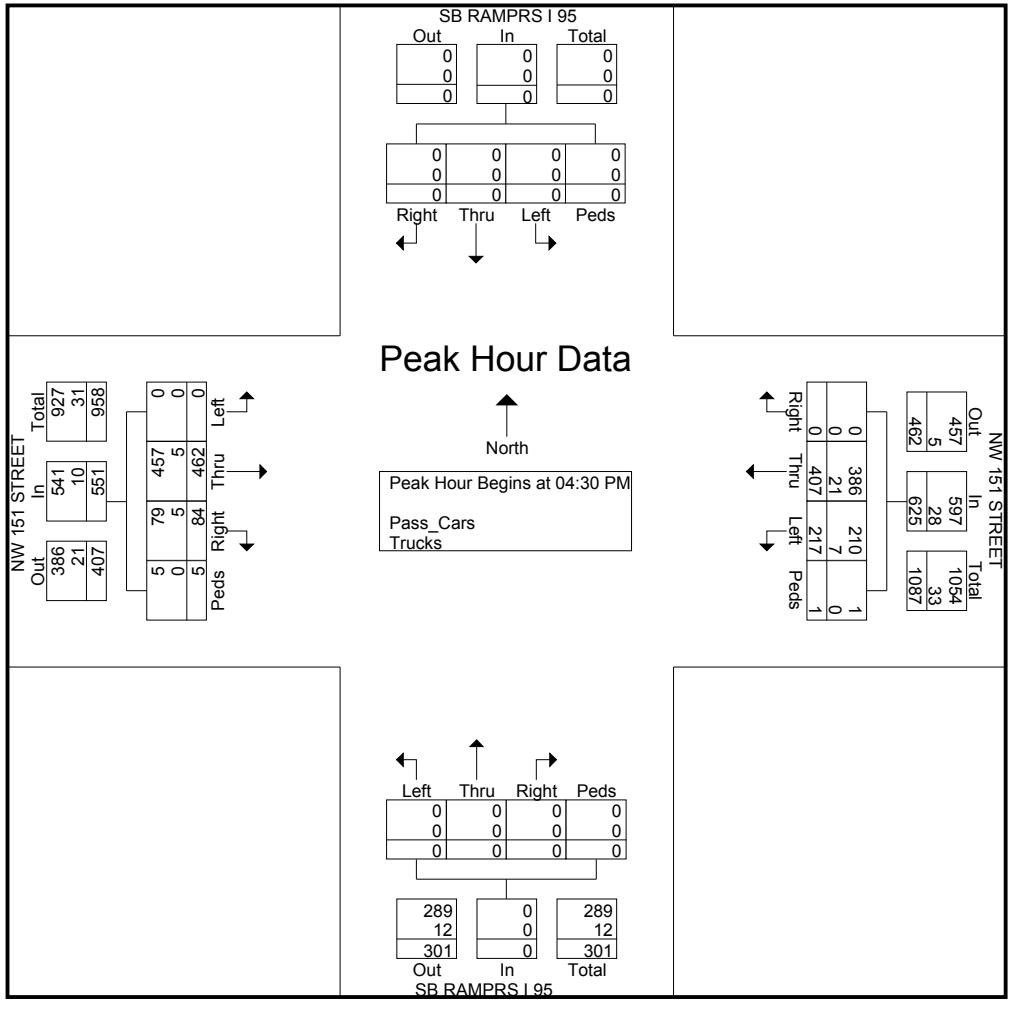
	SB RAMPRS I 95 Northbound					SB RAMPRS I 95 Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	118	20	**3**	141	40	96	0	0	136	277
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	**123**	21	1	145	63	**110**	0	0	**173**	**318**
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	102	16	1	119	**67**	102	0	**1**	170	289
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	119	**27**	0	**146**	47	99	0	0	146	292
Total Volume	0	0	0	0	0	0	0	0	0	0	0	462	84	5	551	217	407	0	1	625	1176
% App. Total	0	0	0	0		0	0	0	0		0	83.8	15.2	0.9		34.7	65.1	0	0.2		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.939	.778	.417	.943	.810	.925	.000	.250	.903	.925
Pass_Cars	0	0	0	0	0	0	0	0	0	0	0	457	79	5	541	210	386	0	1	597	1138
% Pass_Cars	0	0	0	0	0	0	0	0	0	0	0	98.9	94.0	100	98.2	96.8	94.8	0	100	95.5	96.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	5	5	0	10	7	21	0	0	28	38
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.1	6.0	0	1.8	3.2	5.2	0	0	4.5	3.2

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Weather: Sunny

File Name : NW 151 ST_SB ON-Ramp
Site Code : 00001502
Start Date : 4/28/2015
Page No : 5



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Client: K&H
Intersection Name: NW151ST_NSOFFRAMPS
Operators Name: OC & ML
Weather: Sunny

File Name : NW 151 ST_NB OFF RAMPS
Site Code : 00001503
Start Date : 4/28/2015
Page No : 1

Groups Printed- Pass_Cars - Trucks

	NB OFF RAMPS Northbound					NB OFF RAMPS Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	16	31	8	6	61	0	0	115	3	118	31	24	0	0	55	0	35	1	0	36	270
07:15 AM	27	42	5	12	86	0	0	107	2	109	39	33	0	0	72	0	26	1	0	27	294
07:30 AM	21	39	6	13	79	0	0	97	2	99	29	43	0	0	72	0	32	0	1	33	283
07:45 AM	21	40	17	15	93	0	0	97	2	99	36	46	0	0	82	0	23	1	5	29	303
Total	85	152	36	46	319	0	0	416	9	425	135	146	0	0	281	0	116	3	6	125	1150
08:00 AM	33	59	16	8	116	0	0	77	2	79	48	55	0	0	103	0	13	2	3	18	316
08:15 AM	47	58	18	17	140	0	0	60	1	61	38	63	0	0	101	0	34	3	6	43	345
08:30 AM	26	41	16	10	93	0	0	70	0	70	59	46	0	0	105	0	33	0	4	37	305
08:45 AM	26	52	7	4	89	0	0	110	1	111	51	26	0	0	77	0	21	0	1	22	299
Total	132	210	57	39	438	0	0	317	4	321	196	190	0	0	386	0	101	5	14	120	1265
*** BREAK ***																					
04:00 PM	32	46	19	27	124	0	0	33	4	37	66	52	0	0	118	0	23	3	3	29	308
04:15 PM	18	31	17	23	89	0	0	66	4	70	89	43	0	0	132	0	37	6	2	45	336
04:30 PM	15	35	12	0	62	0	0	64	0	64	66	58	0	0	124	1	32	2	0	35	285
04:45 PM	32	39	7	1	79	0	0	87	0	87	77	46	0	0	123	0	20	5	1	26	315
Total	97	151	55	51	354	0	0	250	8	258	298	199	0	0	497	1	112	16	6	135	1244
05:00 PM	24	35	11	8	78	0	0	110	3	113	80	38	0	0	118	0	14	5	2	21	330
05:15 PM	20	35	7	2	64	0	0	92	2	94	80	42	0	0	122	0	25	6	2	33	313
05:30 PM	13	26	4	3	46	0	0	82	3	85	80	35	0	0	115	0	12	5	0	17	263
05:45 PM	13	39	6	0	58	0	0	68	6	74	87	37	0	0	124	0	22	5	0	27	283
Total	70	135	28	13	246	0	0	352	14	366	327	152	0	0	479	0	73	21	4	98	1189
Grand Total	384	648	176	149	1357	0	0	1335	35	1370	956	687	0	0	1643	1	402	45	30	478	4848
Apprch %	28.3	47.8	13	11		0	0	97.4	2.6		58.2	41.8	0	0		0.2	84.1	9.4	6.3		
Total %	7.9	13.4	3.6	3.1	28	0	0	27.5	0.7	28.3	19.7	14.2	0	0	33.9	0	8.3	0.9	0.6	9.9	
Pass_Cars	356	647	171	149	1323	0	0	1291	35	1326	951	684	0	0	1635	1	396	43	30	470	4754
% Pass_Cars	92.7	99.8	97.2	100	97.5	0	0	96.7	100	96.8	99.5	99.6	0	0	99.5	100	98.5	95.6	100	98.3	98.1
Trucks	28	1	5	0	34	0	0	44	0	44	5	3	0	0	8	0	6	2	0	8	94
% Trucks	7.3	0.2	2.8	0	2.5	0	0	3.3	0	3.2	0.5	0.4	0	0	0.5	0	1.5	4.4	0	1.7	1.9

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Client: K&H
Intersection Name: NW151ST_NSOFFRAMPS
Operators Name: OC & ML
Weather: Sunny

File Name : NW 151 ST_NB OFF RAMPS
Site Code : 00001503
Start Date : 4/28/2015
Page No : 2

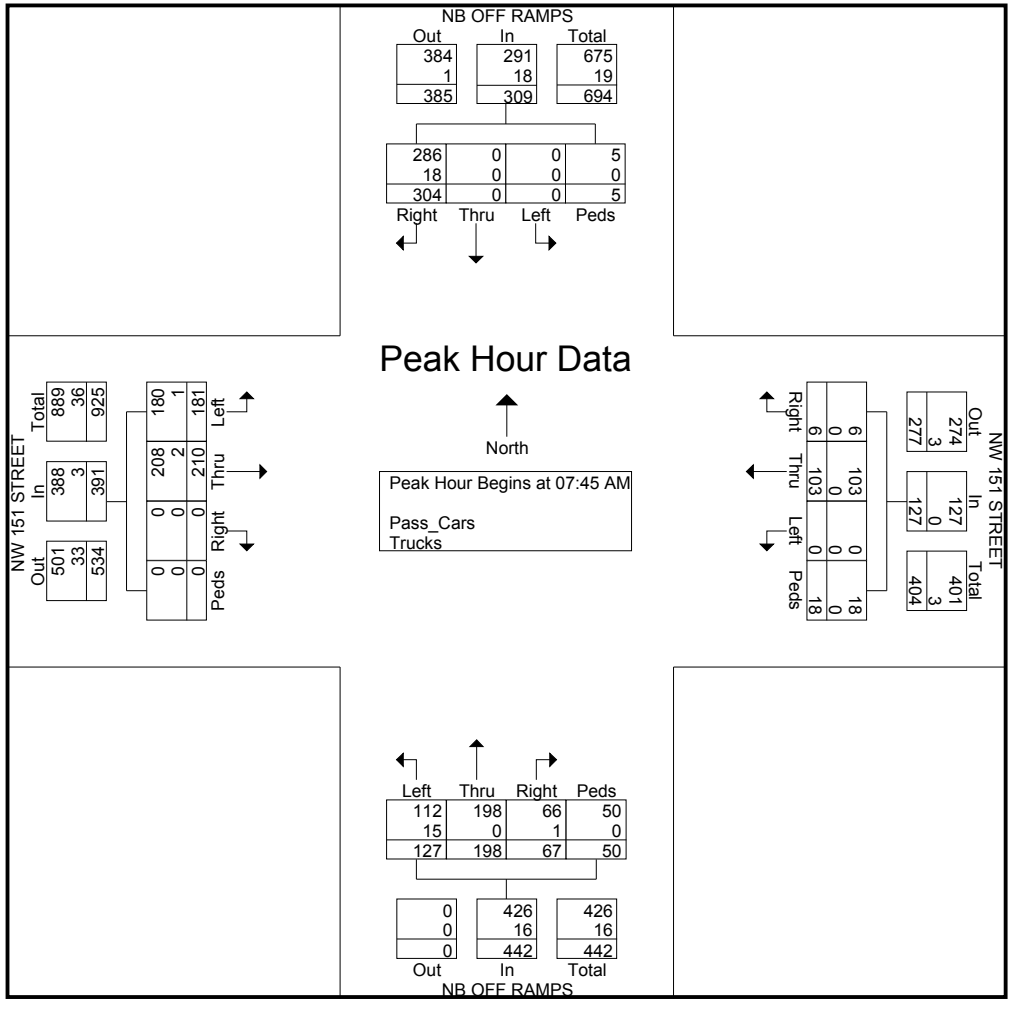
	NB OFF RAMPS Northbound					NB OFF RAMPS Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	21	40	17	15	93	0	0	**97**	**2**	**99**	36	46	0	0	82	0	23	1	5	29	303
08:00 AM	33	**59**	16	8	116	0	0	77	2	79	48	55	0	0	103	0	13	2	3	18	316
08:15 AM	**47**	58	**18**	**17**	**140**	0	0	60	1	61	38	**63**	0	0	101	0	**34**	**3**	**6**	**43**	**345**
08:30 AM	26	41	16	10	93	0	0	70	0	70	**59**	46	0	0	**105**	0	33	0	4	37	305
Total Volume	127	198	67	50	442	0	0	304	5	309	181	210	0	0	391	0	103	6	18	127	1269
% App. Total	28.7	44.8	15.2	11.3		0	0	98.4	1.6		46.3	53.7	0	0		0	81.1	4.7	14.2		
PHF	.676	.839	.931	.735	.789	.000	.000	.784	.625	.780	.767	.833	.000	.000	.931	.000	.757	.500	.750	.738	.920
Pass_Cars	112	198	66	50	426	0	0	286	5	291	180	208	0	0	388	0	103	6	18	127	1232
% Pass_Cars	88.2	100	98.5	100	96.4	0	0	94.1	100	94.2	99.4	99.0	0	0	99.2	0	100	100	100	100	97.1
Trucks	15	0	1	0	16	0	0	18	0	18	1	2	0	0	3	0	0	0	0	0	37
% Trucks	11.8	0	1.5	0	3.6	0	0	5.9	0	5.8	0.6	1.0	0	0	0.8	0	0	0	0	0	2.9

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Tax: (305)599-8749

Client: K&H
Intersection Name: NW151ST_NSOFFRAMPS
Operators Name: OC & ML
Weather: Sunny

File Name : NW 151 ST_NB OFF RAMPS
Site Code : 00001503
Start Date : 4/28/2015
Page No : 3



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Page No : 4

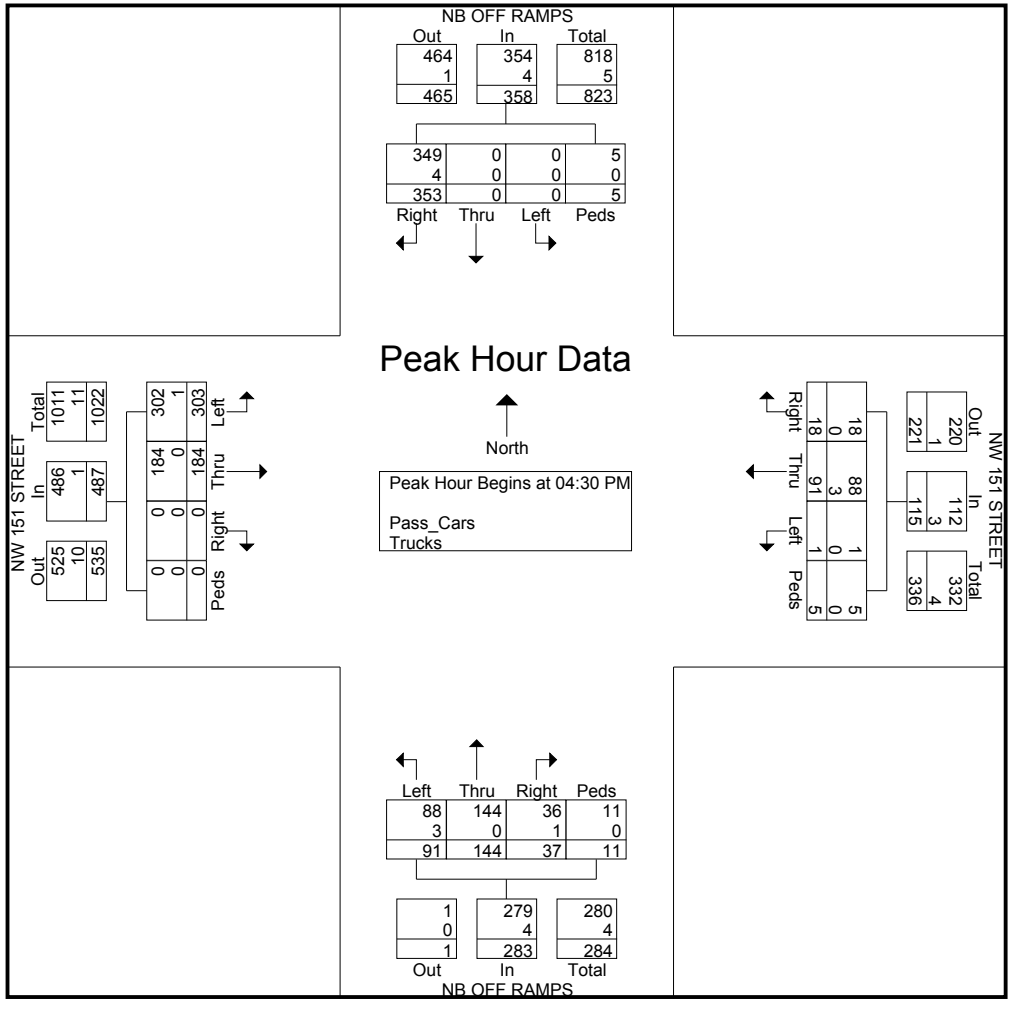
	NB OFF RAMPS Northbound					NB OFF RAMPS Southbound					NW 151 STREET Eastbound					NW 151 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	15	35	**12**	0	62	0	0	64	0	64	66	**58**	0	0	**124**	**1**	**32**	2	0	**35**	285
04:45 PM	**32**	**39**	7	1	**79**	0	0	87	0	87	77	46	0	0	123	0	20	5	1	26	315
05:00 PM	24	35	11	**8**	78	0	0	**110**	**3**	**113**	**80**	38	0	0	118	0	14	5	**2**	21	**330**
05:15 PM	20	35	7	2	64	0	0	92	2	94	80	42	0	0	122	0	25	**6**	2	33	313
Total Volume	91	144	37	11	283	0	0	353	5	358	303	184	0	0	487	1	91	18	5	115	1243
% App. Total	32.2	50.9	13.1	3.9		0	0	98.6	1.4		62.2	37.8	0	0		0.9	79.1	15.7	4.3		
PHF	.711	.923	.771	.344	.896	.000	.000	.802	.417	.792	.947	.793	.000	.000	.982	.250	.711	.750	.625	.821	.942
Pass_Cars	88	144	36	11	279	0	0	349	5	354	302	184	0	0	486	1	88	18	5	112	1231
% Pass_Cars	96.7	100	97.3	100	98.6	0	0	98.9	100	98.9	99.7	100	0	0	99.8	100	96.7	100	100	97.4	99.0
Trucks	3	0	1	0	4	0	0	4	0	4	1	0	0	0	1	0	3	0	0	3	12
% Trucks	3.3	0	2.7	0	1.4	0	0	1.1	0	1.1	0.3	0	0	0	0.2	0	3.3	0	0	2.6	1.0

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Client: K&H
Intersection Name: SR7_I95OffRamp
Opertaors Name: L & MR
Weather: Sunny

File Name : SR7_GGI SBOff Ramp
Site Code : 00001601
Start Date : 4/29/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 7 AVENUE/SR7 Northbound					NW 7 AVENUE/SR7 Southbound					NONE Eastbound					I-95 SB OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	117	0	0	117	0	245	0	0	245	0	0	0	0	0	80	0	136	0	216	578
07:15 AM	0	153	0	0	153	0	245	0	0	245	0	0	0	1	1	88	0	218	0	306	705
07:30 AM	0	164	0	0	164	0	244	0	0	244	0	0	0	2	2	91	6	153	0	250	660
07:45 AM	0	138	0	0	138	0	262	0	0	262	0	0	0	0	0	78	0	197	0	275	675
Total	0	572	0	0	572	0	996	0	0	996	0	0	0	3	3	337	6	704	0	1047	2618
08:00 AM	0	182	0	0	182	0	262	0	0	262	0	0	0	0	0	92	0	185	0	277	721
08:15 AM	0	147	0	1	148	0	259	0	0	259	0	0	0	1	1	105	1	187	0	293	701
08:30 AM	0	138	0	1	139	0	280	0	0	280	0	0	0	0	0	82	0	200	0	282	701
08:45 AM	0	131	0	0	131	0	306	0	0	306	0	0	0	0	0	87	0	174	0	261	698
Total	0	598	0	2	600	0	1107	0	0	1107	0	0	0	1	1	366	1	746	0	1113	2821
*** BREAK ***																					
04:00 PM	0	134	0	0	134	0	117	0	8	125	0	0	0	0	0	67	0	146	0	213	472
04:15 PM	0	121	0	0	121	0	114	0	0	114	0	0	0	0	0	69	0	109	0	178	413
04:30 PM	0	125	0	0	125	0	107	0	0	107	0	0	0	0	0	67	0	117	0	184	416
04:45 PM	0	122	0	0	122	0	152	0	0	152	0	0	0	0	0	47	0	135	0	182	456
Total	0	502	0	0	502	0	490	0	8	498	0	0	0	0	0	250	0	507	0	757	1757
05:00 PM	0	120	0	0	120	0	138	0	0	138	0	0	0	0	0	55	0	136	0	191	449
05:15 PM	0	137	0	0	137	0	135	0	0	135	0	0	0	0	0	67	0	104	0	171	443
05:30 PM	0	126	0	0	126	0	126	0	0	126	0	0	0	0	0	65	0	104	0	169	421
05:45 PM	0	143	0	0	143	0	118	0	2	120	0	0	0	0	0	79	0	92	0	171	434
Total	0	526	0	0	526	0	517	0	2	519	0	0	0	0	0	266	0	436	0	702	1747
Grand Total	0	2198	0	2	2200	0	3110	0	10	3120	0	0	0	4	4	1219	7	2393	0	3619	8943
Apprch %	0	99.9	0	0.1		0	99.7	0	0.3		0	0	0	100		33.7	0.2	66.1	0		
Total %	0	24.6	0	0	24.6	0	34.8	0	0.1	34.9	0	0	0	0	0	13.6	0.1	26.8	0	40.5	
Pass Cars	0	2166	0	1	2167	0	3052	0	0	3052	0	0	0	4	4	1207	7	2173	0	3387	8610
% Pass Cars	0	98.5	0	50	98.5	0	98.1	0	0	97.8	0	0	0	100	100	99	100	90.8	0	93.6	96.3
Trucks	0	32	0	1	33	0	58	0	10	68	0	0	0	0	0	12	0	220	0	232	333
% Trucks	0	1.5	0	50	1.5	0	1.9	0	100	2.2	0	0	0	0	0	1	0	9.2	0	6.4	3.7

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Client: K&H
Intersection Name: SR7_I95OffRamp
Opertaors Name: L & MR
Weather: Sunny

File Name : SR7_GGI SBOff Ramp
Site Code : 00001601
Start Date : 4/29/2015
Page No : 2

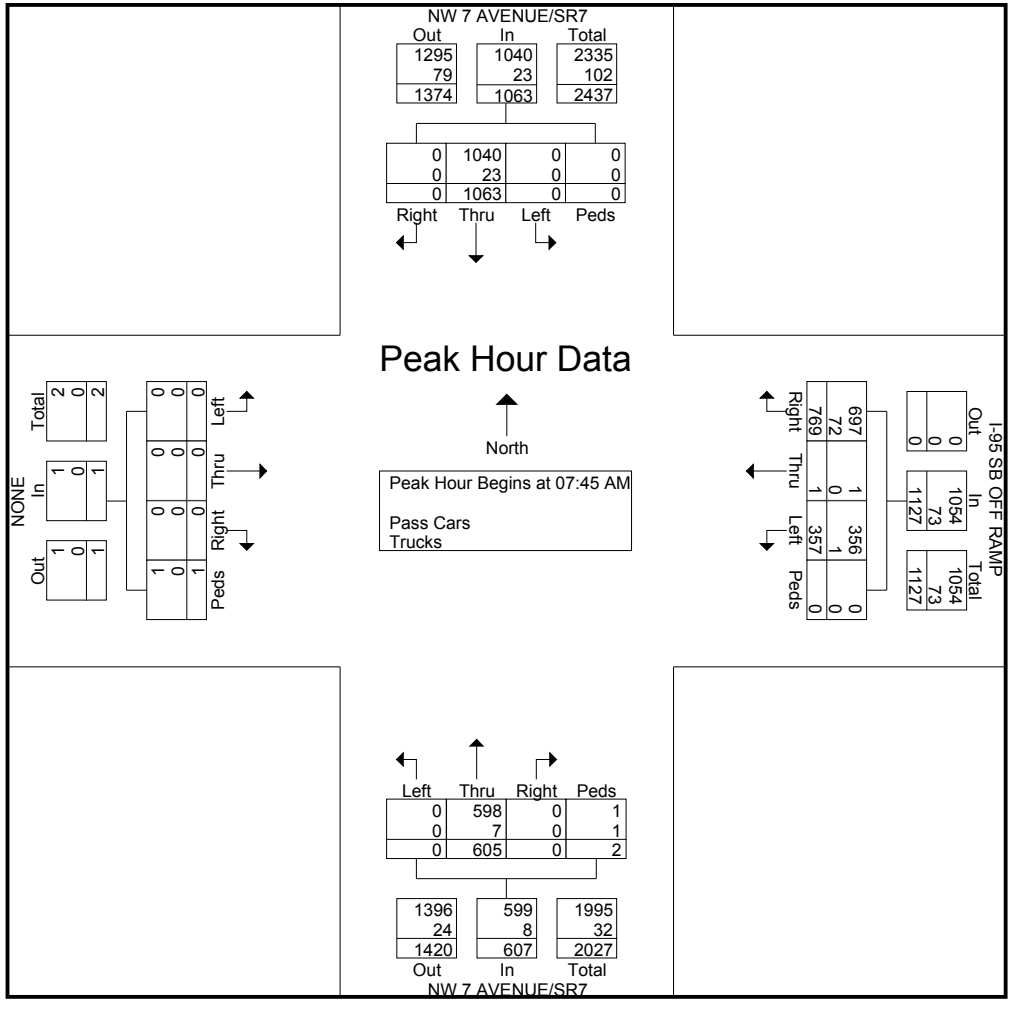
	NW 7 AVENUE/SR7 Northbound					NW 7 AVENUE/SR7 Southbound					NONE Eastbound					I-95 SB OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	138	0	0	138	0	262	0	0	262	0	0	0	0	0	78	0	197	0	275	675
08:00 AM	0	**182**	0	0	**182**	0	262	0	0	262	0	0	0	0	0	92	0	185	0	277	**721**
08:15 AM	0	147	0	**1**	148	0	259	0	0	259	0	0	0	**1**	**1**	**105**	**1**	187	0	**293**	701
08:30 AM	0	138	0	1	139	0	**280**	0	0	**280**	0	0	0	0	0	82	0	**200**	0	282	701
Total Volume	0	605	0	2	607	0	1063	0	0	1063	0	0	0	1	1	357	1	769	0	1127	2798
% App. Total	0	99.7	0	0.3		0	100	0	0		0	0	0	100		31.7	0.1	68.2	0		
PHF	.000	.831	.000	.500	.834	.000	.949	.000	.000	.949	.000	.000	.000	.250	.250	.850	.250	.961	.000	.962	.970
Pass Cars	0	598	0	1	599	0	1040	0	0	1040	0	0	0	1	1	356	1	697	0	1054	2694
% Pass Cars	0	98.8	0	50.0	98.7	0	97.8	0	0	97.8	0	0	0	100	100	99.7	100	90.6	0	93.5	96.3
Trucks	0	7	0	1	8	0	23	0	0	23	0	0	0	0	0	1	0	72	0	73	104
% Trucks	0	1.2	0	50.0	1.3	0	2.2	0	0	2.2	0	0	0	0	0	0.3	0	9.4	0	6.5	3.7

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Client: K&H
Intersection Name: SR7_I95OffRamp
Opertaors Name: L & MR
Weather: Sunny

File Name : SR7_GGI SBOff Ramp
Site Code : 00001601
Start Date : 4/29/2015
Page No : 3



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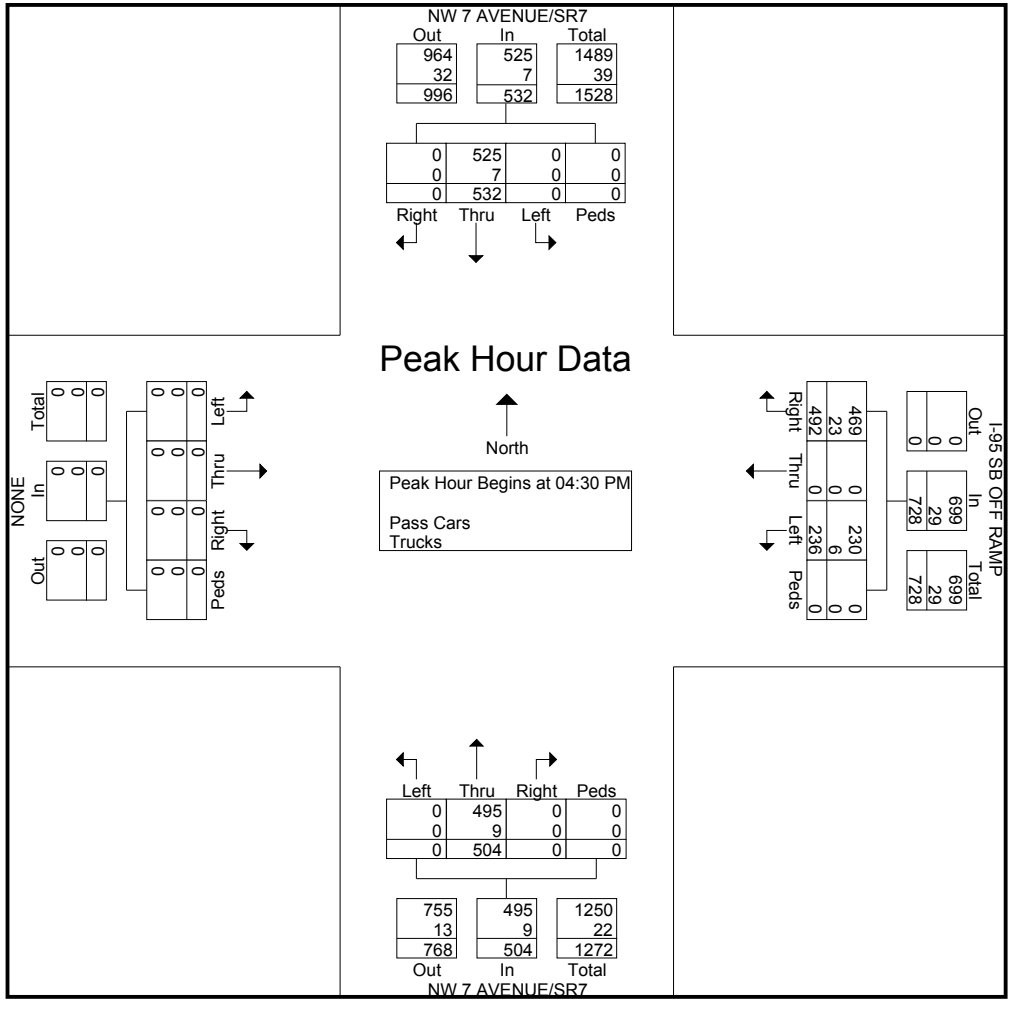
	NW 7 AVENUE/SR7 Northbound					NW 7 AVENUE/SR7 Southbound					NONE Eastbound					I-95 SB OFF RAMP Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	125	0	0	125	0	107	0	0	107	0	0	0	0	0	**67**	0	117	0	184	416
04:45 PM	0	122	0	0	122	0	**152**	0	0	**152**	0	0	0	0	0	47	0	135	0	182	**456**
05:00 PM	0	120	0	0	120	0	138	0	0	138	0	0	0	0	0	55	0	**136**	0	**191**	449
05:15 PM	0	**137**	0	0	**137**	0	135	0	0	135	0	0	0	0	0	67	0	104	0	171	443
Total Volume	0	504	0	0	504	0	532	0	0	532	0	0	0	0	0	236	0	492	0	728	1764
% App. Total	0	100	0	0		0	100	0	0		0	0	0	0		32.4	0	67.6	0		
PHF	.000	.920	.000	.000	.920	.000	.875	.000	.000	.875	.000	.000	.000	.000	.000	.881	.000	.904	.000	.953	.967
Pass Cars	0	495	0	0	495	0	525	0	0	525	0	0	0	0	0	230	0	469	0	699	1719
% Pass Cars	0	98.2	0	0	98.2	0	98.7	0	0	98.7	0	0	0	0	0	97.5	0	95.3	0	96.0	97.4
Trucks	0	9	0	0	9	0	7	0	0	7	0	0	0	0	0	6	0	23	0	29	45
% Trucks	0	1.8	0	0	1.8	0	1.3	0	0	1.3	0	0	0	0	0	2.5	0	4.7	0	4.0	2.6

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Page No : 5



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Client: K&H
Intersection Name: SR7_ParkAndRideDr
Opertaors Name: MA & MS
Weather: Sunny

File Name : SR7_PArk ANd Ride
Site Code : 00001602
Start Date : 4/29/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	SR 7 Northbound					SR 7 Southbound					Park and Ride Drive/NW 16000 BLK Eastbound					Park and Ride Drive/NW 16000 BLK Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	48	255	17	0	320	6	217	45	1	269	2	5	7	0	14	1	3	1	0	5	608
07:15 AM	58	297	29	0	384	8	225	49	0	282	7	8	11	0	26	2	13	1	0	16	708
07:30 AM	44	274	29	0	347	8	287	57	0	352	2	2	9	1	14	2	11	1	0	14	727
07:45 AM	57	289	11	0	357	9	281	69	1	360	8	3	16	1	28	2	6	1	0	9	754
Total	207	1115	86	0	1408	31	1010	220	2	1263	19	18	43	2	82	7	33	4	0	44	2797
08:00 AM	54	300	12	0	366	7	285	55	0	347	7	4	22	1	34	0	9	0	0	9	756
08:15 AM	55	299	7	0	361	2	286	40	0	328	5	3	10	1	19	0	7	1	0	8	716
08:30 AM	42	330	3	0	375	5	299	35	0	339	9	3	13	0	25	0	2	2	0	4	743
08:45 AM	38	314	1	0	353	1	341	34	0	376	5	2	10	0	17	1	1	1	0	3	749
Total	189	1243	23	0	1455	15	1211	164	0	1390	26	12	55	2	95	1	19	4	0	24	2964
*** BREAK ***																					
04:00 PM	50	235	4	0	289	2	118	20	1	141	3	4	12	0	19	2	5	2	1	10	459
04:15 PM	39	215	3	0	257	6	119	16	0	141	5	3	15	1	24	0	4	7	0	11	433
04:30 PM	36	202	4	1	243	3	97	23	0	123	13	5	29	0	47	9	11	21	0	41	454
04:45 PM	51	229	2	0	282	0	123	21	0	144	8	6	26	1	41	0	3	8	0	11	478
Total	176	881	13	1	1071	11	457	80	1	549	29	18	82	2	131	11	23	38	1	73	1824
05:00 PM	46	192	2	0	240	0	118	32	1	151	16	3	23	0	42	4	4	22	0	30	463
05:15 PM	49	233	1	0	283	1	124	14	1	140	13	4	23	0	40	5	5	14	0	24	487
05:30 PM	41	205	1	0	247	4	117	13	1	135	8	9	36	0	53	2	8	30	0	40	475
05:45 PM	42	229	6	1	278	3	130	25	0	158	9	7	27	3	46	2	6	20	0	28	510
Total	178	859	10	1	1048	8	489	84	3	584	46	23	109	3	181	13	23	86	0	122	1935
Grand Total	750	4098	132	2	4982	65	3167	548	6	3786	120	71	289	9	489	32	98	132	1	263	9520
Apprch %	15.1	82.3	2.6	0		1.7	83.7	14.5	0.2		24.5	14.5	59.1	1.8		12.2	37.3	50.2	0.4		
Total %	7.9	43	1.4	0	52.3	0.7	33.3	5.8	0.1	39.8	1.3	0.7	3	0.1	5.1	0.3	1	1.4	0	2.8	
Pass Cars	667	3815	119	2	4603	56	3108	489	4	3657	76	23	249	9	357	30	45	111	1	187	8804
% Pass Cars	88.9	93.1	90.2	100	92.4	86.2	98.1	89.2	66.7	96.6	63.3	32.4	86.2	100	73	93.8	45.9	84.1	100	71.1	92.5
Trucks	83	283	13	0	379	9	59	59	2	129	44	48	40	0	132	2	53	21	0	76	716
% Trucks	11.1	6.9	9.8	0	7.6	13.8	1.9	10.8	33.3	3.4	36.7	67.6	13.8	0	27	6.2	54.1	15.9	0	28.9	7.5

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Opertaors Name: MA & MS
Weather: Sunny

File Name : SR7_PArk ANd Ride
Site Code : 00001602
Start Date : 4/29/2015
Page No : 2

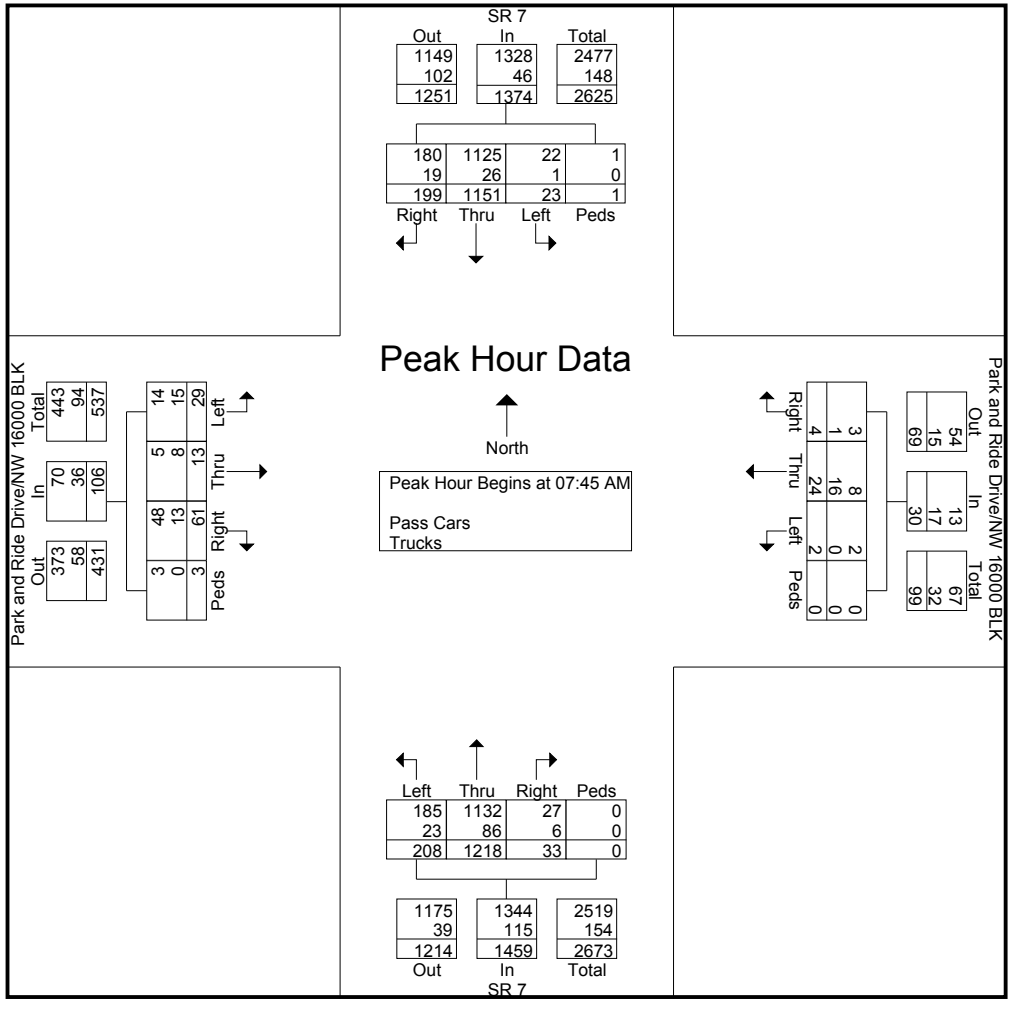
	SR 7 Northbound					SR 7 Southbound					Park and Ride Drive/NW 16000 BLK Eastbound					Park and Ride Drive/NW 16000 BLK Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**57**	289	11	0	357	**9**	281	**69**	**1**	**360**	8	3	16	**1**	28	**2**	6	1	0	**9**	754
08:00 AM	54	300	**12**	0	366	7	285	55	0	347	7	**4**	**22**	1	**34**	0	**9**	0	0	9	**756**
08:15 AM	55	299	7	0	361	2	286	40	0	328	5	3	10	1	19	0	7	1	0	8	716
08:30 AM	42	**330**	3	0	**375**	5	**299**	35	0	339	**9**	3	13	0	25	0	2	**2**	0	4	743
Total Volume	208	1218	33	0	1459	23	1151	199	1	1374	29	13	61	3	106	2	24	4	0	30	2969
% App. Total	14.3	83.5	2.3	0		1.7	83.8	14.5	0.1		27.4	12.3	57.5	2.8		6.7	80	13.3	0		
PHF	.912	.923	.688	.000	.973	.639	.962	.721	.250	.954	.806	.813	.693	.750	.779	.250	.667	.500	.000	.833	.982
Pass Cars	185	1132	27	0	1344	22	1125	180	1	1328	14	5	48	3	70	2	8	3	0	13	2755
% Pass Cars	88.9	92.9	81.8	0	92.1	95.7	97.7	90.5	100	96.7	48.3	38.5	78.7	100	66.0	100	33.3	75.0	0	43.3	92.8
Trucks	23	86	6	0	115	1	26	19	0	46	15	8	13	0	36	0	16	1	0	17	214
% Trucks	11.1	7.1	18.2	0	7.9	4.3	2.3	9.5	0	3.3	51.7	61.5	21.3	0	34.0	0	66.7	25.0	0	56.7	7.2

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Client: K&H
Intersection Name: SR7_ParkAndRideDr
Opertaors Name: MA & MS
Weather: Sunny

File Name : SR7_PArk ANd Ride
Site Code : 00001602
Start Date : 4/29/2015
Page No : 3



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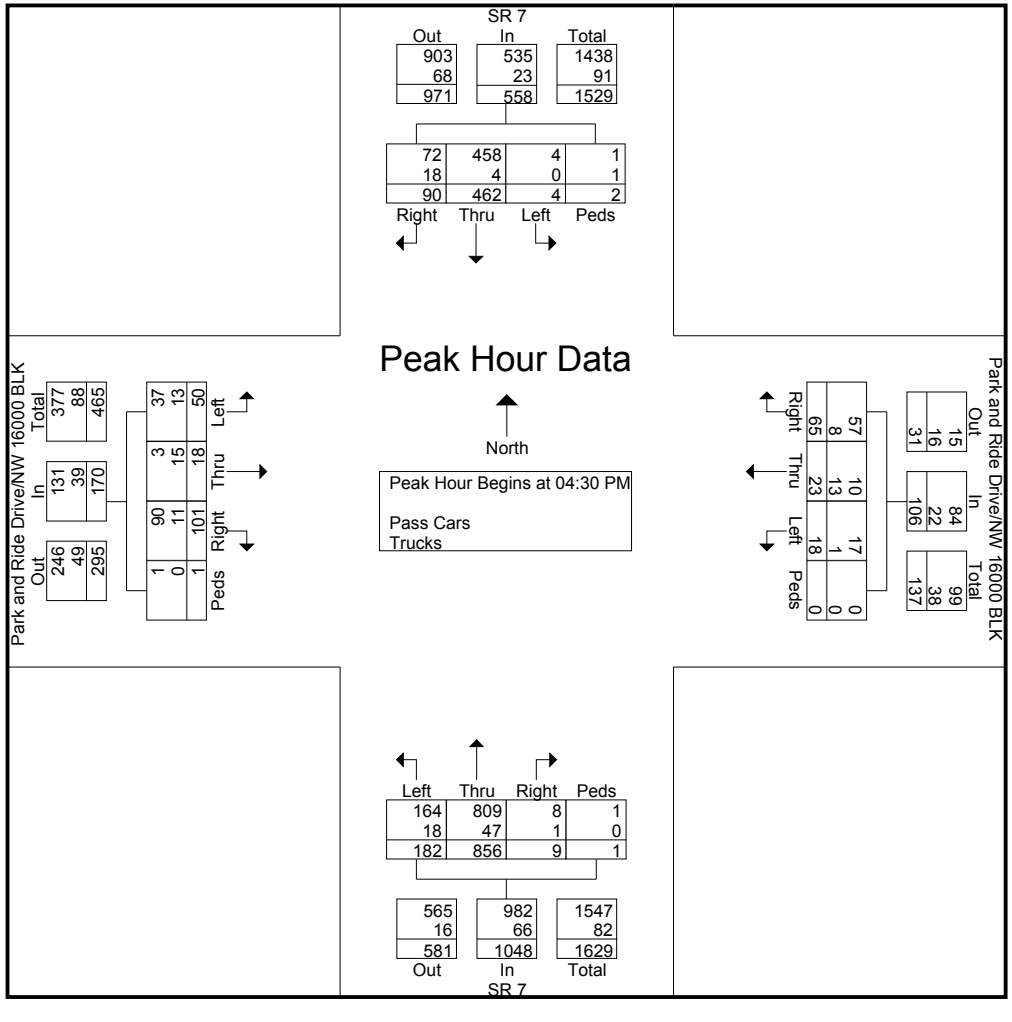
	SR 7 Northbound					SR 7 Southbound					Park and Ride Drive/NW 16000 BLK Eastbound					Park and Ride Drive/NW 16000 BLK Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	36	202	**4**	**1**	243	**3**	97	23	0	123	13	5	**29**	0	**47**	**9**	**11**	21	0	**41**	454
04:45 PM	**51**	229	2	0	282	0	123	21	0	144	8	**6**	26	**1**	41	0	3	8	0	11	478
05:00 PM	46	192	2	0	240	0	118	**32**	**1**	**151**	**16**	3	23	0	42	4	4	**22**	0	30	463
05:15 PM	49	**233**	1	0	**283**	1	**124**	14	1	140	13	4	23	0	40	5	5	14	0	24	**487**
Total Volume	182	856	9	1	1048	4	462	90	2	558	50	18	101	1	170	18	23	65	0	106	1882
% App. Total	17.4	81.7	0.9	0.1		0.7	82.8	16.1	0.4		29.4	10.6	59.4	0.6		17	21.7	61.3	0		
PHF	.892	.918	.563	.250	.926	.333	.931	.703	.500	.924	.781	.750	.871	.250	.904	.500	.523	.739	.000	.646	.966
Pass Cars	164	809	8	1	982	4	458	72	1	535	37	3	90	1	131	17	10	57	0	84	1732
% Pass Cars	90.1	94.5	88.9	100	93.7	100	99.1	80.0	50.0	95.9	74.0	16.7	89.1	100	77.1	94.4	43.5	87.7	0	79.2	92.0
Trucks	18	47	1	0	66	0	4	18	1	23	13	15	11	0	39	1	13	8	0	22	150
% Trucks	9.9	5.5	11.1	0	6.3	0	0.9	20.0	50.0	4.1	26.0	83.3	10.9	0	22.9	5.6	56.5	12.3	0	20.8	8.0

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Opertaors Name: MA & MS
Weather: Sunny

File Name : SR7_PArk ANd Ride
Site Code : 00001602
Start Date : 4/29/2015
Page No : 5



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Client: K&H
Intersection Name: NW 167 ST_NW 2 AV-441
Opertaors Name: EB - CG- & ZV
Weather: Sunny

File Name : NW 167 ST_NW 2 Ave
Site Code : 00001603
Start Date : 5/29/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 2 AVE Northbound						NW 2 AVE Southbound						US-441-N Southeastbound						NW 167 ST Eastbound						NW 167 ST Westbound						
Start Time	Left	Bear Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Hard Right-441	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Hard Left-441	Left	Thru	Right	Peds	App. Total	Left	Thru	Bear Right-441	Right	Peds	App. Total	Int. Total
07:00 AM	64	23	31	7	0	125	0	0	2	1	0	3	0	0	0	0	0	0	6	96	469	203	0	774	9	260	14	24	0	307	1209
07:15 AM	74	48	53	4	0	179	0	2	1	5	0	8	0	0	0	0	0	0	7	143	607	238	0	995	80	399	34	32	0	545	1727
07:30 AM	76	43	52	4	0	175	0	3	9	11	0	23	0	0	0	0	0	0	2	130	540	200	0	872	10	423	35	22	0	490	1560
07:45 AM	97	24	60	14	0	195	0	2	7	0	1	10	0	0	0	0	0	0	3	131	558	224	0	916	11	436	46	22	0	515	1636
Total	311	138	196	29	0	674	0	7	19	17	1	44	0	0	0	0	0	0	18	500	2174	865	0	3557	110	1518	129	100	0	1857	6132
08:00 AM	90	39	58	4	0	191	0	0	5	8	0	13	0	0	0	0	0	0	2	109	564	199	0	874	13	390	52	17	0	472	1550
08:15 AM	86	46	41	7	0	180	0	2	11	7	0	20	0	0	0	0	0	0	5	79	580	190	0	854	15	394	48	37	0	494	1548
08:30 AM	91	48	59	12	0	210	0	0	11	6	1	18	0	0	0	0	0	0	6	115	569	208	0	898	10	477	57	28	0	572	1698
08:45 AM	55	35	43	5	0	138	0	3	6	1	0	10	0	0	0	0	0	0	2	119	517	222	0	860	66	297	47	21	0	431	1439
Total	322	168	201	28	0	719	0	5	33	22	1	61	0	0	0	0	0	0	15	422	2230	819	0	3486	104	1558	204	103	0	1969	6235
*** BREAK ***																															
04:00 PM	87	54	42	9	0	192	0	0	11	4	0	15	0	0	0	0	0	0	3	128	482	86	0	699	5	538	50	28	0	621	1527
04:15 PM	91	52	55	9	1	208	1	0	18	11	0	30	0	0	0	0	0	0	5	167	439	103	0	714	5	431	51	107	2	596	1548
04:30 PM	118	42	50	7	0	217	0	1	19	7	0	27	0	0	0	0	0	0	5	129	487	102	0	723	9	515	46	25	0	595	1562
04:45 PM	90	42	63	7	0	202	0	2	20	4	0	26	0	0	0	0	0	0	0	130	499	145	0	774	8	500	48	31	0	587	1589
Total	386	190	210	32	1	819	1	3	68	26	0	98	0	0	0	0	0	0	13	554	1907	436	0	2910	27	1984	195	191	2	2399	6226
05:00 PM	91	25	47	1	0	164	0	7	43	8	1	59	0	0	0	0	0	0	2	156	462	115	0	735	11	498	44	32	0	585	1543
05:15 PM	101	31	52	12	0	196	0	1	27	10	0	38	0	0	0	0	0	0	1	157	462	103	0	723	29	476	42	35	0	582	1539
05:30 PM	91	39	48	12	0	190	0	4	22	10	0	36	0	0	0	0	0	0	2	135	500	132	0	769	125	390	49	19	0	583	1578
05:45 PM	114	51	48	10	0	223	0	1	15	7	0	23	0	0	0	0	0	0	5	155	444	136	0	740	8	517	59	32	0	616	1602
Total	397	146	195	35	0	773	0	13	107	35	1	156	0	0	0	0	0	0	10	603	1868	486	0	2967	173	1881	194	118	0	2366	6262
Grand Total	1416	642	802	124	1	2985	1	28	227	100	3	359	0	0	0	0	0	0	56	2079	8179	2606	0	12920	414	6941	722	512	2	8591	24855
Apprch %	47.4	21.5	26.9	4.2	0		0.3	7.8	63.2	27.9	0.8		0	0	0	0	0		0.4	16.1	63.3	20.2	0		4.8	80.8	8.4	6	0		
Total %	5.7	2.6	3.2	0.5	0	12	0	0.1	0.9	0.4	0	1.4	0	0	0	0	0	0	0.2	8.4	32.9	10.5	0	52	1.7	27.9	2.9	2.1	0	34.6	
Pass Cars	1392	635	781	119	1	2928	1	23	225	97	3	349	0	0	0	0	0	0	51	2030	8048	2593	0	12722	407	6762	709	498	2	8378	24377
% Pass Cars	98.3	98.9	97.4	96	100	98.1	100	82.1	99.1	97	100	97.2	0	0	0	0	0	0	91.1	97.6	98.4	99.5	0	98.5	98.3	97.4	98.2	97.3	100	97.5	98.1
Trucks	24	7	21	5	0	57	0	5	2	3	0	10	0	0	0	0	0	0	5	49	131	13	0	198	7	179	13	14	0	213	478
% Trucks	1.7	1.1	2.6	4	0	1.9	0	17.9	0.9	3	0	2.8	0	0	0	0	0	0	8.9	2.4	1.6	0.5	0	1.5	1.7	2.6	1.8	2.7	0	2.5	1.9

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Opertaors Name: EB - CG- & ZV
Weather: Sunny

File Name : NW 167 ST_NW 2 Ave
Site Code : 00001603
Start Date : 5/29/2015
Page No : 2

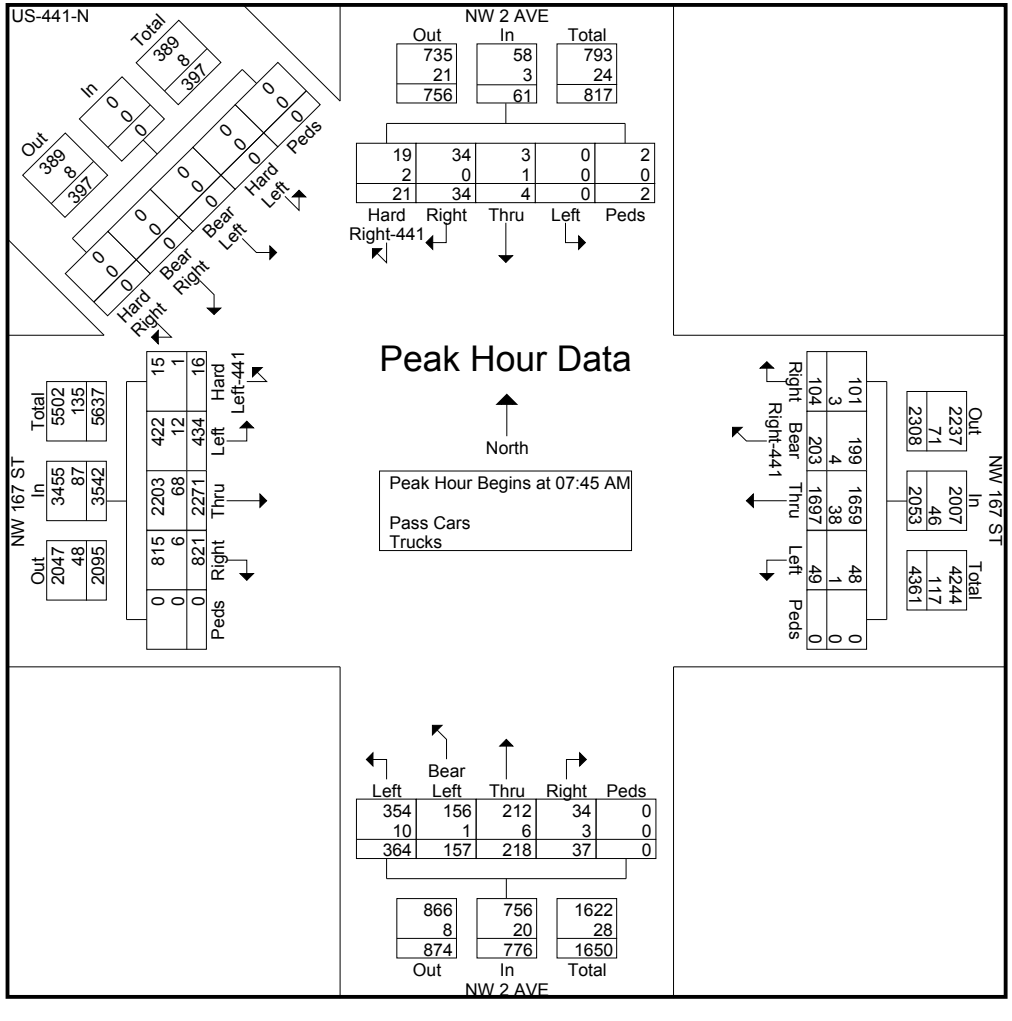
	NW 2 AVE Northbound						NW 2 AVE Southbound						US-441-N Southeastbound						NW 167 ST Eastbound						NW 167 ST Westbound						
Start Time	Left	Bear Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Hard Right-441	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Hard Left-441	Left	Thru	Right	Peds	App. Total	Left	Thru	Bear Right-441	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:45 AM																															
07:45 AM	97	24	60	14	0	195	0	2	7	0	**1**	10	0	0	0	0	0	0	3	**131**	558	**224**	0	**916**	11	436	46	22	0	515	1636
08:00 AM	90	39	58	4	0	191	0	0	5	**8**	0	13	0	0	0	0	0	0	2	109	564	199	0	874	13	390	52	17	0	472	1550
08:15 AM	86	46	41	7	0	180	0	2	**11**	7	0	**20**	0	0	0	0	0	0	5	79	**580**	190	0	854	**15**	394	48	**37**	0	494	1548
08:30 AM	91	**48**	59	12	0	**210**	0	0	11	6	1	18	0	0	0	0	0	0	**6**	115	569	208	0	898	10	**477**	**57**	28	0	**572**	**1698**
Total Volume	364	157	218	37	0	776	0	4	34	21	2	61	0	0	0	0	0	0	16	434	2271	821	0	3542	49	1697	203	104	0	2053	6432
% App. Total	46.9	20.2	28.1						55.7	34.4										12.3	64.1	23.2				82.7					
PHF	.938	.818	.908	.661	.000	.924	.000	.500	.773	.656	.500	.763	.000	.000	.000	.000	.000	.000	.667	.828	.979	.916	.000	.967	.817	.889	.890	.703	.000	.897	.947
Pass Cars	354	156	212	34	0	756	0	3	34	19	2	58	0	0	0	0	0	0	15	422	2203	815	0	3455	48	1659	199	101	0	2007	6276
% Pass Cars	97.3	99.4	97.2	91.9				75.0		90.5									93.8	97.2	97.0	99.3			98.0	97.8	98.0	97.1			
Trucks	10	1	6	3	0	20	0	1	0	2	0	3	0	0	0	0	0	0	1	12	68	6	0	87	1	38	4	3	0	46	156
% Trucks	2.7	0.6	2.8	8.1	0	2.6	0	25.0	0	9.5	0	4.9	0	0	0	0	0	0	6.3	2.8	3.0	0.7	0	2.5	2.0	2.2	2.0	2.9	0	2.2	2.4

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Opertaors Name: EB - CG- & ZV
Weather: Sunny

File Name : NW 167 ST_NW 2 Ave
Site Code : 00001603
Start Date : 5/29/2015
Page No : 3



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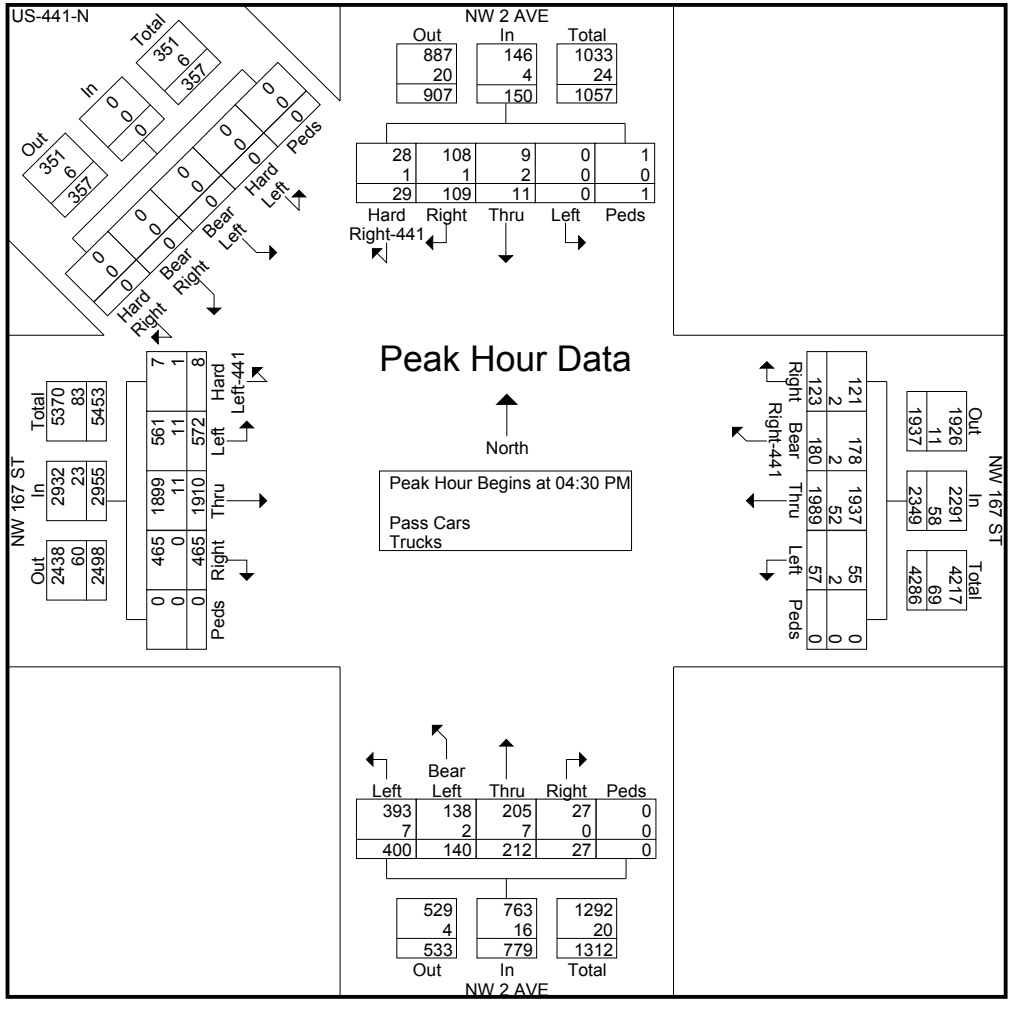
	NW 2 AVE Northbound						NW 2 AVE Southbound						US-441-N Southeastbound						NW 167 ST Eastbound						NW 167 ST Westbound						
Start Time	Left	Bear Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Hard Right-441	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Hard Left-441	Left	Thru	Right	Peds	App. Total	Left	Thru	Bear Right-441	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:30 PM																															
04:30 PM	118	42	50	7	0	217	0	1	19	7	0	27	0	0	0	0	0	0	5	129	487	102	0	723	9	**515**	46	25	0	**595**	1562
04:45 PM	90	42	**63**	7	0	202	0	2	20	4	0	26	0	0	0	0	0	0	0	130	**499**	**145**	0	**774**	8	500	**48**	31	0	587	**1589**
05:00 PM	91	25	47	1	0	164	0	**7**	**43**	8	**1**	**59**	0	0	0	0	0	0	2	156	462	115	0	735	11	498	44	32	0	585	1543
05:15 PM	101	31	52	**12**	0	196	0	1	27	**10**	0	38	0	0	0	0	0	0	1	**157**	462	103	0	723	**29**	476	42	**35**	0	582	1539
Total Volume	400	140	212	27	0	779	0	11	109	29	1	150	0	0	0	0	0	0	8	572	1910	465	0	2955	57	1989	180	123	0	2349	6233
% App. Total	51.3		27.2						72.7	19.3										19.4	64.6	15.7				84.7					
PHF	.847	.833	.841	.563	.000	.897	.000	.393	.634	.725	.250	.636	.000	.000	.000	.000	.000	.000	.400	.911	.957	.802	.000	.954	.491	.966	.938	.879	.000	.987	.981
Pass Cars	393	138	205	27	0	763	0	9	108	28	1	146	0	0	0	0	0	0	7	561	1899	465	0	2932	55	1937	178	121	0	2291	6132
% Pass Cars	98.3	98.6	96.7					81.8	99.1	96.6									87.5	98.1	99.4				96.5	97.4	98.9	98.4			
Trucks	7	2	7	0	0	16	0	2	1	1	0	4	0	0	0	0	0	0	1	11	11	0	0	23	2	52	2	2	0	58	101
% Trucks	1.8	1.4	3.3	0	0	2.1	0	18.2	0.9	3.4	0	2.7	0	0	0	0	0	0	12.5	1.9	0.6	0	0	0.8	3.5	2.6	1.1	1.6	0	2.5	1.6

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Opertaors Name: EB - CG- & ZV
Weather: Sunny

File Name : NW 167 ST_NW 2 Ave
Site Code : 00001603
Start Date : 5/29/2015
Page No : 5



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Client: K&H
Intersection Name: NW167ST_MIAMIAVE
Opertaors Name: CV & MR
Weather: Sunny

File Name : NW 167 ST _Miami Ave
Site Code : 00001604
Start Date : 4/29/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	N MIAMI AVENUE Northbound					N MIAMI AVENUE Southbound					NW 167 STREET Eastbound					NW 167 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	27	10	11	1	49	6	6	14	2	28	22	426	12	0	460	12	424	6	3	445	982
07:15 AM	45	10	9	0	64	8	6	13	0	27	19	475	14	0	508	15	474	9	1	499	1098
07:30 AM	46	12	11	2	71	15	17	16	0	48	29	468	19	1	517	23	471	4	1	499	1135
07:45 AM	48	12	12	1	73	10	19	9	0	38	30	456	22	0	508	22	469	4	3	498	1117
Total	166	44	43	4	257	39	48	52	2	141	100	1825	67	1	1993	72	1838	23	8	1941	4332
08:00 AM	46	18	20	0	84	16	20	8	0	44	37	500	7	1	545	28	412	4	1	445	1118
08:15 AM	32	18	19	2	71	9	18	9	0	36	36	460	14	0	510	28	461	6	1	496	1113
08:30 AM	46	14	22	1	83	12	8	13	1	34	34	448	24	0	506	27	515	5	2	549	1172
08:45 AM	31	17	18	0	66	12	16	11	0	39	44	482	24	0	550	23	437	8	1	469	1124
Total	155	67	79	3	304	49	62	41	1	153	151	1890	69	1	2111	106	1825	23	5	1959	4527
*** BREAK ***																					
04:00 PM	59	19	22	1	101	16	12	8	0	36	26	431	18	1	476	14	569	5	1	589	1202
04:15 PM	63	15	21	2	101	10	8	10	0	28	29	394	11	0	434	15	532	11	1	559	1122
04:30 PM	57	22	23	2	104	11	15	19	0	45	30	420	11	2	463	16	494	1	3	514	1126
04:45 PM	51	23	22	0	96	9	11	17	1	38	30	416	14	1	461	18	536	2	5	561	1156
Total	230	79	88	5	402	46	46	54	1	147	115	1661	54	4	1834	63	2131	19	10	2223	4606
05:00 PM	62	24	22	0	108	19	16	15	0	50	27	427	9	0	463	25	535	6	0	566	1187
05:15 PM	62	24	12	0	98	0	0	0	0	0	23	456	9	1	489	0	0	0	0	0	587
05:30 PM	52	26	16	0	94	10	19	4	0	33	33	474	9	0	516	17	535	4	0	556	1199
05:45 PM	66	17	25	0	108	11	16	10	0	37	27	395	9	0	431	10	490	3	2	505	1081
Total	242	91	75	0	408	40	51	29	0	120	110	1752	36	1	1899	52	1560	13	2	1627	4054
Grand Total	793	281	285	12	1371	174	207	176	4	561	476	7128	226	7	7837	293	7354	78	25	7750	17519
Apprch %	57.8	20.5	20.8	0.9		31	36.9	31.4	0.7		6.1	91	2.9	0.1		3.8	94.9	1	0.3		
Total %	4.5	1.6	1.6	0.1	7.8	1	1.2	1	0	3.2	2.7	40.7	1.3	0	44.7	1.7	42	0.4	0.1	44.2	
Pass Cars	787	280	282	12	1361	171	205	172	4	552	473	7017	224	7	7721	292	7285	74	25	7676	17310
% Pass Cars	99.2	99.6	98.9	100	99.3	98.3	99	97.7	100	98.4	99.4	98.4	99.1	100	98.5	99.7	99.1	94.9	100	99	98.8
Trucks	6	1	3	0	10	3	2	4	0	9	3	111	2	0	116	1	69	4	0	74	209
% Trucks	0.8	0.4	1.1	0	0.7	1.7	1	2.3	0	1.6	0.6	1.6	0.9	0	1.5	0.3	0.9	5.1	0	1	1.2

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Client: K&H
Intersection Name: NW167ST_MIAMIAVE
Opertaors Name: CV & MR
Weather: Sunny

File Name : NW 167 ST _Miami Ave
Site Code : 00001604
Start Date : 4/29/2015
Page No : 2

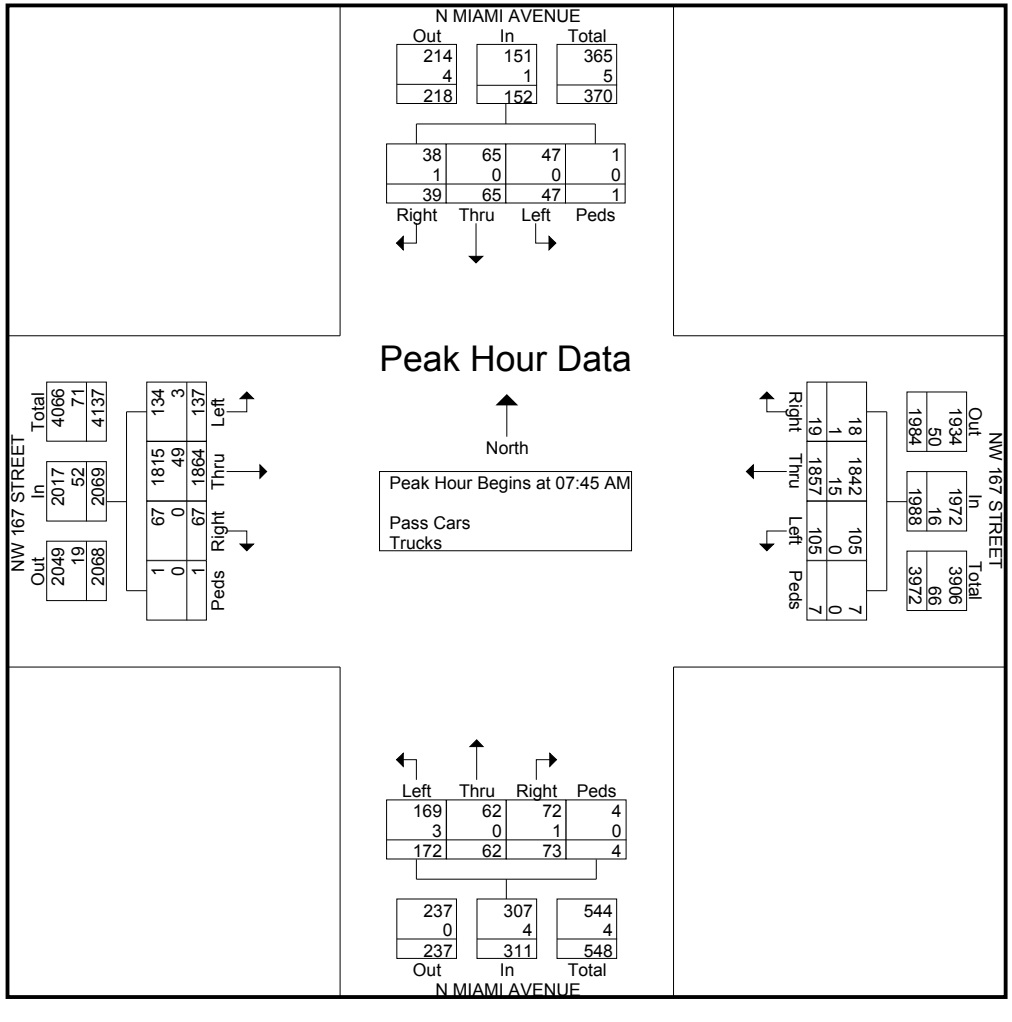
	N MIAMI AVENUE Northbound					N MIAMI AVENUE Southbound					NW 167 STREET Eastbound					NW 167 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**48**	12	12	1	73	10	19	9	0	38	30	456	22	0	508	22	469	4	**3**	498	1117
08:00 AM	46	**18**	20	0	**84**	**16**	**20**	8	0	**44**	**37**	**500**	7	**1**	**545**	**28**	412	4	1	445	1118
08:15 AM	32	18	19	**2**	71	9	18	9	0	36	36	460	14	0	510	28	461	**6**	1	496	1113
08:30 AM	46	14	**22**	1	83	12	8	**13**	**1**	34	34	448	**24**	0	506	27	**515**	5	2	**549**	**1172**
Total Volume	172	62	73	4	311	47	65	39	1	152	137	1864	67	1	2069	105	1857	19	7	1988	4520
% App. Total	55.3	19.9	23.5	1.3		30.9	42.8	25.7	0.7		6.6	90.1	3.2	0		5.3	93.4	1	0.4		
PHF	.896	.861	.830	.500	.926	.734	.813	.750	.250	.864	.926	.932	.698	.250	.949	.938	.901	.792	.583	.905	.964
Pass Cars	169	62	72	4	307	47	65	38	1	151	134	1815	67	1	2017	105	1842	18	7	1972	4447
% Pass Cars	98.3	100	98.6	100	98.7	100	100	97.4	100	99.3	97.8	97.4	100	100	97.5	100	99.2	94.7	100	99.2	98.4
Trucks	3	0	1	0	4	0	0	1	0	1	3	49	0	0	52	0	15	1	0	16	73
% Trucks	1.7	0	1.4	0	1.3	0	0	2.6	0	0.7	2.2	2.6	0	0	2.5	0	0.8	5.3	0	0.8	1.6

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Opertaors Name: CV & MR
Weather: Sunny

File Name : NW 167 ST _Miami Ave
Site Code : 00001604
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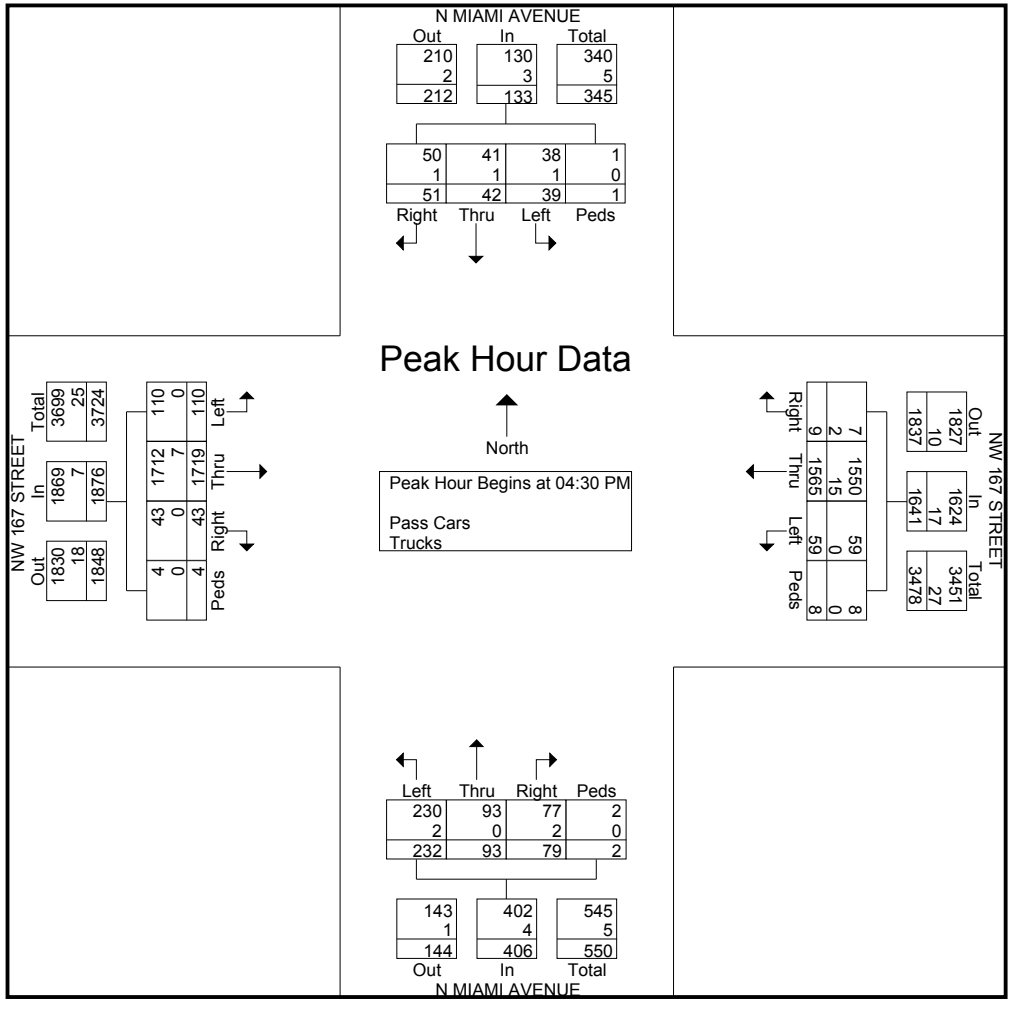
	N MIAMI AVENUE Northbound					N MIAMI AVENUE Southbound					NW 167 STREET Eastbound					NW 167 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	57	22	**23**	**2**	104	11	15	**19**	0	45	**30**	420	11	**2**	463	16	494	1	3	514	1126
04:45 PM	51	23	22	0	96	9	11	17	**1**	38	30	416	**14**	1	461	18	**536**	2	**5**	561	1156
05:00 PM	**62**	**24**	22	0	**108**	**19**	**16**	15	0	**50**	27	427	9	0	463	**25**	535	**6**	0	**566**	**1187**
05:15 PM	62	24	12	0	98	0	0	0	0	0	23	**456**	9	1	**489**	0	0	0	0	0	587
Total Volume	232	93	79	2	406	39	42	51	1	133	110	1719	43	4	1876	59	1565	9	8	1641	4056
% App. Total	57.1	22.9	19.5	0.5		29.3	31.6	38.3	0.8		5.9	91.6	2.3	0.2		3.6	95.4	0.5	0.5		
PHF	.935	.969	.859	.250	.940	.513	.656	.671	.250	.665	.917	.942	.768	.500	.959	.590	.730	.375	.400	.725	.854
Pass Cars	230	93	77	2	402	38	41	50	1	130	110	1712	43	4	1869	59	1550	7	8	1624	4025
% Pass Cars	99.1	100	97.5	100	99.0	97.4	97.6	98.0	100	97.7	100	99.6	100	100	99.6	100	99.0	77.8	100	99.0	99.2
Trucks	2	0	2	0	4	1	1	1	0	3	0	7	0	0	7	0	15	2	0	17	31
% Trucks	0.9	0	2.5	0	1.0	2.6	2.4	2.0	0	2.3	0	0.4	0	0	0.4	0	1.0	22.2	0	1.0	0.8

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Opertaors Name: CV & MR
Weather: Sunny

File Name : NW 167 ST _Miami Ave
Site Code : 00001604
Start Date : 4/29/2015
Page No : 5



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Client: K&H
Intersection Name: NW 7 AVE EXT_TPKE NB
Opertaors Name: MA_MS & ED
Weather: Sunny

File Name : NW 7 Ave Ext_TPKE NBON-Ramp
Site Code : 00001605
Start Date : 5/29/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NW 4 AVENUE Northeastbound						NW 171 STREET Northwestbound						TPKE NB ON RAMP Southbound						NW 7 AVE EXT Eastbound						NW 7 AVE EXT Westbound						
Start Time	Hard Left	Bear Left	Bear Right	Right	Peds	App. Total	Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Bear Left	Bear Right	Right	Peds	App. Total	Left	Thru	Bear Right	Hard Right	Peds	App. Total	Hard Left	Bear Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	1	0	0	0	4	0	15	1	0	0	16	38	1	5	53	0	97	18	132	26	5	0	181	5	0	145	5	0	155	453
07:15 AM	4	0	3	0	0	7	0	16	0	0	0	16	34	1	3	67	0	105	16	174	38	1	0	229	5	1	116	7	0	129	486
07:30 AM	1	0	2	0	0	3	0	11	0	1	0	12	49	1	1	83	0	134	16	184	49	3	0	252	3	0	159	23	0	185	586
07:45 AM	6	2	7	0	0	15	0	13	6	2	0	21	60	13	2	85	0	160	15	143	46	2	0	206	8	2	142	37	0	189	591
Total	14	3	12	0	0	29	0	55	7	3	0	65	181	16	11	288	0	496	65	633	159	11	0	868	21	3	562	72	0	658	2116
08:00 AM	5	0	0	0	0	5	0	10	3	0	0	13	66	18	4	64	0	152	9	174	24	0	0	207	6	4	127	61	0	198	575
08:15 AM	9	0	1	0	0	10	0	14	2	2	0	18	49	14	1	73	0	137	12	174	34	0	0	220	3	3	151	33	0	190	575
08:30 AM	3	1	0	1	0	5	0	12	0	6	0	18	35	6	4	58	0	103	15	172	26	0	0	213	4	1	129	14	0	148	487
08:45 AM	7	0	3	1	0	11	1	15	0	1	0	17	28	5	7	49	0	89	20	162	28	2	0	212	2	7	130	17	0	156	485
Total	24	1	4	2	0	31	1	51	5	9	0	66	178	43	16	244	0	481	56	682	112	2	0	852	15	15	537	125	0	692	2122
*** BREAK ***																															
04:00 PM	15	0	6	0	0	21	0	22	4	7	0	33	66	41	10	55	0	172	47	153	11	6	0	217	8	2	178	31	0	219	662
04:15 PM	11	1	2	1	0	15	0	26	1	8	0	35	46	17	3	32	1	99	61	170	16	3	0	250	8	4	172	21	0	205	604
04:30 PM	27	4	1	0	0	32	0	35	1	10	0	46	15	3	0	28	1	47	48	179	17	3	1	248	10	2	183	21	0	216	589
04:45 PM	10	2	2	0	0	14	0	23	1	3	0	27	12	4	0	32	0	48	59	194	32	1	0	286	2	2	153	30	0	187	562
Total	63	7	11	1	0	82	0	106	7	28	0	141	139	65	13	147	2	366	215	696	76	13	1	1001	28	10	686	103	0	827	2417
05:00 PM	14	3	2	0	0	19	0	40	1	5	0	46	20	3	2	38	1	64	92	185	48	0	0	325	6	4	163	29	0	202	656
05:15 PM	19	2	5	0	0	26	1	40	3	5	0	49	18	3	1	25	0	47	59	188	60	3	0	310	9	1	181	18	0	209	641
05:30 PM	10	2	0	0	0	12	1	34	1	2	0	38	23	4	1	28	0	56	69	155	40	1	0	265	8	1	146	20	0	175	546
05:45 PM	16	1	3	0	0	20	1	18	2	5	0	26	19	0	3	21	0	43	48	189	38	1	0	276	6	2	141	30	0	179	544
Total	59	8	10	0	0	77	3	132	7	17	0	159	80	10	7	112	1	210	268	717	186	5	0	1176	29	8	631	97	0	765	2387
Grand Total	160	19	37	3	0	219	4	344	26	57	0	431	578	134	47	791	3	1553	604	2728	533	31	1	3897	93	36	2416	397	0	2942	9042
Apprch %	73.1	8.7	16.9	1.4	0		0.9	79.8	6	13.2	0		37.2	8.6	3	50.9	0.2		15.5	70	13.7	0.8	0		3.2	1.2	82.1	13.5	0		
Total %	1.8	0.2	0.4	0	0	2.4	0	3.8	0.3	0.6	0	4.8	6.4	1.5	0.5	8.7	0	17.2	6.7	30.2	5.9	0.3	0	43.1	1	0.4	26.7	4.4	0	32.5	
Pass Cars	137	14	37	3	0	191	4	280	25	51	0	360	566	127	43	768	3	1507	580	2561	402	24	1	3568	79	32	2276	387	0	2774	8400
% Pass Cars	85.6	73.7	100	100	0	87.2	100	81.4	96.2	89.5	0	83.5	97.9	94.8	91.5	97.1	100	97	96	93.9	75.4	77.4	100	91.6	84.9	88.9	94.2	97.5	0	94.3	92.9
Trucks	23	5	0	0	0	28	0	64	1	6	0	71	12	7	4	23	0	46	24	167	131	7	0	329	14	4	140	10	0	168	642
% Trucks	14.4	26.3	0	0	0	12.8	0	18.6	3.8	10.5	0	16.5	2.1	5.2	8.5	2.9	0	3	4	6.1	24.6	22.6	0	8.4	15.1	11.1	5.8	2.5	0	5.7	7.1

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Intersection Name: NW 7 AVE EXT_TPKE NB
Opertaors Name: MA_MS & ED
Weather: Sunny

File Name : NW 7 Ave Ext_TPKE NBON-Ramp
Site Code : 00001605
Start Date : 5/29/2015
Page No : 2

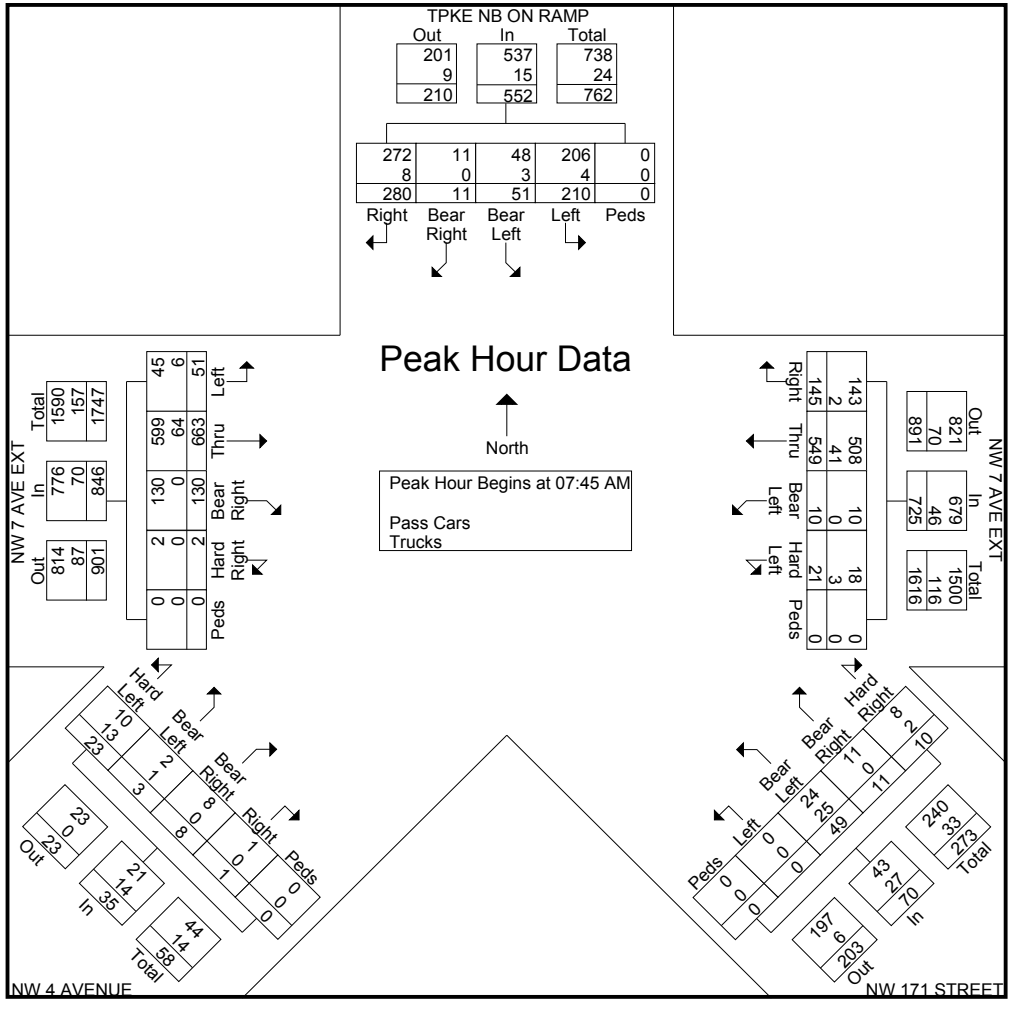
	NW 4 AVENUE Northeastbound						NW 171 STREET Northwestbound						TPKE NB ON RAMP Southbound						NW 7 AVE EXT Eastbound						NW 7 AVE EXT Westbound						
Start Time	Hard Left	Bear Left	Bear Right	Right	Peds	App. Total	Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Bear Left	Bear Right	Right	Peds	App. Total	Left	Thru	Bear Right	Hard Right	Peds	App. Total	Hard Left	Bear Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																														
Peak Hour for Entire Intersection Begins at 07:45 AM																														
07:45 AM	**6**	2	7	0	0	15	0	13	6	2	0	**21**	60	13	2	**85**	0	**160**	**15**	143	**46**	**2**	0	206	**8**	2	142	37	0	189	**591**
08:00 AM	5	0	0	0	0	5	0	10	3	0	0	13	**66**	**18**	**4**	64	0	152	9	**174**	24	0	0	207	6	**4**	127	**61**	0	**198**	575
08:15 AM	**9**	0	1	0	0	10	0	**14**	2	2	0	18	49	14	1	73	0	137	12	174	34	0	0	**220**	3	3	**151**	33	0	190	575
08:30 AM	3	1	0	**1**	0	5	0	12	0	**6**	0	18	35	6	4	58	0	103	15	172	26	0	0	213	4	1	129	14	0	148	487
Total Volume	23	3	8	1	0	35	0	49	11	10	0	70	210	51	11	280	0	552	51	663	130	2	0	846	21	10	549	145	0	725	2228
% App. Total	65.7	8.6	22.9	2.9	0		0	70	15.7	14.3	0		38	9.2	2	50.7	0		6	78.4	15.4	0.2	0		2.9	1.4	75.7	20	0		
PHF	.639	.375	.286	.250	.000	.583	.000	.875	.458	.417	.000	.833	.795	.708	.688	.824	.000	.863	.850	.953	.707	.250	.000	.961	.656	.625	.909	.594	.000	.915	.942
Pass Cars	10	2	8	1	0	21	0	24	11	8	0	43	206	48	11	272	0	537	45	599	130	2	0	776	18	10	508	143	0	679	2056
% Pass Cars	43.5	66.7	100	100	0	60.0	0	49.0	100	80.0	0	61.4	98.1	94.1	100	97.1	0	97.3	88.2	90.3	100	100	0	91.7	85.7	100	92.5	98.6	0	93.7	92.3
Trucks	13	1	0	0	0	14	0	25	0	2	0	27	4	3	0	8	0	15	6	64	0	0	0	70	3	0	41	2	0	46	172
% Trucks	56.5	33.3	0	0	0	40.0	0	51.0	0	20.0	0	38.6	1.9	5.9	0	2.9	0	2.7	11.8	9.7	0	0	0	8.3	14.3	0	7.5	1.4	0	6.3	7.7

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Opertaors Name: MA_MS & ED
Weather: Sunny

File Name : NW 7 Ave Ext_TPKE NBON-Ramp
Site Code : 00001605
Start Date : 5/29/2015
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Weather: Sunny

File Name : NW 7 Ave Ext_TPKE NBON-Ramp
Site Code : 00001605
Start Date : 5/29/2015
Page No : 4

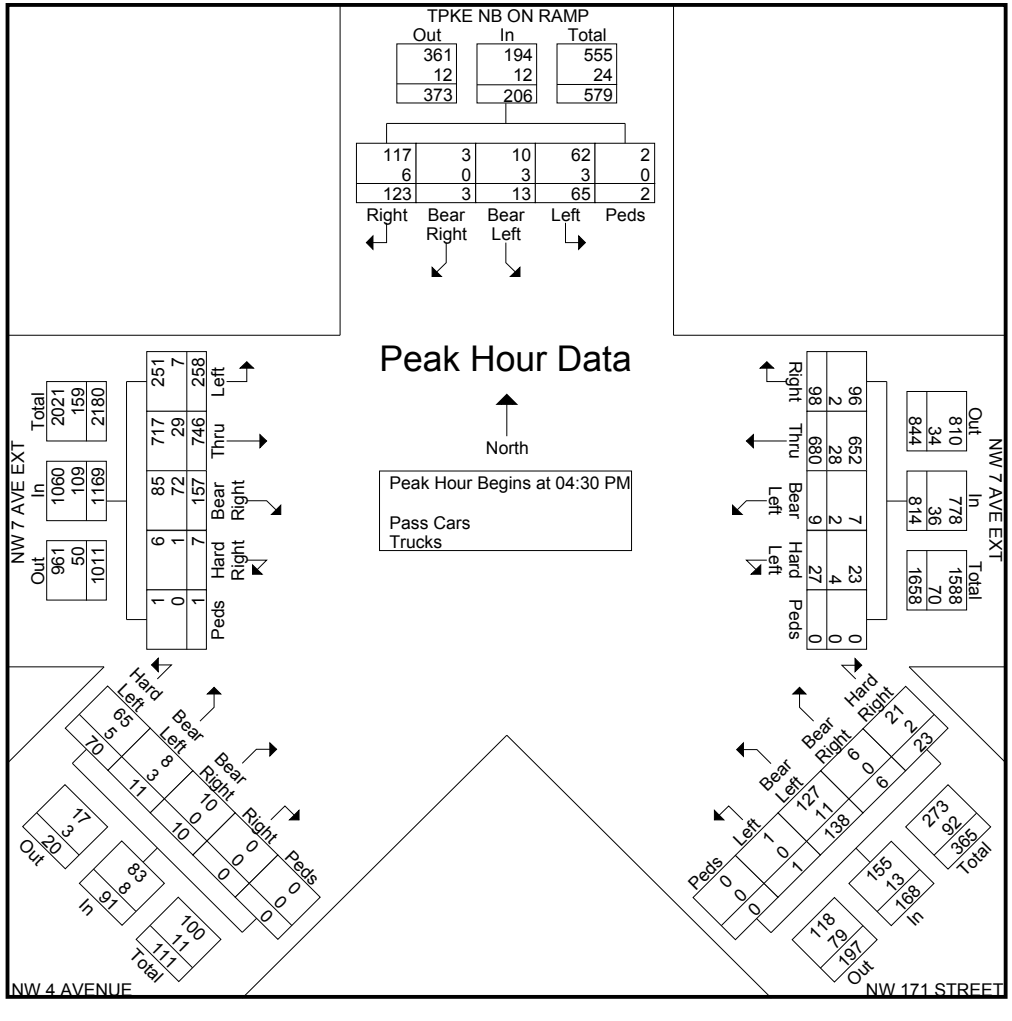
	NW 4 AVENUE Northeastbound						NW 171 STREET Northwestbound						TPKE NB ON RAMP Southbound						NW 7 AVE EXT Eastbound						NW 7 AVE EXT Westbound						
Start Time	Hard Left	Bear Left	Bear Right	Right	Peds	App. Total	Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Bear Left	Bear Right	Right	Peds	App. Total	Left	Thru	Bear Right	Hard Right	Peds	App. Total	Hard Left	Bear Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:30 PM																															
04:30 PM	27	4	1	0	0	32	0	35	1	10	0	46	15	3	0	28	**1**	47	48	179	17	**3**	**1**	248	**10**	2	**183**	21	0	**216**	589
04:45 PM	10	2	2	0	0	14	0	23	1	3	0	27	12	**4**	0	32	0	48	59	**194**	32	1	0	286	2	2	153	**30**	0	187	562
05:00 PM	14	3	2	0	0	19	0	**40**	1	5	0	46	**20**	3	**2**	**38**	1	**64**	**92**	185	48	0	0	**325**	6	**4**	163	29	0	202	**656**
05:15 PM	19	2	**5**	0	0	26	**1**	40	**3**	5	0	**49**	18	3	1	25	0	47	59	188	**60**	3	0	310	9	1	181	18	0	209	641
Total Volume	70	11	10	0	0	91	1	138	6	23	0	168	65	13	3	123	2	206	258	746	157	7	1	1169	27	9	680	98	0	814	2448
% App. Total	76.9	12.1	11	0	0		0.6	82.1	3.6	13.7	0		31.6	6.3	1.5	59.7	1		22.1	63.8	13.4	0.6	0.1		3.3	1.1	83.5	12	0		
PHF	.648	.688	.500	.000	.000	.711	.250	.863	.500	.575	.000	.857	.813	.813	.375	.809	.500	.805	.701	.961	.654	.583	.250	.899	.675	.563	.929	.817	.000	.942	.933
Pass Cars	65	8	10	0	0	83	1	127	6	21	0	155	62	10	3	117	2	194	251	717	85	6	1	1060	23	7	652	96	0	778	2270
% Pass Cars	92.9	72.7	100	0	0	91.2	100	92.0	100	91.3	0	92.3	95.4	76.9	100	95.1	100	94.2	97.3	96.1	54.1	85.7	100	90.7	85.2	77.8	95.9	98.0	0	95.6	92.7
Trucks	5	3	0	0	0	8	0	11	0	2	0	13	3	3	0	6	0	12	7	29	72	1	0	109	4	2	28	2	0	36	178
% Trucks	7.1	27.3	0	0	0	8.8	0	8.0	0	8.7	0	7.7	4.6	23.1	0	4.9	0	5.8	2.7	3.9	45.9	14.3	0	9.3	14.8	22.2	4.1	2.0	0	4.4	7.3

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Client: K&H
Intersection Name: NW 7 AVE EXT_TPKE NB
Opertaors Name: MA_MS & ED
Weather: Sunny

File Name : NW 7 Ave Ext_TPKE NBON-Ramp
Site Code : 00001605
Start Date : 5/29/2015
Page No : 5



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Client: K&H
Intersection Name: MIAMIGARDENSDR_NE2CT
Operators Name: LO & MR
Weather: Sunny

File Name : Miami Gardens_NE 2 CT
Site Code : 00001701
Start Date : 4/28/2015
Page No : 1

Groups Printed- Pass_Cars - Trucks

	NE 2 COURT Northbound					NE 185 STREET Southbound					NW 183 STREET/MIAMI GARDENS DRIVE Eastbound					NW 183 STREET/MIAMI GARDENS DRIVE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	2	0	4	2	8	9	0	25	0	34	15	428	2	0	445	4	158	16	0	178	665
07:15 AM	1	0	13	1	15	14	1	8	0	23	14	459	2	0	475	13	200	28	0	241	754
07:30 AM	1	0	13	3	17	7	1	18	0	26	15	498	1	2	516	2	223	22	0	247	806
07:45 AM	1	0	16	3	20	9	0	3	0	12	22	434	2	3	461	11	221	25	0	257	750
Total	5	0	46	9	60	39	2	54	0	95	66	1819	7	5	1897	30	802	91	0	923	2975
08:00 AM	0	1	35	3	39	8	0	11	5	24	9	414	2	0	425	9	227	24	0	260	748
08:15 AM	5	0	32	0	37	16	0	10	1	27	7	446	4	0	457	12	261	20	0	293	814
08:30 AM	0	2	25	1	28	6	1	18	0	25	8	399	1	1	409	6	208	29	0	243	705
08:45 AM	3	0	37	2	42	13	1	8	2	24	7	395	3	0	405	13	204	24	0	241	712
Total	8	3	129	6	146	43	2	47	8	100	31	1654	10	1	1696	40	900	97	0	1037	2979
*** BREAK ***																					
04:00 PM	8	0	23	2	33	16	1	20	1	38	5	370	6	0	381	18	313	13	0	344	796
04:15 PM	5	0	36	2	43	7	0	12	0	19	7	368	5	1	381	7	314	7	0	328	771
04:30 PM	4	0	22	1	27	10	2	16	1	29	7	372	2	0	381	10	312	21	0	343	780
04:45 PM	7	0	25	1	33	12	0	25	1	38	4	353	3	0	360	10	337	13	0	360	791
Total	24	0	106	6	136	45	3	73	3	124	23	1463	16	1	1503	45	1276	54	0	1375	3138
05:00 PM	12	1	36	2	51	31	0	36	0	67	7	411	3	1	422	14	391	11	1	417	957
05:15 PM	3	1	18	3	25	28	0	28	0	56	7	365	5	1	378	10	396	8	0	414	873
05:30 PM	6	0	15	2	23	17	0	21	1	39	3	419	5	2	429	7	337	6	0	350	841
05:45 PM	5	1	19	2	27	15	0	17	2	34	5	391	4	3	403	8	375	10	1	394	858
Total	26	3	88	9	126	91	0	102	3	196	22	1586	17	7	1632	39	1499	35	2	1575	3529
Grand Total	63	6	369	30	468	218	7	276	14	515	142	6522	50	14	6728	154	4477	277	2	4910	12621
Apprch %	13.5	1.3	78.8	6.4		42.3	1.4	53.6	2.7		2.1	96.9	0.7	0.2		3.1	91.2	5.6	0		
Total %	0.5	0	2.9	0.2	3.7	1.7	0.1	2.2	0.1	4.1	1.1	51.7	0.4	0.1	53.3	1.2	35.5	2.2	0	38.9	
Pass_Cars	56	5	328	30	419	198	7	257	14	476	112	6378	44	14	6548	135	4416	258	1	4810	12253
% Pass_Cars	88.9	83.3	88.9	100	89.5	90.8	100	93.1	100	92.4	78.9	97.8	88	100	97.3	87.7	98.6	93.1	50	98	97.1
Trucks	7	1	41	0	49	20	0	19	0	39	30	144	6	0	180	19	61	19	1	100	368
% Trucks	11.1	16.7	11.1	0	10.5	9.2	0	6.9	0	7.6	21.1	2.2	12	0	2.7	12.3	1.4	6.9	50	2	2.9

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Client: K&H
Intersection Name: MIAMIGARDENSDR_NE2CT
Operators Name: LO & MR
Weather: Sunny

File Name : Miami Gardens_NE 2 CT
Site Code : 00001701
Start Date : 4/28/2015
Page No : 2

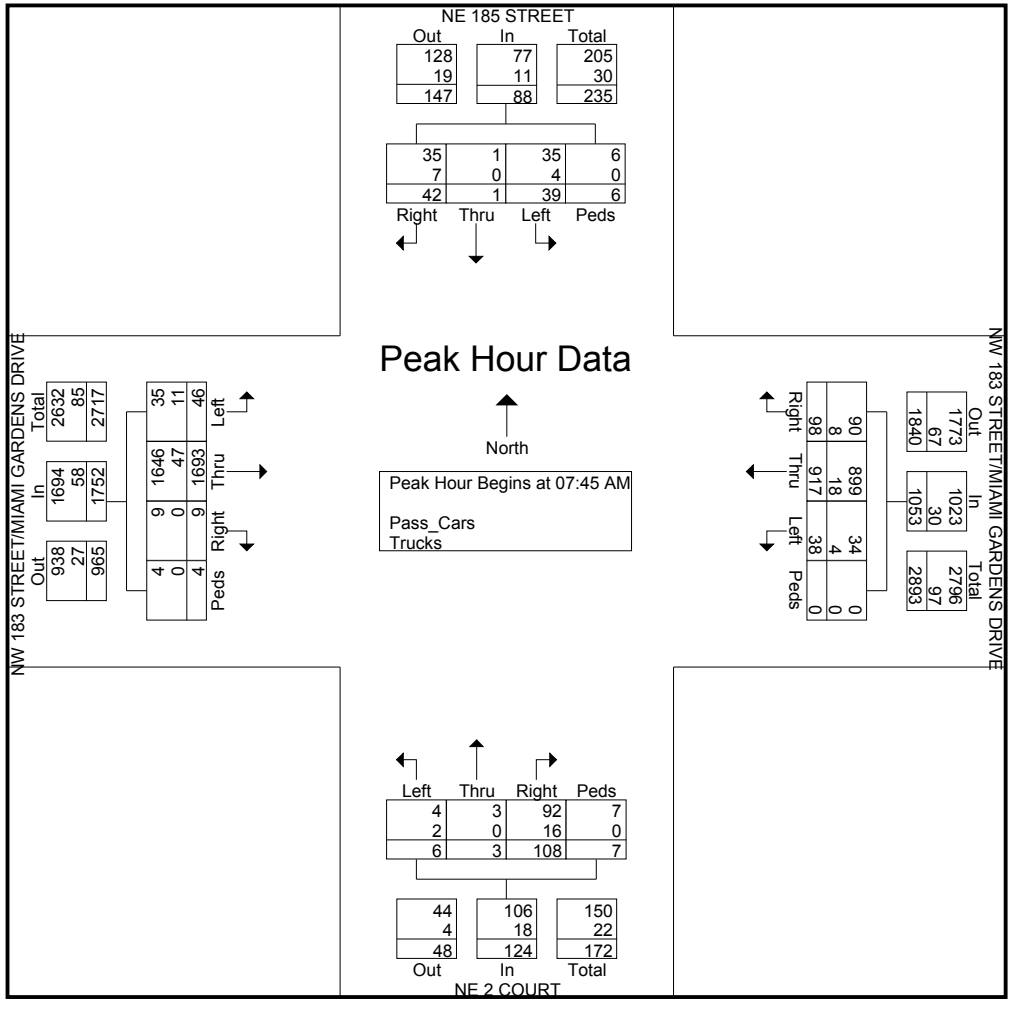
	NE 2 COURT Northbound					NE 185 STREET Southbound					NW 183 STREET/MIAMI GARDENS DRIVE Eastbound					NW 183 STREET/MIAMI GARDENS DRIVE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	1	0	16	**3**	20	9	0	3	0	12	**22**	434	2	**3**	**461**	11	221	25	0	257	750
08:00 AM	0	1	**35**	3	**39**	8	0	11	**5**	24	9	414	2	0	425	9	227	24	0	260	748
08:15 AM	**5**	0	32	0	37	**16**	0	10	1	**27**	7	**446**	**4**	0	457	**12**	**261**	20	0	**293**	**814**
08:30 AM	0	**2**	25	1	28	6	**1**	**18**	0	25	8	399	1	1	409	6	208	**29**	0	243	705
Total Volume	6	3	108	7	124	39	1	42	6	88	46	1693	9	4	1752	38	917	98	0	1053	3017
% App. Total	4.8	2.4	87.1	5.6		44.3	1.1	47.7	6.8		2.6	96.6	0.5	0.2		3.6	87.1	9.3	0		
PHF	.300	.375	.771	.583	.795	.609	.250	.583	.300	.815	.523	.949	.563	.333	.950	.792	.878	.845	.000	.898	.927
Pass_Cars	4	3	92	7	106	35	1	35	6	77	35	1646	9	4	1694	34	899	90	0	1023	2900
% Pass_Cars	66.7	100	85.2	100	85.5	89.7	100	83.3	100	87.5	76.1	97.2	100	100	96.7	89.5	98.0	91.8	0	97.2	96.1
Trucks	2	0	16	0	18	4	0	7	0	11	11	47	0	0	58	4	18	8	0	30	117
% Trucks	33.3	0	14.8	0	14.5	10.3	0	16.7	0	12.5	23.9	2.8	0	0	3.3	10.5	2.0	8.2	0	2.8	3.9

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Operators Name: LO & MR
Weather: Sunny

File Name : Miami Gardens_NE 2 CT
Site Code : 00001701
Start Date : 4/28/2015
Page No : 3



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Operators Name: LO & MR
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File Name : Miami Gardens_NE 2 CT
Site Code : 00001701
Start Date : 4/28/2015
Page No : 4

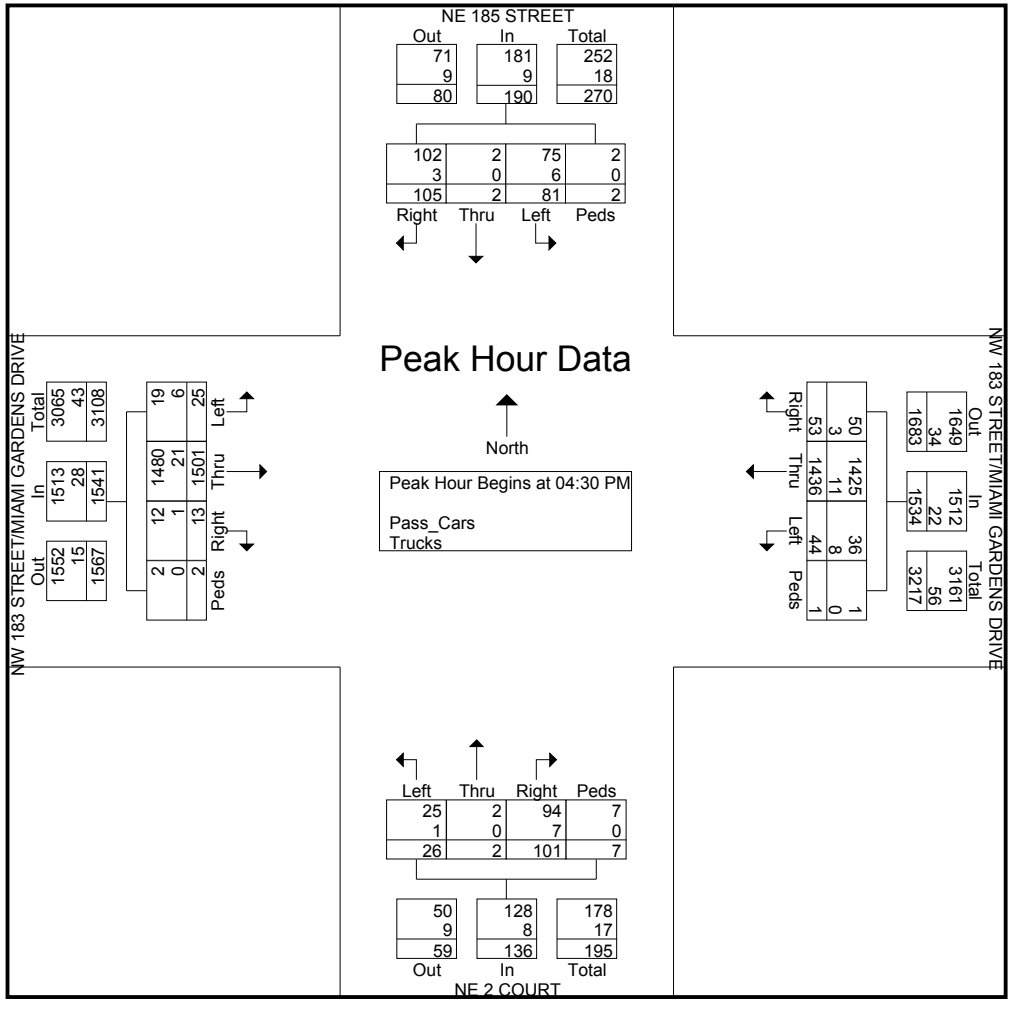
	NE 2 COURT Northbound					NE 185 STREET Southbound					NW 183 STREET/MIAMI GARDENS DRIVE Eastbound					NW 183 STREET/MIAMI GARDENS DRIVE Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	4	0	22	1	27	10	**2**	16	**1**	29	**7**	372	2	0	381	10	312	**21**	0	343	780
04:45 PM	7	0	25	1	33	12	0	25	1	38	4	353	3	0	360	10	337	13	0	360	791
05:00 PM	**12**	**1**	**36**	2	**51**	**31**	0	**36**	0	**67**	7	**411**	3	**1**	**422**	**14**	391	11	**1**	**417**	**957**
05:15 PM	3	1	18	**3**	25	28	0	28	0	56	7	365	**5**	1	378	10	**396**	8	0	414	873
Total Volume	26	2	101	7	136	81	2	105	2	190	25	1501	13	2	1541	44	1436	53	1	1534	3401
% App. Total	19.1	1.5	74.3	5.1		42.6	1.1	55.3	1.1		1.6	97.4	0.8	0.1		2.9	93.6	3.5	0.1		
PHF	.542	.500	.701	.583	.667	.653	.250	.729	.500	.709	.893	.913	.650	.500	.913	.786	.907	.631	.250	.920	.888
Pass_Cars	25	2	94	7	128	75	2	102	2	181	19	1480	12	2	1513	36	1425	50	1	1512	3334
% Pass_Cars	96.2	100	93.1	100	94.1	92.6	100	97.1	100	95.3	76.0	98.6	92.3	100	98.2	81.8	99.2	94.3	100	98.6	98.0
Trucks	1	0	7	0	8	6	0	3	0	9	6	21	1	0	28	8	11	3	0	22	67
% Trucks	3.8	0	6.9	0	5.9	7.4	0	2.9	0	4.7	24.0	1.4	7.7	0	1.8	18.2	0.8	5.7	0	1.4	2.0

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Client: K&H
Intersection Name: MIAMIGARDENSDR_NE2CT
Operators Name: LO & MR
Weather: Sunny

File Name : Miami Gardens_NE 2 CT
Site Code : 00001701
Start Date : 4/28/2015
Page No : 5



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Client: K&H
Intersection Name: MiamiGardensDr_SBRamp
Opertaors Name: ZV & ED
Weather: Sunny

File Name : Miami Gardens_SB Ramps
Site Code : 00001702
Start Date : 4/28/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NE 6 AVENUE Northbound					SB Ramps Southbound					MIAMI GARDENS DRIVE/NE 183 STREET Eastbound					MIAMI GARDENS DRIVE/NE 183 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	70	16	113	1	200	45	91	34	0	170	13	236	182	0	431	21	73	116	0	210	1011
07:15 AM	88	11	105	0	204	46	67	44	0	157	13	290	223	0	526	13	116	143	0	272	1159
07:30 AM	94	14	109	0	217	56	94	44	0	194	4	290	249	0	543	15	117	127	0	259	1213
07:45 AM	113	6	118	0	237	54	91	50	0	195	3	311	295	0	609	7	123	158	0	288	1329
Total	365	47	445	1	858	201	343	172	0	716	33	1127	949	0	2109	56	429	544	0	1029	4712
08:00 AM	104	7	83	0	194	28	96	52	0	176	3	354	306	0	663	23	132	102	0	257	1290
08:15 AM	104	10	73	0	187	111	70	46	0	227	9	303	242	0	554	25	122	109	0	256	1224
08:30 AM	100	4	96	0	200	83	95	62	0	240	3	265	254	0	522	25	126	77	0	228	1190
08:45 AM	114	9	86	0	209	110	69	73	0	252	8	298	302	1	609	29	139	71	0	239	1309
Total	422	30	338	0	790	332	330	233	0	895	23	1220	1104	1	2348	102	519	359	0	980	5013
*** BREAK ***																					
04:00 PM	163	11	98	0	272	76	91	62	1	230	13	266	229	0	508	18	187	97	5	307	1317
04:15 PM	189	9	113	1	312	87	81	38	0	206	17	289	244	0	550	21	192	96	12	321	1389
04:30 PM	128	12	118	2	260	77	99	56	0	232	15	263	192	0	470	18	166	119	0	303	1265
04:45 PM	183	17	127	1	328	87	101	72	0	260	21	251	187	0	459	20	173	124	3	320	1367
Total	663	49	456	4	1172	327	372	228	1	928	66	1069	852	0	1987	77	718	436	20	1251	5338
05:00 PM	182	21	131	0	334	68	70	68	3	209	7	252	210	1	470	7	153	67	0	227	1240
05:15 PM	153	18	121	4	296	97	101	52	0	250	14	307	200	1	522	11	163	117	0	291	1359
05:30 PM	139	12	126	0	277	91	106	56	0	253	6	288	170	0	464	11	172	100	0	283	1277
05:45 PM	160	18	136	0	314	101	102	63	0	266	26	276	225	0	527	19	144	113	0	276	1383
Total	634	69	514	4	1221	357	379	239	3	978	53	1123	805	2	1983	48	632	397	0	1077	5259
Grand Total	2084	195	1753	9	4041	1217	1424	872	4	3517	175	4539	3710	3	8427	283	2298	1736	20	4337	20322
Apprch %	51.6	4.8	43.4	0.2		34.6	40.5	24.8	0.1		2.1	53.9	44	0		6.5	53	40	0.5		
Total %	10.3	1	8.6	0	19.9	6	7	4.3	0	17.3	0.9	22.3	18.3	0	41.5	1.4	11.3	8.5	0.1	21.3	
Pass Cars	2042	191	1732	9	3974	1204	1399	805	3	3411	157	4414	3655	3	8229	275	2220	1713	20	4228	19842
% Pass Cars	98	97.9	98.8	100	98.3	98.9	98.2	92.3	75	97	89.7	97.2	98.5	100	97.7	97.2	96.6	98.7	100	97.5	97.6
Trucks	42	4	21	0	67	13	25	67	1	106	18	125	55	0	198	8	78	23	0	109	480
% Trucks	2	2.1	1.2	0	1.7	1.1	1.8	7.7	25	3	10.3	2.8	1.5	0	2.3	2.8	3.4	1.3	0	2.5	2.4

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Client: K&H
Intersection Name: MiamiGardensDr_SBRamp
Opertaors Name: ZV & ED
Weather: Sunny

File Name : Miami Gardens_SB Ramps
Site Code : 00001702
Start Date : 4/28/2015
Page No : 2

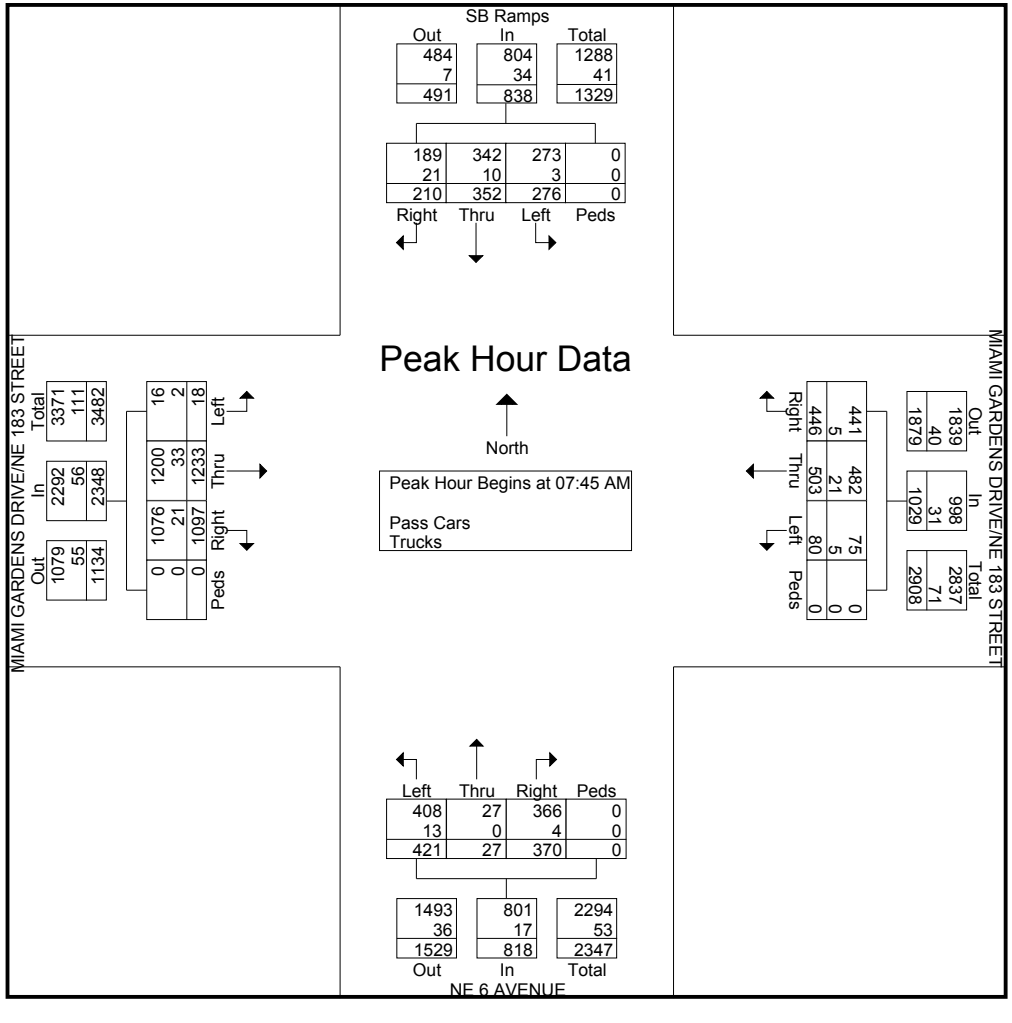
	NE 6 AVENUE Northbound					SB Ramps Southbound					MIAMI GARDENS DRIVE/NE 183 STREET Eastbound					MIAMI GARDENS DRIVE/NE 183 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**113**	6	**118**	0	**237**	54	91	50	0	195	3	311	295	0	609	7	123	**158**	0	**288**	**1329**
08:00 AM	104	7	83	0	194	28	**96**	52	0	176	3	**354**	**306**	0	**663**	23	**132**	102	0	257	1290
08:15 AM	104	**10**	73	0	187	**111**	70	46	0	227	**9**	303	242	0	554	**25**	122	109	0	256	1224
08:30 AM	100	4	96	0	200	83	95	**62**	0	**240**	3	265	254	0	522	25	126	77	0	228	1190
Total Volume	421	27	370	0	818	276	352	210	0	838	18	1233	1097	0	2348	80	503	446	0	1029	5033
% App. Total	51.5	3.3	45.2	0		32.9	42	25.1	0		0.8	52.5	46.7	0		7.8	48.9	43.3	0		
PHF	.931	.675	.784	.000	.863	.622	.917	.847	.000	.873	.500	.871	.896	.000	.885	.800	.953	.706	.000	.893	.947
Pass Cars	408	27	366	0	801	273	342	189	0	804	16	1200	1076	0	2292	75	482	441	0	998	4895
% Pass Cars	96.9	100	98.9	0	97.9	98.9	97.2	90.0	0	95.9	88.9	97.3	98.1	0	97.6	93.8	95.8	98.9	0	97.0	97.3
Trucks	13	0	4	0	17	3	10	21	0	34	2	33	21	0	56	5	21	5	0	31	138
% Trucks	3.1	0	1.1	0	2.1	1.1	2.8	10.0	0	4.1	11.1	2.7	1.9	0	2.4	6.3	4.2	1.1	0	3.0	2.7

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Client: K&H
Intersection Name: MiamiGardensDr_SBRamp
Opertaors Name: ZV & ED
Weather: Sunny

File Name : Miami Gardens_SB Ramps
Site Code : 00001702
Start Date : 4/28/2015
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Start Date : 4/28/2015
Page No : 4

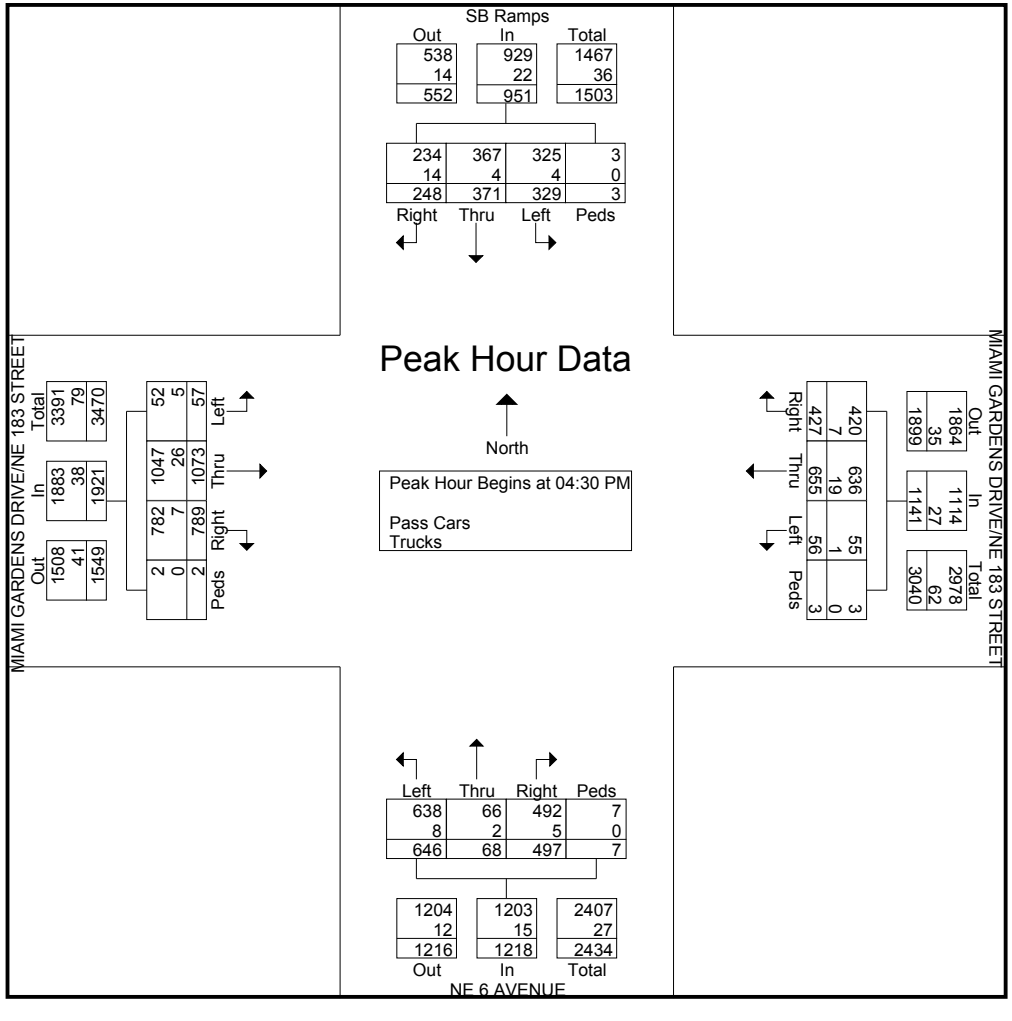
	NE 6 AVENUE Northbound					SB Ramps Southbound					MIAMI GARDENS DRIVE/NE 183 STREET Eastbound					MIAMI GARDENS DRIVE/NE 183 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	128	12	118	2	260	77	99	56	0	232	15	263	192	0	470	18	166	119	0	303	1265
04:45 PM	**183**	17	127	1	328	87	**101**	**72**	0	**260**	**21**	251	187	0	459	**20**	**173**	**124**	**3**	**320**	**1367**
05:00 PM	182	**21**	**131**	0	**334**	68	70	68	**3**	209	7	252	**210**	**1**	470	7	153	67	0	227	1240
05:15 PM	153	18	121	**4**	296	**97**	101	52	0	250	14	**307**	200	1	**522**	11	163	117	0	291	1359
Total Volume	646	68	497	7	1218	329	371	248	3	951	57	1073	789	2	1921	56	655	427	3	1141	5231
% App. Total	53	5.6	40.8	0.6		34.6	39	26.1	0.3		3	55.9	41.1	0.1		4.9	57.4	37.4	0.3		
PHF	.883	.810	.948	.438	.912	.848	.918	.861	.250	.914	.679	.874	.939	.500	.920	.700	.947	.861	.250	.891	.957
Pass Cars	638	66	492	7	1203	325	367	234	3	929	52	1047	782	2	1883	55	636	420	3	1114	5129
% Pass Cars	98.8	97.1	99.0	100	98.8	98.8	98.9	94.4	100	97.7	91.2	97.6	99.1	100	98.0	98.2	97.1	98.4	100	97.6	98.1
Trucks	8	2	5	0	15	4	4	14	0	22	5	26	7	0	38	1	19	7	0	27	102
% Trucks	1.2	2.9	1.0	0	1.2	1.2	1.1	5.6	0	2.3	8.8	2.4	0.9	0	2.0	1.8	2.9	1.6	0	2.4	1.9

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Client: K&H
Intersection Name: MiamiGardensDr_SBRamp
Opertaors Name: ZV & ED
Weather: Sunny

File Name : Miami Gardens_SB Ramps
Site Code : 00001702
Start Date : 4/28/2015
Page No : 5



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Client: K&H
Intersection Name: MiamiGardensDr_NBRamp
Opertaors Name: EB & CG
Weather: Sunny

File Name : Miami Gardens_NB Ramps
Site Code : 00001703
Start Date : 4/28/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NB RAMPS Northbound					NB RAMPS Southbound					MIAMI GARDENS DRIVE/NE 183 STREET Eastbound					MIAMI GARDENS DRIVE/NE 183 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	78	0	8	0	86	209	172	0	0	381	0	190	94	0	284	751
07:15 AM	0	0	0	0	0	105	0	19	0	124	208	291	0	0	499	0	231	70	0	301	924
07:30 AM	0	0	0	0	0	105	0	14	0	119	187	254	0	0	441	0	257	93	0	350	910
07:45 AM	0	0	0	0	0	123	0	27	0	150	184	293	0	0	477	0	254	70	0	324	951
Total	0	0	0	0	0	411	0	68	0	479	788	1010	0	0	1798	0	932	327	0	1259	3536
08:00 AM	0	0	0	0	0	164	0	17	0	181	164	304	0	0	468	0	257	75	0	332	981
08:15 AM	0	0	0	0	0	169	0	18	0	187	160	345	0	0	505	0	250	76	0	326	1018
08:30 AM	0	0	0	0	0	146	0	20	0	166	177	337	0	0	514	0	236	73	0	309	989
08:45 AM	0	0	0	0	0	149	0	24	0	173	184	349	0	0	533	0	221	69	0	290	996
Total	0	0	0	0	0	628	0	79	0	707	685	1335	0	0	2020	0	964	293	0	1257	3984
*** BREAK ***																					
04:00 PM	0	0	0	0	0	153	0	22	0	175	169	258	0	0	427	0	292	73	0	365	967
04:15 PM	0	0	0	0	0	108	0	8	0	116	191	259	0	0	450	0	308	102	0	410	976
04:30 PM	0	0	0	0	0	143	0	12	0	155	194	266	0	0	460	0	271	105	1	377	992
04:45 PM	0	0	0	0	0	129	0	18	0	147	175	264	0	0	439	0	287	116	0	403	989
Total	0	0	0	0	0	533	0	60	0	593	729	1047	0	0	1776	0	1158	396	1	1555	3924
05:00 PM	0	0	0	0	0	156	0	14	0	170	205	252	0	0	457	0	278	109	0	387	1014
05:15 PM	0	0	0	0	0	131	0	10	0	141	243	295	0	0	538	0	260	112	0	372	1051
05:30 PM	0	0	0	0	0	144	0	18	0	162	218	312	0	0	530	0	258	106	0	364	1056
05:45 PM	0	0	0	0	0	164	0	12	0	176	201	315	0	0	516	0	256	75	0	331	1023
Total	0	0	0	0	0	595	0	54	0	649	867	1174	0	0	2041	0	1052	402	0	1454	4144
Grand Total	0	0	0	0	0	2167	0	261	0	2428	3069	4566	0	0	7635	0	4106	1418	1	5525	15588
Apprch %	0	0	0	0		89.3	0	10.7	0		40.2	59.8	0	0		0	74.3	25.7	0		
Total %	0	0	0	0	0	13.9	0	1.7	0	15.6	19.7	29.3	0	0	49	0	26.3	9.1	0	35.4	
Pass Cars	0	0	0	0	0	2094	0	244	0	2338	3023	4530	0	0	7553	0	3972	1393	1	5366	15257
% Pass Cars	0	0	0	0	0	96.6	0	93.5	0	96.3	98.5	99.2	0	0	98.9	0	96.7	98.2	100	97.1	97.9
Trucks	0	0	0	0	0	73	0	17	0	90	46	36	0	0	82	0	134	25	0	159	331
% Trucks	0	0	0	0	0	3.4	0	6.5	0	3.7	1.5	0.8	0	0	1.1	0	3.3	1.8	0	2.9	2.1

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Client: K&H
Intersection Name: MiamiGardensDr_NBRamp
Opertaors Name: EB & CG
Weather: Sunny

File Name : Miami Gardens_NB Ramps
Site Code : 00001703
Start Date : 4/28/2015
Page No : 2

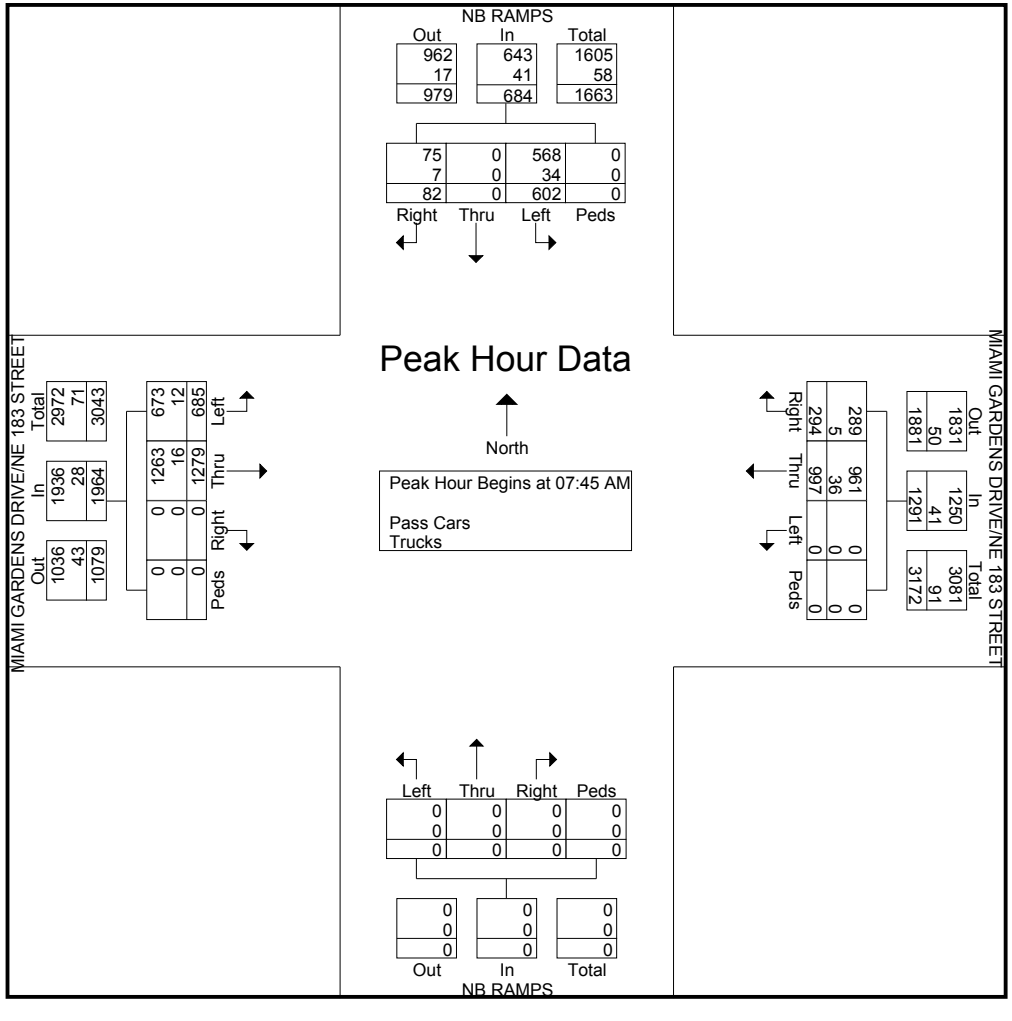
	NB RAMPS Northbound					NB RAMPS Southbound					MIAMI GARDENS DRIVE/NE 183 STREET Eastbound					MIAMI GARDENS DRIVE/NE 183 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	123	0	**27**	0	150	**184**	293	0	0	477	0	254	70	0	324	951
08:00 AM	0	0	0	0	0	164	0	17	0	181	164	304	0	0	468	0	**257**	75	0	**332**	981
08:15 AM	0	0	0	0	0	**169**	0	18	0	**187**	160	**345**	0	0	505	0	250	**76**	0	326	**1018**
08:30 AM	0	0	0	0	0	146	0	20	0	166	177	337	0	0	**514**	0	236	73	0	309	989
Total Volume	0	0	0	0	0	602	0	82	0	684	685	1279	0	0	1964	0	997	294	0	1291	3939
% App. Total	0	0	0	0		88	0	12	0		34.9	65.1	0	0		0	77.2	22.8	0		
PHF	.000	.000	.000	.000	.000	.891	.000	.759	.000	.914	.931	.927	.000	.000	.955	.000	.970	.967	.000	.972	.967
Pass Cars	0	0	0	0	0	568	0	75	0	643	673	1263	0	0	1936	0	961	289	0	1250	3829
% Pass Cars	0	0	0	0	0	94.4	0	91.5	0	94.0	98.2	98.7	0	0	98.6	0	96.4	98.3	0	96.8	97.2
Trucks	0	0	0	0	0	34	0	7	0	41	12	16	0	0	28	0	36	5	0	41	110
% Trucks	0	0	0	0	0	5.6	0	8.5	0	6.0	1.8	1.3	0	0	1.4	0	3.6	1.7	0	3.2	2.8

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Opertaors Name: EB & CG
Weather: Sunny

File Name : Miami Gardens_NB Ramps
Site Code : 00001703
Start Date : 4/28/2015
Page No : 3



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File Name : Miami Gardens_NB Ramps
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Start Date : 4/28/2015
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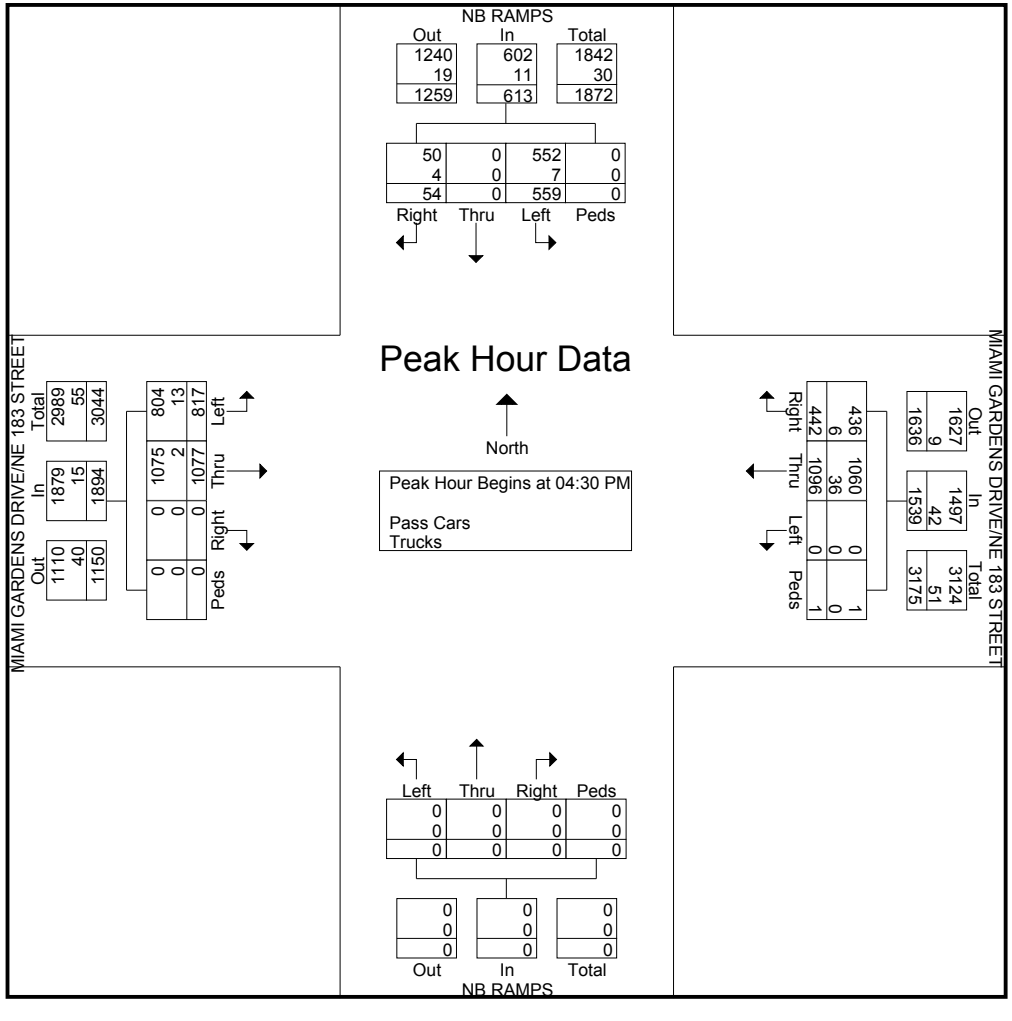
	NB RAMPS Northbound					NB RAMPS Southbound					MIAMI GARDENS DRIVE/NE 183 STREET Eastbound					MIAMI GARDENS DRIVE/NE 183 STREET Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	143	0	12	0	155	194	266	0	0	460	0	271	105	**1**	377	992
04:45 PM	0	0	0	0	0	129	0	**18**	0	147	175	264	0	0	439	0	**287**	**116**	0	**403**	989
05:00 PM	0	0	0	0	0	**156**	0	14	0	**170**	205	252	0	0	457	0	278	109	0	387	1014
05:15 PM	0	0	0	0	0	131	0	10	0	141	**243**	**295**	0	0	**538**	0	260	112	0	372	**1051**
Total Volume	0	0	0	0	0	559	0	54	0	613	817	1077	0	0	1894	0	1096	442	1	1539	4046
% App. Total	0	0	0	0		91.2	0	8.8	0		43.1	56.9	0	0		0	71.2	28.7	0.1		
PHF	.000	.000	.000	.000	.000	.896	.000	.750	.000	.901	.841	.913	.000	.000	.880	.000	.955	.953	.250	.955	.962
Pass Cars	0	0	0	0	0	552	0	50	0	602	804	1075	0	0	1879	0	1060	436	1	1497	3978
% Pass Cars	0	0	0	0	0	98.7	0	92.6	0	98.2	98.4	99.8	0	0	99.2	0	96.7	98.6	100	97.3	98.3
Trucks	0	0	0	0	0	7	0	4	0	11	13	2	0	0	15	0	36	6	0	42	68
% Trucks	0	0	0	0	0	1.3	0	7.4	0	1.8	1.6	0.2	0	0	0.8	0	3.3	1.4	0	2.7	1.7

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Client: K&H
Intersection Name: MiamiGardensDr_NBRamp
Opertaors Name: EB & CG
Weather: Sunny

File Name : Miami Gardens_NB Ramps
Site Code : 00001703
Start Date : 4/28/2015
Page No : 5



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Client: K&H
Intersection Name: NE 16 AVE& IVES DAIRY
Opertaors Name: MA & MS
Weather: Sunny

File Name : IVES DAIRY RD_NE16AVE
Site Code : 00001801
Start Date : 4/2/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	NE 16 AVENUE Northbound					NE 16 AVENUE Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	9	0	3	0	12	80	0	11	0	91	31	523	13	1	568	21	364	30	1	416	1087
07:15 AM	2	0	2	0	4	62	5	3	0	70	0	511	6	0	517	32	161	20	0	213	804
07:30 AM	0	0	7	0	7	13	0	3	0	16	7	636	6	4	653	24	207	11	2	244	920
07:45 AM	4	0	13	0	17	9	0	7	0	16	5	702	12	2	721	31	266	12	2	311	1065
Total	15	0	25	0	40	164	5	24	0	193	43	2372	37	7	2459	108	998	73	5	1184	3876
08:00 AM	5	0	7	0	12	10	2	9	0	21	5	489	12	2	508	27	278	16	0	321	862
08:15 AM	3	0	16	1	20	15	1	6	0	22	10	476	16	2	504	35	257	15	2	309	855
08:30 AM	6	0	12	0	18	15	0	6	1	22	7	479	18	5	509	52	309	15	3	379	928
08:45 AM	10	2	18	0	30	10	1	3	0	14	16	470	13	0	499	47	267	30	0	344	887
Total	24	2	53	1	80	50	4	24	1	79	38	1914	59	9	2020	161	1111	76	5	1353	3532
*** BREAK ***																					
04:00 PM	20	0	27	1	48	20	0	9	1	30	15	324	8	0	347	23	523	21	1	568	993
04:15 PM	14	1	19	2	36	22	2	10	1	35	17	295	11	6	329	25	533	32	1	591	991
04:30 PM	17	1	24	3	45	32	2	17	0	51	19	357	13	1	390	36	593	19	1	649	1135
04:45 PM	14	0	32	1	47	40	1	19	0	60	7	374	11	0	392	23	481	29	2	535	1034
Total	65	2	102	7	176	114	5	55	2	176	58	1350	43	7	1458	107	2130	101	5	2343	4153
05:00 PM	27	1	58	1	87	58	1	29	1	89	7	383	8	1	399	17	531	12	1	561	1136
05:15 PM	25	1	38	2	66	23	1	20	0	44	19	357	6	0	382	18	522	25	0	565	1057
05:30 PM	36	0	49	1	86	26	0	21	1	48	12	402	3	0	417	20	504	17	0	541	1092
05:45 PM	15	0	37	2	54	25	1	12	0	38	12	349	7	1	369	16	484	33	0	533	994
Total	103	2	182	6	293	132	3	82	2	219	50	1491	24	2	1567	71	2041	87	1	2200	4279
Grand Total	207	6	362	14	589	460	17	185	5	667	189	7127	163	25	7504	447	6280	337	16	7080	15840
Apprch %	35.1	1	61.5	2.4		69	2.5	27.7	0.7		2.5	95	2.2	0.3		6.3	88.7	4.8	0.2		
Total %	1.3	0	2.3	0.1	3.7	2.9	0.1	1.2	0	4.2	1.2	45	1	0.2	47.4	2.8	39.6	2.1	0.1	44.7	
Pass Cars	195	3	349	14	561	447	14	180	5	646	180	6998	147	24	7349	436	6181	323	15	6955	15511
% Pass Cars	94.2	50	96.4	100	95.2	97.2	82.4	97.3	100	96.9	95.2	98.2	90.2	96	97.9	97.5	98.4	95.8	93.8	98.2	97.9
Trucks	12	3	13	0	28	13	3	5	0	21	9	129	16	1	155	11	99	14	1	125	329
% Trucks	5.8	50	3.6	0	4.8	2.8	17.6	2.7	0	3.1	4.8	1.8	9.8	4	2.1	2.5	1.6	4.2	6.2	1.8	2.1

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Client: K&H
Intersection Name: NE 16 AVE& IVES DAIRY
Opertaors Name: MA & MS
Weather: Sunny

File Name : IVES DAIRY RD_NE16AVE
Site Code : 00001801
Start Date : 4/2/2015
Page No : 2

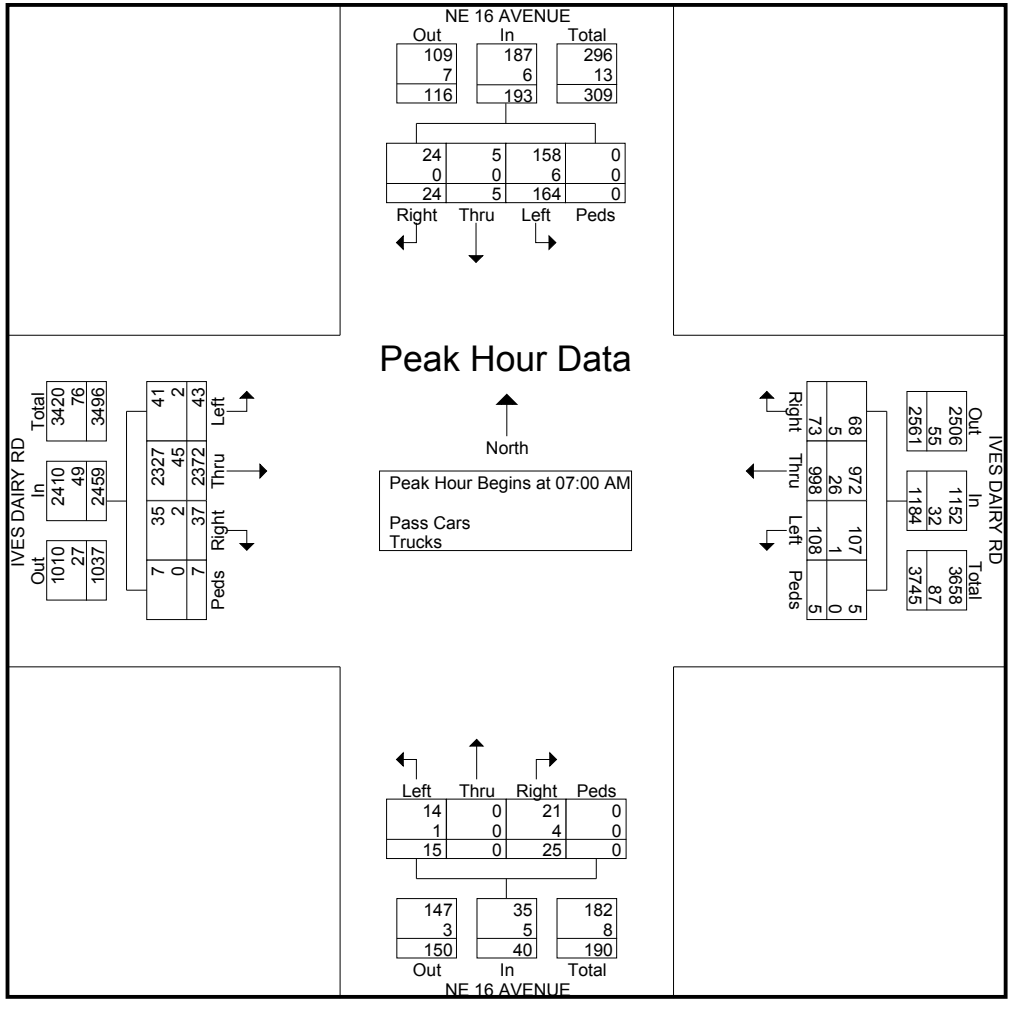
	NE 16 AVENUE Northbound					NE 16 AVENUE Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	**9**	0	3	0	12	**80**	0	**11**	0	**91**	**31**	523	**13**	1	568	21	**364**	**30**	1	**416**	**1087**
07:15 AM	2	0	2	0	4	62	**5**	3	0	70	0	511	6	0	517	**32**	161	20	0	213	804
07:30 AM	0	0	7	0	7	13	0	3	0	16	7	636	6	**4**	653	24	207	11	**2**	244	920
07:45 AM	4	0	**13**	0	**17**	9	0	7	0	16	5	**702**	12	2	**721**	31	266	12	2	311	1065
Total Volume	15	0	25	0	40	164	5	24	0	193	43	2372	37	7	2459	108	998	73	5	1184	3876
% App. Total	37.5	0	62.5	0		85	2.6	12.4	0		1.7	96.5	1.5	0.3		9.1	84.3	6.2	0.4		
PHF	.417	.000	.481	.000	.588	.513	.250	.545	.000	.530	.347	.845	.712	.438	.853	.844	.685	.608	.625	.712	.891
Pass Cars	14	0	21	0	35	158	5	24	0	187	41	2327	35	7	2410	107	972	68	5	1152	3784
% Pass Cars	93.3	0	84.0	0	87.5	96.3	100	100	0	96.9	95.3	98.1	94.6	100	98.0	99.1	97.4	93.2	100	97.3	97.6
Trucks	1	0	4	0	5	6	0	0	0	6	2	45	2	0	49	1	26	5	0	32	92
% Trucks	6.7	0	16.0	0	12.5	3.7	0	0	0	3.1	4.7	1.9	5.4	0	2.0	0.9	2.6	6.8	0	2.7	2.4

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Client: K&H
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Opertaors Name: MA & MS
Weather: Sunny

File Name : IVES DAIRY RD_NE16AVE
Site Code : 00001801
Start Date : 4/2/2015
Page No : 3



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Start Date : 4/2/2015
Page No : 4

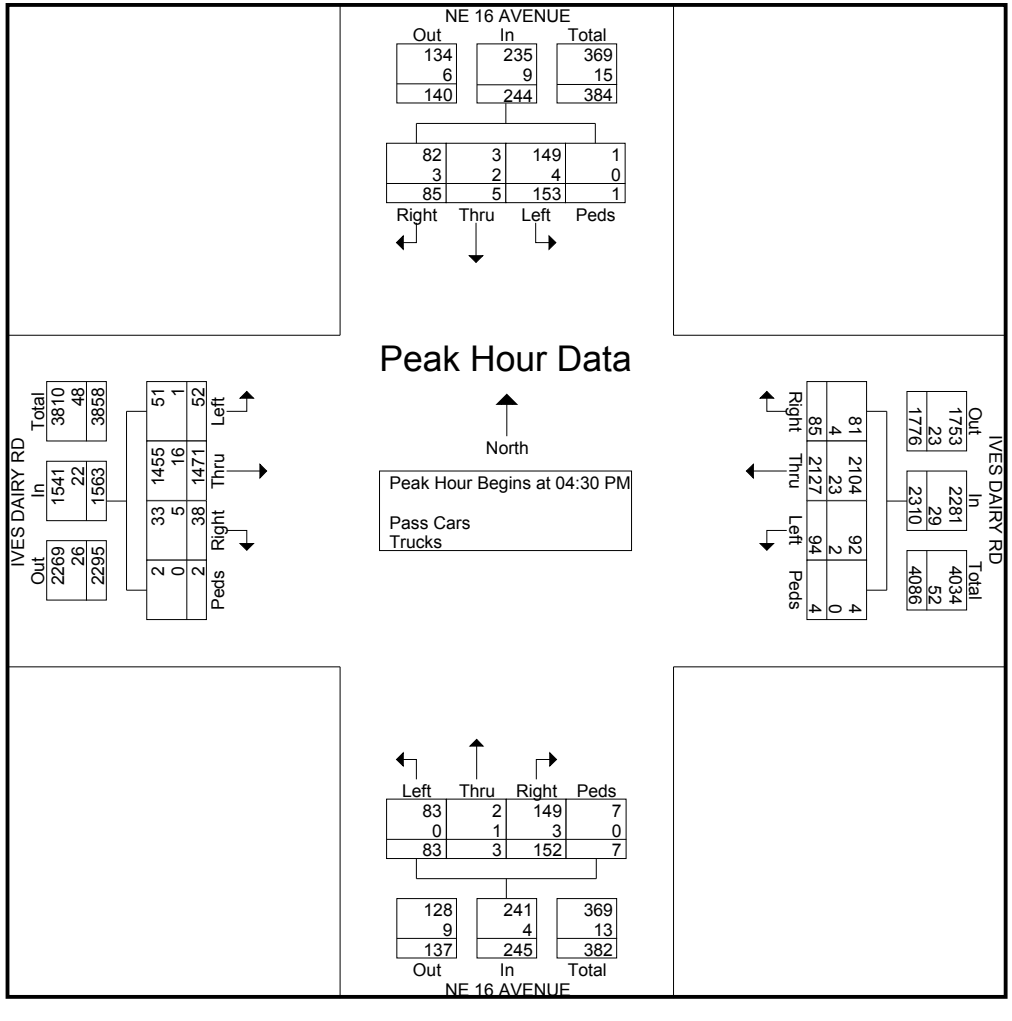
	NE 16 AVENUE Northbound					NE 16 AVENUE Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	17	**1**	24	**3**	45	32	**2**	17	0	51	**19**	357	**13**	**1**	390	**36**	**593**	19	1	**649**	1135
04:45 PM	14	0	32	1	47	40	1	19	0	60	7	374	11	0	392	23	481	**29**	**2**	535	1034
05:00 PM	**27**	1	**58**	1	**87**	**58**	1	**29**	**1**	**89**	7	**383**	8	1	**399**	17	531	12	1	561	**1136**
05:15 PM	25	1	38	2	66	23	1	20	0	44	19	357	6	0	382	18	522	25	0	565	1057
Total Volume	83	3	152	7	245	153	5	85	1	244	52	1471	38	2	1563	94	2127	85	4	2310	4362
% App. Total	33.9	1.2	62	2.9		62.7	2	34.8	0.4		3.3	94.1	2.4	0.1		4.1	92.1	3.7	0.2		
PHF	.769	.750	.655	.583	.704	.659	.625	.733	.250	.685	.684	.960	.731	.500	.979	.653	.897	.733	.500	.890	.960
Pass Cars	83	2	149	7	241	149	3	82	1	235	51	1455	33	2	1541	92	2104	81	4	2281	4298
% Pass Cars	100	66.7	98.0	100	98.4	97.4	60.0	96.5	100	96.3	98.1	98.9	86.8	100	98.6	97.9	98.9	95.3	100	98.7	98.5
Trucks	0	1	3	0	4	4	2	3	0	9	1	16	5	0	22	2	23	4	0	29	64
% Trucks	0	33.3	2.0	0	1.6	2.6	40.0	3.5	0	3.7	1.9	1.1	13.2	0	1.4	2.1	1.1	4.7	0	1.3	1.5

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Client: K&H
Intersection Name: NE 16 AVE& IVES DAIRY
Opertaors Name: MA & MS
Weather: Sunny

File Name : IVES DAIRY RD_NE16AVE
Site Code : 00001801
Start Date : 4/2/2015
Page No : 5



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File Name : IVES DAIRY RD_NE16AVE
Site Code : 00001801
Start Date : 4/2/2015
Page No : 1

Groups Printed- Trucks

	NE 16 AVENUE Northbound					NE 16 AVENUE Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	0	0	0	1	1	0	0	0	1	1	8	0	0	9	0	7	4	0	11	22
07:15 AM	0	0	0	0	0	1	0	0	0	1	0	7	0	0	7	1	6	1	0	8	16
07:30 AM	0	0	1	0	1	4	0	0	0	4	1	17	0	0	18	0	6	0	0	6	29
07:45 AM	0	0	3	0	3	0	0	0	0	0	0	13	2	0	15	0	7	0	0	7	25
Total	1	0	4	0	5	6	0	0	0	6	2	45	2	0	49	1	26	5	0	32	92
08:00 AM	1	0	1	0	2	2	0	0	0	2	0	15	0	0	15	1	8	0	0	9	28
08:15 AM	1	0	2	0	3	1	0	0	0	1	1	16	0	0	17	1	5	0	0	6	27
08:30 AM	2	0	0	0	2	0	0	0	0	0	1	12	3	1	17	1	8	0	1	10	29
08:45 AM	5	1	3	0	9	0	0	0	0	0	0	9	1	0	10	0	4	1	0	5	24
Total	9	1	6	0	16	3	0	0	0	3	2	52	4	1	59	3	25	1	1	30	108
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	1	0	1	2	6	1	0	9	2	7	2	0	11	21
04:15 PM	0	1	0	0	1	0	1	1	0	2	2	4	2	0	8	2	7	1	0	10	21
04:30 PM	0	0	3	0	3	1	1	2	0	4	0	2	1	0	3	2	6	2	0	10	20
04:45 PM	0	0	0	0	0	1	0	1	0	2	0	7	2	0	9	0	6	2	0	8	19
Total	0	1	3	0	4	2	2	5	0	9	4	19	6	0	29	6	26	7	0	39	81
05:00 PM	0	1	0	0	1	2	0	0	0	2	1	5	1	0	7	0	6	0	0	6	16
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	2	1	0	3	0	5	0	0	5	9
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	7
05:45 PM	2	0	0	0	2	0	0	0	0	0	0	4	2	0	6	1	6	1	0	8	16
Total	2	1	0	0	3	2	1	0	0	3	1	13	4	0	18	1	22	1	0	24	48
Grand Total	12	3	13	0	28	13	3	5	0	21	9	129	16	1	155	11	99	14	1	125	329
Apprch %	42.9	10.7	46.4	0		61.9	14.3	23.8	0		5.8	83.2	10.3	0.6		8.8	79.2	11.2	0.8		
Total %	3.6	0.9	4	0	8.5	4	0.9	1.5	0	6.4	2.7	39.2	4.9	0.3	47.1	3.3	30.1	4.3	0.3	38	

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Client: K&H
Intersection Name: IVES DAIRY & SB RAMPS
Opertaors Name: OC & ML
Weather: Sunny

File Name : IVES DAIRY RD_SB_RAMPS
Site Code : 00001802
Start Date : 4/2/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	I-95 SB RAMPS Northbound					I-95 SB RAMPS Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	237	0	38	0	275	0	404	195	0	599	133	378	1	2	514	1388
07:15 AM	0	0	0	0	0	360	0	43	0	403	0	533	190	0	723	182	212	0	0	394	1520
07:30 AM	0	0	0	0	0	341	0	48	0	389	0	467	134	0	601	103	173	0	0	276	1266
07:45 AM	0	0	0	0	0	328	0	69	0	397	0	526	123	0	649	139	234	0	0	373	1419
Total	0	0	0	0	0	1266	0	198	0	1464	0	1930	642	0	2572	557	997	1	2	1557	5593
08:00 AM	0	0	0	0	0	338	0	62	0	400	0	400	80	3	483	133	242	0	1	376	1259
08:15 AM	0	0	0	0	0	305	1	58	0	364	0	373	89	0	462	145	209	0	0	354	1180
08:30 AM	0	0	0	0	0	279	0	74	0	353	0	374	67	2	443	180	272	0	1	453	1249
08:45 AM	0	0	0	0	0	339	0	87	0	426	0	316	97	2	415	143	226	0	0	369	1210
Total	0	0	0	0	0	1261	1	281	0	1543	0	1463	333	7	1803	601	949	0	2	1552	4898
*** BREAK ***																					
04:00 PM	0	0	0	0	0	426	0	237	0	663	0	274	94	2	370	112	363	0	0	475	1508
04:15 PM	0	0	0	0	0	317	8	169	0	494	0	284	66	7	357	192	387	0	0	579	1430
04:30 PM	0	0	0	0	0	287	2	201	0	490	0	307	108	3	418	223	475	0	0	698	1606
04:45 PM	0	0	0	0	0	270	3	147	0	420	0	375	104	0	479	280	395	0	0	675	1574
Total	0	0	0	0	0	1300	13	754	0	2067	0	1240	372	12	1624	807	1620	0	0	2427	6118
05:00 PM	0	0	0	0	0	327	3	143	0	473	0	376	134	4	514	202	401	0	0	603	1590
05:15 PM	0	0	0	0	0	379	4	169	1	553	0	356	114	3	473	233	420	0	2	655	1681
05:30 PM	0	0	0	0	0	308	5	158	0	471	0	365	134	1	500	189	426	0	0	615	1586
05:45 PM	0	0	0	0	0	354	0	95	0	449	0	397	114	3	514	298	523	0	1	822	1785
Total	0	0	0	0	0	1368	12	565	1	1946	0	1494	496	11	2001	922	1770	0	3	2695	6642
Grand Total	0	0	0	0	0	5195	26	1798	1	7020	0	6127	1843	30	8000	2887	5336	1	7	8231	23251
Apprch %	0	0	0	0		74	0.4	25.6	0		0	76.6	23	0.4		35.1	64.8	0	0.1		
Total %	0	0	0	0	0	22.3	0.1	7.7	0	30.2	0	26.4	7.9	0.1	34.4	12.4	22.9	0	0	35.4	
Pass Cars	0	0	0	0	0	5104	25	1760	1	6890	0	6061	1820	30	7911	2847	5274	0	7	8128	22929
% Pass Cars	0	0	0	0	0	98.2	96.2	97.9	100	98.1	0	98.9	98.8	100	98.9	98.6	98.8	0	100	98.7	98.6
Trucks	0	0	0	0	0	91	1	38	0	130	0	66	23	0	89	40	62	1	0	103	322
% Trucks	0	0	0	0	0	1.8	3.8	2.1	0	1.9	0	1.1	1.2	0	1.1	1.4	1.2	100	0	1.3	1.4

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Client: K&H
Intersection Name: IVES DAIRY & SB RAMPS
Opertaors Name: OC & ML
Weather: Sunny

File Name : IVES DAIRY RD_SB_RAMPS
Site Code : 00001802
Start Date : 4/2/2015
Page No : 2

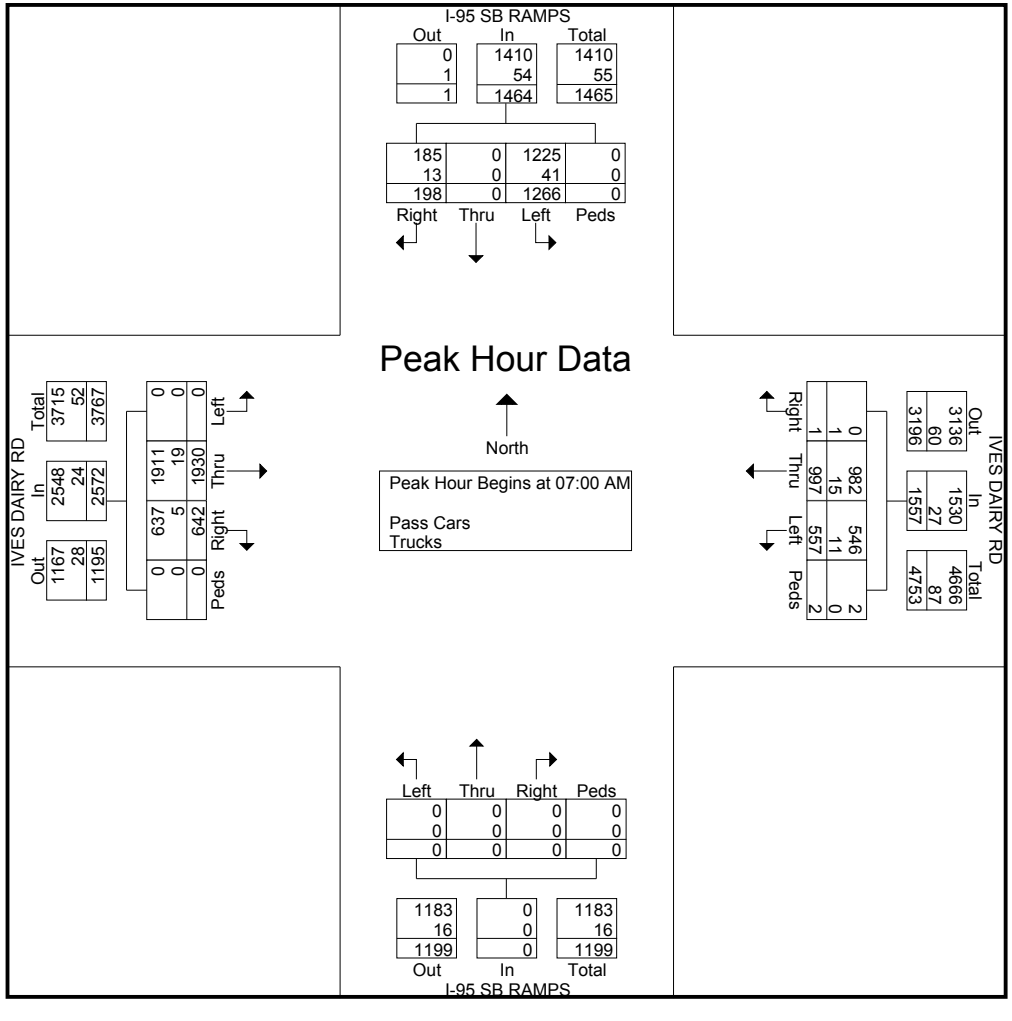
	I-95 SB RAMPS Northbound					I-95 SB RAMPS Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	237	0	38	0	275	0	404	**195**	0	599	133	**378**	**1**	**2**	**514**	1388
07:15 AM	0	0	0	0	0	**360**	0	43	0	**403**	0	**533**	190	0	**723**	**182**	212	0	0	394	**1520**
07:30 AM	0	0	0	0	0	341	0	48	0	389	0	467	134	0	601	103	173	0	0	276	1266
07:45 AM	0	0	0	0	0	328	0	**69**	0	397	0	526	123	0	649	139	234	0	0	373	1419
Total Volume	0	0	0	0	0	1266	0	198	0	1464	0	1930	642	0	2572	557	997	1	2	1557	5593
% App. Total	0	0	0	0		86.5	0	13.5	0		0	75	25	0		35.8	64	0.1	0.1		
PHF	.000	.000	.000	.000	.000	.879	.000	.717	.000	.908	.000	.905	.823	.000	.889	.765	.659	.250	.250	.757	.920
Pass Cars	0	0	0	0	0	1225	0	185	0	1410	0	1911	637	0	2548	546	982	0	2	1530	5488
% Pass Cars	0	0	0	0	0	96.8	0	93.4	0	96.3	0	99.0	99.2	0	99.1	98.0	98.5	0	100	98.3	98.1
Trucks	0	0	0	0	0	41	0	13	0	54	0	19	5	0	24	11	15	1	0	27	105
% Trucks	0	0	0	0	0	3.2	0	6.6	0	3.7	0	1.0	0.8	0	0.9	2.0	1.5	100	0	1.7	1.9

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Client: K&H
Intersection Name: IVES DAIRY & SB RAMPS
Opertaors Name: OC & ML
Weather: Sunny

File Name : IVES DAIRY RD_SB_RAMPS
Site Code : 00001802
Start Date : 4/2/2015
Page No : 3



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Client: K&H
Intersection Name: IVES DAIRY & SB RAMPS
Opertaors Name: OC & ML
Weather: Sunny

File Name : IVES DAIRY RD_SB_RAMPS
Site Code : 00001802
Start Date : 4/2/2015
Page No : 4

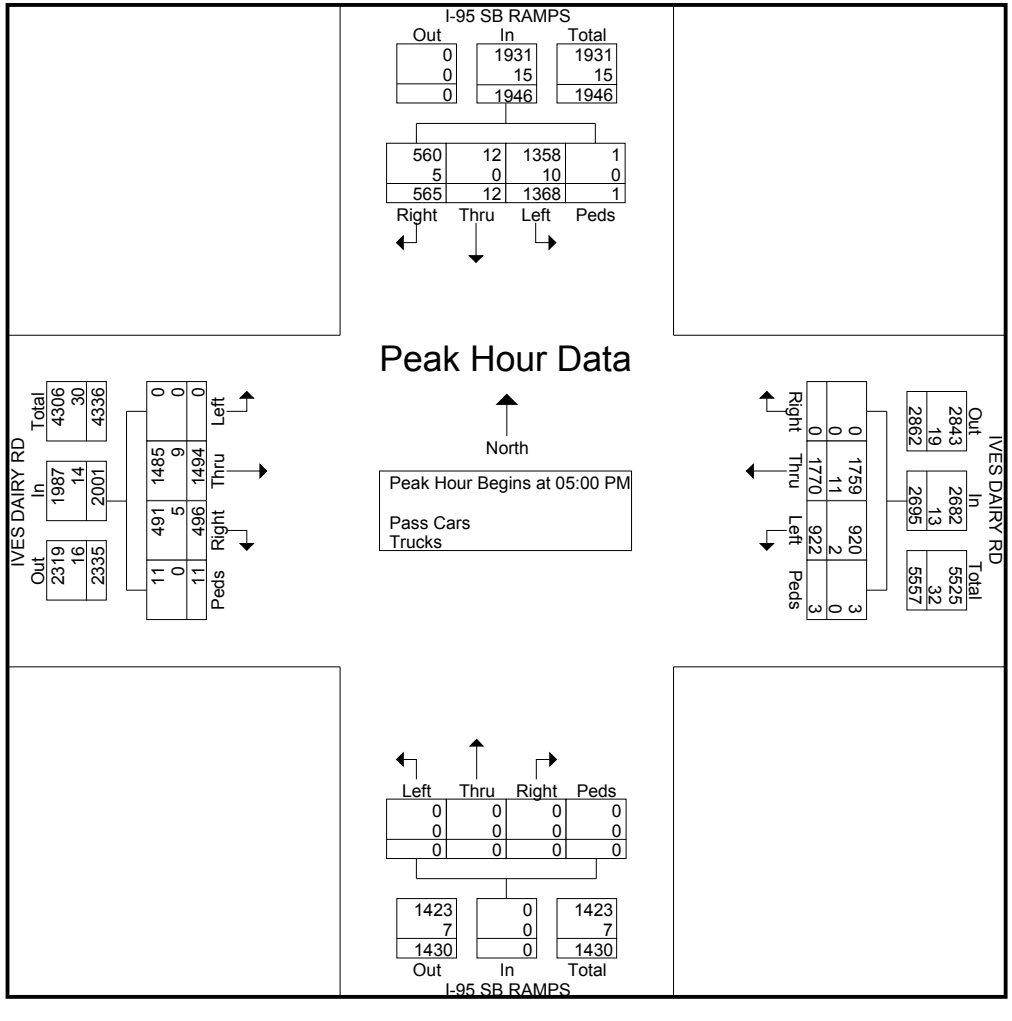
	I-95 SB RAMPS Northbound					I-95 SB RAMPS Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	327	3	143	0	473	0	376	**134**	**4**	**514**	202	401	0	0	603	1590
05:15 PM	0	0	0	0	0	**379**	4	**169**	**1**	**553**	0	356	114	3	473	233	420	0	**2**	655	1681
05:30 PM	0	0	0	0	0	308	**5**	158	0	471	0	365	134	1	500	189	426	0	0	615	1586
05:45 PM	0	0	0	0	0	354	0	95	0	449	0	**397**	114	3	514	**298**	**523**	0	1	**822**	**1785**
Total Volume	0	0	0	0	0	1368	12	565	1	1946	0	1494	496	11	2001	922	1770	0	3	2695	6642
% App. Total	0	0	0	0		70.3	0.6	29	0.1		0	74.7	24.8	0.5		34.2	65.7	0	0.1		
PHF	.000	.000	.000	.000	.000	.902	.600	.836	.250	.880	.000	.941	.925	.688	.973	.773	.846	.000	.375	.820	.930
Pass Cars	0	0	0	0	0	1358	12	560	1	1931	0	1485	491	11	1987	920	1759	0	3	2682	6600
% Pass Cars	0	0	0	0	0	99.3	100	99.1	100	99.2	0	99.4	99.0	100	99.3	99.8	99.4	0	100	99.5	99.4
Trucks	0	0	0	0	0	10	0	5	0	15	0	9	5	0	14	2	11	0	0	13	42
% Trucks	0	0	0	0	0	0.7	0	0.9	0	0.8	0	0.6	1.0	0	0.7	0.2	0.6	0	0	0.5	0.6

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Client: K&H
Intersection Name: IVES DAIRY & SB RAMPS
Opertaors Name: OC & ML
Weather: Sunny

File Name : IVES DAIRY RD_SB_RAMPS
Site Code : 00001802
Start Date : 4/2/2015
Page No : 5



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File Name : IVES DAIRY RD_SB_RAMPS
Site Code : 00001802
Start Date : 4/2/2015
Page No : 1

Groups Printed- Trucks

	I-95 SB RAMPS Northbound					I-95 SB RAMPS Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	10	0	5	0	15	0	3	0	0	3	2	4	1	0	7	25
07:15 AM	0	0	0	0	0	10	0	4	0	14	0	4	2	0	6	3	2	0	0	5	25
07:30 AM	0	0	0	0	0	6	0	2	0	8	0	10	1	0	11	0	4	0	0	4	23
07:45 AM	0	0	0	0	0	15	0	2	0	17	0	2	2	0	4	6	5	0	0	11	32
Total	0	0	0	0	0	41	0	13	0	54	0	19	5	0	24	11	15	1	0	27	105
08:00 AM	0	0	0	0	0	10	0	0	0	10	0	8	0	0	8	5	6	0	0	11	29
08:15 AM	0	0	0	0	0	7	0	4	0	11	0	7	2	0	9	6	2	0	0	8	28
08:30 AM	0	0	0	0	0	7	0	2	0	9	0	7	1	0	8	7	5	0	0	12	29
08:45 AM	0	0	0	0	0	8	0	3	0	11	0	3	5	0	8	5	1	0	0	6	25
Total	0	0	0	0	0	32	0	9	0	41	0	25	8	0	33	23	14	0	0	37	111
*** BREAK ***																					
04:00 PM	0	0	0	0	0	1	0	2	0	3	0	4	2	0	6	0	7	0	0	7	16
04:15 PM	0	0	0	0	0	3	0	3	0	6	0	2	0	0	2	2	6	0	0	8	16
04:30 PM	0	0	0	0	0	2	0	3	0	5	0	3	0	0	3	2	5	0	0	7	15
04:45 PM	0	0	0	0	0	2	1	3	0	6	0	4	3	0	7	0	4	0	0	4	17
Total	0	0	0	0	0	8	1	11	0	20	0	13	5	0	18	4	22	0	0	26	64
05:00 PM	0	0	0	0	0	4	0	2	0	6	0	4	3	0	7	0	3	0	0	3	16
05:15 PM	0	0	0	0	0	2	0	1	0	3	0	0	1	0	1	1	1	0	0	2	6
05:30 PM	0	0	0	0	0	3	0	1	0	4	0	2	0	0	2	1	3	0	0	4	10
05:45 PM	0	0	0	0	0	1	0	1	0	2	0	3	1	0	4	0	4	0	0	4	10
Total	0	0	0	0	0	10	0	5	0	15	0	9	5	0	14	2	11	0	0	13	42
Grand Total	0	0	0	0	0	91	1	38	0	130	0	66	23	0	89	40	62	1	0	103	322
Apprch %	0	0	0	0		70	0.8	29.2	0		0	74.2	25.8	0		38.8	60.2	1	0		
Total %	0	0	0	0	0	28.3	0.3	11.8	0	40.4	0	20.5	7.1	0	27.6	12.4	19.3	0.3	0	32	

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Client: K&H
Intersection Name: IVES DAIRY RD& NB RMP
Opertaors Name :EB & ZV
Weather: Sunny

File Name : IVES DAIRY RD_NB RAMPS
Site Code : 00001803
Start Date : 4/2/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	I-95 NB RAMPS Northbound					I-95 NB RAMPS Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	115	1	12	0	128	0	0	0	0	0	89	578	0	0	667	0	447	0	0	447	1242
07:15 AM	57	0	16	0	73	0	0	0	0	0	149	745	0	0	894	0	315	0	0	315	1282
07:30 AM	55	0	23	2	80	0	0	0	0	0	134	674	0	0	808	0	242	0	3	245	1133
07:45 AM	78	0	29	0	107	0	0	0	0	0	127	702	0	0	829	0	272	0	0	272	1208
Total	305	1	80	2	388	0	0	0	0	0	499	2699	0	0	3198	0	1276	0	3	1279	4865
08:00 AM	85	0	30	0	115	0	0	0	0	0	117	616	0	0	733	0	312	0	0	312	1160
08:15 AM	47	0	26	0	73	0	0	0	0	0	122	548	0	0	670	0	333	0	0	333	1076
08:30 AM	64	0	16	0	80	0	0	0	0	0	108	547	0	0	655	0	345	0	0	345	1080
08:45 AM	61	0	34	0	95	0	0	0	0	0	115	514	0	0	629	0	271	0	0	271	995
Total	257	0	106	0	363	0	0	0	0	0	462	2225	0	0	2687	0	1261	0	0	1261	4311
*** BREAK ***																					
04:00 PM	79	0	17	0	96	0	0	0	0	0	71	538	0	0	609	0	415	0	0	415	1120
04:15 PM	103	0	12	1	116	0	0	0	0	0	76	367	0	0	443	0	489	0	1	490	1049
04:30 PM	87	0	17	0	104	0	0	0	0	0	74	460	0	0	534	0	506	0	0	506	1144
04:45 PM	109	0	16	1	126	0	0	0	0	0	100	444	0	0	544	0	484	0	0	484	1154
Total	378	0	62	2	442	0	0	0	0	0	321	1809	0	0	2130	0	1894	0	1	1895	4467
05:00 PM	84	0	20	3	107	0	0	0	0	0	95	508	0	0	603	0	505	0	0	505	1215
05:15 PM	106	0	15	0	121	0	0	0	0	0	115	445	0	0	560	0	479	0	0	479	1160
05:30 PM	92	0	14	0	106	0	0	0	0	0	102	440	16	0	558	0	540	0	0	540	1204
05:45 PM	123	0	16	4	143	0	0	0	0	0	113	463	0	0	576	0	559	0	0	559	1278
Total	405	0	65	7	477	0	0	0	0	0	425	1856	16	0	2297	0	2083	0	0	2083	4857
Grand Total	1345	1	313	11	1670	0	0	0	0	0	1707	8589	16	0	10312	0	6514	0	4	6518	18500
Apprch %	80.5	0.1	18.7	0.7		0	0	0	0		16.6	83.3	0.2	0		0	99.9	0	0.1		
Total %	7.3	0	1.7	0.1	9	0	0	0	0	0	9.2	46.4	0.1	0	55.7	0	35.2	0	0	35.2	
Pass Cars	1312	1	308	11	1632	0	0	0	0	0	1660	8422	16	0	10098	0	6358	0	4	6362	18092
% Pass Cars	97.5	100	98.4	100	97.7	0	0	0	0	0	97.2	98.1	100	0	97.9	0	97.6	0	100	97.6	97.8
Trucks	33	0	5	0	38	0	0	0	0	0	47	167	0	0	214	0	156	0	0	156	408
% Trucks	2.5	0	1.6	0	2.3	0	0	0	0	0	2.8	1.9	0	0	2.1	0	2.4	0	0	2.4	2.2

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Client: K&H
Intersection Name: IVES DAIRY RD& NB RMP
Opertaors Name :EB & ZV
Weather: Sunny

File Name : IVES DAIRY RD_NB RAMPS
Site Code : 00001803
Start Date : 4/2/2015
Page No : 2

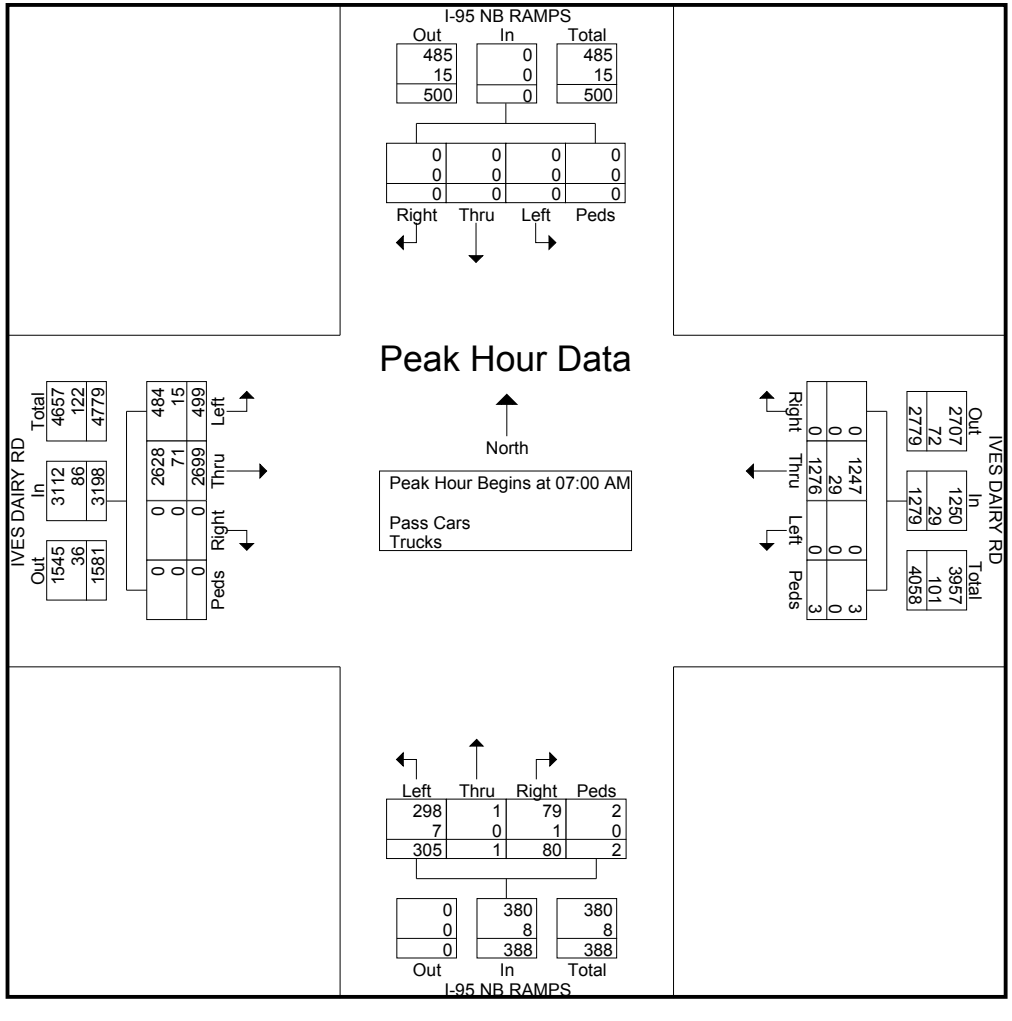
	I-95 NB RAMPS Northbound					I-95 NB RAMPS Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	**115**	**1**	12	0	**128**	0	0	0	0	0	89	578	0	0	667	0	**447**	0	0	**447**	1242
07:15 AM	57	0	16	0	73	0	0	0	0	0	**149**	**745**	0	0	**894**	0	315	0	0	315	**1282**
07:30 AM	55	0	23	**2**	80	0	0	0	0	0	134	674	0	0	808	0	242	0	**3**	245	1133
07:45 AM	78	0	**29**	0	107	0	0	0	0	0	127	702	0	0	829	0	272	0	0	272	1208
Total Volume	305	1	80	2	388	0	0	0	0	0	499	2699	0	0	3198	0	1276	0	3	1279	4865
% App. Total	78.6	0.3	20.6	0.5		0	0	0	0		15.6	84.4	0	0		0	99.8	0	0.2		
PHF	.663	.250	.690	.250	.758	.000	.000	.000	.000	.000	.837	.906	.000	.000	.894	.000	.714	.000	.250	.715	.949
Pass Cars	298	1	79	2	380	0	0	0	0	0	484	2628	0	0	3112	0	1247	0	3	1250	4742
% Pass Cars	97.7	100	98.8	100	97.9	0	0	0	0	0	97.0	97.4	0	0	97.3	0	97.7	0	100	97.7	97.5
Trucks	7	0	1	0	8	0	0	0	0	0	15	71	0	0	86	0	29	0	0	29	123
% Trucks	2.3	0	1.3	0	2.1	0	0	0	0	0	3.0	2.6	0	0	2.7	0	2.3	0	0	2.3	2.5

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Opertaors Name :EB & ZV
Weather: Sunny

File Name : IVES DAIRY RD_NB RAMPS
Site Code : 00001803
Start Date : 4/2/2015
Page No : 3



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File Name : IVES DAIRY RD_NB RAMPS
Site Code : 00001803
Start Date : 4/2/2015
Page No : 4

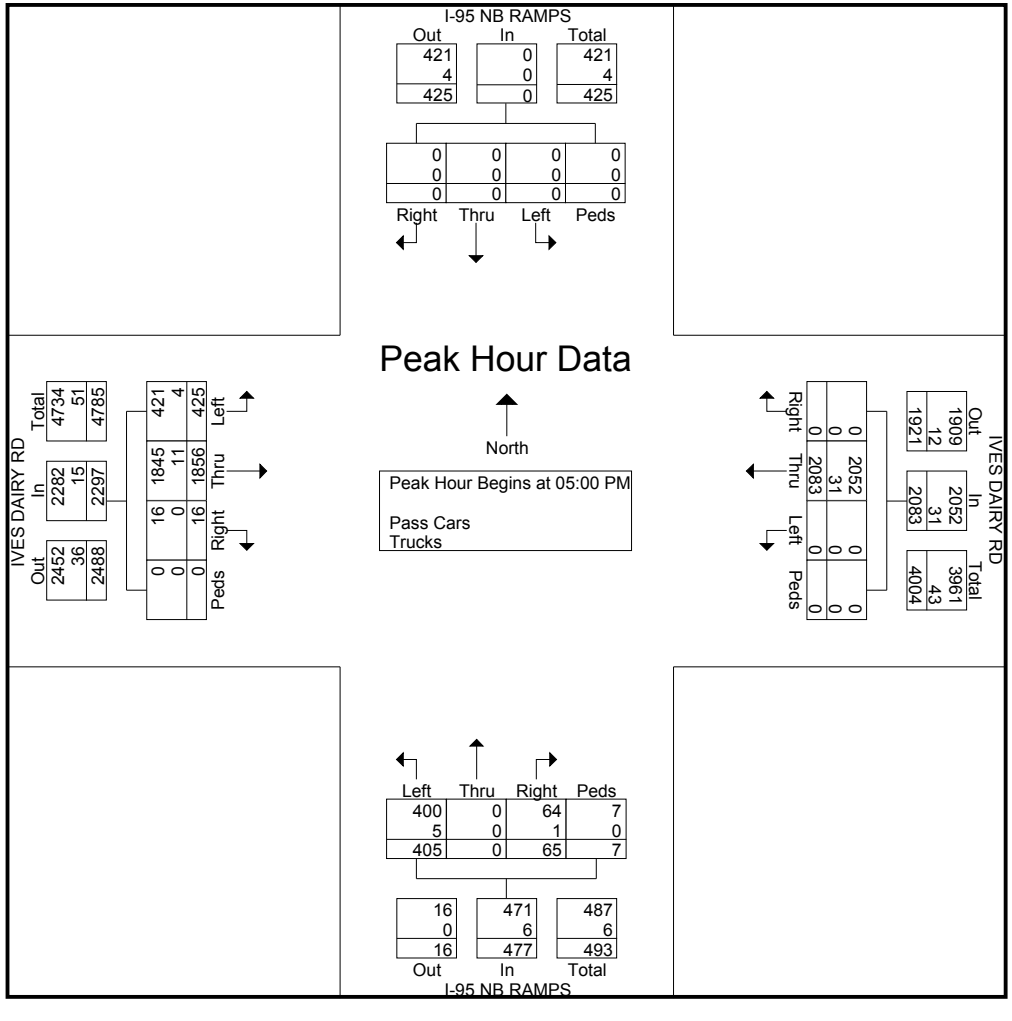
	I-95 NB RAMPS Northbound					I-95 NB RAMPS Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	84	0	**20**	3	107	0	0	0	0	0	95	**508**	0	0	**603**	0	505	0	0	505	1215
05:15 PM	106	0	15	0	121	0	0	0	0	0	**115**	445	0	0	560	0	479	0	0	479	1160
05:30 PM	92	0	14	0	106	0	0	0	0	0	102	440	**16**	0	558	0	540	0	0	540	1204
05:45 PM	**123**	0	16	**4**	**143**	0	0	0	0	0	113	463	0	0	576	0	**559**	0	0	**559**	**1278**
Total Volume	405	0	65	7	477	0	0	0	0	0	425	1856	16	0	2297	0	2083	0	0	2083	4857
% App. Total	84.9	0	13.6	1.5		0	0	0	0		18.5	80.8	0.7	0		0	100	0	0		
PHF	.823	.000	.813	.438	.834	.000	.000	.000	.000	.000	.924	.913	.250	.000	.952	.000	.932	.000	.000	.932	.950
Pass Cars	400	0	64	7	471	0	0	0	0	0	421	1845	16	0	2282	0	2052	0	0	2052	4805
% Pass Cars	98.8	0	98.5	100	98.7	0	0	0	0	0	99.1	99.4	100	0	99.3	0	98.5	0	0	98.5	98.9
Trucks	5	0	1	0	6	0	0	0	0	0	4	11	0	0	15	0	31	0	0	31	52
% Trucks	1.2	0	1.5	0	1.3	0	0	0	0	0	0.9	0.6	0	0	0.7	0	1.5	0	0	1.5	1.1

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Opertaors Name :EB & ZV
Weather: Sunny

File Name : IVES DAIRY RD_NB RAMPS
Site Code : 00001803
Start Date : 4/2/2015
Page No : 5



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File Name : IVES DAIRY RD_NB RAMPS
Site Code : 00001803
Start Date : 4/2/2015
Page No : 1

Groups Printed- Trucks

	I-95 NB RAMPS Northbound					I-95 NB RAMPS Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	2	0	1	0	3	0	0	0	0	0	3	18	0	0	21	0	0	0	0	0	24
07:15 AM	4	0	0	0	4	0	0	0	0	0	3	20	0	0	23	0	6	0	0	6	33
07:30 AM	1	0	0	0	1	0	0	0	0	0	5	16	0	0	21	0	7	0	0	7	29
07:45 AM	0	0	0	0	0	0	0	0	0	0	4	17	0	0	21	0	16	0	0	16	37
Total	7	0	1	0	8	0	0	0	0	0	15	71	0	0	86	0	29	0	0	29	123
08:00 AM	2	0	0	0	2	0	0	0	0	0	5	24	0	0	29	0	11	0	0	11	42
08:15 AM	0	0	0	0	0	0	0	0	0	0	6	17	0	0	23	0	9	0	0	9	32
08:30 AM	2	0	3	0	5	0	0	0	0	0	7	16	0	0	23	0	19	0	0	19	47
08:45 AM	0	0	0	0	0	0	0	0	0	0	6	11	0	0	17	0	4	0	0	4	21
Total	4	0	3	0	7	0	0	0	0	0	24	68	0	0	92	0	43	0	0	43	142
*** BREAK ***																					
04:00 PM	4	0	0	0	4	0	0	0	0	0	0	2	0	0	2	0	15	0	0	15	21
04:15 PM	5	0	0	0	5	0	0	0	0	0	0	5	0	0	5	0	13	0	0	13	23
04:30 PM	5	0	0	0	5	0	0	0	0	0	3	7	0	0	10	0	12	0	0	12	27
04:45 PM	3	0	0	0	3	0	0	0	0	0	1	3	0	0	4	0	13	0	0	13	20
Total	17	0	0	0	17	0	0	0	0	0	4	17	0	0	21	0	53	0	0	53	91
05:00 PM	1	0	0	0	1	0	0	0	0	0	3	3	0	0	6	0	8	0	0	8	15
05:15 PM	1	0	0	0	1	0	0	0	0	0	1	4	0	0	5	0	9	0	0	9	15
05:30 PM	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	0	6	0	0	6	10
05:45 PM	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1	0	8	0	0	8	12
Total	5	0	1	0	6	0	0	0	0	0	4	11	0	0	15	0	31	0	0	31	52
Grand Total	33	0	5	0	38	0	0	0	0	0	47	167	0	0	214	0	156	0	0	156	408
Apprch %	86.8	0	13.2	0		0	0	0	0		22	78	0	0		0	100	0	0		
Total %	8.1	0	1.2	0	9.3	0	0	0	0	0	11.5	40.9	0	0	52.5	0	38.2	0	0	38.2	

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Client: K&H
Intersection Name: IVES DAIRY &HIGHLAND
Opertaors Name: PQ & OC
Weather: Sunny

File Name : IVES DAIRY RD_HIGHLAND LAKES BLVD
Site Code : 00001804
Start Date : 4/2/2015
Page No : 1

Groups Printed- Pass Cars - Trucks

	HIGHLAND BLVD Northbound					HIGHLAND BLVD Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	223	4	3	0	230	5	1	46	0	52	23	295	228	0	546	5	298	2	0	305	1133
07:15 AM	162	8	10	0	180	6	8	49	1	64	48	363	238	1	650	11	471	2	3	487	1381
07:30 AM	178	6	2	0	186	3	29	51	0	83	45	300	200	0	545	3	418	3	0	424	1238
07:45 AM	130	14	8	0	152	2	13	61	2	78	89	551	208	0	848	8	403	6	0	417	1495
Total	693	32	23	0	748	16	51	207	3	277	205	1509	874	1	2589	27	1590	13	3	1633	5247
08:00 AM	200	37	8	1	246	5	24	75	0	104	71	459	210	0	740	9	386	3	0	398	1488
08:15 AM	144	11	3	0	158	4	28	82	2	116	61	429	224	0	714	14	431	6	1	452	1440
08:30 AM	195	9	4	2	210	0	25	79	1	105	46	467	217	0	730	18	439	1	2	460	1505
08:45 AM	103	9	4	1	117	2	21	43	0	66	43	276	137	0	456	20	437	3	2	462	1101
Total	642	66	19	4	731	11	98	279	3	391	221	1631	788	0	2640	61	1693	13	5	1772	5534
*** BREAK ***																					
04:00 PM	175	8	4	1	188	9	37	80	0	126	37	469	281	0	787	25	410	2	0	437	1538
04:15 PM	222	10	6	3	241	3	18	56	1	78	34	346	190	2	572	14	505	1	1	521	1412
04:30 PM	163	17	2	3	185	4	20	46	1	71	28	383	302	2	715	10	577	3	3	593	1564
04:45 PM	207	14	6	2	229	0	11	65	1	77	40	409	212	0	661	27	594	3	0	624	1591
Total	767	49	18	9	843	16	86	247	3	352	139	1607	985	4	2735	76	2086	9	4	2175	6105
05:00 PM	159	12	5	5	181	5	29	60	0	94	51	465	257	0	773	13	561	6	2	582	1630
05:15 PM	224	6	0	2	232	6	20	69	2	97	39	386	244	0	669	5	551	5	0	561	1559
05:30 PM	150	11	1	3	165	5	28	55	0	88	35	447	220	0	702	10	573	2	1	586	1541
05:45 PM	202	12	0	5	219	2	19	75	1	97	32	442	235	0	709	8	602	3	1	614	1639
Total	735	41	6	15	797	18	96	259	3	376	157	1740	956	0	2853	36	2287	16	4	2343	6369
Grand Total	2837	188	66	28	3119	61	331	992	12	1396	722	6487	3603	5	10817	200	7656	51	16	7923	23255
Apprch %	91	6	2.1	0.9		4.4	23.7	71.1	0.9		6.7	60	33.3	0		2.5	96.6	0.6	0.2		
Total %	12.2	0.8	0.3	0.1	13.4	0.3	1.4	4.3	0.1	6	3.1	27.9	15.5	0	46.5	0.9	32.9	0.2	0.1	34.1	
Pass Cars	2832	178	52	28	3090	59	327	976	12	1374	719	6411	3586	4	10720	190	7608	49	16	7863	23047
% Pass Cars	99.8	94.7	78.8	100	99.1	96.7	98.8	98.4	100	98.4	99.6	98.8	99.5	80	99.1	95	99.4	96.1	100	99.2	99.1
Trucks	5	10	14	0	29	2	4	16	0	22	3	76	17	1	97	10	48	2	0	60	208
% Trucks	0.2	5.3	21.2	0	0.9	3.3	1.2	1.6	0	1.6	0.4	1.2	0.5	20	0.9	5	0.6	3.9	0	0.8	0.9

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Opertaors Name: PQ & OC
Weather: Sunny

File Name : IVES DAIRY RD_HIGHLAND LAKES BLVD
Site Code : 00001804
Start Date : 4/2/2015
Page No : 2

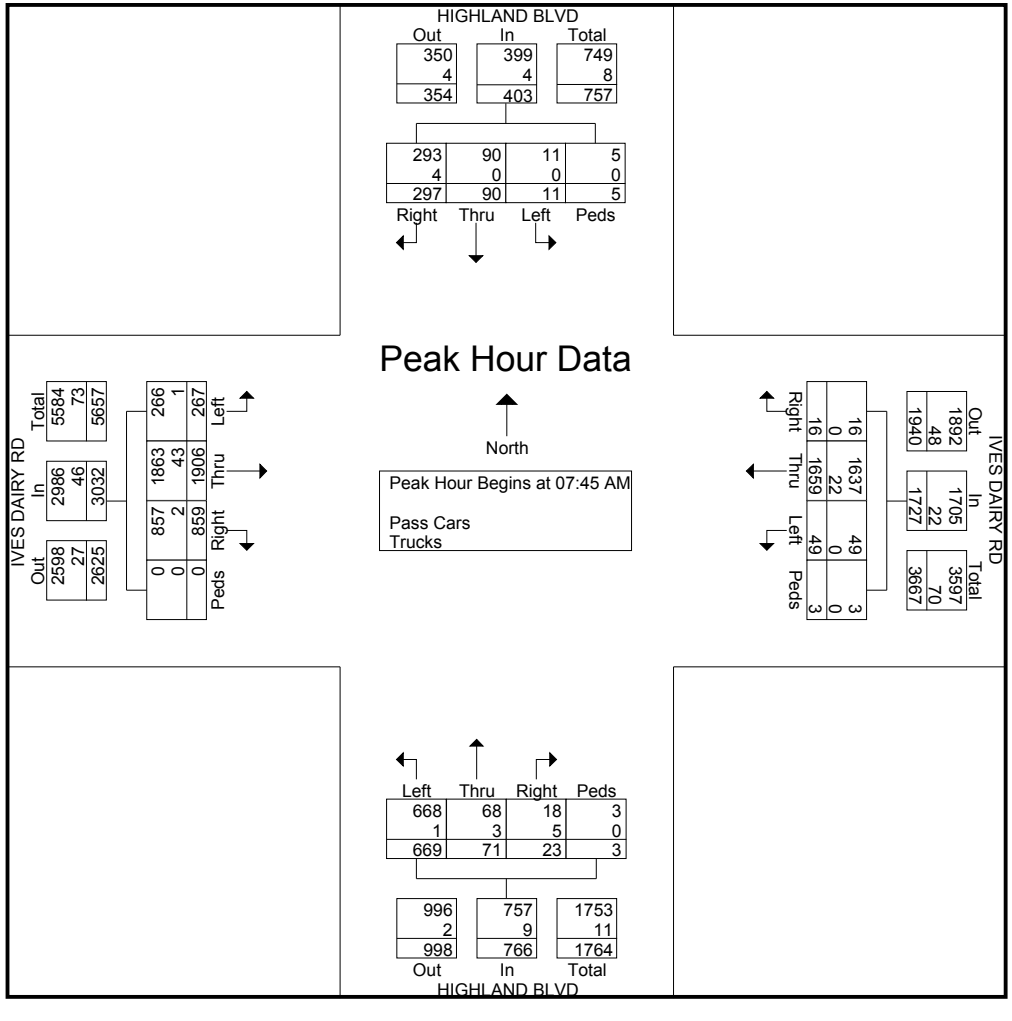
	HIGHLAND BLVD Northbound					HIGHLAND BLVD Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	130	14	**8**	0	152	2	13	61	**2**	78	**89**	**551**	208	0	**848**	8	403	**6**	0	417	1495
08:00 AM	**200**	**37**	8	1	**246**	**5**	24	75	0	104	71	459	210	0	740	9	386	3	0	398	1488
08:15 AM	144	11	3	0	158	4	**28**	**82**	2	**116**	61	429	**224**	0	714	14	431	6	1	452	1440
08:30 AM	195	9	4	**2**	210	0	25	79	1	105	46	467	217	0	730	**18**	**439**	1	**2**	**460**	**1505**
Total Volume	669	71	23	3	766	11	90	297	5	403	267	1906	859	0	3032	49	1659	16	3	1727	5928
% App. Total	87.3	9.3	3	0.4		2.7	22.3	73.7	1.2		8.8	62.9	28.3	0		2.8	96.1	0.9	0.2		
PHF	.836	.480	.719	.375	.778	.550	.804	.905	.625	.869	.750	.865	.959	.000	.894	.681	.945	.667	.375	.939	.985
Pass Cars	668	68	18	3	757	11	90	293	5	399	266	1863	857	0	2986	49	1637	16	3	1705	5847
% Pass Cars	99.9	95.8	78.3	100	98.8	100	100	98.7	100	99.0	99.6	97.7	99.8	0	98.5	100	98.7	100	100	98.7	98.6
Trucks	1	3	5	0	9	0	0	4	0	4	1	43	2	0	46	0	22	0	0	22	81
% Trucks	0.1	4.2	21.7	0	1.2	0	0	1.3	0	1.0	0.4	2.3	0.2	0	1.5	0	1.3	0	0	1.3	1.4

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Fax: (305) 599-8749

Client: K&H
Intersection Name: IVES DAIRY &HIGHLAND
Opertaors Name: PQ & OC
Weather: Sunny

File Name : IVES DAIRY RD_HIGHLAND LAKES BLVD
Site Code : 00001804
Start Date : 4/2/2015
Page No : 4

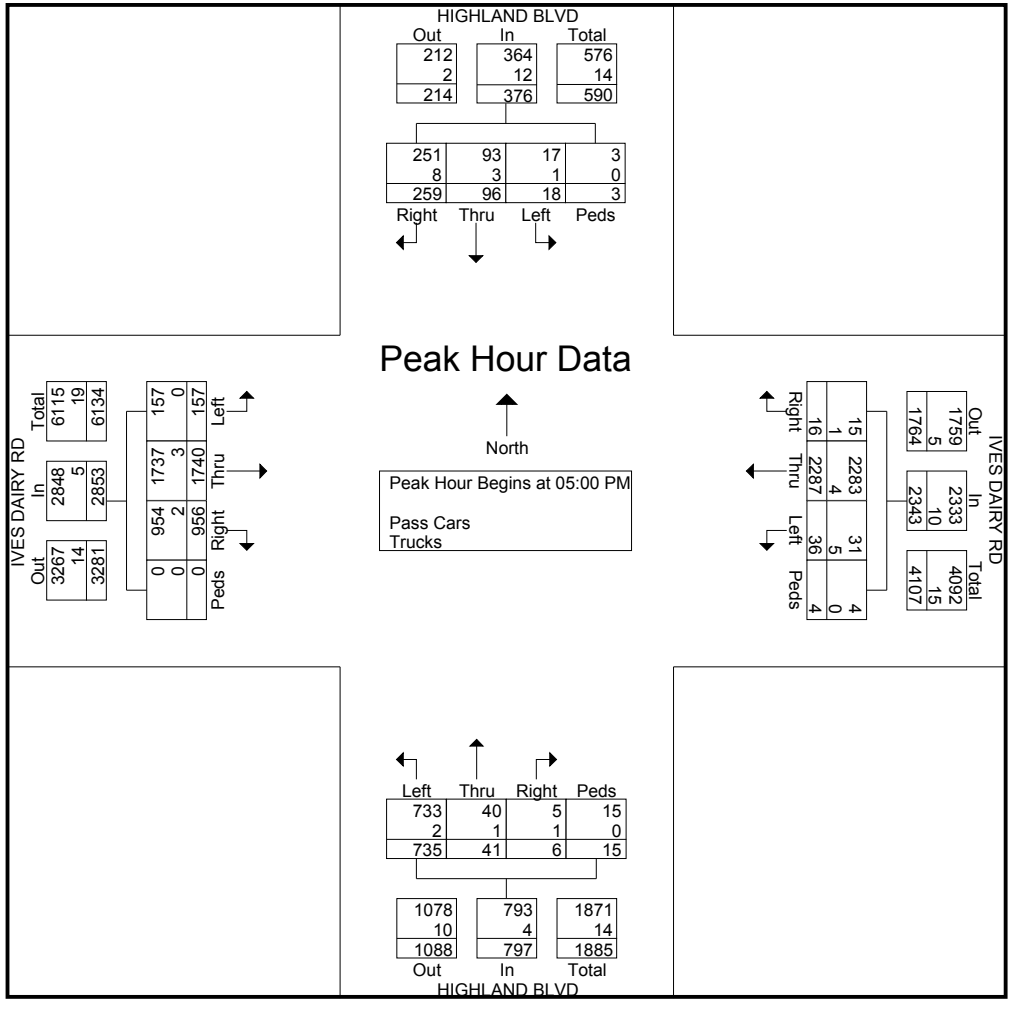
	HIGHLAND BLVD Northbound					HIGHLAND BLVD Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	159	**12**	**5**	**5**	181	5	**29**	60	0	94	**51**	**465**	**257**	0	**773**	**13**	561	**6**	**2**	582	1630
05:15 PM	**224**	6	0	2	**232**	**6**	20	69	**2**	**97**	39	386	244	0	669	5	551	5	0	561	1559
05:30 PM	150	11	1	3	165	5	28	55	0	88	35	447	220	0	702	10	573	2	1	586	1541
05:45 PM	202	12	0	5	219	2	19	**75**	1	97	32	442	235	0	709	8	**602**	3	1	**614**	**1639**
Total Volume	735	41	6	15	797	18	96	259	3	376	157	1740	956	0	2853	36	2287	16	4	2343	6369
% App. Total	92.2	5.1	0.8	1.9		4.8	25.5	68.9	0.8		5.5	61	33.5	0		1.5	97.6	0.7	0.2		
PHF	.820	.854	.300	.750	.859	.750	.828	.863	.375	.969	.770	.935	.930	.000	.923	.692	.950	.667	.500	.954	.971
Pass Cars	733	40	5	15	793	17	93	251	3	364	157	1737	954	0	2848	31	2283	15	4	2333	6338
% Pass Cars	99.7	97.6	83.3	100	99.5	94.4	96.9	96.9	100	96.8	100	99.8	99.8	0	99.8	86.1	99.8	93.8	100	99.6	99.5
Trucks	2	1	1	0	4	1	3	8	0	12	0	3	2	0	5	5	4	1	0	10	31
% Trucks	0.3	2.4	16.7	0	0.5	5.6	3.1	3.1	0	3.2	0	0.2	0.2	0	0.2	13.9	0.2	6.3	0	0.4	0.5

F.R. Aleman & Associates, Inc

10305 NW 41st Street, Suite 200
Miami,FL. 33178
Phone: (305) 591-8777
Fax: (305) 599-8749

Client: K&H
Intersection Name: IVES DAIRY &HIGHLAND
Opertaors Name: PQ & OC
Weather: Sunny

File Name : IVES DAIRY RD_HIGHLAND LAKES BLVD
Site Code : 00001804
Start Date : 4/2/2015
Page No : 5



F.R. Aleman & Associates, Inc

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File Name : IVES DAIRY RD_HIGHLAND LAKES BLVD
Site Code : 00001804
Start Date : 4/2/2015
Page No : 1

Groups Printed- Trucks

	HIGHLAND BLVD Northbound					HIGHLAND BLVD Southbound					IVES DAIRY RD Eastbound					IVES DAIRY RD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	1	0	1	0	0	0	0	0	0	6	4	0	10	0	3	0	0	3	14
07:15 AM	0	1	3	0	4	0	0	1	0	1	0	7	3	0	10	0	11	0	0	11	26
07:30 AM	0	0	0	0	0	0	0	1	0	1	1	11	2	0	14	0	2	0	0	2	17
07:45 AM	0	2	1	0	3	0	0	2	0	2	0	12	0	0	12	0	3	0	0	3	20
Total	0	3	5	0	8	0	0	4	0	4	1	36	9	0	46	0	19	0	0	19	77
08:00 AM	0	0	2	0	2	0	0	0	0	0	0	14	1	0	15	0	7	0	0	7	24
08:15 AM	1	1	0	0	2	0	0	0	0	0	1	4	1	0	6	0	8	0	0	8	16
08:30 AM	0	0	2	0	2	0	0	2	0	2	0	13	0	0	13	0	4	0	0	4	21
08:45 AM	1	1	1	0	3	0	0	0	0	0	1	4	2	0	7	0	3	0	0	3	13
Total	2	2	5	0	9	0	0	2	0	2	2	35	4	0	41	0	22	0	0	22	74
*** BREAK ***																					
04:00 PM	0	2	2	0	4	0	0	0	0	0	0	1	0	0	1	2	1	1	0	4	9
04:15 PM	1	0	0	0	1	0	1	1	0	2	0	1	0	1	2	0	0	0	0	0	5
04:30 PM	0	2	0	0	2	1	0	1	0	2	0	0	1	0	1	0	2	0	0	2	7
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	3	0	0	0	3	5
Total	1	4	3	0	8	1	1	2	0	4	0	2	2	1	5	5	3	1	0	9	26
05:00 PM	1	0	0	0	1	0	2	5	0	7	0	0	0	0	0	0	1	0	0	1	9
05:15 PM	0	1	0	0	1	1	0	0	0	1	0	1	1	0	2	2	0	1	0	3	7
05:30 PM	0	0	1	0	1	0	0	1	0	1	0	2	0	0	2	3	2	0	0	5	9
05:45 PM	1	0	0	0	1	0	1	2	0	3	0	0	1	0	1	0	1	0	0	1	6
Total	2	1	1	0	4	1	3	8	0	12	0	3	2	0	5	5	4	1	0	10	31
Grand Total	5	10	14	0	29	2	4	16	0	22	3	76	17	1	97	10	48	2	0	60	208
Apprch %	17.2	34.5	48.3	0		9.1	18.2	72.7	0		3.1	78.4	17.5	1		16.7	80	3.3	0		
Total %	2.4	4.8	6.7	0	13.9	1	1.9	7.7	0	10.6	1.4	36.5	8.2	0.5	46.6	4.8	23.1	1	0	28.8	

Signal Timings Data

TOD Schedule Report
for 4680: US 1&SW 16 Av

Print Date: 2/13/2015

Print Time: 1:49 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4680	US 1&SW 16 Av	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	NET	-	SBT	NEL	SWT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 NET	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	2.5 - 2.5 - 2.5	60 - 60 - 60	0 - 60 - 60	4.8	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	7 - 7 - 7	40 - 40 - 40	4	2.4
5 NEL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	6 - 6 - 6	25 - 25 - 25	4.8	2
6 SWT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	2.5 - 2.5 - 2.5	60 - 60 - 60	0 - 60 - 60	4.8	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-456--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 4680: US 1&SW 16 Av

Print Date: 2/13/2015

Print Time: 1:49 PM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	NET	-	SBT	NEL	SWT	-	-		
	1	110	0	81	0	16	12	62	0	0	0	87
	3	180	0	146	0	21	13	126	0	0	0	61
	6	160	0	126	0	21	13	106	0	0	0	32
	9	110	0	81	0	16	12	62	0	0	0	87
	10	120	0	88	0	19	15	66	0	0	0	62
	11	180	0	143	0	24	13	123	0	0	0	135
	13	160	0	134	0	13	10	117	0	0	0	139
	15	130	0	95	0	22	14	74	0	0	0	119
	16	110	0	78	0	19	15	56	0	0	0	62
	18	130	0	95	0	22	14	74	0	0	0	106
	19	140	0	107	0	20	14	86	0	0	0	96
	20	150	0	109	0	28	18	84	0	0	0	71
	21	130	0	93	0	24	17	69	0	0	0	64
	22	130	0	97	0	20	13	77	0	0	0	70
	24	130	0	98	0	19	13	78	0	0	0	0
	26	140	0	108	0	19	9	92	0	0	0	1
	28	130	0	97	0	20	14	76	0	0	0	19
	29	140	0	116	0	11	12	97	0	0	0	130

Local TOD Schedule

Time	Plan	DOW
0000	16	M T W Th F
0000	9	Su S
0600	10	Su S
0600	3	M T W Th F
0830	18	Su S
0930	6	M T W Th F
1100	19	Su S
1400	20	Su S
1530	11	M T W Th F
1830	13	M T W Th F
2000	15	M T W Th F
2000	21	Su S
2200	22	Su S
2200	16	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

FINANCIAL PROJ. NO.	STATE PROJ. NO.	SHEET NO.
25018[illegible]	87030-3551	T-7

SIGNAL HEAD DETAIL

1



5 SECTION HEAD
2650-1 -151 1 AS

2 6 8

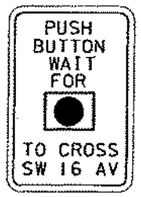


3 SECTION HEAD
2650-1 -131 5 AS

8R



5 SECTION HEAD
2650-1 -151 1 AS



SPECIAL SIGN
300 X 300
2 EA

NOTE: COST OF SPECIAL SIGN IS INCLUDED IN ITEM 2665-11

(B)



R3-4
600 X 600
2700-48-18 1 EA

(A)

SW 16 AV

SERIES 'C' LETTERS
200 CAP. 250 NUMERALS.

D3-1
750 X 1500
2700-48-18 2 EA

(Z)

RT OR FROM RLO

*POLE LOCATIONS	
(A)	STA. 456+18.5 (15.6 LT)
(B)	STA. 456+32.1 (13.2 RT)
(C)	

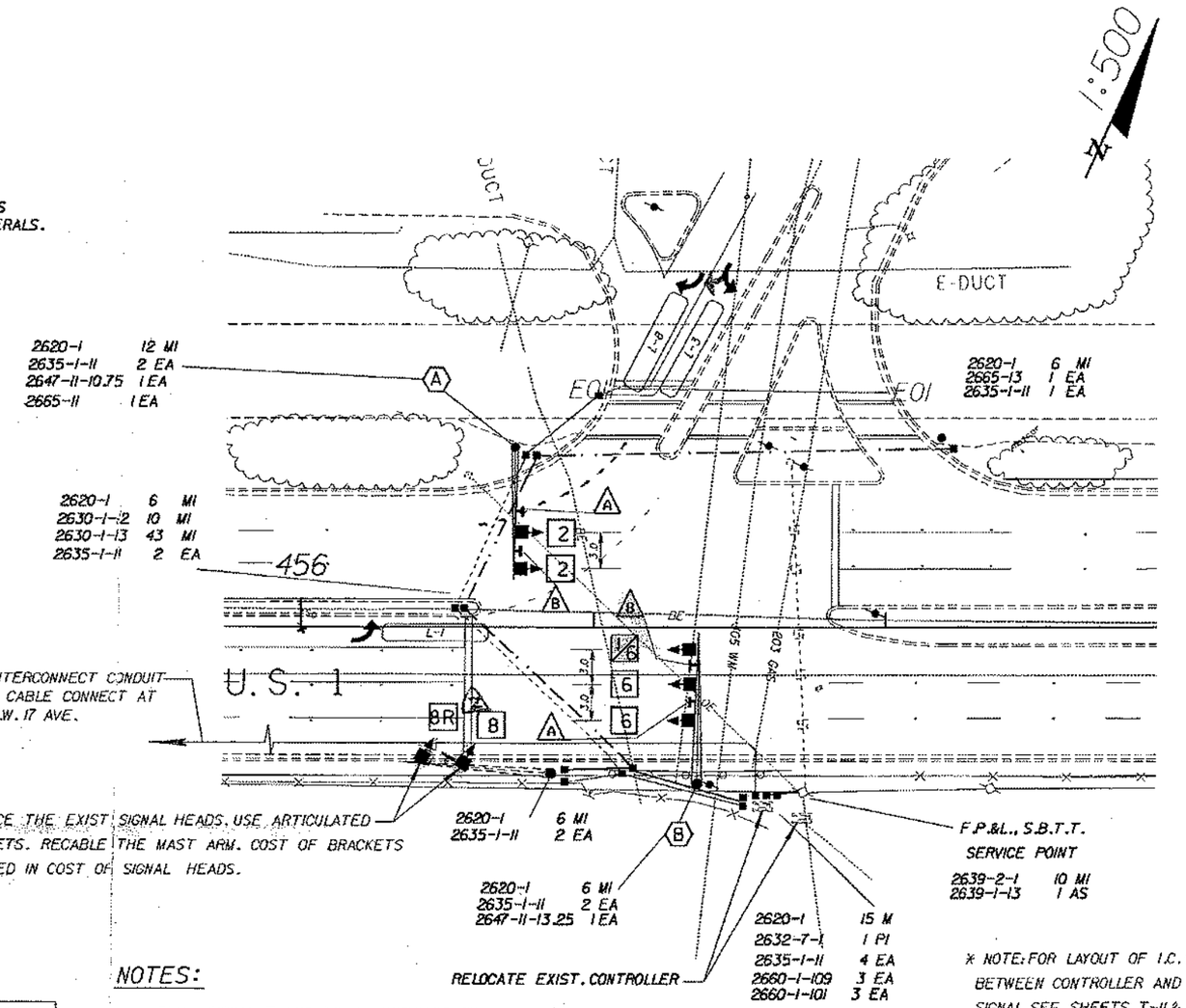
*POLE LOCATIONS ARE APPROXIMATE. FINAL LOCATION WILLBE DETERMINED BY THE CONTRACTOR UNDER THE SUPERVISION OF THE ENGINEER.

CONTROLLER OPERATION

1. MAJOR STREET IS U.S.1 (S.R. 5)
   MINOR STREET IS S.W. 16th AVE.
2. SOP # 12

CONTROLLER TIMING PLAN									
TIMING INTERVAL	TIMING FUNCTION								
	1	2	3	4	5	6	7	8	9
MINIMUM GREEN (INITIAL)									
EXTENSION (PASSAGE)									
MAXIMUM GREEN I									
MAXIMUM GREEN II									
YELLOW									
ALL RED									
PEDESTRIAN WALK									
PEDESTRIAN CLEAR									

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	1	1
L-3	1	1
L-8	1	1



NOTES:

1. FINAL SIGNAL TIMING TO BE PROVIDED BY DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 2660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 1.8 X 9.0 FOR THRU LANES AND 1.5 X 9.0 FOR LEFT TURNING LANES.
3. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGE TO EXISTING UNDERGROUND UTILITIES, ANY COST FROM DAMAGED UTILITIES SHALL BE BORNE BY THE CONTRACTOR.
4. THE SPACE BETWEEN LETTERS COULD BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALL DIMENSIONS IN THE OVERHEAD STREET NAME SIGNS.
5. QUANTITY FOR CONDUIT HAS BEEN DUPLICATED FROM THE NEAREST PULL BOX TO POLE.

REMOVAL ITEMS

2690-10	5	EA
2690-30	2	EA
2690-80	1	EA
2690-100	1	PI

4680

U.S. 1 & S.W. 16 AVE.
I.D. #4680

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

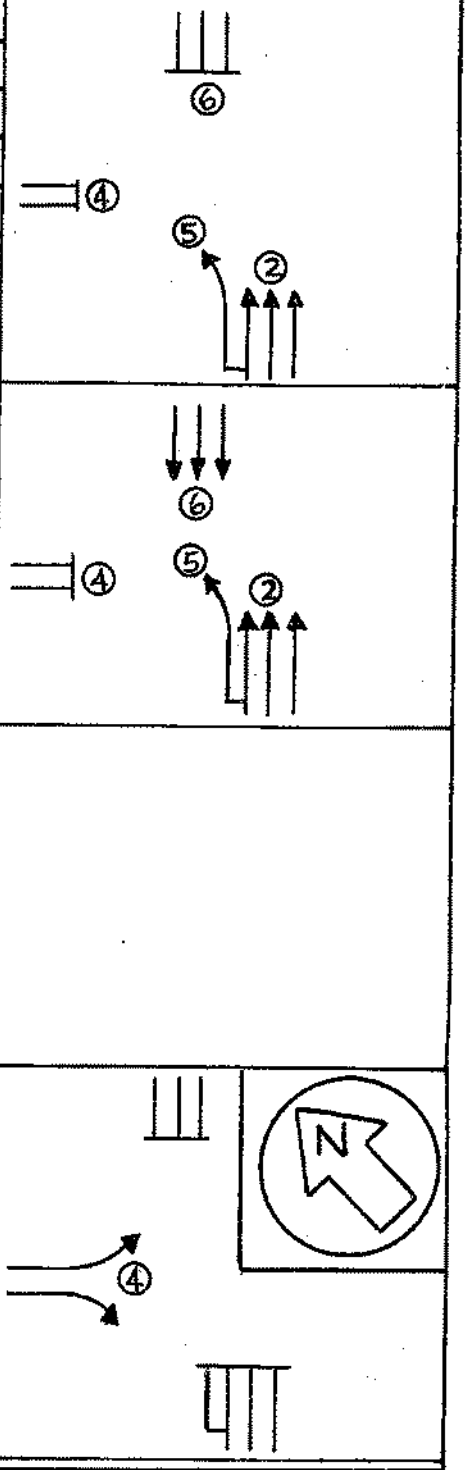
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

SIGNALIZATION PLAN

Tue Sep 1 16:54:07 1998 N:\USERC\plans\sp04a.tp
165-107 #FILES

SIGNAL OPERATING PLAN

PHASE		INT	2	4	5	6
Φ (2+5) NE US1 (ACTUATED)		R/W	G	R	←	R
	TO CLEAR	Φ2	G	R	Y	R
Φ (2+6) NE + SW US1 (RECALL)		R/W	G	R	G	G
	TO CLEAR	Φ4	Y	R	Y	Y
		R/W				
	TO CLEAR					
Φ4 (4) SB S.W. 16 AV. (ACTUATED)		R/W	R	G	R	R
	TO CLEAR	Φ1	R	Y	R	R
		Φ2	R	Y	R	R
FLASH. OPER. →			Y	R	Y	Y



Drawn: HIRAM HERNANDEZ — Date: 4/26/84

Check: J C Peters — Division Engineer — Date: 5/4/84

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

REVISED H. HERNANDEZ 9/19/96

ASSET NO: 4680

US1 & S.W. 16 AVE.

Placed in Service		Phasing Number
Date: 5/18/84		1

TOD Schedule Report
for 2268: S Miami Av&S 26 Rd

Print Date: 2/13/2015

Print Time: 9:27 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2268	S Miami Av&S 26 Rd	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	15 - 15 - 15	3	0
2 NBT	4 - 4 - 4	18 - 18 - 18	4 - 4 - 4	2.5 - 2.5 - 2.5	40 - 40 - 40	0 - 55 - 55	4	1
3 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	3 - 2 - 2	7 - 7 - 7	30 - 25 - 25	3.5	0
4 EBT	7 - 7 - 7	15 - 15 - 15	14 - 14 - 14	2.5 - 2.5 - 2.5	20 - 20 - 20	55 - 55 - 55	4	0.9
5 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	15 - 15 - 15	3	0
6 SBT	4 - 4 - 4	18 - 18 - 18	4 - 4 - 4	2.5 - 2.5 - 2.5	40 - 40 - 40	0 - 55 - 55	4	1
7 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	3 - 2 - 2	7 - 7 - 7	30 - 25 - 25	3	0
8 WBT	7 - 7 - 7	15 - 15 - 15	14 - 14 - 14	2.5 - 2.5 - 2.5	20 - 20 - 20	55 - 55 - 55	4	0.9

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report
for 2268: S Miami Av&S 26 Rd

Print Date: 2/13/2015

Print Time: 9:27 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 SBL	2 NBT	3 WBL	4 EBT	5 NBL	6 SBT	7 EBL	8 WBT	Ring Offset	Offset
	7	110	10	45	5	34	10	45	6	33	0	40
	8	120	11	45	20	28	11	45	21	27	0	61
	9	120	11	41	13	39	11	41	13	39	0	45
	10	130	12	50	16	36	12	50	10	42	0	87
	11	110	10	45	5	34	10	45	6	33	0	40
	18	110	10	37	11	36	10	37	11	36	0	0
	19	140	8	58	12	46	8	58	12	45	0	6
	20	130	11	47	13	43	11	47	13	43	0	0
	21	120	9	48	12	35	9	48	12	35	0	119

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0230	Flash	M T W Th F
0330	Flash	Su S
0545	Free	M T W Th F
0630	Free	Su S
0700	8	M T W Th F
0700	18	Su S
0900	19	Su S
0930	9	M T W Th F
1400	20	Su S
1500	10	M T W Th F
1800	21	Su S
1930	11	M T W Th F
2230	Free	M T W Th F
2300	Free	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0830	VEH MAX RECALL	----4---	Su ThF S
2200	VEH MAX RECALL	--------	Su ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0830	VEH MAX RECALL	----4---	Su ThF S
2200	VEH MAX RECALL	--------	Su ThF S

*** Settings**

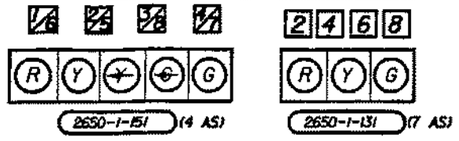
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

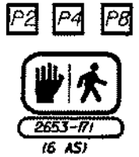
FINANCIAL PROJ. NO.	SHEET NO.
250228-1-52-01	T-4

#2268
Appendix Page 3373 of 7765

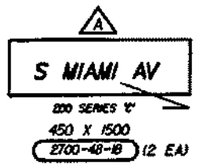
SIGNAL HEAD DETAILS

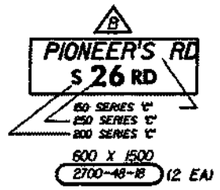


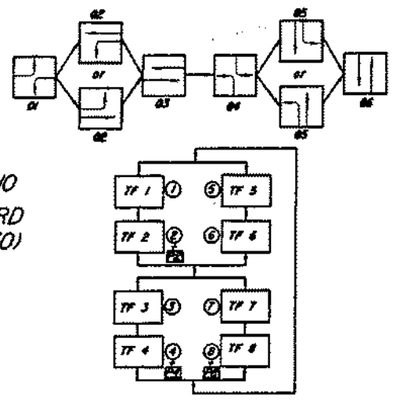




STREET NAME SIGNS





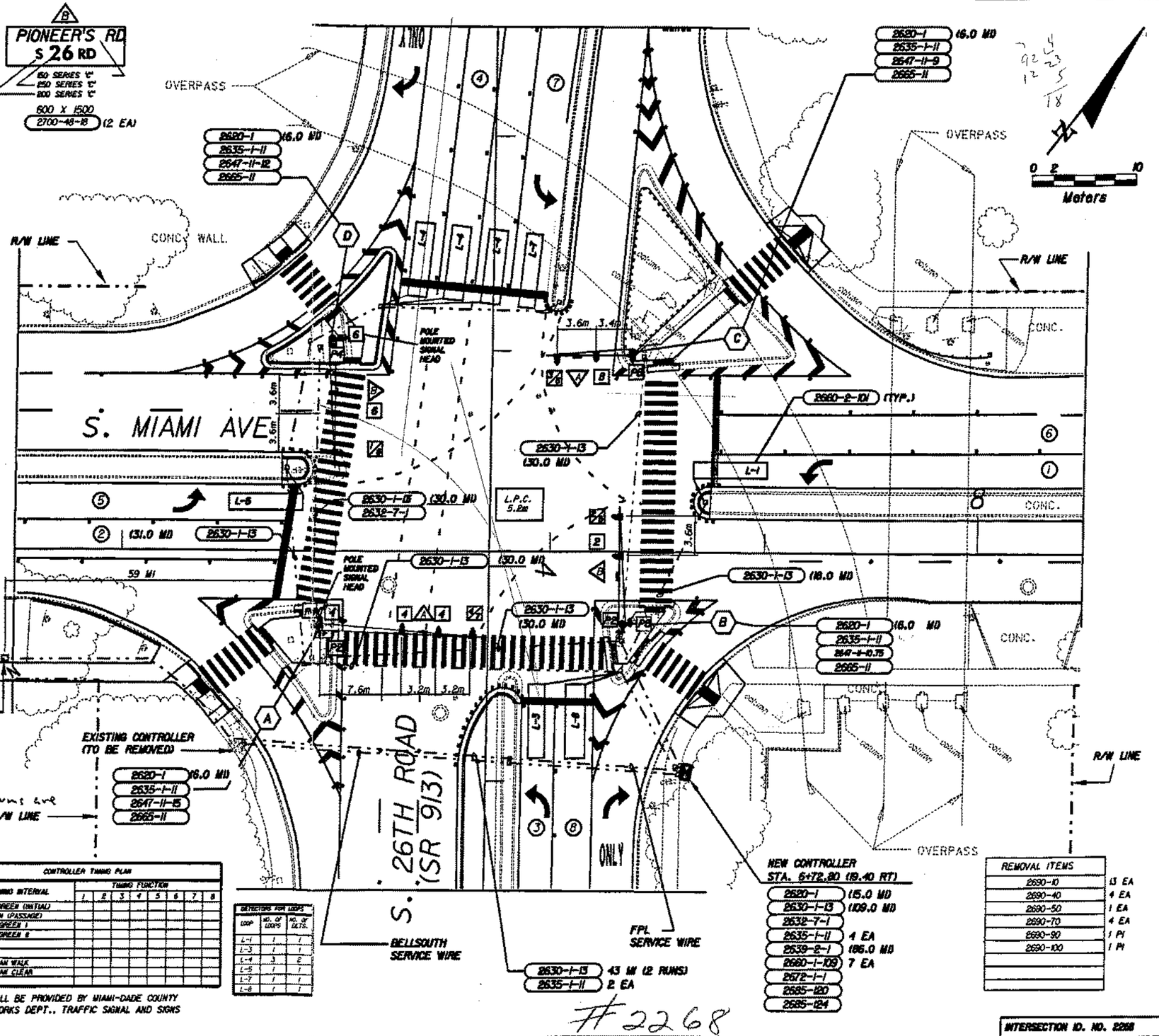


CONTROLLER OPERATION

1. MAJOR STREET: S. MIAMI AVE.
   MINOR STREET: S. 26 RD.
2. STANDARD SIGNAL OPERATING PLAN 10 AS SHOWN ABOVE.
3. CONTROLLER MODEL 170-MD-660A, ITEM 2672-1-1, TO INCLUDE CABINET AND FOUNDATION. WHEN NO CONFLICT WITH ADA GUIDELINES, THE CABINET SHALL BE INSTALLED WITH TELCO DOOR FACING THE ADJACENT ROADWAY.
4. FLASHING OPERATION: S. MIAMI AVE., YELLOW.
   S. 26 ROAD., RED

NOTES

1. CONTRACTOR TO REMOVE EXISTING POLES, MAST ARMS, SIGNAL HEADS AND STREET NAME SIGNS AND REPLACE ON EXISTING FOUNDATIONS AS SHOWN. MA POLES LISTED ON SHEET T-5 WILL NOT FIT THESE FOUNDATIONS. DC
2. CONTRACTOR TO REMOVE EXISTING CONDUIT AND REMOVE EXISTING PULL BOXES IN CONFLICT WITH DESIGN. THIS WORK TO BE INCLUDED IN PAY ITEM 2690-100. Existing mast arms are being demolished.
3. LEFT TURN LOOPS SHALL BE 1.5 x 9. ALL OTHERS 1.8 x 9, MAXIMUM 1.5M IN ADVANCE OF STOP BAR.
4. CONTRACTOR TO PROVIDE NEW FP&L SERVICE POINT.
5. CONTRACTOR TO PICK UP BELLSOUTH SERVICE POINT AT EXISTING CONTROLLER LOCATION. NO SPLICES ARE PERMITTED IN UTILITY RUNS.
6. POLE MOUNTED SIGNAL HEADS TO BE INSTALLED VERTICALLY.
7. CONTRACTOR TO REPLACE EXISTING SIGNAL CABLE PULL BOXES AT EACH SIGNAL POLE.



CONTROLLER TIMING PLAN								
TIMING INTERVAL	TIMING FUNCTION 1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)								
EXTENSION (PASSAGE)								
MAXIMUM GREEN 1								
MAXIMUM GREEN 2								
YELLOW								
ALL RED								
PEDESTRIAN WALK								
PEDESTRIAN CLEAR								
RECALL								

TIMING WILL BE PROVIDED BY MIAMI-DADE COUNTY PUBLIC WORKS DEPT., TRAFFIC SIGNAL AND SIGNS DIVISION.

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	1	1
L-3	1	1
L-4	3	2
L-5	1	1
L-7	1	1
L-8	1	1

NEW CONTROLLER STA. 6+72.20 (9.40 RT)

2620-1	(15.0 MD)
2630-1-13	(109.0 MD)
2632-7-1	
2635-1-11	4 EA
2639-2-1	(86.0 MD)
2660-1-109	7 EA
2672-1-1	
2685-120	
2685-124	

REMOVAL ITEMS	
2690-10	13 EA
2690-40	4 EA
2690-50	1 EA
2690-70	4 EA
2690-90	1 PI
2690-100	1 PI

#2268

INTERSECTION ID. NO. 2268

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

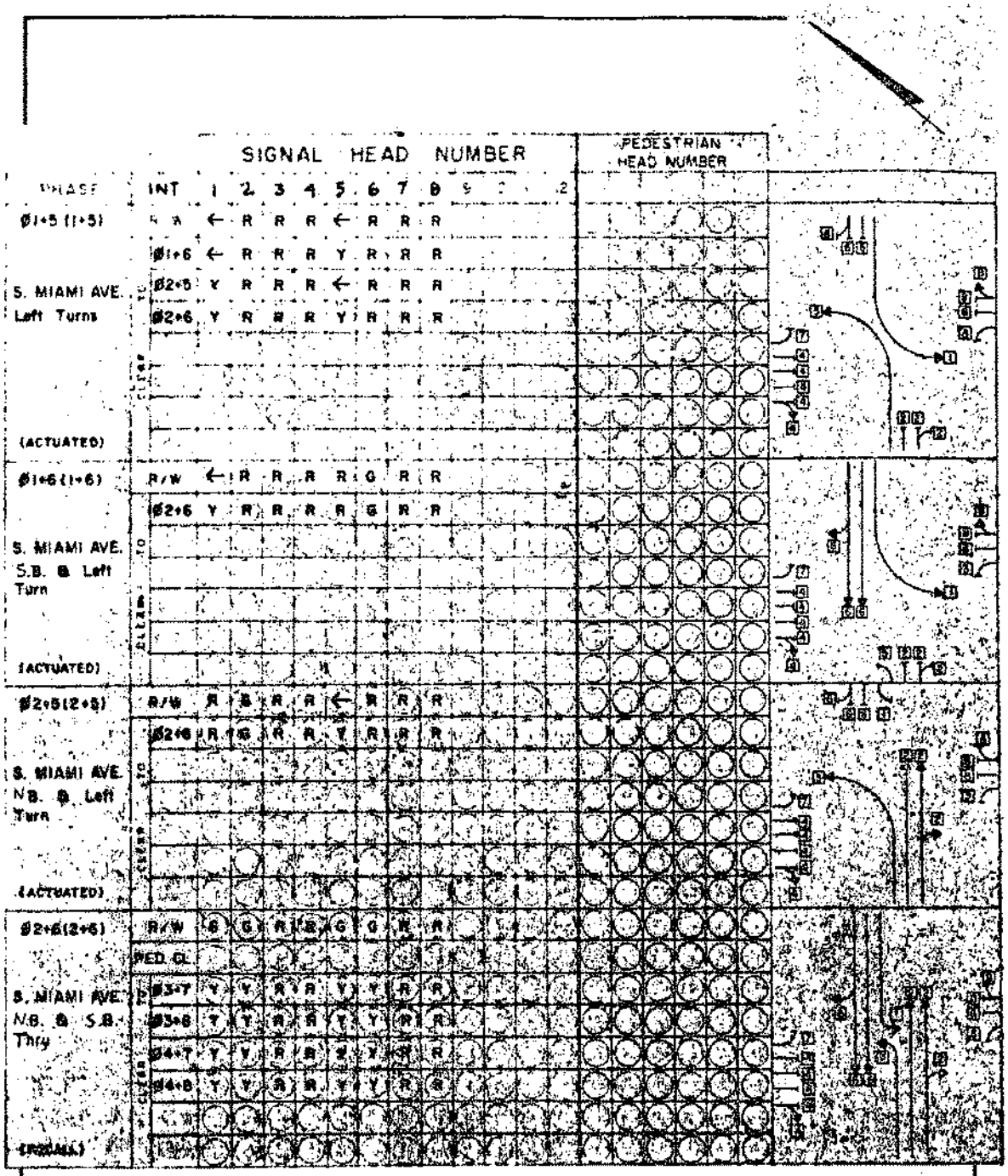
PBSJ

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

S. MIAMI AVENUE & S. 26 R.D. SIGNALIZATION PLAN SHEET

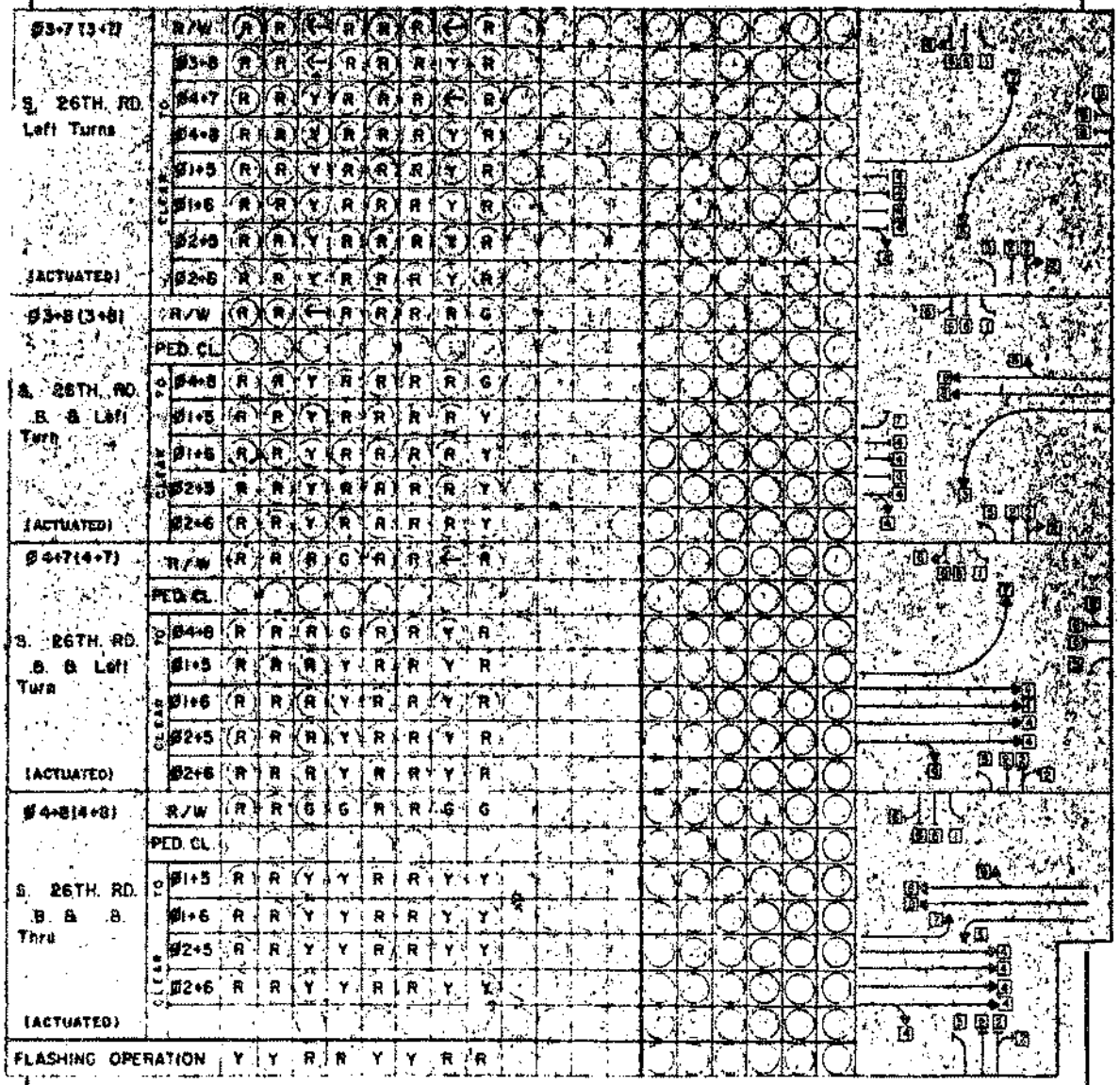
08-NOV-1999 09:53
F:\T962\RDWY\PLN\J-EASLEY\SMIA-AVE\SIGX1FINAL.DGN

TRAFFIC SIGNAL INTERVAL DIAGRAMS



Drawn: HIRAM HERNANDEZ	Date: 4/14/86	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS	
Check: C.L. ROQUE	Date: 4/24/86	ASSET NO: 2268	
Division Engineer	Date	MIAMI AVE (S) & S. 26 Rd.	
		SHEET 1 OF 2	
		Placed in Service Date: 4/86 By: CONTRACTOR	Phasing Number: 4

TRAFFIC SIGNAL INTERVAL DIAGRAMS



Drawn: HIRAM HERNANDEZ	Date: 4/14/86	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS	
Check: C.L. ROQUE	Date: 4/24/86	ASSET NO: 2268 MIAMI AVE (S) & S. 26 Rd.	
Division Engineer	Date	SHEET 2 OF 2	
		Placed in Service Date: By:	Phasing Number: 4

TOD Schedule Report
for 2267: US 1&SE 26 Rd

Print Date: 2/28/2015

Print Time: 2:01 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2267	US 1&SE 26 Rd	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
WBL	EBT	-	SBT	-	WBT	SBL	NBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1	Walk Phase Bank 2	Walk Phase Bank 3	Don't Walk Phase Bank 1	Don't Walk Phase Bank 2	Don't Walk Phase Bank 3	Min Initial Phase Bank 1	Min Initial Phase Bank 2	Min Initial Phase Bank 3	Veh Ext Phase Bank 1	Veh Ext Phase Bank 2	Veh Ext Phase Bank 3	Max Limit Phase Bank 1	Max Limit Phase Bank 2	Max Limit Phase Bank 3	Max 2 Phase Bank 1	Max 2 Phase Bank 2	Max 2 Phase Bank 3	Yellow	Red
1 WBL	0	0	0	0	0	0	5	5	5	2	2	2	12	12	12	20	20	20	4	2
2 EBT	7	7	7	20	20	20	7	7	7	1	1	1	55	55	55	0	0	0	4	2.6
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 SBT	7	7	7	14	14	14	7	7	7	2.5	2.5	2.5	55	55	55	65	65	65	4	2.8
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 WBT	7	7	7	20	20	20	7	7	7	1	1	1	55	55	55	0	0	0	4	2.6
7 SBL	0	0	0	0	0	0	5	5	5	2	2	2	12	12	12	35	35	35	4	2
8 NBT	7	7	7	14	14	14	7	7	7	2.5	2.5	2.5	55	55	55	65	65	65	4	2.8

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-678
External Permit 0	12-4-6-8
External Permit 1	12-4-6-8
External Permit 2	12-4-6-8

TOD Schedule Report
for 2267: US 1&SE 26 Rd

Print Date: 2/28/2015

Print Time: 2:01 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 WB	2 EBT	3 -	4 SBT	5 -	6 WBT	7 SBL	8 NBT	Ring Offset	Offset
	7	110	10	38	0	42	0	54	13	23	0	46
	8	120	9	45	0	44	0	60	17	23	0	80
	9	120	11	34	0	55	0	51	13	36	0	50
	10	130	10	40	0	60	0	56	23	31	0	91
	11	110	10	38	0	42	0	54	13	23	0	46
	18	110	9	34	0	47	0	49	20	21	0	1
	19	140	17	46	0	57	0	69	18	33	0	11
	20	130	17	38	0	55	0	61	16	33	0	6
	21	120	11	42	0	47	0	59	15	26	0	4

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0230	Flash	M T W Th F
0330	Flash	Su S
0545	Free	M T W Th F
0630	Free	Su S
0700	8	M T W Th F
0700	18	Su S
0900	19	Su S
0930	9	M T W Th F
1400	20	Su S
1500	10	M T W Th F
1800	21	Su S
1930	11	M T W Th F
2230	Free	M T W Th F
2300	Free	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	---5----	SuM T W ThF S
0630	TOD OUTPUTS	--------	SuM T W ThF S
0830	VEH MAX RECALL	----4---	SuM T W ThF S
2200	VEH MAX RECALL	--------	SuM T W ThF S

Local Time of Day Function

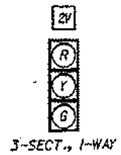
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	---5----	SuM T W ThF S
0630	TOD OUTPUTS	--------	SuM T W ThF S
0700	VEH MAX RECALL	-7------	M T W ThF
0830	VEH MAX RECALL	----4---	SuM T W ThF S
0930	VEH MAX RECALL	--------	M T W ThF
1400	VEH MAX RECALL	-7------	M T W ThF
1900	VEH MAX RECALL	--------	M T W ThF
2200	VEH MAX RECALL	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

SIGNAL HEAD DETAILS



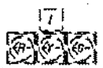
3-SECT., 1-WAY
1 AS
630-51-311



3-SECT. 1-WAY
9 AS.
9 EXISTING
(TO REMAIN)



5 SECT. 1-WAY
1 AS.
1 EXISTING
(TO REMAIN)



3-SECT. 1-WAY
3 AS.
3 EXISTING
(TO REMAIN)

EXISTING SIGNAL OPERATING PLAN

6 EXISTING
(TO REMAIN)

CONTROLLER OPERATIONS

1. MAJOR STREET IS US-1/BRICKELL AVENUE;
   MINOR STREET IS SE 26 RD.
2. SIGNAL OPERATING PER PHASING
   DIAGRAM SHOWN.
3. FLASHING OPERATION FOR THRU MOVEMENTS IS:
   SE 26 RD, RED
   SR-5/BRICKELL AVENUE, YELLOW
   FLASHING OPERATION FOR PROTECTED ONLY LEFT:
   SE 26 RD, RED
   SR-5/BRICKELL AVENUE, RED



1 EXISTING
(TO REMAIN)



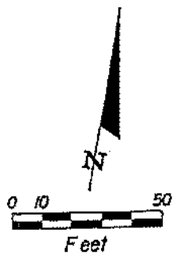
1 EXISTING
(TO REMAIN)

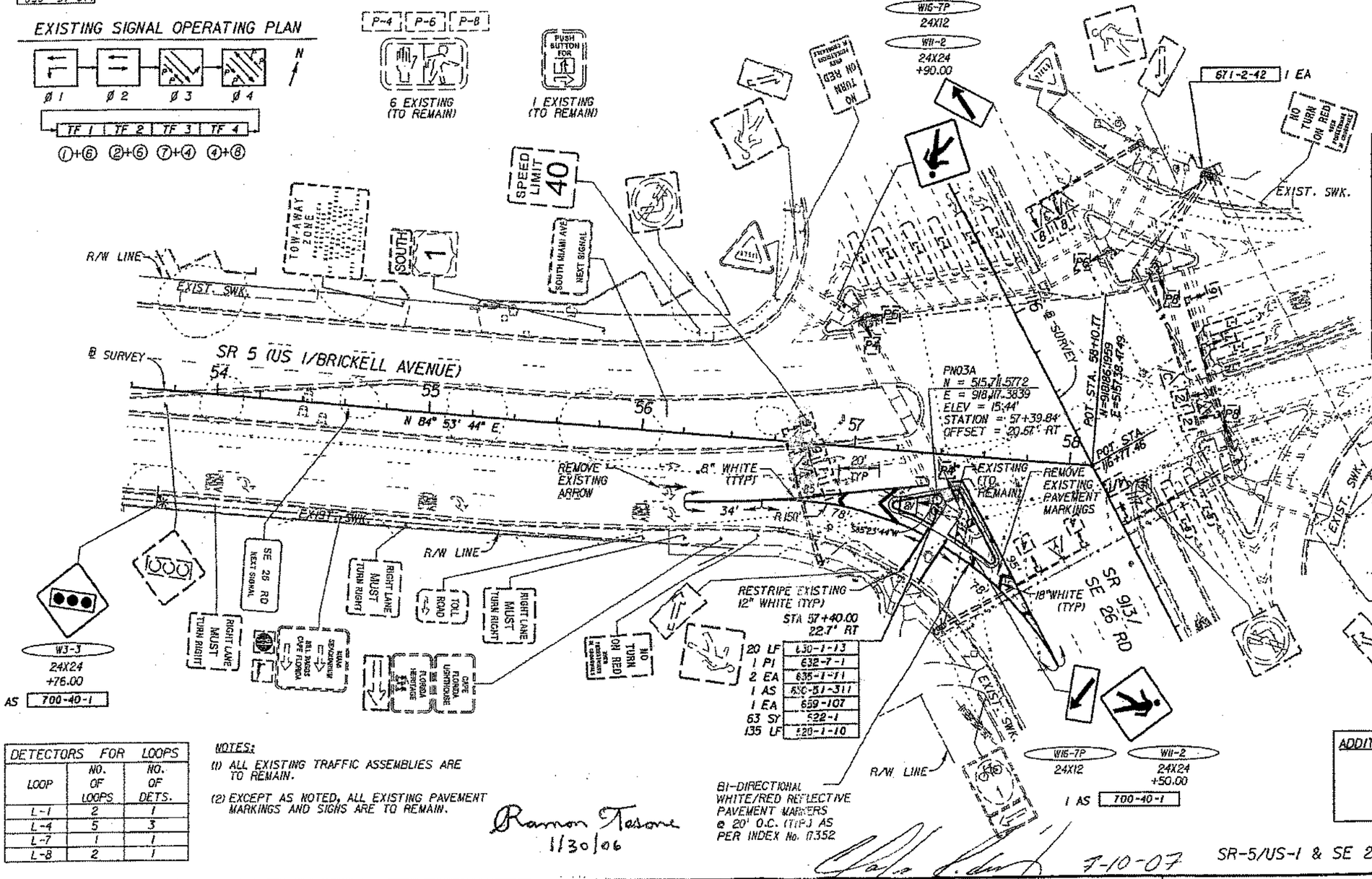


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(TO REMAIN)

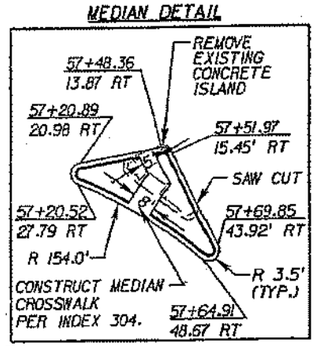


1 EXISTING
(TO REMAIN)





MEDIAN DETAIL



DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	2	1
L-4	5	3
L-7	1	1
L-8	2	1

NOTES:

(1) ALL EXISTING TRAFFIC ASSEMBLIES ARE TO REMAIN.

(2) EXCEPT AS NOTED, ALL EXISTING PAVEMENT MARKINGS AND SIGNS ARE TO REMAIN.

Ramon Tesone
11/30/06

ADDITIONAL NETWORK CONTROL POINT

BM
ELEV= 13.73'
STATION = 49+29.69
OFFSET = 3.26' LT

7-10-07

SR-5/US-1 & SE 26TH ROAD (ID No. 2267)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

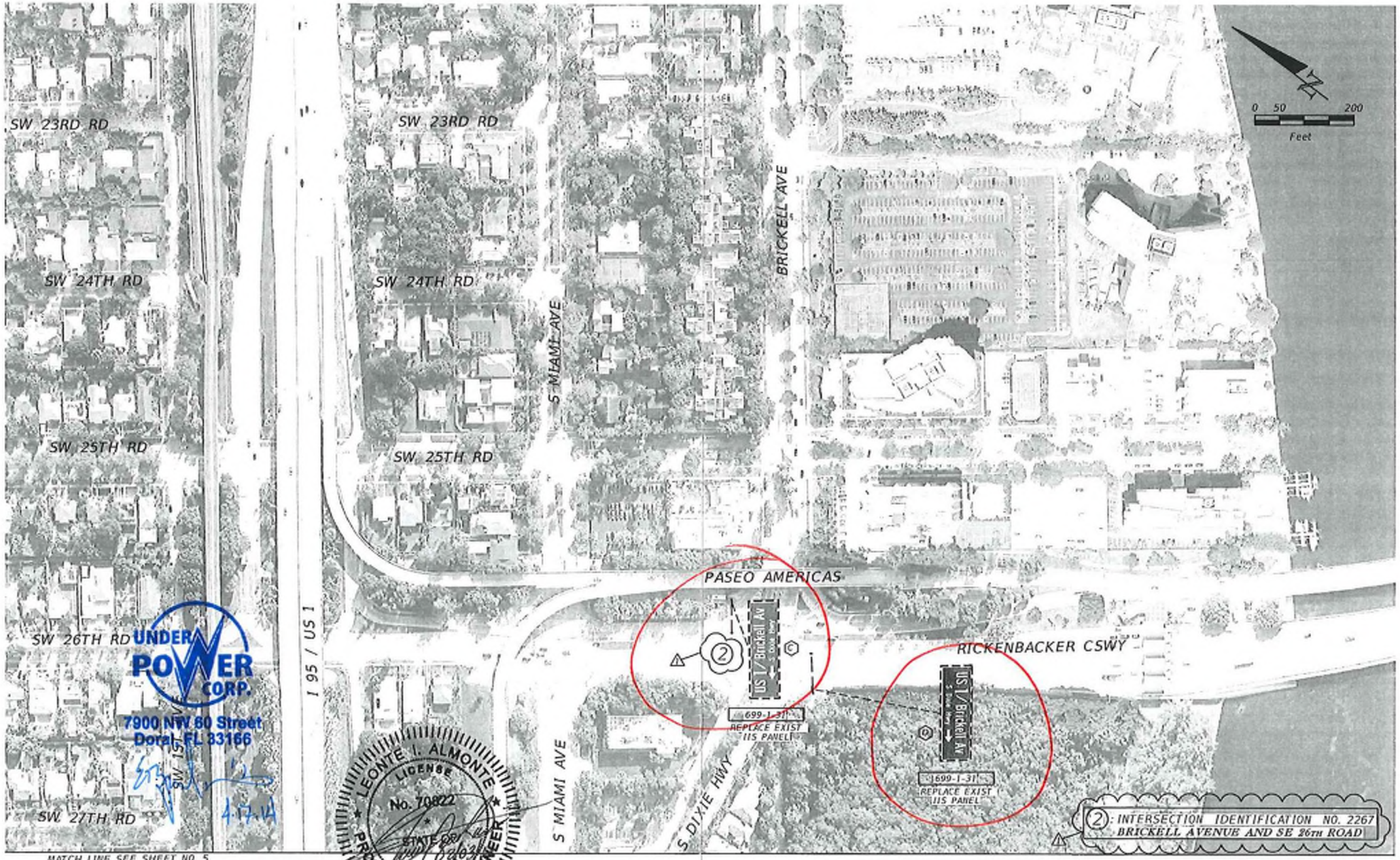
Alvarez Engineers, Inc.
FLORIDA CERTIFICATE OF AUTHORIZATION No. 7538
RAMON TESONE, PE No. 56070
10560 N.W. 27th Street, Suite 102
Miami, Florida 33172
Tel. (305) 640-1345 Fax (305) 640-13%

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-5	MIAMI-DADE	415239-1-52-02

SIGNALIZATION/SIGNING & PAVEMENT MARKING PLANS

SHEET NO. 4



UNDER POWER CORP.
7900 NW 60 Street
Doral, FL 33166

LEONTE I. ALMONTE
LICENSE
No. 70822
STATE OF FLORIDA
PROFESSIONAL ENGINEER

4.17.14

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
02/03/14	1 ADDED INTERSECTION NAME AND IDENTIFICATION NO.		

LEONTE I. ALMONTE, P.E.
P.E. LICENSE NUMBER 70822
KIMLEY-HORN AND ASSOCIATES, INC.
1221 BRICKELL AVENUE - SUITE 400
MIAMI, FLORIDA 33131
CERTIFICATE OF AUTHORIZATION 696

alex.saviello 2/3/2014 1:06:33 PM K:\MIB_Roadway\Ft_Lauderdale\JohnHBrillians\BrickellTransfer\421053331201_1B\roadway\PLANROOT.DGN

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
5	MIAMI-DADE	421053-3-12-01

SIGNING LAYOUT
PHASE I-B

SHEET NO. 6

SUMMARY OF QUANTITIES

FLORIDA DEPARTMENT OF TRANSPORTATION
PROJECT SUMMARY OF PAY ITEMS
FOR PROJECT: 421053-3-12-01

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL	
			PLAN	FINAL
101-1	MOBILIZATION	LS	1	
102-1	MAINTENANCE OF TRAFFIC	LS	1	
699-1-1	INTERNAL ILLUM SIGN, F&I, STREET NAME	EA	6	
699-1-31	INTERNAL ILLUM SIGN, MODIFY, STREET NAME	EA	7	
700-48-60	SIGN PANELS, REMOVE	EA	6	

PAY ITEM NOTES

102-1: INCLUDES THE COST OF FURNISHING, INSTALLING, MAINTAINING, AND REMOVING ALL ITEMS OF MAINTENANCE OF TRAFFIC NOT PAID FOR UNDER SEPARATE ITEMS.

699-1-1: INCLUDES ALL COSTS ASSOCIATED WITH THE DELIVERY OF THE EXISTING INTERNALLY ILLUMINATED SIGN (IIS) PANELS TO MIAMI-DADE COUNTY TRAFFIC SIGNALS AND SIGNS DIVISION AFTER THEIR REMOVAL AND ALL COST ASSOCIATED WITH THE INSTALLATION OF THE NEW IIS PANELS. SEE DETAILS BELOW FOR IIS PANEL LETTERING. LETTER SIZE FOR TEXT LINES 1 AND 2 OF SIGNS (A) AND (B) SHALL BE THE SAME.

(A):
S Dixie Hwy →
← Brickell Av

(D):
Brickell Av
S Dixie Hwy →

(B):
← S Dixie Hwy
Brickell Av →

(E):
Brickell Av

(C):
Brickell Av
← S Dixie Hwy

SUMMARY OF INTERNALLY ILLUMINATED SIGNS

SHEET NO.	INTERSECTING ROAD	699-1-1 QUANTITY (EA)
7	SE 15TH ROAD	2
7	SE 14TH STREET	2
7	SE 13TH STREET	2
TOTAL		6

SUMMARY OF INTERNALLY ILLUMINATED SIGNS TO BE MODIFIED

SHEET NO.	INTERSECTING ROAD	699-1-31 QUANTITY (EA)
5	S. MIAMI AVENUE	2
6	RICKENBACKER CAUSEWAY	2
8	SE 8TH STREET	2
8	SE 7TH STREET	1
TOTAL		7

SUMMARY OF INTERNALLY ILLUMINATED SIGNS TO BE REMOVED

SHEET NO.	INTERSECTING ROAD	700-48-60 QUANTITY (EA)
7	SE 15TH ROAD	2
7	SE 14TH STREET	2
7	SE 13TH STREET	2
TOTAL		6

LEONTE I. ALMONTE LICENSE No. 70822 STATE OF FLORIDA PROFESSIONAL ENGINEER
5/28/14

UNDER POWER CORP.
7900 NW 60 Street
Doral, FL 33166
5/28/14

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

LEONTE I. ALMONTE, P.E.
P.E. LICENSE NUMBER 70822
KIMLEY-HORN AND ASSOCIATES, INC.
1221 BRICKELL AVENUE - SUITE 400
MIAMI, FLORIDA 33131
CERTIFICATE OF AUTHORIZATION 696

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
5	MIAMI-DADE	421053-3-12-01

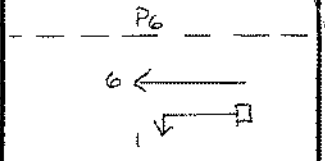
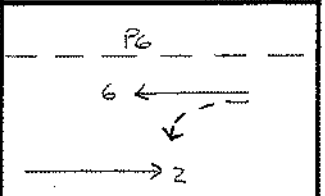
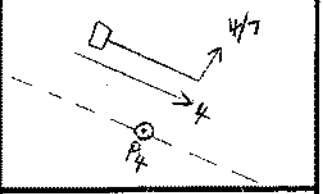
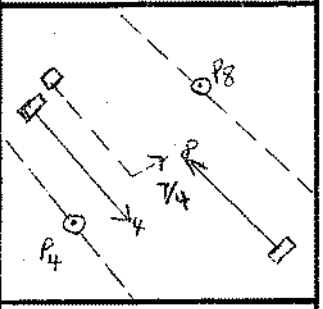
SUMMARY OF PAY ITEMS
PHASE I-B

SHEET NO. 2

alex.saviedo 2/3/2014 3:08:07 PM K:\MIA_Roadway\FL_Lauderdale\Jenelle.Williams\BrickellTransfer\421053331201_TBR roadway\CESSR001.dgn

SIGNAL OPERATING PLAN

N

Timing Phases	Direction	Head No.	WB 1	WB 6	EB 2	SB 4/7	SB 4	NB 8	Ped Heads P6	Ped Heads P4	Ped Heads P8	Movements/Display/Actuation
1+6 WL US 1 Actuated	Dwell		←	G	R	R	R	R	W/F	DW	DW	
	Clear to	2+6	~~←~~	G	R	R	R	R	DW	DW	DW	
2+6 E/W US 1 Recall	Dwell		~~←R~~	G	G	R	R	R	W/F	DW	DW	
	Clear to	4+7	~~←R~~	Y	Y	R	R	R	DW	DW	DW	
		4+8	~~←R~~	Y	Y	R	R	R	DW	DW	DW	
		1+6	~~←R~~	G	Y	R	R	R	DW	DW	DW	
4+7 SL SE 26 Rd Actuated	Dwell		~~←R~~	R	R	~~←G~~	G	R	DW	W/F	DW	
	Clear to	4+8	~~←R~~	R	R	~~←G~~	G	R	DW	DW	DW	
4+8 N/S SE 26 Rd Actuated	Dwell		~~←R~~	R	R	G	G	G	DW	W/F	W/F	
	Clear to	1+6	~~←R~~	R	R	Y	Y	Y	DW	DW	DW	
		2+6	~~←R~~	R	R	Y	Y	Y	DW	DW	DW	
	Dwell											
	Clear to											
	Dwell											
	Clear to											
Flashing Operation			~~FR~~	FY	FY	FR	FR	FR				Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	US 1 & SE 26 Rd		
H. FRANCILLON	3/18/05			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	3/23/05	Date By STI	6	2267

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Appendix Page 33 of 65

SIGNAL HEADS

8 — 3 SECTION 1 WAY (2 REQUIRED)
2650-1-131 (2 AS)
2659-101 (2 EA)

3 — 5 SECTION 1 WAY (TO REMAIN)

2 4 4A 6 8A — 3 SECTION 1 WAY (TO REMAIN)

4S 8S — 3 SECTION 1 WAY (TO REMAIN)

R3-1L
2700-48-18
(1 REQUIRED)

1200 × 500 (250 / 200)
I-95 NB
2700-48-18
(1 REQUIRED)

1200 × 500 (250 / 200)
I-95 SB
2700-48-18
(1 REQUIRED)

SIGNAL CONTOLLER OPERATION NOTES

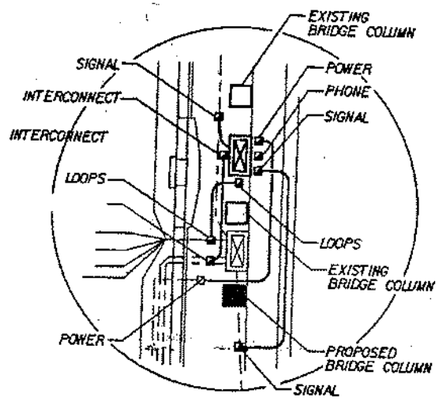
1. MINOR STREET IS I-95 ENTRANCE/EXIT RAMPS. MAJOR STREET IS SW 25TH ROAD.
2. SIGNAL OPERATING PLAN AS SHOWN.
3. MOVEMENTS 3, 4, 4A, 6 & 8A ACTUATED MOVEMENT 2 & 6 (PHASE 3) RECALL.
4. MOVEMENT 3 IS PROTECTED/PERMISSIVE IN PHASE 1.
5. FLASHING OPERATIONS:
   YELLOW - MOVEMENTS 2 & 6
   RED - MOVEMENTS 3, 4, 4A, 6 & 8A

SIGNAL PLAN NOTES

1. THE MAINTAINING AGENCY IS MIAMI - DADE COUNTY PUBLIC WORKS DEPARTMENT.
2. SIGNAL TIMING TO BE PROVIDED BY MIAMI - DADE COUNTY, PUBLIC WORKS DEPARTMENT.
3. LOOP ASSEMBLY 2660-2-101 DEVIATES FROM FDOT STANDARDS AND SHALL BE 1.8m x 9m FOR THRU LANES AND 1.5m x 9m FOR LEFT TURN LANES. LOOPS SHALL EXTEND 1.2m BEYOND STOP BAR.
4. OVERHEAD STREET NAME SIGNS SHALL USE SERIES C NUMBERS (250mm IN HEIGHT) AND LETTERS (200mm IN HEIGHT). LETTER SPACINGMAY BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALL SIGN SIZE DIMENSION REQUIREMENTS.
5. ALL PROPOSED CONTROLLER CABINETS AND PULL BOXES SHALL BE PLACED ON A CONCRETE PAD AS DESCRIBED IN THE STANDARD SPECIFICATIONS.
6. SIGNAL CABLE CONDUIT AND LOOP WIRE SHALL USE A SINGLE TRENCH TO CROSS PAVEMENT WHEN AND WHERE POSSIBLE.
7. MAINTAIN EXISTING ELECTRICAL SERVICE POINT. CONTRACTOR TO INSTALL NEW ELECTRICAL SERVICE WIRE AND DISCONNECT.
8. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH SOUTHERN BELL FOR REQUIRED ADJUSTMENTS OF TELEPHONE CONNECTION, INCLUDING PAYMENT OF ANY APPLICABLE FEES.
9. PAVEMENT MARKINGS AND DIRECTIONAL ARROWS THAT ARE SHOWN SOLID ARE TO BE REPLACED AFTER THE LOOP INSTALLATION.

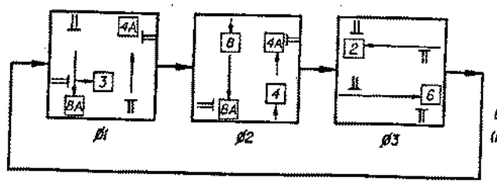
ACTUATED TRAFFIC SIGNAL TIMING CHART

CONTROLLER PHASE									
MOVEMENT NUMBER									
DIRECTION									
INITIAL GREEN (MIN)									
VEHICLE EXT. (GAP)									
MAXIMUM GREEN I									
MAXIMUM GREEN II									
YELLOW CLEARANCE									
ALL RED CLEARANCE									
PHASE RECALL									
DETECTOR DELAY									
WALK	NOT APPLICABLE (SEE NOTE 2)								
FLASHING DON'T WALK									
PERMISSIVE									
FLASH OPERATION									
GREEN RETURN									



DETAIL 'A'

SIGNAL OPERATING PLAN

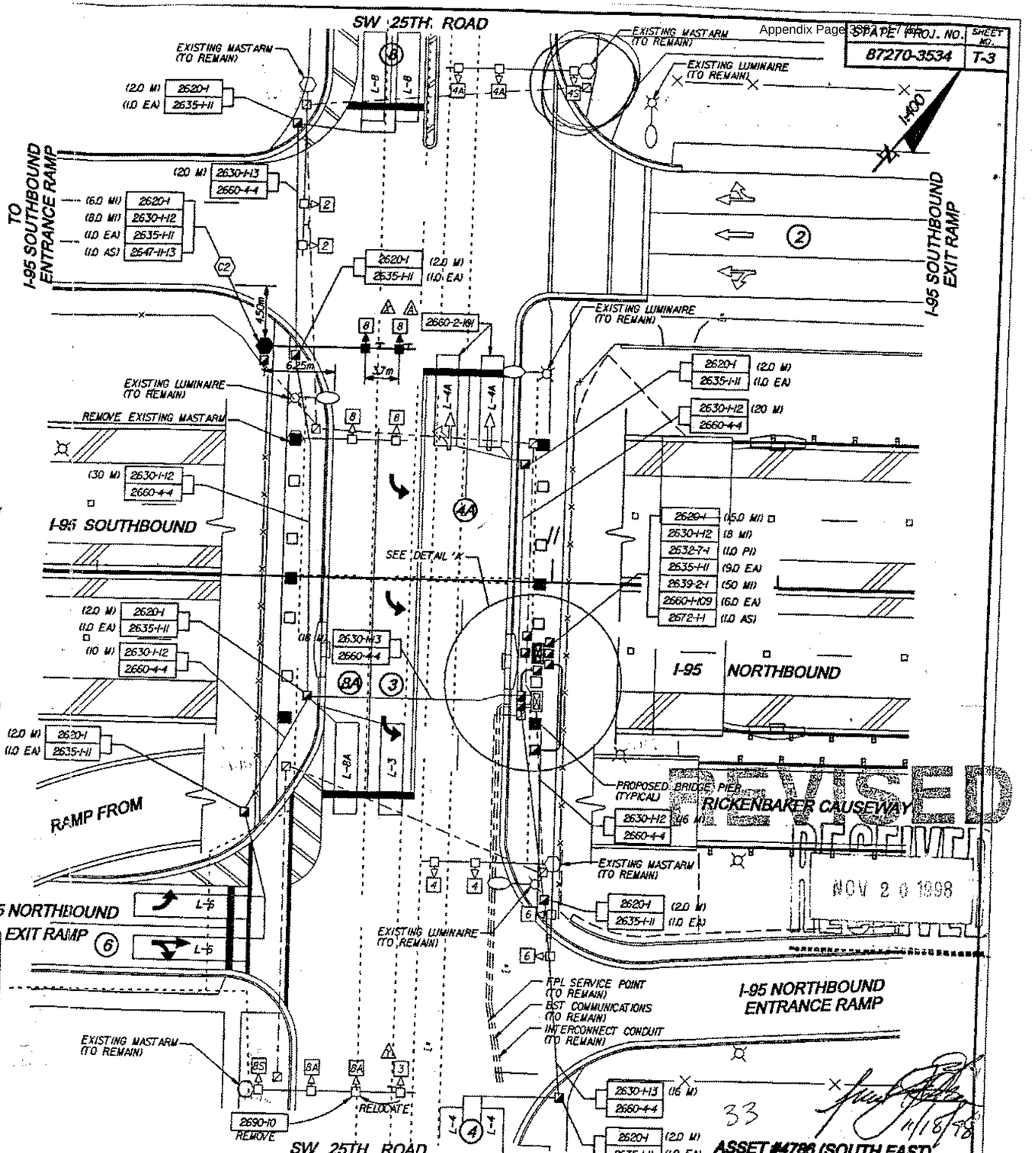


REMOVAL ITEMS

2690-10 REMOVE TRAFFIC SIGNAL HEAD ASSEMBLY (3 EA)
2690-40 REMOVE EXISTING MAST ARM (1 EA)
2690-50 REMOVE CONTOLLER ASSEMBLY (1 EA)
2690-60 REMOVE VEHICLE DETECTOR ASSEMBLY (6 EA)
2690-100 REMOVE MISCELLANEOUS SIGNAL EQUIPMENT (PI) (INCLUDES TELEMETRY TRANSCEIVER, UNIVERSAL ADAPTOR, SSRM AND INTERFACE PANEL)

DETECTOR ASSIGNMENT CHART

LOOP	NUMBER OF LOOPS	NUMBER OF DETECTORS	TYPE
3	1	1	NORMAL
4	2	1	NORMAL
4A	2	1	NORMAL
6	2	1	NORMAL
8	2	1	NORMAL
8A	1	1	NORMAL



STATE PROJ. NO.	SHEET NO.
87270-3534	T-3

REVISED
RECEIVED
NOV 20 1998

DATE	BY	DESCRIPTION
11-12-98	F. J. D.	DELETED ITEM 2690-90 FROM REMOVAL LIST.
11-12-98	F. J. D.	REVISED LABELING FOR CONDUITS. REVISED PAY ITEM 2660-4-14 TO BE SHOWN AS 2660-4-4.

KEITH and SCHNARS, P.A. ENGINEERS • PLANNERS • SURVEYORS

FLORIDA DEPARTMENT OF TRANSPORTATION

SIGNALIZATION PLAN
STATE ROAD 8A (I-95) AT SW 25TH ROAD

33

11/18/98

11/18/98

\projects\Vway\4793\signals\plansg02.dgn

STATE PROJ. NO.	SHEET NO.
87270-3534	T-3

SIGNAL HEADS

B — 3 SECTION 1WAY (2 REQUIRED)
- 2650-1-131 (2 AS)
- 2659-101 (2 EA)

3 — 5 SECTION 1WAY (TO REMAIN)

2 4 4A 6 8A — 3 SECTION 1WAY (TO REMAIN)

4S 8S — 3 SECTION 1WAY (TO REMAIN)

A — R3-1L
- 2700-48-18 (1 REQUIRED)

1200 / 500 / 250 — I-95 NB — 200
- 2700-48-18 (1 REQUIRED)

1200 / 500 / 250 — I-95 SB — 200
- 2700-48-18 (1 REQUIRED)

SIGNAL CONTOLLER OPERATION NOTES

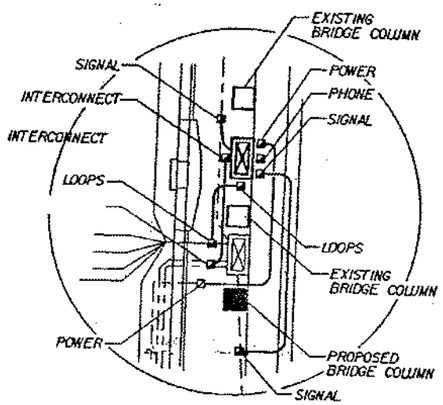
1. MINOR STREET IS I-95 ENTRANCE/EXIT RAMPS. MAJOR STREET IS SW 25TH ROAD.
2. SIGNAL OPERATING PLAN AS SHOWN.
3. MOVEMENTS 3, 4, 4A, 8 & 8A ACTUATED MOVEMENT 2 & 6 (PHASE 3) RECALL.
4. MOVEMENT 3 IS PROTECTED/PERMISSIVE IN PHASE 1.
5. FLASHING OPERATIONS:
   YELLOW - MOVEMENTS 2 & 6
   RED - MOVEMENTS 3, 4, 4A, 8 & 8A

SIGNAL PLAN NOTES

1. THE MAINTAINING AGENCY IS MIAMI - DADE COUNTY PUBLIC WORKS DEPARTMENT.
2. SIGNAL TIMING TO BE PROVIDED BY MIAMI - DADE COUNTY, PUBLIC WORKS DEPARTMENT.
3. LOOP ASSEMBLY 2660-2-101 DEVIATES FROM FDOT STANDARDS AND SHALL BE 1.8m x 9m FOR THRU LANES AND 1.5m x 9m FOR LEFT TURN LANES. LOOPS SHALL EXTEND 1.2m BEYOND STOP BAR.
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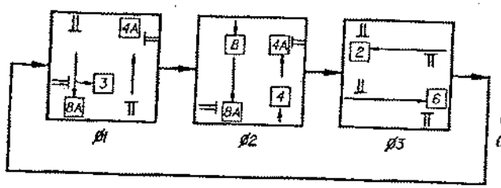
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MOVEMENT NUMBER									
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PHASE RECALL									
DETECTOR DELAY	NOT APPLICABLE (SEE NOTE 2)								
WALK									
FLASHING DON'T WALK									
PERMISSIVE									
FLASH OPERATION									
GREEN RETURN									



DETAIL 'A'

SIGNAL OPERATING PLAN

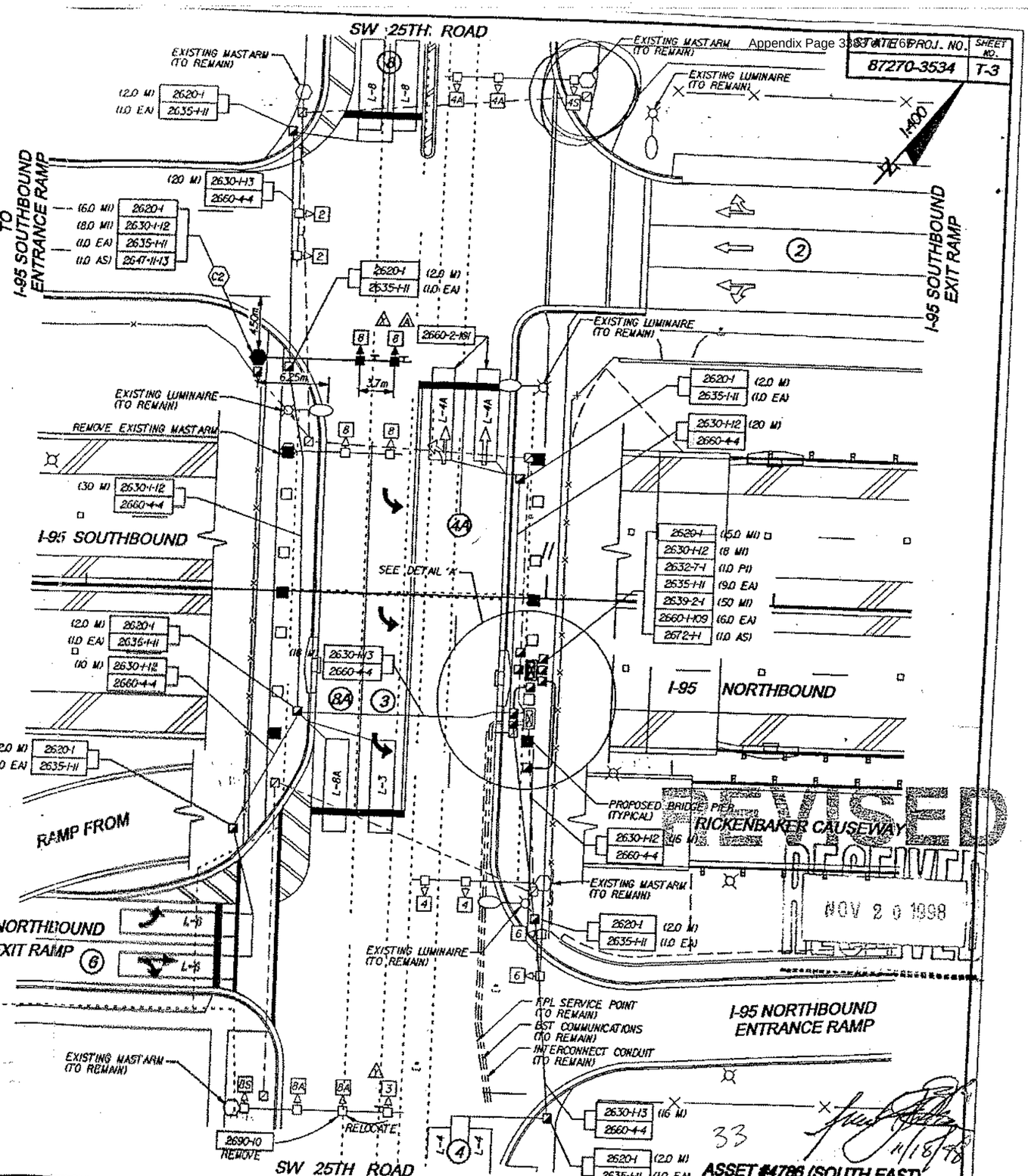


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8	2	1	NORMAL
8A	1	1	NORMAL



REVISED PRELIMINARY
NOV 20 1998

ASSET #4786 (SOUTH EAST)
ASSET #5963 (NORTH WEST)

33

11/18/98

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
11-12-98	F. J. D.	DELETED ITEM 2690-90 FROM REMOVAL LIST.	11-12-98	F. J. D.	REVISED LABELING FOR CONDUITS, REVISED PAY ITEM 2660-4-14 TO BE SHOWN AS 2660-4-4.						

KEITH and SCHNARS, P.A. ENGINEERS • PLANNERS • SURVEYORS

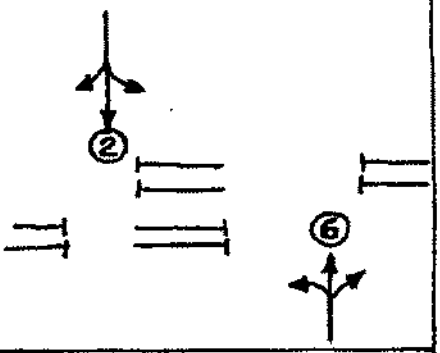
FLORIDA DEPARTMENT OF TRANSPORTATION

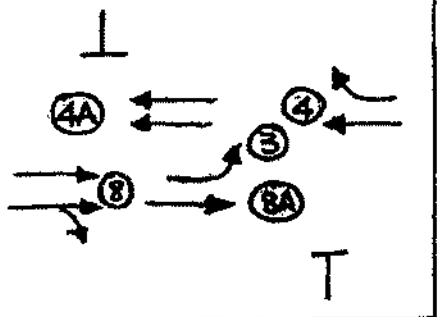
SIGNALIZATION PLAN
STATE ROAD 9A (I-95) AT SW 25TH ROAD

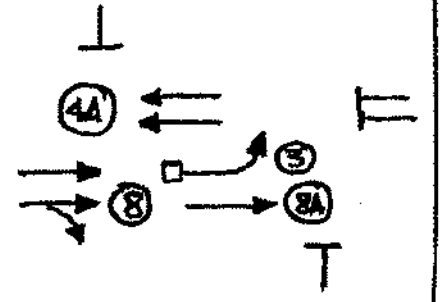
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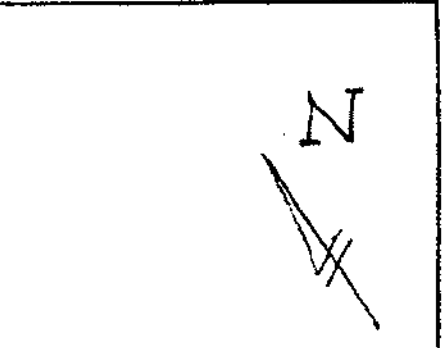
SIGNAL OPERATING PLAN

PHASE		INT	2	3	4	4A	6	8	8A
ϕ(2+6) (2, 6) (Recall)	TO CLEAR	R/W	G	R	R	R	G	R	R
		4+8	Y	R	R	R	Y	R	R
		3+8	Y	R	R	R	Y	R	R
ϕ(4+8) (3,4,4A,8,8A) ACTUATED BY 4, 4A 8, 8A	TO CLEAR	R/W	R	G	G	G	R	G	G
		3+8	R	G	Y	G	R	G	G
		2+6	R	Y	Y	Y	R	Y	Y
ϕ(3+8) (3,4A,8,8A) ACTUATED BY 3	TO CLEAR	R/W	R	G/←	R	G	R	G	G
		2+6	R	Y/←	R	Y	R	Y	Y
FLASH OP →	TO CLEAR	R/W	FY	FR	FR	FR	FY	FR	FR









Drawn: H. HERNANDEZ — Date: 1/20/00

Check: J.C. — Date: 1/20/00

Division Engineer — Date:

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET NO: 4786

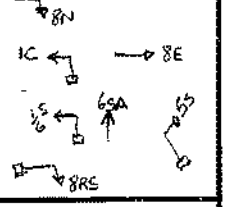
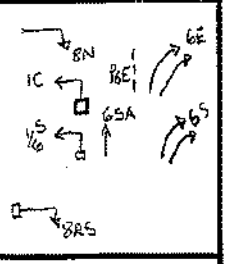
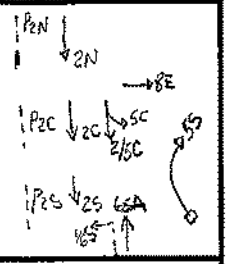
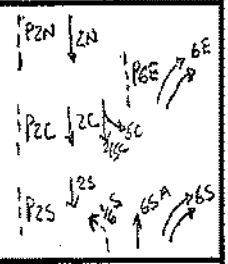
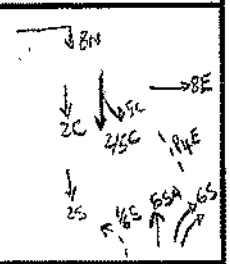
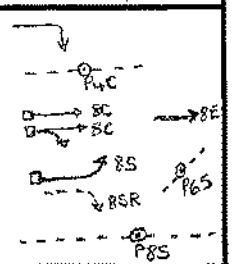
I-95 RAMPS & SW 25 RD

Placed in Service — Date: 1/22/00

Phasing Number: 3

SIGNAL OPERATING PLAN

N

	Direction	SB					NB						EB					Ped Heads								Movs/Disp/Actuation
Timing Ph	Head No.	2N	2C	2S	2/5C	5C	1/6S	6S	6SA	6E	SS	1C	8C	8E	8S	8SR	8N	P2N	P2C	P2S	P6E	P6S	P4C	P4E	P8S	
1+5	Dwell	R	R	R	R	↓R	↖R	R	↑	R	→	←	R	G	R	R/→	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 1+6	R	R	R	R	↓R	↖/R	R	↑	R	↘	←	R	Y	R	R/→	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 2+5	R	R	R	R	↓R	↖/R	R	↑	R	→	↓	R	G	R	R/↓	Y	DW	DW	DW	DW	DW	DW	DW	DW	
ACTUATED	Clear to 2+6	R	R	R	R	↓R	↖/R	R	↑	R	↘	↓	R	Y	R	R/↓	Y	DW	DW	DW	DW	DW	DW	DW	DW	
1+6	Dwell	R	R	R	R	↓R	↖/↑	G	↑	G	↓R	←	R	R	R	R/→	G	DW	DW	DW	W/F	DW	DW	DW	DW	
	Clear to 2+6	R	R	R	R	↓R	↖/↑	G	↑	G	↓R	↓	R	R	R	R/↓	Y	DW	DW	DW	DW	DW	DW	DW	DW	
ACTUATED																										
2+5	Dwell	G	G	G	↖/G	←	↑	R	↑	R	→	↓R	R	G	R	R	R	W/F	W/F	W/F	DW	DW	DW	DW	DW	
	Clear to 2+6	G	G	G	↖/G	←	↑	R	↑	R	↘	↓R	R	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
ACTUATED																										
2+6	Dwell	G	G	G	↖/G	←	↑	G	↑	G	↓R	↓R	R	R	R	R	R	W/F	W/F	W/F	W/F	DW	DW	DW	DW	
	7	Y	G	G	↖/G	←	↑	G	↑	Y	↓R	↓R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
	8	Y	Y	Y	Y	↓	Y	Y	Y	Y	↓R	↓R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
	1+5	Y	Y	Y	Y	↓	Y	Y	Y	Y	↓R	↓R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
	1+6	Y	Y	Y	Y	↓	↑	G	↑	G	↓R	↓R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
RECALL	2+5	G	G	G	↖/G	←	Y	Y	Y	Y	↓R	↓R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
7	Dwell	R	G	G	↖/G	←	↑	G	↑	R	↓R	↓R	R	G	R	R	G	DW	DW	DW	DW	DW	DW	W/F	DW	
	8	R	Y	Y	Y	↓	Y	Y	Y	R	↓R	↓R	R	G	R	R	G	DW	DW	DW	DW	DW	DW	DW	DW	
	1+5	R	Y	Y	Y	↓	Y	Y	Y	R	↓R	↓R	R	G	R	R	G	DW	DW	DW	DW	DW	DW	DW	DW	
	1+6	R	Y	Y	Y	↓	↑	G	↑	R	↓R	↓R	R	Y	R	R	G	DW	DW	DW	DW	DW	DW	DW	DW	
	2+5	R	G	G	↖/G	←	↑	Y	Y	R	↓R	↓R	R	G	R	R	Y	DW	DW	DW	DW	DW	DW	DW	DW	
RECALL	2+6	R	G	G	↖/G	←	↑	G	↑	R	↓R	↓R	R	Y	R	R	Y	DW	DW	DW	DW	DW	DW	DW	DW	
8	Dwell	R	R	R	R	↓R	R	R	R	R	↓R	↓R	G	G	G	G	G	DW	DW	DW	DW	W/F	W/F	DW	W/F	
	1+5	R	R	R	R	↓R	R	R	R	R	↓R	↓R	Y	G	Y	Y	G	DW	DW	DW	DW	DW	DW	DW	DW	
	1+6	R	R	R	R	↓R	R	R	R	R	↓R	↓R	Y	Y	Y	Y	G	DW	DW	DW	DW	DW	DW	DW	DW	
	2+5	R	R	R	R	↓R	R	R	R	R	↓R	↓R	Y	G	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	
ACTUATED	2+6	R	R	R	R	↓R	R	R	R	R	↓R	↓R	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	
Flashing Operation		FY	FY	FY	FY	FR	FY	FY	FY	FY	FR	FR	FR	FR	FR	FR	FR									Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date		
H. FRANCILLON	12/12/08	S MIAMI AV @ 250 BLK, 3RD ST, 4TH ST & S. 3RD ST @ 50 BLK (3507, 6543, 5172, 6544)	
Checked	**Date**	**Placed in Service**	**Phasing No.** / **Asset Number**
H. [illegible]	12/15/08	Date 2/3/09 By UND	1 / 6543

ALSO CONTROLS 3507, 5172 & 6544

Blank16

TOD Schedule Report

for 4786: I- 95 NB&SW 25 Rd

Print Date: 2/13/2015

Print Time: 2:04 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4786	I- 95 NB&SW 25 Rd	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SET	SWL	NET	-	NWT	-	SWT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SET	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4	1
3 SWL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	20 - 20 - 7	3	0.5
4 NET	0 - 0 - 0	0 - 0 - 0	10 - 10 - 10	2.5 - 2.5 - 2.5	13 - 13 - 13	60 - 55 - 55	4	0.5
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 NWT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4	1
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SWT	0 - 0 - 0	0 - 0 - 0	10 - 10 - 10	2.5 - 2.5 - 2.5	13 - 13 - 13	60 - 55 - 55	4	0.5

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-234-6-8
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 4786: I- 95 NB&SW 25 Rd

Print Date: 2/13/2015

Print Time: 2:04 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 SET	3 SWL	4 NET	5 -	6 NWT	7 -	8 SWT	Ring Offset	Offset
	7	110	0	56	10	32	0	56	0	32	0	93
	8	120	0	62	11	35	0	62	0	35	0	8
	9	120	0	42	11	55	0	42	0	55	0	88
	10	130	0	71	9	38	0	71	0	38	0	29
	11	110	0	56	10	32	0	56	0	32	0	93
	18	110	0	49	19	30	0	49	0	30	0	49
	19	140	0	77	16	35	0	77	0	35	0	85
	20	130	0	68	17	33	0	68	0	33	0	69
	21	120	0	65	11	32	0	65	0	32	0	72

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0230	Flash	M T W Th F
0330	Flash	Su S
0545	Free	M T W Th F
0630	Free	Su S
0700	8	M T W Th F
0700	18	Su S
0900	19	Su S
0930	9	M T W Th F
1400	20	Su S
1500	10	M T W Th F
1800	21	Su S
1930	11	M T W Th F
2230	Free	M T W Th F
2300	Free	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

Appendix Page 3 of 7 (6)

STATE PROJ. NO.	SHEET NO.
87270-3534	T-3

SIGNAL HEADS

8 — 3 SECTION 1 WAY (2 REQUIRED)
- 2650-1-131 (2 AS)
- 2659-101 (2 EA)

3 — 5 SECTION 1 WAY (TO REMAIN)

2 4 4A 6 8A — 3 SECTION 1 WAY (TO REMAIN)

4S 8S — 3 SECTION 1 WAY (TO REMAIN)

A — R3-1L
- 2700-48-18 (1 REQUIRED)

1200 × 500 (250 / 200) — I-95 NB
- 2700-48-18 (1 REQUIRED)

1200 × 500 (250 / 200) — I-95 SB
- 2700-48-18 (1 REQUIRED)

SIGNAL CONTOLLER OPERATION NOTES

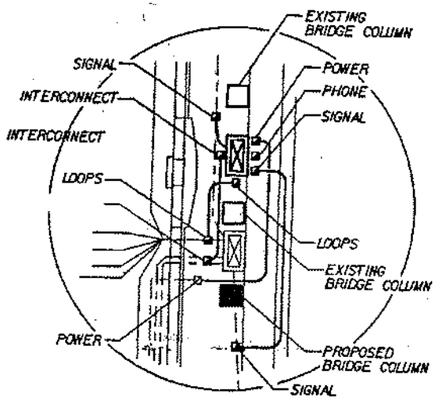
1. MINOR STREET IS I-95 ENTRANCE/EXIT RAMPS. MAJOR STREET IS SW 25TH ROAD.
2. SIGNAL OPERATING PLAN AS SHOWN.
3. MOVEMENTS 3, 4, 4A, 6 & 8A ACTUATED MOVEMENT 2 & 6 (PHASE 3) RECALL.
4. MOVEMENT 3 IS PROTECTED/PERMISSIVE IN PHASE 1.
5. FLASHING OPERATIONS:
   YELLOW - MOVEMENTS 2 & 6
   RED - MOVEMENTS 3, 4, 4A, 6 & 8A

SIGNAL PLAN NOTES

1. THE MAINTAINING AGENCY IS MIAMI - DADE COUNTY PUBLIC WORKS DEPARTMENT.
2. SIGNAL TIMING TO BE PROVIDED BY MIAMI - DADE COUNTY, PUBLIC WORKS DEPARTMENT.
3. LOOP ASSEMBLY 2660-2-101 DEVIATES FROM FDOT STANDARDS AND SHALL BE 1.8m x 9m FOR THRU LANES AND 1.5m x 9m FOR LEFT TURN LANES. LOOPS SHALL EXTEND 1.2m BEYOND STOP BAR.
4. OVERHEAD STREET NAME SIGNS SHALL USE SERIES C NUMBERS (250mm IN HEIGHT) AND LETTERS (200mm IN HEIGHT). LETTER SPACINGMAY BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALL SIGN SIZE DIMENSION REQUIREMENTS.
5. ALL PROPOSED CONTROLLER CABINETS AND PULL BOXES SHALL BE PLACED ON A CONCRETE PAD AS DESCRIBED IN THE STANDARD SPECIFICATIONS.
6. SIGNAL CABLE CONDUIT AND LOOP WIRE SHALL USE A SINGLE TRENCH TO CROSS PAVEMENT WHEN AND WHERE POSSIBLE.
7. MAINTAIN EXISTING ELECTRICAL SERVICE POINT. CONTRACTOR TO INSTALL NEW ELECTRICAL SERVICE WIRE AND DISCONNECT.
8. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH SOUTHERN BELL FOR REQUIRED ADJUSTMENTS OF TELEPHONE CONNECTION, INCLUDING PAYMENT OF ANY APPLICABLE FEES.
9. PAVEMENT MARKINGS AND DIRECTIONAL ARROWS THAT ARE SHOWN SOLID ARE TO BE REPLACED AFTER THE LOOP INSTALLATION.

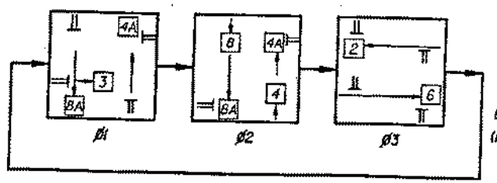
ACTUATED TRAFFIC SIGNAL TIMING CHART

CONTROLLER PHASE									
MOVEMENT NUMBER									
DIRECTION									
INITIAL GREEN (MIN)									
VEHICLE EXT. (GAP)									
MAXIMUM GREEN I									
MAXIMUM GREEN II									
YELLOW CLEARANCE									
ALL RED CLEARANCE									
PHASE RECALL									
DETECTOR DELAY									
WALK	NOT APPLICABLE (SEE NOTE 2)								
FLASHING DON'T WALK									
PERMISSIVE									
FLASH OPERATION									
GREEN RETURN									



DETAIL 'A'

SIGNAL OPERATING PLAN

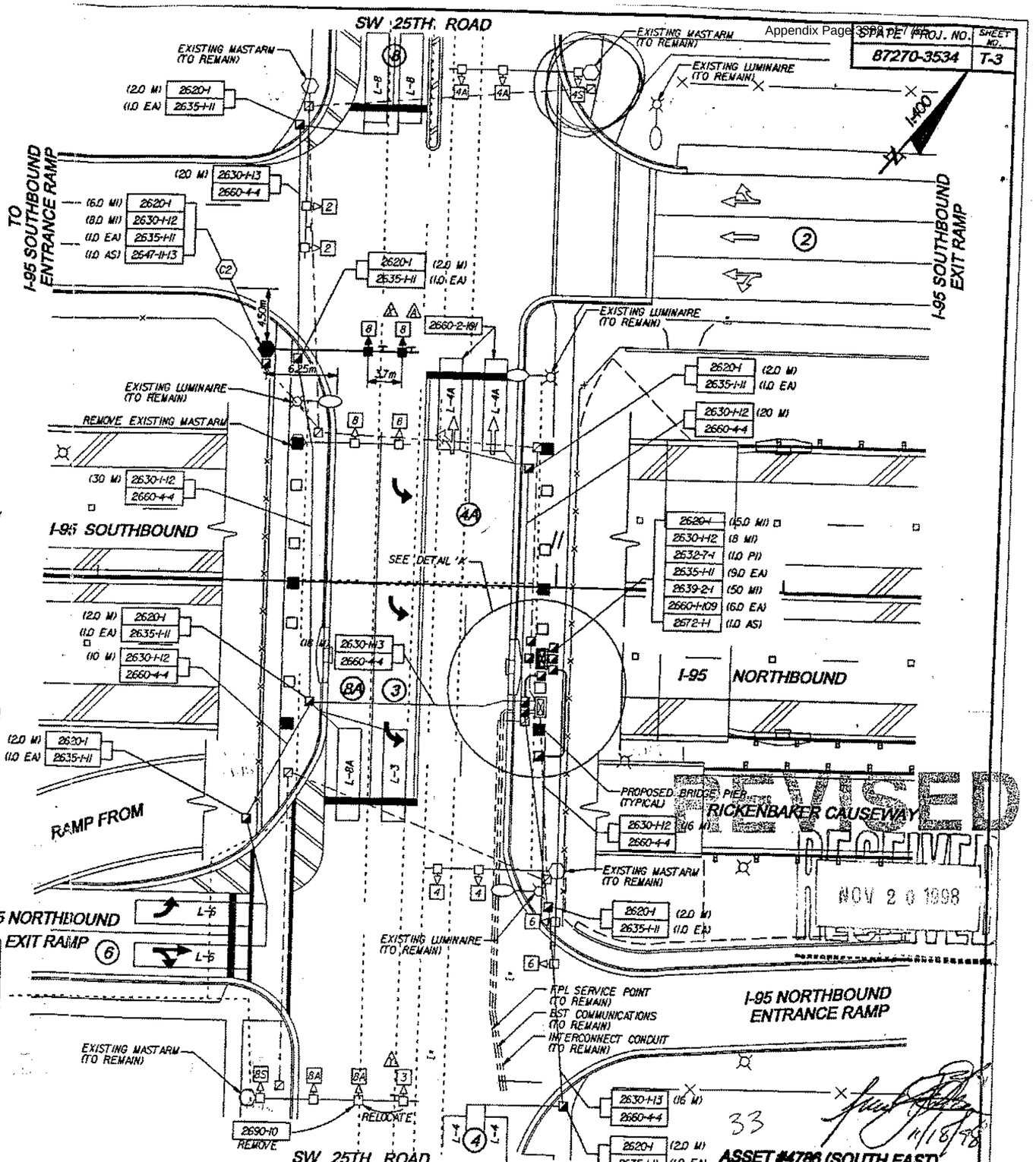


REMOVAL ITEMS

2690-10 REMOVE TRAFFIC SIGNAL HEAD ASSEMBLY (3 EA)
2690-40 REMOVE EXISTING MAST ARM (1 EA)
2690-50 REMOVE CONTOLLER ASSEMBLY (1 EA)
2690-60 REMOVE VEHICLE DETECTOR ASSEMBLY (6 EA)
2690-100 REMOVE MISCELLANEOUS SIGNAL EQUIPMENT (PI) (INCLUDES TELEMETRY TRANSCEIVER, UNIVERSAL ADAPTOR, SSRM AND INTERFACE PANEL)

DETECTOR ASSIGNMENT CHART

LOOP	NUMBER OF LOOPS	NUMBER OF DETECTORS	TYPE
3	1	1	NORMAL
4	2	1	NORMAL
4A	2	1	NORMAL
6	2	1	NORMAL
8	2	1	NORMAL
8A	1	1	NORMAL



REVISED
RECEIVED
NOV 20 1998

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
11-12-98	F. J. D.	DELETED ITEM 2690-90 FROM REMOVAL LIST.	11-12-98	F. J. D.	REVISED LABELING FOR CONDUITS. REVISED PAY ITEM 2660-4-14 TO BE SHOWN AS 2660-4-4.						

KEITH and SCHNARS, P.A. ENGINEERS • PLANNERS • SURVEYORS

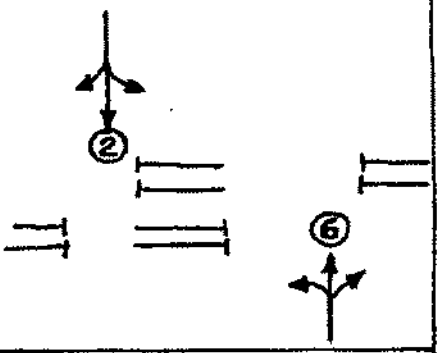
FLORIDA DEPARTMENT OF TRANSPORTATION

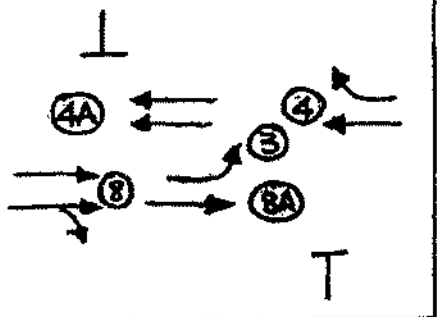
SIGNALIZATION PLAN
STATE ROAD 8A (I-95) AT SW 25TH ROAD

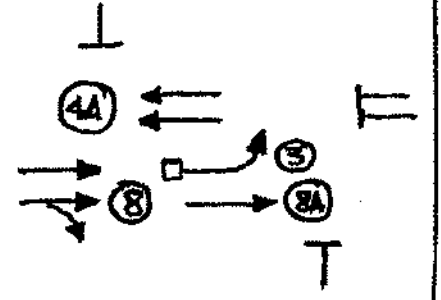
11/18/98
projects\Vway\4793\signals\plansg02.dgn

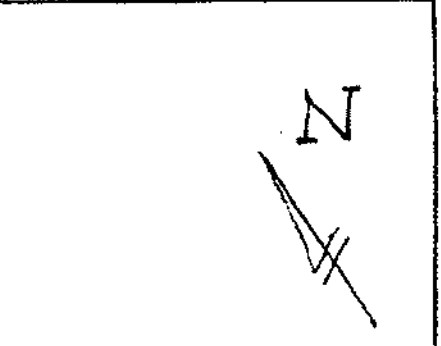
SIGNAL OPERATING PLAN

PHASE		SIGNAL HEAD NUMBER	2	3	4	4A	6	8	8A
ϕ(2+6) (2, 6) (Recall)	INT								
	R/W		G	R	R	R	G	R	R
	TO 4+8		Y	R	R	R	Y	R	R
	TO 3+8		Y	R	R	R	Y	R	R
	CLEAR								
ϕ(4+8) (3,4,4A,8,8A) ACTUATED BY 4, 4A 8, 8A	R/W		R	G	G	G	R	G	G
	TO 3+8		R	G	Y	G	R	G	G
	TO 2+6		R	Y	Y	Y	R	Y	Y
	CLEAR								
ϕ(3+8) (3,4A,8,8A) ACTUATED BY 3	R/W		R	G/←	R	G	R	G	G
	TO 2+6		R	Y/←	R	Y	R	Y	Y
	CLEAR								
FLASH OP →	R/W		FY	FR	FR	FR	FY	FR	FR
	CLEAR								









Drawn: H. HERNANDEZ — Date: 1/20/00

Check: J. C. — Division Engineer — Date: 1/20/00

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET NO: 4786

I-95 RAMPS & SW 25 RD

Placed in Service — Date: 1/22/00

Phasing Number: 3

TOD Schedule Report
for 4388: SW 5 Av&SW 8 St

Print Date: 2/13/2015

Print Time: 1:18 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4388	SW 5 Av&SW 8 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	-	-	NBT	-	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	6 - 6 - 6	10 - 10 - 10	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 15 - 15	50 - 50 - 50	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	10 - 10 - 10	5 - 5 - 5	10 - 10 - 10	2.5 - 2.5 - 2.5	35 - 35 - 35	0 - 50 - 50	4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	---4-6--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 4388: SW 5 Av&SW 8 St

Print Date: 2/13/2015

Print Time: 1:18 PM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	-	-	NBT	-	EBT	-	-		
	1	80	0	0	0	20	0	48	0	0	0	36
	3	80	0	0	0	20	0	48	0	0	0	79
	4	120	0	0	0	40	0	68	0	0	0	48
	6	120	0	0	0	35	0	73	0	0	0	109
	7	130	0	0	0	40	0	78	0	0	0	122
	8	120	0	0	0	40	0	68	0	0	0	119
	9	90	0	0	0	27	0	51	0	0	0	62
	18	100	0	0	0	22	0	66	0	0	0	0
	19	110	0	0	0	22	0	76	0	0	0	0
	20	120	0	0	0	22	0	86	0	0	0	0
	21	110	0	0	0	22	0	76	0	0	0	0
	24	140	0	0	0	20	0	108	0	0	0	79
	25	140	0	0	0	20	0	108	0	0	0	79
	26	120	0	0	0	20	0	88	0	0	0	79
	27	120	0	0	0	20	0	88	0	0	0	79
	28	130	0	0	0	20	0	98	0	0	0	79
	29	130	0	0	0	20	0	98	0	0	0	79

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0200	Flash	M T W Th F
0330	Flash	Su S
0445	1	M T W Th F
0600	18	Su S
0700	4	M T W Th F
0830	19	Su S
0930	6	M T W Th F
1000	20	Su S
1530	7	M T W Th F
1900	21	Su S
1930	8	M T W Th F
2130	9	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

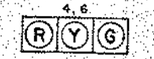
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ NO	SHEET NO
87000-3521	119

SIGNAL HEAD DETAILS

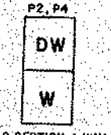
4, 6



3 - SECTION, 1 WAY
12" STD. LENS
INCLUDING HORIZONTAL MOUNTING BRACKET
4 REQUIRED
ITEM NO. 650-1-151

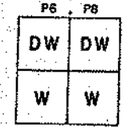
SIGNALS NO. 6
WITH BACKPLATES
2 REQUIRED
ITEM NO. 659-101

P2, P4



2 SECTION, 1-WAY
2 REQUIRED
ITEM NO. 653-111

P2 , P8
P4 , P6
P6 , P8



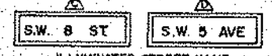
2 SECTION, 2 WAY
3 REQUIRED
ITEM NO. 653-112



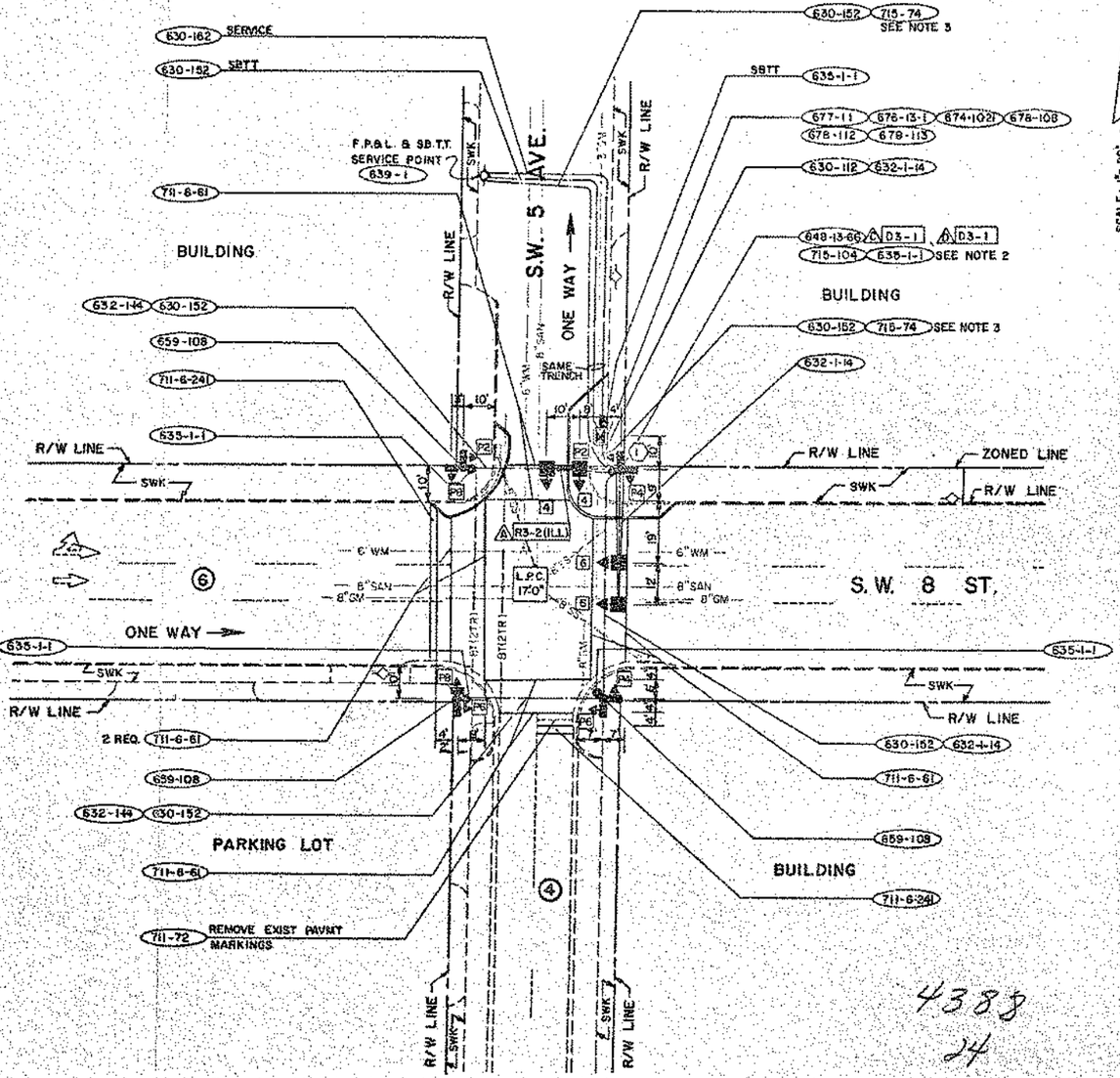
I.L.L. NO LEFT TURN
WITH HORIZONTAL MOUNTING BRACKET
1 REQUIRED
ITEM NO. 700-89-1

SIGN INVENTORY

LEG	ENTER	EXIT
NORTH		
SOUTH		
WEST		
EAST		



ILLUMINATED STREET NAME SIGNS 2 REQUIRED
ITEM NO 700-89-1



NOTES:

1. ALL PAVMT. MARKINGS TO BE WHITE.
2. ITEM NO. 715-74 INCLUDES ELECTRICAL CABLES WITH ALL CONDUCTORS NECESSARY TO COMPLETE THE CIRCUIT, AN ELECTRICAL PULL BOX EQUIPPED WITH A WATERTIGHT TWO POLE 60 AMP FUSE KIT (TYPE AND ENCLOSURE AS REQUIRED BY F.P.&L.) AT THE BASE OF EACH POLE WHICH HAS AN ILLUMINATED STREET NAME SIGN AND THE ELECTRICAL CONDUIT INSIDE THE POLE.
3. INSTALL NO. 6 AWG COPPER THW. WIRE

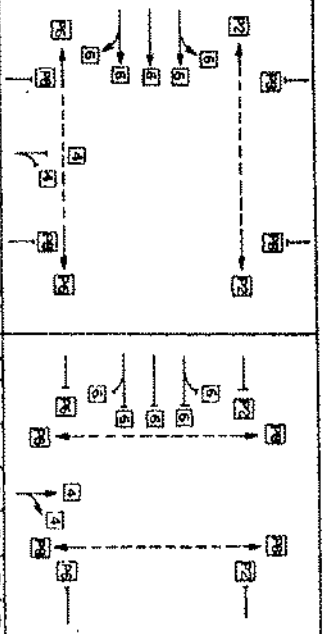
CATEGORY II
S.W. 8 ST. & S.W. 5 AVE.
INTERSECTION IDENTIFICATION NO.

4388
24

#4388 96 24

TRAFFIC SIGNAL INTERVAL DIAGRAMS

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	PEDESTRIAN HEAD NUMBER P2	P4	P6	P8
Ø (6) S.W. 8 ST. (PRE-TIMED)	R/W				R		G							W FDW	DW DW	W FDW	DW DW
	PED. CL.				R		G							DW	DW	DW	DW
	TO Ø2				R		Y							DW	DW	DW	DW
	CLEAR																
Ø (4) S.W. 5 AVE. (PRE-TIMED)	R/W				G		R							DW DW	W FDW	DW DW	W FDW
	PED. CL.				G		R							DW	DW	DW	DW
	TO Ø1				Y		R							DW	DW	DW	DW
	CLEAR																
FL. OP.	R/W				FR		FY										
	TO																
	CLEAR																



Asset # 34388

Drawn	Date
SPERRY	1/79
Check	**Date**
Division Engineer	**Date**

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

S.W. 5 AVE. & S.W. 8 ST.

Placed in Service	Timing Number	Phasing Number
Date: 1/25/79 By:	—	1

TOD Schedule Report
for 3327: SW 4 Av&SW 8 St

Print Date: 2/13/2015

Print Time: 11:22 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3327	SW 4 Av&SW 8 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	EBT	-	SBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 EBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	2 - 2 - 2	50 - 24 - 24	0 - 71 - 71	4	2.7
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 SBT	7 - 7 - 7	13 - 13 - 13	7 - 7 - 7	2.5 - 2.5 - 2.5	50 - 24 - 24	70 - 71 - 71	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 3327: SW 4 Av&SW 8 St

Print Date: 2/13/2015

Print Time: 11:22 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	EBT	-	SBT	-	-	-	-		
	1	80	0	24	0	43	0	0	0	0	0	53
	3	80	0	24	0	43	0	0	0	0	0	36
	4	120	0	44	0	63	0	0	0	0	0	48
	6	120	0	54	0	53	0	0	0	0	0	109
	7	130	0	54	0	63	0	0	0	0	0	122
	8	120	0	54	0	53	0	0	0	0	0	119
	9	90	0	39	0	38	0	0	0	0	0	62
	18	100	0	44	0	43	0	0	0	0	0	0
	19	110	0	54	0	43	0	0	0	0	0	0
	20	120	0	64	0	43	0	0	0	0	0	0
	21	110	0	54	0	43	0	0	0	0	0	0
	24	140	0	69	0	58	0	0	0	0	0	104
	25	140	0	69	0	58	0	0	0	0	0	104
	26	120	0	49	0	58	0	0	0	0	0	104
	27	120	0	49	0	58	0	0	0	0	0	104
	28	130	0	59	0	58	0	0	0	0	0	104
	29	130	0	59	0	58	0	0	0	0	0	104

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0200	Flash	M T W Th F
0330	Flash	Su S
0445	1	M T W Th F
0600	18	Su S
0700	4	M T W Th F
0830	19	Su S
0930	6	M T W Th F
1000	20	Su S
1530	7	M T W Th F
1900	21	Su S
1930	8	M T W Th F
2130	9	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ. NO.	SHEET NO.
87000-3521	121

SIGNAL HEAD DETAILS

4,6

3-SECTION, 1-WAY
12" STD. LENS
INCLUDING HORIZONTAL MOUNTING BRACKET
6 REQUIRED
ITEM NO. 660-1-131

SIGNAL HEAD NO. 6 WITH BACK PLATES
2 REQUIRED
ITEM NO. 659-101

P2, P4, P5, P8

DW

W

2 SECTION, 2-WAY
2 REQUIRED
ITEM NO. 655-112

2 SECTION, 1-WAY
2 REQUIRED
ITEM NO. 655-111

SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	M3-1(2), M3-3(2) M3-2, M6-1(3) M6-3(2), M1-4 M1-1(4), R6-1	*R3-1 (ILL)
SOUTH		*R3-2(ILL) R7-1 *D3-1
EAST		R3-7R D1-1(3) *D3-1
WEST	R6-1(2) M3-3, M1-1 R7-1(2) R7-108	

A — S.W. 8 ST. — S.W. 4 AVE.

ILLUMINATED STREET NAME SIGNS
2 REQUIRED
ITEM NO. 700-99-1

A — ILL. NO LEFT TURN WITH HORIZONTAL MOUNTING BRACKET
1 REQUIRED
ITEM NO. 700-99-1

A — ILL. NO RIGHT TURN WITH HORIZONTAL MOUNTING BRACKET
1 REQUIRED
ITEM NO. 700-99-1

1976 PEAK HOUR VOLUMES

A.M.

153 146 732
431
887 1531 616 28
1818 1331 13 151 751

P.M.

480 428 1086
207
502 986 408 76
709 730 21 568 910

SERVICE STATION

P.P.&L. AND S.B.T.T. SERVICE POINT 639-1

3 REQ. 660-13
630-162 S.B.T.T.
630-152 SERVICE
635-1-1 S.B.T.T.
659-108 665-11
635-1-1 SERVICE

SAME TRENCH

ZONED LINE — R/W LINE — SWK

ONE WAY → 75'

S.W. 8 ST.

660-13
635-1-1
SEE NOTE 1
660-13 630-152
635-1-1
630-162 S.B.T.T.
639-1 630-152 SERVICE
630-152 632-1-16
659-108 665-11
630-152 632-1-16

SERVICE STATION

635-1-1

R/W LINE — SWK — 24' — S.W. 4 AVE. ← ONE WAY — LA. R/W LINE

EMERGENCY PHONE TO BE RELOCATED ON NEW POLE BY CITY OF MIAMI

L.F.C. 17'-0"

A R3-2(ILL)

A R3-1 (ILL.)

SAME TRENCH

6" WM

5AN (DEAD)

REMOVE EXIST PAVEMENT MARKINGS 711-72

R/W LINE

SEE NOTE 1 630-152 660-13

S.B.T.T. 630-152

630-152 632-1-16

SEE NOTE 3 635-1-1

S.B.T.T. 635-1-1

649-13-80 715-1-94 A D3-1 A D3-1

632-1-16

S.B. I-95

630-152 715-74

SEE NOTE 4

SCALE 1" = 20'

WHITE 711-6-181

WHITE 711-6-41

659-108

S.B.T.T. 635-1-1

2 REQ. 660-12 671-61-2 676-34-1 678-113

677-11 676-108 676-112

635-1-1

L.A. R/W LINE — R/W LINE — SAME TRENCH

630-152 715-74

NOTES:

1. SHIELDED LOOP WIRE TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. 660-13
2. CONTRACTOR TO MAINTAIN INTERCONNECTED OPERATION WHILE TEMPORARY CONTROLLER IS IN OPERATION AND WITH NEW CONTROLLER UNTIL INTERSECTION IS CONNECTED TO COMPUTER SYSTEM.
3. ITEM NO. 715-74 INCLUDES ELECTRICAL CABLES WITH ALL CONDUCTORS NECESSARY TO COMPLETE THE CIRCUIT, AN ELECTRICAL PULL BOX EQUIPPED WITH A WATERTIGHT TWO POLE 60 AMP FUSE KIT (TYPE AND ENCLOSURE AS REQUIRED BY FP&L) AT THE BASE OF EACH POLE WHICH HAS AN ILLUMINATED STREET NAME SIGN AND THE ELECTRICAL CONDUIT INSIDE THE POLE.
4. INSTALL NO.6 AWG COPPER THW WIRE.

6: P6 Removed by WO#8

CATEGORY II

S.W. 8 ST. & S.W. 4 AVE.

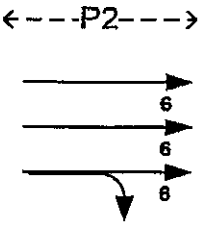
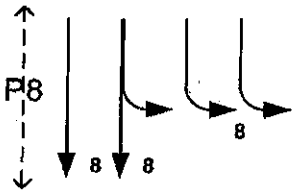
INTERSECTION IDENTIFICATION NO. 33327

3327
24

78
24

SIGNAL OPERATING PLAN

N

	Direction	EB	WB	SB	NB	Ped Heads	Movements/Display/Actuation
Timing Phases	Head No.	6		8		P2 P8	
(2) EB SW 8 ST **RECALL**	Dwell	G		R		W/F DW	
	Clear to 4	Y		R		DW DW	
(4) SB SW 4 Av **RECALL**	Dwell	R		G		DW W/F	
	Clear to 2	R		Y		DW DW	
	Dwell						
	Clear to						
	Dwell						
	Clear to						
	Dwell						
	Clear to						
	Dwell						
	Clear to						
Flashing Operation		FY		FR			Page 1 of 1

MIAMI-DADE COUNTY PUBLIC WORK DEPARMENT

Drawn	Date			
Mario L. Hernandez	5/28/2011	**SW 4 Av & SW 8 St**		
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	6/29/11	Date 07/11/2011 By AGC	5	3327

QuadPPConcPeds

TOD Schedule Report
for 3326: SW 3 Av&SW 8 St

Print Date: 2/13/2015

Print Time: 11:22 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3326	SW 3 Av&SW 8 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	-	-	NBT	-	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 NBT	7	7	7	17	17	17	7	7	7	2.5	2.5	2.5	25	12	12	45	43	43	4	2
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 EBT	7	7	7	11	11	11	7	7	7	2.5	2.5	2.5	45	27	27	0	43	43	4	2
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 SBT	7	7	7	17	17	17	7	7	7	2.5	2.5	2.5	25	12	12	45	43	43	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	---4-6-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 3326: SW 3 Av&SW 8 St

Print Date: 2/13/2015

Print Time: 11:22 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	-	-	NBT	-	EBT	-	SBT		
	1	80	0	0	0	13	0	55	0	13	0	45
	3	80	0	0	0	13	0	55	0	13	0	26
	4	120	0	0	0	19	0	89	0	19	0	47
	6	120	0	0	0	26	0	82	0	26	0	80
	7	130	0	0	0	36	0	82	0	36	0	58
	8	120	0	0	0	34	0	74	0	34	0	57
	9	90	0	0	0	24	0	54	0	24	0	8
	18	90	0	0	0	24	0	54	0	24	0	0
	19	100	0	0	0	24	0	64	0	24	0	0
	20	120	0	0	0	24	0	84	0	24	0	0
	21	110	0	0	0	24	0	74	0	24	0	0

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0200	Flash	M T W Th F
0330	Flash	Su S
0445	1	M T W Th F
0600	18	Su S
0700	4	M T W Th F
0830	19	Su S
0930	6	M T W Th F
1000	20	Su S
1530	7	M T W Th F
1900	21	Su S
1930	8	M T W Th F
2130	9	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0000	VEH RECALL	8---4---	M T W ThF
0200	VEH RECALL	--------	M T W ThF
0600	VEH RECALL	8---4---	M T W ThF
0730	VEH RECALL	--------	M T W ThF
0730	VEH MAX RECALL	8---4---	M T W ThF
2000	VEH MAX RECALL	--------	M T W ThF
2000	VEH RECALL	8---4---	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0000	VEH RECALL	8---4---	M T W ThF
0000	VEH RECALL	8---4---	Su S
0200	VEH RECALL	--------	M T W ThF
0330	VEH RECALL	--------	Su S
0600	VEH RECALL	8---4---	Su S
0600	VEH RECALL	8---4---	M T W ThF
0730	VEH RECALL	--------	M T W ThF
0730	VEH MAX RECALL	8---4---	M T W ThF
1000	VEH RECALL	--------	Su S
1000	VEH MAX RECALL	8---4---	Su S
1900	VEH MAX RECALL	--------	Su S
1900	VEH RECALL	8---4---	Su S
2000	VEH MAX RECALL	--------	M T W ThF
2000	VEH RECALL	8---4---	M T W ThF
2200	VEH RECALL	--------	Su S

* Settings

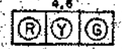
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ NO.	SHEET NO.
87000-3521	123

SIGNAL HEAD DETAILS

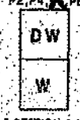
4,6



3-SECTION, 1-WAY
12" STD. LENS
INCLUDING HORIZONTAL MOUNTING BRACKET
6 REQUIRED
ITEM NO. 650-1-13

BACK PLATES
2 REQUIRED FOR SIGNAL HEAD NO. 6 659-101

P2, P4, P8



2 SECTION, 1-WAY
4 REQUIRED
ITEM NO. 653-111

2 SECTION, 2-WAY
2 REQUIRED
ITEM NO. 653-112

SIGN INVENTORY

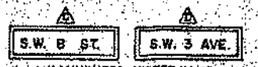
LEG	ENTER	EXIT
NORTH		* R3-2 (ILL) M1-4, M6-3 M4-5, M03-1(ILL) M3-4
SOUTH		* R3-1 (ILL) M1-4, M6-1 M4-5, M6-2
EAST		R6-1 R6-2 M03-1(ILL)
WEST	R7-1079 R6-1(2) R7-4	

* PROPOSED SIGN



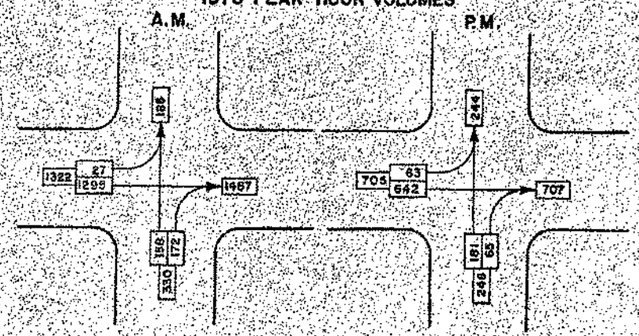
ILL. NO LEFT TURN WITH HORIZONTAL MOUNTING BRACKET
1 REQUIRED
ITEM NO. 700-89-1

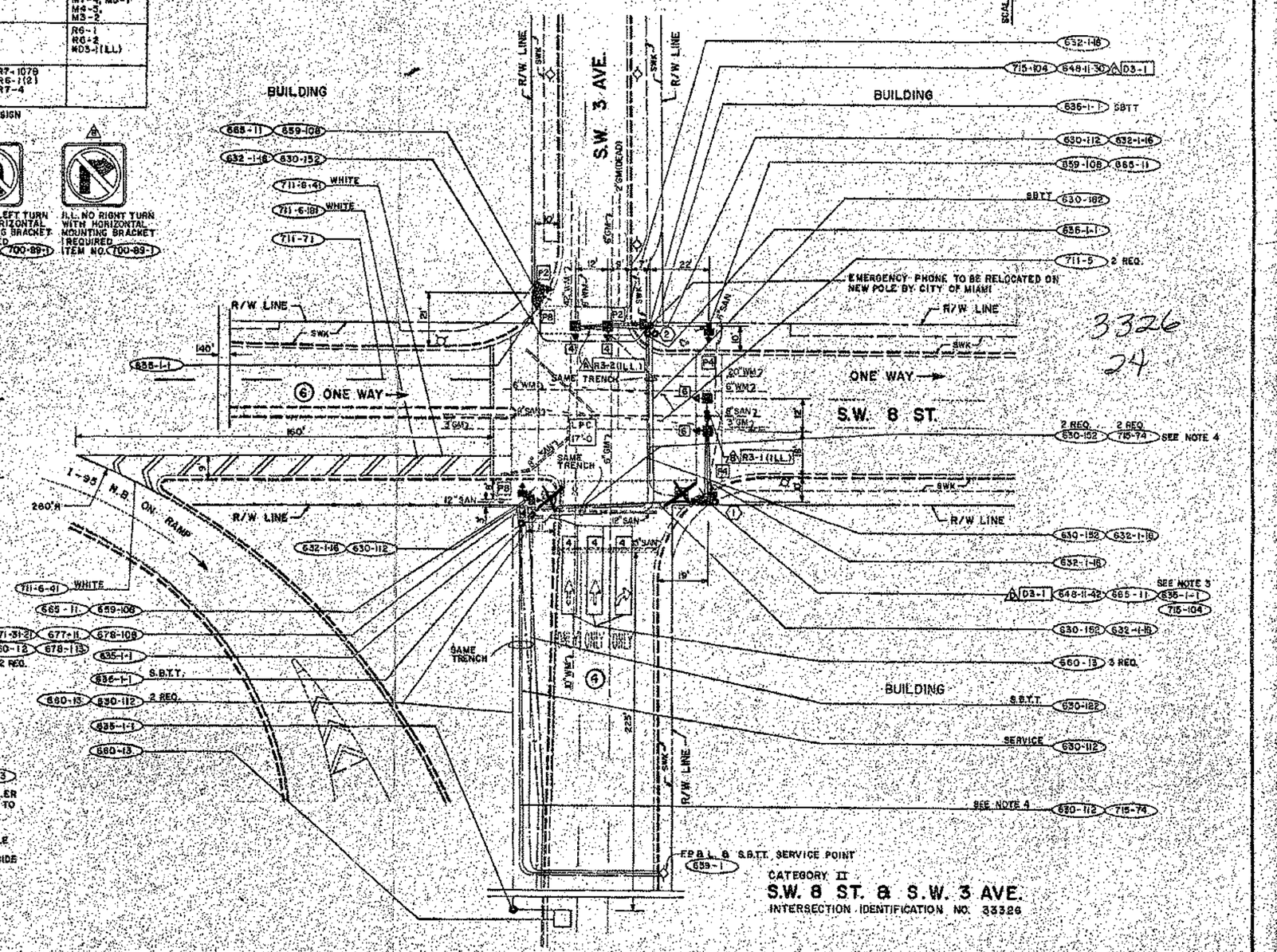
ILL. NO RIGHT TURN WITH HORIZONTAL MOUNTING BRACKET
1 REQUIRED
ITEM NO. 700-89-1



ILLUMINATED STREET NAME SIGNS 2 REQUIRED
ITEM NO. 700-89-1

1976 PEAK HOUR VOLUMES





NOTES:

1. SHIELDED LOOP WIRE TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. 660-13
2. CONTRACTOR TO MAINTAIN INTERCONNECTED OPERATION WHILE TEMPORARY CONTROLLER IS IN OPERATION AND WITH NEW CONTROLLER UNTIL INTERSECTION IS CONNECTED TO COMPUTER SYSTEM.
3. ITEM NO. 715-74 INCLUDES ELECTRICAL CABLES WITH ALL CONDUCTORS NECESSARY TO COMPLETE THE CIRCUIT, AN ELECTRICAL PULL BOX EQUIPPED WITH A WATERTIGHT TWO POLE 60 AMP FUSE KIT (TYP) AND ENCLOSURE AS REQUIRED BY F.P.&L.) AT THE BASE OF EACH POLE WHICH HAS AN ILLUMINATED STREET NAME SIGN AND THE ELECTRICAL CONDUIT INSIDE THE POLE.
4. INSTALL NO. 6 AWG COPPER THW WIRE

5 P's was removed

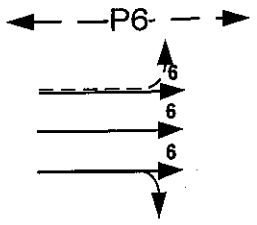
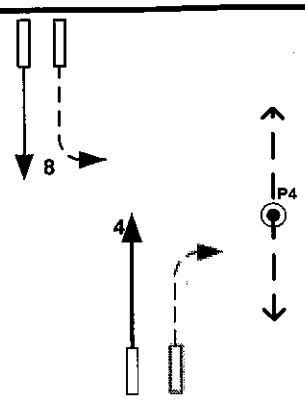
3326
24

24

File No.: 8212707PM.DWSheet No.: 15 Scale: 1 : 400 Drawn by: CML Date:

SIGNAL OPERATING PLAN

N

	Direction	EB			NB			SB						Ped Heads		Movements/Display/Actuation
Timing Phases	Head No.		6			4			8					P4	P6	
(6)	Dwell		G			R			R					DW	W/F	
EB	4+8		Y			R			R					DW	DW	
SW 8 ST	Clear to															
RECALL																
(4 + 8)	Dwell		R			G			G					W/F	DW	
NB/SB	6		R			Y			Y					DW	DW	
SW 3 AV	Clear to															
ACTUATED																
	Dwell															
	clear to															
	Dwell															
	Clear to															
	Dwell															
	ear t															
	Dwell															
	clear to															
Flashing Operation			FY			FR			FR							Page 1 of 1

	MIAMI-DADE COUNTY PUBLIC WORK DEPARMENT		
Drawn Mario L. Hernandez	Date 3/20/2012	SW 3 Av & SW 8 St	
Checked H. Hernandez	Date 3/21/12	Placed in Service Date 03/19/2012	Phasing No. 4	Asset Number 3326

QuadPPConcPeds

TOD Schedule Report
for 2246: SW 2 Av&SW 8 St

Print Date: 2/13/2015

Print Time: 9:24 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2246	SW 2 Av&SW 8 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
SBL	NBT	-	EBT	-	SBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	1 - 1 - 1	10 - 5 - 5	28 - 28 - 28	4	0
2 NBT	4 - 4 - 4	8 - 8 - 8	4 - 4 - 4	1 - 1 - 1	35 - 19 - 19	0 - 72 - 72	4	2.3
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 EBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	1 - 1 - 1	40 - 24 - 24	88 - 88 - 88	4	2.3
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 SBT	4 - 4 - 4	8 - 8 - 8	4 - 4 - 4	1 - 1 - 1	35 - 19 - 19	0 - 72 - 72	4	2.3
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 2246: SW 2 Av&SW 8 St

Print Date: 2/13/2015

Print Time: 9:24 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			SBL	NBT	-	EBT	-	SBT	-	-		
	1	80	13	20	0	31	0	37	0	0	0	70
	3	80	13	20	0	31	0	37	0	0	0	10
	4	120	8	32	0	64	0	44	0	0	0	76
	6	120	8	32	0	64	0	44	0	0	0	100
	7	130	11	29	0	74	0	44	0	0	0	95
	8	120	11	35	0	58	0	50	0	0	0	96
	9	90	7	33	0	34	0	44	0	0	0	51
	18	90	7	23	0	44	0	34	0	0	0	39
	19	100	7	33	0	44	0	44	0	0	0	40
	20	120	8	37	0	59	0	49	0	0	0	68
	21	110	8	27	0	59	0	39	0	0	0	58
	22	65	6	15	0	28	0	25	0	0	0	58
	23	65	7	20	0	22	0	31	0	0	0	50

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0200	Flash	M T W Th F
0330	Flash	Su S
0445	1	M T W Th F
0600	18	Su S
0700	4	M T W Th F
0830	19	Su S
0930	6	M T W Th F
1000	20	Su S
1530	7	M T W Th F
1900	21	Su S
1930	8	M T W Th F
2130	9	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

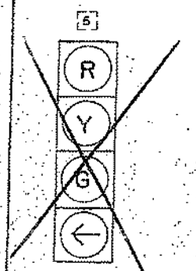
*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

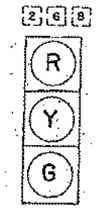
No Calendar Defined/Enabled

STATE PROJECT NO.	SHEET NO.
87120-3513	7-B

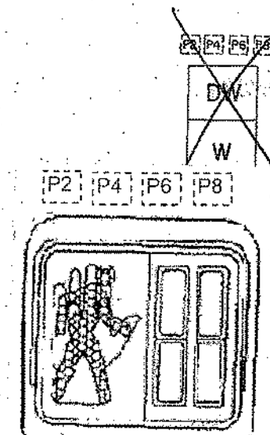
SIGNAL HEAD DETAILS



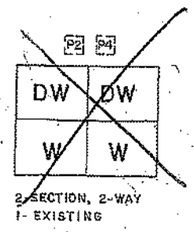
4-SECTION, 1-WAY
8" STD. LENS
WITH DISC.
HANGERS
1- EXISTING



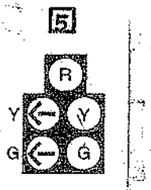
3-SECTION, 1-WAY
8" STD. LENS
WITH DISC.
HANGERS
5- EXISTING WITH
BACK PLATES
ON NO. 8



2-SECTION, 2-WAY
1- EXISTING



2-SECTION, 2-WAY
1- EXISTING

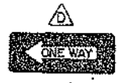




R3-2
ILL. NO LEFT TURN
WITH DISC. HANGER
1- EXISTING



R3-1
ILL. NO RIGHT TURN
WITH DISC. HANGER
1- EXISTING

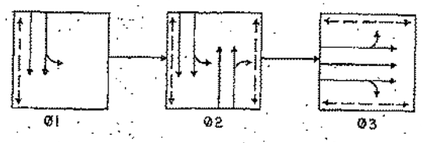


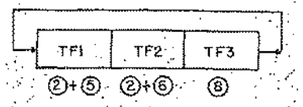
R6-1(L)
2- REQUIRED
700-1-10



R6-1(R)
2- REQUIRED
700-1-10

S.O.P. (EXISTING)





CONTROLLER OPERATIONS

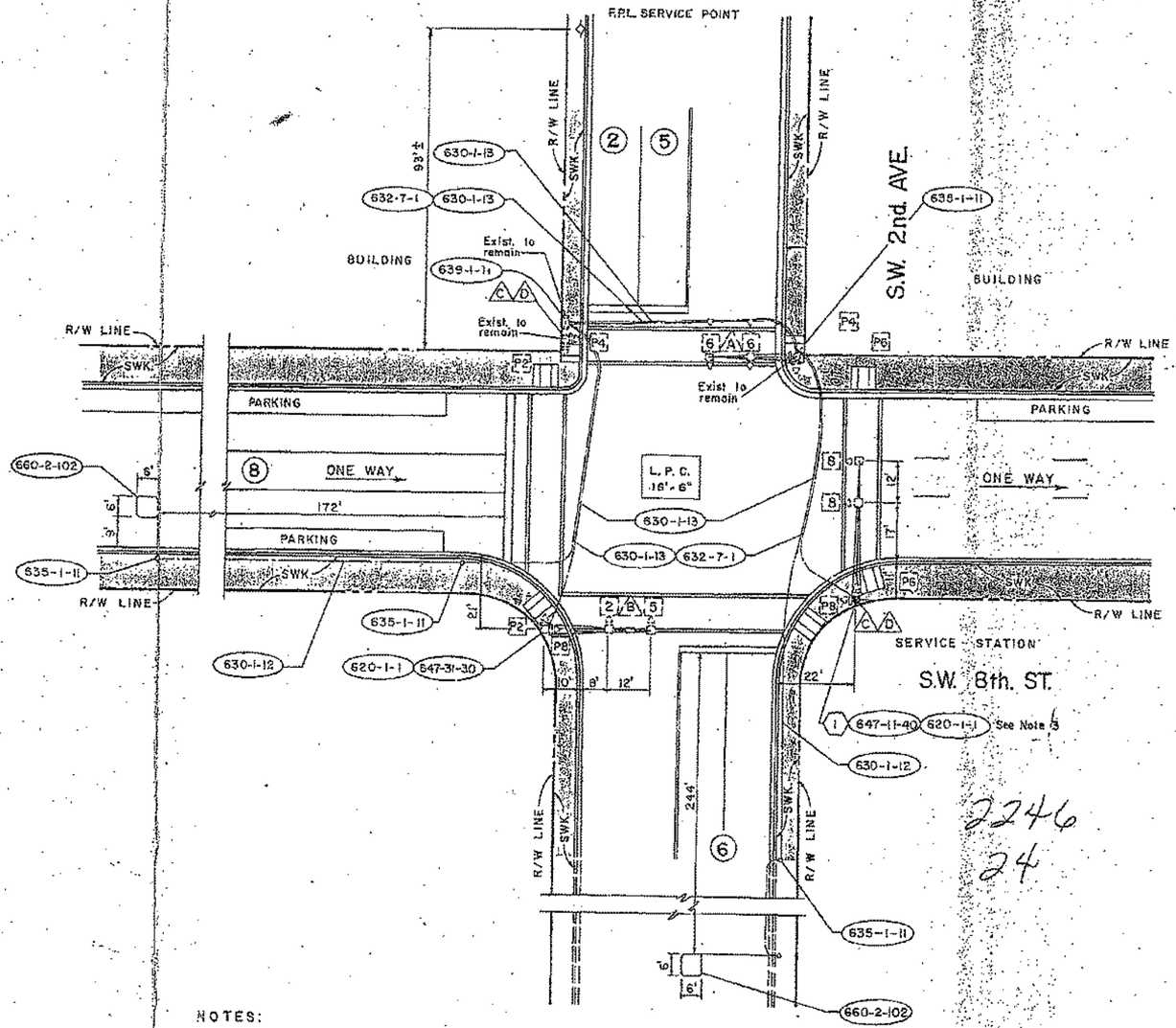
A. MAJOR STREET IS S.W. 2nd AVE. AND THE MINOR STREET IS S.W. 8th STREET.

B. EXISTING CONTROLLER & TIMINGS TO REMAIN.

C. STANDARD LOOP ASSEMBLY - TYPE B, 2 REQD.

D. CONCURRENT PEDESTRIANS ON Ø1 (P2), ON Ø2 (P2 & P6) AND ON Ø3 (P4 & P8).

E. PERMISSIVE LEFT TURNS, FOR MOVEMENT 5



NOTES:

1. THE RELOCATION OF THE EXISTING SIGNAL POLES AND ATTACHED SIGNS & SIGNAL EQUIPMENT, AS SHOWN ON PLANS, SHALL BE INCLUDED IN THE COST FOR ITEM (647-31-30)
   THE COST OF PROVIDING ALL NEW FOUNDATIONS FOR THE RELOCATED POLES SHALL ALSO BE INCLUDED IN THESE ITEMS.
2. ~~RELOCATE EXISTING PEDESTRIAN SIGNAL HEADS ON THE NEW STEEL PEDESTAL ON N.E. CORNER, ITEM (650-10-8)~~
3. THE RELOCATION OF THE EXISTING SIGNAL HEADS, ATTACHED SIGNS & SIGNAL EQUIPMENT SHALL BE INCLUDED IN THE COST FOR ITEM (647-11-40)
4. EXISTING LOOP DETECTORS THAT WILL BE REPLACED SHALL BE ABANDONED IN PLACE
5. EXISTING SIGNAL CONDUITS TO BE ABANDONED

DATE	BY	DESCRIPTION
11-12-03	W.B.	Changed radii N.E. Corner - Deleted new pole.

	NAME	DATE
DESIGNED BY	R.D.	4/89
DRAWN BY	R.D.	4/89
CHECKED BY	M.N.	4/89
QUANTITIES BY	R.D.	4/89
SUPERVISED BY	V.B.	4/89

APPROVED BY: V. BENITEZ
DATE:

FLORIDA DEPARTMENT OF TRANSPORTATION

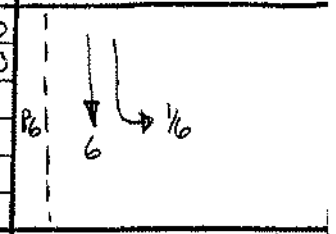
S.W. 8th ST. & S.W. 2nd AVE.

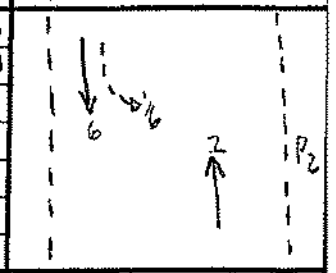
2246
24

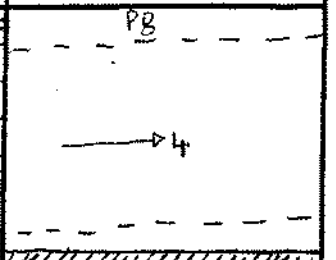
SIGNAL OPERATING PLAN

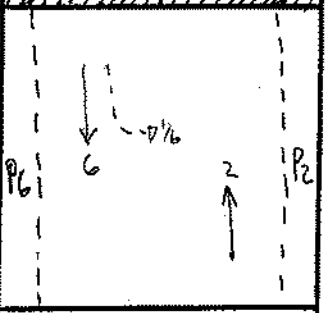
N

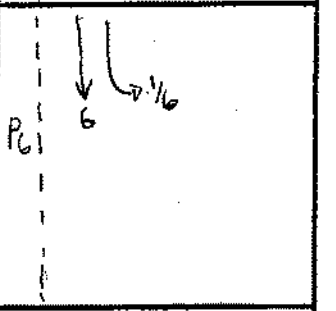
Timing Phases	Direction / Head No.	SB 1/6	SB 6	NB 2	EB 4	Ped Heads 2	6	4	8	Movements/Display/Actuation
LEAD	Dwell	←/G	G	R	R	DW	W/F	DW	DW	
1+6	clear to 2+6	←/G	G	R	R	DW	DW	DW	DW	
SB										
SW 2 AV										
RECALL										
	Dwell	G	G	G	R	W/F	W/F	DW	DW	
2+6	clear to 4	Y	Y	Y	R	DW	DW	DW	DW	
N/S										
SW 2 AV										
RECALL										
	Dwell	R	R	R	G	DW	DW	W/F	W/F	
4	clear to 1+6	R	R	R	Y	DW	DW	DW	DW	
EB										
SW 8 ST										
RECALL										
LAG	Dwell	G	G	G	R	W/F	W/F	DW	DW	
2+6	clear to 1+6	G	G	Y	R	DW	DW	DW	DW	
N/S										
SW 2 AV										
RECALL										
	Dwell	←/G	G	R	R	DW	W/F	DW	DW	
1+6	clear to 4	←/Y	Y	R	R	DW	DW	DW	DW	
SB										
SW 2 AV										
RECALL										
	Dwell	R	R	R	G	DW	DW	W/F	W/F	
4	clear to 2+6	R	R	R	Y	DW	DW	DW	DW	
EB										
SW 8 ST										
RECALL										
Flashing Operation		FY	FY	FY	FR					Page 1 of 1

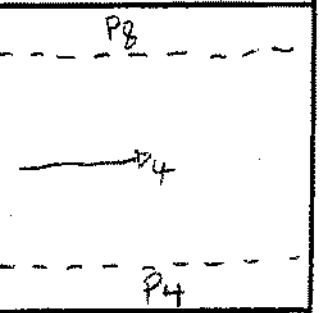












Miami-Dade County Public Works Department

Drawn	Date	SW 2 AV & 8 ST		
H. FRANCILLON	2/18/10			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	2/18/10	Date 2/26/04 By SHOP	6	2246

Blank16

TOD Schedule Report
for 3381: SW 4 Av&SW 7 St

Print Date: 2/13/2015

Print Time: 11:28 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3381	SW 4 Av&SW 7 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	SWT	SBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	1 - 1 - 1	25 - 19 - 19	0 - 57 - 57	4	2.5
3 SWT	7 - 7 - 7	5 - 5 - 5	7 - 7 - 7	3 - 3 - 3	25 - 12 - 12	85 - 85 - 85	4.3	2.7
4 SBT	7 - 7 - 7	5 - 5 - 5	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 12 - 12	25 - 16 - 16	4	3.2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-234----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3381: SW 4 Av&SW 7 St

Print Date: 2/13/2015

Print Time: 11:28 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	SWT	SBT	-	-	-	-		
	1	80	0	28	20	11	0	0	0	0	0	56
	3	80	0	27	20	12	0	0	0	0	0	76
	4	120	0	32	55	12	0	0	0	0	0	56
	6	120	0	43	43	13	0	0	0	0	0	109
	7	130	0	42	55	12	0	0	0	0	0	126
	8	120	0	42	45	12	0	0	0	0	0	119
	9	90	0	28	29	12	0	0	0	0	0	64
	11	130	0	42	55	12	0	0	0	0	0	71
	14	120	0	42	45	12	0	0	0	0	0	119
	15	100	0	38	29	12	0	0	0	0	0	65
	18	90	0	23	35	11	0	0	0	0	0	0
	19	100	0	32	35	12	0	0	0	0	0	0
	20	120	0	52	35	12	0	0	0	0	0	0
	21	110	0	42	35	12	0	0	0	0	0	0
	24	140	0	65	40	14	0	0	0	0	0	114
	25	140	0	64	40	15	0	0	0	0	0	114
	26	120	0	46	40	13	0	0	0	0	0	114
	27	120	0	46	40	13	0	0	0	0	0	114
	28	130	0	56	40	13	0	0	0	0	0	114
	29	130	0	56	40	13	0	0	0	0	0	114

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0445	1	M T W Th F
0600	18	Su S
0700	4	M T W Th F
0830	19	Su S
0930	6	M T W Th F
1000	20	Su S
1530	11	M T W Th F
1900	Free	Su S
1930	14	M T W Th F
2130	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

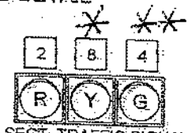
TOD Schedule Report
for 3381: SW 4 Av&SW 7 St

Print Date: 2/13/2015

Print Time: 11:28 AM

No Calendar Defined/Enabled

SIGNAL HEAD DETAIL



3-SECT. TRAFFIC SIGNAL
650-51-311
6 AS

* PROGRAMMABLE
** GEOMETRICALLY PROGRAM LOOPS



SPECIAL SIGN
12"x12"
4 EA



653-171
6 AS

X
SW 4 AV
D3
12" X 24"
700-48-18
1 EA

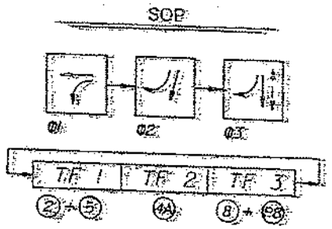
Y
CLAUDE PEPPER WAY
SW 7 ST
D3
24" X 54"
700-48-18
2 EA

V
R3-1
24" X 24"
700-48-18
1 EA

Z
R3-2
24" X 24"
700-48-18
2 EA

M
NO TURN ON RED
R10-11B
24" X 30"
700-48-18
3 EA

SOP



CONTROLLER OPERATION:

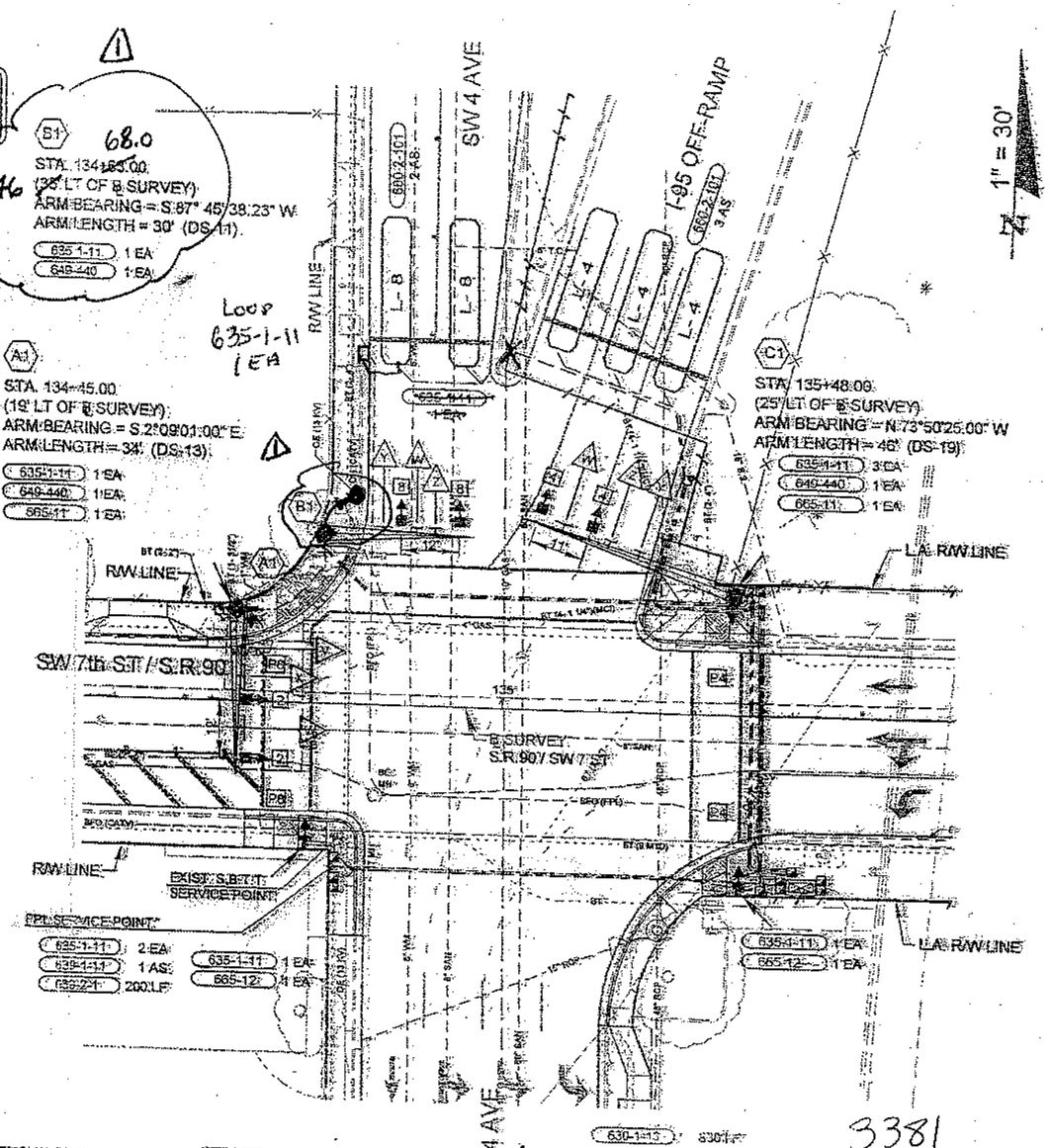
1. MAJOR STREET: SW 7 ST / S.R. 90
   MINOR STREET(S): SW 4 AVE.
   I-95 OFF-RAMP
2. SOP AS SHOWN.
3. PHASES 2 AND 3 ACTUATED, PHASES RECALL.
4. FLASHING OPERATION: 2 - YELLOW
   4, 8 - RED

DETECTORS FOR LOOPS:		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-8	2	1
L-4	3	2

NOTES:

1. SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 6' X 30' FOR LEFT OR RIGHT TURNING LANES.
3. OVERHEAD STREET SIGNS: ⚠ AND ⚠ SHALL USE "C" SERIES NUMBERS (10" IN HEIGHT) AND LETTERS (8" IN HEIGHT). THE SPACE BETWEEN LETTERS MAY BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALL DIMENSION IN THE OVERHEAD STREET NAME SIGNS.
4. CONTRACTOR TO MAINTAIN INTERCONNECTED OPERATION WITH EXISTING CABLE UNTIL THE INTERSECTION IS CONNECTED TO COMPUTER SYSTEM.
5. PAY ITEM 690-100 SHALL INCLUDES THE REMOVAL OF EXISTING PULL BOXES IN THE INTERSECTION AS WELL AS THE REMOVAL OF 2 SIGN PANELS ON EXISTING WESTBOUND MAST ARM.
6. COST FOR SPECIAL SIGN IS INCLUDED IN PAY ITEM(S) No. 665-11 AND 665-12.
7. FOR MAST ARM C1 CONTRACTOR SHALL INSTALL A PERMANENT STEEL CASING FOUR FEET DEEP. COST TO BE INCLUDED IN MAST ARM FOUNDATION.

⚠ Revised As-Built 1/11/06



CONTROLLER ITEMS:		REMOVAL ITEMS:	
632-7-11	1 PI	690-10	6 EA
635-1-11	5 EA	690-33-1	60 LF
660-1-109	3 EA	690-50	1 EA
670-5-120	1 AS	690-90	1 PI
685-120	1 EA	690-100	1 PI
685-124	1 EA		

TCD, INC.

AS - BUILT

BY: _____ DATE: 9/19/05

3381
24

S.R. 90 / SW 7 ST.
AND SW 4 AVE.
I.D. NO.: 3381

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
C.A. No.: EB-000 7997
A&P Consulting Transportation Engineers Corporation
10205 N.W. 41 Street, Suite 115
Miami, FL 33178
(305) 392-7283 / fax (305) 593-1604

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 90	MIAMI-DADE	412769-1-52-01

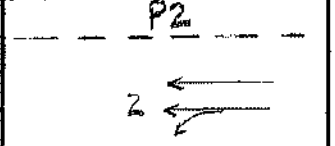
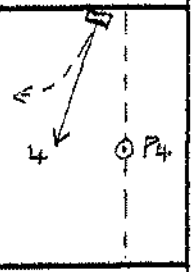
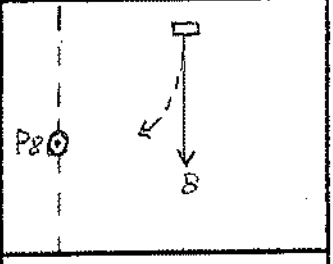
SIGNALIZATION PLAN

SHEET NO.: 22

STATES STREET SPLICE

SIGNAL OPERATING PLAN

N

Timing Phases	Direction / Head No.	WB 2	SWB 4	SB 8	Ped Heads P2	P4	P8	Movements/Display/Actuation
2 WBND SW 7 ST (RECALL)	Dwell	G	R	R	W/F	DW	DW	
	Clear to 3	Y	R	R	DW	DW	DW	
	Clear to 4	Y	R	R	DW	DW	DW	
3 SWBND I-95 OFF RAMP (ACTUATED)	Dwell	R	G	R	DW	W/F	DW	
	Clear to 4	R	Y	R	DW	DW	DW	
	Clear to 2	R	Y	R	DW	DW	DW	
4 SBND SW 4 AV (ACTUATED)	Dwell	R	R	G	DW	DW	W/F	
	Clear to 2	R	R	Y	DW	DW	DW	
	Dwell							
	Clear to							
	Dwell							
	Clear to							
	Dwell							
	Clear to							
Flashing Operation		FY	FR	FR				Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	SW 4 AVE & SW 7ST & I-95 OFF RAMP		
H. FRANCILLON	8/22/05			
Checked	Date	Placed in Service	Phasing No.	Asset Number
	8/22/05	Date / By TCD	4	3381

Blank12

TOD Schedule Report
for 3450: SW 3 Av&SW 7 St

Print Date: 2/25/2015

Print Time: 2:02 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3450	SW 3 Av&SW 7 St	DOW-4		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	NBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	5 - 5 - 5	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	0 - 41 - 41	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	6 - 6 - 6	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 12 - 12	45 - 41 - 41	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 3450: SW 3 Av&SW 7 St

Print Date: 2/25/2015

Print Time: 2:02 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	NBT	-	-	-	-		
	1	80	0	56	0	12	0	0	0	0	0	63
	3	80	0	56	0	12	0	0	0	0	0	14
	4	120	0	76	0	32	0	0	0	0	0	62
	6	120	0	81	0	27	0	0	0	0	0	102
	7	130	0	86	0	32	0	0	0	0	0	29
	8	120	0	76	0	32	0	0	0	0	0	118
	9	90	0	54	0	24	0	0	0	0	0	42
	11	130	0	86	0	32	0	0	0	0	0	62
	14	120	0	76	0	32	0	0	0	0	0	118
	15	100	0	56	0	32	0	0	0	0	0	64
	18	90	0	64	0	14	0	0	0	0	0	19
	19	100	0	74	0	14	0	0	0	0	0	31
	20	120	0	94	0	14	0	0	0	0	0	23
	21	110	0	84	0	14	0	0	0	0	0	23

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0445	1	M T W Th F
0600	18	Su S
0700	4	M T W Th F
0830	19	Su S
0930	6	M T W Th F
1000	20	Su S
1530	11	M T W Th F
1900	Free	Su S
1930	14	M T W Th F
2130	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ. NO.
87000-3548

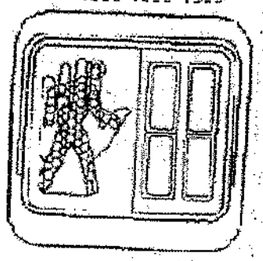
SIGNAL HEAD DETAILS

2,4

3-SECT. 1-WAY
12" STD. LENS
WITH DISC.
HANGER
4 REQUIRED
ITEM NO. 650-1-13

SIGNAL HEAD NO. 2
WITH BACKPLATES
2 REQUIRED
ITEM NO.
659-101

P2 P4 P6 P8



SIGN INVENTORY

LEG	ENTER	EXIT
NORTH		R7-4 (3) R6-1 (L) R3-1*
SOUTH	M4-5, R6-1(L) M1-4, R6-2(L) M6-1(L), R7-1(1) R5-1(2)	
EAST	R6-1(R)	
WEST		R7-4 R3-2* R6-1(R)

*PROPOSED

A



R3-2
1 REQUIRED
ITEM NO.
700-84
(24"x24")

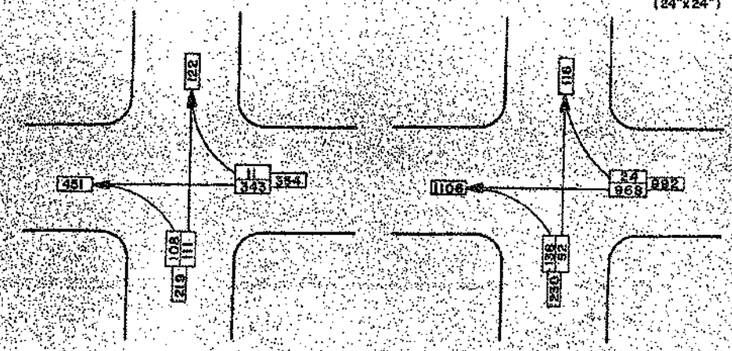
B



R3-1
1 REQUIRED
ITEM NO.
700-84
(24"x24")

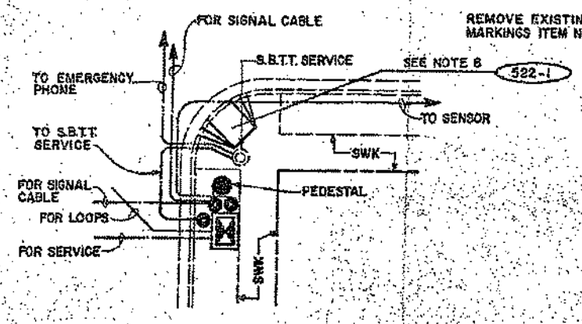
1977 PEAK HOUR VOLUMES

A.M. P.M.

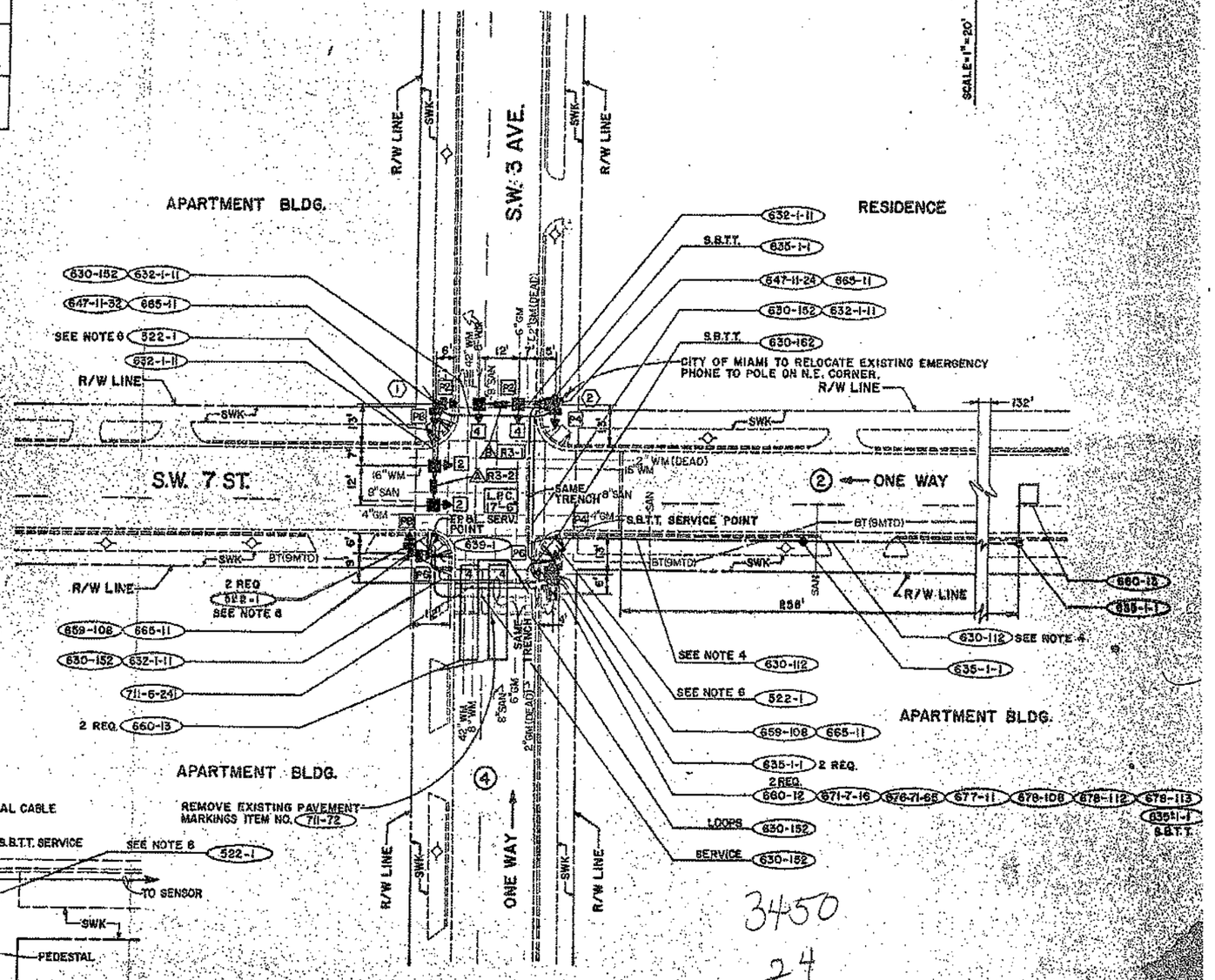


NOTES

1. F.P.&L. TO RAISE CONFLICTING SECONDARY LINES ON WEST LEG.
2. CONTRACTOR TO MAINTAIN INTERCONNECTED OPERATION UNTIL INTERSECTION IS UNDER COMPUTER CONTROL.
3. REMOVE EXISTING EMERGENCY PHONE PEDESTAL (BY OTHERS)
4. SHIELDED LOOP WIRE NO. 14 AWG. TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. 660-13
5. ALL PAVEMENT MARKINGS WHITE UNLESS OTHERWISE NOTED ON PLANS.
6. APPROX. 208Y OF CONCRETE REQUIRED TO CONSTRUCT 4 CURB CUT RAMPS.



S.E. CORNER DETAIL
SCALE: 1" = 10'



CATEGORY II sec. # 24

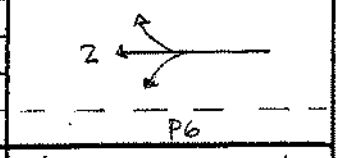
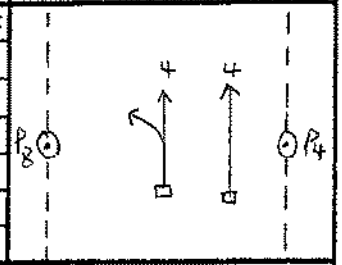
S.W. 7 STREET & S.W. 3 AVENUE

INTERSECTION IDENTIFICATION NO. 33450

3450

SIGNAL OPERATING PLAN

N

Timing Phases	Direction	WB	NB	Ped Heads P2	Ped Heads P6	Ped Heads P4	Ped Heads P8	Movements/Display/Actuation
2 WB SW 7 ST RECALL	Head No.	2	4	W/F	W/F	DW	DW	P2
	Dwell	G	R	DW	DW	DW	DW	
	Clear to 4	Y	R					P6
4 NB SW 3 AV ACTUATED	Dwell	R	G	DW	DW	W/F	W/F	
	Clear to 2	R	Y	DW	DW	DW	DW	
	Dwell							
	Clear to							
	Dwell							
	Clear to							
	Dwell							
	Clear to							
	Dwell							
	Clear to							
Flashing Operation		FY	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	SW 3 AV & SW 7 ST		
H. FRANCILLON	9/16/05			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	9/19/05	Date / By SHOP	3	3450

Blank12

TOD Schedule Report
for 3450: SW 3 Av&SW 7 St

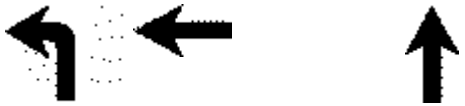
Print Date: 2/25/2015

Print Time: 2:02 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3450	SW 3 Av&SW 7 St	DOW-4		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	NBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	5 - 5 - 5	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	0 - 41 - 41	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	6 - 6 - 6	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 12 - 12	45 - 41 - 41	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 3450: SW 3 Av&SW 7 St

Print Date: 2/25/2015

Print Time: 2:02 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	NBT	-	-	-	-		
	1	80	0	56	0	12	0	0	0	0	0	63
	3	80	0	56	0	12	0	0	0	0	0	14
	4	120	0	76	0	32	0	0	0	0	0	62
	6	120	0	81	0	27	0	0	0	0	0	102
	7	130	0	86	0	32	0	0	0	0	0	29
	8	120	0	76	0	32	0	0	0	0	0	118
	9	90	0	54	0	24	0	0	0	0	0	42
	11	130	0	86	0	32	0	0	0	0	0	62
	14	120	0	76	0	32	0	0	0	0	0	118
	15	100	0	56	0	32	0	0	0	0	0	64
	18	90	0	64	0	14	0	0	0	0	0	19
	19	100	0	74	0	14	0	0	0	0	0	31
	20	120	0	94	0	14	0	0	0	0	0	23
	21	110	0	84	0	14	0	0	0	0	0	23

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0445	1	M T W Th F
0600	18	Su S
0700	4	M T W Th F
0830	19	Su S
0930	6	M T W Th F
1000	20	Su S
1530	11	M T W Th F
1900	Free	Su S
1930	14	M T W Th F
2130	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

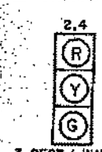
*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

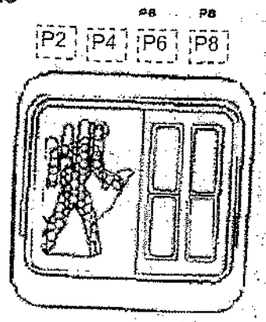
STATE PROJ. NO. 87000-3548

SIGNAL HEAD DETAILS



3-SECT. 1-WAY
12" STD. LENS
WITH DISC.
HANGER
4 REQUIRED
ITEM NO. 650-1-13

SIGNAL HEAD NO. 2
WITH BACKPLATES
2 REQUIRED
ITEM NO.
659-101



SIGN INVENTORY

LEG	ENTER	EXIT
NORTH		R7-4 (3) R6-1 (L) R3-1*
SOUTH	M4-5, R6-1(L) M1-4, R6-2(L) M6-1(L), R7-1(1) R5-1(2)	
EAST	R6-1(R)	
WEST		R7-4 R3-2* R6-1(R)

*PROPOSED

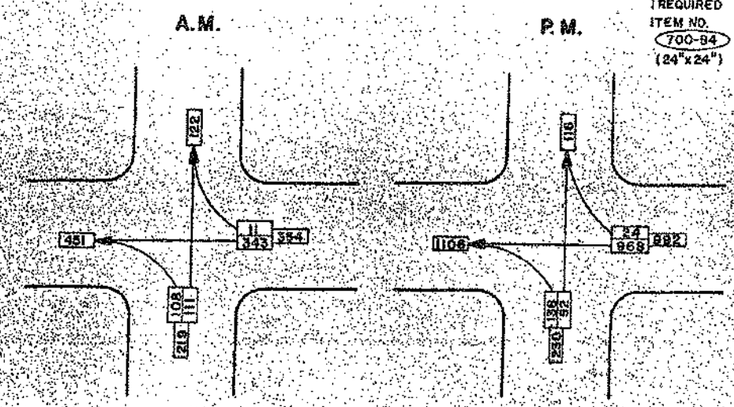


R3-2
1 REQUIRED
ITEM NO.
700-84
(24"x24")



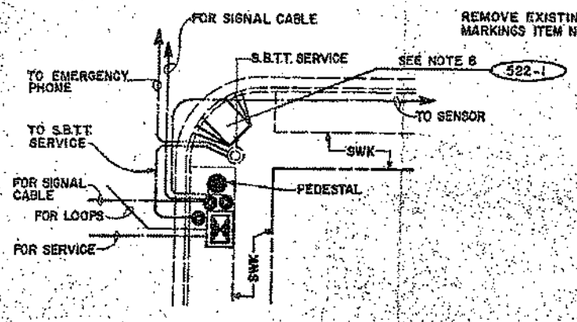
R3-1
1 REQUIRED
ITEM NO.
700-84
(24"x24")

1977 PEAK HOUR VOLUMES

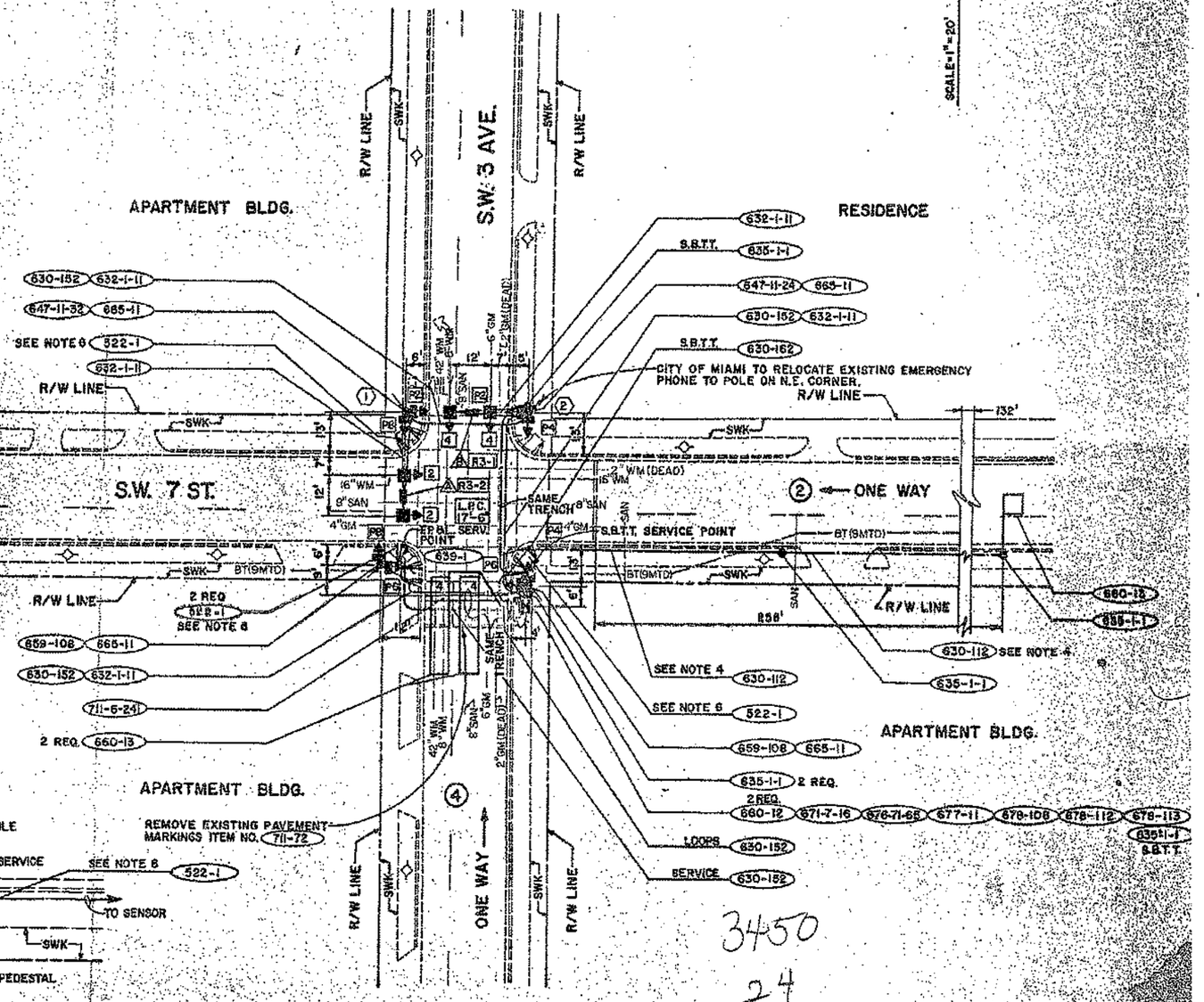


NOTES

1. F.P.&L. TO RAISE CONFLICTING SECONDARY LINES ON WEST LEG.
2. CONTRACTOR TO MAINTAIN INTERCONNECTED OPERATION UNTIL INTERSECTION IS UNDER COMPUTER CONTROL.
3. REMOVE EXISTING EMERGENCY PHONE PEDESTAL (BY OTHERS)
4. SHIELDED LOOP WIRE NO. 14 AWG. TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. 660-13
5. ALL PAVEMENT MARKINGS WHITE UNLESS OTHERWISE NOTED ON PLANS.
6. APPROX. 208Y OF CONCRETE REQUIRED TO CONSTRUCT 4 CURB CUT RAMPS.



S.E. CORNER DETAIL
SCALE: 1"=10'

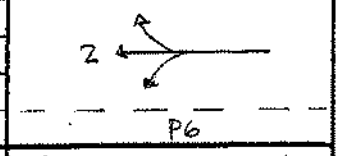
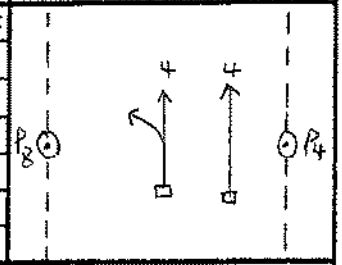


3450
24

CATEGORY II sec. # 24
S.W. 7 STREET & S.W. 3 AVENUE
INTERSECTION IDENTIFICATION NO. 33450
3450

SIGNAL OPERATING PLAN

N

Timing Phases	Direction	WB	NB	Ped Heads P2	Ped Heads P6	Ped Heads P4	Ped Heads P8	Movements/Display/Actuation
2 WB SW 7 ST RECALL	Head No.	2	4	W/F	W/F	DW	DW	P2
	Dwell	G	R	DW	DW	DW	DW	
	Clear to 4	Y	R					P6
4 NB SW 3 AV ACTUATED	Dwell	R	G	DW	DW	W/F	W/F	
	Clear to 2	R	Y	DW	DW	DW	DW	
	Dwell							
	Clear to							
	Dwell							
	Clear to							
	Dwell							
	Clear to							
	Dwell							
	Clear to							
Flashing Operation		FY	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	SW 3 AV & SW 7 ST		
H. FRANCILLON	9/16/05			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	9/19/05	Date / By SHOP	3	3450

Blank12

TOD Schedule Report
for 2241: SW 2 Av&SW 7 St

Print Date: 2/13/2015

Print Time: 9:23 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2241	SW 2 Av&SW 7 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	NBT	-	-	NBL	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	0 - 60 - 60	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	10 - 8 - 8	7 - 7 - 7	1 - 1 - 1	25 - 15 - 15	75 - 75 - 75	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 NBL	7 - 7 - 7	18 - 18 - 18	5 - 5 - 5	2 - 2 - 2	10 - 15 - 15	30 - 30 - 30	4	0
8 SBT	7 - 7 - 7	10 - 8 - 8	7 - 7 - 7	1 - 1 - 1	25 - 15 - 15	60 - 60 - 60	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4--78
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 2241: SW 2 Av&SW 7 St

Print Date: 2/13/2015

Print Time: 9:23 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	NBT	-	-	NBL	SBT		
	1	80	0	44	0	24	0	0	6	14	0	38
	3	120	0	54	0	54	0	0	26	24	0	46
	4	120	0	54	0	54	0	0	26	24	0	45
	6	120	0	54	0	54	0	0	16	34	0	77
	7	130	0	54	0	64	0	0	26	34	0	34
	8	120	0	54	0	54	0	0	10	40	0	93
	9	90	0	45	0	33	0	0	9	20	0	24
	11	130	0	54	0	64	0	0	26	34	0	53
	14	120	0	54	0	54	0	0	10	40	0	93
	15	100	0	55	0	33	0	0	9	20	0	48
	18	90	0	44	0	34	0	0	12	18	0	3
	19	100	0	52	0	36	0	0	13	19	0	2
	20	120	0	69	0	39	0	0	14	21	0	23
	21	110	0	61	0	37	0	0	12	21	0	24

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0445	1	M T W Th F
0600	18	Su S
0700	4	M T W Th F
0830	19	Su S
0930	6	M T W Th F
1000	20	Su S
1530	11	M T W Th F
1900	Free	Su S
1930	14	M T W Th F
2130	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

SIGNAL HEAD DETAILS

P2 P4 P6 P8

4 6 8 R Y G — 2650-1-131 5 AS

7/4 R Y G — 2650-1-161 1 AS

2620-1 6 MI
2630-1-13 55 MI
2635-1-11 1 EA
2639-1-13 1 AS
2639-2-1 110 MI

D3-1S — 2700-48-11 1 EA

D3-1S — 2700-48-11 2 EA

R3-1 — 2700-48-11 1 EA

R3-2 — 2700-48-11 1 EA

R3-4 — 2700-48-11 1 EA

CONTROLLER OPERATIONS

1. THE MAJOR STREET IS S.W. 7th STREET AND THE MINOR STREET IS SW 2nd AVENUE.
2. ~~SIGNAL HEADS 6 TO FLASH YELLOW. SIGNAL HEADS 3, 4, 8 TO FLASH RED.~~

SEE SOP

SIGNAL OPERATING PLAN

Ø1 Ø2 Ø3

TF 1 TF 2 TF 3

① ⑤ ② ⑥ ④

P6 P2 P4 P8

SOP #3

DETECTORS FOR LOOPS

MOV'T. NO.	NO. OF LOOPS	NO. OF DETECTORS
(1)	1	1

SEE ATMS

CONTROLLER TIMINGS

TIMING FUNCTION	1	2	3
MIN. GRN. (INT.)	10	10	10
EXT. (PASS)	3.0	3.0	3.0
MAX. GRN. 1	30	30	30
MAX. GRN. II	-	-	-
YELLOW CLR.	4	4	4
ALL RED CLR.	1	1	1
PED. WALK	20	20	20
PED. CLEAR	10	10	10

FINAL TIMING BY MIAMI-DADE COUNTY SIGNAL DIV.

2630-1-13 24 MI

2620-1-1 7 MI
2630-1-13 29 MI
2635-1-11 1 EA
2647-11-11 1 AS

FPL SERVICE POINT

Interconnect Conduit to the SW 2 AV and SW 8 ST Controller. (2 - 50 PVC)

B1 STA. 10+97.000 12.228 (LT)

R/W LINE

2680-2-100 1 EA
2635-1-11 1 EA
2630-1-13 29 MI

R/W LINE

B4 STA. 10+94.800 11.300 (RT)

REMOVAL ITEMS

2690-20 1 EA
2690-40 3 EA
2690-50 1 EA
2690-90 1 PI
2690-100 1 PI

ONE WAY

2620-1 6 MI
2630-1-13 22 MI
2635-1-11 1 EA
2659-101 1 AS

10 meters
Scale 1:400

2632-7-1 1 PI
2620-1 6 MI
2630-1-13 6 MI
2635-1-11 1 EA
2647-11-14 1 AS
2620-1 85 MI
2635-1-11 5 EA
2680-1-109 1 EA
2672-1-1 1 AS
2685-120 1 EA
2685-124 1 EA

R/W LINE

STA. 11+17.23 16.390 (LT)

B2

ONE WAY

3.3 0.0

Interconnect conduits to S.W. 3rd Street controller (2 - 50 PVC).

1.8 CONC. SIDEWALK

BST SERVICE POINT

PREEMPTION CONDUIT TO BRIDGE SIGNAL INTERPHASE ENCLOSURE BOX @ STA. 11+87 (RT)

CONSTRUCTION

S.W. 2nd AVENUE

S.W. 7th STREET

STA. 11+17.133 12.020 (RT) B3

2620-1 6 MI
2630-1-13 26 MI
2635-1-11 1 EA
2647-11-12 1 AS

BLDG. F.F.

R/W LINE

MAIN BRICKELL BLDG SHIPPING
2 STORIES BLDG

0 2 10
Meters

INTERSECTION ID No. 2241

NOTES:

BELL SOUTH REPRESENTATIVE: DELL CASTELLANOS. TEL. (305) 222-8222
F.P.L. REPRESENTATIVE: TOM HODGDON. TEL. (305) 77[illegible]-7934

29.5 ft
30.0

SW
3-31-00

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

KUNDE SPRECHER & ASSOC., INC.
Engineers • Architects • Planners • Construction Managers
MIAMI • ORLANDO • DEERFIELD BEACH
PUERTO RICO • ST. THOMAS, V.I.

	Name	Date		Name	Date
Designed by	S.M.	4-99	Drawn by	J.E.	4-99
Checked by	M.S.	4-99	Checked by	S.M.	4-99
Supervised by	SVEN REYDANZ, P.E.				

FLORIDA DEPARTMENT OF TRANSPORTATION

S.W. 2nd AVENUE AND S.W. 7th STREET
SIGNALIZATION PLANS | 2241

d:\b-sw2\plans\01.dgn 31 MAR 100 10:21:51 Johns Exeta

SIGNAL HEAD DETAILS

4 6 8 — R Y G — 2650-1-13I 5 AS

~~5 7 8~~ 7/4 — R Y ~~4~~ G — 2650-1-15I 1 AS

P2 P4 P6 P8 — 2653-171 8 AS

X — 1500 — 200 C — SW 2 AV — 250 C — 450 — D3-1S — 2700-48-11 1 EA

Y — 1500 — 150 C — GUARD PEPPER WAY — SW 7 ST — 200 C — 250 C — 600 — D3-1S — 2700-48-11 2 EA

W — R3-1 — 2700-48-11 1 EA

W — R3-2 — 2700-48-11 1 EA

Z — R3-4 — 2700-48-11 1 EA

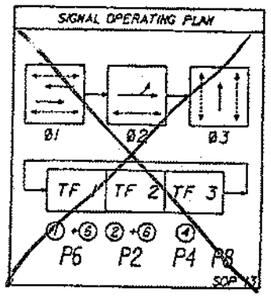
CONTROLLER OPERATIONS

1. THE MAJOR STREET IS S.W. 7th STREET AND THE MINOR STREET IS SW 2nd AVENUE.

~~2. SIGNAL HEADS 6 TO FLASH YELLOW, SIGNAL HEADS 3, 4, 8 TO FLASH RED.~~

SEE SOP

SIGNAL OPERATING PLAN



DETECTORS FOR LOOPS		
MOV'T. NO.	NO. OF LOOPS	NO. OF DETECTORS
①	1	1

SEE ATMS

CONTROLLER TIMINGS

TIMING FUNCTION		1	2	3					
TIMING FUNCTION	MIN. GRN. (INT.)	10	10	10					
	EXT. (PASS.)	3.0	3.0	3.0					
	MAX. GRN. I	30	30	30					
	MAX. GRN. II	-	-	-					
	YELLOW CLR.	4	4	4					
	ALL RED CLR.	1	1	1					
	PED. WALK	20	20	20					
	PED. CLEAR	10	10	10					

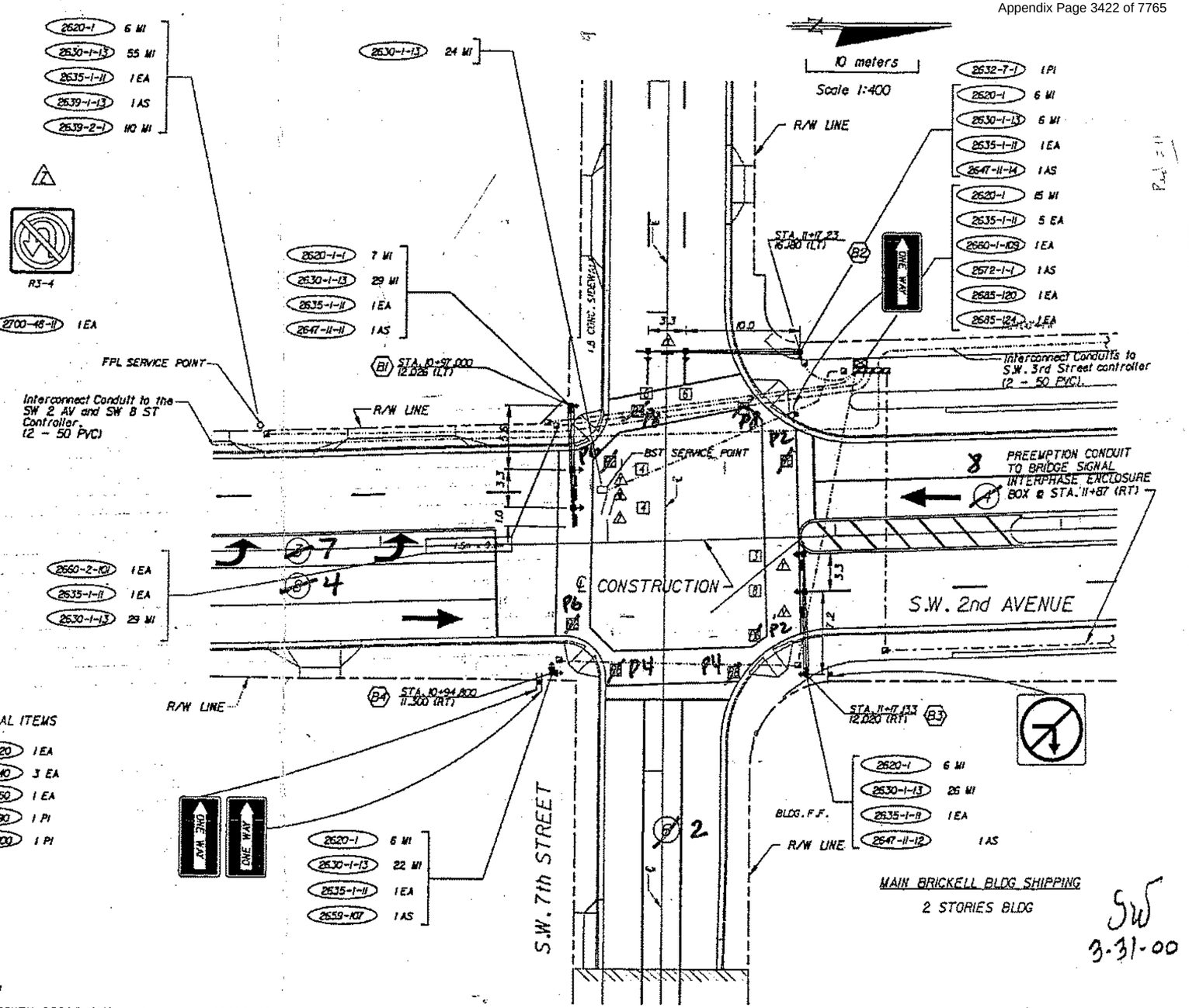
FINAL TIMING BY MIAMI-DADE COUNTY SIGNAL DIV.

2620-1 6 MI
2630-1-13 55 MI
2635-1-11 1 EA
2639-1-13 1 AS
2639-2- 110 MI

2620-1-1 7 MI
2630-1-13 29 MI
2635-1-11 1 EA
2647-11-11 1 AS

2660-2-101 1 EA
2635-1-11 1 EA
2630-1-13 29 MI

2630-1-13 24 MI



2632-7-1 1 PI
2620-1 6 MI
2630-1-13 6 MI
2635-1-11 1 EA
2647-11-14 1 AS
2620-1 15 MI
2635-1-11 5 EA
2660-1-109 1 EA
2672-1-1 1 AS
2685-120 1 EA
2685-124 1 EA

2620-1 6 MI
2630-1-13 26 MI
2635-1-8 1 EA
2647-11-12 1 AS

2620-1 6 MI
2630-1-13 22 MI
2635-1-11 1 EA
2659-107 1 AS

REMOVAL ITEMS

2690-20 1 EA
2690-40 3 EA
2690-50 1 EA
2690-90 1 PI
2690-100 1 PI

MAIN BRICKELL BLDG SHIPPING
2 STORIES BLDG

SW 3-31-00

NOTES:

BELL SOUTH REPRESENTATIVE: DELL CASTELLANOS. TEL. (305) 222-8222
F.P.L. REPRESENTATIVE: TOM HODGDON. TEL. (305) 774-7934

29.5 FT
50.8

0 2 10 Meters

INTERSECTION ID No: 2241

REVISIONS					
DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY

KUNDE SPRECHER & ASSOCIATES, INC.

KUNDE, SPRECHER & ASSOC., INC.
Engineers • Architects • Planners • Construction Managers
MIAMI • ORLANDO • DEERFIELD BEACH
PUERTO RICO • ST. THOMAS, V.I.

	Name	Date		Name	Date
Designed by	S.W.	4-99	Drawn by	J.E.	4-99
Checked by	R.S.	4-99	Checked by	S.W.	4-99
Submitted by	SVEN WEYGANDT, P.E.				

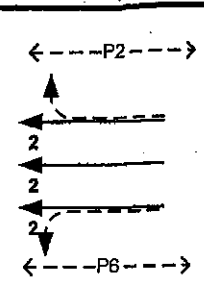
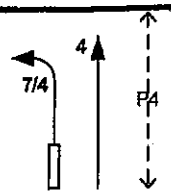
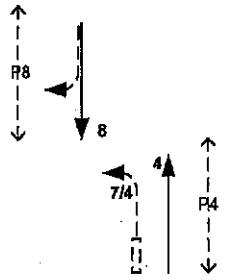
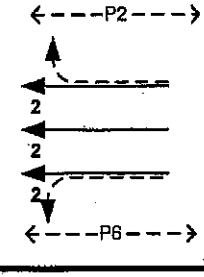
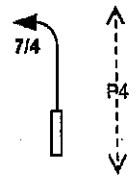
FLORIDA DEPARTMENT OF TRANSPORTATION

S.W. 2nd AVENUE AND S.W. 7th STREET SIGNALIZATION PLANS

d:\sb-sw2\plans\Design 31 MAR 100 10:21:51 Jaime E.Zala

SIGNAL OPERATING PLAN

N

Timing Phases	Direction / Head No.	WB 2	NB 7/4	NB 4	SB 8	Ped Heads P2	P4	P6	P8	Movements/Display/Actuation
(2) WBT SW 7 ST **RECALL**	Dwell	G	R	R	R	W/F	DW	W/F	DW	
	clear to (7+4)	Y	R	R	R	DW	DW	DW	DW	
	clear to (4+8)	Y	R	R	R	DW	DW	DW	DW	
	clear to P/E	Y	R	R	R	DW	DW	DW	DW	
(7+4) NBLT+ NBT SW 2 Av **ACTUATED**	Dwell	R	<G/G	G	R	DW	W/F	DW	DW	
	clear to (4+8)	R	<Y/G	G	R	DW	DW	DW	DW	
	clear to P/E	R	<Y/Y	Y	R	DW	DW	DW	DW	
(4+8) NBT+SBT SW 2 Av **RECALL**	Dwell	R	G	G	G	DW	W/F	DW	W/F	
	clear to (2)	R	Y	Y	Y	DW	DW	DW	DW	
	clear to P/E	R	Y	Y	G	DW	DW	DW	DW	
BRIDGE P/E CLEAR	Dwell	R	R	R	G	DW	DW	DW	DW	
	clear to Dwell 1	R	R	R	Y	DW	DW	DW	DW	
	clear to Dwell 2	R	R	R	Y	DW	DW	DW	DW	
	clear to (4+8)	R	R	R	Y	DW	DW	DW	DW	
P/E DWELL 1 WBT SW 7 ST **RECALL**	Dwell	G	R	R	R	W/F	DW	W/F	DW	
	clear to Dwell 2	Y	R	R	R	DW	DW	DW	DW	
	clear to (4+8)	Y	R	R	R	DW	DW	DW	DW	
P/E DWELL 2 NBLT SW 2 Av **ACTUATED**	Dwell	R	<G/R	R	R	DW	W/F	DW	DW	
	clear to Dwell 1	R	<Y/R	R	R	DW	DW	DW	DW	
	clear to (4+8)	R	<Y/R	R	R	DW	DW	DW	DW	
Flashing Operation		FY	FR	FR	FR					Page 1 of 1

MIAMI-DADE COUNTY PUBLIC WORK DEPARMENT

Drawn	Date	SW 2 Av & SW 7 St		
Mario L. Hernandez	9/6/2012			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	12/3/12	Date / By	10	2241

TOD Schedule Report
for 6543: S Miami Av SB&S 3 St

Print Date: 2/13/2015

Print Time: 4:13 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
6543	S Miami Av SB&S 3 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NBL	SBT	-	-	NWR	NBT	EBR	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 NBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	7 - 12 - 15	15 - 10 - 15	4	1
2 SBT	7 - 7 - 7	13 - 13 - 13	7 - 7 - 7	1 - 1 - 1	35 - 40 - 30	0 - 30 - 35	4	1
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 NWR	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	7 - 7 - 7	7 - 7 - 7	4	1
6 NBT	7 - 7 - 7	13 - 13 - 13	7 - 7 - 7	1 - 1 - 1	35 - 40 - 30	0 - 30 - 35	4	1
7 EBR	7 - 7 - 7	5 - 5 - 5	7 - 7 - 7	2.5 - 2.5 - 2.5	35 - 40 - 40	35 - 55 - 35	4	1
8 EBT	7 - 7 - 7	22 - 22 - 22	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 25 - 15	30 - 9 - 30	4	1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12--5678
External Permit 0	--------
External Permit 1	12--5678
External Permit 2	12--5678

Current TOD Schedule	Plan	Cycle	1 NBL	2 SBT	3 -	4 -	5 NWR	6 NBT	7 EBR	8 EBT	Ring Offset	Offset

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S

TOD Schedule Report
for 6543: S Miami Av SB&S 3 St

Print Date: 2/13/2015

Print Time: 4:13 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0630	TOD OUTPUTS	-------1	M T W ThF
0700	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	-----3--	SuM T W ThF
1200	TOD OUTPUTS	----4---	M T W ThF
1330	TOD OUTPUTS	-----3--	M T W ThF
1600	TOD OUTPUTS	------2-	M T W ThF
1900	TOD OUTPUTS	----4---	Su F S
2330	TOD OUTPUTS	-------1	Su F S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0630	TOD OUTPUTS	-------1	M T W ThF
0700	TOD OUTPUTS	------2-	M T W ThF
0800	TOD OUTPUTS	-----3--	S
0900	TOD OUTPUTS	-----3--	SuM T W ThF
1200	TOD OUTPUTS	----4---	M T W ThF
1330	TOD OUTPUTS	-----3--	M T W ThF
1600	TOD OUTPUTS	------2-	M T W ThF
1900	TOD OUTPUTS	-----3--	M T W Th
1900	TOD OUTPUTS	----4---	Su F S
2200	TOD OUTPUTS	-------1	M T W Th
2330	TOD OUTPUTS	-------1	Su F S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

TELEPHONE SERVICE

SIGNAL DISPLAY DETAILS

1C — 650-1-131 (2 AS) | 5C — 650-1-131 (1 AS) | 2C/5C — 650-1-141 (1 AS) | 2C 6E 8C — 650-1-131 (6 AS)

8AE — 650-1-133 (1 AS) (OPTICALLY PROGRAMMED)

8E — 650-1-133 (2 AS) (OPTICALLY PROGRAMMED)

8EV — 650-1-131 (1 AS) (LOUVERED)

P2C P4C P4E P6E — 653-171a (8 AS)

SIGN DETAILS

A — R3-2 (24" x 24") 700-48-18 (2 EA)

B — R10-11 (24" x 30") 700-48-18 (4 EA) — NO TURN ON RED

C — R3-1 (24" x 24") 700-48-18 (1 EA)

D — R10-3E (COST INCLUDED IN ITEM #653-171a)

E — R10-3E (COST INCLUDED IN ITEM #653-171a)

F — R10-6 (24" x 36") 700-48-18 (1 EA) — STOP HERE ON RED

G — S MIAMI AV — 24" X 72" 699-1-1A (1 EA) — SERIES 'C' CAPITAL LETTERS 8"/10" CAPITALS

H — S 3 ST — 24" X 72" 699-1-1A (3 EA) — SERIES 'C' CAPITAL LETTERS 8" CAPITALS 10" NUMERALS

NOTE: REFER TO SHEET T-4 FOR CONTROLLER NOTES. AND LOOP DETECTOR CHART.

20 LF 620-1-1; 2 EA 635-1-11; 1 EA 659-107; 1 EA 665-11

MATCH LINE - SEE SHEET 4

SW 3RD STREET

+/-2.2% ST

80 LF 555-1-2; 320 LF 630-1-16 (4 RUNS)

L-8C

L-8G

1 EA 635-1-11; 2 EA (6' X 30') 660-2-101; (2 RUNS) 120 LF 660-4-4A

POWER SERVICE POINT FP&L MANHOLE #311

1 AS 639-1-22; 1 AS 639-3-11; 360 LF 639-2-1

BELLSOUTH SERVICE POINT

R/W LINE

180 LF 630-1-13; 1 EA 635-1-11; 1 EA 659-107

20 LF 620-1-1; 15 LF 630-1-13; 1 EA 635-1-11; 1 EA 647-11-58

50 LF 620-1-1; 2 PI 632-7-1; 7 EA 635-1-11; 1 AS 639-3-12; 1 AS 641-12-112; 6 EA 660-1-109; 1 EA 660-1-110; 1 AS 672-2-1; 1 EA 685-120; 1 EA 685-124

65 LF 555-1-3; (8 RUNS) 520 LF 630-1-16

540 LF 630-1-13 (6 RUNS)

RIVERFRONT DEVELOPMENT

SOUTH MIAMI AVENUE

6.8' 10.4' 5.9' 22.3' 11.2' 25.5' 2.6' 7.7' 8.2' 17.8' 10.1' 7.6' 4.3' 4.7'

CENTER ISLAND PAY ITEMS

620-1-1	20 LF
630-1-13	50 LF
635-1-11	1 EA
659-107	1 EA
665-11	1 EA

620-1-1	40 LF
630-1-13	315 LF
635-1-11	9 EA
659-107	2 EA
660-2-101	1 EA (5' X 30')
660-4-4A	100 LF
665-11	1 EA

620-1-1	40 LF
630-1-13	105 LF (3 RUNS)
635-1-11	2 EA
647-11-26	1 EA
647-11-32	1 EA

I-95 DOWNTOWN DISTRIBUTOR

620-1-1	20 LF
635-1-11	2 EA
659-107	1 EA
665-11	1 EA

620-1-1	20 LF
630-1-13	40 LF
635-1-11	1 EA
647-11-26	1 EA

R/W LINE — SE 3RD STREET

16" MIN.

SEE TOP RIGHT FOR CENTER ISLAND ITEMS

555-1-2 45 LF (4 RUNS); 630-1-16 180 LF

620-1-1	20 LF
630-1-13	35 LF
635-1-11	1 EA
647-11-46	1 EA

U.S. IMMIGRATION OFFICE

620-1-1	20 LF
635-1-11	1 EA
659-107	1 EA

45 LF 555-1-2; 90 LF 630-1-16 (2 RUNS)

MATCH LINE - SEE SHEET 6

N

0 10 20

SCALE AS SHOWN

Controller → S. MIAMI AV (NB) & S 3 ST. 6544; S. MIAMI AV (SB) & S 3 ST. 6543

INTERSECTION NO. 6543/6544

No.	REVISIONS	DATE	BY
A	Revisions per MDCPWD-TS&S Division Comments	3/17/09	JM

DESIGN ENGINEER: JOHN J. MCWILLIAMS

FLORIDA REGISTRATION NUMBER: 62541

Kimley-Horn and Associates, Inc.

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5100 NW 33RD AVENUE, SUITE 157, FT. LAUDERDALE, FL 33309
PHONE (954) 739-2233 FAX (954) 739-2247
WWW.KIMLEY-HORN.COM CA 00000696

SCALE: AS SHOWN; DESIGNED BY: J.M; DRAWN BY: J.M; CHECKED BY: MSR

RIVER FRONT DEVELOPMENT
PROPOSED SIGNAL IMPROVEMENTS
NEOEPOCH, LTD./MIAMI RIVER LLC.
CITY OF MIAMI FLORIDA

DATE: 5/14/07
PROJECT NO. 042135002

SIGNALIZATION PLAN
SOUTH MIAMI AVENUE AT 3RD ST/
3RD STREET AT 50 BLOCK

SHEET NUMBER: T-5
5 of 10

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Drawing name: V:\FLMIA\Active\Project\L_1\FLMIA\042135002\CAD\Const\SIGPLAN5.dwg Sheet 5 Mar 26, 2009 2:26pm by: carlos.cruz-cossio

TELEPHONE SERVICE

SIGNAL DISPLAY DETAILS

1C — 650-1-131 (2 AS) | 5C — 650-1-131 (1 AS) | 2C/5C — 650-1-141 (1 AS) | 2C 6E 8C — 650-1-131 (6 AS)

SAE — 650-1-133 (1 AS) (OPTICALLY PROGRAMMED)

8E — 650-1-133 (2 AS) (OPTICALLY PROGRAMMED)

8EV — 650-1-131 (1 AS) (LOUVERED)

P2C P4C P4E P6E — 653-1710 (8 AS)

SIGN DETAILS

A — R3-2 (24" x 24") 700-48-18 (2 EA)

B — R10-11 (24" x 30") 700-48-18 (4 EA) — NO TURN ON RED

C — R3-1 (24" x 24") 700-48-18 (1 EA)

D — R10-3E (COST INCLUDED IN ITEM #653-1710) — START CROSSING WATCH FOR VEHICLES / DO NOT START FINISH CROSSING IF STARTED / TRAFFIC BEHIND TO FINISH CROSSING / DON'T CROSS / PUSH BUTTON TO CROSS 3 MEAN ST

E — R10-3E (COST INCLUDED IN ITEM #653-1710) — START CROSSING WATCH FOR VEHICLES / DO NOT START FINISH CROSSING IF STARTED / TRAFFIC BEHIND TO FINISH CROSSING / DON'T CROSS / PUSH BUTTON TO CROSS 3 MEAN ST

F — R10-6 (24" x 36") 700-48-18 (1 EA) — STOP HERE ON RED

G — S MIAMI AV — 24" X 72" 699-1-1A (1 EA) — SERIES 'C' CAPITAL LETTERS 8"/10" CAPITALS

H — S 3 ST — 24" X 72" 699-1-1A (3 EA) — SERIES 'C' CAPITAL LETTERS 8" CAPITALS 10" NUMERALS

NOTE: REFER TO SHEET T-4 FOR CONTROLLER NOTES. AND LOOP DETECTOR CHART.

MATCH LINE - SEE SHEET 4

20 LF 620-1-1; 2 EA 635-1-11; 1 EA 659-107; 1 EA 665-11

SW 3RD STREET

80 LF 555-1-2; 320 LF 630-1-16 (4 RUNS)

L-8C; L-8G

1 EA 635-1-11; 2 EA (6' X 30') 660-2-101; (2 RUNS) 120 LF 660-4-4A

POWER SERVICE POINT FP&L MANHOLE #311

1 AS 639-1-22; 1 AS 639-3-11; 360 LF 639-2-1

BELLSOUTH SERVICE POINT

180 LF 630-1-13; 1 EA 635-1-11; 1 EA 659-107

20 LF 620-1-1; 15 LF 630-1-13; 1 EA 635-1-11; 1 EA 647-11-58

50 LF 620-1-1; 2 PI 632-7-1; 7 EA 635-1-11; 1 AS 639-3-12; 1 AS 641-12-112; 6 EA 660-1-109; 1 EA 660-1-110; 1 AS 672-2-1; 1 EA 685-120; 1 EA 685-124

65 LF 555-1-3; (8 RUNS) 520 LF 630-1-16

540 LF 630-1-13 (6 RUNS)

RIVERFRONT DEVELOPMENT

SOUTH MIAMI AVENUE

R/W LINE

L-1C

ONLY

SE 3RD STREET

I-95 DOWNTOWN DISTRIBUTOR

CENTER ISLAND PAY ITEMS

620-1-1	20 LF
630-1-13	50 LF
635-1-11	1 EA
659-107	1 EA
665-11	1 EA

620-1-1	40 LF
630-1-13	315 LF
635-1-11	9 EA
659-107	2 EA
660-2-101	1 EA (5' X 30')
660-4-4A	100 LF
665-11	1 EA

620-1-1	40 LF
630-1-13	105 LF (3 RUNS)
635-1-11	2 EA
647-11-26	1 EA
647-11-32	1 EA

620-1-1	20 LF
635-1-11	2 EA
659-107	1 EA
665-11	1 EA

620-1-1	20 LF
630-1-13	40 LF
635-1-11	1 EA
647-11-26	1 EA

555-1-2 45 LF (4 RUNS)
630-1-16 180 LF

620-1-1	20 LF
630-1-13	35 LF
635-1-11	1 EA
647-11-46	1 EA

U.S. IMMIGRATION OFFICE

620-1-1	20 LF
635-1-11	1 EA
659-107	1 EA

45 LF 555-1-2; 90 LF 630-1-16 (2 RUNS)

SEE TOP RIGHT FOR CENTER ISLAND ITEMS

16" MIN.

SCALE AS SHOWN

MATCH LINE - SEE SHEET 6

Controller → S. MIAMI AV (NB) & S 3 ST. 6544; S. MIAMI AV (SB) & S 3 ST. 6543

INTERSECTION NO. 6543/6544

No.	REVISIONS	DATE	BY
A	Revisions per MDCPWD-TS&S Division Comments	3/17/09	JJM

DESIGN ENGINEER: JOHN J. MCWILLIAMS
FLORIDA REGISTRATION NUMBER: 62541

Kimley-Horn and Associates, Inc.
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5100 NW 33RD AVENUE, SUITE 157, FT. LAUDERDALE, FL 33309
PHONE (954) 739-2233 FAX (954) 739-2247
WWW.KIMLEY-HORN.COM CA 00000696

SCALE: AS SHOWN
DESIGNED BY: JJM
DRAWN BY: JJM
CHECKED BY: MSR

RIVER FRONT DEVELOPMENT
PROPOSED SIGNAL IMPROVEMENTS
NEOEPOCH, LTD./MIAMI RIVER LLC.
CITY OF MIAMI FLORIDA

DATE: 5/14/07
PROJECT NO.: 042135002

SIGNALIZATION PLAN
SOUTH MIAMI AVENUE AT 3RD ST/
3RD STREET AT 50 BLOCK

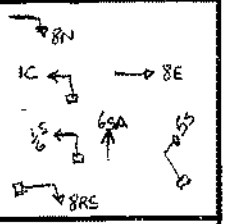
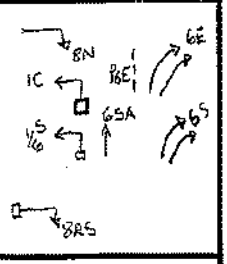
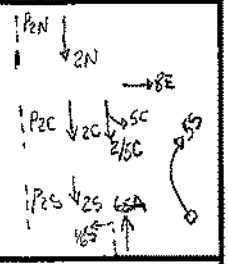
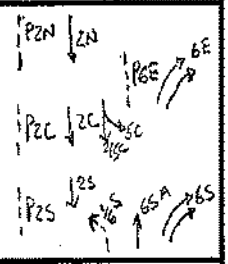
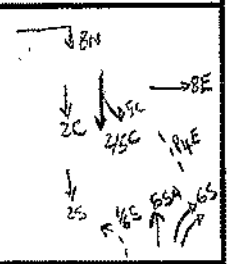
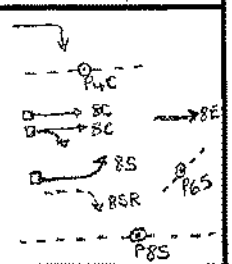
SHEET NUMBER: T-5
5 of 10

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

drawing name: V:\FDOT\Projects\L_FHWA\2007\042135002\Const\SIGSIGPLANS.dwg Sheet 2 Mar 26, 2009 2:26pm by: carlos.cruz-cossio

SIGNAL OPERATING PLAN

N

Timing Ph	Direction / Head No.	SB 2N	SB 2C	SB 2S	SB 2&5C	SB 5C	NB 1&6S	NB 6S	NB 6SA	NB 6E	NB SS	NB 1C	EB 8C	EB 8E	EB 8S	EB 8SR	EB 8N	Ped Heads P2N	P2C	P2S	P6E	P6S	P4C	P4E	P8S	Movs/Disp/Actuation
1+5	Dwell	R	R	R	R	←R	←/R	R	↑	R	→	←	R	G	R	R/→	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 1+6	R	R	R	R	←R	←/R	R	↑	R	Y	←	R	Y	R	R/→	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 2+5	R	R	R	R	←R	←/R	R	↑	R	→	←	R	G	R	R/←	Y	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 2+6	R	R	R	R	←R	←/R	R	↑	R	Y	←	R	Y	R	R/←	Y	DW	DW	DW	DW	DW	DW	DW	DW	
ACTUATED																										
1+6	Dwell	R	R	R	R	←R	←/↑	G	↑	G	←R	←	R	R	R	R/→	G	DW	DW	DW	W/F	DW	DW	DW	DW	
	Clear to 2+6	R	R	R	R	←R	←/↑	G	↑	G	←R	←	R	R	R	R/←	Y	DW	DW	DW	DW	DW	DW	DW	DW	
ACTUATED																										
2+5	Dwell	G	G	G	←/G	←	↑	R	↑	R	→	←R	R	G	R	R	R	W/F	W/F	W/F	DW	DW	DW	DW	DW	
	Clear to 2+6	G	G	G	←/G	←	↑	R	↑	R	Y	←R	R	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
ACTUATED																										
2+6	Dwell	G	G	G	←/G	←	↑	G	↑	G	←R	←R	R	R	R	R	R	W/F	W/F	W/F	W/F	DW	DW	DW	DW	
	Clear to 7	Y	G	G	←/G	←	↑	G	↑	Y	←R	←R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 8	Y	Y	Y	Y	←Y	Y	Y	Y	Y	←R	←R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 1+5	Y	Y	Y	Y	←Y	Y	Y	Y	Y	←R	←R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 1+6	Y	Y	Y	Y	←Y	↑	G	↑	G	←R	←R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 2+5	G	G	G	←/G	←	Y	Y	Y	Y	←R	←R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	
RECALL																										
7	Dwell	R	G	G	←/G	←	↑	G	↑	R	←R	←R	R	G	R	R	G	DW	DW	DW	DW	DW	DW	W/F	DW	
	Clear to 8	R	Y	Y	Y	←Y	Y	Y	Y	R	←R	←R	R	G	R	R	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 1+5	R	Y	Y	Y	←Y	Y	Y	Y	R	←R	←R	R	G	R	R	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 1+6	R	Y	Y	Y	←Y	↑	G	↑	R	←R	←R	R	Y	R	R	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 2+5	R	G	G	←/G	←	↑	Y	Y	R	←R	←R	R	G	R	R	Y	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 2+6	R	G	G	←/G	←	↑	G	↑	R	←R	←R	R	Y	R	R	Y	DW	DW	DW	DW	DW	DW	DW	DW	
RECALL																										
8	Dwell	R	R	R	R	←R	R	R	R	R	←R	←R	G	G	G	G	G	DW	DW	DW	DW	W/F	W/F	DW	W/F	
	Clear to 1+5	R	R	R	R	←R	R	R	R	R	←R	←R	Y	G	Y	Y	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 1+6	R	R	R	R	←R	R	R	R	R	←R	←R	Y	Y	Y	Y	G	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 2+5	R	R	R	R	←R	R	R	R	R	←R	←R	Y	G	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	
	Clear to 2+6	R	R	R	R	←R	R	R	R	R	←R	←R	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	
ACTUATED																										
Flashing Operation		FY	FY	FY	FY	FR	FY	FY	FY	FY	FR	FR	FR	FR	FR	FR	FR									Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date		
H. FRANCILLON	12/12/08	S MIAMI AV @ 250 BLK, 3RD ST, 4th ST & S. 3RD ST @ 50 BLK (3507, 6543, 5172, 6544)	
Checked	**Date**	**Placed in Service**	**Phasing No.** / **Asset Number**
H. [illegible]	12/15/08	Date 2/3/09 By UND	1 / 6543

ALSO CONTROLS 3507, 5172 & 6544

Blank16

TOD Schedule Report
for 4797: SE 4 St@SE 50 Blk

Print Date: 2/13/2015

Print Time: 2:06 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4797	SE 4 St@SE 50 Blk	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	-	SEL	NBR	-	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
3 SEL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	7 - 7 - 7	15 - 12 - 8	4	1
4 NBR	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	7 - 7 - 8	15 - 15 - 8	4	1
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	50 - 20 - 20	0 - 50 - 50	4	1
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	--34-6--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
	8	90	- 0	- 0	SEL 10	NBR 10	- 0	EBT 55	- 0	- 0	0	67

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0700	8	M T W Th F
1900	Free	M T W Th F

TOD Schedule Report

for 4797: SE 4 St@SE 50 Blk

Print Date: 2/13/2015

Print Time: 2:06 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0700	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	--------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0700	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	--------	M T W ThF

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ. NO.	SHEET NO.
87513-3648 87513-3649	T-11

SIGNAL OPERATING PLAN

PHASE	INT		6	8
ø1 (6) S. MIAMI AVE. NORTH BOUND (PRE-TIMED)	R/W		G	R
	CLEAR TO	ø2	Y	R
		FIRE PRE-EMPT	G	R
ø2 (8) I-95 RAMP & CONVENTION CENTER DR. (PRE-TIMED)	R/W		R	G
	CLEAR TO	ø1	R	Y
		FIRE PRE-EMPT	R	Y
NORTH BOUND FIRE PRE-EMPTION DWELL (ACTUATED)	R/W		G	R
	CLEAR TO	ø2	Y	R

RING DIAGRAM

(6)	(8)
ø1	ø2

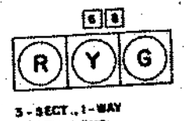
TYPE OF CONTROLLER: 2 PHASE PRE-TIMED CONTROLLER WITH FIRE PRE-EMPTION.

FLASHING OPERATION: 6 —YELLOW
6 —RED

FIRE PRE-EMPTION NOTE: PRE-EMPTION DWELL SHALL COMMENCE AT THE END OF THE YELLOW CLEARANCE IF PRE-EMPTION SIGNAL IS RECEIVED DURING THE YELLOW CLEARANCE.

NOTES:

1. FOR CONTINUATION OF INTERCONNECT CONDUIT AND LOCATION OF PULL BOXES, SEE SHEET No. T-10.
2. THE TOTAL LENGTH OF GROUNDING ELECTRODES IS 90 L.F. TO BE INSTALLED UNDER ITEM NO. 620-1-1
3. TOTAL DEMAND WATTAGE FOR THIS INTERSECTION IS 765 WATTS.
4. S.B.T.T. REPRESENTATIVE: SERGIO RODRIGUEZ 550-6615.
5. FUSE KIT TO BE PROVIDED IN MANHOLE AS PART OF POWER SERVICE, ITEM No. 639-1-25.



3-SECT., 1-WAY
8" STD. LENS
4 REQUIRED
ITEM NO. 660-4-131

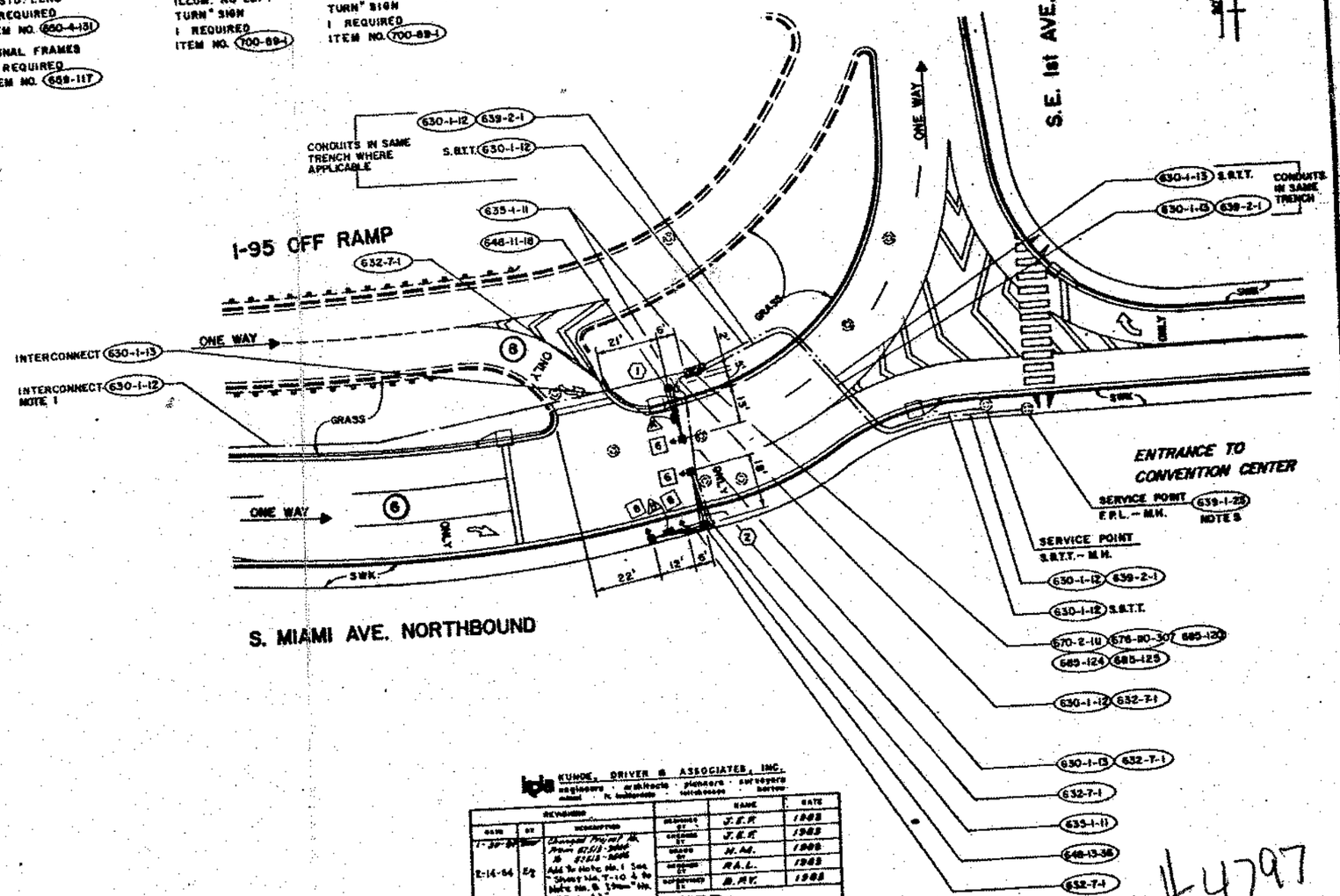
SIGNAL FRAMES
4 REQUIRED
ITEM NO. 658-117



ILLUM. "NO LEFT TURN" SIGN
1 REQUIRED
ITEM NO. 700-89-1



ILLUM. " NO RIGHT TURN" SIGN
1 REQUIRED
ITEM NO. 700-89-1



S. MIAMI AVE. NORTHBOUND

KUNDE, DRIVER & ASSOCIATES, INC.
engineers · architects · planners · surveyors
miami · ft. lauderdale · tallahassee · keywest

REVISIONS			DESIGNED BY	NAME	DATE
DATE	BY	DESCRIPTION		J.E.R.	1983
1-20-84		Changed Project No. From 87513-3646 To 87513-3649	CHECKED BY	J.E.R.	1983
2-14-84	EA	Add To Note No. 1 Sec. Interc. No. T-10 & To Note No. 5 "From" No. 639-1-25".	DRAWN BY	M.Ad.	1983
			TRACED BY	R.A.L.	1983
			CHECKED BY	B.R.V.	1983
			APPROVED BY	DATE: 4-20-1984	
			FLORIDA DEPARTMENT OF TRANSPORTATION		

#4797

SIGNALIZATION PLAN

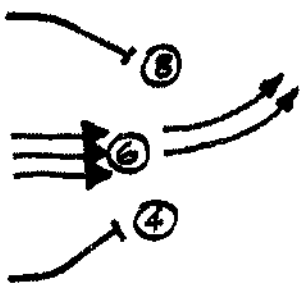
S. MIAMI AVENUE NORTHBOUND & I-95 OFF RAMP & S E 1 AVENUE

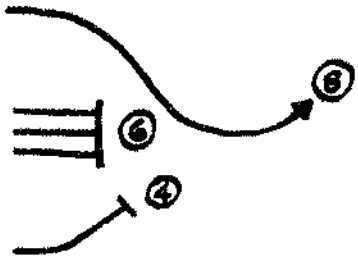
SCALE: 1" = 20'

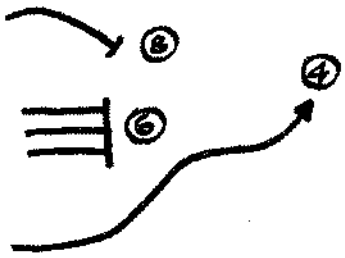
25

SIGNAL OPERATING PLAN

PHASE	INT / R/W / CLEAR TO	SIGNAL HEAD NUMBER 4	6	8
Φ2 SE 4 ST – EBND (RECALL)	INT	4	6	8
	R/W	R	G	R
	Φ4	R	Y	R
Φ4 I-95 — SBLT (ACTUATED)	R/W	R	R	G
	Φ1	R	R	Y
	Φ2	R	R	Y
Φ1 PARK. LOT — NBRT (ACTUATED)	R/W	→	R	R
	Φ2	Y	R	R
	R/W			









Drawn: C.L. ROQUE	Date: 7/13/87	METROPOLITAN DADE COUNTY DEPARTMENT OF TRAFFIC AND TRANSPORTATION
Check: E Lu	Date: 7/13/87	ASSET NO: 34797
Division Engineer	Date	SE 4 ST @ SE 50 BLK.
Placed in Service Date: 7/2/86 BY: CONTRACTOR		Phasing Number: 1

TOD Schedule Report
for 3421: SE 2 Av&SE 3 St

Print Date: 2/13/2015

Print Time: 11:32 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3421	SE 2 Av&SE 3 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	-	-	-	-	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	7 - 7 - 7	13 - 13 - 13	7 - 7 - 7	1 - 1 - 1	30 - 40 - 40	0 - 60 - 60	4	1.6
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	7 - 7 - 7	13 - 13 - 13	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 40 - 40	60 - 60 - 60	4	1.5

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-----6-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3421: SE 2 Av&SE 3 St

Print Date: 2/13/2015

Print Time: 11:32 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 -	3 -	4 -	5 -	6 EBT	7 -	8 SBT	Ring Offset	Offset
	1	110	0	0	0	0	0	73	0	25	0	27
	2	90	0	0	0	0	0	43	0	35	0	68
	3	90	0	0	0	0	0	23	0	55	0	66
	4	100	0	0	0	0	0	13	0	75	0	72
	5	80	0	0	0	0	0	48	0	20	0	6
	7	90	0	0	0	0	0	44	0	34	0	14
	8	100	0	0	0	0	0	44	0	44	0	45
	9	100	0	0	0	0	0	54	0	34	0	9
	10	100	0	0	0	0	0	49	0	39	0	9
	11	100	0	0	0	0	0	30	0	58	0	98
	12	90	0	0	0	0	0	50	0	28	0	45
	22	90	0	0	0	0	0	38	0	40	0	64

Local TOD Schedule

Time	Plan	DOW
0000	22	Su M T W Th F S
0100	22	M T W Th F
0200	22	Su S
0500	7	M T W Th F
0600	5	Su S
0700	8	M T W Th F
0900	9	M T W Th F S
1000	9	Su
1300	10	M T W Th F
1500	11	M T W Th F
1900	12	M T W Th F
2200	5	Su S
2300	22	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

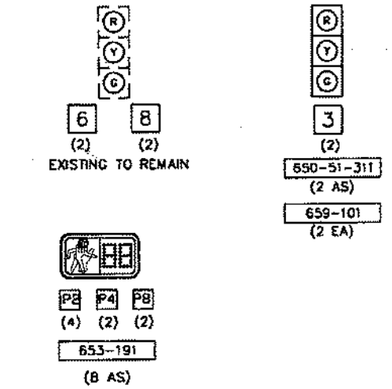
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

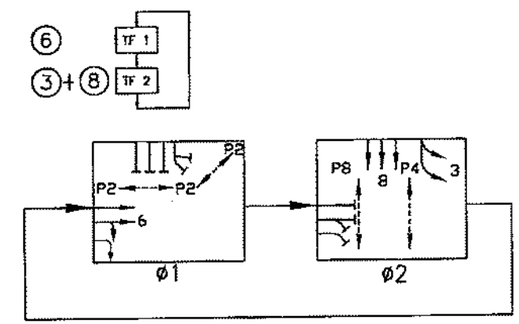
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

SIGNAL DISPLAY DETAILS



SPECIAL SOP



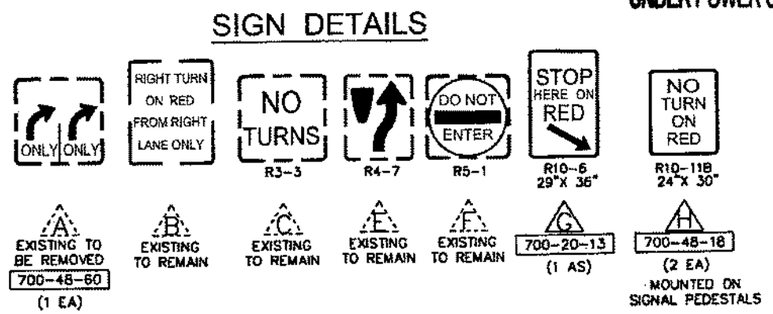
CONTROLLER NOTES

1. MAJOR STREET IS SR 970/ SE 3RD ST
   MINOR STREET IS SE 2ND AVENUE
2. TIME FUNCTION 1 = RECALL.
3. FLASHING OPERATION SHALL BE RED FOR ALL MOVEMENTS.
4. TRAFFIC SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT, TRAFFIC SIGNALS AND SIGNS DIVISION.
5. FPL SERVICE POINT CONTACT: LESLIE FOX – (305) 377-6202
6. AT&T SERVICE POINT CONTACT: ROLAND DUPRY –(305) 815-0942

REMOVAL ITEMS

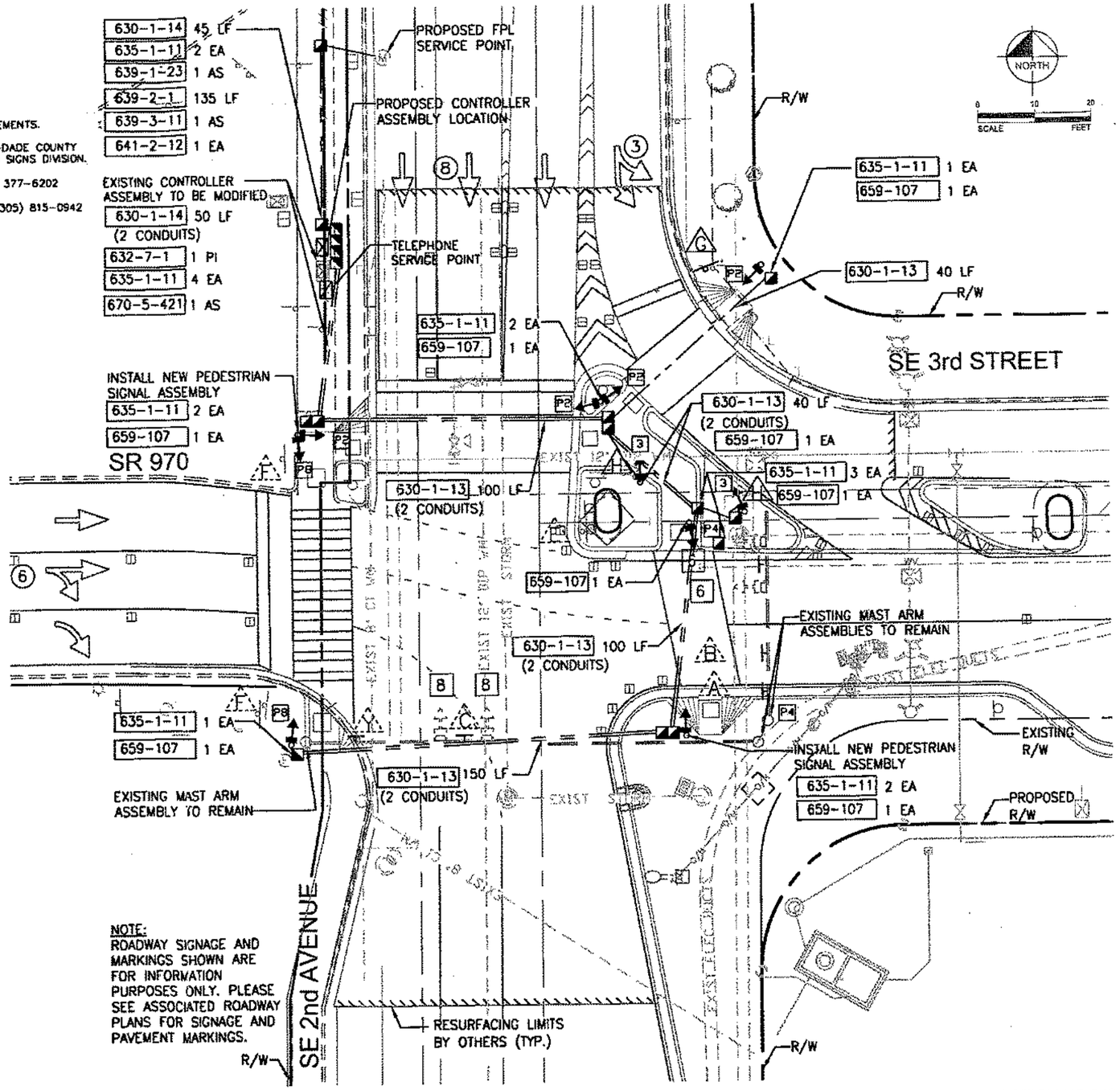
690-90	1 PI
690-100	1 PI

SIGN DETAILS



ORIGINAL
RED INK

Received
JAN 10 2011
UNDER POWER CORP.



INTERSECTION NO.3421

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: ESLD
DRAWN BY: ESLD
CHECKED BY: JJM

Kimley-Horn and Associates, Inc.
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1691 MICHIGAN AVENUE, SUITE 400, MIAMI BEACH, FL 33139
PHONE: 305-673-2025 FAX: 305-673-4682
WWW.KIMLEY-HORN.COM CA 00000895

DATE: 12.06.10
PROJECT NO. 043099002

P & G TRACT C. DEVELOPMENT, LTD.
CITY OF MIAMI, FLORIDA
MIAMI-DADE COUNTY FLORIDA

DESIGN ENGINEER: JOHN J. MCWILLIAMS
FLORIDA REGISTRATION NUMBER: 62541
DATE:

SIGNALIZATION PLAN
SE 3rd STREET AT SE 2nd AVENUE

SHEET NUMBER: T-4
4 of 4

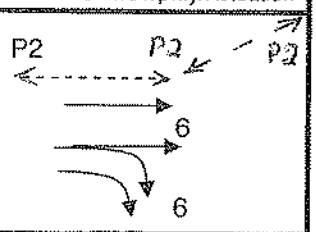
Drawing name: K:\MIB_Roadway\043099002 Mail2 IPO-02 Signal\CADD\DWL\CONST\SE 2ND AVENUE\PHASE 1\T4 - SIGNALIZATION PLAN.dwg 11 X 17 Dec 27, 2010 10:54am by: elko.linton-dorsett

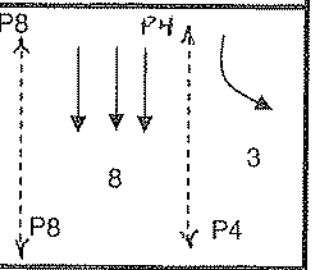
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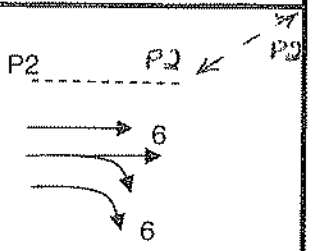
SIGNAL OPERATING PLAN

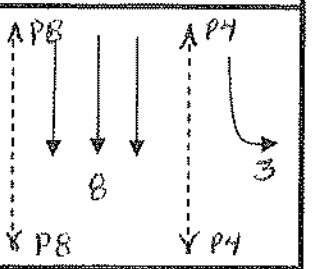
Timing Phases	Direction	SB	SBL	EB						Ped Heads P2	P6	P4	P8	Movements/Display/Actuation
Ø6	Head No.	3	8	6										
	Dwell	R	R	G						W/F		DW	DW	
	Clear to (3 + 8)	R	R	Y						DW		DW	DW	
SE 3 ST EB														
(RECALL)														
Ø8	Dwell	G	G	R						DW		W/F	W/F	
	Clear to (6 + 6R)	Y	Y	R						DW		DW	DW	
SE 2 AV SB														
(RECALL)														
	Dwell	R	R	G						W/F		DW	DW	
ATMS REMOTE BRIDGE PRE EMPTION EB	Clear to Recv	R	R	Y						DW		DW	DW	
	Dwell	G	G	R						DW		W/F	W/F	
Ø8 Recovery	Clear to Normal	Y	Y	R						DW		DW	DW	
	Dwell													
	Clear to													
	Dwell													
	Clear to													
Flashing Operation		FR	FR	FR										Page 1 of 1

N





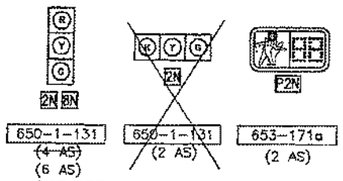




Miami-Dade County Public Works Department

Drawn	Date	SE 2 AVE & SE 3 ST		
R.Fernandez	2/23/11			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	2/23/11	Date 2/28/11 By Under Power	5	3421

SIGNAL DISPLAY DETAILS



650-1-131 ~~(4 AS)~~ (6 AS) (FAR SIDE 2N'S LOUVERED)

650-1-131 (2 AS)

653-171a (2 AS)

SIGN DETAILS



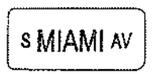
R3-2 (24" x 24") 700-48-18 (1 EA)



R10-11 (24" x 30") 700-48-18 (1 EA)



R3-1 (24" x 24") 700-48-18 ~~(1 EA)~~ (2 EA)



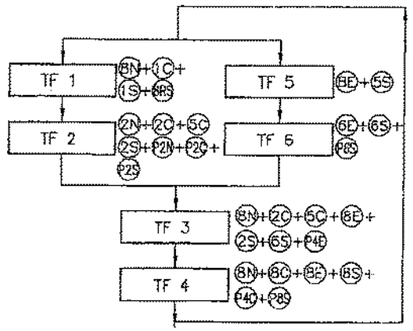
18" X 48" 700-41-1 (1 EA)

SERIES 'C' CAPITAL LETTERS 8"/10" CAPITALS

CONTROLLER NOTES

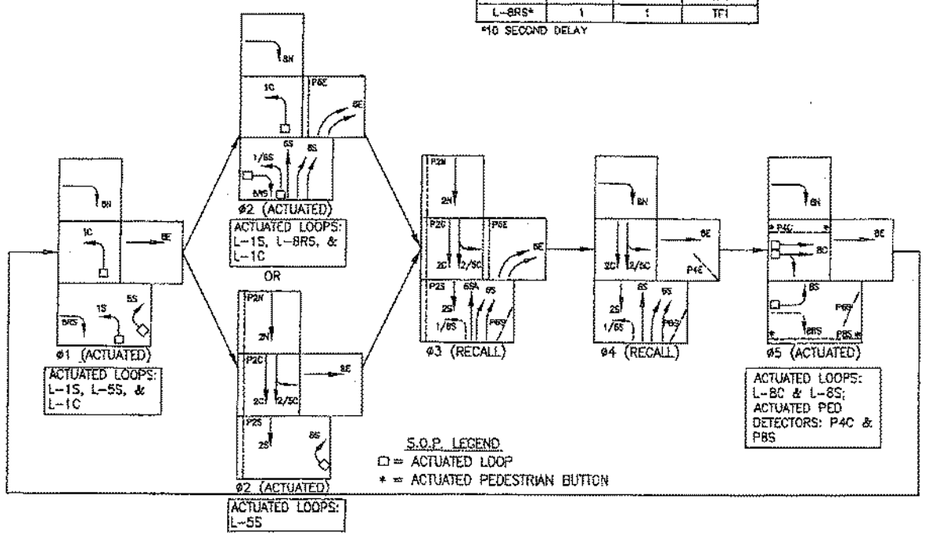
1. MAJOR STREET IS SOUTH MIAMI AVENUE MINOR STREETS ARE 250 BLK (I-95 RAMP), SE/SW 3RD STREET, & SW 4TH STREET.
2. TF 2, 3, & 6 = RECALL TF 1, 4, & 5 =ACTUATED
3. FLASHING OPERATION (CONFLICT) SHALL BE RED FOR MOVEMENTS 8N, 8C, 1C 8E, 8S, & 5S. YELLOW FOR MOVEMENTS 2N, 2C, 5C, 2S, 1S, 6S, & 6E.
4. TRAFFIC SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT, SIGNALS AND SIGNS DIVISION.
5. SIGNAL OPERATING ø1 IS ONLY CALLED WHEN BOTH L5S AND (L1C AND/OR L1S) ARE ACTUATED.

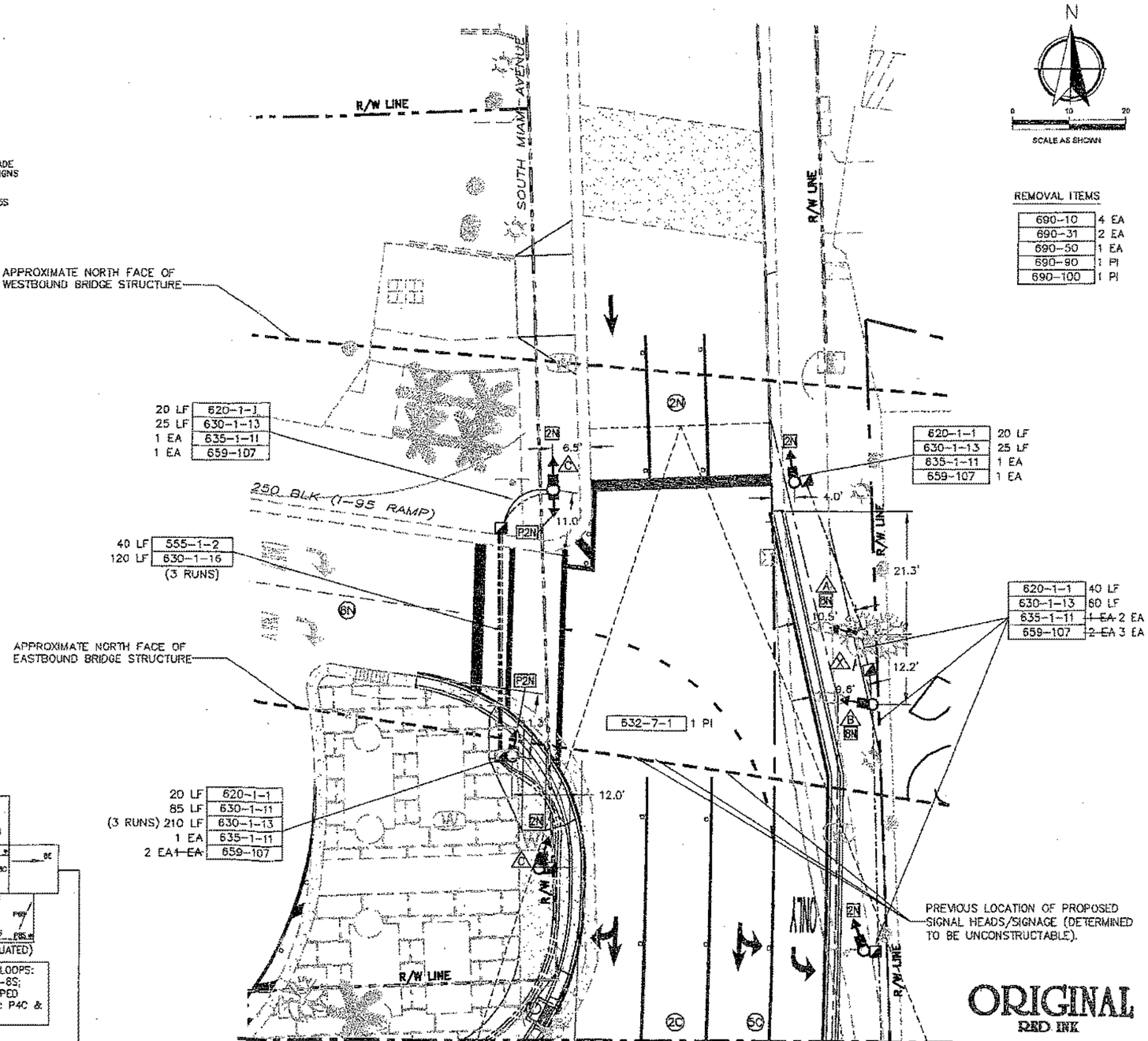
SPECIAL OPERATING PLAN



DETECTORS FOR LOOPS			
LOOP	NO. OF LOOPS	NO. OF DETS.	TIMING FUNCTION
L-1C	1	1	TF1
L-8C	2	1	TF4
L-1S	1	1	TF1
L-5S	1	1	TF5
L-8S	1	1	TF4
L-8RS*	1	1	TF1

*10 SECOND DELAY





INTERSECTION NO. 3507

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drawing name: s:\miami\south miami corridor signage\sheets\t-4.dwg sheet t-4 jun 21, 2007 10:49pm by: jmm.mcwilliams

No.	REVISIONS	DATE	BY

DESIGN ENGINEER: JOHN J. MCWILLIAMS
FLORIDA REGISTRATION NUMBER: 62541

Kimley-Horn and Associates, Inc.
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5100 NW 33RD AVENUE, SUITE 107, FT. LAUDERDALE, FL 33309
PHONE (954) 739-2233 FAX (954) 739-2247
WWW.KIMLEY-HORN.COM CA 00000686

SCALE: AS SHOWN
DESIGNED BY: JJM
DRAWN BY: JJM
CHECKED BY: MSR

RIVER FRONT DEVELOPMENT
PROPOSED SIGNAL IMPROVEMENTS
NEOEPOCH, LTD./MIAMI RIVER LLC.
CITY OF MIAMI FLORIDA

DATE: 5/14/07
PROJECT NO.: 042135002

SIGNALIZATION PLAN
SOUTH MIAMI AVENUE
AT 250 BLOCK (I-95 RAMP)

SHEET NUMBER: T-4
4 of 10

TELEPHONE SERVICE

SIGNAL DISPLAY DETAILS

1C — 650-1-131 (2 AS) — 5C — 650-1-131 (1 AS) — 2C/5C — 650-1-141 (1 AS) — 2C 6E 8C — 650-1-131 (6 AS)

8AE — 650-1-133 (1 AS) (OPTICALLY PROGRAMMED)

8E — 650-1-133 (2 AS) (OPTICALLY PROGRAMMED)

8EV — 650-1-131 (1 AS) (LOUVERED)

P2C P4C P4E P6E — 653-1710 (8 AS)

SIGN DETAILS

A — R3-2 (24" x 24") — 700-48-18 (2 EA)

B — R10-11 (24" x 30") — 700-48-18 (4 EA)

C — R3-1 (24" x 24") — 700-48-18 (1 EA)

D — R10-3E (COST INCLUDED IN ITEM #653-1710) — R10-3E (COST INCLUDED IN ITEM #653-1710)

E — R10-6 (24" x 36") — 700-48-18 (1 EA)

F — S MIAMI AV — 24" X 72" — 699-1-1A (1 EA) — SERIES 'C' CAPITAL LETTERS 8"/10" CAPITALS

G — S 3 ST — 24" X 72" — 699-1-1A (3 EA) — SERIES 'C' CAPITAL LETTERS 8" CAPITALS 10" NUMERALS

NOTE: REFER TO SHEET T-4 FOR CONTROLLER NOTES. AND LOOP DETECTOR CHART.

MATCH LINE - SEE SHEET 4

20 LF 620-1-1
2 EA 635-1-11
1 EA 659-107
1 EA 665-11

SW 3RD STREET

+/-2.2%

80 LF 555-1-2
320 LF 630-1-16 (4 RUNS)

L-8C

L-8G

1 EA 635-1-11
2 EA (6' X 30') 660-2-101
(2 RUNS) 120 LF 660-4-4A

BELLSOUTH SERVICE POINT

R/W LINE

180 LF 630-1-13
1 EA 635-1-11
1 EA 659-107

20 LF 620-1-1
15 LF 630-1-13
1 EA 635-1-11
1 EA 647-11-58

50 LF 620-1-1
2 PI 632-7-1
7 EA 635-1-11
1 AS 639-3-12
1 AS 641-12-112
6 EA 660-1-109
1 EA 660-1-110
1 AS 672-2-1
1 EA 685-120
1 EA 685-124

65 LF 555-1-3
(8 RUNS) 520 LF 630-1-16

540 LF 630-1-13
(6 RUNS)

RIVERFRONT DEVELOPMENT

POWER SERVICE POINT
FP&L MANHOLE #311

1 AS 639-1-23
1 AS 639-3-11
360 LF 639-2-1

L-1C

ONLY

SOUTH MIAMI AVENUE

6.8'
10.4'
5.9'
22.3'
11.2'
25.5'
2.6'
7.7'
8.2'
17.8'
10.1'
7.6'
4.3'
4.7'

R/W LINE

SE 3RD STREET

I-95 DOWNTOWN DISTRIBUTOR

16" MIN.

SEE TOP RIGHT FOR CENTER ISLAND ITEMS

CENTER ISLAND PAY ITEMS

620-1-1	20 LF
630-1-13	50 LF
635-1-11	1 EA
659-107	1 EA
665-11	1 EA

620-1-1	40 LF
630-1-13	315 LF
635-1-11	9 EA
659-107	2 EA
660-2-101	1 EA (5' X 30')
660-4-4A	100 LF
665-11	1 EA

620-1-1	40 LF
630-1-13	105 LF (3 RUNS)
635-1-11	2 EA
647-11-26	1 EA
647-11-32	1 EA

620-1-1	20 LF
635-1-11	2 EA
659-107	1 EA
665-11	1 EA

620-1-1	20 LF
630-1-13	40 LF
635-1-11	1 EA
647-11-26	1 EA

555-1-2 45 LF (4 RUNS)
630-1-16 180 LF

620-1-1	20 LF
630-1-13	35 LF
635-1-11	1 EA
647-11-46	1 EA

U.S. IMMIGRATION OFFICE

620-1-1	20 LF
635-1-11	1 EA
659-107	1 EA

45 LF 555-1-2
90 LF 630-1-16
(2 RUNS)

MATCH LINE - SEE SHEET 6

N

0 10 20
SCALE AS SHOWN

S. MIAMI AV (NB) & S 3 ST. 6544
Controller → S. MIAMI AV (SB) & S 3 ST. 6543

INTERSECTION NO. 6543/6544

No.	REVISIONS	DATE	BY
A	Revisions per MDCPWD-TS&S Division Comments	3/17/09	JJM

DESIGN ENGINEER: JOHN J. MCWILLIAMS
FLORIDA REGISTRATION NUMBER: 62541

Kimley-Horn and Associates, Inc.
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5100 NW 33RD AVENUE, SUITE 157, FT. LAUDERDALE, FL 33309
PHONE (954) 739-2233 FAX (954) 739-2247
WWW.KIMLEY-HORN.COM CA 00000696

SCALE AS SHOWN
DESIGNED BY JJM
DRAWN BY JJM
CHECKED BY MSR

RIVER FRONT DEVELOPMENT
PROPOSED SIGNAL IMPROVEMENTS
NEOEPOCH, LTD./MIAMI RIVER LLC.
CITY OF MIAMI FLORIDA

DATE 5/14/07
PROJECT NO. 042135002

SIGNALIZATION PLAN
SOUTH MIAMI AVENUE AT 3RD ST/
3RD STREET AT 50 BLOCK

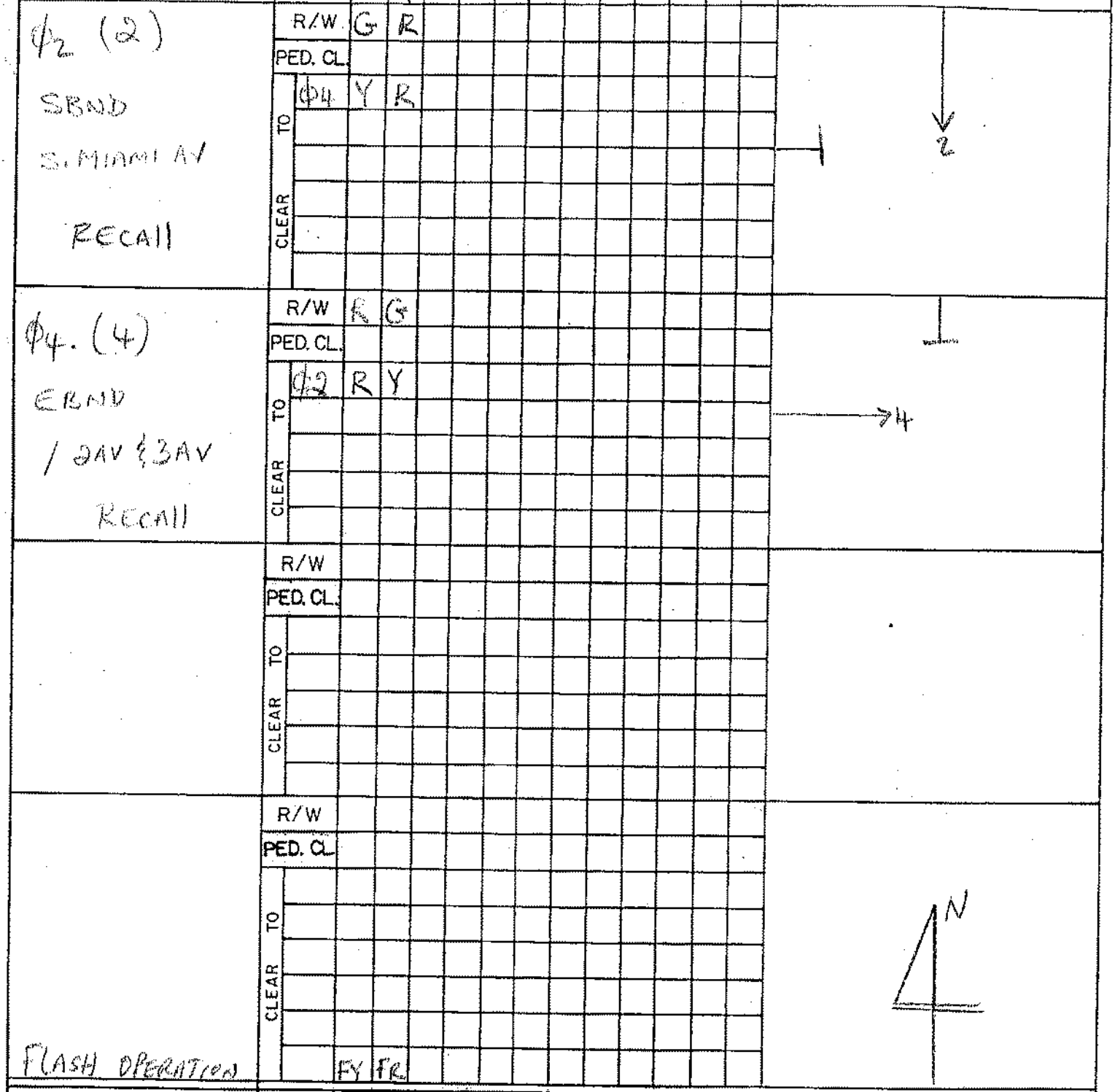
SHEET NUMBER T-5
5 of 10

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drawing name: \\FLFTL01\Data\Projects\L_M\MIAMI\042135002\CAD\Design\SIGPLAN1.dwg Sheet: 2 Mar 26, 2009 2:26pm by: carlos.cruz-cossio

SIGNAL OPERATING PLAN

PHASE		SIGNAL HEAD NUMBER														
	INT	2	4													
	R/W	G	R													
	PED. CL.															
Φ2 (2)	TO Φ4	Y	R													
SBND	TO															
S. MIAMI AV	TO															
	TO															
RECALL	CLEAR															
	CLEAR															
	CLEAR															
	R/W	R	G													
	PED. CL.															
Φ4. (4)	TO Φ2	R	Y													
EBND	TO															
/ 2AV & 3AV	TO															
	CLEAR															
RECALL	CLEAR															
	CLEAR															
	R/W															
	PED. CL.															
	TO															
	TO															
	CLEAR															
	CLEAR															
	CLEAR															
	R/W															
	PED. CL.															
	TO															
	TO															
	CLEAR															
	CLEAR															
	CLEAR															
FLASH OPERATION	CLEAR	FY	FR													



Drawn	Date
H. FRANCILLON	8/12/97
Check	Date
H. HERNANDEZ	1/27/98
Division Engineer	Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET NO. 3507

S. MIAMI AV / 2 ST & 3 ST
@ 250 BLK

Placed in Service		Phasing Number
Date: EARLY 92	By:	5

TOD Schedule Report
for 2228: S Miami Av&S 2 St

Print Date: 2/13/2015

Print Time: 9:21 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2228	S Miami Av&S 2 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	-	WBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SBT	7 - 7 - 7	9 - 9 - 9	7 - 7 - 7	1 - 1 - 1	20 - 52 - 52	0 - 61 - 61	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 WBT	7 - 7 - 7	9 - 9 - 9	7 - 7 - 7	1 - 1 - 1	20 - 30 - 30	63 - 61 - 61	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 2228: S Miami Av&S 2 St

Print Date: 2/13/2015

Print Time: 9:21 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	SBT	-	WBT	-	-	-	-		
	2	90	0	27	0	51	0	0	0	0	0	28
	3	90	0	41	0	37	0	0	0	0	0	58
	5	90	0	24	0	54	0	0	0	0	0	64
	6	100	0	42	0	46	0	0	0	0	0	28
	7	90	0	42	0	36	0	0	0	0	0	41
	8	100	0	34	0	54	0	0	0	0	0	9
	9	100	0	34	0	54	0	0	0	0	0	74
	10	100	0	34	0	54	0	0	0	0	0	74
	11	100	0	27	0	61	0	0	0	0	0	65
	12	90	0	34	0	44	0	0	0	0	0	5
	13	60	0	24	0	24	0	0	0	0	0	14
	14	90	0	37	0	41	0	0	0	0	0	35
	15	100	0	32	0	56	0	0	0	0	0	18
	16	110	0	49	0	49	0	0	0	0	0	72
	17	60	0	21	0	27	0	0	0	0	0	52

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	7	Su M T W Th F S
0700	8	M T W Th F
0900	9	M T W Th F
0900	14	Su S
1300	10	M T W Th F
1500	11	M T W Th F
1800	13	Su S
1900	12	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

FPID NO.	SHEET NO.
57000-3728	45

SIGNAL HEAD DETAILS

SIGNAL NO. 2, 4 (1-12-13) P2 P4 (3-6-9)



3 - SECT., 1-WAY
8" - STD. LENS
6 REQUIRED
ITEM NO. (650-5-131)

ALL FRAMES WITH ENCLOSURES
6 REQUIRED;
4 TYPE A, 2 TYPE B
ITEM NO. (659-117)



PORTLAND ORANGE
LUNAR WHITE

2 - SECT., 1-WAY (9" LENS)
6 REQUIRED
ITEM NO. (653-113)

Ⓐ ILLUMINATED NO LEFT TURN SIGN R3-2
Ⓑ ILLUMINATED NO RIGHT TURN SIGN R3-1
8 REQUIRED
ITEM NO. (700-69-1)

Ⓒ ONE WAY SIGN R6-2(L)
Ⓓ ONE WAY SIGN R6-2(R)
4 REQUIRED
ITEM NO. (700-1-10)

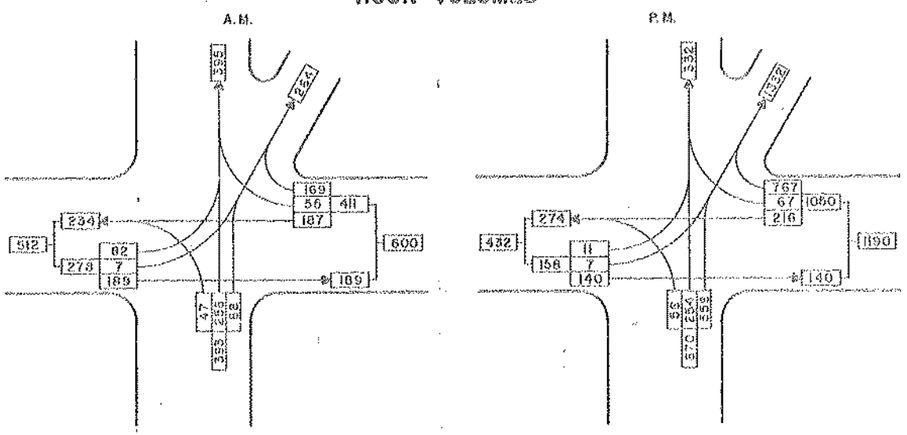
SEE DETAILS SHEET NO. 11

SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	(R1-2 W11-2 R6-2(R)) (RT) R10-12	(R6-1) (LT) R3-1 ILLUM. R3-1 ILLUM. R6-2(L) (LT)
SOUTH	R6-2(L) (RT) R7- R3-1 (RT) R10-12	R3-2 ILLUM. R3-1 ILLUM. R7- R6-1 (LT) R6-2 (R) (LT)
EAST	R3-1 (LT) R3-1 (RT)	—
WEST	—	R3-1 (LT) R3-1 ILLUM. (LT)

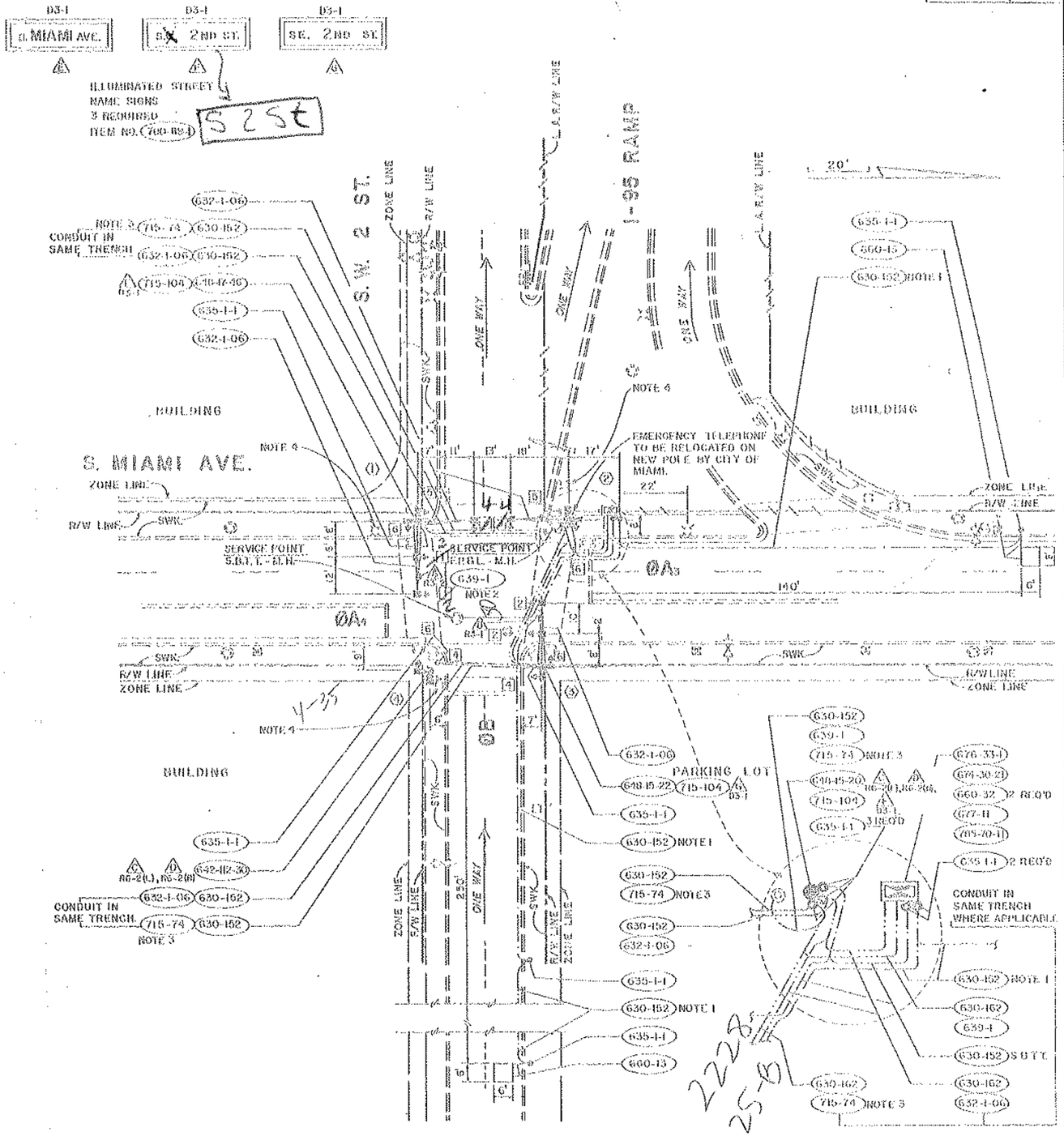
* NEW SIGNS
[ ] SIGNS TO BE REMOVED
2 REQUIRED
ITEM NO. (700-79)

1975 A.M. AND P.M. PEAK HOUR VOLUMES



NOTES:
1. SHIELDED LOOP WIRE #14 AWG TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. (660-13)
2. TWO POLE, 60 AMP FUSE KIT; TYPE AND ENCLOSURE AS REQUIRED BY F.P.&L. TO BE PROVIDED BY CONTRACTOR.
3. INSTALL #6 AWG COPPER THW WIRE FOR LIGHTING CIRCUIT.
4. EXISTING STREET LIGHTS AND POLES USED ONLY FOR LIGHTING TO BE REMOVED BY OTHERS WHEN NEW LUMINAIRES ARE INSTALLED.

*Revised 03/19/2011 M.L.H.
*Revised 10/21/2014



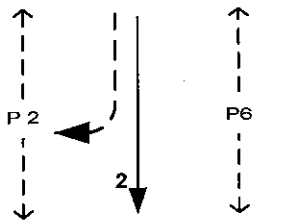
S. MIAMI AVENUE & 2nd STREET

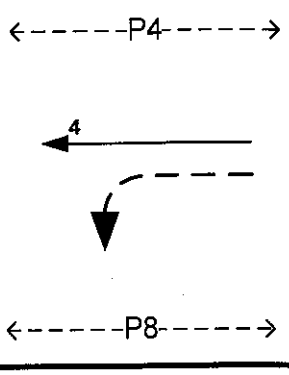
INTERSECTION IDENTIFICATION NO. 32228
CAT. XI

SIGNAL OPERATING PLAN

N

	Direction	SB			NB			WB			EB			Ped Heads				
Timing Phases	Head No.		2						4					P2	P4	P6	P8	Movements/Display/Actuation
2	Dwell		G						R					W/F	DW	W/F	DW	
SOUTH BOUND	4		Y						R					DW	DW	DW	DW	
S.MIAMI AVE	Clear to																	
RECALL																		
4	Dwell		R						G					DW	W/F	DW	W/F	
WEST BOUND	2		R						Y					DW	DW	DW	DW	
S. 2 ST	Clear to																	
RECALL																		
	Dwell																	
	Clear to																	
	Dwell																	
	Clear to																	
	Dwell																	
	Clear to																	
	Dwell																	
	clear to		*S.MIAMI AV SOUTH BOUND-NW 2 ST WEST BOUND*															
Flashing Operation			FY						FR									Page 1 of 1





MIAMI-DADE COUNTY PUBLIC WORK DEPARMENT

Drawn	Date	S. MIAMI Av & S. 2 St		
Mario L. Hernandez	2/17/2011			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	4/20/11	Date 3/24/11 By AEC.	9	2228

QuadPPConcPeds

TOD Schedule Report
for 2227: SE 1 Av&SE 2 St

Print Date: 2/13/2015

Print Time: 9:21 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2227	SE 1 Av&SE 2 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	-	-	WBT	-	NBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 WBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	1 - 1 - 1	20 - 20 - 20	55 - 41 - 41	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 NBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	1 - 1 - 1	22 - 22 - 22	0 - 41 - 41	4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	---4-6--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 2227: SE 1 Av&SE 2 St

Print Date: 2/13/2015

Print Time: 9:21 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	-	-	WBT	-	NBT	-	-		
	2	90	0	0	0	54	0	24	0	0	0	8
	3	90	0	0	0	44	0	34	0	0	0	72
	5	90	0	0	0	39	0	39	0	0	0	72
	6	100	0	0	0	44	0	44	0	0	0	24
	7	90	0	0	0	24	0	54	0	0	0	28
	8	100	0	0	0	34	0	54	0	0	0	0
	9	100	0	0	0	34	0	54	0	0	0	64
	10	100	0	0	0	49	0	39	0	0	0	64
	11	100	0	0	0	49	0	39	0	0	0	52
	12	90	0	0	0	34	0	44	0	0	0	78
	13	90	0	0	0	34	0	44	0	0	0	85
	14	90	0	0	0	39	0	39	0	0	0	22
	15	100	0	0	0	64	0	24	0	0	0	24
	16	110	0	0	0	52	0	46	0	0	0	88
	17	60	0	0	0	24	0	24	0	0	0	58

Local TOD Schedule

Time	Plan	DOW
0000	13	Su M T W Th F S
0100	Flash	Su M T W Th
0500	7	Su M T W Th
0700	8	M T W Th F
0900	9	M T W Th F
0900	14	Su S
1300	10	M T W Th F
1500	11	M T W Th F
1800	12	M T W Th F
1800	13	Su S
1900	13	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ NO.	SHEET NO
87000-3728	65

SIGNAL HEAD DETAILS

SIGNAL NO. [1] [2] — [3] [4] [5] [6]

R Y G — PORTLAND ORANGE

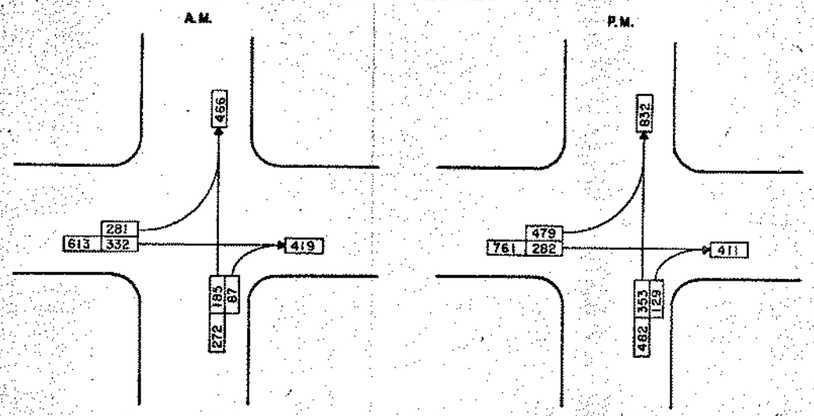
DONT WALK / WALK — LUNAR WHITE

3-SECT. 1-WAY 8 STD LENS 4 REQUIRED ITEM NO. (650-5-13)

2-SECT. 1-WAY (9" LENS) 8 REQUIRED ITEM NO. (653-13)

ALL FRAMES WITH ENCLOSURES 4 REQUIRED, TYPE A ITEM NO. (659-117)

1975
A.M. AND P.M. PEAK HOUR VOLUMES



NOTES

1. SHIELDED LOOP WIRE #14 AWG TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. 660-13.
2. EXISTING STREET LIGHTS AND POLES USED ONLY FOR LIGHTING TO BE REMOVED BY OTHERS WHEN NEW LUMINAIRES ARE INSTALLED.
3. TWO POLE, 60 AMP FUSE KIT; TYPE AND ENCLOSURE AS REQUIRED BY F.P.&L. TO BE PROVIDED BY CONTRACTOR.
4. INSTALL #6 AWG COPPER THW WIRE FOR LIGHTING CIRCUIT.

(A) ILLUM. NO LEFT TURN SIGN R3-2
(B) ILLUM. NO RIGHT TURN SIGN R3-1
2 REQUIRED ITEM NO. (700-89-1)

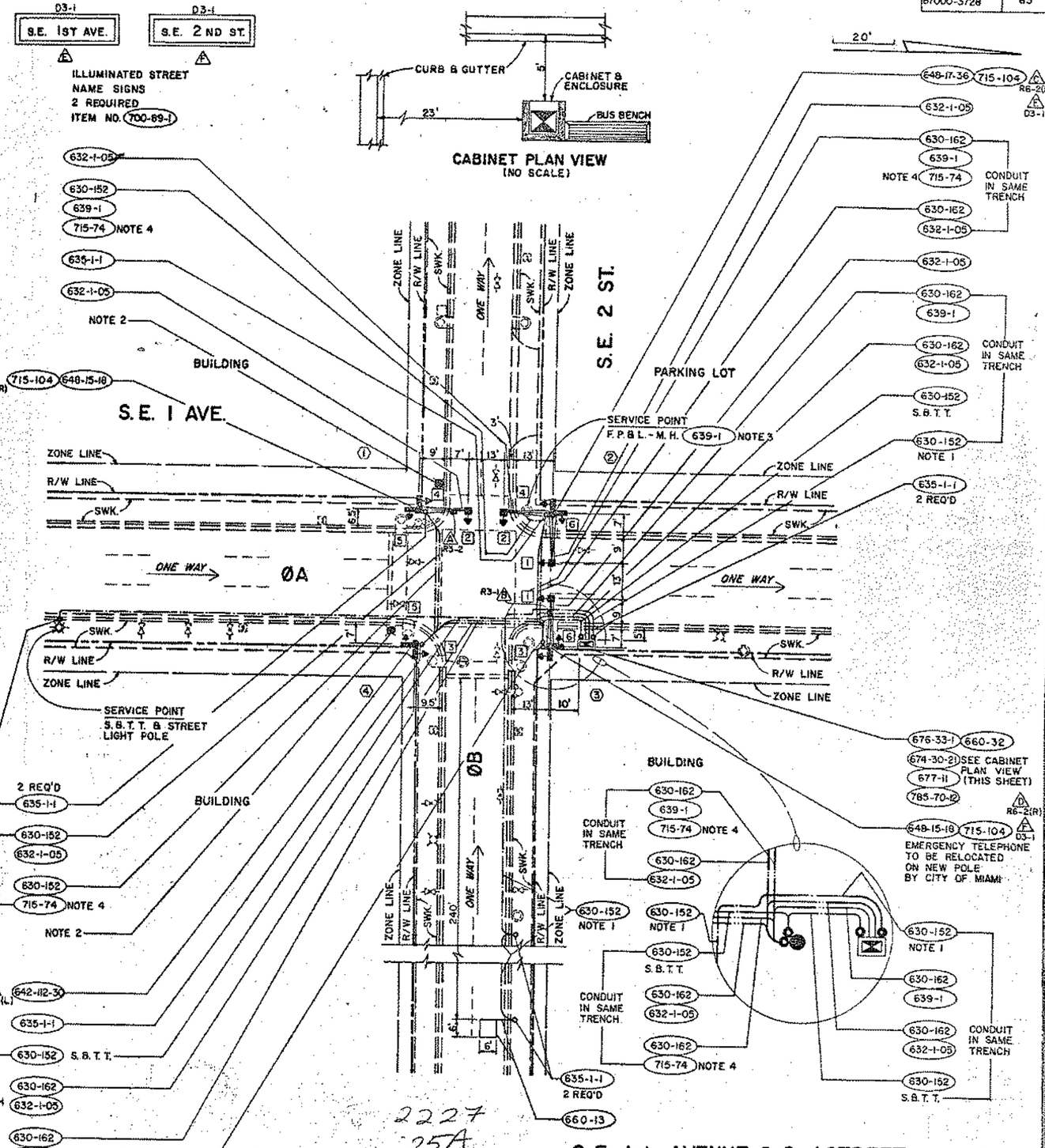
(C) ONE WAY SIGN R6-2(L)
(D) ONE WAY SIGN R6-2(R)
4 REQUIRED ITEM NO. (700-1-10)

SEE DETAILS SHEET NO. 11

SIGN INVENTORY

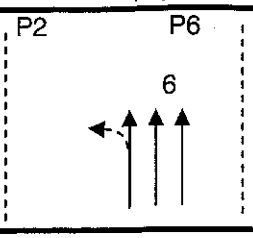
LEG	ENTER	EXIT
NORTH	—	[R6-1] (RT) R7-107 (RT) [D3-1] (LT) *R3-1 ILLUM. (RT) [R6-1] (LT) *D3-1 ILLUM. (RT) *R6-2(L) (LT) R7-1 (LT) R7-1 (LT)
SOUTH	R7-1 (RT) [R6-1] (RT) [D3-1] (RT) R10-12 (LT) *R6-2(L) (RT)	—
EAST	R10-12 (RT) R7-4 (RT) R6-1 (RT) R7-4/R6-1 (LT) [R6-1] (LT) [D3-1] (LT) *R6-2(R) (RT)	—
WEST	—	[D3-1] (RT) [R6-1] (RT) R7-4 (RT) R7-4 (LT) R6-1 (LT) *R6-2(R) (LT) *R3-2 ILLUM. (LT) *D3-1 ILLUM. (RT)

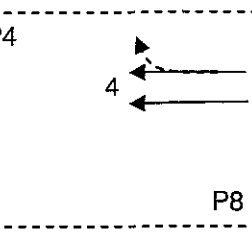
* NEW SIGNS
[ ] SIGNS TO BE REMOVED 9 REQUIRED ITEM NO. (700-79)



S.E. 1st AVENUE & 2nd STREET

SIGNAL OPERATING PLAN

	Direction	NB			WB			Ped Heads				
Timing Phases	Head No.		6			4		P2	P6	P4	P8	Movements/Display/Actuation
(6)	Dwell		G			R		W/F	W/F	DW	DW	
	Clear to 4		Y			R		DW	DW	DW	DW	
NB												
SE 1 AV												
(RECALL)												
(4)	Dwell		R			G		DW	DW	W/F	W/F	
	Clear to 6		R			Y		DW	DW	DW	DW	
WB												
SE 2 ST												
(RECALL)												
	Dwell											
	Clear to											
	Dwell											
	Clear to											
	Dwell											
	Clear to											
	Dwell											
	Clear to											
Flashing Operation			FY			FR						Page 1 of 1



Miami-Dade County Public Works Department

Drawn	Date			
R. Caraza	2/16/2011	SE 1 AV & SE 2 ST		
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. Hernandez	3/17/11	Date 5/10/11 By AEC.	6	2227

Blank12

TOD Schedule Report
for 2226: SE 2 Av&SE 2 St

Print Date: 2/13/2015

Print Time: 9:21 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2226	SE 2 Av&SE 2 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	-	-	-	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	11 - 11 - 11	7 - 7 - 7	1 - 1 - 1	30 - 30 - 30	0 - 40 - 40	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	7 - 7 - 7	7 - 7 - 7	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	55 - 40 - 40	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-----8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 2226: SE 2 Av&SE 2 St

Print Date: 2/13/2015

Print Time: 9:21 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	-	-	-	-	SBT		
	1	100	0	62	0	0	0	0	0	26	0	72
	2	90	0	67	0	0	0	0	0	11	0	58
	3	90	0	67	0	0	0	0	0	11	0	66
	4	100	0	74	0	0	0	0	0	14	0	72
	5	90	0	67	0	0	0	0	0	11	0	66
	6	100	0	74	0	0	0	0	0	14	0	72
	7	90	0	34	0	0	0	0	0	44	0	44
	8	100	0	44	0	0	0	0	0	44	0	38
	9	100	0	44	0	0	0	0	0	44	0	0
	10	100	0	49	0	0	0	0	0	39	0	3
	11	100	0	59	0	0	0	0	0	29	0	91
	12	90	0	47	0	0	0	0	0	31	0	36
	14	100	0	59	0	0	0	0	0	29	0	64
	15	120	0	38	0	0	0	0	0	70	0	38
	16	120	0	88	0	0	0	0	0	20	0	12
	17	120	0	38	0	0	0	0	0	70	0	4
	18	90	0	47	0	0	0	0	0	31	0	76
	19	100	0	59	0	0	0	0	0	29	0	68
	20	100	0	55	0	0	0	0	0	33	0	62
	21	90	0	68	0	0	0	0	0	10	0	88
	22	90	0	47	0	0	0	0	0	31	0	76
	23	90	0	47	0	0	0	0	0	31	0	76
	24	90	0	47	0	0	0	0	0	31	0	76
	25	120	0	83	0	0	0	0	0	25	0	38

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	7	M T W Th F
0600	5	Su S
0700	8	M T W Th F
0900	9	Su M T W Th F S
1300	10	M T W Th F
1500	11	M T W Th F
1900	12	M T W Th F
2200	5	Su S
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report
for 2226: SE 2 Av&SE 2 St

Print Date: 2/13/2015

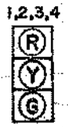
Print Time: 9:21 AM

No Calendar Defined/Enabled

STATE	STATE PROJ NO.	FISCAL YEAR	SHE
Fla.	87050-3636-80		

SIGNAL HEAD DETAILS

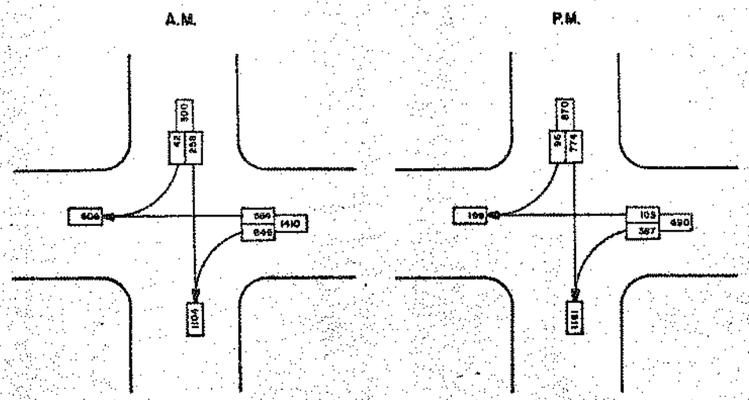
1,2,3,4

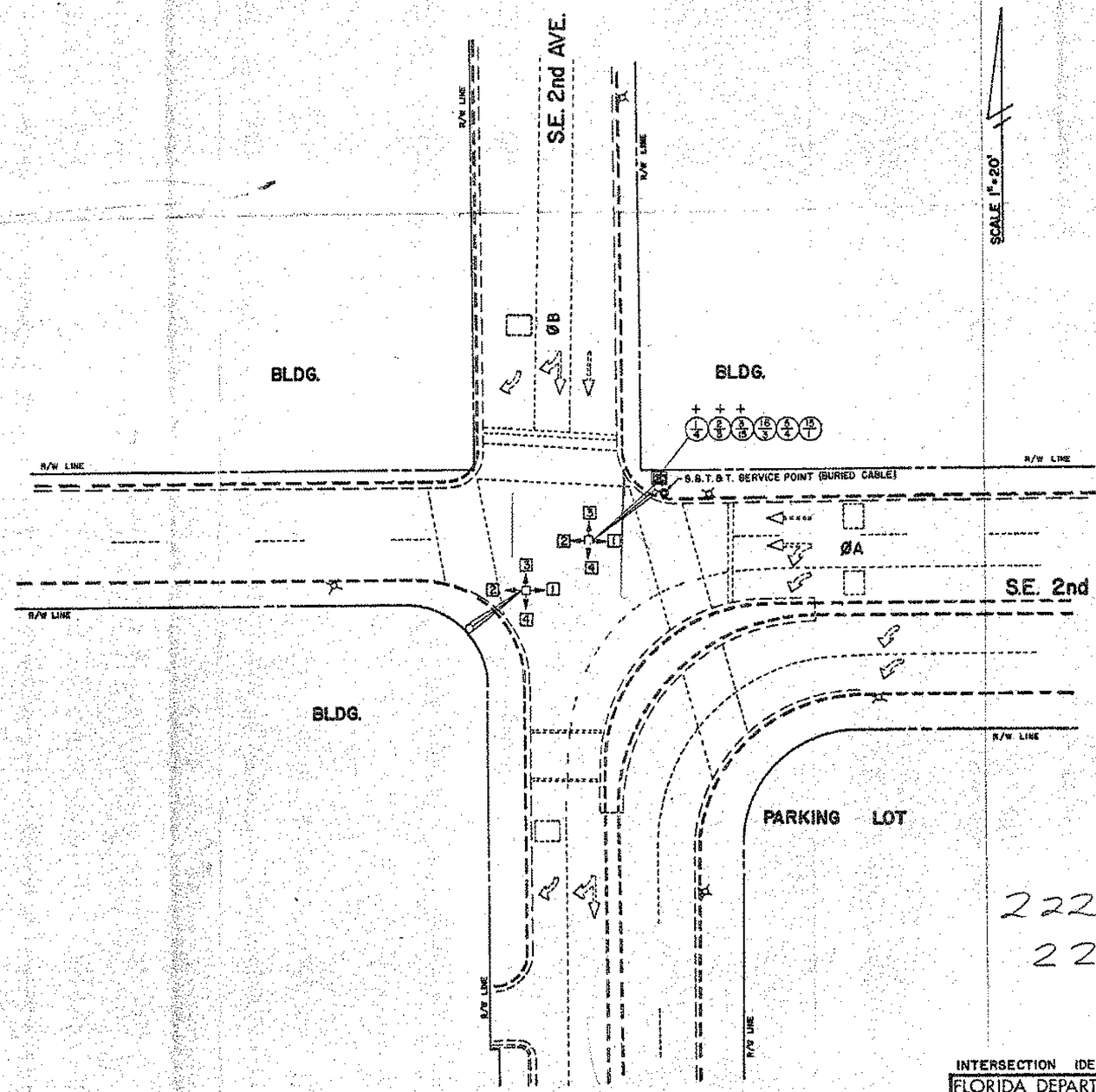


SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	R10-12 R3-2A R7-8 R7-4	
SOUTH		
EAST		
WEST		

1980 PEAK HOUR VOLUMES





2226
228

INTERSECTION IDENTIFICATION NUMBER 3222

FLORIDA DEPARTMENT OF TRANSPORTA
Traffic Operations

S. E. 2 ST. & S. E. 2 AVE.

ROAD NO.	COUNTY
U.S. 1	DADE

REVISIONS			INITIALS	DATES
Dates	Descriptions	Detailed By	W.B.M.	
		Checked By	G.W.R.	
		Quantities By	M.M.H.	
		Checked By	G.W.R.	
		Supervised By	M.L.	

Recommended for approval
by _____ Deputy Traffic Operations

Approved
by _____ State Traffic Operations

DRAWING NO. | INDE

TOD Schedule Report
for 3418: NW 3 Ct&NW 2 St

Print Date: 2/13/2015

Print Time: 11:32 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3418	NW 3 Ct&NW 2 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	EBT	WBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SBT	7 - 7 - 7	7 - 7 - 7	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	0 - 25 - 25	4	0.3
3 EBT	7 - 7 - 7	7 - 7 - 7	7 - 7 - 7	2.5 - 2.5 - 2.5	10 - 10 - 10	25 - 25 - 25	4	0.7
4 WBT	7 - 7 - 7	7 - 7 - 7	7 - 7 - 7	2.5 - 2.5 - 2.5	10 - 10 - 10	25 - 25 - 25	4	0.7
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-234----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 3418: NW 3 Ct&NW 2 St

Print Date: 2/13/2015

Print Time: 11:32 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	SBT	EBT	WBT	-	-	-	-		
	2	90	0	53	12	11	0	0	0	0	0	6
	4	90	0	53	12	11	0	0	0	0	0	26
	5	90	0	53	12	11	0	0	0	0	0	48
	6	100	0	63	12	11	0	0	0	0	0	44
	7	60	0	28	10	8	0	0	0	0	0	22
	8	100	0	50	20	16	0	0	0	0	0	28
	9	90	0	43	17	16	0	0	0	0	0	1
	10	90	0	43	17	16	0	0	0	0	0	76
	11	100	0	46	17	23	0	0	0	0	0	28
	12	90	0	43	17	16	0	0	0	0	0	31
	13	70	0	23	17	16	0	0	0	0	0	17
	14	100	0	63	12	11	0	0	0	0	0	90
	15	100	0	63	12	11	0	0	0	0	0	58
	16	100	0	63	12	11	0	0	0	0	0	90
	17	70	0	23	17	16	0	0	0	0	0	31
	23	70	0	23	17	16	0	0	0	0	0	52

Local TOD Schedule

Time	Plan	DOW
0000	23	Su M T W Th F S
0600	13	Su M T W Th F S
0730	8	M T W Th F
0900	9	M T W Th F
1000	9	S
1115	10	S
1145	10	M T W Th F
1315	9	M T W Th F S
1545	11	M T W Th F
1800	12	M T W Th F
1815	13	S
1900	13	M T W Th F
2100	17	Su M T W Th F S
2300	23	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

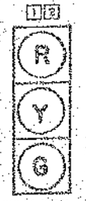
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ. NO.	SHEET NO.
87000-3752	28

SIGNAL HEAD DETAILS

SIGNAL NO. 1 2



3-SECT., 1-WAY
8" STD. LENS (2
WITH DISC. HANGERS)
3 REQUIRED
ITEM NO. (632-1-5)

3 4 5 6



PORTLAND ORANGE
LUNAR WHITE

2-SECT., 1-WAY
1 REQUIRED
ITEM NO. (632-1-6)

2-SECT., 2-WAY
2 REQUIRED
ITEM NO. (632-1-8)

R3-2



ILLUM. NO LEFT TURN SIGN
1 REQUIRED
ITEM (700-66-1)

R3-1



ILLUM. NO RIGHT TURN SIGN
1 REQUIRED
ITEM (700-67-1)

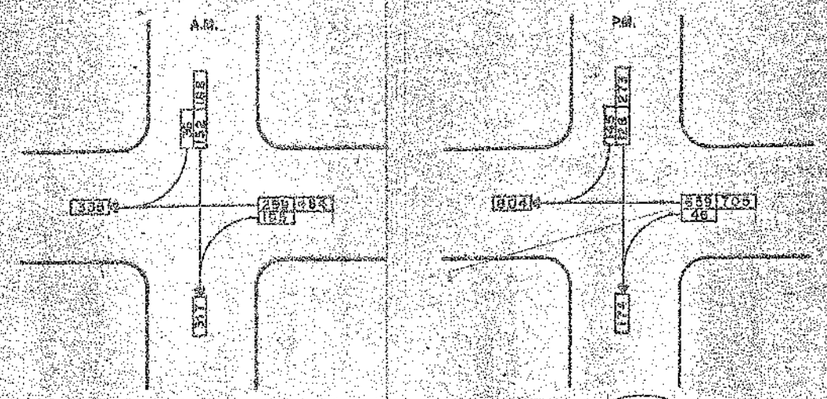
DISC. HANGER
1 REQUIRED
ITEM (632-10-3)

SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	R7-4 RT. D3-1 RT. R7-4 LT. R9-7L LT. R9-1 RT.	—
SOUTH	—	D3-1 LT. D3-1 (OVERHEAD) D7-1 (ORANGE BOWL) R3-1 ILLUM.
EAST	—	D3-1 RT. R3-1 ILLUM. R9-1 LT. R7-4 LT. R7-4 RT.
WEST	R7-1 LT. R7-1 LT. D3-1 LT. +	

3 M1-1, M3-3, M6-1, M6-3, M1-1, M3-3, M6-1
8 NEW SIGNS

1975 A.M. AND P.M. PEAK HOUR VOLUMES



NOTES:

1. INTERCEPT EXISTING CONDUIT, COUPLE AND EXTEND CONDUIT TO NEW LOCATION OF CONTROLLER CAB AND ABANDON REMAINING CONDUIT TO EXISTING PULL BOX.
2. INSTALL CONDUIT UP COLUMN AND ALONG UNDERSIDE OF I-95 STRUCTURE AS SHOWN IN DETAIL, SHEET NO. 9.
3. SHIELDED LOOP WIRE #14AWG TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. (660-15)

1" = 40'
1" = 20'

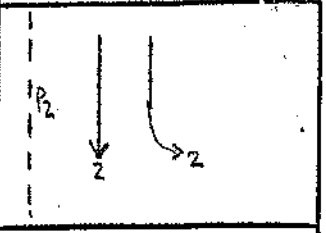
N.W. 3rd COURT & 2nd STREET

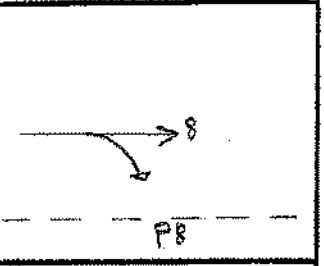
INTERSECTION IDENTIFICATION NO. 33410
CAT. IX

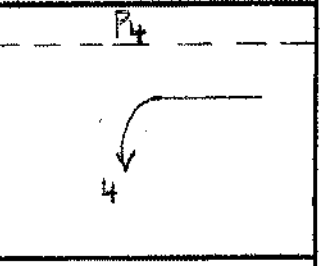
SIGNAL OPERATING PLAN

N

Timing Phases	Direction	SB	WB	EB	Ped Heads P2	Ped Heads P4	Ped Heads P8	Movements/Display/Actuation
2 SB NW 3 CT RECALL	Head No.	2	4	8				
	Dwell	G	R	R	W/F	DW	DW	
	Clear to Φ3	Y	R	R	DW	DW	DW	
3 EB NW 2 ST RECALL	Dwell	R	R	G	DW	DW	W/F	
	Clear to Φ4	R	R	Y	DW	DW	DW	
4 WB NW 2 ST RECALL	Dwell	R	G	R	DW	W/F	DW	
	Clear to Φ2	R	Y	R	DW	DW	DW	
	Dwell							
	Clear to							
	Dwell							
	Clear to							
	Dwell							
	Clear to							
Flashing Operation		FY	FR	FR				







Revision #1
12/3/08
from phasing 6

Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	NW 3 CT & NW 2 ST		
H. FRANCILLON	8/4/05			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	8/4/05	Date 12/11/00 By SHOP	7	3418

Blank12

TOD Schedule Report
for 3400: NW 3 Av&NW 2 St

Print Date: 2/13/2015

Print Time: 11:30 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3400	NW 3 Av&NW 2 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	-	NBT	WBT	-	NWT	-	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
	Phase Bank 1 2 3							
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
3 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	1 - 1 - 1	15 - 15 - 15	65 - 65 - 65	4	0.6
4 WBT	7 - 7 - 7	15 - 15 - 15	7 - 7 - 7	1 - 1 - 1	21 - 21 - 21	30 - 30 - 30	4	1.7
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 NWT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	1 - 1 - 1	15 - 15 - 15	0 - 15 - 15	4	0.7
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 EBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	1 - 1 - 1	21 - 21 - 21	30 - 30 - 30	4	1.7

Last In Service Date: unknown

Permitted Phases

	12345678
Default	--34-6-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3400: NW 3 Av&NW 2 St

Print Date: 2/13/2015

Print Time: 11:30 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	-	NBT	WBT	-	NWT	-	EBT		
	8	100	0	0	48	19	0	16	0	20	0	5
	9	90	0	0	41	17	0	16	0	17	0	62
	10	90	0	0	31	22	0	21	0	22	0	54
	11	100	0	0	31	22	0	31	0	22	0	99
	12	90	0	0	41	22	0	11	0	22	0	84
	13	70	0	0	26	13	0	14	0	14	0	31
	17	70	0	0	16	23	0	15	0	23	0	42
	23	70	0	0	16	23	0	15	0	23	0	42

Local TOD Schedule

Time	Plan	DOW
0000	23	Su M T W Th F S
0600	13	Su M T W Th F S
0700	8	M T W Th F
0900	9	M T W Th F
1000	9	S
1115	10	S
1145	10	M T W Th F
1315	9	M T W Th F S
1545	11	M T W Th F
1800	12	M T W Th F
1815	13	S
1900	13	M T W Th F
2100	17	Su M T W Th F S
2300	23	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

87270-3456 | 35

2P 3P

R Y G

OPTICALLY PROGRAMMED SIGNAL HEADS 3-SECTION, 1-WAY 12" LENS 2- EXISTING (3P) 2- FURNISH (2P) AND INSTALL ITEM NO. 650-2-12

4

R R Y Y G G

3-SECTION, 2-WAY 12" STD. LENS WITH DISCONNECT HANGERS 2- EXISTING.

P2

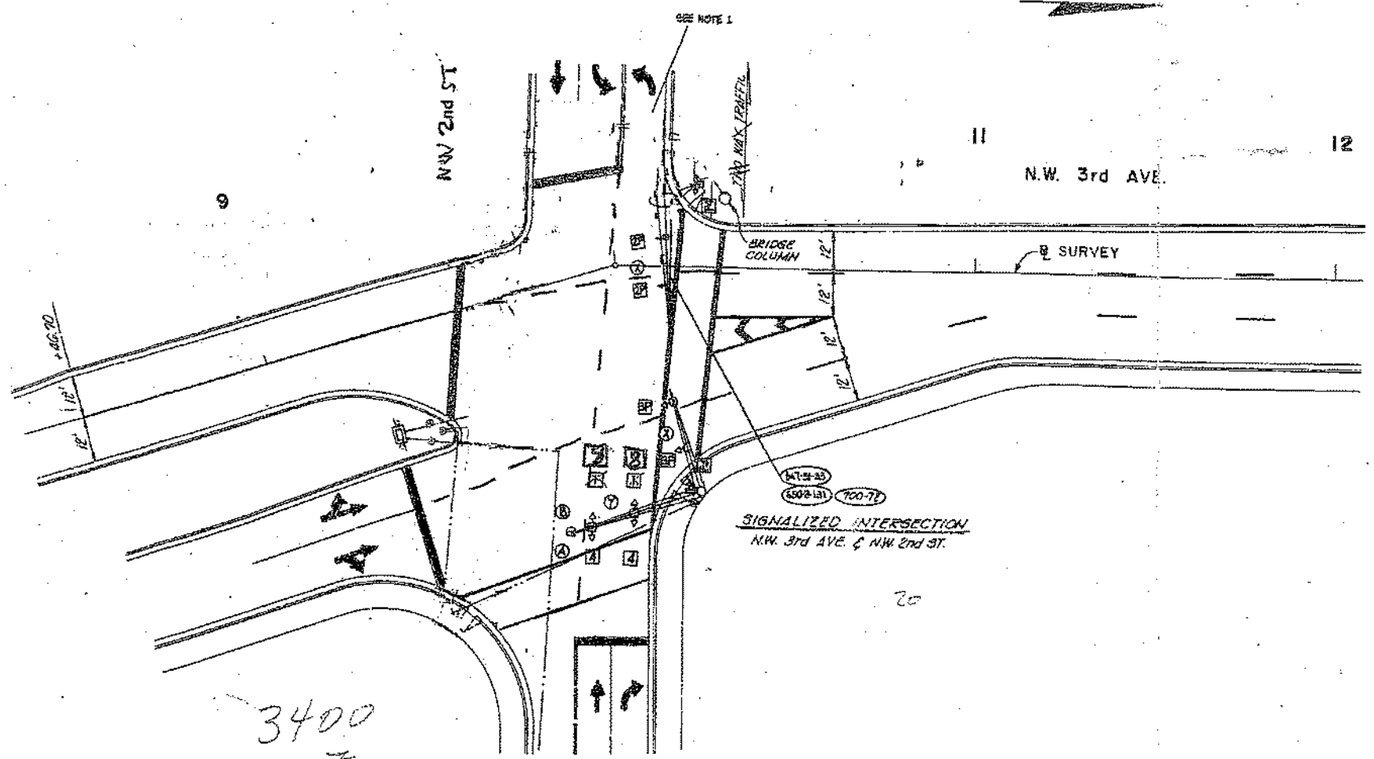
1-SECTION, 2-WAY 2-FURNISH AND INSTALL ITEM NO. 603-172

P4

WALK — LUNAR WHITE
DON'T WALK — PORTLAND ORANGE

1-SECTION, 1-WAY 2-EXISTING

SCALE: 1"=20'



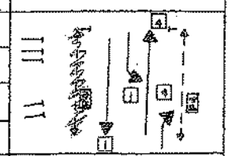
SIGNALIZED INTERSECTION
N.W. 3rd AVE. & N.W. 2nd ST.

20

3400
27

SIGNAL OPERATING PLAN

PHASE		INT	SIGNAL HEAD NUMBER 1	2P	3P	4		P2	P4	
Ø1 (1+4)		R/W	G	R	R	G		DW	FW	
NW 2ND ST	CLEAR TO	PED CL	G	R	R	G		DW	F DW	
		Ø2	Y	R	R	Y		DW	DW	
PRETIMED		ALL RED	R	R	R	R		DW	DW	
Ø2 (3)		R/W	R	R	G	R		DW	DW	
NW 3RD AVE	CLEAR TO									
		Ø3	R	R	Y	R		DW	DW	
PRETIMED		ALL RED	R	R	R	R		DW	DW	
Ø3 (2)		R/W	R	G	R	R		FW	DW	
SR-9A RAMP	CLEAR TO	PED CL	R	G	R	R		F DW	DW	
		Ø1	R	Y	R	R		DW	DW	
PRETIMED		ALL RED	R	R	R	R		DW	DW	
FLASHING OPERATION			Y	R	R	Y				



Cϕ
Aϕ
Bϕ

revised
8/2/93

(X) NW 2 ST
03 - 1S
1 - EXIST
1 - RELOCATE
(700-72-1)

(Y) NW 3 AV
03 - 1S
1 - EXIST

(A) NO LEFT TURN SIGN
1 - EXIST

(B) ILLUM. NO RIGHT YURN SIGN
1 - EXIST

NOTES:

1. EXISTING MAST ARM TO BE BOLTED TO BACK OF JERSEY BARRIER WALL OF SR-9A ON LINE IMMEDIATELY ABOVE THE NORTH CURB FACE OF NW 2ND STREET. PAY UNDER ITEM NO. 647-51-51. SEE MAST ARM PEDESTAL DETAIL IN THE BRIDGE PLANS.
2. INSTALL CONDUIT UP COLUMN AND ALONG UNDERSIDE OF SR-9A STRUCTURE TO MAST ARM.
3. ALL SIGNAL EQUIPMENT WHICH IS REMOVED BUT NOT RELOCATED SHALL BECOME THE PROPERTY OF THE METRO DADE COUNTY DEPARTMENT OF PUBLIC WORKS.
4. THE COST OF REMOVAL OF ALL EQUIPMENT WHICH IS TO BE RELOCATED SHALL BE INCLUDED IN THE BID ITEM FOR INSTALLING THE APPROPRIATE EQUIPMENT.

Signalization as Found on the Field 2/24/11 E.B.

27

Gredner Engineering Sciences, Inc.
CONSULTING ENGINEERS TAMPA, FLORIDA

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

NW 3rd AVE. & NW 2nd ST.

ROAD NO	COUNTY	PROJECT NO
94	DADE	87270-3456

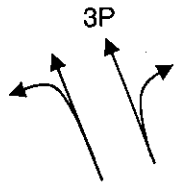
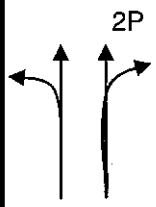
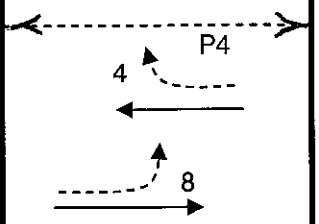
	Names	Dates
Designed by	D.O.	11-84
Checked by	S.H.M.	11-84
Quantities by	D.O.	11-84
Checked by	S.H.M.	11-84
Supervised by	S.H.M.	

APPROVED BY

Drawing No T-2 | Index No

SIGNAL OPERATING PLAN

N

Timing Phases	Direction	NWB	NB	EB	WB	Ped Heads	Movements/Display/Actuation
	Head No.	2P	3P	8	4	P4	
(6) NWB NW 3 AV (RECALL)	Dwell	R	G	R	R	DW	
	Clear to (3)	R	Y	R	R	DW	
(3) NB I-95 NB OFF (RECALL)	Dwell	G	R	R	R	DW	
	Clear to (4+8)	Y	R	R	R	DW	
(4+8) WBT + EBT NW 2 ST (RECALL)	Dwell	R	R	G	G	F/W	
	Clear to (6)	R	R	Y	Y	DW	
	Dwell						
	Clear to						
	Dwell						
	Clear to						
	Dwell						
	Clear to						
Flashing Operation		FR	FR	FY	FY		Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	NW 3 AV & NW 2 ST		
Erick Zapata	2/22/2011			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	6/6/11	Date 4/4/11 By AGC.	9	3400

TOD Schedule Report
for 3399: NW 3 Ct&NW 3 St

Print Date: 2/13/2015

Print Time: 11:30 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3399	NW 3 Ct&NW 3 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	-	WBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 SBT	7	7	7	6	6	6	7	7	7	1	1	1	20	50	50	0	50	50	4	0.7
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	7	7	7	10	10	10	7	7	7	2.5	2.5	2.5	10	30	30	40	40	30	4	1
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3399: NW 3 Ct&NW 3 St

Print Date: 2/13/2015

Print Time: 11:30 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	SBT	-	WBT	-	-	-	-		
	2	90	0	44	0	36	0	0	0	0	0	82
	4	90	0	59	0	21	0	0	0	0	0	26
	5	90	0	44	0	36	0	0	0	0	0	35
	6	100	0	24	0	66	0	0	0	0	0	70
	7	60	0	30	0	20	0	0	0	0	0	18
	8	100	0	64	0	26	0	0	0	0	0	29
	9	90	0	47	0	33	0	0	0	0	0	81
	10	90	0	47	0	33	0	0	0	0	0	70
	11	100	0	52	0	38	0	0	0	0	0	23
	12	90	0	42	0	38	0	0	0	0	0	21
	13	70	0	36	0	24	0	0	0	0	0	16
	14	100	0	67	0	23	0	0	0	0	0	94
	15	100	0	18	0	72	0	0	0	0	0	18
	16	100	0	67	0	23	0	0	0	0	0	94
	17	70	0	36	0	24	0	0	0	0	0	35
	23	70	0	36	0	24	0	0	0	0	0	18

Local TOD Schedule

Time	Plan	DOW
0000	23	Su M T W Th F S
0600	13	Su M T W Th F S
0730	8	M T W Th F
0900	9	M T W Th F
1000	9	S
1115	10	S
1145	10	M T W Th F
1315	9	M T W Th F S
1545	11	M T W Th F
1800	12	M T W Th F
1815	13	S
1900	13	M T W Th F
2100	17	Su M T W Th F S
2300	23	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

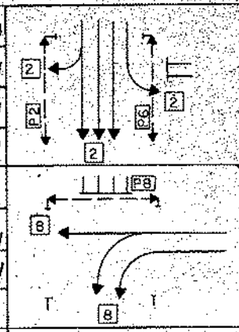
* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

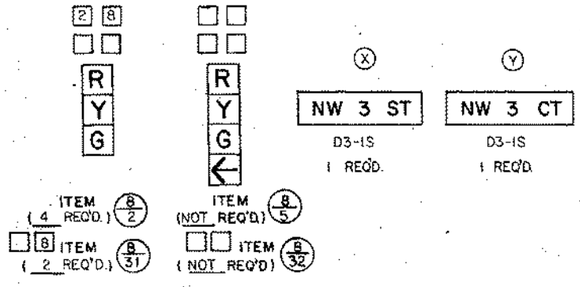
SIGNAL OPERATING PLAN

		SIGNAL HEAD NUMBER												
	INT	1	2	3	4	5	6	7	8	P 2	P 4	P 6	P 8	
Ø2 (2) NW 3 CT (PRE-TIMED)	R/W		G						R	W		W	DW	
	PED. CLR.		G						R	F DW		F DW	DW	
	Ø 4		Y						R	DW		DW	DW	
Ø4 (8) NW 3 ST (PRE-TIMED)	R/W		R						G	DW		DW	W	
	PED. CLR.		R						G	DW		DW	F DW	
	Ø 2		R						Y	DW		DW	DW	
FLASHING OPERATION			Y						R					



EXISTING TWO PHASE PRE-TIMED CONTROLLER WITH CONCURRENT PEDESTRIAN OPERATION TO REMAIN.

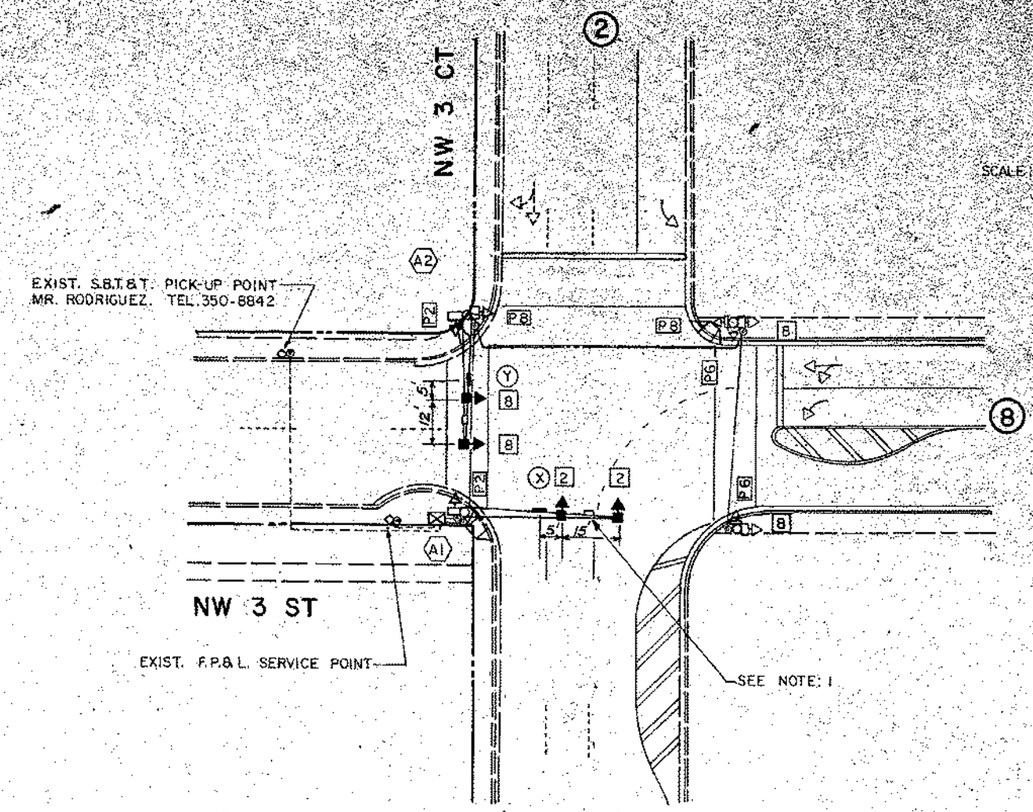
1. REMOVE ALL EXISTING SIGNAL EQUIPMENT & SIGNS IN CONFLICT WITH THIS DESIGN.
2. DEMAND WATTAGE FOR THIS INTERSECTION IS 1313 WATTS.
3. SEE SHEET T-15 FOR MAST ARM DATA.



DETAIL SIGNAL HEADS

PEDESTRIAN SIGNAL SIGN LEGEND				
No.	SIGN	STREET NAME ON SIGN	FACING	No. REQ'D.
			TOTAL	

FOR INSTALLATION OF SIGN BRACKET SEE DETAIL DRAWINGS



DADE COUNTY PUBLIC WORKS DEPT. HIGHWAY DIVISION
Appendix Proj. 3399 Sheet T-16
SHEET 40

3399
27

48 HOURS BEFORE DIGGING IN DADE
CALL 264-6820
UNDERGROUND UTILITIES NOTIFICATION CENTER

METROPOLITAN DADE COUNTY

Vishnu D. Ratkumar
Vishnu D. Ratkumar
Murphy 10/16

SIGNALIZATION

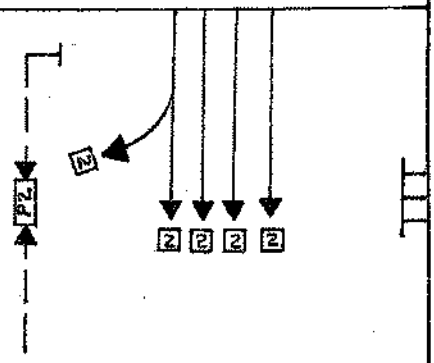
NW 3 CT & NW 3 ST

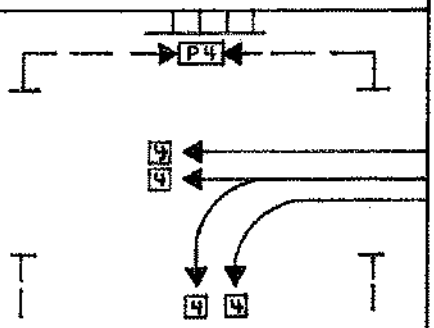
3399

BY	DATE	DESCRIPTION	BY

SIGNAL OPERATING PLAN

PHASE	INT	SIGNAL HEAD NUMBER 2	4		P2	P4							
ϕ2 (2) NW 3 CT SB (RECALL)	R/W	G	R		FW	DW							
	PED.CL.	G	R		FDW	DW							
	TO ϕ4	Y	R		DW	DW							
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
ϕ4 (4) NW 3 ST WB (NON-ACTUATED)	R/W	R	G		DW	FW							
	PED.CL.	R	G		DW	FDW							
	TO ϕ2	R	Y		DW	DW							
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	R/W												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	R/W												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
	CLEAR TO												
FLASHING OPERATION		FY	FR										







Drawn: W. Thompson	Date: 10/28/83	METROPOLITAN DADE COUNTY DEPARTMENT OF TRAFFIC AND TRANSPORTATION
Check: Eloy Lee	Date: 10/31/83	Revision #1 By HF on 7/30/02 — ASSET NO: 33399
Division Engineer	Date	NW 3 CT & NW 3 ST

Placed in Service			Phasing Number
Date: 10/13/83			2

TOD Schedule Report
for 3423: NW 3 Av&NW 3 St

Print Date: 2/13/2015

Print Time: 11:32 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3423	NW 3 Av&NW 3 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	-	-	EBT	-	NBT	-	WBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 EBT	7 - 7 - 7	17 - 17 - 17	7 - 7 - 7	2 - 2 - 2	10 - 10 - 10	40 - 30 - 30	4	1.5
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 NBT	0 - 0 - 0	0 - 0 - 0	12 - 12 - 12	1 - 1 - 1	20 - 20 - 20	0 - 30 - 30	4	1.5
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 WBT	7 - 7 - 7	17 - 17 - 17	7 - 7 - 7	2.5 - 2.5 - 2.5	10 - 10 - 10	40 - 30 - 30	4	1.5

Last In Service Date: unknown

Permitted Phases

	12345678
Default	---4-6-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3423: NW 3 Av&NW 3 St

Print Date: 2/13/2015

Print Time: 11:32 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 -	3 -	4 EBT	5 -	6 NBT	7 -	8 WBT	Ring Offset	Offset
	2	90	0	0	0	42	0	38	0	42	0	62
	4	90	0	0	0	35	0	45	0	35	0	78
	5	90	0	0	0	35	0	45	0	35	0	78
	6	100	0	0	0	65	0	25	0	65	0	38
	7	60	0	0	0	19	0	31	0	19	0	56
	8	100	0	0	0	35	0	55	0	35	0	72
	9	90	0	0	0	35	0	45	0	35	0	28
	10	90	0	0	0	39	0	41	0	39	0	14
	11	100	0	0	0	39	0	51	0	39	0	62
	12	90	0	0	0	39	0	41	0	39	0	48
	13	70	0	0	0	25	0	35	0	25	0	8
	14	100	0	0	0	37	0	53	0	37	0	96
	15	100	0	0	0	69	0	21	0	69	0	28
	16	100	0	0	0	37	0	53	0	37	0	96

Local TOD Schedule

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0600	13	Su M T W Th F S
0730	8	M T W Th F
0900	9	M T W Th F
1000	9	S
1115	10	S
1145	10	M T W Th F
1315	9	M T W Th F S
1545	11	M T W Th F
1800	12	M T W Th F
1815	13	S
1900	13	M T W Th F
2100	Free	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

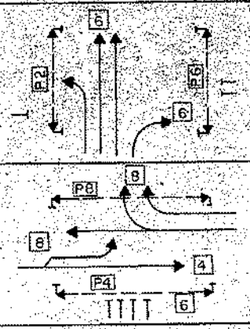
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

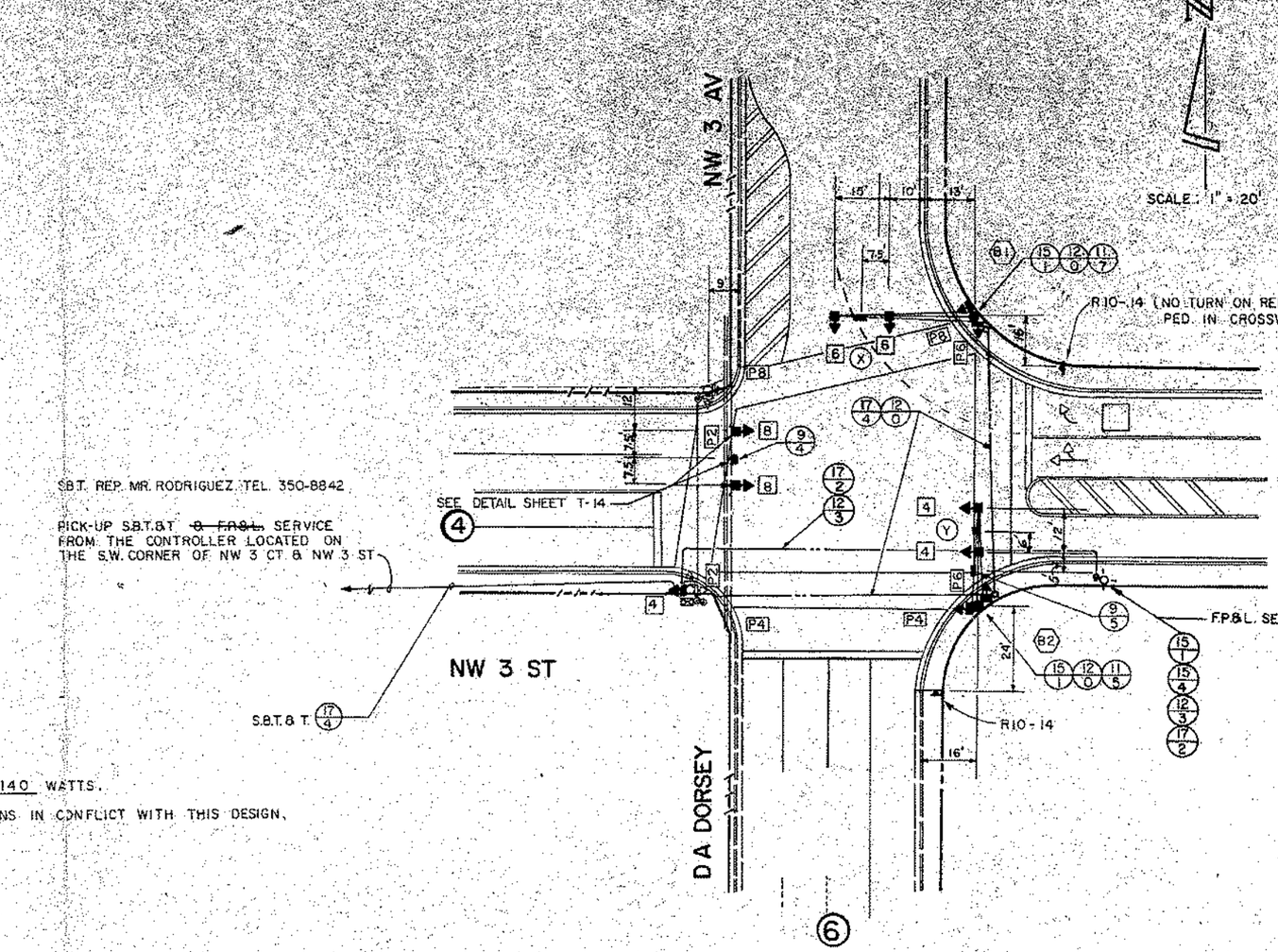
DADE COUNTY PUBLIC WORKS DEPT.
HIGHWAY DIVISION
PROJECT NO. 660612-A SHEET T-13
SHEET 60

SIGNAL OPERATING PLAN

		SIGNAL HEAD NUMBER												
	INT	1	2	3	4	5	6	7	8	P 2	P 4	P 6	P 8
Ø2 (6) NW 3 AV (PRE-TIMED)	R/W				R		G		R	W	DW	W	DW
	PED. CLR.				R		G		R	F DW	DW	F DW	DW
	Ø 4				R		Y		R	DW	DW	DW	DW
Ø4 (4+8) NW 3 ST (PRE-TIMED)	R/W				G		R		G	DW	W	DW	W
	PED. CLR.				G		R		G	DW	F DW	DW	F DW
	Ø 2				Y		R		Y	DW	DW	DW	DW
FLASHING OPERATION					R		Y		R				



EXISTING TWO PHASE PRE-TIMED CONTROLLER WITH CONCURRENT PEDESTRIAN OPERATION.



3423
27

8
R Y G
ITEM 8 2 REQ'D.

4
6
R Y G
ITEM (7 REQ'D.) 8 2
4 ITEM (3 REQ'D.) 8 31

R Y G
ITEM (NOT REQ'D.) 8
ITEM (NOT REQ'D.) 8 32

(Y) D A DORSEY NW 3 AV
D3-1S
1 REQ'D.

(X) NW 3 ST
D3-1S
1 REQ'D.

ITEM (1 REQ'D.) 9 4

ITEM (1 REQ'D.) 9 5

P2 P4 P6 P8
ITEM (4 EXIST. 4 REQ'D.) 7 1A

DETAIL SIGNAL HEADS

NOTES:

1. DEMAND WATTAGE FOR THIS INTERSECTION IS 2140 WATTS.
2. REMOVE ALL EXISTING SIGNAL EQUIPMENT & SIGNS IN CONFLICT WITH THIS DESIGN.
3. SEE SHEET T-15 FOR MAST-ARM DATA.

PEDESTRIAN SIGNAL SIGN LEGEND

No.	SIGN	STREET NAME ON SIGN	FACING	No. REQ'D.
			TOTAL	

FOR INSTALLATION OF SIGN BRACKET SEE DETAIL DRAWINGS.

48 HOURS BEFORE DIGGING IN DADE
CALL 264-6820
UNDERGROUND UTILITIES NOTIFICATION CENTER

NO.	DATE	DESCRIPTION	BY

METROPOLITAN DADE COUNTY

Vishnu D. Rotkumar DESIGN
Vishnu D. Rotkumar DRAWN
Maurice Wilt CHECK

SIGNALIZATION

NW 3 AV & NW 3 ST

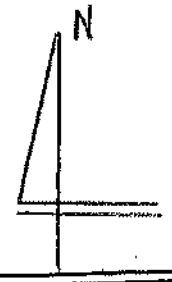
3423

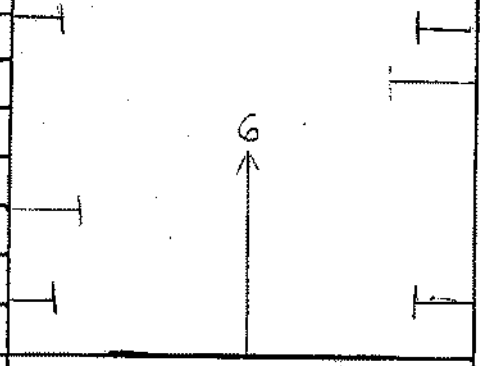
DATE

FILE NUMBER

SIGNAL OPERATING PLAN

PHASE		SIGNAL HEAD NUMBER												
	INT.	6	4	8		P4	P8							
Φ6	R/W.	G	R	R		DW	DW							
NW 3 AV	PED. CL.	G	R	R		DW	DW							
NBND	CLEAR TO Φ4	Y	R	R		DW	DW							
: RECALL														
Φ4 (4+8+P4+P8)	R/W	R	G	G		W	W							
NW 3 st	PED. CL.	R	G	G		FDW	FDW							
EBND & WBND	CLEAR TO Φ6	R	Y	Y		DW	DW							
RECALL														
	R/W													
	PED. CL.													
	CLEAR TO													
	R/W													
	PED. CL.													
	CLEAR TO													
FLASH OPERATION		FY	FR	FR										





Drawn	Date
H. FRANCILLON	8/6/97
Check	Date
H. HERNANDEZ	8/7/97
Division Engineer	Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET NO. 3423

NW 3 AV & 3 st

Placed in Service		Phasing Number
Date: EARLY 92	By:	4

Revised by HF on 8/19/10

TOD Schedule Report
for 3428: NW 3 Ct&NW 8 St

Print Date: 2/13/2015

Print Time: 11:33 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3428	NW 3 Ct&NW 8 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	-	WBT	-	-	-	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SBT	7 - 7 - 7	11 - 11 - 11	7 - 7 - 7	1 - 1 - 1	50 - 50 - 50	0 - 60 - 60	4	1
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 WBT	7 - 7 - 7	12 - 12 - 12	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	30 - 30 - 30	4	1
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 EBT	7 - 7 - 7	12 - 12 - 12	0 - 0 - 0	2.5 - 2.5 - 2.5	20 - 20 - 20	30 - 30 - 30	4	1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4---8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 3428: NW 3 Ct&NW 8 St

Print Date: 2/13/2015

Print Time: 11:33 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	SBT	-	WBT	-	-	-	EBT		
	2	90	0	62	0	18	0	0	0	18	0	69
	5	90	0	62	0	18	0	0	0	18	0	73
	6	100	0	73	0	17	0	0	0	17	0	74
	7	60	0	35	0	15	0	0	0	15	0	36
	8	100	0	70	0	20	0	0	0	20	0	95
	9	90	0	62	0	18	0	0	0	18	0	62
	10	90	0	62	0	18	0	0	0	18	0	44
	11	100	0	70	0	20	0	0	0	20	0	2
	12	90	0	62	0	18	0	0	0	18	0	0
	13	70	0	43	0	17	0	0	0	17	0	49
	14	100	0	75	0	15	0	0	0	15	0	46
	15	100	0	28	0	62	0	0	0	62	0	17
	16	100	0	75	0	15	0	0	0	15	0	68

Local TOD Schedule

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0600	13	Su M T W Th F S
0730	8	M T W Th F
0900	9	M T W Th F
1000	9	S
1115	10	S
1145	10	M T W Th F
1315	9	M T W Th F S
1545	11	M T W Th F
1800	12	M T W Th F
1815	13	S
1900	13	M T W Th F
2100	Free	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ. NO.
87000-3732

SIGNAL HEAD DETAILS

SIGNAL NO. 1 2 3

R
Y
G

3-SECT., 1-WAY
8" STD. LENS WITH
DISC. HANGERS
6 REQUIRED
ITEM NO. 650-4-181

SIGNALS 2 & 3
WITH BACKPLATES
4 REQUIRED
ITEM NO. 659-101

4 5 6

DONT WALK — PORTLAND ORANGE
WALK — LUNAR WHITE

2-SECT., 1-WAY
8 REQUIRED
ITEM NO. 653-113

R3-2

⚠ ILLUM. NO LEFT TURN SIGN
1 REQUIRED
ITEM NO. 700-69-1

DISC. HANGER
1 REQUIRED
ITEM NO. 658-103

R3-1

⚠ ILLUM. NO RIGHT TURN SIGN
1 REQUIRED
ITEM NO. 700-69-1

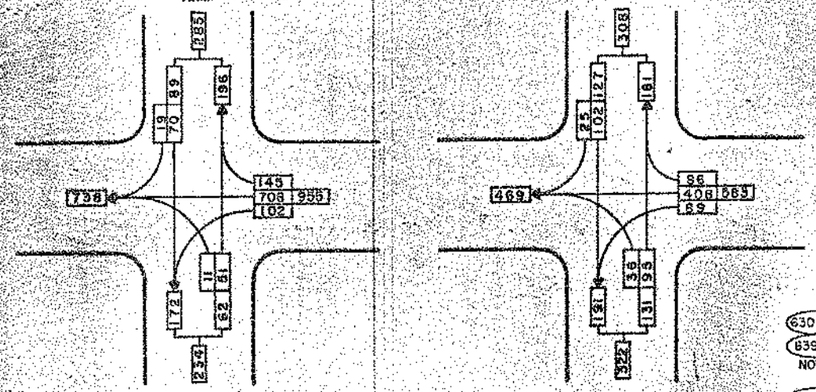
DISC. HANGER
1 REQUIRED
ITEM NO. 659-103

SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	R1-1/R3-9 (RT.) R1-1/R6-9 (LT.) D3-1 (LT.)	RJ-5(LT.)
SOUTH	—	R7-4 (LT.) D7-1 (ORANGE BOWL) RT. D1-1 (PORT OF MIAMI) RT.
EAST	R3-1 R7-4 D3-1	R6-1 R3-2 ILLUM.
WEST	—	R3-1 ILLUM.

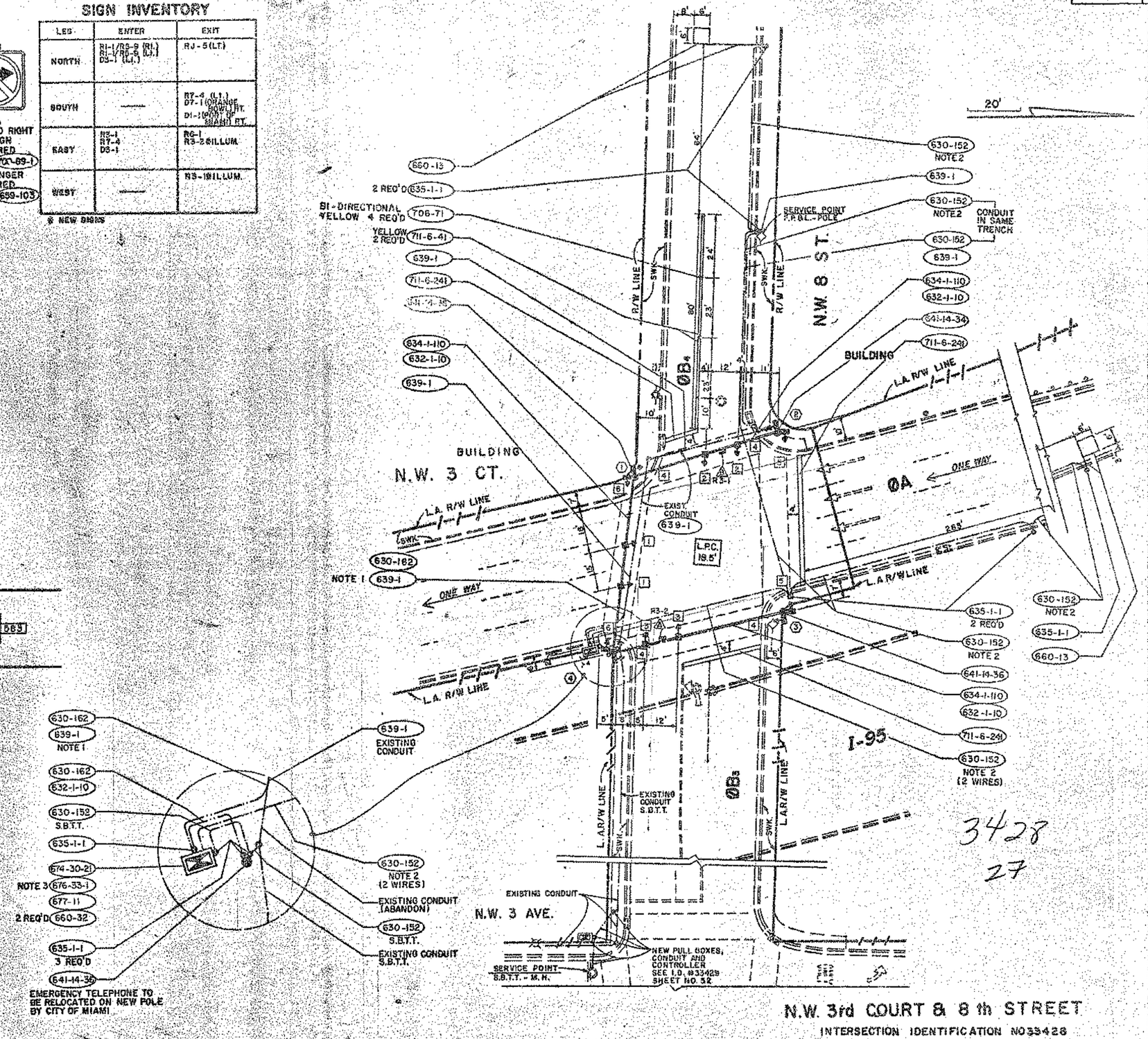
* NEW SIGNS

1975 A.M. AND P.M. PEAK HOUR VOLUMES



NOTES

1. INTERCEPT EXISTING CONDUIT, COUPLE AND EXTEND NEW CONDUIT TO NEW LOCATION OF CONTROLLER. CAP AND ABANDON REMAINING CONDUIT TO EXISTING PULL BOX.
2. SHIELDED LOOP WIRE #14 AWG TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. 660-13.
3. CONTROLLER CABINET FACE TO BE MOUNTED FLUSH WITH FENCE LINE. FENCE POSTS TO BE INSTALLED, AS NEEDED, ON EITHER SIDE OF CABINET TO TERMINATE EXISTING FENCE LINE AS PART OF ITEM NO. 676-35-1.

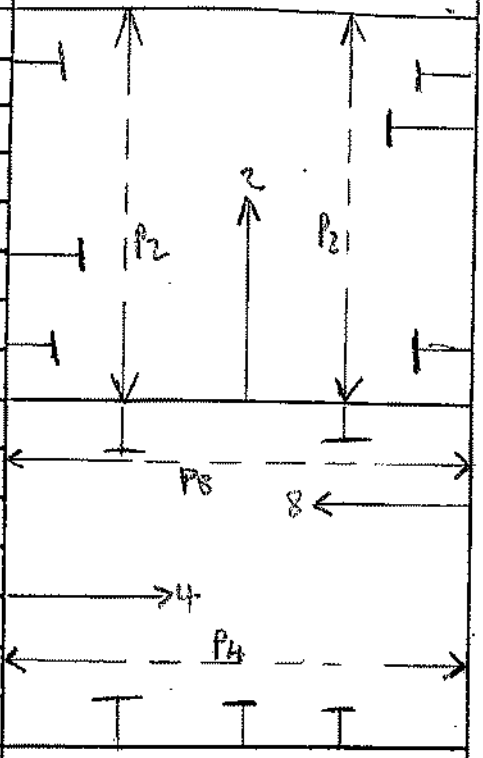


3428
27

N.W. 3rd COURT & 8th STREET

INTERSECTION IDENTIFICATION NO 33428
CAT. II

PHASE		INT	2	4	8	P2	P4	P8
Φ_2 (2+P2) NW 3 ct SBND : RECALL		R/W	G	R	R	W	PW	DW
		PED. CL	G	R	R	FDW	DW	DW
	TO	Φ_4	Y	R	R	DW	DW	DW
	CLEAR							
Φ_4 (4+8+P4+P8) NW 8 st EBND & WBND RECALL		R/W	R	G	G	PW	W	W
		PED. CL	R	G	G	DW	FDW	FDW
	TO	Φ_2	R	Y	Y	DW	DW	DW
	CLEAR							
		R/W						
		PED. CL						
	TO							
	CLEAR							
		R/W						
		PED. CL						
	TO							
FLASH OPERATION	CLEAR		FY	FR	FR			



Drawn	Date
H. FRANCILLON	8/1/97
Check	Date
H. HERNANDEZ	8/11/97
Division Engineer	Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET NO. 3428

NW 3 Ct & NW 8 St

Placed In Service		Phasing Number
Date: EARLY 92	By:	3

TOD Schedule Report
for 3429: NW 3 Av&NW 8 St

Print Date: 2/13/2015

Print Time: 11:33 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3429	NW 3 Av&NW 8 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	NBT	-	WBT	-	-	-	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 NBT	7	7	7	10	10	10	7	7	7	2	2	2	20	20	20	0	26	26	4	1
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	7	7	7	10	10	10	7	7	7	2.5	2.5	2.5	15	15	15	50	28	28	4	1
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 EBT	7	7	7	10	10	10	7	7	7	2.5	2.5	2.5	15	15	15	50	28	28	4	1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4---8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report
for 3429: NW 3 Av&NW 8 St

Print Date: 2/13/2015

Print Time: 11:33 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 NBT	3 -	4 WBT	5 -	6 -	7 -	8 EBT	Ring Offset	Offset
	2	90	0	54	0	26	0	0	0	26	0	76
	4	90	0	54	0	26	0	0	0	26	0	74
	7	90	0	63	0	17	0	0	0	17	0	38
	8	100	0	40	0	50	0	0	0	50	0	12
	9	90	0	40	0	40	0	0	0	40	0	77
	10	90	0	40	0	40	0	0	0	40	0	55
	11	100	0	50	0	40	0	0	0	40	0	17
	12	90	0	40	0	40	0	0	0	40	0	16
	13	70	0	22	0	38	0	0	0	38	0	66
	14	100	0	17	0	73	0	0	0	73	0	88
	15	100	0	62	0	28	0	0	0	28	0	86
	16	100	0	44	0	46	0	0	0	46	0	88

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	13	Su M T W Th F S
0730	8	M T W Th F
0900	9	M T W Th F
1000	9	S
1115	10	S
1145	10	M T W Th F
1315	9	M T W Th F S
1545	11	M T W Th F
1800	12	M T W Th F
1815	13	S
1900	13	M T W Th F
2100	Free	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

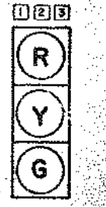
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ NO	SHEET NO
87000-3732	52

SIGNAL HEAD DETAILS

SIGNAL NO. 1 2 3 — 4 5 6



3-SECT. 1-WAY
8" STD. LENS WITH
DISC. HANGERS
6 REQUIRED
ITEM NO. 650-4-131

SIGS. 2 & 3
WITH BACKPLATES
4 REQUIRED
ITEM NO. 659-101



PORTLAND ORANGE
LUNAR WHITE

2-SECT. 1-WAY
8 REQUIRED
ITEM NO.
653-115



ILLUM. NO LEFT TURN SIGN
1 REQUIRED
ITEM 700-89-1

DISC. HANGER
1 REQUIRED
ITEM 659-103



ILLUM. NO RIGHT TURN SIGN
1 REQUIRED
ITEM 700-89-1

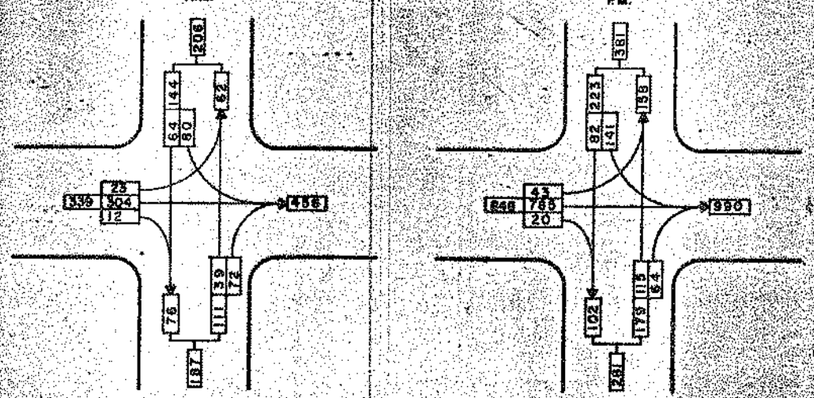
DISC. HANGER
1 REQUIRED
ITEM 659-103

SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	—	R7-4 (RT.) D3-1 (LT.)
SOUTH	R7-4 (LT.) R7-4/R8-7R(RT) D3-1 (RT.)	—
EAST	R3-2 (RT.) R6-1 (LT.)	R6-1 D3-1 R7-1 R3-2 @ ILLUM.
WEST	R3-1 (RT) R6-1 (LT) W3-1, W1-1, W8-1(RT)	R6-1 D3-1 R3-1 @ ILLUM

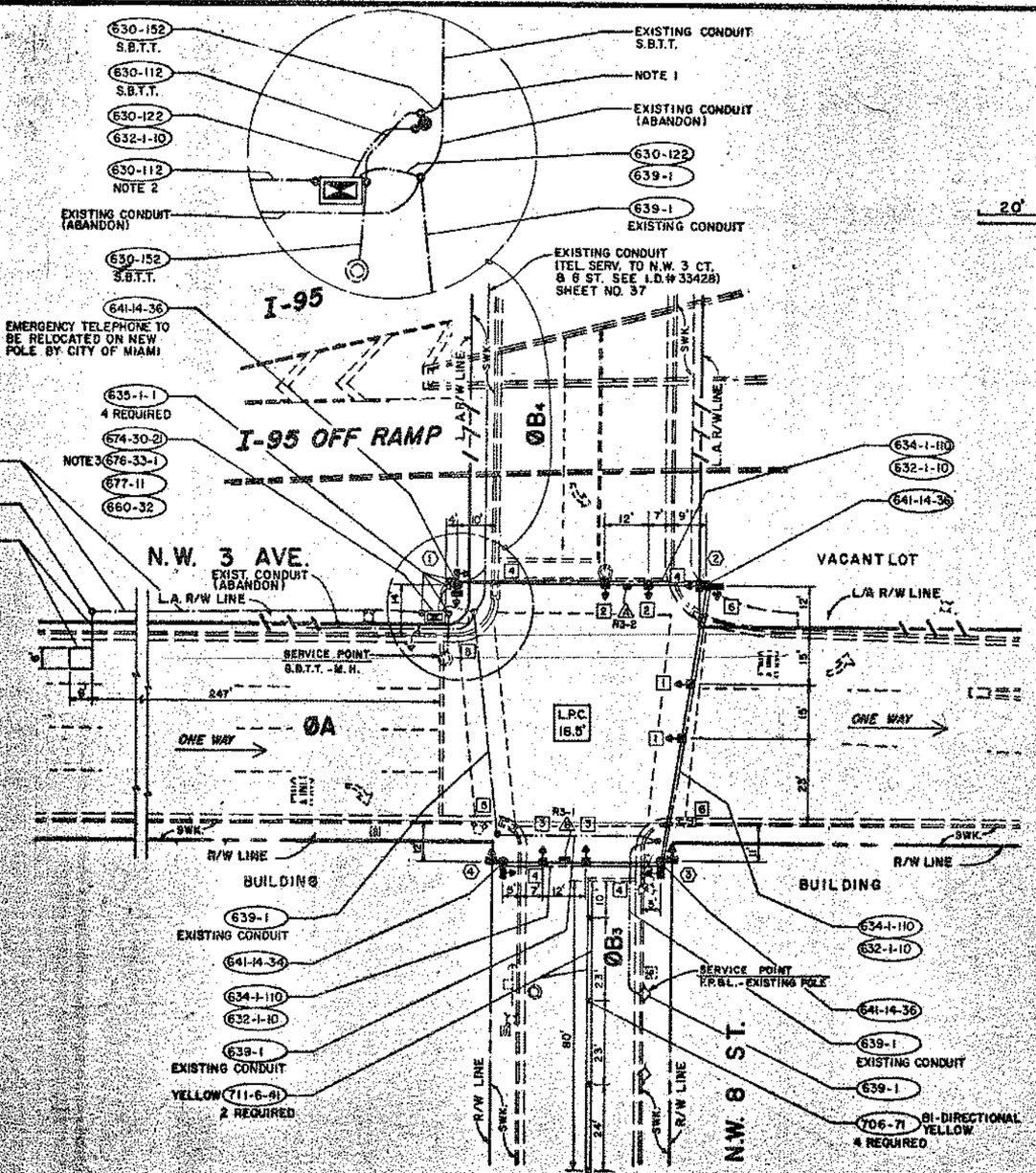
@ NEW SIGNS

1975 A.M. AND P.M. PEAK HOUR VOLUMES



NOTES

1. INTERCEPT EXISTING CONDUIT, COUPLE AND EXTEND TO NEW PULL BOX. CAP AND ABANDON REMAINING CONDUIT TO EXISTING PULL BOX.
2. SHIELDED LOOP WIRE #14 AWG TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO. 660-13.
3. CONTROLLER CABINET FACE TO BE MOUNTED FLUSH WITH FENCE LINE. FENCE POSTS TO BE INSTALLED ON EITHER SIDE OF CABINET TO TERMINATE EXISTING FENCE LINE, AS PART OF ITEM NO. 676-33-1.



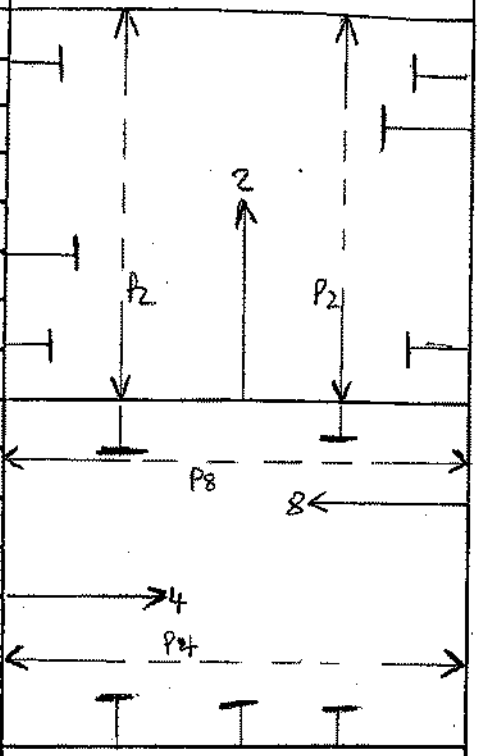
3429
27

N.W. 3rd AVENUE & 8th STREET

INTERSECTION IDENTIFICATION NO. 33429
CAT. II

SIGNAL OPERATING PLAN

PHASE		SIGNAL HEAD NUMBER												
	INT.	2	4	8	P2	P4	P8							
Φ_2 (2 + P2)	R/W.	G	R	R	W	DW	DW							
	PED. CL.	G	R	R	FDW	DW	DW							
NW 3 AV	TO Φ_4	Y	R	R	DW	DW	DW							
NBND	TO													
	TO													
∴ RECALL	CLEAR													
	CLEAR													
	CLEAR													
Φ_4 (4+8+P4+P8)	R/W	R	G	G	DW	W	W							
	PED. CL.	R	G	G	DW	FDW	FDW							
NW 8 St	TO Φ_2	R	Y	Y	DW	DW	DW							
EBND & WBND	TO													
	CLEAR													
RECALL	CLEAR													
	CLEAR													
	R/W													
	PED. CL.													
	TO													
	TO													
	CLEAR													
	CLEAR													
	CLEAR													
	R/W													
	PED. CL.													
	TO													
	TO													
	CLEAR													
	CLEAR													
	CLEAR													
FLASH OPERATION		FY	FR	FR										



Drawn	Date
H. FRANCILLON	8/6/97
Check	Date
H. HERNANDEZ	8/7/97
Division Engineer	Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET NO. 3429

NW 3AV & 8St

Placed In Service		Phasing Number
Date: EARLY 92	By:	3

TOD Schedule Report
for 2081: NW 7 Av&NW 62 St

Print Date: 2/13/2015

Print Time: 9:01 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2081	NW 7 Av&NW 62 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 SBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	5 - 5 - 5	16 - 16 - 16	4	2
2 NBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	30 - 30 - 30	0 - 40 - 40	4	2
3 WBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	5 - 5 - 5	18 - 18 - 18	4	2
4 EBT	7 - 7 - 7	16 - 16 - 16	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	40 - 40 - 40	4	2
5 NBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	5 - 5 - 5	16 - 16 - 16	4	2
6 SBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	30 - 30 - 30	0 - 40 - 40	4	2
7 EBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	5 - 5 - 5	18 - 18 - 18	4	2
8 WBT	7 - 7 - 7	16 - 16 - 16	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	40 - 40 - 40	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 2081: NW 7 Av&NW 62 St

Print Date: 2/13/2015

Print Time: 9:01 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 SBL	2 NBT	3 WBL	4 EBT	5 NBL	6 SBT	7 EBL	8 WBT	Ring Offset	Offset
	1	140	13	54	17	32	13	54	17	32	0	56
	2	85	5	33	6	17	5	33	6	17	0	28
	3	140	13	54	17	32	13	54	17	32	0	56
	4	80	0	48	0	20	0	48	0	20	0	34
	5	85	6	29	7	19	6	29	7	19	0	28
	6	100	7	38	11	20	7	38	11	20	0	0
	7	90	8	34	6	18	8	34	6	18	0	76
	8	110	5	55	9	17	5	55	9	17	0	32
	9	110	5	54	5	22	5	54	5	22	0	32
	10	100	8	34	12	22	8	34	12	22	0	84
	11	140	13	59	14	30	13	59	14	30	0	68
	12	85	5	30	5	21	5	30	5	21	0	24
	13	100	8	39	11	18	8	39	11	18	0	94
	14	140	5	85	9	17	5	85	9	17	0	26
	15	110	8	51	5	22	8	51	5	22	0	34
	16	100	8	39	11	18	8	39	11	18	0	50
	17	100	8	39	11	18	8	39	11	18	0	50
	18	100	7	38	11	20	7	38	11	20	0	50
	19	85	5	30	9	17	5	30	9	17	0	64
	20	90	8	29	11	18	8	29	11	18	0	40
	21	90	8	29	11	18	8	29	11	18	0	40

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	4	Su S
0600	5	M T W Th F
0715	1	M T W Th F
0900	12	Su S
0930	18	M T W Th F
1345	13	M T W Th F
1630	15	M T W Th F
2000	7	M T W Th F
2100	4	Su S
2200	4	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	---5----	SuM T W ThF S
0600	TOD OUTPUTS	--------	M T W ThF
2200	TOD OUTPUTS	---5----	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	---5----	SuM T W ThF S
0600	TOD OUTPUTS	--------	M T W ThF
0900	TOD OUTPUTS	--------	Su S
2100	TOD OUTPUTS	---5----	Su S
2200	TOD OUTPUTS	---5----	M T W ThF

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report
for 2081: NW 7 Av&NW 62 St

Print Date: 2/13/2015

Print Time: 9:01 AM

No Calendar Defined/Enabled

UTHER KING BLVD)

62 ST

EXISTING INTERCONNECT CONDUIT

CONSTRUCT PED RAMP

647-11-48
632-7-1
635-1-11(2 REQ'D)
620-1-1(20 L.F.)
665-11

550-2-101 (TYP)

711-4(W) (TYP)

647-11-56
632-7-1
635-1-11 (2 REQ'D)
620-1-1(20 L.F.)
665-11

630-1-13
660-4-41

630-1-13
632-7-1

630-1-13
660-4-41

711-6-241(W) (TYP)

711-6-41(W) (TYP)

156

711-8-41(Y) (TYP)

711-1(W) (TYP)

EXISTING

SEE NOTE 8

EXISTING F.P.&L. SERVICE POINT

EXISTING S.B.T.T. MH. SERVICE POINT MR. GREGG SMITH 551-5011

647-11-38
632-7-1
635-1-11 (2 REQ'D)
620-1-1(20 L.F.)
665-11

672-1-11
620-1-1(50 L.F.)
635-1-11 (6 REQ'D)
660-1-105 (3 REQ'D)
685-324
685-325

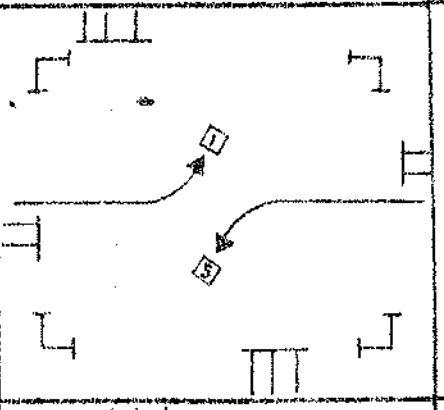
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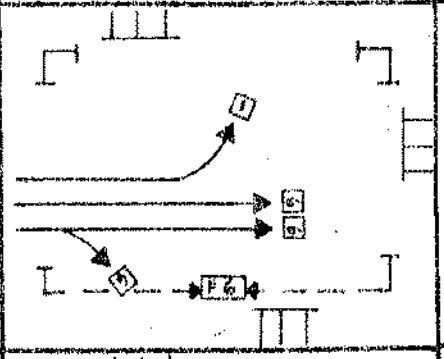
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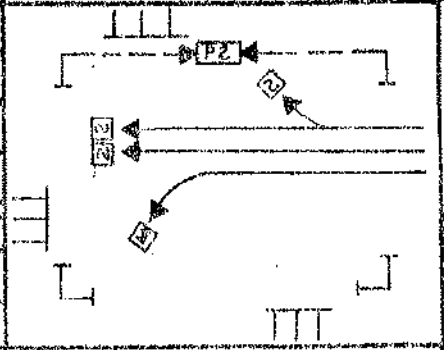
SIGNAL OPERATING PLAN

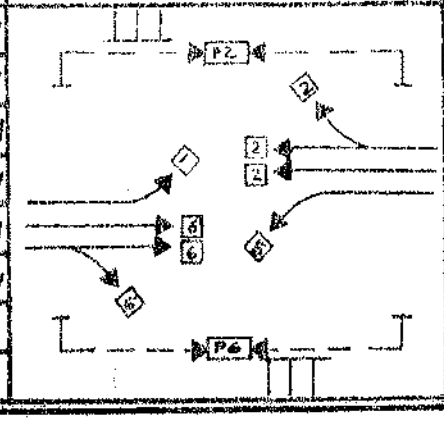
PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	P2	P4	P6	P8
Φ1+5 (1+5) NBLT+SBLT (Actuated)	R/W	←	R	R	R	←	R	R	R	DW	DW	DW	DW
	PED. CL.												
	TO CLEAR Φ1+6	←	R	R	R	Y	R	R	R	DW	DW	DW	DW
	TO CLEAR Φ2+5	Y	R	R	R	←	R	R	R	DW	DW	DW	DW
	TO CLEAR Φ2+6	Y	R	R	R	Y	R	R	R	DW	DW	DW	DW
Φ1+6 (1+6) SB Overlap (Actuated)	R/W	←	R	R	R	R	G	R	R	DW	DW	FW	DW
	PED. CL.												
	TO CLEAR Φ2+6	Y	R	R	R	R	G	R	R	DW	DW	FW	DW
Φ2+5 (2+6) NB Overlap (Actuated)	R/W	R	G	R	R	←	R	R	R	FW	DW	DW	DW
	TO CLEAR Φ2+6	R	G	R	R	Y	R	R	R	FW	DW	DW	DW
Φ2+6 (2+6) NB+SB (Recall)	R/W	G	G	R	R	G	G	R	R	FW	DW	FW	DW
	PED. CL.	G	G	R	R	G	G	R	R	F DW	DW	F DW	DW
	TO CLEAR Φ3+7	Y	Y	R	R	Y	Y	R	R	DW	DW	DW	DW
	TO CLEAR Φ3+8	Y	Y	R	R	Y	Y	R	R	DW	DW	DW	DW
	TO CLEAR Φ4+7	Y	Y	R	R	Y	Y	R	R	DW	DW	DW	DW
	TO CLEAR Φ4+8	Y	Y	R	R	Y	Y	R	R	DW	DW	DW	DW

N









Drawn	Date
W. Thompson	2/23/82
Check: E. Lee	Date 2/24/82
Division Engineer	Date 3/24/82

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

Asset No. 32081

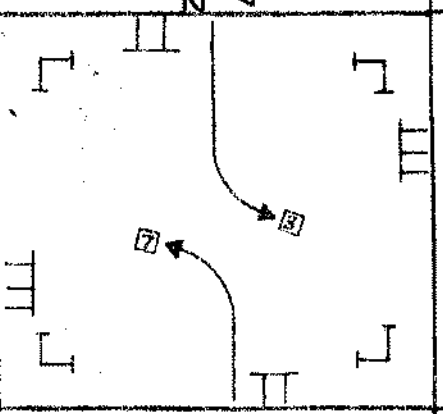
NW 7 AVE & NW 62 ST

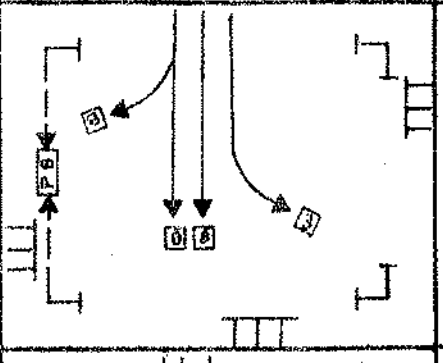
Page 1 of 2

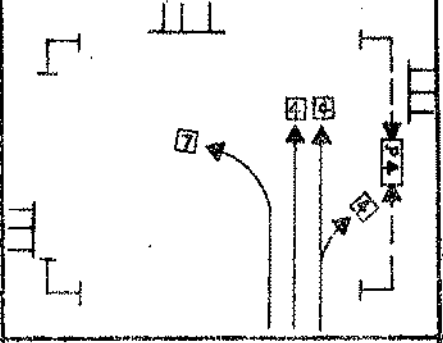
Placed in Service	Phasing Number
Date: 3 23 82	8

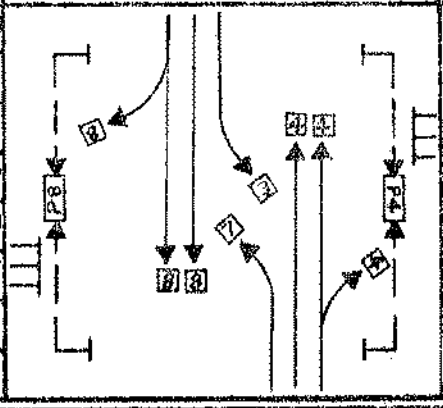
SIGNAL OPERATING PLAN

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	P2	P4	P6	P8
ϕ3+7 (3+7) EBLT + WBLT (Actuated)	R/W	R	R	←	R	R	R	←	R	DW	DW	DW	DW
	PED. CL.												
	CLEAR TO ϕ3+8	R	R	←	R	R	R	Y	R	DW	DW	DW	DW
	CLEAR TO ϕ4+7	R	R	Y	R	R	R	←	R	DW	DW	DW	DW
	CLEAR TO ϕ4+8	R	R	Y	R	R	R	Y	R	DW	DW	DW	DW
ϕ3+8 (3+8) WB Overlap (Actuated)	R/W	R	R	←	R	R	R	R	G	DW	DW	DW	FW
	PED. CL.	R	R	←	R	R	R	R	G	DW	DW	DW	F DW
	CLEAR TO ϕ4+8	R	R	Y	R	R	R	R	G	DW	DW	DW	DW
	CLEAR TO ϕ1+5	R	R	Y	R	R	R	R	Y	DW	DW	DW	DW
	CLEAR TO ϕ1+6	R	R	Y	R	R	R	R	Y	DW	DW	DW	DW
	CLEAR TO ϕ2+5	R	R	Y	R	R	R	R	Y	DW	DW	DW	DW
	CLEAR TO ϕ2+6	R	R	Y	R	R	R	R	Y	DW	DW	DW	DW
ϕ4+7 (4+7) EB Overlap (Actuated)	R/W	R	R	R	G	R	R	←	R	DW	FW	DW	DW
	PED. CL.	R	R	R	G	R	R	←	R	DW	F DW	DW	DW
	CLEAR TO ϕ4+8	R	R	R	G	R	R	Y	R	DW	DW	DW	DW
	CLEAR TO ϕ1+5	R	R	R	Y	R	R	Y	R	DW	DW	DW	DW
	CLEAR TO ϕ1+6	R	R	R	Y	R	R	Y	R	DW	DW	DW	DW
	CLEAR TO ϕ2+5	R	R	R	Y	R	R	Y	R	DW	DW	DW	DW
	CLEAR TO ϕ2+6	R	R	R	Y	R	R	Y	R	DW	DW	DW	DW
ϕ4+8 (4+8) EB+WB (Actuated)	R/W	R	R	G	G	R	R	G	G	DW	FW	DW	FW
	PED. CL.	R	R	G	G	R	R	G	G	DW	F DW	DW	F DW
	CLEAR TO ϕ1+5	R	R	Y	Y	R	R	Y	Y	DW	DW	DW	DW
	CLEAR TO ϕ1+6	R	R	Y	Y	R	R	Y	Y	DW	DW	DW	DW
	CLEAR TO ϕ2+5	R	R	Y	Y	R	R	Y	Y	DW	DW	DW	DW
	CLEAR TO ϕ2+6	R	R	Y	Y	R	R	Y	Y	DW	DW	DW	DW









Drawn: Don Thompson — Date: 2/24/82

Check: E. Lee — Date: 3/16/82

Division Engineer: [signature] — Date: 3/16/82

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

Asset No. 32081

NW 7 AVE & NW 62 ST

Page 2 of 2

Placed in Service		Phasing Number
Date: 3 23 82		8

TOD Schedule Report
for 4200: I- 95 SB&NW 62 St

Print Date: 2/13/2015

Print Time: 12:58 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4200	I- 95 SB&NW 62 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	-	WBL	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	0	7	7	0	12	12	16	7	7	1	0	1	15	15	52	0	30	63	4	1
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 WBL	0	0	0	0	0	0	5	5	5	2	2	2	5	5	12	12	12	12	3	0
6 EBT	0	7	7	0	12	12	16	7	7	1	1	1	15	15	52	0	30	63	4	1
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 SBT	0	7	7	0	12	12	7	7	7	2.5	2.5	2.5	45	30	54	55	54	40	4	1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-23-56-8
External Permit 0	-23--6-8
External Permit 1	-23--6-8
External Permit 2	-23--6-8

TOD Schedule Report
for 4200: I- 95 SB&NW 62 St

Print Date: 2/13/2015

Print Time: 12:58 PM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	-	WBL	EBT	-	SBT		
	1	60	0	33	0	0	5	25	0	17	0	25
	2	85	0	43	0	0	8	32	0	32	0	22
	3	105	0	67	0	0	12	52	0	28	0	44
	4	115	0	68	0	0	10	55	0	37	0	46
	5	105	0	61	0	0	8	50	0	34	0	42
	8	115	0	71	0	0	10	58	0	34	0	34
	9	95	0	66	0	0	5	58	0	19	0	25
	10	95	0	61	0	0	8	50	0	24	0	17
	11	115	0	71	0	0	10	58	0	34	0	34
	12	115	0	68	0	0	10	55	0	37	0	46
	13	115	0	68	0	0	10	55	0	37	0	31
	16	125	0	67	0	0	12	52	0	48	0	52
	18	115	0	71	0	0	10	58	0	34	0	49

Local TOD Schedule

Time	Plan	DOW
0000	10	Su M T W Th F S
0600	5	M T W Th F
0630	3	M T W Th F
0700	16	M T W Th F
0800	5	Su S
0800	Free	M T W Th F
0900	5	M T W Th F
1300	8	M T W Th F
1415	4	W
1430	18	M T Th F
1430	12	W
1500	11	W
1515	13	M T Th F
1515	8	W
1600	Free	M T W Th F
1800	5	M T W Th F
2200	9	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7----2-	SuM T W ThF S
0630	TOD OUTPUTS	--------	M T W ThF
0800	TOD OUTPUTS	-7---3--	M T W ThF
0900	TOD OUTPUTS	-7---3--	M T W ThF
1430	TOD OUTPUTS	--------	M T ThF
1600	TOD OUTPUTS	-7--4---	M T ThF
1800	TOD OUTPUTS	-7--4---	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7----2-	SuM T W ThF S
0630	TOD OUTPUTS	--------	M T W ThF
0800	TOD OUTPUTS	-7---3--	M T W ThF
0900	TOD OUTPUTS	-7---3--	M T W ThF
1415	TOD OUTPUTS	--------	W
1430	TOD OUTPUTS	--------	M T ThF
1500	TOD OUTPUTS	-7----2-	W
1600	TOD OUTPUTS	-7--4---	M T ThF
1800	TOD OUTPUTS	-7--4---	M T W ThF

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

PROJ. NO. 662005

SIGNAL HEAD DETAILS

SIGNAL HEADS 2A,5,6 REQUIRE BACKPLATES ITEM NO. 659-10L

* SEE NOTE 7

5 — 5-SECT, 1-WAY 12" STD LENS WITH DISC HANGER 1 EXIST

2A,6,8 — 3-SECT, 1-WAY 12" STD LENS WITH DISC HANGER 6 EXIST

P2A,P6 — 2-SECT, 1-WAY 12" STD LENS 4 EXIST

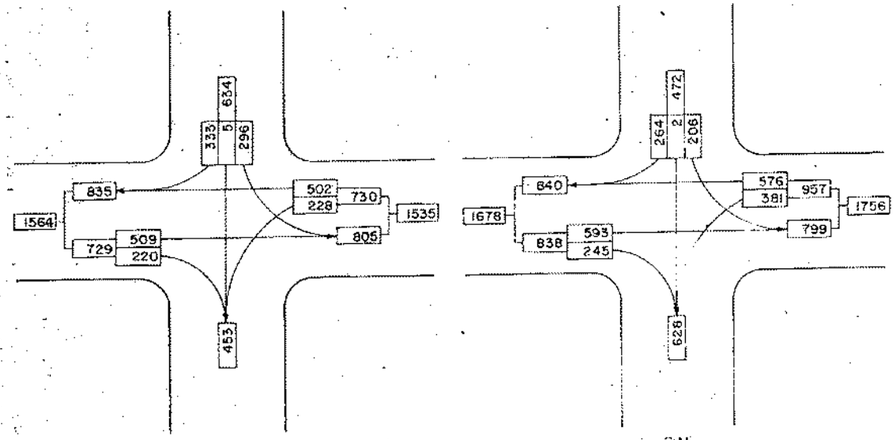
24"x24" ILL 1 EXIST

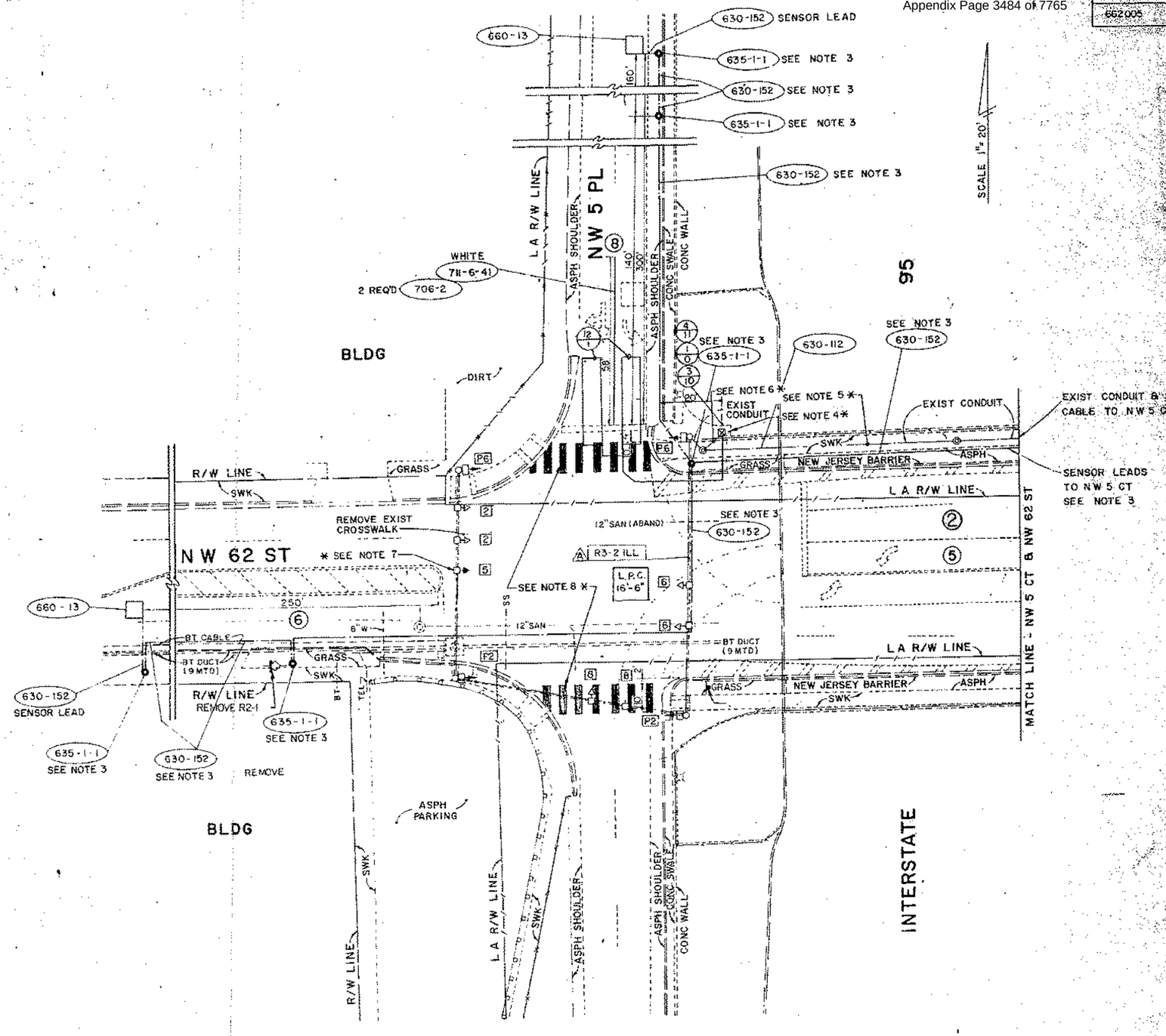
SIGN INVENTORY

LEG	ENTER	EXIT
NORTH		(2)R5-1 R1-5 (2)R5-9
SOUTH		R7-4 R1-5
EAST	R3-1	M6-1 M1-1 M3-1
WEST	(2)R7-4 M3-1 M6-1 M3-3 M6-3 R3-2 ILL (2)M1-1	R7-4

PROPOSED

1978 PEAK HOUR VOLUME





NOTES (ONLY NOTES WITH * ARE PART OF THIS CONTRACT.)

1 FOR ADDITIONAL INFORMATION ON PAVEMENT MARKINGS, SEE TYPICAL MARKING DETAILS.

2 REMOVE EXISTING PAVEMENT MARKINGS CONFLICTING WITH PROPOSED, ITEM NO (711-72)

3 SHIELDED LOOP WIRE 14 AWG TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NO (660-13)

* 4 CONTROLLER, ITEM (3/5), FOUR PHASE FULL ACTUATED.

* 5 INSTALL 12C INTERCONNECT CABLE IN EXISTING CONDUIT BETWEEN PROPOSED CONTROLLERS IN NW 5 CT & NW 5 PL.

* 6 PICK-UP EXISTING CONDUIT AT EXISTING PULL BOX AND INSTALL INTERCONNECT CONDUIT AND CABLE BETWEEN EXISTING PULL BOX AND PROPOSED CONTROLLER.

* 7 TO EXISTING 5-SECT. HEAD INSTALL 1-SECT. 1-WAY 12" STD. LENS (8/10) & I (8/32) (SIGNAL BACKPLATE, LOUVERED, 4-SECTION.)

* 8 INSTALL ZEBRA CROSSWALK AS SHOWN ON PLAN. (SEE SPECIFICATIONS FOR DETAILS.)

TOD Schedule Report
for 4199: I- 95 NB&NW 62 St

Print Date: 2/13/2015

Print Time: 12:57 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4199	I- 95 NB&NW 62 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	15 - 15 - 15	25 - 25 - 25	4	1
2 WBT	7 - 0 - 7	7 - 0 - 7	7 - 16 - 7	1 - 1 - 1	50 - 50 - 50	0 - 60 - 60	4	1
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 0 - 7	17 - 0 - 17	7 - 7 - 7	2.5 - 2.5 - 2.5	30 - 30 - 30	40 - 40 - 40	4	1
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	7 - 0 - 7	7 - 0 - 7	7 - 16 - 7	1 - 1 - 1	50 - 50 - 50	0 - 60 - 60	4	1
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	1234-6--
External Permit 0	-234-6--
External Permit 1	-234-6--
External Permit 2	-234-6--

TOD Schedule Report

for 4199: I- 95 NB&NW 62 St

Print Date: 2/13/2015

Print Time: 12:57 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 -	Ring Offset	Offset
	1	60	0	18	0	32	0	18	0	0	0	18
	2	85	0	37	0	38	0	37	0	0	0	22
	3	105	7	52	0	31	0	64	0	0	0	39
	4	115	0	52	0	53	0	52	0	0	0	47
	5	105	15	42	0	33	0	62	0	0	0	29
	6	125	15	52	0	43	0	72	0	0	0	52
	7	125	10	62	0	38	0	77	0	0	0	106
	8	115	10	52	0	38	0	67	0	0	0	23
	9	95	7	42	0	31	0	54	0	0	0	4
	10	95	7	42	0	31	0	54	0	0	0	4
	11	115	7	54	0	39	0	66	0	0	0	45
	12	115	7	54	0	39	0	66	0	0	0	49
	13	115	7	52	0	41	0	64	0	0	0	23
	16	125	10	58	0	42	0	73	0	0	0	58
	18	115	10	54	0	36	0	69	0	0	0	49

Local TOD Schedule

Time	Plan	DOW
0000	10	Su M T W Th F S
0600	5	M T W Th F
0630	3	M T W Th F
0700	16	M T W Th F
0800	5	Su S
0800	6	M T W Th F
0900	5	M T W Th F
1300	8	M T W Th F
1430	18	M T Th F
1430	12	W
1500	11	W
1515	13	M T Th F
1515	8	W
1600	7	M T W Th F
1800	5	M T W Th F
2200	9	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF
0700	TOD OUTPUTS	-------1	M T W ThF
0800	TOD OUTPUTS	-7------	M T W ThF
1430	TOD OUTPUTS	-------1	M T W ThF
1515	TOD OUTPUTS	-7------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF
0700	TOD OUTPUTS	-------1	M T W ThF
0800	TOD OUTPUTS	-7------	M T W ThF
1430	TOD OUTPUTS	-------1	M T W ThF
1515	TOD OUTPUTS	-7------	M T W ThF

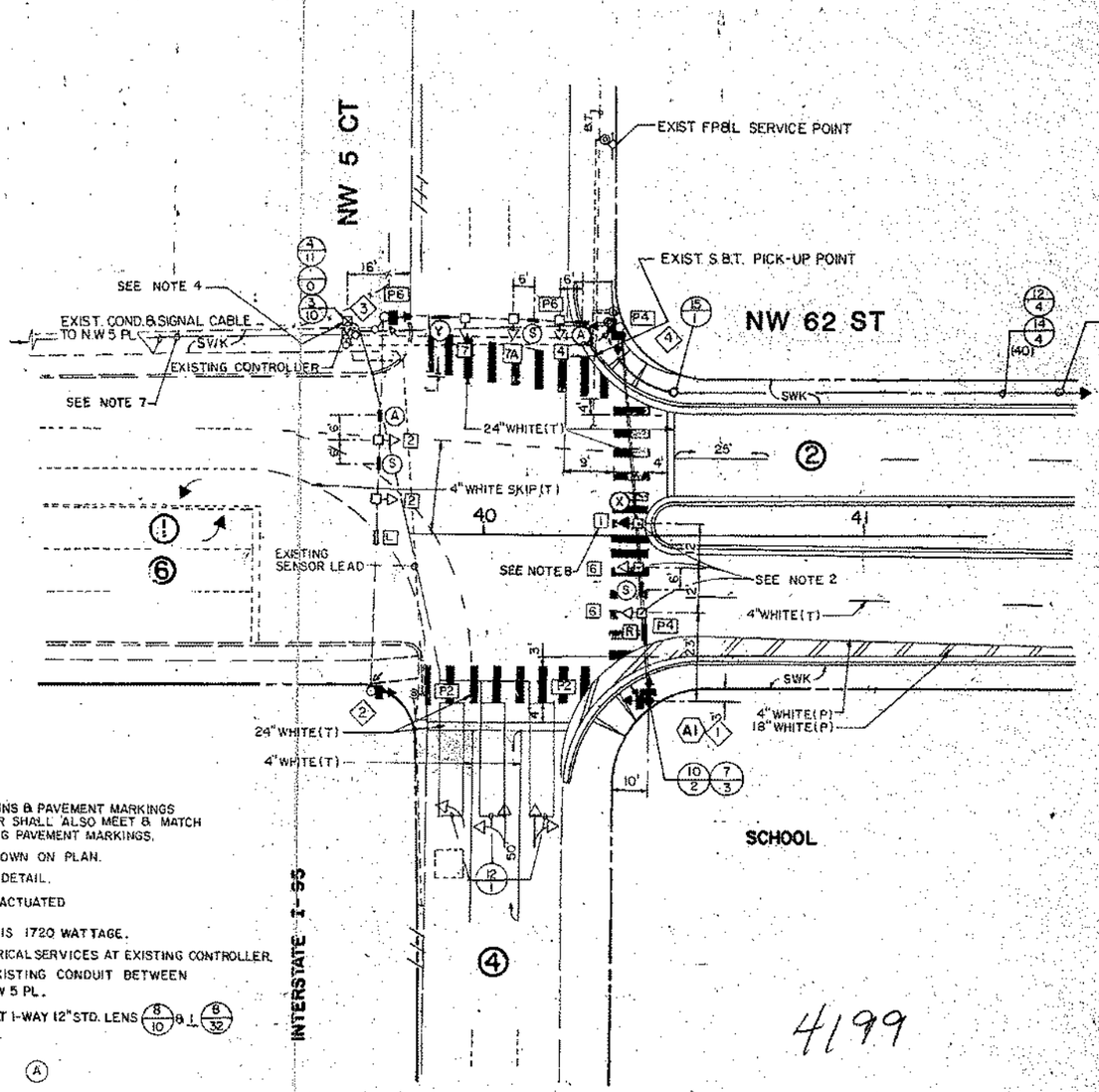
* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

PROJECT NO. 662005





PEDESTRIAN SIGNAL SIGN LEGEND				
NO.	SIGN	STREET NAME ON SIGN	FACING	NO. REQ'D.
1	R10-4	———	NW	1
2	R10-4	———	NE	1
3	R10-4	———	SE	1
4	R10-4	———	SW	1
			TOTAL	4

NOTES:

1- CONTRACTOR SHALL REMOVE EXISTING SIGNS & PAVEMENT MARKINGS CONFLICTING WITH THIS DESIGN. CONTRACTOR SHALL ALSO MEET & MATCH PROPOSED PAVEMENT MARKINGS WITH EXISTING PAVEMENT MARKINGS.

2- RELOCATE EXISTING SIGNAL HEADS AS SHOWN ON PLAN.

3- SEE SPECIFICATIONS FOR ZEBRA CROSSWALK DETAIL.

4- CONTROLLER ITEM (3/10) FIVE PHASE FULL ACTUATED EXPANSIBLE TO EIGTH PHASE.

5- DEMAND WATTAGE FOR THIS INTERSECTION IS 1720 WATTAGE.

6- CONTRACTOR SHALL PICK-UP PHONE & ELECTRICAL SERVICES AT EXISTING CONTROLLER.

7- INSTALL 12C INTERCONNECT CABLE IN EXISTING CONDUIT BETWEEN PROPOSED CONTROLLERS IN NW 5 CT & NW 5 PL.

8- TO EXISTING [1] 3-SECT. HEAD. INSTALL 1-SECT 1-WAY 12" STD. LENS (8/10) & 1 (8/32) (SIGNAL BACKPLATE, LOUVERED 4 SECTION).

(X) NW 5 CT

(Y) NW 62 ST

ITEM D3-1S 1 REQ'D.

ITEM D3-1S 1 REQ'D.

ITEM (8/2) (5 EXIST)

ITEM (8/6) (1 EXIST) SEE NOTE 8

ITEM (8/4) (2 EXIST)

ITEM (6/31) (5 EXIST)

ITEM (8/32) (NOT REQ'D)

ITEM (8/31) (1 EXIST)

ITEM (9/4) (1 EXIST)

ITEM (9/5) (1 REQ'D)

ITEM (7/1A) (6 REQ'D)

ITEM S2-1S 3 REQ'D

ITEM R10-13S 2 REQ'D

NO TURN ON RED SCHOOL DAYS 7:00 TO 9:00 AM 2:30 TO 3:30 PM

DETAIL SIGNAL HEADS

48 HOURS BEFORE DIGGING IN DADE CALL 264-6820 UNDERGROUND UTILITIES NOTIFICATION CENTER

4199

METROPOLITAN DADE COUNTY TRAFFIC SIGNALIZATION

JOSE I. GARCIA DESIGN

JOSE I. GARCIA DRAWN

CHECK

NW 5 CT & NW 62 ST

ASSET # 4199

REV.	DATE	DESCRIPTION	BY

DATE

DWG. NO.

12 of

TOD Schedule Report
for 2080: NW 2 Av&NW 62 St

Print Date: 2/13/2015

Print Time: 9:01 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2080	NW 2 Av&NW 62 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	SBL	NBT	WBL	EBT	NBL	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 / 2 / 3)	Don't Walk (1 / 2 / 3)	Min Initial (1 / 2 / 3)	Veh Ext (1 / 2 / 3)	Max Limit (1 / 2 / 3)	Max 2 (1 / 2 / 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	15 - 15 - 15	4	2
2 WBT	7 - 0 - 7	12 - 0 - 12	7 - 16 - 7	1 - 1 - 1	38 - 46 - 37	0 - 37 - 37	4	2
3 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	15 - 15 - 15	4	2
4 NBT	7 - 0 - 7	12 - 0 - 12	7 - 7 - 7	2.5 - 2.5 - 2.5	30 - 36 - 30	38 - 35 - 35	4	2
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	15 - 15 - 15	4	2
6 EBT	7 - 0 - 7	12 - 0 - 12	7 - 16 - 7	1 - 1 - 1	38 - 46 - 37	0 - 37 - 37	4	2
7 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	15 - 15 - 15	4	2
8 SBT	7 - 0 - 7	12 - 0 - 12	7 - 7 - 7	2.5 - 2.5 - 2.5	30 - 36 - 30	38 - 35 - 35	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	-234-6-8
External Permit 1	-234-6-8
External Permit 2	-234-6-8

TOD Schedule Report

for 2080: NW 2 Av&NW 62 St

Print Date: 2/13/2015

Print Time: 9:01 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBL	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	3	160	12	75	12	37	12	75	12	37	0	42
	5	120	12	46	12	26	12	46	12	26	0	16
	9	130	10	56	15	25	10	56	15	25	0	12
	12	150	12	66	12	36	12	66	12	36	0	16
	13	110	7	42	7	30	7	42	7	30	0	12
	14	90	7	35	5	19	7	35	5	19	0	16
	19	90	6	32	6	22	6	32	6	22	0	16
	20	110	10	42	10	24	10	42	10	24	0	48
	21	120	10	44	10	32	10	44	10	32	0	52
	22	100	7	43	7	19	7	43	7	19	0	72

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	3	M T W Th F
0600	19	Su S
0645	Free	M T W Th F
0915	3	M T W Th F
1000	20	Su S
1000	5	M T W Th F
1200	9	M T W Th F
1300	21	Su S
1415	Free	M T W Th F
1615	12	M T W Th F
1800	22	Su S
1900	13	M T W Th F S
2200	14	M T W Th F
2200	Free	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF S
0645	TOD OUTPUTS	-------1	M T W ThF
0915	TOD OUTPUTS	-7------	M T W ThF
1415	TOD OUTPUTS	-------1	M T W ThF
1615	TOD OUTPUTS	-7------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF S
0645	TOD OUTPUTS	-------1	M T W ThF
0915	TOD OUTPUTS	-7------	M T W ThF
1415	TOD OUTPUTS	-------1	M T W ThF
1615	TOD OUTPUTS	-7------	M T W ThF

* Settings

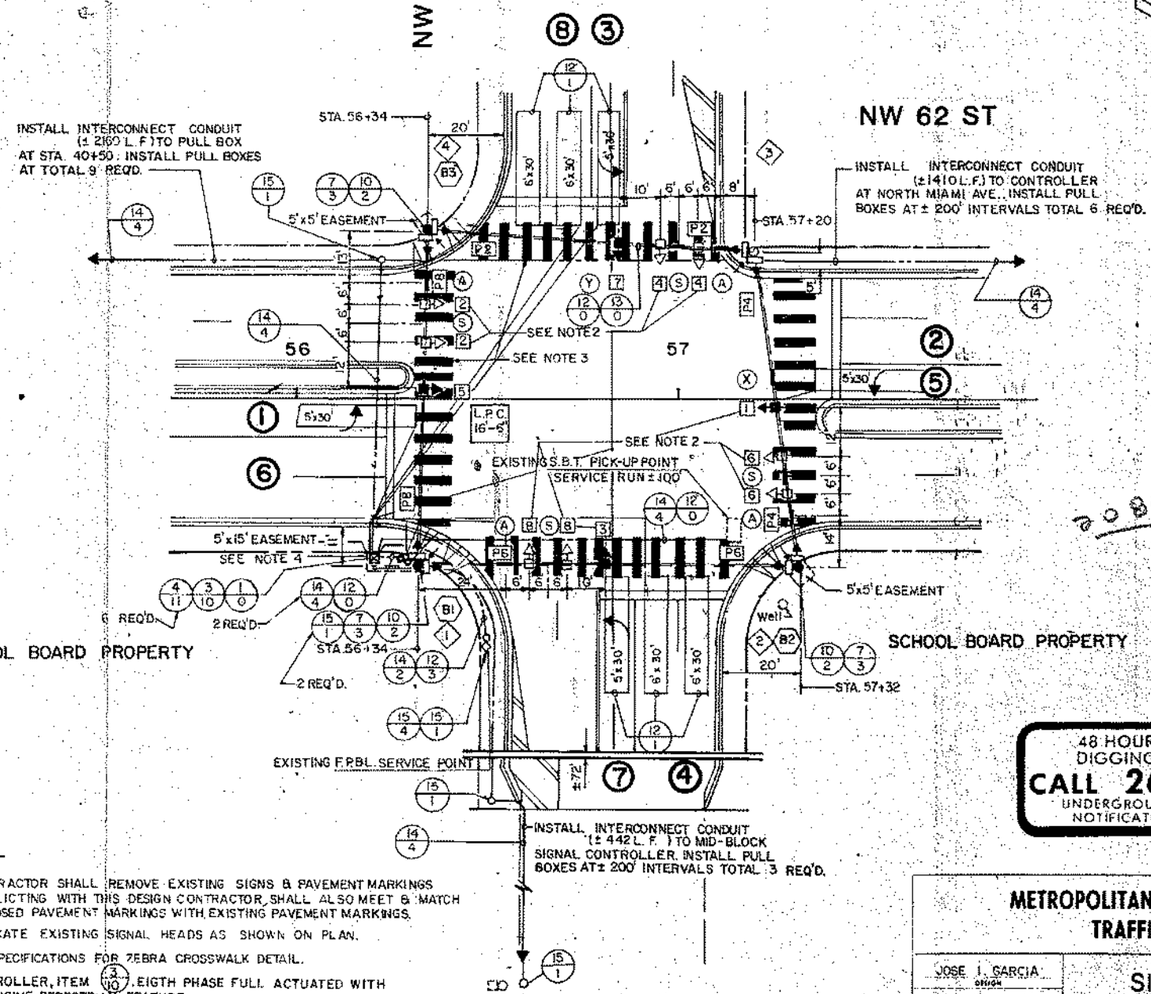
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Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

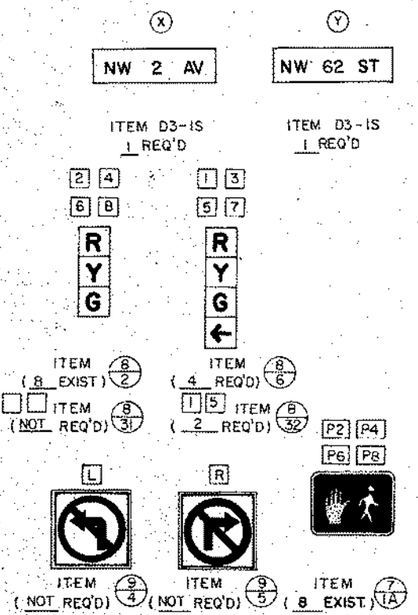
HIGHWAY DIVISION

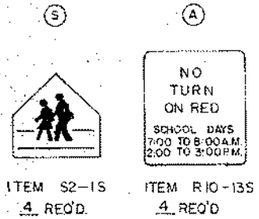
PROJECT NO 662005 SHEET

SCALE: 1"=20'



DETAIL SIGNAL HEADS





ITEM S2-1S 4 REQ'D.

ITEM R10-13S 4 REQ'D

PEDESTRIAN SIGNAL SIGN LEGEND				
NO.	SIGN	STREET NAME	FACING	NO. REQ'D.
1	R10-4	———	NE	1
2	R10-4	———	NW	1
3	R10-4	———	SW	1
4	R10-4	———	SE	1
			TOTAL	4

NOTES:

1- CONTRACTOR SHALL REMOVE EXISTING SIGNS & PAVEMENT MARKINGS CONFLICTING WITH THIS DESIGN CONTRACTOR SHALL ALSO MEET & MATCH PROPOSED PAVEMENT MARKINGS WITH EXISTING PAVEMENT MARKINGS.

2- RELOCATE EXISTING SIGNAL HEADS AS SHOWN ON PLAN.

3- SEE SPECIFICATIONS FOR ZEBRA CROSSWALK DETAIL.

4- CONTROLLER, ITEM (3/60) EIGTH PHASE FULL ACTUATED WITH EXCLUSIVE PEDESTRIAN FEATURE.

5- DEMAND WATTAGE FOR THIS INTERSECTION IS 1965 WATTS.

48 HOURS BEFORE DIGGING IN DADE
CALL 264-6820
UNDERGROUND UTILITIES NOTIFICATION CENTER

METROPOLITAN DADE COUNTY
TRAFFIC

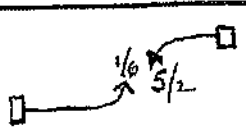
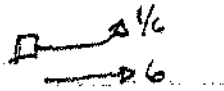
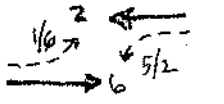
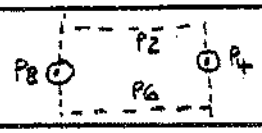
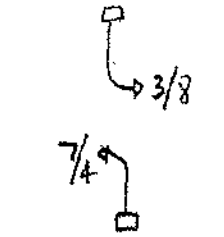
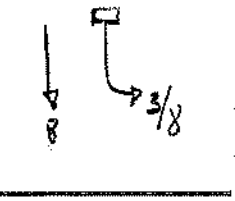
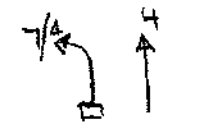
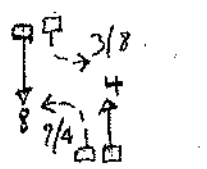
JOSE I. GARCIA DESIGN	SIGNALIZATION
JOSE I. GARCIA DRAWN	NW 2 AV & NW 62 ST
CHKD	

REV	DATE	DESCRIPTION	BY

DATE FILE NUMBER

SIGNAL OPERATING PLAN

N

Phase	Direction / Head No.	EB 1/6	EB 6	WB 5/2	WB 2	SB 3/8	SB 8	NB 7/4	NB 4	Ped Heads P6	P2	P8	P4	Drawing
(1+5) EL & WL NW 62 ST (Actuated)	Dwell	<G/R	R	<G/R	R	R	R	R	R	DW	DW	DW	DW	
	Clear (1+6)	<G/R	R	<Y/R	R	R	R	R	R	DW	DW	DW	DW	
	Clear (2+5)	<Y/R	R	<G/R	R	R	R	R	R	DW	DW	DW	DW	
	Clear (2+6)	<Y/R	R	<Y/R	R	R	R	R	R	DW	DW	DW	DW	
(1+6) EL & EB NW 62 ST (Actuated)	Dwell	<G/G	G	R	R	R	R	R	R	DW	DW	DW	DW	
	Clear (2+6)	<Y/G	G	R	R	R	R	R	R	DW	DW	DW	DW	
(2+5) WL & WB NW 62 ST (Actuated)	Dwell	R	R	<G/G	G	R	R	R	R	DW	DW	DW	DW	
	Clear (2+6)	R	R	<Y/G	G	R	R	R	R	DW	DW	DW	DW	
(2+6) WB & EB NW 62 ST (Recall)	Dwell	G	G	G	G	R	R	R	R	DW	DW	DW	DW	
	Clear (3+7)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
	Clear (3+8)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
	Clear (4+7)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
	Clear (4+8)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
	Clear Xped	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
Xped (Actuated)	Dwell	R	R	R	R	R	R	R	R	W/F	W/F	W/F	W/F	
	Clear ALL	R	R	R	R	R	R	R	R	DW	DW	DW	DW	
(3+7) NL & SL NW 2 AV (Actuated)	Dwell	R	R	R	R	<G/R	R	<G/R	R	DW	DW	DW	DW	
	Clear (3+8)	R	R	R	R	<G/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear (4+7)	R	R	R	R	<Y/R	R	<G/R	R	DW	DW	DW	DW	
	Clear (4+8)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear (1+5)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear (1+6)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear (2+5)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear (2+6)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
(3+8) SL & SB NW 2 AV (Actuated)	Dwell	R	R	R	R	<G/G	G	R	R	DW	DW	DW	DW	
	Clear (4+8)	R	R	R	R	<Y/G	G	R	R	DW	DW	DW	DW	
	Clear (1+5)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
	Clear (1+6)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
	Clear (2+5)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
	Clear (2+6)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
(4+7) NL & NB NW 2 AV (Actuated)	Dwell	R	R	R	R	R	R	<G/G	G	DW	DW	DW	DW	
	Clear (4+8)	R	R	R	R	R	R	<Y/G	G	DW	DW	DW	DW	
	Clear (1+5)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	Clear (1+6)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	Clear (2+5)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	Clear (2+6)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(4+8) NB & SB NW 2 AV (Actuated)	Dwell	R	R	R	R	G	G	G	G	DW	DW	DW	DW	
	Clear (1+5)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
	Clear (1+6)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
	Clear (2+5)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
	Clear (2+6)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
Flashing Operation		FY	FY	FY	FY	FR	FR	FR	FR					

CONCURRENT OR EXCLUSIVE, SEE TIMING. SHOWN HERE IS THE EXCLUSIVE ONLY.

Miami-Dade County Public Works Department

Drawn	Date	NW 2 AV & 62 ST		
N. FRANCILLON	1/9/02			
Checked	Date	Placed in Service	Phasing No.	Asset Number
I. HERNANDEZ	1/9/02	Date / By SHOP	5	2080

QuadPPXPeds

TOD Schedule Report
for 2095: NW 7 Av&NW 79 St

Print Date: 2/13/2015

Print Time: 9:04 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2095	NW 7 Av&NW 79 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 NBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	10 - 10 - 10	25 - 25 - 25	4	2
2 SBT	7 - 7 - 7	16 - 16 - 16	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	0 - 50 - 50	4	2
3 EBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	10 - 10 - 10	20 - 15 - 15	4	2
4 WBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	50 - 50 - 50	4	2
5 SBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	10 - 10 - 10	25 - 25 - 25	4	2
6 NBT	7 - 7 - 7	16 - 16 - 16	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	0 - 50 - 50	4	2
7 WBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	10 - 10 - 10	20 - 15 - 15	4	2
8 EBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	50 - 50 - 50	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 2095: NW 7 Av&NW 79 St

Print Date: 2/13/2015

Print Time: 9:04 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 EBL	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT	Ring Offset	Offset
	1	140	24	43	6	43	24	43	6	43	0	0
	2	85	8	31	6	16	8	31	6	16	0	0
	3	140	24	43	6	43	24	43	6	43	0	0
	4	80	10	23	6	17	10	23	6	17	0	0
	5	85	18	17	6	20	18	17	6	20	0	0
	6	100	14	28	9	25	14	28	9	25	0	0
	7	90	14	26	6	20	14	26	6	20	0	0
	8	110	14	39	12	21	14	39	12	21	0	0
	9	110	14	36	9	27	14	36	9	27	0	0
	10	100	14	27	6	29	14	27	6	29	0	0
	11	140	21	40	6	49	21	40	6	49	0	0
	12	170	18	66	16	46	18	66	16	46	0	0
	13	100	14	31	9	22	14	31	9	22	0	0
	14	140	19	63	7	27	19	63	7	27	0	0
	15	110	19	33	6	28	19	33	6	28	0	0
	16	100	14	31	6	25	14	31	6	25	0	0
	17	100	14	31	6	25	14	31	6	25	0	0
	18	100	14	31	6	25	14	31	6	25	0	0
	20	90	14	26	6	20	14	26	6	20	0	0
	21	90	14	26	6	20	14	26	6	20	0	0

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	4	Su S
0600	5	M T W Th F
0645	1	M T W Th F
0900	12	Su S
0930	18	M T W Th F
1345	13	M T W Th F
1630	15	M T W Th F
2000	7	M T W Th F
2100	4	Su S
2200	4	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

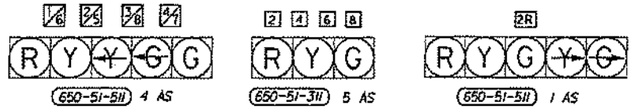
TOD Schedule Report
for 2095: NW 7 Av&NW 79 St

Print Date: 2/13/2015

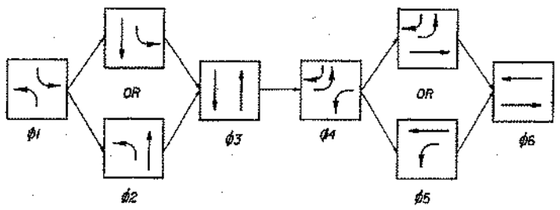
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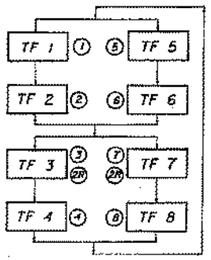
No Calendar Defined/Enabled

SIGNAL HEAD DETAIL



SIGNAL OPERATION PLAN





△Y
NW 7 AV
SERIES 'C' LETTERS
8" CAPITALS
10" NUMERALS
D-3
18" X 48"
700-48-18 2 EA

△X
NW 79 ST
SERIES 'C' LETTERS
8" CAPITALS
10" NUMERALS
D-3
18" X 60"
700-48-18 2 EA

P2 P4 P2 P8
653-171 8 AS



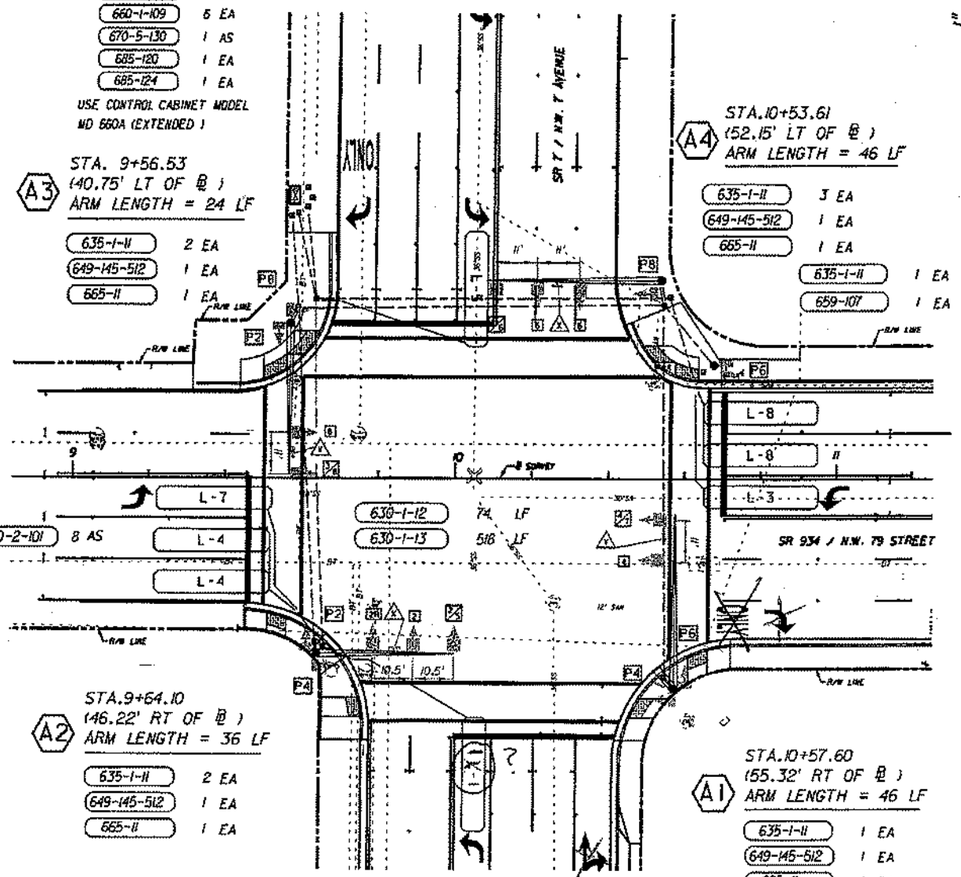
SPECIAL SIGN
12" X 12"
4 EA

NOTE: COST OF SPECIAL SIGN IS INCLUDED IN ITEM 665-11

CONTROLLER ITEMS

632-7-1	1 PI
635-1-11	5 EA
660-1-109	5 EA
670-5-130	1 AS
685-120	1 EA
685-124	1 EA

USE CONTROL CABINET MODEL MD 860A (EXTENDED)



CONTROLLER OPERATION

MAJOR STREET: NW 7 AVE.
MINOR STREET: NW 79 ST.
SOP. AS SHOWN ABOVE
PHASE 1,2,4,5,6 ACTUATED
PHASE 3 RECALL
SIGNAL COORDINATION PHASE 3
FLASHING OPERATION:
MOVEMENTS 2 AND 6 YELLOW
MOVEMENTS 1,3,4,5,7 AND 8 RED

CONTROLLER TIMING PLAN

TIMING INTERVAL	TIMING FUNCTION 1	2	3	4	5	6	7	8	9
MINIMUM GREEN (INITIAL)									
EXTENSION (PASSAGE)									
MAXIMUM GREEN I									
MAXIMUM GREEN II									
YELLOW									
ALL RED									
PEDESTRIAN WALK									
PEDESTRIAN CLEAR									

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	1	1
L-3	1	1
L-4	2	1
L-5	1	1
L-7	1	1
L-8	2	1

NOTES:

1. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR LEFT TURNING LANES.
3. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGE TO EXISTING UNDERGROUND UTILITIES. ANY COST FROM DAMAGED SHALL BE BORNE BY THE CONTRACTOR.
4. THE SPACE BETWEEN LETTERS COULD BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALLL DIMENSION IN THE OVERHEAD STREET NAME SIGNS.
5. QUANTITY FOR CONDUIT HAS BEEN DUPLICATED FROM THE NEAREST PULL BOX TO POLE.
6. CONTRACTOR IS TO VERIFY THE EXACT LOCATIONS OF THE SERVICE POINTS.
7. PAY ITEM 690-100 INCLUDES THE REMOVAL OF THE EXISTING PULL BOXES IN THE INTERSECTIONS.

Show Southern Bell & FPL Service points.

REMOVAL ITEMS

690-10	8 EA
690-33-1	80 LF
690-50	1 EA
690-80	1 EA
690-100	1 PI

2095
31

ID No. 2095

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FDOT DISTRICT SIX
RAFAEL D. PADERNI P.E.
1000 N.W. 111th AVENUE
MIAMI, FLORIDA 33172
P.E. No.: 41138

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
934	MIAMI-DADE	407712-1-52-01

SIGNALIZATION PLAN
NW 79 ST & NW 7 AVE

SHEET NO. T-4

02/14/2002 02:37:03 PM c:\e\projects\design_d\407712_1_52_01\plans01.dgn

SIGNAL OPERATING PLAN

	Direction	NB		SB			EB		WB		Ped Heads				
Timing Phases	Head No.	1/6	6	5/2	2	2R	3/8	8	7/4	4	P6	P2	P8	P4	Movements/Display/Actuation
(1+5)	Dwell	<G/R	R	<G/R	R	R	R	R	R	R	DW	DW	DW	DW	
N/S	Clear (1+6)	<G/R	R	<Y/R	R	R	R	R	R	R	DW	DW	DW	DW	
NW 7 AV	Clear (2+5)	<Y/R	R	<G/R	R	R	R	R	R	R	DW	DW	DW	DW	
	Clear (2+6)	<Y/R	R	<Y/R	R	R	R	R	R	R	DW	DW	DW	DW	
(Actuated)															
(1+6)	Dwell	<G/G	G	R	R	R	R	R	R	R	W/F	DW	DW	DW	
NB	Clear (2+6)	<Y/G	G	R	R	R	R	R	R	R	DW	DW	DW	DW	
NW 7 AV															
(Actuated)															
(2+5)	Dwell	R	R	<G/G	G	G	R	R	R	R	DW	W/F	DW	DW	
SB	Clear (2+6)	R	R	<Y/G	G	G	R	R	R	R	DW	DW	DW	DW	
NW 7 AV															
(Actuated)															
(2+6)	Dwell	G	G	G	G	G	R	R	R	R	W/F	W/F	DW	DW	
N/S	Clear (3+7)	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
NW 7 AV	Clear (3+8)	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
	Clear (4+7)	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
(Recall)	Clear (4+8)	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
(3+7)	Dwell	R	R	R	R	→/R	<G/R	R	<G/R	R	DW	DW	DW	DW	
E/W	Clear to (3+8)	R	R	R	R	→/R	<G/R	R	<Y/R	R	DW	DW	DW	DW	
NW 79 ST	Clear to (4+7)	R	R	R	R	→/R	<Y/R	R	<G/R	R	DW	DW	DW	DW	
	Clear to (4+8)	R	R	R	R	→/R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to (1+5)	R	R	R	R	→/R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to (1+6)	R	R	R	R	→/R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	→/R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
(Actuated)	Clear to (2+6)	R	R	R	R	→/R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
(3+8)	Dwell	R	R	R	R	→/R	<G/G	G	R	R	DW	DW	W/F	DW	
EB	Clear to (4+8)	R	R	R	R	→/R	<Y/G	G	R	R	DW	DW	DW	DW	
NW 79 ST	Clear to (1+5)	R	R	R	R	→/R	<Y/Y	Y	R	R	DW	DW	DW	DW	
	Clear to (1+6)	R	R	R	R	→/R	<Y/Y	Y	R	R	DW	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	→/R	<Y/Y	Y	R	R	DW	DW	DW	DW	
(Actuated)	Clear to (2+6)	R	R	R	R	→/R	<Y/Y	Y	R	R	DW	DW	DW	DW	
(4+7)	Dwell	R	R	R	R	R	R	R	<G/G	G	DW	DW	DW	W/F	
WB	Clear to (4+8)	R	R	R	R	R	R	R	<Y/G	G	DW	DW	DW	DW	
NW 79 ST	Clear to (1+5)	R	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	Clear to (1+6)	R	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(Actuated)	Clear to (2+6)	R	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(4+8)	Dwell	R	R	R	R	R	G	G	G	G	DW	DW	W/F	W/F	
E/W	Clear (1+5)	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
NW 79 ST	Clear (1+6)	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
	Clear (2+5)	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
(ACTUATED)	Clear (2+6)	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
Flashing Operation		FY	FY	FY	FY	FY	FR	FR	FR	FR					

Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	NW 7 AVE & 79 ST		
H FRANCILLON	2/9/04			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	2/10/04	Date 2/9/04 By MASTEC	8	2095

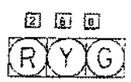
QuadPPConcPeds

WEST SIDE I95

SIGN. HEAD DETAIL



650-51-411 1 AS



650-51-311 5 AS



655-171 2 AS

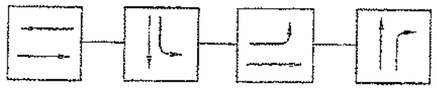


SPECIAL SIGN
12" X 12"
2 EA

NOTE: COST OF SPECIAL SIGN IS INCLUDED IN ITEM 665-11

SIGNAL OPERATION PLAN

N.W. 6 CT & N.W. 79 ST
N.W. 6 AVE & N.W. 79 ST
ID 3634 AND ID 2495



TF 1	TF 2	TF 3	TF 4

(2)+(6) (3/8)+(8) (1)+(6A) (4)
(2A)+(6A)

CONTROLLER OPERATION

MAJOR STREET: NW 79 ST.
MINOR STREET: NW 6 CT AND NW 6 AVE
SOP. AS SHOWN ABOVE
PHASE 2 3 AND 4 ACTUATED
PHASE 1 RECALL
SIGNAL COORDINATION PHASE 1
FLASHING OPERATION:
MOVEMENTS 2, 2A, 6 AND 6A YELLOW
MOVEMENTS 1 3 4 AND 8 RED

A
NW 6 CT
D-3
18" X 48"
700-48-16 2 EA

SERIES 'C' LETTERS
8" CAPITALS
10" NUMERALS

A
NW 79 ST
D-3
18" X 60"
700-48-16 1 EA

SERIES 'C' LETTERS
8" CAPITALS
10" NUMERALS

W
R3-2
24" X 24"
700-48-18 1 EA

Z
NO TURNS
R3-3
24" X 24"
700-48-18 1 EA

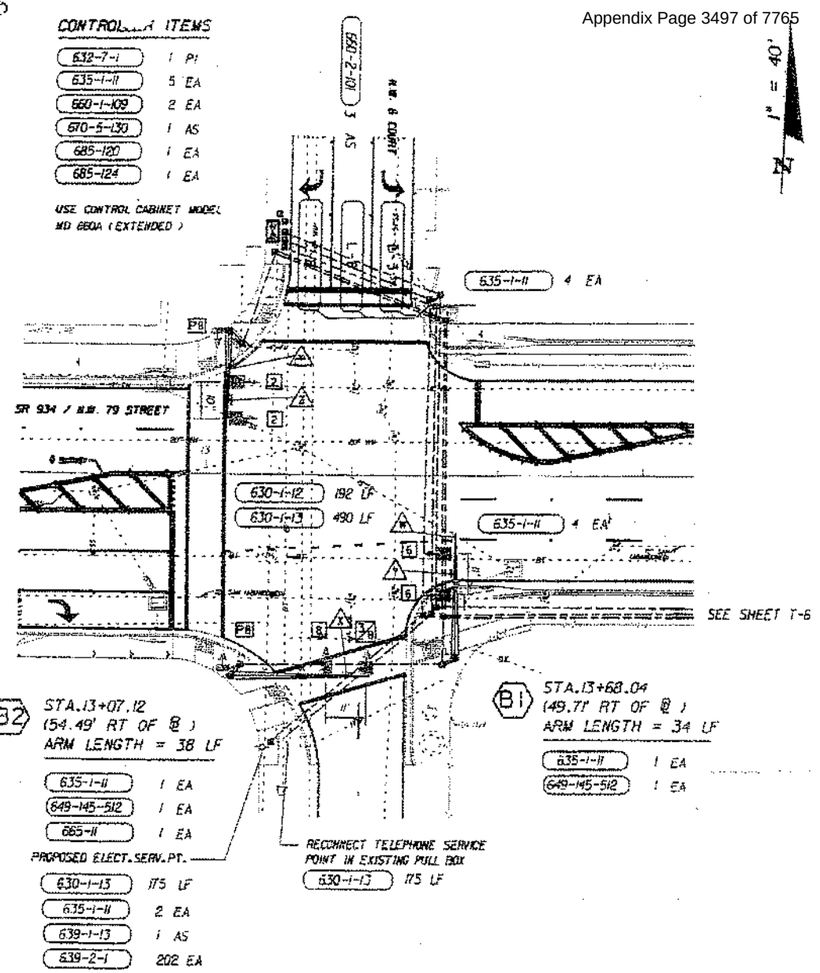
B3 STA.13+05.62
(39.05' LT OF ℄)
ARM LENGTH = 24 LF

635-1-11 1 EA
649-145-512 1 EA
665-11 1 EA

CONTROLLED ITEMS

632-7-1	1 PI
635-1-11	5 EA
660-1-109	2 EA
670-5-130	1 AS
685-120	1 EA
685-124	1 EA

USE CONTROL CABINET MODEL MD 660A (EXTENDED)



NOTES:

1. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-01 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR LEFT TURNING LANES.
3. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGE TO EXISTING UNDERGROUND UTILITIES. ANY COST FROM DAMAGED SHALL BE BORNE BY THE CONTRACTOR.
4. THE SPACE BETWEEN LETTERS COULD BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALLL DIMENSION IN THE OVERHEAD STREET NAME SIGNS.
5. QUANTITY FOR CONDUIT HAS BEEN DUPLICATED FROM THE NEAREST PULL BOX TO POLE.
6. CONTRACTOR IS TO VERIFY THE EXACT LOCATIONS OF THE SERVICE POINTS.
7. PAY ITEM 690-100 INCLUDES THE REMOVAL OF THE EXISTING PULL BOXES IN THE INTERSECTIONS.

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-5	1	1
L-8	2	1

REMOVAL ITEMS

690-10	6 EA
690-20	6 EA
690-33-1	80 LF
690-50	1 EA
690-80	1 EA
690-100	1 PI

Sect 31

ID No. 3634

"NOTICE: THE OFFICIAL RECORD OF THIS DOCUMENT SHEETS IS AN ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.002, F.A.C."

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FDOT DISTRICT SIX
RAFAEL D. PADERNI P.E.
1000 N.W. 111th AVENUE
MIAMI, FLORIDA 33172
P.E. No.: 41138

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
934	MIAMI-DADE	407712-1-52-01

SIGNALIZATION PLAN
NW 79 ST & NW 6 CT

SHEET NO. T-5

TOD Schedule Report

for 2495: I- 95 NB Off&NW 79 St

Print Date: 2/13/2015

Print Time: 9:50 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2495	I- 95 NB Off&NW 79 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	-	-	EBT	NBT	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	16 - 15 - 15	3	0
2 WBT	7 - 7 - 7	6 - 6 - 6	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	0 - 30 - 30	4	1
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	7 - 7 - 7	6 - 6 - 6	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	0 - 30 - 30	4	1
7 NBT	7 - 7 - 7	12 - 12 - 12	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	30 - 30 - 30	4	0.6
8 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	3.5 - 2.5 - 2.5	20 - 20 - 20	68 - 30 - 30	4	0.6

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12---678
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 2495: I- 95 NB Off&NW 79 St

Print Date: 2/13/2015

Print Time: 9:50 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 -	5 -	6 EBT	7 NBT	8 SBT	Ring Offset	Offset
	1	140	10	46	0	0	0	59	20	46	0	60
	2	85	7	23	0	0	0	33	23	14	0	26
	3	140	10	46	0	0	0	59	20	46	0	58
	4	80	5	20	0	0	0	28	20	17	0	34
	5	85	10	20	0	0	0	33	20	17	0	36
	6	100	14	27	0	0	0	44	21	20	0	36
	7	90	10	25	0	0	0	38	20	17	0	38
	8	110	6	47	0	0	0	56	22	17	0	40
	9	110	10	32	0	0	0	45	24	26	0	100
	10	100	10	35	0	0	0	48	20	17	0	36
	11	140	10	46	0	0	0	59	20	46	0	60
	12	85	7	27	0	0	0	37	20	13	0	38
	13	100	12	30	0	0	0	45	20	20	0	44
	14	140	12	71	0	0	0	86	20	19	0	10
	15	110	10	35	0	0	0	48	24	23	0	48
	16	100	11	30	0	0	0	44	21	20	0	24
	17	100	11	30	0	0	0	44	21	20	0	32
	18	100	11	30	0	0	0	44	21	20	0	44
	20	90	10	25	0	0	0	38	20	17	0	32
	21	90	10	25	0	0	0	38	20	17	0	26

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	4	Su S
0600	5	M T W Th F
0645	1	M T W Th F
0900	12	Su S
0930	18	M T W Th F
1345	13	M T W Th F
1630	15	M T W Th F
2000	7	M T W Th F
2100	4	Su S
2200	4	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0715	VEH MAX RECALL	8-------	M T W ThF
0830	VEH MAX RECALL	--------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0715	VEH MAX RECALL	8-------	M T W ThF
0830	VEH MAX RECALL	--------	M T W ThF

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 2495: I- 95 NB Off&NW 79 St

Print Date: 2/13/2015

Print Time: 9:50 AM

No Calendar Defined/Enabled

SIGNAL HEAD DETAIL

[1] (R Y G) — 650-51-311 — 2 AS

[2] [4] [6] (R Y G) — 650-51-311 — 6 AS

[P2] [P6] [P8] — 653-171 — 6 AS

PUSH BUTTON WAIT FOR TO CROSS NW 79 ST

SPECIAL SIGN
12" X 12"
2 EA

NOTE: COST OF SPECIAL SIGN IS INCLUDED IN ITEM 665-11

SOP (SEE SHEET T-5)

[A] NW 6 AV — SERIES 'C' LETTERS 8" CAPITALS 10" NUMERALS
D-3
18" X 48"
700-48-18 — 2 EA

[X] NW 79 ST — SERIES 'C' LETTERS 8" CAPITALS 10" NUMERALS
D-3
18" X 60"
700-48-18 — 1 EA

[V] R3-2
24" X 24"
700-48-18 — 2 EA

[W] R3-1
24" X 24"
700-48-18 — 1 EA

[Z] RIGHT TURN ON RED RIGHT LANE ONLY

SPECIAL SIGN
24" X 24"
700-48-18 — 1 EA

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	2	1
L-4	3	2

NOTES:

1. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR LEFT TURNING LANES.
3. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGE TO EXISTING UNDERGROUND UTILITIES. ANY COST FROM DAMAGED SHALL BE BORNE BY THE CONTRACTOR.
4. THE SPACE BETWEEN LETTERS COULD BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALLL DIMENSION IN THE OVERHEAD STREET NAME SIGNS.
5. QUANTITY FOR CONDUIT HAS BEEN DUPLICATED FROM THE NEAREST PULL BOX TO POLE.
6. CONTRACTOR IS TO VERIFY THE EXACT LOCATIONS OF THE SERVICE POINTS.
7. PAY ITEM 690-100 INCLUDES THE REMOVAL OF THE EXISTING PULL BOXES IN THE INTERSECTIONS.

EAST SIDE I-95

1" = 40'
N

[C2] STA.16+32.77
(48.71' LT OF ℄)
ARM LENGTH = 38 LF
635-1-11 — 1 EA
649-145-512 — 1 EA
665-11 — 1 EA

[C3] STA.16+88.76
(53.81' LT OF ℄)
ARM LENGTH = 34 LF
635-1-11 — 1 EA
649-145-512 — 1 EA
665-11 — 1 EA

[C1] STA.17+10.52
(43.56' RT OF ℄)
ARM LENGTH = 54 LF
635-1-11 — 1 EA
649-145-512 — 1 EA
665-11 — 1 EA

I-95 NORTHBOUND

SR 934 / N.W. 79 STREET

660-2-101 — 5 AS

630-1-12 — 250 LF
630-1-13 — 335 LF

CONNECT TO NEW CONTROLLER ID No. 3634 (SEE SHEET T-5)

CONDUITS NO SHOWN IN PLAN (GAP BETWEEN STA.15+50 AND STA.14+35)
630-1-12 — 345 LF

635-1-11 — 2 EA

635-1-11 — 2 EA
659-107 — 1 EA
665-11 — 1 EA

ONLY ONLY

CONTROLLER ITEMS

632-7-1	1 PI
660-1-109	3 EA

REMOVAL ITEMS

690-10	7 EA
690-20	4 EA
690-33-1	80 LF
690-80	1 EA
690-100	1 PI

#2495
Section 31

ID No. 2495

"NOTICE: THE OFFICIAL RECORD OF THIS DOCUMENT SHEETS IS AN ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.002, F.A.C."

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FDOT DISTRICT SIX
RAFAEL D. PADERNI P.E.
1000 N.W. 111th AVENUE
MIAMI, FLORIDA 33172
P.E. No.: 41138

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
934	MIAMI-DADE	407712-1-52-01

SIGNALIZATION PLAN
NW 79 ST & NW 6 AV

SHEET NO. T-6

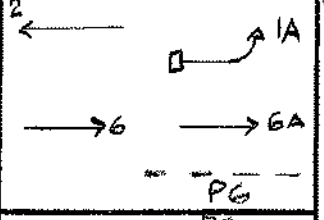
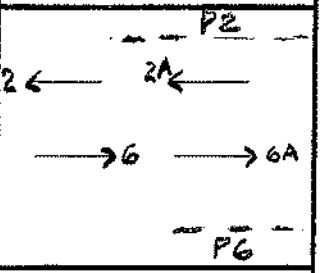
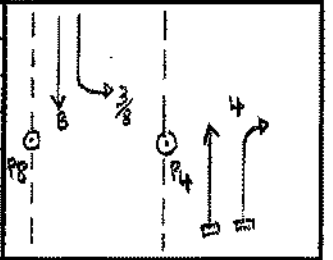
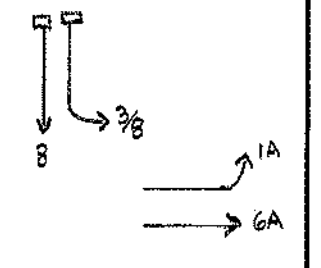
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07/23/2002 02:53:31 PM S:\traffic\ats\design_d\407712_1_52_01\plansg03.dgn

I-95 NB off

SIGNAL OPERATING PLAN

N

Timing Phases	Direction	Head No.	EB 1A	EB 6	EB 6A	WB 2	WB 2A	NB 4	SB 3/8	SB 8	Ped Heads P2	P6	P4	P8	Movements/Display/Actuation
1+6 E/W NW 79 ST ACTUATED	Dwell		←	G	G	G	R	R	R	R	DW	W/F	DW	DW	
	Clear to	2+6	↙	G	G	G	R	R	R	R	DW	DW	DW	DW	
2+6 E/W NW 79 ST RECALL	Dwell		←R	G	G	G	G	R	R	R	W/F	W/F	DW	DW	
	Clear to	7	←R	Y	Y	Y	Y	R	R	R	DW	DW	DW	DW	
		8	←R	Y	G	Y	Y	R	R	R	DW	DW	DW	DW	
		1+6	←R	G	G	Y	Y	R	R	R	DW	DW	DW	DW	
7 N/S NW 6 CT NW 6 AVE ACTUATED	Dwell		←R	R	R	R	R	G	←/G	G	DW	DW	W/F	W/F	
	Clear to	8	←R	R	R	R	R	Y	←/G	G	DW	DW	DW	DW	
		1+6	←R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	
		2+6	←R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	
8 SBND NW 6 CT ACTUATED	Dwell		←	R	G	R	R	R	←/G	G	DW	DW	DW	DW	
	Clear to	1+6	←	R	G	R	R	R	Y	Y	DW	DW	DW	DW	
		2+6	↙	R	G	R	R	R	Y	Y	DW	DW	DW	DW	
	Dwell														
	Clear to														
	Dwell														
	Clear to														
Flashing Operation			FR	FY	FY	FY	FY	FR	FR	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	NW 6 AV, NW 6 CT & 79 ST		
H. FRANCILLON	2/11/04			
Checked	Date	Placed In Service	Phasing No.	Asset Number
	2/11/04	Date / By MASTEC	5	2495

Blank16

TOD Schedule Report
for 3172: NW 7 Av&NW 81 St

Print Date: 2/13/2015

Print Time: 11:08 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3172	NW 7 Av&NW 81 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	NBT	-	WBT	NBL	SBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 NBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	50 - 50 - 50	0 - 50 - 50	4	1.2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 WBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	3.5 - 3.5 - 3.5	30 - 30 - 30	45 - 45 - 45	4	1.2
5 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	12 - 12 - 12	22 - 22 - 22	3	0
6 SBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	50 - 50 - 50	0 - 50 - 50	4	1.2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-456--
External Permit 0	--------
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

TOD Schedule Report

for 3172: NW 7 Av&NW 81 St

Print Date: 2/13/2015

Print Time: 11:08 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	NBT	-	WBT	NBL	SBT	-	-		
	1	140	0	85	0	45	14	68	0	0	0	12
	2	85	0	44	0	31	10	31	0	0	0	84
	3	140	0	85	0	45	14	68	0	0	0	12
	5	85	0	44	0	31	10	31	0	0	0	6
	6	100	0	62	0	28	10	49	0	0	0	10
	7	90	0	52	0	28	10	39	0	0	0	4
	8	110	0	59	0	41	15	41	0	0	0	6
	9	110	0	59	0	41	15	41	0	0	0	22
	10	100	0	57	0	33	12	42	0	0	0	92
	11	140	0	85	0	45	14	68	0	0	0	12
	12	85	0	44	0	31	10	31	0	0	0	4
	13	100	0	62	0	28	10	49	0	0	0	8
	14	140	0	74	0	56	15	56	0	0	0	26
	15	110	0	64	0	36	15	46	0	0	0	6
	16	100	0	62	0	28	10	49	0	0	0	98
	17	100	0	62	0	28	10	49	0	0	0	8
	18	100	0	62	0	28	10	49	0	0	0	8
	19	85	0	44	0	31	10	31	0	0	0	20
	20	90	0	52	0	28	10	39	0	0	0	6
	21	90	0	52	0	28	10	39	0	0	0	88

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	Free	Su S
0600	5	M T W Th F
0645	1	M T W Th F
0900	7	Su S
0930	18	M T W Th F
1345	13	M T W Th F
1630	15	M T W Th F
2000	7	M T W Th F
2100	Free	Su S
2200	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report
for 3172: NW 7 Av&NW 81 St

Print Date: 2/13/2015

Print Time: 11:08 AM

No Calendar Defined/Enabled

[5] [2] [6] [8]



650-1-151 1 AS



650-1-131 7 AS

[P2] [P4] [P6] [P8]



653-171 8 AS



SPECIAL SIGN
12"X 12"
4 EA

NOTE: COST OF SPECIAL SIGN IS INCLUDED IN ITEM 665-11

[A]



R3-2
24"X 24"
700-48-18 1 EA

[B]



R3-1
24"X 24"
700-48-18 1 EA

[A]



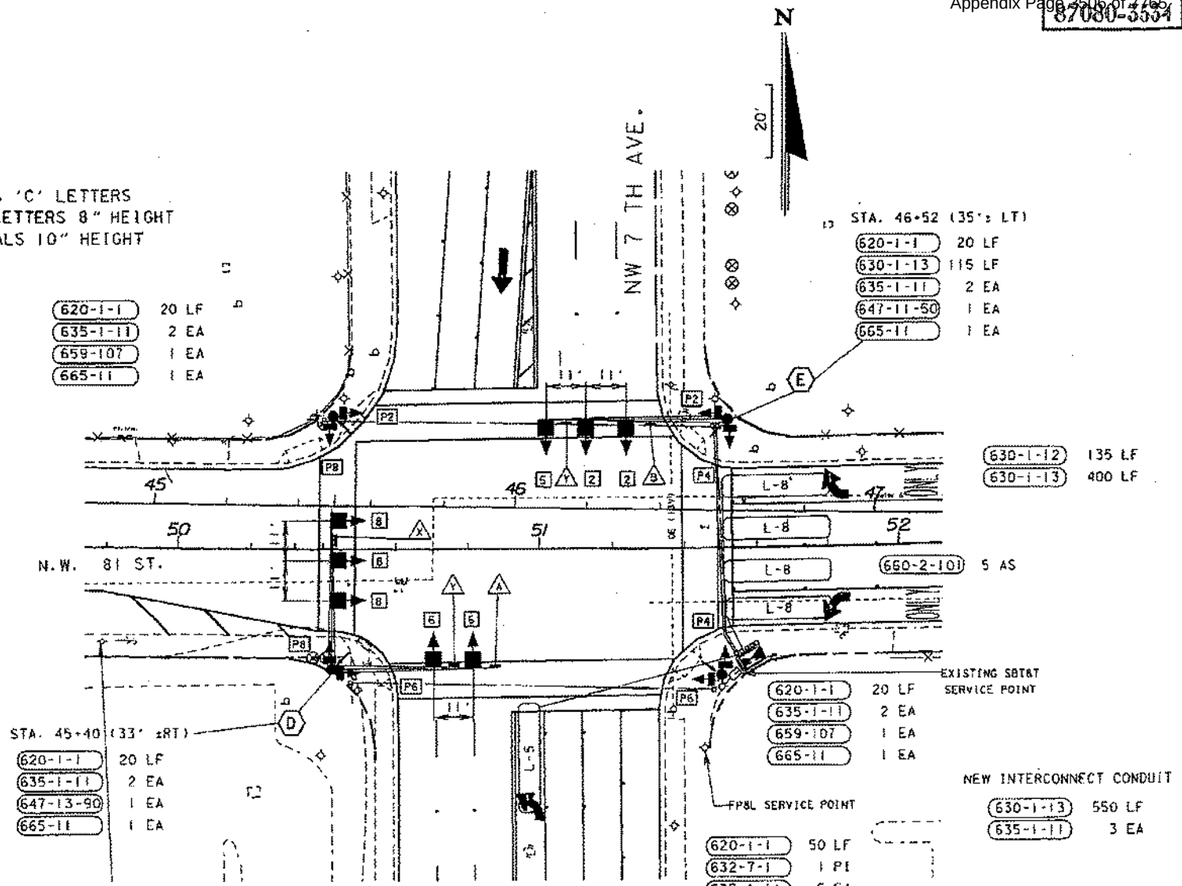
D-3
18"X 48"
700-48-18 1 EA

[A]



D-3
18"X 48"
700-48-18 2 EA

SERIES 'C' LETTERS
CAP. LETTERS 8" HEIGHT
NUMERALS 10" HEIGHT



REMOVAL ITEMS

690-10 6 EA
690-30 4 EA
690-50 1 EA
690-70 4 EA
690-80 1 EA

CONTROLLER OPERATION

1. MAJOR STREET: N.W. 7 AVE.
   MINOR STREET: N.W. 81 ST.
2. SOP 13
3. PHASE 1 AND 2 ACTUATED PHASE 3 RECALL
4. PED SIGNALS UPON ACTUATION ONLY
5. SIGNAL COORDINATION PHASE 3
6. FLASHING OPERATION 4,8 YELLOW 2,5,7 RED

CONTROLLER TIMING PLAN

TIMING INTERVAL	TIMING FUNCTION 1	2	3	4	5	6	7	8	9
MINIMUM GREEN (INITIAL)	5	10							
EXTENSION (PASSAGE)	2								
MAXIMUM GREEN I	10	30	37						
MAXIMUM GREEN II									
YELLOW		4	4						
ALL RED		1	1						
PEDESTRIAN WALK									
PEDESTRIAN CLEAR									

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF DETS.
L-5	1	1
L-8	4	1

1. FINAL SIGNAL TIMING TO BE PROVIDED BY DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6'X30' FOR THRU LANES AND 5'X30' FOR TURNING LANES.
3. TIMING SHOWN IN THE CONTROLLER TIMING PLAN ARE APPROXIMATE AND FOR INITIAL START UP PERIOD ONLY. CONTRACTOR SHALL CONSULT DADE COUNTY SIGNAL DIVISION OFFICE BEFORE IMPLEMENTING ANY TIMING PLANS.

SR.934 (NW 81 ST.) AT NW 7 AVE.

INTERSECTION ID. # 3172

#31

Fri Apr 21 15:21:11 1995
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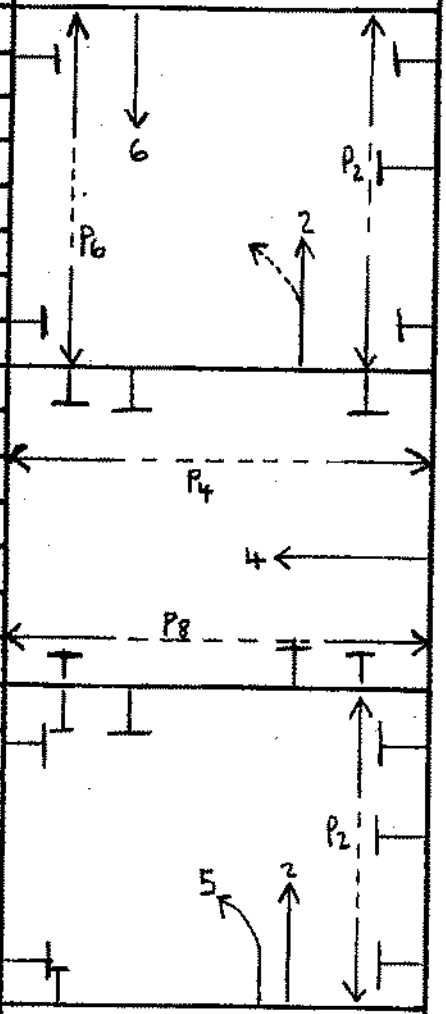
REVISIONS															
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	

FLORIDA DEPARTMENT OF TRANSPORTATION

SR-934 SIGNALIZATION PLAN

SIGNAL OPERATING PLAN

PHASE		INT	2	4	5	6		P2	P6	P4	P8
ϕ2+6 (2+6+P2+P6)		R/W	G	R	G	G		W	W	DW	DW
NBND & SBND		PED. CL	G	R	G	G		FDW	FDW	DW	DW
NW 7 AV	TO	ϕ4	Y	R	Y	Y		DW	DW	DW	DW
RECALL	CLEAR										
ϕ4 (4+P4+P8)		R/W	R	G	R	R		DW	DW	W	W
WBND		PED. CL	R	G	R	R		DW	DW	FDW	FDW
NW 81 ST	TO	2+5	R	Y	R	R		DW	DW	DW	DW
ACTUATED BY: L4, P4, P8		2+6	R	Y	R	R		DW	DW	DW	DW
	CLEAR										
ϕ2+5 (2+5+P2)		R/W	G	R	G+Y	R		W	DW	DW	DW
NBLT & NBND		PED. CL	G	R	G+Y	R		FDW	DW	DW	DW
NW 7 AV	TO	2+6	G	R	G+Y	R		DW	DW	DW	DW
ACTUATED BY: LS	CLEAR										
		R/W									
		PED. CL									
	TO										
	CLEAR										
FLASH OPERATION			FY	FR	FY	FY					



Drawn	Date
H. FRANCILLON	12/23/98
Check	**Date**
H. HERNANDEZ	12/24/98
Division Engineer	**Date**

MIAMI-DADE COUNTY
DEPARTMENT OF PUBLIC WORKS

ASSET NO. 3172

NW 7 AV & 81 ST

Placed in Service			Phasing Number
Date: 12/23/98	By: SHOP		6

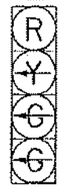
SIGNAL HEAD DETAIL

[2] [8]



650-1-131 4 AS

[5]



650-1-141 1 AS

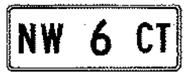
[A]



D-3
18"X 48"

700-48-18 1 EA

[A]



D-3
18"X 48"

700-48-18 1 EA

SERIES 'C' LETTERS
CAP. LETTERS 8" HEIGHT
NUMERALS 10" HEIGHT

[P2] [P8]



653-171 4 AS



SPECIAL SIGN
12"X 12"
2 EA

NOTE: COST OF SPECIAL SIGN IS INCLUDED IN ITEM 665-11

[A]



R3-2
24"X 24"

700-48-18 1 EA

[B]



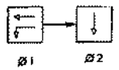
R3-1
24"X 24"

700-48-18 1 EA

CONTROLLER OPERATION

1. MAJOR STREET: N.W. 81 ST.
   MINOR STREET: N.W. 6 CT.
2. PHASE 2 ACTUATED PHASE 1 RECALL
3. PED SIGNALS UPON ACTUATION ONLY
4. SIGNAL COORDINATION PHASE 1
5. FLASHING OPERATION 2 YELLOW 5.8 RED

SIGNAL OPERATING PLAN

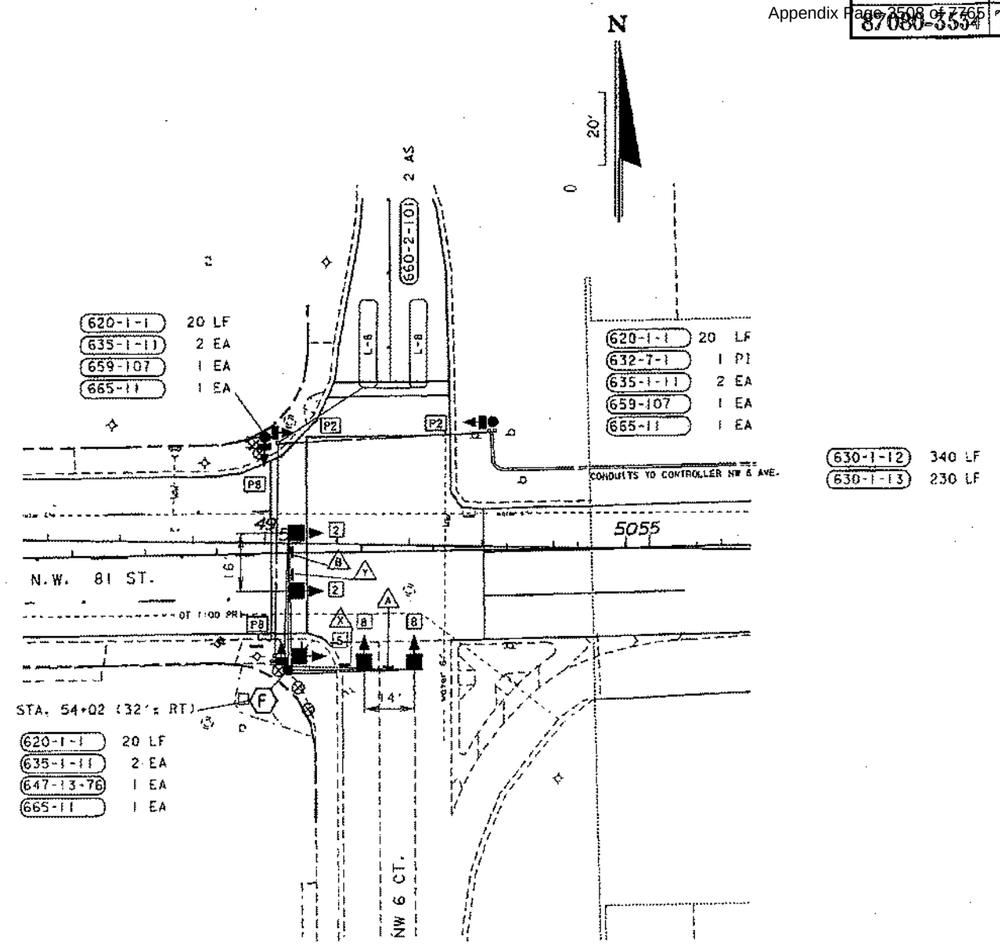


CONTROLLER TIMING PLAN

TIMING INTERVAL	TIMING FUNCTION 1	2	3	4	5	6	7	8	9
MINIMUM GREEN (INITIAL)		5							
EXTENSION (PASSAGE)		2							
MAXIMUM GREEN I	41	30							
MAXIMUM GREEN II									
YELLOW	4	4							
ALL RED									
PEDESTRIAN WALK									
PEDESTRIAN CLEAR									

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF DETS.
L-8	2	1



REMOVAL ITEMS

690-10	4 EA
690-20	4 EA
690-30	4 EA
690-70	4 EA
690-80	1 EA

1. FINAL SIGNAL TIMING TO BE PROVIDED BY DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6'X30' FOR THRU LANES AND 5'X30' FOR TURNING LANES.
3. TIMING SHOWN IN THE CONTROLLER TIMING PLAN ARE APPROXIMATE AND FOR INITIAL START UP PERIOD ONLY. CONTRACTOR SHALL CONSULT DADE COUNTY SIGNAL DIVISION OFFICE BEFORE IMPLEMENTING ANY TIMING PLANS.

SR.934 (NW 81 ST.) AT NW 6 CT.

INTERSECTION ID. = 3615

#31

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION

SR-934 SIGNALIZATION PLAN

File: N:\r 21-5625-42 1995\dist\dgn\ten\dgn\sig\plans\sig01.dgn

TOD Schedule Report
for 3574: I- 95 NB On&NW 81 St

Print Date: 2/13/2015

Print Time: 11:51 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3574	I- 95 NB On&NW 81 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	NBT	-	-	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
	Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	12 - 12 - 12	7 - 7 - 7	1 - 1 - 1	25 - 24 - 24	0 - 40 - 40	4	1.2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	3 - 2.5 - 2.5	12 - 12 - 12	55 - 40 - 40	4	1.2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	3 - 2.5 - 2.5	12 - 12 - 12	45 - 40 - 40	4	1.2
8 SBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	3 - 2.5 - 2.5	12 - 12 - 12	55 - 40 - 40	4	1.2

Last In Service Date: 11/12/2009 08:31

Permitted Phases

	12345678
Default	-2-4--78
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3574: I- 95 NB On&NW 81 St

Print Date: 2/13/2015

Print Time: 11:51 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 WBT	3 -	4 NBT	5 -	6 -	7 -	8 SBT	Ring Offset	Offset
	1	140	0	55	0	45	0	0	25	45	0	56
	2	85	0	34	0	25	0	0	11	25	0	26
	3	140	0	55	0	45	0	0	25	45	0	58
	4	80	0	35	0	23	0	0	7	23	0	40
	5	85	0	30	0	29	0	0	11	29	0	30
	6	100	0	33	0	39	0	0	13	39	0	36
	7	90	0	37	0	27	0	0	11	27	0	34
	8	110	0	49	0	35	0	0	11	35	0	40
	9	110	0	39	0	45	0	0	11	45	0	100
	10	100	0	35	0	35	0	0	15	35	0	36
	11	140	0	55	0	45	0	0	25	45	0	60
	13	100	0	33	0	41	0	0	11	41	0	32
	14	140	0	49	0	65	0	0	11	65	0	10
	15	110	0	39	0	45	0	0	11	45	0	36
	16	100	0	41	0	33	0	0	11	33	0	24
	17	100	0	33	0	41	0	0	11	41	0	32
	18	100	0	33	0	41	0	0	11	41	0	30
	19	85	0	34	0	25	0	0	11	25	0	40
	20	90	0	35	0	29	0	0	11	29	0	32
	21	90	0	35	0	29	0	0	11	29	0	26

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	4	Su S
0600	5	M T W Th F
0645	1	M T W Th F
0900	7	Su S
0900	11	M T W Th F
0930	18	M T W Th F
1345	13	M T W Th F
1430	20	W
1445	17	M T Th F
1445	11	W
1530	6	M T W Th F
1630	15	M T W Th F
2000	7	M T W Th F
2100	4	Su S
2200	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report
for 3574: I- 95 NB On&NW 81 St

Print Date: 2/13/2015

Print Time: 11:51 AM

No Calendar Defined/Enabled

2 — TO REMAIN

1 — TO BE RELOCATED — 650-54

1 — TO BE REMOVED — 690-10

7/4 — 4-SECT., 1-WAY (AS) — 650-51-411

P2 P4 — TO REMAIN

SIGNAL HEAD DETAIL

A — TO REMAIN

B — TO REMAIN

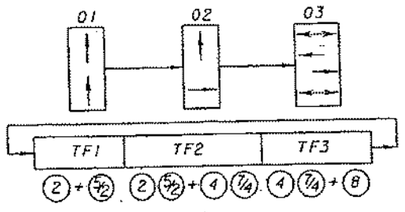
X — NW 81 ST — TO BE RELOCATED — 700-48-48

Y — NW 6 AV — TO REMAIN

PUSH BUTTON WAIT FOR TO CROSS NW 81 ST — TO REMAIN

EXISTING SIGNAL OPERATING PLAN

NW 81st ST. & NW 6th CT.
NW 81st ST. & NW 6th AVE.



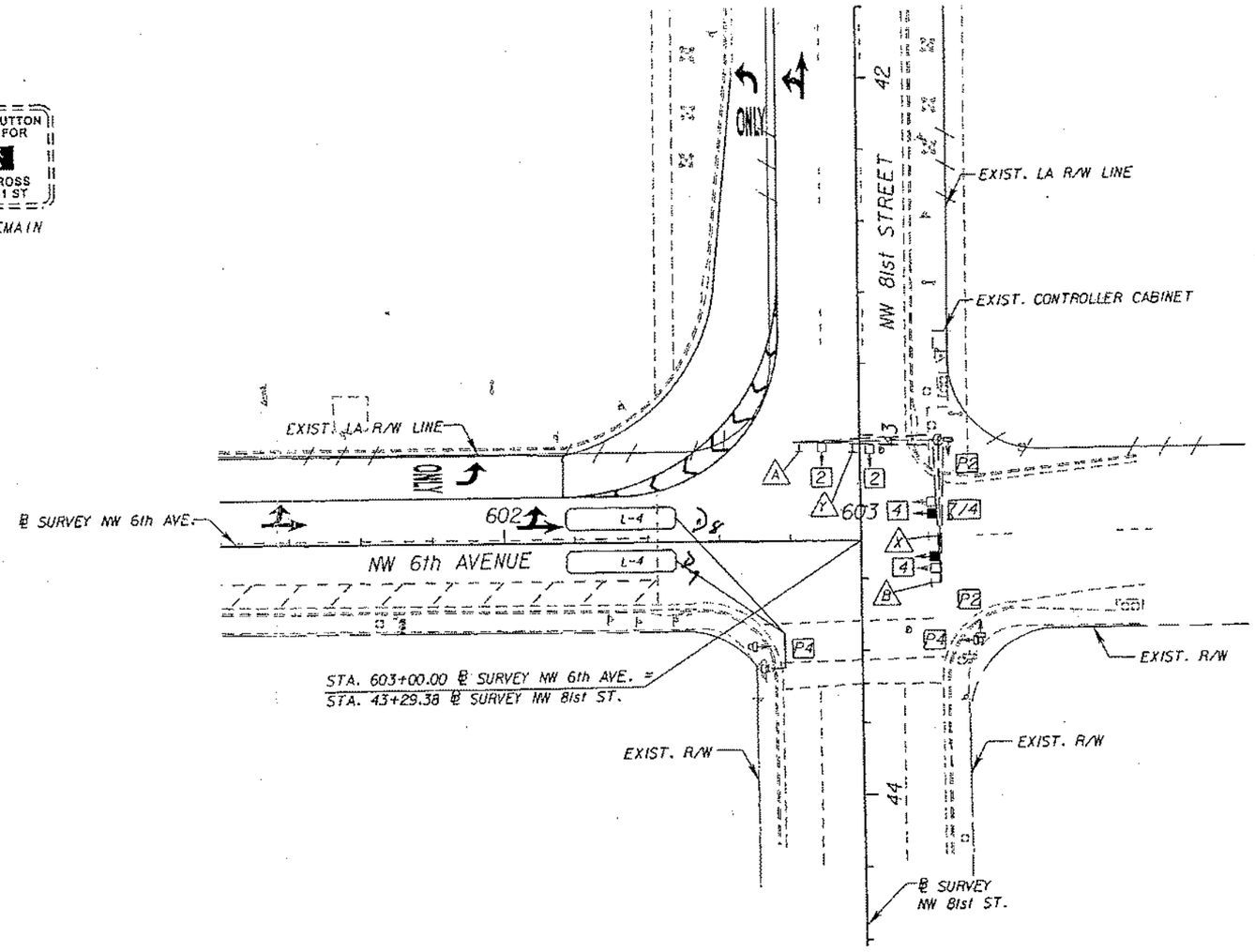
EXISTING CONTROLLER OPERATION:

MAJOR STREET: NW 81st ST.
MINOR STREET: NW 6th AVE.
SOP. AS SHOWN ABOVE
PHASE 2 AND 3
PHASE 1 RECALL
SIGNAL COORDINATION PHASE 1
FLASHING OPERATION:
MOVEMENTS 2 YELLOW
MOVEMENTS 4, 7/4 RED

NOTES

1. MAJOR STREET NW 81st ST.
   MINOR STREET NW 6th AVE.
2. MAINTAINING AGENCY IS MIAMI-DADE COUNTY-SIGNAL DIVISION ENGINEERING.
3. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
4. EXISTING SIGNAL OPERATION PLAN TO REMAIN.
5. SIGNAL CABLE CONDUIT AND LOOP WIRE CONDUIT SHALL USE A SIGNAL TRENCH TO CROSS PAVEMENT WHERE AND WHEN POSSIBLE.
6. LOOP ASSEMBLY 660-2-101 DEVIATES FROM THE FDOT STANDRDS AND SHALL BE 6'x30' FOR THRU LANES AND 5'x30' FOR LEFT TURNS. LOOPS SHALL EXTEND 5' BEYOND THE STOP BAR.

DETECTORS FOR LOOPS				
LOOP	NO. OF LOOPS	NO. OF NEW DETS.	NO. OF EXIST. DETS.	DELAY TIME (SEC)
L-4	2	1		



31

07/16/98

INTERSECTION NO. 3574.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

BND
CIVIL ENGINEERING · ENVIRONMENTAL · AIRPORT · CONSTRUCTION MANAGEMENT · TRANSPORTATION
4090 N.W. 97 AVENUE, SUITE 300, MIAMI, FLORIDA 33178
Ph: (305) 599-8495 Fax: (305) 597-9312
Certificate of Authorization No. 6658
MICHAEL A. BUDALL, P.E. LICENSE No. 38566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

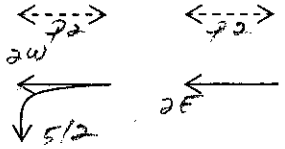
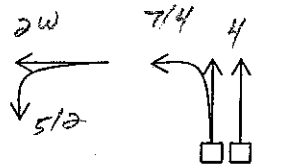
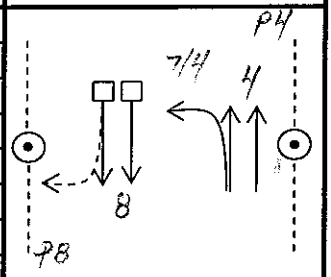
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 934	MIAMI-DADE	250629-1-32-04

SIGNALIZATION PLAN

SHEET NO. T-4

SIGNAL OPERATING PLAN

N

Timing Phases	Direction / Head No.		WB 5/2	WB 2W	WB 2E	SB 8	NB 7/4	NB 4	Ped Heads	P2	P8	P4	Movements/Display/Actuation
2 WB NW 81 ST RECALL	Dwell		<G/G	G	G	R	R	R		W/F	DW	DW	
	Clear 7		<G/G	G	Y	R	R	R		DW	DW	DW	
	Clear 4+8		Y	Y	Y	R	R	R		DW	DW	DW	
7 NB NW 6 AV ACTUATED	Dwell		<G/G	G	R	R	<G/G	G		DW	DW	DW	
	Clear 4+8		Y	Y	R	R	<G/G	G		DW	DW	DW	
	Clear 2		<G/G	G	R	R	Y	Y		DW	DW	DW	
4 + 8 NB + SB NW 6 AV NW 6 CT ACTUATED	Dwell		R	R	R	G	<G/G	G		DW	W/F	W/F	
	Clear 2		R	R	R	Y	Y	Y		DW	DW	DW	
	Dwell												
	Clear to												
	Dwell												
	Clear to												
Flashing Operation			FY	FY	FY	FR	FR	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	I-95 NB ON (NW 6 AV)/SB OFF (NW 6 CT) & NW 81 ST			
R Curras	10/06/09				
Checked	Date	Placed in Service		Phasing No.	Asset Number
H. HERNANDEZ	10/7/09	Date	By	5	3574 & 3615

11/12/9 ; BES ;

TOD Schedule Report
for 2504: NW 7 Av&NW 95 St

Print Date: 2/13/2015

Print Time: 9:52 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2504	NW 7 Av&NW 95 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 15 - 15	4.4	2
2 SBT	7 - 7 - 7	24 - 24 - 24	7 - 7 - 7	1 - 1 - 1	30 - 30 - 30	0 - 40 - 40	4.4	2
3 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 15 - 15	4.4	2
4 WBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 15	35 - 35 - 35	4.4	2
5 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 15 - 15	4.4	2
6 NBT	7 - 7 - 7	24 - 24 - 24	7 - 7 - 7	1 - 1 - 1	30 - 30 - 30	0 - 40 - 40	4.4	2
7 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 15 - 15	4.4	2
8 EBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 15	35 - 35 - 35	4.4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 2504: NW 7 Av&NW 95 St

Print Date: 2/13/2015

Print Time: 9:52 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 EBL	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT	Ring Offset	Offset
	3	110	12	41	11	22	12	41	11	22	0	14
	4	95	8	32	9	22	8	32	9	22	0	62
	5	95	8	32	9	22	8	32	9	22	0	76
	6	110	12	41	11	22	12	41	11	22	0	14
	9	110	13	44	7	22	13	44	7	22	0	6
	10	110	12	41	11	22	12	41	11	22	0	10
	11	110	12	41	11	22	12	41	11	22	0	72
	12	110	12	41	11	22	12	41	11	22	0	62
	13	110	12	41	11	22	12	41	11	22	0	72
	15	100	12	37	7	20	12	37	7	20	0	14
	16	100	12	37	7	20	12	37	7	20	0	14
	17	110	12	41	11	22	12	41	11	22	0	62

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

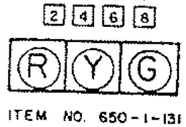
* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

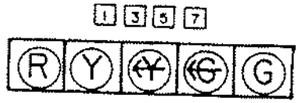
No Calendar Defined/Enabled

SIGNAL HEAD & SIGNS DETAILS

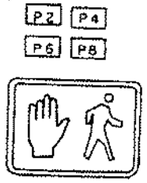
Heads 8R & 4R Added by Contractor 10/03



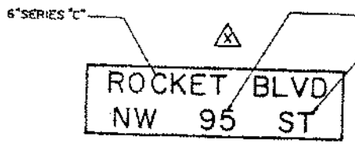
ITEM NO. 650-1-131
8-REQ'D.



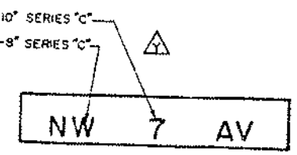
ITEM NO. 650-1-151
4-REQ'D.



ITEM NO. 653-171
8-REQ'D.



ITEM NO. 700-84-1
D3-IS, 2-REQ'D. 24"X 54".



ITEM NO. 700-84-1
D3-IS, 2-REQ'D. 18"X 48"

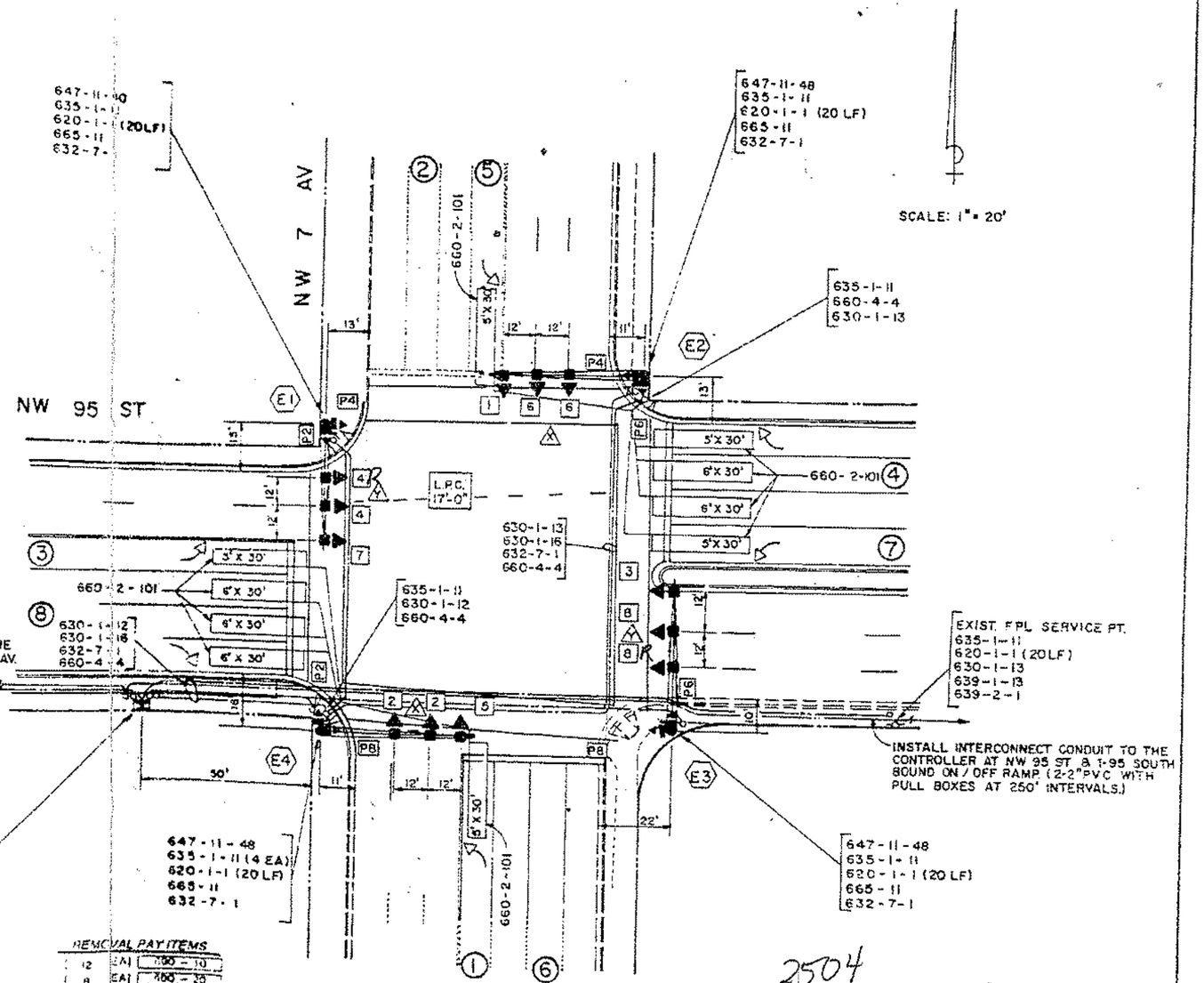


ITEM 700-84-1
4 - REQ'D. R10-48

NOTES:

1. DEMAND WATTAGE FOR THIS INTERSECTION IS 1805 WATTS.
2. F.P.L. REPRESENTATIVE MR. BOB HEPLER TEL. 347-8281
3. S.B.T. REPRESENTATIVE MR. MARIO JARDON TEL. 795-3202
4. INTERSECTION SHALL REMAIN ON LINE THROUGHOUT THE DURATION OF THIS PROJECT.

DADE COUNTY PUBLIC WORKS DEPT.
HIGHWAY DIVISION
PROJECT NO 662358 SHEET 130 OF 131



CONTROLLER TIMINGS								
TIMING INTERVAL	TIMING FUNCTION							
	1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)								
EXTENSION (PASSAGE)								
MAXIMUM GREEN 1								
MAXIMUM GREEN 2								
YELLOW								
ALL RED								
PEDESTRIAN WALK								
PEDESTRIAN CLEAR								

DETECTOR FOR LOOPS		
MVMT NO.	NO. OF LOOPS	NO. OF SETS
1	1	1
3	1	1
4	3	1
5	1	1
7	1	1
8	1	1

CONTROLLER OPERATIONS

1. MAJOR STREET IS NW 7 AV MINOR STREET IS NW 95 ST
2. ITE SIGNAL OPERATIONS PLAN 10 W/ CONCURRENT PED. FEATURE
3. PHASE(S) 2,4,5,6 ACTUATED; PHASE 2 RECALL
4. MOVEMENT(S) 1,3,5,7 IS (ARE) PROTECTED/PERMISSIVE
5. SIGNAL COORDINATION PHASE IS 1
6. FLASHING OPERATION: NW 7 AV YELLOW; NW 95 ST RED
7. PROGRAM/WIRE CONTROLLER TO SKIP MOVEMENT(S) 1,3,5,7

REMOVAL PAY ITEMS

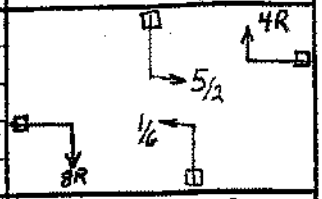
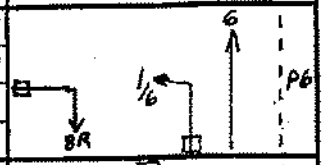
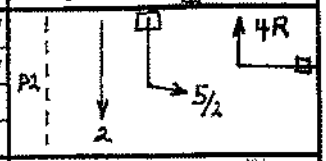
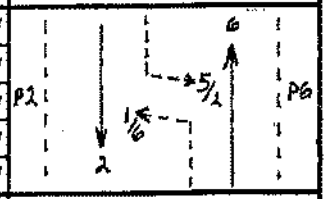
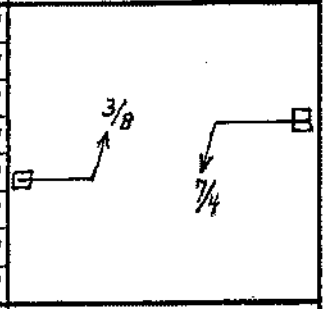
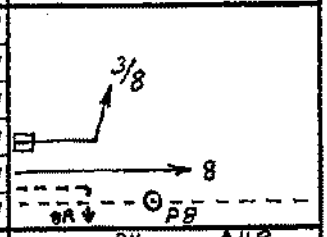
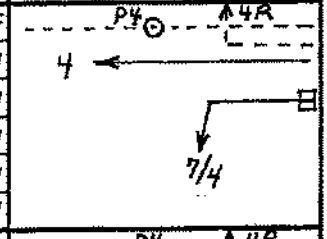
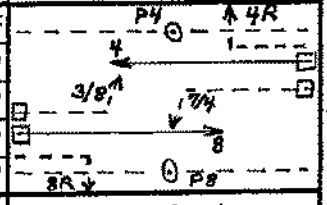
12	EA	700-10
8	EA	700-20
4	EA	700-30
	EA	700-11
	EA	700-40
1	EA	700-70
	EA	700-80
	EA	700-70
	EA	700-10
	EA	700-70
	EA	700-71
	LF	701-11
	LF	710-130

2504
32

SIGNALIZATION
NW 7 AV & NW 95 ST

INTERSECTION ID NO. 2504

SIGNAL OPERATING PLAN

*	Direction	N		S		E			W			Ped Heads				Drawing
Phase	Head No.	1/6	6	5/2	2	3/8	8	8R	7/4	4	4R	P6	P2	P8	P4	
(1+5)	Dwell	<G/R	R	<G/R	R	R	R	R/G>	R	R	R/G>	DW	DW	DW	DW	
NSLT	clear (1+6)	<G/R	R	<Y/R	R	R	R	R/G>	R	R	R/Y>	DW	DW	DW	DW	
	clear (2+5)	<Y/R	R	<G/R	R	R	R	R/Y>	R	R	R/G>	DW	DW	DW	DW	
(Actuated)	clear (2+6)	<Y/R	R	<Y/R	R	R	R	R/Y>	R	R	R/Y>	DW	DW	DW	DW	
(1+6)	Dwell	<G/G	G	R	R	R	R	R/G>	R	R	R	W/F	DW	DW	DW	
NBLT	clear (2+6)	<Y/G	G	R	R	R	R	R/Y>	R	R	R	DW	DW	DW	DW	
(Actuated)																
(2+5)	Dwell	R	R	<G/G	G	R	R	R	R	R	R/G>	DW	W/F	DW	DW	
SBLT	clear (2+6)	R	R	<Y/G	G	R	R	R	R	R	R/Y>	DW	DW	DW	DW	
(Actuated)																
(2+6)	Dwell	G	G	G	G	R	R	R	R	R	R	W/F	W/F	DW	DW	
N-S	clear (3+7)	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	
	clear (3+8)	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	
(Recall)	clear (4+7)	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	
	clear (4+8)	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	
(3+7)	Dwell	R	R	R	R	<G/R	R	R	<G/R	R	R	DW	DW	DW	DW	
	clear (3+8)	R	R	R	R	<G/R	R	R	<Y/R	R	R	DW	DW	DW	DW	
	clear (4+7)	R	R	R	R	<Y/R	R	R	<G/R	R	R	DW	DW	DW	DW	
EWLT	clear (4+8)	R	R	R	R	<Y/R	R	R	<Y/R	R	R	DW	DW	DW	DW	
	clear (1+5)	R	R	R	R	<Y/R	R	R	<Y/R	R	R	DW	DW	DW	DW	
	clear (1+6)	R	R	R	R	<Y/R	R	R	<Y/R	R	R	DW	DW	DW	DW	
	clear (2+5)	R	R	R	R	<Y/R	R	R	<Y/R	R	R	DW	DW	DW	DW	
(Actuated)	clear (2+6)	R	R	R	R	<Y/R	R	R	<Y/R	R	R	DW	DW	DW	DW	
(3+8)	Dwell	R	R	R	R	<G/G	G	G	R	R	R	DW	DW	W/F	DW	
	clear (4+8)	R	R	R	R	<Y/G	G	G	R	R	R	DW	DW	DW	DW	
	clear (1+5)	R	R	R	R	<Y/Y	Y	Y	R	R	R	DW	DW	DW	DW	
EBLT	clear (1+6)	R	R	R	R	<Y/Y	Y	Y	R	R	R	DW	DW	DW	DW	
	clear (2+5)	R	R	R	R	<Y/Y	Y	Y	R	R	R	DW	DW	DW	DW	
(Actuated)	clear (2+6)	R	R	R	R	<Y/Y	Y	Y	R	R	R	DW	DW	DW	DW	
(4+7)	Dwell	R	R	R	R	R	R	R	<G/G	G	G	DW	DW	DW	W/F	
	clear (4+8)	R	R	R	R	R	R	R	<Y/G	G	G	DW	DW	DW	DW	
	clear (1+5)	R	R	R	R	R	R	R	<Y/Y	Y	Y	DW	DW	DW	DW	
WBLT	clear (1+6)	R	R	R	R	R	R	R	<Y/Y	Y	Y	DW	DW	DW	DW	
	clear (2+5)	R	R	R	R	R	R	R	<Y/Y	Y	Y	DW	DW	DW	DW	
(Actuated)	clear (2+6)	R	R	R	R	R	R	R	<Y/Y	Y	Y	DW	DW	DW	DW	
(4+8)	Dwell	R	R	R	R	G	G	G	G	G	G	DW	DW	W/F	W/F	
	clear (1+5)	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	
E-W	clear (1+6)	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	
	clear (2+5)	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	
(ACTUATED)	clear (2+6)	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	
Flashing Operation		FY	FY	FY	FY	FR	FR	FR	FR	FR	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	NW 7 Av & 95 ST		
F. PRATS	9/26/03			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	9/26/03	Date 10/2/03 By CONTRACTOR	13	2504

QuadPPConcPeds

TOD Schedule Report
for 4743: I- 95 SB On&NW 95 St

Print Date: 2/13/2015

Print Time: 1:57 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4743	I- 95 SB On&NW 95 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	-	WBL	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	30 - 30 - 30	0 - 40 - 40	4	1.2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	25 - 25 - 25	3	0
6 EBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	30 - 30 - 30	0 - 40 - 40	4	1.2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	3.5 - 2.5 - 2.5	20 - 20 - 20	40 - 40 - 40	4	1.4

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2--56-8
External Permit 0	-2---6-8
External Permit 1	-2---6-8
External Permit 2	-2---6-8

TOD Schedule Report

for 4743: I- 95 SB On&NW 95 St

Print Date: 2/13/2015

Print Time: 1:57 PM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	-	WBL	EBT	-	SBT		
	1	95	0	58	0	0	25	30	0	27	0	42
	2	105	0	72	0	0	7	62	0	23	0	92
	3	110	0	70	0	0	22	45	0	30	0	64
	4	95	0	60	0	0	12	45	0	25	0	16
	5	95	0	60	0	0	12	45	0	25	0	26
	6	110	0	70	0	0	22	45	0	30	0	64
	7	85	0	50	0	0	12	35	0	25	0	66
	8	110	0	60	0	0	10	47	0	40	0	70
	9	110	0	60	0	0	10	47	0	40	0	60
	10	110	0	75	0	0	25	47	0	25	0	58
	11	110	0	70	0	0	20	47	0	30	0	20
	12	110	0	75	0	0	25	47	0	25	0	10
	13	110	0	70	0	0	20	47	0	30	0	20
	14	80	0	61	0	0	5	53	0	9	0	2
	15	100	0	60	0	0	17	40	0	30	0	64
	16	100	0	60	0	0	17	40	0	30	0	64
	17	110	0	75	0	0	25	47	0	25	0	10
	20	105	0	55	0	0	5	47	0	40	0	76
	21	90	0	65	0	0	5	57	0	15	0	84
	22	70	0	53	0	0	5	45	0	7	0	68
	23	60	0	30	0	0	7	20	0	20	0	22

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

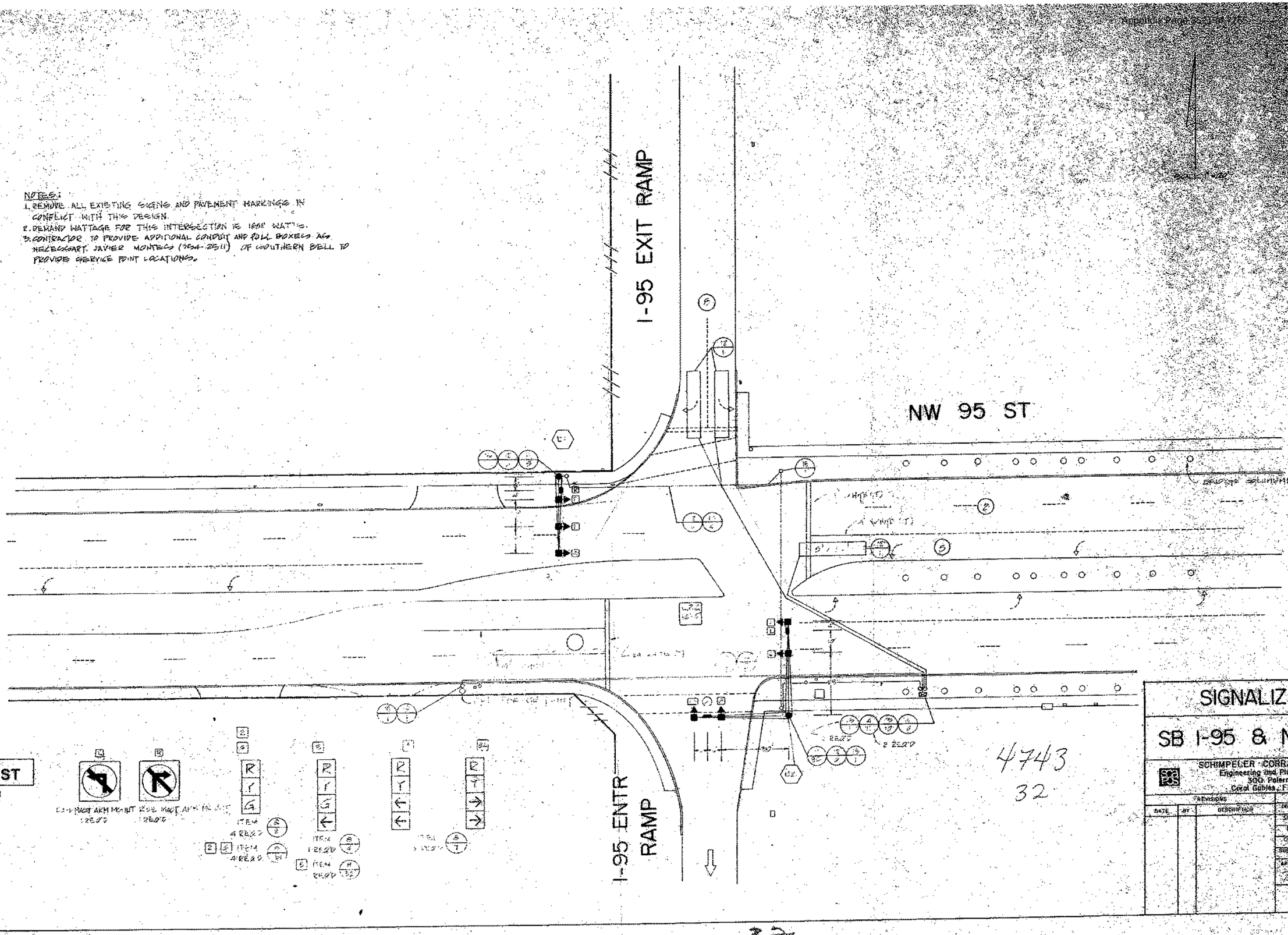
TOD Schedule Report
for 4743: I- 95 SB On&NW 95 St

Print Date: 2/13/2015

Print Time: 1:57 PM

No Calendar Defined/Enabled

NOTES:
1. REMOVE ALL EXISTING SIGNS AND PAVEMENT MARKINGS IN CONFLICT WITH THIS DESIGN.
2. DEMAND WATTAGE FOR THIS INTERSECTION IS 1895 WATTS.
3. CONTRACTOR TO PROVIDE ADDITIONAL CONDUIT AND PULL BOXES AS NEEDED. CONTACT JAVIER MONTES (754-2511) OF SOUTHERN BELL TO PROVIDE SERVICE POINT LOCATIONS.



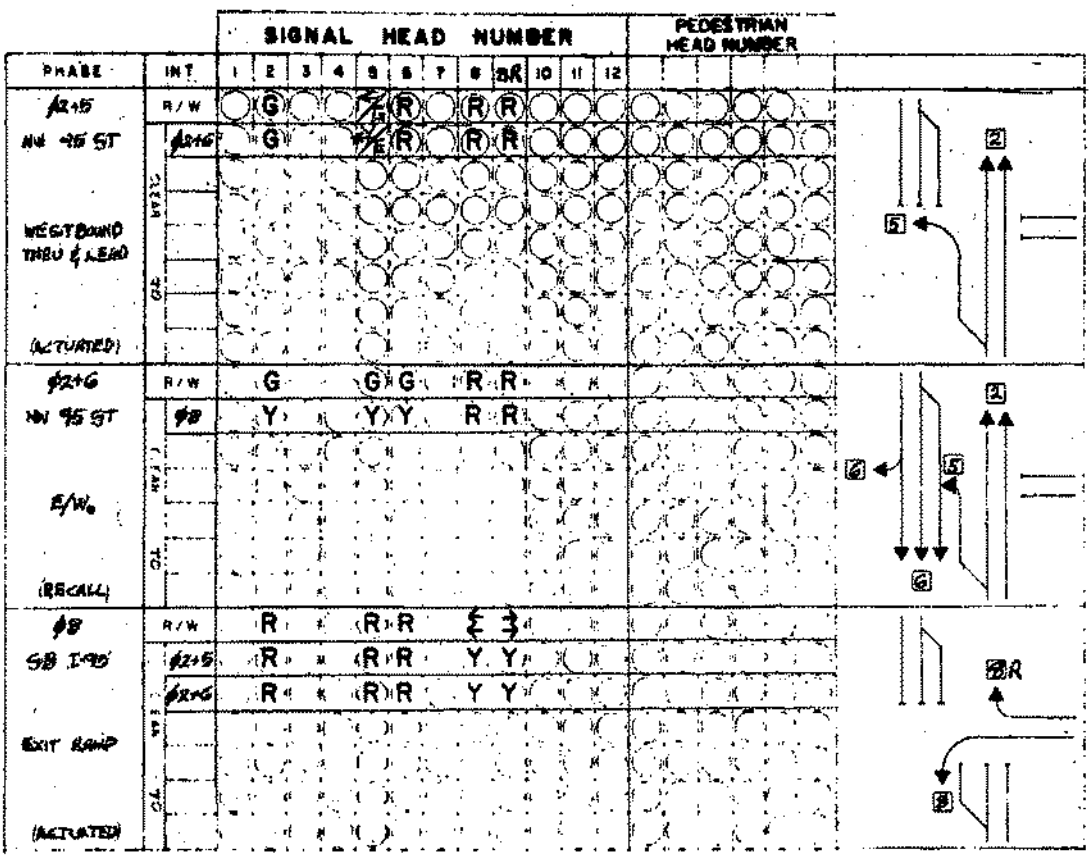
SIGNALIZATION

SB I-95 & NW 9

SCHIMPELER CORRADINO ASS
Engineering and Planning Consul
300 Palermo Avenue
Coral Gables, Florida 3313

REVISIONS			
DATE	BY	DESCRIPTION	
		DESIGNED BY	
		CHECKED BY	
		DRAWN BY	
		CHECKED BY	
		SUPERVISED BY	
		APPROVED BY	

4743
32





Drawn: F. Prats	Date: 3/28/96	METROPOLITAN DADE COUNTY DEPARTMENT OF TRAFFIC AND TRANSPORTATION	
Check: E Kel	Date: 3/28/96	ASSET NO: 34743	
Division Engineer	Date	I-95 & 95 St West Ramp	
		Placed in Service Date: 3/20/96 By: Contractor	Phasing Number: 2

TOD Schedule Report
for 2503: I- 95 NB&NW 95 St

Print Date: 2/13/2015

Print Time: 9:51 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2503	I- 95 NB&NW 95 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	20 - 20 - 20	20 - 20 - 20	3	0
2 WBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	50 - 50 - 50	0 - 50 - 50	4	1
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	24 - 24 - 24	7 - 7 - 7	3.5 - 2.5 - 2.5	28 - 28 - 28	35 - 35 - 35	4	1
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	50 - 50 - 50	0 - 50 - 50	4	1
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6--
External Permit 0	--------
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

TOD Schedule Report

for 2503: I- 95 NB&NW 95 St

Print Date: 2/13/2015

Print Time: 9:51 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 -	Ring Offset	Offset
	1	95	6	48	0	28	0	57	0	0	0	76
	2	105	6	58	0	28	0	67	0	0	0	104
	3	110	20	44	0	33	0	67	0	0	0	62
	4	95	12	38	0	32	0	53	0	0	0	14
	5	95	13	37	0	32	0	53	0	0	0	28
	6	110	20	44	0	33	0	67	0	0	0	62
	7	85	12	32	0	28	0	47	0	0	0	62
	8	110	20	49	0	28	0	72	0	0	0	72
	9	110	20	49	0	28	0	72	0	0	0	62
	10	110	20	44	0	33	0	67	0	0	0	56
	11	110	20	44	0	33	0	67	0	0	0	18
	12	110	20	44	0	33	0	67	0	0	0	8
	13	110	20	44	0	33	0	67	0	0	0	18
	14	80	6	33	0	28	0	42	0	0	0	52
	15	100	20	39	0	28	0	62	0	0	0	62
	16	100	20	39	0	28	0	62	0	0	0	62
	17	110	20	44	0	33	0	67	0	0	0	8
	20	105	6	41	0	45	0	50	0	0	0	56
	21	90	14	21	0	42	0	38	0	0	0	34
	22	70	12	17	0	28	0	32	0	0	0	28

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2015	4	S
2030	4	Su

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 2503: I- 95 NB&NW 95 St

Print Date: 2/13/2015

Print Time: 9:51 AM

No Calendar Defined/Enabled

SIGNAL HEAD DETAILS

1 — 4-SECT., 1-WAY, 12" STD. LENS, WITH DISC HANGER. 1 REQUIRED. ITEM NO. 650-1-141. WITH BACKPLATE. 1 REQUIRED. ITEM NO. 659-102.

2 4 6 — 3-SECT., 1-WAY, 12" STD. LENS, WITH DISC. HANGER. 6 REQUIRED. ITEM NO. 650-1-131. SIGNALS 2 & 6 WITH BACKPLATES. 4 REQUIRED. ITEM NO. 659-101.

A — CROSS ONLY AT CROSS WALKS. R9-2, 12"×18". 2 REQUIRED. ITEM NO. 700-84-1.

P4 — 1-SECT., 1-WAY, 12" NEON. 2 REQUIRED. ITEM NO. 653-171.

A — R3-2. NO LEFT TURN SIGN. 1 REQUIRED. ITEM NO. 700-84-1.

B — R3-1. NO RIGHT TURN SIGN. 1 REQUIRED. ITEM NO. 700-84-1.

LEG	ENTER	EXIT
NORTH		
SOUTH	R10-12	R5-1 R6-2
EAST	D1-1	*R3-1 R2-1(35)
WEST		*R3-2 D1-1 R4-7

A *NEW SIGNS

A — NW 6 AV. D3-1, 18"×48". 700-84-1.

A — NW 95 ST. D3-1, 18"×48". 700-84-1.

A — ONE WAY. R6-1L, 12"×36". 700-1-16. 2 REQ'D.

A — ONE WAY. R6-1R, 12"×36". 700-84-1. 2 REQ'D.

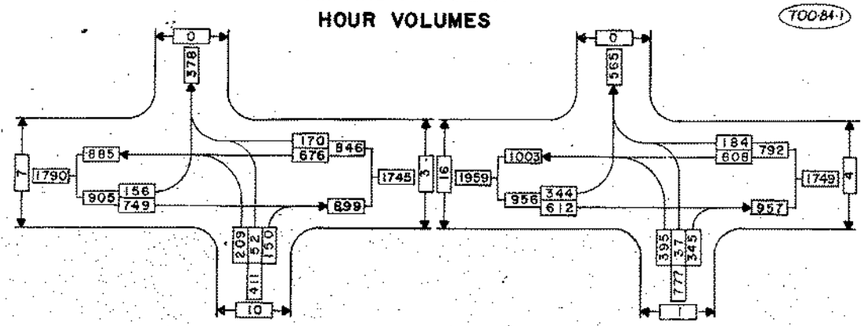
PLANS UPDATED BY Kimley-Horn AUGUST 1985

REVISIONS				
DATE	BY	DESCRIPTION		
8-85	DEH	ITEM NO. UPDATE	DESIGNED BY	C.A.M. 1-81
			CHECKED BY	J.M. 7-81
			DRAWN BY	O.L.D. 7-81
			CHECKED BY	C.A.M. 5-81
			SUPERVISED BY	J.E.F. 5-81
			APPROVED BY	[signature] DATE 9/4/85

FLORIDA DEPARTMENT OF TRANSPORTATION

STATE PROJ. NO.	SHEET NO.
87100-3513	86

1980 A. M. AND P. M. PEAK HOUR VOLUMES



COUNTS TO BE UPDATED BY CONTRACTOR (604-1-11)

SIGNAL TIMING TO BE PROVIDED BY CONTRACTOR (609-3-2)

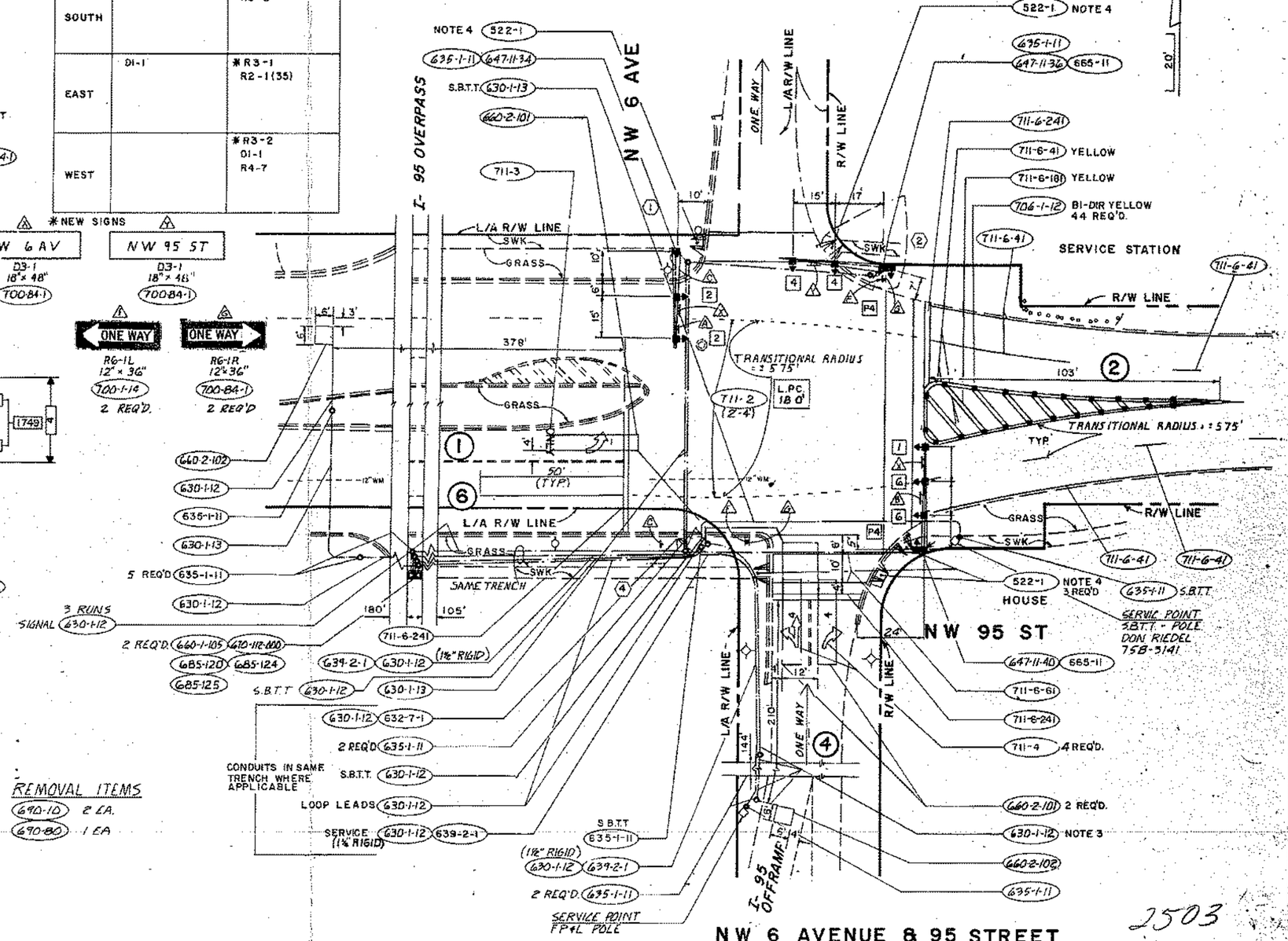
NOTES:

1. DEMAND WATTAGE FOR THIS INTERSECTION IS 1395 WATTS.
2. THE TOTAL REQUIRED LENGTH OF GROUNDING ELECTRODES FOR THIS INTERSECTION IS 110 L.F., AND IS TO BE INSTALLED UNDER ITEM NO. (620-1-1).
3. ALL CONDUIT SHALL BE 2" PVC UNLESS OTHERWISE INDICATED
4. CONSTRUCT RAMP FOR PHYSICALLY HANDICAPPED AS PER D.O.T. INDEX NO. 304. 5 RAMPS REQUIRED INCLUDING 25 S.Y. OF 4" CONCRETE SIDEWALK.
5. PAVEMENT MARKINGS ARE WHITE UNLESS OTHERWISE INDICATED.
6. CONTRACTOR TO REMOVE EXISTING PAVEMENT MARKINGS CONFLICTING WITH DESIGN. ITEM NO. (710-11) AND OR (711-7).
7. LOOP ASSEMBLY 660-2-101 SHALL BE 6'×30'

REMOVAL ITEMS

(690-10) 2 EA.

(690-80) 1 EA



NW 6 AVENUE & 95 STREET

INTERSECTION IDENTIFICATION NO. 32503

CAT. II

KUNDE, DRIVER & ASSOCIATES, INC. engineers · architects · planners · surveyors — miami · ft. lauderdale · tallahassee · bartow

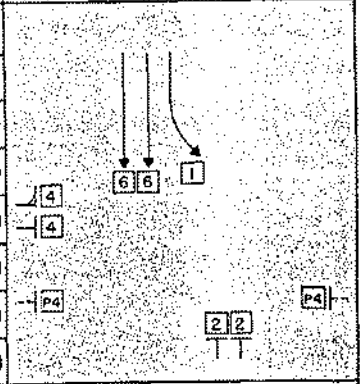
2503

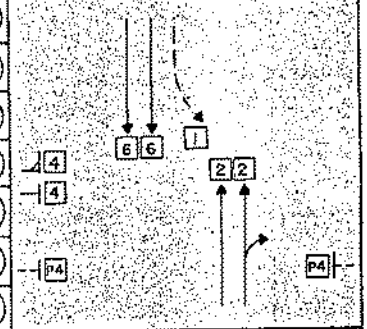
I 95 N/B

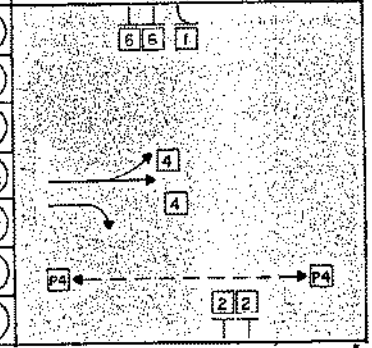
32

SIGNAL OPERATING PLAN

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	PEDESTRIAN HEAD NUMBER P2	P4*	P6	P8		
Ø1 (1+6) N.W. 95 ST. (ACTUATED)	R/W	←	R		R		G								DW				
	CLEAR TO Ø2	Y	R		R		G								DW				
	CLEAR TO																		
	CLEAR TO																		
	CLEAR TO																		
	CLEAR TO																		
	CLEAR TO																		
Ø2 (2+6) N.W. 95 ST. (RECALL)	R/W	G	G		R		G								DW				
	CLEAR TO Ø4	Y	Y		R		Y								DW				
	CLEAR TO																		
	CLEAR TO																		
	CLEAR TO																		
	CLEAR TO																		
	CLEAR TO																		
Ø4 (4+8) N.W. 6 AVE. (ACTUATED)	R/W	R	R		G		R								FW				
	PED CLEAR	R	R		G		R								FDW				
	CLEAR TO Ø1	R	R		Y		R								DW				
	CLEAR TO Ø2	R	R		Y		R								DW				
	CLEAR TO																		
	CLEAR TO																		
	CLEAR TO																		







Drawn: CONTRACTOR	Date: 5/3/87	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS
Check	Date	ASSET NO: 32503
Division Engineer	Date	NW 6 AVENUE & 95 STREET (I-95 & NW 95 ST)(N'BND)
Placed in Service: Date: 10/7/87 By: CONTRACTOR		Phasing Number: 2

TOD Schedule Report
for 2509: NW 7 Av&NW 103 St

Print Date: 2/13/2015

Print Time: 9:52 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2509	NW 7 Av&NW 103 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NBL	SBT	WBL	EBT	SBL	NBT	EBL	WBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	12 - 12 - 12	5	0
2 SBT	7 - 7 - 7	26 - 26 - 26	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4.3	2
3 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	12 - 12 - 12	5	0
4 EBT	7 - 7 - 7	22 - 22 - 22	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 25 - 25	30 - 30 - 30	4.3	1.8
5 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	12 - 12 - 12	5	0
6 NBT	7 - 7 - 7	26 - 26 - 26	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4.3	2
7 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	12 - 12 - 12	5	0
8 WBT	7 - 7 - 7	22 - 22 - 22	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 25 - 25	30 - 30 - 30	4.3	1.8

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 2509: NW 7 Av&NW 103 St

Print Date: 2/13/2015

Print Time: 9:52 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 WBL	4 EBT	5 SBL	6 NBT	7 EBL	8 WBT	Ring Offset	Offset
	1	95	6	38	6	23	6	38	6	23	0	66
	2	105	6	47	6	24	6	47	6	24	0	78
	3	100	9	33	8	28	9	33	8	28	0	18
	4	85	7	28	7	21	7	28	7	21	0	16
	5	85	7	28	7	21	7	28	7	21	0	24
	6	100	10	31	9	28	10	31	9	28	0	16
	7	85	7	28	7	21	7	28	7	21	0	82
	8	110	12	40	10	26	12	40	10	26	0	72
	9	110	12	36	10	30	12	36	10	30	0	52
	10	100	10	31	9	28	10	31	9	28	0	16
	11	100	10	31	9	28	10	31	9	28	0	16
	12	100	9	33	8	28	9	33	8	28	0	12
	13	100	10	31	9	28	10	31	9	28	0	12
	14	80	6	30	6	16	6	30	6	16	0	36
	15	100	10	31	9	28	10	31	9	28	0	16
	16	100	10	31	9	28	10	31	9	28	0	16
	17	100	10	31	9	28	10	31	9	28	0	10
	20	105	6	42	6	29	6	42	6	29	0	24
	21	90	6	28	6	28	6	28	6	28	0	54
	22	90	6	33	6	23	6	33	6	23	0	34
	23	95	10	32	7	24	10	32	7	24	0	32

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

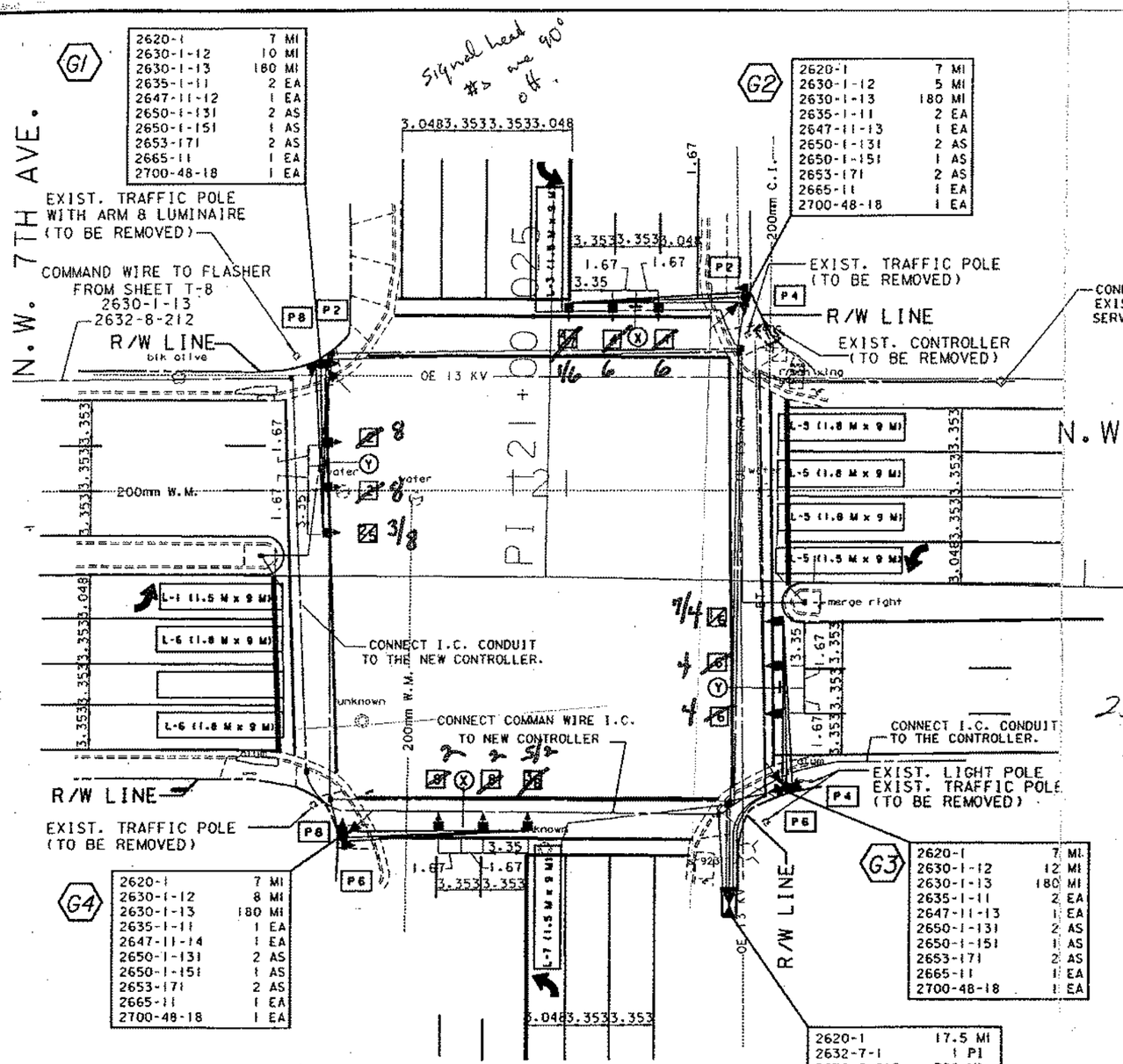
TOD Schedule Report

for 2509: NW 7 Av&NW 103 St

Print Date: 2/13/2015

Print Time: 9:52 AM

No Calendar Defined/Enabled



SCALE 1:400

REMOVAL ITEMS:

2690-10	12 EA.
2690-20	4 EA.
2690-30	4 EA.
2690-50	1 EA.
2690-60	10 EA.
2690-70	4 EA.
2690-80	1 EA.
2690-90	1 PI.
2690-100	1 PI.

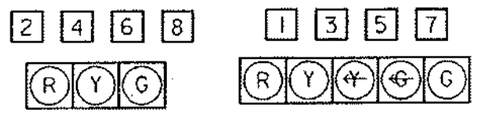
CONTROLLER TIMING PLAN

TIMING INTERVAL	TIMING FUNCTION 1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)	7	10	7	8	7	10	7	8
EXTENSION (PASSAGE)	1.5	-	1.5	1.5	1.5	-	1.5	1.5
MAXIMUM GREEN I*	19	28	11	25	19	28	11	25
MAXIMUM GREEN II*								
YELLOW CLR.	3	4	3	4	3	4	3	4
ALL RED CLR.		1		1		1		1
PEDESTRIAN WALK								
PEDESTRIAN CLEAR								
RECALL								

* VARIES

1. FINAL SIGNAL TIMING TO BE PROVIDED BY DADE COUNTY SIGNAL DIVISION.
2. TIMING SHOWN IN THE CONTROLLER TIMING PLAN ARE APPROXIMATE AND FOR INITIAL START UP PERIOD ONLY. CONTRACTOR SHALL CONSULT DADE COUNTY SIGNAL DIVISION OFFICE BEFORE IMPLEMENTING ANY TIMING PLANS.

SIGNAL HEAD DETAIL



3 SECTION 1 WAY
8 REQ'D
2650-1-131

5 SECTION 1 WAY
4 REQ'D
2650-1-151

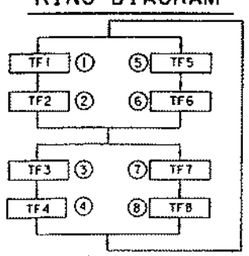
2509
32

DETECTOR FOR LOOPS

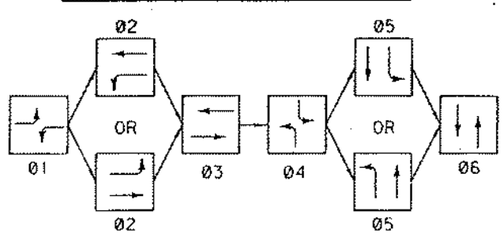
LOOPS	NO. OF LOOPS	NO. OF DETS.
L - 1	1	1
L - 3	1	1
L - 5	1	1
L - 7	1	1
L - 4	3	1
L - 8	3	1

SIGNAL OPERATION PLAN

RING DIAGRAM



PHASE MOVEMENT DIAGRAM



Ⓨ
NW 7 AV
D3-1S
(1500 x 450)
2700-48-18
(2 EA.)

Ⓧ
NW 103 ST
D3-1S
(1500 x 450)
2700-48-18
(2 EA.)

P2 P4 P6 P8



2653-171	8 AS.
2665-11	4 EA.



R10-4B
300 x 225
(4 EA.)
TO BE INCLUDED IN PAY ITEM 2665-11

CONTROLLER OPERATION

1. MAJOR STREET IS NW 7 AVE
   MINOR STREET IS NW 103 ST
2. FLASHING OPERATION: NW 7 AVE TO FLASH YELLOW
   NW 103 ST TO FLASH RED
3. SIGNAL OPERATION SOP 10
4. PHASE 1,2,3,4 & 5 ACTUATED, PHASE 6 RECALL
5. PERMISSIVE LEFT: PHASE 3 MOVEMENT 1 AND 5
6. PEDESTRIAN SIGNALS TO CROSS NW 7 AVE UPON ACTUATION ONLY.

NOTES:
1. LOOP ASSEMBLY 2660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE FURNISHED AND INSTALLED AS SHOWN ON PLANS.
2. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGED TO EXISTING UNDERGROUND UTILITIES. ANY COST FROM DAMAGED SHALL BE BORNE BY THE CONTRACTOR.
3. SIGNAL EQUIPMENT TO BE REMOVED SHALL BE RETURNED TO METRO DADE COUNTY, PUBLIC WORKS DPT. SIGNAL AND SIGNS DIVISION.
4. OVERHEAD STREET SIGNS (SIGNS Ⓧ & Ⓨ) SHALL USED "C" SERIES NUMBERS (250mm IN HEIGHT) AND LETTERS (200mm IN HEIGHT).
5. ALL DIMENSIONS ARE GIVEN IN METERS UNLESS OTHERWISE SPECIFIED.

ID 2509

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
5/4/98	SUBHAN	INCREASE QUANTITY FOR PAY ITEMS 2630-1-154, 2632-8-212 AND ADD NOTE.												

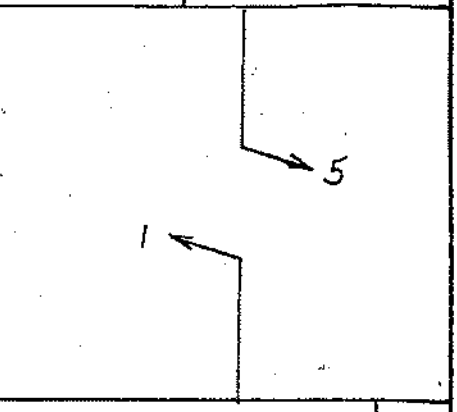
FLORIDA DEPARTMENT OF TRANSPORTATION

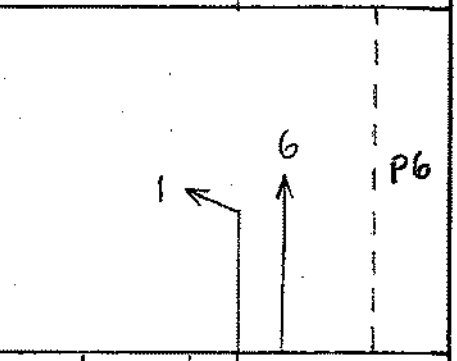
SIGNALIZATION PLAN
N.W. 103rd ST & N.W. 7th AVE

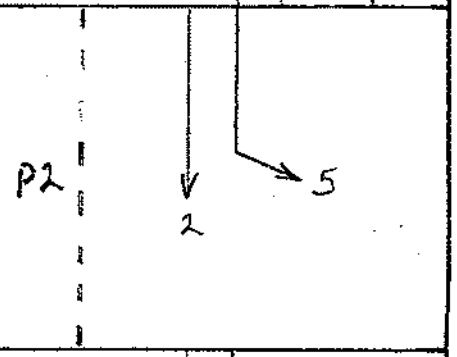
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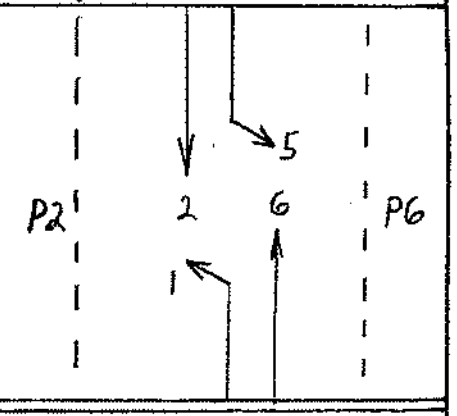
SIGNAL OPERATING PLAN

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	P2	P4	P6	P8
ϕ 1+5 NSLT ACTUATED	R/W	←R	R	R	R	←R	R	R	R	DW	DW	DW	DW
	CLEAR TO 1+6	←R	R	R	R	←R	R	R	R	DW	DW	DW	DW
	CLEAR TO 2+5	←R	R	R	R	←R	R	R	R	DW	DW	DW	DW
	CLEAR TO 2+6	←R	R	R	R	←R	R	R	R	DW	DW	DW	DW
ϕ 1+6 NBLT ACTUATED	R/W	←G	R	R	R	R	G	R	R	DW	DW	W	DW
	PED CL	←G	R	R	R	R	G	R	R	DW	DW	DW	DW
	CLEAR TO 2+6	←G	R	R	R	R	G	R	R	DW	DW	DW	DW
ϕ 2+5 SBLT ACTUATED	R/W	R	G	R	R	←G	R	R	R	W	DW	DW	DW
	PED CL	R	G	R	R	←G	R	R	R	DW	DW	DW	DW
	CLEAR TO 2+6	R	G	R	R	←G	R	R	R	DW	DW	DW	DW
ϕ 2+6 N-S RECALL	R/W	G	G	R	R	G	G	R	R	W	DW	W	DW
	PED CL	G	G	R	R	G	G	R	R	DW	DW	DW	DW
	CLEAR TO 3+7	Y	Y	R	R	Y	Y	R	R	DW	DW	DW	DW
	CLEAR TO 3+8	Y	Y	R	R	Y	Y	R	R	DW	DW	DW	DW
	CLEAR TO 4+7	Y	Y	R	R	Y	Y	R	R	DW	DW	DW	DW
	CLEAR TO 4+8	Y	Y	R	R	Y	Y	R	R	DW	DW	DW	DW









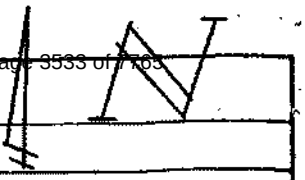
Drawn F. PRATS	Date 9/15/98	METROPOLITAN DADE COUNTY DEPARTMENT OF TRAFFIC AND TRANSPORTATION
Check H. HERNANDEL	Date 9/15/98	ASSET NO: 2509
Division Engineer	Date	NW 7 Av & 103 ST

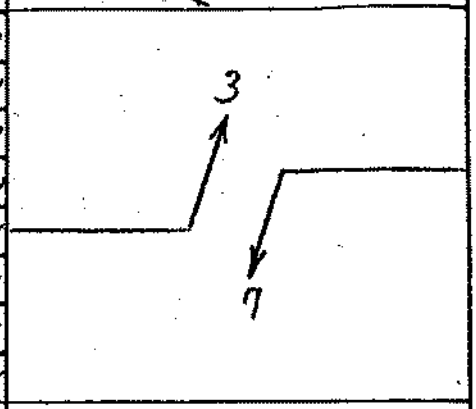
sheet 1 of 2

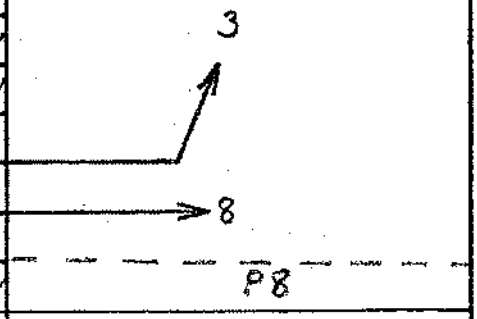
Placed In Service			Phasing Number
Date: 9/15/98	CONTRACTOR		9

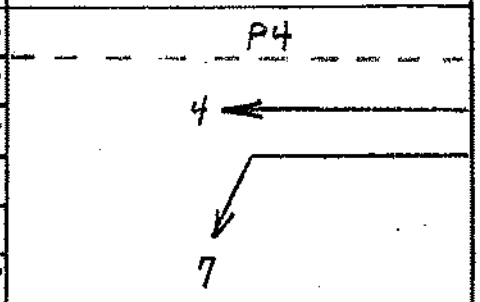
SIGNAL OPERATING PLAN

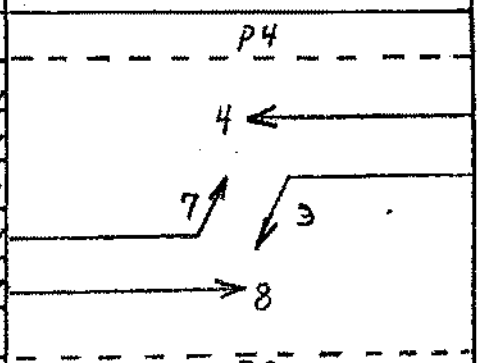
PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	P2	P4	P6	P8
Φ 3+7	R/W	R	R	←R	R	R	R	←R	R	DW	DW	DW	DW
EWLT	CLEAR TO 3+8	R	R	←R	R	R	R	←R	R	DW	DW	DW	DW
	CLEAR TO 4+7	R	R	←R	R	R	R	←R	R	DW	DW	DW	DW
ACTUATED	CLEAR TO 4+8	R	R	←R	R	R	R	←R	R	DW	DW	DW	DW
	CLEAR TO 1+5	R	R	←R	R	R	R	←R	R	DW	DW	DW	DW
	CLEAR TO 1+6	R	R	←R	R	R	R	←R	R	DW	DW	DW	DW
	CLEAR TO 2+5	R	R	←R	R	R	R	←R	R	DW	DW	DW	DW
	CLEAR TO 2+6	R	R	←R	R	R	R	←R	R	DW	DW	DW	DW
Φ 3+8	R/W	R	R	←G	R	R	R	R	G	DW	DW	DW	W
EBLT	PED CL	R	R	←G	R	R	R	R	G	DW	DW	DW	F DW
	CLEAR TO 4+8	R	R	←G	R	R	R	R	G	DW	DW	DW	DW
ACTUATED	CLEAR TO 1+5	R	R	←Y	R	R	R	R	Y	DW	DW	DW	DW
	CLEAR TO 1+6	R	R	←Y	R	R	R	R	Y	DW	DW	DW	DW
	CLEAR TO 2+5	R	R	←Y	R	R	R	R	Y	DW	DW	DW	DW
	CLEAR TO 2+6	R	R	←Y	R	R	R	R	Y	DW	DW	DW	DW
Φ 4+7	R/W	R	R	R	G	R	R	←G	R	DW	W	DW	DW
WBLT	PED CL	R	R	R	G	R	R	←G	R	DW	F DW	DW	DW
	CLEAR TO 4+8	R	R	R	G	R	R	←G	R	DW	DW	DW	DW
ACTUATED	CLEAR TO 1+5	R	R	R	Y	R	R	←Y	R	DW	DW	DW	DW
	CLEAR TO 1+6	R	R	R	Y	R	R	←Y	R	DW	DW	DW	DW
	CLEAR TO 2+5	R	R	R	Y	R	R	←Y	R	DW	DW	DW	DW
	CLEAR TO 2+6	R	R	R	Y	R	R	←Y	R	DW	DW	DW	DW
Φ 4+8	R/W	R	R	G	G	R	R	G	G	DW	W	DW	W
E-W	PED CL	R	R	G	G	R	R	G	G	DW	F DW	DW	F DW
	CLEAR TO 1+5	R	R	Y	Y	R	R	Y	Y	DW	DW	DW	DW
ACTUATED	CLEAR TO 1+6	R	R	Y	Y	R	R	Y	Y	DW	DW	DW	DW
	CLEAR TO 2+5	R	R	Y	Y	R	R	Y	Y	DW	DW	DW	DW
	CLEAR TO 2+6	R	R	Y	Y	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPER		FY	FY	FR	FR	FY	FY	FR	FR				











Drawn: F. PRATS — Date: 9/15/98

Check: H. HERNANDEZ — Date: 9/15/98

Division Engineer — Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET NO: 2509

NW 7 Av & 103 ST

SHEET 2 of 2

Placed in Service			Phasing Number
Date: 9/15/98	CONTRACTOR		9

TOD Schedule Report
for 4519: I- 95 SB&NW 103 St

Print Date: 2/13/2015

Print Time: 1:30 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4519	I- 95 SB&NW 103 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	-	WBL	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	0	0	0	0	0	0	16	16	16	1	1	1	35	35	35	0	45	45	4	1
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 WBL	0	0	0	0	0	0	5	5	5	2	2	2	7	7	7	10	10	10	3	0
6 EBT	0	0	0	0	0	0	16	16	16	1	1	1	35	35	35	0	45	45	4	1
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 SBT	2	2	2	14	14	14	7	7	7	2.5	2.5	2.5	15	15	15	45	45	45	4	1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2--56-8
External Permit 0	-2---6-8
External Permit 1	-2---6-8
External Permit 2	-2---6-8

TOD Schedule Report

for 4519: I- 95 SB&NW 103 St

Print Date: 2/13/2015

Print Time: 1:30 PM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	-	WBL	EBT	-	SBT		
	1	95	0	46	0	0	7	36	0	39	0	26
	2	105	0	52	0	0	10	39	0	43	0	28
	3	100	0	72	0	0	10	59	0	18	0	80
	4	85	0	60	0	0	7	50	0	15	0	58
	5	85	0	60	0	0	7	50	0	15	0	66
	6	100	0	72	0	0	10	59	0	18	0	92
	7	85	0	59	0	0	7	49	0	16	0	40
	8	110	0	75	0	0	10	62	0	25	0	16
	9	110	0	82	0	0	10	69	0	18	0	8
	10	100	0	71	0	0	10	58	0	19	0	70
	11	100	0	73	0	0	10	60	0	17	0	84
	12	100	0	51	0	0	7	41	0	39	0	66
	13	100	0	72	0	0	10	59	0	18	0	66
	14	80	0	51	0	0	7	41	0	19	0	76
	15	100	0	72	0	0	10	59	0	18	0	80
	16	100	0	72	0	0	10	59	0	18	0	92
	17	100	0	51	0	0	7	41	0	39	0	66
	20	105	0	49	0	0	10	36	0	46	0	76
	21	90	0	63	0	0	10	50	0	17	0	88
	22	70	0	48	0	0	7	38	0	12	0	6

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report
for 4519: I- 95 SB&NW 103 St

Print Date: 2/13/2015

Print Time: 1:30 PM

No Calendar Defined/Enabled

PROJ NO	SHEET NO
662011	T-29

OF SIGNAL HEADS

2.6.8

R
Y
G

3 SECT.-1 WAY
12" STD. LENS
LIGHTWEIGHT
SIGNAL HEAD
W/DISC. HANGER
6 REQUIRED
ITEM NUMBER
650-3-13

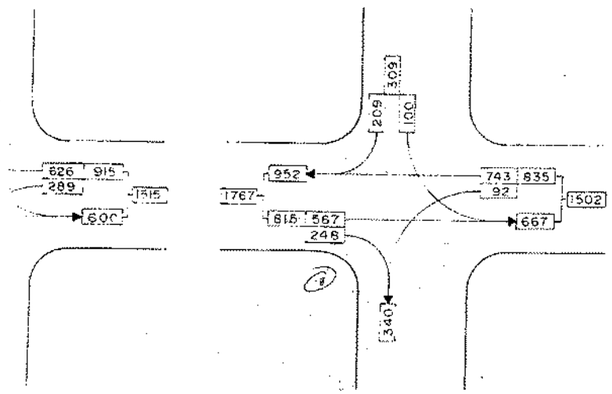
SIGN INVENTORY

LEG	ENTER	EXIT
NORTH		
SOUTH		
EAST	R3-1	M3-1 M1-1 M6-1
WEST	M3-1 M3-3 S1-1 M1-1 M1-1 M6-3 M6-1	R3-1 * ILLUM

* PROPOSED SIGN

2 & 6 WITH BACKPLATES
REQ
MBER 659-101

1976 TRAFFIC VOLUMES



HOUR P.M. PEAK HOUR

MAINTAIN INTERCONNECTED OPERATION WHILE TROLLER IS IN OPERATION AND WITH NEW IL INTERSECTION IS CONNECTED TO COMPUTER

NSTALL INTERCONNECT CABLE & CONDUIT TO SIGNAL OOT (4 CONDUCTORS). QUANTITIES TO BE INCLUDED 13 ST. & N.W. 6 CT.(I-95)

STALL INTERCONNECT CABLE & CONDUIT TO SIGNAL 1) ±240' (4 CONDUCTORS).

4519
32

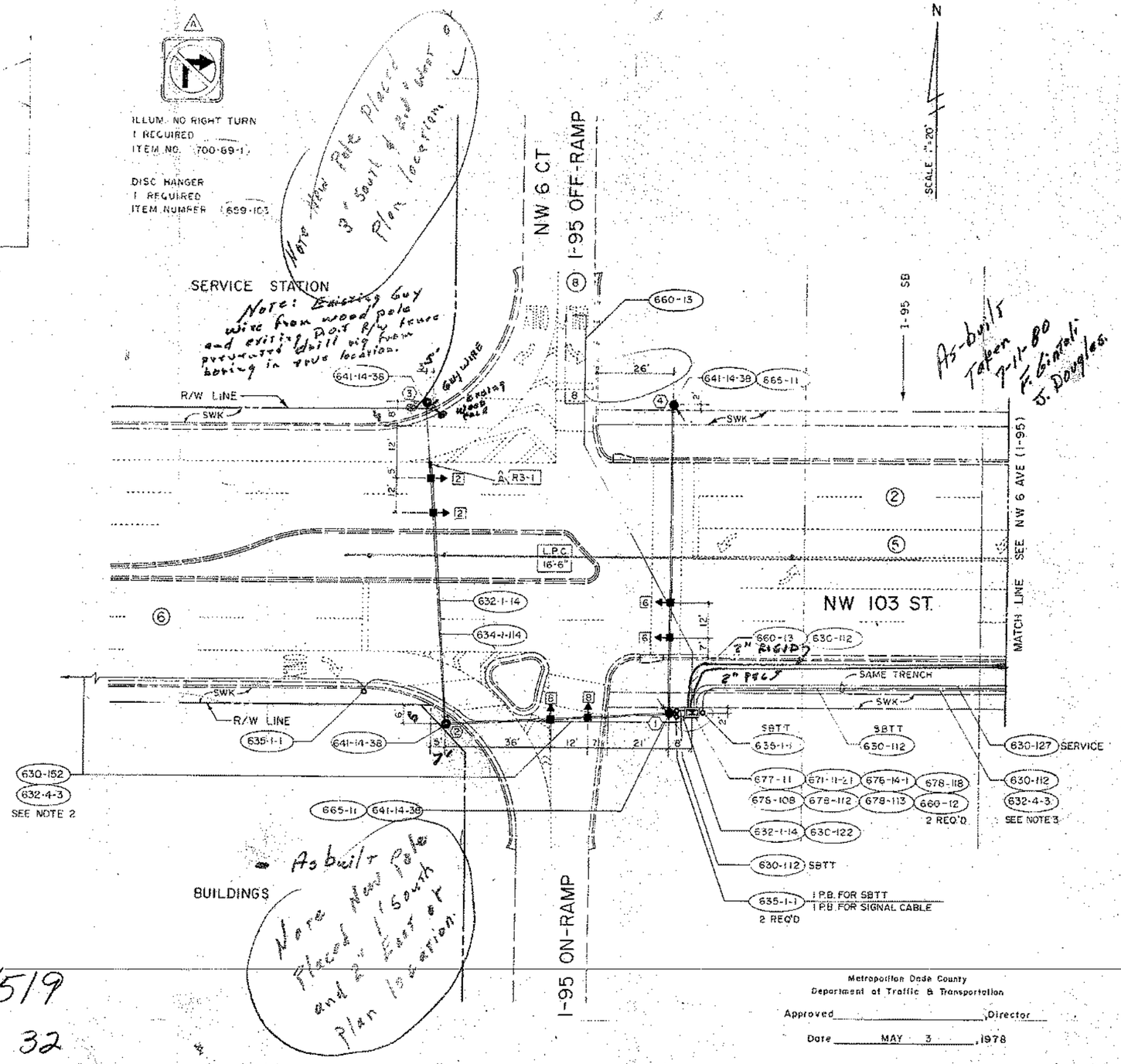
ILLUM. NO RIGHT TURN
1 REQUIRED
ITEM NO. 700-69-1

DISC HANGER
1 REQUIRED
ITEM NUMBER 659-103

Note: Existing Pole 3' South & 2' East of Plan location

SERVICE STATION

Note: Existing Guy wire from wood pole and existing Dbl. Pole R/y fence projected will require being in true location.



Metropolitan Dade County
Department of Traffic & Transportation

Approved _____, Director

Date MAY 3, 1978

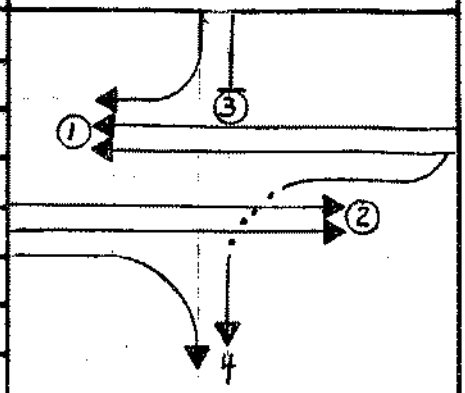
NW 6 CT (I-95) & NW 103 ST

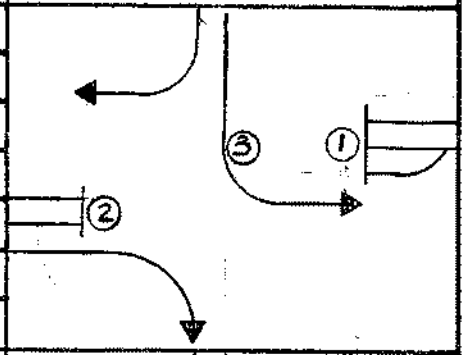
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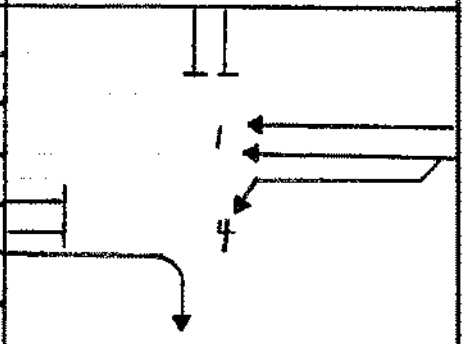
CATEGORY NO. II

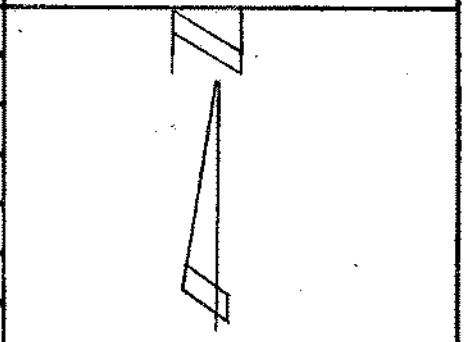
SIGNAL OPERATING PLAN

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12
Ø2 + 6 EAST/WEST NW 103 St	R/W	G	G	R	G								
	PED. CL.												
	TO CLEAR Ø3	Y	Y	R	Y								
Ø8 8 SBLT (I-95 OFFRAMP)	R/W	R	R	G	R								
	PED. CL.												
	TO CLEAR Ø1	R	R	Y	R								
	TO CLEAR Ø2	R	R	Y	R								
Ø X 2 + 5 WBLT NW 103 St Ø5 = leads	R/W	G	R	R	G								
	TO CLEAR Ø2	G	R	R	G								
Re 11-17-8	R/W												
	TO CLEAR												









ASSET # 34519

Drawn: F. PRATS — Date: 8/8/95

Check: E Lee — Date: 8/10/95

Division Engineer — Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

NW 6 CRT. & NW 103 ST.
(I-95 SB)

Placed in Service	Timing Number	Phasing Number
Date: 8/17/95 By: CONTRACTOR	—	2

TOD Schedule Report
for 3633: I- 95 NB&NW 103 St

Print Date: 2/13/2015

Print Time: 11:59 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3633	I- 95 NB&NW 103 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	12 - 12 - 12	3.5	0
2 WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	30 - 30 - 30	0 - 55 - 55	4	1.2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	22 - 22 - 22	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 15	55 - 55 - 55	4	1.4
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	30 - 30 - 30	0 - 55 - 55	4	1.2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6--
External Permit 0	-2-4-6--
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

TOD Schedule Report

for 3633: I- 95 NB&NW 103 St

Print Date: 2/13/2015

Print Time: 11:59 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 -	Ring Offset	Offset
	1	95	10	47	0	25	0	60	0	0	0	26
	2	105	10	32	0	49	0	46	0	0	0	28
	3	100	12	47	0	28	0	62	0	0	0	80
	4	85	10	42	0	20	0	55	0	0	0	58
	5	85	10	47	0	15	0	60	0	0	0	66
	6	100	10	49	0	28	0	62	0	0	0	92
	7	85	10	37	0	25	0	50	0	0	0	40
	8	110	7	58	0	32	0	68	0	0	0	16
	9	110	7	58	0	32	0	68	0	0	0	8
	10	100	10	57	0	20	0	70	0	0	0	70
	11	100	10	45	0	32	0	58	0	0	0	84
	12	100	10	47	0	30	0	60	0	0	0	66
	13	100	10	26	0	50	0	40	0	0	0	66
	14	80	10	21	0	36	0	34	0	0	0	76
	15	100	12	47	0	28	0	62	0	0	0	80
	16	100	10	49	0	28	0	62	0	0	0	92
	17	100	10	47	0	30	0	60	0	0	0	66
	20	105	10	25	0	56	0	39	0	0	0	76
	21	90	10	33	0	34	0	46	0	0	0	88
	22	70	7	29	0	21	0	39	0	0	0	6

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

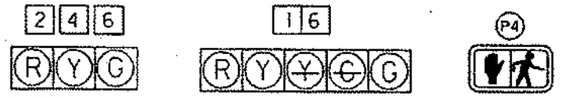
TOD Schedule Report
for 3633: I- 95 NB&NW 103 St

Print Date: 2/13/2015

Print Time: 11:59 AM

No Calendar Defined/Enabled

SIGNAL HEAD DETAILS



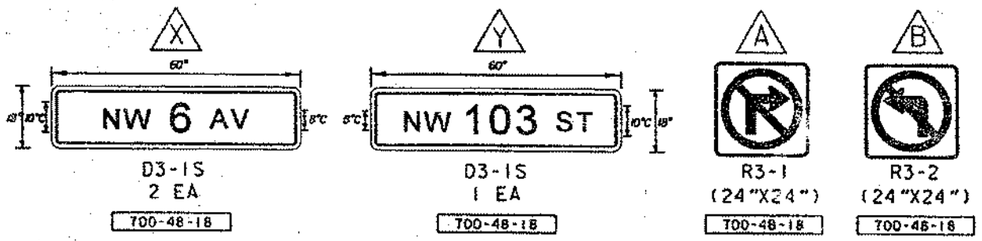
SIGN DETAILS

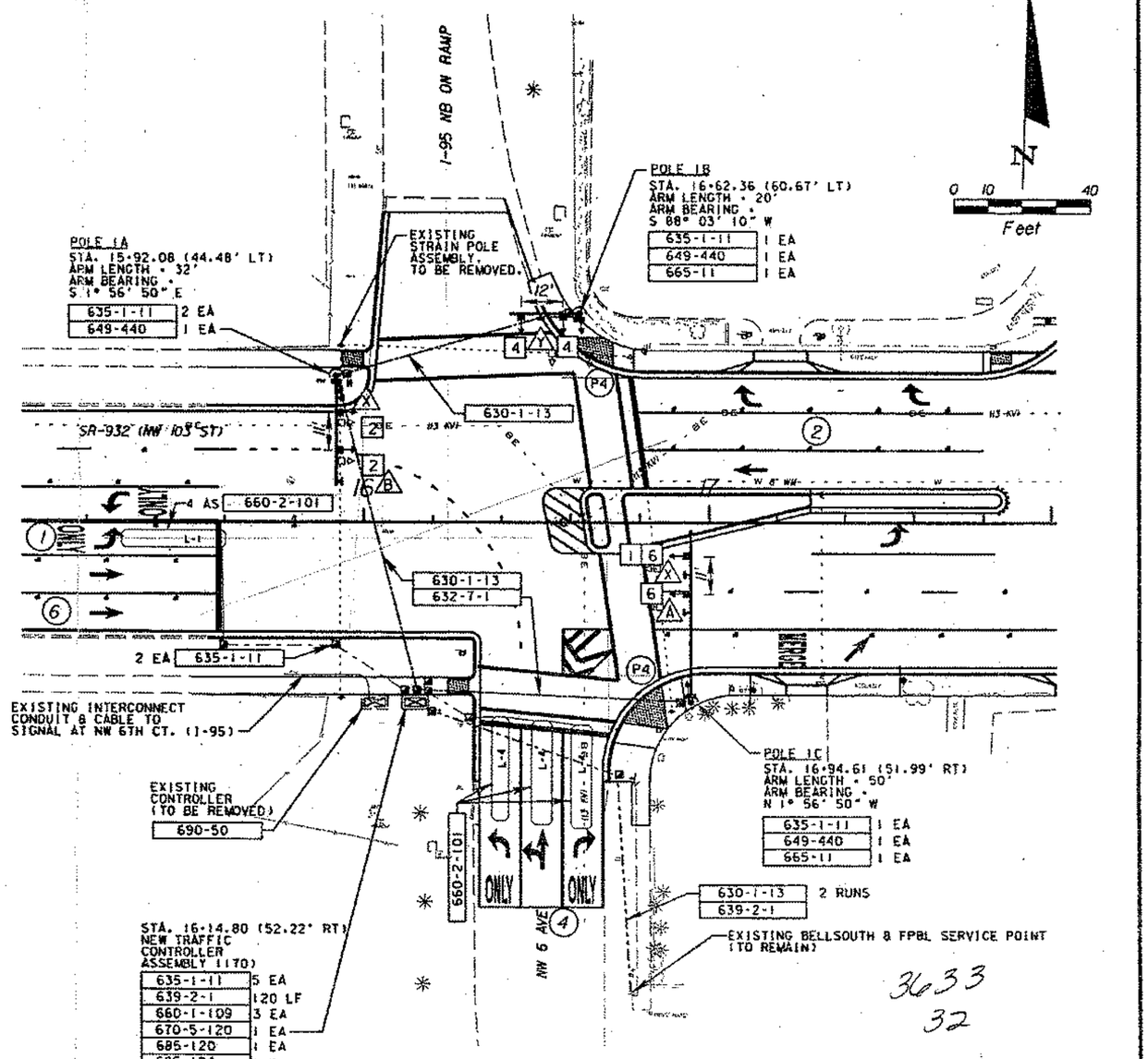


SPECIAL SIGN
(12"X12")
(2 REQ'D)
(INCLUDED WITH 665-11)

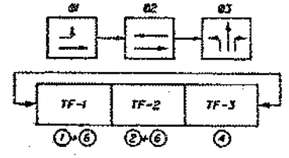
NOTE:
SPECIAL SIGN AND PEDESTRIAN PUSH BUTTONS TO BE INSTALLED ON FACE OF POLES 1B & 1C.

MAST ARM SIGN DETAILS





SIGNAL OPERATIONS



DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO OF DETS.
L-1	1	1
L-4	3	2

NOTES

1. CONTRACTOR TO REMOVE EXISTING PULL BOXES IN CONFLICT WITH DESIGN. THIS WORK TO BE INCLUDED IN PAY ITEM 690-100.
2. NO SPLICES OF SIGNAL CABLES OR ELECTRICAL SERVICE CABLES PERMITTED. CONTRACTOR SHALL PROVIDE NEW SERVICE WIRE AND NEW SIGNAL CABLE.
3. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY PUBLIC WORKS DEPT. TRAFFIC SIGNAL AND SIGNS DIVISION.
4. LOOP ASSEMBLY 660-2-101 DEVIATES FROM FDOT STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR TURN LANES, 2' AHEAD OF STOP BAR.
5. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGE TO EXISTING UNDERGROUND UTILITIES. ANY COST FROM DAMAGE SHALL BE BORNE BY THE CONTRACTOR.

Giraldo Marquez 11/3/03

CONTROLLER OPERATION

1. MAJOR STREET: NW 103 ST
   MINOR STREET: NW 6 AVE
2. SIGNAL OPERATION PLAN I4 MODIFIED AS SHOWN
3. FLASHING OPERATION: 2 AND 6 YELLOW
   4 RED
4. PEDESTRIAN SIGNAL P4 UPON ACTUATION ONLY

REMOVAL ITEMS

BID ITEM NO.	DESCRIPTION	UNIT	QTY.
690-10	REMOVE TRAFFIC SIGNAL HEAD ASSEMBLY	EA	5
690-32-2	REMOVE POLE	LF	80
690-50	REMOVE CONTROLLER ASSEMBLY (COMP)	EA	1
690-80	REMOVE SPAN WIRE ASSEMBLY	EA	1
690-90	REMOVE CABLING AND CONDUIT	PI	1
690-100	REMOVE MISC. SIGNAL EQUIPMENT	PI	1

3633
32

ID#-3633

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RS+H
Reynolds, Smith and Hills, Inc.
661 Blue Lagoon Drive, Suite 200
Miami, Florida 33126
FL. Certificate NO. EB0005620
GIRALDO MARQUEZ, P.E. NO. 54628

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
932	MIAMI-DADE	408303-1-52-01

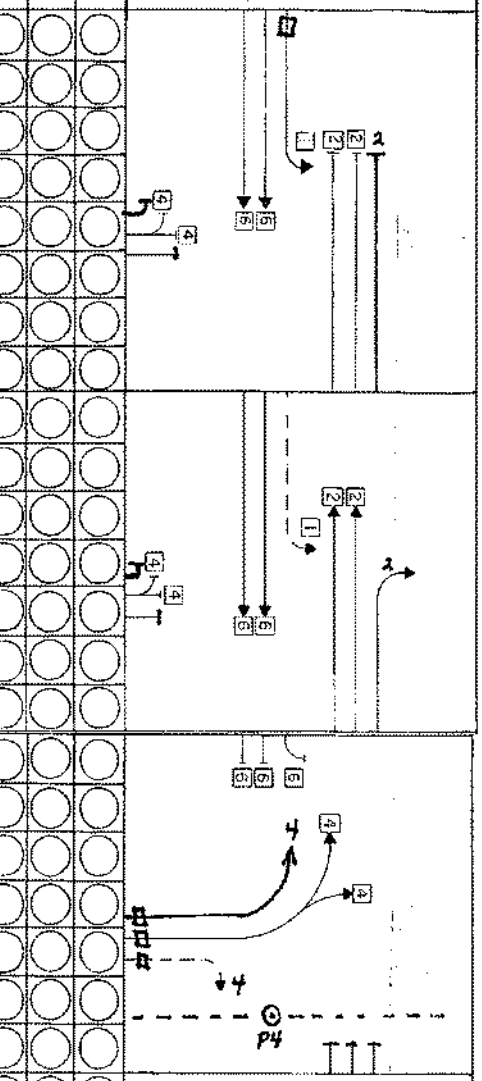
SIGNALIZATION PLAN
NW 103 ST & NW 6 AVE

SHEET NO: T-4

11/04/2003 10:33:24 AM X:\p\MIS06002\plprofs\plansQ1.dgn

TRAFFIC SIGNAL INTERVAL DIAGRAMS

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	PEDESTRIAN HEAD NUMBER P4
Ø (1+6) EBLT (ACTUATED)	R/W	G	R		R		G							DW
	TO Ø 2+6	G	R		R		G							DW
	CLEAR													
Ø (2+6) NW 103 ST EASTBOUND & WESTBOUND (RECALL)	R/W	G	G		R		G							DW
	TO Ø 4	Y	Y		R		Y							DW
	CLEAR													
Ø (4) NW 6 AVE NORTHBOUND (ACTUATED)	R/W	R	R		G		R							W/R
	TO Ø 4 6	R	R		Y		R							DW
	TO Ø 2 4 6	R	R		Y		R							DW
	CLEAR													
FLASHING OPERATION		FY	FY		FR		FY							



Drawn: F. PRATS	Date: 5/3/05	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS
Check: H. HERNANDEZ	Date: 5/4/05	ASSET NO: 3633
Division Engineer	Date	I-95 NB & N.W. 103 ST.
Placed in Service Date: 5/12/05 By: CONTRACTOR		Phasing Number: 5

TOD Schedule Report
for 4409: NW 5 Av&NW 103 St

Print Date: 2/13/2015

Print Time: 1:21 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4409	NW 5 Av&NW 103 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	6 - 6 - 6	8 - 8 - 8	3.5	0
2 WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	35 - 35 - 35	0 - 35 - 35	4	0.6
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	2 - 2 - 2	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 15	30 - 30 - 30	4	0.8
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	35 - 35 - 35	0 - 35 - 35	4	0.6
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	2 - 2 - 2	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 15	30 - 30 - 30	4	0.8

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6-8
External Permit 0	--------
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 4409: NW 5 Av&NW 103 St

Print Date: 2/13/2015

Print Time: 1:21 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 SBT	Ring Offset	Offset
	1	95	0	76	0	9	0	76	0	9	0	70
	2	105	0	73	0	22	0	73	0	22	0	78
	3	100	5	56	0	25	0	65	0	25	0	76
	4	85	5	51	0	15	0	60	0	15	0	58
	5	85	5	46	0	20	0	55	0	20	0	66
	6	100	5	56	0	25	0	65	0	25	0	78
	7	85	0	61	0	14	0	61	0	14	0	54
	8	110	0	85	0	15	0	85	0	15	0	52
	9	110	7	74	0	15	0	85	0	15	0	18
	10	100	5	56	0	25	0	65	0	25	0	76
	11	100	7	59	0	20	0	70	0	20	0	84
	12	100	5	56	0	25	0	65	0	25	0	72
	13	100	6	60	0	20	0	70	0	20	0	62
	14	80	0	63	0	7	0	63	0	7	0	12
	15	100	5	56	0	25	0	65	0	25	0	76
	16	100	5	56	0	25	0	65	0	25	0	78
	17	100	5	56	0	25	0	65	0	25	0	72
	20	105	6	69	0	16	0	79	0	16	0	12
	21	90	0	73	0	7	0	73	0	7	0	76
	22	70	0	52	0	8	0	52	0	8	0	52

Local TOD Schedule

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 4409: NW 5 Av&NW 103 St

Print Date: 2/13/2015

Print Time: 1:21 PM

No Calendar Defined/Enabled

SIGNAL HEAD DETAILS

2 4
8 6
R Y G
3-SECT. 1-WAY
7" AS
650-51-311

1 6
R Y Y G G
5-SECT. 1-WAY
1 AS
650-51-511

SIGN DETAILS

PUSH BUTTON WAIT FOR TO CROSS NW 103 ST

SPECIAL SIGN
(12"X12")
(4 REQ'D)
(INCLUDED WITH 665-11)

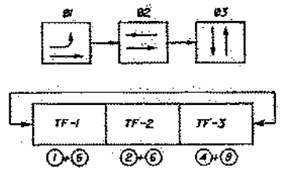
NOTE:
SPECIAL SIGN AND PEDESTRIAN PUSH BUTTONS TO BE INSTALLED ON FACE OF POLES 2A, 2B, 2C & 2D.

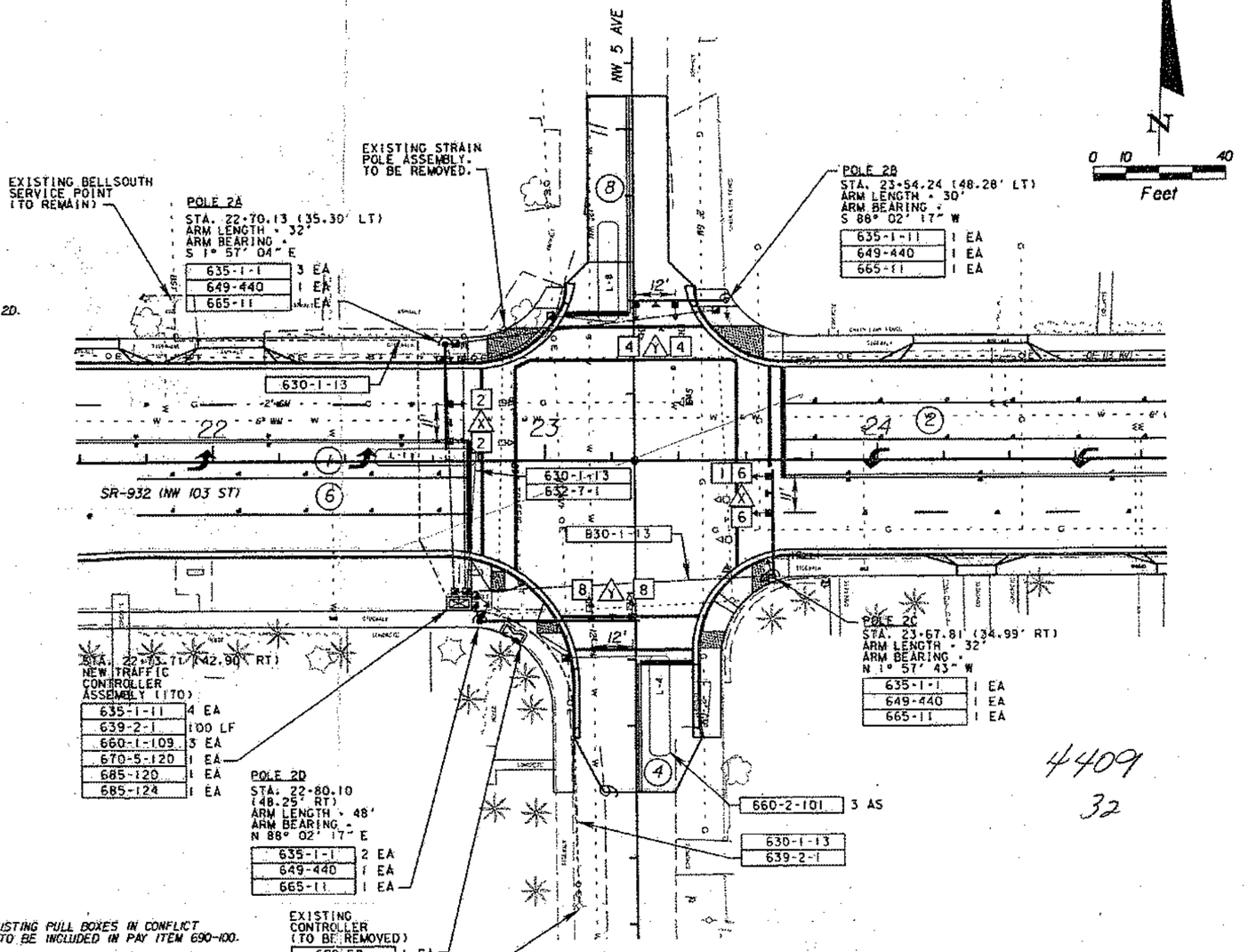
MAST ARM SIGN DETAILS

X
60"
NW 5 AV
D3-1S
2 EA
700-48-18

Y
60"
NW 103 ST
D3-1S
2 EA
700-48-18

SIGNAL OPERATIONS





4409
32

NOTES

1. CONTRACTOR TO REMOVE EXISTING PULL BOXES IN CONFLICT WITH DESIGN. THIS WORK TO BE INCLUDED IN PAY ITEM 690-100.
2. NO SPLICES OF SIGNAL CABLES OR ELECTRICAL SERVICE CABLES PERMITTED. CONTRACTOR SHALL PROVIDE NEW SERVICE WIRE AND NEW SIGNAL CABLE.
3. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY PUBLIC WORKS DEPT. TRAFFIC SIGNAL AND SIGNS DIVISION.
4. LOOP ASSEMBLY 660-2-101 DEVIATES FROM FDOT STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR TURN LANES, 2' AHEAD OF STOP BAR.
5. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGE TO EXISTING UNDERGROUND UTILITIES. ANY COST FROM DAMAGE SHALL BE BORNE BY THE CONTRACTOR.

11/3/03

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO OF DETS.
L-1	1	1
L-4	1	1
L-8	1	1

CONTROLLER OPERATION

1. MAJOR STREET: NW 103 ST
   MINOR STREET: NW 5 AVE
2. SIGNAL OPERATION PLAN 2 MODIFIED AS SHOWN.
3. FLASHING OPERATION: 2 AND 6 YELLOW
   4 AND 8 RED

REMOVAL ITEMS

BID ITEM NO.	DESCRIPTION	UNIT	QTY.
690-10	REMOVE TRAFFIC SIGNAL HEAD ASSEMBLY	EA	8
690-32-2	REMOVE POLE	LF	80
690-50	REMOVE CONTROLLER ASSEMBLY (COMP)	EA	1
690-80	REMOVE SPAN WIRE ASSEMBLY	EA	1
690-90	REMOVE CABLING AND CONDUIT	PI	1
690-100	REMOVE MISC. SIGNAL EQUIPMENT	PI	1

ID#-4409

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RS+H
Reynolds, Smith and Hills, Inc.
6161 Blue Lagoon Drive, Suite 200
Miami, Florida 33126
FL. Certificate NO. EB0005620
GIRALDO MARQUEZ, P.E. NO. 54628

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

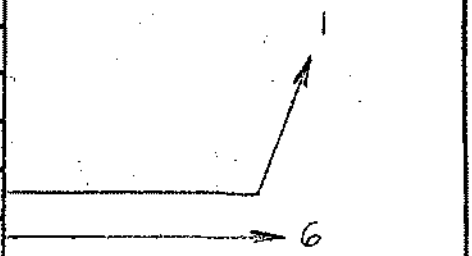
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
932	MIAMI-DADE	408303-1-52-01

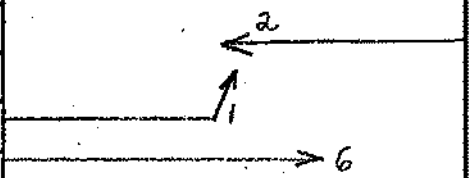
SIGNALIZATION PLAN
NW 103 ST & NW 5 AVE

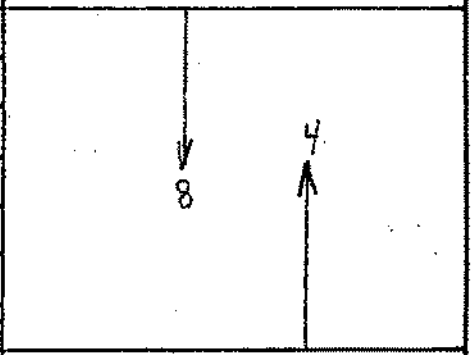
SHEET NO. T-5

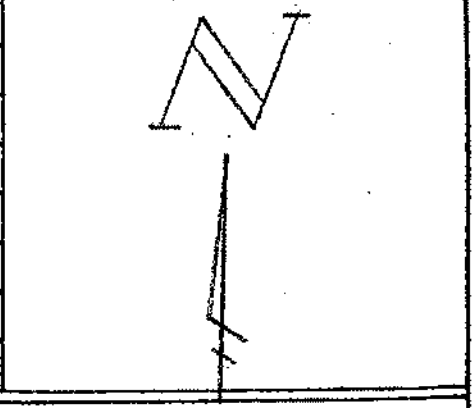
SIGNAL OPERATING PLAN

PHASE	INT	SIGNAL HEAD NUMBER 1	2	4	6	8
ϕ 1+6 NW 103 st EBLT Actuated	R/W	G	R	R	G	R
	CLEAR TO 2+6	G	R	R	G	R
ϕ 2+6 NW 103 St E-W Recall	R/W	G	G	R	G	R
	CLEAR TO 4+8	Y	Y	R	Y	R
ϕ 4+8 NW 5 Av N-S Actuated	R/W	R	R	G	R	G
	CLEAR TO 1+6	R	R	Y	R	Y
	CLEAR TO 2+6	R	R	Y	R	Y
	R/W					
	CLEAR TO					
FLASHING OPER		FY	FY	FR	FY	FR









Drawn: F. PRATS — Date: 9/29/97

Check: H. HERNANDEZ — Date:

Division Engineer — Date:

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET NO: 4409

N.W. 5 Av & 103 ST

Placed in Service			Phasing Number
Date: 10/24/97	Shop Crew		2

TOD Schedule Report
for 2517: NW 7 Av&NW 119 St

Print Date: 3/5/2015

Print Time: 2:02 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2517	NW 7 Av&NW 119 St	DOW-5		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 12 - 12	4.4	2.5
2 SBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4.4	2.5
3 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 12 - 12	4.4	2.1
4 WBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	40 - 35 - 35	4.4	2.1
5 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 12 - 12	4.4	2.5
6 NBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4.4	2.5
7 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 12 - 12	4.4	2.1
8 EBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	1 - 1 - 1	25 - 25 - 25	40 - 35 - 35	4.4	2.1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 2517: NW 7 Av&NW 119 St

Print Date: 3/5/2015

Print Time: 2:02 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 EBL	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT	Ring Offset	Offset
	1	95	9	28	7	24	9	28	7	24	0	66
	2	105	9	39	6	24	9	39	6	24	0	46
	3	100	9	27	8	29	9	27	8	29	0	14
	4	85	8	22	9	19	8	22	9	19	0	14
	5	85	8	23	9	18	8	23	9	18	0	18
	6	100	9	27	8	29	9	27	8	29	0	14
	7	85	6	24	4	24	6	24	4	24	0	10
	8	110	11	36	9	27	11	36	9	27	0	78
	9	110	11	32	9	31	11	32	9	31	0	46
	10	100	6	28	6	33	6	28	6	33	0	12
	11	100	6	27	6	34	6	27	6	34	0	20
	12	100	6	33	6	28	6	33	6	28	0	20
	13	100	6	27	6	34	6	27	6	34	0	18
	14	80	9	22	4	18	9	22	4	18	0	44
	15	100	9	27	8	29	9	27	8	29	0	14
	16	100	9	27	8	29	9	27	8	29	0	14
	17	100	6	33	6	28	6	33	6	28	0	20
	20	105	8	34	9	27	8	34	9	27	0	56
	21	90	9	24	9	21	9	24	9	21	0	48

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report
for 2517: NW 7 Av&NW 119 St

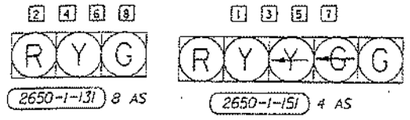
Print Date: 3/5/2015

Print Time: 2:02 AM

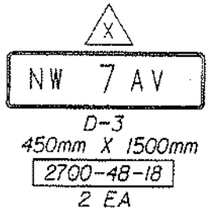
No Calendar Defined/Enabled

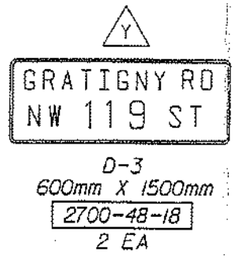
FINANCIAL PROJECT ID	STATE PROJ. NO.	SHEET NO.
25008 1 -1 -52	87552507365 -9	

SIGNAL HEAD DETAIL









REMOVAL ITEMS

2690-10	12 EA
2690-20	8 EA
2690-30	4 EA
2690-50	1 EA
2690-70	4 EA
2690-80	1 EA
2690-100	1 PI

*2690-100 IS FOR POLE MOUNTED CONTROLLER TO BE REMOVED



SPECIAL SIGN
300 X 300
4 EA

NOTE: COST OF SPECIAL SIGN IS INCLUDED IN ITEM 2665-11

CONTROLLER OPERATION

1. MAJOR STREET IS N.W. 7 AVE. MINOR STREET IS N.W. 119 ST.
2. SOP * 4
3. PHASES 1 & 3 ARE ACTUATED PHASE 2 IS RECALL MOVEMENTS 1,3,5 & 7 ARE PROTECTED/PERMISSIVE
4. FLASHING OPERATION:
   NW 7 AVE-FLASHING YELLOW
   NW 119 ST-FLASHING RED
5. PEDESTRIAN SIGNAL UPON ACTIVATION ONLY.

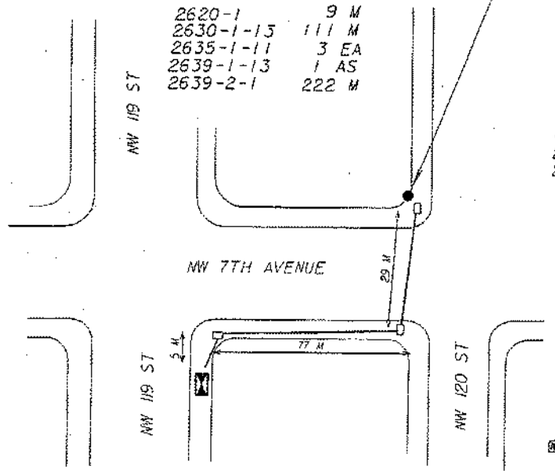
NOTES

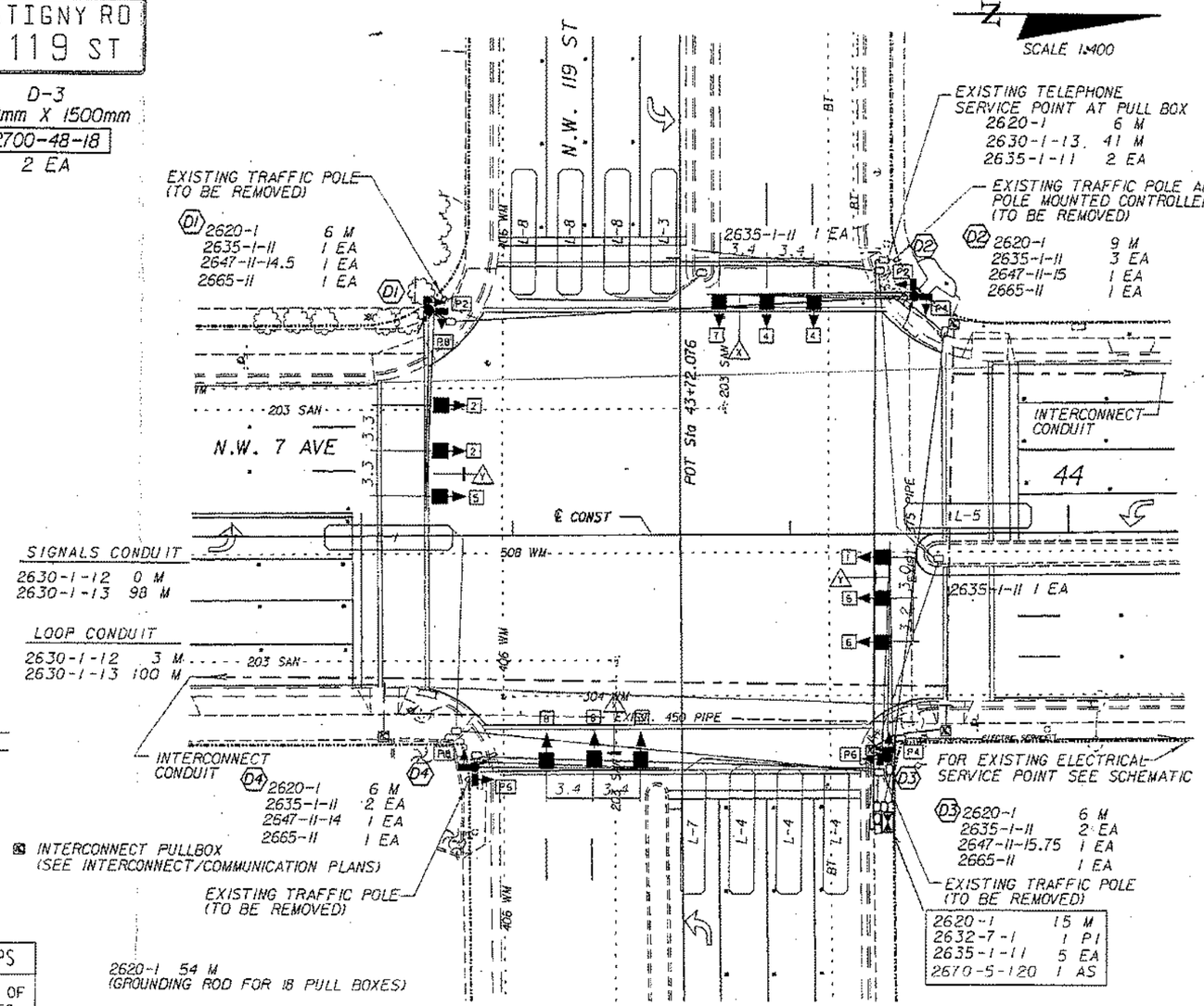
1. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. SIGNAL EQUIPMENT TO BE REMOVED SHALL BE RETURNED TO MIAMI-DADE COUNTY, PUBLIC WORKS DEPT. SIGNAL AND SIGNS DIVISION.
3. LOOP ASSEMBLY 2660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 1.8 X 9.0 FOR THRU LANES AND 1.5 X 9.0 FOR LEFT TURNING LANES.
4. OVERHEAD STREET SIGNS (SIGNS X & Y) SHALL USE "C" SERIES NUMBERS (300mm IN HEIGHT) AND LETTERS (250mm IN HEIGHT). THE SPACE BETWEEN LETTERS COULD BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALL DIMENSION IN THE OVERHEAD STREET NAME SIGNS.
5. ALL PROPOSED CONTROLLER CABINETS AND PULL BOXES SHALL BE PLACED ON A CONCRETE PAD (AS DESCRIBED IN THE STANDARD SPECIFICATIONS.)
6. SIGNAL CABLE CONDUIT AND LOOP WIRE CONDUIT SHALL USE ONE TRENCH TO CROSS PAVEMENT ANYWHERE WHEN POSSIBLE.

SERVICE POINT SCHEMATIC

NEW ELECTRICAL SERVICE POINT ON WOOD POLE NW7 AVE AND 120 ST TO BE PROVIDED BY F.P.L.

2620-1	9 M
2630-1-13	111 M
2635-1-11	3 EA
2639-1-13	1 AS
2639-2-1	222 M





SCALE 1:400

CONTROLLER TIMING PLAN

TIMING INTERVAL	TIMING FUNCTION 1	2	3	4	5	6	7	8	9
MINIMUM GREEN (INITIAL)									
EXTENSION (PASSAGE)									
MAXIMUM GREEN I									
MAXIMUM GREEN II									
YELLOW									
ALL RED									
PEDESTRIAN WALK									
PEDESTRIAN CLEAR									

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	1	1
L-3	1	1
L-4	3	2
L-5	1	1
L-7	1	1
L-8	3	2

2660-1-109 8 EA
2660-2-101 10 EA

*POLE LOCATIONS

D1	STA. 43+54.4 (16.6 LT)
D2	STA. 43+89.0 (17.2 LT)
D3	STA. 43+87.1 (16.5 RT)
D4	STA. 43+56.5 (16.5 RT)

*POLE LOCATIONS ARE APPROXIMATE. FINAL LOCATION WILL BE DETERMINED BY THE CONTRACTOR UNDER THE SUPERVISION OF THE ENGINEER.

2517
32

8/17/00

INTERSECTION OF N.W. 7th AVE. (S.R. 7) AT N.W. 119th ST.
INTERSECTION I.D. #2517

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

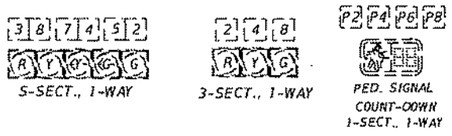
F.D.O.T. DISTRICT SIX
HAROLD DESOUNES, P.E.
1000 NW 111th AVENUE
MIAMI FLORIDA 33172
P.E. NO. 43916

FLORIDA DEPARTMENT OF TRANSPORTATION

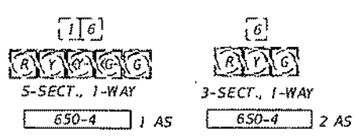
SIGNALIZATION PLANS S.R. 7/N.W. 7th AVENUE

$$$$$$SIGNTIME$$$$$$ $$$$$$$$$$CONSPECIFICATION$$$$$$$$$$
SHEET 17 OF 17 SHEETS

EXISTING SIGNAL HEAD DETAILS (TO REMAIN)



FINAL LOCATION OF RELOCATED SIGNAL HEADS (ADJUST TO ALIGN WITH NEW LANE LINES)



EXISTING INTERNALLY ILLUMINATED SIGN PANELS (TO REMAIN)

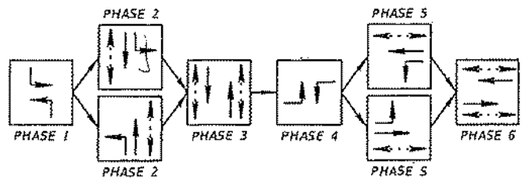
NW 7 AV

(X)

NW 119 ST
Gratigny Rd

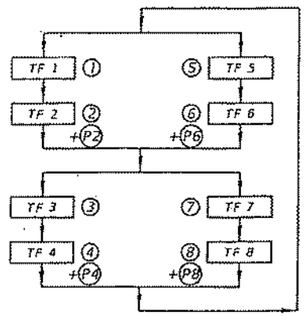
(Y)

EXISTING S.O.P. 10



CONTROLLER OPERATIONS:

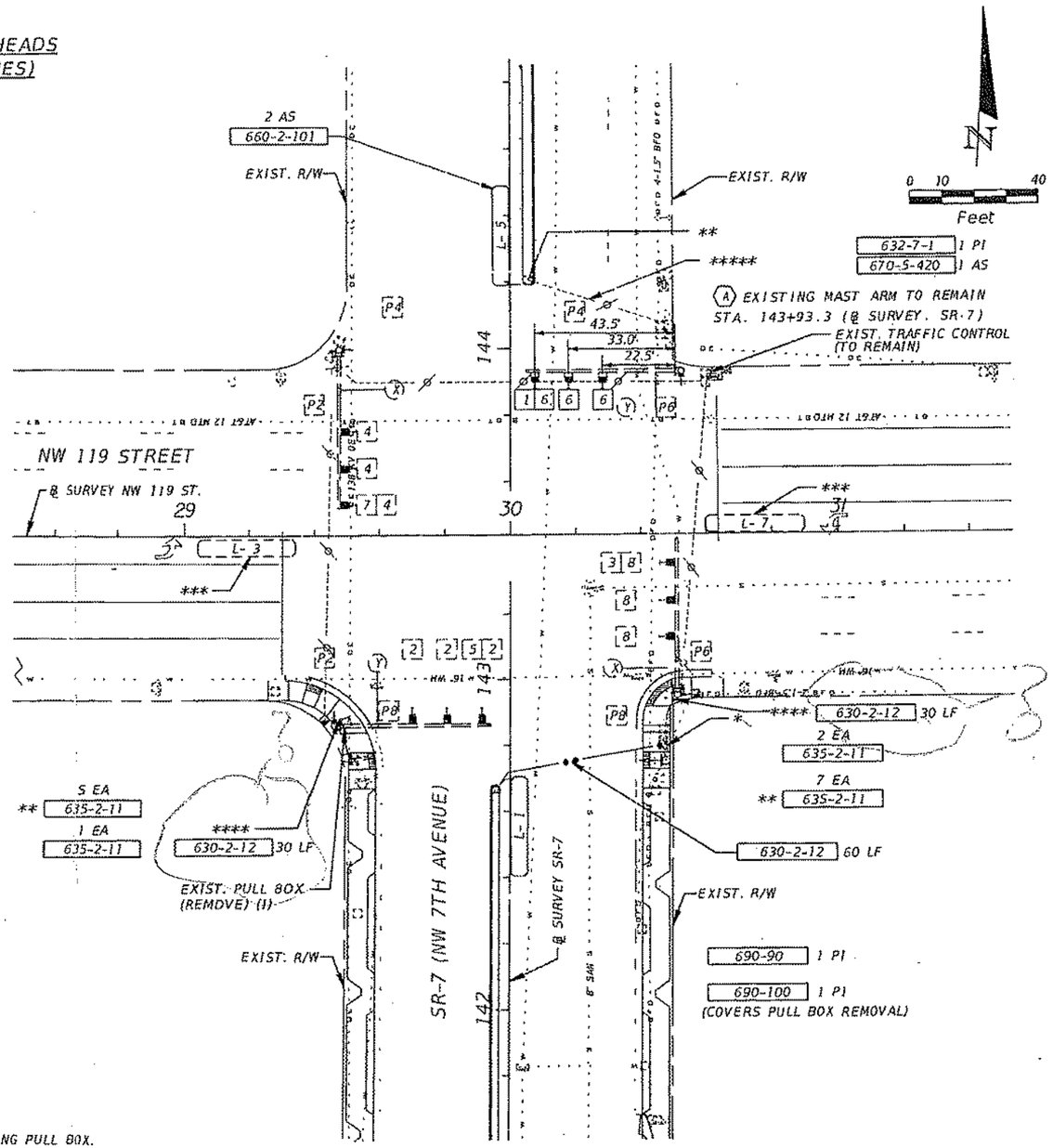
1. MAJOR STREET IS N.W. 7 AVE.
   MINOR STREET IS N.W. 119 ST.
2. SOP 10
3. PHASES 1 & 4 ARE ACTUATED
   PHASE 6 IS MAX RECALL
   MOVEMENTS 1, 3, 5 & 7 ARE PROTECTED/PERMISSIVE
4. FLASHING OPERATION:
   HEADS 2 & 6 - FLASHING YELLOW
   HEADS 4 & 8 - FLASHING RED
5. PEDESTRIAN SIGNAL ON RECALL.



NOTES:

1. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI - DADE COUNTY AND WASTE MANAGEMENT DEPARTMENT, TRAFFIC SIGNAL AND SIGNS DIVISION
2. LOOP ASSEMBLIES 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 5' X 30' FOR LEFT TURN LANES.
3. UNLESS OTHERWISE NOTED, ALL EXISTING PULL BOXES WILL REMAIN. USE EXISTING AND PROPOSED PULL BOXES AND EXISTING AND PROPOSED CONDUITS TO ROUTE LOOP LEAD-INS BETWEEN PROPOSED PAVEMENT LOOPS AND EXISTING TRAFFIC CONTROLLER.
4. NEW PULL BOXES SHALL NOT BE PLACED IN RAMP AREAS.

DETECTORS FOR LOOPS		
LOOP	NO. OF NEW LOOPS	NO. OF EXIST. DETS.
L-1	1	1
L-5	1	1



* UTILIZE EXISTING PULL BOX.
** ADJUST OR REPLACE AS NECESSARY EXISTING PULL BOXES TO NEW FINISHED GRADE AFTER NEW SIDEWALK IS CONSTRUCTED.
*** LOOPS L-3, L-7 AND CORRESPONDING LOOP LEADS INSTALLED IN PROJECT FPID 425273-4-52-01
**** REMOVE EXISTING PULL BOX, PROVIDE NEW PULL BOX
***** UTILIZE EXISTING CONDUIT

SR 7 (NW 7TH AVENUE) AT NW 119TH STREET INTERSECTION ID. #2517

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

HBC ENGINEERING COMPANY
13155 SW 134TH STREET, SUITE 207,
MIAMI, FLORIDA 33186
PHONE: (305) 232-7932 FAX: (305) 232-7933
CERTIFICATE OF AUTHORIZATION NO. 27160
ENGINEER OF RECORD: ADEBAYO T. COKER, PE
P.E. LICENSE NUMBER 55322

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
7	MIAMI-DADE	428054-1-52-01

SIGNALIZATION PLAN

SHEET NO. T-4

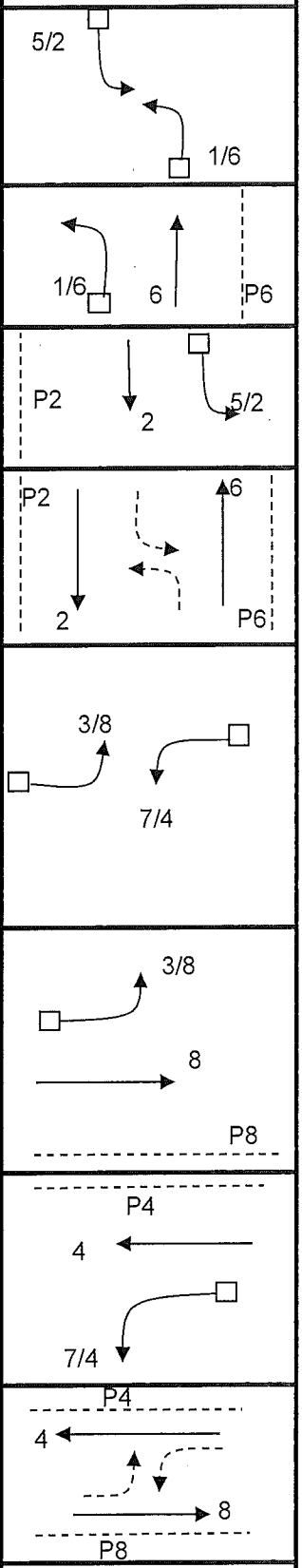
SC031 7/18/2013 1:52:31 PM P:\e\projects\020115001\4 NW 7TH AVE_SR 7\428054152O1\signals\PLANSC01.DGN

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

SIGNAL OPERATING PLAN

N

Timing Phases	Direction	Head No.	NB 1/6	NB 6	SB 5/2	SB 2	EB 3/8	EB 8	WB 7/4	WB 4	Ped Heads P6	P2	P8	P4	Movements/Display/Actuation
(1+5)		Dwell	<G/R	R	<G/R	R	R	R	R	R	DW	DW	DW	DW	
NBL + SBL	Clear	(1+6)	<G/R	R	<Y/R	R	R	R	R	R	DW	DW	DW	DW	
NW 7 AV	Clear	(2+5)	<Y/R	R	<G/R	R	R	R	R	R	DW	DW	DW	DW	
	Clear	(2+6)	<Y/R	R	<Y/R	R	R	R	R	R	DW	DW	DW	DW	
(Actuated)															
(1+6)		Dwell	<G/G	G	R	R	R	R	R	R	W/F	DW	DW	DW	
NB	Clear	(2+6)	<Y/R	G	R	R	R	R	R	R	DW	DW	DW	DW	
NW 7 AV	Clear														
(Actuated)	Clear														
(2+5)		Dwell	R	R	<G/G	G	R	R	R	R	DW	W/F	DW	DW	
SB	Clear	(2+6)	R	R	<Y /G	G	R	R	R	R	DW	DW	DW	DW	
NW 7 AV	Clear														
(Actuated)	Clear														
(2+6)		Dwell	G	G	G	G	R	R	R	R	W/F	W/F	DW	DW	
SBT +NBT	Clear	(3+7)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
NW 7 AV	Clear	(3+8)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
	Clear	(4+7)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
(Recall)	Clear	(4+8)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
(3+7)		Dwell	R	R	R	R	<G/R	R	<G/R	R	DW	DW	DW	DW	
	Clear to	(3+8)	R	R	R	R	<G/R	R	<Y/R	R	DW	DW	DW	DW	
EBL +WBL	Clear to	(4+7)	R	R	R	R	<Y/R	R	<G/R	R	DW	DW	DW	DW	
NW 119 ST	Clear to	(4+8)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to	(1+5)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to	(1+6)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to	(2+5)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
(Actuated)	Clear to	(2+6)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
(3+8)		Dwell	R	R	R	R	<G/G	G	R	R	DW	DW	WF	DW	
	Clear to	(4+8)	R	R	R	R	<Y/G	G	R	R	DW	DW	DW	DW	
EB	Clear to	(1+5)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
NW 119 ST	Clear to	(1+6)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
	Clear to	(2+5)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
	Clear to	(2+6)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
(Actuated)											DW	DW	DW	DW	
(4+7)		Dwell	R	R	R	R	R	R	<G/G	G	DW	DW	DW	WF	
	Clear to	(4+8)	R	R	R	R	R	R	<Y/G	G	DW	DW	DW	DW	
WB	Clear to	(1+5)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
NW 119 ST	Clear to	(1+6)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	Clear to	(2+5)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(Actuated)	Clear to	(2+6)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(4+8)		Dwell	R	R	R	R	G	G	G	G	DW	DW	WF	WF	
WBT +EBT	Clear	(1+5)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
NW 119 ST	Clear	(1+6)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
	Clear	(2+5)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
(Recall)	Clear	(2+6)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
Flashing Operation			FY	FY	FY	FY	FR	FR	FR	FR					Page 1 of 1



Miami-Dade County Public Works Department

Drawn	Date	NW 7 Av & NW 119 St.		
Juan Canizares	2/24/2015			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	2/25/15	Date : 8/4/2008 By :	7(revision)	2517

TOD Schedule Report
for 3055: I- 95 NB&NW 119 St

Print Date: 2/13/2015

Print Time: 10:59 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3055	I- 95 NB&NW 119 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 12 - 12	3	0
2 WBT	7 - 7 - 7	12 - 12 - 12	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4	0.9
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 25 - 25	55 - 35 - 35	4	1
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	7 - 7 - 7	12 - 12 - 12	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4	0.9
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6--
External Permit 0	-2-4-6--
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

TOD Schedule Report

for 3055: I- 95 NB&NW 119 St

Print Date: 2/13/2015

Print Time: 10:59 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 -	Ring Offset	Offset
	1	95	7	21	0	54	0	31	0	0	0	24
	2	105	10	23	0	59	0	36	0	0	0	40
	3	100	10	40	0	37	0	53	0	0	0	64
	4	85	7	31	0	34	0	41	0	0	0	56
	5	85	7	31	0	34	0	41	0	0	0	62
	6	100	10	40	0	37	0	53	0	0	0	64
	7	85	10	26	0	36	0	39	0	0	0	50
	8	110	5	55	0	37	0	63	0	0	0	28
	9	110	5	50	0	42	0	58	0	0	0	104
	10	100	7	44	0	36	0	54	0	0	0	76
	11	100	10	38	0	39	0	51	0	0	0	78
	12	100	7	38	0	42	0	48	0	0	0	62
	13	100	10	38	0	39	0	51	0	0	0	76
	14	80	7	26	0	34	0	36	0	0	0	34
	15	100	10	40	0	37	0	53	0	0	0	64
	16	100	10	40	0	37	0	53	0	0	0	64
	17	100	7	38	0	42	0	48	0	0	0	62
	20	105	10	28	0	54	0	41	0	0	0	16
	21	90	10	31	0	36	0	44	0	0	0	30
	22	70	7	16	0	34	0	26	0	0	0	2

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3055: I- 95 NB&NW 119 St

Print Date: 2/13/2015

Print Time: 10:59 AM

No Calendar Defined/Enabled

Appendix Page 3558 of 7765

STATE PROJ. 87052-3

SIGN

SIGNAL HEAD DETAIL

2 4 6 — R Y G — 651-1-131 5 AS

1 6 — R Y ~~Y~~ ~~G~~ G — 651-1-151 1 AS

F4 — 653-171 2 AS (1 SECT. 1 WAY)

PUSH BUTTON TO CROSS NW 119 ST

FTP-47
12"X 9"
2 EA
NOTE: COST IS INCLUDED IN ITEM 665-11

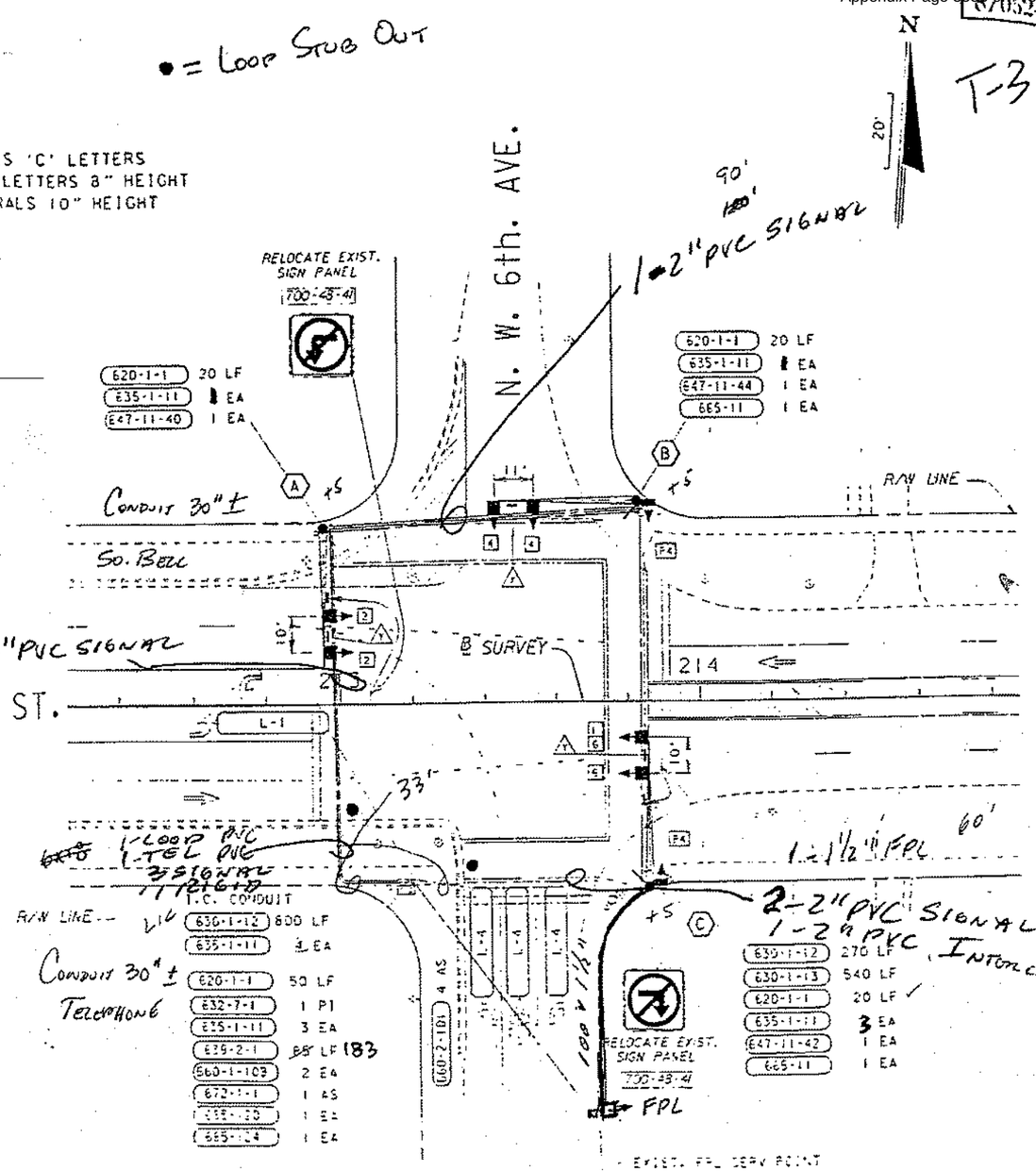
X — NW 119 ST — D-3 — 18"X 66" — 700-48-11 1 EA

Y — NW 6 AV — D-3 — 18"X 54" — 700-48-11 2 EA

SERIES 'C' LETTERS
CAP. LETTERS 8" HEIGHT
NUMERALS 10" HEIGHT

● = Loop Stub Out

T-3



CONTROLLER OPERATION

1. MAJOR STREET IS S.R. 924 (N.W. 119 ST.) AND MINOR STREET IS N.W. 6TH. AVE.
2. STANDARD SIGNAL OPERATING PLAN NO.15 (SOP 15)
3. PHASE 2 RECALL, PHASES 1 AND 2 ACTUATED
4. SIGNAL COORDINATION PHASE 2
5. FLASHING OPERATION 2,6 YELLOW, 4 RED

CONTROLLER TIMING PLAN

TIMING INTERVAL	TIMING FUNCTION 1	2	3	4	5	6	7	8	9
MINIMUM GREEN (INITIAL)	7	23	13						
EXTENSION (PASSAGE)	1	1	1						
MAXIMUM GREEN I	10	86	47						
MAXIMUM GREEN II									
YELLOW	3	3	4						
ALL RED									
PEDESTRIAN WALK									
PEDESTRIAN CLEAR									

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	1	1
L-4	3	1

NOTES:
1. FINAL SIGNAL TIMING TO BE PROVIDED BY DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-1 DEVIATES FROM FDOT STANDARDS AND SHALL BE USED FOR TWO LANES AND ENDS FOR FOUR LANES.

REMOVAL ITEMS

690-10	2 EA
690-30	4 EA
690-50	1 EA
690-60	1 EA

3055

S.R. 924/N.W. 119 ST. AT
N.W. 6TH. AVE.
INTERSECTION ID NO. 3055

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

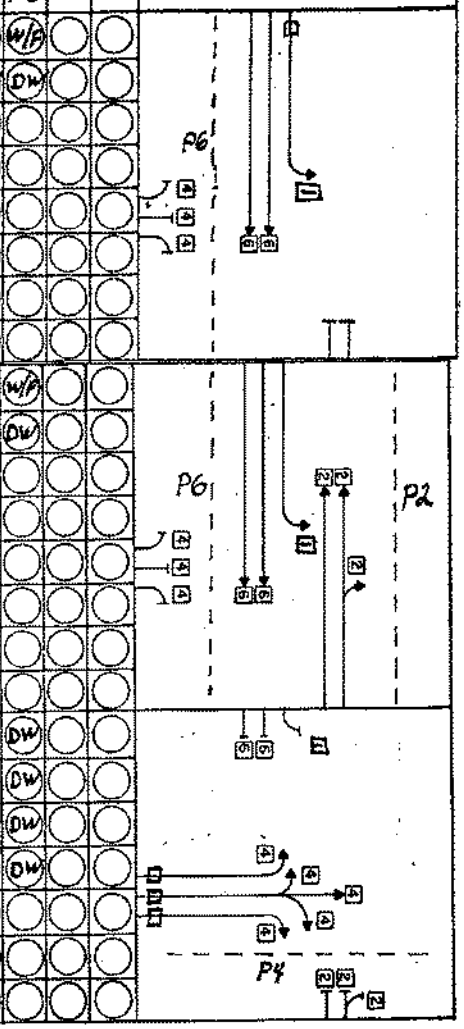
REVISIONS

FLORIDA DEPARTMENT OF TRANSPORTATION

SR 924 SIGNALIZATION PLAN

TRAFFIC SIGNAL INTERVAL DIAGRAMS

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	PEDESTRIAN HEAD NUMBER P4	P2	P6
ϕ(1+6) NW 119 ST (ACTUATED)	R/W	G	R		R		G							DW	DW	W/F
	TO ϕ2+6	G	R		R		G							DW	DW	DW
	CLEAR															
ϕ (2+6) NW 119 ST (RECALL)	R/W	G	G		R		G							DW	W/F	W/F
	TO ϕ4	Y	Y		R		Y							DW	DW	DW
	CLEAR															
ϕ4 (4) NW 6 AVE (ACTUATED)	R/W	R	R		G		R							W	DW	DW
	PED CL	R	R		F DW		R							DW	DW	DW
	TO ϕ1+6	R	R		Y		R							DW	DW	DW
	TO ϕ2+6	R	R		Y		R							DW	DW	DW
	CLEAR															
FLASHING OP		FY	FY		FR		FY									



Drawn: F. PRATS	Date: 4/24/08	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS
Check: H. HERNANDEZ	Date: 4/25/08	ASSET NO: 3055
Division Engineer	Date	I 95 (NB) & NW 119 St (NW 6 Av)
		Placed in Service Date: 6/2/8 By: CONTRACTOR
		Phasing Number: 5

SUO

TOD Schedule Report
for 3300: NW 5 Av&NW 119 St

Print Date: 2/13/2015

Print Time: 11:20 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3300	NW 5 Av&NW 119 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	NBT	-	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	7	7	7	10	10	10	7	7	7	1	1	1	40	40	40	0	40	40	4	0.5
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 NBT	7	7	7	16	16	16	7	7	7	2.5	2.5	2.5	20	20	20	40	40	40	4	1
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 EBT	7	7	7	10	10	10	7	7	7	1	1	1	40	40	40	0	40	40	4	0.5
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 SBT	7	7	7	16	16	16	7	7	7	2.5	2.5	2.5	20	20	20	40	40	40	4	1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4-6-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3300: NW 5 Av&NW 119 St

Print Date: 2/13/2015

Print Time: 11:20 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 SBT	Ring Offset	Offset
	1	95	0	70	0	16	0	70	0	16	0	56
	2	105	0	72	0	24	0	72	0	24	0	78
	3	100	0	76	0	15	0	76	0	15	0	88
	4	85	0	61	0	15	0	61	0	15	0	30
	5	85	0	61	0	15	0	61	0	15	0	30
	6	100	0	76	0	15	0	76	0	15	0	88
	7	85	0	61	0	15	0	61	0	15	0	26
	8	110	0	86	0	15	0	86	0	15	0	42
	9	110	0	86	0	15	0	86	0	15	0	14
	10	100	0	76	0	15	0	76	0	15	0	40
	11	100	0	76	0	15	0	76	0	15	0	92
	12	100	0	76	0	15	0	76	0	15	0	42
	13	100	0	76	0	15	0	76	0	15	0	90
	14	80	0	56	0	15	0	56	0	15	0	62
	15	100	0	76	0	15	0	76	0	15	0	88
	16	100	0	76	0	15	0	76	0	15	0	88
	17	100	0	76	0	15	0	76	0	15	0	42
	20	105	0	81	0	15	0	81	0	15	0	56
	21	90	0	66	0	15	0	66	0	15	0	46
	22	70	0	46	0	15	0	46	0	15	0	42

Local TOD Schedule

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3300: NW 5 Av&NW 119 St

Print Date: 2/13/2015

Print Time: 11:20 AM

No Calendar Defined/Enabled

Appendix Page 3563 of 3765

STATE PROJ. 87052-3

SIGNAL HEAD DETAIL

2 4 6 — R Y G — 651-1-131 5 4S

1 6 — R Y ~~Y~~ ~~G~~ G — 651-1-151 1 AS

P4 — 653-171 2 AS (1 SECT. 1 WAY)

PUSH BUTTON TO CROSS NW 119 ST

FTP-47
12"X 9"
2 EA
NOTE: COST IS INCLUDED IN ITEM 665-11

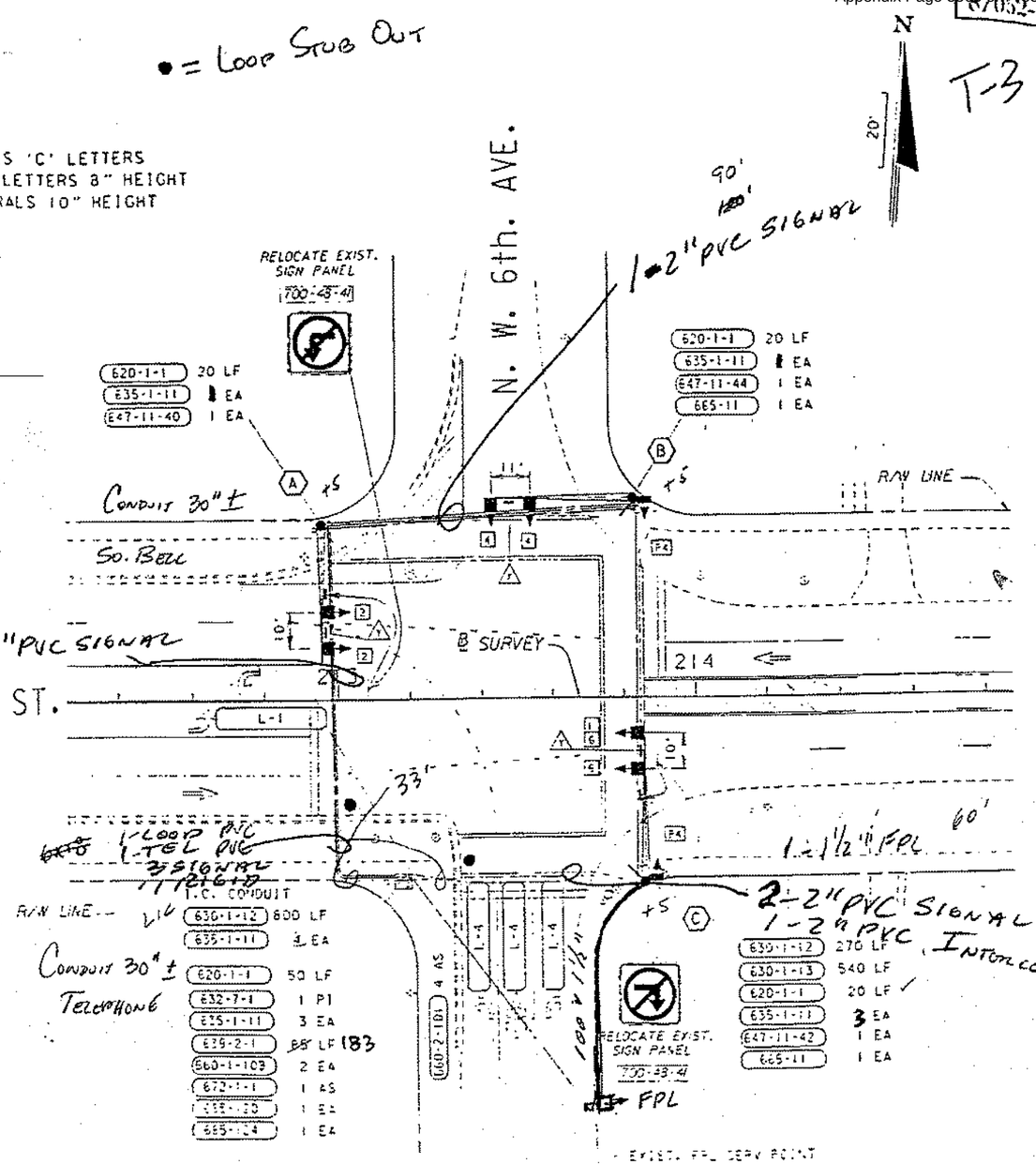
X — **NW 119 ST**
D-3
18"X 66"
700-48-11 1 EA

Y — **NW 6 AV**
D-3
18"X 54"
700-48-11 2 EA

SERIES 'C' LETTERS
CAP. LETTERS 8" HEIGHT
NUMERALS 10" HEIGHT

● = Loop Stub Out

T-3



CONTROLLER OPERATION

1. MAJOR STREET IS S.R. 924 (N.W. 119 ST.) AND MINOR STREET IS N.W. 6TH. AVE.
2. STANDARD SIGNAL OPERATING PLAN NO.15 (SOP 15)
3. PHASE 2 RECALL, PHASES 1 AND 2 ACTUATED
4. SIGNAL COORDINATION PHASE 2
5. FLASHING OPERATION 2,6 YELLOW, 4 RED

CONTROLLER TIMING PLAN

TIMING INTERVAL	TIMING FUNCTION 1	2	3	4	5	6	7	8	9
MINIMUM GREEN (INITIAL)	7	23	13						
EXTENSION (PASSAGE)	1	1	1						
MAXIMUM GREEN I	10	86	47						
MAXIMUM GREEN II									
YELLOW	3	3	4						
ALL RED									
PEDESTRIAN WALK									
PEDESTRIAN CLEAR									

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	1	1
L-4	3	1

NOTES:
1. FINAL SIGNAL TIMING TO BE PROVIDED BY DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-1 DEVIATES FROM FDOT STANDARDS AND SHALL BE USED FOR TWO LANES AND AVOID FOR TURNING LANES.

REMOVAL ITEMS

690-10	2 EA
690-30	4 EA
690-50	1 EA
690-80	1 EA

3055

S.R. 924/N.W. 119 ST. AT
N.W. 6TH. AVE.
INTERSECTION ID NO. 3055

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

FLORIDA DEPARTMENT OF TRANSPORTATION

SR 924
SIGNALIZATION PLAN

R10-3E (MOD.) PER COUNTY

4 EA 700-48-18

P2 P4 P6 P8

PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY

4 AS 653-191

NOTE:
ATTACH TO EXISTING MAST ARM ASSEMBLY OR PEDESTAL. THE PED SIGNAL SHALL BE ORIENTED PARALLEL TO CROSSWALK FOR ITS MOVEMENT.

P2 P4 P6 P8

PED. SIGNAL COUNT-DOWN 1-SECT., 2-WAY

2 AS 653-192

NOTE:
INSTALL THESE PEDESTRIAN HEADS ON SW AND NE CORNERS

2 EA	690-31
4 EA	690-70
4 EA	700-48-60

1 EA	527-1
3 EA	635-1-11
1 EA	665-11

N 2° 50' 31" W NW 5th AVE

R/W LINE

13KV

30'

INSTALL PED SIGNAL PEDESTAL & PED DETECTOR
STA. 12+76.65 36.86 RT

527-1	1 EA
630-1-13	60 FT
632-6-1	60 FT
535-1-11	6 EA
659-107	1 EA
665-11	1 EA
671-2-42	1 EA

+70 8" WM

+75

16" WM

90°20'35"

EXIST. CONTROLLER CABINET

END CONSTRUCTION
BEGIN EXCEPTION
STA. 220+80.00

SR-924/NW 119th ST

N 86° 46' 54" E

STA 222+60
N 564301.615
E 917287.040

℄ Survey

218 219 220 221 222

STA 217+60
N 564273.836
E 916787.812

END EXCEPTION
BEGIN CONSTRUCTION
STA. 219+40.00

12" WHITE THERMOPLASTIC (TYP.)

STA. 220+13.50 ℄ SR-924
STA. 12+20.00 ℄ NW 5 ST

+74 +65 +70

INSTALL PED. SIGNAL, PEDESTAL & DETECTOR
STA. 219+78.76 41 RT

10 FT	630-1-13
10 FT	632-6-1
4 EA	635-1-11
1 EA	659-107
1 EA	665-11

CONSTRUCT CONCRETE AREA (TYP.)

12" WHITE THERMOPLASTIC (TYP.)

6" F.M.

CONSTRUCT DETECTABLE WARNING (TYP)
527-1 1 EA

INSTALL PED. DETECTOR

635-1-11	4 EA
665-11	1 EA

R/W LINE

℄ Const.

N 2° 50' 31" W

30' 30'

12 13 14

50' 150'

N

0 10 40
Feet

Note:
The Contractor may use the existing conduit and pull boxes if they meet FDOT and Miami-Dade specifications. Any missing or damaged part of the existing pull boxes or conduit shall be replaced. Cost to be included in related items.

Legend

Reconstruct concrete sidewalk.

32

INTERSECTION ID # 3300, NW 5TH AVE & NW 119 ST

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
04/06/07	LE	1			

MARLIN ENGINEERING INC.
2191 NW 97 Ave
Miami Florida 33172
(305) 477-5575 C.A. No. 4184
Naldo Gonzalez PE No. 51945

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
924	MIAMI-DADE	418238-1-52-01 418238-3-52-01

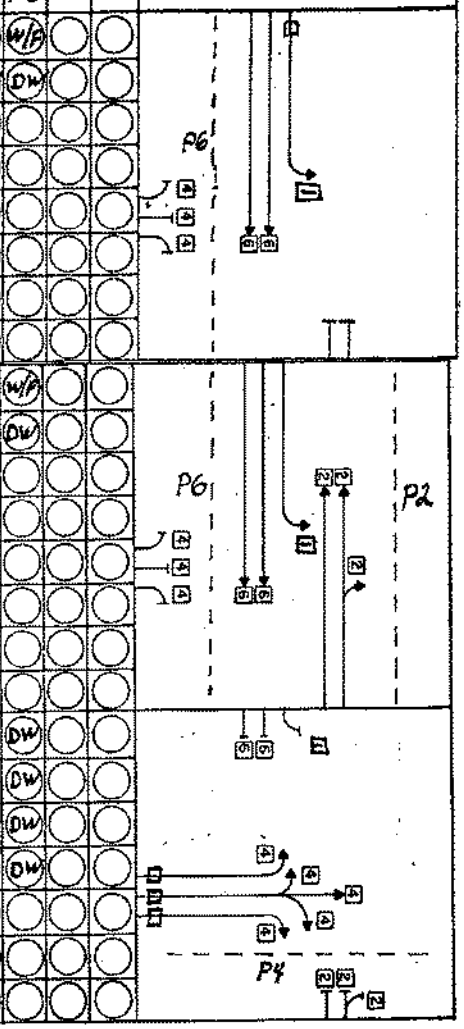
PLAN

SHEET NO. 22

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.001, F.A.C.

TRAFFIC SIGNAL INTERVAL DIAGRAMS

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	PEDESTRIAN HEAD NUMBER P4	P2	P6
ϕ(1+6) NW 119 ST | (ACTUATED)	R/W	G/R	R		R		G							DW	DW	W/F
	TO ϕ2+6	G/R	R		R		G							DW	DW	DW
	CLEAR															
ϕ (2+6) NW 119 ST (RECALL)	R/W	G	G		R		G							DW	W/F	W/F
	TO ϕ4	Y	Y		R		Y							DW	DW	DW
	CLEAR															
ϕ4 (4) NW 6 AVE (ACTUATED)	R/W	R	R		G		R							W	DW	DW
	PED CL	R	R		G		R							F DW	DW	DW
	TO ϕ1+6	R	R		Y		R							DW	DW	DW
	TO ϕ2+6	R	R		Y		R							DW	DW	DW
	CLEAR															
FLASHING OP		FY	FY		FR		FY									



N

Drawn: F. PRATS	Date: 4/24/08	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS
Check: H. HERNANDEZ	Date: 4/25/08	ASSET NO: 3055
Division Engineer	Date	I 95 (NB) & NW 119 St (NW 6 Av)
		Placed in Service Date: 6/2/8 By: CONTRACTOR
		Phasing Number: 5

SUO

TOD Schedule Report

for 2548: N Miami Blvd&NW 7 Av&NW 125 St

Print Date: 3/5/2015

Print Time: 2:02 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2548	N Miami Blvd&NW 7 Av&NW 125 St	DOW-5		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	-	-	SBL	NBT	WBT	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SBT	5 - 5 - 5	18 - 18 - 18	5 - 5 - 5	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	15 - 15 - 15	4.4	2
6 NBT	5 - 5 - 5	18 - 18 - 18	5 - 5 - 5	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4.4	2
7 WBT	5 - 5 - 5	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 12 - 12	35 - 35 - 35	4	2.4
8 EBT	5 - 5 - 5	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 12 - 12	35 - 35 - 35	4	2.4

Last In Service Date: 08/25/2009 17:26

Permitted Phases

	12345678
Default	-2--5678
External Permit 0	--------
External Permit 1	-2---678
External Permit 2	-2---678

TOD Schedule Report

for 2548: N Miami Blvd&NW 7 Av&NW 125 St

Print Date: 3/5/2015

Print Time: 2:02 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	SBT	-	-	SBL	NBT	WBT	EBT		
	1	95	0	44	0	0	5	33	16	17	0	48
	2	105	0	54	0	0	9	39	16	17	0	98
	3	100	0	47	0	0	10	31	19	16	0	56
	4	85	0	37	0	0	6	25	16	14	0	56
	5	85	0	37	0	0	6	25	14	16	0	64
	6	100	0	48	0	0	10	32	17	17	0	56
	7	85	0	38	0	0	6	26	13	16	0	56
	8	110	0	58	0	0	16	36	17	17	0	38
	9	110	0	57	0	0	13	38	18	17	0	80
	10	100	0	45	0	0	14	25	20	17	0	60
	11	100	0	48	0	0	10	32	17	17	0	64
	12	100	0	45	0	0	14	25	20	17	0	64
	13	100	0	48	0	0	10	32	17	17	0	60
	14	80	0	33	0	0	6	21	13	16	0	48
	15	100	0	48	0	0	10	32	17	17	0	56
	16	100	0	48	0	0	10	32	17	17	0	56
	17	100	0	45	0	0	14	25	20	17	0	64
	20	105	0	51	0	0	5	40	18	18	0	56
	21	90	0	43	0	0	5	32	13	16	0	60

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 2548: N Miami Blvd&NW 7 Av&NW 125 St

Print Date: 3/5/2015

Print Time: 2:02 AM

No Calendar Defined/Enabled

SIGNAL HEAD & SIGN DETAILS

6 8
3-SECT., 1-WAY
(EXISTING TO REMAIN)

3
3-SECT., 1-WAY
(TO BE REMOVED)

5 2 7 4L
5-SECT., 1-WAY
(7-4L TO BE REMOVED)

4 4R
5-SECT., 1-WAY
(EXISTING TO REMAIN)

7/4 3/8
4-SECT., 1-WAY
2 AS
650-5(-411

EXISTING PEDESTRIAN SIGNAL DETAILS

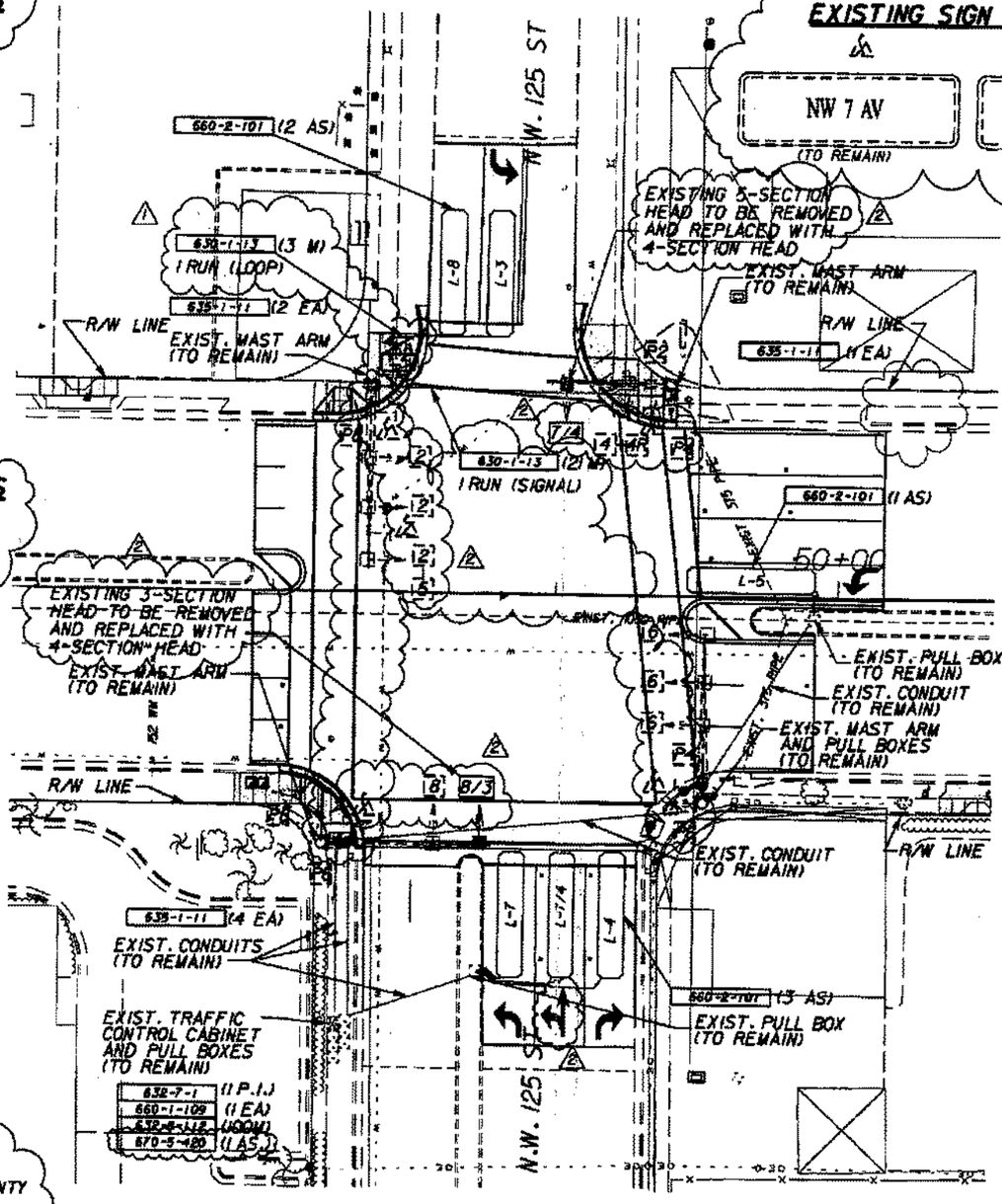
P2 P4 P6 P8
PED. SIGNAL
COUNT-DOWN
1-SECT., 1-WAY
(TO REMAIN)

CONTROLLER OPERATIONS

1. MAJOR STREET: NW 7TH AVENUE
   MINOR STREET: NW 125TH STREET
2. SOP AS SHOWN
3. PHASES 1,3 & 4 ARE ACTUATED
   PHASE 2 IS RECALL
4. FLASHING OPERATION:
   2 & 6 - YELLOW
   3, 4, 5, 7, & 8 - RED

NOTES

1. SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. PAY ITEM 670-5-420 INCLUDES ALL WORK TO BE PERFORMED IN THE EXISTING CONTROLLER AS NEEDED.

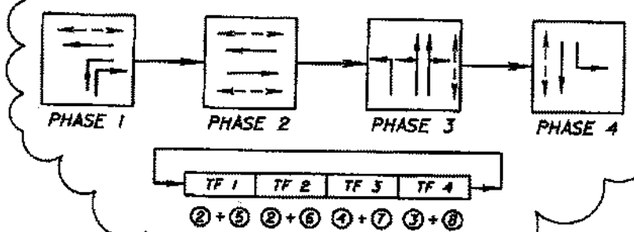


EXISTING SIGN DETAILS



1:400

S.O.P.



REMOVAL ITEMS

PAY ITEM	UNIT	QUANT.
690-10	EA	2 2
690-90	PI	1
690-100	PI	1

DETECTORS FOR LOOPS

LOOP	NO. OF EXIST. LOOPS	NO. OF EXIST. DETS.
L-3	1	1
L-4	2	1
L-5	1	1
L-7	1	1
L-8	1	

0 5 20
Meters

A 32

INTERSECTION ID * 2548, NW 7TH AV & NW 125 ST

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 6695-27.003, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
04/03/09	RA	REVISED LOOP LEAD-IN WIRES, CONDUITS, AND RESPECTIVE QUANTITIES.			
06/12/09	SR	ADDED SIGNAL ITEMS AND ASSOCIATED PAY ITEMS AND QUANTITIES.			

6/15/09

WAEL F. MAJDALANI, P.E. NO. 42646
Progressive Design & Engineering, Inc.
10891 La Reina Road Suite 100 Delray Beach, FL 33446
Tel 561-498-2364 Fax 561-498-2365
CERTIFICATE OF AUTHORIZATION NO. 7151

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
7	MIAMI-DADE	250081-3-52-01

INTERSECTION DETAILS
SIGNALIZATION

SHEET NO. 34

SIGNAL HEAD & SIGN DETAILS

6 8 — 3-SECT., 1-WAY (EXISTING TO REMAIN)

3 — 3-SECT., 1-WAY (TO BE REMOVED)

5 1 2 7 4L — 5-SECT., 1-WAY (7-4L TO BE REMOVED)

4 4R — 5-SECT., 1-WAY (EXISTING TO REMAIN)

7/4 3/8 — 4-SECT., 1-WAY, 2 AS 650-51-411

EXISTING PEDESTRIAN SIGNAL DETAILS

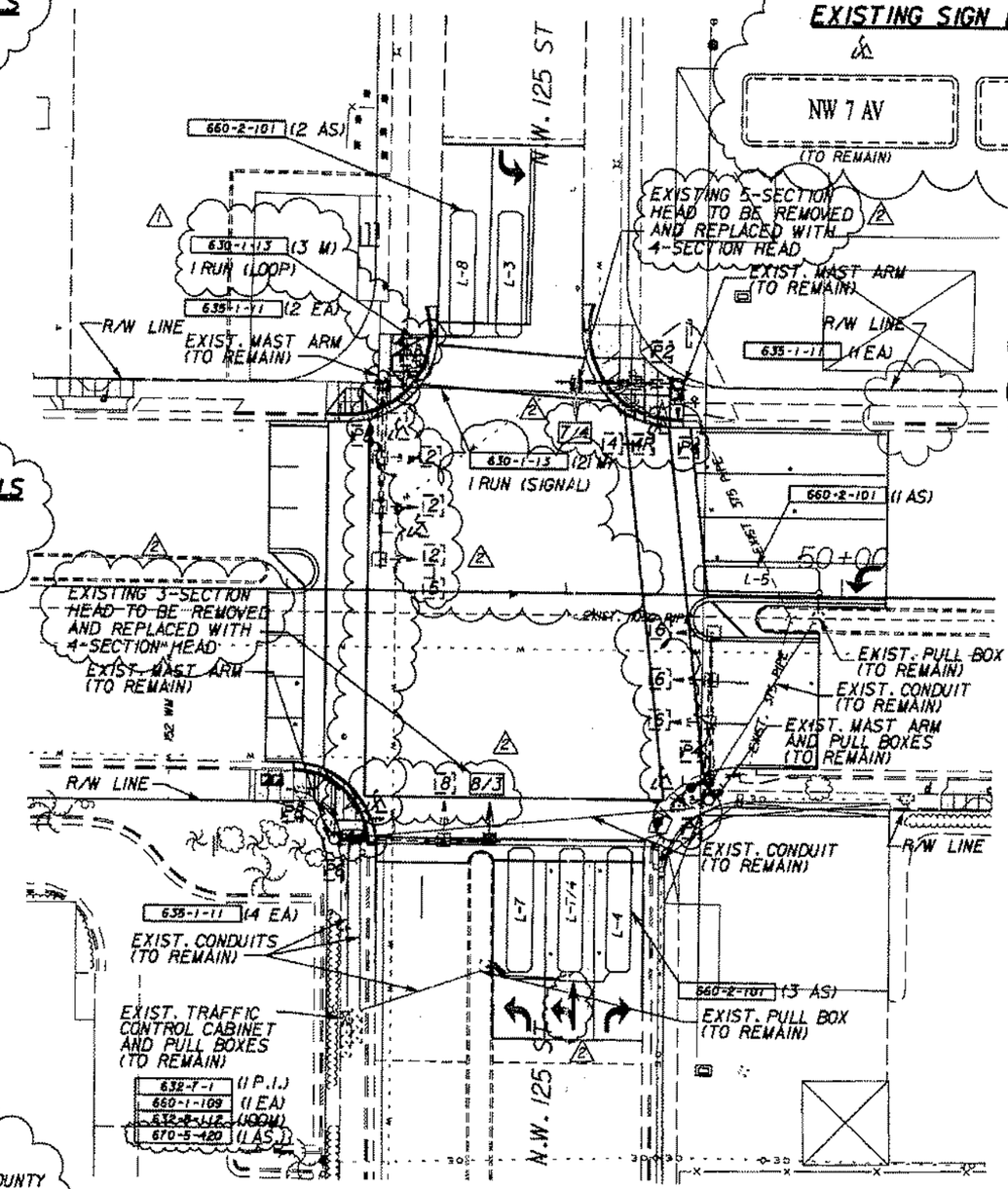
P2 P4 P6 P8 — PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY (TO REMAIN)

CONTROLLER OPERATIONS

1. MAJOR STREET: NW 7TH AVENUE
   MINOR STREET: NW 125TH STREET
2. SOP AS SHOWN
3. PHASES 1,3 & 4 ARE ACTUATED
   PHASE 2 IS RECALL
4. FLASHING OPERATION:
   2 & 6 - YELLOW
   3, 4, 5, 7, & 8 - RED

NOTES

1. SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. PAY ITEM 670-5-420 INCLUDES ALL WORK TO BE PERFORMED IN THE EXISTING CONTROLLER AS NEEDED.



EXISTING SIGN DETAILS

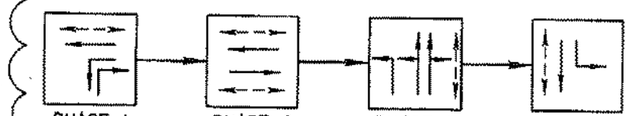
NW 7 AV (TO REMAIN)

NW 125 ST N MIAMI BLVD (TO REMAIN)

YIELD (TO REMAIN)

1:400

S.O.P.



TF 1	TF 2	TF 3	TF 4
②+⑤	②+⑥	④+⑦	③+⑧

REMOVAL ITEMS

PAY ITEM	UNIT	QUANT.
690-10	EA	2
690-90	PI	1
690-100	PI	1

DETECTORS FOR LOOPS

LOOP	NO. OF EXIST. LOOPS	NO. OF EXIST. DETS.
L-3	1	1
L-4	2	1
L-5	1	1
L-7	1	1
L-8	1	

0 5 20 Meters

INTERSECTION ID * 2548, NW 7TH AV & NW 125 ST

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
04/03/09	RA	REVISED LOOP LEAD-IN WIRES, CONDUITS, AND RESPECTIVE QUANTITIES.			
06/12/09	OR	ADDED SIGNAL ITEMS AND ASSOCIATED PAY ITEMS AND QUANTITIES.			

6/15/09

NOEL F. MAJADANG, P.E. NO. 42646
Progressive Design & Engineering, Inc.
10891 La Reina Road, Suite 100, Delray Beach, FL 33446
Tel: 561-498-2204 Fax: 561-498-2305
CERTIFICATE OF AUTHORIZATION NO. 7151

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
7	MIAMI-DADE	250081-3-52-01

INTERSECTION DETAILS SIGNALIZATION

SHEET NO. 34

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 6G15-23.003, F.A.C.

EXISTING SIGNAL HEAD DETAILS (TO REMAIN)

3-SECT., 1-WAY (6 8) (R Y G)

4-SECT., 1-WAY (7 4) (3 8) (R Y G G)

5-SECT., 1-WAY (4R) (R Y G G G)

PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY (P2 P4 P6 P8)

REMOVE EXISTING SIGNAL HEADS

3-SECT., 1-WAY (2) (R Y G)
690-10
2 EA

5-SECT., 1-WAY (5 2) (R Y Y G G)
690-10
1 EA

PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY (P2 P8)
690-20
2 EA

CONTROLLER OPERATIONS:

1. MAJOR STREET IS NW 7 AVE
   MINOR STREET IS NW 125 ST
2. SOP AS SHOWN
3. PHASES 1,3 & 4 ARE ACTUATED
   PHASE 2 IS ON RECALL
4. FLASHING OPERATION:
   HEADS 2 & 6 - YELLOW
   HEADS 4 & 8 - RED

NOTES:

1. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI - DADE COUNTY PUBLIC WORKS AND WASTE MANAGEMENT DEPARTMENT, SIGNAL DIVISION
2. LOOP ASSEMBLIES 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU AND 5' X 30' FOR LEFT TURN LANES.
3. USE EXISTING AND PROPOSED PULL BOXES AND EXISTING AND PROPOSED CONDUITS TO ROUTE LOOP LEAD-INS BETWEEN PROPOSED PAVEMENT LOOPS AND EXISTING TRAFFIC CONTROLLER.
4. NEW PULL BOXES SHALL NOT BE PLACED IN RAMP AREAS
5. TOP OF MAST ARM FOUNDATION SHALL BE FLUSH WITH THE FINISHED GRADE OF ADJACENT SIDEWALK.

EXISTING INTERNALLY ILLUMINATED SIGN PANELS (TO REMAIN)

NW 7 AV
(X)

NW 125 ST/N Miami Blvd
Jean-Jacques Dessalines Blvd
(Z1)

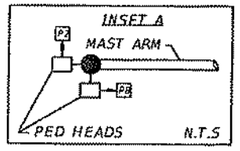
RELOCATE INTERNALLY ILLUMINATED SIGN PANEL

(SINGLE SIDED FLUSH MOUNT ON MAST ARM)

NW 125 ST/N Miami Blvd
Jean-Jacques Dessalines Blvd
(Z2)
699-1-41
1 EA

PUSH BUTTON WAIT FOR WALK TO CROSS NW 7 AVE
(V)
700-48-60
4 EA

INSET A



PROPOSED SIGNAL HEADS

(2) (R Y G) 3-SECT., 1-WAY (LED)
650-1-311 2 AS ✓

(5 2) (R Y Y G G) 5-SECT., 1-WAY (LED)
650-1-511 1 AS ✓

PROPOSED SIGN PANELS

(A) R10-3E (MOD) 9"X15" 4 PANELS

U-TURN YIELD TO RIGHT TURN
R10-16 24"X30"
(Z3)
700-48-18
1 EA

MOUNT NEW PEDESTRIAN PUSH BUTTONS AND SIGN PANELS ON 3 EXISTING SIGNAL MAST ARM POLES AND 1 POST (SW CORNER)
INCLUDE COST UNDER 665-11 (3 EA), 665-12 (1 EA)

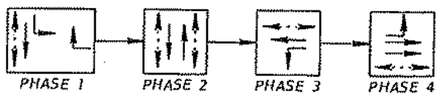
PROPOSED PEDESTRIAN HEADS

(MOUNTED ON NEW MAST ARM POLE)
(SEE INSET A FOR MOUNTING)

P2 PED. SIGNAL COUNT-DOWN, (LEO) 1-SECT., 1-WAY
653-191
1 AS

P8 PED. SIGNAL COUNT-DOWN, (LED) 1-SECT., 1-WAY
653-191
1 AS

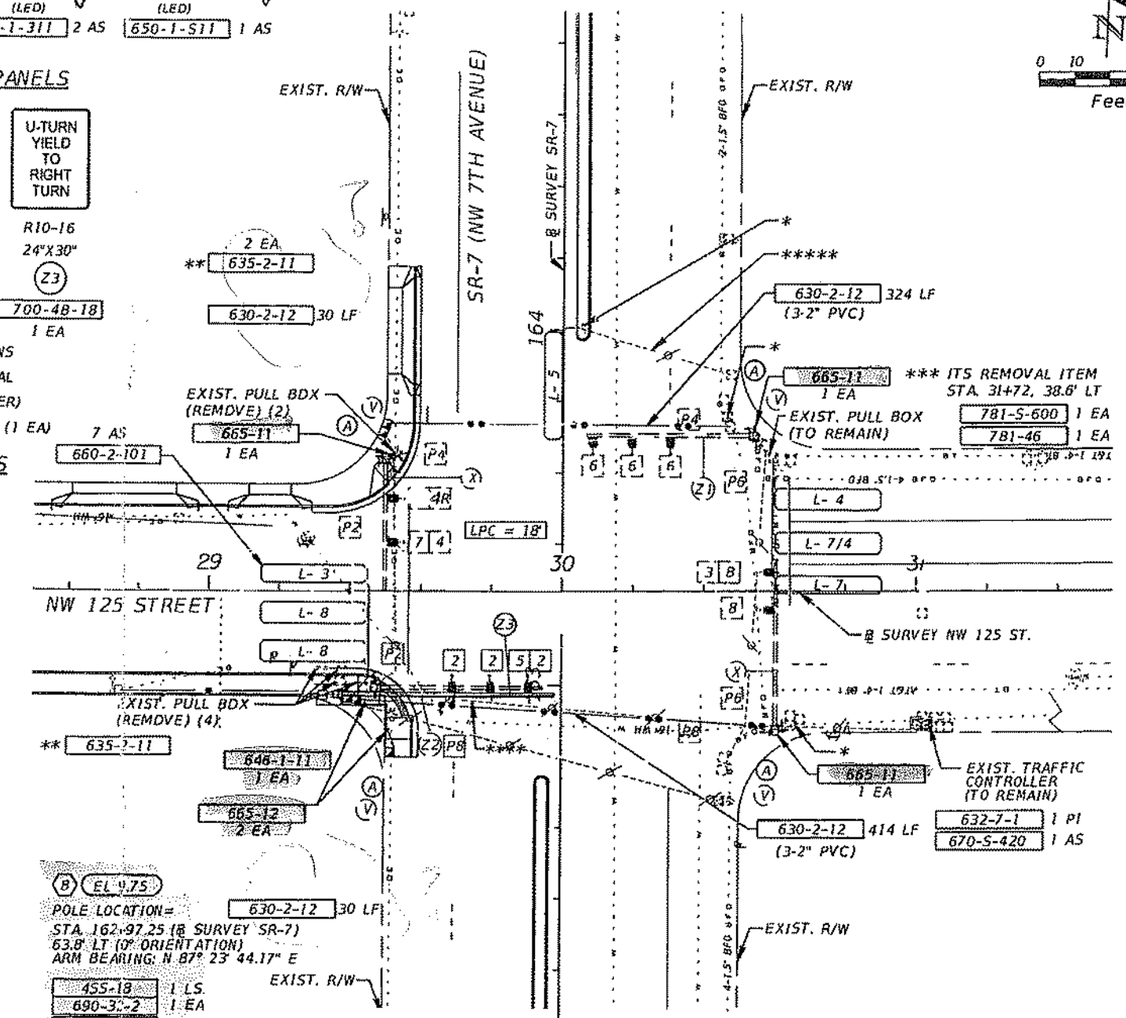
EXISTING S.O.P.



TF 1	TF 2	TF 3	TF 4
2+5	2+6	7+4	3+8
4R+P2	P2+P6	P4	P8

DETECTORS FOR LOOPS

LOOP	NO. OF NEW LOOPS	NO. OF EXIST. DETS.	NO. OF NEW DETS.
L-3	1	1	
L-4	1	1	
L-5	1	1	
L-7	1	1	
L-7/4	1	1	
L-8	2	1	



* UTILIZE EXISTING PULL BOX.
** CONNECT EXISTING CONDUITS TO NEW PULL BOXES AS NECESSARY. COST INCIDENTAL TO NEW PULL BOX PAY ITEM.
*** INCLUDES ALL LABOR AND MATERIAL FOR ACCEPTABLE REMOVAL.
**** ABANDON EXISTING CONDUIT IN PLACE AND CAP ENDS
***** UTILIZE EXISTING CONDUIT

SR 7 (NW 7TH AVENUE) AT NW 125TH STREET INTERSECTION ID. #2548

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

HBC ENGINEERING COMPANY
13155 SW 134TH STREET, SUITE 207,
MIAMI, FLORIDA 33186
PHONE: (305) 232-7932 FAX: (305) 232-7933
CERTIFICATE OF AUTHORIZATION NO. 27160
ENGINEER OF RECORD: ADEBAYO T. COKER, PE
P.E. LICENSE NUMBER 56322

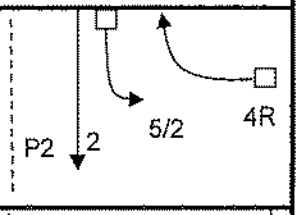
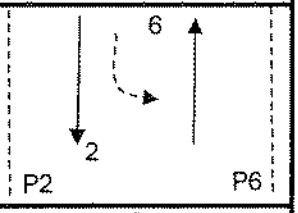
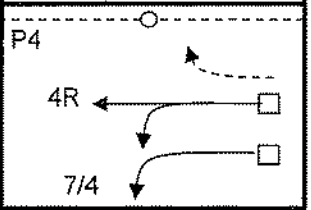
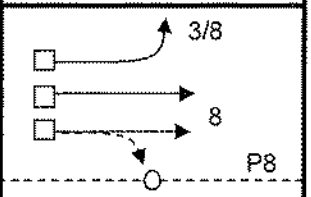
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
7	MIAMI-DADE	428054-1-52-01

SIGNALIZATION PLAN

SHEET NO. T-5

SIGNAL OPERATING PLAN

	Direction	NB	SB	EB	WB	Ped Heads				
Timing Phases	Head No.	6	5/2	2	3/8	8	7/4	4R	P6	P2	P8	P4	Movements/Display/Actuation
(2+5)	Dwell	R	<G/G	G	R	R	R	R/G>	DW	W/F	DW	DW	
SB	Clear to 2+6	R	<Y/G	G	R	R	R	R/Y>	DW	DW	DW	DW	
NW 7 AV													
(Actuated)													
(2+6)	Dwell	G	G	G	R	R	R	R	W/F	W/F	DW	DW	
SB + NB	Clear to 7	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
NW 7 AV	Clear to 8	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
(Recall)													
(7)	Dwell	R	R	R	R	R	<G/G	G	DW	DW	DW	W/F	
WB	Clear to 8	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
NW 7 AV	Clear to 2+5	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	Clear to 2+6	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(Actuated)													
(8)	Dwell	R	R	R	<G/G	G	R	R	DW	DW	W/F	DW	
EB	Clear to 2+5	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
NW 125 ST	Clear to 2+6	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
(Actuated)													
	Clear to												
	Dwell												
	Clear to												
	Dwell												
	Clear												
Flashing Operation		FY	FY	FY	FR	FR	FR	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	N MIAMI BLVD & NW 7 AV & NW 125 ST		
Juan Canizares	2/20/2015			
Checked	Date	Placed in Service	Phasing No.	Asset Number
A. Hermida PE	2/25/15	Date 8/25/2009 By :	11 (revision)	2548

TOD Schedule Report
for 3861: I- 95 SB&N Miami Blvd

Print Date: 2/13/2015

Print Time: 12:27 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3861	I- 95 SB&N Miami Blvd	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	-	WBL	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1	Walk Phase Bank 2	Walk Phase Bank 3	Don't Walk Phase Bank 1	Don't Walk Phase Bank 2	Don't Walk Phase Bank 3	Min Initial Phase Bank 1	Min Initial Phase Bank 2	Min Initial Phase Bank 3	Veh Ext Phase Bank 1	Veh Ext Phase Bank 2	Veh Ext Phase Bank 3	Max Limit Phase Bank 1	Max Limit Phase Bank 2	Max Limit Phase Bank 3	Max 2 Phase Bank 1	Max 2 Phase Bank 2	Max 2 Phase Bank 3	Yellow	Red
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	0	0	0	0	0	0	16	16	16	1	1	1	40	40	40	0	40	40	4	0.4
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 WBL	0	0	0	0	0	0	5	5	5	2	2	2	7	7	7	22	15	15	3	0
6 EBT	0	0	0	0	0	0	16	16	16	1	1	1	40	40	40	0	40	40	4	0.4
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 SBT	0	0	0	0	0	0	7	7	7	2.5	2.5	2.5	20	20	20	36	35	35	4	1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2--56-8
External Permit 0	-2---6-8
External Permit 1	-2---6-8
External Permit 2	-2---6-8

TOD Schedule Report

for 3861: I- 95 SB&N Miami Blvd

Print Date: 2/13/2015

Print Time: 12:27 PM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	-	WBL	EBT	-	SBT		
	1	95	0	51	0	0	12	36	0	35	0	36
	2	105	0	54	0	0	16	35	0	42	0	62
	3	100	0	60	0	0	15	42	0	31	0	6
	4	85	0	52	0	0	12	37	0	24	0	10
	5	85	0	52	0	0	12	37	0	24	0	10
	6	100	0	60	0	0	15	42	0	31	0	6
	7	85	0	52	0	0	12	37	0	24	0	10
	8	110	0	65	0	0	16	46	0	36	0	88
	9	110	0	69	0	0	16	50	0	32	0	26
	10	100	0	61	0	0	16	42	0	30	0	10
	11	100	0	61	0	0	20	38	0	30	0	14
	12	100	0	61	0	0	16	42	0	30	0	14
	13	100	0	61	0	0	22	36	0	30	0	10
	14	80	0	51	0	0	9	39	0	20	0	10
	15	100	0	60	0	0	15	42	0	31	0	6
	16	100	0	60	0	0	15	42	0	31	0	6
	17	100	0	61	0	0	16	42	0	30	0	14
	20	105	0	49	0	0	21	25	0	47	0	94
	21	90	0	42	0	0	17	22	0	39	0	12
	22	70	0	44	0	0	10	31	0	17	0	46

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3861: I- 95 SB&N Miami Blvd

Print Date: 2/13/2015

Print Time: 12:27 PM

No Calendar Defined/Enabled

SIGNAL HEAD DETAIL



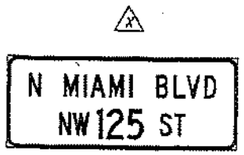
CONTROLLER OPERATIONS

1. MAJOR STREET: NW 125 ST
   MINOR STREET: NW 6 CT
2. SOP NO. 13
3. PHASE 1 AND 3 ACTUATED, PHASE 2 RECALL
4. FLASHING OPERATION: NW 125 AVE-YELLOW (2) & (6)
   NW 6 CT-RED (8)

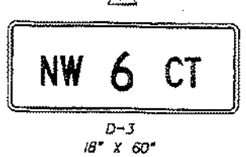
REMOVAL ITEMS

690-10	6 EA
690-32-1	4 EA
690-50	1 EA.
690-80	1 EA
690-100	1 PI





SERIES 'C' LETTERS
6" CAPITALS.
8" NUMERALS.

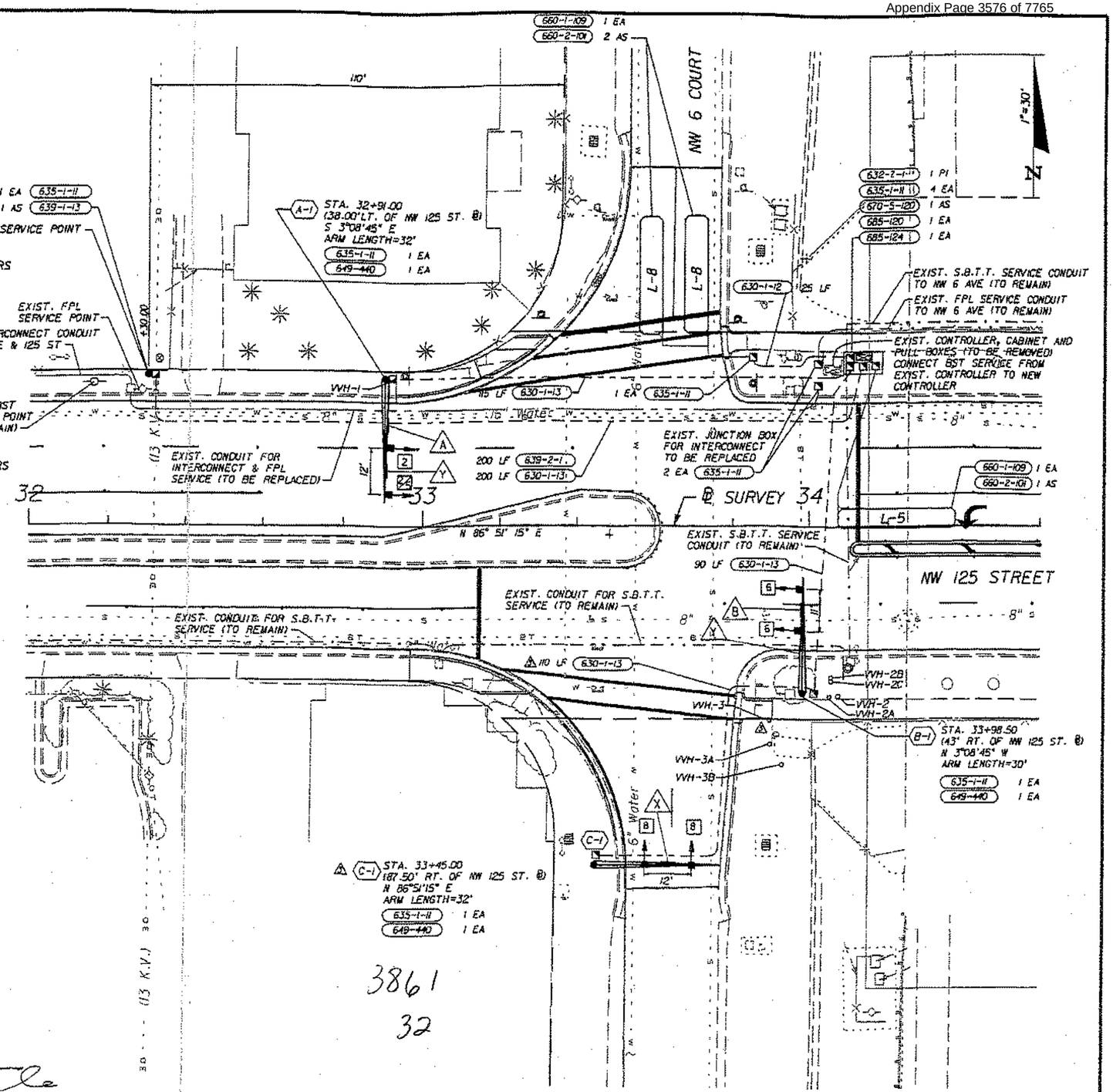


SERIES 'C' LETTERS
8" CAPITALS.
10" NUMERALS.

NOTES:

1. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI DADE COUNTY SIGNAL DIVISION.
2. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR LEFT TURNING LANES.
3. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGE TO EXISTING UNDERGROUND UTILITIES, ANY COST FROM DAMAGE SHALL BE BORNE BY THE CONTRACTOR.
4. THE SPACE BETWEEN LETTERS COULD BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALLL DIMENSION IN THE OVERHEAD STREET NAME SIGNS.
5. QUANTITY FOR CONDUIT HAS BEEN DUPLICATED FROM THE NEAREST PULL BOX TO POLE.
6. CONTRACTOR TO MAINTAIN INTERCONNECTED OPERATION WITH EXISTING CABLE UNTIL INTERSECTION IS CONNECTED TO COMPUTER SYSTEM.

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-8	2	1
L-5	1	1



3861
32

11/12/04

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
11/12/04	CS	(A) REVISED MAST ARM C-1 LOCATION REVISED CONDUIT			

BERMELLO AJAMIL & PARTNERS, INC.
ARCHITECTURE - ENGINEERING - PLANNING
LANDSCAPE ARCHITECTURE - INTERIOR DESIGN
2601 S. BAYSHORE DRIVE, 3RD FLOOR
MIAMI FL. 33133
(305) 859-2050 FAX (305) 854-2726
P.E. LICENSE NO. 4157

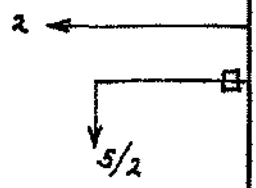
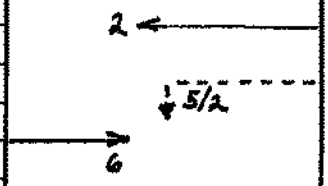
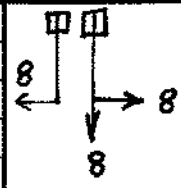
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 922	MIAMI-DADE	407591-1-52-01

SIGNALIZATION PLAN
NW 125 ST (SR 922) & NW 6 CT

SHEET NO. T-4

SIGNAL OPERATING PLAN

N

	Direction	E		W		S				Ped Heads				
Timing Phases	Head No.		6	2	5/2		8							Movements/Display/Actuation
	Dwell													
	Clear to													
(2+5) WBLT (ACTUATED)	Dwell		R	G	<R/G		R							
	(2+6)		R	G	<Y/G		R							
	Clear to													
(2+6) E-W (Recall)	Dwell		G		G		R							
	(8)		Y		Y		R							
	Clear to													
	Dwell													
	Clear to													
	Dwell													
	Clear to													
(8) SB (ACTUATED)	Dwell		R		R		G							
	(2+5)		R		R		Y							
	(2+6)		R		R		Y							
	Clear to													
Flashing Operation			FY		FY		FR							Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date			
F. PRATS	6/6/05	I-95 SB & N. Miami BLvd		
Checked	Date	Placed In Service	Phasing No.	Asset Number
H. HERNANDEZ	6/8/05	Date 8/2/05 By Contractor	3	3861

TwoPhaseNoPeds

TOD Schedule Report

for 3083: I- 95 NB&N Miami Blvd

Print Date: 2/13/2015

Print Time: 11:00 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3083	I- 95 NB&N Miami Blvd	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	16 - 16 - 16	4.4	2
2 WBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 25 - 25	36 - 36 - 36	4.4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4.4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6--
External Permit 0	-2-4-6--
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

TOD Schedule Report

for 3083: I- 95 NB&N Miami Blvd

Print Date: 2/13/2015

Print Time: 11:00 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 -	Ring Offset	Offset
	1	95	6	46	0	25	0	58	0	0	0	34
	2	105	9	31	0	47	0	46	0	0	0	42
	3	100	6	43	0	33	0	55	0	0	0	86
	4	85	6	43	0	18	0	55	0	0	0	4
	5	85	6	43	0	18	0	55	0	0	0	12
	6	100	6	43	0	33	0	55	0	0	0	86
	7	85	6	36	0	25	0	48	0	0	0	84
	8	110	6	62	0	24	0	74	0	0	0	84
	9	110	6	57	0	29	0	69	0	0	0	12
	10	100	9	51	0	22	0	66	0	0	0	98
	11	100	9	51	0	22	0	66	0	0	0	2
	12	100	9	40	0	33	0	55	0	0	0	92
	13	100	9	39	0	34	0	54	0	0	0	86
	14	80	6	38	0	18	0	50	0	0	0	12
	15	100	6	43	0	33	0	55	0	0	0	86
	16	100	6	43	0	33	0	55	0	0	0	86
	17	100	9	40	0	33	0	55	0	0	0	92
	20	105	9	44	0	34	0	59	0	0	0	10
	21	90	6	39	0	27	0	51	0	0	0	18
	22	70	6	32	0	14	0	44	0	0	0	50

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2030	4	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3083: I- 95 NB&N Miami Blvd

Print Date: 2/13/2015

Print Time: 11:00 AM

No Calendar Defined/Enabled

SIGNAL HEAD DETAILS

1/6 — R Y Y G G

5-SECTION, 1 WAY
1 AS
650-51-511

2 4 6 — R Y G

EXISTING
TO REMAIN

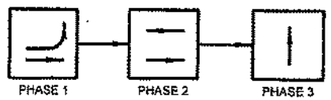
X — N MIAMI BLVD NW 125 ST

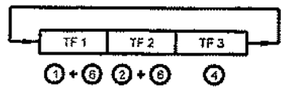
EXISTING
TO REMAIN

Y — NW 6 AV

EXISTING
TO REMAIN

S.O.P.





A — EXISTING TO REMAIN

B — EXISTING TO REMAIN

CONTROLLER OPERATION

1. MAJOR STREET: NW 125 St. (NORTH MIAMI BLVD).
   MINOR STREET: NW 6TH AVE.
2. SOP 4 (MODIFIED)
3. PHASE 1 RECALL. PHASE 2 ACTUATED
4. SIGNAL COORDINATION PHASE 1
5. FLASHING OPERATION: NW 125 ST. YELLOW
   NW 6TH AV. RED.

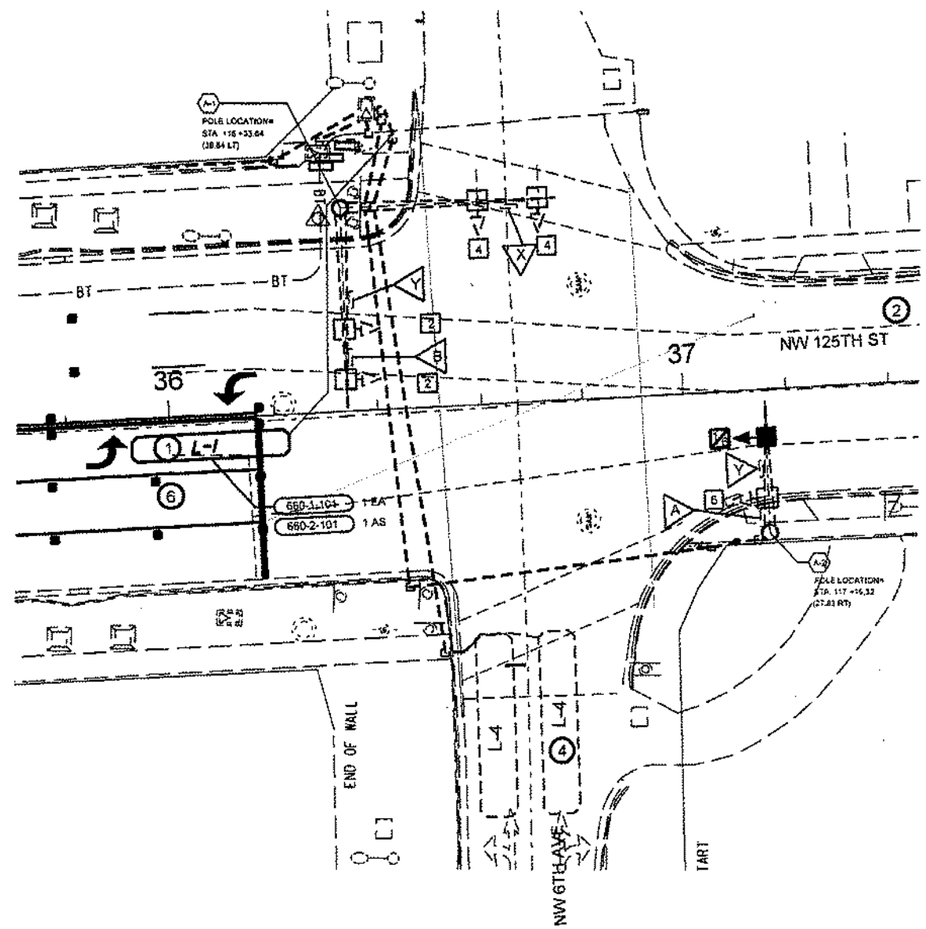
DETECTORS FOR LOOPS				
LOOP	NO. OF LOOPS	NO. OF NEW DETS.		
L-1	1	1		
L-4	2	1		
L-				
L-				
L-				
L-				
L-				
L-				
L-				
L-				

NOTES:

1. EXISTING CONTROLLER TO BE REMOVED.
2. FINAL SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY PUBLIC WORKS TRAFFIC DIVISION.
3. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR LEFT TURNING LANES.
4. MAST ARM POLE LOCATION SHALL BE VERIFIED BY THE CONTRACTOR TO PREVENT DAMAGE TO EXISTING UNDERGROUND UTILITIES. ANY DAMAGED UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. THE SPACE BETWEEN LETTERS COULD BE REDUCED IN ORDER TO COMPLY WITH LETTER SIZE AND OVERALL DIMENSION IN THE OVERHEAD STREET NAME SIGNS.
6. QUANTITY FOR CONDUIT HAS BEEN DUPLICATED FROM THE NEAREST PULL BOX TO POLE.
7. CONTRACTOR TO MAINTAIN INTERCONNECTION OPERATION UNTIL INTERSECTION IS UNDER COMPUTER CONTROL.
8. EXISTING BELLSOUTH AND FPL SERVICE POINTS TO REMAIN.

REMOVAL ITEMS

690-10 1 EA



3083
32

12/19/05

0 5 20
Feet

INTERSECTION ID NO.: 3083

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

CH PEREZ & ASSOC. CONSULTING ENGINEERS, INC
CERTIFICATE OF AUTHORIZATION NO. EB-25976
9594 NW 41 STREET, SUITE 201
MIAMI, FLORIDA 33178
(305)592-1070 / FAX: (305)592-1078

CARLOS H. PEREZ, P.E.
P.E. LICENSE NO. 52060

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
922	miami-dade	250629-1-32-03

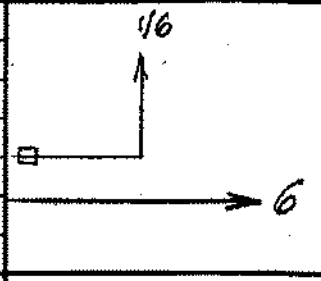
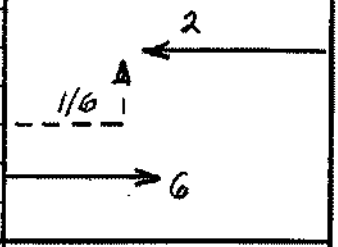
SIGNALIZATION PLAN
NW 125TH ST AND NW 6TH AVE

SHEET NO. 5

USER: 12/19/2005 3:51:33 PM U:\250629\1\89\plansg02.dgn

SIGNAL OPERATING PLAN

N

	Direction	E		W				N		Ped Heads				
Timing Phases	Head No.	1/6	6		2				4					Movements/Display/Actuation
	Dwell													
	Clear to													
(1+6)	Dwell	G/G	G		R				R					
EBLT	Clear to 2+6	Y/G	G		R				R					
(ACTUATED)														
(2+6)	Dwell	G	G		G				R					
E-W	Clear to (4)	Y	Y		Y				R					
(Recall)														
	Dwell													
	Clear to													
	Dwell													
	Clear to													
(4)	Dwell	R	R		R				G					
NB	Clear to (2+6)	R	R		R				Y					
(ACTUATED)														
Flashing Operation		FY	FY		FY				FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date			
F. PRATS	5/19/06	I-95 (NB) & N. Miami Blvd		
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	5/19/06	Date 5/22/06 By CONTRACTOR	3	3083

TOD Schedule Report
for 3101: NW 7 Av&NW 135 St

Print Date: 2/28/2015

Print Time: 2:09 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3101	NW 7 Av&NW 135 St	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
SBL	NBT	-	EBT	-	SBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
	Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	14 - 14 - 14	4.4	2
2 NBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	1 - 1 - 1	35 - 35 - 35	0 - 40 - 40	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 EBT	7 - 7 - 7	22 - 22 - 22	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 15	36 - 36 - 36	4.4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 SBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	1 - 1 - 1	35 - 35 - 35	0 - 40 - 40	4.4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6--
External Permit 0	-2-4-6--
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

TOD Schedule Report

for 3101: NW 7 Av&NW 135 St

Print Date: 2/28/2015

Print Time: 2:09 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			SBL	NBT	-	EBT	-	SBT	-	-		
	1	95	9	51	0	17	0	66	0	0	0	80
	2	105	6	59	0	22	0	71	0	0	0	74
	3	100	12	50	0	20	0	68	0	0	0	26
	4	95	10	46	0	21	0	62	0	0	0	64
	5	95	13	38	0	26	0	57	0	0	0	68
	6	100	12	50	0	20	0	68	0	0	0	26
	7	85	10	41	0	16	0	57	0	0	0	58
	8	110	18	51	0	23	0	75	0	0	0	86
	9	110	13	56	0	23	0	75	0	0	0	58
	10	100	17	45	0	20	0	68	0	0	0	22
	11	100	12	50	0	20	0	68	0	0	0	26
	12	100	13	41	0	28	0	60	0	0	0	18
	13	100	12	45	0	25	0	63	0	0	0	22
	14	80	4	33	0	25	0	43	0	0	0	22
	15	100	12	50	0	20	0	68	0	0	0	26
	16	100	12	50	0	20	0	68	0	0	0	26
	17	100	13	41	0	28	0	60	0	0	0	18
	20	105	4	55	0	28	0	65	0	0	0	24
	21	90	7	41	0	24	0	54	0	0	0	60
	22	70	4	30	0	18	0	40	0	0	0	50

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2015	4	S
2030	4	Su

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3101: NW 7 Av&NW 135 St

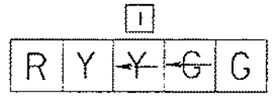
Print Date: 2/28/2015

Print Time: 2:09 AM

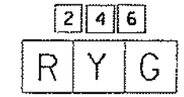
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STATE PROJ. NO.	SHEET NO.
87008-3518	T-

DETAIL OF SIGNAL HEADS



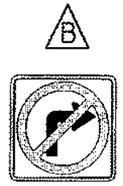
650-1-151 1 AS



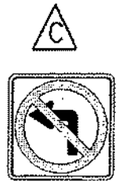
650-1-131 7 AS



R10-12
30" X 24"
700-84-1 1 EA.



R3-1
24" X 24"
700-84-1 1 EA.

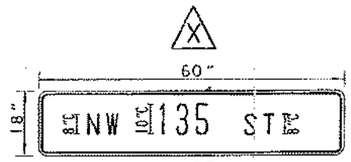


R3-2
24" X 24"
700-84-1 1 EA.

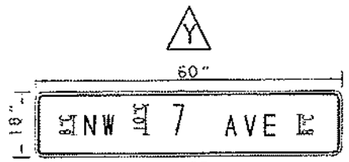
NOTE: SPECIAL SIGN AND PEDESTRIAN PUSH BUTTONS SIGN TO BE INSTALLED ON FACE OF ALL POLES .



SPECIAL SIGN
9"X12"
665-11 2 EA



D3
18" X 60"
700-84-1 2 EA

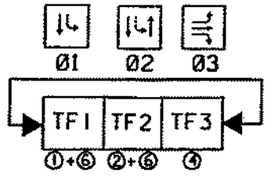


D3
18" X 60"
700-84-1 1 EA

CONTROLLER OPERATION

MAJOR STREET: NW 7 AVE
MINOR STREET: NW 135 ST
PHASE 1,2 RECALL, PHASE 3 ACTUATED
MOVEMENT 1 WITH PHASE 2 IS PERMISSIVE
SIGNAL COORDINATION PHASE 2
FLASHING OPERATION: 1, 2, 6 YELLOW
4 RED

SIGNAL OPERATION PLAN



DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	1	1
L-4	5	1

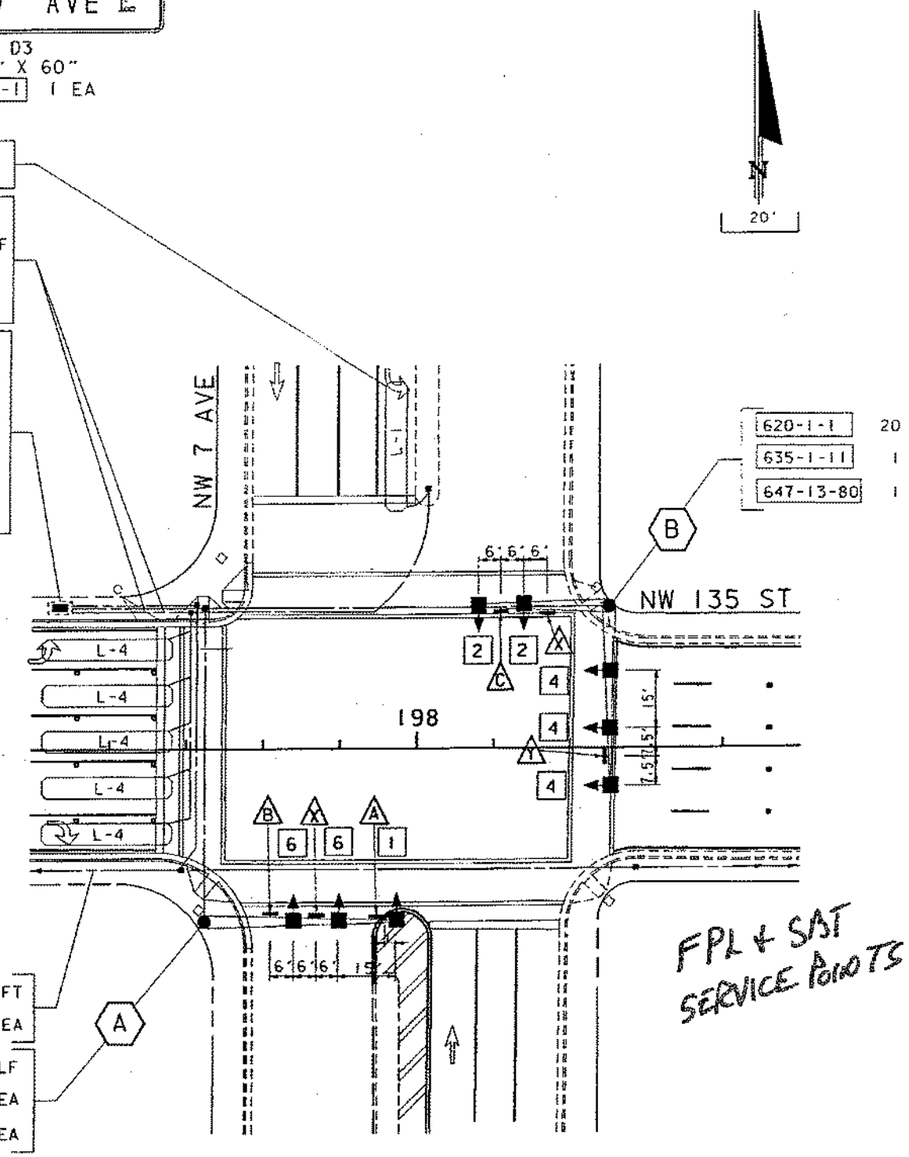
CONTROLLER TIMING PLAN								
TIMING INTERVAL	TIMING FUNCTION							
	1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)	--							
EXTENSION (PASSAGE)	--							
MAXIMUM GREEN I	--							
MAXIMUM GREEN II	--	--			--	--		
YELLOW								
ALL RED								
PEDESTRIAN WALK								
PEDESTRIAN CLEAR								

REMOVAL ITEMS	
690-10	7
690-30	4
690-50	1
690-70	1
690-80	1
690-90	1
700-79	4

NOTE:
1. FINAL SIGNAL TIMING TO BE PROVIDED BY DADE COUNTY PUBLIC WORKS.

2. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR TURNING LANES.

660-2-101 6 EA
630-1-12 70 LF
630-1-13 170 LF
632-7-1 1 PI
635-1-11 4 EA
620-1-1 50 LF
635-1-11 5 EA
660-1-109 2 EA
672-1-1
685-120 1 EA
685-124 1 EA



620-1-1 20 LF
635-1-11 1 EA
647-13-80 1 EA

INTERCONNECT CONDUIT BETWEEN CONTROLLERS
630-1-12 1500 FT
635-1-11 7 EA
620-1-1 20 LF
635-1-11 1 EA
647-11-52 1 EA

FPL + SAT SERVICE POINTS

3101

NW 135 ST & NW 7 AVE
INTERSECTION IDENTIFICATION NO. 310

REVISIONS															
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	

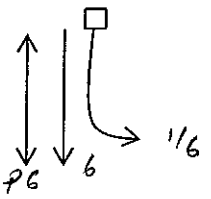
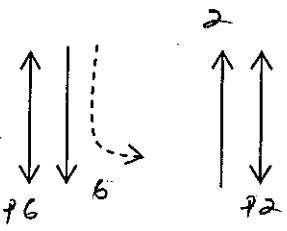
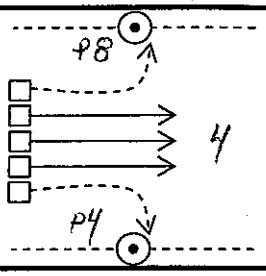
FLORIDA DEPARTMENT OF TRANSPORTATION

NW 135 ST / SIGNALIZATION PLAN

Wed Nov 18 16:58:12 1992
/usr/td/marking/pansig06.dgn

SIGNAL OPERATING PLAN

N

	Direction	SB		NB			EB	Ped Heads				
Timing Phases	Head No.	1/6	6	2			4	P6	P2	P8	P4	Movements/Display/Actuation
SBL + SB 1+6 NW 7 AV (Actuated)	Dwell	<G/G	G	R			R	W/F	DW	DW	DW	
	Clear 2+6	<Y/G	G	R			R	W/F	DW	DW	DW	
NB + SB 2+6 NW 7 AV (Recall)	Dwell	G	G	G			R	W/F	W/F	DW	DW	
	Clear 4	Y	Y	Y			R	DW	DW	DW	DW	
	Clear 1+6	G	G	Y			R	W/F	DW	DW	DW	
EB 4 NW 135 ST (Actuated)	Dwell	R	R	R			G	DW	DW	W/F	W/F	
	Clear 1+6	R	R	R			Y	DW	DW	DW	DW	
	Clear 2+6	R	R	R			Y	DW	DW	DW	DW	
	Dwell											
	Clear to											
	Dwell											
	Clear to											
	Dwell											
	Clear											
Flashing Operation		FY	FY	FY			FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	NW 7 AV & NW 135 ST		
R Curras	08/24/2009			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. Fernandez	8/25/09	Date 8/25/9 By SOO	5	3101

SIGNAL HEAD & SIGN DETAILS

4 6 — 3-SECT., 1-WAY, 3 AS — 650-51-311

7/4 — 4-SECT., 1-WAY, 1 AS — 650-51-411

5R — 3-SECT., 1-WAY, 1 AS — 650-51-311

6RA — 3-SECT., 1-WAY, 1 AS — 650-51-311

(A) EXIST. SIGN (TO REMAIN)

(G) RIGHT TURN ON RED FROM RIGHT LANE ONLY — EXIST. SIGN (TO REMAIN)

(B) R3-1, 24" X 24" — 700-48-18, 1 EA

P2 P2A P6 P6A — PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY, 8 AS — 653-191 — 1

Bennett Electric Service Co., Inc.
6900 N. E. 4th Court
Miami, FL. 33138-5697
305-759-1666

(C) NW 6 AV — EXIST. SIGN (TO REMAIN)

(D) NW 135 ST — EXIST. SIGN (TO REMAIN)

(F) NW 6 CT — EXIST. SIGN (TO REMAIN)

N
0 10 40
Feet

NOTES

1. ALIGN PROPOSED SIGNAL HEADS 4 AND 7/4 TO NW 6th COURT LANE LINES.
2. CONTRACTOR TO COORDINATE WITH FDOT ITS OFFICE FOR PROPER SPLICING OF RAMP SIGNAL ADVANCED QUEUE LOOPS.
3. ALIGN PEDESTRIAN HEADS WITH BEGINNING OF OPPOSITE SIDE CROSSWALK CENTER.
4. BOTTOM OF VERTICAL SIGNAL HEAD 6RA SHALL BE 12' ABOVE SIDEWALK.
5. THE CONTRACTOR SHALL LOCATE EXISTING PULL BOXES AND CONDUITS FOR LOOP RUNS. CONTRACTOR SHALL USE EXISTING CONDUITS AND PULL BOXES, IF THEY MEET FDOT AND MIAMI-DADE SPECIFICATIONS. ANY MISSING OR DAMAGED PULL BOXES AND CONDUITS SHALL BE REPLACED AS APPROVED BY THE ENGINEER; COST TO BE INCLUDED IN RELATED PAY ITEMS. NEW CONDUITS AND PULL BOXES ARE SHOWN FOR INFORMATION ONLY, AND THE QUANTITIES FOR THESE ITEMS ARE CONTINGENCY QUANTITIES.
6. PAY ITEMS 635-1-11 AND 630-1-13 INCLUDES COST OF REPLACING ENTIRE SIDEWALK FLAG DAMAGED DUE TO WORK OUTSIDE THE NEW SIDEWALK AREA.
7. SIGNAL HEADS 6 6R 6RA SHALL BE OPTICALLY PROGRAMMABLE ~~APPROVED BY FDOT~~. TO NOT BE VISIBLE TO DRIVERS IN THE EASTBOUND RT LANES. (1) (3)
8. THE EASTBOUND PROGRAMMABLE SIGNAL HEAD GREENS SHOULD BE VISIBLE NO FURTHER BACK THAN THE EAST SIDE CROSSWALK OF SIGNAL AT NW 7TH AVE. (1)

(A) START CROSSING Watch For Vehicles / DON'T START Finish Crossing If Started / TIME REMAINING To Finish Crossing / DON'T CROSS / PUSH BUTTON TO CROSS 6th COURT

R10-3E MODIFIED 9" x 15" TO BE INCLUDED IN THE COST OF ITEM No. 665-11 (2 EA)

NW 6TH COURT — NW 6TH AVE

STA 201+49.50 — 635-1-11 1 EA; 659-107 1 EA

STA 201+33.50 — 635-1-11 1 EA; 659-107 1 EA; 665-11 1 EA

STA 201+90.75 — 635-1-11 1 EA; 659-107 1 EA; 665-11 1 EA

STA 202+14.50 — 635-1-11 1 EA; 659-107 1 EA

635-1-11 1 EA

635-1-11 2 EA

EXIST. R/W

EXIST. MAST ARM (TO REMAIN) APPROXIMATE STA. 202+05.00 (27' RT)

LA R/W

EXIST. PED. SIGNAL (TO REMAIN)

CONNECT TO EXIST. PULL BOX

CONNECT PED. SIGNAL TO EXIST SIGNAL PULL BOX

STA 204+08.00 — 659-107 1 EA

EXIST. MAST ARM, SIGNALS AND SIGNS (TO REMAIN)

STA 204+67.85 — 635-1-11 1 EA; 659-107 1 EA

S.R-916/NW 135TH STREET

8" SAN — 48" FM — 8" SAN — 24" WM

B SURVEY — 660-2-102 12 AS

SPLICE PROPOSED ADVANCE QUEUE LOOPS IN EXISTING PULL BOX. CONTRACTOR TO COORDINATE FINAL PLACEMENT OF THESE LOOPS WITH FDOT ITS DEPARTMENT.

EXIST. CONTROLLER (TO BE MODIFIED)

EXIST. PED. SIGNAL (TO REMAIN)

EXIST. FPL SVC. POINT

STA 204+14.00 — 659-107 1 EA — CONNECT PED. SIGNAL TO EXIST SIGNAL PULL BOX (1)

STA 205+3.25 — 659-107 1 EA — CONNECT PED. SIGNAL TO EXIST SIGNAL PULL BOX (1)

CONTROLLER ITEMS

635-1-11	3 EA
652-7-1	1 PI
660-1-109	1 EA
671-2-42	1 EA

SIGNAL OPERATION PLAN

PHASE 1 (PED. ACTUATION) — PHASE 2 — PHASE 3 — PHASE 4

TIMING FUNCTION

TF 1: 6 + 6R + 2 — TF 2: 6 + 2 — TF 3: 4 + 2 — TF 4: 4 + 8

CONTROLLER OPERATIONS

1. MAJOR STREET: SR-916/NW 135th ST
   MINOR STREET: NW 6th COURT AND NW 6th AVE.
2. PAY ITEM 690-100 INCLUDES THE REMOVAL OF EXIST. ABANDONED PULL BOXES WITHIN THE INTERSECTION.
3. EXISTING TIMING FUNCTION TO REMAIN.

REMOVAL ITEMS

690-10	2 EA
690-100	1 PI

630-1-13	550 LF
630-1-13	150 LF (1)

2-22-11

SR-916 / NW 135th STREET AND NW 6th COURT — ID NO.: 3268

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
01/04/11	(1) NEW SIGNAL HEADS 6 AND PED. SIGNALS ADDED AND ADDED NOTE NUMBER 8	02/22/11	(3) NOTE 7 MODIFIED

FDOT DISTRICT SIX
VINOD TULI, P.E.
1000 N.W. 111TH AVENUE
MIAMI, FLORIDA 33172
P.E. NO. 44916

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
916	MIAMI-DADE	423518-2-52-01

SIGNALIZATION PLAN

SHEET NO. T-4

TOD Schedule Report
for 3100: I- 95 NB&NW 135 St

Print Date: 2/13/2015

Print Time: 11:01 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3100	I- 95 NB&NW 135 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
PED	EBT	-	-	-	EBR	SBT	NBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (Phase Bank 1 2 3)	Min Initial (Phase Bank 1 2 3)	Veh Ext (Phase Bank 1 2 3)	Max Limit (Phase Bank 1 2 3)	Max 2 (Phase Bank 1 2 3)	Yellow	Red
1 PED	7 - 7 - 7	12 - 12 - 12	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 EBT	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	26 - 26 - 26	0 - 36 - 36	4.8	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBR	7 - 7 - 7	14 - 14 - 14	7 - 7 - 7	1 - 1 - 1	26 - 26 - 26	0 - 36 - 36	4.8	2
7 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	10 - 10 - 10	36 - 36 - 36	4.8	2
8 NBT	7 - 7 - 7	16 - 16 - 16	7 - 7 - 7	2.5 - 2.5 - 2.5	22 - 22 - 22	36 - 36 - 36	4.8	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12---678
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3100: I- 95 NB&NW 135 St

Print Date: 2/13/2015

Print Time: 11:01 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 PED	2 EBT	3 -	4 -	5 -	6 EBR	7 SBT	8 NBT	Ring Offset	Offset
	1	95	13	21	0	0	0	34	9	31	0	16
	2	105	13	19	0	0	0	32	19	33	0	56
	3	100	13	20	0	0	0	33	17	29	0	56
	4	85	13	19	0	0	0	32	9	23	0	4
	5	85	13	19	0	0	0	32	9	23	0	4
	6	100	13	20	0	0	0	33	17	29	0	56
	7	85	13	19	0	0	0	32	9	23	0	4
	8	110	13	24	0	0	0	37	19	33	0	18
	9	110	13	24	0	0	0	37	19	33	0	104
	10	100	13	20	0	0	0	33	17	29	0	56
	11	100	13	20	0	0	0	33	17	29	0	58
	12	100	13	20	0	0	0	33	17	29	0	58
	13	100	13	20	0	0	0	33	17	29	0	58
	14	80	13	16	0	0	0	29	9	21	0	54
	15	100	13	20	0	0	0	33	17	29	0	56
	16	100	13	20	0	0	0	33	17	29	0	56
	17	100	13	20	0	0	0	33	17	29	0	58
	20	105	13	25	0	0	0	38	9	37	0	58
	21	90	13	14	0	0	0	27	17	25	0	4
	22	70	13	8	0	0	0	21	9	19	0	4

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2015	4	S
2030	4	Su

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

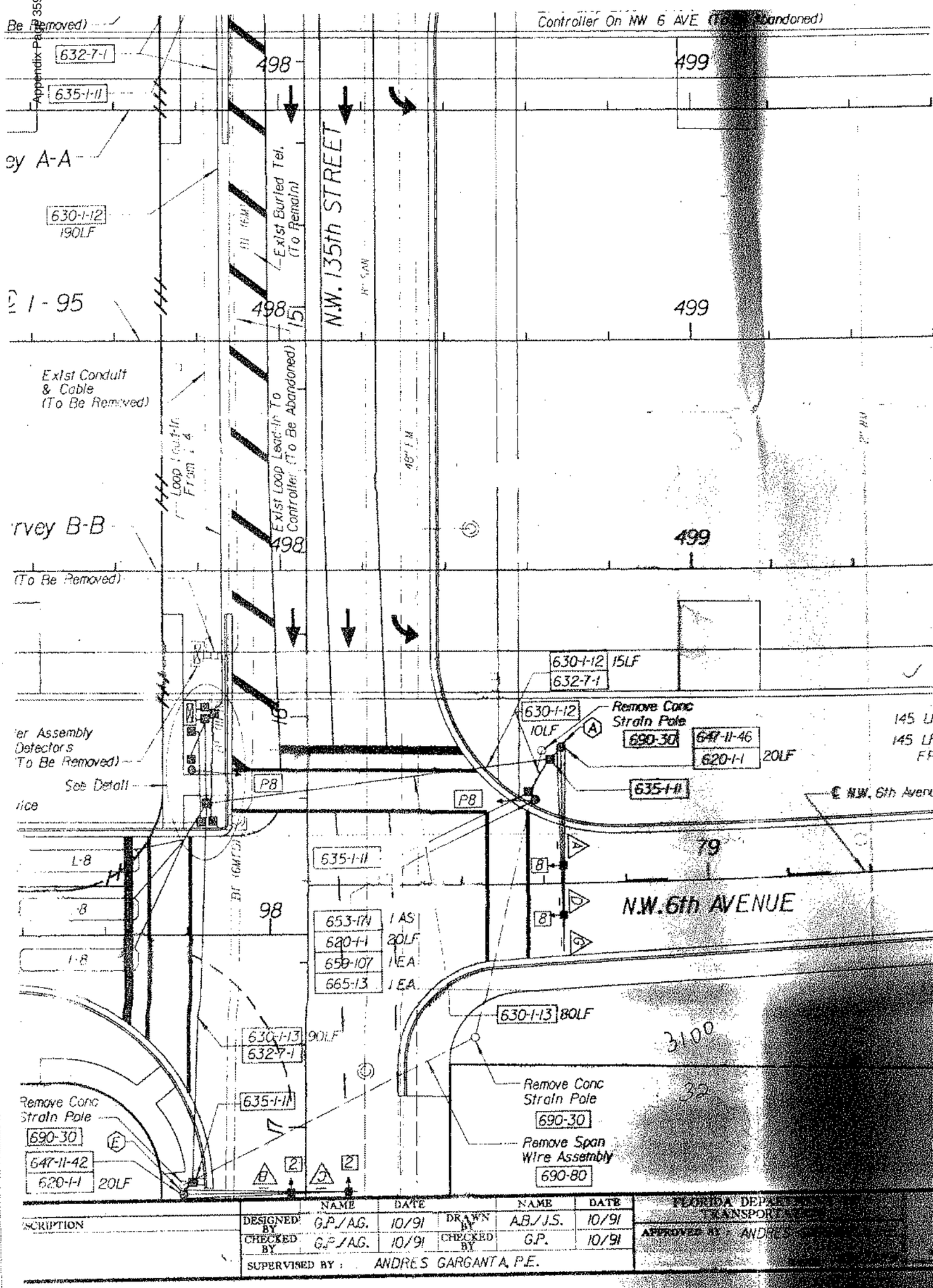
TOD Schedule Report

for 3100: I- 95 NB&NW 135 St

Print Date: 2/13/2015

Print Time: 11:01 AM

No Calendar Defined/Enabled



DESCRIPTION		NAME	DATE		NAME	DATE
	DESIGNED BY	G.P./A.G.	10/91	DRAWN BY	A.B./J.S.	10/91
	CHECKED BY	G.P./A.G.	10/91	CHECKED BY	G.P.	10/91
	SUPERVISED BY : ANDRES GARGANTA, P.E.					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY : ANDRES

SIGNAL OPERATING PLAN

	Direction		EB			EB		NB		SB		Ped Heads					N
Timing Phases	Head No.		6	6R	6RA	2		8		4	7/4	P6	P6A	P8	P2	P2A	Movements/Display/Actuation
			G	R>	R>	G		R		R	R	W/F	W/F	DW	DW	DW	
1		2+6	G	R>	R>	G		R		R	R	DW	W/F	DW	DW	DW	
PED + EB																	
(Actuated)																	
2 + 6		Dwell	G	G>	G>	G		R		R	R	DW	W/F	DW	W/F	W/F	
		7	Y	Y>	Y>	G		R		R	R	DW	DW	DW	DW	DW	
NW 135 ST	Clear to	4+8	Y	Y>	Y>	Y		R		R	R	DW	DW	DW	DW	DW	
EB		1	G	Y>	Y>	G		R		R	R	DW	DW	DW	DW	DW	
(Recall)																	
7		Dwell	R	R>	R>	G		R		G	<G/G	DW	DW	DW	DW	DW	
		4+8	R	R>	R>	Y		R		G	<G/G	DW	DW	DW	DW	DW	
		1	R	R>	R>	G		R		Y	Y	DW	DW	DW	DW	DW	
NW 6 CT SB	Clear to	2+6	R	R>	R>	G		R		Y	Y	DW	DW	DW	DW	DW	
(Actuated)																	
8		Dwell	R	R>	R>	R		G		G	<G/G	DW	DW	W/F	DW	DW	
		1	R	R>	R>	R		Y		Y	Y	DW	DW	DW	DW	DW	
		2+6	R	R>	R>	R		Y		Y	Y	DW	DW	DW	DW	DW	
NW 6 AV NB	Clear to																
(Actuated)																	
Flashing Operation			FY	FY	FY	FY		FR		FR	FR						Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date			
R. Curras	4/25/2011	I-95 NB & NW 135 ST (NW 6 AV) ; I-95 SB ON & NW 135 ST		
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	4/25/11	Date 5/19/11 By Bennett Electric	6	3100 & 3268

QuadPPConcPeds

TOD Schedule Report

for 2536: Opa-Locka Blvd&NW 7 Av

Print Date: 2/28/2015

Print Time: 2:01 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2536	Opa-Locka Blvd&NW 7 Av	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NBL	SBT	-	WBT	-	NBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 NBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2 - 2 - 2	7 - 7 - 7	14 - 14 - 14	4.4	2
2 SBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	1 - 1 - 1	36 - 36 - 36	0 - 40 - 40	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 WBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 7	2 - 2 - 2	16 - 16 - 16	40 - 40 - 40	4	2.7
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 NBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	1 - 1 - 1	36 - 36 - 36	0 - 40 - 40	4.4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: 08/25/2009 16:34

Permitted Phases

	12345678
Default	12-4-6--
External Permit 0	-2-4-6--
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

TOD Schedule Report

for 2536: Opa-Locka Blvd&NW 7 Av

Print Date: 2/28/2015

Print Time: 2:01 AM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			NBL	SBT	-	WBT	-	NBT	-	-		
	1	95	7	36	0	33	0	49	0	0	0	46
	2	105	8	46	0	32	0	60	0	0	0	70
	3	100	8	45	0	28	0	59	0	0	0	16
	4	95	7	41	0	28	0	54	0	0	0	58
	5	95	8	41	0	27	0	55	0	0	0	61
	6	100	8	45	0	28	0	59	0	0	0	16
	7	85	5	38	0	23	0	49	0	0	0	58
	8	110	5	55	0	31	0	66	0	0	0	16
	9	110	5	55	0	31	0	66	0	0	0	58
	10	100	8	45	0	28	0	59	0	0	0	16
	11	100	10	43	0	28	0	59	0	0	0	16
	12	100	7	39	0	35	0	52	0	0	0	14
	13	100	10	36	0	35	0	52	0	0	0	10
	14	80	5	23	0	33	0	34	0	0	0	16
	16	100	8	45	0	28	0	59	0	0	0	16
	17	100	7	39	0	35	0	52	0	0	0	14
	20	105	10	34	0	42	0	50	0	0	0	98
	21	90	5	33	0	33	0	44	0	0	0	40
	22	70	5	23	0	23	0	34	0	0	0	30
	23	85	5	28	0	33	0	39	0	0	0	36

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2015	4	S
2030	4	Su

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 2536: Opa-Locka Blvd&NW 7 Av

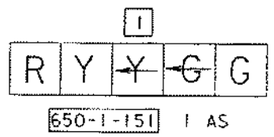
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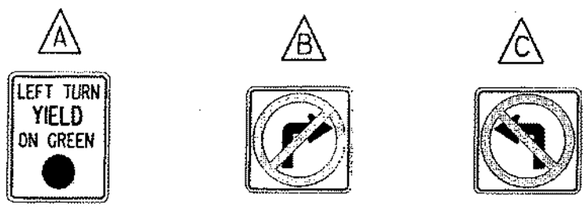
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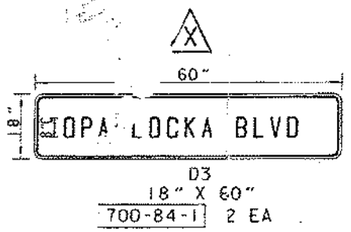
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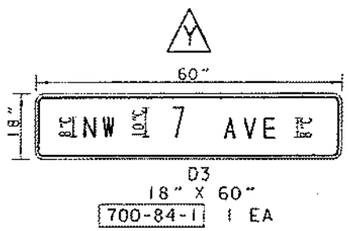
STATE PROJ. NO. 87008-3518 T-

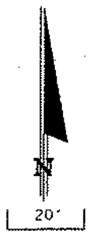
DETAIL OF SIGNAL HEADS











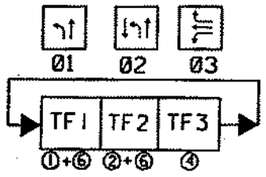
FPL & SOFT SERVICE PTS.

CONTROLLER OPERATION

MAJOR STREET: NW 7 AVE
MINOR STREET: OPA LOCKA BLVD
PHASE 1,2 RECALL, PHASE 3 ACTUATED
MOVEMENT 1 WITH PHASE 2 IS PERMISSIVE
SIGNAL COORDINATION PHASE 2
FLASHING OPERATION: 1, 2, 6 YELLOW
4 RED

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF DETS.
L-1	1	1
L-4	5	1

SIGNAL OPERATION PLAN

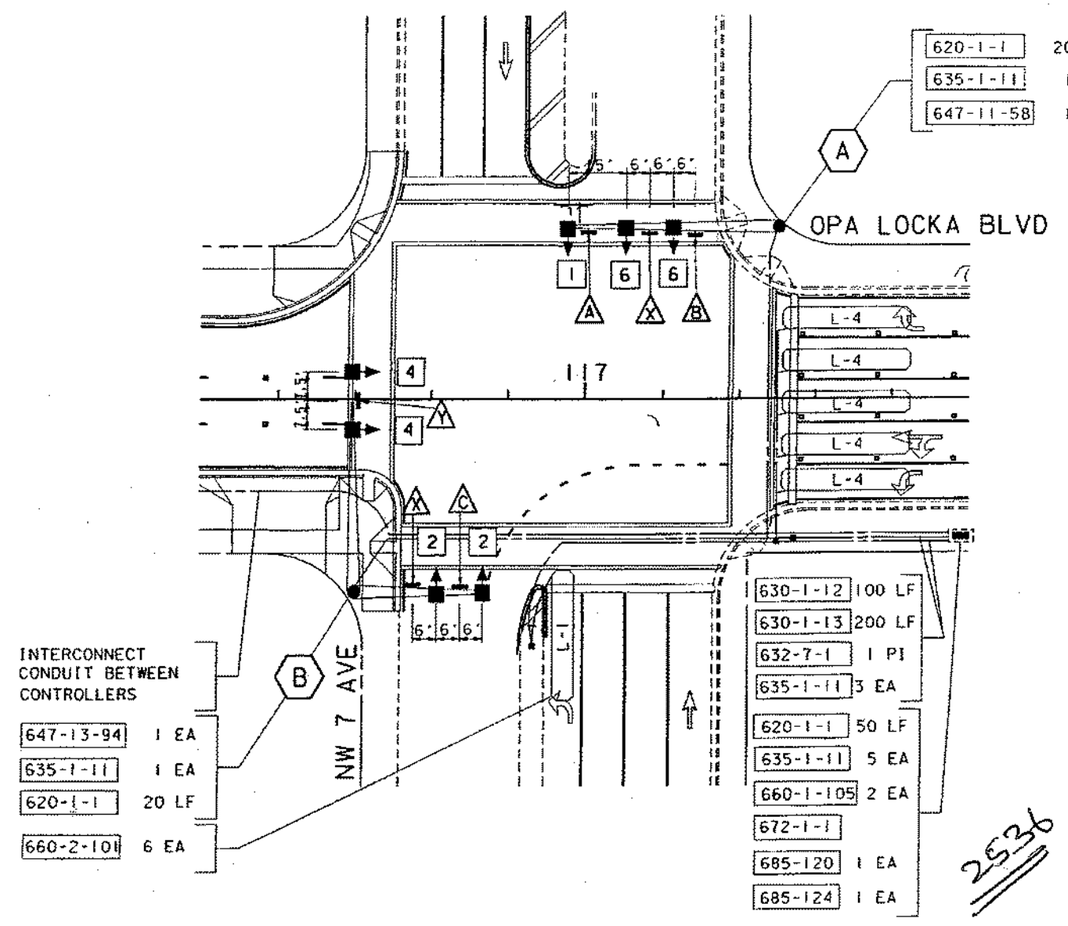


CONTROLLER TIMING PLAN								
TIMING INTERVAL	TIMING FUNCTION							
	1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)	--							
EXTENSION (PASSAGE)	--							
MAXIMUM GREEN I	--							
MAXIMUM GREEN II	--	--			--	--		
YELLOW								
ALL RED								
PEDESTRIAN WALK								
PEDESTRIAN CLEAR								

REMOVAL ITEMS	
690-10	6
690-30	4
690-50	1
690-80	1
690-90	1
700-79	5

NOTE:
1. FINAL SIGNAL TIMING TO BE PROVIDED BY DADE COUNTY PUBLIC WORKS.

2. LOOP ASSEMBLY 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6' X 30' FOR THRU LANES AND 5' X 30' FOR TURNING LANES.



2536

OPA LOCKA BLVD & NW 7 AVE
INTERSECTION IDENTIFICATION NO. 253

REVISIONS																	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

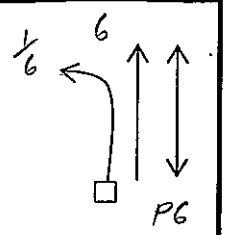
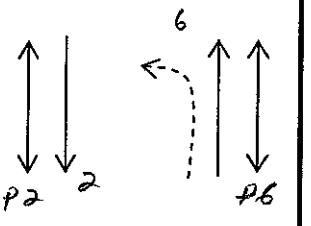
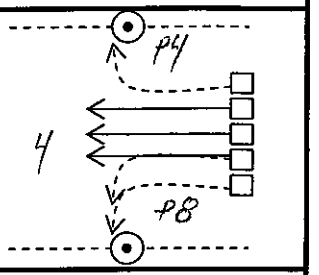
FLORIDA DEPARTMENT OF TRANSPORTATION

OPA LOCKA BLVD / SIGNALIZATION PLA

Wed Nov 13 17:06:39 1992
/usr/tot/working/plansgallidgn

SIGNAL OPERATING PLAN

N

	Direction	NB		SB			WB	Ped Heads				
Timing Phases	Head No.	1/6	6	2			4	P6	P2	P8	P4	Movements/Display/Actuation
NBL + NB 1+6 NW 7 AV (Actuated)	Dwell	<G/G	G	R			R	W/F	DW	DW	DW	
	2+6	<Y/G	G	R			R	W/F	DW	DW	DW	
	Clear											
SB + NB 2+6 NW 7 AV (Recall)	Dwell	G	G	G			R	W/F	W/F	DW	DW	
	4	Y	Y	Y			R	DW	DW	DW	DW	
	1+6	G	G	Y			R	W/F	DW	DW	DW	
	Clear											
WB 4 Opa Locka (Actuated)	Dwell	R	R	R			G	DW	DW	W/F	W/F	
	1+6	R	R	R			Y	DW	DW	DW	DW	
	2+6	R	R	R			Y	DW	DW	DW	DW	
	Clear											
	Dwell											
	Clear to											
	Dwell											
	Clear to											
	Dwell											
	Clear											
Flashing Operation		FY	FY	FY			FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	OPA LOCKA BLVD & NW 7 AV		
R Curras RC	08/24/2009			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	8/25/09	Date 8/25/9 By SOU	6	2536

TOD Schedule Report

for 3670: I- 95 SB Off&Opa-Locka Blvd

Print Date: 2/13/2015

Print Time: 12:04 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3670	I- 95 SB Off&Opa-Locka Blvd	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	NBT	SBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	7	7	7	14	14	14	7	7	7	1	1	1	26	26	26	0	36	36	4.4	2
3 NBT	7	7	7	16	16	16	7	7	7	3	3	3	12	12	12	36	36	36	4.4	2
4 SBT	7	7	7	16	16	16	7	7	7	3	3	3	12	12	12	36	36	36	4.4	2
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-234----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3670: I- 95 SB Off&Opa-Locka Blvd

Print Date: 2/13/2015

Print Time: 12:04 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 WBT	3 NBT	4 SBT	5 -	6 -	7 -	8 -	Ring Offset	Offset
	1	95	0	37	18	22	0	0	0	0	0	90
	2	105	0	31	18	38	0	0	0	0	0	16
	3	100	0	22	28	32	0	0	0	0	0	56
	4	85	0	19	26	22	0	0	0	0	0	82
	5	85	0	17	28	22	0	0	0	0	0	82
	6	100	0	21	27	34	0	0	0	0	0	56
	7	85	0	27	18	22	0	0	0	0	0	82
	8	110	0	38	18	36	0	0	0	0	0	20
	9	110	0	38	18	36	0	0	0	0	0	104
	10	100	0	20	30	32	0	0	0	0	0	56
	11	100	0	19	29	34	0	0	0	0	0	56
	12	100	0	22	28	32	0	0	0	0	0	58
	13	100	0	17	31	34	0	0	0	0	0	58
	14	80	0	26	18	18	0	0	0	0	0	50
	15	100	0	32	18	32	0	0	0	0	0	56
	16	100	0	32	18	32	0	0	0	0	0	56
	17	100	0	20	30	32	0	0	0	0	0	58
	20	105	0	31	18	38	0	0	0	0	0	40
	21	90	0	36	18	18	0	0	0	0	0	68

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2015	4	S
2030	4	Su

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3670: I- 95 SB Off&Opa-Locka Blvd

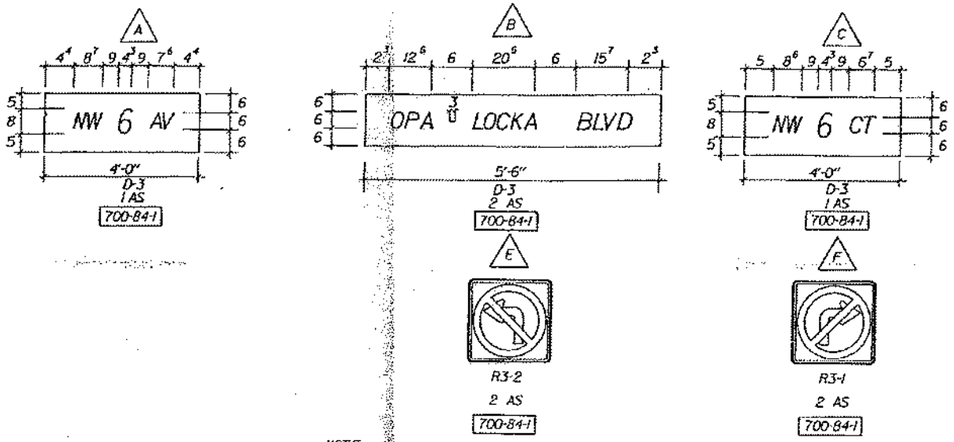
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Print Time: 12:04 PM

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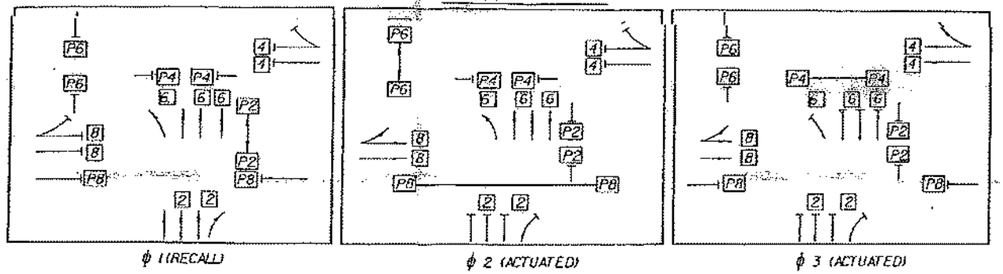


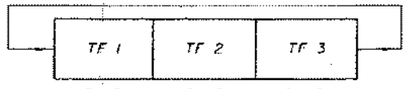
SIGNAL HEAD DETAILS



NOTE:
DIMENSIONS ARE IN INCHES AND EIGHTHS OF AN INCH
ALL LETTERS AND NUMERALS ARE SERIES "C" FOR SIGNS A, B & C

SIGN DETAILS





SIGNAL OPERATING PLAN

CONTROLLER OPERATIONS:

1. MAJOR STREET IS OPA-LOCKA BLVD (MOVEMENTS 2 & 6)
   MINOR STREET IS NW 6 AVE AND NW 6 CT (MOVEMENTS 4 & 8)
2. PHASE 1 (2 & 6) SET TO MIN RECALL, PHASES 2 (4) & 3 (4 & 8) ARE ACTUATED
3. FLASHING OPERATION SHALL BE YELLOW FOR MOVEMENTS 2 & 6 AND RED MOVEMENTS 4 & 8
4. CONTROLLER TYPE D-4-4, DUAL RING 8 PHASE CONTROLLER

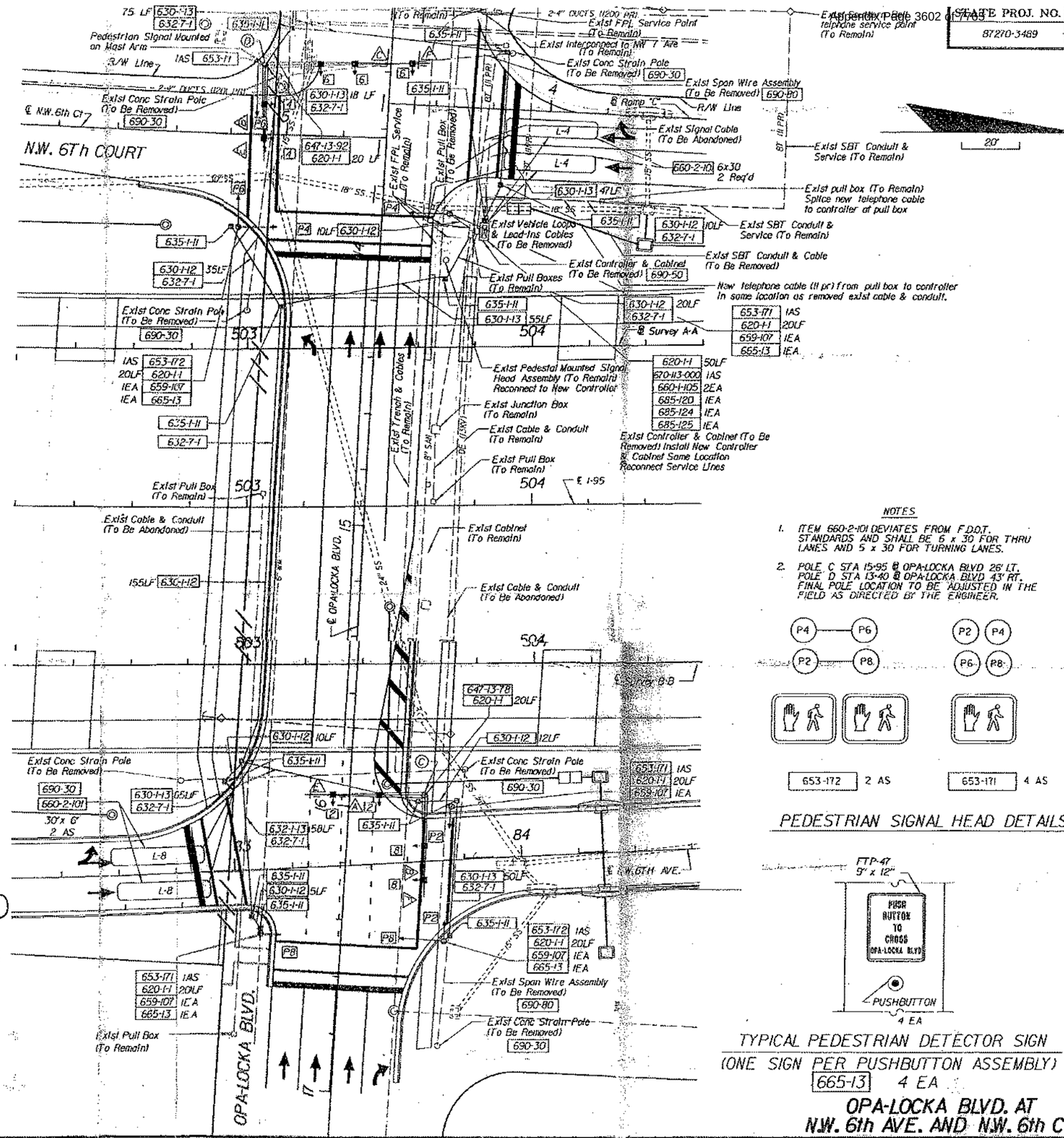
CONTROLLER TIMING PLAN

TIMING FUNCTION	1	2	3
MINIMUM GREEN (INITIAL)	7	7	7
EXT. (PASS)	2.5	2.5	2.5
MAXIMUM GREEN I	29	29	25
MAXIMUM GREEN II	-	-	-
YELLOW CLEARANCE	4	4	4
ALL RED CLEARANCE	1.0	1.0	1.0
PHASE RECALL	MIN	-	-
PEDESTRIAN WALK	5	5	5
PEDESTRIAN CLEAR	10	10	10

NOTE: FINAL SIGNAL TIMING WILL BE PROVIDED BY DADE COUNTY PUBLIC WORKS.

REVISION

8/26/93 G.P.
REVISED SIGNAL OPERATING PLAN.



NOTES

1. ITEM 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6 x 30 FOR THRU LANES AND 5 x 30 FOR TURNING LANES.
2. POLE C STA 15+95 @ OPA-LOCKA BLVD 26' LT.
   POLE D STA 13+40 @ OPA-LOCKA BLVD 43' RT.
   FINAL POLE LOCATION TO BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

PEDESTRIAN SIGNAL HEAD DETAILS

TYPICAL PEDESTRIAN DETECTOR SIGN

(ONE SIGN PER PUSHBUTTON ASSEMBLY)
665-13 4 EA

OPA-LOCKA BLVD. AT N.W. 6th AVE. AND N.W. 6th CT

| REVISIONS | | |

TOD Schedule Report

for 3670: I- 95 SB Off&Opa-Locka Blvd

Print Date: 7/5/2015

Print Time: 7:07 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3670	I- 95 SB Off&Opa-Locka Blvd	DOW-1		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	NBT	SBT	-	-	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	12 - 12 - 12	7 - 7 - 7	1 - 1 - 1	26 - 26 - 26	0 - 36 - 36	4	2
3 NBT	7 - 7 - 7	15 - 15 - 15	7 - 7 - 7	3 - 3 - 3	12 - 12 - 12	36 - 36 - 36	4.4	2
4 SBT	7 - 7 - 7	15 - 15 - 15	7 - 7 - 7	3 - 3 - 3	12 - 12 - 12	36 - 36 - 36	4.4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-234----
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3670: I- 95 SB Off&Opa-Locka Blvd

Print Date: 7/5/2015

Print Time: 7:07 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 WBT	3 NBT	4 SBT	5 -	6 -	7 -	8 -	Ring Offset	Offset
	1	95	0	37	18	22	0	0	0	0	0	90
	2	105	0	31	18	38	0	0	0	0	0	16
	3	100	0	22	28	32	0	0	0	0	0	38
	4	95	0	22	30	25	0	0	0	0	0	82
	5	95	0	20	32	25	0	0	0	0	0	82
	6	100	0	21	27	34	0	0	0	0	0	56
	7	85	0	27	18	22	0	0	0	0	0	82
	8	110	0	38	18	36	0	0	0	0	0	20
	9	110	0	38	18	36	0	0	0	0	0	104
	10	100	0	20	30	32	0	0	0	0	0	38
	11	100	0	20	29	33	0	0	0	0	0	35
	12	110	0	28	30	34	0	0	0	0	0	41
	13	100	0	22	29	31	0	0	0	0	0	54
	14	80	0	26	18	18	0	0	0	0	0	50
	15	100	0	32	18	32	0	0	0	0	0	56
	16	100	0	32	18	32	0	0	0	0	0	56
	17	110	0	28	31	33	0	0	0	0	0	46
	20	105	0	31	18	38	0	0	0	0	0	40
	21	90	0	36	18	18	0	0	0	0	0	68

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	4	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0800	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1330	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	4	M T W Th F
2015	4	S
2030	4	Su

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3670: I- 95 SB Off&Opa-Locka Blvd

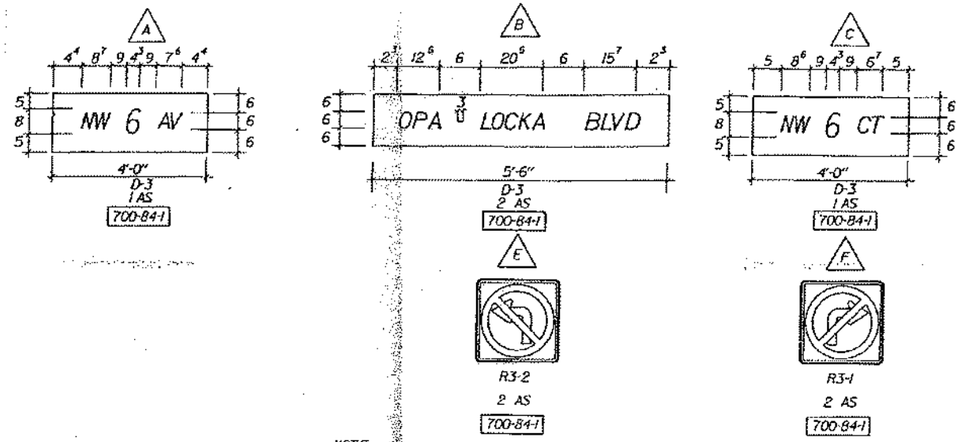
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Print Time: 7:07 PM

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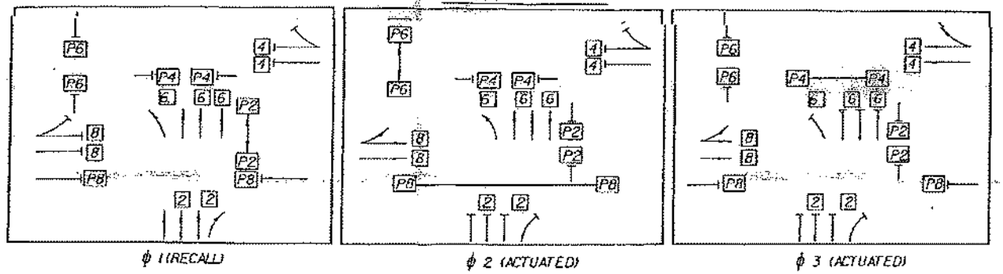


SIGNAL HEAD DETAILS



NOTE:
DIMENSIONS ARE IN INCHES AND EIGHTHS OF AN INCH
ALL LETTERS AND NUMERALS ARE SERIES "C" FOR SIGNS A, B & C

SIGN DETAILS





SIGNAL OPERATING PLAN

CONTROLLER OPERATIONS:

1. MAJOR STREET IS OPA-LOCKA BLVD (MOVEMENTS 2 & 6) MINOR STREET IS NW 6 AVE AND NW 6 CT (MOVEMENTS 4 & 8)
2. PHASE 1 (2 & 6) SET TO MIN RECALL, PHASES 2 (4) & 3 (4 & 8) ARE ACTUATED
3. FLASHING OPERATION SHALL BE YELLOW FOR MOVEMENTS 2 & 6 AND RED MOVEMENTS 4 & 8
4. CONTROLLER TYPE D-4-4, DUAL RING 8 PHASE CONTROLLER

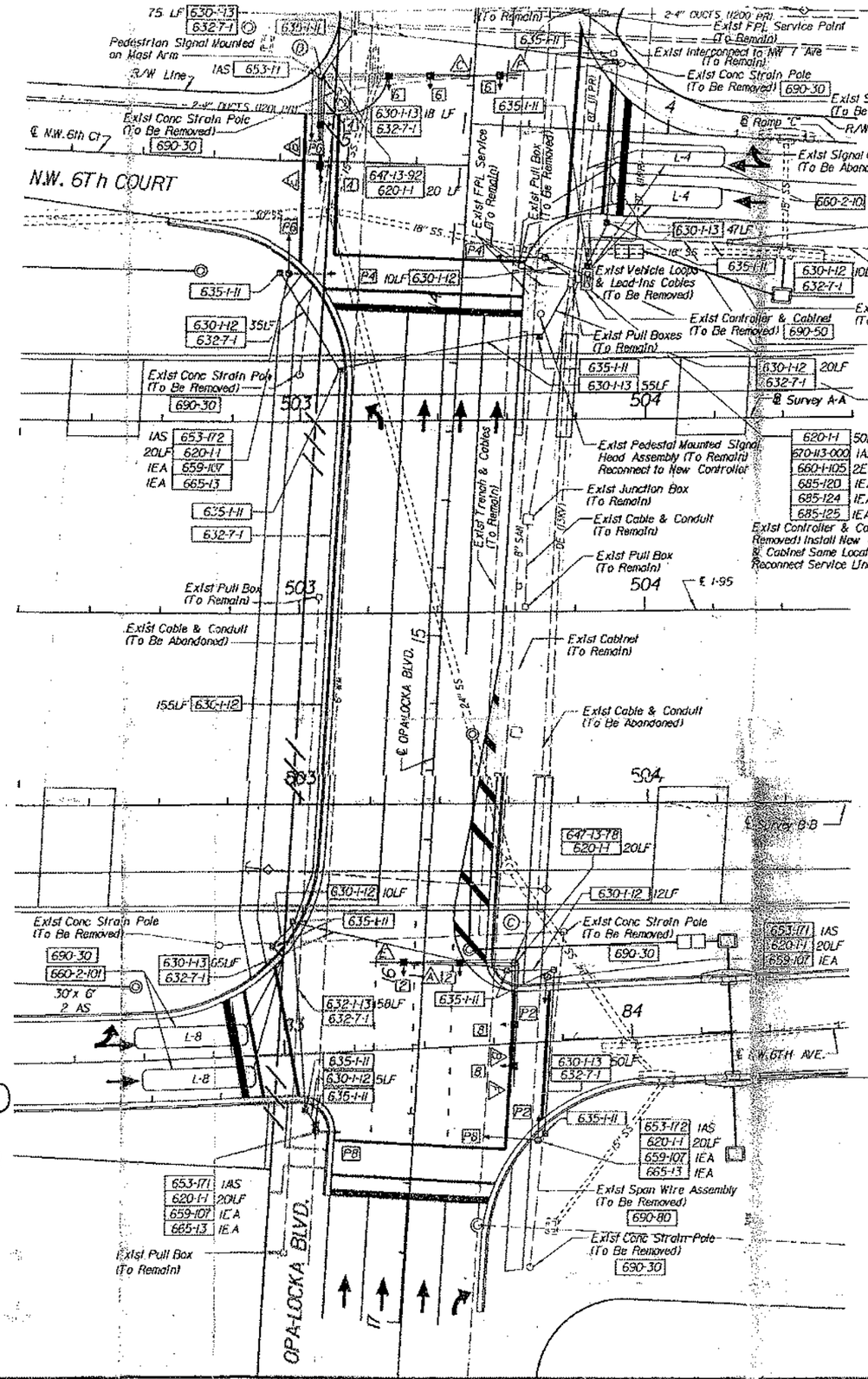
CONTROLLER TIMING PLAN

TIMING FUNCTION	1	2	3
MINIMUM GREEN (INITIAL)	7	7	7
EXT. (PASS)	2.5	2.5	2.5
MAXIMUM GREEN I	29	29	25
MAXIMUM GREEN II	-	-	-
YELLOW CLEARANCE	4	4	4
ALL RED CLEARANCE	1.0	1.0	1.0
PHASE RECALL	MIN	-	-
PEDESTRIAN WALK	5	5	5
PEDESTRIAN CLEAR	10	10	10

NOTE: FINAL SIGNAL TIMING WILL BE PROVIDED BY DADE COUNTY PUBLIC WORKS.

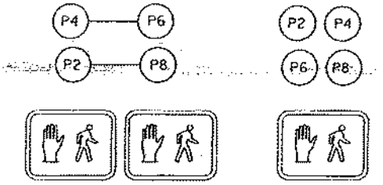
REVISION

8/26/93 G.P.
REVISED SIGNAL OPERATING PLAN.



NOTES

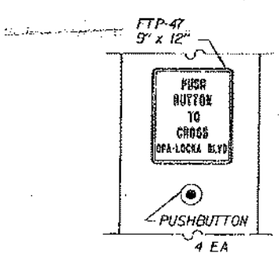
1. ITEM 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6 x 30 FOR THRU LANES AND 5 x 30 FOR TURNING LANES.
2. POLE C STA 15+95 @ OPA-LOCKA BLVD 26' LT. POLE D STA 13+40 @ OPA-LOCKA BLVD 43' RT. FINAL POLE LOCATION TO BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.



653-172 2 AS

653-171 4 AS

PEDESTRIAN SIGNAL HEAD DETAILS



TYPICAL PEDESTRIAN DETECTOR SIGN

(ONE SIGN PER PUSHBUTTON ASSEMBLY)
665-13 4 EA

OPA-LOCKA BLVD. AT N.W. 6th AVE. AND N.W. 6th CT

| REVISIONS | | |

TOD Schedule Report
for 3733: NW 7 Av&NW 151 St

Print Date: 3/5/2015

Print Time: 2:08 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3733	NW 7 Av&NW 151 St	DOW-5		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	-	WBT	SBL	NBT	WBL	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SBT	7 - 0 - 7	18 - 0 - 18	7 - 16 - 7	1 - 1 - 1	40 - 40 - 45	0 - 50 - 40	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 WBT	7 - 0 - 7	20 - 0 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	35 - 45 - 35	4	2.7
5 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 3	7 - 7 - 45	15 - 15 - 15	4.4	2
6 NBT	7 - 0 - 7	18 - 0 - 18	7 - 16 - 7	1 - 1 - 1	40 - 40 - 45	0 - 50 - 40	4.4	2
7 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	25 - 25 - 15	3.7	2.7
8 EBT	7 - 0 - 7	20 - 0 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	35 - 45 - 35	4	2.7

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2345678
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 3733: NW 7 Av&NW 151 St

Print Date: 3/5/2015

Print Time: 2:08 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 SBT	3 -	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT	Ring Offset	Offset
	2	105	0	55	0	37	14	35	22	9	0	66
	3	100	0	54	0	33	10	38	7	20	0	42
	5	85	0	41	0	31	8	27	7	18	0	30
	6	115	0	55	0	47	6	43	22	19	0	42
	8	110	0	53	0	44	3	44	27	11	0	12
	9	110	0	40	0	57	6	28	15	36	0	14
	10	100	0	53	0	34	8	39	7	21	0	34
	11	115	0	55	0	47	3	46	22	19	0	38
	12	115	0	55	0	47	5	44	22	19	0	42
	13	100	0	53	0	34	8	39	7	21	0	24
	17	100	0	53	0	34	8	39	7	21	0	42
	20	105	0	55	0	37	5	44	7	24	0	62
	21	90	0	45	0	32	3	36	22	4	0	66

Local TOD Schedule

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0500	Free	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0730	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1300	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	Free	M T W Th F
2030	Free	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7---3--	SuM T W ThF S
0500	TOD OUTPUTS	-7------	SuM T W ThF S
0730	TOD OUTPUTS	-------1	M T W ThF
0930	TOD OUTPUTS	-7------	M T W ThF
1300	TOD OUTPUTS	-------1	M T W ThF
1615	TOD OUTPUTS	-7------	M T W ThF
2130	TOD OUTPUTS	-7---3--	SuM T W ThF S

Local Time of Day Function

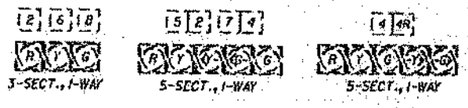
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7---3--	SuM T W ThF S
0500	TOD OUTPUTS	-7------	SuM T W ThF S
0730	TOD OUTPUTS	-------1	M T W ThF
0930	TOD OUTPUTS	-7------	M T W ThF
1300	TOD OUTPUTS	-------1	M T W ThF
1615	TOD OUTPUTS	-7------	M T W ThF
2130	TOD OUTPUTS	-7---3--	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

EXISTING SIGNAL DISPLAY DETAILS



EXISTING PEDESTRIAN HEAD DETAILS

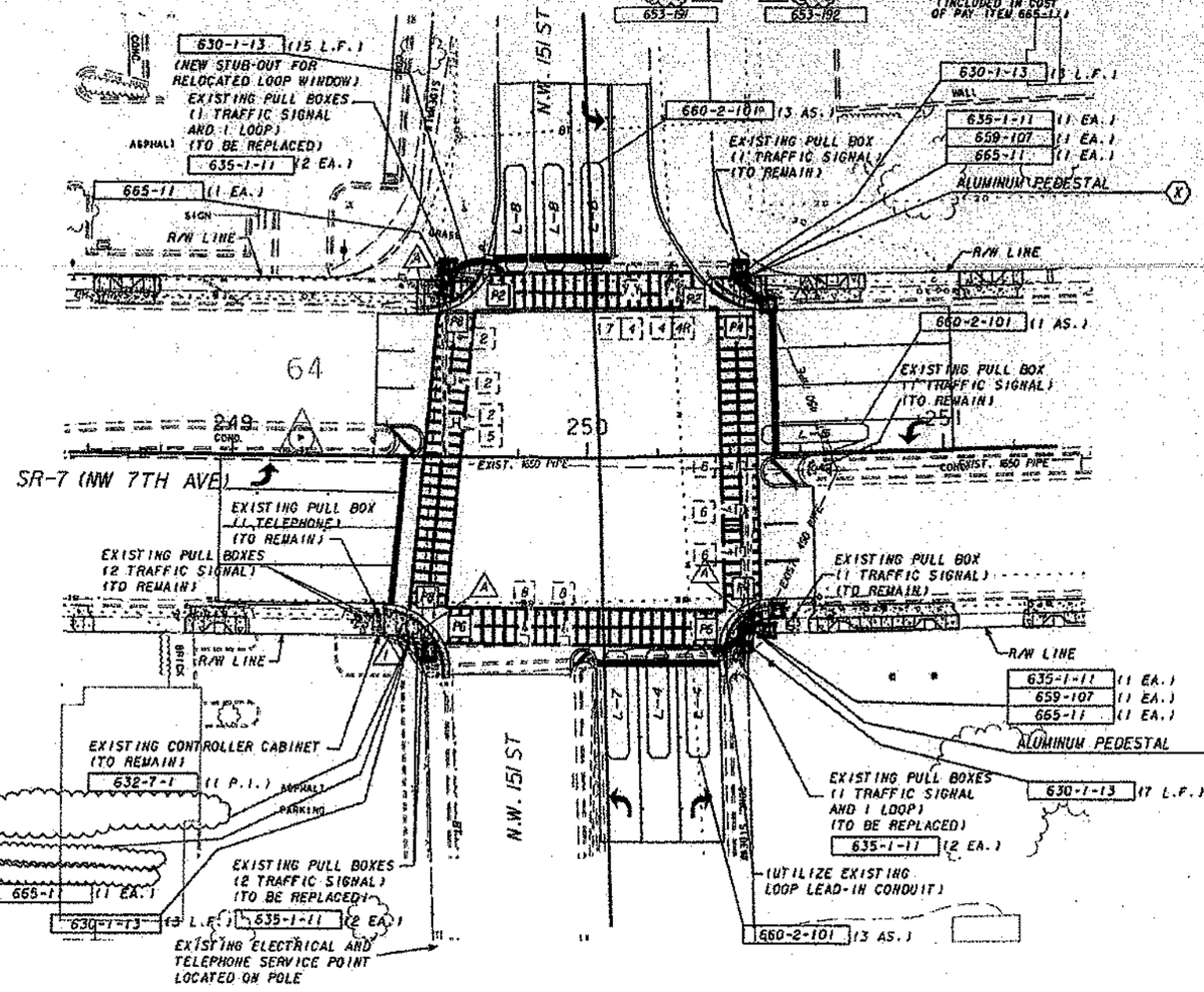


PEDESTRIAN HEAD DETAILS

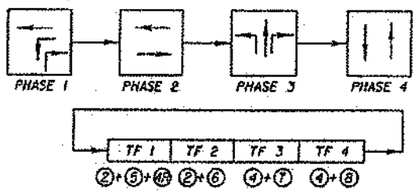


N

1" = 40'



EXISTING SIGNAL OPERATING PLAN



REMOVAL ITEMS		
PAY ITEM	UNIT	QUANT.
690-20	EA.	8
690-70	EA	4
690-90	PI	1
690-100	PI	1

NOTES

1. ALL EXISTING PEDESTRIAN BUTTONS, PUSH BUTTONS SIGNS AND PEDESTRIAN SIGNAL HEADS ARE TO BE REMOVED AND REPLACED.

2. ALL PEDESTRIAN SIGNAL HEADS SHALL ALIGN WITH THE CENTER OF FAR SIDE END OF THE CORRESPONDING CROSSWALK THEY SERVE.

COMMUNITY ASPHALT CORPORATION
DATE 04/12/12
PROJECT NO. 250081-4-52-01
REVIEWED BY

COMMUNITY ASPHALT CORP.
AS-BUILTS

0 10 40
Feet

SR 7 (N.W. 7th AVE.) & N.W. 151st STREET
INTERSECTION #3733

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
11/8/11	⚠ REMOVED PEDESTAL FOR PLACEMENT OF HEADS AND BUTTON ON UPRIGHT.		

NABIL F. SHAMOUN, P.E. NO. 47644
Progressive Design & Engineering, Inc.
10891 La Reina Road Suite 100 Delray Beach, FL 33446
Tel: 561-498-2304 Fax: 561-498-2305
CERTIFICATE OF AUTHORIZATION NO. 7151

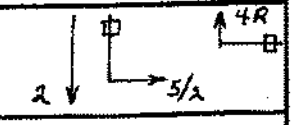
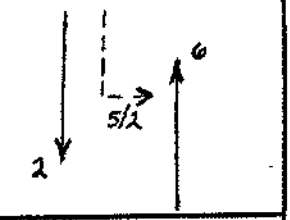
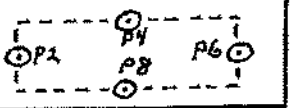
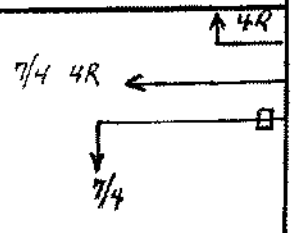
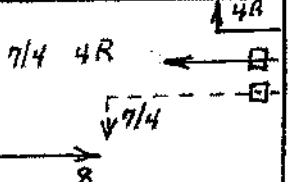
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			
ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
7	MIAMI-DADE	250081-4-52-01	

SIGNALIZATION PLANS

SHEET NO. T-7

NOT OF THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

SIGNAL OPERATING PLAN

Phase	Direction / Head No.	N 6	S 5/2	S 2	E 8	W 7/4	W 4R	Ped Heads P6	P2	P8	P4	Drawing
	Dwell											
	Clear											
	Dwell											
	Clear											
(2+5) SBLT (Actuated)	Dwell	R	<G/G	G	R	R	R/G>	DW	DW	DW	DW	
	Clear (2+6)	R	<Y/G	G	R	R	R/Y>	DW	DW	DW	DW	
(2+6) N-S (Recall)	Dwell	G	G	G	R	R	R	DW	DW	DW	DW	
	Clear (4+7)	Y	Y	Y	R	R	R	DW	DW	DW	DW	
	(4+8)	Y	Y	Y	R	R	R	DW	DW	DW	DW	
	Xped	Y	Y	Y	R	R	R	DW	DW	DW	DW	
Xped (Actuated)	Dwell	R	R	R	R	R	R	W/F	W/F	W/F	W/F	
	Clear ALL	R	R	R	R	R	R	DW	DW	DW	DW	
	Dwell											
	Clear											
	Dwell											
	Clear											
(4+7) WBLT (Actuated)	Dwell	R	R	R	R	<G/G	G	DW	DW	DW	DW	
	Clear (4+8)	R	R	R	R	<Y/G	G	DW	DW	DW	DW	
	(2+5)	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	(2+6)	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(4+8) E/W (Actuated)	Dwell	R	R	R	G	G	G	DW	DW	DW	DW	
	Clear											
	(2+5)	R	R	R	Y	Y	Y	DW	DW	DW	DW	
	(2+6)	R	R	R	Y	Y	Y	DW	DW	DW	DW	
Flashing Operation		FY	FY	FY	FR	FR	FR					Page 1 of 1

PEDS HAVE A DUAL MODE OPERATION: CONCURRENT OR EXCLUSIVE, SEE TIMING. SHOWN HERE IS THE EXCLUSIVE ONLY.

Miami-Dade County Public Works Department

Drawn	Date	NW 7 Av & 151 ST		
Checked H. HERNANDEZ	Date 8/9/07	Placed in Service Date 8/17/09 By CONTRACTOR	Phasing No. 8	Asset Number 3733

STATE PROJ. NO.	SHEET NO.
87100-3514	173

SIGNAL HEAD DETAILS

SIGNAL NO. 2 4 6

3 SECT. 1 WAY 12" STD LENS (650-1-131) 5 REQ'D

SIGNALS 2 + 6 WITH BACKPLATES (659-101) 4 REQ'D

7 — 4 SECT. 1 WAY 12" STD LENS (650-1-141) 1 REQ'D

BR — 4 SECT. 1 WAY 12" STD LENS (650-1-141) 1 REQ'D

BL — 4 SEC. 1 WAY 12" STD LENS (650-1-141) 1 REQ'D

A — DO NOT ENTER — R5-1 24"x24" (700-84-1) 1 REQ'D

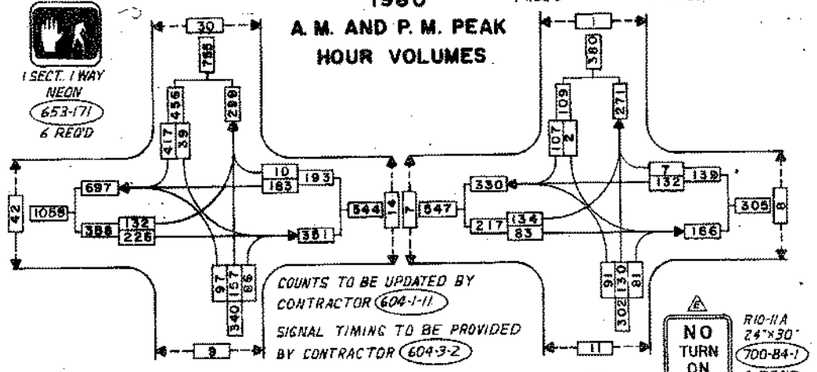
B — CROSS ONLY AT CROSS WALKS — R9-2 18"x24" 2 REQUIRED (ITEM NO. 700-84-1)

A — R3-1 24"x24" (700-84-1) 1 REQ'D

B — R3-2 24"x24" (700-84-1) 1 REQ'D

P2 P4 P6 — 1 SECT. 1 WAY NEON (653-171) 6 REQ'D

1980 A.M. AND P.M. PEAK HOUR VOLUMES



COUNTS TO BE UPDATED BY CONTRACTOR (604-1-11)

SIGNAL TIMING TO BE PROVIDED BY CONTRACTOR (604-3-2)

A — NO TURN ON RED — SCHOOL DAYS 7:00-9:30 AM 1:30-4:30 PM — R10-11A 24"x30" (700-84-1) 3 REQ'D

A — R10-11B 24"x18" (700-84-1) 3 REQ'D

A — PUSH BUTTON TO CROSS NW 6 AV WAIT FOR — R10-4A 9"x15" (700-84-1) 2 REQ'D

A — PUSH BUTTON WAIT FOR TO CROSS NW151ST NW6AV — R10-4C 12"x12" (700-84-1) 1 REQ'D

A — PUSH BUTTON WAIT FOR TO CROSS NW6AV NW151ST — R10-4C 12"x12" (700-84-1) 1 REQ'D

SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	S1-1 S2-1 R10-12 D1-1	R2-1(30) R7-1
SOUTH	R1-2 S1-1(LT) R7-4 R3-7B S2-1 R10-12 R7-4	R5-1 R5-1(LT) R5-1(LT) * R5-1
EAST	S1-1 S2-1 R7-107	R4-7 * R3-1
WEST	S1-1 * R9-2 S1-(LT) R3-1 R6-2 S2-1	R4-7(LT) W4-1 * R3-2 * R9-2

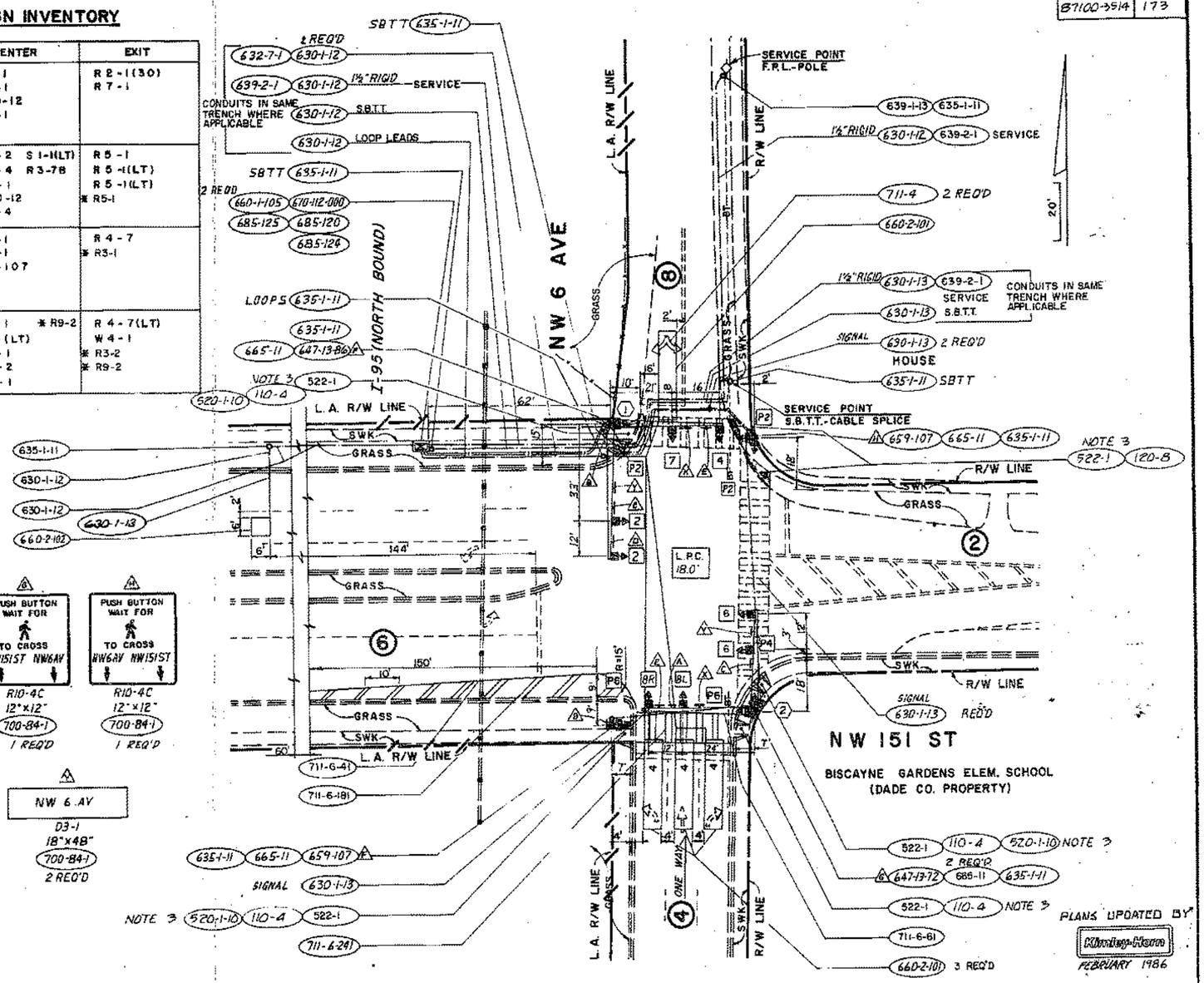
* NEW SIGN

A — NW 151 ST — D3-1 18"x48" (700-84-1) 2 REQ'D

A — NW 6 AV — D3-1 18"x48" (700-84-1) 2 REQ'D

NOTES:

1. DEMAND WATTAGE FOR THIS INTERSECTION IS 1345 WATTS.
2. TOTAL REQUIRED LENGTH OF GROUNDING ELECTRODES FOR THIS INTERSECTION IS 150 L.F. AND IS TO BE INSTALLED UNDER ITEM NO. (620-1-1).
3. CONSTRUCT RAMPS FOR PHYSICALLY HANDICAPPED AS PER D.O.T. INDEX NO. 304, 4 RAMPS REQUIRED INCLUDING 27 S.Y. OF 4" CONCRETE SIDEWALK. INCLUDE 50 L.F. TYPE "F" CURB & GUTTER.
4. LOOP ASSEMBLY (660-2-101) SHALL BE 6'x30' UNLESS OTHERWISE INDICATED.
5. PAVEMENT MARKINGS ARE WHITE UNLESS OTHERWISE INDICATED.
6. ALL CONDUIT SHALL BE 2" PVC UNLESS OTHERWISE INDICATED.



PLANS UPDATED BY Kimley-Horn FEBRUARY 1986

REMOVAL ITEMS

(690-10)	2 EA
(690-20)	4 EA
(690-30)	3 EA
(690-50)	1 EA
(690-70)	3 EA
(690-80)	1 EA
(690-90)	1 PI
(700-79)	2 EA (SPAN WIRE MOUNTED)
(690-100)	1 PI

I95 N/B off

REVISIONS			NAME	DATE
DATE	BY	DESCRIPTION		
2-86	GWR	ITEM NO UPDATE	DESIGNED BY C.A.K.	1-81
			CHECKED BY S.H.	2-81
			DRAWN BY K.M.	2-81
			CHECKED BY C.A.K.	5-81
			QUANTITIES BY J.E.F.	5-81
			APPROVED BY Guy F. Tedder P.E.	9/11/81

FLORIDA DEPARTMENT OF TRANSPORTATION

NW 6 AVENUE & NW 151 STREET

INTERSECTION IDENTIFICATION NO. 33160

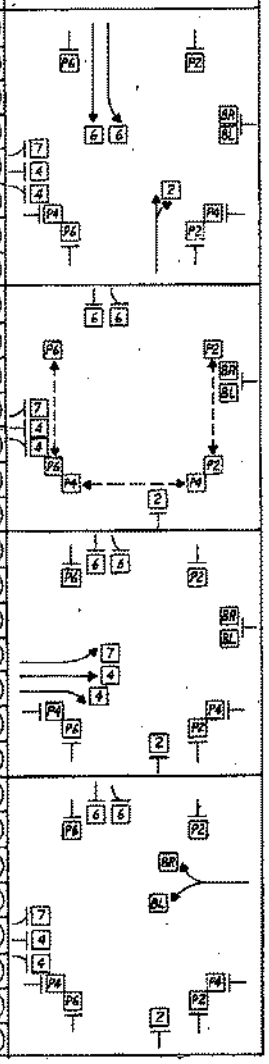
CAT. II

KUNDE, DRIVER & ASSOCIATES, INC.
engineers · architects · planners · surveyors
miami · ft. lauderdale · tallahassee · bartow

SIGNAL OPERATING PLAN

RC
8-20

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8R	8L	10	11	12	PEDESTRIAN HEAD NUMBER P2	P4	P6	P8
⌀6 (2+6) NW 151 ST 2 + 6 (RECALL)	R/W		G		R		G	R	R	R				DW	DW	DW	
	TO CLEAR EXCL PED		Y		R		Y	R	R	R				DW	DW	DW	
			R		R		R	R	R	R				DW	DW	DW	
	TO CLEAR ⌀3		Y		R		Y	R	R	R				DW	DW	DW	
			R		R		R	R	R	R				DW	DW	DW	
	TO CLEAR ⌀4		Y		R		Y	R	R	R				DW	DW	DW	
			R		R		R	R	R	R				DW	DW	DW	
EXCLUSIVE PEDESTRIAN (P2+P4+P6) * XPED (ACTUATED)	R/W		R		R		R	R	R	R				W	W	W	
	TO CLEAR ⌀3		R		R		R	R	R	R				FDW	FDW	FDW	
	TO CLEAR ⌀4		R		R		R	R	R	R				FDW	FDW	FDW	
	TO CLEAR ⌀2		R		R		R	R	R	R				FDW	FDW	FDW	
⌀4 (4+7) NW 6 AV NORTHBOUND (ACTUATED)	R/W		R		G		R	G	R	R				DW	DW	DW	
	TO CLEAR ⌀4		R		Y		R	Y	R	R				DW	DW	DW	
	TO CLEAR ⌀2		R		Y		R	Y	R	R				DW	DW	DW	
⌀8 (8R+8L) NW 6 AV SOUTHBOUND (ACTUATED)	R/W		R		R		R	R						DW	DW	DW	
	TO CLEAR ⌀2		R		R		R	R	Y	Y				DW	DW	DW	



TYPE OF CONTROLLER: THREE PHASE FULLY ACTUATED EXPANSIBLE TO FOUR PHASE

RECEIPT OF THE HOLD PULSE, WITHOUT THE SKIP PULSE FROM THE TRAFFIC CONTROL SYSTEM, WILL ACTIVATE A CONCURRENT PEDESTRIAN OPERATION. PEDESTRIAN MOVEMENTS ASSOCIATED WITH THE RECALL PHASE WILL COME UP WITHOUT ACTIVATION.

* PEDESTRIAN SEQUNCE SHALL BE DISPLAYED UPON ACTUATION ONLY.

Drawn	Date
F.D.O.T. / CONTRACTOR	1986
Check	Date
Division Engineer	Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF PUBLIC WORKS

ASSET NO: 33160

NW 6 AVE & NW 151 ST

Placed in Service		Phasing Number
Date: 5/18/88	By: T.C.D	3

TOD Schedule Report

for 3160: I- 95 NB Off&NW 151 St

Print Date: 2/13/2015

Print Time: 11:07 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3160	I- 95 NB Off&NW 151 St	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	NBT	-	EBT	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	7	0	7	12	0	12	7	18	7	1	1	1	40	40	40	0	60	40	4	1.6
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 NBT	7	0	7	18	0	18	7	7	7	2.5	2.5	2.5	25	25	25	45	60	25	4	0.8
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 EBT	7	0	7	12	0	12	7	18	7	1	1	1	40	40	40	0	60	40	4	1.6
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 SBT	0	0	0	0	0	0	7	7	7	2.5	2.5	2.5	25	25	25	45	60	25	4	0.8

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-234-6-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3160: I- 95 NB Off&NW 151 St

Print Date: 2/13/2015

Print Time: 11:07 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 SBT	Ring Offset	Offset
	2	105	0	18	0	44	0	18	0	27	0	100
	3	100	0	35	0	34	0	35	0	15	0	36
	5	85	0	24	0	26	0	24	0	19	0	8
	6	115	0	20	0	44	0	20	0	35	0	46
	8	110	0	17	0	40	0	17	0	37	0	46
	9	110	0	31	0	26	0	31	0	37	0	94
	10	100	0	31	0	36	0	31	0	17	0	36
	11	115	0	18	0	54	0	18	0	27	0	96
	12	115	0	18	0	54	0	18	0	27	0	46
	13	100	0	21	0	36	0	21	0	27	0	94
	17	100	0	31	0	36	0	31	0	17	0	36
	20	105	0	32	0	26	0	32	0	31	0	66
	21	90	0	5	0	44	0	5	0	25	0	74

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0500	Free	M T W Th F
0600	5	Su M T W Th F S
0630	10	M T W Th F
0700	17	M T W Th F
0730	12	M T W Th F
0930	3	M T W Th F
1000	3	Su S
1300	6	M T W Th F
1545	11	M T W Th F
1615	13	M T W Th F
1930	Free	M T W Th F
2030	Free	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF S
0730	TOD OUTPUTS	-------1	M T W ThF
0930	TOD OUTPUTS	-7------	M T W ThF
1300	TOD OUTPUTS	-------1	M T W ThF
1615	TOD OUTPUTS	-7------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF S
0730	TOD OUTPUTS	-------1	M T W ThF
0930	TOD OUTPUTS	-7------	M T W ThF
1300	TOD OUTPUTS	-------1	M T W ThF
1615	TOD OUTPUTS	-7------	M T W ThF

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE PROJ. NO.	SHEET NO.
87100-3514	173

SIGNAL HEAD DETAILS

SIGNAL NO. 2 4 6

3 SECT. 1 WAY 12" STD. LENS (650-1-131) 5 REQ'D

SIGNALS 2 + 6 WITH BACKPLATES (659-101) 4 REQ'D

7 — 4 SECT. 1 WAY 12" STD. LENS (650-1-141) 1 REQ'D

BR — 4 SECT. 1 WAY 12" STD. LENS (650-1-141) 1 REQ'D

BL — 4 SEC. 1 WAY 12" STD. LENS (650-1-141) 1 REQ'D

A — DO NOT ENTER — R5-1 24"x24" (700-84-1) 1 REQ'D

B — CROSS ONLY AT CROSS WALKS — R9-2 18"x24" 2 REQUIRED (ITEM NO. 700-84-1)

A — R3-1 24"x24" (700-84-1) 1 REQ'D

B — R3-2 24"x24" (700-84-1) 1 REQ'D

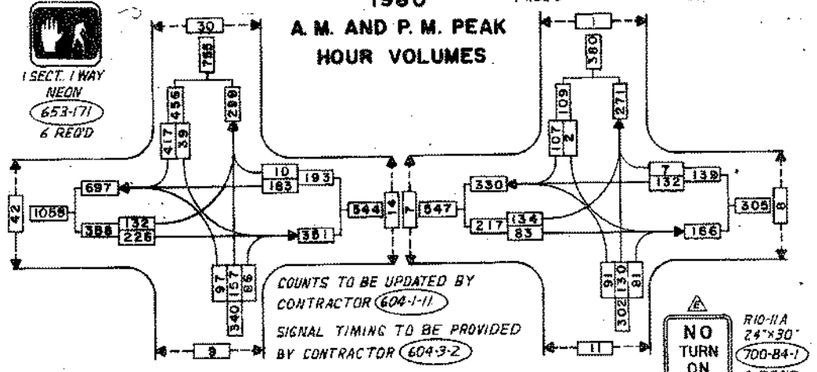
P2 P4 P6 — 1 SECT. 1 WAY NEON (653-171) 6 REQ'D

SIGN INVENTORY

LEG	ENTER	EXIT
NORTH	S1-1 S2-1 R10-12 D1-1	R2-1(30) R7-1
SOUTH	R1-2 S1-1(LT) R7-4 R3-7B S2-1 R10-12 R7-4	R5-1 R5-1(LT) R5-1(LT) * R5-1
EAST	S1-1 S2-1 R7-107	R4-7 * R3-1
WEST	S1-1 * R9-2 S1-(LT) R3-1 R6-2 S2-1	R4-7(LT) W4-1 * R3-2 * R9-2

* NEW SIGN

1980 A.M. AND P.M. PEAK HOUR VOLUMES



A — NO TURN ON RED — SCHOOL DAYS 7:00-9:30 AM 1:30-4:30 PM — R10-11A 24"x30" (700-84-1) 3 REQ'D; R10-11B 24"x18" (700-84-1) 3 REQ'D

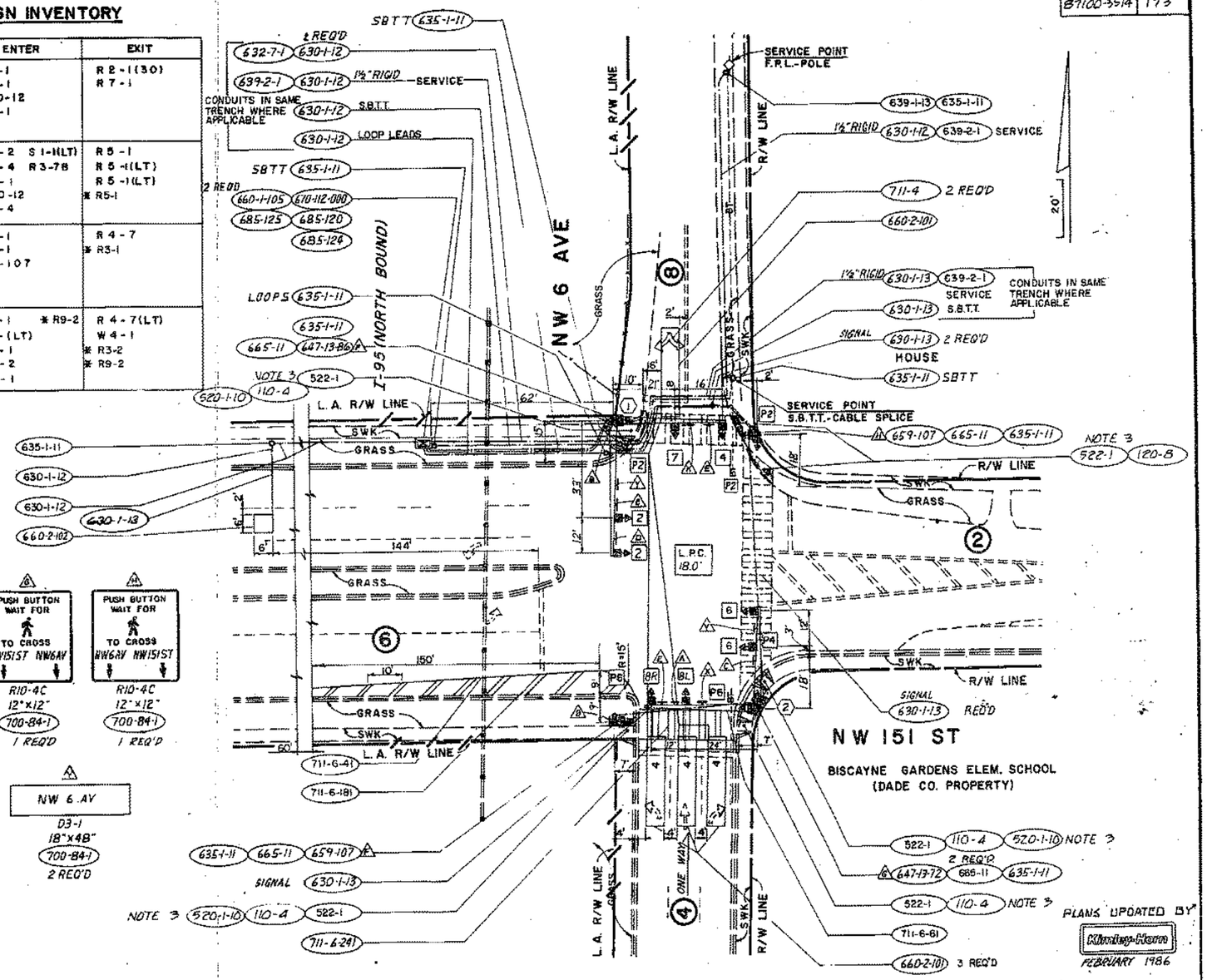
A — PUSH BUTTON TO CROSS NW 6 AV WAIT FOR — R10-4A 9"x15" (700-84-1) 2 REQ'D

A — PUSH BUTTON WAIT FOR TO CROSS NW151ST NW6AV — R10-4C 12"x12" (700-84-1) 1 REQ'D

A — PUSH BUTTON WAIT FOR TO CROSS NW6AV NW151ST — R10-4C 12"x12" (700-84-1) 1 REQ'D

A — NW 151 ST — D3-1 18"x48" (700-84-1) 2 REQ'D

A — NW 6 AV — D3-1 18"x48" (700-84-1) 2 REQ'D



NW 151 ST

BISCAYNE GARDENS ELEM. SCHOOL (DADE CO. PROPERTY)

PLANS UPDATED BY Kimley-Horn FEBRUARY 1986

NOTES:

1. DEMAND WATTAGE FOR THIS INTERSECTION IS 1345 WATTS.
2. TOTAL REQUIRED LENGTH OF GROUNDING ELECTRODES FOR THIS INTERSECTION IS 150 L.F. AND IS TO BE INSTALLED UNDER ITEM NO. (620-1-1).
3. CONSTRUCT RAMPS FOR PHYSICALLY HANDICAPPED AS PER D.O.T. INDEX NO. 304, 4 RAMPS REQUIRED INCLUDING 27 S.Y. OF 4" CONCRETE SIDEWALK. INCLUDE 50 L.F. TYPE "F" CURB & GUTTER.
4. LOOP ASSEMBLY (660-2-101) SHALL BE 6'x30' UNLESS OTHERWISE INDICATED.
5. PAVEMENT MARKINGS ARE WHITE UNLESS OTHERWISE INDICATED.
6. ALL CONDUIT SHALL BE 2" PVC UNLESS OTHERWISE INDICATED.

REMOVAL ITEMS

(690-10)	2 EA
(690-20)	4 EA
(690-30)	3 EA
(690-50)	1 EA
(690-70)	3 EA
(690-80)	1 EA
(690-90)	1 PI
(700-79)	2 EA (SPAN WIRE MOUNTED)
(690-100)	1 PI

I95 N/B off

REVISIONS DATE	BY	DESCRIPTION
2-86	GWR	ITEM NO UPDATE

	NAME	DATE
DESIGNED BY	C.A.K.	1-81
CHECKED BY	S.H.	2-81
DRAWN BY	N.M.	2-81
CHECKED BY	C.A.K.	5-81
QUALITY CHECKED BY	J.E.F.	5-81
APPROVED BY	Guy F. Fahlberg for DIR.	9/11/81

FLORIDA DEPARTMENT OF TRANSPORTATION

NW 6 AVENUE & NW 151 STREET

INTERSECTION IDENTIFICATION NO. 33160

CAT. II

KUNDE, DRIVER & ASSOCIATES, INC. engineers · architects · planners · surveyors — miami · ft. lauderdale · tallahassee · bartow

SIGNAL OPERATING PLAN

RC
8-20

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8R	8L	10	11	12	PEDESTRIAN HEAD NUMBER P2	P4	P6	P8
⌀1 (2+6) NW 151 ST 2 + 6 (RECALL)	R/W		G		R		G	R	R	R				DW	DW	DW	
	TO CLEAR EXCL PED		Y		R		Y	R	R	R				DW	DW	DW	
			⌀		R		R	R	R	R				DW	DW	DW	
	TO CLEAR ⌀3		Y		R		Y	R	R	R				DW	DW	DW	
			R		R		R	R	R	R				DW	DW	DW	
	TO CLEAR ⌀4		Y		⌀		Y	R	R	R				DW	DW	DW	
			R		R		R	R	R	R				DW	DW	DW	
EXCLUSIVE PEDESTRIAN (P2+P4+P6) * XPED (ACTUATED)	R/W		R		R		R	R	R	R				W	W	W	
	TO CLEAR ⌀3		R		R		R	R	R	R				FDW	FDW	FDW	
	TO CLEAR ⌀4		R		R		R	R	R	R				FDW	FDW	FDW	
	TO CLEAR ⌀2		R		R		R	R	R	R				FDW	FDW	FDW	
⌀4 (4+7) NW 6 AV NORTHBOUND (ACTUATED)	R/W		R		G		R	G	R	R				DW	DW	DW	
	TO CLEAR ⌀4		R		Y		R	Y	R	R				DW	DW	DW	
	TO CLEAR ⌀2		R		Y		R	Y	R	R				DW	DW	DW	
⌀8 (8R+8L) NW 6 AV SOUTHBOUND (ACTUATED)	R/W		R		R		R	R						DW	DW	DW	
	TO CLEAR ⌀2		R		R		R	R	Y	Y				DW	DW	DW	

TYPE OF CONTROLLER: THREE PHASE FULLY ACTUATED EXPANSIBLE TO FOUR PHASE

RECEIPT OF THE HOLD PULSE, WITHOUT THE SKIP PULSE FROM THE TRAFFIC CONTROL SYSTEM, WILL ACTIVATE A CONCURRENT PEDESTRIAN OPERATION. PEDESTRIAN MOVEMENTS ASSOCIATED WITH THE RECALL PHASE WILL COME UP WITHOUT ACTIVATION.

* PEDESTRIAN SEQUNCE SHALL BE DISPLAYED UPON ACTUATION ONLY.

Drawn F.D.O.T / CONTRACTOR	Date 1986	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS
Check	Date	ASSET NO: 33160
Division Engineer	Date	NW 6 AVE & NW 151 ST
Placed in Service Date: 5/18/88 By: T.C.D		Phasing Number 3

TOD Schedule Report
for 5900: NW 7 Av@NW 15900 Blk

Print Date: 7/5/2015

Print Time: 10:37 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
5900	NW 7 Av@NW 15900 Blk	DOW-1		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	NBT	WBL	-	-	SBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 NBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	35 - 35 - 35	0 - 40 - 40	4.4	2
3 WBL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	25 - 25 - 25	40 - 40 - 40	4.4	2
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 SBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	35 - 35 - 35	0 - 40 - 40	4.4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-23--6--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	NBT	WBL	-	-	SBT	-	-		
	1	110	0	63	35	0	0	63	0	0	0	64
	2	130	0	78	40	0	0	78	0	0	0	79
	3	90	0	38	40	0	0	38	0	0	0	39

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0930	3	Su S
0930	1	M T W Th F
1000	3	M T W Th F
2000	3	Su M T W Th F S
2100	Free	Su M T W Th F S

TOD Schedule Report

for 5900: NW 7 Av@NW 15900 Blk

Print Date: 7/5/2015

Print Time: 10:37 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0930	TOD OUTPUTS	--------	SuM T W ThF S
2100	TOD OUTPUTS	-------1	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0930	TOD OUTPUTS	--------	SuM T W ThF S
2100	TOD OUTPUTS	-------1	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

STATE'S PROJ. NO.	SHEET NO.
87099-3513	T-5

SIGNAL HEAD DETAILS

2 6 — 3-SECT. TRAFFIC SIGNAL — 2650-1-131 [4 AS] — 2659-106 12 EA

3 — 3-SECT. TRAFFIC SIGNAL — 2650-1-131 [2 AS] — 2659-106 6 EA

MAST ARM MOUNTED SIGNS

A — NW 7 AV — 2700-48-18 — D-3 [1 EA]

B — NO TURNS — 2700-48-18 — R3-3 (600 X 600) [2 EA]

SPECIAL SIGNAL OPERATING PLAN

PHASE 1 PHASE 2

TF 1 TF 2

② + ⑥ ③

DETECTORS FOR LOOPS			
LOOP	NO. OF LOOPS	NO. OF DETS.	DELAY SEC.
L-3	2	1	0

CONTROLLER OPERATIONS

1. MAJOR STREET IS NW 7 AVE. (SR-7)
   MINOR STREET IS SB OFF RAMP FROM I-95
2. TYPE OF CONTROLLER IS A MODEL 170 TO OPERATE AS SOP SHOWN ON THIS SHEET WITH THE FOLLOWING FEATURES:
   A. VEHICLE MODULES ON TF 2 TO BE DISPLAYED UPON ACTUATION ONLY.
3. FLASHING OPERATION: NW 7 AVE. (YELLOW) SB OFF RAMP FROM I-95 (RED).
~~4. SEPARATE TIME SWITCH FOR NIGHT FLASH (12:00 PM TO 6:30 AM)~~
5. SIGNAL TIMINGS TO BE PROVIDED BY DADE COUNTY PUBLIC WORKS.

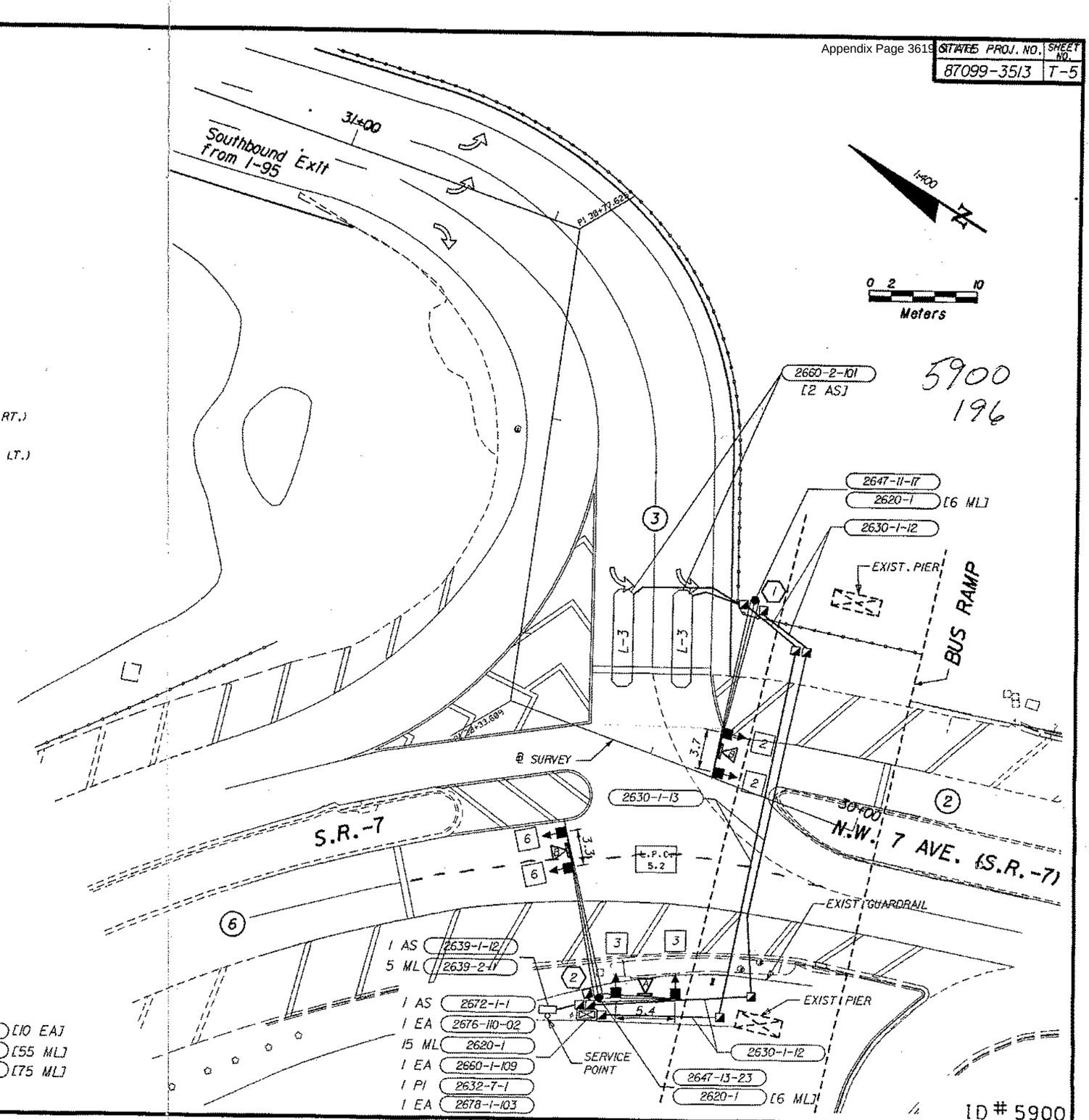
NOTES:

1. MINIMUM VERTICAL CLEARANCE TO BOTTOM OF LOWEST SIGNAL IS 5.2 ML
2. RECORDED EASEMENT(S) MUST BE PROVIDED TO MAINTAINING AGENCY PRIOR TO INSPECTION.

2635-1-11 [10 EA]
2630-1-12 [55 ML]
2630-1-13 [75 ML]

STEEL POLE LOCATIONS

1. STA. 30+16.17 @ SURVEY (16.70 ML RT.)
2. STA. 30+16.27 @ SURVEY (22.51 ML LT.)



FILENAME: PLANS001.DGN DATE: 01/30/98

REVISIONS															
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	

FLORIDA DEPARTMENT OF TRANSPORTATION

PREPARED BY: METRIC ENGINEERING, INC. ENGINEERS • PLANNERS • SURVEYORS

NW 7 AVE (S.R.-7) / S.B. Exit I-95
SIGNALIZATION PLAN

SIGNAL OPERATING PLAN

N

	Direction	SB		NB		WB				Ped Heads				Drawing
Phase	Head No.	6		2		3								
(2+6)	Dwell	G		G		~~R~~								
N - S	Clear to (3)	Y		Y		~~R~~								
NW 7 AV														
(Recall)														
(3)	Dwell	R		R		←								
WB LT	Clear to (2+6)	R		R		~~Y~~								
15900 BLK														
(Actuated)														
	Dwell													
	Clear to													
	Dwell													
	Clear to													
	Dwell													
	Clear to													
	Dwell													
	Clear to													
Flashing Operation		FY		FY		F ~~R~~								Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date			
F. PRATS	1-19-01	NW 7 AV @ 15900 BLK (I-9558)		
Checked	Date	Placed In Service		Phasing No.	Asset Number
H. HERNANDEZ	1/22/01	Date 3/16/01	By CONTRACTOR	1	1

MidBlock

TOD Schedule Report
for 4001: NW 7 Av@NW 16000 Blk

Print Date: 2/13/2015

Print Time: 12:44 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4001	NW 7 Av@NW 16000 Blk	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
SEL	NWT	-	-	NWL	SET	NET	SWT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 SEL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 10 - 10	10 - 10 - 10	5.7	0
2 NWT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	80 - 54 - 88	0 - 54 - 35	4.3	0.8
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 NWL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 10 - 10	10 - 10 - 10	5.7	0
6 SET	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	80 - 54 - 88	0 - 54 - 35	4.3	0.8
7 NET	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 15 - 20	12 - 15 - 20	4	1
8 SWT	7 - 7 - 7	25 - 25 - 25	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 15 - 20	12 - 15 - 20	4	1

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12--5678
External Permit 0	-2---678
External Permit 1	-2---678
External Permit 2	-2---678

Current TOD Schedule	Plan	Cycle	1 SEL	2 NWT	3 -	4 -	5 NWL	6 SET	7 NET	8 SWT	Ring Offset	Offset

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S

TOD Schedule Report

for 4001: NW 7 Av@NW 16000 Blk

Print Date: 2/13/2015

Print Time: 12:44 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0530	TOD OUTPUTS	------2-	M T W ThF
0600	TOD OUTPUTS	-----3--	M T W ThF
1000	TOD OUTPUTS	-------1	SuM T W ThF S
1500	TOD OUTPUTS	-----3--	M T W ThF
2100	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0530	TOD OUTPUTS	------2-	M T W ThF
0600	TOD OUTPUTS	-----3--	M T W ThF
1000	TOD OUTPUTS	-------1	SuM T W ThF S
1500	TOD OUTPUTS	-----3--	M T W ThF
2100	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

2 4 — 3-SECT., 1-WAY — 2 4 AS — 650-51-311

2 5/2 — 5-SECT., 1-WAY — 2 1 AS — 650-51-511

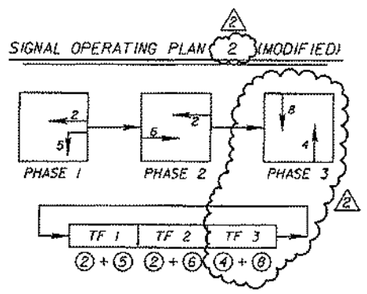
6 8 — 3-SECT., 1-WAY — EXISTING

(A) GOLDEN GLADES PARKING LOT — EXISTING RELOCATED SIGN — 700-48-48

(B) NW 7 AV — EXISTING RELOCATED SIGN — 700-48-48

659-106 TUNNEL VISORS (TO BE PLACED ON ALL APPROACHES) (17 EA) 2

SIGNAL OPERATING PLAN (2) (MODIFIED)



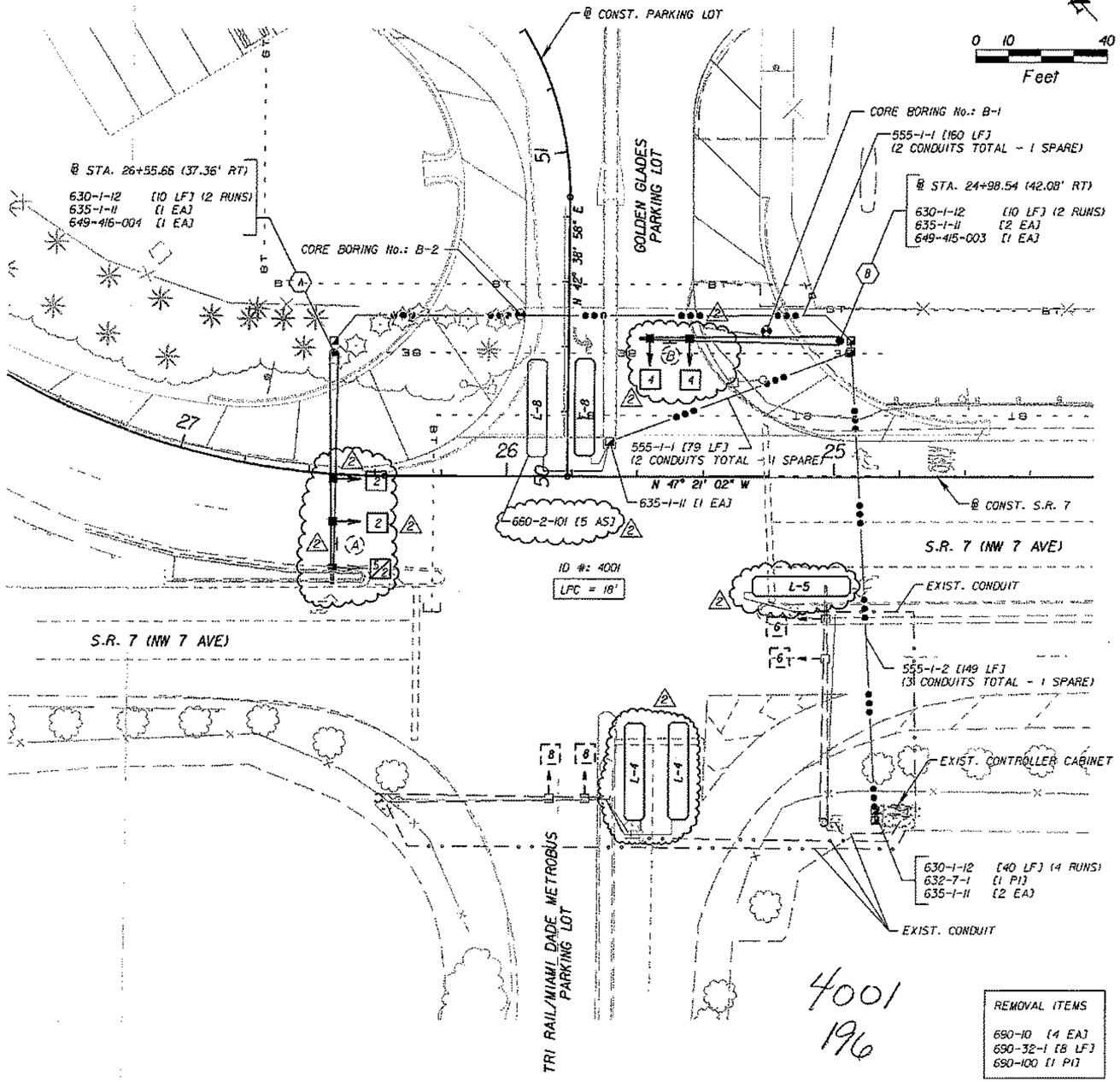
POLE DATA				
POLE	STATION	OFFSET	FOUNDATION ELEVATION	ROADWAY HIGH POINT
(A)	26+55.66	37.36' RT	7.50'	8.70'
(B)	24+98.54	42.08' RT	7.25'	7.70'

DETECTORS FOR LOOPS					
LOOP	NO. OF NEW LOOPS	NO. OF EXIST. LOOPS	NO. OF NEW DETS.	NO. OF EXIST. DETS.	DELAY TIME (SEC)
L-4	(2)	2 2	--	1	--
L-5	1	1	--	1	--
L-8	2	2	--	1	--

DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY ENGINEER.

NOTES:

1. MAJOR STREET IS S.R. 7.
   MINOR STREET IS GOLDEN GLADES PARKING LOT.
2. FLASHING OPERATION: YELLOW - MOVEMENTS 2 6 1 AND 5/2
   RED - MOVEMENTS 4 (AND 8) 2
3. FLORIDA DEPARTMENT OF TRANSPORTATION MODIFIED SIGNAL OPERATING PLAN (S.O.P.) # (2) 2
4. MAINTAINING AGENCY IS MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT TRAFFIC SIGNALS AND SIGNS DIVISION. CONTACT PERSON: BOB WILLIAMS AT (305) 592-8925 EXT. 247.
5. SIGNAL TIMING IS TO BE PROVIDED BY MAINTAINING AGENCY.
6. ALL PULL BOXES SHALL BE PLACED IN A CONCRETE PAD AS DESCRIBED BY MIAMI-DADE SPECIFICATIONS.
7. LOOP ASSEMBLY 660-2-101 DEVIATES FROM FDOT STANDARDS AND SHALL BE 6'x30' FOR THRU LANES AND 5'x30' FOR LEFT TURN LANES. LOOPS SHALL EXTEND 5' BEYOND STOP BAR. ADDITIONAL LENGTH SHALL BE INCLUDED IN PAY ITEM 660-2-101.
8. MAINTAIN EXISTING ELECTRIC POWER SERVICE AND DISCONNECT. FOR COORDINATION WITH FP&L CONTACT JORGE RODRIGUEZ AT (305) 442-5119.
9. MAINTAIN EXISTING TELEPHONE SERVICE. THE BELLSOUTH CONTACT PERSON IS RICK RENFROW AT (305) 260-8243.



SR. 7 AT GOLDEN GLADES PARKING LOT (ID No.: 4001)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3/22/07	CMJ	2 UPDATED PER MDC's COMMENTS.			

Wantman Group, Inc.
Engineering Surveying Mapping
2035 VISTA PARKWAY, SUITE 100
WEST PALM BEACH, FL 33411
561.687.2220 phone, 561.687.3110 fax
E-MAIL: WGI@WANTMANGROUP.COM
EOR: GARY J. WILLIAMS, PE No. 55004
CERT No. 6091 - LB No. 7055
VENDOR No. 65-0271367

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
91	MIAMI-DADE	418223-1-52-01

SIGNALIZATION PLAN

SHEET NO. 42

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

TOD Schedule Report
for 2020: SR- 826&NW 2 Av

Print Date: 2/13/2015

Print Time: 8:54 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2020	SR- 826&NW 2 Av	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	WBL	EBT	NBL	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	4.5 - 4.5 - 4.5	15 - 36 - 45	20 - 0 - 0	3	2.4
2 WBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	35 - 100 - 110	0 - 0 - 0	4	1
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 30 - 15	30 - 0 - 0	4	2.9
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	3 - 3 - 3	15 - 36 - 15	20 - 0 - 0	3	2
6 EBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	35 - 100 - 110	0 - 0 - 0	4	1
7 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	3.5 - 3.5 - 3.5	10 - 25 - 25	20 - 0 - 0	5.5	0
8 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 15	20 - 0 - 0	4	2.9

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-45678
External Permit 0	12-456-8
External Permit 1	12-456-8
External Permit 2	12-456-8

TOD Schedule Report
for 2020: SR- 826&NW 2 Av

Print Date: 2/13/2015

Print Time: 8:54 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	1	90	12	30	0	31	12	30	18	7	0	68
	5	180	21	103	0	39	21	103	24	9	0	155
	6	105	11	50	0	27	11	50	11	10	0	21
	7	90	11	41	0	21	11	41	6	9	0	67
	8	90	11	33	0	29	11	33	16	7	0	66
	9	105	13	48	0	27	13	48	11	10	0	19
	10	125	19	61	0	28	19	61	14	8	0	27
	13	145	18	83	0	26	18	83	13	8	0	102
	16	115	15	54	0	29	15	54	16	7	0	73
	23	90	11	41	0	21	11	41	6	9	0	67

Local TOD Schedule

Time	Plan	DOW
0000	23	Su M T W Th F S
0100	Free	Su M T W Th F S
0500	7	M T W Th F
0600	1	Su S
0600	8	M T W Th F
0645	Free	M T W Th F
1000	6	Su
1000	13	M T W Th F
1000	16	S
1300	10	Su S
1400	Free	M T W Th F
1730	9	Su
1900	9	S
1915	16	Su
1930	10	M T W Th F
2030	9	M T W Th F
2215	6	S
2300	23	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0645	TOD OUTPUTS	-------1	M T W ThF
1000	TOD OUTPUTS	--------	M T W ThF
1400	TOD OUTPUTS	-----3--	M T W ThF
1930	TOD OUTPUTS	--------	M T W ThF

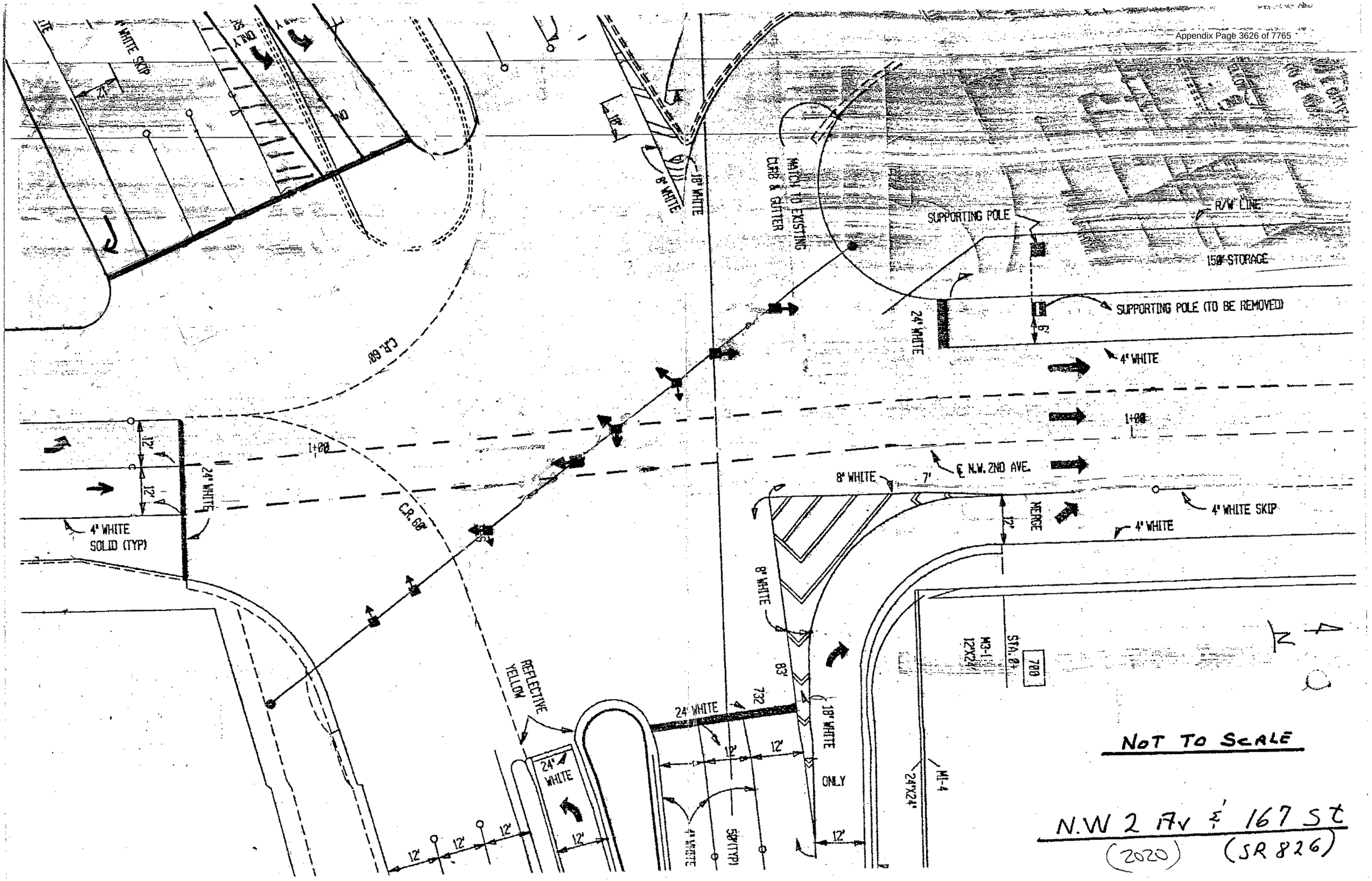
Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0645	TOD OUTPUTS	-------1	M T W ThF
1000	TOD OUTPUTS	--------	M T W ThF
1400	TOD OUTPUTS	-----3--	M T W ThF
1930	TOD OUTPUTS	--------	M T W ThF

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

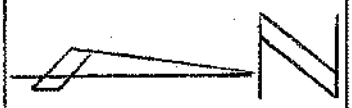


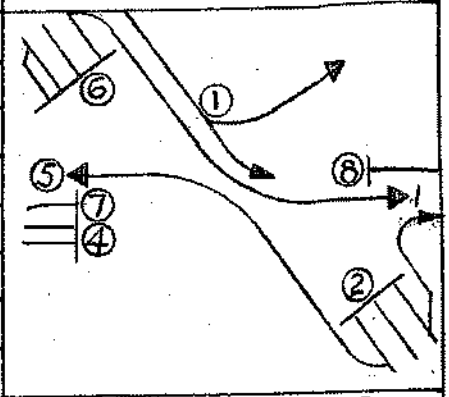
NOT TO SCALE

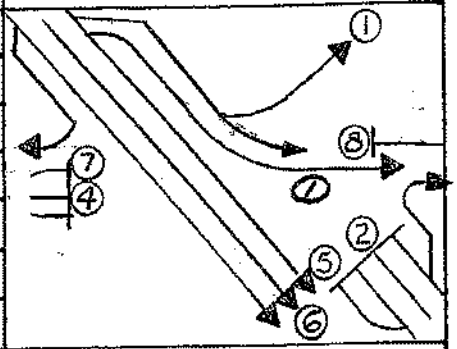
N.W 2 Av & 167 St
(2020) (SR 826)

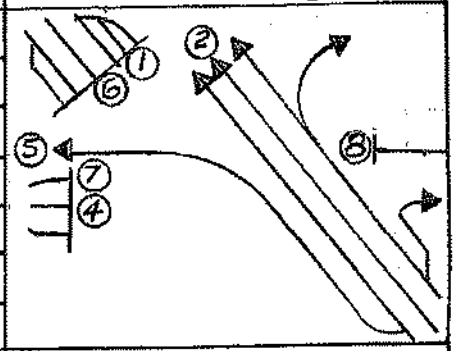
SIGNAL OPERATING PLAN

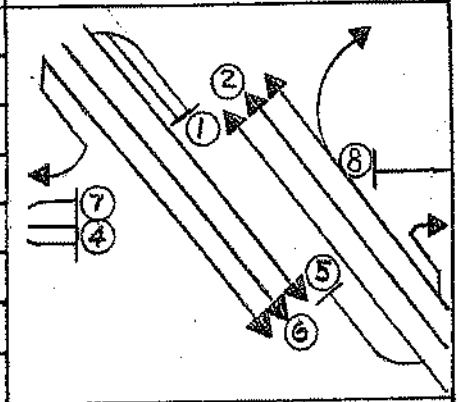
PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12
Ø(1+5) (1+5) SR 826 NE/SW LEFTS TURNS	R/W	←	R		R	←	R	R	R				
	PED. CL.												
	CLEAR TO Ø(1+6)	←	R		R	✗	R	R	R				
	CLEAR TO Ø(2+5)	✗	R		R	←	R	R	R				
	CLEAR TO Ø(2+6)	✗	R		R	✗	R	R	R				
Ø(1+6) (1+6) SR 826 NEBND LEAD	R/W	←	R		R	←	G	R	R				
	PED. CL.												
	CLEAR TO Ø(2+6)	✗	R		R	←	G	R	R				
Ø(2+5) (2+5) SR 826 SWBND LEAD	R/W	←	G		R	←	R	R	R				
	CLEAR TO Ø(2+6)	←	G		R	✗	R	R	R				
Ø(2+6) (2+5) SR 826 NE/SW	R/W	←	G		R	←	G	R	R				
	CLEAR TO Ø3	←	Y		R	←	Y	R	R				
	CLEAR TO Ø4	←	Y		R	←	Y	R	R				
	CLEAR TO Ø(1+5)	←	Y		R	←	Y	R	R				
	CLEAR TO Ø(1+6)	←	Y		R	←	G	R	R				
	CLEAR TO Ø(2+5)	←	G		R	←	Y	R	R				











INITIATED by FDOT — Date 2003

Check — Date

Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET # 32020

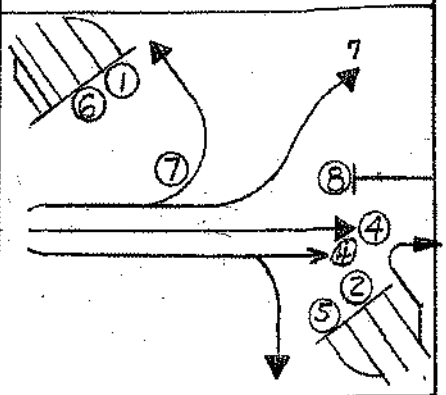
SR 826 & NW 2 AVE

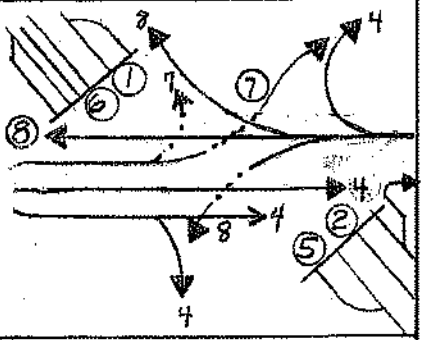
SHEET 1 OF 2

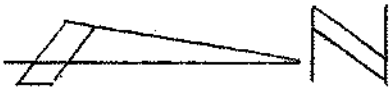
Placed in Service	Timing Number	Phasing Number
Date: 2006 By: CONTRACTOR FDOT	—	9

SIGNAL OPERATING PLAN

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12
Ø3 (4+7) NBND LEAD	R/W	←R	R		G	←R	R	←G	R				
	PED. CL.												
	CLEAR TO Ø4	←R	R		G	←R	R	←Y	R				
	CLEAR TO Ø(1+5)	←R	R		Y	←R	R	←Y	R				
	CLEAR TO Ø(1+6)	←R	R		Y	←R	R	←Y	R				
	CLEAR TO Ø(2+5)	←R	R		Y	←R	R	←Y	R				
	CLEAR TO Ø(2+6)	←R	R		Y	←R	R	←Y	R				
Ø4 (4+8) NORTH/SOUTH	R/W	←R	R		G	←R	R	G	G				
	PED. CL.												
	CLEAR TO Ø(1+5)	←R	R		Y	←R	R	Y	Y				
	CLEAR TO Ø(1+6)	←R	R		Y	←R	R	Y	Y				
	CLEAR TO Ø(2+5)	←R	R		Y	←R	R	Y	Y				
	CLEAR TO Ø(2+6)	←R	R		Y	←R	R	Y	Y				
	R/W												
	CLEAR TO												
	R/W												
	CLEAR TO												
FLASHING OPER		←FR	FY		FR	←FR	FY	FR	FR				







INITIATED BY FDOT

Date 2003

Check

Date

Division Engineer

Date

METROPOLITAN DADE COUNTY
DEPARTMENT OF TRAFFIC AND TRANSPORTATION

ASSET # 32020

SR826 & NW 2AVE

SHEET 2 OF 2

Placed In Service	Timing Number	Phasing Number
Date: 2006 By: CONTRACTOR FDOT		9

TOD Schedule Report

for 3383: N Miami Av&SR- 826

Print Date: 2/13/2015

Print Time: 11:28 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3383	N Miami Av&SR- 826	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	SBL	NBT	WBL	EBT	NBL	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 5 - 5	15 - 5 - 5	4.5	0
2 WBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	1 - 1 - 1	40 - 35 - 35	0 - 35 - 35	4	0.9
3 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 5 - 5	20 - 5 - 5	3	0
4 NBT	5 - 5 - 5	18 - 18 - 18	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	25 - 20 - 20	4	1.5
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 5 - 5	15 - 5 - 5	4.5	0
6 EBT	7 - 7 - 7	10 - 10 - 10	7 - 7 - 7	1 - 1 - 1	40 - 35 - 35	0 - 35 - 35	4	0.9
7 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 5 - 5	20 - 5 - 5	3	0
8 SBT	5 - 5 - 5	18 - 18 - 18	7 - 7 - 7	3 - 3 - 3	20 - 20 - 20	25 - 20 - 20	4	1.5

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3383: N Miami Av&SR- 826

Print Date: 2/13/2015

Print Time: 11:28 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBL	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	1	90	13	29	10	21	13	29	10	21	0	65
	5	180	15	111	17	20	15	111	17	20	0	158
	6	105	7	52	10	19	7	52	10	19	0	21
	7	90	13	29	10	21	13	29	10	21	0	82
	8	90	13	29	10	21	13	29	10	21	0	74
	9	105	7	52	10	19	7	52	10	19	0	19
	10	125	10	67	12	19	10	67	12	19	0	99
	11	150	13	87	15	18	13	87	15	18	0	124
	12	130	13	62	19	19	13	62	19	19	0	78
	13	130	10	70	12	21	10	70	12	21	0	36
	14	130	13	62	19	19	13	62	19	19	0	78
	15	130	13	67	15	18	13	67	15	18	0	50
	16	115	7	60	12	19	7	60	12	19	0	72
	17	130	13	62	19	19	13	62	19	19	0	89
	18	130	13	67	15	18	13	67	15	18	0	120
	23	90	6	43	5	19	6	43	5	19	0	70

Local TOD Schedule

Time	Plan	DOW
0000	23	Su M T W Th F S
0100	Free	Su M T W Th F S
0500	7	M T W Th F
0600	1	Su S
0600	8	M T W Th F
0700	17	M T W Th F
0900	14	M T W Th F
1000	6	Su
1000	13	M T W Th F
1000	16	S
1300	10	Su S
1400	18	M T W Th F
1615	11	M T W Th F
1730	9	Su
1900	6	M T W Th F
1900	9	S
1915	16	Su
2030	9	M T W Th F
2215	6	S
2300	23	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0100	TOD OUTPUTS	-------1	SuM T W ThF S
0500	TOD OUTPUTS	--------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0100	TOD OUTPUTS	-------1	SuM T W ThF S
0500	TOD OUTPUTS	--------	M T W ThF
0600	TOD OUTPUTS	--------	Su S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

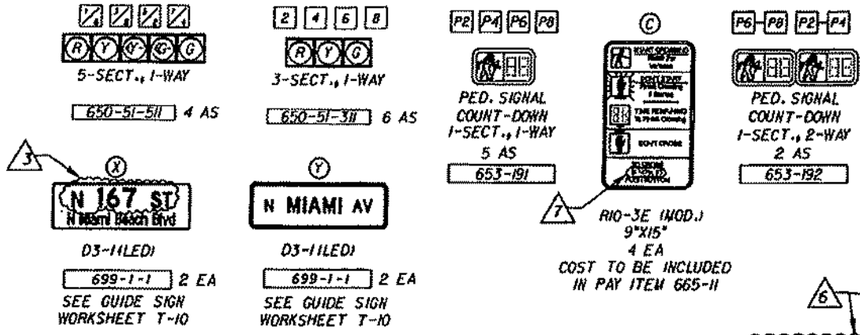
for 3383: N Miami Av&SR- 826

Print Date: 2/13/2015

Print Time: 11:28 AM

No Calendar Defined/Enabled

SIGNAL HEAD AND SIGN DETAILS



NOTES:

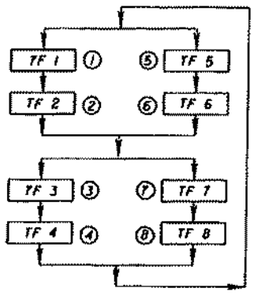
1. SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. PAY ITEM 690-100 INCLUDES THE REMOVAL OF EXISTING AND ABANDONED PULL BOXES AT THE INTERSECTION AND EXISTING SERVICE POINTS AT THE INTERSECTION.
3. ALL PEDESTRIAN SIGNAL HEADS SHALL ALIGN WITH CENTER OF FAR-SIDED END OF CORRESPONDING CROSSWALK.
4. FOR VVH (VERIFIED UTILITY LOCATIONS) SEE SHEET UTV-1.

LEGEND:

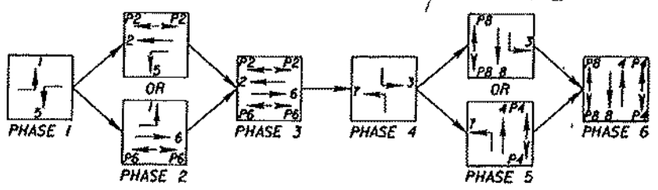
PROPOSED CONCRETE SLAB.

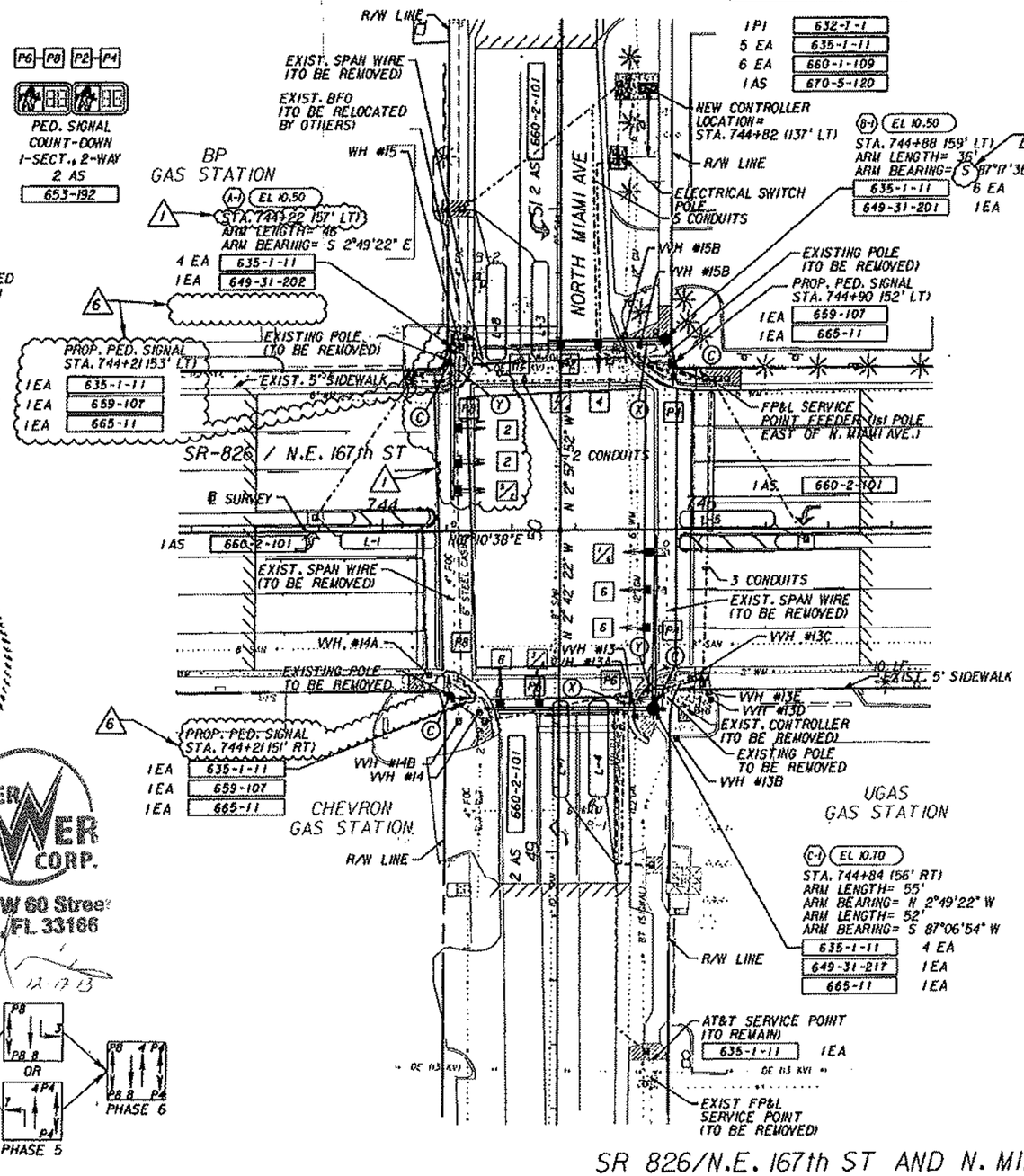
CONTROLLER OPERATIONS:

1. MAJOR STREET: SR-826 / N.E. 167th ST.
   MINOR STREET: N. MIAMI AVE.
2. FLASHING OPERATION: 2, & 6 - YELLOW
   3, 4, 7, & 8 - RED
3. SOP: 10
4. PHASES: 1, 2, 4, 5 & 6 - ACTUATED
   3 - RECALL
5. PED. SIGNALS UPON ACTUATED ONLY.
   P2 & P6 ARE ON RECALL.



S.O.P. 10





CONTROLLER ITEMS

1 PI	632-7-1
5 EA	635-1-11
6 EA	660-1-109
1 AS	670-5-120

CONDUITS

210 LF	630-1-13

SERVICE POINT ITEMS

2 EA	635-1-11
1 AS	639-1-23
490 LF	639-2-1

REMOVAL ITEMS

10 EA	690-10
4 EA	690-32-1
1 EA	690-50
4 EA	690-70
1 EA	690-80
1 PI	690-90
1 PI	690-100
1 EA	700-48-60

DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF NEW DETS.
L-1	1	1
L-3	1	1
L-4	1	1
L-5	1	1
L-7	1	1
L-8	1	1

0 10 40 Feet

JOSE ANTONIO MUNOZ LICENSE No. 68714 STATE OF FLORIDA PROFESSIONAL ENGINEER 12/5/13

UNDER POWER CORP.
7900 NW 60 Street
Doral, FL 33166

SR 826/N.E. 167th ST AND N. MIAMI AVE

ID No.: 3383

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
6/5/12	1 RELOCATED MAST ARM A-1 AND ADJUSTED SIGNAL HEAD LOCATIONS	5/29/13	6 RELOCATED PED. SIGNAL AT SW CORNER AND ADDED PED. SIGNAL AT NW CORNER
12/3/12	5 REVISED SIGN LEGEND	12/4/13	7 REVISED SIGN LEGEND
3/15/13	6 REVISED MAST ARM B-1 BEARING		

JOSE A. MUÑOZ, P.E.
P.E. License No. 68714
7300 N. Kendall Drive, Suite 400
Miami, Florida 33156
Phone: (305) 670-2350
Fax: (305) 670-2351
Certificate of Authorization No. 7184

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826	MIAMI-DADE	412637-3-52-01

SIGNALIZATION PLAN

SHEET NO. T-4

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

12/5/2013 2:43:42 PM \\sqlserver\Cos\w26\35201\signals\plans\01.dgn

SIGNAL OPERATING PLAN

N

	Direction	E		W		S		N		Ped Heads				
Timing Phases	Head No.	1/6	6	5/2	2	3/8	8	7/4	4	P6	P2	P8	P4	Movements/Display/Actuation
(1+5)	Dwell	<G/R	R	<G/R	R	R	R	R	R	DW	DW	DW	DW	
	Clear (1+6)	<G/R	R	<Y/R	R	R	R	R	R	DW	DW	DW	DW	
EWLT	Clear (2+5)	<Y/R	R	<G/R	R	R	R	R	R	DW	DW	DW	DW	
	Clear (2+6)	<Y/R	R	<Y/R	R	R	R	R	R	DW	DW	DW	DW	
(Actuated)														
(1+6)	Dwell	<G/G	G	R	R	R	R	R	R	W/F	DW	DW	DW	
	Clear (2+6)	<Y/G	G	R	R	R	R	R	R	DW	DW	DW	DW	
EBLT														
(Actuated)														
(2+5)	Dwell	R	R	<G/G	G	R	R	R	R	DW	W/F	DW	DW	
	Clear (2+6)	R	R	<Y/G	G	R	R	R	R	DW	DW	DW	DW	
WBLT														
(Actuated)														
(2+6)	Dwell	G	G	G	G	R	R	R	R	W/F	W/F	DW	DW	
	Clear (3+7)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
E-W	Clear (3+8)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
	Clear (4+7)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
(Recall)	Clear (4+8)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	
(3+7)	Dwell	R	R	R	R	<G/R	R	<G/R	R	DW	DW	DW	DW	
	Clear to (3+8)	R	R	R	R	<G/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to (4+7)	R	R	R	R	<Y/R	R	<G/R	R	DW	DW	DW	DW	
NSLT	Clear to (4+8)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to (1+5)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to (1+6)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
(Actuated)	Clear to (2+6)	R	R	R	R	<Y/R	R	<Y/R	R	DW	DW	DW	DW	
(3+8)	Dwell	R	R	R	R	<G/G	G	R	R	DW	DW	W/F	DW	
	Clear to (4+8)	R	R	R	R	<Y/G	G	R	R	DW	DW	DW	DW	
	Clear to (1+5)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
SBLT	Clear to (1+6)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
(Actuated)	Clear to (2+6)	R	R	R	R	<Y/Y	Y	R	R	DW	DW	DW	DW	
(4+7)	Dwell	R	R	R	R	R	R	<G/G	G	DW	DW	DW	W/F	
	Clear to (4+8)	R	R	R	R	R	R	<Y/G	G	DW	DW	DW	DW	
	Clear to (1+5)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
NBLT	Clear to (1+6)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(Actuated)	Clear to (2+6)	R	R	R	R	R	R	<Y/Y	Y	DW	DW	DW	DW	
(4+8)	Dwell	R	R	R	R	G	G	G	G	DW	DW	W/F	W/F	
	Clear (1+5)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
	Clear (1+6)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
N-S	Clear (2+5)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
(ACTUATED)	Clear (2+6)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
Flashing Operation		FY	FY	FY	FY	FR	FR	FR	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date		
F PRATS	11/9/12	N Miami Av & SR 826	
Checked	Date	Placed in Service	Phasing No. / Asset Number
H. HERNANDEZ	11/14/12	Date 4/10/13 By CONTRACTOR	5 / 3383

QuadPPConcPeds

TOD Schedule Report

for 4110: NW 4 Av&NW 7 AvEx&NW 171 St

Print Date: 7/5/2015

Print Time: 7:51 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4110	NW 4 Av&NW 7 AvEx&NW 171 St	DOW-1		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NEL	SWT	-	NBT	SWL	NET	NWT	SEL
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 NEL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 12 - 12	16 - 19 - 19	4	2
2 SWT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	50 - 65 - 65	0 - 50 - 50	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	13 - 13 - 13	19 - 15 - 15	4	2
5 SWL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 12 - 12	16 - 19 - 19	4	2
6 NET	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	50 - 65 - 65	0 - 50 - 50	4	2
7 NWT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	13 - 13 - 13	16 - 15 - 15	4	2
8 SEL	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 30 - 30	24 - 18 - 18	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1 NEL	2 SWT	3 -	4 NBT	5 SWL	6 NET	7 NWT	8 SEL	Ring Offset	Offset
	13	150	10	70	0	12	10	70	10	18	0	91
	14	150	10	70	0	12	10	70	10	18	0	91
	15	140	10	60	0	12	10	60	10	18	0	91
	16	150	10	70	0	12	10	70	10	18	0	91
	18	150	10	70	0	12	10	70	10	18	0	91

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S

TOD Schedule Report

for 4110: NW 4 Av&NW 7 AvEx&NW 171 St

Print Date: 7/5/2015

Print Time: 7:51 PM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0630	TOD OUTPUTS	-------1	SuM T W ThF S
1700	TOD OUTPUTS	------2-	Su S
2030	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0630	TOD OUTPUTS	-------1	SuM T W ThF S
1700	TOD OUTPUTS	------2-	Su S
2030	TOD OUTPUTS	--------	SuM T W ThF S

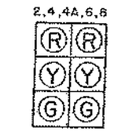
*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

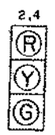
No Calendar Defined/Enabled

STATE PROJ NO	SHEET NO
87140-3508	108

DETAIL OF SIGNAL HEADS



3-SECTION, 2-WAY
12" LIGHTWEIGHT
W/DISC. HANGER
4 REQUIRED
ITEM NO. 650-3-02



3-SECTION, 1-WAY
12" LIGHTWEIGHT
W/DISC. HANGER
2 REQUIRED
ITEM NO. 650-3-131

SIGNALS 4 WITH BACK PLATES
2 REQUIRED
ITEM NUMBER 659-101

SIGN INVENTORY

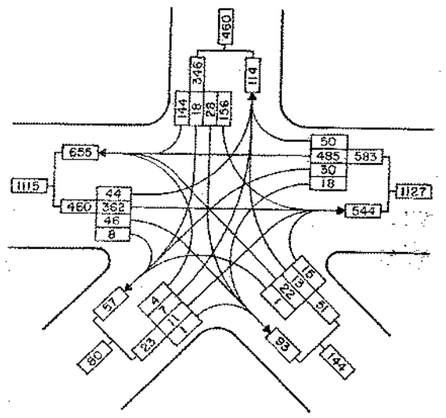
LEG	ENTER	EXIT
NORTH EAST	R10-3A*	R4-7 R10-3A*
NORTH WEST		R4-7 R2-1
SOUTH	R10-3A*	
SOUTH WEST		R4-7 R10-3A*
EAST		

* PROPOSED PEDESTRIAN SIGN

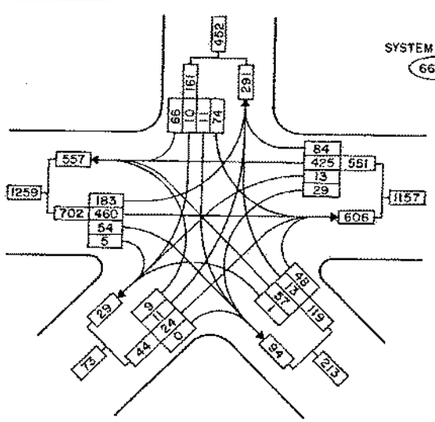
(A)
PUSH BUTTON
TO CROSS
NW 7 AVE EXT
WAIT FOR
GREEN

R10-3A, 9"X12"
4 REQUIRED
ITEM NO. 700-1-10

1978 PEAK HOUR VOLUMES



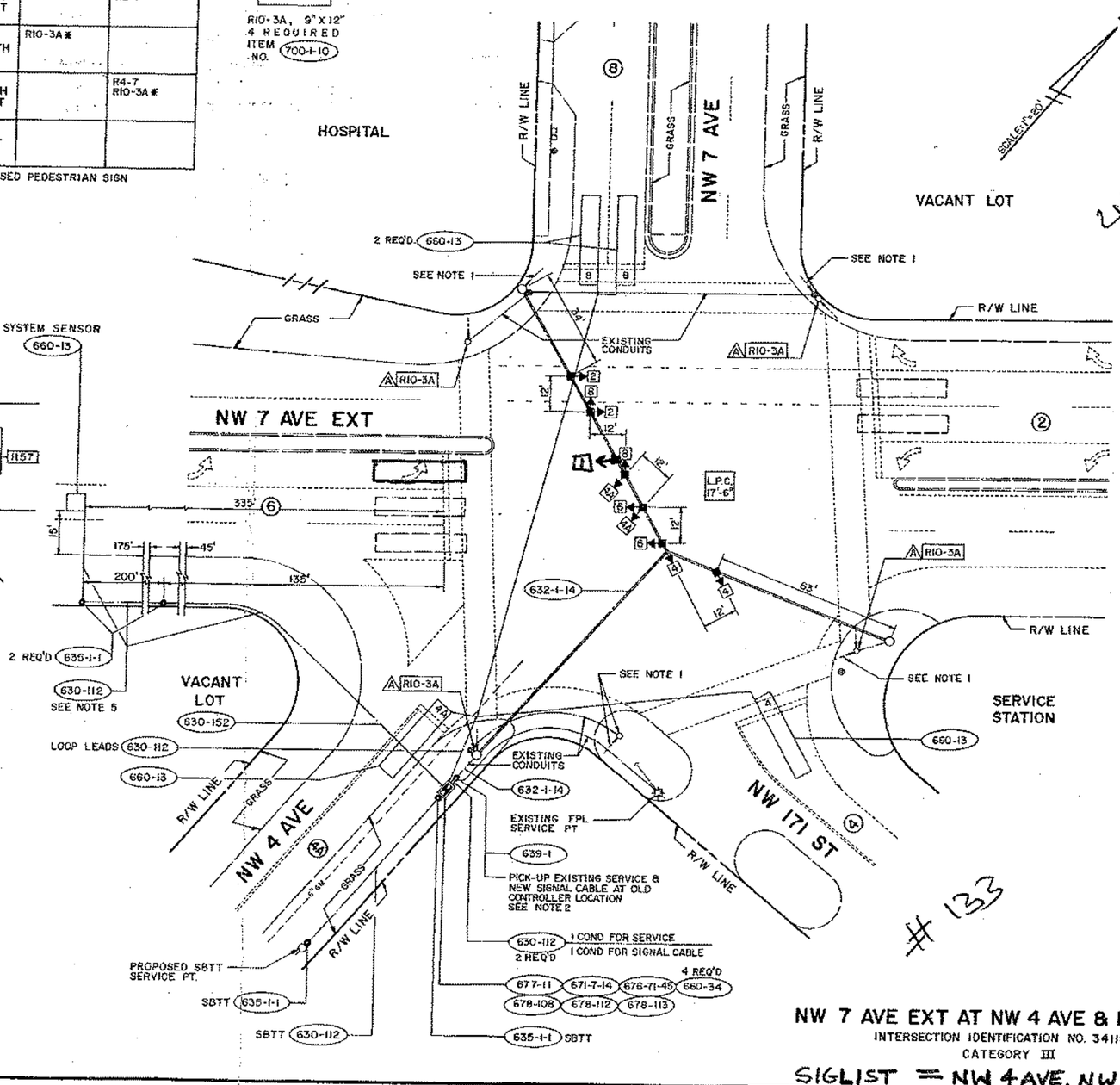
A.M.



P.M.

NOTES:

1. REMOVE EXISTING PEDESTRIAN DETECTORS AND STEEL PEDESTAL WHERE SHOWN ON PLAN.
2. ADDITIONAL SERVICE AND SIGNAL CABLE TO BE INCLUDED AS PART OF THE CONTROLLER INSTALLATION ITEM.
3. ADDITIONAL SIGNAL CABLE REQUIRED TO BE INCLUDED AS PART OF THE SIGNAL HEAD REMOVAL ITEM.
4. CONTRACTOR TO TIGHTEN SPAN WIRE TO SECURE MINIMUM L.P.C. (17'-6").
5. SHIELDED LOOP WIRE NO. 14 AWG TO BE INSTALLED TO CONTROLLER AS PART OF ITEM NUMBER 660-13



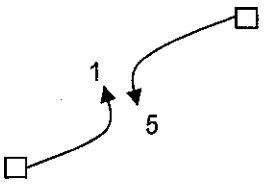
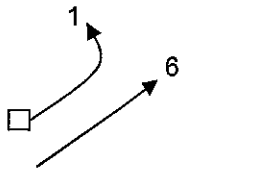
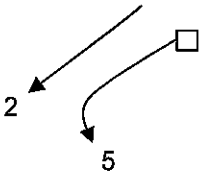
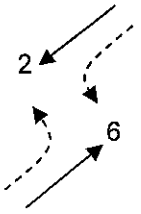
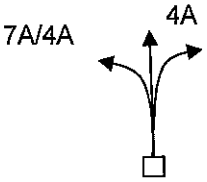
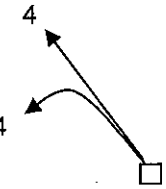
NW 7 AVE EXT AT NW 4 AVE & NW 171 ST

INTERSECTION IDENTIFICATION NO. 34110

CATEGORY III

SIGLIST = NW 4 AVE, NW 7 AVE EXT

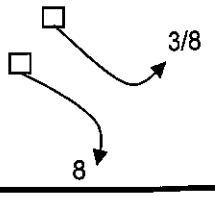
SIGNAL OPERATING PLAN

	Direction	NEB		SWB		SEB		NWB		NB				
Timing Phases	Head No.	1/6	6	5/2	2	3/8	8	7/4	4	7A/4A	4A			Movements/Display/Actuation
(1+5) NEL + SWL NW 7 AV EXT (ACTUATED)	Dwell	<G/R	R	<G/R	R	R	R	R	R	R	R			
	Clear to 1+6	<G/R	R	<Y/R	R	R	R	R	R	R	R			
	Clear to 2+5	<Y/R	R	<G/R	R	R	R	R	R	R	R			
	Clear to 2+6	<Y/R	R	<Y/R	R	R	R	R	R	R	R			
(1+6) NEL + NEB NW 7 AV EXT (ACTUATED)	Dwell	<G/G	G	R	R	R	R	R	R	R	R			
	Clear to 2+6	<Y/G	G	R	R	R	R	R	R	R	R			
(2+5) SWL + SWB NW 7 AV EXT (ACTUATED)	Dwell	R	R	<G/G	G	R	R	R	R	R	R			
	Clear to 2+6	R	R	<Y/G	G	R	R	R	R	R	R			
(2+6) NEB + SWB NW 7 AV EXT (RECALL)	Dwell	G	G	G	G	R	R	R	R	R	R			
	Clear to 4	Y	Y	Y	Y	R	R	R	R	R	R			
	Clear to 7	Y	Y	Y	Y	R	R	R	R	R	R			
	Clear to 8	Y	Y	Y	Y	R	R	R	R	R	R			
(4) NB NW 4 AVE (ACTUATED)	Dwell	R	R	R	R	R	R	R	R	<G/G	G			
	Clear to 7	R	R	R	R	R	R	R	R	Y	Y			
	Clear to 8	R	R	R	R	R	R	R	R	Y	Y			
	Clear to 1+5	R	R	R	R	R	R	R	R	Y	Y			
	Clear to 1+6	R	R	R	R	R	R	R	R	Y	Y			
	Clear to 2+5	R	R	R	R	R	R	R	R	Y	Y			
	Clear to 2+6	R	R	R	R	R	R	R	R	Y	Y			
(7) NWB NW 171 ST (ACTUATED)	Dwell	R	R	R	R	R	R	<G/G	G	R	R			
	Clear to 8	R	R	R	R	R	R	Y	Y	R	R			
	Clear to 1+5	R	R	R	R	R	R	Y	Y	R	R			
	Clear to 1+6	R	R	R	R	R	R	Y	Y	R	R			
	Clear to 2+5	R	R	R	R	R	R	Y	Y	R	R			
	Clear to 2+6	R	R	R	R	R	R	Y	Y	R	R			
Flashing Operation		FY	FY	FY	FY	FR	FR	FR	FR	FR	FR			Page 1 of 2

Miami-Dade County Public Works Department

Drawn	Date	NW 4 AVE & NW 7 AVE EXT & NW 171 ST		
Erick Zapata	9/22/2009			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	9/23/09	Date 9/17/09 By Contractor	4	4110

SIGNAL OPERATING PLAN

	Direction	NEB		SWB		SEB		NB		NWB				
Timing Phases	Head No.	1/6	6	5/2	2	3/8	8	7/4	4	7A/4A	4A			Movements/Display/Actuation
(8) SEB NW 7 AV (ACTUATED)	Dwell	R	R	R	R	<G/G	G	R	R	R	R			
	Clear to 1+5	R	R	R	R	Y	Y	R	R	R	R			
	Clear to 1+6	R	R	R	R	Y	Y	R	R	R	R			
	Clear to 2+6	R	R	R	R	Y	Y	R	R	R	R			
	Clear to													
	Clear to													
	Dwell													
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	Clear to													
Flashing Operation		FY	FY	FY	FY	FR	FR	FR	FR	FR	FR			Page 2 of 2

Miami-Dade County Public Works Department

Drawn	Date	NW 4 AVE & NW 7 AVE EXT & NW 171 ST		
Erick Zapata	9/22/2009			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	9/23/09	Date 9/17/09 By Contractor	4	4110

TOD Schedule Report

for 4761: Miami Gardens Dr&NE 2 Ct

Print Date: 2/13/2015

Print Time: 2:00 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4761	Miami Gardens Dr&NE 2 Ct	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	SBT	NBT	WBL	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	18 - 18 - 18	4.4	2
2 WBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	40 - 40 - 40	0 - 98 - 98	4.4	2.2
3 SBT	7 - 7 - 7	25 - 25 - 25	7 - 7 - 7	2.5 - 2.5 - 2.5	35 - 20 - 20	22 - 22 - 22	4	3.2
4 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	22 - 22 - 22	4	3.2
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	18 - 18 - 18	4.4	2
6 EBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	40 - 40 - 40	0 - 98 - 98	4.4	2.2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	123456--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 4761: Miami Gardens Dr&NE 2 Ct

Print Date: 2/13/2015

Print Time: 2:00 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBT	4 NBT	5 WBL	6 EBT	7 -	8 -	Ring Offset	Offset
	1	150	12	84	18	9	12	84	0	0	0	98
	2	125	8	65	14	11	8	65	0	0	0	77
	3	150	10	86	18	9	10	86	0	0	0	110
	4	160	8	85	20	20	8	85	0	0	0	87
	5	105	10	43	16	9	10	43	0	0	0	57
	6	125	10	60	17	11	10	60	0	0	0	73
	7	120	13	40	20	20	13	40	0	0	0	57
	8	135	16	52	20	20	16	52	0	0	0	103
	10	105	14	24	20	20	14	24	0	0	0	74
	11	120	16	37	20	20	16	37	0	0	0	4
	12	120	13	40	20	20	13	40	0	0	0	89
	13	150	14	69	20	20	14	69	0	0	0	6
	14	150	6	77	20	20	6	77	0	0	0	14
	15	105	10	39	19	10	10	39	0	0	0	11
	16	150	6	77	20	20	6	77	0	0	0	14
	17	120	16	37	20	20	16	37	0	0	0	86
	18	150	14	69	20	20	14	69	0	0	0	110
	20	140	13	60	20	20	13	60	0	0	0	7
	21	140	16	57	20	20	16	57	0	0	0	4
	22	140	13	60	20	20	13	60	0	0	0	62
	23	150	10	82	19	12	10	82	0	0	0	105

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th
0000	Free	F S
0600	15	M T W Th F
0630	Free	Su S
0630	3	M T W Th F
0700	5	Su S
0730	6	M T W Th F
0845	3	M T W Th F
1345	1	M T W Th F
1430	3	W
1530	23	M T W Th F
1700	12	Su S
1840	5	Su S
2000	5	F
2030	5	M T W Th
2100	15	Su
2200	15	M T W Th S
2230	Free	M T W Th
2300	Free	Su F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 4761: Miami Gardens Dr&NE 2 Ct

Print Date: 2/13/2015

Print Time: 2:00 PM

No Calendar Defined/Enabled

SIGNAL HEAD DETAILS

2 4 6 8

R
Y
G

8 EXISTING

6 TO BE RELOCATED
(650-1-331)

2 TO BE REMOVED
(690-10)

3A

ITEM NO. 650-1-131
1-REQ'D

3 7

R
Y
G

2 EXISTING
TO BE RELOCATED

1 5

R
Y
G

ITEM NO. 650-9-151
2-REQ'D

Ⓐ

LEFT TURN
YIELD
ON GREEN

R10-12
ITEM NO. 700-84-01
2-REQ'D

Ⓧ

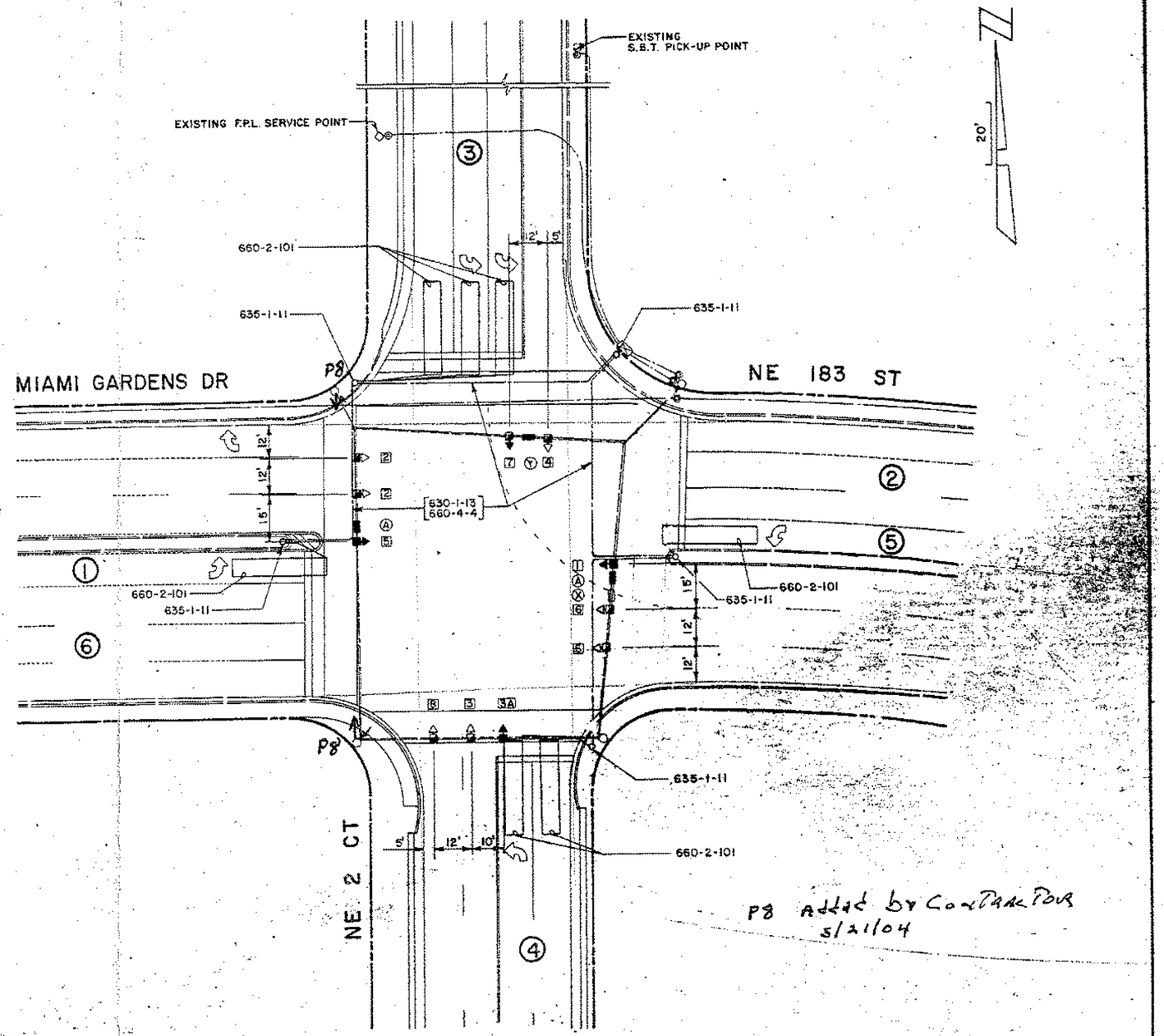
NE 2 CT

1 EXISTING TO BE RELOCATED
(700-72-7)

Ⓨ

MIAMI GARDENS DR
NE 183 ST

D3-1 (DOUBLE SIDED)
ITEM NO. 700-84-01
1-REQ'D



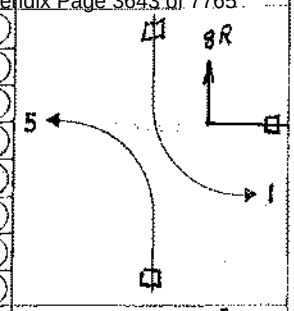
P8 Added by Contractor
5/21/04

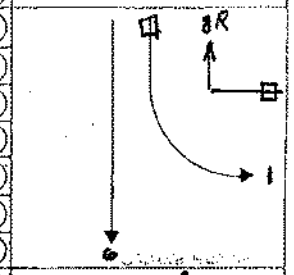
MIAMI GARDENS DR & NE 2 CT
ID# 4761 SEC 133

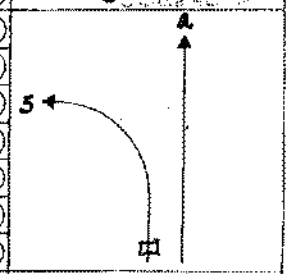
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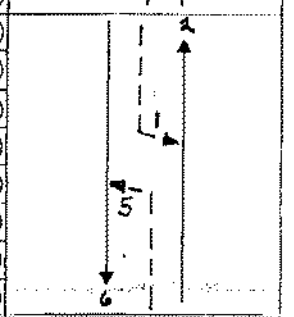
SIGNAL HEAD NUMBER

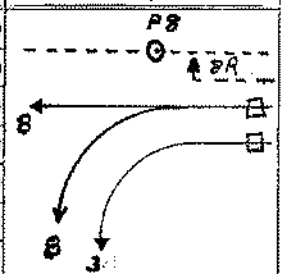
PHASE	INT	1	2	3	4	5	6	7		3	3R	11	12	PED HEAD NUMBER P8
Ø1+5 EWLT (ACTUATED)	R/W	R	R	R	R	R	R	R		R	R			DW
	TO Ø1+6	R	R	R	R	R	R	R		R	R			DW
	TO Ø2+5	R	R	R	R	R	R	R		R	R			DW
	TO Ø2+6	R	R	R	R	R	R	R		R	R			DW
	CLEAR													
	CLEAR													
	CLEAR													
	CLEAR													
Ø1+6 EBLT (ACTUATED)	R/W	R	R	R	R	R	G	R		R	R			DW
	TO Ø2+6	R	R	R	R	R	G	R		R	R			DW
	CLEAR													
	CLEAR													
	CLEAR													
	CLEAR													
Ø2+5 WBLT (ACTUATED)	R/W	R	G	R	R	R	R	R		R	R			DW
	TO Ø2+6	R	G	R	R	R	R	R		R	R			DW
	CLEAR													
	CLEAR													
	CLEAR													
	CLEAR													
Ø2+6 E-W (RECALL)	R/W	G	G	R	R	G	G	R		R	R			DW
	TO													
	TO Ø3	Y	Y	R	R	Y	Y	R		R	R			DW
	TO Ø4	Y	Y	R	R	Y	Y	R		R	R			DW
	CLEAR													
	CLEAR													
	CLEAR													
Ø3 S'BND (ACTUATED)	R/W	R	R	G	R	R	R	R		←	G			W/P
	TO Ø4	R	R	Y	R	R	R	R		←	Y			DW
	TO Ø1+5	R	R	Y	R	R	R	R		←	Y			DW
	TO Ø1+6	R	R	Y	R	R	R	R		←	Y			DW
	CLEAR Ø2+5	R	R	Y	R	R	R	R		←	Y			DW
	CLEAR Ø2+6	R	R	Y	R	R	R	R		←	Y			DW
	CLEAR													
Ø4 N'BND (ACTUATED)	R/W	R	R	R	G	R	R	G		R	R			DW
	TO Ø1+5	R	R	R	Y	R	R	Y		R	R			DW
	TO Ø1+6	R	R	R	Y	R	R	Y		R	R			DW
	CLEAR Ø2+5	R	R	R	Y	R	R	Y		R	R			DW
	CLEAR Ø2+6	R	R	R	Y	R	R	Y		R	R			DW
	CLEAR													
FLASHING OPERATION		FY	FY	FR	FR	FY	FY	FR		FR	FR			

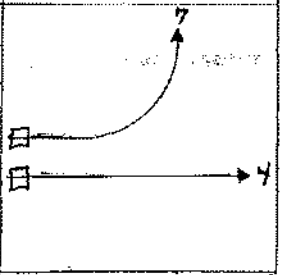












Drawn: F. PRATS	Date: 4/17/06	METROPOLITAN DADE COUNTY DEPARTMENT OF PUBLIC WORKS	
Check:	Date: 4/18/06	ASSET NO: 34761	
Division Engineer	Date	Miami Gardens Dr & NE 2 Ct	
		Placed in Service Date: 4/18/06 By: CONTRACTOR	Phasing Number: 5

TOD Schedule Report

for 3238: I- 95 SB&Miami Gardens Dr&NE 6 Av

Print Date: 2/13/2015

Print Time: 11:14 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3238	I- 95 SB&Miami Gardens Dr&NE 6 Av	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	SBL	NBT	WBL	EBT	NBL	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	6 - 6 - 6	18 - 0 - 18	4	2
2 WBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	18 - 18 - 18	0 - 0 - 0	4	3.1
3 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	15 - 10 - 15	28 - 0 - 28	4.4	2
4 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	16 - 16 - 16	52 - 0 - 52	4.4	2.2
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	6 - 6 - 6	18 - 0 - 18	4	2
6 EBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	18 - 18 - 18	0 - 0 - 0	4	3.1
7 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	15 - 10 - 15	28 - 0 - 28	4.4	2
8 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	16 - 16 - 16	52 - 0 - 52	4.4	2.2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	-234-678
External Permit 2	12345678

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBL	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	1	140	9	56	24	25	9	56	24	25	0	21
	2	120	9	34	24	27	9	34	24	27	0	43
	3	110	9	28	24	23	9	28	24	23	0	87
	5	120	9	33	24	28	9	33	24	28	0	86
	8	120	9	38	24	23	9	38	24	23	0	87

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0630	3	M T W Th F
0700	3	Su S
0700	1	M T W Th F
1000	8	M T W Th F
1100	2	M T W Th F
1300	3	M T W Th F
1430	5	M T W Th F
1900	3	M T W Th F
2300	Free	M T W Th F

TOD Schedule Report

for 3238: I- 95 SB&Miami Gardens Dr&NE 6 Av

Print Date: 2/13/2015

Print Time: 11:14 AM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

SIGNAL HEAD DETAIL

5/2 1/6 — 3 2 6 4 — 6R

5-SECT., 1-WAY
2 AS
650-51-514

3-SECT., 1-WAY
3 AS
650-51-311

5-SECT., 1-WAY
1 AS
650-51-514

3 7

CONTROLLER OPERATION

MODIFY CONTROLLER OPERATION AS NEEDED.

MAJOR STREET: S.R. 866 (NE 183TH ST) MIAMI GARDENS DR.
MINOR STREET: N.E. 6TH AVENUE

SOP 10 MODIFIED
FLASHING OPERATIONS:
MOVEMENTS 2+6 YELLOW (S.R. 866)
MOVEMENT 4, 5, 7 AND 8 RED

(X)

NE 181 ST
Miami Gardens Dr

03
699-1-41 2 EA

INTERNALLY ILLUMINATED SIGN TO BE RELOCATED AND REMAIN ON MAST ARMS A2 AND A4

(Y)

NE 6 Av

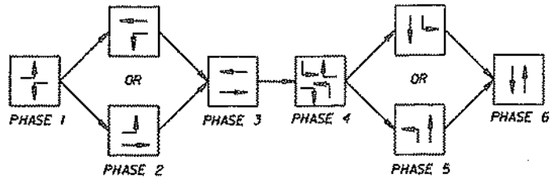
03
699-1-41 2 EA

660-2-101

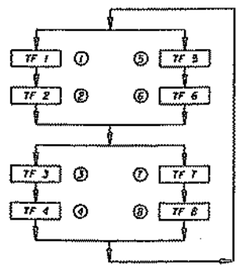
INTERNALLY ILLUMINATED SIGN TO BE RELOCATED TO MAST ARMS B1 AND B3

SIGNAL OPERATION PLAN

PHASE MOVEMENT DIAGRAM



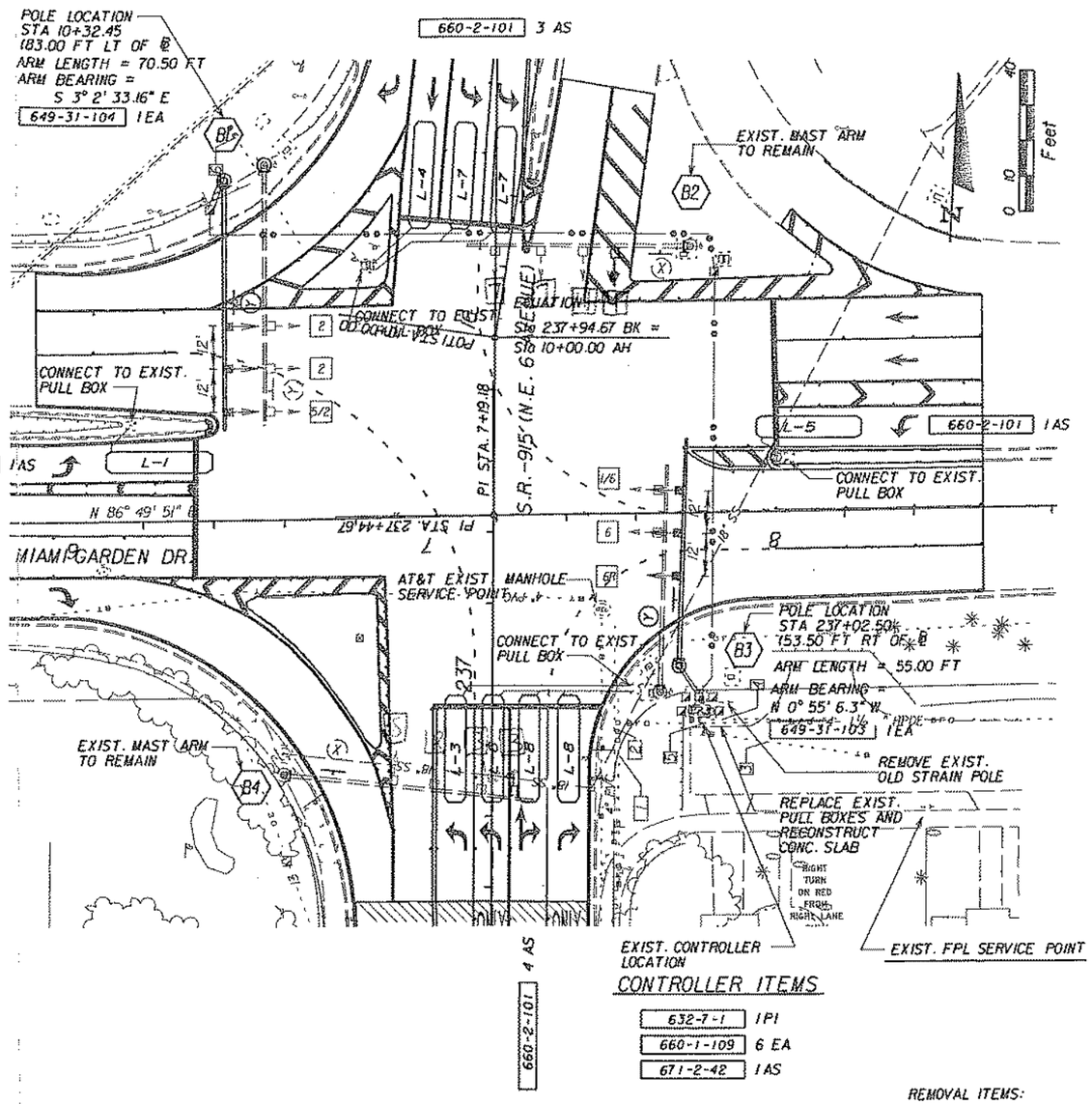
TIMING FUNCTION



DETECTORS FOR LOOPS		
LOOP	NO. OF LOOPS	NO. OF NEW DETS.
L-1	1	1
L-3	1	1
L-4	1	1
L-5	1	1
L-7	1	1
L-8	1	1

NOTES:

1. SIGNAL TIMING TO BE PROVIDED BY MIAMI-DADE COUNTY SIGNAL DIVISION.
2. QUANTITY FOR CONDUIT HAS BEEN DUPLICATED FROM THE NEAREST PULL BOX TO POLE.
3. PAY ITEM 690-100 INCLUDES THE REMOVAL OF THE EXISTING PULL BOXES IN THE INTERSECTION.
4. TRAFFIC SIGNAL PAY ITEMS INCLUDES BACKPLATES, FURNISHED AND INSTALLED, ON POLES A1 AND A3 .



CONTROLLER ITEMS

632-7-1	1 PI
660-1-109	6 EA
671-2-42	1 AS

CONDUITS:

630-1-13	400 FT
630-1-12	250 FT

PULL BOXES:

635-1-11	7 EA

REMOVAL ITEMS:

690-10	6 EA
690-34-1	1 EA
690-34-2	2 EA
690-100	1 PI

SR 915 NE 6TH AVE. AND SR 860 / MIAMI GARDENS DR
ID No. 3238

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

FDOT DISTRICT SIX
VINOD TULI, P.E.
1000 N.W. 111TH AVENUE
MIAMI, FLORIDA 33172
P.E. NO. 44916

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
915	MIAMI-DADE	422620-1-52-01

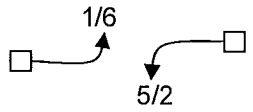
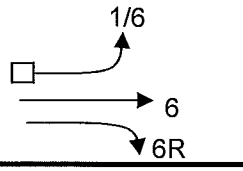
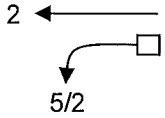
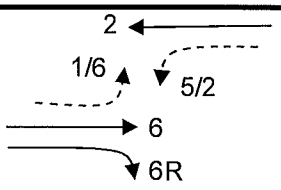
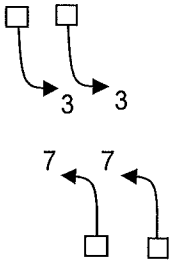
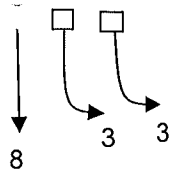
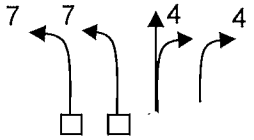
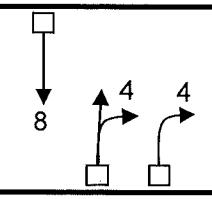
SIGNALIZATION PLAN

SHEET NO. T-7

RD6526H 7/5/2012 12:07:08 PM C:\e\projects\422620152\sigtools\PLANS604.dgn

SIGNAL OPERATING PLAN

N

	Direction	EB			WB			SB			NB			Ped Heads				
Timing Phases	Head No.	1/6	6	6R	5/2	2		3	8		7	4						Movements/Display/Actuation
(1+5) EBLT + WBLT MIAMI GARDENS DR (Actuated)	Dwell	R/<G	R	R	R/<G	R		<R	R		<R	R						
	Clear (1+6)	R/<G	R	R	R/<Y	R		<R	R		<R	R						
	Clear (2+5)	R/<Y	R	R	R/<G	R		<R	R		<R	R						
	Clear (2+6)	R/<Y	R	R	R/<Y	R		<R	R		<R	R						
(1+6) EBLT + EBT MIAMI GARDENS DR (Actuated)	Dwell	<G/G	G	G	R	R		<R	R		<R	R						
	Clear (2+6)	<Y/G	G	G	R	R		<R	R		<R	R						
(2+5) WBT + WBLT MIAMI GARDENS DR (Actuated)	Dwell	R	R	R	<G/G	G		<R	R		<R	R						
	Clear (2+6)	R	R	R	<Y/G	G		<R	R		<R	R						
(2+6) WBT + EBT MIAMI GARDENS DR (Recall)	Dwell	G	G	G	G	G		<R	R		<R	R						
	Clear (3+7)	Y	Y	Y	Y	Y		<R	R		<R	R						
	Clear (3+8)	Y	Y	Y	Y	Y		<R	R		<R	R						
	Clear (4+7)	Y	Y	Y	Y	Y		<R	R		<R	R						
	Clear (4+8)	Y	Y	Y	Y	Y		<R	R		<R	R						
(3+7) SBLT + NBLT NE 6 AV (Actuated)	Dwell	R	R	R/G>	R	R		<G	R		<G	R						
	Clear to (3+8)	R	R	R/Y>	R	R		<G	R		<Y	R						
	Clear to (4+7)	R	R	R/G>	R	R		<Y	R		<G	R						
	Clear to (4+8)	R	R	R/Y>	R	R		<Y	R		<Y	R						
	Clear to (1+5)	R	R	R/Y>	R	R		<Y	R		<Y	R						
	Clear to (1+6)	R	R	R/Y>	R	R		<Y	R		<Y	R						
	Clear to (2+5)	R	R	R/Y>	R	R		<Y	R		<Y	R						
	Clear to (2+6)	R	R	R/Y>	R	R		<Y	R		<Y	R						
(3+8) (SBLT + SBT) NE 6 AV (Actuated)	Dwell	R	R	R	R	R		<G	G		<R	R						
	Clear to (4+8)	R	R	R	R	R		<Y	G		<R	R						
	Clear to (1+5)	R	R	R	R	R		<Y	Y		<R	R						
	Clear to (1+6)	R	R	R	R	R		<Y	Y		<R	R						
	Clear to (2+5)	R	R	R	R	R		<Y	Y		<R	R						
	Clear to (2+6)	R	R	R	R	R		<Y	Y		<R	R						
(4+7) (NBT + NBLT) NE 6 AV (Actuated)	Dwell	R	R	R	R	R		R	R		<G	G						
	Clear to (4+8)	R	R	R	R	R		R	R		<Y	Y						
	Clear to (1+5)	R	R	R	R	R		R	R		<Y	Y						
	Clear to (1+6)	R	R	R	R	R		R	R		<Y	Y						
	Clear to (2+5)	R	R	R	R	R		R	R		<Y	Y						
	Clear to (2+6)	R	R	R	R	R		R	R		<Y	Y						
(4+8) (NBT + SBT) NE 6 AV (Actuated)	Dwell	R	R	R	R	R		<R	G		<R	G						
	Clear (1+5)	R	R	R	R	R		<R	Y		<R	Y						
	Clear (1+6)	R	R	R	R	R		<R	Y		<R	Y						
	Clear (2+5)	R	R	R	R	R		<R	Y		<R	Y						
	Clear (2+6)	R	R	R	R	R		<R	Y		<R	Y						
Flashing Operation		FY	FY	FY	FY	FY		F<R	FR		F<R	FR						Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	I-95 SB & MIAMI GARDENS DR & NE 6 AV		
Erick Zapata	8/13/2013			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. Hernandez	8/14/13	Date 1/24/14 By Contractor	9	3238

TOD Schedule Report

for 3387: I- 95 NB&Miami Gardens Dr

Print Date: 2/13/2015

Print Time: 11:29 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3387	I- 95 NB&Miami Gardens Dr	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	-	-	-	-	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	3.5 - 3.5 - 3.5	10 - 18 - 15	42 - 0 - 0	4.4	2
2 WBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	28 - 28 - 28	0 - 0 - 0	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	3 - 3 - 3	15 - 15 - 20	40 - 0 - 0	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-----8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3387: I- 95 NB&Miami Gardens Dr

Print Date: 2/13/2015

Print Time: 11:29 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 -	5 -	6 -	7 -	8 SBT	Ring Offset	Offset
	1	140	38	50	0	0	0	0	0	34	0	21
	2	120	24	54	0	0	0	0	0	24	0	43
	3	110	24	44	0	0	0	0	0	24	0	87
	5	120	32	46	0	0	0	0	0	24	0	86
	8	120	39	34	0	0	0	0	0	29	0	87

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0030	Free	Su M T W Th
0100	Free	F S
0600	Free	M T W Th F
0630	Free	Su S
0630	3	M T W Th F
0700	3	Su S
0700	1	M T W Th F
1000	8	M T W Th F
1100	2	M T W Th F
1300	3	M T W Th F
1430	5	M T W Th F
1900	3	M T W Th F
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0630	TOD OUTPUTS	--------	M T W ThF
2300	TOD OUTPUTS	-------1	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0630	TOD OUTPUTS	--------	M T W ThF
0700	TOD OUTPUTS	--------	Su S
2300	TOD OUTPUTS	-------1	M T W ThF

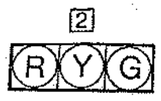
* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

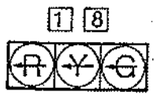
No Calendar Defined/Enabled

STATE PROJ. NO.	SHEET NO.
87026-3510	T-5

SIGNAL HEAD DETAILS



3-SECT., 1-WAY
2 AS
650-1-131
6 EA
659-106



3-SECT., 1-WAY
4 AS
650-1-131
12 EA
659-106



1-SECT., 1-WAY
2 AS
650-1-111
2 EA
659-106

STREET NAME SIGNS

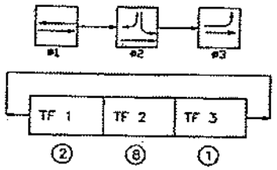


18" X 54"
D3-1S
(2 EA)
700-48-18



24" X 54"
D3-1S
(2 EA)
700-48-18

SIGNAL OPERATION



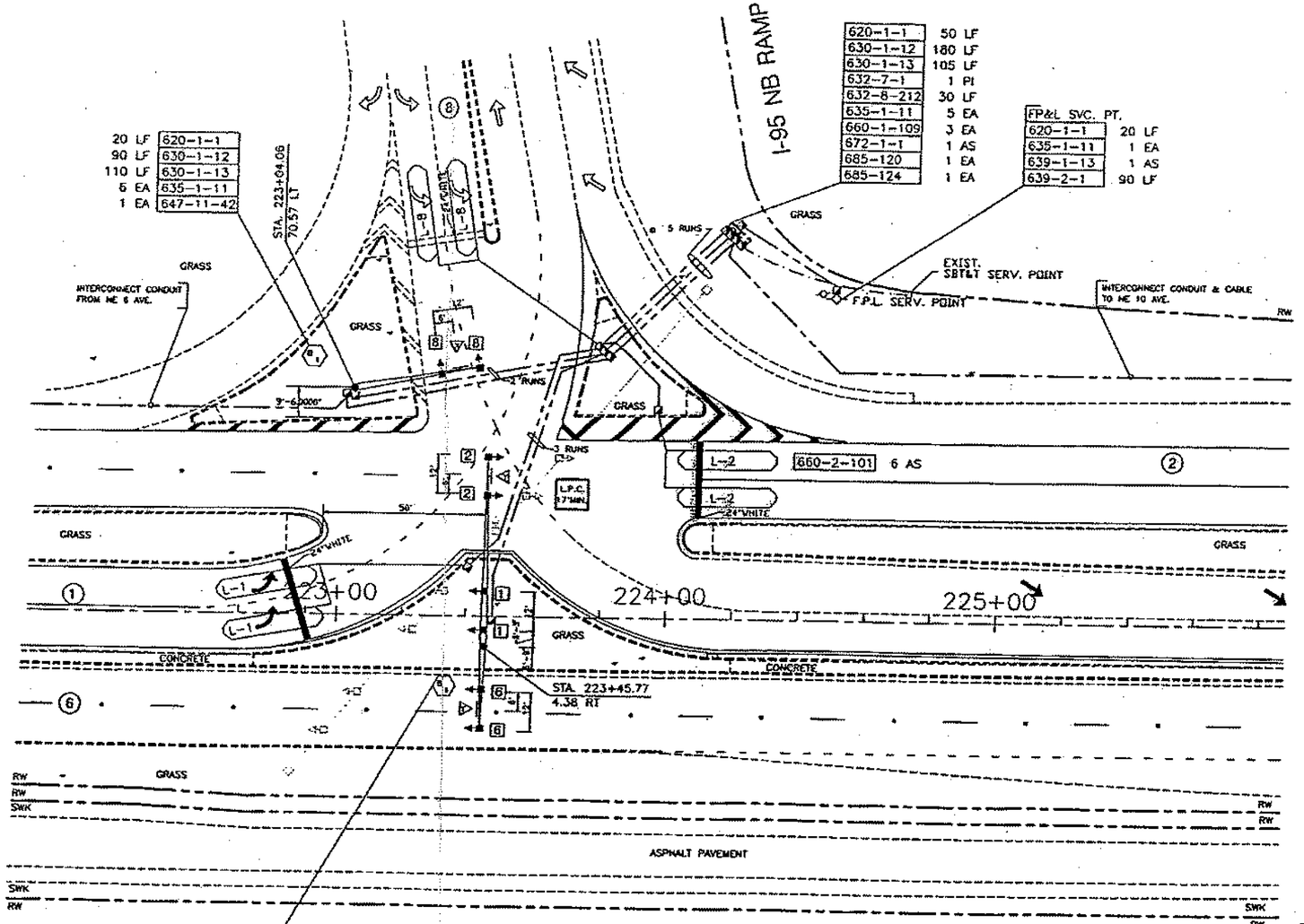
CONTROLLER TIMING

TIMING INTERVAL	TIMING FUNCTION							
	1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)	5	5	5	–	–	–	–	–
EXTENSION (PASSAGE)	2.5	2.5	2.5	–	–	–	–	–
MAXIMUM GREEN I	46	20	40	–	–	–	–	–
MAXIMUM GREEN II	–	–	–	–	–	–	–	–
YELLOW	4	4	3	–	–	–	–	–
ALL RED	1	1	1	–	–	–	–	–
PEDESTRIAN WALK	–	–	–	–	–	–	–	–
PEDESTRIAN CLEAR	–	–	–	–	–	–	–	–
RECALL	ON	–	–	–	–	–	–	–

SIGNAL TIMINGS ARE APPROXIMATE AND FINAL TIMINGS SHALL BE PROVIDED BY D.C.P.W., SIGNALS & SIGNS DIV.

NOTES

1.– MAJOR STREET : SR 860 (NE 181 ST) MIAMI GARDENS DRIVE
MINOR STREET : I-95 NORTHBOUND (OFF RAMP)
2.– SIGNAL OPERATING PLAN (SEE ABOVE)
3.– CONTROLLER MICROPROCESSOR MODEL 170 TYPE, ITEM NUMBER 672-1-1, TO INCLUDE CABINET AND FOUNDATION. WHEN NO CONFLICT EXISTS WITH THE ADA GUIDELINES, THE CABINET SHALL BE INSTALLED WITH TELCO DOOR FACING THE ADJACENT ROADWAY.
4.– FLASHING OPERATION: SR 860 (NE 181 ST) MIAMI GARDENS DR, YELLOW.
I-95 NORTHBOUND (OFF-RAMP), RED.
5.– THE DEMAND WATTAGE FOR THIS INTERSECTION IS 1105 WATTS.
6.– SOUTHERN BELL SERVICE POINT PER MR. DAVID WILCOX PHONE 795-1472.
7.– FP&L SERVICE POINT PER MR. TOM HODGDON PHONE 347-7872.
8.– CONTRACTOR TO REMOVE EXISTING FP&L SERVICE AND INSTALL NEW SERVICE CONNECTION AND CONDUIT. SBT&T SERVICE AND CONNECTION TO REMAIN.
9.– CONTRACTOR TO, UNLESS OTHERWISE SHOWN, REMOVE EXISTING TRAFFIC SIGNAL SYSTEM PULL BOXES AND ABANDON CONDUITS. COST SHALL BE INCLUDED IN THE PAY ITEM NO. 690-100.
10.– CONTRACTOR TO REMOVE EXISTING CABINET, CONCRETE BASE AND INSTALL NEW BASE AND CONTROLLER CABINET.



620-1-1	20 LF
630-1-12	45 LF
630-1-13	250 LF
635-1-11	2 EA
647-13-88	1 EA

REMOVAL ITEMS

690-10	8 EA
690-30	2 EA
690-50	1 EA
690-80	1 EA
690-90	1 PI
690-91	1 LF
690-100	1 PI
700-46-15	1 AS

DETECTOR ASSIGNMENT

UNIT No.	LOOP	No. OF LOOPS
1	L-1	2
2	L-2	2
3	L-8	2
–	–	–

MIAMI GARDENS DRIVE (SR 860)

3387

MIAMI GARDENS DRIVE (SR 860) & I-95 NB RAMP

ID No. 3387
MASTER

INT 02

DATE	BY	DESCRIPTION	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.K./D.B.	12/94	DRAWN BY	L.C.H.	12/94
CHECKED BY	D.B.	12/94	VERIFIED BY	A.K.	12/94

SUPERVISED BY: F.R.A.

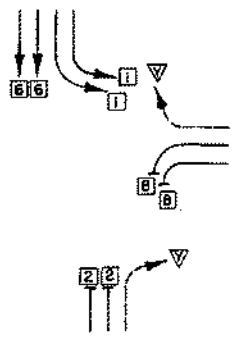
FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY: FRANK R. ALEMAN
DATE: 02/95

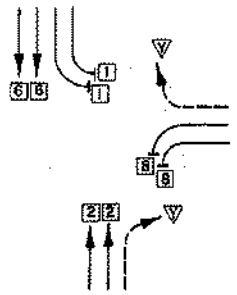
F.R. ALEMAN & ASSOCIATES, INC.

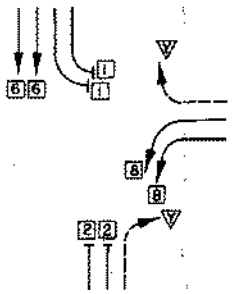
SIGNALIZATION PLAN

SIGNAL OPERATING PLAN

PHASE	INT	SIGNAL HEAD NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	PEDESTRIAN HEAD NUMBER						
Ø1 (Actuated) (1+6) MIAMI GARDENS DR	R/W	~~←~~	R				↑		~~R~~											
	TO Ø2	~~Y~~	R				↑		~~R~~											
	CLEAR																			
Ø2 (Recall) (2+6) MIAMI GARDENS DR	R/W	~~R~~	G				↑		~~R~~											
	TO Ø3	~~R~~	Y				↑		~~R~~											
	TO Ø1	~~R~~	Y				↑		~~R~~											
	CLEAR																			
Ø4 (Actuated) (6+8) I-95 (OFF RAMP)	R/W	~~R~~	R				↑		~~R~~											
	TO Ø1	~~R~~	R				↑		~~Y~~											
	TO Ø2	~~R~~	R				↑		~~Y~~											
	CLEAR																			
FLASHING	Ø	FR	FR				↑		FR											







Drawn	Date
F. PRATS	7/30/97
Check	**Date**
H. HERNANDEL	7/31/97
Division Engineer	**Date**

METROPOLITAN DADE COUNTY
DEPARTMENT OF PUBLIC WORKS

ASSET NO: 33387

MIAMI GARDENS DR & I-95 (NB)

Placed in Service		Phasing Number
Date: 9/11/97	By: CONTRACTOR	3

TOD Schedule Report
for 5448: Ives Dairy Rd&NE 16 Av

Print Date: 2/13/2015

Print Time: 3:09 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
5448	Ives Dairy Rd&NE 16 Av	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	SBL	NBT	WBL	EBT	NBL	SBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 10 - 10	7 - 20 - 20	3	0
2 WBT	7 - 7 - 7	23 - 23 - 23	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	0 - 0 - 0	4	2.1
3 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	15 - 15 - 15	3	0
4 NBT	7 - 7 - 7	31 - 31 - 31	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	30 - 30 - 30	4	2.3
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	20 - 20 - 20	3	0
6 EBT	7 - 7 - 7	23 - 23 - 23	7 - 7 - 7	1 - 1 - 1	40 - 40 - 40	0 - 0 - 0	4	2.1
7 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	15 - 15 - 15	3	0
8 SBT	7 - 7 - 7	31 - 31 - 31	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	30 - 30 - 30	4	2.3

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 5448: Ives Dairy Rd&NE 16 Av

Print Date: 2/13/2015

Print Time: 3:09 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBL	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	1	130	19	71	10	12	19	71	10	12	0	120
	2	90	8	49	5	10	8	49	5	10	0	9
	3	90	9	33	10	20	9	33	10	20	0	58
	4	110	19	51	7	15	19	51	7	15	0	23
	5	110	19	51	7	15	19	51	7	15	0	23
	6	110	9	48	10	25	9	48	10	25	0	25
	7	110	9	48	10	25	9	48	10	25	0	25
	8	130	19	63	10	20	19	63	10	20	0	126
	9	130	9	81	10	12	9	81	10	12	0	95
	10	130	9	81	10	12	9	81	10	12	0	65
	11	130	8	89	5	10	8	89	5	10	0	96
	12	110	9	53	15	15	9	53	15	15	0	43
	13	130	9	73	10	20	9	73	10	20	0	67
	14	130	9	73	10	20	9	73	10	20	0	104
	15	110	9	53	10	20	9	53	10	20	0	52
	16	130	9	63	10	30	9	63	10	30	0	63
	17	130	9	63	10	30	9	63	10	30	0	63
	18	90	8	49	5	10	8	49	5	10	0	21
	20	130	9	73	10	20	9	73	10	20	0	20
	21	140	19	81	10	12	19	81	10	12	0	136
	22	90	8	38	9	17	8	38	9	17	0	63

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	2	Su M T W Th F S
0700	21	M T W Th F
0800	1	M T W Th F
0900	15	Su S
0930	2	M T W Th F
1300	11	Su S
1330	12	M T W Th F
1500	10	M T W Th F
1615	9	M T W Th F
1900	18	M T W Th
2000	18	Su F
2000	2	S
2200	22	F
2300	Free	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 5448: Ives Dairy Rd&NE 16 Av

Print Date: 2/13/2015

Print Time: 3:09 PM

No Calendar Defined/Enabled

5-SECT., 1-WAY — 4 EXISTING

4 | 4R

5-SECT., 1-WAY — 1 EXISTING

2 | 6 | 8

3-SECT., 1-WAY — 3 EXISTING

P2 | P4 | P6

PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY — 6 AS — 653-191

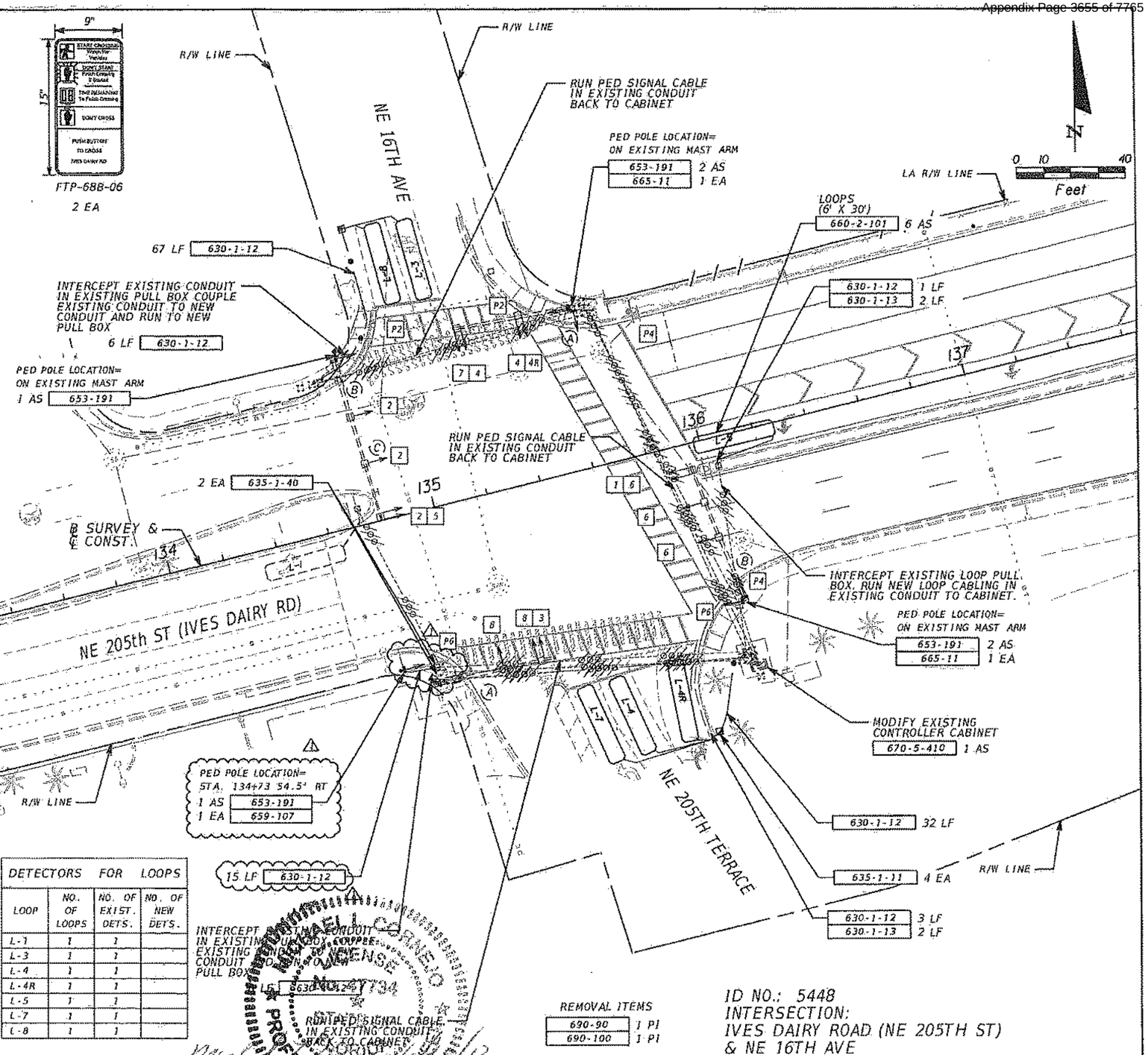
1. CONTRACTOR TO USE EXISTING CONDUITS AND PULL BOXES TO RUN NEW LOOP HOME-RUN CABLE AND SIGNAL CABLE TO EXISTING CONTROLLER CABINET.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTING CONDUITS, PULL BOXES, NEW CONDUIT ENTRY INTO EXISTING CABINET FOR LOOP REPLACEMENT AND PEDESTRIAN SIGNALS INSTALLATION.
3. INTERSECTION RE-WIRE SHALL BE PAID FOR UNDER PAY ITEM NUMBER: 632-7-1 — 1 PI
4. CONTROLLER TIMINGS TO BE PROVIDED BY MIAMI-DADE COUNTY.
5. PAY ITEM NO. 690-100 INCLUDES REMOVAL OF ABANDONED PULL BOXES AND EXISTING LOOP LEAD-INS.
6. LOCATION OF AT&T SERVICE POINT AND POWER SERVICE POINT TO BE PROVIDED IN THE AS-BUILT PLANS.

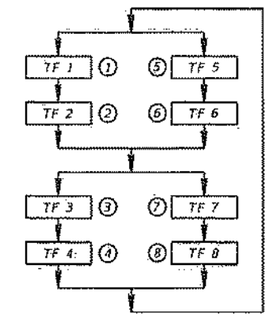
Ⓐ NE 205 ST / Ives Dairy Rd

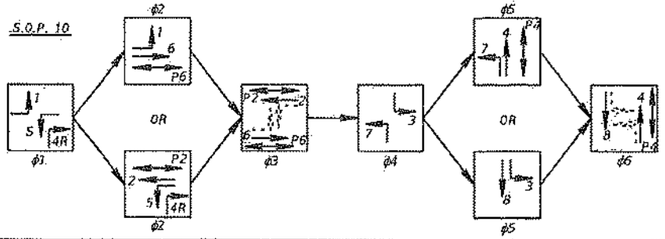
Ⓒ

Ⓑ NE 16 AV

FTP-68B-06 — 2 EA







DETECTORS FOR LOOPS			
LOOP	NO. OF LOOPS	NO. OF EXIST. DETS.	NO. OF NEW DETS.
L-1	1	1	
L-3	1	1	
L-4	1	1	
L-4R	1	1	
L-5	1	1	
L-7	1	1	
L-8	1	1	

REMOVAL ITEMS

690-90	1 PI
690-100	1 PI

ID NO.: 5448
INTERSECTION:
IVES DAIRY ROAD (NE 205TH ST)
& NE 16TH AVE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
06/15/12	KOK ⚠ PED POLE INSTALLED IN SW CORNER DUE TO CHANGE IN CCR.		

MICHAEL L. CORNEJO, P.E.
METRIC ENGINEERING, INC.
615 CRESCENT EXECUTIVE CT.
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294
• ENGINEERS • PLANNERS • SURVEYORS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	BROWARD MIAMI-DADE	422796-1-52-01 422796-2-52-01

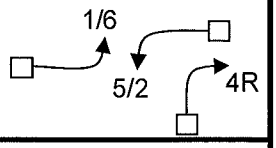
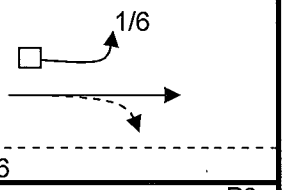
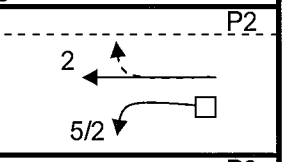
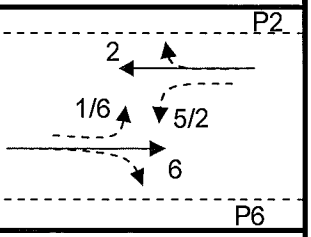
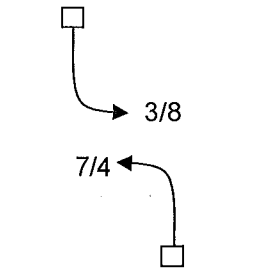
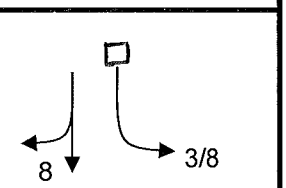
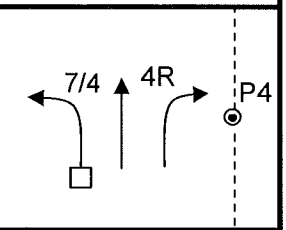
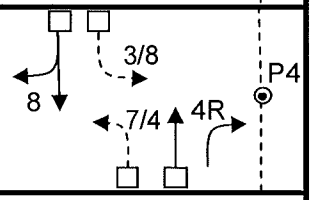
PLAN SHEETS

SHEET NO. T-4

KKING 6/18/2012 8:54:26 AM F:\PROJECT\42279615201\signals\Ives_Dairy\plansq01_id.dgn

SIGNAL OPERATING PLAN

N

Timing Phases	Direction / Head No.	EB 1/6	EB 6	WB 5/2	WB 2	SB 3/8	SB 8	NB 7/4	NB 4R	Ped Heads P6	Ped Heads P2	Ped Heads P4	Movements/Display/Actuation
(1+5) EBLT + WBLT IVES DAIRY RD (Actuated)	Dwell	R/<G	R	R/<G	R	R	R	R	R/G>	DW	DW	DW	
	Clear (1+6)	R/<G	R	R/<Y	R	R	R	R	R/Y>	DW	DW	DW	
	Clear (2+5)	R/<Y	R	R/<G	R	R	R	R	R/G>	DW	DW	DW	
	Clear (2+6)	R/<Y	R	R/<Y	R	R	R	R	R/Y>	DW	DW	DW	
(1+6) EBLT + EBT IVES DAIRY RD (Actuated)	Dwell	<G/G	G	R	R	R	R	R	R	W/F	DW	DW	
	Clear (2+6)	<Y/G	G	R	R	R	R	R	R	DW	DW	DW	
(2+5) WBT + WBLT IVES DAIRY RD (Actuated)	Dwell	R	R	<G/G	G	R	R	R	R	DW	W/F	DW	
	Clear (2+6)	R	R	<Y/G	G	R	R	R	R	DW	DW	DW	
(2+6) WBT + EBT IVES DAIRY RD (Recall)	Dwell	G	G	G	G	R	R	R	R	W/F	W/F	DW	
	Clear (3+7)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	
	Clear (3+8)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	
	Clear (4+7)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	
	Clear (4+8)	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	
(3+7) SBLT + NBLT NE 16 AV (Actuated)	Dwell	R	R	R	R	R/<G	R	R/<G	R	DW	DW	DW	
	Clear to (3+8)	R	R	R	R	R/<G	R	R/<Y	R	DW	DW	DW	
	Clear to (4+7)	R	R	R	R	R/<Y	R	R/<G	R	DW	DW	DW	
	Clear to (4+8)	R	R	R	R	R/<Y	R	R/<Y	R	DW	DW	DW	
	Clear to (1+5)	R	R	R	R	R/<Y	R	R/<Y	R	DW	DW	DW	
	Clear to (1+6)	R	R	R	R	R/<Y	R	R/<Y	R	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	R/<Y	R	R/<Y	R	DW	DW	DW	
	Clear to (2+6)	R	R	R	R	R/<Y	R	R/<Y	R	DW	DW	DW	
(3+8) SBLT + SBT NE 16 AV (Actuated)	Dwell	R	R	R	R	<G/G	G	R	R	DW	DW	DW	
	Clear to (4+8)	R	R	R	R	<Y/G	G	R	R	DW	DW	DW	
	Clear to (1+5)	R	R	R	R	Y/<Y	Y	R	R	DW	DW	DW	
	Clear to (1+6)	R	R	R	R	Y/<Y	Y	R	R	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	Y/<Y	Y	R	R	DW	DW	DW	
	Clear to (2+6)	R	R	R	R	Y/<Y	Y	R	R	DW	DW	DW	
(4+7) (NBT + NBLT) NE 16 AV (Actuated)	Dwell	R	R	R	R	R	R	<G/G	G	DW	DW	W/F	
	Clear to (4+8)	R	R	R	R	R	R	<Y/G	G	DW	DW	DW	
	Clear to (1+5)	R	R	R	R	R	R	Y/<Y	Y	DW	DW	DW	
	Clear to (1+6)	R	R	R	R	R	R	Y/<Y	Y	DW	DW	DW	
	Clear to (2+5)	R	R	R	R	R	R	Y/<Y	Y	DW	DW	DW	
	Clear to (2+6)	R	R	R	R	R	R	Y/<Y	Y	DW	DW	DW	
(4+8) NBT + SBT NE 16 AV (Actuated)	Dwell	R	R	R	R	G	G	G	G	DW	DW	W/F	
	Clear (1+5)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	
	Clear (1+6)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	
	Clear (2+5)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	
	Clear (2+6)	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	
Flashing Operation		FY	FY	FY	FY	FR	FR	FR	FR				Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date			
Erick Zapata	10/19/2012	IVES DAIRY RD & NE 16 AV		
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. HERNANDEZ	10/25/12	Date 4/12/13 By Contractor	2	5448

TOD Schedule Report

for 3693: I- 95 SB&Ives Dairy Rd

Print Date: 2/13/2015

Print Time: 12:06 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3693	I- 95 SB&Ives Dairy Rd	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	WBT	-	-	WBL	EBT	-	SBL
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
Phase Bank	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	7	7	7	5	5	5	7	7	7	1	1	1	40	40	40	0	0	0	4	1.5
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 WBL	0	0	0	0	0	0	5	5	5	2	2	2	18	18	18	50	50	50	4	1.4
6 EBT	7	7	7	5	5	5	7	7	7	1	1	1	40	40	40	0	0	0	4	1.5
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 SBL	0	0	0	0	0	0	7	7	7	2	2	2	26	26	26	60	55	60	4	2.5

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2--56-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3693: I- 95 SB&Ives Dairy Rd

Print Date: 2/13/2015

Print Time: 12:06 PM

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	-	WBL	EBT	-	SBL		
	1	200	0	128	0	0	61	62	0	61	0	67
	2	150	0	95	0	0	35	55	0	44	0	8
	3	90	0	64	0	0	17	41	0	15	0	8
	4	110	0	80	0	0	19	55	0	19	0	8
	5	110	0	70	0	0	19	45	0	29	0	8
	6	110	0	74	0	0	21	47	0	25	0	8
	7	110	0	68	0	0	21	41	0	31	0	8
	8	200	0	128	0	0	61	62	0	61	0	67
	9	180	0	105	0	0	40	60	0	64	0	8
	10	130	0	75	0	0	30	40	0	44	0	8
	11	137	0	75	0	0	24	45	0	51	0	8
	12	110	0	65	0	0	25	34	0	34	0	8
	13	130	0	102	0	0	40	57	0	17	0	8
	14	130	0	72	0	0	19	47	0	47	0	8
	15	117	0	63	0	0	24	33	0	43	0	8
	16	130	0	87	0	0	37	45	0	32	0	8
	17	130	0	80	0	0	28	47	0	39	0	8
	18	90	0	48	0	0	19	23	0	31	0	8
	20	130	0	62	0	0	9	47	0	57	0	8
	21	140	0	85	0	0	35	45	0	44	0	8
	22	100	0	68	0	0	19	43	0	21	0	8

Local TOD Schedule

Time	Plan	DOW
0000	22	Su M T W Th F S
0600	17	Su M T W Th F S
0730	9	M T W Th F
0900	2	Su S
0915	2	M T W Th F
1300	21	Su S
1330	8	M T W Th F
1615	1	M T W Th F
2100	21	M T W Th
2300	21	Su F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0730	TOD OUTPUTS	-------1	M T W ThF S
0915	TOD OUTPUTS	--------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0730	TOD OUTPUTS	-------1	M T W ThF S
0915	TOD OUTPUTS	--------	M T W ThF

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3693: I- 95 SB&Ives Dairy Rd

Print Date: 2/13/2015

Print Time: 12:06 PM

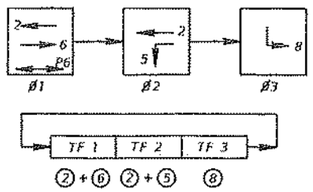
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5 / 8 — 3-SECT., 1-WAY — 4 AS — 650-51-312

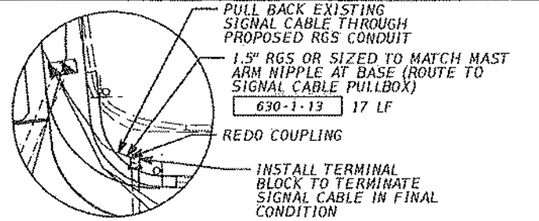
2 / 6 — 3-SECT., 1-WAY — 6 AS — 650-51-312

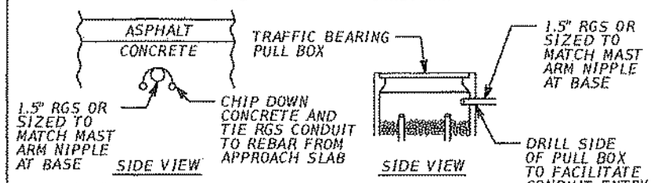
P6 — PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY — 2 AS — 653-191

SPECIAL S.O.P.



DETAIL A





SEE STRUCTURAL PLANS FOR ADDITIONAL DETAILS

SIGNALIZATION NOTES

1. CONTRACTOR TO USE EXISTING CONDUITS AND PULL BOXES TO RUN NEW LOOP HOME-RUN CABLE AND SIGNAL CABLE TO EXISTING CONTROLLER CABINET
2. MAJOR STREET IS IVES DAIRY RD (EASTBOUND & WESTBOUND) MINOR STREET IS I-95 RAMP (SOUTHBOUND)
3. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTING CONDUITS, PULL BOXES, NEW CONDUIT ENTRY INTO EXISTING CABINET FOR LOOP REPLACEMENT AND PEDESTRIAN SIGNALS INSTALLATION.
4. PROTECTED ONLY LEFT TURN FOR MOVEMENT 5
5. FLASHING OPERATION TO BE YELLOW FOR IVES DAIRY ROAD AND RED FOR I-95 RAMP AND WESTBOUND LEFT-TURN
6. INTERSECTION RE-WIRE SHALL BE PAID FOR UNDER PAY ITEM NUMBER: 632-7-1 1 PI
7. PAY ITEM NO. 690-100 INCLUDES REMOVAL OF ABANDONED PULL BOXES AND EXISTING LOOP LEAD-INS.
8. NEW SIGNAL HEADS ON EXISTING MAST ARMS SHALL NOT INCLUDE SIGNAL BACKPLATES.
9. CONTROLLER TIMINGS TO BE PROVIDED BY MIAMI-DADE COUNTY.
10. STEEL LINE LOCATED UNDER PROPOSED MAST ARM 1 IS NO LONGER IN SERVICE.
11. INSTALL ADDITIONAL LOOP DETECTOR IN CABINET IF NECESSARY.
12. LOCATION OF AT&T SERVICE POINT AND POWER SERVICE POINT TO BE PROVIDED IN THE AS-BUILT PLANS.

DETECTORS FOR LOOPS			
LOOP	NO. OF LOOPS	NO. OF EXIST. DETS.	NO. OF NEW DETS.
L-5	1	1	1
L-5	1		
L-8	1	1	
L-8	1		
L-8	1		1

(SEE NOTE 11)

REMOVAL ITEMS

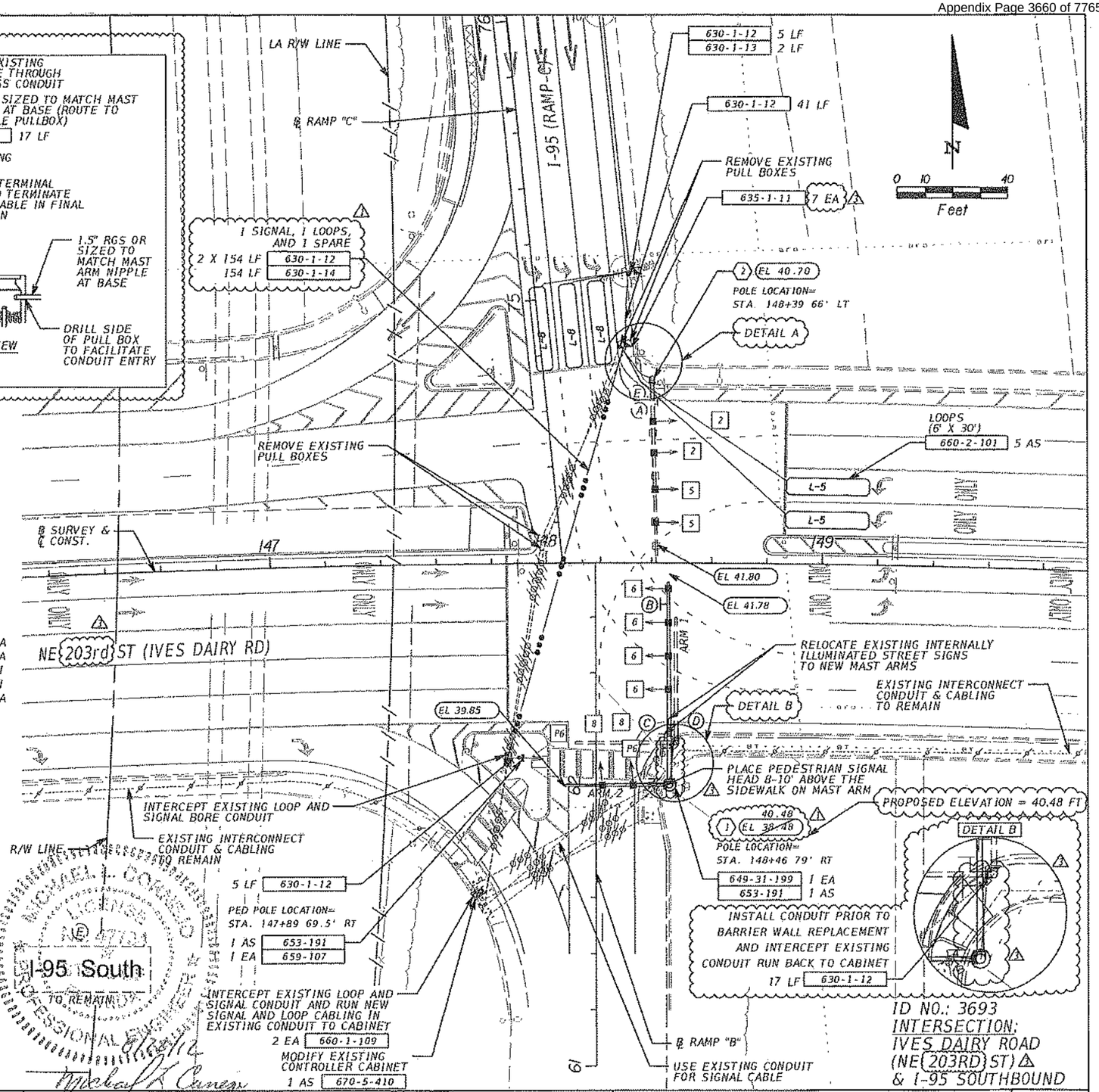
690-10	8 EA
690-32-2	1 EA
690-90	1 PI
690-100	1 PI
700-48-60	1 EA

(B) R3-18 — 700-48-18 — 1 EA

(C) NE 203 ST Ives Dairy Rd — RELOCATE SIGN 699-1-41 1 EA

(D) I-95 South — RELOCATE SIGN 699-1-41 1 EA

(A) TO REMAIN



MICHAEL L. CORNEJO LICENSE NO. 47734 STATE OF FLORIDA PROFESSIONAL ENGINEER

Michael L. Cornejo 8/22/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
06/15/12	KOK ⚠1 CONDUIT DETAIL AND PROPOSED ELEVATION ADDED		
08/22/12	KOK ⚠2 ADDED PULL BOX AND REVISED CONDUIT RUN AND UPDATED IVES DAIRY ROAD NAME		

METRIC ENGINEERING, INC.
• ENGINEERS • PLANNERS • SURVEYORS
MICHAEL L. CORNEJO, PE. # 47734
METRIC ENGINEERING, INC.
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	BROWARD MIAMI-DADE	422796-1-52-01 422796-2-52-01

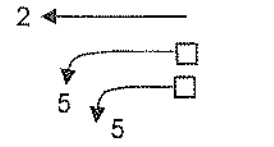
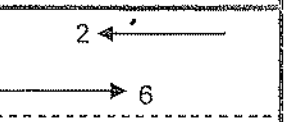
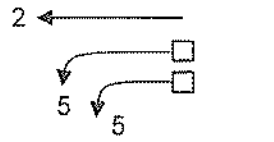
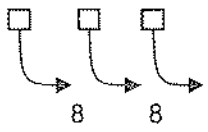
PLAN SHEETS

SHEET NO. T-5

KK1HG 8/22/2012 12:14:31 PM F:\PROJECT\422796152O1\signals\Ives_Dairy\PLANSG02_ID.dgn

SIGNAL OPERATING PLAN

N

	Direction	EB	WB		SB		Ped Heads	Movements/Display/Actuation
Timing Phases	Head No.	6	5	2	8		P6	
(2+5)	Dwell	R	<G	G	<R		DW	
WBT + WBLT	Clear (2+6)	R	<Y	G	<R		DW	
IVES DAIRY RD								
(Actuated)								
LEAD								
(2+6)	Dwell	G	<R	G	<R		W/F	
WBT + EBT	Clear (2+5)	Y	<R	G	<R		DW	
IVES DAIRY RD	8	Y	<R	Y	<R		DW	
(Recall)								P6
(2+5)	Dwell	R	<G	G	<R		DW	
WBT + WBLT	Clear (2+6)	R	<Y	G	<R		DW	
IVES DAIRY RD	(8)	R	<Y	Y	<R		DW	
(Actuated)								
LAG								
	Dwell	R	<R	R	<G		DW	
(8)	Clear (2+5)	R	<R	R	<Y		DW	
SBLT	(2+6)	R	<R	R	<Y		DW	
I-95 (RAMP)								
(Actuated)								
	Dwell							
	Clear							
	Dwell							
	Clear							
	Dwell							
	Clear							
	Dwell							
	Clear							
Flashing Operation		FY	F<R	FY	F<R			Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	I-95 SB & IVES DAIRY RD		
Erick Zapata	10/15/2014			
Checked RO.	Date 10/15/14	Placed in Service	Phasing No.	Asset Number
		Date / By	11	3693

TOD Schedule Report

for 3692: I- 95 NB&Ives Dairy Rd

Print Date: 2/13/2015

Print Time: 12:06 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3692	I- 95 NB&Ives Dairy Rd	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBL	-	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1	Walk Phase Bank 2	Walk Phase Bank 3	Don't Walk Phase Bank 1	Don't Walk Phase Bank 2	Don't Walk Phase Bank 3	Min Initial Phase Bank 1	Min Initial Phase Bank 2	Min Initial Phase Bank 3	Veh Ext Phase Bank 1	Veh Ext Phase Bank 2	Veh Ext Phase Bank 3	Max Limit Phase Bank 1	Max Limit Phase Bank 2	Max Limit Phase Bank 3	Max 2 Phase Bank 1	Max 2 Phase Bank 2	Max 2 Phase Bank 3	Yellow	Red
1 EBL	0	0	0	0	0	0	5	5	5	2	2	2	26	26	26	30	30	30	4	1.9
2 WBT	7	7	7	9	9	9	7	7	7	1	1	1	40	40	40	0	0	0	4	2.1
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 NBL	0	0	0	0	0	0	7	7	7	2	2	2	18	18	18	25	29	29	4	2.4
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 EBT	7	7	7	9	9	9	7	7	7	1	1	1	40	40	40	0	0	0	4	2.1
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

TOD Schedule Report

for 3692: I- 95 NB&Ives Dairy Rd

Print Date: 2/13/2015

Print Time: 12:06 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBL	5 -	6 EBT	7 -	8 -	Ring Offset	Offset
	1	200	56	101	0	25	0	163	0	0	0	0
	2	150	29	74	0	29	0	109	0	0	0	6
	3	90	15	41	0	16	0	62	0	0	0	6
	4	110	19	55	0	18	0	80	0	0	0	6
	5	110	19	55	0	18	0	80	0	0	0	6
	6	110	21	51	0	20	0	78	0	0	0	6
	7	110	21	51	0	20	0	78	0	0	0	6
	8	200	31	132	0	19	0	169	0	0	0	0
	9	180	56	81	0	25	0	143	0	0	0	176
	10	130	26	61	0	25	0	93	0	0	0	6
	11	130	19	80	0	13	0	105	0	0	0	6
	12	110	25	47	0	20	0	78	0	0	0	6
	13	130	17	57	0	38	0	80	0	0	0	6
	14	130	47	47	0	18	0	100	0	0	0	6
	15	110	19	55	0	18	0	80	0	0	0	6
	16	130	24	77	0	11	0	107	0	0	0	6
	17	130	26	61	0	25	0	93	0	0	0	6
	18	90	25	31	0	16	0	62	0	0	0	6
	20	130	9	47	0	56	0	62	0	0	0	6
	21	140	24	84	0	14	0	114	0	0	0	6
	22	100	15	51	0	16	0	72	0	0	0	6

Local TOD Schedule

Time	Plan	DOW
0000	22	Su M T W Th F S
0600	17	Su M T W Th F S
0730	9	M T W Th F
0900	2	Su S
0915	2	M T W Th F
1300	21	Su S
1330	8	M T W Th F
1615	1	M T W Th F
2100	21	M T W Th
2300	21	Su F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

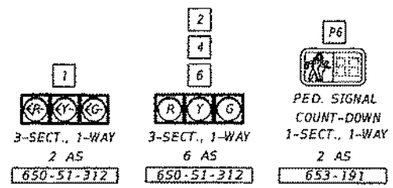
TOD Schedule Report

for 3692: I- 95 NB&Ives Dairy Rd

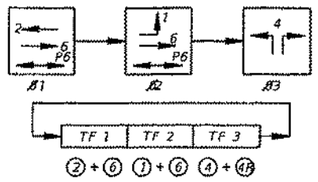
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SPECIAL S.O.P.



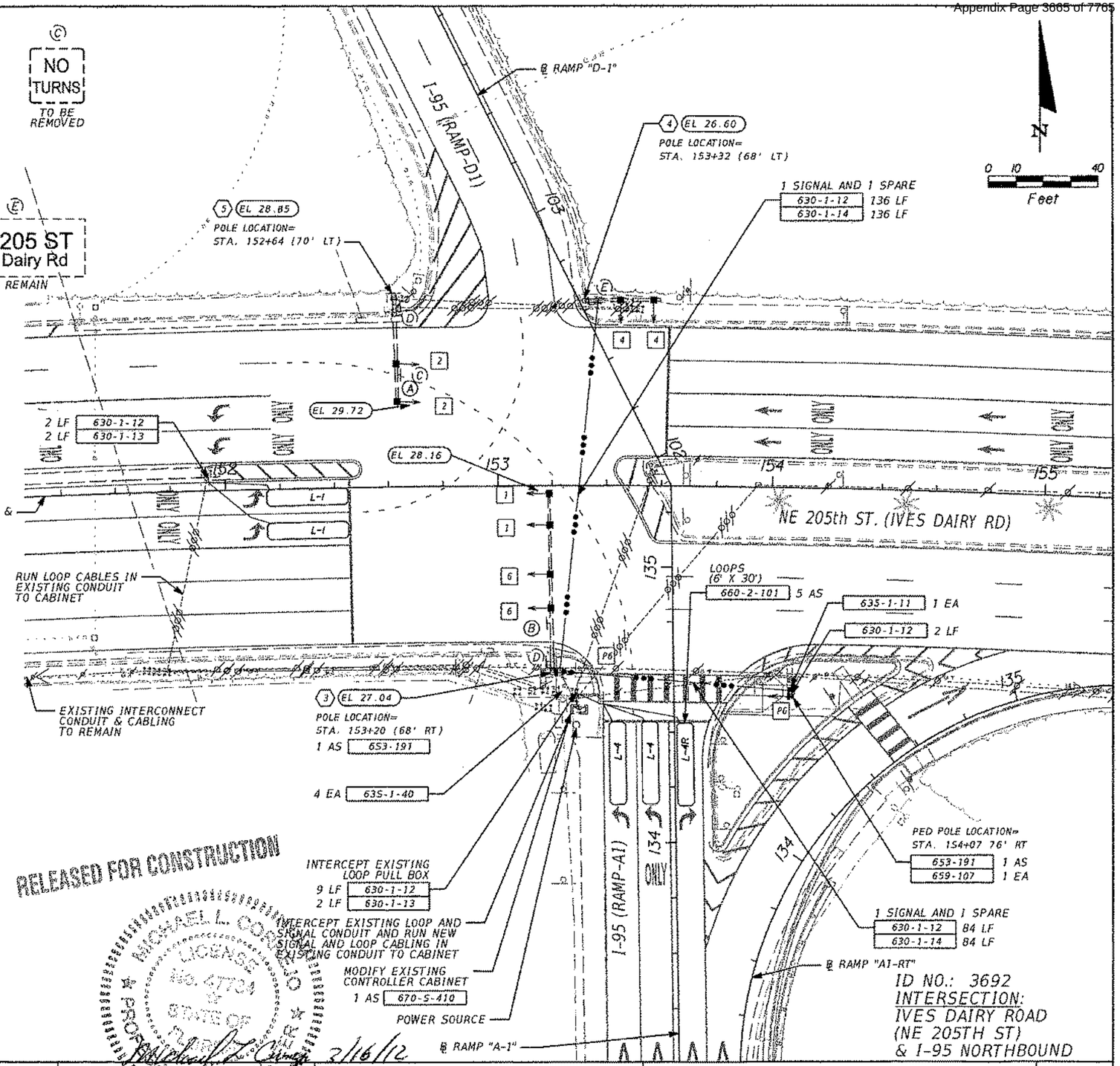
SIGNALIZATION NOTES

1. CONTRACTOR TO USE EXISTING CONDUITS AND PULL BOXES TO RUN NEW LOOP HOME-RUN CABLE AND SIGNAL CABLE TO EXISTING CONTROLLER CABINET.
2. MAJOR STREET IS IVES DAIRY RD (EASTBOUND & WESTBOUND) MINOR STREET IS I-95 RAMP (NORTHBOUND)
3. PROTECTED ONLY LEFT TURN FOR MOVEMENT 1
4. FLASHING OPERATION TO BE YELLOW FOR IVES DAIRY ROAD AND RED FOR I-95 RAMP AND EASTBOUND LEFT-TURN
5. INTERSECTION RE-WIRE SHALL BE PAID FOR UNDER PAY ITEM NUMBER:
   632-7-1 1 PI
6. CONTRACTOR SHALL USE EXISTING CONDUIT AS NEW CONDUIT IS FOR CONTINGENCY ONLY AND MUST BE APPROVED BY THE ENGINEER
7. PAY ITEM NO. 690-100 INCLUDES REMOVAL OF ABANDONED PULL BOXES AND EXISTING LOOP LEAD-INS.
8. NEW SIGNAL HEADS ON EXISTING MAST ARMS SHALL NOT INCLUDE BACKPLATES.
9. CONTROLLER TIMINGS TO BE PROVIDED BY MIAMI-DADE COUNTY.
10. LOCATION OF AT&T SERVICE POINT AND POWER SERVICE POINT TO BE PROVIDED IN THE AS-BUILT PLANS.

DETECTORS FOR LOOPS			
LOOP	NO. OF LOOPS	NO. OF EXIST. DETS.	NO. OF NEW DETS.
L-1	1	1	
L-1	1		
L-4	1	1	
L-4	1		
L-4R	1	1	

REMOVAL ITEMS

690-10	8 EA
690-90	1 PI
690-100	1 PI
700-48-60	1 EA



RELEASED FOR CONSTRUCTION

MICHAEL L. CORNEJO LICENSE NO. 47724 STATE OF FLORIDA PROFESSIONAL ENGINEER

3/16/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MICHAEL L. CORNEJO, P.E. # 47724
METRIC ENGINEERING, INC.
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294
• ENGINEERS • PLANNERS • SURVEYORS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	BROWARD MIAMI-DADE	422796-1-52-01 422796-2-52-01

PLAN SHEETS

SHEET NO. T-6

KKING 3/9/2012 12:21:42 PM F:\PROJECT\422796152O1\signals\Ives_Dairy\PLANS\G03_ID.dgn

SIGNAL OPERATING PLAN

N

	Direction	EB			WB					NB			Ped Heads				Movements/Display/Actuation
Timing Phases	Head No.	1	6			2					4		P6				
(2+6)	Dwell	<R	G			G					R		W/F				2 ←
WBT + EBT	Clear (1+6)	<R	G			Y					R		DW				→ 6
IVES DAIRY RD	Clear (4)	<R	Y			Y					R		DW				P6
(Recall)	Clear																
(1+6)	Dwell	<G	G			R					R		W/F				1 1 → 6
EBLT + EBT	Clear (4)	<Y	Y			R					R		DW				P6
IVES DAIRY RD	Clear (2+6)	<Y	G			R					R		DW				
(Actuated)	Clear																
(4)	Dwell	<R	R			R					G		DW				4 4
NB	Clear (2+6)	<R	R			R					Y		DW				
I-95 (RAMP)	Clear																
(Actuated)	Clear																
	Dwell																
	Clear to																
	Dwell																
	Clear to																
	Dwell																
	Clear to																
	Dwell																
	Clear to																
	Dwell																
	Clear																
Flashing Operation		F<R	FY			FY					FR						Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	I-95 NB & IVES DAIRY RD		
Erick Zapata	10/30/2012			
Checked	Date	Placed in Service	Phasing No.	Asset Number
H. Hernandez	11/5/13	Date 3/4/13 By Contractor	9	3692

TOD Schedule Report

for 3768: Highland Lakes Blvd&NE 203 St

Print Date: 2/21/2015

Print Time: 2:03 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3768	Highland Lakes Blvd&NE 203 St	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	SBT	NBT	WBL	EBT	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	25 - 25 - 25	3	0
2 WBT	7 - 7 - 7	11 - 11 - 11	7 - 7 - 7	1 - 1 - 1	60 - 60 - 60	0 - 0 - 0	4	2.6
3 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	10 - 10 - 10	30 - 30 - 30	4	2.1
4 NBT	7 - 7 - 7	19 - 19 - 19	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	40 - 40 - 40	4	2.1
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 10 - 10	25 - 25 - 25	3	0
6 EBT	7 - 7 - 7	11 - 11 - 11	7 - 7 - 7	1 - 1 - 1	60 - 60 - 60	0 - 0 - 0	4	2.6
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	123456--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBT	4 NBT	5 WBL	6 EBT	7 -	8 -	Ring Offset	Offset
	1	200	21	114	17	26	21	114	0	0	0	32
	2	150	19	70	16	23	19	70	0	0	0	21
	8	200	20	106	17	35	20	106	0	0	0	39
	9	200	17	103	20	38	6	114	0	0	0	31
	17	130	12	55	20	21	12	55	0	0	0	0
	21	140	11	64	17	26	11	64	0	0	0	39
	22	100	11	26	20	21	11	26	0	0	0	71

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	17	Su M T W Th F S
0730	9	M T W Th F
0900	2	Su S
0915	2	M T W Th F
1300	21	Su S
1330	8	M T W Th F
1615	1	M T W Th F
2100	21	M T W Th
2300	21	Su F

TOD Schedule Report

for 3768: Highland Lakes Blvd&NE 203 St

Print Date: 2/21/2015

Print Time: 2:03 AM

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

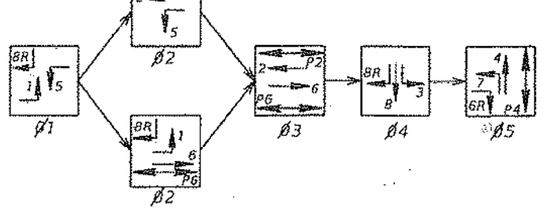
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Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

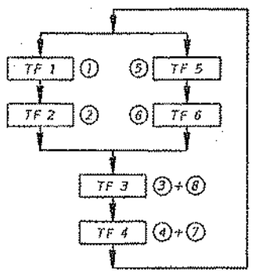
No Calendar Defined/Enabled

SIGNALIZATION NOTES

1. CONTRACTOR TO USE EXISTING CONDUITS AND PULL BOXES TO RUN NEW LOOP HOME-RUN CABLE AND SIGNAL CABLE TO EXISTING CONTROLLER CABINET.
2. MAJOR STREET IS IVES DAIRY RD (EASTBOUND & WESTBOUND) MINOR STREET IS HIGHLAND LAKES BLVD. (NORTHBOUND & SOUTHBOUND)
3. PROTECTED/PERMISSIVE LEFT TURN FOR MOVEMENTS 1 AND 5
4. INTERSECTION RE-WIRE SHALL BE PAID FOR UNDER PAY ITEM NUMBER:
   632-7-1 1 PI
5. CONTRACTOR SHALL USE EXISTING CONDUIT AS NEW CONDUIT IS FOR CONTINGENCY ONLY AND MUST BE APPROVED BY THE ENGINEER
6. PAY ITEM NO. 690-100 INCLUDES REMOVAL OF ABANDONED PULL BOXES AND EXISTING LOOP LEAD-INS.
7. NEW SIGNAL HEADS ON EXISTING MAST ARMS SHALL NOT INCLUDE BACKPLATES.
8. CONTROLLER TIMINGS TO BE PROVIDED BY MIAMI-DADE COUNTY.
9. LOCATION OF AT&T SERVICE POINT AND POWER SERVICE POINT TO BE PROVIDED IN THE AS-BUILT PLANS.

S.O.P. 9 MODIFIED





3-SECT., 1-WAY 2 AS 650-51-312

3-SECT., 1-WAY 4 AS 650-51-312

5-SECT., 1-WAY 2 AS 650-51-512

5-SECT., 1-WAY 2 AS 60-51-512

PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY 6 AS 653-191

4-SECT., 1-WAY 2 AS 650-51-412

TO REMAIN

NE 20 AV Highland Lakes Blvd
RELOCATE SIGN 699-1-41 1 EA

NE 205 ST Ives Dairy Rd
TO REMAIN

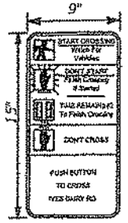
NE 20 AV Highland Lakes Blvd
TO REMAIN

REMOVAL ITEMS

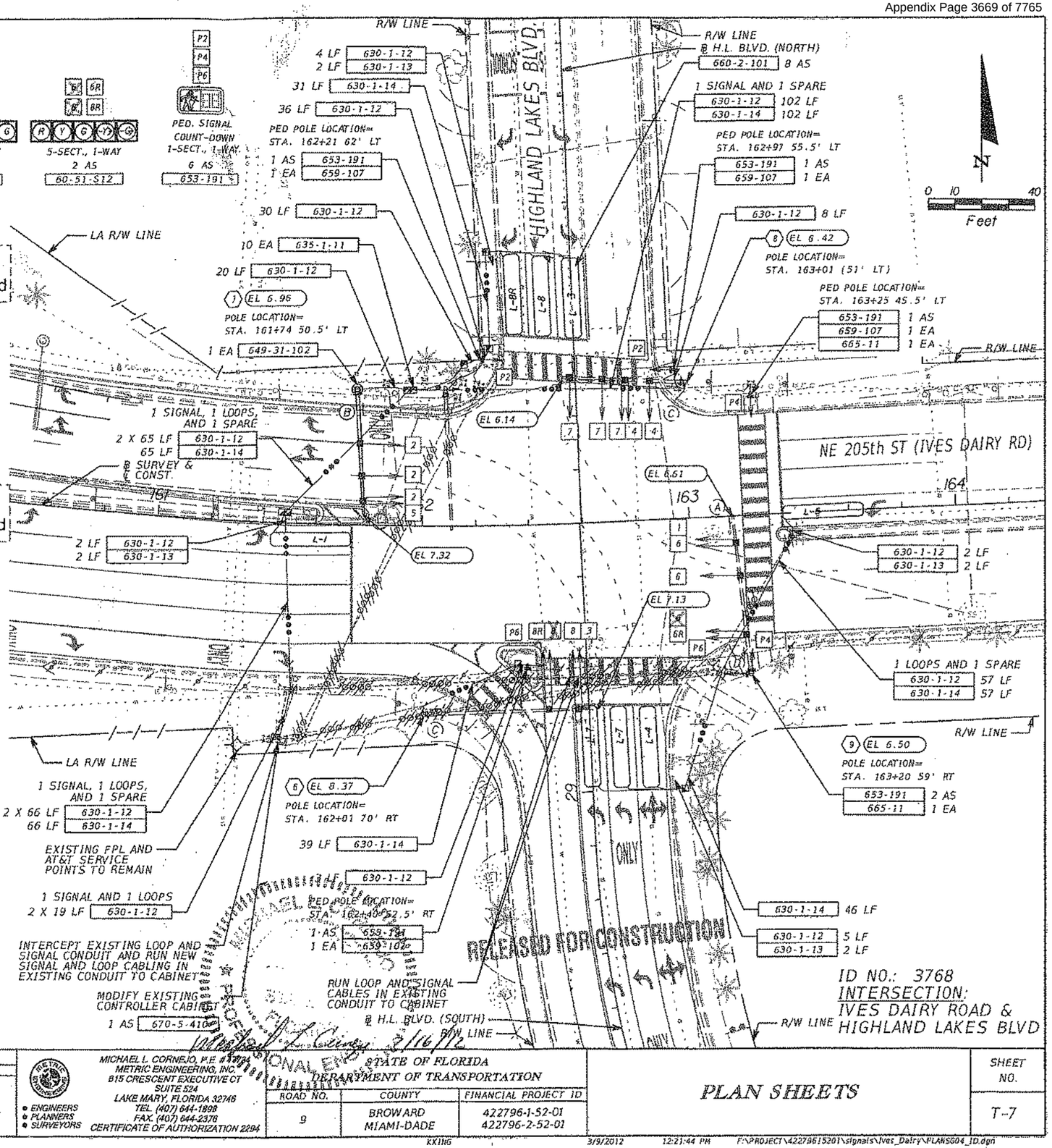
690-10	12 EA
690-20	6 EA
690-31	1 EA
690-32-2	1 EA
690-70	6 EA
690-90	1 PI
690-100	1 PI

DETECTORS FOR LOOPS

LOOP	NO. OF LOOPS	NO. OF EXIST. DETS.	NO. OF NEW DETS.
L-1	1	1	
L-4	1	1	
L-5	1	1	
L-7	1	1	
L-7	1		
L-3	1	1	
L-8	1		
L-8R	1	1	



FTP-68B-06
2 EA



RELEASED FOR CONSTRUCTION

ID NO.: 3768
INTERSECTION:
IVES DAIRY ROAD & HIGHLAND LAKES BLVD

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MICHAEL L. CORNEJO, P.E. #57911
METRIC ENGINEERING, INC.
815 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294
• ENGINEERS • PLANNERS • SURVEYORS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	BROWARD MIAMI-DADE	422796-1-52-01 422796-2-52-01

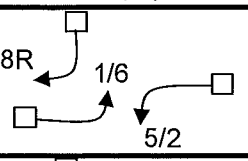
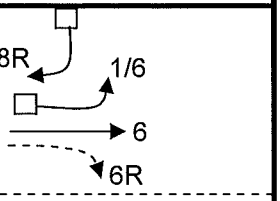
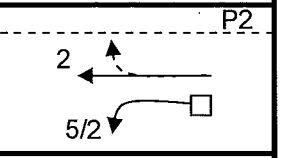
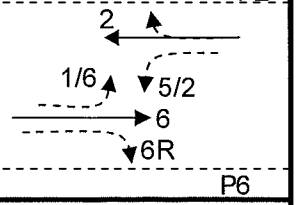
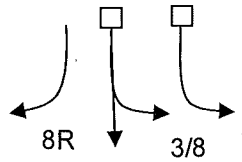
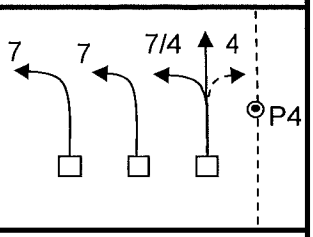
PLAN SHEETS

SHEET NO. T-7

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SIGNAL OPERATING PLAN

N

Timing Phases	Direction / Head No.	EB 1/6	EB 6	EB 6R	WB 5/2	WB 2		SB 3/8		SB 8R	NB 7	NB 7/4	NB 4	Ped Heads P6	Ped Heads P2		Ped Heads P4	Movements/Display/Actuation
(1+5) EBLT + WBLT IVES DAIRY RD (Actuated)	Dwell	R/<G	R	R	R/<G	R		R		R/G>	<R	R	R	DW	DW		DW	
	Clear (1+6)	R/<G	R	R	R/<Y	R		R		R/G>	<R	R	R	DW	DW		DW	
	Clear (2+5)	R/<Y	R	R	R/<G	R		R		R/Y>	<R	R	R	DW	DW		DW	
	Clear (2+6)	R/<Y	R	R	R/<Y	R		R		R/Y>	<R	R	R	DW	DW		DW	
(1+6) EBLT + EBT IVES DAIRY RD (Actuated)	Dwell	<G/G	G	G	R	R		R		R/G>	<R	R	R	W/F	DW		DW	
	Clear (2+6)	<Y/G	G	G	R	R		R		R/Y>	<R	R	R	DW	DW		DW	
	Clear																	
	Clear																	
	Clear																	
	Clear																	
(2+5) WBT + WBLT IVES DAIRY RD (Actuated)	Dwell	R	R	R	<G/G	G		R		R	<R	R	R	DW	W/F		DW	
	Clear (2+6)	R	R	R	<Y/G	G		R		R	<R	R	R	DW	DW		DW	
	Clear																	
	Clear																	
(2+6) WBT + EBT IVES DAIRY RD (Recall)	Dwell	G	G	G	G	G		R		R	<R	R	R	W/F	W/F		DW	
	Clear (3)	Y	Y	Y	Y	Y		R		R	<R	R	R	DW	DW		DW	
	Clear (4)	Y	Y	Y	Y	Y		R		R	<R	R	R	DW	DW		DW	
	Clear																	
	Clear																	
	Clear																	
(3) SB HIGHLAND LAKES BLVD (Actuated)	Dwell	R	R	R	R	R		<G/G		G	<R	R	R	DW	DW		DW	
	Clear to (4)	R	R	R	R	R		Y		Y	<R	R	R	DW	DW		DW	
	Clear to (1+5)	R	R	R	R	R		Y		Y	<R	R	R	DW	DW		DW	
	Clear to (1+6)	R	R	R	R	R		Y		Y	<R	R	R	DW	DW		DW	
	Clear to (2+6)	R	R	R	R	R		Y		Y	<R	R	R	DW	DW		DW	
	Clear to																	
	Clear to																	
	Clear to																	
(4) NB HIGHLAND LAKES BLVD (Actuated)	Dwell	R	R	R	R	R		R		R	<G	<G/G	G	DW	DW		W/F	
	Clear to (1+5)	R	R	R	R	R		R		R	<Y	Y	Y	DW	DW		DW	
	Clear to (1+6)	R	R	R	R	R		R		R	<Y	Y	Y	DW	DW		DW	
	Clear to (2+5)	R	R	R	R	R		R		R	<Y	Y	Y	DW	DW		DW	
	Clear to (2+6)	R	R	R	R	R		R		R	<Y	Y	Y	DW	DW		DW	
	Clear to																	
	Dwell																	
	Clear																	
	Clear																	
	Clear																	
	Clear																	
Flashing Operation		FY	FY	FY	FY	FY		FR		FR	F<R	FR	FR					Page 1 of 1

Miami-Dade County Public Works Department

Drawn	Date	HIGHLAND LAKES BLVD & NE 203 ST			
Erick Zapata	10/9/2012				
Checked	Date	Placed in Service		Phasing No.	Asset Number
H. Hernandez	10/10/12	Date 3/19/13	By Contractor	8	3768

Peak Season Factor Category Report (PSFCR)

2014 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8700 MIAMI-DADE NORTH

MOCF: 0.97

WEEK	DATES	SF	PSCF
1	01/01/2014 - 01/04/2014	1.03	1.06
2	01/05/2014 - 01/11/2014	1.03	1.06
3	01/12/2014 - 01/18/2014	1.03	1.06
4	01/19/2014 - 01/25/2014	1.02	1.05
5	01/26/2014 - 02/01/2014	1.01	1.04
6	02/02/2014 - 02/08/2014	0.99	1.02
* 7	02/09/2014 - 02/15/2014	0.98	1.01
* 8	02/16/2014 - 02/22/2014	0.97	1.00
* 9	02/23/2014 - 03/01/2014	0.97	1.00
*10	03/02/2014 - 03/08/2014	0.97	1.00
*11	03/09/2014 - 03/15/2014	0.97	1.00
*12	03/16/2014 - 03/22/2014	0.97	1.00
*13	03/23/2014 - 03/29/2014	0.97	1.00
*14	03/30/2014 - 04/05/2014	0.97	1.00
*15	04/06/2014 - 04/12/2014	0.97	1.00
*16	04/13/2014 - 04/19/2014	0.97	1.00
*17	04/20/2014 - 04/26/2014	0.98	1.01
*18	04/27/2014 - 05/03/2014	0.98	1.01
*19	05/04/2014 - 05/10/2014	0.99	1.02
20	05/11/2014 - 05/17/2014	0.99	1.02
21	05/18/2014 - 05/24/2014	1.00	1.03
22	05/25/2014 - 05/31/2014	1.00	1.03
23	06/01/2014 - 06/07/2014	1.00	1.03
24	06/08/2014 - 06/14/2014	1.01	1.04
25	06/15/2014 - 06/21/2014	1.01	1.04
26	06/22/2014 - 06/28/2014	1.02	1.05
27	06/29/2014 - 07/05/2014	1.02	1.05
28	07/06/2014 - 07/12/2014	1.03	1.06
29	07/13/2014 - 07/19/2014	1.04	1.07
30	07/20/2014 - 07/26/2014	1.03	1.06
31	07/27/2014 - 08/02/2014	1.03	1.06
32	08/03/2014 - 08/09/2014	1.02	1.05
33	08/10/2014 - 08/16/2014	1.02	1.05
34	08/17/2014 - 08/23/2014	1.01	1.04
35	08/24/2014 - 08/30/2014	1.01	1.04
36	08/31/2014 - 09/06/2014	1.01	1.04
37	09/07/2014 - 09/13/2014	1.02	1.05
38	09/14/2014 - 09/20/2014	1.02	1.05
39	09/21/2014 - 09/27/2014	1.01	1.04
40	09/28/2014 - 10/04/2014	1.01	1.04
41	10/05/2014 - 10/11/2014	1.00	1.03
42	10/12/2014 - 10/18/2014	0.99	1.02
43	10/19/2014 - 10/25/2014	1.01	1.04
44	10/26/2014 - 11/01/2014	1.03	1.06
45	11/02/2014 - 11/08/2014	1.05	1.08
46	11/09/2014 - 11/15/2014	1.07	1.10
47	11/16/2014 - 11/22/2014	1.09	1.12
48	11/23/2014 - 11/29/2014	1.08	1.11
49	11/30/2014 - 12/06/2014	1.06	1.09
50	12/07/2014 - 12/13/2014	1.05	1.08
51	12/14/2014 - 12/20/2014	1.03	1.06
52	12/21/2014 - 12/27/2014	1.03	1.06
53	12/28/2014 - 12/31/2014	1.03	1.06

* PEAK SEASON

2014 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8701 MIAMI-DADE SOUTH

MOCF: 0.99

WEEK	DATES	SF	PSCF
1	01/01/2014 - 01/04/2014	0.98	0.99
2	01/05/2014 - 01/11/2014	1.01	1.02
3	01/12/2014 - 01/18/2014	1.03	1.04
4	01/19/2014 - 01/25/2014	1.02	1.03
5	01/26/2014 - 02/01/2014	1.01	1.02
6	02/02/2014 - 02/08/2014	1.00	1.01
7	02/09/2014 - 02/15/2014	1.00	1.01
8	02/16/2014 - 02/22/2014	0.99	1.00
* 9	02/23/2014 - 03/01/2014	0.99	1.00
*10	03/02/2014 - 03/08/2014	0.99	1.00
*11	03/09/2014 - 03/15/2014	0.99	1.00
*12	03/16/2014 - 03/22/2014	0.99	1.00
*13	03/23/2014 - 03/29/2014	0.99	1.00
*14	03/30/2014 - 04/05/2014	0.99	1.00
*15	04/06/2014 - 04/12/2014	0.99	1.00
*16	04/13/2014 - 04/19/2014	0.99	1.00
*17	04/20/2014 - 04/26/2014	0.99	1.00
*18	04/27/2014 - 05/03/2014	0.99	1.00
*19	05/04/2014 - 05/10/2014	0.99	1.00
*20	05/11/2014 - 05/17/2014	0.99	1.00
*21	05/18/2014 - 05/24/2014	0.99	1.00
22	05/25/2014 - 05/31/2014	1.00	1.01
23	06/01/2014 - 06/07/2014	1.01	1.02
24	06/08/2014 - 06/14/2014	1.01	1.02
25	06/15/2014 - 06/21/2014	1.02	1.03
26	06/22/2014 - 06/28/2014	1.02	1.03
27	06/29/2014 - 07/05/2014	1.03	1.04
28	07/06/2014 - 07/12/2014	1.03	1.04
29	07/13/2014 - 07/19/2014	1.04	1.05
30	07/20/2014 - 07/26/2014	1.03	1.04
31	07/27/2014 - 08/02/2014	1.02	1.03
32	08/03/2014 - 08/09/2014	1.02	1.03
33	08/10/2014 - 08/16/2014	1.01	1.02
34	08/17/2014 - 08/23/2014	1.00	1.01
35	08/24/2014 - 08/30/2014	1.01	1.02
36	08/31/2014 - 09/06/2014	1.01	1.02
37	09/07/2014 - 09/13/2014	1.01	1.02
38	09/14/2014 - 09/20/2014	1.01	1.02
39	09/21/2014 - 09/27/2014	1.01	1.02
40	09/28/2014 - 10/04/2014	1.00	1.01
41	10/05/2014 - 10/11/2014	1.00	1.01
42	10/12/2014 - 10/18/2014	0.99	1.00
43	10/19/2014 - 10/25/2014	0.99	1.00
44	10/26/2014 - 11/01/2014	1.00	1.01
45	11/02/2014 - 11/08/2014	1.00	1.01
46	11/09/2014 - 11/15/2014	1.00	1.01
47	11/16/2014 - 11/22/2014	1.00	1.01
48	11/23/2014 - 11/29/2014	1.00	1.01
49	11/30/2014 - 12/06/2014	0.99	1.00
50	12/07/2014 - 12/13/2014	0.99	1.00
51	12/14/2014 - 12/20/2014	0.98	0.99
52	12/21/2014 - 12/27/2014	1.01	1.02
53	12/28/2014 - 12/31/2014	1.03	1.04

* PEAK SEASON

Appendix B
HCS Freeway Analyses

HCS 2010 Freeway Facilities

Project Properties

Analyst	Ana/Omor/Qidi	Freeway Name	I-95 NorthBound	Analysis Period	AM Peak
Analysis Date	9/17/2015 9:33:17 AM	From	MM 0.000	Version Date	5/15/15
Agency	F R ALEMAN & ASSOCIATES	To	MM 8.112		
Location	Miami-Dade County	Analysis Direction	Northbound		
User Notes	Southern Section of I95 NB Corridor- (MM 0.000 to 8.112) From START of Project on SR 9A/I-95 Mainline to NW 95 ST				
File Name	C:\Users\Ian.Rairden\AppData\Local\Temp\preview.xml				

Facility-wide Values

Jam Density (pc/h/ln)	190	Time Period Duration (min)	15	Facility Length (mi)	8.70100

Segment Input Data

Time Period 1

Mainline Data

Seg #	From	To	Type	Length	Terrain	Adj. Demand	% Trucks	% RVs	# Lanes	FFS
1	US 1/I-95 Mainline	WB Rcknbckr Cswy ONR	Basic Segment	3834	Level	3072	1.95	0.00	2	70
2	-	WB Rcknbckr Cswy ONR	On Ramp	1500	Level	5007	2.83	0.00	2	70
3	WB Rcknbckr Cswy ONR	SW 8 Street OFR	Basic Segment	129	Level	5007	2.83	0.00	3	70
4	-	SW 8 Street OFR	Off Ramp	1500	Level	5007	2.83	0.00	3	70
5	SW 8 Street OFR	SW 8 Street ONR ESC	Basic Segment	938	Level	4738	2.95	0.00	3	70
6	SW 8 Street ONR ESC	SW 8 Street ONR WSC	On Ramp	1500	Level	5212	2.95	0.00	3	70
7	SW 8 Street ONR WSC	SR 970/Dwtwn Dst OFR	Weaving	3206	Level	5937	3.00	0.00	4	70
8	NW 2 Street OFR	SR 970/Dwtwn Dst ONR	Basic Segment	77	Level	4481	3.73	0.00	3	70
9	SR 970 ONR	I-395 OFR	Weaving	2768	Level	5514	4.33	0.00	5	70
10	I-395 OFR	SR 836 OFR	Basic Segment	127	Level	4548	3.50	0.00	4	70
11	-	SR 836 OFR	Off Ramp	1500	Level	4548	3.50	0.00	3	70
12	SR 836 OFR	NW 8 Street ONR	Basic Segment	25	Level	3256	4.05	0.00	3	70
13	-	NW 8 Street ONR	On Ramp	1500	Level	3799	4.34	0.00	3	70
14	-	I-395 Flyover OFR	Off Ramp	1500	Level	3799	4.34	0.00	3	70
15	I-395 Flyover OFR	I-395/SR 836 ONR	Basic Segment	718	Level	3799	4.34	0.00	3	70
16	-	I-395/SR 836 ONR	On Ramp	1500	Level	6283	3.80	0.00	3	70
17	I-395 Flyover ONR	I-95 Mngd Lns Ingrss	Weaving	2935	Level	6283	3.80	0.00	6	70
18	-	I-195/SR 112 OFR	Off Ramp	1500	Level	5092	4.69	0.00	4	70
19	I-195/SR 112 OFR	I-195/SR 112 ONR	Basic Segment	3821	Level	3637	6.03	0.00	3	70
20	-	I-195/SR 112 ONR	On Ramp	1500	Level	4458	5.52	0.00	3	70
21	I-195/SR 112 ONR	NW 62 Street OFR	Basic Segment	1192	Level	4458	5.52	0.00	5	70
22	-	NW 62 Street OFR	Off Ramp	1500	Level	4458	5.52	0.00	4	70
23	NW 62 Street OFR	NW 62 Street ONR	Basic Segment	2135	Level	4079	5.74	0.00	4	70
24	-	NW 62 Street ONR	On Ramp	1500	Level	4905	5.43	0.00	4	70
25	-	WB NW 69 Street ONR	On Ramp	815	Level	5094	5.32	0.00	4	70
26	WB NW 69 Street ONR	NW 79 Street OFR	Ramp Overlap	685	Level	5094	5.32	0.00	4	70
27	-	NW 79 Street OFR	Off Ramp	815	Level	5094	5.32	0.00	4	70
28	NW 79 Street OFR	NW 81 Street ONR	Basic Segment	2364	Level	4464	5.18	0.00	4	70
		NW 81								

RampData

Seg #	Type	Adj. Demand	% Trucks	% RVs	Lanes	Accel/Decel Length	FFS
2	On Ramp	1935	4.24	0.00	2	1500	50
4	Off Ramp	269	0.74	0.00	1	190	50
6	On Ramp	474	2.95	0.00	1	717	50
11	Off Ramp	1292	2.09	0.00	1	1500	50
13	On Ramp	543	6.08	0.00	1	250	50
14	Off Ramp	0	0.00	0.00	1	205	50
16	On Ramp	2484	2.98	0.00	2	1500	50
18	Off Ramp	1455	1.37	0.00	2	285	50
20	On Ramp	821	3.29	0.00	2	1500	50
22	Off Ramp	379	3.17	0.00	1	1500	50
24	On Ramp	826	3.87	0.00	1	685	50
25	On Ramp	189	2.65	0.00	1	800	50
27	Off Ramp	630	6.34	0.00	1	148	50
29	On Ramp	735	3.95	0.00	1	1065	50
31	Off Ramp	438	3.65	0.00	1	450	50

Weaving Segment Data

Seg #	Ramp to Ramp Prop.	On-Ramp					Off-Ramp				
		Adj. Demand	% Trucks	% RVs	Lanes	FFS	Adj. Demand	% Trucks	% RVs	Lanes	FFS
7	0.050	725	3.31	0.00	1	50	1456	0.75	0.00	2	50
9	0.050	1033	6.97	0.00	2	50	966	8.28	0.00	1	50
17	0.050	0	0.00	0.00	1	50	1191	0.00	0.00	2	50

29	-	Street ONR	On Ramp	1315	Level	5199	5.00	0.00	4	70
30	NW 81 Street ONR	NW 95 Street OFR	Ramp Overlap	201	Level	5199	5.00	0.00	4	70
31	-	NW 95 Street OFR	Off Ramp	1315	Level	5199	5.00	0.00	4	70
32	EB NW 95 Street OFR	I-95 Mainline	Basic Segment	25	Level	4761	5.13	0.00	4	70

Time Period Independent Weaving Segment Data

Seg #	Configuration	Short Length	# Weaving Lanes	Min. Lane Changes Freeway-Ramp	Min. Lane Changes Ramp-Freeway	Min. Lane Changes Ramp-Ramp
7	TwoSide	2206	0	0	0	4
9	TwoSide	2540	0	0	0	4
17	TwoSide	2200	0	0	0	3

Time Period Results

Time Period 1

Seg #	From	To	Type	Adj. Demand	Vol. Served	Capacity (pc/h)	Capacity (veh/h)	d/c Ratio	v/c ratio	Queue Length (ft)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	Mainline Delay (min/veh)	System Delay (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)	LOS
1	US 1/I-95 Mainline	WB Rcknbckr Cswy ONR	Basic Segment	3072	3060	4800	4754	0.65	0.64	0	68.6	22.5	22.3	0.63	0.62	0.0	0.0	557.7	555.5	8.1	0.2	C
2	-	WB Rcknbckr Cswy ONR	On Ramp	5007	4740	4800	4733	1.06	1.00	0	52.2	45.8	45.1	0.33	0.24	0.1	1.3	355.6	336.6	6.4	1.6	F
3	WB Rcknbckr Cswy ONR	SW 8 Street OFR	Basic Segment	5007	4740	7200	7099	0.71	0.67	0	65.2	24.6	24.2	0.02	0.02	0.0	0.0	30.6	29.0	0.4	0.0	C
4	-	SW 8 Street OFR	Off Ramp	5007	4740	7200	7099	0.71	0.67	0	60.3	26.6	26.2	0.28	0.24	0.0	0.0	355.6	336.6	5.6	0.8	C
5	SW 8 Street OFR	SW 8 Street ONR ESC	Basic Segment	4738	4500	7200	7095	0.67	0.63	0	68.7	22.2	21.8	0.16	0.15	0.0	0.0	210.4	199.9	2.9	0.1	C
6	SW 8 Street ONR ESC	SW 8 Street ONR WSC	On Ramp	5212	4980	7200	7095	0.73	0.70	0	62.0	27.1	26.7	0.27	0.24	0.0	0.0	370.2	353.7	5.7	0.7	C
7	SW 8 Street ONR WSC	SR 970/Dwtwn Dst OFR	Weaving	5937	5700	7434	7324	0.81	0.78	0	62.9	21.1	20.8	0.58	0.52	0.1	0.1	901.2	865.3	13.8	1.4	C
8	NW 2 Street OFR	SR 970/Dwtwn Dst ONR	Basic Segment	4481	4260	7200	7068	0.63	0.60	0	69.3	20.9	20.5	0.01	0.01	0.0	0.0	16.3	15.5	0.2	0.0	C
9	SR 970 ONR	I-395 OFR	Weaving	5514	5340	9434	9234	0.60	0.58	0	63.4	17.8	17.4	0.50	0.45	0.0	0.0	722.7	699.9	11.0	1.0	B
10	I-395 OFR	SR 836 OFR	Basic Segment	4548	4380	9600	9435	0.48	0.46	0	69.4	16.1	15.8	0.02	0.02	0.0	0.0	27.3	26.3	0.4	0.0	B
11	-	SR 836 OFR	Off Ramp	4548	4380	7200	7076	0.64	0.62	0	39.5	37.6	37.0	0.43	0.24	0.2	0.2	323.0	311.1	7.9	3.4	E
12	SR 836 OFR	NW 8 Street ONR	Basic Segment	3256	3120	7200	7057	0.46	0.44	0	61.1	17.4	17.0	0.00	0.00	0.0	0.0	3.9	3.7	0.1	0.0	B
13	-	NW 8 Street ONR	On Ramp	3799	3660	7200	7047	0.54	0.52	0	62.7	19.8	19.4	0.27	0.24	0.0	0.0	269.8	259.9	4.1	0.4	B
14	-	I-395 Flyover OFR	Off Ramp	3799	3660	7200	7047	0.54	0.52	0	60.2	20.7	20.3	0.28	0.24	0.0	0.0	269.8	259.9	4.3	0.6	C
15	I-395 Flyover OFR	I-395/SR 836 ONR	Basic Segment	3799	3660	7200	7047	0.54	0.52	0	68.4	18.2	17.8	0.12	0.12	0.0	0.0	129.2	124.4	1.8	0.0	C
16	-	I-395/SR 836 ONR	On Ramp	6283	5760	7200	7066	0.89	0.82	0	58.5	33.2	32.6	0.29	0.24	0.0	1.4	446.2	409.1	7.0	1.2	D
17	I-395 Flyover ONR	I-95 Mngd Lns Ingrss	Weaving	6283	5760	11956	11733	0.54	0.49	0	65.2	8.4	8.3	0.51	0.48	0.0	0.0	873.1	800.5	12.3	0.8	A
18	-	I-195/SR 112 OFR	Off Ramp	5092	4680	9600	9380	0.54	0.50	0	64.8	18.5	18.1	0.26	0.24	0.0	0.0	361.6	332.4	5.1	0.4	B
19	I-195/SR 112 OFR	I-195/SR 112 ONR	Basic Segment	3637	3360	7200	6989	0.52	0.48	0	69.9	16.5	16.0	0.62	0.62	0.0	0.0	658.0	607.9	8.7	0.0	B
20	-	I-195/SR 112 ONR	On Ramp	4458	4140	7200	7007	0.64	0.59	0	64.5	21.9	21.3	0.26	0.24	0.0	0.0	316.6	294.0	4.6	0.4	C
21	I-195/SR 112 ONR	NW 62 Street OFR	Basic Segment	4458	4140	12000	11678	0.38	0.35	0	69.4	12.3	11.9	0.20	0.19	0.0	0.0	251.6	233.7	3.4	0.0	B
22	-	NW 62 Street OFR	Off Ramp	4458	4140	9600	9342	0.48	0.44	0	66.7	15.9	15.5	0.26	0.24	0.0	0.0	316.6	294.0	4.4	0.2	B
23	NW 62 Street OFR	NW 62 Street ONR	Basic Segment	4079	3840	9600	9332	0.44	0.41	0	69.8	14.1	13.7	0.35	0.35	0.0	0.0	412.3	388.2	5.6	0.0	B
24	-	NW 62 Street ONR	On Ramp	4905	4620	9600	9346	0.52	0.49	0	64.5	18.3	17.8	0.26	0.24	0.0	0.0	348.4	328.1	5.1	0.4	B
25	-	WB NW 69 Street ONR	On Ramp	5094	4800	9600	9351	0.54	0.51	0	64.8	19.0	18.5	0.14	0.13	0.0	0.0	196.6	185.2	2.9	0.2	B
26	WB NW 69 Street ONR	NW 79 Street OFR	Ramp Overlap	5094	4800	9600	9351	0.54	0.51	0	64.8	19.0	18.5	0.12	0.11	0.0	0.0	165.2	155.7	2.4	0.2	C
27	-	NW 79 Street OFR	Off Ramp	5094	4800	9600	9351	0.54	0.51	0	65.7	18.7	18.3	0.14	0.13	0.0	0.0	196.6	185.2	2.8	0.2	B
28	NW 79 Street OFR	NW 81 Street ONR	Basic Segment	4464	4260	9600	9358	0.48	0.46	0	69.7	15.7	15.3	0.39	0.38	0.0	0.0	499.7	476.8	6.8	0.0	B

29	-	NW 81 Street ONR	On Ramp	5199	4980	9600	9366	0.56	0.53	0	64.9	19.6	19.1	0.23	0.21	0.0	0.0	323.7	310.1	4.8	0.3	B
30	NW 81 Street ONR	NW 95 Street OFR	Ramp Overlap	5199	4980	9600	9366	0.56	0.53	0	64.9	19.6	19.1	0.04	0.03	0.0	0.0	49.5	47.4	0.7	0.1	C
31	-	NW 95 Street OFR	Off Ramp	5199	4980	9600	9366	0.56	0.53	0	66.3	19.2	18.8	0.23	0.21	0.0	0.0	323.7	310.1	4.7	0.2	B
32	EB NW 95 Street OFR	I-95 Mainline	Basic Segment	4761	4560	9600	9360	0.51	0.49	0	68.8	17.0	16.6	0.00	0.00	0.0	0.0	5.6	5.4	0.1	0.0	B

Overall Results

Segment	Segment Type	Maximum d/c Ratio	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)
US 1/I-95 Mainline-WB Rcknbckr Cswy ONR	Basic	0.65	68.6	22.5	22.3	0.63	0.62	0,557.7	0,555.5	8.10	0.16
--WB Rcknbckr Cswy ONR	OnRamp	1.06	52.2	45.8	45.1	0.33	0.24	0,355.6	0,336.6	6.45	1.64
WB Rcknbckr Cswy ONR-SW 8 Street OFR	Basic	0.71	65.2	24.6	24.2	0.02	0.02	0,030.6	0,029.0	0.44	0.03
--SW 8 Street OFR	OffRamp	0.71	60.3	26.6	26.2	0.28	0.24	0,355.6	0,336.6	5.58	0.77
SW 8 Street OFR-SW 8 Street ONR ESC	Basic	0.67	68.7	22.2	21.8	0.16	0.15	0,210.4	0,199.9	2.91	0.06
SW 8 Street ONR ESC-SW 8 Street ONR WSC	OnRamp	0.73	62.0	27.1	26.7	0.27	0.24	0,370.2	0,353.7	5.70	0.65
SW 8 Street ONR WSC-SR 970/Dwtwn Dst OFR	Weaving	0.81	62.9	21.1	20.8	0.58	0.52	0,901.2	0,865.3	13.76	1.40
NW 2 Street OFR-SR 970/Dwtwn Dst ONR	Basic	0.63	69.3	20.9	20.5	0.01	0.01	0,016.3	0,015.5	0.22	0.00
SR 970 ONR-I-395 OFR	Weaving	0.60	63.4	17.8	17.4	0.50	0.45	0,722.7	0,699.9	11.04	1.05
I-395 OFR-SR 836 OFR	Basic	0.48	69.4	16.1	15.8	0.02	0.02	0,027.3	0,026.3	0.38	0.00
--SR 836 OFR	OffRamp	0.64	39.5	37.6	37.0	0.43	0.24	0,323.0	0,311.1	7.88	3.43
SR 836 OFR-NW 8 Street ONR	Basic	0.46	61.1	17.4	17.0	0.00	0.00	0,003.9	0,003.7	0.06	0.01
--NW 8 Street ONR	OnRamp	0.54	62.7	19.8	19.4	0.27	0.24	0,269.8	0,259.9	4.15	0.43
--I-395 Flyover OFR	OffRamp	0.54	60.2	20.7	20.3	0.28	0.24	0,269.8	0,259.9	4.32	0.61
I-395 Flyover OFR-I-395/SR 836 ONR	Basic	0.54	68.4	18.2	17.8	0.12	0.12	0,129.2	0,124.4	1.82	0.04
--I-395/SR 836 ONR	OnRamp	0.89	58.5	33.2	32.6	0.29	0.24	0,446.2	0,409.1	7.00	1.15
I-395 Flyover ONR-I-95 Mngd Lns Ingrss	Weaving	0.54	65.2	8.4	8.3	0.51	0.48	0,873.1	0,800.5	12.28	0.84
--I-195/SR 112 OFR	OffRamp	0.54	64.8	18.5	18.1	0.26	0.24	0,361.6	0,332.4	5.13	0.38
I-195/SR 112 OFR-I-195/SR 112 ONR	Basic	0.52	69.9	16.5	16.0	0.62	0.62	0,658.0	0,607.9	8.69	0.01
--I-195/SR 112 ONR	OnRamp	0.64	64.5	21.9	21.3	0.26	0.24	0,316.6	0,294.0	4.56	0.36
I-195/SR 112 ONR-NW 62 Street OFR	Basic	0.38	69.4	12.3	11.9	0.20	0.19	0,251.6	0,233.7	3.37	0.03
--NW 62 Street OFR	OffRamp	0.48	66.7	15.9	15.5	0.26	0.24	0,316.6	0,294.0	4.41	0.21
NW 62 Street OFR-NW 62 Street ONR	Basic	0.44	69.8	14.1	13.7	0.35	0.35	0,412.3	0,388.2	5.56	0.01
--NW 62 Street ONR	OnRamp	0.52	64.5	18.3	17.8	0.26	0.24	0,348.4	0,328.1	5.09	0.40
--WB NW 69 Street ONR	OnRamp	0.54	64.8	19.0	18.5	0.14	0.13	0,196.6	0,185.2	2.86	0.21
WB NW 69 Street ONR-NW 79 Street OFR	RampOverlap	0.54	64.8	19.0	18.5	0.12	0.11	0,165.2	0,155.7	2.40	0.18
--NW 79	OffRamp	0.54	65.7	18.7	18.3	0.14	0.13	0,196.6	0,185.2	2.82	0.17

Street OFR											
NW 79 Street OFR-NW 81 Street ONR	Basic	0.48	69.7	15.7	15.3	0.39	0.38	0,499.7	0,476.8	6.84	0.03
--NW 81 Street ONR	OnRamp	0.56	64.9	19.6	19.1	0.23	0.21	0,323.7	0,310.1	4.78	0.35
NW 81 Street ONR-NW 95 Street OFR	RampOverlap	0.56	64.9	19.6	19.1	0.04	0.03	0,049.5	0,047.4	0.73	0.05
--NW 95 Street OFR	OffRamp	0.56	66.3	19.2	18.8	0.23	0.21	0,323.7	0,310.1	4.67	0.25
EB NW 95 Street OFR-I-95 Mainline	Basic	0.51	68.8	17.0	16.6	0.00	0.00	0,005.6	0,005.4	0.08	0.00
Freeway			63.2	19.1	18.7	8.21	7.46	10,288.4	9,741.1	0,154.1	0,014.9

	Density-Based LOS by Segment														
Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Time Step	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	Weaving	Basic	Off Ramp	Basic	On Ramp	Off Ramp	Basic
1	C	E	C	C	C	C	C	C	B	B	E	B	B	C	C
	Density-Based LOS by Segment														
Segment	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Time Step	On Ramp	Weaving	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	On Ramp	Ramp Overlap	Off Ramp	Basic	On Ramp	Ramp Overlap
1	D	A	B	B	C	B	B	B	B	B	C	B	B	B	C
	Density-Based LOS by Segment														
Segment	31	32													
Time Step	Off Ramp	Basic													
1	B	B													
	Demand-Based LOS by Segment														
Time Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.	F	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	31	32													
1	.	.													

HCS 2010 Freeway Facilities

Project Properties

Analyst	Ana/Omor/Qidi	Freeway Name	I-95 NorthBound	Analysis Period	AM Peak
Analysis Date	9/16/2015 9:33:17 AM	From	MM 8.112	Version Date	5/15/15
Agency	F R ALEMAN & ASSOCIATES	To	MM 17.260		
Location	Miami-Dade County	Analysis Direction	Northbound		
User Notes	Northern Section of I95 NB Corridor- (MM 8.112 to 17.260) From NW 95 ST to END of Project I95 Broward County Line				
File Name	C:\Users\Ian.Rairden\AppData\Local\Temp\preview.xml				

Facility-wide Values

Jam Density (pc/h/ln)	190	Time Period Duration (min)	15	Facility Length (mi)	9.58700

Segment Input Data

Time Period 1

Mainline Data

Seg #	From	To	Type	Length	Terrain	Adj. Demand	% Trucks	% RVs	# Lanes	FFS
1	NW 95 Street OFR	NW 95 Street ONR	Basic Segment	1560	Level	4761	5.13	0.00	4	70
2	NW 95 Street ONR	NW 103 Street OFR	Weaving	1775	Level	5346	4.87	0.00	5	70
3	NW 103 Street OFR	NW 103 Street ONR	Basic Segment	1760	Level	4959	5.09	0.00	4	70
4	-	NW 103 Street ONR	On Ramp	1326	Level	5691	4.80	0.00	4	70
5	NW 103 Street ONR	NW 119 Street OFR	Ramp Overlap	201	Level	5691	4.80	0.00	4	70
6	-	NW 119 Street OFR	Off Ramp	1326	Level	5691	4.80	0.00	4	70
7	NW 119 Street OFR	NW 125 Street OFR	Basic Segment	507	Level	5151	4.97	0.00	4	70
8	-	NW 125 Street OFR	Off Ramp	1500	Level	5151	4.97	0.00	4	70
9	NW 125 Street OFR	NW 125 Street ONR	Basic Segment	1725	Level	4641	5.20	0.00	4	70
10	NW 125 Street ONR	NW 135 Street OFR	Weaving	2140	Level	5494	4.75	0.00	5	70
11	NW 135 Street OFR	Opa Locka Blvd ONR	Basic Segment	1740	Level	4862	4.94	0.00	4	70
12	Opa Locka Blvd ONR	NW 151 Street OFR	Weaving	3650	Level	5753	4.18	0.00	5	70
13	Opa Locka Blvd ONR	NW 6 Avenue OFR	Basic Segment	25	Level	5508	4.25	0.00	4	70
14	-	Managed Lanes Egress	On Ramp	1500	Level	6278	3.73	0.00	4	70
15	Managed Lanes Egress	NB Turnpike OFR	Basic Segment	370	Level	6278	3.73	0.00	5	70
16	-	NB Turnpike OFR	Off Ramp	1500	Level	6278	3.73	0.00	3	70
17	-	NW 167 Street OFR	Off Ramp	1500	Level	3032	3.90	0.00	3	70
18	NW 167 Street OFR	NB SR 7/US-441 OFR	Basic Segment	1182	Level	2664	3.92	0.00	3	70
19	-	NB SR 7/US-441 OFR	Off Ramp	1500	Level	2664	3.92	0.00	3	70
20	NB SR 7/US-441 OFR	NB SR 7/US-441 ONR	Basic Segment	1542	Level	1867	3.23	0.00	3	70
21	-	NB SR 7/US-441 ONR	On Ramp	1500	Level	4415	4.29	0.00	3	70
22	NB SR 7/US-441 ONR	End 4-Lane Section	Basic Segment	1599	Level	4415	4.29	0.00	4	70
23	Begin 3-Lane Section	Managed Lane Ingress	Basic Segment	1008	Level	4415	4.29	0.00	3	70
24	-	Managed Lane Ingress	Off Ramp	1500	Level	4415	4.29	0.00	3	70
25	-	Miami Gardens	Off Ramp	1500	Level	3409	5.55	0.00	3	70

RampData

Seg #	Type	Adj. Demand	% Trucks	% RVs	Lanes	Accel/Decel Length	FFS
4	On Ramp	732	2.87	0.00	1	850	50
6	Off Ramp	540	3.15	0.00	1	148	50
8	Off Ramp	510	2.94	0.00	1	195	50
14	On Ramp	770	0.00	0.00	1	1500	50
16	Off Ramp	3246	3.57	0.00	2	1500	50
17	Off Ramp	368	3.80	0.00	1	155	50
19	Off Ramp	797	5.52	0.00	1	265	50
21	On Ramp	2548	5.06	0.00	2	1500	50
24	Off Ramp	1006	0.00	0.00	1	450	40
25	Off Ramp	536	6.53	0.00	1	230	50
27	On Ramp	1021	2.25	0.00	1	1500	50
29	On Ramp	0	0.00	0.00	1	1500	50
31	Off Ramp	581	2.93	0.00	1	1500	50
33	On Ramp	1981	2.37	0.00	1	1500	50

Weaving Segment Data

	Ramp	On-Ramp	Off-Ramp

		Dr OFR								
26	Miami Gardens Dr OFR	Miami Gardens Dr ONR	Basic Segment	1294	Level	2873	5.37	0.00	3	70
27	-	Miami Gardens Dr ONR	On Ramp	1500	Level	3894	4.55	0.00	3	70
28	Miami Gardens Dr ONR	Managed Lane Egress	Basic Segment	855	Level	3894	4.55	0.00	4	70
29	-	Managed Lane Egress	On Ramp	1500	Level	3894	4.55	0.00	4	70
30	Managed Lane Egress	Ives Dairy Road OFR	Basic Segment	1853	Level	3894	4.55	0.00	5	70
31	-	Ives Dairy Road OFR	Off Ramp	1500	Level	3894	4.55	0.00	4	70
32	Ives Dairy Road OFR	Ives Dairy Road ONR	Basic Segment	4345	Level	3313	4.84	0.00	4	70
33	-	Ives Dairy Road ONR	On Ramp	1500	Level	5294	3.91	0.00	4	70
34	Ives Dairy Road ONR	Broward County Line	Basic Segment	835	Level	5294	3.91	0.00	5	70

Seg #	to Ramp Prop.	Adj. Demand	% Trucks	% RVs	Lanes	FFS	Adj. Demand	% Trucks	% RVs	Lanes	FFS
2	0.050	585	2.74	0.00	1	50	387	2.07	0.00	1	50
10	0.050	853	2.34	0.00	1	50	632	3.32	0.00	1	50
12	0.050	891	0.00	0.00	1	50	245	2.45	0.00	1	50

Time Period Independent Weaving Segment Data

Seg #	Configuration	Short Length	# Weaving Lanes	Min. Lane Changes Freeway-Ramp	Min. Lane Changes Ramp-Freeway	Min. Lane Changes Ramp-Ramp
2	OneSide	775	2	0	1	0
10	OneSide	1140	2	1	1	0
12	OneSide	2350	2	1	1	0

Time Period Results

Time Period 1

Seg #	From	To	Type	Adj. Demand	Vol. Served	Capacity (pc/h)	Capacity (veh/h)	d/c Ratio	v/c ratio	Queue Length (ft)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	Mainline Delay (min/veh)	System Delay (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)	LOS
1	NW 95 Street OFR	NW 95 Street ONR	Basic Segment	4761	4761	9600	9360	0.51	0.51	0	70.0	17.4	17.0	0.25	0.25	0.0	0.0	351.7	351.7	5.0	0.0	B
2	NW 95 Street ONR	NW 103 Street OFR	Weaving	5346	5346	10683	10429	0.51	0.51	0	61.2	17.9	17.5	0.33	0.29	0.0	0.0	449.3	449.3	7.3	0.9	B
3	NW 103 Street OFR	NW 103 Street ONR	Basic Segment	4959	4959	9600	9362	0.53	0.53	0	69.5	18.3	17.8	0.29	0.29	0.0	0.0	413.3	413.3	5.9	0.0	C
4	-	NW 103 Street ONR	On Ramp	5691	5691	9600	9375	0.61	0.61	0	64.0	22.7	22.2	0.24	0.22	0.0	0.0	357.3	357.3	5.6	0.5	C
5	NW 103 Street ONR	NW 119 Street OFR	Ramp Overlap	5691	5691	9600	9375	0.61	0.61	0	64.0	22.7	22.2	0.04	0.03	0.0	0.0	54.2	54.2	0.8	0.1	C
6	-	NW 119 Street OFR	Off Ramp	5691	5691	9600	9375	0.61	0.61	0	68.0	21.4	20.9	0.22	0.22	0.0	0.0	357.3	357.3	5.3	0.1	C
7	NW 119 Street OFR	NW 125 Street OFR	Basic Segment	5151	5151	9600	9367	0.55	0.55	0	66.6	19.8	19.3	0.09	0.08	0.0	0.0	123.7	123.7	1.9	0.1	C
8	-	NW 125 Street OFR	Off Ramp	5151	5151	9600	9367	0.55	0.55	0	68.3	19.3	18.9	0.25	0.24	0.0	0.0	365.8	365.8	5.4	0.1	B
9	NW 125 Street OFR	NW 125 Street ONR	Basic Segment	4641	4641	9600	9357	0.50	0.50	0	69.9	17.0	16.6	0.28	0.28	0.0	0.0	379.1	379.1	5.4	0.0	B
10	NW 125 Street ONR	NW 135 Street OFR	Weaving	5494	5494	9520	9299	0.59	0.59	0	54.3	20.7	20.2	0.45	0.35	0.1	0.1	556.7	556.7	10.3	2.3	C
11	NW 135 Street OFR	Opa Locka Blvd ONR	Basic Segment	4862	4862	9600	9369	0.52	0.52	0	69.3	18.0	17.5	0.29	0.28	0.0	0.0	400.6	400.6	5.8	0.1	B
12	Opa Locka Blvd ONR	NW 151 Street OFR	Weaving	5753	5753	11247	11017	0.52	0.52	0	57.0	20.6	20.2	0.73	0.59	0.1	0.1	994.2	994.2	17.4	3.2	C
13	Opa Locka Blvd ONR	NW 6 Avenue OFR	Basic Segment	5508	5508	9600	9400	0.59	0.59	0	69.3	20.3	19.9	0.00	0.00	0.0	0.0	6.5	6.5	0.1	0.0	C
14	-	Managed Lanes Egress	On Ramp	6278	6278	9600	9424	0.67	0.67	0	64.4	24.8	24.4	0.26	0.24	0.0	0.0	445.9	445.9	6.9	0.6	C
15	Managed Lanes Egress	NB Turnpike OFR	Basic Segment	6278	6278	12000	11780	0.53	0.53	0	68.8	18.6	18.3	0.06	0.06	0.0	0.0	110.0	110.0	1.6	0.0	C
16	-	NB Turnpike OFR	Off Ramp	6278	6278	7200	7068	0.89	0.89	0	59.2	36.0	35.4	0.29	0.24	0.0	0.0	445.9	445.9	7.5	1.2	E
17	-	NW 167 Street	Off Ramp	3032	3032	7200	7062	0.43	0.43	0	66.1	15.6	15.3	0.26	0.24	0.0	0.0	215.3	215.3	3.3	0.2	B

		OFR																			
18	NW 167 Street OFR	NB SR 7/US-441 OFR	Basic Segment	2664	2664	7200	7062	0.38	0.38	0	69.6	13.0	12.8	0.19	0.19	0.0	0.0	149.1	149.1	2.1	0.0	B
19	-	NB SR 7/US-441 OFR	Off Ramp	2664	2664	7200	7062	0.38	0.38	0	63.5	14.3	14.0	0.27	0.24	0.0	0.0	189.2	189.2	3.0	0.3	B
20	NB SR 7/US-441 OFR	NB SR 7/US-441 ONR	Basic Segment	1867	1867	7200	7085	0.26	0.26	0	69.4	9.1	9.0	0.25	0.25	0.0	0.0	136.3	136.3	2.0	0.0	A
21	-	NB SR 7/US-441 ONR	On Ramp	4415	4415	7200	7049	0.63	0.63	0	62.2	23.8	23.3	0.27	0.24	0.0	0.0	313.6	313.6	5.0	0.6	C
22	NB SR 7/US-441 ONR	End 4-Lane Section	Basic Segment	4415	4415	9600	9399	0.47	0.47	0	69.4	16.3	15.9	0.26	0.26	0.0	0.0	334.3	334.3	4.8	0.0	B
23	Begin 3-Lane Section	Managed Lane Ingress	Basic Segment	4415	4415	7200	7049	0.63	0.63	0	68.9	21.8	21.3	0.17	0.16	0.0	0.0	210.7	210.7	3.1	0.0	C
24	-	Managed Lane Ingress	Off Ramp	4415	4415	7200	7049	0.63	0.63	0	59.4	25.3	24.8	0.29	0.24	0.0	0.0	313.6	313.6	5.3	0.8	C
25	-	Miami Gardens Dr OFR	Off Ramp	3409	3409	7200	7005	0.49	0.49	0	65.8	17.8	17.3	0.26	0.24	0.0	0.0	242.1	242.1	3.7	0.2	B
26	Miami Gardens Dr OFR	Miami Gardens Dr ONR	Basic Segment	2873	2873	7200	7012	0.41	0.41	0	69.6	14.1	13.8	0.21	0.21	0.0	0.0	176.0	176.0	2.5	0.0	B
27	-	Miami Gardens Dr ONR	On Ramp	3894	3894	7200	7040	0.55	0.55	0	64.5	20.5	20.1	0.26	0.24	0.0	0.0	276.6	276.6	4.3	0.3	C
28	Miami Gardens Dr ONR	Managed Lane Egress	Basic Segment	3894	3894	9600	9386	0.41	0.41	0	69.2	14.4	14.1	0.14	0.14	0.0	0.0	157.6	157.6	2.3	0.0	B
29	-	Managed Lane Egress	On Ramp	3894	3894	9600	9386	0.41	0.41	0	66.3	15.0	14.7	0.26	0.24	0.0	0.0	276.6	276.6	4.2	0.2	B
30	Managed Lane Egress	Ives Dairy Road OFR	Basic Segment	3894	3894	12000	11733	0.33	0.33	0	69.8	11.4	11.2	0.30	0.30	0.0	0.0	341.6	341.6	4.9	0.0	B
31	-	Ives Dairy Road OFR	Off Ramp	3894	3894	9600	9386	0.41	0.41	0	68.3	14.6	14.2	0.25	0.24	0.0	0.0	276.6	276.6	4.0	0.1	B
32	Ives Dairy Road OFR	Ives Dairy Road ONR	Basic Segment	3313	3313	9600	9373	0.35	0.35	0	70.0	12.1	11.8	0.71	0.71	0.0	0.0	681.6	681.6	9.7	0.0	B
33	-	Ives Dairy Road ONR	On Ramp	5294	5294	9600	9416	0.56	0.56	0	64.2	20.9	20.5	0.27	0.24	0.0	0.0	376.0	376.0	5.9	0.5	C
34	Ives Dairy Road ONR	Broward County Line	Basic Segment	5294	5294	12000	11770	0.45	0.45	0	69.1	15.6	15.3	0.14	0.14	0.0	0.0	209.3	209.3	3.0	0.0	B

Overall Results

Segment	Segment Type	Maximum d/c Ratio	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)
NW 95 Street OFR-NW 95 Street ONR	Basic	0.51	70.0	17.4	17.0	0.25	0.25	0,351.7	0,351.7	5.02	0.00
NW 95 Street ONR-NW 103 Street OFR	Weaving	0.51	61.2	17.9	17.5	0.33	0.29	0,449.3	0,449.3	7.34	0.92
NW 103 Street OFR-NW 103 Street ONR	Basic	0.53	69.5	18.3	17.8	0.29	0.29	0,413.3	0,413.3	5.95	0.04
--NW 103 Street ONR	OnRamp	0.61	64.0	22.7	22.2	0.24	0.22	0,357.3	0,357.3	5.58	0.48
NW 103 Street ONR-NW 119 Street OFR	RampOverlap	0.61	64.0	22.7	22.2	0.04	0.03	0,054.2	0,054.2	0.85	0.07
--NW 119 Street OFR	OffRamp	0.61	68.0	21.4	20.9	0.22	0.22	0,357.3	0,357.3	5.25	0.15
NW 119 Street OFR -NW 125 Street OFR	Basic	0.55	66.6	19.8	19.3	0.09	0.08	0,123.7	0,123.7	1.86	0.09
--NW 125 Street OFR	OffRamp	0.55	68.3	19.3	18.9	0.25	0.24	0,365.8	0,365.8	5.36	0.13
NW 125 Street OFR-NW 125 Street ONR	Basic	0.50	69.9	17.0	16.6	0.28	0.28	0,379.1	0,379.1	5.42	0.01
NW 125 Street ONR-NW 135 Street	Weaving	0.59	54.3	20.7	20.2	0.45	0.35	0,556.7	0,556.7	10.26	2.30

OFR											
NW 135 Street OFR-Opa Locka Blvd ONR	Basic	0.52	69.3	18.0	17.5	0.29	0.28	0,400.6	0,400.6	5.78	0.06
Opa Locka Blvd ONR-NW 151 Street OFR	Weaving	0.52	57.0	20.6	20.2	0.73	0.59	0,994.2	0,994.2	17.45	3.24
Opa Locka Blvd ONR-NW 6 Avenue OFR	Basic	0.59	69.3	20.3	19.9	0.00	0.00	0,006.5	0,006.5	0.09	0.00
-- Managed Lanes Egress	OnRamp	0.67	64.4	24.8	24.4	0.26	0.24	0,445.9	0,445.9	6.92	0.55
Managed Lanes Egress-NB Turnpike OFR	Basic	0.53	68.8	18.6	18.3	0.06	0.06	0,110.0	0,110.0	1.60	0.03
--NB Turnpike OFR	OffRamp	0.89	59.2	36.0	35.4	0.29	0.24	0,445.9	0,445.9	7.54	1.17
--NW 167 Street OFR	OffRamp	0.43	66.1	15.6	15.3	0.26	0.24	0,215.3	0,215.3	3.26	0.18
NW 167 Street OFR-NB SR 7/US-441 OFR	Basic	0.38	69.6	13.0	12.8	0.19	0.19	0,149.1	0,149.1	2.14	0.01
--NB SR 7/US-441 OFR	OffRamp	0.38	63.5	14.3	14.0	0.27	0.24	0,189.2	0,189.2	2.98	0.28
NB SR 7/US-441 OFR-NB SR 7/US-441 ONR	Basic	0.26	69.4	9.1	9.0	0.25	0.25	0,136.3	0,136.3	1.96	0.02
--NB SR 7/US-441 ONR	OnRamp	0.63	62.2	23.8	23.3	0.27	0.24	0,313.6	0,313.6	5.04	0.56
NB SR 7/US-441 ONR -End 4-Lane Section	Basic	0.47	69.4	16.3	15.9	0.26	0.26	0,334.3	0,334.3	4.82	0.04
Begin 3-Lane Section-Managed Lane Ingress	Basic	0.63	68.9	21.8	21.3	0.17	0.16	0,210.7	0,210.7	3.06	0.05
-- Managed Lane Ingress	OffRamp	0.63	59.4	25.3	24.8	0.29	0.24	0,313.6	0,313.6	5.28	0.80
--Miami Gardens Dr OFR	OffRamp	0.49	65.8	17.8	17.3	0.26	0.24	0,242.1	0,242.1	3.68	0.22
Miami Gardens Dr OFR-Miami Gardens Dr ONR	Basic	0.41	69.6	14.1	13.8	0.21	0.21	0,176.0	0,176.0	2.53	0.02
--Miami Gardens Dr ONR	OnRamp	0.55	64.5	20.5	20.1	0.26	0.24	0,276.6	0,276.6	4.29	0.34
Miami Gardens Dr ONR-Managed Lane Egress	Basic	0.41	69.2	14.4	14.1	0.14	0.14	0,157.6	0,157.6	2.28	0.03
-- Managed Lane Egress	OnRamp	0.41	66.3	15.0	14.7	0.26	0.24	0,276.6	0,276.6	4.17	0.22
Managed Lane Egress-Ives Dairy Road OFR	Basic	0.33	69.8	11.4	11.2	0.30	0.30	0,341.6	0,341.6	4.90	0.02
--Ives Dairy Road OFR	OffRamp	0.41	68.3	14.6	14.2	0.25	0.24	0,276.6	0,276.6	4.05	0.10
Ives Dairy Road OFR-Ives Dairy Road ONR	Basic	0.35	70.0	12.1	11.8	0.71	0.71	0,681.6	0,681.6	9.74	0.00
--Ives Dairy Road ONR	OnRamp	0.56	64.2	20.9	20.5	0.27	0.24	0,376.0	0,376.0	5.85	0.48
Ives Dairy Road ONR-Broward County Line	Basic	0.45	69.1	15.6	15.3	0.14	0.14	0,209.3	0,209.3	3.03	0.04
Freeway			64.7	18.1	17.7	8.81	8.22	10,687.3	10,687.3	0,165.3	0,012.6

	Density-Based LOS by Segment														
Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Time Step	Basic	Weaving	Basic	On Ramp	Ramp Overlap	Off Ramp	Basic	Off Ramp	Basic	Weaving	Basic	Weaving	Basic	On Ramp	Basic
1	B	B	C	C	C	C	C	B	B	C	B	C	C	C	C

	Density-Based LOS by Segment														
Segment	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Time Step	Off Ramp	Off Ramp	Basic	Off Ramp	Basic	On Ramp	Basic	Basic	Off Ramp	Off Ramp	Basic	On Ramp	Basic	On Ramp	Basic
1	E	B	B	B	A	C	B	C	C	B	B	C	B	B	B

	Density-Based LOS by Segment			
Segment	31	32	33	34
Time Step	Off Ramp	Basic	On Ramp	Basic
1	B	B	C	B

	Demand-Based LOS by Segment														
Time Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	Demand-Based LOS by Segment														
Time Step	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	Demand-Based LOS by Segment			
Time Step	31	32	33	34
1	.	.	.	.

HCS 2010 Freeway Facilities

Project Properties

Analyst	Ana/Omor/Qidi	Freeway Name	I-95 NorthBound	Analysis Period	PM Peak
Analysis Date	9/17/2015 9:33:17 AM	From	MM 0.000	Version Date	5/15/15
Agency	F R ALEMAN & ASSOCIATES	To	MM 8.112		
Location	Miami-Dade County	Analysis Direction	Northbound		
User Notes	Southern Section of I95 NB Corridor- (MM 0.000 to 8.112) From START of Project on SR 9A/I-95 Mainline to NW 95 ST				
File Name	C:\Users\Ian.Rairden\AppData\Local\Temp\preview.xml				

Facility-wide Values

Jam Density (pc/h/ln)	190	Time Period Duration (min)	15	Facility Length (mi)	8.70100

Segment Input Data

Time Period 1

Mainline Data

Seg #	From	To	Type	Length	Terrain	Adj. Demand	% Trucks	% RVs	# Lanes	FFS
1	US1/I-95 Mainline	WB Rcknbckr Cswy ONR	Basic Segment	3834	Level	1975	3.14	0.00	2	70
2	-	WB Rcknbckr Cswy ONR	On Ramp	1500	Level	3914	4.60	0.00	2	70
3	WB Rcknbckr Cswy ONR	SW 8 Street OFR	Basic Segment	129	Level	3914	4.60	0.00	3	70
4	-	SW 8 Street OFR	Off Ramp	1500	Level	3914	4.60	0.00	3	70
5	SW 8 Street OFR	SW 8 Street ONR ESC	Basic Segment	938	Level	3381	5.08	0.00	3	70
6	SW 8 Street ONR ESC	SW 8 Street ONR WSC	On Ramp	1500	Level	3803	4.97	0.00	3	70
7	SW 8 Street ONR WSC	SR 970/Dwtwn Ds OFR	Weaving	3206	Level	4645	4.48	0.00	4	70
8	NW 2 Street OFR	SR 970/Dwtwn Ds ONR	Basic Segment	77	Level	3751	4.37	0.00	3	70
9	SR 970 ONR	I-395 OFR	Weaving	2768	Level	5759	3.73	0.00	5	70
10	I-395 OFR	SR 836 OFR	Basic Segment	127	Level	4869	4.13	0.00	4	70
11	-	SR 836 OFR	Off Ramp	1500	Level	4869	4.13	0.00	3	70
12	SR 836 OFR	NW 8 Street ONR	Basic Segment	25	Level	3816	4.85	0.00	3	70
13	-	NW 8 Street ONR	On Ramp	1500	Level	4763	4.37	0.00	3	70
14	-	I-395 Flyover OFR	Off Ramp	1500	Level	4763	4.37	0.00	3	70
15	I-395 Flyover OFR	I-395/SR 836 ONR	Basic Segment	718	Level	4763	4.37	0.00	3	70
16	-	I-395/SR 836 ONR	On Ramp	1500	Level	7110	4.05	0.00	3	70
17	I-395 Flyover ONR	I-95 Mngd Ln Ingress	Weaving	2935	Level	7110	4.05	0.00	6	70
18	-	I-195/SR 112 OFR	Off Ramp	1500	Level	5194	5.55	0.00	4	70
19	I-195/SR 112 OFR	I-195/SR 112 ONR	Basic Segment	3821	Level	3578	6.54	0.00	3	70
20	-	I-195/SR 112 ONR	On Ramp	1500	Level	4743	5.63	0.00	3	70
21	I-195/SR 112 ONR	NW 62 Street OFR	Basic Segment	1192	Level	4743	5.63	0.00	5	70
22	-	NW 62 Street OFR	Off Ramp	1500	Level	4743	5.63	0.00	4	70
23	NW 62 Street OFR	NW 62 Street ONR	Basic Segment	2135	Level	4009	6.09	0.00	4	70
24	-	NW 62 Street ONR	On Ramp	1500	Level	4507	5.55	0.00	4	70
25	-	WB NW 69 Street ONR	On Ramp	815	Level	4600	5.48	0.00	4	70
26	WB NW 69 Street ONR	NW 79 Street OFR	Ramp Overlap	685	Level	4600	5.48	0.00	4	70
27	-	NW 79 Street OFR	Off Ramp	815	Level	4600	5.48	0.00	4	70
28	NW 79 Street OFR	NW 81 Street ONR	Basic Segment	2364	Level	4013	5.93	0.00	4	70
		NW 81								

RampData

Seg #	Type	Adj. Demand	% Trucks	% RVs	Lanes	Accel/Decel Length	FFS
2	On Ramp	1939	6.08	0.00	1	1500	50
4	Off Ramp	533	1.50	0.00	1	190	50
6	On Ramp	422	4.03	0.00	1	717	50
11	Off Ramp	1053	1.52	0.00	1	1500	50
13	On Ramp	947	2.43	0.00	1	250	50
14	Off Ramp	0	0.00	0.00	1	205	50
16	On Ramp	2347	3.41	0.00	2	1500	50
18	Off Ramp	1616	3.34	0.00	2	285	50
20	On Ramp	1165	2.83	0.00	2	1500	50
22	Off Ramp	734	3.13	0.00	1	1500	50
24	On Ramp	498	1.20	0.00	1	685	50
25	On Ramp	93	2.15	0.00	1	800	50
27	Off Ramp	587	2.39	0.00	1	148	50
29	On Ramp	727	4.26	0.00	1	1065	50
31	Off Ramp	424	2.12	0.00	1	450	50

Weaving Segment Data

Seg #	Ramp to Ramp Prop.	On-Ramp					Off-Ramp				
		Adj. Demand	% Trucks	% RVs	Lanes	FFS	Adj. Demand	% Trucks	% RVs	Lanes	FFS
7	0.050	842	2.26	0.00	1	50	894	4.92	0.00	2	50
9	0.050	2008	2.54	0.00	2	50	890	1.57	0.00	1	50
17	0.050	0	0.00	0.00	1	50	1916	0.00	0.00	2	50

29	-	Street ONR	On Ramp	1315	Level	4740	5.67	0.00	4	70
30	NW 81 Street ONR	NW 95 Street OFR	Ramp Overlap	201	Level	4740	5.67	0.00	4	70
31	-	NW 95 Street OFR	Off Ramp	1315	Level	4740	5.67	0.00	4	70
32	OFR TO EB NW 95 ST	I-95 Mainline	Basic Segment	25	Level	4316	6.02	0.00	4	70

Time Period Independent Weaving Segment Data

Seg #	Configuration	Short Length	# Weaving Lanes	Min. Lane Changes Freeway-Ramp	Min. Lane Changes Ramp-Freeway	Min. Lane Changes Ramp-Ramp
7	TwoSide	2206	0	0	0	4
9	TwoSide	2540	0	0	0	4
17	TwoSide	2200	0	0	0	3

Time Period Results

Time Period 1

Seg #	From	To	Type	Adj. Demand	Vol. Served	Capacity (pc/h)	Capacity (veh/h)	d/c Ratio	v/c ratio	Queue Length (ft)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	Mainline Delay (min/veh)	System Delay (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)	LOS
1	US1/I-95 Mainline	WB Rcknbckr Cswy ONR	Basic Segment	1975	1980	4800	4726	0.42	0.42	0	70.0	14.4	14.1	0.62	0.62	0.0	0.0	358.5	359.4	5.1	0.0	B
2	-	WB Rcknbckr Cswy ONR	On Ramp	3914	3900	4800	4692	0.83	0.83	0	59.6	33.1	32.4	0.29	0.24	0.0	0.0	278.0	277.0	4.6	0.7	D
3	WB Rcknbckr Cswy ONR	SW 8 Street OFR	Basic Segment	3914	3900	7200	7038	0.56	0.55	0	67.2	19.8	19.3	0.02	0.02	0.0	0.0	23.9	23.8	0.4	0.0	C
4	-	SW 8 Street OFR	Off Ramp	3914	3900	7200	7038	0.56	0.55	0	63.0	21.1	20.6	0.27	0.24	0.0	0.0	278.0	277.0	4.4	0.4	C
5	SW 8 Street OFR	SW 8 Street ONR ESC	Basic Segment	3381	3360	7200	7021	0.48	0.48	0	69.0	16.6	16.2	0.15	0.15	0.0	0.0	150.2	149.2	2.2	0.0	B
6	SW 8 Street ONR ESC	SW 8 Street ONR WSC	On Ramp	3803	3780	7200	7026	0.54	0.54	0	63.4	20.3	19.8	0.27	0.24	0.0	0.0	270.1	268.5	4.2	0.4	C
7	SW 8 Street ONR WSC	SR 970/Dwtwn Ds OFR	Weaving	4645	4620	7429	7266	0.64	0.64	0	63.8	16.8	16.4	0.57	0.52	0.1	0.1	705.1	701.3	11.0	1.0	B
8	NW 2 Street OFR	SR 970/Dwtwn Ds ONR	Basic Segment	3751	3780	7200	7046	0.53	0.54	0	69.6	18.5	18.1	0.01	0.01	0.0	0.0	13.7	13.8	0.2	0.0	C
9	SR 970 ONR	I-395 OFR	Weaving	5759	5760	7533	7395	0.78	0.78	0	63.2	17.3	17.0	0.50	0.45	0.0	0.0	754.8	754.9	11.9	1.2	B
10	I-395 OFR	SR 836 OFR	Basic Segment	4869	4860	9600	9406	0.52	0.52	0	69.4	17.9	17.5	0.02	0.02	0.0	0.0	29.3	29.2	0.4	0.0	B
11	-	SR 836 OFR	Off Ramp	4869	4860	7200	7054	0.69	0.69	0	30.7	53.9	52.8	0.56	0.24	0.3	0.3	345.8	345.2	11.3	6.3	E
12	SR 836 OFR	NW 8 Street ONR	Basic Segment	3816	3840	7200	7030	0.54	0.55	0	58.6	22.4	21.9	0.00	0.00	0.0	0.0	4.5	4.5	0.1	0.0	C
13	-	NW 8 Street ONR	On Ramp	4763	4740	7200	7046	0.68	0.67	0	61.2	26.3	25.7	0.28	0.24	0.0	0.0	338.3	336.6	5.5	0.7	C
14	-	I-395 Flyover OFR	Off Ramp	4763	4740	7200	7046	0.68	0.67	0	60.8	26.6	26.0	0.28	0.24	0.0	0.0	338.3	336.6	5.5	0.7	C
15	I-395 Flyover OFR	I-395/SR 836 ONR	Basic Segment	4763	4740	7200	7046	0.68	0.67	0	68.0	23.7	23.2	0.12	0.12	0.0	0.0	161.9	161.1	2.4	0.1	C
16	-	I-395/SR 836 ONR	On Ramp	7110	6840	7200	7057	1.01	0.97	0	52.8	43.7	42.9	0.32	0.24	0.1	1.0	505.0	485.8	9.2	2.3	F
17	I-395 Flyover ONR	I-95 Mngd Ln Ingress	Weaving	7110	6840	11585	11355	0.63	0.60	0	64.1	11.8	11.6	0.52	0.48	0.0	0.0	988.1	950.5	14.8	1.2	B
18	-	I-195/SR 112 OFR	Off Ramp	5194	5040	9600	9341	0.56	0.54	0	64.2	20.2	19.6	0.27	0.24	0.0	0.0	368.9	358.0	5.6	0.5	C
19	I-195/SR 112 OFR	I-195/SR 112 ONR	Basic Segment	3578	3480	7200	6972	0.51	0.50	0	69.9	17.1	16.6	0.62	0.62	0.0	0.0	647.3	629.6	9.0	0.0	B
20	-	I-195/SR 112 ONR	On Ramp	4743	4620	7200	7003	0.68	0.66	0	63.7	24.7	24.0	0.27	0.24	0.0	0.0	336.9	328.1	5.2	0.5	C
21	I-195/SR 112 ONR	NW 62 Street OFR	Basic Segment	4743	4620	12000	11671	0.41	0.40	0	69.3	13.7	13.3	0.20	0.19	0.0	0.0	267.7	260.8	3.8	0.0	B
22	-	NW 62 Street OFR	Off Ramp	4743	4620	9600	9337	0.51	0.49	0	65.4	18.1	17.7	0.26	0.24	0.0	0.0	336.9	328.1	5.0	0.3	B
23	NW 62 Street OFR	NW 62 Street ONR	Basic Segment	4009	3900	9600	9316	0.43	0.42	0	69.8	14.4	14.0	0.35	0.35	0.0	0.0	405.3	394.2	5.7	0.0	B
24	-	NW 62 Street ONR	On Ramp	4507	4380	9600	9341	0.48	0.47	0	64.8	17.3	16.8	0.26	0.24	0.0	0.0	320.1	311.1	4.8	0.4	B
25	-	WB NW 69 Street ONR	On Ramp	4600	4500	9600	9344	0.49	0.48	0	65.0	17.8	17.3	0.14	0.13	0.0	0.0	177.5	173.7	2.7	0.2	B
26	WB NW 69 Street ONR	NW 79 Street OFR	Ramp Overlap	4600	4500	9600	9344	0.49	0.48	0	65.0	17.8	17.3	0.12	0.11	0.0	0.0	149.2	146.0	2.2	0.2	B
27	-	NW 79 Street OFR	Off Ramp	4600	4500	9600	9344	0.49	0.48	0	66.0	17.5	17.1	0.14	0.13	0.0	0.0	177.5	173.7	2.6	0.2	B
28	NW 79 Street OFR	NW 81 Street ONR	Basic Segment	4013	3900	9600	9324	0.43	0.42	0	69.7	14.4	14.0	0.39	0.38	0.0	0.0	449.2	436.5	6.3	0.0	B

29	-	NW 81 Street ONR	On Ramp	4740	4620	9600	9335	0.51	0.49	0	65.1	18.2	17.7	0.23	0.21	0.0	0.0	295.1	287.7	4.4	0.3	B
30	NW 81 Street ONR	NW 95 Street OFR	Ramp Overlap	4740	4620	9600	9335	0.51	0.49	0	65.1	18.2	17.7	0.04	0.03	0.0	0.0	45.1	44.0	0.7	0.0	C
31	-	NW 95 Street OFR	Off Ramp	4740	4620	9600	9335	0.51	0.49	0	66.5	17.9	17.4	0.22	0.21	0.0	0.0	295.1	287.7	4.3	0.2	B
32	OFR TO EB NW 95 ST	I-95 Mainline	Basic Segment	4316	4260	9600	9319	0.46	0.46	0	68.8	15.9	15.5	0.00	0.00	0.0	0.0	5.1	5.0	0.1	0.0	B

Overall Results

Segment	Segment Type	Maximum d/c Ratio	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)
US1/I-95 Mainline-WB Rcknbckr Cswy ONR	Basic	0.42	70.0	14.4	14.1	0.62	0.62	0,358.5	0,359.4	5.14	0.00
--WB Rcknbckr Cswy ONR	OnRamp	0.83	59.6	33.1	32.4	0.29	0.24	0,278.0	0,277.0	4.65	0.69
WB Rcknbckr Cswy ONR-SW 8 Street OFR	Basic	0.56	67.2	19.8	19.3	0.02	0.02	0,023.9	0,023.8	0.35	0.01
--SW 8 Street OFR	OffRamp	0.56	63.0	21.1	20.6	0.27	0.24	0,278.0	0,277.0	4.40	0.44
SW 8 Street OFR -SW 8 Street ONR ESC	Basic	0.48	69.0	16.6	16.2	0.15	0.15	0,150.2	0,149.2	2.16	0.03
SW 8 Street ONR ESC -SW 8 Street ONR WSC	OnRamp	0.54	63.4	20.3	19.8	0.27	0.24	0,270.1	0,268.5	4.23	0.40
SW 8 Street ONR WSC-SR 970/Dwtwn Ds OFR	Weaving	0.64	63.8	16.8	16.4	0.57	0.52	0,705.1	0,701.3	10.99	0.97
NW 2 Street OFR-SR 970/Dwtwn Ds ONR	Basic	0.53	69.6	18.5	18.1	0.01	0.01	0,013.7	0,013.8	0.20	0.00
SR 970 ONR-I-395 OFR	Weaving	0.78	63.2	17.3	17.0	0.50	0.45	0,754.8	0,754.9	11.94	1.15
I-395 OFR-SR 836 OFR	Basic	0.52	69.4	17.9	17.5	0.02	0.02	0,029.3	0,029.2	0.42	0.00
--SR 836 OFR	OffRamp	0.69	30.7	53.9	52.8	0.56	0.24	0,345.8	0,345.2	11.25	6.32
SR 836 OFR-NW 8 Street ONR	Basic	0.54	58.6	22.4	21.9	0.00	0.00	0,004.5	0,004.5	0.08	0.01
--NW 8 Street ONR	OnRamp	0.68	61.2	26.3	25.7	0.28	0.24	0,338.3	0,336.6	5.50	0.70
--I-395 Flyover OFR	OffRamp	0.68	60.8	26.6	26.0	0.28	0.24	0,338.3	0,336.6	5.54	0.73
I-395 Flyover OFR-I-395/SR 836 ONR	Basic	0.68	68.0	23.7	23.2	0.12	0.12	0,161.9	0,161.1	2.37	0.07
--I-395/SR 836 ONR	OnRamp	1.01	52.8	43.7	42.9	0.32	0.24	0,505.0	0,485.8	9.20	2.26
I-395 Flyover ONR-I-95 Mngd Ln Ingress	Weaving	0.63	64.1	11.8	11.6	0.52	0.48	0,988.1	0,950.5	14.82	1.24
--I-195/SR 112 OFR	OffRamp	0.56	64.2	20.2	19.6	0.27	0.24	0,368.9	0,358.0	5.57	0.46
I-195/SR 112 OFR-I-195/SR 112 ONR	Basic	0.51	69.9	17.1	16.6	0.62	0.62	0,647.3	0,629.6	9.00	0.01
--I-195/SR 112 ONR	OnRamp	0.68	63.7	24.7	24.0	0.27	0.24	0,336.9	0,328.1	5.15	0.46
I-195/SR 112 ONR-NW 62 Street OFR	Basic	0.41	69.3	13.7	13.3	0.20	0.19	0,267.7	0,260.8	3.76	0.04
--NW 62 Street OFR	OffRamp	0.51	65.4	18.1	17.7	0.26	0.24	0,336.9	0,328.1	5.01	0.33
NW 62 Street OFR-NW 62 Street ONR	Basic	0.43	69.8	14.4	14.0	0.35	0.35	0,405.3	0,394.2	5.65	0.02
--NW 62 Street ONR	OnRamp	0.48	64.8	17.3	16.8	0.26	0.24	0,320.1	0,311.1	4.80	0.35
--WB NW 69 Street ONR	OnRamp	0.49	65.0	17.8	17.3	0.14	0.13	0,177.5	0,173.7	2.67	0.19
WB NW 69 Street ONR-NW 79 Street OFR	RampOverlap	0.49	65.0	17.8	17.3	0.12	0.11	0,149.2	0,146.0	2.24	0.16
--NW 79 Street OFR	OffRamp	0.49	66.0	17.5	17.1	0.14	0.13	0,177.5	0,173.7	2.63	0.15

NW 79 Street OFR-NW 81 Street ONR	Basic	0.43	69.7	14.4	14.0	0.39	0.38	0,449.2	0,436.5	6.26	0.03
--NW 81 Street ONR	OnRamp	0.51	65.1	18.2	17.7	0.23	0.21	0,295.1	0,287.7	4.42	0.31
NW 81 Street ONR-NW 95 Street OFR	RampOverlap	0.51	65.1	18.2	17.7	0.04	0.03	0,045.1	0,044.0	0.68	0.05
--NW 95 Street OFR	OffRamp	0.51	66.5	17.9	17.4	0.22	0.21	0,295.1	0,287.7	4.33	0.22
OFR TO EB NW 95 ST-I-95 Mainline	Basic	0.46	68.8	15.9	15.5	0.00	0.00	0,005.1	0,005.0	0.07	0.00
Freeway			62.0	19.2	18.8	8.31	7.46	9,820.2	9,638.6	0,155.5	0,017.8

	Density-Based LOS by Segment														
Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Time Step	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Weaving	Basic	Weaving	Basic	Off Ramp	Basic	On Ramp	Off Ramp	Basic
1	B	D	C	C	B	C	B	C	B	B	E	C	C	C	C
	Density-Based LOS by Segment														
Segment	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Time Step	On Ramp	Weaving	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	On Ramp	Ramp Overlap	Off Ramp	Basic	On Ramp	Ramp Overlap
1	E	B	C	B	C	B	B	B	B	B	B	B	B	B	C
	Density-Based LOS by Segment														
Segment	31	32													
Time Step	Off Ramp	Basic													
1	B	B													
	Demand-Based LOS by Segment														
Time Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	F	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	31	32													
1	.	.													

HCS 2010 Freeway Facilities

Project Properties

Analyst	Ana/Omor/Qidi	Freeway Name	I-95 NorthBound	Analysis Period	PM Peak
Analysis Date	9/16/2015 9:33:17 AM	From	MM 8.112	Version Date	5/15/15
Agency	F R ALEMAN & ASSOCIATES	To	MM 17.260		
Location	Miami-Dade County	Analysis Direction	Northbound		
User Notes	Northern Section of I95 NB Corridor- (MM 8.112 to 17.260) From NW 95 ST to END of Project I95 Broward County Line				
File Name	C:\Users\Ian.Rairden\AppData\Local\Temp\preview.xml				

Facility-wide Values

Jam Density (pc/h/ln)	190	Time Period Duration (min)	15	Facility Length (mi)	9.58700

Segment Input Data

Time Period 1

Mainline Data

Seg #	From	To	Type	Length	Terrain	Adj. Demand	% Trucks	% RVs	# Lanes	FFS
1	NW 95 Street OFR	NW 95 Street ONR	Basic Segment	1560	Level	4316	6.02	0.00	4	70
2	NW 95 Street ONR	NW 103 Street OFR	Weaving	1775	Level	4722	5.67	0.00	5	70
3	NW 103 Street OFR	NW 103 Street ONR	Basic Segment	1760	Level	4321	5.99	0.00	4	70
4	-	NW 103 Street ONR	On Ramp	1326	Level	4968	5.39	0.00	4	70
5	NW 103 Street ONR	NW 119 Street OFR	Ramp Overlap	201	Level	4968	5.39	0.00	4	70
6	-	NW 119 Street OFR	Off Ramp	1326	Level	4968	5.39	0.00	4	70
7	NW 119 Street OFR	NW 125 Street OFR	Basic Segment	507	Level	4570	5.53	0.00	4	70
8	-	NW 125 Street OFR	Off Ramp	1500	Level	4570	5.53	0.00	4	70
9	NW 125 Street OFR	NW 125 Street ONR	Basic Segment	1725	Level	4219	5.80	0.00	4	70
10	NW 125 Street ONR	NW 135 Street OFR	Weaving	2140	Level	4937	5.34	0.00	5	70
11	NW 135 Street OFR	Opa Locka Blvd ONR	Basic Segment	1740	Level	4596	5.52	0.00	4	70
12	Opa Locka Blvd ONR	NW 151 Street OFR	Weaving	3650	Level	5416	4.69	0.00	5	70
13	NW 6 Avenue OFR	I-95 Mainline	Basic Segment	25	Level	5223	4.78	0.00	4	70
14	-	Managed Lane Egress	On Ramp	1500	Level	6472	3.86	0.00	4	70
15	Managed Lane Egress	NB Turnpike OFR	Basic Segment	370	Level	6472	3.86	0.00	5	70
16	-	NB Turnpike OFR	Off Ramp	1500	Level	6472	3.86	0.00	3	70
17	-	NW 167 Street OFR	Off Ramp	1500	Level	3480	4.74	0.00	3	70
18	NW 167 Street OFR	NB SR 7/US-441 OFR	Basic Segment	1182	Level	3057	5.07	0.00	3	70
19	-	NB SR 7/US-441 OFR	Off Ramp	1500	Level	3057	5.07	0.00	3	70
20	NB US-441 OFR	NB SR 7/US-441 ONR	Basic Segment	1542	Level	2105	5.88	0.00	3	70
21	-	NB SR 7/US-441 ONR	On Ramp	1500	Level	4501	6.15	0.00	3	70
22	NB SR 7/US-441 ONR	End 4-Lane Section	Basic Segment	1599	Level	4501	6.15	0.00	4	70
23	Begin 3-Lane Section	Managed Lane Ingress	Basic Segment	1008	Level	4501	6.15	0.00	3	70
24	-	Managed Lane Ingress	On Ramp	1500	Level	5853	4.73	0.00	3	70
25	-	Miami Gardens Dr OFR	Off Ramp	1500	Level	5853	4.73	0.00	3	70

RampData

Seg #	Type	Adj. Demand	% Trucks	% RVs	Lanes	Accel/Decel Length	FFS
4	On Ramp	647	1.39	0.00	1	850	50
6	Off Ramp	398	3.77	0.00	1	148	50
8	Off Ramp	351	2.28	0.00	1	195	50
14	On Ramp	1249	0.00	0.00	1	1500	50
16	Off Ramp	2992	2.84	0.00	2	1500	50
17	Off Ramp	423	2.36	0.00	1	155	50
19	Off Ramp	952	3.26	0.00	1	265	50
21	On Ramp	2396	6.39	0.00	2	1500	50
24	On Ramp	1352	0.00	0.00	1	1000	50
25	Off Ramp	608	1.64	0.00	1	230	50
27	On Ramp	1184	1.94	0.00	1	1500	50
29	On Ramp	0	0.00	0.00	1	1500	50
31	Off Ramp	867	1.04	0.00	1	1500	50
33	On Ramp	1872	1.82	0.00	1	1500	50

Weaving Segment Data

	Ramp	On-Ramp					Off-Ramp				

26	Miami Gardens Dr OFR	Miami Gardens Dr ONR	Basic Segment	1294	Level	5245	5.09	0.00	3	70
27	-	Miami Gardens ONR	On Ramp	1500	Level	6429	4.51	0.00	3	70
28	Miami Gardens Dr ONR	Mnaaged Lane Egress	Basic Segment	855	Level	6429	4.51	0.00	4	70
29	-	Managed Lane Egress	On Ramp	1500	Level	6429	4.51	0.00	4	70
30	Managed Lane Egress	Ives Dairy Road OFR	Basic Segment	1853	Level	6429	4.51	0.00	5	70
31	-	Ives Dairy Road OFR	Off Ramp	1500	Level	6429	4.51	0.00	4	70
32	Ives Dairy Road OFR	Ives Dairy Road ONR	Basic Segment	4345	Level	5562	5.05	0.00	4	70
33	-	Ives Dairy Road ONR	On Ramp	1500	Level	7434	4.24	0.00	4	70
34	Ives Dairy Road ONR	Broward County Line	Basic Segment	835	Level	7434	4.24	0.00	5	70

Seg #	to Ramp Prop.	Adj. Demand	% Trucks	% RVs	Lanes	FFS	Adj. Demand	% Trucks	% RVs	Lanes	FFS
2	0.050	406	1.97	0.00	1	50	401	2.24	0.00	1	50
10	0.050	718	2.65	0.00	1	50	341	2.93	0.00	1	50
12	0.050	820	0.00	0.00	1	50	193	2.07	0.00	1	50

Time Period Independent Weaving Segment Data

Seg #	Configuration	Short Length	# Weaving Lanes	Min. Lane Changes Freeway-Ramp	Min. Lane Changes Ramp-Freeway	Min. Lane Changes Ramp-Ramp
2	OneSide	775	2	0	1	0
10	OneSide	1140	2	1	1	0
12	OneSide	2350	2	1	1	0

Time Period Results

Time Period 1

Seg #	From	To	Type	Adj. Demand	Vol. Served	Capacity (pc/h)	Capacity (veh/h)	d/c Ratio	v/c ratio	Queue Length (ft)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	Mainline Delay (min/veh)	System Delay (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)	LOS
1	NW 95 Street OFR	NW 95 Street ONR	Basic Segment	4316	4316	9600	9319	0.46	0.46	0	70.0	15.9	15.4	0.25	0.25	0.0	0.0	318.8	318.8	4.6	0.0	B
2	NW 95 Street ONR	NW 103 Street OFR	Weaving	4722	4722	10720	10424	0.45	0.45	0	61.7	15.7	15.3	0.33	0.29	0.0	0.0	396.9	396.9	6.4	0.8	B
3	NW 103 Street OFR	NW 103 Street ONR	Basic Segment	4321	4321	9600	9321	0.46	0.46	0	69.5	16.0	15.5	0.29	0.29	0.0	0.0	360.1	360.1	5.2	0.0	B
4	-	NW 103 Street ONR	On Ramp	4968	4968	9600	9348	0.53	0.53	0	64.6	19.7	19.2	0.23	0.22	0.0	0.0	311.9	311.9	4.8	0.4	B
5	NW 103 Street ONR	NW 119 Street OFR	Ramp Overlap	4968	4968	9600	9348	0.53	0.53	0	64.6	19.7	19.2	0.04	0.03	0.0	0.0	47.3	47.3	0.7	0.1	C
6	-	NW 119 Street OFR	Off Ramp	4968	4968	9600	9348	0.53	0.53	0	68.6	18.6	18.1	0.22	0.22	0.0	0.0	311.9	311.9	4.5	0.1	B
7	NW 119 Street OFR	NW 125 Street OFR	Basic Segment	4570	4570	9600	9342	0.49	0.49	0	67.0	17.5	17.1	0.09	0.08	0.0	0.0	109.7	109.7	1.6	0.1	B
8	-	NW 125 Street OFR	Off Ramp	4570	4570	9600	9342	0.49	0.49	0	68.9	17.0	16.6	0.25	0.24	0.0	0.0	324.6	324.6	4.7	0.1	B
9	NW 125 Street OFR	NW 125 Street ONR	Basic Segment	4219	4219	9600	9329	0.45	0.45	0	69.9	15.5	15.1	0.28	0.28	0.0	0.0	344.6	344.6	4.9	0.0	B
10	NW 125 Street ONR	NW 135 Street OFR	Weaving	4937	4937	10713	10434	0.47	0.47	0	57.5	17.6	17.2	0.42	0.35	0.1	0.1	500.2	500.2	8.7	1.6	B
11	NW 135 Street OFR	Opa Locka Blvd ONR	Basic Segment	4596	4596	9600	9342	0.49	0.49	0	69.5	17.0	16.5	0.28	0.28	0.0	0.0	378.6	378.6	5.5	0.0	B
12	Opa Locka Blvd ONR	NW 151 Street OFR	Weaving	5416	5416	11288	11030	0.49	0.49	0	58.0	19.1	18.7	0.72	0.59	0.1	0.1	936.0	936.0	16.1	2.8	B
13	NW 6 Avenue OFR	I-95 Mainline	Basic Segment	5223	5223	9600	9376	0.56	0.56	0	69.4	19.3	18.8	0.00	0.00	0.0	0.0	6.2	6.2	0.1	0.0	C
14	-	Managed Lane Egress	On Ramp	6472	6472	9600	9418	0.69	0.69	0	63.9	25.8	25.3	0.27	0.24	0.0	0.0	459.7	459.7	7.2	0.6	C
15	Managed Lane Egress	NB Turnpike OFR	Basic Segment	6472	6472	12000	11773	0.55	0.55	0	68.7	19.2	18.9	0.06	0.06	0.0	0.0	113.4	113.4	1.7	0.0	C
16	-	NB Turnpike OFR	Off Ramp	6472	6472	7200	7064	0.92	0.92	0	60.0	36.6	35.9	0.28	0.24	0.0	0.0	459.7	459.7	7.7	1.1	E
17	-	NW 167 Street OFR	Off Ramp	3480	3480	7200	7033	0.49	0.49	0	66.1	18.0	17.5	0.26	0.24	0.0	0.0	247.2	247.2	3.7	0.2	B
	NW 167	NB SR	Basic																			

18	Street OFR	7/US-441 OFR	Segment	3057	3057	7200	7022	0.44	0.44	0	69.6	15.0	14.6	0.19	0.19	0.0	0.0	171.1	171.1	2.5	0.0	B
19	-	NB SR 7/US-441 OFR	Off Ramp	3057	3057	7200	7022	0.44	0.44	0	63.3	16.5	16.1	0.27	0.24	0.0	0.0	217.1	217.1	3.4	0.3	B
20	NB US-441 OFR	NB SR 7/US-441 ONR	Basic Segment	2105	2105	7200	6994	0.30	0.30	0	69.4	10.4	10.1	0.25	0.25	0.0	0.0	153.7	153.7	2.2	0.0	A
21	-	NB SR 7/US-441 ONR	On Ramp	4501	4501	7200	6985	0.64	0.64	0	62.3	24.4	23.7	0.27	0.24	0.0	0.0	319.7	319.7	5.1	0.6	C
22	NB SR 7/US-441 ONR	End 4-Lane Section	Basic Segment	4501	4501	9600	9313	0.48	0.48	0	69.4	16.7	16.2	0.26	0.26	0.0	0.0	340.8	340.8	4.9	0.0	B
23	Begin 3-Lane Section	Managed Lane Ingress	Basic Segment	4501	4501	7200	6985	0.64	0.64	0	68.6	22.5	21.9	0.17	0.16	0.0	0.0	214.8	214.8	3.1	0.1	C
24	-	Managed Lane Ingress	On Ramp	5853	5853	7200	7034	0.83	0.83	0	57.5	34.7	33.9	0.30	0.24	0.1	0.1	415.7	415.7	7.2	1.3	D
25	-	Miami Gardens Dr OFR	Off Ramp	5853	5853	7200	7034	0.83	0.83	0	61.6	32.4	31.7	0.28	0.24	0.0	0.0	415.7	415.7	6.7	0.8	D
26	Miami Gardens Dr OFR	Miami Gardens Dr ONR	Basic Segment	5245	5245	7200	7021	0.75	0.75	0	65.9	27.2	26.5	0.22	0.21	0.0	0.0	321.4	321.4	4.9	0.3	D
27	-	Miami Gardens ONR	On Ramp	6429	6429	7200	7041	0.91	0.91	0	57.8	37.9	37.0	0.30	0.24	0.1	0.1	456.6	456.6	7.9	1.4	E
28	Miami Gardens Dr ONR	Mnaaged Lane Egress	Basic Segment	6429	6429	9600	9388	0.68	0.68	0	67.7	24.3	23.7	0.14	0.14	0.0	0.0	260.3	260.3	3.8	0.1	C
29	-	Managed Lane Egress	On Ramp	6429	6429	9600	9388	0.68	0.68	0	64.3	25.6	25.0	0.27	0.24	0.0	0.0	456.6	456.6	7.1	0.6	C
30	Managed Lane Egress	Ives Dairy Road OFR	Basic Segment	6429	6429	12000	11735	0.55	0.55	0	69.6	18.9	18.5	0.30	0.30	0.0	0.0	564.1	564.1	8.1	0.0	C
31	-	Ives Dairy Road OFR	Off Ramp	6429	6429	9600	9388	0.68	0.68	0	67.1	24.5	24.0	0.25	0.24	0.0	0.0	456.6	456.6	6.8	0.3	C
32	Ives Dairy Road OFR	Ives Dairy Road ONR	Basic Segment	5562	5562	9600	9364	0.59	0.59	0	69.4	20.5	20.0	0.71	0.71	0.0	0.0	1144.3	1144.3	16.5	0.1	C
33	-	Ives Dairy Road ONR	On Ramp	7434	7434	9600	9401	0.79	0.79	0	62.0	30.6	29.9	0.28	0.24	0.0	0.0	528.0	528.0	8.5	1.0	D
34	Ives Dairy Road ONR	Broward County Line	Basic Segment	7434	7434	12000	11751	0.63	0.63	0	68.8	22.1	21.6	0.14	0.14	0.0	0.0	293.9	293.9	4.3	0.1	C

Overall Results

Segment	Segment Type	Maximum d/c Ratio	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)
NW 95 Street OFR-NW 95 Street ONR	Basic	0.46	70.0	15.9	15.4	0.25	0.25	0,318.8	0,318.8	4.55	0.00
NW 95 Street ONR-NW 103 Street OFR	Weaving	0.45	61.7	15.7	15.3	0.33	0.29	0,396.9	0,396.9	6.43	0.76
NW 103 Street OFR-NW 103 Street ONR	Basic	0.46	69.5	16.0	15.5	0.29	0.29	0,360.1	0,360.1	5.18	0.03
--NW 103 Street ONR	OnRamp	0.53	64.6	19.7	19.2	0.23	0.22	0,311.9	0,311.9	4.83	0.37
NW 103 Street ONR-NW 119 Street OFR	RampOverlap	0.53	64.6	19.7	19.2	0.04	0.03	0,047.3	0,047.3	0.73	0.06
--NW 119 Street OFR	OffRamp	0.53	68.6	18.6	18.1	0.22	0.22	0,311.9	0,311.9	4.55	0.09
NW 119 Street OFR-NW 125 Street OFR	Basic	0.49	67.0	17.5	17.1	0.09	0.08	0,109.7	0,109.7	1.64	0.07
--NW 125 Street OFR	OffRamp	0.49	68.9	17.0	16.6	0.25	0.24	0,324.6	0,324.6	4.71	0.07
NW 125 Street OFR-NW 125 Street ONR	Basic	0.45	69.9	15.5	15.1	0.28	0.28	0,344.6	0,344.6	4.93	0.01
NW 125 Street ONR-NW 135 Street OFR	Weaving	0.47	57.5	17.6	17.2	0.42	0.35	0,500.2	0,500.2	8.70	1.56
NW 135											

Street OFR-Opa Locka Blvd ONR	Basic	0.49	69.5	17.0	16.5	0.28	0.28	0,378.6	0,378.6	5.45	0.04
Opa Locka Blvd ONR-NW 151 Street OFR	Weaving	0.49	58.0	19.1	18.7	0.72	0.59	0,936.0	0,936.0	16.14	2.76
NW 6 Avenue OFR-I-95 Mainline	Basic	0.56	69.4	19.3	18.8	0.00	0.00	0,006.2	0,006.2	0.09	0.00
-- Managed Lane Egress	OnRamp	0.69	63.9	25.8	25.3	0.27	0.24	0,459.7	0,459.7	7.20	0.63
Managed Lane Egress-NB Turnpike OFR	Basic	0.55	68.7	19.2	18.9	0.06	0.06	0,113.4	0,113.4	1.65	0.03
--NB Turnpike OFR	OffRamp	0.92	60.0	36.6	35.9	0.28	0.24	0,459.7	0,459.7	7.66	1.09
--NW 167 Street OFR	OffRamp	0.49	66.1	18.0	17.5	0.26	0.24	0,247.2	0,247.2	3.74	0.21
NW 167 Street OFR-NB SR 7/US-441 OFR	Basic	0.44	69.6	15.0	14.6	0.19	0.19	0,171.1	0,171.1	2.46	0.02
--NB SR 7/US-441 OFR	OffRamp	0.44	63.3	16.5	16.1	0.27	0.24	0,217.1	0,217.1	3.43	0.33
NB US-441 OFR-NB SR 7/US-441 ONR	Basic	0.30	69.4	10.4	10.1	0.25	0.25	0,153.7	0,153.7	2.21	0.02
--NB SR 7/US-441 ONR	OnRamp	0.64	62.3	24.4	23.7	0.27	0.24	0,319.7	0,319.7	5.13	0.56
NB SR 7/US-441 ONR-End 4-Lane Section	Basic	0.48	69.4	16.7	16.2	0.26	0.26	0,340.8	0,340.8	4.91	0.04
Begin 3-Lane Section-Managed Lane Ingress	Basic	0.64	68.6	22.5	21.9	0.17	0.16	0,214.8	0,214.8	3.13	0.06
-- Managed Lane Ingress	OnRamp	0.83	57.5	34.7	33.9	0.30	0.24	0,415.7	0,415.7	7.23	1.29
--Miami Gardens Dr OFR	OffRamp	0.83	61.6	32.4	31.7	0.28	0.24	0,415.7	0,415.7	6.74	0.81
Miami Gardens Dr OFR-Miami Gardens Dr ONR	Basic	0.75	65.9	27.2	26.5	0.22	0.21	0,321.4	0,321.4	4.87	0.28
--Miami Gardens ONR	OnRamp	0.91	57.8	37.9	37.0	0.30	0.24	0,456.6	0,456.6	7.90	1.38
Miami Gardens Dr ONR-Mnaaged Lane Egress	Basic	0.68	67.7	24.3	23.7	0.14	0.14	0,260.3	0,260.3	3.84	0.13
-- Managed Lane Egress	OnRamp	0.68	64.3	25.6	25.0	0.27	0.24	0,456.6	0,456.6	7.10	0.58
Managed Lane Egress-Ives Dairy Road OFR	Basic	0.55	69.6	18.9	18.5	0.30	0.30	0,564.1	0,564.1	8.10	0.04
--Ives Dairy Road OFR	OffRamp	0.68	67.1	24.5	24.0	0.25	0.24	0,456.6	0,456.6	6.81	0.28
Ives Dairy Road OFR-Ives Dairy Road ONR	Basic	0.59	69.4	20.5	20.0	0.71	0.71	1,144.3	1,144.3	16.49	0.14
--Ives Dairy Road ONR	OnRamp	0.79	62.0	30.6	29.9	0.28	0.24	0,528.0	0,528.0	8.52	0.98
Ives Dairy Road ONR-Broward County Line	Basic	0.63	68.8	22.1	21.6	0.14	0.14	0,293.9	0,293.9	4.27	0.07
Freeway			64.6	20.9	20.4	8.86	8.22	12,356.9	12,356.9	0,191.3	0,014.8

	Density-Based LOS by Segment														
Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Time Step	Basic	Weaving	Basic	On Ramp	Ramp Overlap	Off Ramp	Basic	Off Ramp	Basic	Weaving	Basic	Weaving	Basic	On Ramp	Basic
1	B	B	B	B	C	B	B	B	B	B	B	B	C	C	C
	Density-Based LOS by Segment														
Segment	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Time Step	Off Ramp	Off Ramp	Basic	Off Ramp	Basic	On Ramp	Basic	Basic	On Ramp	Off Ramp	Basic	On Ramp	Basic	On Ramp	Basic
1	E	B	B	B	A	C	B	C	D	D	D	E	C	C	C
	Density-Based LOS by Segment														
Segment	31	32	33	34											
Time Step	Off Ramp	Basic	On Ramp	Basic											
1	C	C	D	C											
	Demand-Based LOS by Segment														
Time Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	31	32	33	34											
1	.	.	.	.											

HCS 2010 Freeway Facilities

Project Properties

Analyst	Ana/Omor/Qidi	Freeway Name	I-95 SOUTHBOUND	Analysis Period	AM Peak
Analysis Date	9/23/2015 9:33:17 AM	From	MM 8.105	Version Date	5/15/15
Agency	F R ALEMAN & ASSOCIATES	To	MM 0.000		
Location	Miami-Dade County	Analysis Direction	SOUTHBOUND		
User Notes	Northern Section of I95 SB Corridor- (MM 8.105 to 0.000) From NW 95 ST TO END OF PROJECT AT I-95 S AND US-1				
File Name	C:\Users\Ian.Rairden\AppData\Local\Temp\preview.xml				

Facility-wide Values

Jam Density (pc/h/ln)	190	Time Period Duration (min)	15	Facility Length (mi)	9.35300

Segment Input Data

Time Period 1

Mainline Data

Seg #	From	To	Type	Length	Terrain	Adj. Demand	% Trucks	% RVs	# Lanes	FFS
1	NW 95 Street OFR	NW 95 Street ONR	Basic Segment	1748	Level	6240	2.96	0.00	4	70
2	-	MW 95 Street ONR	On Ramp	852	Level	6995	2.86	0.00	4	70
3	NW 95 Street ONR	NW 81 Street OFR	Ramp Overlap	648	Level	6995	2.86	0.00	4	70
4	-	NW 81 Street OFR	Off Ramp	852	Level	6995	2.86	0.00	4	70
5	NW 81 Street OFR	NW 79 Street ONR	Basic Segment	2300	Level	6487	2.74	0.00	4	70
6	NW 79 Street ONR	NW 69 Street OFR	Weaving	3331	Level	7156	2.74	0.00	5	70
7	-	NW 62 Street OFR	Off Ramp	1500	Level	7074	2.75	0.00	4	70
8	NW 62 Street OFR	NW 62 Street ONR	Basic Segment	2237	Level	6642	2.78	0.00	4	70
9	-	NW 62 Street ONR	On Ramp	1500	Level	7442	2.81	0.00	4	70
10	NW 62 Street ONR	SR 112/I-195 OFR	Basic Segment	1519	Level	7442	2.81	0.00	5	70
11	-	SR 112/I-195 OFR	Off Ramp	1500	Level	7442	2.81	0.00	3	70
12	SR 112/I-195 OFR	SR 112/I-195 ONR	Basic Segment	4309	Level	5581	3.08	0.00	3	70
13	-	SR 112/I-195 ONR	On Ramp	1500	Level	7256	3.13	0.00	3	70
14	-	Managed Lane Egress	On Ramp	1500	Level	9616	2.36	0.00	4	70
15	Managed Lane Egress	SR 836 OFR	Basic Segment	1157	Level	9616	2.36	0.00	6	70
16	-	SR 836 OFR	Off Ramp	1500	Level	9616	2.36	0.00	4	70
17	-	I-395 OFR	Off Ramp	1500	Level	7331	2.48	0.00	4	70
18	-	NW 8 Street OFR	Off Ramp	1500	Level	5891	2.50	0.00	3	70
19	NW 8 Street OFR	I-395/SR 836 ONR	Basic Segment	1228	Level	4641	1.81	0.00	3	70
20	-	I-395/SR 836 ONR	On Ramp	1500	Level	5811	1.69	0.00	4	70
21	I-395/SR 836 ONR	SW 7 Street OFR	Basic Segment	335	Level	5811	1.69	0.00	4	70
22	-	SW 7 Street OFR	Off Ramp	1500	Level	5811	1.69	0.00	4	70
23	-	Dwntwn Dstrbtr OFR	Off Ramp	1500	Level	4625	1.08	0.00	4	70
24	Dwntwn Dstribtr OFR	NW 2 Street ONR	Basic Segment	719	Level	3328	0.96	0.00	3	70
25	-	NW 2 Street ONR	On Ramp	1500	Level	3478	1.01	0.00	3	70
26	-	Dwntwn Dstrbtr ONR	On Ramp	1500	Level	3773	1.19	0.00	3	70

RampData

Seg #	Type	Adj. Demand	% Trucks	% RVs	Lanes	Accel/Decel Length	FFS
2	On Ramp	755	1.99	0.00	1	800	50
4	Off Ramp	508	4.33	0.00	1	450	50
7	Off Ramp	432	2.31	0.00	1	450	50
9	On Ramp	800	3.00	0.00	1	1500	50
11	Off Ramp	1861	1.97	0.00	2	1500	50
13	On Ramp	1675	3.28	0.00	2	1500	50
14	On Ramp	2360	0.00	0.00	2	1500	50
16	Off Ramp	2285	1.97	0.00	2	1500	50
17	Off Ramp	1440	2.43	0.00	2	210	50
18	Off Ramp	1250	5.04	0.00	1	210	50
20	On Ramp	1170	1.20	0.00	2	1000	50
22	Off Ramp	1186	4.05	0.00	1	190	50
23	Off Ramp	1297	1.39	0.00	2	293	50
25	On Ramp	150	2.00	0.00	1	545	50
26	On Ramp	295	3.39	0.00	1	950	50
28	On Ramp	222	5.40	0.00	1	1367	50
30	Off Ramp	1819	2.19	0.00	1	1500	40

Weaving Segment Data

Seg #	Ramp to Ramp Prop.	On-Ramp					Off-Ramp				
		Adj. Demand	% Trucks	% RVs	Lanes	FFS	Adj. Demand	% Trucks	% RVs	Lanes	FFS

27	Dwntwn Dstribtr ONR	SW 8 Street ONR	Basic Segment	1438	Level	3773	1.19	0.00	3	70
28	-	SW 8 Street ONR	On Ramp	1500	Level	3995	1.43	0.00	3	70
29	SW 8 Street ONR	SW 26 Road OFR	Basic Segment	566	Level	3995	1.43	0.00	3	70
30	-	SW 26 Road OFR	Off Ramp	1500	Level	3995	1.43	0.00	2	70
31	SW 26 Road OFR	US 1	Basic Segment	3643	Level	2176	0.79	0.00	2	70

6	0.050	669	2.69	0.00	1	50	82	1.22	0.00	1	50

Time Period Independent Weaving Segment Data

Seg #	Configuration	Short Length	# Weaving Lanes	Min. Lane Changes Freeway-Ramp	Min. Lane Changes Ramp-Freeway	Min. Lane Changes Ramp-Ramp
6	OneSide	2530	2	1	1	0

Time Period Results

Time Period 1

Seg #	From	To	Type	Adj. Demand	Vol. Served	Capacity (pc/h)	Capacity (veh/h)	d/c Ratio	v/c ratio	Queue Length (ft)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	Mainline Delay (min/veh)	System Delay (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)	LOS
1	NW 95 Street OFR	NW 95 Street ONR	Basic Segment	6240	6240	9600	9460	0.66	0.66	0	68.3	23.2	22.8	0.29	0.28	0.0	0.0	516.5	516.5	7.6	0.2	C
2	-	MW 95 Street ONR	On Ramp	6995	7020	9600	9465	0.74	0.74	0	61.4	28.9	28.5	0.16	0.14	0.0	0.0	282.2	283.2	4.6	0.6	D
3	NW 95 Street ONR	NW 81 Street OFR	Ramp Overlap	6995	7020	9600	9465	0.74	0.74	0	61.4	28.9	28.5	0.12	0.11	0.0	0.0	214.6	215.4	3.5	0.4	D
4	-	NW 81 Street OFR	Off Ramp	6995	7020	9600	9465	0.74	0.74	0	65.5	27.2	26.8	0.15	0.14	0.0	0.0	282.2	283.2	4.3	0.3	C
5	NW 81 Street OFR	NW 79 Street ONR	Basic Segment	6487	6480	9600	9470	0.68	0.68	0	67.7	24.2	23.9	0.39	0.37	0.0	0.0	706.4	705.7	10.4	0.3	C
6	NW 79 Street ONR	NW 69 Street OFR	Weaving	7156	7140	11632	11475	0.62	0.62	0	57.3	27.2	26.8	0.66	0.54	0.1	0.1	1128.6	1126.1	19.6	3.6	C
7	-	NW 62 Street OFR	Off Ramp	7074	7080	9600	9470	0.75	0.75	0	65.6	27.3	27.0	0.26	0.24	0.0	0.0	502.4	502.8	7.7	0.5	C
8	NW 62 Street OFR	NW 62 Street ONR	Basic Segment	6642	6660	9600	9468	0.70	0.70	0	67.2	25.1	24.8	0.38	0.36	0.0	0.0	703.5	705.4	10.5	0.4	C
9	-	NW 62 Street ONR	On Ramp	7442	7440	9600	9467	0.79	0.79	0	61.9	30.4	30.0	0.28	0.24	0.0	0.0	528.6	528.4	8.5	1.0	D
10	NW 62 Street ONR	SR 112/I-195 OFR	Basic Segment	7442	7080	12000	11834	0.63	0.60	1108	27.3	51.8	51.1	0.63	0.25	0.4	0.4	535.2	509.2	18.6	11.3	F
11	-	SR 112/I-195 OFR	Off Ramp	7442	7080	7200	7100	1.05	1.00	0	59.9	39.9	39.4	0.28	0.24	0.0	0.0	528.6	502.8	8.4	1.2	F
12	SR 112/I-195 OFR	SR 112/I-195 ONR	Basic Segment	5581	5340	7200	7091	0.79	0.75	0	65.7	27.5	27.1	0.75	0.70	0.0	0.0	1138.7	1089.5	16.6	1.0	D
13	-	SR 112/I-195 ONR	On Ramp	7256	7020	7200	7089	1.02	0.99	0	55.3	42.8	42.2	0.31	0.24	0.1	0.1	515.3	498.6	9.0	1.9	F
14	-	Managed Lane Egress	On Ramp	9616	9120	9600	9488	1.01	0.96	0	60.8	37.9	37.4	0.28	0.24	0.0	1.0	683.0	647.7	10.7	1.4	F
15	Managed Lane Egress	SR 836 OFR	Basic Segment	9616	9120	14400	14232	0.68	0.64	0	68.7	22.4	22.1	0.19	0.19	0.0	0.0	526.8	499.6	7.3	0.1	C
16	-	SR 836 OFR	Off Ramp	9616	9120	9600	9488	1.01	0.96	0	62.2	37.1	36.7	0.27	0.24	0.0	0.0	683.0	647.7	10.4	1.2	F
17	-	I-395 OFR	Off Ramp	7331	6960	9600	9482	0.77	0.73	0	64.8	27.2	26.9	0.26	0.24	0.0	0.0	520.7	494.3	7.6	0.6	C
18	-	NW 8 Street OFR	Off Ramp	5891	5580	7200	7111	0.83	0.78	0	60.9	30.9	30.6	0.28	0.24	0.0	0.0	418.4	396.3	6.5	0.8	D
19	NW 8 Street OFR	I-395/SR 836 ONR	Basic Segment	4641	4380	7200	7135	0.65	0.61	0	69.0	21.4	21.2	0.20	0.20	0.0	0.0	269.8	254.7	3.7	0.1	C
20	-	I-395/SR 836 ONR	On Ramp	5811	5580	9600	9520	0.61	0.59	0	64.1	21.9	21.7	0.27	0.24	0.0	0.0	412.7	396.3	6.2	0.5	C
21	I-395/SR 836 ONR	SW 7 Street OFR	Basic Segment	5811	5580	9600	9520	0.61	0.59	0	68.7	20.5	20.3	0.06	0.05	0.0	0.0	92.2	88.5	1.3	0.0	C
22	-	SW 7 Street OFR	Off Ramp	5811	5580	9600	9520	0.61	0.59	0	63.9	22.0	21.8	0.27	0.24	0.0	0.0	412.7	396.3	6.2	0.5	C
23	-	Dwntwn Dstrbtr OFR	Off Ramp	4625	4440	9600	9548	0.48	0.47	0	65.3	17.1	17.0	0.26	0.24	0.0	0.0	328.5	315.3	4.8	0.3	B
24	Dwntwn Dstribtr OFR	NW 2 Street ONR	Basic Segment	3328	3180	7200	7166	0.46	0.44	0	69.2	15.4	15.3	0.12	0.12	0.0	0.0	113.3	108.3	1.6	0.0	B
25	-	NW 2 Street ONR	On Ramp	3478	3360	7200	7164	0.49	0.47	0	63.7	17.7	17.6	0.27	0.24	0.0	0.0	247.0	238.6	3.7	0.3	B

26	-	Dwntwn Dstrbtr ONR	On Ramp	3773	3660	7200	7157	0.53	0.51	0	64.1	19.1	19.0	0.27	0.24	0.0	0.0	268.0	259.9	4.1	0.3	B
27	Dwntwn Dstribtr ONR	SW 8 Street ONR	Basic Segment	3773	3660	7200	7157	0.53	0.51	0	69.5	17.7	17.6	0.24	0.23	0.0	0.0	256.9	249.2	3.6	0.0	B
28	-	SW 8 Street ONR	On Ramp	3995	3840	7200	7149	0.56	0.54	0	63.7	20.2	20.1	0.27	0.24	0.0	0.0	283.7	272.7	4.3	0.4	C
29	SW 8 Street ONR	SW 26 Road OFR	Basic Segment	3995	3840	7200	7149	0.56	0.54	0	68.8	18.7	18.6	0.09	0.09	0.0	0.0	107.1	102.9	1.5	0.0	C
30	-	SW 26 Road OFR	Off Ramp	3995	3840	4800	4766	0.84	0.81	0	55.2	35.0	34.8	0.31	0.24	0.1	0.1	283.7	272.7	4.9	1.0	D
31	SW 26 Road OFR	US 1	Basic Segment	2176	2100	4800	4781	0.46	0.44	0	69.8	15.1	15.0	0.59	0.59	0.0	0.0	375.3	362.2	5.2	0.0	B

Overall Results

Segment	Segment Type	Maximum d/c Ratio	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)
NW 95 Street OFR-NW 95 Street ONR	Basic	0.66	68.3	23.2	22.8	0.29	0.28	0,516.5	0,516.5	7.56	0.18
--MW 95 Street ONR	OnRamp	0.74	61.4	28.9	28.5	0.16	0.14	0,282.2	0,283.2	4.61	0.56
NW 95 Street ONR-NW 81 Street OFR	RampOverlap	0.74	61.4	28.9	28.5	0.12	0.11	0,214.6	0,215.4	3.51	0.43
--NW 81 Street OFR	OffRamp	0.74	65.5	27.2	26.8	0.15	0.14	0,282.2	0,283.2	4.33	0.28
NW 81 Street OFR-NW 79 Street ONR	Basic	0.68	67.7	24.2	23.9	0.39	0.37	0,706.4	0,705.7	10.42	0.34
NW 79 Street ONR-NW 69 Street OFR	Weaving	0.62	57.3	27.2	26.8	0.66	0.54	1,128.6	1,126.1	19.64	3.55
--NW 62 Street OFR	OffRamp	0.75	65.6	27.3	27.0	0.26	0.24	0,502.4	0,502.8	7.66	0.48
NW 62 Street OFR-NW 62 Street ONR	Basic	0.70	67.2	25.1	24.8	0.38	0.36	0,703.5	0,705.4	10.49	0.41
--NW 62 Street ONR	OnRamp	0.79	61.9	30.4	30.0	0.28	0.24	0,528.6	0,528.4	8.53	0.98
NW 62 Street ONR-SR 112/I-195 OFR	Basic	0.63	27.3	51.8	51.1	0.63	0.25	0,535.2	0,509.2	18.62	11.35
--SR 112/I-195 OFR	OffRamp	1.05	59.9	39.9	39.4	0.28	0.24	0,528.6	0,502.8	8.39	1.21
SR 112/I-195 OFR-SR 112/I-195 ONR	Basic	0.79	65.7	27.5	27.1	0.75	0.70	1,138.7	1,089.5	16.58	1.01
--SR 112/I-195 ONR	OnRamp	1.02	55.3	42.8	42.2	0.31	0.24	0,515.3	0,498.6	9.02	1.89
-- Managed Lane Egress	OnRamp	1.01	60.8	37.9	37.4	0.28	0.24	0,683.0	0,647.7	10.66	1.41
Managed Lane Egress-SR 836 OFR	Basic	0.68	68.7	22.4	22.1	0.19	0.19	0,526.8	0,499.6	7.28	0.14
--SR 836 OFR	OffRamp	1.01	62.2	37.1	36.7	0.27	0.24	0,683.0	0,647.7	10.42	1.17
--I-395 OFR	OffRamp	0.77	64.8	27.2	26.9	0.26	0.24	0,520.7	0,494.3	7.63	0.57
--NW 8 Street OFR	OffRamp	0.83	60.9	30.9	30.6	0.28	0.24	0,418.4	0,396.3	6.51	0.85
NW 8 Street OFR-I-395/SR 836 ONR	Basic	0.65	69.0	21.4	21.2	0.20	0.20	0,269.8	0,254.7	3.69	0.05
--I-395/SR 836 ONR	OnRamp	0.61	64.1	21.9	21.7	0.27	0.24	0,412.7	0,396.3	6.18	0.52
I-395/SR 836 ONR-SW 7 Street OFR	Basic	0.61	68.7	20.5	20.3	0.06	0.05	0,092.2	0,088.5	1.29	0.02
--SW 7 Street OFR	OffRamp	0.61	63.9	22.0	21.8	0.27	0.24	0,412.7	0,396.3	6.20	0.54
-- Dwntwn Dstrbtr	OffRamp	0.48	65.3	17.1	17.0	0.26	0.24	0,328.5	0,315.3	4.83	0.32

OFR											
Dwntwn Dstribtr OFR-NW 2 Street ONR	Basic	0.46	69.2	15.4	15.3	0.12	0.12	0,113.3	0,108.3	1.56	0.02
--NW 2 Street ONR	OnRamp	0.49	63.7	17.7	17.6	0.27	0.24	0,247.0	0,238.6	3.75	0.34
-- Dwntwn Dstrbtr ONR	OnRamp	0.53	64.1	19.1	19.0	0.27	0.24	0,268.0	0,259.9	4.06	0.34
Dwntwn Dstribtr ONR-SW 8 Street ONR	Basic	0.53	69.5	17.7	17.6	0.24	0.23	0,256.9	0,249.2	3.59	0.03
--SW 8 Street ONR	OnRamp	0.56	63.7	20.2	20.1	0.27	0.24	0,283.7	0,272.7	4.28	0.39
SW 8 Street ONR-SW 26 Road OFR	Basic	0.56	68.8	18.7	18.6	0.09	0.09	0,107.1	0,102.9	1.50	0.03
--SW 26 Road OFR	OffRamp	0.84	55.2	35.0	34.8	0.31	0.24	0,283.7	0,272.7	4.94	1.04
SW 26 Road OFR-US 1	Basic	0.46	69.8	15.1	15.0	0.59	0.59	0,375.3	0,362.2	5.19	0.02
Freeway			60.4	27.0	26.7	9.13	8.02	13,865.5	13,470.3	0,222.9	0,030.5

	Density-Based LOS by Segment														
Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Time Step	Basic	On Ramp	Ramp Overlap	Off Ramp	Basic	Weaving	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	On Ramp	Basic
1	C	D	D	C	C	C	C	C	D	F	E	D	E	E	C
	Density-Based LOS by Segment														
Segment	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Time Step	Off Ramp	Off Ramp	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Off Ramp	Basic	On Ramp	On Ramp	Basic	On Ramp	Basic	Off Ramp
1	E	C	D	C	C	C	C	B	B	B	B	B	C	C	D
	Density-Based LOS by Segment														
Segment	31														
Time Step	Basic														
1	B														
	Demand-Based LOS by Segment														
Time Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.	.	.	.	.	.	.	.	.	.	F	.	F	F	.
	Demand-Based LOS by Segment														
Time Step	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	F	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	31														
1	.														

HCS 2010 Freeway Facilities

Project Properties

Analyst	Ana/Omor/Qidi	Freeway Name	I-95 SOUTHBOUND	Analysis Period	AM Peak
Analysis Date	9/23/2015 9:33:17 AM	From	MM 17.260	Version Date	5/15/15
Agency	F R ALEMAN & ASSOCIATES	To	MM 8.105		
Location	Miami-Dade County	Analysis Direction	SOUTHBOUND		
User Notes	Northern Section of I95 SB Corridor- (MM 17.260 to 8.105) From END of Project I95 Broward County Line TO NW 95TH ST				
File Name	C:\Users\Ian.Rairden\AppData\Local\Temp\preview.xml				

Facility-wide Values

Jam Density (pc/h/ln)	190	Time Period Duration (min)	15	Facility Length (mi)	8.95300

Segment Input Data

Time Period 1

Mainline Data

Seg #	From	To	Type	Length	Terrain	Adj. Demand	% Trucks	% RVs	# Lanes	FFS
1	Broward County Line	Ives Dairy Road OFR	Basic Segment	130	Level	7131	3.93	0.00	3	70
2	-	Ives Dairy Road OFR	Off Ramp	1500	Level	7131	3.93	0.00	3	70
3	Ives Dairy Road OFR	Ives Dairy Road ONR	Basic Segment	4600	Level	5732	4.07	0.00	4	70
4	-	Ives Dairy Road ONR	On Ramp	1500	Level	6921	3.65	0.00	3	70
5	Ives Dairy Road ONR	Managed Lane Ingress	Basic Segment	2122	Level	6921	3.65	0.00	3	70
6	-	Managed Lane Ingress	Off Ramp	1500	Level	6921	3.65	0.00	3	70
7	Managed Lane Ingress	Miami Gardens Dr	Basic Segment	1193	Level	6921	3.65	0.00	3	70
8	-	Miami Gardens Dr OFR	Off Ramp	1500	Level	6921	3.65	0.00	3	70
9	Miami Gardens Dr OFR	Miami Gardens Dr ONR	Basic Segment	850	Level	6172	3.77	0.00	3	70
10	-	Miami Gardens Dr ONR	On Ramp	1500	Level	6837	3.64	0.00	3	70
11	Miami Gardens Dr ONR	Managed Lane Egress	Basic Segment	79	Level	6837	3.64	0.00	3	70
12	-	Managed Lane Egress	On Ramp	1500	Level	8190	3.65	0.00	3	70
13	Managed Lane Egress	Turnpike SR 826 OFR	Basic Segment	2291	Level	8190	3.65	0.00	4	70
14	-	FL Trnpke/SR 826 OFR	Off Ramp	1500	Level	8190	3.65	0.00	4	70
15	FL Trnpke/SR 826 OFR	SR 7/US-441 ONR	Basic Segment	1204	Level	5096	3.61	0.00	3	70
16	-	SR 7/US-441 ONR	On Ramp	1500	Level	5871	3.36	0.00	3	70
17	SR 7/US-441 ONR	NW 167 Street ONR	Basic Segment	317	Level	5871	3.36	0.00	3	70
18	-	NW 167 Street ONR	On Ramp	1500	Level	6206	3.24	0.00	3	70
19	NW 167 Street ONR	FL Trnpke/SR 826 ONR	Basic Segment	69	Level	6206	3.24	0.00	3	70
20	-	FL Trnpke/SR 826 ONR	On Ramp	1500	Level	9380	2.83	0.00	4	70
21	FL Trnpke/SR 826 ONR	Managed Lane Ingress	Basic Segment	907	Level	9380	2.83	0.00	4	70
22	-	Managed Lane Ingress	Off Ramp	1500	Level	9380	2.83	0.00	4	70
23	Managed Lane Ingress	NW 151 Street ONR	Basic Segment	572	Level	8096	3.28	0.00	4	70
24	-	NW 151 Street ONR	On Ramp	530	Level	8370	3.32	0.00	4	70
25	NW 151 Street ONR	Opa Locka Blvd OFR	Ramp Overlap	970	Level	8370	3.32	0.00	4	70
26	-	Opa Locka Blvd OFR	Off Ramp	530	Level	8370	3.32	0.00	4	70
27	Opa Locka Blvd OFR	NW 135 Street ONR	Basic Segment	2286	Level	8064	3.29	0.00	4	70
	NW 135	NW 125								

RampData

Seg #	Type	Adj. Demand	% Trucks	% RVs	Lanes	Accel/Decel Length	FFS
2	Off Ramp	1399	3.34	0.00	1	900	50
4	On Ramp	1189	1.60	0.00	1	975	50
6	Off Ramp	0	0.00	0.00	1	200	50
8	Off Ramp	749	2.67	0.00	1	200	50
10	On Ramp	665	2.41	0.00	1	1110	50
12	On Ramp	1353	3.74	0.00	1	450	40
14	Off Ramp	3094	3.72	0.00	2	0	50
16	On Ramp	775	1.68	0.00	1	755	50
18	On Ramp	335	1.19	0.00	1	702	50
20	On Ramp	3174	2.02	0.00	2	900	50
22	Off Ramp	1284	0.00	0.00	1	705	40
24	On Ramp	274	4.74	0.00	1	520	50
26	Off Ramp	306	4.25	0.00	1	272	50
30	On Ramp	292	0.68	0.00	1	1000	50
32	On Ramp	526	1.52	0.00	1	745	50
34	Off Ramp	510	2.35	0.00	1	203	50

28	Street ONR	Street OFR	Weaving	2235	Level	8640	3.25	0.00	5	70
29	NW 125 Street OFR	NW 125 Street ONR	Basic Segment	1570	Level	8180	3.37	0.00	4	70
30	-	NW 125 Street ONR	On Ramp	1500	Level	8472	3.28	0.00	4	70
31	NW 125 Street ONR	NW 119 Street ONR	Basic Segment	475	Level	8472	3.28	0.00	4	70
32	-	NW 119 Street ONR	On Ramp	1500	Level	8998	3.18	0.00	4	70
33	NW 119 Street ONR	NW 103 Street OFR	Basic Segment	190	Level	8998	3.18	0.00	4	70
34	-	NW 103 Street OFR	Off Ramp	1500	Level	8998	3.18	0.00	4	70
35	NW 103 Street OFR	NW 103 Street ONR	Basic Segment	1490	Level	8488	3.22	0.00	4	70
36	NW 103 Street ONR	NW 95 Street OFR	Weaving	1637	Level	9212	3.16	0.00	5	70
37	NW 95 Street OFR	I-95 MAINLINE	Basic Segment	25	Level	8946	3.19	0.00	4	70

Weaving Segment Data

Seg #	Ramp to Ramp Prop.	On-Ramp					Off-Ramp				
		Adj. Demand	% Trucks	% RVs	Lanes	FFS	Adj. Demand	% Trucks	% RVs	Lanes	FFS
28	0.050	576	2.70	0.00	1	50	460	1.09	0.00	1	50
36	0.050	724	2.35	0.00	1	50	266	1.88	0.00	1	50

Time Period Independent Weaving Segment Data

Seg #	Configuration	Short Length	# Weaving Lanes	Min. Lane Changes Freeway-Ramp	Min. Lane Changes Ramp-Freeway	Min. Lane Changes Ramp-Ramp
28	OneSide	2235	2	1	1	0
36	OneSide	1637	2	1	1	0

Time Period Results

Time Period 1

Seg #	From	To	Type	Adj. Demand	Vol. Served	Capacity (pc/h)	Capacity (veh/h)	d/c Ratio	v/c ratio	Queue Length (ft)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	Mainline Delay (min/veh)	System Delay (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)	LOS
1	Broward County Line	Ives Dairy Road OFR	Basic Segment	7131	7080	7200	7061	1.01	1.00	0	53.1	45.3	44.4	0.03	0.02	0.0	0.0	43.9	43.6	0.8	0.2	F
2	-	Ives Dairy Road OFR	Off Ramp	7131	7080	7200	7061	1.01	1.00	0	60.8	39.6	38.8	0.28	0.24	0.0	0.0	506.5	502.8	8.3	1.1	F
3	Ives Dairy Road OFR	Ives Dairy Road ONR	Basic Segment	5732	5700	9600	9408	0.61	0.61	0	69.3	21.0	20.6	0.75	0.75	0.0	0.0	1248.4	1241.5	17.9	0.2	C
4	-	Ives Dairy Road ONR	On Ramp	6921	6840	7200	7071	0.98	0.97	0	55.3	41.8	41.1	0.31	0.24	0.1	0.1	491.5	485.8	8.8	1.8	E
5	Ives Dairy Road ONR	Managed Lane Ingress	Basic Segment	6921	6840	7200	7071	0.98	0.97	0	55.4	41.9	41.1	0.44	0.34	0.1	0.1	695.4	687.2	12.4	2.6	E
6	-	Managed Lane Ingress	Off Ramp	6921	6830	7200	7071	0.98	0.97	330	64.4	35.3	34.7	0.26	0.24	0.0	0.0	491.5	485.1	7.5	0.6	E
7	Managed Lane Ingress	Miami Gardens Dr	Basic Segment	6921	6756	7200	7071	0.98	0.96	1187	52.4	43.0	42.2	0.26	0.19	0.1	0.1	390.9	381.6	7.3	1.8	E
8	-	Miami Gardens Dr OFR	Off Ramp	6921	6646	7200	7071	0.98	0.94	1499	53.6	41.3	40.6	0.32	0.24	0.1	0.1	491.5	472.0	8.8	2.1	E
9	Miami Gardens Dr OFR	Miami Gardens Dr ONR	Basic Segment	6172	5830	7200	7067	0.87	0.82	850	41.4	47.0	46.1	0.23	0.14	0.1	0.1	248.4	234.6	5.7	2.3	F
10	-	Miami Gardens Dr ONR	On Ramp	6837	5834	7200	7071	0.97	0.83	1500	65.7	3.3	3.2	0.26	0.24	0.0	0.0	485.6	414.3	6.3	0.4	A
11	Miami Gardens Dr ONR	Managed Lane Egress	Basic Segment	6837	5828	7200	7071	0.97	0.82	79	28.3	68.7	67.5	0.03	0.01	0.0	0.0	25.6	21.8	0.8	0.5	F
12	-	Managed Lane Egress	On Ramp	8190	7056	7200	7071	1.16	1.00	0	28.8	82.8	81.4	0.59	0.24	0.3	1.3	581.7	501.1	17.4	10.2	F
13	Managed Lane Egress	Turnpike SR 826 OFR	Basic Segment	8190	7056	9600	9428	0.87	0.75	0	65.9	27.3	26.8	0.40	0.37	0.0	0.0	888.4	765.4	11.6	0.7	D
14	-	FL Trnpke/SR 826 OFR	Off Ramp	8190	7056	9600	9428	0.87	0.75	0	59.5	30.2	29.7	0.29	0.24	0.0	0.0	581.7	501.1	8.4	1.3	D
15	FL Trnpke/SR 826 OFR	SR 7/US-441 ONR	Basic Segment	5096	4365	7200	7072	0.72	0.62	0	68.8	21.5	21.1	0.20	0.20	0.0	0.0	290.5	248.8	3.6	0.1	C
16	-	SR 7/US-441 ONR	On Ramp	5871	5145	7200	7081	0.83	0.73	0	55.5	31.3	30.8	0.31	0.24	0.1	0.1	417.0	365.4	6.6	1.4	D
17	SR 7/US-441 ONR	NW 167 Street ONR	Basic Segment	5871	5145	7200	7081	0.83	0.73	0	66.6	26.2	25.8	0.05	0.05	0.0	0.0	88.1	77.2	1.2	0.1	D
18	-	NW 167 Street ONR	On Ramp	6206	5505	7200	7085	0.88	0.78	0	-6.3	-294.1	-289.4	-2.69	0.24	-2.9	-2.9	440.8	391.0	-61.7	-67.3	A
19	NW 167 Street ONR	FL Trnpke/SR 826 ONR	Basic Segment	6206	5505	7200	7085	0.88	0.78	0	48.6	38.4	37.8	0.02	0.01	0.0	0.0	20.3	18.0	0.4	0.1	E
20	-	FL Trnpke/SR 826 ONR	On Ramp	9380	7605	9600	9466	0.99	0.80	0	52.9	36.3	35.8	0.32	0.24	0.1	3.9	666.2	540.1	10.2	2.5	E
21	FL Trnpke/SR 826 ONR	Managed Lane Ingress	Basic Segment	9380	7605	9600	9466	0.99	0.80	0	63.9	30.2	29.8	0.16	0.15	0.0	0.0	402.8	326.6	5.1	0.4	D

22	-	Managed Lane Ingress	Off Ramp	9380	7605	9600	9466	0.99	0.80	0	63.5	30.4	29.9	0.27	0.24	0.0	0.0	666.2	540.1	8.5	0.8	D
23	Managed Lane Ingress	NW 151 Street ONR	Basic Segment	8096	6527	9600	9445	0.86	0.69	0	67.6	24.5	24.2	0.10	0.09	0.0	0.0	219.3	176.8	2.6	0.1	C
24	-	NW 151 Street ONR	On Ramp	8370	6827	9600	9443	0.89	0.72	0	61.3	28.3	27.8	0.10	0.09	0.0	0.0	210.0	171.3	2.8	0.3	D
25	NW 151 Street ONR	Opa Locka Blvd OFR	Ramp Overlap	8370	6827	9600	9443	0.89	0.72	0	61.3	28.3	27.8	0.18	0.16	0.0	0.0	384.4	313.6	5.1	0.6	D
26	-	Opa Locka Blvd OFR	Off Ramp	8370	6827	9600	9443	0.89	0.72	0	66.0	26.3	25.9	0.09	0.09	0.0	0.0	210.0	171.3	2.6	0.1	C
27	Opa Locka Blvd OFR	NW 135 Street ONR	Basic Segment	8064	6587	9600	9445	0.85	0.70	0	67.4	24.8	24.4	0.39	0.37	0.0	0.0	872.8	713.0	10.6	0.4	C
28	NW 135 Street ONR	NW 125 Street OFR	Weaving	8640	7128	11455	11272	0.77	0.63	0	55.6	27.1	26.6	0.46	0.36	0.1	0.1	914.3	754.3	13.6	2.8	C
29	NW 125 Street OFR	NW 125 Street ONR	Basic Segment	8180	6768	9600	9441	0.87	0.72	0	66.9	25.7	25.3	0.27	0.25	0.0	0.0	608.1	503.1	7.5	0.3	C
30	-	NW 125 Street ONR	On Ramp	8472	7068	9600	9445	0.90	0.75	0	61.6	29.1	28.7	0.28	0.24	0.0	0.0	601.7	502.0	8.2	1.0	D
31	NW 125 Street ONR	NW 119 Street ONR	Basic Segment	8472	7068	9600	9445	0.90	0.75	0	65.9	27.3	26.8	0.08	0.08	0.0	0.0	190.5	159.0	2.4	0.1	D
32	-	NW 119 Street ONR	On Ramp	8998	7608	9600	9450	0.95	0.81	0	61.3	31.5	31.0	0.28	0.24	0.0	0.0	639.1	540.3	8.8	1.1	D
33	NW 119 Street ONR	NW 103 Street OFR	Basic Segment	8998	7608	9600	9450	0.95	0.81	0	63.8	30.3	29.8	0.03	0.03	0.0	0.0	80.9	68.4	1.1	0.1	D
34	-	NW 103 Street OFR	Off Ramp	8998	7608	9600	9450	0.95	0.81	0	65.2	29.6	29.2	0.26	0.24	0.0	0.0	639.1	540.3	8.3	0.6	D
35	NW 103 Street OFR	NW 103 Street ONR	Basic Segment	8488	7188	9600	9448	0.90	0.76	0	65.5	27.9	27.5	0.26	0.24	0.0	0.0	598.8	507.1	7.7	0.5	D
36	NW 103 Street ONR	NW 95 Street OFR	Weaving	9212	7908	11276	11101	0.83	0.71	0	55.1	30.7	30.2	0.34	0.27	0.1	0.1	714.0	612.9	11.1	2.4	D
37	NW 95 Street OFR	I-95 MAINLINE	Basic Segment	8946	7669	9600	9449	0.95	0.81	0	63.5	30.7	30.2	0.00	0.00	0.0	0.0	10.6	9.1	0.1	0.0	D

Overall Results

Segment	Segment Type	Maximum d/c Ratio	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)
Broward County Line-Ives Dairy Road OFR	Basic	1.01	53.1	45.3	44.4	0.03	0.02	0,043.9	0,043.6	0.82	0.20
--Ives Dairy Road OFR	OffRamp	1.01	60.8	39.6	38.8	0.28	0.24	0,506.5	0,502.8	8.28	1.09
Ives Dairy Road OFR-Ives Dairy Road ONR	Basic	0.61	69.3	21.0	20.6	0.75	0.75	1,248.4	1,241.5	17.93	0.19
--Ives Dairy Road ONR	OnRamp	0.98	55.3	41.8	41.1	0.31	0.24	0,491.5	0,485.8	8.78	1.84
Ives Dairy Road ONR-Managed Lane Ingress	Basic	0.98	55.4	41.9	41.1	0.44	0.34	0,695.4	0,687.2	12.40	2.59
--Managed Lane Ingress	OffRamp	0.98	64.4	35.3	34.7	0.26	0.24	0,491.5	0,485.1	7.53	0.60
Managed Lane Ingress-Miami Gardens Dr	Basic	0.98	52.4	43.0	42.2	0.26	0.19	0,390.9	0,381.6	7.28	1.83
--Miami Gardens Dr OFR	OffRamp	0.98	53.6	41.3	40.6	0.32	0.24	0,491.5	0,472.0	8.80	2.06
Miami Gardens Dr OFR-Miami Gardens Dr ONR	Basic	0.87	41.4	47.0	46.1	0.23	0.14	0,248.4	0,234.6	5.67	2.32
--Miami Gardens Dr ONR	OnRamp	0.97	65.7	3.3	3.2	0.26	0.24	0,485.6	0,414.3	6.30	0.38
Miami Gardens Dr ONR-Managed Lane Egress	Basic	0.97	28.3	68.7	67.5	0.03	0.01	0,025.6	0,021.8	0.77	0.46
--Managed Lane Egress	OnRamp	1.16	28.8	82.8	81.4	0.59	0.24	0,581.7	0,501.1	17.40	10.24
Managed Lane Egress-Turnpike SR 826 OFR	Basic	0.87	65.9	27.3	26.8	0.40	0.37	0,888.4	0,765.4	11.62	0.68
--FL											

Trnpke/SR 826 OFR	OffRamp	0.87	59.5	30.2	29.7	0.29	0.24	0,581.7	0,501.1	8.43	1.27
FL Trnpke/SR 826 OFR-SR 7/US-441 ONR	Basic	0.72	68.8	21.5	21.1	0.20	0.20	0,290.5	0,248.8	3.62	0.06
--SR 7/US-441 ONR	OnRamp	0.83	55.5	31.3	30.8	0.31	0.24	0,417.0	0,365.4	6.58	1.36
SR 7/US-441 ONR-NW 167 Street ONR	Basic	0.83	66.6	26.2	25.8	0.05	0.05	0,088.1	0,077.2	1.16	0.06
--NW 167 Street ONR	OnRamp	0.88	-6.3	-294.1	-289.4	-2.69	0.24	0,440.8	0,391.0	-61.72	-67.31
NW 167 Street ONR-FL Trnpke/SR 826 ONR	Basic	0.88	48.6	38.4	37.8	0.02	0.01	0,020.3	0,018.0	0.37	0.11
--FL Trnpke/SR 826 ONR	OnRamp	0.99	52.9	36.3	35.8	0.32	0.24	0,666.2	0,540.1	10.22	2.50
FL Trnpke/SR 826 ONR-Managed Lane Ingress	Basic	0.99	63.9	30.2	29.8	0.16	0.15	0,402.8	0,326.6	5.12	0.45
--Managed Lane Ingress	OffRamp	0.99	63.5	30.4	29.9	0.27	0.24	0,666.2	0,540.1	8.51	0.79
Managed Lane Ingress-NW 151 Street ONR	Basic	0.86	67.6	24.5	24.2	0.10	0.09	0,219.3	0,176.8	2.62	0.09
--NW 151 Street ONR	OnRamp	0.89	61.3	28.3	27.8	0.10	0.09	0,210.0	0,171.3	2.80	0.35
NW 151 Street ONR-Opa Locka Blvd OFR	RampOverlap	0.89	61.3	28.3	27.8	0.18	0.16	0,384.4	0,313.6	5.12	0.64
--Opa Locka Blvd OFR	OffRamp	0.89	66.0	26.3	25.9	0.09	0.09	0,210.0	0,171.3	2.60	0.15
Opa Locka Blvd OFR-NW 135 Street ONR	Basic	0.85	67.4	24.8	24.4	0.39	0.37	0,872.8	0,713.0	10.58	0.39
NW 135 Street ONR-NW 125 Street OFR	Weaving	0.77	55.6	27.1	26.6	0.46	0.36	0,914.3	0,754.3	13.57	2.79
NW 125 Street OFR-NW 125 Street ONR	Basic	0.87	66.9	25.7	25.3	0.27	0.25	0,608.1	0,503.1	7.53	0.34
--NW 125 Street ONR	OnRamp	0.90	61.6	29.1	28.7	0.28	0.24	0,601.7	0,502.0	8.15	0.98
NW 125 Street ONR-NW 119 Street ONR	Basic	0.90	65.9	27.3	26.8	0.08	0.08	0,190.5	0,159.0	2.41	0.14
--NW 119 Street ONR	OnRamp	0.95	61.3	31.5	31.0	0.28	0.24	0,639.1	0,540.3	8.81	1.09
NW 119 Street ONR-NW 103 Street OFR	Basic	0.95	63.8	30.3	29.8	0.03	0.03	0,080.9	0,068.4	1.07	0.10
--NW 103 Street OFR	OffRamp	0.95	65.2	29.6	29.2	0.26	0.24	0,639.1	0,540.3	8.28	0.56
NW 103 Street OFR-NW 103 Street ONR	Basic	0.90	65.5	27.9	27.5	0.26	0.24	0,598.8	0,507.1	7.75	0.50
NW 103 Street ONR-NW 95 Street OFR	Weaving	0.83	55.1	30.7	30.2	0.34	0.27	0,714.0	0,612.9	11.12	2.36
NW 95 Street OFR-I-95 MAINLINE	Basic	0.95	63.5	30.7	30.2	0.00	0.00	0,010.6	0,009.1	0.14	0.01
Freeway			79.6	22.5	22.1	6.19	7.67	17,056.7	14,988.0	0,188.4	-0,025.7

	Density-Based LOS by Segment														
Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Time Step	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	Off Ramp	Basic	On Ramp	Basic	On Ramp	Basic	Off Ramp	Basic
1	F	E	C	E	E	E	E	E	F	A	F	E	D	D	C
	Density-Based LOS by Segment														
Segment	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Time Step	On Ramp	Basic	On Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Ramp Overlap	Off Ramp	Basic	Weaving	Basic	On Ramp
1	D	D	A	E	E	D	D	C	D	D	C	C	C	C	D
	Density-Based LOS by Segment														
Segment	31	32	33	34	35	36	37								
Time Step	Basic	On Ramp	Basic	Off Ramp	Basic	Weaving	Basic								
1	D	D	D	D	D	D	D								
	Demand-Based LOS by Segment														
Time Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	F	F	.	.	.	.	.	.	.	.	.	F	.	.	.
	Demand-Based LOS by Segment														
Time Step	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	31	32	33	34	35	36	37								
1	.	.	.	.	.	.	.								

HCS 2010 Freeway Facilities

Project Properties

Analyst	Ana/Omor/Qidi	Freeway Name	I-95 SOUTHBOUND	Analysis Period	PM Peak
Analysis Date	9/23/2015 9:33:17 AM	From	MM 8.105	Version Date	5/15/15
Agency	F R ALEMAN & ASSOCIATES	To	MM 0.000		
Location	Miami-Dade County	Analysis Direction	SOUTHBOUND		
User Notes	Northern Section of I95 SB Corridor- (MM 8.105 to 0.000) From NW 95 ST TO END OF PROJECT AT I-95 S AND US-1				
File Name	C:\Users\Ian.Rairden\AppData\Local\Temp\preview.xml				

Facility-wide Values

Jam Density (pc/h/ln)	200	Time Period Duration (min)	15	Facility Length (mi)	9.35300

Segment Input Data

Time Period 1

Mainline Data

Seg #	From	To	Type	Length	Terrain	Adj. Demand	% Trucks	% RVs	# Lanes	FFS
1	NW 95 Street OFR	NW 95 Street ONR	Basic Segment	1748	Level	6113	7.87	0.00	4	70
2	-	NW 95 Street ONR	On Ramp	852	Level	6586	7.40	0.00	4	70
3	NW 95 Street ONR	NW 81 Street OFR	Ramp Overlap	648	Level	6586	7.40	0.00	4	70
4	-	NW 81 Street OFR	Off Ramp	852	Level	6586	7.40	0.00	4	70
5	NW 81 Street OFR	NW 79 Street ONR	Basic Segment	2300	Level	5747	8.15	0.00	4	70
6	NW 79 Street ONR	NW 69 Street OFR	Weaving	3331	Level	6583	7.68	0.00	5	70
7	-	NW 62 Street OFR	Off Ramp	1500	Level	6244	7.81	0.00	4	70
8	NW 62 Street OFR	NW 62 Street ONR	Basic Segment	2237	Level	5524	8.41	0.00	4	70
9	-	NW 62 Street ONR	On Ramp	1500	Level	6140	7.73	0.00	4	70
10	NW 62 Street ONR	SR 112/I-195 OFR	Basic Segment	1519	Level	6140	7.73	0.00	5	70
11	-	SR 112/I-195 OFR	Off Ramp	1500	Level	6140	7.73	0.00	3	70
12	SR 112/I-195 OFR	SR 112/I-195 ONR	Basic Segment	4309	Level	3725	9.18	0.00	3	70
13	-	SR 112/I-195 ONR	On Ramp	1500	Level	5329	7.04	0.00	3	70
14	-	Managed Lane Egress	On Ramp	1500	Level	6926	5.41	0.00	4	70
15	Managed Lane Egress	SR 836 OFR	Basic Segment	1157	Level	6926	5.41	0.00	6	70
16	-	SR 836	Off Ramp	1500	Level	6926	5.41	0.00	4	70
17	-	I-395 OFR	Off Ramp	1500	Level	4884	5.51	0.00	4	70
18	-	NW 8 Street OFR	Off Ramp	1500	Level	3888	3.74	0.00	3	70
19	NW 8 Street OFR	I-395/SR 836 ONR	Basic Segment	1228	Level	3089	3.35	0.00	3	70
20	-	I-395/SR 836 ONR	On Ramp	1500	Level	5583	2.76	0.00	4	70
21	I-395/SR 836 ONR	SW 7 Street OFR	Basic Segment	335	Level	5583	2.76	0.00	4	70
22	-	SW 7 Street OFR	Off Ramp	1500	Level	5583	2.76	0.00	4	70
23	-	Dwntwn Dstrbtr OFR	Off Ramp	1500	Level	3969	2.65	0.00	4	70
24	Dwntwn Dstrbtr OFR	NW 2 Street ONR	Basic Segment	719	Level	2594	1.56	0.00	3	70
25	-	NW 2 Street ONR	On Ramp	1500	Level	3149	1.35	0.00	3	70
26	-	Dwntwn Distrbtr ONR	On Ramp	1500	Level	4179	1.01	0.00	3	70
	Dwntwn	SW 8								

RampData

Seg #	Type	Adj. Demand	% Trucks	% RVs	Lanes	Accel/Decel Length	FFS
2	On Ramp	473	1.27	0.00	1	800	50
4	Off Ramp	839	2.26	0.00	1	450	50
7	Off Ramp	720	3.19	0.00	1	450	50
9	On Ramp	616	1.62	0.00	1	1500	50
11	Off Ramp	2415	5.50	0.00	2	1500	50
13	On Ramp	1604	2.06	0.00	2	1500	50
14	On Ramp	1597	0.00	0.00	2	1500	50
16	Off Ramp	2042	5.19	0.00	2	1500	50
17	Off Ramp	996	12.40	0.00	2	210	50
18	Off Ramp	799	5.26	0.00	1	210	50
20	On Ramp	2494	2.04	0.00	2	1000	50
22	Off Ramp	1614	3.04	0.00	1	190	50
23	Off Ramp	1375	4.72	0.00	2	293	50
25	On Ramp	555	0.36	0.00	1	545	50
26	On Ramp	1030	0.00	0.00	1	950	50
28	On Ramp	209	0.96	0.00	1	1367	50
30	Off Ramp	2281	1.67	0.00	2	1500	40

Weaving Segment Data

Seg #	Ramp to Ramp Prop.	On-Ramp					Off-Ramp				
		Adj. Demand	% Trucks	% RVs	Lanes	FFS	Adj. Demand	% Trucks	% RVs	Lanes	FFS
6	0.050	836	4.50	0.00	1	50	339	5.31	0.00	1	50

27	Dstribtr ONR	Street ONR	Basic Segment	1438	Level	4179	1.01	0.00	3	70
28	-	SW 8 Street ONR	On Ramp	1500	Level	4388	1.01	0.00	3	70
29	SW 8 Street ONR	SW 26 Road OFR	Basic Segment	566	Level	4388	1.01	0.00	3	70
30	-	SW 26 Road OFR	Off Ramp	1500	Level	4388	1.01	0.00	2	70
31	SW 26 Road OFR	US 1	Basic Segment	3643	Level	2107	0.30	0.00	2	70

Time Period Independent Weaving Segment Data

Seg #	Configuration	Short Length	# Weaving Lanes	Min. Lane Changes Freeway-Ramp	Min. Lane Changes Ramp-Freeway	Min. Lane Changes Ramp-Ramp
6	OneSide	2530	2	1	1	0

Time Period Results

Time Period 1

Seg #	From	To	Type	Adj. Demand	Vol. Served	Capacity (pc/h)	Capacity (veh/h)	d/c Ratio	v/c ratio	Queue Length (ft)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	Mainline Delay (min/veh)	System Delay (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)	LOS
1	NW 95 Street OFR	NW 95 Street ONR	Basic Segment	6113	6113	9600	9237	0.66	0.66	0	68.3	23.3	22.4	0.29	0.28	0.0	0.0	505.9	505.9	7.4	0.2	C
2	-	NW 95 Street ONR	On Ramp	6586	6586	9600	9258	0.71	0.71	0	63.1	27.0	26.1	0.15	0.14	0.0	0.0	265.7	265.7	4.2	0.4	C
3	NW 95 Street ONR	NW 81 Street OFR	Ramp Overlap	6586	6586	9600	9258	0.71	0.71	0	63.1	27.0	26.1	0.12	0.11	0.0	0.0	202.1	202.1	3.2	0.3	D
4	-	NW 81 Street OFR	Off Ramp	6586	6586	9600	9258	0.71	0.71	0	67.0	25.5	24.6	0.14	0.14	0.0	0.0	265.7	265.7	4.0	0.2	C
5	NW 81 Street OFR	NW 79 Street ONR	Basic Segment	5747	5747	9600	9224	0.62	0.62	0	69.0	21.7	20.8	0.38	0.37	0.0	0.0	625.9	625.9	9.1	0.1	C
6	NW 79 Street ONR	NW 69 Street OFR	Weaving	6583	6583	11375	10954	0.60	0.60	0	55.6	24.6	23.7	0.68	0.54	0.1	0.1	1038.3	1038.3	18.7	3.8	C
7	-	NW 62 Street OFR	Off Ramp	6244	6244	9600	9239	0.68	0.68	0	67.4	24.1	23.2	0.25	0.24	0.0	0.0	443.5	443.5	6.6	0.2	C
8	NW 62 Street OFR	NW 62 Street ONR	Basic Segment	5524	5524	9600	9212	0.60	0.60	0	69.3	20.8	19.9	0.37	0.36	0.0	0.0	585.1	585.1	8.4	0.1	C
9	-	NW 62 Street ONR	On Ramp	6140	6140	9600	9243	0.66	0.66	0	64.5	24.7	23.8	0.26	0.24	0.0	0.0	436.1	436.1	6.8	0.5	C
10	NW 62 Street ONR	SR 112/I-195 OFR	Basic Segment	6140	6140	12000	11553	0.53	0.53	0	69.5	18.3	17.7	0.25	0.25	0.0	0.0	441.6	441.6	6.4	0.0	C
11	-	SR 112/I-195 OFR	Off Ramp	6140	6140	7200	6932	0.89	0.89	0	61.5	34.5	33.3	0.28	0.24	0.0	0.0	436.1	436.1	7.1	0.9	D
12	SR 112/I-195 OFR	SR 112/I-195 ONR	Basic Segment	3725	3725	7200	6884	0.54	0.54	0	69.9	18.6	17.8	0.70	0.70	0.0	0.0	760.0	760.0	10.9	0.0	C
13	-	SR 112/I-195 ONR	On Ramp	5329	5329	7200	6955	0.77	0.77	0	61.8	29.7	28.7	0.28	0.24	0.0	0.0	378.5	378.5	6.1	0.7	D
14	-	Managed Lane Egress	On Ramp	6926	6926	9600	9347	0.74	0.74	0	62.8	28.3	27.6	0.27	0.24	0.0	0.0	491.9	491.9	7.8	0.8	D
15	Managed Lane Egress	SR 836 OFR	Basic Segment	6926	6926	14400	14020	0.49	0.49	0	69.2	17.1	16.7	0.19	0.19	0.0	0.0	379.4	379.4	5.5	0.1	B
16	-	SR 836	Off Ramp	6926	6926	9600	9347	0.74	0.74	0	65.3	27.2	26.5	0.26	0.24	0.0	0.0	491.9	491.9	7.5	0.5	C
17	-	I-395 OFR	Off Ramp	4884	4884	9600	9343	0.52	0.52	0	68.4	18.4	17.9	0.25	0.24	0.0	0.0	346.9	346.9	5.1	0.1	B
18	-	NW 8 Street OFR	Off Ramp	3888	3888	7200	7068	0.55	0.55	0	63.5	20.8	20.4	0.27	0.24	0.0	0.0	276.1	276.1	4.3	0.4	C
19	NW 8 Street OFR	I-395/SR 836 ONR	Basic Segment	3089	3089	7200	7081	0.44	0.44	0	69.3	15.1	14.9	0.20	0.20	0.0	0.0	179.6	179.6	2.6	0.0	B
20	-	I-395/SR 836 ONR	On Ramp	5583	5583	9600	9469	0.59	0.59	0	61.9	22.8	22.4	0.28	0.24	0.0	0.0	396.5	396.5	6.4	0.7	C
21	I-395/SR 836 ONR	SW 7 Street OFR	Basic Segment	5583	5583	9600	9469	0.59	0.59	0	68.2	20.8	20.5	0.06	0.05	0.0	0.0	88.6	88.6	1.3	0.0	C
22	-	SW 7 Street OFR	Off Ramp	5583	5583	9600	9469	0.59	0.59	0	65.1	21.7	21.4	0.26	0.24	0.0	0.0	396.5	396.5	6.1	0.4	C
23	-	Dwntwn Dstrbtr OFR	Off Ramp	3969	3969	9600	9474	0.42	0.42	0	67.0	15.0	14.8	0.25	0.24	0.0	0.0	281.9	281.9	4.2	0.2	B
24	Dwntwn Dstrbtr OFR	NW 2 Street ONR	Basic Segment	2594	2594	7200	7144	0.36	0.36	0	69.5	12.5	12.4	0.12	0.12	0.0	0.0	88.3	88.3	1.3	0.0	B
25	-	NW 2 Street ONR	On Ramp	3149	3149	7200	7152	0.44	0.44	0	63.6	16.6	16.5	0.27	0.24	0.0	0.0	223.7	223.7	3.5	0.3	B

26	-	Dwntwn Distrbtr ONR	On Ramp	4179	4179	7200	7164	0.58	0.58	0	63.2	22.2	22.0	0.27	0.24	0.0	0.0	296.8	296.8	4.7	0.5	C
27	Dwntwn Dstribtr ONR	SW 8 Street ONR	Basic Segment	4179	4179	7200	7164	0.58	0.58	0	69.4	20.2	20.1	0.24	0.23	0.0	0.0	284.5	284.5	4.1	0.0	C
28	-	SW 8 Street ONR	On Ramp	4388	4388	7200	7164	0.61	0.61	0	63.5	23.2	23.0	0.27	0.24	0.0	0.0	311.6	311.6	4.9	0.5	C
29	SW 8 Street ONR	SW 26 Road OFR	Basic Segment	4388	4388	7200	7164	0.61	0.61	0	68.8	21.4	21.3	0.09	0.09	0.0	0.0	117.6	117.6	1.7	0.0	C
30	-	SW 26 Road OFR	Off Ramp	4388	4388	4800	4776	0.92	0.92	0	54.0	40.8	40.6	0.32	0.24	0.1	0.1	311.6	311.6	5.8	1.3	E
31	SW 26 Road OFR	US 1	Basic Segment	2107	2107	4800	4793	0.44	0.44	0	69.8	15.1	15.1	0.59	0.59	0.0	0.0	363.4	363.4	5.2	0.0	B

Overall Results

Segment	Segment Type	Maximum d/c Ratio	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)
NW 95 Street OFR-NW 95 Street ONR	Basic	0.66	68.3	23.3	22.4	0.29	0.28	0,505.9	0,505.9	7.41	0.19
--NW 95 Street ONR	OnRamp	0.71	63.1	27.0	26.1	0.15	0.14	0,265.7	0,265.7	4.21	0.41
NW 95 Street ONR-NW 81 Street OFR	RampOverlap	0.71	63.1	27.0	26.1	0.12	0.11	0,202.1	0,202.1	3.20	0.31
--NW 81 Street OFR	OffRamp	0.71	67.0	25.5	24.6	0.14	0.14	0,265.7	0,265.7	3.96	0.17
NW 81 Street OFR-NW 79 Street ONR	Basic	0.62	69.0	21.7	20.8	0.38	0.37	0,625.9	0,625.9	9.07	0.13
NW 79 Street ONR-NW 69 Street OFR	Weaving	0.60	55.6	24.6	23.7	0.68	0.54	1,038.3	1,038.3	18.67	3.84
--NW 62 Street OFR	OffRamp	0.68	67.4	24.1	23.2	0.25	0.24	0,443.5	0,443.5	6.58	0.24
NW 62 Street OFR-NW 62 Street ONR	Basic	0.60	69.3	20.8	19.9	0.37	0.36	0,585.1	0,585.1	8.44	0.08
--NW 62 Street ONR	OnRamp	0.66	64.5	24.7	23.8	0.26	0.24	0,436.1	0,436.1	6.76	0.53
NW 62 Street ONR-SR 112/I-195 OFR	Basic	0.53	69.5	18.3	17.7	0.25	0.25	0,441.6	0,441.6	6.35	0.04
--SR 112/I-195 OFR	OffRamp	0.89	61.5	34.5	33.3	0.28	0.24	0,436.1	0,436.1	7.09	0.86
SR 112/I-195 OFR-SR 112/I-195 ONR	Basic	0.54	69.9	18.6	17.8	0.70	0.70	0,760.0	0,760.0	10.87	0.02
--SR 112/I-195 ONR	OnRamp	0.77	61.8	29.7	28.7	0.28	0.24	0,378.5	0,378.5	6.13	0.72
-- Managed Lane Egress	OnRamp	0.74	62.8	28.3	27.6	0.27	0.24	0,491.9	0,491.9	7.84	0.81
Managed Lane Egress-SR 836 OFR	Basic	0.49	69.2	17.1	16.7	0.19	0.19	0,379.4	0,379.4	5.49	0.07
--SR 836	OffRamp	0.74	65.3	27.2	26.5	0.26	0.24	0,491.9	0,491.9	7.54	0.51
--I-395 OFR	OffRamp	0.52	68.4	18.4	17.9	0.25	0.24	0,346.9	0,346.9	5.07	0.12
--NW 8 Street OFR	OffRamp	0.55	63.5	20.8	20.4	0.27	0.24	0,276.1	0,276.1	4.35	0.40
NW 8 Street OFR-I-395/SR 836 ONR	Basic	0.44	69.3	15.1	14.9	0.20	0.20	0,179.6	0,179.6	2.59	0.03
--I-395/SR 836 ONR	OnRamp	0.59	61.9	22.8	22.4	0.28	0.24	0,396.5	0,396.5	6.41	0.74
I-395/SR 836 ONR-SW 7 Street OFR	Basic	0.59	68.2	20.8	20.5	0.06	0.05	0,088.6	0,088.6	1.30	0.03
--SW 7 Street OFR	OffRamp	0.59	65.1	21.7	21.4	0.26	0.24	0,396.5	0,396.5	6.09	0.42
-- Dwntwn Dstrbtr OFR	OffRamp	0.42	67.0	15.0	14.8	0.25	0.24	0,281.9	0,281.9	4.21	0.18

Dwntwn Dstrbtr OFR-NW 2 Street ONR	Basic	0.36	69.5	12.5	12.4	0.12	0.12	0,088.3	0,088.3	1.27	0.01
--NW 2 Street ONR	OnRamp	0.44	63.6	16.6	16.5	0.27	0.24	0,223.7	0,223.7	3.51	0.32
-- Dwntwn Distrbtr ONR	OnRamp	0.58	63.2	22.2	22.0	0.27	0.24	0,296.8	0,296.8	4.70	0.46
Dwntwn Dstribtr ONR-SW 8 Street ONR	Basic	0.58	69.4	20.2	20.1	0.24	0.23	0,284.5	0,284.5	4.10	0.04
--SW 8 Street ONR	OnRamp	0.61	63.5	23.2	23.0	0.27	0.24	0,311.6	0,311.6	4.91	0.46
SW 8 Street ONR-SW 26 Road OFR	Basic	0.61	68.8	21.4	21.3	0.09	0.09	0,117.6	0,117.6	1.71	0.03
--SW 26 Road OFR	OffRamp	0.92	54.0	40.8	40.6	0.32	0.24	0,311.6	0,311.6	5.77	1.31
SW 26 Road OFR-US 1	Basic	0.44	69.8	15.1	15.1	0.59	0.59	0,363.4	0,363.4	5.21	0.02
Freeway			64.8	22.2	21.5	8.60	8.02	11,711.3	11,711.3	0,180.8	0,013.5

	Density-Based LOS by Segment														
Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Time Step	Basic	On Ramp	Ramp Overlap	Off Ramp	Basic	Weaving	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	On Ramp	Basic
1	C	C	D	C	C	C	C	C	C	C	D	C	D	D	B
	Density-Based LOS by Segment														
Segment	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Time Step	Off Ramp	Off Ramp	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Off Ramp	Basic	On Ramp	On Ramp	Basic	On Ramp	Basic	Off Ramp
1	C	B	C	B	C	C	C	B	B	B	C	C	C	C	E
	Density-Based LOS by Segment														
Segment	31														
Time Step	Basic														
1	B														
	Demand-Based LOS by Segment														
Time Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Demand-Based LOS by Segment														
Time Step	31														
1	.														

HCS 2010 Freeway Facilities

Project Properties

Analyst	Ana/Omor/Qidi	Freeway Name	I-95 SOUTHBOUND	Analysis Period	PM Peak
Analysis Date	9/23/2015 9:33:17 AM	From	MM 17.260	Version Date	5/15/15
Agency	F R ALEMAN & ASSOCIATES	To	MM 8.105		
Location	Miami-Dade County	Analysis Direction	SOUTHBOUND		
User Notes	Northern Section of I95 SB Corridor- (MM 17.260 to 8.105) From END of Project I95 Broward County Line TO NW 95TH ST				
File Name	C:\Users\Ian.Rairden\AppData\Local\Temp\preview.xml				

Facility-wide Values

Jam Density (pc/h/ln)	190	Time Period Duration (min)	15	Facility Length (mi)	8.95300

Segment Input Data

Time Period 1

Mainline Data

Seg #	From	To	Type	Length	Terrain	Adj. Demand	% Trucks	% RVs	# Lanes	FFS
1	Broward County Line	Ives Dairy Road OFR	Basic Segment	130	Level	7079	6.02	0.00	3	70
2	-	Ives Dairy Road OFR	Off Ramp	1500	Level	7079	6.02	0.00	3	70
3	Ives Dairy Rd OFR	Ives Dairy Road ONR	Basic Segment	4600	Level	5170	7.95	0.00	4	70
4	-	Ives Dairy Road ONR	On Ramp	1500	Level	6452	6.54	0.00	3	70
5	Ives Dairy Road ONR	Managed Lane Ingress	Basic Segment	2122	Level	6452	6.54	0.00	3	70
6	-	Managed Lane Ingress	Off Ramp	1500	Level	6452	6.54	0.00	3	70
7	Managed Lane Ingress	Miami Gardens Dr	Basic Segment	1193	Level	6452	6.54	0.00	3	70
8	-	Miami Gardens Dr OFR	Off Ramp	1500	Level	6452	6.54	0.00	3	70
9	Miami Gardens Dr OFR	Miami Gardens Dr ONR	Basic Segment	850	Level	5245	7.66	0.00	3	70
10	-	Miami Gardens Dr ONR	On Ramp	1500	Level	5828	7.10	0.00	3	70
11	Miami Gardens Dr ONR	Managed Lane Egress	Basic Segment	79	Level	5828	7.10	0.00	3	70
12	-	Managed Lane Egress	On Ramp	1500	Level	6891	7.74	0.00	3	70
13	Managed Lane Egress	Turnpike SR 826 OFR	Basic Segment	2291	Level	6891	7.74	0.00	4	70
14	-	FL Turnpk/SR 826 OFR	Off Ramp	1500	Level	6891	7.74	0.00	4	70
15	FL Turnpk/SR 826 OFR	SR 7/US-441 ONR	Basic Segment	1204	Level	5261	8.08	0.00	3	70
16	-	SR 7/US-441 ONR	On Ramp	1500	Level	6221	9.13	0.00	3	70
17	SR 7/US-441 ONR	NW 167 Street ONR	Basic Segment	317	Level	6221	9.13	0.00	3	70
18	-	NW 167 Street ONR	On Ramp	1500	Level	6593	8.86	0.00	3	70
19	NW 167 Street ONR	FL Trnpke/SR 826 ONR	Basic Segment	69	Level	6593	8.86	0.00	3	70
20	-	FL Trnpke/SR 826 ONR	On Ramp	1500	Level	9325	7.87	0.00	4	70
21	FL Trnpke/SR 826 ONR	Managed Lane Ingress	Basic Segment	907	Level	9325	7.87	0.00	4	70
22	-	Managed Lane Ingress	Off Ramp	1500	Level	9325	7.87	0.00	4	70
23	Managed Lane Ingress	NW 151 Street ONR	Basic Segment	572	Level	8510	8.63	0.00	4	70
24	-	NW 151 Street ONR	On Ramp	530	Level	8743	8.45	0.00	4	70
25	NW 151 Street ONR	Opa Locka Blvd OFR	Ramp Overlap	970	Level	8743	8.45	0.00	4	70
26	-	Opa Locka Blvd OFR	Off Ramp	530	Level	8743	8.45	0.00	4	70
27	Opa Locka Blvd OFR	NW 135 Street ONR	Basic Segment	2286	Level	8000	9.00	0.00	4	70
	NW 135	NW 125								

RampData

Seg #	Type	Adj. Demand	% Trucks	% RVs	Lanes	Accel/Decel Length	FFS
2	Off Ramp	1909	0.79	0.00	2	900	50
4	On Ramp	1282	0.86	0.00	1	975	50
6	Off Ramp	0	0.00	0.00	1	200	50
8	Off Ramp	1207	1.69	0.00	1	200	50
10	On Ramp	583	2.11	0.00	1	1110	50
12	On Ramp	1063	11.20	0.00	1	450	40
14	Off Ramp	1630	6.63	0.00	2	0	50
16	On Ramp	960	14.90	0.00	1	755	50
18	On Ramp	372	4.30	0.00	1	702	50
20	On Ramp	2732	5.49	0.00	2	900	50
22	Off Ramp	815	0.00	0.00	1	705	50
24	On Ramp	233	2.19	0.00	1	520	50
26	Off Ramp	743	2.56	0.00	1	272	50
30	On Ramp	545	2.02	0.00	1	1000	50
32	On Ramp	655	2.30	0.00	1	745	50
34	Off Ramp	798	2.13	0.00	1	203	50

28	Street ONR	Street OFR	Weaving	2235	Level	8556	8.53	0.00	5	70
29	NW 125 Street OFR	NW 125 Street OFR	Basic Segment	1570	Level	7818	9.21	0.00	4	70
30	-	NW 125 Street ONR	On Ramp	1500	Level	8363	8.74	0.00	4	70
31	NW 125 Street ONR	NW 119 Street ONR	Basic Segment	475	Level	8363	8.74	0.00	4	70
32	-	NW 119 Street ONR	On Ramp	1500	Level	9018	8.27	0.00	4	70
33	NW 119 Street ONR	NW 103 Street OFR	Basic Segment	190	Level	9018	8.27	0.00	4	70
34	-	NW 103 Street OFR	Off Ramp	1500	Level	9018	8.27	0.00	4	70
35	NW 103 Street OFR	NW 103 Street ONR	Basic Segment	1490	Level	8220	8.87	0.00	4	70
36	NW 103 Street ONR	NW 95 Street OFR	Weaving	1637	Level	8747	8.45	0.00	5	70
37	NW 95 Street OFR	I-95 MAINLINE	Basic Segment	25	Level	8239	8.73	0.00	4	70

Weaving Segment Data

Seg #	Ramp to Ramp Prop.	On-Ramp					Off-Ramp				
		Adj. Demand	% Trucks	% RVs	Lanes	FFS	Adj. Demand	% Trucks	% RVs	Lanes	FFS
28	0.050	556	1.80	0.00	1	50	738	1.36	0.00	1	50
36	0.050	527	1.90	0.00	1	50	508	3.94	0.00	1	50

Time Period Independent Weaving Segment Data

Seg #	Configuration	Short Length	# Weaving Lanes	Min. Lane Changes Freeway-Ramp	Min. Lane Changes Ramp-Freeway	Min. Lane Changes Ramp-Ramp
28	OneSide	2235	2	1	1	0
36	OneSide	1637	2	1	1	0

Time Period Results

Time Period 1

Seg #	From	To	Type	Adj. Demand	Vol. Served	Capacity (pc/h)	Capacity (veh/h)	d/c Ratio	v/c ratio	Queue Length (ft)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	Mainline Delay (min/veh)	System Delay (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)	LOS
1	Broward County Line	Ives Dairy Road OFR	Basic Segment	7079	6960	7200	6990	1.01	1.00	0	53.6	44.6	43.3	0.03	0.02	0.0	0.0	43.6	42.8	0.8	0.2	F
2	-	Ives Dairy Road OFR	Off Ramp	7079	6960	7200	6990	1.01	1.00	0	59.9	39.9	38.7	0.28	0.24	0.0	0.0	502.8	494.3	8.3	1.2	F
3	Ives Dairy Rd OFR	Ives Dairy Road ONR	Basic Segment	5170	5100	9600	9233	0.56	0.55	0	69.8	19.0	18.3	0.75	0.75	0.0	0.0	1126.0	1110.8	15.9	0.0	C
4	-	Ives Dairy Road ONR	On Ramp	6452	6360	7200	6972	0.93	0.91	0	57.2	38.1	36.9	0.30	0.24	0.1	0.1	458.2	451.7	7.9	1.4	E
5	Ives Dairy Road ONR	Managed Lane Ingress	Basic Segment	6452	6360	7200	6972	0.93	0.91	0	58.6	37.3	36.1	0.41	0.34	0.1	0.1	648.3	639.0	10.9	1.8	E
6	-	Managed Lane Ingress	Off Ramp	6452	6360	7200	6972	0.93	0.91	0	63.7	34.4	33.3	0.27	0.24	0.0	0.0	458.2	451.7	7.1	0.6	D
7	Managed Lane Ingress	Miami Gardens Dr	Basic Segment	6452	6360	7200	6972	0.93	0.91	0	58.6	37.3	36.1	0.23	0.19	0.0	0.0	364.5	359.3	6.1	1.0	E
8	-	Miami Gardens Dr OFR	Off Ramp	6452	6360	7200	6972	0.93	0.91	0	61.3	35.7	34.6	0.28	0.24	0.0	0.0	458.2	451.7	7.4	0.9	E
9	Miami Gardens Dr OFR	Miami Gardens Dr ONR	Basic Segment	5245	5220	7200	6934	0.76	0.75	0	65.7	27.5	26.5	0.15	0.14	0.0	0.0	211.1	210.1	3.2	0.2	D
10	-	Miami Gardens Dr ONR	On Ramp	5828	5760	7200	6953	0.84	0.83	0	-23.7	-83.7	-80.9	-0.72	0.24	-1.0	-1.0	413.9	409.1	-17.3	-23.1	A
11	Miami Gardens Dr ONR	Managed Lane Egress	Basic Segment	5828	5760	7200	6953	0.84	0.83	0	43.9	45.3	43.7	0.02	0.01	0.0	0.0	21.8	21.5	0.5	0.2	F
12	-	Managed Lane Egress	On Ramp	6891	6840	7200	6932	0.99	0.99	0	48.8	48.2	46.4	0.35	0.24	0.1	0.1	489.4	485.8	9.9	3.0	E
13	Managed Lane Egress	Turnpike SR 826 OFR	Basic Segment	6891	6840	9600	9243	0.75	0.74	0	66.1	26.9	25.9	0.39	0.37	0.0	0.0	747.5	742.0	11.2	0.6	D
14	-	FL Turnpk/SR 826 OFR	Off Ramp	6891	6840	9600	9243	0.75	0.74	0	64.2	27.7	26.6	0.27	0.24	0.0	0.0	489.4	485.8	7.6	0.6	C
15	FL Turnpk/SR 826 OFR	SR 7/US-441 ONR	Basic Segment	5261	5220	7200	6920	0.76	0.75	0	65.7	27.6	26.5	0.21	0.20	0.0	0.0	299.9	297.6	4.5	0.3	D
16	-	SR 7/US-441 ONR	On Ramp	6221	6180	7200	6886	0.90	0.90	0	33.2	64.4	61.6	0.51	0.24	0.3	0.3	441.8	438.9	13.2	7.0	E
17	SR 7/US-441 ONR	NW 167 Street ONR	Basic Segment	6221	6180	7200	6886	0.90	0.90	0	59.4	36.2	34.7	0.06	0.05	0.0	0.0	93.4	92.8	1.6	0.2	E
18	-	NW 167 Street ONR	On Ramp	6593	6540	7200	6895	0.96	0.95	0	-7.2	-313.7	-300.4	-2.35	0.24	-2.6	-2.6	468.3	464.5	-64.2	-70.8	A
19	NW 167 Street ONR	FL Trnpke/SR 826 ONR	Basic Segment	6593	6540	7200	6895	0.96	0.95	0	48.3	47.1	45.1	0.02	0.01	0.0	0.0	21.5	21.4	0.4	0.1	F
20	-	FL Trnpke/SR 826 ONR	On Ramp	9325	8640	9600	9236	1.01	0.94	0	50.1	44.3	42.6	0.34	0.24	0.1	2.4	662.3	613.6	12.3	3.5	F
21	FL Trnpke/SR 826 ONR	Managed Lane Ingress	Basic Segment	9325	8640	9600	9236	1.01	0.94	0	57.3	39.2	37.7	0.18	0.15	0.0	0.0	400.5	371.0	6.5	1.2	F

22	-	Managed Lane Ingress	Off Ramp	9325	8640	9600	9236	1.01	0.94	0	64.2	35.0	33.7	0.27	0.24	0.0	0.0	662.3	613.6	9.6	0.8	F
23	Managed Lane Ingress	NW 151 Street ONR	Basic Segment	8510	7920	9600	9203	0.92	0.86	0	61.3	33.7	32.3	0.11	0.09	0.0	0.0	230.5	214.5	3.5	0.4	D
24	-	NW 151 Street ONR	On Ramp	8743	8100	9600	9211	0.95	0.88	0	60.8	34.7	33.3	0.10	0.09	0.0	0.0	219.4	203.3	3.3	0.4	D
25	NW 151 Street ONR	Opa Locka Blvd OFR	Ramp Overlap	8743	8100	9600	9211	0.95	0.88	0	60.8	34.7	33.3	0.18	0.16	0.0	0.0	401.5	372.0	6.1	0.8	D
26	-	Opa Locka Blvd OFR	Off Ramp	8743	8100	9600	9211	0.95	0.88	0	64.5	32.7	31.4	0.09	0.09	0.0	0.0	219.4	203.3	3.2	0.2	D
27	Opa Locka Blvd OFR	NW 135 Street ONR	Basic Segment	8000	7440	9600	9187	0.87	0.81	0	63.6	30.6	29.3	0.41	0.37	0.0	0.0	865.9	805.3	12.7	1.2	D
28	NW 135 Street ONR	NW 125 Street OFR	Weaving	8556	7980	11352	10887	0.79	0.73	0	52.4	34.4	32.9	0.48	0.36	0.1	0.1	905.4	844.5	16.1	4.0	D
29	NW 125 Street OFR	NW 125 Street OFR	Basic Segment	7818	7320	9600	9177	0.85	0.80	0	64.1	29.9	28.6	0.28	0.25	0.0	0.0	581.2	544.1	8.5	0.7	D
30	-	NW 125 Street ONR	On Ramp	8363	7860	9600	9198	0.91	0.85	0	61.4	33.3	31.9	0.28	0.24	0.0	0.0	594.0	558.2	9.1	1.1	D
31	NW 125 Street ONR	NW 119 Street ONR	Basic Segment	8363	7860	9600	9198	0.91	0.85	0	61.6	33.3	31.9	0.09	0.08	0.0	0.0	188.1	176.8	2.9	0.3	D
32	-	NW 119 Street ONR	On Ramp	9018	8520	9600	9219	0.98	0.92	0	60.5	36.5	35.1	0.28	0.24	0.0	0.0	640.5	605.1	10.0	1.4	E
33	NW 119 Street ONR	NW 103 Street OFR	Basic Segment	9018	8520	9600	9219	0.98	0.92	0	58.0	38.3	36.7	0.04	0.03	0.0	0.0	81.1	76.6	1.3	0.2	E
34	-	NW 103 Street OFR	Off Ramp	9018	8520	9600	9219	0.98	0.92	0	64.2	34.5	33.2	0.27	0.24	0.0	0.0	640.5	605.1	9.4	0.8	D
35	NW 103 Street OFR	NW 103 Street ONR	Basic Segment	8220	7740	9600	9192	0.89	0.84	0	62.2	32.5	31.1	0.27	0.24	0.0	0.0	579.9	546.1	8.8	1.0	D
36	NW 103 Street ONR	NW 95 Street OFR	Weaving	8747	8280	11238	10782	0.81	0.77	0	53.7	35.0	33.6	0.35	0.27	0.1	0.1	678.0	641.8	12.0	2.8	E
37	NW 95 Street OFR	I-95 MAINLINE	Basic Segment	8239	7800	9600	9199	0.90	0.85	0	61.9	32.9	31.5	0.00	0.00	0.0	0.0	9.8	9.2	0.1	0.0	D

Overall Results

Segment	Segment Type	Maximum d/c Ratio	Avg. Speed (mi/h)	Density (pc/mi/ln)	Density (veh/mi/ln)	Avg. Travel Time (min/veh)	Free-Flow Travel Time (min/veh)	VMT Demand (veh-min)	VMT Volume (veh-min)	VHT (veh-hrs)	VHD (veh-hrs)
Broward County Line-Ives Dairy Road OFR	Basic	1.01	53.6	44.6	43.3	0.03	0.02	0,043.6	0,042.8	0.80	0.19
--Ives Dairy Road OFR	OffRamp	1.01	59.9	39.9	38.7	0.28	0.24	0,502.8	0,494.3	8.26	1.19
Ives Dairy Rd OFR-Ives Dairy Road ONR	Basic	0.56	69.8	19.0	18.3	0.75	0.75	1,126.0	1,110.8	15.91	0.04
--Ives Dairy Road ONR	OnRamp	0.93	57.2	38.1	36.9	0.30	0.24	0,458.2	0,451.7	7.90	1.45
Ives Dairy Road ONR-Managed Lane Ingress	Basic	0.93	58.6	37.3	36.1	0.41	0.34	0,648.3	0,639.0	10.90	1.77
--Managed Lane Ingress	OffRamp	0.93	63.7	34.4	33.3	0.27	0.24	0,458.2	0,451.7	7.09	0.64
Managed Lane Ingress-Miami Gardens Dr	Basic	0.93	58.6	37.3	36.1	0.23	0.19	0,364.5	0,359.3	6.13	0.99
--Miami Gardens Dr OFR	OffRamp	0.93	61.3	35.7	34.6	0.28	0.24	0,458.2	0,451.7	7.37	0.92
Miami Gardens Dr OFR-Miami Gardens Dr ONR	Basic	0.76	65.7	27.5	26.5	0.15	0.14	0,211.1	0,210.1	3.20	0.19
--Miami Gardens Dr ONR	OnRamp	0.84	-23.7	-83.7	-80.9	-0.72	0.24	0,413.9	0,409.1	-17.29	-23.14
Miami Gardens Dr ONR-Managed Lane Egress	Basic	0.84	43.9	45.3	43.7	0.02	0.01	0,021.8	0,021.5	0.49	0.18
--Managed Lane Egress	OnRamp	0.99	48.8	48.2	46.4	0.35	0.24	0,489.4	0,485.8	9.95	3.01
Managed Lane Egress-Turnpike SR 826 OFR	Basic	0.75	66.1	26.9	25.9	0.39	0.37	0,747.5	0,742.0	11.22	0.62
--FL Turnpk/SR	OffRamp	0.75	64.2	27.7	26.6	0.27	0.24	0,489.4	0,485.8	7.57	0.63

826 OFR											
FL Turnpk/SR 826 OFR-SR 7/US-441 ONR	Basic	0.76	65.7	27.6	26.5	0.21	0.20	0,299.9	0,297.6	4.53	0.28
--SR 7/US-441 ONR	OnRamp	0.90	33.2	64.4	61.6	0.51	0.24	0,441.8	0,438.9	13.23	6.96
SR 7/US-441 ONR-NW 167 Street ONR	Basic	0.90	59.4	36.2	34.7	0.06	0.05	0,093.4	0,092.8	1.56	0.24
--NW 167 Street ONR	OnRamp	0.96	-7.2	-313.7	-300.4	-2.35	0.24	0,468.3	0,464.5	-64.16	-70.79
NW 167 Street ONR-FL Trnpke/SR 826 ONR	Basic	0.96	48.3	47.1	45.1	0.02	0.01	0,021.5	0,021.4	0.44	0.14
--FL Trnpke/SR 826 ONR	OnRamp	1.01	50.1	44.3	42.6	0.34	0.24	0,662.3	0,613.6	12.26	3.49
FL Trnpke/SR 826 ONR-Managed Lane Ingress	Basic	1.01	57.3	39.2	37.7	0.18	0.15	0,400.5	0,371.0	6.47	1.17
--Managed Lane Ingress	OffRamp	1.01	64.2	35.0	33.7	0.27	0.24	0,662.3	0,613.6	9.56	0.80
Managed Lane Ingress-NW 151 Street ONR	Basic	0.92	61.3	33.7	32.3	0.11	0.09	0,230.5	0,214.5	3.50	0.43
--NW 151 Street ONR	OnRamp	0.95	60.8	34.7	33.3	0.10	0.09	0,219.4	0,203.3	3.35	0.44
NW 151 Street ONR-Opa Locka Blvd OFR	RampOverlap	0.95	60.8	34.7	33.3	0.18	0.16	0,401.5	0,372.0	6.12	0.81
--Opa Locka Blvd OFR	OffRamp	0.95	64.5	32.7	31.4	0.09	0.09	0,219.4	0,203.3	3.15	0.25
Opa Locka Blvd OFR-NW 135 Street ONR	Basic	0.87	63.6	30.6	29.3	0.41	0.37	0,865.9	0,805.3	12.67	1.16
NW 135 Street ONR-NW 125 Street OFR	Weaving	0.79	52.4	34.4	32.9	0.48	0.36	0,905.4	0,844.5	16.11	4.05
NW 125 Street OFR-NW 125 Street OFR	Basic	0.85	64.1	29.9	28.6	0.28	0.25	0,581.2	0,544.1	8.49	0.72
--NW 125 Street ONR	OnRamp	0.91	61.4	33.3	31.9	0.28	0.24	0,594.0	0,558.2	9.09	1.12
NW 125 Street ONR-NW 119 Street ONR	Basic	0.91	61.6	33.3	31.9	0.09	0.08	0,188.1	0,176.8	2.87	0.34
--NW 119 Street ONR	OnRamp	0.98	60.5	36.5	35.1	0.28	0.24	0,640.5	0,605.1	10.00	1.35
NW 119 Street ONR-NW 103 Street OFR	Basic	0.98	58.0	38.3	36.7	0.04	0.03	0,081.1	0,076.6	1.32	0.23
--NW 103 Street OFR	OffRamp	0.98	64.2	34.5	33.2	0.27	0.24	0,640.5	0,605.1	9.42	0.78
NW 103 Street OFR-NW 103 Street ONR	Basic	0.89	62.2	32.5	31.1	0.27	0.24	0,579.9	0,546.1	8.78	0.98
NW 103 Street ONR-NW 95 Street OFR	Weaving	0.81	53.7	35.0	33.6	0.35	0.27	0,678.0	0,641.8	11.96	2.79
NW 95 Street OFR-I-95 MAINLINE	Basic	0.90	61.9	32.9	31.5	0.00	0.00	0,009.8	0,009.2	0.15	0.02
Freeway			92.0	21.6	20.8	5.46	7.67	16,318.0	15,675.0	0,170.4	-0,053.6

	Density-Based LOS by Segment														
Segment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Time Step	Basic	Off Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	Off Ramp	Basic	On Ramp	Basic	On Ramp	Basic	Off Ramp	Basic
1	E	E	C	E	E	D	E	E	D	A	F	E	D	C	D
	Density-Based LOS by Segment														
Segment	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Time Step	On Ramp	Basic	On Ramp	Basic	On Ramp	Basic	Off Ramp	Basic	On Ramp	Ramp Overlap	Off Ramp	Basic	Weaving	Basic	On Ramp
1	E	E	A	F	E	E	D	D	D	D	D	D	D	D	D
	Density-Based LOS by Segment														
Segment	31	32	33	34	35	36	37								

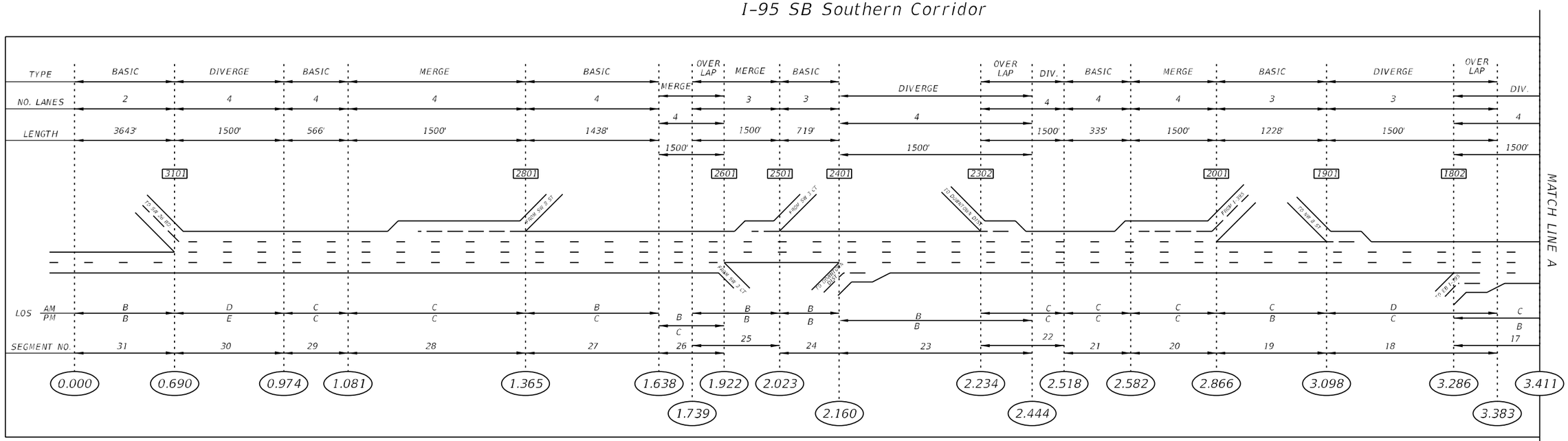
Time Step	Basic	On Ramp	Basic	Off Ramp	Basic	Weaving	Basic
1	D	E	E	D	D	E	D

	Demand-Based LOS by Segment														
Time Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	F	F	.	.	.	.	.	.	.	.	.	.	.	.	.

	Demand-Based LOS by Segment														
Time Step	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	.	.	.	.	F	F	F	.	.	.	.	.	.	.	.

	Demand-Based LOS by Segment						
Time Step	31	32	33	34	35	36	37
1	.	.	.	.	.	.	.

I-95 SB Southern Corridor

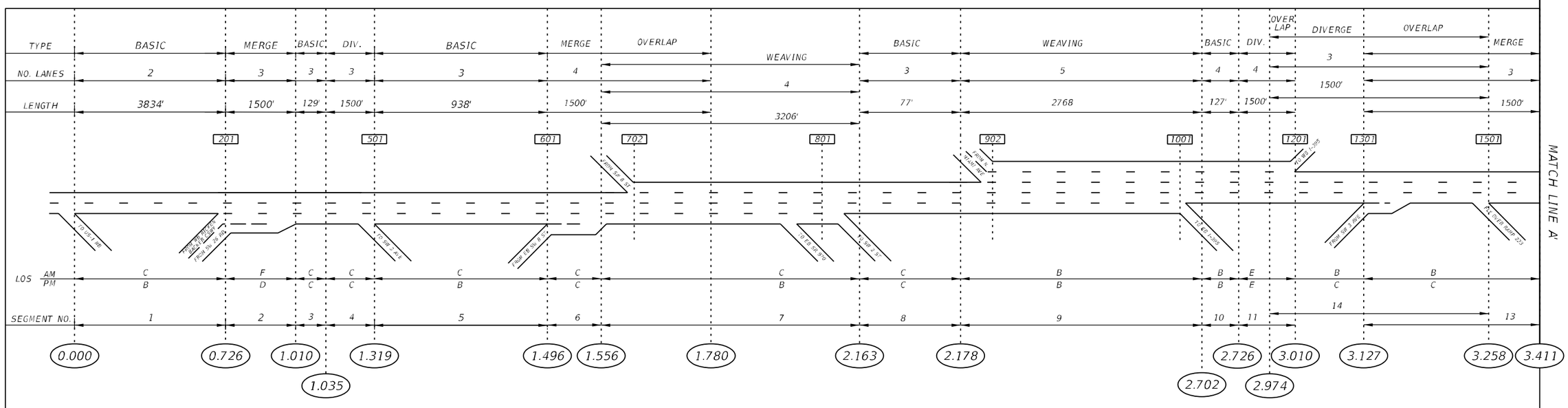


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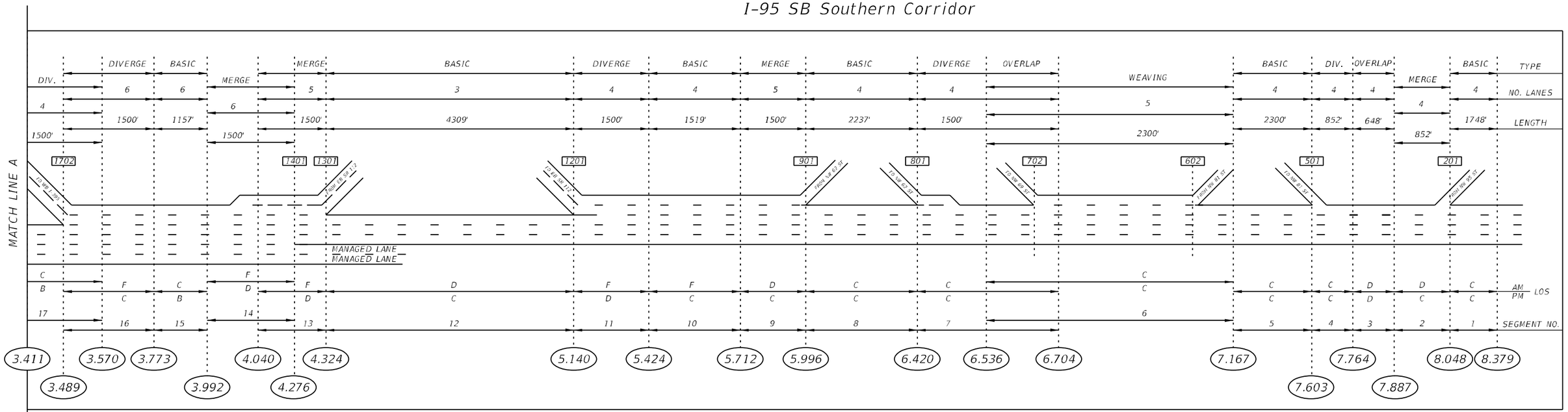
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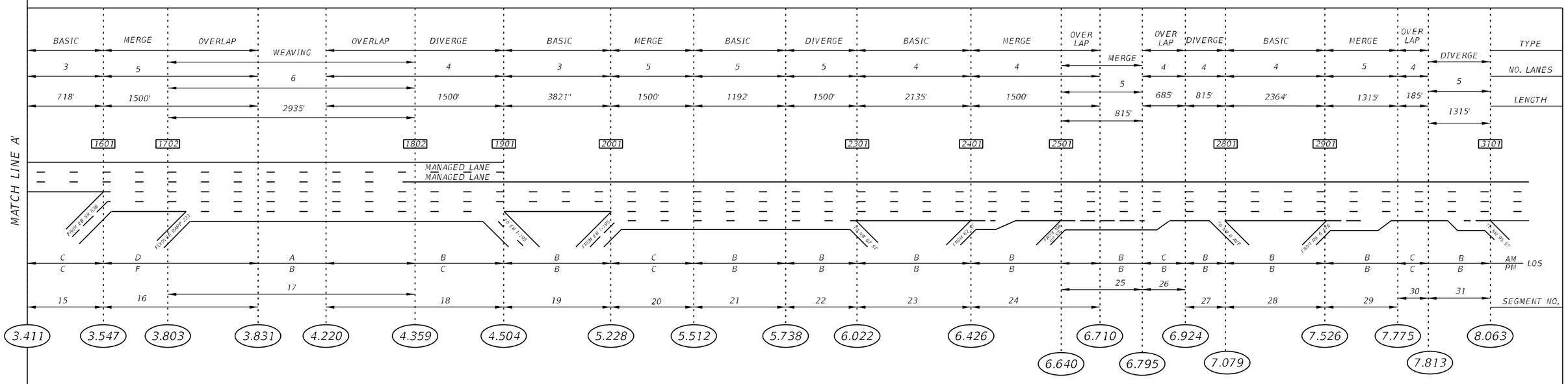
I-95 NB Southern Corridor



I-95 SB Southern Corridor



I-95 NB Southern Corridor

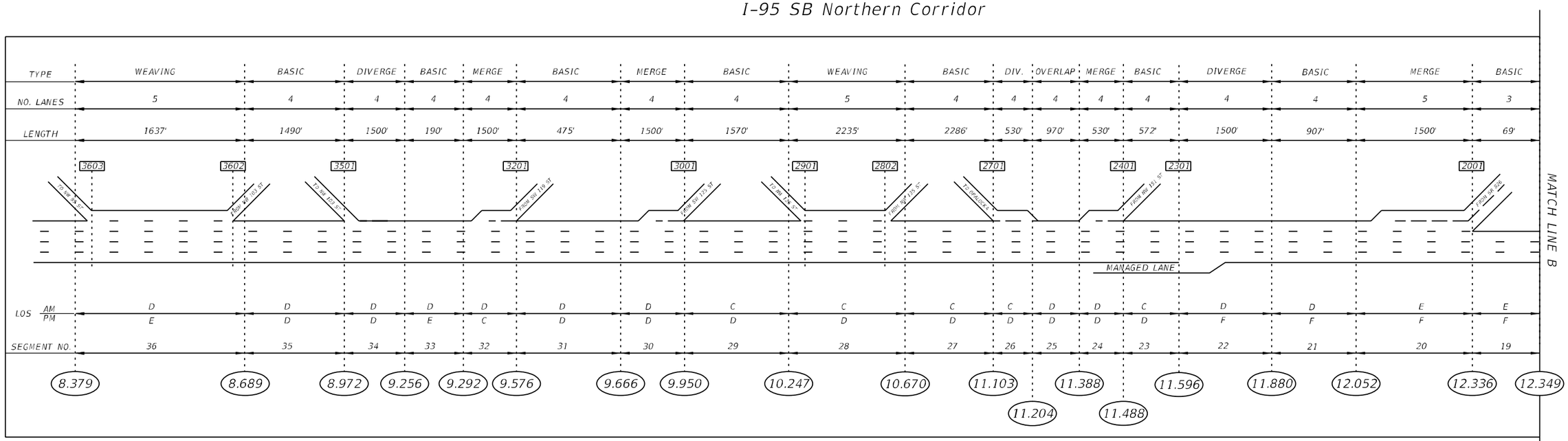


LEGEND :

2121 NODE

12.215 MILE MARKER

I-95 SB Northern Corridor

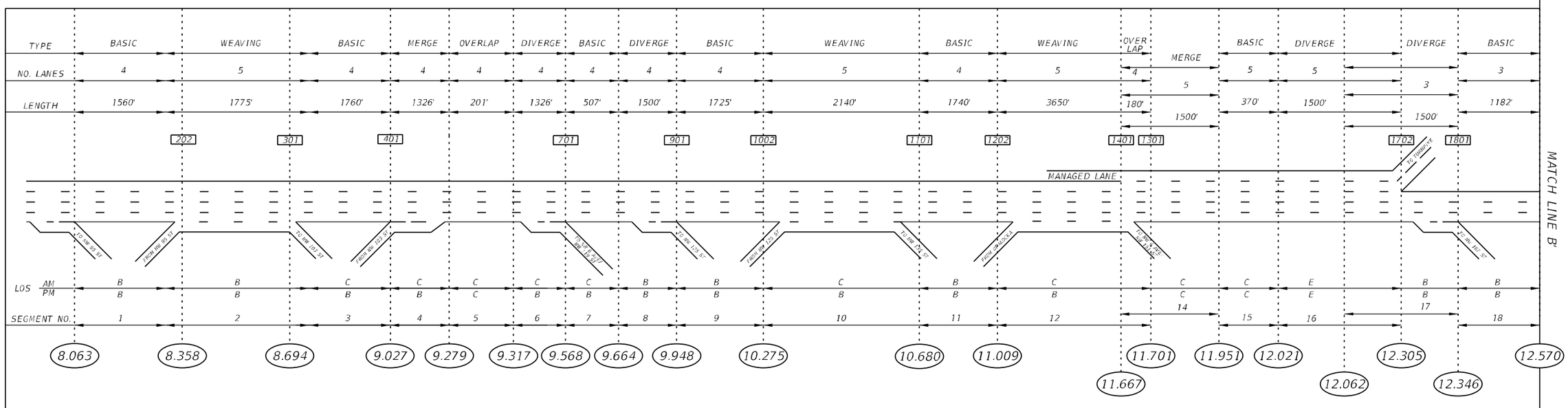


LEGEND :

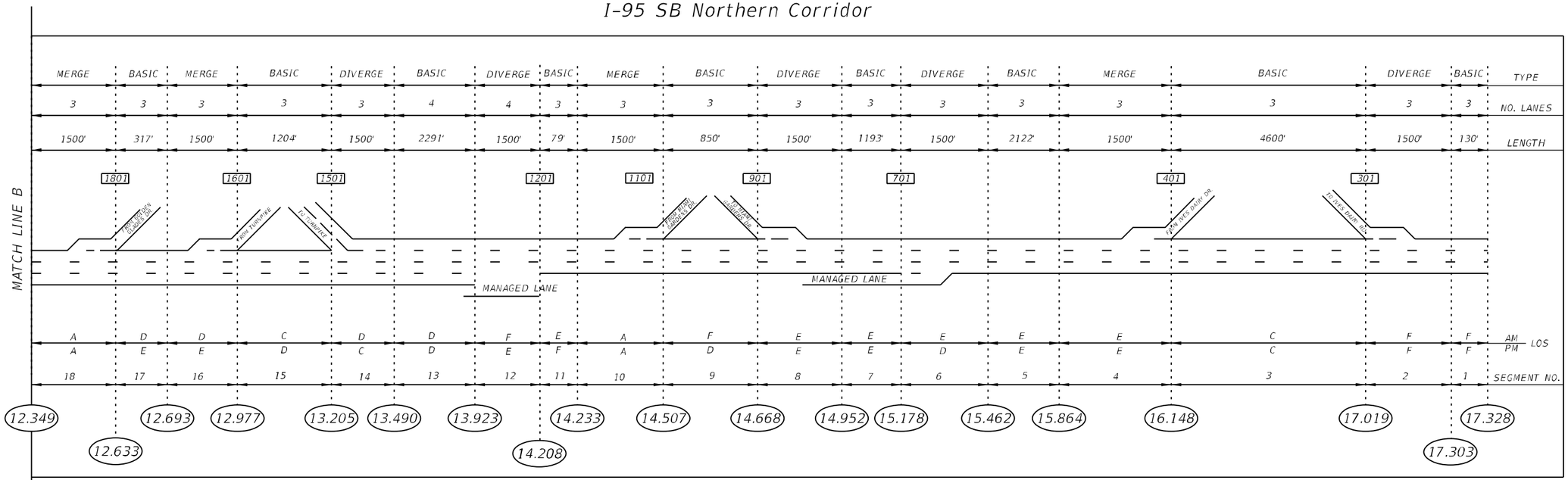
2121 NODE

12.215 MILE MARKER

I-95 NB Northern Corridor



I-95 SB Northern Corridor

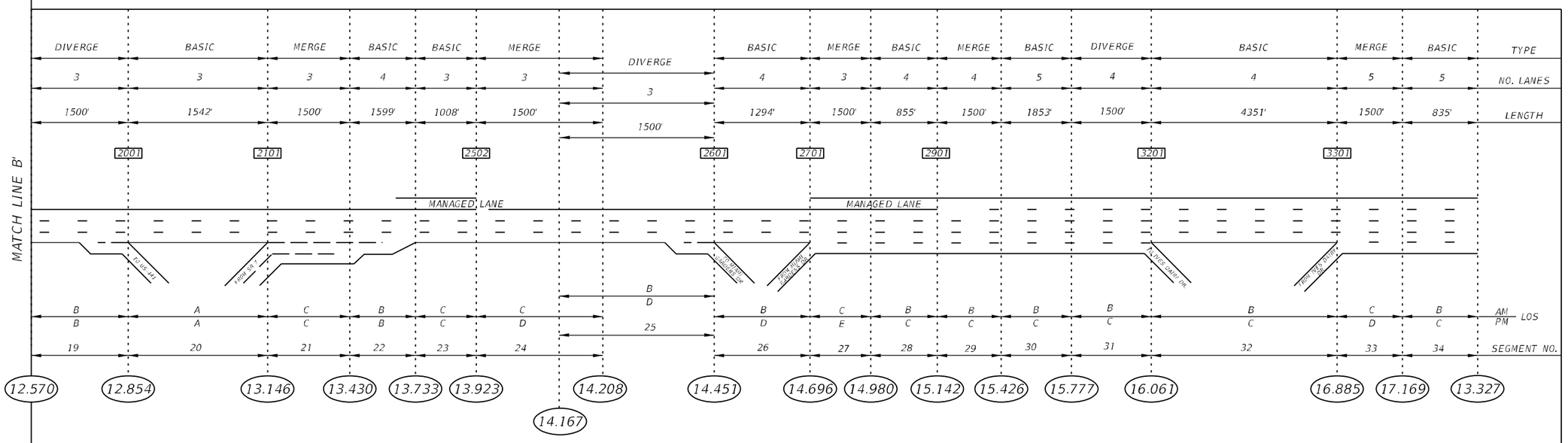


LEGEND :

2121 NODE

12.215 MILE MARKER

I-95 NB Northern Corridor



Appendix C
Synchro Intersection Analyses

Part 1
AM Peak Period

Queues
101: US 1/SR 5 & SW 16th Ave

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	103	3884	2868	448	170
v/c Ratio	0.62	0.91	0.76	1.96	0.60
Control Delay	56.3	15.6	16.4	485.0	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	15.6	16.4	485.0	40.2
Queue Length 50th (ft)	67	1016	698	~821	82
Queue Length 95th (ft)	137	1042	787	#1058	176
Internal Link Dist (ft)		600	552	220	
Turn Bay Length (ft)	175				
Base Capacity (vph)	199	4251	3764	228	281
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.91	0.76	1.96	0.60

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
101: US 1/SR 5 & SW 16th Ave

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	99	3729	2707	46	412	181
Future Volume (vph)	99	3729	2707	46	412	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.91		1.00	0.95
Frt	1.00	1.00	1.00		0.99	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	5136	5123		1784	1519
Flt Permitted	0.03	1.00	1.00		0.95	1.00
Satd. Flow (perm)	55	5136	5123		1784	1519
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	103	3884	2820	48	429	189
RTOR Reduction (vph)	0	0	1	0	1	87
Lane Group Flow (vph)	103	3884	2867	0	447	83
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	146.2	146.2	129.5		20.6	20.6
Effective Green, g (s)	149.0	149.0	132.3		23.0	23.0
Actuated g/C Ratio	0.83	0.83	0.74		0.13	0.13
Clearance Time (s)	6.8	6.8	6.8		6.4	6.4
Vehicle Extension (s)	2.0	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	167	4251	3765		227	194
v/s Ratio Prot	0.04	c0.76	0.56		c0.25	
v/s Ratio Perm	0.46					0.05
v/c Ratio	0.62	0.91	0.76		1.97	0.43
Uniform Delay, d1	52.6	11.0	14.4		78.5	72.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.7	4.1	1.5		451.9	1.1
Delay (s)	57.3	15.0	15.9		530.4	73.5
Level of Service	E	B	B		F	E
Approach Delay (s)		16.1	15.9		404.7	
Approach LOS		B	B		F	

Intersection Summary

HCM 2000 Control Delay	48.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
101: US 1/SR 5 & SW 16th Ave

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	99	3729	2707	46	412	181
Future Volume (veh/h)	99	3729	2707	46	412	181
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1900	1881	1881
Adj Flow Rate, veh/h	103	3884	2820	0	429	189
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	163	4251	3915	0	229	204
Arrive On Green	0.04	0.83	0.76	0.00	0.13	0.13
Sat Flow, veh/h	1792	5305	5474	0	1792	1599
Grp Volume(v), veh/h	103	3884	2820	0	429	189
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	0	1792	1599
Q Serve(g_s), s	2.0	96.2	52.1	0.0	23.0	21.0
Cycle Q Clear(g_c), s	2.0	96.2	52.1	0.0	23.0	21.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	163	4251	3915	0	229	204
V/C Ratio(X)	0.63	0.91	0.72	0.00	1.87	0.93
Avail Cap(c_a), veh/h	245	4251	3915	0	229	204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	11.0	11.3	0.0	78.5	77.6
Incr Delay (d2), s/veh	1.5	4.1	1.2	0.0	409.5	42.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.3	57.3	32.9	0.0	67.4	27.4
LnGrp Delay(d),s/veh	39.9	15.0	12.4	0.0	488.0	119.9
LnGrp LOS	D	B	B		F	F
Approach Vol, veh/h		3987	2820		618	
Approach Delay, s/veh		15.7	12.4		375.4	
Approach LOS		B	B		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		153.0		27.0	11.8	141.2		
Change Period (Y+Rc), s		6.8		6.4	6.8	6.8		
Max Green Setting (Gmax), s		146.2		20.6	13.2	126.2		
Max Q Clear Time (g_c+I1), s		98.2		25.0	4.0	54.1		
Green Ext Time (p_c), s		47.8		0.0	0.1	71.6		

Intersection Summary

HCM 2010 Ctrl Delay	44.4
HCM 2010 LOS	D

Notes

Queues
203: S Miami Ave & SW 26th Rd

Existing Conditions
AM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	1385	427	124	141	77	429	320	53	174
v/c Ratio	0.03	0.68	0.27	0.63	0.16	0.10	0.76	0.26	0.18	0.26
Control Delay	24.3	48.4	0.4	51.6	40.6	28.9	35.9	28.9	23.9	41.1
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	48.6	0.4	51.6	40.6	28.9	35.9	28.9	23.9	41.1
Queue Length 50th (ft)	12	395	0	95	108	28	240	91	23	57
Queue Length 95th (ft)	m23	447	0	153	173	81	355	137	50	93
Internal Link Dist (ft)		330			363			503		322
Turn Bay Length (ft)	165			100					160	
Base Capacity (vph)	716	2039	1583	336	880	777	566	1364	345	1344
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	107	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.72	0.27	0.37	0.16	0.10	0.76	0.23	0.15	0.13

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
203: S Miami Ave & SW 26th Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1316	406	118	134	73	408	302	2	50	151	14
Future Volume (vph)	19	1316	406	118	134	73	408	302	2	50	151	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.9	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	1770	1863	1583	1770	3536		1770	3493	
Flt Permitted	0.67	1.00	1.00	0.09	1.00	1.00	0.49	1.00		0.56	1.00	
Satd. Flow (perm)	1243	5085	1583	162	1863	1583	921	3536		1039	3493	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	20	1385	427	124	141	77	429	318	2	53	159	15
RTOR Reduction (vph)	0	0	0	0	0	41	0	1	0	0	7	0
Lane Group Flow (vph)	20	1385	427	124	141	36	429	319	0	53	167	0
Turn Type	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		8	2			6		
Actuated Green, G (s)	51.8	49.0	120.0	61.6	55.8	55.8	48.5	39.0		26.6	20.1	
Effective Green, g (s)	49.8	49.9	120.0	61.1	56.7	55.8	47.5	40.0		24.6	21.1	
Actuated g/C Ratio	0.41	0.42	1.00	0.51	0.47	0.46	0.40	0.33		0.21	0.18	
Clearance Time (s)	3.0	4.9		3.5	4.9	4.9	3.0	5.0		3.0	5.0	
Vehicle Extension (s)	3.0	2.5		3.0	2.5	2.5	3.0	2.5		3.0	2.5	
Lane Grp Cap (vph)	523	2114	1583	197	880	736	537	1178		246	614	
v/s Ratio Prot	0.00	c0.27		c0.04	0.08		c0.16	0.09		0.01	0.05	
v/s Ratio Perm	0.02		0.27	0.27		0.02	c0.15			0.03		
v/c Ratio	0.04	0.66	0.27	0.63	0.16	0.05	0.80	0.27		0.22	0.27	
Uniform Delay, d1	20.8	28.1	0.0	20.5	18.1	17.6	29.1	29.3		39.1	42.8	
Progression Factor	1.56	1.55	1.00	2.02	2.05	5.99	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.6	0.4	5.9	0.1	0.0	8.1	0.6		0.4	1.1	
Delay (s)	32.5	44.2	0.4	47.3	37.0	105.4	37.2	29.9		39.5	43.9	
Level of Service	C	D	A	D	D	F	D	C		D	D	
Approach Delay (s)		33.8			56.1			34.1			42.9	
Approach LOS		C			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
203: S Miami Ave & SW 26th Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1316	406	118	134	73	408	302	2	50	151	14
Future Volume (veh/h)	19	1316	406	118	134	73	408	302	2	50	151	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	20	1385	0	124	141	0	429	318	0	53	159	0
Adj No. of Lanes	1	3	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	1229	371	175	549	455	749	1890	0	593	1687	0
Arrive On Green	0.01	0.24	0.00	0.06	0.29	0.00	0.11	0.71	0.00	0.03	0.63	0.00
Sat Flow, veh/h	1774	5085	1583	1774	1863	1583	1774	3632	0	1774	3632	0
Grp Volume(v), veh/h	20	1385	0	124	141	0	429	318	0	53	159	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1863	1583	1774	1770	0	1774	1770	0
Q Serve(g_s), s	1.0	29.0	0.0	6.2	6.9	0.0	10.0	3.6	0.0	1.9	2.1	0.0
Cycle Q Clear(g_c), s	1.0	29.0	0.0	6.2	6.9	0.0	10.0	3.6	0.0	1.9	2.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	356	1229	371	175	549	455	749	1890	0	593	1687	0
V/C Ratio(X)	0.06	1.13	0.00	0.71	0.26	0.00	0.57	0.17	0.00	0.09	0.09	0.00
Avail Cap(c_a), veh/h	630	1229	371	341	549	455	749	1890	0	694	1687	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.82	0.82	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.3	45.5	0.0	34.2	32.3	0.0	16.8	8.6	0.0	16.2	11.9	0.0
Incr Delay (d2), s/veh	0.1	68.1	0.0	4.3	0.1	0.0	1.1	0.2	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	38.3	0.0	5.8	6.4	0.0	8.7	3.2	0.0	1.7	1.9	0.0
LnGrp Delay(d),s/veh	35.3	113.6	0.0	38.5	32.4	0.0	17.9	8.8	0.0	16.2	12.0	0.0
LnGrp LOS	D	F		D	C		B	A		B	B	
Approach Vol, veh/h		1405			265			747			212	
Approach Delay, s/veh		112.4			35.3			14.0			13.0	
Approach LOS		F			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	68.1	11.8	33.0	14.0	61.2	5.4	39.4
Change Period (Y+Rc), s	3.0	5.0	3.5	* 4.9	3.0	5.0	3.0	* 4.9
Max Green Setting (Gmax), s	11.0	45.0	19.5	* 28	11.0	45.0	21.0	* 27
Max Q Clear Time (g_c+I1), s	3.9	5.6	8.2	31.0	12.0	4.1	3.0	8.9
Green Ext Time (p_c), s	0.0	2.8	0.2	0.0	0.0	2.8	0.0	9.1

Intersection Summary

HCM 2010 Ctrl Delay	68.7
HCM 2010 LOS	E

Notes

Queues
Existing Conditions
204: Brickell Ave & SW 26th Rd/Rickenbacker Causeway
AM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	270	1135	26	274	269	935	530	177	774
v/c Ratio	0.67	0.65	0.05	0.55	0.17	0.55	0.33	0.29	0.38
Control Delay	13.5	11.6	1.2	51.9	0.2	25.1	0.6	13.0	14.1
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	12.1	1.2	51.9	0.2	25.1	0.6	13.0	14.1
Queue Length 50th (ft)	76	255	0	105	0	266	0	29	155
Queue Length 95th (ft)	246	378	m2	145	0	377	0	52	225
Internal Link Dist (ft)		363		835		649			369
Turn Bay Length (ft)	110				140		590	195	
Base Capacity (vph)	414	2076	662	766	1583	1692	1583	652	2051
Starvation Cap Reductn	0	467	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.71	0.04	0.36	0.17	0.55	0.33	0.27	0.38

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
204: Brickell Ave & SW 26th Rd/Rickenbacker Causeway

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	1033	24	0	249	245	0	851	482	161	612	92
Future Volume (vph)	246	1033	24	0	249	245	0	851	482	161	612	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.8		4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00		0.95	1.00		0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583		3539	1583		3539	1583	3433	3470	
Flt Permitted	0.32	1.00	1.00		1.00	1.00		1.00	1.00	0.19	1.00	
Satd. Flow (perm)	601	5085	1583		3539	1583		3539	1583	677	3470	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	270	1135	26	0	274	269	0	935	530	177	673	101
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	270	1135	8	0	274	269	0	935	530	177	765	0
Turn Type	pm+pt	NA	Perm		NA	Free		NA	Free	pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4		4			Free			Free	6		
Actuated Green, G (s)	38.5	38.5	38.5		14.1	120.0		54.8	120.0	68.1	68.1	
Effective Green, g (s)	40.5	41.3	38.5		16.9	120.0		57.4	120.0	70.1	70.7	
Actuated g/C Ratio	0.34	0.34	0.32		0.14	1.00		0.48	1.00	0.58	0.59	
Clearance Time (s)	6.0	6.8	6.8		6.8			6.6		6.0	6.6	
Vehicle Extension (s)	2.0	2.5	2.5		2.5			1.0		2.0	1.0	
Lane Grp Cap (vph)	401	1750	507		498	1583		1692	1583	609	2044	
v/s Ratio Prot	0.11	c0.22			0.08			c0.26		0.02	0.22	
v/s Ratio Perm	0.11		0.01			0.17			c0.33	0.15		
v/c Ratio	0.67	0.65	0.02		0.55	0.17		0.55	0.33	0.29	0.37	
Uniform Delay, d1	31.5	33.2	27.8		48.0	0.0		22.2	0.0	13.7	13.0	
Progression Factor	0.24	0.31	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.6	0.6	0.0		1.1	0.2		1.3	0.6	0.1	0.5	
Delay (s)	10.2	10.9	27.8		49.1	0.2		23.5	0.6	13.8	13.5	
Level of Service	B	B	C		D	A		C	A	B	B	
Approach Delay (s)		11.1			24.9			15.2			13.6	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
204: Brickell Ave & SW 26th Rd/Rickenbacker Causeway

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	1033	24	0	249	245	0	851	482	161	612	92
Future Volume (veh/h)	246	1033	24	0	249	245	0	851	482	161	612	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863	0	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	270	1135	0	0	274	0	0	935	530	177	673	0
Adj No. of Lanes	1	3	1	0	2	1	0	2	1	2	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	0	2	2	0	2	2	2	2	2
Cap, veh/h	432	1797	523	0	588	226	0	1729	739	559	2053	0
Arrive On Green	0.15	0.35	0.00	0.00	0.17	0.00	0.00	0.65	0.62	0.08	0.77	0.00
Sat Flow, veh/h	1774	5085	1583	0	3632	1583	0	3632	1583	3442	3632	0
Grp Volume(v), veh/h	270	1135	0	0	274	0	0	935	530	177	673	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1770	1583	0	1770	1583	1721	1770	0
Q Serve(g_s), s	14.4	22.3	0.0	0.0	8.4	0.0	0.0	17.1	27.5	2.9	7.0	0.0
Cycle Q Clear(g_c), s	14.4	22.3	0.0	0.0	8.4	0.0	0.0	17.1	27.5	2.9	7.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	432	1797	523	0	588	226	0	1729	739	559	2053	0
V/C Ratio(X)	0.63	0.63	0.00	0.00	0.47	0.00	0.00	0.54	0.72	0.32	0.33	0.00
Avail Cap(c_a), veh/h	439	2076	610	0	767	306	0	1729	739	674	2053	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.70	0.70	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.4	32.3	0.0	0.0	45.2	0.0	0.0	13.8	17.3	14.1	6.6	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.0	0.0	0.4	0.0	0.0	1.2	5.9	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.8	14.9	0.0	0.0	7.5	0.0	0.0	13.2	18.9	2.4	6.3	0.0
LnGrp Delay(d),s/veh	33.8	32.6	0.0	0.0	45.6	0.0	0.0	15.0	23.2	14.2	7.0	0.0
LnGrp LOS	C	C			D			B	C	B	A	
Approach Vol, veh/h		1405			274			1465			850	
Approach Delay, s/veh		32.8			45.6			18.0			8.5	
Approach LOS		C			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	11.0	62.6		46.4		73.6	22.5	23.9
Change Period (Y+Rc), s	6.0	6.6		* 6.8		6.6	6.0	* 6.8
Max Green Setting (Gmax), s	9.0	45.4		* 46		60.4	17.0	* 23
Max Q Clear Time (g_c+I1), s	4.9	29.5		24.3		9.0	16.4	10.4
Green Ext Time (p_c), s	0.1	4.9		9.1		5.6	0.0	6.7

Intersection Summary			
HCM 2010 Ctrl Delay		23.1	
HCM 2010 LOS		C	

Notes

Queues
205: SB Off-Ramp & SW 25th Rd

Lane Group	EBT	WBT	SBT
Lane Group Flow (vph)	433	302	1943
v/c Ratio	0.51	0.28	0.78
Control Delay	27.5	12.3	26.7
Queue Delay	0.3	0.4	0.1
Total Delay	27.8	12.7	26.8
Queue Length 50th (ft)	228	32	415
Queue Length 95th (ft)	328	44	467
Internal Link Dist (ft)	411	125	410
Turn Bay Length (ft)			
Base Capacity (vph)	845	1093	2628
Starvation Cap Reductn	0	379	0
Spillback Cap Reductn	95	0	98
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.58	0.42	0.77

Intersection Summary

HCM Signalized Intersection Capacity Analysis
205: SB Off-Ramp & SW 25th Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	350	65	8	282	0	0	0	0	168	1504	193
Future Volume (vph)	0	350	65	8	282	0	0	0	0	168	1504	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		*0.53			0.95						0.91	
Frt		0.98			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		1928			3535						4984	
Flt Permitted		1.00			0.93						1.00	
Satd. Flow (perm)		1928			3302						4984	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	365	68	8	294	0	0	0	0	175	1567	201
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	13	0
Lane Group Flow (vph)	0	427	0	0	302	0	0	0	0	0	1930	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		51.8			39.2						58.7	
Effective Green, g (s)		52.3			39.7						59.7	
Actuated g/C Ratio		0.44			0.33						0.50	
Clearance Time (s)		4.5			4.5						5.0	
Vehicle Extension (s)		2.5			2.5						1.0	
Lane Grp Cap (vph)		840			1092						2479	
v/s Ratio Prot		c0.22										
v/s Ratio Perm					0.09						0.39	
v/c Ratio		0.51			0.28						0.78	
Uniform Delay, d1		24.5			29.6						24.7	
Progression Factor		1.00			0.38						1.00	
Incremental Delay, d2		0.4			0.1						2.5	
Delay (s)		24.9			11.3						27.2	
Level of Service		C			B						C	
Approach Delay (s)		24.9			11.3			0.0			27.2	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
206: NB On-Ramp & SW 25th Rd

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	364	270	284	891	81	827
v/c Ratio	0.84	0.33	0.45	1.16	0.09	0.88
Control Delay	44.4	16.8	35.8	109.7	13.8	33.3
Queue Delay	8.2	1.6	0.0	0.0	0.0	0.0
Total Delay	52.5	18.4	35.8	109.7	13.8	33.3
Queue Length 50th (ft)	122	88	178	~640	26	420
Queue Length 95th (ft)	#302	m123	271	#906	m46	634
Internal Link Dist (ft)		125	258			245
Turn Bay Length (ft)						
Base Capacity (vph)	453	827	629	768	947	996
Starvation Cap Reductn	61	383	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.61	0.45	1.16	0.09	0.83

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
206: NB On-Ramp & SW 25th Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	331	246	0	0	258	811	74	750	3	0	0	0
Future Volume (vph)	331	246	0	0	258	811	74	750	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00				
Frt	1.00	1.00			1.00	0.85	1.00	1.00				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1805	1900			1900	1615	1805	1899				
Flt Permitted	0.44	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	831	1900			1900	1615	1805	1899				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	364	270	0	0	284	891	81	824	3	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	234	0	0	0	0	0	0
Lane Group Flow (vph)	364	270	0	0	284	657	81	827	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA			NA	Perm	Split	NA				
Protected Phases	3	8			4		6	6				
Permitted Phases	8					4						
Actuated Green, G (s)	52.8	51.8			39.2	39.2	58.7	58.7				
Effective Green, g (s)	52.3	52.3			39.7	39.7	59.7	59.7				
Actuated g/C Ratio	0.44	0.44			0.33	0.33	0.50	0.50				
Clearance Time (s)	3.5	4.5			4.5	4.5	5.0	5.0				
Vehicle Extension (s)	2.0	2.5			2.5	2.5	1.0	1.0				
Lane Grp Cap (vph)	431	828			628	534	897	944				
v/s Ratio Prot	c0.06	0.14			0.15		0.04	c0.44				
v/s Ratio Perm	0.31					c0.41						
v/c Ratio	0.84	0.33			0.45	1.23	0.09	0.88				
Uniform Delay, d1	36.8	22.3			31.6	40.1	15.9	26.9				
Progression Factor	0.78	0.68			1.00	1.00	0.91	0.82				
Incremental Delay, d2	12.1	0.1			0.4	119.1	0.2	11.1				
Delay (s)	40.9	15.2			32.0	159.3	14.6	33.1				
Level of Service	D	B			C	F	B	C				
Approach Delay (s)		29.9			128.5			31.5			0.0	
Approach LOS		C			F			C			A	

Intersection Summary

HCM 2000 Control Delay	73.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	118.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Queues
301: SW 5th Ave & SW 8th St

Lane Group	EBT	NBT
Lane Group Flow (vph)	1388	534
v/c Ratio	0.47	0.86
Control Delay	15.7	46.1
Queue Delay	0.0	0.0
Total Delay	15.7	46.1
Queue Length 50th (ft)	220	338
Queue Length 95th (ft)	286	458
Internal Link Dist (ft)	534	273
Turn Bay Length (ft)		
Base Capacity (vph)	3066	653
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.45	0.82

Intersection Summary

HCM Signalized Intersection Capacity Analysis
301: SW 5th Ave & SW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	1223	10	0	0	0	0	85	427	0	0	0
Future Volume (vph)	100	1223	10	0	0	0	0	85	427	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0				
Lane Util. Factor		0.91						1.00				
Frt		1.00						0.89				
Flt Protected		1.00						1.00				
Satd. Flow (prot)		5061						1653				
Flt Permitted		1.00						1.00				
Satd. Flow (perm)		5061						1653				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	104	1274	10	0	0	0	0	89	445	0	0	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	38	0	0	0	0
Lane Group Flow (vph)	0	1380	0	0	0	0	0	496	0	0	0	0
Turn Type	Perm	NA						NA				
Protected Phases		6						4				
Permitted Phases	6											
Actuated Green, G (s)		67.7						40.3				
Effective Green, g (s)		69.7						42.3				
Actuated g/C Ratio		0.58						0.35				
Clearance Time (s)		6.0						6.0				
Vehicle Extension (s)		2.5						2.5				
Lane Grp Cap (vph)		2939						582				
v/s Ratio Prot								c0.30				
v/s Ratio Perm		0.27										
v/c Ratio		0.47						0.85				
Uniform Delay, d1		14.5						36.0				
Progression Factor		1.00						1.00				
Incremental Delay, d2		0.5						11.4				
Delay (s)		15.0						47.3				
Level of Service		B						D				
Approach Delay (s)		15.0			0.0			47.3			0.0	
Approach LOS		B			A			D			A	

Intersection Summary

HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
301: SW 5th Ave & SW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1223	10	0	0	0	0	85	427	0	0	0
Future Volume (veh/h)	100	1223	10	0	0	0	0	85	427	0	0	0
Number	1	6	16				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900			
Adj Flow Rate, veh/h	104	1274	10				0	89	445			
Adj No. of Lanes	0	3	0				0	1	0			
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	2				0	2	2			
Cap, veh/h	157	1609	13				0	95	474			
Arrive On Green	0.47	0.47	0.44				0.00	0.35	0.33			
Sat Flow, veh/h	346	4602	36				0	271	1353			
Grp Volume(v), veh/h	492	428	468				0	0	534			
Grp Sat Flow(s),veh/h/ln	1752	1543	1689				0	0	1624			
Q Serve(g_s), s	26.0	28.2	28.2				0.0	0.0	38.3			
Cycle Q Clear(g_c), s	28.7	28.2	28.2				0.0	0.0	38.3			
Prop In Lane	0.21		0.02				0.00		0.83			
Lane Grp Cap(c), veh/h	649	539	590				0	0	568			
V/C Ratio(X)	0.76	0.79	0.79				0.00	0.00	0.94			
Avail Cap(c_a), veh/h	1057	900	985				0	0	568			
HCM Platoon Ratio	1.33	1.33	1.33				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	28.5	28.4	28.4				0.0	0.0	38.6			
Incr Delay (d2), s/veh	8.1	11.4	10.5				0.0	0.0	23.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	21.7	19.6	21.0				0.0	0.0	28.3			
LnGrp Delay(d),s/veh	36.6	39.8	38.9				0.0	0.0	62.3			
LnGrp LOS	D	D	D						E			
Approach Vol, veh/h		1388						534				
Approach Delay, s/veh		38.4						62.3				
Approach LOS		D						E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				46.0		46.0		
Change Period (Y+Rc), s				6.0		6.0		
Max Green Setting (Gmax), s				40.0		68.0		
Max Q Clear Time (g_c+I1), s				40.3		30.7		
Green Ext Time (p_c), s				0.0		9.3		

Intersection Summary	
HCM 2010 Ctrl Delay	45.0
HCM 2010 LOS	D

Queues
302: SW 4th Ave & SW 8th St

Lane Group	EBT	SBL	SBT
Lane Group Flow (vph)	1799	1809	498
v/c Ratio	0.73	0.71	0.51
Control Delay	28.2	18.0	15.8
Queue Delay	0.0	14.5	5.4
Total Delay	28.2	32.5	21.2
Queue Length 50th (ft)	389	326	185
Queue Length 95th (ft)	358	340	m232
Internal Link Dist (ft)	483		254
Turn Bay Length (ft)			
Base Capacity (vph)	2454	2606	999
Starvation Cap Reductn	0	820	429
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.73	1.01	0.87

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
302: SW 4th Ave & SW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1680	65	0	0	0	0	0	0	1755	483	0
Future Volume (vph)	0	1680	65	0	0	0	0	0	0	1755	483	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0								4.0	4.0	
Lane Util. Factor		*0.82								*0.91	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		6017								4784	1845	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		6017								4784	1845	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1732	67	0	0	0	0	0	0	1809	498	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	16	0	0
Lane Group Flow (vph)	0	1795	0	0	0	0	0	0	0	1793	498	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type		NA								Perm	NA	
Protected Phases		2									4	
Permitted Phases										4		
Actuated Green, G (s)		46.2								61.1	61.1	
Effective Green, g (s)		48.9								63.1	63.1	
Actuated g/C Ratio		0.41								0.53	0.53	
Clearance Time (s)		6.7								6.0	6.0	
Vehicle Extension (s)		2.0								2.5	2.5	
Lane Grp Cap (vph)		2451								2515	970	
v/s Ratio Prot		c0.30									0.27	
v/s Ratio Perm										c0.37		
v/c Ratio		0.73								0.71	0.51	
Uniform Delay, d1		30.0								21.6	18.5	
Progression Factor		0.87								0.80	0.79	
Incremental Delay, d2		1.7								0.6	0.2	
Delay (s)		27.8								17.8	14.8	
Level of Service		C								B	B	
Approach Delay (s)		27.8			0.0			0.0			17.2	
Approach LOS		C			A			A			B	

Intersection Summary

HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
302: SW 4th Ave & SW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1680	65	0	0	0	0	0	0	1755	483	0
Future Volume (veh/h)	0	1680	65	0	0	0	0	0	0	1755	483	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1900							1845	1845	0
Adj Flow Rate, veh/h	0	1732	67							1809	498	0
Adj No. of Lanes	0	4	0							3	1	0
Peak Hour Factor	0.97	0.97	0.97							0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3							3	3	0
Cap, veh/h	0	2962	115							2329	827	0
Arrive On Green	0.00	0.65	0.62							0.45	0.45	0.00
Sat Flow, veh/h	0	6437	236							4796	1845	0
Grp Volume(v), veh/h	0	1287	512							1809	498	0
Grp Sat Flow(s),veh/h/ln	0	1513	1803							1599	1845	0
Q Serve(g_s), s	0.0	19.4	19.5							40.1	24.5	0.0
Cycle Q Clear(g_c), s	0.0	19.4	19.5							40.1	24.5	0.0
Prop In Lane	0.00		0.13							1.00		0.00
Lane Grp Cap(c), veh/h	0	2202	875							2329	827	0
V/C Ratio(X)	0.00	0.58	0.58							0.78	0.60	0.00
Avail Cap(c_a), veh/h	0	2202	875							2778	999	0
HCM Platoon Ratio	1.00	1.33	1.33							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.88	0.88							0.48	0.48	0.00
Uniform Delay (d), s/veh	0.0	14.4	14.6							29.3	25.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	2.5							0.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	12.6	15.0							22.5	16.5	0.0
LnGrp Delay(d),s/veh	0.0	15.4	17.1							29.9	25.3	0.0
LnGrp LOS		B	B							C	C	
Approach Vol, veh/h		1799									2307	
Approach Delay, s/veh		15.9									28.9	
Approach LOS		B									C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		62.2		57.8				
Change Period (Y+Rc), s		* 6.7		6.0				
Max Green Setting (Gmax), s		* 44		63.0				
Max Q Clear Time (g_c+I1), s		21.5		42.1				
Green Ext Time (p_c), s		10.0		9.7				

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Notes

Queues
304: SW 3rd Ave & SW 8th St

Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2434	297	296	4	340
v/c Ratio	0.68	0.75	0.82	0.04	0.85
Control Delay	8.7	58.1	61.5	64.2	76.6
Queue Delay	0.5	0.0	0.4	0.0	21.9
Total Delay	9.2	58.1	61.9	64.2	98.5
Queue Length 50th (ft)	142	226	211	3	~285
Queue Length 95th (ft)	194	#396	#400	m11	#489
Internal Link Dist (ft)	147	329			244
Turn Bay Length (ft)				55	
Base Capacity (vph)	3768	398	360	101	398
Starvation Cap Reductn	738	0	0	0	61
Spillback Cap Reductn	778	0	4	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.81	0.75	0.83	0.04	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
304: SW 3rd Ave & SW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	2074	233	0	0	0	0	285	284	4	326	0
Future Volume (vph)	30	2074	233	0	0	0	0	285	284	4	326	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frt		0.99						1.00	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		4957						1845	1568	1752	1845	
Flt Permitted		1.00						1.00	1.00	0.25	1.00	
Satd. Flow (perm)		4957						1845	1568	469	1845	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	31	2160	243	0	0	0	0	297	296	4	340	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	21	0	0	0
Lane Group Flow (vph)	0	2421	0	0	0	0	0	297	275	4	340	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		6						4			8	
Permitted Phases	6								4	8		
Actuated Green, G (s)		84.0						24.0	24.0	24.0	24.0	
Effective Green, g (s)		86.0						26.0	26.0	26.0	26.0	
Actuated g/C Ratio		0.72						0.22	0.22	0.22	0.22	
Clearance Time (s)		6.0						6.0	6.0	6.0	6.0	
Vehicle Extension (s)		2.5						2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)		3552						399	339	101	399	
v/s Ratio Prot								0.16			c0.18	
v/s Ratio Perm		0.49							0.18	0.01		
v/c Ratio		0.68						0.74	0.81	0.04	0.85	
Uniform Delay, d1		9.4						43.9	44.7	37.1	45.2	
Progression Factor		0.88						1.00	1.00	1.52	1.25	
Incremental Delay, d2		0.8						7.0	13.3	0.1	15.5	
Delay (s)		9.0						50.9	58.0	56.4	71.9	
Level of Service		A						D	E	E	E	
Approach Delay (s)		9.0			0.0			54.4			71.7	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
304: SW 3rd Ave & SW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	2074	233	0	0	0	0	285	284	4	326	0
Future Volume (veh/h)	30	2074	233	0	0	0	0	285	284	4	326	0
Number	1	6	16				7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900				0	1845	1845	1845	1845	0
Adj Flow Rate, veh/h	31	2160	0				0	297	296	4	340	0
Adj No. of Lanes	0	3	0				0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	0				0	3	3	3	3	0
Cap, veh/h	38	2780	0				0	323	274	74	323	0
Arrive On Green	0.72	0.72	0.00				0.00	0.17	0.17	0.23	0.23	0.00
Sat Flow, veh/h	69	5295	0				0	1845	1568	813	1845	0
Grp Volume(v), veh/h	824	1367	0				0	297	296	4	340	0
Grp Sat Flow(s),veh/h/ln	1841	1679	0				0	1845	1568	813	1845	0
Q Serve(g_s), s	37.1	29.7	0.0				0.0	19.0	21.0	0.6	21.0	0.0
Cycle Q Clear(g_c), s	37.1	29.7	0.0				0.0	19.0	21.0	19.6	21.0	0.0
Prop In Lane	0.04		0.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	998	1820	0				0	323	274	74	323	0
V/C Ratio(X)	0.83	0.75	0.00				0.00	0.92	1.08	0.05	1.05	0.00
Avail Cap(c_a), veh/h	1396	2546	0				0	323	274	74	323	0
HCM Platoon Ratio	1.33	1.33	1.33				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.8	11.8	0.0				0.0	48.7	49.5	54.8	46.0	0.0
Incr Delay (d2), s/veh	7.8	2.9	0.0				0.0	30.2	76.9	0.2	64.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	27.9	20.3	0.0				0.0	18.1	26.9	0.2	29.6	0.0
LnGrp Delay(d),s/veh	20.6	14.7	0.0				0.0	78.9	126.4	55.1	110.8	0.0
LnGrp LOS	C	B						E	F	E	F	
Approach Vol, veh/h		2191						593			344	
Approach Delay, s/veh		16.9						102.6			110.1	
Approach LOS		B						F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				25.0		69.0		25.0
Change Period (Y+Rc), s				6.0		6.0		6.0
Max Green Setting (Gmax), s				19.0		89.0		19.0
Max Q Clear Time (g_c+I1), s				23.0		39.1		23.0
Green Ext Time (p_c), s				0.0		24.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.4
HCM 2010 LOS	D

Queues
305: SW 2nd Ave & SW 8th St

Lane Group	EBT	EBR	NBT	SBT
Lane Group Flow (vph)	2287	207	571	522
v/c Ratio	0.84	0.23	0.37	1.32dl
Control Delay	25.1	5.1	31.8	50.9
Queue Delay	1.1	0.0	0.0	54.6
Total Delay	26.2	5.1	31.8	105.5
Queue Length 50th (ft)	571	18	121	219
Queue Length 95th (ft)	632	m85	156	276
Internal Link Dist (ft)	471		427	248
Turn Bay Length (ft)		155		
Base Capacity (vph)	2780	924	1559	815
Starvation Cap Reductn	261	0	0	368
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.91	0.22	0.37	1.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

HCM Signalized Intersection Capacity Analysis
305: SW 2nd Ave & SW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	1783	186	0	0	0	0	423	91	342	128	0
Future Volume (vph)	275	1783	186	0	0	0	0	423	91	342	128	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0					4.0			4.0	
Lane Util. Factor		0.91	1.00					0.91			0.95	
Frt		1.00	0.85					0.97			1.00	
Flt Protected		0.99	1.00					1.00			0.96	
Satd. Flow (prot)		5002	1568					4902			3382	
Flt Permitted		0.99	1.00					1.00			0.54	
Satd. Flow (perm)		5002	1568					4902			1907	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	306	1981	207	0	0	0	0	470	101	380	142	0
RTOR Reduction (vph)	0	0	54	0	0	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	2287	153	0	0	0	0	555	0	0	522	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)		63.0	63.0					35.4			44.4	
Effective Green, g (s)		65.3	65.3					37.7			46.7	
Actuated g/C Ratio		0.54	0.54					0.31			0.39	
Clearance Time (s)		6.3	6.3					6.3			6.3	
Vehicle Extension (s)		1.0	1.0					1.0			1.0	
Lane Grp Cap (vph)		2721	853					1540			831	
v/s Ratio Prot								0.11			c0.04	
v/s Ratio Perm		0.46	0.10								0.21	
v/c Ratio		0.84	0.18					0.36			1.32dl	
Uniform Delay, d1		23.0	13.8					31.8			29.6	
Progression Factor		0.98	0.81					1.00			1.65	
Incremental Delay, d2		1.8	0.0					0.7			0.7	
Delay (s)		24.3	11.2					32.5			49.5	
Level of Service		C	B					C			D	
Approach Delay (s)		23.2			0.0			32.5			49.5	
Approach LOS		C			A			C			D	

Intersection Summary

HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

HCM 2010 Signalized Intersection Summary
305: SW 2nd Ave & SW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	1783	186	0	0	0	0	423	91	342	128	0
Future Volume (veh/h)	275	1783	186	0	0	0	0	423	91	342	128	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1845				0	1845	1900	1900	1845	0
Adj Flow Rate, veh/h	306	1981	207				0	470	101	380	142	0
Adj No. of Lanes	0	3	1				0	3	0	0	2	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	334	2331	808				0	1744	365	61	667	0
Arrive On Green	0.52	0.52	0.52				0.00	0.56	0.53	0.53	0.56	0.00
Sat Flow, veh/h	648	4522	1568				0	4339	874	4	1679	0
Grp Volume(v), veh/h	856	1431	207				0	376	195	380	142	0
Grp Sat Flow(s),veh/h/ln	1812	1679	1568				0	1679	1690	4	1595	0
Q Serve(g_s), s	52.1	43.2	8.8				0.0	7.0	7.5	54.4	5.4	0.0
Cycle Q Clear(g_c), s	52.1	43.2	8.8				0.0	7.0	7.5	54.4	5.4	0.0
Prop In Lane	0.36		1.00				0.00		0.52	1.00		0.00
Lane Grp Cap(c), veh/h	934	1730	808				0	1403	706	0	667	0
V/C Ratio(X)	0.92	0.83	0.26				0.00	0.27	0.28	0.00	0.21	0.00
Avail Cap(c_a), veh/h	997	1847	862				0	1403	706	0	667	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	1.33	1.33	1.00
Upstream Filter(I)	0.65	0.65	0.65				0.00	1.00	1.00	0.52	0.52	0.00
Uniform Delay (d), s/veh	26.7	24.6	16.2				0.0	17.1	17.7	0.0	16.7	0.0
Incr Delay (d2), s/veh	8.4	1.9	0.0				0.0	0.5	1.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	35.1	26.3	6.4				0.0	5.9	6.6	0.0	4.3	0.0
LnGrp Delay(d),s/veh	35.1	26.4	16.3				0.0	17.5	18.7	0.0	17.1	0.0
LnGrp LOS	D	C	B					B	B		B	
Approach Vol, veh/h		2494						571			522	
Approach Delay, s/veh		28.6						17.9			4.6	
Approach LOS		C						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		54.1		65.9		54.1		
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3		
Max Green Setting (Gmax), s		* 32		* 64		* 44		
Max Q Clear Time (g_c+I1), s		9.5		54.1		56.4		
Green Ext Time (p_c), s		3.9		5.5		0.0		

Intersection Summary

HCM 2010 Ctrl Delay	23.4
HCM 2010 LOS	C

Notes

Queues
306: SW 4th Ave & SW 7th St

Lane Group	WBL	WBT	SBT	SWL	SWR
Lane Group Flow (vph)	311	639	377	1445	390
v/c Ratio	0.62	0.67	0.74	0.87	0.56
Control Delay	13.8	18.9	58.6	34.4	25.3
Queue Delay	0.1	0.0	0.0	9.6	0.0
Total Delay	13.8	18.9	58.6	44.1	25.3
Queue Length 50th (ft)	67	108	143	487	221
Queue Length 95th (ft)	79	108	#231	607	338
Internal Link Dist (ft)		443	266	601	
Turn Bay Length (ft)					
Base Capacity (vph)	538	1038	512	1679	704
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	6	3	0	225	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.62	0.74	0.99	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
306: SW 4th Ave & SW 7th St

Existing Conditions
AM PEAK HOUR

Movement	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	479	414	338	16	1318	407
Future Volume (vph)	479	414	338	16	1318	407
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.91	0.91	0.95		0.97	0.91
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	0.98	1.00		0.95	1.00
Satd. Flow (prot)	1595	3306	3481		3398	1427
Flt Permitted	0.95	0.98	1.00		0.95	1.00
Satd. Flow (perm)	1595	3306	3481		3398	1427
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	510	440	360	17	1402	433
RTOR Reduction (vph)	75	75	0	0	0	0
Lane Group Flow (vph)	236	564	377	0	1445	390
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	4		3	
Permitted Phases	2					3
Actuated Green, G (s)	29.4	29.4	14.5		55.4	55.4
Effective Green, g (s)	31.9	31.9	17.7		58.4	58.4
Actuated g/C Ratio	0.27	0.27	0.15		0.49	0.49
Clearance Time (s)	6.5	6.5	7.2		7.0	7.0
Vehicle Extension (s)	1.0	1.0	2.5		3.0	3.0
Lane Grp Cap (vph)	424	878	513		1653	694
v/s Ratio Prot			c0.11		c0.43	
v/s Ratio Perm	0.15	0.17				0.27
v/c Ratio	0.56	0.64	0.73		0.87	0.56
Uniform Delay, d1	38.0	39.0	48.9		27.5	21.8
Progression Factor	0.31	0.46	1.00		1.00	1.00
Incremental Delay, d2	5.0	3.5	5.1		5.5	1.0
Delay (s)	16.8	21.3	54.0		33.0	22.8
Level of Service	B	C	D		C	C
Approach Delay (s)		19.8	54.0		30.8	
Approach LOS		B	D		C	

Intersection Summary

HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues
307: SW 3rd Ave & SW 7th St

Lane Group	WBT	NBL	NBT
Lane Group Flow (vph)	1128	185	114
v/c Ratio	0.29	0.64	0.38
Control Delay	9.0	25.3	19.6
Queue Delay	0.0	0.1	0.0
Total Delay	9.0	25.3	19.6
Queue Length 50th (ft)	179	46	28
Queue Length 95th (ft)	253	m25	m15
Internal Link Dist (ft)	472		244
Turn Bay Length (ft)		140	
Base Capacity (vph)	3887	506	532
Starvation Cap Reductn	0	18	0
Spillback Cap Reductn	594	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.38	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
307: SW 3rd Ave & SW 7th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	281	701	56	170	105	0	0	0	0
Future Volume (vph)	0	0	0	281	701	56	170	105	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0				
Lane Util. Factor					0.91		1.00	1.00				
Frt					0.99		1.00	1.00				
Flt Protected					0.99		0.95	1.00				
Satd. Flow (prot)					5026		1787	1881				
Flt Permitted					0.99		0.95	1.00				
Satd. Flow (perm)					5026		1787	1881				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	305	762	61	185	114	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1125	0	185	114	0	0	0	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type				Perm	NA		Perm	NA				
Protected Phases					2			4				
Permitted Phases				2			4					
Actuated Green, G (s)					90.7		17.3	17.3				
Effective Green, g (s)					92.7		19.3	19.3				
Actuated g/C Ratio					0.77		0.16	0.16				
Clearance Time (s)					6.0		6.0	6.0				
Vehicle Extension (s)					1.0		2.5	2.5				
Lane Grp Cap (vph)					3882		287	302				
v/s Ratio Prot								0.06				
v/s Ratio Perm					0.22		c0.10					
v/c Ratio					0.29		0.64	0.38				
Uniform Delay, d1					4.0		47.1	45.0				
Progression Factor					2.06		0.39	0.39				
Incremental Delay, d2					0.2		2.9	0.4				
Delay (s)					8.4		21.3	18.1				
Level of Service					A		C	B				
Approach Delay (s)		0.0			8.4			20.1			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
307: SW 3rd Ave & SW 7th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	281	701	56	170	105	0	0	0	0
Future Volume (veh/h)	0	0	0	281	701	56	170	105	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln				1900	1881	1900	1881	1881	0			
Adj Flow Rate, veh/h				305	762	61	185	114	0			
Adj No. of Lanes				0	3	0	1	1	0			
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %				1	1	1	1	1	0			
Cap, veh/h				1035	2557	205	309	261	0			
Arrive On Green				1.00	1.00	1.00	0.14	0.14	0.00			
Sat Flow, veh/h				1233	3219	259	1792	1881	0			
Grp Volume(v), veh/h				368	367	393	185	114	0			
Grp Sat Flow(s),veh/h/ln				1487	1558	1666	1792	1881	0			
Q Serve(g_s), s				0.0	0.0	0.0	11.9	6.7	0.0			
Cycle Q Clear(g_c), s				0.0	0.0	0.0	11.9	6.7	0.0			
Prop In Lane				0.83		0.16	1.00		0.00			
Lane Grp Cap(c), veh/h				1236	1237	1324	309	261	0			
V/C Ratio(X)				0.30	0.30	0.30	0.60	0.44	0.00			
Avail Cap(c_a), veh/h				1236	1237	1324	568	533	0			
HCM Platoon Ratio				1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)				0.90	0.90	0.90	0.58	0.58	0.00			
Uniform Delay (d), s/veh				0.0	0.0	0.0	49.6	47.3	0.0			
Incr Delay (d2), s/veh				0.6	0.5	0.5	0.8	0.5	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.3	0.3	0.3	9.0	5.9	0.0			
LnGrp Delay(d),s/veh				0.6	0.5	0.5	50.4	47.8	0.0			
LnGrp LOS				A	A	A	D	D				
Approach Vol, veh/h					1128			299				
Approach Delay, s/veh					0.5			49.4				
Approach LOS					A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		99.3		20.7				
Change Period (Y+Rc), s		6.0		6.0				
Max Green Setting (Gmax), s		76.0		32.0				
Max Q Clear Time (g_c+I1), s		2.0		13.9				
Green Ext Time (p_c), s		2.6		0.8				

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Queues
308: SW 2nd Ave & SW 7th St

Lane Group	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	1317	40	191	732
v/c Ratio	0.45	0.24	0.16	0.79
Control Delay	14.7	25.8	25.7	45.8
Queue Delay	0.0	0.0	0.0	1.4
Total Delay	14.8	25.8	25.7	47.2
Queue Length 50th (ft)	196	23	58	267
Queue Length 95th (ft)	267	m42	m82	324
Internal Link Dist (ft)	571		248	543
Turn Bay Length (ft)				
Base Capacity (vph)	2931	411	1651	929
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	136	0	0	72
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.47	0.10	0.12	0.85

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
308: SW 2nd Ave & SW 7th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	71	914	214	36	174	0	0	517	149
Future Volume (vph)	0	0	0	71	914	214	36	174	0	0	517	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					0.97		1.00	1.00			0.97	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					4935		1770	3539			3420	
Flt Permitted					1.00		0.12	1.00			1.00	
Satd. Flow (perm)					4935		220	3539			3420	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	78	1004	235	40	191	0	0	568	164
RTOR Reduction (vph)	0	0	0	0	23	0	0	0	0	0	21	0
Lane Group Flow (vph)	0	0	0	0	1295	0	40	191	0	0	711	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Actuated Green, G (s)					68.0		40.0	40.0			29.9	
Effective Green, g (s)					70.0		40.0	42.0			31.9	
Actuated g/C Ratio					0.58		0.33	0.35			0.27	
Clearance Time (s)					6.0		4.0	6.0			6.0	
Vehicle Extension (s)					1.0		2.0	1.0			1.0	
Lane Grp Cap (vph)					2878		152	1238			909	
v/s Ratio Prot							c0.01	0.05			c0.21	
v/s Ratio Perm					0.26		0.07					
v/c Ratio					0.45		0.26	0.15			0.78	
Uniform Delay, d1					14.1		29.8	26.8			40.8	
Progression Factor					1.00		0.99	0.99			1.00	
Incremental Delay, d2					0.5		0.3	0.0			4.1	
Delay (s)					14.6		29.7	26.4			44.9	
Level of Service					B		C	C			D	
Approach Delay (s)		0.0			14.6			27.0			44.9	
Approach LOS		A			B			C			D	

Intersection Summary

HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
308: SW 2nd Ave & SW 7th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	71	914	214	36	174	0	0	517	149
Future Volume (veh/h)	0	0	0	71	914	214	36	174	0	0	517	149
Number				5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1900	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h				78	1004	235	40	191	0	0	568	164
Adj No. of Lanes				0	3	0	1	2	0	0	2	0
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				191	2596	631	114	993	0	0	588	169
Arrive On Green				0.87	0.87	0.85	0.03	0.28	0.00	0.00	0.22	0.20
Sat Flow, veh/h				292	3977	966	1774	3632	0	0	2807	781
Grp Volume(v), veh/h				494	412	412	40	191	0	0	370	362
Grp Sat Flow(s),veh/h/ln				1848	1695	1692	1774	1770	0	0	1770	1725
Q Serve(g_s), s				6.6	5.7	6.2	2.1	4.9	0.0	0.0	24.8	25.0
Cycle Q Clear(g_c), s				6.6	5.7	6.2	2.1	4.9	0.0	0.0	24.8	25.0
Prop In Lane				0.16		0.57	1.00		0.00	0.00		0.45
Lane Grp Cap(c), veh/h				1206	1106	1104	114	993	0	0	383	374
V/C Ratio(X)				0.41	0.37	0.37	0.35	0.19	0.00	0.00	0.96	0.97
Avail Cap(c_a), veh/h				1206	1106	1104	444	1652	0	0	383	374
HCM Platoon Ratio				1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.94	0.94	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				3.2	3.1	3.5	37.6	32.8	0.0	0.0	46.5	47.1
Incr Delay (d2), s/veh				1.0	1.0	1.0	0.6	0.0	0.0	0.0	36.4	38.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.3	5.0	5.5	1.9	4.4	0.0	0.0	22.6	22.4
LnGrp Delay(d),s/veh				4.2	4.1	4.4	38.2	32.8	0.0	0.0	83.0	85.1
LnGrp LOS				A	A	A	D	C			F	F
Approach Vol, veh/h					1317			231			732	
Approach Delay, s/veh					4.2			33.8			84.0	
Approach LOS					A			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		82.3		37.7			7.7	30.0
Change Period (Y+Rc), s		6.0		6.0			4.0	6.0
Max Green Setting (Gmax), s		54.0		54.0			26.0	24.0
Max Q Clear Time (g_c+I1), s		8.6		6.9			4.1	27.0
Green Ext Time (p_c), s		3.3		2.2			0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	32.8
HCM 2010 LOS	C

Queues
401: Miami Ave & SW 3rd St/SE 4th Street

Lane Group	EBT	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	179	67	460	418	522
v/c Ratio	0.29	0.23	0.16	0.66	0.24
Control Delay	20.4	22.6	0.1	7.8	1.5
Queue Delay	0.0	0.0	0.0	0.3	0.1
Total Delay	20.4	22.6	0.1	8.1	1.6
Queue Length 50th (ft)	23	17	0	0	1
Queue Length 95th (ft)	48	47	0	37	9
Internal Link Dist (ft)	113				39
Turn Bay Length (ft)					
Base Capacity (vph)	2170	315	2814	901	3346
Starvation Cap Reductn	0	0	0	115	1390
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.21	0.16	0.53	0.27

Intersection Summary

HCM Signalized Intersection Capacity Analysis
401: Miami Ave & SW 3rd St/SE 4th Street

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	142	3	0	0	0	54	0	373	677	34	50
Future Volume (vph)	0	142	3	0	0	0	54	0	373	677	34	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95					1.00		0.88	0.86	0.86	
Frt		1.00					1.00		0.85	1.00	0.98	
Flt Protected		1.00					0.95		1.00	0.95	0.96	
Satd. Flow (prot)		3562					1787		2814	1537	4583	
Flt Permitted		1.00					0.95		1.00	0.95	0.96	
Satd. Flow (perm)		3562					1787		2814	1537	4583	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	0	175	4	0	0	0	67	0	460	836	42	62
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	337	220	0
Lane Group Flow (vph)	0	177	0	0	0	0	67	0	460	81	302	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA					Prot		Free	custom	NA	
Protected Phases		8					1				2 7	
Permitted Phases									Free	2		
Actuated Green, G (s)		7.9					7.3		51.3	9.0	21.1	
Effective Green, g (s)		8.9					8.3		51.3	10.0	22.1	
Actuated g/C Ratio		0.17					0.16		1.00	0.19	0.43	
Clearance Time (s)		5.0					5.0			5.0		
Vehicle Extension (s)		2.5					2.0			1.0		
Lane Grp Cap (vph)		617					289		2814	299	1974	
v/s Ratio Prot		c0.05					0.04					
v/s Ratio Perm									c0.16	c0.05	0.07	
v/c Ratio		0.29					0.23		0.16	0.27	0.15	
Uniform Delay, d1		18.4					18.7		0.0	17.6	8.9	
Progression Factor		1.00					1.00		1.00	0.98	0.46	
Incremental Delay, d2		0.2					0.2		0.1	0.2	0.0	
Delay (s)		18.6					18.9		0.1	17.4	4.1	
Level of Service		B					B		A	B	A	
Approach Delay (s)		18.6			0.0			2.5			10.0	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
402: SE 4th Street & SE 1st Place

Lane Group	EBT	NBR	SBL
Lane Group Flow (vph)	1438	11	53
v/c Ratio	0.35	0.04	0.16
Control Delay	2.8	0.3	1.0
Queue Delay	0.1	0.0	0.0
Total Delay	2.9	0.3	1.0
Queue Length 50th (ft)	56	0	0
Queue Length 95th (ft)	143	0	0
Internal Link Dist (ft)	383		
Turn Bay Length (ft)			
Base Capacity (vph)	4157	319	386
Starvation Cap Reductn	1319	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.51	0.03	0.14

Intersection Summary

HCM Signalized Intersection Capacity Analysis
402: SE 4th Street & SE 1st Place

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑							↱	↰		
Traffic Volume (vph)	0	1251	0	0	0	0	0	0	10	46	0	0
Future Volume (vph)	0	1251	0	0	0	0	0	0	10	46	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0							4.0	4.0		
Lane Util. Factor		*0.85							1.00	1.00		
Frt		1.00							0.86	1.00		
Flt Protected		1.00							1.00	0.95		
Satd. Flow (prot)		4797							1627	1787		
Flt Permitted		1.00							1.00	0.95		
Satd. Flow (perm)		4797							1627	1787		
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1438	0	0	0	0	0	0	11	53	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	11	50	0	0
Lane Group Flow (vph)	0	1438	0	0	0	0	0	0	0	3	0	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA							Prot	Prot		
Protected Phases		6							4	3		
Permitted Phases												
Actuated Green, G (s)		69.4							1.4	4.2		
Effective Green, g (s)		70.4							2.4	5.2		
Actuated g/C Ratio		0.78							0.03	0.06		
Clearance Time (s)		5.0							5.0	5.0		
Vehicle Extension (s)		1.0							2.5	2.5		
Lane Grp Cap (vph)		3752							43	103		
v/s Ratio Prot		c0.30							c0.00	c0.00		
v/s Ratio Perm												
v/c Ratio		0.38							0.01	0.03		
Uniform Delay, d1		3.0							42.6	40.0		
Progression Factor		1.00							1.00	1.00		
Incremental Delay, d2		0.3							0.0	0.1		
Delay (s)		3.3							42.7	40.1		
Level of Service		A							D	D		
Approach Delay (s)		3.3			0.0			42.7			40.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
402: SE 4th Street & SE 1st Place

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑							↱	↰		
Traffic Volume (veh/h)	0	1251	0	0	0	0	0	0	10	46	0	0
Future Volume (veh/h)	0	1251	0	0	0	0	0	0	10	46	0	0
Number	1	6	16				7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	0				0	0	1881	1881	0	0
Adj Flow Rate, veh/h	0	1438	0				0	0	11	53	0	0
Adj No. of Lanes	0	3	0				0	0	1	1	0	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	1	0				0	0	1	1	0	0
Cap, veh/h	0	0	0				0	0	0	122	0	0
Arrive On Green	0.00	0.01	0.00				0.00	0.00	0.01	0.07	0.00	0.00
Sat Flow, veh/h		0						0		1792	53	
Grp Volume(v), veh/h		0.0						0.0		53	42.1	
Grp Sat Flow(s),veh/h/ln										1792	D	
Q Serve(g_s), s										2.6		
Cycle Q Clear(g_c), s										2.6		
Prop In Lane										1.00		
Lane Grp Cap(c), veh/h										122		
V/C Ratio(X)										0.43		
Avail Cap(c_a), veh/h										219		
HCM Platoon Ratio										1.00		
Upstream Filter(I)										1.00		
Uniform Delay (d), s/veh										40.3		
Incr Delay (d2), s/veh										1.8		
Initial Q Delay(d3),s/veh										0.0		
%ile BackOfQ(95%),veh/ln										2.4		
LnGrp Delay(d),s/veh										42.1		
LnGrp LOS										D		
Approach Vol, veh/h												
Approach Delay, s/veh												
Approach LOS												

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3					
Phs Duration (G+Y+Rc), s			10.1					
Change Period (Y+Rc), s			5.0					
Max Green Setting (Gmax), s			10.0					
Max Q Clear Time (g_c+I1), s			4.6					
Green Ext Time (p_c), s			0.0					

Intersection Summary	
HCM 2010 Ctrl Delay	42.1
HCM 2010 LOS	D

Queues
403: SE 2nd Ave & SR 970 Off-Ramp/SE 3rd St

Lane Group	EBT	EBR	SBT
Lane Group Flow (vph)	1114	503	1160
v/c Ratio	0.54	0.55	0.74
Control Delay	12.5	13.9	34.0
Queue Delay	0.0	0.0	0.0
Total Delay	12.5	13.9	34.0
Queue Length 50th (ft)	200	173	241
Queue Length 95th (ft)	285	300	255
Internal Link Dist (ft)	476		29
Turn Bay Length (ft)		80	
Base Capacity (vph)	2049	919	2386
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.54	0.55	0.49

Intersection Summary

HCM Signalized Intersection Capacity Analysis
403: SE 2nd Ave & SR 970 Off-Ramp/SE 3rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	677	730	0	0	0	0	0	0	0	1009	0
Future Volume (vph)	0	677	730	0	0	0	0	0	0	0	1009	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0								4.0	
Lane Util. Factor		0.91	0.91								0.91	
Frt		0.95	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		3302	1470								5187	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		3302	1470								5187	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	778	839	0	0	0	0	0	0	0	1160	0
RTOR Reduction (vph)	0	14	14	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1100	489	0	0	0	0	0	0	0	1160	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm								NA	
Protected Phases		6									8	
Permitted Phases			6									
Actuated Green, G (s)		60.0	60.0								28.9	
Effective Green, g (s)		61.6	61.6								30.4	
Actuated g/C Ratio		0.62	0.62								0.30	
Clearance Time (s)		5.6	5.6								5.5	
Vehicle Extension (s)		1.0	1.0								2.5	
Lane Grp Cap (vph)		2034	905								1576	
v/s Ratio Prot		c0.33									c0.22	
v/s Ratio Perm			0.33									
v/c Ratio		0.54	0.54								0.74	
Uniform Delay, d1		11.1	11.1								31.2	
Progression Factor		1.00	1.00								1.00	
Incremental Delay, d2		1.0	2.3								1.7	
Delay (s)		12.1	13.4								32.9	
Level of Service		B	B								C	
Approach Delay (s)		12.5			0.0			0.0			32.9	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
404: Miami Ave & I-95 Off-Ramp

Lane Group	EBR	SBT
Lane Group Flow (vph)	741	185
v/c Ratio	0.36	0.19
Control Delay	1.4	17.6
Queue Delay	0.0	0.0
Total Delay	1.4	17.6
Queue Length 50th (ft)	3	16
Queue Length 95th (ft)	17	28
Internal Link Dist (ft)		177
Turn Bay Length (ft)		
Base Capacity (vph)	2790	2218
Starvation Cap Reductn	0	0
Spillback Cap Reductn	31	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.27	0.08

Intersection Summary

HCM Signalized Intersection Capacity Analysis
404: Miami Ave & I-95 Off-Ramp

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	585	0	0	146	0
Future Volume (vph)	0	585	0	0	146	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.88			0.91	
Frt		0.85			1.00	
Flt Protected		1.00			1.00	
Satd. Flow (prot)		2814			5136	
Flt Permitted		1.00			1.00	
Satd. Flow (perm)		2814			5136	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	0	741	0	0	185	0
RTOR Reduction (vph)	0	227	0	0	0	0
Lane Group Flow (vph)	0	514	0	0	185	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type		custom			NA	
Protected Phases		1 4			2	
Permitted Phases						
Actuated Green, G (s)		32.3			9.0	
Effective Green, g (s)		33.3			10.0	
Actuated g/C Ratio		0.65			0.19	
Clearance Time (s)					5.0	
Vehicle Extension (s)					1.0	
Lane Grp Cap (vph)		1826			1001	
v/s Ratio Prot		c0.18			c0.04	
v/s Ratio Perm						
v/c Ratio		0.28			0.18	
Uniform Delay, d1		3.9			17.2	
Progression Factor		1.00			1.00	
Incremental Delay, d2		0.0			0.0	
Delay (s)		3.9			17.3	
Level of Service		A			B	
Approach Delay (s)	3.9			0.0	17.3	
Approach LOS	A			A	B	

Intersection Summary

HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
406: Miami Ave & SE 2nd St

Lane Group	WBT	SBT	SBR
Lane Group Flow (vph)	863	120	104
v/c Ratio	0.75	0.06	0.07
Control Delay	28.7	10.1	0.1
Queue Delay	0.0	0.0	0.0
Total Delay	28.7	10.1	0.1
Queue Length 50th (ft)	169	15	0
Queue Length 95th (ft)	223	31	0
Internal Link Dist (ft)	453	235	
Turn Bay Length (ft)			
Base Capacity (vph)	1952	2054	1553
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.44	0.06	0.07

Intersection Summary

HCM Signalized Intersection Capacity Analysis
406: Miami Ave & SE 2nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	47	669	0	0	0	0	0	100	86
Future Volume (vph)	0	0	0	47	669	0	0	0	0	0	100	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0						4.0	2.0
Lane Util. Factor					0.95						0.95	1.00
Frt					1.00						1.00	0.85
Flt Protected					1.00						1.00	1.00
Satd. Flow (prot)					3460						3471	1553
Flt Permitted					1.00						1.00	1.00
Satd. Flow (perm)					3460						3471	1553
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	0	0	0	57	806	0	0	0	0	0	120	104
RTOR Reduction (vph)	0	0	0	0	22	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	841	0	0	0	0	0	120	104
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type				Perm	NA						NA	Free
Protected Phases					4						2	
Permitted Phases				4								Free
Actuated Green, G (s)					30.8						57.2	100.0
Effective Green, g (s)					32.8						59.2	100.0
Actuated g/C Ratio					0.33						0.59	1.00
Clearance Time (s)					6.0						6.0	
Vehicle Extension (s)					1.0						1.0	
Lane Grp Cap (vph)					1134						2054	1553
v/s Ratio Prot											0.03	
v/s Ratio Perm					0.24							c0.07
v/c Ratio					0.74						0.06	0.07
Uniform Delay, d1					29.8						8.6	0.0
Progression Factor					0.90						1.00	1.00
Incremental Delay, d2					1.9						0.1	0.1
Delay (s)					28.6						8.7	0.1
Level of Service					C						A	A
Approach Delay (s)		0.0			28.6			0.0			4.7	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
406: Miami Ave & SE 2nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	47	669	0	0	0	0	0	100	86
Future Volume (veh/h)	0	0	0	47	669	0	0	0	0	0	100	86
Number				7	4	14				5	2	12
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1827	0				0	1827	1827
Adj Flow Rate, veh/h				57	806	0				0	120	0
Adj No. of Lanes				0	2	0				0	2	1
Peak Hour Factor				0.83	0.83	0.83				0.83	0.83	0.83
Percent Heavy Veh, %				4	4	0				0	4	4
Cap, veh/h				93	961	0				0	2144	959
Arrive On Green				0.30	0.30	0.00				0.00	0.82	0.00
Sat Flow, veh/h				173	3261	0				0	3563	1553
Grp Volume(v), veh/h				458	405	0				0	120	0
Grp Sat Flow(s),veh/h/ln				1772	1579	0				0	1736	1553
Q Serve(g_s), s				18.0	24.0	0.0				0.0	0.6	0.0
Cycle Q Clear(g_c), s				24.3	24.0	0.0				0.0	0.6	0.0
Prop In Lane				0.12		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				576	478	0				0	2144	959
V/C Ratio(X)				0.80	0.85	0.00				0.00	0.06	0.00
Avail Cap(c_a), veh/h				1029	884	0				0	2144	959
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.33	1.33
Upstream Filter(I)				0.48	0.48	0.00				0.00	1.00	0.00
Uniform Delay (d), s/veh				32.7	32.7	0.0				0.0	3.5	0.0
Incr Delay (d2), s/veh				0.5	0.8	0.0				0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				15.8	14.3	0.0				0.0	0.6	0.0
LnGrp Delay(d),s/veh				33.2	33.5	0.0				0.0	3.5	0.0
LnGrp LOS				C	C						A	
Approach Vol, veh/h					863						120	
Approach Delay, s/veh					33.3						3.5	
Approach LOS					C						A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		65.8		34.2				
Change Period (Y+Rc), s		6.0		6.0				
Max Green Setting (Gmax), s		34.0		54.0				
Max Q Clear Time (g_c+I1), s		2.6		26.3				
Green Ext Time (p_c), s		0.3		2.0				

Intersection Summary	
HCM 2010 Ctrl Delay	29.7
HCM 2010 LOS	C

Queues
408: SE 1st Ave & SE 2nd St

Lane Group	WBT	NBT
Lane Group Flow (vph)	898	1342
v/c Ratio	0.81	0.43
Control Delay	41.8	10.3
Queue Delay	0.0	0.0
Total Delay	41.8	10.3
Queue Length 50th (ft)	251	138
Queue Length 95th (ft)	171	139
Internal Link Dist (ft)	500	203
Turn Bay Length (ft)		
Base Capacity (vph)	1289	3162
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.70	0.42

Intersection Summary

HCM Signalized Intersection Capacity Analysis
408: SE 1st Ave & SE 2nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	432	197	237	702	0	0	0	0
Future Volume (vph)	0	0	0	0	432	197	237	702	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0				
Lane Util. Factor					0.95			0.91				
Frt					0.95			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					3406			5072				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					3406			5072				
Peak-hour factor, PHF	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Adj. Flow (vph)	0	0	0	0	617	281	339	1003	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	57	0	0	44	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	841	0	0	1298	0	0	0	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type					NA		Perm	NA				
Protected Phases					4			6				
Permitted Phases							6					
Actuated Green, G (s)					28.9			59.1				
Effective Green, g (s)					30.9			61.1				
Actuated g/C Ratio					0.31			0.61				
Clearance Time (s)					6.0			6.0				
Vehicle Extension (s)					1.0			1.0				
Lane Grp Cap (vph)					1052			3098				
v/s Ratio Prot					c0.25							
v/s Ratio Perm								0.26				
v/c Ratio					0.80			0.42				
Uniform Delay, d1					31.7			10.2				
Progression Factor					1.26			1.00				
Incremental Delay, d2					3.8			0.4				
Delay (s)					43.7			10.6				
Level of Service					D			B				
Approach Delay (s)		0.0			43.7			10.6			0.0	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
408: SE 1st Ave & SE 2nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	432	197	237	702	0	0	0	0
Future Volume (veh/h)	0	0	0	0	432	197	237	702	0	0	0	0
Number				7	4	14	1	6	16			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln				0	1881	1900	1900	1881	0			
Adj Flow Rate, veh/h				0	617	281	339	1003	0			
Adj No. of Lanes				0	2	0	0	3	0			
Peak Hour Factor				0.70	0.70	0.70	0.70	0.70	0.70			
Percent Heavy Veh, %				0	1	1	1	1	0			
Cap, veh/h				0	718	327	452	1241	0			
Arrive On Green				0.00	0.30	0.28	0.47	0.47	0.00			
Sat Flow, veh/h				0	2483	1087	1111	3686	0			
Grp Volume(v), veh/h				0	462	436	466	876	0			
Grp Sat Flow(s),veh/h/ln				0	1787	1689	1526	1558	0			
Q Serve(g_s), s				0.0	24.4	24.5	27.4	23.9	0.0			
Cycle Q Clear(g_c), s				0.0	24.4	24.5	27.4	23.9	0.0			
Prop In Lane				0.00		0.64	0.73		0.00			
Lane Grp Cap(c), veh/h				0	537	507	598	1095	0			
V/C Ratio(X)				0.00	0.86	0.86	0.78	0.80	0.00			
Avail Cap(c_a), veh/h				0	643	608	917	1745	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00			
Upstream Filter(I)				0.00	0.71	0.71	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	33.0	33.6	24.6	23.6	0.0			
Incr Delay (d2), s/veh				0.0	6.4	6.8	9.6	6.2	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	18.0	17.3	18.9	16.6	0.0			
LnGrp Delay(d),s/veh				0.0	39.4	40.4	34.2	29.8	0.0			
LnGrp LOS					D	D	C	C				
Approach Vol, veh/h					898			1342				
Approach Delay, s/veh					39.9			31.3				
Approach LOS					D			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				34.0		39.1		
Change Period (Y+Rc), s				6.0		6.0		
Max Green Setting (Gmax), s				34.0		54.0		
Max Q Clear Time (g_c+I1), s				26.5		29.4		
Green Ext Time (p_c), s				1.6		3.8		

Intersection Summary		
HCM 2010 Ctrl Delay		34.8
HCM 2010 LOS		C

Queues
409: SE 2nd Ave & SE 2nd St

Lane Group	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	398	812	399	176
v/c Ratio	0.57	0.74	0.25	0.22
Control Delay	6.5	24.6	17.0	3.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.5	24.6	17.0	3.1
Queue Length 50th (ft)	23	293	78	0
Queue Length 95th (ft)	141	412	111	36
Internal Link Dist (ft)		55	215	
Turn Bay Length (ft)				
Base Capacity (vph)	699	1093	1612	816
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.57	0.74	0.25	0.22

Intersection Summary

HCM Signalized Intersection Capacity Analysis
409: SE 2nd Ave & SE 2nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	689	400	0	0	0	0	0	359	158
Future Volume (vph)	0	0	0	689	400	0	0	0	0	0	359	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0						4.0	4.0
Lane Util. Factor				*0.63	*0.63						0.95	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	0.98						1.00	1.00
Satd. Flow (prot)				1104	2273						3505	1568
Flt Permitted				0.95	0.98						1.00	1.00
Satd. Flow (perm)				1104	2273						3505	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	766	444	0	0	0	0	0	399	176
RTOR Reduction (vph)	0	0	0	192	48	0	0	0	0	0	0	95
Lane Group Flow (vph)	0	0	0	206	764	0	0	0	0	0	399	81
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Split	NA						NA	Perm
Protected Phases				2	2						8	
Permitted Phases												8
Actuated Green, G (s)				44.0	44.0						44.0	44.0
Effective Green, g (s)				46.0	46.0						46.0	46.0
Actuated g/C Ratio				0.46	0.46						0.46	0.46
Clearance Time (s)				6.0	6.0						6.0	6.0
Lane Grp Cap (vph)				507	1045						1612	721
v/s Ratio Prot				0.19	c0.34						c0.11	
v/s Ratio Perm												0.05
v/c Ratio				0.41	0.73						0.25	0.11
Uniform Delay, d1				17.9	22.0						16.5	15.4
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				2.4	4.5						0.4	0.3
Delay (s)				20.4	26.5						16.8	15.7
Level of Service				C	C						B	B
Approach Delay (s)		0.0			24.5			0.0			16.5	
Approach LOS		A			C			A			B	

Intersection Summary

HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
501: NW 3rd Ct/SB On-Ramp/NW 3rd Ct & NW 2nd St

Lane Group	EBT	EBR	WBL	SBL	SBT
Lane Group Flow (vph)	19	41	39	193	746
v/c Ratio	0.13	0.22	0.26	0.15	0.20
Control Delay	45.0	7.8	42.7	3.8	3.8
Queue Delay	0.1	0.0	0.0	0.0	0.0
Total Delay	45.1	7.8	42.7	3.8	3.8
Queue Length 50th (ft)	12	0	24	21	30
Queue Length 95th (ft)	34	18	m40	37	41
Internal Link Dist (ft)	461				279
Turn Bay Length (ft)				240	
Base Capacity (vph)	391	383	300	1268	3642
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	63	0	0	26	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.11	0.13	0.16	0.20

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
501: NW 3rd Ct/SB On-Ramp/NW 3rd Ct & NW 2nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	18	39	37	0	0	0	0	0	181	701	0
Future Volume (vph)	0	18	39	37	0	0	0	0	0	181	701	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0						4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00						1.00	0.91	
Frt		1.00	0.85	1.00						1.00	1.00	
Flt Protected		1.00	1.00	0.95						0.95	1.00	
Satd. Flow (prot)		1863	1583	1770						1770	5085	
Flt Permitted		1.00	1.00	0.95						0.95	1.00	
Satd. Flow (perm)		1863	1583	1770						1770	5085	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	19	41	39	0	0	0	0	0	193	746	0
RTOR Reduction (vph)	0	0	38	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	19	3	39	0	0	0	0	0	193	746	0
Turn Type		NA	Perm	Prot						Perm	NA	
Protected Phases		3		4							2	
Permitted Phases			3							2		
Actuated Green, G (s)		7.1	7.1	7.8						71.4	71.4	
Effective Green, g (s)		7.8	7.8	8.5						71.7	71.7	
Actuated g/C Ratio		0.08	0.08	0.08						0.72	0.72	
Clearance Time (s)		4.7	4.7	4.7						4.3	4.3	
Vehicle Extension (s)		2.5	2.5	2.5						1.0	1.0	
Lane Grp Cap (vph)		145	123	150						1269	3645	
v/s Ratio Prot		c0.01		c0.02							c0.15	
v/s Ratio Perm			0.00							0.11		
v/c Ratio		0.13	0.03	0.26						0.15	0.20	
Uniform Delay, d1		42.9	42.6	42.8						4.5	4.7	
Progression Factor		1.00	1.00	0.91						0.73	0.77	
Incremental Delay, d2		0.3	0.1	0.6						0.3	0.1	
Delay (s)		43.2	42.7	39.7						3.6	3.7	
Level of Service		D	D	D						A	A	
Approach Delay (s)		42.8			39.7			0.0			3.7	
Approach LOS		D			D			A			A	

Intersection Summary

HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
502: NB Off-Ramp & NW 3rd Ave & NW 2nd St

Lane Group	EBL	EBT	WBT	WBR	NBT	NWL	NWR
Lane Group Flow (vph)	21	208	19	17	821	57	57
v/c Ratio	0.09	0.68	0.07	0.06	0.87	0.12	0.12
Control Delay	29.3	46.1	23.5	0.3	36.4	32.7	5.0
Queue Delay	0.0	4.9	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	51.0	23.5	0.3	36.4	32.7	5.0
Queue Length 50th (ft)	10	91	5	0	376	27	0
Queue Length 95th (ft)	22	119	25	0	459	68	21
Internal Link Dist (ft)		109	427		348	296	
Turn Bay Length (ft)				90			
Base Capacity (vph)	308	413	372	388	1076	469	492
Starvation Cap Reductn	0	142	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.77	0.05	0.04	0.76	0.12	0.12

Intersection Summary

HCM Signalized Intersection Capacity Analysis
502: NB Off-Ramp & NW 3rd Ave & NW 2nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NWL	NWR	NWR2
Lane Configurations										
Traffic Volume (vph)	19	185	9	23	20	575	136	6	61	34
Future Volume (vph)	19	185	9	23	20	575	136	6	61	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	0.95	0.95		*0.60		1.00	0.95	
Frt	1.00	1.00	0.93	0.85		0.97		0.87	0.85	
Flt Protected	0.95	1.00	1.00	1.00		1.00		0.99	1.00	
Satd. Flow (prot)	1787	1881	1660	1519		2191		1624	1509	
Flt Permitted	0.74	1.00	1.00	1.00		1.00		0.99	1.00	
Satd. Flow (perm)	1400	1881	1660	1519		2191		1624	1509	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	21	208	10	26	22	646	153	7	69	38
RTOR Reduction (vph)	0	0	8	14	0	0	0	0	41	0
Lane Group Flow (vph)	21	208	11	3	0	821	0	57	16	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%
Turn Type	Perm	NA	NA	Perm	Perm	NA		Prot	Perm	
Protected Phases		8	4			5		6		
Permitted Phases	8			4	5				6	
Actuated Green, G (s)	14.5	14.5	14.5	14.5		42.4		28.1	28.1	
Effective Green, g (s)	16.2	16.2	16.2	16.2		43.0		28.8	28.8	
Actuated g/C Ratio	0.16	0.16	0.16	0.16		0.43		0.29	0.29	
Clearance Time (s)	5.7	5.7	5.7	5.7		4.6		4.7	4.7	
Vehicle Extension (s)	1.0	1.0	1.0	1.0		1.0		1.0	1.0	
Lane Grp Cap (vph)	226	304	268	246		942		467	434	
v/s Ratio Prot		c0.11	0.01					c0.04		
v/s Ratio Perm	0.01			0.00		0.37			0.01	
v/c Ratio	0.09	0.68	0.04	0.01		0.87		0.12	0.04	
Uniform Delay, d1	35.6	39.5	35.4	35.2		26.0		26.3	25.6	
Progression Factor	0.85	0.88	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.1	5.0	0.0	0.0		8.6		0.5	0.2	
Delay (s)	30.5	39.9	35.4	35.2		34.6		26.8	25.8	
Level of Service	C	D	D	D		C		C	C	
Approach Delay (s)		39.1	35.3			34.6		26.3		
Approach LOS		D	D			C		C		

Intersection Summary

HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
503: NW 3rd Ct & NW 3rd St

Lane Group	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	58	66	341	908
v/c Ratio	0.34	0.37	0.22	0.21
Control Delay	44.8	45.7	2.4	2.0
Queue Delay	0.1	0.1	0.1	0.0
Total Delay	44.9	45.8	2.5	2.0
Queue Length 50th (ft)	36	42	34	32
Queue Length 95th (ft)	75	83	67	52
Internal Link Dist (ft)		86		577
Turn Bay Length (ft)				
Base Capacity (vph)	458	480	1523	4365
Starvation Cap Reductn	71	79	0	0
Spillback Cap Reductn	0	0	325	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	0.16	0.28	0.21

Intersection Summary

HCM Signalized Intersection Capacity Analysis
503: NW 3rd Ct & NW 3rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	62	56	0	0	0	0	324	845	18
Future Volume (vph)	0	0	0	62	56	0	0	0	0	324	845	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0					4.0	4.0	
Lane Util. Factor				0.95	0.95					1.00	0.91	
Frt				1.00	1.00					1.00	1.00	
Flt Protected				0.95	0.99					0.95	1.00	
Satd. Flow (prot)				1698	1778					1787	5120	
Flt Permitted				0.95	0.99					0.95	1.00	
Satd. Flow (perm)				1698	1778					1787	5120	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	65	59	0	0	0	0	341	889	19
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	58	66	0	0	0	0	341	907	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type				Split	NA					Perm	NA	
Protected Phases				4	4						2	
Permitted Phases										2		
Actuated Green, G (s)				7.6	7.6					82.7	82.7	
Effective Green, g (s)				8.6	8.6					83.4	83.4	
Actuated g/C Ratio				0.09	0.09					0.83	0.83	
Clearance Time (s)				5.0	5.0					4.7	4.7	
Vehicle Extension (s)				2.5	2.5					1.0	1.0	
Lane Grp Cap (vph)				146	152					1490	4270	
v/s Ratio Prot				0.03	c0.04						0.18	
v/s Ratio Perm										c0.19		
v/c Ratio				0.40	0.43					0.23	0.21	
Uniform Delay, d1				43.2	43.4					1.7	1.7	
Progression Factor				0.95	0.96					1.00	1.00	
Incremental Delay, d2				1.3	1.4					0.4	0.1	
Delay (s)				42.4	43.0					2.1	1.8	
Level of Service				D	D					A	A	
Approach Delay (s)		0.0			42.7			0.0			1.9	
Approach LOS		A			D			A			A	

Intersection Summary

HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
503: NW 3rd Ct & NW 3rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	62	56	0	0	0	0	324	845	18
Future Volume (veh/h)	0	0	0	62	56	0	0	0	0	324	845	18
Number				7	4	14				5	2	12
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1881	1881	0				1881	1881	1900
Adj Flow Rate, veh/h				62	63	0				341	889	19
Adj No. of Lanes				1	1	0				1	3	0
Peak Hour Factor				0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %				1	1	0				1	1	1
Cap, veh/h				139	146	0				1581	4358	93
Arrive On Green				0.08	0.08	0.00				1.00	1.00	1.00
Sat Flow, veh/h				1792	1881	0				1792	5175	110
Grp Volume(v), veh/h				62	63	0				341	588	320
Grp Sat Flow(s),veh/h/ln				1792	1881	0				1792	1712	1862
Q Serve(g_s), s				3.3	3.2	0.0				0.0	0.0	0.0
Cycle Q Clear(g_c), s				3.3	3.2	0.0				0.0	0.0	0.0
Prop In Lane				1.00		0.00				1.00		0.06
Lane Grp Cap(c), veh/h				139	146	0				1581	2883	1568
V/C Ratio(X)				0.44	0.43	0.00				0.22	0.20	0.20
Avail Cap(c_a), veh/h				484	508	0				1581	2883	1568
HCM Platoon Ratio				1.00	1.00	1.00				1.33	1.33	1.33
Upstream Filter(I)				0.95	0.95	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh				44.0	44.0	0.0				0.0	0.0	0.0
Incr Delay (d2), s/veh				1.6	1.4	0.0				0.3	0.2	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.1	3.1	0.0				0.2	0.1	0.2
LnGrp Delay(d),s/veh				45.6	45.4	0.0				0.3	0.2	0.3
LnGrp LOS				D	D					A	A	A
Approach Vol, veh/h					125						1249	
Approach Delay, s/veh					45.5						0.2	
Approach LOS					D						A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		88.2		11.8				
Change Period (Y+Rc), s		* 4.7		5.0				
Max Green Setting (Gmax), s		* 64		26.0				
Max Q Clear Time (g_c+I1), s		2.0		5.3				
Green Ext Time (p_c), s		2.3		0.3				

Intersection Summary	
HCM 2010 Ctrl Delay	4.4
HCM 2010 LOS	A

Notes

Queues
504: NW 3rd Ave & NW 3rd St

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	87	317	306	685	122
v/c Ratio	0.42	0.73	0.34	0.37	0.11
Control Delay	35.7	43.3	11.2	3.4	0.6
Queue Delay	0.8	2.2	0.0	0.5	0.0
Total Delay	36.5	45.5	11.2	3.9	0.6
Queue Length 50th (ft)	48	188	27	29	0
Queue Length 95th (ft)	77	226	46	123	m6
Internal Link Dist (ft)		86	479	274	
Turn Bay Length (ft)					90
Base Capacity (vph)	323	677	1288	1862	1131
Starvation Cap Reductn	91	231	0	709	0
Spillback Cap Reductn	0	0	2	34	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.71	0.24	0.59	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
504: NW 3rd Ave & NW 3rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	260	0	0	85	166	27	535	100	0	0	0
Future Volume (vph)	71	260	0	0	85	166	27	535	100	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0			
Lane Util. Factor	1.00	1.00			0.95			*0.72	1.00			
Frt	1.00	1.00			0.90			1.00	0.85			
Flt Protected	0.95	1.00			1.00			1.00	1.00			
Satd. Flow (prot)	1787	1881			3220			2702	1599			
Flt Permitted	0.48	1.00			1.00			1.00	1.00			
Satd. Flow (perm)	900	1881			3220			2702	1599			
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	87	317	0	0	104	202	33	652	122	0	0	0
RTOR Reduction (vph)	0	0	0	0	155	0	0	0	30	0	0	0
Lane Group Flow (vph)	87	317	0	0	151	0	0	685	92	0	0	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA			NA		Split	NA	Perm			
Protected Phases		4			8		6	6				
Permitted Phases	4								6			
Actuated Green, G (s)	21.6	21.6			21.6			67.4	67.4			
Effective Green, g (s)	23.1	23.1			23.1			68.9	68.9			
Actuated g/C Ratio	0.23	0.23			0.23			0.69	0.69			
Clearance Time (s)	5.5	5.5			5.5			5.5	5.5			
Vehicle Extension (s)	2.0	2.0			2.5			1.0	1.0			
Lane Grp Cap (vph)	207	434			743			1861	1101			
v/s Ratio Prot		c0.17			0.05			c0.25				
v/s Ratio Perm	0.10								0.06			
v/c Ratio	0.42	0.73			0.20			0.37	0.08			
Uniform Delay, d1	32.7	35.6			31.0			6.5	5.1			
Progression Factor	0.94	0.95			1.00			0.40	0.20			
Incremental Delay, d2	0.5	5.3			0.1			0.4	0.1			
Delay (s)	31.4	39.2			31.1			3.0	1.1			
Level of Service	C	D			C			A	A			
Approach Delay (s)		37.5			31.1			2.7			0.0	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
504: NW 3rd Ave & NW 3rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	260	0	0	85	166	27	535	100	0	0	0
Future Volume (veh/h)	71	260	0	0	85	166	27	535	100	0	0	0
Number	7	4	14	3	8	18	1	6	16			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1881	1900	1900	1881	1881			
Adj Flow Rate, veh/h	87	317	0	0	104	202	33	652	122			
Adj No. of Lanes	1	1	0	0	2	0	0	2	1			
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82			
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1			
Cap, veh/h	220	466	0	0	442	396	101	2070	1075			
Arrive On Green	0.25	0.25	0.00	0.00	0.25	0.23	0.89	0.89	0.89			
Sat Flow, veh/h	1080	1881	0	0	1881	1599	150	3079	1599			
Grp Volume(v), veh/h	87	317	0	0	104	202	413	272	122			
Grp Sat Flow(s),veh/h/ln	1080	1881	0	0	1787	1599	1874	1354	1599			
Q Serve(g_s), s	7.6	15.3	0.0	0.0	4.6	11.0	3.3	2.9	0.9			
Cycle Q Clear(g_c), s	18.6	15.3	0.0	0.0	4.6	11.0	3.3	2.9	0.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.08		1.00			
Lane Grp Cap(c), veh/h	220	466	0	0	442	396	1260	911	1075			
V/C Ratio(X)	0.39	0.68	0.00	0.00	0.24	0.51	0.33	0.30	0.11			
Avail Cap(c_a), veh/h	342	677	0	0	643	576	1260	911	1075			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33			
Upstream Filter(I)	0.98	0.98	0.00	0.00	1.00	1.00	0.51	0.51	0.51			
Uniform Delay (d), s/veh	40.5	34.1	0.0	0.0	30.1	33.1	1.9	1.9	1.8			
Incr Delay (d2), s/veh	0.4	0.6	0.0	0.0	0.2	0.8	0.4	0.4	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.1	12.6	0.0	0.0	4.2	8.6	3.0	2.0	0.7			
LnGrp Delay(d),s/veh	40.9	34.7	0.0	0.0	30.3	33.9	2.3	2.3	1.9			
LnGrp LOS	D	C			C	C	A	A	A			
Approach Vol, veh/h		404			306			807				
Approach Delay, s/veh		36.0			32.6			2.2				
Approach LOS		D			C			A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				28.7		71.3		28.7
Change Period (Y+Rc), s				5.5		5.5		5.5
Max Green Setting (Gmax), s				34.5		54.5		34.5
Max Q Clear Time (g_c+I1), s				20.6		5.3		13.0
Green Ext Time (p_c), s				2.7		1.5		3.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.4
HCM 2010 LOS	B

Queues
601: NW 3rd Ct/SB Off-Ramp & NW 8th St

Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	235	35	81	1908
v/c Ratio	0.70	0.32	0.24	0.41
Control Delay	47.3	37.3	32.3	5.6
Queue Delay	4.4	0.0	0.0	0.0
Total Delay	51.7	37.3	32.3	5.6
Queue Length 50th (ft)	135	17	39	110
Queue Length 95th (ft)	200	34	61	167
Internal Link Dist (ft)	406		212	426
Turn Bay Length (ft)				
Base Capacity (vph)	398	132	400	4647
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	100	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.79	0.27	0.20	0.41

Intersection Summary

HCM Signalized Intersection Capacity Analysis
601: NW 3rd Ct/SB Off-Ramp & NW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	170	44	32	74	0	0	0	0	405	1248	84
Future Volume (vph)	0	170	44	32	74	0	0	0	0	405	1248	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0						4.0	
Lane Util. Factor		1.00		1.00	1.00						0.86	
Frt		0.97		1.00	1.00						0.99	
Flt Protected		1.00		0.95	1.00						0.99	
Satd. Flow (prot)		1794		1752	1845						6227	
Flt Permitted		1.00		0.33	1.00						0.99	
Satd. Flow (perm)		1794		612	1845						6227	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	187	48	35	81	0	0	0	0	445	1371	92
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	225	0	35	81	0	0	0	0	0	1901	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		17.1		17.1	17.1						72.9	
Effective Green, g (s)		18.1		18.1	18.1						73.9	
Actuated g/C Ratio		0.18		0.18	0.18						0.74	
Clearance Time (s)		5.0		5.0	5.0						5.0	
Vehicle Extension (s)		2.5		2.5	2.5						1.0	
Lane Grp Cap (vph)		324		110	333						4601	
v/s Ratio Prot		c0.13			0.04							
v/s Ratio Perm				0.06							0.31	
v/c Ratio		0.69		0.32	0.24						0.41	
Uniform Delay, d1		38.4		35.6	35.1						4.9	
Progression Factor		1.00		0.88	0.92						1.00	
Incremental Delay, d2		5.9		1.2	0.3						0.3	
Delay (s)		44.2		32.5	32.4						5.2	
Level of Service		D		C	C						A	
Approach Delay (s)		44.2			32.4			0.0			5.2	
Approach LOS		D			C			A			A	

Intersection Summary

HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
601: NW 3rd Ct/SB Off-Ramp & NW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	170	44	32	74	0	0	0	0	405	1248	84
Future Volume (veh/h)	0	170	44	32	74	0	0	0	0	405	1248	84
Number	3	8	18	7	4	14				5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1900	1845	1845	0				1900	1845	1900
Adj Flow Rate, veh/h	0	187	48	35	81	0				445	1371	92
Adj No. of Lanes	0	1	0	1	1	0				0	4	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	3	3	3	3	0				0	3	0
Cap, veh/h	0	266	68	145	346	0				1073	3611	244
Arrive On Green	0.00	0.19	0.18	0.19	0.19	0.00				0.97	0.97	0.96
Sat Flow, veh/h	0	1417	364	1130	1845	0				1466	4932	333
Grp Volume(v), veh/h	0	0	235	35	81	0				538	877	493
Grp Sat Flow(s),veh/h/ln	0	0	1780	1130	1845	0				1771	1586	1786
Q Serve(g_s), s	0.0	0.0	12.4	3.0	3.7	0.0				1.3	1.1	1.3
Cycle Q Clear(g_c), s	0.0	0.0	12.4	15.4	3.7	0.0				1.3	1.1	1.3
Prop In Lane	0.00		0.20	1.00		0.00				0.83		0.19
Lane Grp Cap(c), veh/h	0	0	334	145	346	0				1297	2323	1308
V/C Ratio(X)	0.00	0.00	0.70	0.24	0.23	0.00				0.41	0.38	0.38
Avail Cap(c_a), veh/h	0	0	374	170	387	0				1297	2323	1308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.33	1.33	1.33
Upstream Filter(I)	0.00	0.00	1.00	0.96	0.96	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	38.1	45.2	34.5	0.0				0.4	0.4	0.4
Incr Delay (d2), s/veh	0.0	0.0	4.6	0.6	0.2	0.0				1.0	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	10.7	1.7	3.4	0.0				1.4	0.9	1.3
LnGrp Delay(d),s/veh	0.0	0.0	42.7	45.8	34.7	0.0				1.3	0.8	1.2
LnGrp LOS			D	D	C					A	A	A
Approach Vol, veh/h		235			116						1908	
Approach Delay, s/veh		42.7			38.1						1.1	
Approach LOS		D			D						A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		77.2		22.8				22.8
Change Period (Y+Rc), s		5.0		5.0				5.0
Max Green Setting (Gmax), s		70.0		20.0				20.0
Max Q Clear Time (g_c+I1), s		3.3		17.4				14.4
Green Ext Time (p_c), s		6.1		0.4				0.8

Intersection Summary	
HCM 2010 Ctrl Delay	7.3
HCM 2010 LOS	A

Queues
602: NW 3rd Ave/NW 3rd Ave/NB On-Ramp & NW 8th St

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	154	514	234	31	527	47
v/c Ratio	0.44	0.77	0.34	0.03	0.28	0.05
Control Delay	20.0	27.6	12.0	13.4	13.7	4.7
Queue Delay	0.0	1.4	0.0	0.0	0.0	0.0
Total Delay	20.0	29.0	12.0	13.4	13.7	4.7
Queue Length 50th (ft)	53	250	55	9	88	0
Queue Length 95th (ft)	76	277	93	28	152	20
Internal Link Dist (ft)		212	475		393	
Turn Bay Length (ft)				195		250
Base Capacity (vph)	481	923	901	948	1896	869
Starvation Cap Reductn	0	228	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.74	0.26	0.03	0.28	0.05

Intersection Summary

HCM Signalized Intersection Capacity Analysis
602: NW 3rd Ave/NW 3rd Ave/NB On-Ramp & NW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	468	0	0	87	126	28	480	43	0	0	0
Future Volume (vph)	140	468	0	0	87	126	28	480	43	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95	1.00			
Frt	1.00	1.00			0.92		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	1719	1810			1665		1719	3438	1538			
Flt Permitted	0.52	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	945	1810			1665		1719	3438	1538			
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	514	0	0	96	138	31	527	47	0	0	0
RTOR Reduction (vph)	0	0	0	0	67	0	0	0	21	0	0	0
Lane Group Flow (vph)	154	514	0	0	167	0	31	527	26	0	0	0
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		8			4			2				
Permitted Phases	8						2		2			
Actuated Green, G (s)	35.8	35.8			35.8		54.2	54.2	54.2			
Effective Green, g (s)	36.8	36.8			36.8		55.2	55.2	55.2			
Actuated g/C Ratio	0.37	0.37			0.37		0.55	0.55	0.55			
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.5	2.5			2.5		2.0	2.0	2.0			
Lane Grp Cap (vph)	347	666			612		948	1897	848			
v/s Ratio Prot		c0.28			0.10			c0.15				
v/s Ratio Perm	0.16						0.02		0.02			
v/c Ratio	0.44	0.77			0.27		0.03	0.28	0.03			
Uniform Delay, d1	23.9	27.9			22.2		10.2	11.9	10.2			
Progression Factor	0.73	0.74			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.6	4.9			0.2		0.1	0.4	0.1			
Delay (s)	18.1	25.4			22.4		10.3	12.2	10.3			
Level of Service	B	C			C		B	B	B			
Approach Delay (s)		23.7			22.4			12.0			0.0	
Approach LOS		C			C			B			A	

Intersection Summary

HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
602: NW 3rd Ave/NW 3rd Ave/NB On-Ramp & NW 8th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	468	0	0	87	126	28	480	43	0	0	0
Future Volume (veh/h)	140	468	0	0	87	126	28	480	43	0	0	0
Number	3	8	18	7	4	14	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1810	1810	0	0	1810	1900	1810	1810	1810			
Adj Flow Rate, veh/h	154	514	0	0	96	138	31	527	47			
Adj No. of Lanes	1	1	0	0	1	0	1	2	1			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	325	613	0	0	228	328	1002	1998	894			
Arrive On Green	0.34	0.34	0.00	0.00	0.34	0.33	0.77	0.77	0.77			
Sat Flow, veh/h	1109	1810	0	0	672	967	1723	3438	1538			
Grp Volume(v), veh/h	154	514	0	0	0	234	31	527	47			
Grp Sat Flow(s),veh/h/ln	1109	1810	0	0	0	1639	1723	1719	1538			
Q Serve(g_s), s	12.4	26.2	0.0	0.0	0.0	11.1	0.4	4.4	0.7			
Cycle Q Clear(g_c), s	23.5	26.2	0.0	0.0	0.0	11.1	0.4	4.4	0.7			
Prop In Lane	1.00		0.00	0.00		0.59	1.00		1.00			
Lane Grp Cap(c), veh/h	325	613	0	0	0	555	1002	1998	894			
V/C Ratio(X)	0.47	0.84	0.00	0.00	0.00	0.42	0.03	0.26	0.05			
Avail Cap(c_a), veh/h	515	923	0	0	0	836	1002	1998	894			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33			
Upstream Filter(I)	0.65	0.65	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	34.6	30.5	0.0	0.0	0.0	25.7	4.8	5.3	4.8			
Incr Delay (d2), s/veh	0.5	2.4	0.0	0.0	0.0	0.4	0.1	0.3	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	6.4	18.4	0.0	0.0	0.0	8.8	0.4	3.9	0.6			
LnGrp Delay(d),s/veh	35.1	33.0	0.0	0.0	0.0	26.1	4.9	5.6	4.9			
LnGrp LOS	D	C				C	A	A	A			
Approach Vol, veh/h		668			234			605				
Approach Delay, s/veh		33.5			26.1			5.5				
Approach LOS		C			C			A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		62.1		37.9				37.9
Change Period (Y+Rc), s		5.0		5.0				5.0
Max Green Setting (Gmax), s		40.0		50.0				50.0
Max Q Clear Time (g_c+I1), s		6.4		13.1				28.2
Green Ext Time (p_c), s		2.6		5.1				4.7

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Queues
701: NW 62nd St & NW 7th Ave/SR 7

Existing Conditions
AM PEAK HOUR

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	618	130	359	54	604	193	837
v/c Ratio	0.24	0.78	0.53	0.42	0.16	0.40	0.43	0.48
Control Delay	29.9	56.8	37.3	42.6	16.5	24.8	18.3	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	56.8	37.3	42.6	16.5	24.8	18.3	25.9
Queue Length 50th (ft)	49	276	81	137	20	163	80	264
Queue Length 95th (ft)	77	325	117	173	48	261	145	382
Internal Link Dist (ft)		638		656		255		455
Turn Bay Length (ft)	145		160				125	
Base Capacity (vph)	414	866	297	898	406	1569	471	1738
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.71	0.44	0.40	0.13	0.38	0.41	0.48

Intersection Summary

HCM Signalized Intersection Capacity Analysis
701: NW 62nd St & NW 7th Ave/SR 7

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	530	51	122	278	59	51	373	195	181	749	38
Future Volume (vph)	76	530	51	122	278	59	51	373	195	181	749	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.95		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3426		1736	3380		1736	3293		1736	3446	
Flt Permitted	0.44	1.00		0.15	1.00		0.27	1.00		0.32	1.00	
Satd. Flow (perm)	811	3426		274	3380		491	3293		583	3446	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	81	564	54	130	296	63	54	397	207	193	797	40
RTOR Reduction (vph)	0	5	0	0	13	0	0	44	0	0	2	0
Lane Group Flow (vph)	81	613	0	130	346	0	54	560	0	193	835	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	30.3		45.4	33.0		67.1	61.1		79.3	67.3	
Effective Green, g (s)	44.0	32.3		49.4	35.0		71.1	63.1		81.3	69.3	
Actuated g/C Ratio	0.31	0.23		0.35	0.25		0.51	0.45		0.58	0.49	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	2.5		3.0	2.5		2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	332	790		247	845		320	1484		455	1705	
v/s Ratio Prot	0.02	c0.18		c0.05	0.10		0.01	0.17		c0.04	c0.24	
v/s Ratio Perm	0.06			0.13			0.08			0.20		
v/c Ratio	0.24	0.78		0.53	0.41		0.17	0.38		0.42	0.49	
Uniform Delay, d1	34.6	50.5		33.9	43.9		18.1	25.4		15.1	23.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	4.6		2.0	0.2		0.1	0.7		0.2	1.0	
Delay (s)	35.0	55.1		35.9	44.1		18.2	26.2		15.4	24.6	
Level of Service	D	E		D	D		B	C		B	C	
Approach Delay (s)		52.7			41.9			25.5			22.8	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
701: NW 62nd St & NW 7th Ave/SR 7

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	530	51	122	278	59	51	373	195	181	749	38
Future Volume (veh/h)	76	530	51	122	278	59	51	373	195	181	749	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1900	1827	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	81	564	54	130	296	63	54	397	207	193	797	40
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	309	693	66	237	683	143	428	1116	575	529	1750	88
Arrive On Green	0.06	0.22	0.20	0.09	0.24	0.22	0.09	0.67	0.65	0.11	0.69	0.67
Sat Flow, veh/h	1740	3203	306	1740	2857	600	1740	2219	1142	1740	3364	169
Grp Volume(v), veh/h	81	305	313	130	178	181	54	309	295	193	411	426
Grp Sat Flow(s),veh/h/ln	1740	1736	1773	1740	1736	1721	1740	1736	1625	1740	1736	1797
Q Serve(g_s), s	4.9	23.4	23.5	7.8	12.2	12.6	1.9	10.8	11.4	7.3	14.9	15.0
Cycle Q Clear(g_c), s	4.9	23.4	23.5	7.8	12.2	12.6	1.9	10.8	11.4	7.3	14.9	15.0
Prop In Lane	1.00		0.17	1.00		0.35	1.00		0.70	1.00		0.09
Lane Grp Cap(c), veh/h	309	375	383	237	415	411	428	873	818	529	903	935
V/C Ratio(X)	0.26	0.81	0.82	0.55	0.43	0.44	0.13	0.35	0.36	0.37	0.46	0.46
Avail Cap(c_a), veh/h	437	421	431	325	421	418	503	873	818	574	903	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	52.2	52.4	38.7	45.2	45.6	13.8	13.3	13.9	13.7	12.7	12.7
Incr Delay (d2), s/veh	0.4	10.0	10.1	2.0	0.5	0.5	0.0	1.1	1.2	0.2	1.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	18.1	18.5	6.9	9.9	10.1	1.6	9.3	9.1	6.3	11.9	12.3
LnGrp Delay(d),s/veh	39.0	62.2	62.4	40.6	45.7	46.2	13.9	14.4	15.2	13.8	14.3	14.3
LnGrp LOS	D	E	E	D	D	D	B	B	B	B	B	B
Approach Vol, veh/h		699			489			658			1030	
Approach Delay, s/veh		59.6			44.5			14.7			14.2	
Approach LOS		E			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.4	74.4	15.9	34.3	13.0	76.8	12.7	37.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.0	54.0	17.0	32.0	13.0	54.0	17.0	32.0
Max Q Clear Time (g_c+I1), s	9.3	13.4	9.8	25.5	3.9	17.0	6.9	14.6
Green Ext Time (p_c), s	0.1	3.6	0.2	2.7	0.0	3.6	0.1	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	30.5
HCM 2010 LOS	C

Queues
702: NW 6th Ave/SB On-Ramp/SB Off-Ramp & NW 62nd St

Lane Group	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1053	234	428	118	249
v/c Ratio	0.70	0.59	0.17	0.38	0.75
Control Delay	22.6	40.8	3.9	46.6	55.9
Queue Delay	0.1	6.8	0.4	0.1	0.0
Total Delay	22.6	47.6	4.4	46.6	55.9
Queue Length 50th (ft)	342	133	40	85	172
Queue Length 95th (ft)	558	m223	54	131	243
Internal Link Dist (ft)	656		175		480
Turn Bay Length (ft)					
Base Capacity (vph)	1501	397	2588	673	686
Starvation Cap Reductn	0	117	1640	0	0
Spillback Cap Reductn	27	0	0	74	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.84	0.45	0.20	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
702: NW 6th Ave/SB On-Ramp/SB Off-Ramp & NW 62nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	565	404	215	394	0	0	0	0	109	145	84
Future Volume (vph)	0	565	404	215	394	0	0	0	0	109	145	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		*0.77		1.00	0.95					1.00	1.00	
Frt		0.94		1.00	1.00					1.00	0.95	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		2612		1719	3438					1719	1710	
Flt Permitted		1.00		0.11	1.00					0.95	1.00	
Satd. Flow (perm)		2612		205	3438					1719	1710	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	614	439	234	428	0	0	0	0	118	158	91
RTOR Reduction (vph)	0	40	0	0	0	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	1013	0	234	428	0	0	0	0	118	227	0
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		6		5	2						8	
Permitted Phases				2						8		
Actuated Green, G (s)		69.0		93.1	93.1					21.9	21.9	
Effective Green, g (s)		70.0		92.1	94.1					22.9	22.9	
Actuated g/C Ratio		0.56		0.74	0.75					0.18	0.18	
Clearance Time (s)		5.0		3.0	5.0					5.0	5.0	
Vehicle Extension (s)		1.0		2.0	1.0					2.5	2.5	
Lane Grp Cap (vph)		1462		394	2588					314	313	
v/s Ratio Prot		c0.39		c0.10	0.12						c0.13	
v/s Ratio Perm				0.34						0.07		
v/c Ratio		0.69		0.59	0.17					0.38	0.73	
Uniform Delay, d1		19.8		18.9	4.4					44.8	48.1	
Progression Factor		1.00		2.53	0.76					1.00	1.00	
Incremental Delay, d2		2.7		1.3	0.1					0.6	7.6	
Delay (s)		22.5		49.2	3.4					45.3	55.7	
Level of Service		C		D	A					D	E	
Approach Delay (s)		22.5			19.6			0.0			52.4	
Approach LOS		C			B			A			D	

Intersection Summary

HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
702: NW 6th Ave/SB On-Ramp/SB Off-Ramp & NW 62nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	565	404	215	394	0	0	0	0	109	145	84
Future Volume (veh/h)	0	565	404	215	394	0	0	0	0	109	145	84
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1810	1900	1810	1810	0				1810	1810	1900
Adj Flow Rate, veh/h	0	614	439	234	428	0				118	158	91
Adj No. of Lanes	0	2	0	1	2	0				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	5	5	5	5	0				5	5	5
Cap, veh/h	0	1171	837	452	2608	0				306	191	110
Arrive On Green	0.00	0.90	0.88	0.07	1.00	0.00				0.18	0.18	0.17
Sat Flow, veh/h	0	2156	1243	1723	3529	0				1723	1079	621
Grp Volume(v), veh/h	0	492	561	234	428	0				118	0	249
Grp Sat Flow(s),veh/h/ln	0	1393	1590	1723	1719	0				1723	0	1700
Q Serve(g_s), s	0.0	8.7	9.3	5.6	0.0	0.0				7.6	0.0	17.7
Cycle Q Clear(g_c), s	0.0	8.7	9.3	5.6	0.0	0.0				7.6	0.0	17.7
Prop In Lane	0.00		0.78	1.00		0.00				1.00		0.37
Lane Grp Cap(c), veh/h	0	938	1070	452	2608	0				306	0	301
V/C Ratio(X)	0.00	0.52	0.52	0.52	0.16	0.00				0.39	0.00	0.83
Avail Cap(c_a), veh/h	0	938	1070	511	2608	0				676	0	666
HCM Platoon Ratio	1.00	1.33	1.33	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.66	0.66	0.72	0.72	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	2.6	2.8	6.2	0.0	0.0				45.4	0.0	49.7
Incr Delay (d2), s/veh	0.0	1.4	1.2	0.2	0.1	0.0				0.6	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.9	7.0	4.6	0.1	0.0				6.6	0.0	13.5
LnGrp Delay(d),s/veh	0.0	4.0	4.1	6.5	0.1	0.0				46.0	0.0	54.0
LnGrp LOS		A	A	A	A					D		D
Approach Vol, veh/h		1053			662						367	
Approach Delay, s/veh		4.0			2.4						51.5	
Approach LOS		A			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		98.8			10.7	88.1		26.2
Change Period (Y+Rc), s		5.0			3.0	5.0		5.0
Max Green Setting (Gmax), s		67.0			12.0	52.0		48.0
Max Q Clear Time (g_c+I1), s		2.0			7.6	11.3		19.7
Green Ext Time (p_c), s		4.3			0.1	4.3		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B

Queues
Existing Conditions

703: NW 6th Ave/NB Off-Ramp/NW 5th Ct/NB On-Ramp & NW 62nd St
AM PEAK HOUR

Lane Group	EBL	EBT	WBT	NBT
Lane Group Flow (vph)	383	328	650	885
v/c Ratio	0.76	0.15	0.65	0.83
Control Delay	41.4	9.5	36.9	44.0
Queue Delay	13.6	0.4	0.0	1.0
Total Delay	55.0	9.9	36.9	45.0
Queue Length 50th (ft)	168	41	284	328
Queue Length 95th (ft)	#385	55	361	377
Internal Link Dist (ft)		175	1613	42
Turn Bay Length (ft)				
Base Capacity (vph)	506	2146	1281	1175
Starvation Cap Reductn	107	1325	0	0
Spillback Cap Reductn	0	0	1	108
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.96	0.40	0.51	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
703: NW 6th Ave/NB Off-Ramp/NW 5th Ct/NB On-Ramp & NW 62nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	368	315	0	0	465	159	167	452	230	0	0	0
Future Volume (vph)	368	315	0	0	465	159	167	452	230	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0			4.0				
Lane Util. Factor	1.00	0.95			*0.78			0.95				
Frt	1.00	1.00			0.96			0.96				
Flt Protected	0.95	1.00			1.00			0.99				
Satd. Flow (prot)	1719	3438			2715			3266				
Flt Permitted	0.19	1.00			1.00			0.99				
Satd. Flow (perm)	336	3438			2715			3266				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	383	328	0	0	484	166	174	471	240	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	32	0	0	0	0
Lane Group Flow (vph)	383	328	0	0	650	0	0	853	0	0	0	0
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	1	6			2			4				
Permitted Phases	6						4					
Actuated Green, G (s)	76.2	76.2			45.2			38.8				
Effective Green, g (s)	77.2	77.2			46.2			39.8				
Actuated g/C Ratio	0.62	0.62			0.37			0.32				
Clearance Time (s)	5.0	5.0			5.0			5.0				
Vehicle Extension (s)	2.0	1.0			1.0			2.5				
Lane Grp Cap (vph)	506	2123			1003			1039				
v/s Ratio Prot	c0.16	0.10			0.24							
v/s Ratio Perm	c0.30							0.26				
v/c Ratio	0.76	0.15			0.65			0.82				
Uniform Delay, d1	20.2	10.1			32.7			39.3				
Progression Factor	1.90	0.86			1.00			1.00				
Incremental Delay, d2	4.5	0.1			3.2			5.2				
Delay (s)	43.0	8.8			35.9			44.5				
Level of Service	D	A			D			D				
Approach Delay (s)		27.2			35.9			44.5			0.0	
Approach LOS		C			D			D			A	

Intersection Summary

HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
703: NW 6th Ave/NB Off-Ramp/NW 5th Ct/NB On-Ramp & NW 62nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	368	315	0	0	465	159	167	452	230	0	0	0
Future Volume (veh/h)	368	315	0	0	465	159	167	452	230	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1810	1810	0	0	1810	1900	1900	1810	1900			
Adj Flow Rate, veh/h	383	328	0	0	484	166	174	471	240			
Adj No. of Lanes	1	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	5	5	0	0	5	5	0	5	0			
Cap, veh/h	522	2166	0	0	1172	400	197	550	298			
Arrive On Green	0.12	0.84	0.00	0.00	0.68	0.67	0.31	0.31	0.30			
Sat Flow, veh/h	1723	3529	0	0	2696	784	643	1799	973			
Grp Volume(v), veh/h	383	328	0	0	296	354	481	0	404			
Grp Sat Flow(s),veh/h/ln	1723	1719	0	0	1411	1671	1777	0	1638			
Q Serve(g_s), s	11.0	2.2	0.0	0.0	11.7	12.0	32.2	0.0	28.4			
Cycle Q Clear(g_c), s	11.0	2.2	0.0	0.0	11.7	12.0	32.2	0.0	28.4			
Prop In Lane	1.00		0.00	0.00		0.47	0.36		0.59			
Lane Grp Cap(c), veh/h	522	2166	0	0	720	852	544	0	501			
V/C Ratio(X)	0.73	0.15	0.00	0.00	0.41	0.42	0.88	0.00	0.81			
Avail Cap(c_a), veh/h	522	2166	0	0	720	852	611	0	563			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	0.96	0.96	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.2	3.9	0.0	0.0	11.7	12.0	41.3	0.0	40.2			
Incr Delay (d2), s/veh	3.2	0.1	0.0	0.0	1.7	1.4	13.1	0.0	7.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	10.4	1.9	0.0	0.0	8.3	9.6	24.7	0.0	19.9			
LnGrp Delay(d),s/veh	19.5	4.0	0.0	0.0	13.4	13.4	54.3	0.0	47.5			
LnGrp LOS	B	A			B	B	D		D			
Approach Vol, veh/h		711			650			885				
Approach Delay, s/veh		12.4			13.4			51.2				
Approach LOS		B			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	15.0	67.8		42.2		82.8		
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		
Max Green Setting (Gmax), s	10.0	58.0		42.0		73.0		
Max Q Clear Time (g_c+I1), s	13.0	14.0		34.2		4.2		
Green Ext Time (p_c), s	0.0	2.5		3.0		2.5		

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Queues
704: NW 2nd Ave & NW 62nd St

Existing Conditions
AM PEAK HOUR

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	42	502	42	415	103	140	32	30	173	113
v/c Ratio	0.09	0.43	0.10	0.35	0.20	0.22	0.05	0.06	0.41	0.25
Control Delay	11.7	19.1	11.7	19.1	12.4	18.0	0.2	11.9	25.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	19.1	11.7	19.1	12.4	18.0	0.2	11.9	25.7	5.5
Queue Length 50th (ft)	9	81	9	68	24	33	0	7	60	0
Queue Length 95th (ft)	27	145	27	123	54	94	0	21	122	30
Internal Link Dist (ft)		1613		1095		584			419	
Turn Bay Length (ft)	90		115		115		115	75		75
Base Capacity (vph)	578	2806	548	2868	572	1277	1126	611	1277	1126
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.18	0.08	0.14	0.18	0.11	0.03	0.05	0.14	0.10

Intersection Summary

HCM Signalized Intersection Capacity Analysis
704: NW 2nd Ave & NW 62nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	396	85	40	388	11	99	134	31	29	166	108
Future Volume (vph)	40	396	85	40	388	11	99	134	31	29	166	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3445		1770	3525		1770	1863	1583	1770	1863	1583
Flt Permitted	0.45	1.00		0.38	1.00		0.48	1.00	1.00	0.67	1.00	1.00
Satd. Flow (perm)	843	3445		707	3525		888	1863	1583	1244	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	42	412	89	42	404	11	103	140	32	30	173	112
RTOR Reduction (vph)	0	16	0	0	1	0	0	0	22	0	0	86
Lane Group Flow (vph)	42	486	0	42	414	0	103	140	10	30	173	27
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	20.7	17.6		20.7	17.6		23.7	17.7	17.7	15.5	13.6	13.6
Effective Green, g (s)	24.7	19.6		24.7	19.6		27.6	19.7	19.7	19.5	15.6	15.6
Actuated g/C Ratio	0.38	0.30		0.38	0.30		0.43	0.31	0.31	0.30	0.24	0.24
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0	2.5	2.5	2.0	2.5	2.5
Lane Grp Cap (vph)	397	1050		355	1074		490	570	484	409	451	384
v/s Ratio Prot	0.01	c0.14		c0.01	0.12		c0.03	0.08		0.00	c0.09	
v/s Ratio Perm	0.03			0.04			0.06		0.01	0.02		0.02
v/c Ratio	0.11	0.46		0.12	0.39		0.21	0.25	0.02	0.07	0.38	0.07
Uniform Delay, d1	12.5	18.1		12.6	17.6		11.3	16.7	15.6	15.9	20.3	18.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1		0.1	0.1		0.1	0.2	0.0	0.0	0.4	0.1
Delay (s)	12.6	18.2		12.7	17.7		11.4	16.9	15.6	15.9	20.7	18.8
Level of Service	B	B		B	B		B	B	B	B	C	B
Approach Delay (s)		17.8			17.2			14.7			19.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	64.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
704: NW 2nd Ave & NW 62nd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	396	85	40	388	11	99	134	31	29	166	108
Future Volume (veh/h)	40	396	85	40	388	11	99	134	31	29	166	108
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	412	89	42	404	11	103	140	32	30	173	112
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	507	955	204	466	1158	31	441	426	362	456	354	301
Arrive On Green	0.08	0.33	0.29	0.08	0.33	0.29	0.11	0.23	0.23	0.07	0.19	0.19
Sat Flow, veh/h	1774	2901	621	1774	3520	96	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	42	250	251	42	203	212	103	140	32	30	173	112
Grp Sat Flow(s),veh/h/ln	1774	1770	1753	1774	1770	1846	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	0.8	6.0	6.2	0.8	4.8	4.8	2.4	3.4	0.9	0.7	4.5	3.4
Cycle Q Clear(g_c), s	0.8	6.0	6.2	0.8	4.8	4.8	2.4	3.4	0.9	0.7	4.5	3.4
Prop In Lane	1.00		0.35	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	507	582	577	466	582	607	441	426	362	456	354	301
V/C Ratio(X)	0.08	0.43	0.44	0.09	0.35	0.35	0.23	0.33	0.09	0.07	0.49	0.37
Avail Cap(c_a), veh/h	755	1553	1538	713	1553	1620	637	1294	1100	721	1294	1100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.0	14.3	14.7	10.2	13.9	14.0	14.4	17.6	16.6	15.3	19.8	19.3
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.1	0.1	0.1	0.3	0.1	0.0	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	5.3	5.4	0.7	4.2	4.4	2.1	3.2	0.7	0.6	4.3	2.7
LnGrp Delay(d),s/veh	10.0	14.5	14.9	10.2	14.0	14.1	14.5	17.9	16.7	15.3	20.6	19.9
LnGrp LOS	B	B	B	B	B	B	B	B	B	B	C	B
Approach Vol, veh/h		543			457			275			315	
Approach Delay, s/veh		14.3			13.7			16.5			19.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	22.0	7.8	16.5	8.4	22.0	10.0	14.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	10.0	46.0	10.0	36.0	10.0	46.0	10.0	36.0
Max Q Clear Time (g_c+I1), s	2.8	6.8	2.7	5.4	2.8	8.2	4.4	6.5
Green Ext Time (p_c), s	0.0	2.0	0.0	1.9	0.0	2.0	0.1	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Queues
901: NW 7th Ave/SR 7 & NW 79th St

Existing Conditions
AM PEAK HOUR

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	130	762	72	269	32	550	267	1033	174
v/c Ratio	0.37	0.80	0.41	0.31	0.12	0.26	0.51	0.56	0.17
Control Delay	33.5	53.4	32.7	18.2	16.6	26.2	14.7	22.7	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	33.5	53.4	32.7	18.2	16.6	26.2	14.7	22.7	4.0
Queue Length 50th (ft)	77	336	14	46	13	116	138	395	42
Queue Length 95th (ft)	123	391	62	55	30	164	106	485	52
Internal Link Dist (ft)		597		267		408		584	
Turn Bay Length (ft)	250		150		115		110		
Base Capacity (vph)	351	1099	175	1091	471	2109	587	1833	1027
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	51	14	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.69	0.41	0.25	0.07	0.27	0.47	0.56	0.17

Intersection Summary

HCM Signalized Intersection Capacity Analysis
901: NW 7th Ave/SR 7 & NW 79th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	692	39	69	225	34	31	437	91	256	992	167
Future Volume (vph)	125	692	39	69	225	34	31	437	91	256	992	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1719	3410		1719	3371		1719	4812		1719	3438	1538
Flt Permitted	0.49	1.00		0.14	1.00		0.21	1.00		0.37	1.00	1.00
Satd. Flow (perm)	878	3410		247	3371		381	4812		663	3438	1538
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	130	721	41	72	234	35	32	455	95	267	1033	174
RTOR Reduction (vph)	0	3	0	0	9	0	0	20	0	0	0	65
Lane Group Flow (vph)	130	759	0	72	260	0	32	530	0	267	1033	109
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		1	6		5	2	3
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	44.6	36.9		40.8	35.0		61.8	57.6		79.3	69.1	76.8
Effective Green, g (s)	48.6	38.9		44.8	37.0		65.8	59.6		81.3	71.1	80.8
Actuated g/C Ratio	0.35	0.28		0.32	0.26		0.47	0.43		0.58	0.51	0.58
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.5		2.0	2.5		2.0	1.0		2.0	1.0	2.0
Lane Grp Cap (vph)	363	947		161	890		238	2048		518	1746	931
v/s Ratio Prot	c0.02	c0.22		c0.02	0.08		0.01	0.11		c0.07	c0.30	0.01
v/s Ratio Perm	0.10			0.12			0.06			0.23		0.06
v/c Ratio	0.36	0.80		0.45	0.29		0.13	0.26		0.52	0.59	0.12
Uniform Delay, d1	32.5	47.0		35.9	41.1		20.8	25.9		15.1	24.2	13.4
Progression Factor	1.00	1.00		0.91	0.45		1.00	1.00		0.73	0.87	1.09
Incremental Delay, d2	0.2	4.8		0.7	0.1		0.1	0.3		0.3	1.4	0.0
Delay (s)	32.7	51.8		33.5	18.5		20.9	26.3		11.3	22.4	14.7
Level of Service	C	D		C	B		C	C		B	C	B
Approach Delay (s)		49.0			21.7			26.0			19.5	
Approach LOS		D			C			C			B	

Intersection Summary

HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
902: NW 6th Ct/SB On-Ramp/NW 6th Ct & NW 79th St

Lane Group	EBT	EBR	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	863	356	256	351	687	95
v/c Ratio	0.60	0.42	0.29	0.46	0.85	0.13
Control Delay	24.1	11.0	4.8	27.7	44.4	5.3
Queue Delay	1.9	0.9	0.2	0.0	5.0	0.0
Total Delay	26.0	12.0	5.0	27.7	49.4	5.3
Queue Length 50th (ft)	306	102	16	212	533	7
Queue Length 95th (ft)	237	67	22	269	644	35
Internal Link Dist (ft)	267		223		463	
Turn Bay Length (ft)						
Base Capacity (vph)	1444	844	889	880	921	823
Starvation Cap Reductn	406	258	209	0	171	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.61	0.38	0.40	0.92	0.12

Intersection Summary

HCM Signalized Intersection Capacity Analysis
902: NW 6th Ct/SB On-Ramp/NW 6th Ct & NW 79th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	803	331	0	238	0	0	0	0	326	639	88
Future Volume (vph)	0	803	331	0	238	0	0	0	0	326	639	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0					4.1	4.0	4.0
Lane Util. Factor		*0.82	1.00		1.00					1.00	1.00	1.00
Frt		1.00	0.85		1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00					0.95	1.00	1.00
Satd. Flow (prot)		2940	1524		1792					1703	1792	1524
Flt Permitted		1.00	1.00		1.00					0.95	1.00	1.00
Satd. Flow (perm)		2940	1524		1792					1703	1792	1524
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	863	356	0	256	0	0	0	0	351	687	95
RTOR Reduction (vph)	0	0	96	0	0	0	0	0	0	0	0	44
Lane Group Flow (vph)	0	863	260	0	256	0	0	0	0	351	687	51
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Turn Type		NA	Perm		NA					pm+pt	NA	Perm
Protected Phases		6			1 2					8	3	
Permitted Phases			6	2						3		3
Actuated Green, G (s)		67.8	67.8		67.8					62.6	62.6	62.6
Effective Green, g (s)		68.8	68.8		66.8					63.1	63.2	63.2
Actuated g/C Ratio		0.49	0.49		0.48					0.45	0.45	0.45
Clearance Time (s)		5.0	5.0							4.6	4.6	4.6
Vehicle Extension (s)		1.0	1.0							3.0	3.5	3.5
Lane Grp Cap (vph)		1444	748		855					767	808	687
v/s Ratio Prot		c0.29			0.14					0.12	c0.38	
v/s Ratio Perm			0.17							0.08		0.03
v/c Ratio		0.60	0.35		0.30					0.46	0.85	0.07
Uniform Delay, d1		25.6	21.8		22.3					26.6	34.2	21.8
Progression Factor		0.82	0.85		0.18					1.00	1.00	1.00
Incremental Delay, d2		1.6	1.1		0.1					0.4	8.7	0.1
Delay (s)		22.6	19.7		4.0					27.0	42.9	21.8
Level of Service		C	B		A					C	D	C
Approach Delay (s)		21.8			4.0			0.0			36.2	
Approach LOS		C			A			A			D	

Intersection Summary

HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.7
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
Existing Conditions
903: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 79th St
AM PEAK HOUR

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	181	943	311	478	231
v/c Ratio	0.22	0.35	0.48	0.82	0.57
Control Delay	39.4	5.8	38.1	52.0	12.1
Queue Delay	0.0	0.4	0.0	0.0	0.0
Total Delay	39.4	6.2	38.1	52.0	12.1
Queue Length 50th (ft)	69	148	221	163	0
Queue Length 95th (ft)	111	126	319	#255	89
Internal Link Dist (ft)		223	529	429	
Turn Bay Length (ft)	190				
Base Capacity (vph)	834	2662	664	606	416
Starvation Cap Reductn	0	1042	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.58	0.47	0.79	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
903: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 79th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	896	0	0	241	54	0	235	439	0	0	0
Future Volume (vph)	172	896	0	0	241	54	0	235	439	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0			
Lane Util. Factor	0.97	0.95			1.00			0.91	0.91			
Frt	1.00	1.00			0.98			0.93	0.85			
Flt Protected	0.95	1.00			1.00			1.00	1.00			
Satd. Flow (prot)	3273	3374			1732			2998	1374			
Flt Permitted	0.57	1.00			1.00			1.00	1.00			
Satd. Flow (perm)	1968	3374			1732			2998	1374			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	181	943	0	0	254	57	0	247	462	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	121	196	0	0	0
Lane Group Flow (vph)	181	943	0	0	305	0	0	357	35	0	0	0
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Turn Type	custom	NA			NA			NA	Perm			
Protected Phases	1	6 8			2			7				
Permitted Phases	8								7			
Actuated Green, G (s)	51.1	109.5			50.8			20.9	20.9			
Effective Green, g (s)	49.1	106.9			51.8			21.5	21.5			
Actuated g/C Ratio	0.35	0.76			0.37			0.15	0.15			
Clearance Time (s)	3.0				5.0			4.6	4.6			
Vehicle Extension (s)	2.0				1.0			2.5	2.5			
Lane Grp Cap (vph)	811	2576			640			460	211			
v/s Ratio Prot	0.02	c0.28			c0.18			c0.12				
v/s Ratio Perm	0.06								0.03			
v/c Ratio	0.22	0.37			0.48			0.78	0.17			
Uniform Delay, d1	32.5	5.4			33.7			56.9	51.5			
Progression Factor	1.40	1.21			1.00			1.00	1.00			
Incremental Delay, d2	0.0	0.1			2.5			7.7	0.3			
Delay (s)	45.6	6.7			36.3			64.6	51.8			
Level of Service	D	A			D			E	D			
Approach Delay (s)		12.9			36.3			60.4			0.0	
Approach LOS		B			D			E			A	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
904: NW 7th Ave/SR 7 & NW 81st St

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	127	345	158	19	644	1506
v/c Ratio	0.44	0.60	0.41	0.08	0.16	0.40
Control Delay	43.5	44.5	4.5	4.3	3.7	7.5
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	43.5	44.6	4.6	4.3	3.7	7.5
Queue Length 50th (ft)	69	110	0	2	29	173
Queue Length 95th (ft)	97	115	15	10	67	245
Internal Link Dist (ft)		263			584	561
Turn Bay Length (ft)				190		
Base Capacity (vph)	587	1174	631	342	4015	3772
Starvation Cap Reductn	0	86	45	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.32	0.27	0.06	0.16	0.40

Intersection Summary

HCM Signalized Intersection Capacity Analysis
904: NW 7th Ave/SR 7 & NW 81st St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	124	338	155	19	631	0	0	1302	173
Future Volume (vph)	0	0	0	124	338	155	19	631	0	0	1302	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor				1.00	0.95	1.00	1.00	0.91			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.98	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1787	3574	1599	1787	5136			5045	
Flt Permitted				0.95	1.00	1.00	0.14	1.00			1.00	
Satd. Flow (perm)				1787	3574	1599	256	5136			5045	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	127	345	158	19	644	0	0	1329	177
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	0	0	6	0
Lane Group Flow (vph)	0	0	0	127	345	25	19	644	0	0	1500	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Actuated Green, G (s)				21.3	21.3	21.3	108.3	108.3			102.2	
Effective Green, g (s)				22.5	22.5	22.5	107.3	109.5			103.4	
Actuated g/C Ratio				0.16	0.16	0.16	0.77	0.78			0.74	
Clearance Time (s)				5.2	5.2	5.2	3.0	5.2			5.2	
Vehicle Extension (s)				3.5	3.5	3.5	2.0	1.0			1.0	
Lane Grp Cap (vph)				287	574	256	219	4017			3726	
v/s Ratio Prot					c0.10		0.00	c0.13			c0.30	
v/s Ratio Perm				0.07		0.02	0.07					
v/c Ratio				0.44	0.60	0.10	0.09	0.16			0.40	
Uniform Delay, d1				53.1	54.6	50.1	4.9	3.8			6.8	
Progression Factor				0.75	0.74	0.22	0.84	0.87			1.00	
Incremental Delay, d2				1.2	1.8	0.2	0.1	0.1			0.3	
Delay (s)				40.8	42.5	11.3	4.1	3.4			7.1	
Level of Service				D	D	B	A	A			A	
Approach Delay (s)		0.0			34.3			3.4			7.1	
Approach LOS		A			C			A			A	

Intersection Summary

HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
904: NW 7th Ave/SR 7 & NW 81st St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	124	338	155	19	631	0	0	1302	173
Future Volume (veh/h)	0	0	0	124	338	155	19	631	0	0	1302	173
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1881	1881	1881	1881	1881	0	0	1881	1900
Adj Flow Rate, veh/h				127	345	158	19	644	0	0	1329	177
Adj No. of Lanes				1	2	1	1	3	0	0	3	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				1	1	1	1	1	0	0	1	1
Cap, veh/h				262	522	233	331	4092	0	0	3471	462
Arrive On Green				0.15	0.15	0.15	0.02	1.00	0.00	0.00	1.00	1.00
Sat Flow, veh/h				1792	3574	1599	1792	5305	0	0	4756	611
Grp Volume(v), veh/h				127	345	158	19	644	0	0	992	514
Grp Sat Flow(s),veh/h/ln				1792	1787	1599	1792	1712	0	0	1712	1773
Q Serve(g_s), s				9.1	12.8	13.1	0.3	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s				9.1	12.8	13.1	0.3	0.0	0.0	0.0	0.0	0.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.34
Lane Grp Cap(c), veh/h				262	522	233	331	4092	0	0	2591	1342
V/C Ratio(X)				0.49	0.66	0.68	0.06	0.16	0.00	0.00	0.38	0.38
Avail Cap(c_a), veh/h				589	1174	525	477	4092	0	0	2591	1342
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.33	1.33
Upstream Filter(I)				0.96	0.96	0.96	0.97	0.97	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				55.0	56.5	56.7	3.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				1.6	1.7	3.9	0.0	0.1	0.0	0.0	0.4	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.1	10.5	17.1	0.3	0.1	0.0	0.0	0.3	0.6
LnGrp Delay(d),s/veh				56.6	58.2	60.6	3.9	0.1	0.0	0.0	0.4	0.9
LnGrp LOS				E	E	E	A	A			A	A
Approach Vol, veh/h					630			663			1506	
Approach Delay, s/veh					58.5			0.2			0.6	
Approach LOS					E			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		115.6		24.4	5.6	110.0		
Change Period (Y+Rc), s		* 5.2		* 5.2	3.0	* 5.2		
Max Green Setting (Gmax), s		* 85		* 45	14.0	* 68		
Max Q Clear Time (g_c+I1), s		2.0		15.1	2.3	2.1		
Green Ext Time (p_c), s		7.9		4.1	0.0	7.9		

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Notes

Queues
905: NW 6th Ct/NW 6th Ct/SB Off-Ramp & NW 81st St

Lane Group	WBT	SBT
Lane Group Flow (vph)	1123	595
v/c Ratio	0.32	0.76
Control Delay	2.6	56.2
Queue Delay	0.1	0.0
Total Delay	2.7	56.2
Queue Length 50th (ft)	29	265
Queue Length 95th (ft)	24	312
Internal Link Dist (ft)	240	535
Turn Bay Length (ft)		
Base Capacity (vph)	3945	1131
Starvation Cap Reductn	1071	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.39	0.53

Intersection Summary

HCM Signalized Intersection Capacity Analysis
905: NW 6th Ct/NW 6th Ct/SB Off-Ramp & NW 81st St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	435	609	0	0	0	0	0	508	46
Future Volume (vph)	0	0	0	435	609	0	0	0	0	0	508	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0						4.0	
Lane Util. Factor					0.91						0.95	
Frt					1.00						0.99	
Flt Protected					0.98						1.00	
Satd. Flow (prot)					4886						3428	
Flt Permitted					0.98						1.00	
Satd. Flow (perm)					4886						3428	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	468	655	0	0	0	0	0	546	49
RTOR Reduction (vph)	0	0	0	0	34	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1089	0	0	0	0	0	590	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type				Split	NA						NA	
Protected Phases				2 3	2 3						4	
Permitted Phases												
Actuated Green, G (s)					99.0						30.6	
Effective Green, g (s)					100.2						31.8	
Actuated g/C Ratio					0.72						0.23	
Clearance Time (s)											5.2	
Vehicle Extension (s)											3.0	
Lane Grp Cap (vph)					3496						778	
v/s Ratio Prot					c0.22						c0.17	
v/s Ratio Perm												
v/c Ratio					0.31						0.76	
Uniform Delay, d1					7.3						50.5	
Progression Factor					0.35						1.00	
Incremental Delay, d2					0.0						4.3	
Delay (s)					2.6						54.8	
Level of Service					A						D	
Approach Delay (s)		0.0			2.6			0.0			54.8	
Approach LOS		A			A			A			D	

Intersection Summary

HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
906: NW 6th Ave/NW 6th Ave/NB On-Ramp & NW 81st St

Lane Group	WBT	WBR	NBT
Lane Group Flow (vph)	1191	823	645
v/c Ratio	0.41	0.77	0.53
Control Delay	17.0	17.4	23.9
Queue Delay	0.0	0.0	0.0
Total Delay	17.0	17.4	23.9
Queue Length 50th (ft)	204	297	215
Queue Length 95th (ft)	239	386	113
Internal Link Dist (ft)	629		23
Turn Bay Length (ft)			
Base Capacity (vph)	2932	1072	1863
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.41	0.77	0.35

Intersection Summary

HCM Signalized Intersection Capacity Analysis
906: NW 6th Ave/NW 6th Ave/NB On-Ramp & NW 81st St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	941	650	167	343	0	0	0	0
Future Volume (vph)	0	0	0	0	941	650	167	343	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.91	1.00		0.95				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.98				
Satd. Flow (prot)					4988	1553		3415				
Flt Permitted					1.00	1.00		0.98				
Satd. Flow (perm)					4988	1553		3415				
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	0	0	0	0	1191	823	211	434	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	160	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1191	663	0	633	0	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		8	8				
Permitted Phases						2						
Actuated Green, G (s)					81.1	81.1		48.5				
Effective Green, g (s)					82.3	82.3		49.7				
Actuated g/C Ratio					0.59	0.59		0.36				
Clearance Time (s)					5.2	5.2		5.2				
Vehicle Extension (s)					1.0	1.0		3.0				
Lane Grp Cap (vph)					2932	912		1212				
v/s Ratio Prot					0.24			c0.19				
v/s Ratio Perm						c0.43						
v/c Ratio					0.41	0.73		0.52				
Uniform Delay, d1					15.6	20.8		35.7				
Progression Factor					1.00	1.00		0.66				
Incremental Delay, d2					0.4	5.1		0.4				
Delay (s)					16.0	25.8		23.9				
Level of Service					B	C		C				
Approach Delay (s)		0.0			20.0			23.9			0.0	
Approach LOS		A			C			C			A	

Intersection Summary

HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.4
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
Existing Conditions
1001: NW 7th Ave/SR 7 & NW 95th St
AM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	95	619	88	229	440	89	86	736	327	1524
v/c Ratio	0.28	0.82	0.15	0.76	0.49	0.12	0.39	0.39	0.76	0.72
Control Delay	24.7	50.9	4.7	50.6	29.4	2.8	18.2	21.9	27.8	29.2
Queue Delay	0.0	0.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	51.2	4.7	50.6	30.1	2.8	18.2	21.9	27.8	29.2
Queue Length 50th (ft)	42	219	0	104	77	0	29	119	129	330
Queue Length 95th (ft)	81	286	28	#259	162	1	51	147	#191	384
Internal Link Dist (ft)		782			226			619		446
Turn Bay Length (ft)	105		85	150			160		75	
Base Capacity (vph)	375	778	658	303	897	722	293	1994	431	2114
Starvation Cap Reductn	0	0	0	0	196	0	0	0	0	0
Spillback Cap Reductn	0	15	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.81	0.13	0.76	0.63	0.12	0.29	0.37	0.76	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1001: NW 7th Ave/SR 7 & NW 95th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	582	83	215	414	84	81	497	195	307	1365	68
Future Volume (vph)	89	582	83	215	414	84	81	497	195	307	1365	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	4871		1770	5049	
Flt Permitted	0.42	1.00	1.00	0.14	1.00	1.00	0.10	1.00		0.26	1.00	
Satd. Flow (perm)	775	3539	1583	270	3539	1583	180	4871		492	5049	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	95	619	88	229	440	89	86	529	207	327	1452	72
RTOR Reduction (vph)	0	0	61	0	0	55	0	66	0	0	5	0
Lane Group Flow (vph)	95	619	27	229	440	34	86	670	0	327	1519	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	3	8	1	7	4	5	1	6		5	2	
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)	29.4	21.2	28.4	38.0	25.5	37.3	46.1	38.9		55.3	43.5	
Effective Green, g (s)	34.2	23.6	33.2	42.5	27.9	42.1	50.9	41.3		59.5	45.9	
Actuated g/C Ratio	0.31	0.21	0.30	0.39	0.25	0.38	0.46	0.38		0.54	0.42	
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4		6.4	6.4	
Vehicle Extension (s)	2.0	2.5	2.0	2.0	2.5	2.0	2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	336	759	535	307	897	663	222	1828		431	2106	
v/s Ratio Prot	0.03	0.17	0.00	c0.10	0.12	0.01	0.03	0.14		c0.10	0.30	
v/s Ratio Perm	0.06		0.01	c0.19		0.01	0.15			c0.31		
v/c Ratio	0.28	0.82	0.05	0.75	0.49	0.05	0.39	0.37		0.76	0.72	
Uniform Delay, d1	27.7	41.1	27.2	26.0	35.0	21.4	19.1	24.9		15.5	26.7	
Progression Factor	1.00	1.00	1.00	1.30	0.77	0.62	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	6.6	0.0	8.2	0.3	0.0	0.4	0.6		6.7	2.2	
Delay (s)	27.8	47.7	27.2	42.1	27.2	13.2	19.6	25.4		22.2	28.9	
Level of Service	C	D	C	D	C	B	B	C		C	C	
Approach Delay (s)		43.1			30.0			24.8			27.7	
Approach LOS		D			C			C			C	

Intersection Summary

HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1001: NW 7th Ave/SR 7 & NW 95th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	582	83	215	414	84	81	497	195	307	1365	68
Future Volume (veh/h)	89	582	83	215	414	84	81	497	195	307	1365	68
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	95	619	88	229	440	89	86	529	207	327	1452	72
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	748	436	308	892	601	273	1444	548	511	2287	113
Arrive On Green	0.08	0.21	0.21	0.24	0.50	0.50	0.09	0.53	0.50	0.17	0.61	0.58
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3631	1378	1774	4963	246
Grp Volume(v), veh/h	95	619	88	229	440	89	86	493	243	327	992	532
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1695	1620	1774	1695	1819
Q Serve(g_s), s	4.4	18.4	4.7	10.8	9.0	2.9	3.0	9.3	10.1	11.7	20.4	20.5
Cycle Q Clear(g_c), s	4.4	18.4	4.7	10.8	9.0	2.9	3.0	9.3	10.1	11.7	20.4	20.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.85	1.00		0.14
Lane Grp Cap(c), veh/h	351	748	436	308	892	601	273	1349	644	511	1562	838
V/C Ratio(X)	0.27	0.83	0.20	0.74	0.49	0.15	0.32	0.37	0.38	0.64	0.63	0.63
Avail Cap(c_a), veh/h	423	772	447	308	892	601	385	1349	644	511	1562	838
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	41.5	30.6	25.5	22.6	14.6	17.4	17.8	18.9	14.6	15.4	15.6
Incr Delay (d2), s/veh	0.2	7.1	0.2	8.2	0.3	0.1	0.2	0.8	1.7	2.1	2.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	14.8	3.7	9.8	7.7	2.2	2.6	8.0	8.4	9.9	15.1	16.5
LnGrp Delay(d),s/veh	29.7	48.5	30.7	33.7	22.9	14.7	17.7	18.6	20.6	16.7	17.4	19.3
LnGrp LOS	C	D	C	C	C	B	B	B	C	B	B	B
Approach Vol, veh/h		802			758			822			1851	
Approach Delay, s/veh		44.3			25.2			19.1			17.8	
Approach LOS		D			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	54.7	12.5	31.7	18.0	47.8	17.0	27.2
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	11.6	40.6	10.6	21.6	11.6	40.6	10.6	21.6
Max Q Clear Time (g_c+I1), s	5.0	22.5	6.4	11.0	13.7	12.1	12.8	20.4
Green Ext Time (p_c), s	0.0	6.8	0.0	4.8	0.0	7.7	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

Queues
Existing Conditions
1002: SB On-Ramp/SB Off-Ramp & NW 95th St
AM PEAK HOUR

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	870	341	456	592	96	19	140
v/c Ratio	0.61	0.22	0.98	0.27	0.18	no cap	0.26
Control Delay	23.5	0.2	76.1	7.1	27.9		6.2
Queue Delay	0.1	0.0	7.7	0.1	0.2		0.0
Total Delay	23.6	0.2	83.7	7.2	28.1	Error	6.2
Queue Length 50th (ft)	171	0	225	51	45	0	0
Queue Length 95th (ft)	193	m0	#411	76	93	0	46
Internal Link Dist (ft)	226			260		447	
Turn Bay Length (ft)							
Base Capacity (vph)	1739	1568	511	2531	577	1	592
Starvation Cap Reductn	181	0	37	799	0	0	0
Spillback Cap Reductn	198	0	0	2	178	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.22	0.96	0.34	0.24	19.00	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1002: SB On-Ramp/SB Off-Ramp & NW 95th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	835	327	438	568	0	0	0	0	92	18	134
Future Volume (vph)	0	835	327	438	568	0	0	0	0	92	18	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.8	4.0	4.0					4.0	4.0	5.4
Lane Util. Factor		0.95	1.00	1.00	0.95					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3505	1568	1752	3505					1752	0	1568
Flt Permitted		1.00	1.00	0.17	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3505	1568	315	3505					1752	0	1568
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	870	341	456	592	0	0	0	0	96	19	140
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	100
Lane Group Flow (vph)	0	870	341	456	592	0	0	0	0	96	19	40
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type		NA	Free	pm+pt	NA					Perm	NA	Perm
Protected Phases		6		5	2						8	
Permitted Phases			Free	2						8		8
Actuated Green, G (s)		43.7	110.0	68.0	68.0					31.4	31.4	31.4
Effective Green, g (s)		44.9	110.0	67.0	69.2					32.8	32.8	31.4
Actuated g/C Ratio		0.41	1.00	0.61	0.63					0.30	0.30	0.29
Clearance Time (s)		5.2		3.0	5.2					5.4	5.4	5.4
Vehicle Extension (s)		1.0		2.0	1.0					3.5	3.5	3.5
Lane Grp Cap (vph)		1430	1568	457	2204					522	0	447
v/s Ratio Prot		0.25		c0.18	0.17							
v/s Ratio Perm			c0.22	c0.42						0.05		0.03
v/c Ratio		0.61	0.22	1.00	0.27					0.18	no cap	0.09
Uniform Delay, d1		25.6	0.0	25.6	9.1					28.7	Error	28.8
Progression Factor		0.75	1.00	2.04	0.65					1.00		1.00
Incremental Delay, d2		1.4	0.2	36.4	0.2					0.2	Error	0.1
Delay (s)		20.7	0.2	88.6	6.2					28.9	Error	28.9
Level of Service		C	A	F	A					C	F	C
Approach Delay (s)		14.9			42.0			0.0			Error	
Approach LOS		B			D			A			F	

Intersection Summary

HCM 2000 Control Delay	Error	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1002: SB On-Ramp/SB Off-Ramp & NW 95th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑					↰		↱
Traffic Volume (veh/h)	0	835	327	438	568	0	0	0	0	92	18	134
Future Volume (veh/h)	0	835	327	438	568	0	0	0	0	92	18	134
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1845	1845	1845	0				1845	1900	1845
Adj Flow Rate, veh/h	0	870	0	456	592	0				96	19	140
Adj No. of Lanes	0	2	1	1	2	0				1	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	3	3	3	3	0				3	3	3
Cap, veh/h	0	2253	1008	674	2813	0				219	0	175
Arrive On Green	0.00	1.00	0.00	0.25	1.00	0.00				0.12	0.12	0.11
Sat Flow, veh/h	0	3597	1568	1757	3597	0				1757	0	1568
Grp Volume(v), veh/h	0	870	0	456	592	0				96	0	140
Grp Sat Flow(s),veh/h/ln	0	1752	1568	1757	1752	0				1757	0	1568
Q Serve(g_s), s	0.0	0.0	0.0	12.0	0.0	0.0				5.6	0.0	9.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	12.0	0.0	0.0				5.6	0.0	9.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2253	1008	674	2813	0				219	0	175
V/C Ratio(X)	0.00	0.39	0.00	0.68	0.21	0.00				0.44	0.00	0.80
Avail Cap(c_a), veh/h	0	2253	1008	840	2813	0				415	0	351
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.50	0.00	0.65	0.65	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	3.9	0.0	0.0				44.6	0.0	47.6
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.6	0.1	0.0				1.7	0.0	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.0	8.7	0.1	0.0				5.0	0.0	8.2
LnGrp Delay(d),s/veh	0.0	0.3	0.0	4.4	0.1	0.0				46.3	0.0	57.2
LnGrp LOS		A		A	A					D		E
Approach Vol, veh/h		870			1048						236	
Approach Delay, s/veh		0.3			2.0						52.8	
Approach LOS		A			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.3			17.6	74.7		17.7
Change Period (Y+Rc), s		* 5.2			3.0	* 5.2		5.4
Max Green Setting (Gmax), s		* 75			25.0	* 47		24.6
Max Q Clear Time (g_c+I1), s		2.0			14.0	2.0		11.6
Green Ext Time (p_c), s		4.6			0.6	4.6		0.7

Intersection Summary

HCM 2010 Ctrl Delay	6.9
HCM 2010 LOS	A

Notes

Queues

Existing Conditions

1003: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 95th St

AM PEAK HOUR

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	444	571	1030	190	302
v/c Ratio	0.73	0.22	0.70	0.60	0.57
Control Delay	47.2	4.3	28.7	48.8	8.6
Queue Delay	25.3	0.3	0.1	0.2	0.0
Total Delay	72.5	4.6	28.8	49.0	8.6
Queue Length 50th (ft)	293	62	295	125	0
Queue Length 95th (ft)	#415	39	388	183	68
Internal Link Dist (ft)		260	555	533	
Turn Bay Length (ft)					
Base Capacity (vph)	608	2625	1475	547	693
Starvation Cap Reductn	171	1364	0	0	0
Spillback Cap Reductn	0	0	37	60	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.02	0.45	0.72	0.39	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
Existing Conditions

1003: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 95th St
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	431	554	0	0	827	172	153	31	293	0	0	0
Future Volume (vph)	431	554	0	0	827	172	153	31	293	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95			1.00	1.00			
Frt	1.00	1.00			0.97			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.96	1.00			
Satd. Flow (prot)	1752	3505			3415			1771	1568			
Flt Permitted	0.12	1.00			1.00			0.96	1.00			
Satd. Flow (perm)	227	3505			3415			1771	1568			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	444	571	0	0	853	177	158	32	302	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	248	0	0	0
Lane Group Flow (vph)	444	571	0	0	1014	0	0	190	54	0	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	1	6			2			4				
Permitted Phases	6						4		4			
Actuated Green, G (s)	81.4	81.4			45.8			18.6	18.6			
Effective Green, g (s)	80.4	82.4			46.8			19.6	19.6			
Actuated g/C Ratio	0.73	0.75			0.43			0.18	0.18			
Clearance Time (s)	3.0	5.0			5.0			5.0	5.0			
Vehicle Extension (s)	2.0	1.0			1.0			3.5	3.5			
Lane Grp Cap (vph)	604	2625			1452			315	279			
v/s Ratio Prot	c0.21	0.16			0.30							
v/s Ratio Perm	c0.33							0.11	0.03			
v/c Ratio	0.74	0.22			0.70			0.60	0.19			
Uniform Delay, d1	23.2	4.1			25.8			41.6	38.5			
Progression Factor	1.96	0.88			1.00			1.00	1.00			
Incremental Delay, d2	3.7	0.2			2.8			3.4	0.4			
Delay (s)	49.2	3.8			28.7			45.0	38.9			
Level of Service	D	A			C			D	D			
Approach Delay (s)		23.7			28.7			41.2			0.0	
Approach LOS		C			C			D			A	

Intersection Summary

HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1003: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 95th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	431	554	0	0	827	172	153	31	293	0	0	0
Future Volume (veh/h)	431	554	0	0	827	172	153	31	293	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1845	1845	0	0	1845	1900	1900	1845	1845			
Adj Flow Rate, veh/h	444	571	0	0	853	177	158	32	302			
Adj No. of Lanes	1	2	0	0	2	0	0	1	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	497	2446	0	0	1523	316	338	68	360			
Arrive On Green	0.18	0.93	0.00	0.00	0.70	0.69	0.23	0.23	0.23			
Sat Flow, veh/h	1757	3597	0	0	2984	600	1473	298	1568			
Grp Volume(v), veh/h	444	571	0	0	517	513	190	0	302			
Grp Sat Flow(s),veh/h/ln	1757	1752	0	0	1752	1739	1771	0	1568			
Q Serve(g_s), s	13.5	1.6	0.0	0.0	16.0	16.2	10.2	0.0	20.2			
Cycle Q Clear(g_c), s	13.5	1.6	0.0	0.0	16.0	16.2	10.2	0.0	20.2			
Prop In Lane	1.00		0.00	0.00		0.35	0.83		1.00			
Lane Grp Cap(c), veh/h	497	2446	0	0	923	916	406	0	360			
V/C Ratio(X)	0.89	0.23	0.00	0.00	0.56	0.56	0.47	0.00	0.84			
Avail Cap(c_a), veh/h	564	2446	0	0	923	916	547	0	485			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.80	0.80	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	13.9	1.3	0.0	0.0	10.2	10.4	36.6	0.0	40.4			
Incr Delay (d2), s/veh	11.8	0.2	0.0	0.0	2.5	2.5	1.0	0.0	10.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	12.7	1.4	0.0	0.0	12.9	12.9	8.8	0.0	14.9			
LnGrp Delay(d),s/veh	25.7	1.4	0.0	0.0	12.6	12.8	37.6	0.0	50.6			
LnGrp LOS	C	A			B	B	D		D			
Approach Vol, veh/h		1015			1030			492				
Approach Delay, s/veh		12.0			12.7			45.6				
Approach LOS		B			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	18.8	61.9		29.2		80.8		
Change Period (Y+Rc), s	3.0	5.0		5.0		5.0		
Max Green Setting (Gmax), s	20.0	44.0		33.0		67.0		
Max Q Clear Time (g_c+I1), s	15.5	18.2		22.2		3.6		
Green Ext Time (p_c), s	0.4	4.5		2.0		4.6		

Intersection Summary	
HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

Part 1
PM Peak Period

Queues
101: US 1/SR 5 & SW 16th Ave

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	210	2612	2952	229	211
v/c Ratio	1.22	0.64	0.84	0.96	0.72
Control Delay	186.5	8.5	24.1	120.1	51.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	186.5	8.5	24.1	120.1	51.0
Queue Length 50th (ft)	~251	416	899	258	126
Queue Length 95th (ft)	#436	442	947	#444	234
Internal Link Dist (ft)		600	552	220	
Turn Bay Length (ft)	175				
Base Capacity (vph)	172	4085	3508	238	292
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.22	0.64	0.84	0.96	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
101: US 1/SR 5 & SW 16th Ave

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	206	2560	2846	47	140	291
Future Volume (vph)	206	2560	2846	47	140	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	6.8		6.4	6.4
Lane Util. Factor	1.00	0.91	0.91		1.00	0.95
Frt	1.00	1.00	1.00		0.94	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1787	5136	5123		1721	1519
Flt Permitted	0.03	1.00	1.00		0.97	1.00
Satd. Flow (perm)	58	5136	5123		1721	1519
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	210	2612	2904	48	143	297
RTOR Reduction (vph)	0	0	1	0	12	94
Lane Group Flow (vph)	210	2612	2951	0	217	117
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	143.2	143.2	123.2		23.6	23.6
Effective Green, g (s)	143.2	143.2	123.2		23.6	23.6
Actuated g/C Ratio	0.80	0.80	0.68		0.13	0.13
Clearance Time (s)	6.8	6.8	6.8		6.4	6.4
Vehicle Extension (s)	3.0	2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	172	4085	3506		225	199
v/s Ratio Prot	c0.09	0.51	0.58		c0.13	
v/s Ratio Perm	c0.88					0.08
v/c Ratio	1.22	0.64	0.84		0.96	0.59
Uniform Delay, d1	67.4	7.7	21.1		77.8	73.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	140.4	0.8	2.6		49.4	3.7
Delay (s)	207.8	8.4	23.8		127.2	77.3
Level of Service	F	A	C		F	E
Approach Delay (s)		23.3	23.8		103.3	
Approach LOS		C	C		F	

Intersection Summary

HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
101: US 1/SR 5 & SW 16th Ave

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	206	2560	2846	47	140	291
Future Volume (veh/h)	206	2560	2846	47	140	291
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1900	1881	1881
Adj Flow Rate, veh/h	210	2612	2904	0	215	220
Adj No. of Lanes	1	3	3	0	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	195	4086	3515	0	235	210
Arrive On Green	0.07	0.80	0.68	0.00	0.13	0.13
Sat Flow, veh/h	1792	5305	5474	0	1792	1599
Grp Volume(v), veh/h	210	2612	2904	0	215	220
Grp Sat Flow(s),veh/h/ln	1792	1712	1712	0	1792	1599
Q Serve(g_s), s	13.2	38.1	73.9	0.0	21.3	23.6
Cycle Q Clear(g_c), s	13.2	38.1	73.9	0.0	21.3	23.6
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	195	4086	3515	0	235	210
V/C Ratio(X)	1.07	0.64	0.83	0.00	0.92	1.05
Avail Cap(c_a), veh/h	195	4086	3515	0	235	210
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	64.6	7.7	20.6	0.0	77.2	78.2
Incr Delay (d2), s/veh	85.5	0.8	2.4	0.0	36.4	75.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.9	25.2	45.2	0.0	18.8	43.1
LnGrp Delay(d),s/veh	150.1	8.4	23.0	0.0	113.6	153.9
LnGrp LOS	F	A	C		F	F
Approach Vol, veh/h		2822	2904		435	
Approach Delay, s/veh		19.0	23.0		134.0	
Approach LOS		B	C		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		150.0		30.0	20.0	130.0		
Change Period (Y+Rc), s		6.8		6.4	6.8	6.8		
Max Green Setting (Gmax), s		143.2		23.6	13.2	123.2		
Max Q Clear Time (g_c+I1), s		40.1		25.6	15.2	75.9		
Green Ext Time (p_c), s		101.2		0.0	0.0	46.9		

Intersection Summary

HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Notes

Queues
203: S Miami Ave & SW 26th Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	37	1206	685	217	238	126	379	279	71	222
v/c Ratio	0.08	0.79	0.43	0.75	0.32	0.08	0.60	0.20	0.17	0.23
Control Delay	27.7	62.6	0.7	80.5	35.8	0.1	28.2	28.5	23.1	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	62.6	0.7	80.5	35.8	0.1	28.2	28.5	23.1	41.2
Queue Length 50th (ft)	26	389	0	179	103	0	203	80	31	75
Queue Length 95th (ft)	m34	434	0	264	173	0	339	135	70	133
Internal Link Dist (ft)		330			363			503		322
Turn Bay Length (ft)	165			100					160	
Base Capacity (vph)	495	1561	1599	299	733	1599	629	1521	477	1397
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.77	0.43	0.73	0.32	0.08	0.60	0.18	0.15	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
203: S Miami Ave & SW 26th Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	1146	651	206	226	120	360	248	17	67	204	7
Future Volume (vph)	35	1146	651	206	226	120	360	248	17	67	204	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.9	4.0	3.5	4.9	4.0	3.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	5136	1599	1787	1881	1599	1787	3540		1787	3557	
Flt Permitted	0.61	1.00	1.00	0.09	1.00	1.00	0.54	1.00		0.58	1.00	
Satd. Flow (perm)	1149	5136	1599	176	1881	1599	1012	3540		1092	3557	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	1206	685	217	238	126	379	261	18	71	215	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	2	0
Lane Group Flow (vph)	37	1206	685	217	238	126	379	275	0	71	220	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free	2			6		
Actuated Green, G (s)	44.9	39.2	130.0	59.4	50.7	130.0	60.7	50.4		42.0	34.7	
Effective Green, g (s)	44.9	39.2	130.0	59.4	50.7	130.0	60.7	50.4		42.0	34.7	
Actuated g/C Ratio	0.35	0.30	1.00	0.46	0.39	1.00	0.47	0.39		0.32	0.27	
Clearance Time (s)	3.0	4.9		3.5	4.9		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	3.0	2.5		3.0	2.5		3.0	2.5		3.0	2.5	
Lane Grp Cap (vph)	424	1548	1599	287	733	1599	609	1372		391	949	
v/s Ratio Prot	0.00	0.23		c0.10	0.13		c0.11	0.08		0.01	0.06	
v/s Ratio Perm	0.03		0.43	c0.25		0.08	c0.18			0.05		
v/c Ratio	0.09	0.78	0.43	0.76	0.32	0.08	0.62	0.20		0.18	0.23	
Uniform Delay, d1	28.4	41.4	0.0	31.9	27.7	0.0	23.6	26.4		31.0	37.2	
Progression Factor	1.60	1.42	1.00	2.30	1.28	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.9	0.7	9.0	0.2	0.1	2.0	0.3		0.2	0.6	
Delay (s)	45.7	60.8	0.7	82.2	35.7	0.1	25.5	26.8		31.2	37.8	
Level of Service	D	E	A	F	D	A	C	C		C	D	
Approach Delay (s)		39.2			45.4			26.1			36.2	
Approach LOS		D			D			C			D	

Intersection Summary

HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
203: S Miami Ave & SW 26th Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1146	651	206	226	120	360	248	17	67	204	7
Future Volume (veh/h)	35	1146	651	206	226	120	360	248	17	67	204	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1900
Adj Flow Rate, veh/h	37	1206	0	217	238	0	379	261	0	71	215	0
Adj No. of Lanes	1	3	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	387	1350	420	255	640	544	676	1693	0	588	1490	0
Arrive On Green	0.03	0.26	0.00	0.10	0.34	0.00	0.12	0.63	0.00	0.05	0.55	0.00
Sat Flow, veh/h	1792	5136	1599	1792	1881	1599	1792	3668	0	1792	3668	0
Grp Volume(v), veh/h	37	1206	0	217	238	0	379	261	0	71	215	0
Grp Sat Flow(s),veh/h/ln	1792	1712	1599	1792	1881	1599	1792	1787	0	1792	1787	0
Q Serve(g_s), s	1.9	29.4	0.0	11.1	12.4	0.0	12.0	3.9	0.0	2.9	3.8	0.0
Cycle Q Clear(g_c), s	1.9	29.4	0.0	11.1	12.4	0.0	12.0	3.9	0.0	2.9	3.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	387	1350	420	255	640	544	676	1693	0	588	1490	0
V/C Ratio(X)	0.10	0.89	0.00	0.85	0.37	0.00	0.56	0.15	0.00	0.12	0.14	0.00
Avail Cap(c_a), veh/h	474	1426	444	286	640	544	676	1693	0	690	1490	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.52	0.52	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.4	46.2	0.0	33.3	32.4	0.0	19.9	13.4	0.0	20.1	17.7	0.0
Incr Delay (d2), s/veh	0.1	7.2	0.0	11.2	0.1	0.0	1.1	0.2	0.0	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	21.2	0.0	9.2	9.5	0.0	6.9	3.5	0.0	2.6	3.4	0.0
LnGrp Delay(d),s/veh	33.5	53.4	0.0	44.5	32.5	0.0	21.0	13.6	0.0	20.1	17.9	0.0
LnGrp LOS	C	D		D	C		C	B		C	B	
Approach Vol, veh/h		1243			455			640			286	
Approach Delay, s/veh		52.8			38.2			17.9			18.5	
Approach LOS		D			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	66.6	16.7	39.1	15.0	59.2	6.7	49.1
Change Period (Y+Rc), s	3.0	5.0	3.5	* 4.9	3.0	5.0	3.0	* 4.9
Max Green Setting (Gmax), s	12.0	50.0	15.5	* 36	12.0	50.0	10.0	* 42
Max Q Clear Time (g_c+I1), s	4.9	5.9	13.1	31.4	14.0	5.8	3.9	14.4
Green Ext Time (p_c), s	0.1	2.8	0.1	2.8	0.0	2.8	0.0	10.1

Intersection Summary	
HCM 2010 Ctrl Delay	38.0
HCM 2010 LOS	D

Notes

Queues
Existing Conditions
204: Brickell Ave & SW 26th Rd/Rickenbacker Causeway
PM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	277	959	20	517	163	523	428	172	848
v/c Ratio	0.70	0.46	0.03	0.79	0.10	0.38	0.27	0.23	0.49
Control Delay	65.4	7.3	0.1	59.4	0.1	32.6	0.4	20.5	25.0
Queue Delay	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.4	7.4	0.1	59.4	0.1	32.6	0.4	20.5	25.0
Queue Length 50th (ft)	166	25	0	221	0	165	0	38	241
Queue Length 95th (ft)	m178	26	m0	270	0	264	0	73	370
Internal Link Dist (ft)		363		835		649			369
Turn Bay Length (ft)	110				140		590	195	
Base Capacity (vph)	421	2430	799	857	1599	1406	1599	794	1778
Starvation Cap Reductn	3	277	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.45	0.03	0.60	0.10	0.37	0.27	0.22	0.48

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
204: Brickell Ave & SW 26th Rd/Rickenbacker Causeway

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	258	892	19	0	481	152	0	486	398	160	744	45
Future Volume (vph)	258	892	19	0	481	152	0	486	398	160	744	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.8	6.8		6.8	4.0		6.6	4.0	6.0	6.6	
Lane Util. Factor	1.00	0.91	1.00		0.95	1.00		0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	5136	1599		3574	1599		3574	1599	3467	3544	
Flt Permitted	0.18	1.00	1.00		1.00	1.00		1.00	1.00	0.34	1.00	
Satd. Flow (perm)	342	5136	1599		3574	1599		3574	1599	1255	3544	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	277	959	20	0	517	163	0	523	428	172	800	48
RTOR Reduction (vph)	0	0	12	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	277	959	8	0	517	163	0	523	428	172	845	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Perm		NA	Free		NA	Free	pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4		4			Free			Free	6		
Actuated Green, G (s)	52.8	52.8	52.8		23.9	130.0		49.7	130.0	63.8	63.8	
Effective Green, g (s)	52.8	52.8	52.8		23.9	130.0		49.7	130.0	63.8	63.8	
Actuated g/C Ratio	0.41	0.41	0.41		0.18	1.00		0.38	1.00	0.49	0.49	
Clearance Time (s)	6.0	6.8	6.8		6.8			6.6		6.0	6.6	
Vehicle Extension (s)	2.0	2.5	2.5		2.5			1.0		2.0	1.0	
Lane Grp Cap (vph)	393	2086	649		657	1599		1366	1599	753	1739	
v/s Ratio Prot	c0.12	0.19			c0.14			0.15		0.01	c0.24	
v/s Ratio Perm	0.16		0.01			0.10			0.27	0.10		
v/c Ratio	0.70	0.46	0.01		0.79	0.10		0.38	0.27	0.23	0.49	
Uniform Delay, d1	29.0	28.2	23.0		50.6	0.0		29.1	0.0	18.6	22.1	
Progression Factor	2.24	0.25	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.1	0.1	0.0		6.0	0.1		0.8	0.4	0.1	1.0	
Delay (s)	68.1	7.1	23.0		56.6	0.1		29.9	0.4	18.6	23.1	
Level of Service	E	A	C		E	A		C	A	B	C	
Approach Delay (s)		20.8			43.1			16.6			22.4	
Approach LOS		C			D			B			C	

Intersection Summary

HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
204: Brickell Ave & SW 26th Rd/Rickenbacker Causeway

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	892	19	0	481	152	0	486	398	160	744	45
Future Volume (veh/h)	258	892	19	0	481	152	0	486	398	160	744	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	0	1881	1881	0	1881	1881	1881	1881	1900
Adj Flow Rate, veh/h	277	959	0	0	517	0	0	523	428	172	800	0
Adj No. of Lanes	1	3	1	0	2	1	0	2	1	2	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	0	1	1	0	1	1	1	1	1
Cap, veh/h	357	1964	612	0	718	321	0	1519	680	659	1839	0
Arrive On Green	0.14	0.38	0.00	0.00	0.20	0.00	0.00	0.57	0.57	0.06	0.68	0.00
Sat Flow, veh/h	1792	5136	1599	0	3668	1599	0	3668	1599	3476	3668	0
Grp Volume(v), veh/h	277	959	0	0	517	0	0	523	428	172	800	0
Grp Sat Flow(s),veh/h/ln	1792	1712	1599	0	1787	1599	0	1787	1599	1738	1787	0
Q Serve(g_s), s	15.4	18.4	0.0	0.0	17.6	0.0	0.0	10.3	23.5	3.5	13.1	0.0
Cycle Q Clear(g_c), s	15.4	18.4	0.0	0.0	17.6	0.0	0.0	10.3	23.5	3.5	13.1	0.0
Prop In Lane	1.00		1.00	0.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	357	1964	612	0	718	321	0	1519	680	659	1839	0
V/C Ratio(X)	0.78	0.49	0.00	0.00	0.72	0.00	0.00	0.34	0.63	0.26	0.44	0.00
Avail Cap(c_a), veh/h	431	2378	740	0	858	384	0	1519	680	777	1839	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.57	0.57	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.5	30.5	0.0	0.0	48.5	0.0	0.0	18.5	21.3	18.6	12.0	0.0
Incr Delay (d2), s/veh	3.3	0.1	0.0	0.0	2.1	0.0	0.0	0.6	4.4	0.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.3	12.4	0.0	0.0	13.8	0.0	0.0	8.8	16.5	3.0	10.7	0.0
LnGrp Delay(d),s/veh	37.8	30.6	0.0	0.0	50.7	0.0	0.0	19.1	25.7	18.7	12.8	0.0
LnGrp LOS	D	C			D			B	C	B	B	
Approach Vol, veh/h		1236			517			951			972	
Approach Delay, s/veh		32.2			50.7			22.1			13.8	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	11.6	61.9		56.5		73.5	23.6	32.9
Change Period (Y+Rc), s	6.0	6.6		* 6.8		6.6	6.0	* 6.8
Max Green Setting (Gmax), s	10.0	40.4		* 60		56.4	23.0	* 31
Max Q Clear Time (g_c+I1), s	5.5	25.5		20.4		15.1	17.4	19.6
Green Ext Time (p_c), s	0.1	3.8		11.5		4.2	0.2	6.5

Intersection Summary		
HCM 2010 Ctrl Delay		27.3
HCM 2010 LOS		C

Notes

Queues
205: SB Off-Ramp & SW 25th Rd

Lane Group	EBT	WBT	SBT
Lane Group Flow (vph)	288	536	2396
v/c Ratio	0.38	0.72	0.79
Control Delay	33.5	31.4	22.6
Queue Delay	0.0	3.0	0.0
Total Delay	33.5	34.4	22.6
Queue Length 50th (ft)	142	127	537
Queue Length 95th (ft)	189	187	680
Internal Link Dist (ft)	411	125	410
Turn Bay Length (ft)			
Base Capacity (vph)	889	867	3040
Starvation Cap Reductn	0	225	0
Spillback Cap Reductn	35	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.83	0.79

Intersection Summary

HCM Signalized Intersection Capacity Analysis
205: SB Off-Ramp & SW 25th Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	239	37	39	475	0	0	0	0	101	1862	337
Future Volume (vph)	0	239	37	39	475	0	0	0	0	101	1862	337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5						5.0	
Lane Util. Factor		*0.63			0.95						0.91	
Frt		0.98			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2322			3561						5012	
Flt Permitted		1.00			0.84						1.00	
Satd. Flow (perm)		2322			3006						5012	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	249	39	41	495	0	0	0	0	105	1940	351
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	283	0	0	536	0	0	0	0	0	2380	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA		Perm	NA					Split	NA	
Protected Phases		8			4					2	2	
Permitted Phases				4								
Actuated Green, G (s)		42.1			32.2						78.4	
Effective Green, g (s)		42.1			32.2						78.4	
Actuated g/C Ratio		0.32			0.25						0.60	
Clearance Time (s)		4.5			4.5						5.0	
Vehicle Extension (s)		2.5			2.5						1.0	
Lane Grp Cap (vph)		751			744						3022	
v/s Ratio Prot		c0.12									c0.47	
v/s Ratio Perm					c0.18							
v/c Ratio		0.38			0.72						0.79	
Uniform Delay, d1		33.8			44.8						19.5	
Progression Factor		1.00			0.59						1.00	
Incremental Delay, d2		0.2			3.0						2.2	
Delay (s)		34.1			29.2						21.7	
Level of Service		C			C						C	
Approach Delay (s)		34.1			29.2			0.0			21.7	
Approach LOS		C			C			A			C	

Intersection Summary

HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues
206: NB On-Ramp & SW 25th Rd

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	205	135	309	545	261	448
v/c Ratio	0.79	0.22	0.66	0.81	0.24	0.40
Control Delay	47.0	16.6	50.6	23.4	9.0	9.9
Queue Delay	7.5	0.8	1.2	0.0	0.0	0.0
Total Delay	54.4	17.3	51.8	23.4	9.0	9.9
Queue Length 50th (ft)	88	40	232	140	70	122
Queue Length 95th (ft)	m133	m59	320	283	m115	183
Internal Link Dist (ft)		125	258			245
Turn Bay Length (ft)						
Base Capacity (vph)	290	716	542	726	1077	1132
Starvation Cap Reductn	52	363	0	0	0	0
Spillback Cap Reductn	0	0	90	0	49	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.38	0.68	0.75	0.25	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
206: NB On-Ramp & SW 25th Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	124	0	0	284	501	240	403	9	0	0	0
Future Volume (vph)	189	124	0	0	284	501	240	403	9	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.5			4.5	4.5	5.0	5.0				
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00				
Frt	1.00	1.00			1.00	0.85	1.00	1.00				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1787	1881			1881	1599	1787	1875				
Flt Permitted	0.33	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	614	1881			1881	1599	1787	1875				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	205	135	0	0	309	545	261	438	10	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	281	0	0	0	0	0	0
Lane Group Flow (vph)	205	135	0	0	309	264	261	448	0	0	0	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA			NA	Perm	Split	NA				
Protected Phases	3	8			4		6	6				
Permitted Phases	8					4						
Actuated Green, G (s)	43.1	42.1			32.2	32.2	78.4	78.4				
Effective Green, g (s)	43.1	42.1			32.2	32.2	78.4	78.4				
Actuated g/C Ratio	0.33	0.32			0.25	0.25	0.60	0.60				
Clearance Time (s)	3.5	4.5			4.5	4.5	5.0	5.0				
Vehicle Extension (s)	2.0	2.5			2.5	2.5	1.0	1.0				
Lane Grp Cap (vph)	261	609			465	396	1077	1130				
v/s Ratio Prot	c0.04	0.07			0.16		0.15	c0.24				
v/s Ratio Perm	c0.22					0.17						
v/c Ratio	0.79	0.22			0.66	0.67	0.24	0.40				
Uniform Delay, d1	49.0	32.0			44.0	44.1	12.0	13.5				
Progression Factor	0.64	0.51			1.00	1.00	0.65	0.61				
Incremental Delay, d2	12.1	0.1			3.2	3.8	0.5	0.9				
Delay (s)	43.4	16.6			47.2	47.9	8.2	9.1				
Level of Service	D	B			D	D	A	A				
Approach Delay (s)		32.7			47.7			8.8			0.0	
Approach LOS		C			D			A			A	

Intersection Summary

HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues
301: SW 5th Ave & SW 8th St

Lane Group	EBT	NBT
Lane Group Flow (vph)	1265	441
v/c Ratio	0.39	0.88
Control Delay	11.5	55.9
Queue Delay	0.0	0.0
Total Delay	11.5	55.9
Queue Length 50th (ft)	164	295
Queue Length 95th (ft)	242	388
Internal Link Dist (ft)	534	273
Turn Bay Length (ft)		
Base Capacity (vph)	3314	590
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.38	0.75

Intersection Summary

HCM Signalized Intersection Capacity Analysis
301: SW 5th Ave & SW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	964	43	0	0	0	0	124	273	0	0	0
Future Volume (vph)	131	964	43	0	0	0	0	124	273	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0						6.0				
Lane Util. Factor		0.91						1.00				
Frt		0.99						0.91				
Flt Protected		0.99						1.00				
Satd. Flow (prot)		5027						1690				
Flt Permitted		0.99						1.00				
Satd. Flow (perm)		5027						1690				
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	146	1071	48	0	0	0	0	138	303	0	0	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	65	0	0	0	0
Lane Group Flow (vph)	0	1251	0	0	0	0	0	376	0	0	0	0
Turn Type	Perm	NA						NA				
Protected Phases		6						4				
Permitted Phases	6											
Actuated Green, G (s)		84.6						33.4				
Effective Green, g (s)		84.6						33.4				
Actuated g/C Ratio		0.65						0.26				
Clearance Time (s)		6.0						6.0				
Vehicle Extension (s)		2.5						2.5				
Lane Grp Cap (vph)		3271						434				
v/s Ratio Prot								c0.22				
v/s Ratio Perm		0.25										
v/c Ratio		0.38						0.87				
Uniform Delay, d1		10.6						46.2				
Progression Factor		1.00						1.00				
Incremental Delay, d2		0.3						16.2				
Delay (s)		10.9						62.3				
Level of Service		B						E				
Approach Delay (s)		10.9			0.0			62.3			0.0	
Approach LOS		B			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
301: SW 5th Ave & SW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	964	43	0	0	0	0	124	273	0	0	0
Future Volume (veh/h)	131	964	43	0	0	0	0	124	273	0	0	0
Number	1	6	16				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900			
Adj Flow Rate, veh/h	146	1071	48				0	138	303			
Adj No. of Lanes	0	3	0				0	1	0			
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90			
Percent Heavy Veh, %	2	2	2				0	2	2			
Cap, veh/h	210	1305	59				0	147	322			
Arrive On Green	0.42	0.42	0.42				0.00	0.28	0.28			
Sat Flow, veh/h	552	4152	187				0	520	1141			
Grp Volume(v), veh/h	443	396	426				0	0	441			
Grp Sat Flow(s),veh/h/ln	1686	1543	1662				0	0	1661			
Q Serve(g_s), s	30.3	29.4	29.5				0.0	0.0	33.7			
Cycle Q Clear(g_c), s	30.5	29.4	29.5				0.0	0.0	33.7			
Prop In Lane	0.33		0.11				0.00		0.69			
Lane Grp Cap(c), veh/h	567	485	522				0	0	469			
V/C Ratio(X)	0.78	0.82	0.82				0.00	0.00	0.94			
Avail Cap(c_a), veh/h	1048	926	997				0	0	511			
HCM Platoon Ratio	1.33	1.33	1.33				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00			
Uniform Delay (d), s/veh	34.8	34.5	34.5				0.0	0.0	45.6			
Incr Delay (d2), s/veh	10.3	14.1	13.2				0.0	0.0	24.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	22.3	20.7	21.9				0.0	0.0	25.7			
LnGrp Delay(d),s/veh	45.1	48.6	47.7				0.0	0.0	70.0			
LnGrp LOS	D	D	D						E			
Approach Vol, veh/h		1265						441				
Approach Delay, s/veh		47.1						70.0				
Approach LOS		D						E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				42.7		46.9		
Change Period (Y+Rc), s				6.0		6.0		
Max Green Setting (Gmax), s				40.0		78.0		
Max Q Clear Time (g_c+I1), s				35.7		32.5		
Green Ext Time (p_c), s				1.0		8.3		

Intersection Summary	
HCM 2010 Ctrl Delay	53.0
HCM 2010 LOS	D

Queues
302: SW 4th Ave & SW 8th St

Lane Group	EBT	SBL	SBT
Lane Group Flow (vph)	1425	1154	581
v/c Ratio	0.50	0.55	0.73
Control Delay	22.2	27.5	36.3
Queue Delay	0.0	1.9	45.5
Total Delay	22.2	29.4	81.8
Queue Length 50th (ft)	283	251	401
Queue Length 95th (ft)	370	240	444
Internal Link Dist (ft)	483		254
Turn Bay Length (ft)			
Base Capacity (vph)	2879	2426	918
Starvation Cap Reductn	0	1058	380
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.49	0.84	1.08

Intersection Summary

HCM Signalized Intersection Capacity Analysis
302: SW 4th Ave & SW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1228	69	0	0	0	0	0	0	1050	529	0
Future Volume (vph)	0	1228	69	0	0	0	0	0	0	1050	529	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7								6.0	6.0	
Lane Util. Factor		*0.80								*0.92	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		5913								4884	1863	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		5913								4884	1863	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	1349	76	0	0	0	0	0	0	1154	581	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	21	0	0
Lane Group Flow (vph)	0	1420	0	0	0	0	0	0	0	1133	581	0
Turn Type		NA								Perm	NA	
Protected Phases		2									4	
Permitted Phases										4		
Actuated Green, G (s)		62.1								55.2	55.2	
Effective Green, g (s)		62.1								55.2	55.2	
Actuated g/C Ratio		0.48								0.42	0.42	
Clearance Time (s)		6.7								6.0	6.0	
Vehicle Extension (s)		2.0								2.5	2.5	
Lane Grp Cap (vph)		2824								2073	791	
v/s Ratio Prot		c0.24									c0.31	
v/s Ratio Perm										0.23		
v/c Ratio		0.50								0.55	0.73	
Uniform Delay, d1		23.3								28.0	31.3	
Progression Factor		0.87								1.00	1.00	
Incremental Delay, d2		0.6								0.2	3.4	
Delay (s)		21.0								28.3	34.6	
Level of Service		C								C	C	
Approach Delay (s)		21.0			0.0			0.0			30.4	
Approach LOS		C			A			A			C	

Intersection Summary

HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
302: SW 4th Ave & SW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1228	69	0	0	0	0	0	0	1050	529	0
Future Volume (veh/h)	0	1228	69	0	0	0	0	0	0	1050	529	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900							1863	1863	0
Adj Flow Rate, veh/h	0	1349	76							1154	581	0
Adj No. of Lanes	0	4	0							3	1	0
Peak Hour Factor	0.91	0.91	0.91							0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	3210	181							1938	674	0
Arrive On Green	0.00	0.72	0.72							0.36	0.36	0.00
Sat Flow, veh/h	0	6313	334							4896	1863	0
Grp Volume(v), veh/h	0	1015	410							1154	581	0
Grp Sat Flow(s),veh/h/ln	0	1490	1804							1632	1863	0
Q Serve(g_s), s	0.0	11.9	11.9							25.6	37.6	0.0
Cycle Q Clear(g_c), s	0.0	11.9	11.9							25.6	37.6	0.0
Prop In Lane	0.00		0.19							1.00		0.00
Lane Grp Cap(c), veh/h	0	2416	975							1938	674	0
V/C Ratio(X)	0.00	0.42	0.42							0.60	0.86	0.00
Avail Cap(c_a), veh/h	0	2416	975							2539	903	0
HCM Platoon Ratio	1.00	1.33	1.33							1.00	1.00	1.00
Upstream Filter(I)	0.00	0.93	0.93							0.46	0.46	0.00
Uniform Delay (d), s/veh	0.0	10.1	10.1							34.6	38.5	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2							0.1	2.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.5	10.1							15.3	24.9	0.0
LnGrp Delay(d),s/veh	0.0	10.6	11.3							34.7	41.4	0.0
LnGrp LOS		B	B							C	D	
Approach Vol, veh/h		1425									1735	
Approach Delay, s/veh		10.8									37.0	
Approach LOS		B									D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		76.9		53.1				
Change Period (Y+Rc), s		* 6.7		6.0				
Max Green Setting (Gmax), s		* 54		63.0				
Max Q Clear Time (g_c+I1), s		13.9		39.6				
Green Ext Time (p_c), s		8.4		7.5				

Intersection Summary	
HCM 2010 Ctrl Delay	25.2
HCM 2010 LOS	C

Notes

Queues
304: SW 3rd Ave & SW 8th St

Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1439	477	286	14	396
v/c Ratio	0.48	0.83	0.53	0.15	0.69
Control Delay	19.6	54.4	30.2	32.7	44.6
Queue Delay	0.1	9.0	0.5	0.0	19.4
Total Delay	19.7	63.4	30.7	32.7	64.0
Queue Length 50th (ft)	257	368	146	10	307
Queue Length 95th (ft)	319	474	222	m27	424
Internal Link Dist (ft)	147	329			244
Turn Bay Length (ft)				55	
Base Capacity (vph)	3221	589	550	98	589
Starvation Cap Reductn	689	0	0	0	187
Spillback Cap Reductn	48	86	64	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	0.95	0.59	0.14	0.99

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
304: SW 3rd Ave & SW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	1193	58	0	0	0	0	444	266	13	368	0
Future Volume (vph)	87	1193	58	0	0	0	0	444	266	13	368	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0						6.0	6.0	6.0	6.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frt		0.99						1.00	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5036						1863	1583	1770	1863	
Flt Permitted		1.00						1.00	1.00	0.17	1.00	
Satd. Flow (perm)		5036						1863	1583	312	1863	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	94	1283	62	0	0	0	0	477	286	14	396	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	50	0	0	0
Lane Group Flow (vph)	0	1435	0	0	0	0	0	477	236	14	396	0
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		6						4			8	
Permitted Phases	6								4	8		
Actuated Green, G (s)		77.9						40.1	40.1	40.1	40.1	
Effective Green, g (s)		77.9						40.1	40.1	40.1	40.1	
Actuated g/C Ratio		0.60						0.31	0.31	0.31	0.31	
Clearance Time (s)		6.0						6.0	6.0	6.0	6.0	
Vehicle Extension (s)		2.5						2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)		3017						574	488	96	574	
v/s Ratio Prot								c0.26			0.21	
v/s Ratio Perm		0.28							0.15	0.04		
v/c Ratio		0.48						0.83	0.48	0.15	0.69	
Uniform Delay, d1		14.6						41.8	36.5	32.5	39.5	
Progression Factor		1.25						1.00	1.00	0.96	0.98	
Incremental Delay, d2		0.5						9.8	0.6	0.5	3.0	
Delay (s)		18.7						51.6	37.1	31.7	41.8	
Level of Service		B						D	D	C	D	
Approach Delay (s)		18.7			0.0			46.1			41.5	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
304: SW 3rd Ave & SW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	1193	58	0	0	0	0	444	266	13	368	0
Future Volume (veh/h)	87	1193	58	0	0	0	0	444	266	13	368	0
Number	1	6	16				7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	94	1283	0				0	477	286	14	396	0
Adj No. of Lanes	0	3	0				0	1	1	1	1	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	114	1666	0				0	516	438	75	516	0
Arrive On Green	0.45	0.45	0.00				0.00	0.28	0.28	0.28	0.28	0.00
Sat Flow, veh/h	337	5067	0				0	1863	1583	701	1863	0
Grp Volume(v), veh/h	515	862	0				0	477	286	14	396	0
Grp Sat Flow(s),veh/h/ln	1846	1695	0				0	1863	1583	701	1863	0
Q Serve(g_s), s	31.6	27.3	0.0				0.0	32.4	20.7	2.6	25.4	0.0
Cycle Q Clear(g_c), s	31.6	27.3	0.0				0.0	32.4	20.7	34.9	25.4	0.0
Prop In Lane	0.18		0.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	628	1153	0				0	516	438	75	516	0
V/C Ratio(X)	0.82	0.75	0.00				0.00	0.92	0.65	0.19	0.77	0.00
Avail Cap(c_a), veh/h	1164	2138	0				0	516	438	75	516	0
HCM Platoon Ratio	1.33	1.33	1.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.2	31.0	0.0				0.0	45.7	41.5	62.7	43.2	0.0
Incr Delay (d2), s/veh	11.5	4.4	0.0				0.0	22.5	3.1	0.9	6.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	24.9	19.4	0.0				0.0	27.2	14.5	0.9	20.2	0.0
LnGrp Delay(d),s/veh	43.7	35.4	0.0				0.0	68.2	44.6	63.5	49.8	0.0
LnGrp LOS	D	D						E	D	E	D	
Approach Vol, veh/h		1377						763			410	
Approach Delay, s/veh		38.5						59.3			50.2	
Approach LOS		D						E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				42.0		50.2		42.0
Change Period (Y+Rc), s				6.0		6.0		6.0
Max Green Setting (Gmax), s				36.0		82.0		36.0
Max Q Clear Time (g_c+I1), s				34.4		33.6		36.9
Green Ext Time (p_c), s				1.0		10.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.6
HCM 2010 LOS	D

Queues
305: SW 2nd Ave & SW 8th St

Lane Group	EBT	EBR	NBT	SBT
Lane Group Flow (vph)	1424	162	460	553
v/c Ratio	0.78	0.24	0.60	0.49
Control Delay	45.4	15.4	31.7	35.1
Queue Delay	0.1	0.0	0.0	15.8
Total Delay	45.4	15.4	31.7	51.0
Queue Length 50th (ft)	273	17	103	151
Queue Length 95th (ft)	471	113	165	m296
Internal Link Dist (ft)	471		427	248
Turn Bay Length (ft)		155		
Base Capacity (vph)	2802	942	767	1123
Starvation Cap Reductn	208	0	0	558
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.17	0.60	0.98

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
305: SW 2nd Ave & SW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	1129	157	0	0	0	160	286	0	303	234	0
Future Volume (vph)	252	1129	157	0	0	0	160	286	0	303	234	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3					6.3			6.3	
Lane Util. Factor		0.91	1.00					0.91			0.95	
Frt		1.00	0.85					1.00			1.00	
Flt Protected		0.99	1.00					0.98			0.97	
Satd. Flow (prot)		4942	1553					4900			3376	
Flt Permitted		0.99	1.00					0.69			0.59	
Satd. Flow (perm)		4942	1553					3463			2061	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	260	1164	162	0	0	0	165	295	0	312	241	0
RTOR Reduction (vph)	0	0	90	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1424	72	0	0	0	0	460	0	0	553	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)		48.3	48.3					60.1			69.1	
Effective Green, g (s)		48.3	48.3					60.1			69.1	
Actuated g/C Ratio		0.37	0.37					0.46			0.53	
Clearance Time (s)		6.3	6.3					6.3			6.3	
Vehicle Extension (s)		1.0	1.0					1.0			1.0	
Lane Grp Cap (vph)		1836	576					1600			1146	
v/s Ratio Prot											c0.02	
v/s Ratio Perm		0.29	0.05					0.13			c0.24	
v/c Ratio		0.78	0.13					0.29			0.48	
Uniform Delay, d1		36.1	26.9					21.7			19.2	
Progression Factor		1.19	2.89					1.00			1.70	
Incremental Delay, d2		1.7	0.0					0.5			0.1	
Delay (s)		44.7	77.9					22.1			32.7	
Level of Service		D	E					C			C	
Approach Delay (s)		48.1			0.0			22.1			32.7	
Approach LOS		D			A			C			C	

Intersection Summary

HCM 2000 Control Delay	40.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
305: SW 2nd Ave & SW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	1129	157	0	0	0	160	286	0	303	234	0
Future Volume (veh/h)	252	1129	157	0	0	0	160	286	0	303	234	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1827				1900	1827	1900	1900	1827	0
Adj Flow Rate, veh/h	260	1164	162				165	295	0	312	241	0
Adj No. of Lanes	0	3	1				0	3	0	0	2	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4				4	4	4	4	4	0
Cap, veh/h	298	1438	528				668	1704	0	57	890	0
Arrive On Green	0.11	0.11	0.11				0.56	0.56	0.00	0.94	0.94	0.00
Sat Flow, veh/h	878	4230	1553				1089	3175	0	2	1663	0
Grp Volume(v), veh/h	528	896	162				165	295	0	312	241	0
Grp Sat Flow(s),veh/h/ln	1783	1663	1553				1089	1513	0	2	1580	0
Q Serve(g_s), s	37.9	34.1	12.5				10.2	6.1	0.0	29.8	1.6	0.0
Cycle Q Clear(g_c), s	37.9	34.1	12.5				11.7	6.1	0.0	29.8	1.6	0.0
Prop In Lane	0.49		1.00				1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	606	1130	528				668	1704	0	0	890	0
V/C Ratio(X)	0.87	0.79	0.31				0.25	0.17	0.00	0.00	0.27	0.00
Avail Cap(c_a), veh/h	1011	1885	880				668	1704	0	0	890	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.67	1.67	1.00
Upstream Filter(I)	0.87	0.87	0.87				1.00	1.00	0.00	0.33	0.33	0.00
Uniform Delay (d), s/veh	54.9	53.3	43.6				15.4	13.7	0.0	0.0	1.7	0.0
Incr Delay (d2), s/veh	2.1	0.4	0.1				0.9	0.2	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.8	21.9	8.9				5.9	4.7	0.0	0.0	1.3	0.0
LnGrp Delay(d),s/veh	57.0	53.7	43.7				16.3	14.0	0.0	0.0	2.0	0.0
LnGrp LOS	E	D	D				B	B			A	
Approach Vol, veh/h		1586						460			553	
Approach Delay, s/veh		53.8						14.8			0.9	
Approach LOS		D						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		79.5		50.5		79.5		
Change Period (Y+Rc), s		* 6.3		* 6.3		* 6.3		
Max Green Setting (Gmax), s		* 29		* 74		* 44		
Max Q Clear Time (g_c+I1), s		13.7		39.9		31.8		
Green Ext Time (p_c), s		2.7		4.3		2.5		

Intersection Summary

HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Notes

Queues
306: SW 4th Ave & SW 7th St

Lane Group	WBL	WBT	SBT	SWL	SWR
Lane Group Flow (vph)	405	852	212	1295	598
v/c Ratio	0.73	0.78	0.74	0.87	0.92
Control Delay	39.0	41.9	73.8	39.2	53.8
Queue Delay	0.2	0.2	0.0	0.0	0.0
Total Delay	39.2	42.1	73.8	39.2	53.8
Queue Length 50th (ft)	271	335	92	463	474
Queue Length 95th (ft)	381	389	#145	#664	#806
Internal Link Dist (ft)		443	266	601	
Turn Bay Length (ft)					
Base Capacity (vph)	597	1183	295	1496	652
Starvation Cap Reductn	12	38	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	0.74	0.72	0.87	0.92

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
306: SW 4th Ave & SW 7th St

Existing Conditions
PM PEAK HOUR

Movement	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	457	775	188	20	790	1065
Future Volume (vph)	457	775	188	20	790	1065
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	7.2		7.0	7.0
Lane Util. Factor	0.91	0.91	0.95		0.97	0.91
Frt	1.00	1.00	0.99		0.94	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1610	3378	3489		3306	1441
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1610	3378	3489		3306	1441
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	466	791	192	20	806	1087
RTOR Reduction (vph)	66	66	0	0	0	0
Lane Group Flow (vph)	339	786	212	0	1295	598
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		2	4		3	
Permitted Phases	2					3
Actuated Green, G (s)	39.3	39.3	10.6		58.4	58.4
Effective Green, g (s)	39.3	39.3	10.6		58.4	58.4
Actuated g/C Ratio	0.30	0.30	0.08		0.45	0.45
Clearance Time (s)	6.5	6.5	7.2		7.0	7.0
Vehicle Extension (s)	1.0	1.0	2.5		3.0	3.0
Lane Grp Cap (vph)	490	1029	286		1496	652
v/s Ratio Prot			c0.06		0.39	
v/s Ratio Perm	0.21	0.23				c0.42
v/c Ratio	0.69	0.76	0.74		0.87	0.92
Uniform Delay, d1	39.5	40.6	57.9		31.8	33.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	7.8	5.4	9.4		5.5	17.7
Delay (s)	47.3	46.0	67.3		37.3	50.8
Level of Service	D	D	E		D	D
Approach Delay (s)		46.4	67.3		41.5	
Approach LOS		D	E		D	

Intersection Summary

HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	129.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Queues
307: SW 3rd Ave & SW 7th St

Lane Group	WBT	NBL	NBT
Lane Group Flow (vph)	1549	260	212
v/c Ratio	0.43	0.79	0.61
Control Delay	12.2	49.6	40.7
Queue Delay	0.5	3.4	1.6
Total Delay	12.7	53.0	42.3
Queue Length 50th (ft)	304	225	179
Queue Length 95th (ft)	419	m285	m213
Internal Link Dist (ft)	472		244
Turn Bay Length (ft)		140	
Base Capacity (vph)	3642	444	467
Starvation Cap Reductn	1453	106	126
Spillback Cap Reductn	479	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.71	0.77	0.62

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
307: SW 3rd Ave & SW 7th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	323	931	248	252	206	0	0	0	0
Future Volume (vph)	0	0	0	323	931	248	252	206	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0		6.0	6.0				
Lane Util. Factor					0.91		1.00	1.00				
Frt					0.98		1.00	1.00				
Flt Protected					0.99		0.95	1.00				
Satd. Flow (prot)					5005		1805	1900				
Flt Permitted					0.99		0.95	1.00				
Satd. Flow (perm)					5005		1805	1900				
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	333	960	256	260	212	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1531	0	260	212	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA				
Protected Phases					2			4				
Permitted Phases				2			4					
Actuated Green, G (s)					94.2		23.8	23.8				
Effective Green, g (s)					94.2		23.8	23.8				
Actuated g/C Ratio					0.72		0.18	0.18				
Clearance Time (s)					6.0		6.0	6.0				
Vehicle Extension (s)					1.0		2.5	2.5				
Lane Grp Cap (vph)					3626		330	347				
v/s Ratio Prot								0.11				
v/s Ratio Perm					0.31		c0.14					
v/c Ratio					0.42		0.79	0.61				
Uniform Delay, d1					7.1		50.7	48.8				
Progression Factor					1.62		0.76	0.74				
Incremental Delay, d2					0.3		7.6	1.8				
Delay (s)					11.8		46.3	38.1				
Level of Service					B		D	D				
Approach Delay (s)		0.0			11.8			42.6			0.0	
Approach LOS		A			B			D			A	

Intersection Summary

HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
307: SW 3rd Ave & SW 7th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	323	931	248	252	206	0	0	0	0
Future Volume (veh/h)	0	0	0	323	931	248	252	206	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0			
Adj Flow Rate, veh/h				333	960	256	260	212	0			
Adj No. of Lanes				0	3	0	1	1	0			
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %				0	0	0	0	0	0			
Cap, veh/h				790	2191	587	354	313	0			
Arrive On Green				0.99	0.99	0.99	0.16	0.16	0.00			
Sat Flow, veh/h				1003	2949	790	1810	1900	0			
Grp Volume(v), veh/h				524	510	515	260	212	0			
Grp Sat Flow(s),veh/h/ln				1580	1573	1590	1810	1900	0			
Q Serve(g_s), s				0.9	0.9	0.9	18.2	13.6	0.0			
Cycle Q Clear(g_c), s				0.9	0.9	0.9	18.2	13.6	0.0			
Prop In Lane				0.63		0.50	1.00		0.00			
Lane Grp Cap(c), veh/h				1219	1169	1181	354	313	0			
V/C Ratio(X)				0.43	0.44	0.44	0.73	0.68	0.00			
Avail Cap(c_a), veh/h				1219	1169	1181	501	468	0			
HCM Platoon Ratio				1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)				0.84	0.84	0.84	0.45	0.45	0.00			
Uniform Delay (d), s/veh				0.2	0.2	0.2	52.9	51.0	0.0			
Incr Delay (d2), s/veh				0.9	1.0	1.0	1.2	0.9	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				1.2	1.1	1.2	12.6	10.2	0.0			
LnGrp Delay(d),s/veh				1.1	1.2	1.2	54.1	51.9	0.0			
LnGrp LOS				A	A	A	D	D				
Approach Vol, veh/h					1549			472				
Approach Delay, s/veh					1.2			53.1				
Approach LOS					A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		102.6		27.4				
Change Period (Y+Rc), s		6.0		6.0				
Max Green Setting (Gmax), s		86.0		32.0				
Max Q Clear Time (g_c+I1), s		2.9		20.2				
Green Ext Time (p_c), s		4.1		1.2				

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Queues
308: SW 2nd Ave & SW 7th St

Lane Group	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	1470	83	231	846
v/c Ratio	0.54	0.41	0.18	0.89
Control Delay	20.7	28.9	27.3	50.8
Queue Delay	0.0	0.0	0.0	2.3
Total Delay	20.7	28.9	27.3	53.1
Queue Length 50th (ft)	276	52	81	309
Queue Length 95th (ft)	383	m56	73	367
Internal Link Dist (ft)	571		248	543
Turn Bay Length (ft)				
Base Capacity (vph)	2746	393	1759	1016
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	157	0	0	79
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.57	0.21	0.13	0.90

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
308: SW 2nd Ave & SW 7th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	62	1073	188	75	208	0	0	437	324
Future Volume (vph)	0	0	0	62	1073	188	75	208	0	0	437	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0		4.0	6.0			6.0	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					0.98		1.00	1.00			0.94	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					5014		1787	3574			3346	
Flt Permitted					1.00		0.11	1.00			1.00	
Satd. Flow (perm)					5014		204	3574			3346	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	69	1192	209	83	231	0	0	486	360
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	104	0
Lane Group Flow (vph)	0	0	0	0	1456	0	83	231	0	0	742	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					2		7	4			8	
Permitted Phases				2			4					
Actuated Green, G (s)					70.8		47.2	47.2			32.9	
Effective Green, g (s)					70.8		47.2	47.2			32.9	
Actuated g/C Ratio					0.54		0.36	0.36			0.25	
Clearance Time (s)					6.0		4.0	6.0			6.0	
Vehicle Extension (s)					1.0		2.0	1.0			1.0	
Lane Grp Cap (vph)					2730		199	1297			846	
v/s Ratio Prot							c0.03	0.06			c0.22	
v/s Ratio Perm					0.29		0.12					
v/c Ratio					0.53		0.42	0.18			0.88	
Uniform Delay, d1					19.0		31.4	28.2			46.6	
Progression Factor					1.00		0.98	1.01			1.00	
Incremental Delay, d2					0.8		0.4	0.0			9.9	
Delay (s)					19.8		31.3	28.4			56.5	
Level of Service					B		C	C			E	
Approach Delay (s)		0.0			19.8			29.1			56.5	
Approach LOS		A			B			C			E	

Intersection Summary

HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
308: SW 2nd Ave & SW 7th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	62	1073	188	75	208	0	0	437	324
Future Volume (veh/h)	0	0	0	62	1073	188	75	208	0	0	437	324
Number				5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1881	1900	1881	1881	0	0	1881	1900
Adj Flow Rate, veh/h				69	1192	209	83	231	0	0	486	360
Adj No. of Lanes				0	3	0	1	2	0	0	2	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	1	0	1	1	0	0	1	1
Cap, veh/h				134	2454	446	149	1207	0	0	511	378
Arrive On Green				0.76	0.76	0.76	0.02	0.11	0.00	0.00	0.26	0.26
Sat Flow, veh/h				235	4306	783	1792	3668	0	0	2056	1450
Grp Volume(v), veh/h				548	457	465	83	231	0	0	443	403
Grp Sat Flow(s),veh/h/ln				1869	1712	1743	1792	1787	0	0	1787	1625
Q Serve(g_s), s				15.1	13.0	13.0	4.3	7.6	0.0	0.0	31.6	31.7
Cycle Q Clear(g_c), s				15.1	13.0	13.0	4.3	7.6	0.0	0.0	31.6	31.7
Prop In Lane				0.13		0.45	1.00		0.00	0.00		0.89
Lane Grp Cap(c), veh/h				1066	976	993	149	1207	0	0	465	423
V/C Ratio(X)				0.51	0.47	0.47	0.56	0.19	0.00	0.00	0.95	0.95
Avail Cap(c_a), veh/h				1066	976	993	424	1760	0	0	467	425
HCM Platoon Ratio				1.33	1.33	1.33	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.77	0.77	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				8.6	8.3	8.3	37.3	41.6	0.0	0.0	47.3	47.3
Incr Delay (d2), s/veh				1.8	1.6	1.6	0.9	0.0	0.0	0.0	29.1	31.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				12.8	10.6	10.8	3.9	6.6	0.0	0.0	26.6	24.9
LnGrp Delay(d),s/veh				10.4	9.9	9.9	38.2	41.7	0.0	0.0	76.4	78.7
LnGrp LOS				B	A	A	D	D			E	E
Approach Vol, veh/h					1470			314			846	
Approach Delay, s/veh					10.1			40.8			77.5	
Approach LOS					B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		80.1		49.9			10.0	39.9
Change Period (Y+Rc), s		6.0		6.0			4.0	6.0
Max Green Setting (Gmax), s		54.0		64.0			26.0	34.0
Max Q Clear Time (g_c+I1), s		17.1		9.6			6.3	33.7
Green Ext Time (p_c), s		3.8		2.8			0.1	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	35.4
HCM 2010 LOS	D

Queues
401: Miami Ave & SW 3rd St/SE 4th St

Lane Group	EBT	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	133	114	426	177	348
v/c Ratio	0.26	0.41	0.15	0.47	0.18
Control Delay	19.8	24.3	0.1	4.9	0.4
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	19.8	24.3	0.1	4.9	0.5
Queue Length 50th (ft)	17	30	0	0	0
Queue Length 95th (ft)	36	67	0	4	1
Internal Link Dist (ft)	113				39
Turn Bay Length (ft)					
Base Capacity (vph)	2136	286	2787	748	3113
Starvation Cap Reductn	0	0	0	78	1206
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.40	0.15	0.26	0.18

Intersection Summary

HCM Signalized Intersection Capacity Analysis
401: Miami Ave & SW 3rd St/SE 4th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	109	4	0	0	0	97	0	362	302	52	93
Future Volume (vph)	0	109	4	0	0	0	97	0	362	302	52	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0					5.0		4.0	5.0	5.0	
Lane Util. Factor		0.95					1.00		0.88	0.86	0.86	
Frt		0.99					1.00		0.85	1.00	0.95	
Flt Protected		1.00					0.95		1.00	0.95	0.98	
Satd. Flow (prot)		3519					1770		2787	1522	4466	
Flt Permitted		1.00					0.95		1.00	0.95	0.98	
Satd. Flow (perm)		3519					1770		2787	1522	4466	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	128	5	0	0	0	114	0	426	355	61	109
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	150	174	0
Lane Group Flow (vph)	0	130	0	0	0	0	114	0	426	27	174	0
Turn Type		NA					Prot		Free	custom	NA	
Protected Phases		8					1				2 7	
Permitted Phases									Free	2		
Actuated Green, G (s)		7.3					7.7		49.4	7.4	19.4	
Effective Green, g (s)		7.3					7.7		49.4	7.4	19.4	
Actuated g/C Ratio		0.15					0.16		1.00	0.15	0.39	
Clearance Time (s)		5.0					5.0			5.0		
Vehicle Extension (s)		2.5					2.0			1.0		
Lane Grp Cap (vph)		520					275		2787	227	1753	
v/s Ratio Prot		0.04					c0.06					
v/s Ratio Perm									c0.15	0.02	0.04	
v/c Ratio		0.25					0.41		0.15	0.12	0.10	
Uniform Delay, d1		18.6					18.8		0.0	18.2	9.5	
Progression Factor		1.00					1.00		1.00	0.18	0.09	
Incremental Delay, d2		0.2					0.4		0.1	0.1	0.0	
Delay (s)		18.8					19.2		0.1	3.3	0.9	
Level of Service		B					B		A	A	A	
Approach Delay (s)		18.8			0.0			4.1			1.7	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	49.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
402: SE 4th St & SE 50 BIL

Lane Group	EBT	NBR	SBL
Lane Group Flow (vph)	892	9	16
v/c Ratio	0.19	0.02	0.04
Control Delay	1.6	0.1	0.2
Queue Delay	0.0	0.0	0.0
Total Delay	1.6	0.1	0.2
Queue Length 50th (ft)	0	0	0
Queue Length 95th (ft)	81	0	0
Internal Link Dist (ft)	383		
Turn Bay Length (ft)			
Base Capacity (vph)	4752	425	453
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.19	0.02	0.04

Intersection Summary

HCM Signalized Intersection Capacity Analysis
402: SE 4th St & SE 50 BIL

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑							↱	↰		
Traffic Volume (vph)	0	812	0	0	0	0	0	0	8	15	0	0
Future Volume (vph)	0	812	0	0	0	0	0	0	8	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0							5.0	5.0		
Lane Util. Factor		*0.90							1.00	1.00		
Frt		1.00							0.86	1.00		
Flt Protected		1.00							1.00	0.95		
Satd. Flow (prot)		5079							1627	1787		
Flt Permitted		1.00							1.00	0.95		
Satd. Flow (perm)		5079							1627	1787		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	892	0	0	0	0	0	0	9	16	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	9	16	0	0
Lane Group Flow (vph)	0	892	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA							Prot	Prot		
Protected Phases		6							4	3		
Permitted Phases												
Actuated Green, G (s)		72.2							1.4	1.4		
Effective Green, g (s)		72.2							1.4	1.4		
Actuated g/C Ratio		0.80							0.02	0.02		
Clearance Time (s)		5.0							5.0	5.0		
Vehicle Extension (s)		1.0							2.5	2.5		
Lane Grp Cap (vph)		4074							25	27		
v/s Ratio Prot		c0.18							c0.00	c0.00		
v/s Ratio Perm												
v/c Ratio		0.22							0.01	0.01		
Uniform Delay, d1		2.1							43.6	43.6		
Progression Factor		1.00							1.00	1.00		
Incremental Delay, d2		0.1							0.1	0.1		
Delay (s)		2.3							43.7	43.7		
Level of Service		A							D	D		
Approach Delay (s)		2.3			0.0			43.7			43.7	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	3.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
402: SE 4th St & SE 50 BIL

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑							↱	↰		
Traffic Volume (veh/h)	0	812	0	0	0	0	0	0	8	15	0	0
Future Volume (veh/h)	0	812	0	0	0	0	0	0	8	15	0	0
Number	1	6	16				7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	0				0	0	1881	1881	0	0
Adj Flow Rate, veh/h	0	892	0				0	0	9	16	0	0
Adj No. of Lanes	0	3	0				0	0	1	1	0	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	1	0				0	0	1	1	0	0
Cap, veh/h	0	0	0				0	0	0	46	0	0
Arrive On Green	0.00	0.00	0.00				0.00	0.00	0.00	0.03	0.00	0.00
Sat Flow, veh/h		0						0		1792	16	
Grp Volume(v), veh/h		0.0						0.0		16	46.4	
Grp Sat Flow(s),veh/h/ln										1792	D	
Q Serve(g_s), s										0.8		
Cycle Q Clear(g_c), s										0.8		
Prop In Lane										1.00		
Lane Grp Cap(c), veh/h										46		
V/C Ratio(X)										0.35		
Avail Cap(c_a), veh/h										199		
HCM Platoon Ratio										1.00		
Upstream Filter(I)										1.00		
Uniform Delay (d), s/veh										43.1		
Incr Delay (d2), s/veh										3.3		
Initial Q Delay(d3),s/veh										0.0		
%ile BackOfQ(95%),veh/ln										0.8		
LnGrp Delay(d),s/veh										46.4		
LnGrp LOS										D		
Approach Vol, veh/h												
Approach Delay, s/veh												
Approach LOS												

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3					
Phs Duration (G+Y+Rc), s			7.3					
Change Period (Y+Rc), s			5.0					
Max Green Setting (Gmax), s			10.0					
Max Q Clear Time (g_c+I1), s			2.8					
Green Ext Time (p_c), s			0.0					

Intersection Summary	
HCM 2010 Ctrl Delay	46.4
HCM 2010 LOS	D

Queues
403: SE 2nd Ave & SR 970 Off-Ramp/SE 3rd St

Lane Group	EBT	EBR	SBT
Lane Group Flow (vph)	663	321	965
v/c Ratio	0.33	0.34	0.68
Control Delay	8.3	7.0	33.6
Queue Delay	0.0	0.0	0.0
Total Delay	8.3	7.0	33.7
Queue Length 50th (ft)	78	52	196
Queue Length 95th (ft)	134	126	219
Internal Link Dist (ft)	476		1
Turn Bay Length (ft)		80	
Base Capacity (vph)	2005	947	3009
Starvation Cap Reductn	0	0	415
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.33	0.34	0.37

Intersection Summary

HCM Signalized Intersection Capacity Analysis
403: SE 2nd Ave & SR 970 Off-Ramp/SE 3rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	314	592	0	0	0	0	0	0	30	857	0
Future Volume (vph)	0	314	592	0	0	0	0	0	0	30	857	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.6								5.5	
Lane Util. Factor		0.91	0.91								0.91	
Frt		0.93	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		3174	1455								5127	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		3174	1455								5127	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	341	643	0	0	0	0	0	0	33	932	0
RTOR Reduction (vph)	0	51	51	0	0	0	0	0	0	0	20	0
Lane Group Flow (vph)	0	612	270	0	0	0	0	0	0	0	945	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA	Perm							Perm	NA	
Protected Phases		6									8	
Permitted Phases			6							8		
Actuated Green, G (s)		61.6	61.6								27.3	
Effective Green, g (s)		61.6	61.6								27.3	
Actuated g/C Ratio		0.62	0.62								0.27	
Clearance Time (s)		5.6	5.6								5.5	
Vehicle Extension (s)		1.0	1.0								2.5	
Lane Grp Cap (vph)		1955	896								1399	
v/s Ratio Prot		c0.19										
v/s Ratio Perm			0.19								0.18	
v/c Ratio		0.31	0.30								0.68	
Uniform Delay, d1		9.1	9.1								32.4	
Progression Factor		1.00	1.00								1.00	
Incremental Delay, d2		0.4	0.9								1.2	
Delay (s)		9.6	9.9								33.6	
Level of Service		A	A								C	
Approach Delay (s)		9.7			0.0			0.0			33.6	
Approach LOS		A			A			A			C	

Intersection Summary

HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
404: Miami Ave & SR 970 Off-Ramp

Lane Group	EBR	SBT
Lane Group Flow (vph)	270	207
v/c Ratio	0.13	0.27
Control Delay	0.1	19.7
Queue Delay	0.0	0.0
Total Delay	0.1	19.7
Queue Length 50th (ft)	0	19
Queue Length 95th (ft)	0	36
Internal Link Dist (ft)		177
Turn Bay Length (ft)		
Base Capacity (vph)	2842	2203
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.10	0.09

Intersection Summary

HCM Signalized Intersection Capacity Analysis
404: Miami Ave & SR 970 Off-Ramp

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	254	0	0	195	0
Future Volume (vph)	0	254	0	0	195	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.91	
Frt		0.85			1.00	
Flt Protected		1.00			1.00	
Satd. Flow (prot)		2842			5187	
Flt Permitted		1.00			1.00	
Satd. Flow (perm)		2842			5187	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	270	0	0	207	0
RTOR Reduction (vph)	0	95	0	0	0	0
Lane Group Flow (vph)	0	175	0	0	207	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type		custom			NA	
Protected Phases		1 4			2	
Permitted Phases						
Actuated Green, G (s)		32.0			7.4	
Effective Green, g (s)		32.0			7.4	
Actuated g/C Ratio		0.65			0.15	
Clearance Time (s)					5.0	
Vehicle Extension (s)					1.0	
Lane Grp Cap (vph)		1840			777	
v/s Ratio Prot		c0.06			c0.04	
v/s Ratio Perm						
v/c Ratio		0.10			0.27	
Uniform Delay, d1		3.3			18.6	
Progression Factor		1.00			1.00	
Incremental Delay, d2		0.0			0.1	
Delay (s)		3.3			18.7	
Level of Service		A			B	
Approach Delay (s)	3.3			0.0	18.7	
Approach LOS	A			A	B	

Intersection Summary

HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	49.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	23.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
406: Miami Ave & SE 2nd St

Lane Group	WBT	SBT	SBR
Lane Group Flow (vph)	1316	121	76
v/c Ratio	0.77	0.08	0.11
Control Delay	21.7	20.4	7.2
Queue Delay	0.2	0.0	0.0
Total Delay	22.0	20.4	7.2
Queue Length 50th (ft)	327	24	3
Queue Length 95th (ft)	m300	48	33
Internal Link Dist (ft)	453	235	
Turn Bay Length (ft)			
Base Capacity (vph)	2210	1444	686
Starvation Cap Reductn	258	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.67	0.08	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
406: Miami Ave & SE 2nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	49	1096	0	0	0	0	0	105	66
Future Volume (vph)	0	0	0	49	1096	0	0	0	0	0	105	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0						6.0	6.0
Lane Util. Factor					0.95						0.95	1.00
Frt					1.00						1.00	0.85
Flt Protected					1.00						1.00	1.00
Satd. Flow (prot)					3602						3505	1568
Flt Permitted					1.00						1.00	1.00
Satd. Flow (perm)					3602						3505	1568
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	56	1260	0	0	0	0	0	121	76
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	0	41
Lane Group Flow (vph)	0	0	0	0	1298	0	0	0	0	0	121	35
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	3%
Turn Type				Perm	NA						NA	Perm
Protected Phases					4						2	
Permitted Phases				4								2
Actuated Green, G (s)					46.8						41.2	41.2
Effective Green, g (s)					46.8						41.2	41.2
Actuated g/C Ratio					0.47						0.41	0.41
Clearance Time (s)					6.0						6.0	6.0
Vehicle Extension (s)					1.0						1.0	1.0
Lane Grp Cap (vph)					1685						1444	646
v/s Ratio Prot											c0.03	
v/s Ratio Perm					0.36							0.02
v/c Ratio					0.77						0.08	0.05
Uniform Delay, d1					22.1						17.9	17.7
Progression Factor					0.95						1.00	1.00
Incremental Delay, d2					1.1						0.1	0.2
Delay (s)					22.1						18.0	17.8
Level of Service					C						B	B
Approach Delay (s)		0.0			22.1			0.0			18.0	
Approach LOS		A			C			A			B	

Intersection Summary

HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
406: Miami Ave & SE 2nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	49	1096	0	0	0	0	0	105	66
Future Volume (veh/h)	0	0	0	49	1096	0	0	0	0	0	105	66
Number				7	4	14				5	2	12
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	0				0	1845	1845
Adj Flow Rate, veh/h				56	1260	0				0	121	0
Adj No. of Lanes				0	2	0				0	2	1
Peak Hour Factor				0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %				0	0	0				0	3	3
Cap, veh/h				84	1390	0				0	1649	738
Arrive On Green				0.41	0.41	0.00				0.00	0.63	0.00
Sat Flow, veh/h				111	3483	0				0	3597	1568
Grp Volume(v), veh/h				702	614	0				0	121	0
Grp Sat Flow(s),veh/h/ln				1865	1643	0				0	1752	1568
Q Serve(g_s), s				25.4	35.3	0.0				0.0	1.4	0.0
Cycle Q Clear(g_c), s				35.6	35.3	0.0				0.0	1.4	0.0
Prop In Lane				0.08		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				802	672	0				0	1649	738
V/C Ratio(X)				0.87	0.91	0.00				0.00	0.07	0.00
Avail Cap(c_a), veh/h				1174	1002	0				0	1649	738
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.33	1.33
Upstream Filter(I)				0.26	0.26	0.00				0.00	1.00	0.00
Uniform Delay (d), s/veh				27.9	27.9	0.0				0.0	10.2	0.0
Incr Delay (d2), s/veh				1.0	2.0	0.0				0.0	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				22.1	19.6	0.0				0.0	1.2	0.0
LnGrp Delay(d),s/veh				28.9	29.9	0.0				0.0	10.2	0.0
LnGrp LOS				C	C						B	
Approach Vol, veh/h					1316						121	
Approach Delay, s/veh					29.3						10.2	
Approach LOS					C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		53.1		46.9				
Change Period (Y+Rc), s		6.0		6.0				
Max Green Setting (Gmax), s		27.0		61.0				
Max Q Clear Time (g_c+I1), s		3.4		37.6				
Green Ext Time (p_c), s		0.3		3.3				

Intersection Summary	
HCM 2010 Ctrl Delay	27.7
HCM 2010 LOS	C

Queues
408: SE 1st Ave & SE 2nd St

Lane Group	WBT	NBL	NBT
Lane Group Flow (vph)	863	1195	483
v/c Ratio	0.82	1.00	0.22
Control Delay	28.5	44.7	10.2
Queue Delay	0.0	0.0	0.0
Total Delay	28.5	44.7	10.2
Queue Length 50th (ft)	142	~625	68
Queue Length 95th (ft)	134	#997	55
Internal Link Dist (ft)	500		203
Turn Bay Length (ft)			
Base Capacity (vph)	1751	1192	2185
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.49	1.00	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
408: SE 1st Ave & SE 2nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	423	242	1040	227	0	0	0	0
Future Volume (vph)	0	0	0	0	423	242	1040	227	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0		6.0	6.0				
Lane Util. Factor					0.95		1.00	0.95				
Frt					0.95		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					3413		1805	3610				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					3413		1805	3610				
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.87	0.47	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	0	549	314	1195	483	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	115	0	100	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	748	0	1095	483	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA		Perm	NA				
Protected Phases					4			6				
Permitted Phases							6					
Actuated Green, G (s)					27.5		60.5	60.5				
Effective Green, g (s)					27.5		60.5	60.5				
Actuated g/C Ratio					0.28		0.60	0.60				
Clearance Time (s)					6.0		6.0	6.0				
Vehicle Extension (s)					1.0		1.0	1.0				
Lane Grp Cap (vph)					938		1092	2184				
v/s Ratio Prot					c0.22			0.13				
v/s Ratio Perm							c0.61					
v/c Ratio					0.80		1.00	0.22				
Uniform Delay, d1					33.7		19.8	9.0				
Progression Factor					0.82		1.00	1.00				
Incremental Delay, d2					4.0		27.9	0.2				
Delay (s)					31.6		47.7	9.2				
Level of Service					C		D	A				
Approach Delay (s)		0.0			31.6			36.6			0.0	
Approach LOS		A			C			D			A	

Intersection Summary

HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
408: SE 1st Ave & SE 2nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	423	242	1040	227	0	0	0	0
Future Volume (veh/h)	0	0	0	0	423	242	1040	227	0	0	0	0
Number				7	4	14	1	6	16			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00			
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln				0	1900	1900	1900	1900	0			
Adj Flow Rate, veh/h				0	549	314	1195	483	0			
Adj No. of Lanes				0	2	0	1	2	0			
Peak Hour Factor				0.77	0.77	0.77	0.87	0.47	0.77			
Percent Heavy Veh, %				0	0	0	0	0	0			
Cap, veh/h				0	618	353	778	1408	0			
Arrive On Green				0.00	0.28	0.28	0.52	0.52	0.00			
Sat Flow, veh/h				0	2311	1266	1810	3705	0			
Grp Volume(v), veh/h				0	447	416	1195	483	0			
Grp Sat Flow(s),veh/h/ln				0	1805	1677	1810	1805	0			
Q Serve(g_s), s				0.0	23.7	23.8	39.0	7.8	0.0			
Cycle Q Clear(g_c), s				0.0	23.7	23.8	39.0	7.8	0.0			
Prop In Lane				0.00		0.75	1.00		0.00			
Lane Grp Cap(c), veh/h				0	503	468	778	1408	0			
V/C Ratio(X)				0.00	0.89	0.89	1.54	0.34	0.00			
Avail Cap(c_a), veh/h				0	884	822	778	1408	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00			
Upstream Filter(I)				0.00	0.79	0.79	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	34.6	34.6	25.9	16.6	0.0			
Incr Delay (d2), s/veh				0.0	2.0	2.2	247.9	0.7	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	17.2	16.2	134.8	7.2	0.0			
LnGrp Delay(d),s/veh				0.0	36.5	36.7	273.8	17.2	0.0			
LnGrp LOS					D	D	F	B				
Approach Vol, veh/h					863			1678				
Approach Delay, s/veh					36.6			199.9				
Approach LOS					D			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				33.9		45.0		
Change Period (Y+Rc), s				6.0		6.0		
Max Green Setting (Gmax), s				49.0		39.0		
Max Q Clear Time (g_c+I1), s				25.8		41.0		
Green Ext Time (p_c), s				2.1		0.0		

Intersection Summary		
HCM 2010 Ctrl Delay		144.5
HCM 2010 LOS		F

Queues
409: SE 2nd Ave & SE 2nd St

Lane Group	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	601	1127	395	218
v/c Ratio	0.65	0.62	0.38	0.36
Control Delay	12.8	12.5	29.7	5.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.8	12.5	29.7	5.6
Queue Length 50th (ft)	196	218	105	0
Queue Length 95th (ft)	339	291	148	53
Internal Link Dist (ft)		75	215	
Turn Bay Length (ft)				
Base Capacity (vph)	931	1830	1026	613
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.65	0.62	0.38	0.36

Intersection Summary

HCM Signalized Intersection Capacity Analysis
409: SE 2nd Ave & SE 2nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1094	479	0	0	0	0	0	359	198
Future Volume (vph)	0	0	0	1094	479	0	0	0	0	0	359	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0						6.0	6.0
Lane Util. Factor				*0.82	*0.82						0.95	1.00
Frt				1.00	1.00						1.00	0.85
Flt Protected				0.95	0.97						1.00	1.00
Satd. Flow (prot)				1451	2976						3539	1583
Flt Permitted				0.95	0.97						1.00	1.00
Satd. Flow (perm)				1451	2976						3539	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	1202	526	0	0	0	0	0	395	218
RTOR Reduction (vph)	0	0	0	75	75	0	0	0	0	0	0	155
Lane Group Flow (vph)	0	0	0	526	1052	0	0	0	0	0	395	63
Turn Type				Split	NA						NA	Perm
Protected Phases				2	2						8	
Permitted Phases												8
Actuated Green, G (s)				59.0	59.0						29.0	29.0
Effective Green, g (s)				59.0	59.0						29.0	29.0
Actuated g/C Ratio				0.59	0.59						0.29	0.29
Clearance Time (s)				6.0	6.0						6.0	6.0
Lane Grp Cap (vph)				856	1755						1026	459
v/s Ratio Prot				c0.36	0.35						c0.11	
v/s Ratio Perm												0.04
v/c Ratio				0.61	0.60						0.38	0.14
Uniform Delay, d1				13.2	13.0						28.4	26.3
Progression Factor				1.00	1.00						1.00	1.00
Incremental Delay, d2				3.3	1.5						1.1	0.6
Delay (s)				16.5	14.5						29.5	26.9
Level of Service				B	B						C	C
Approach Delay (s)		0.0			15.2			0.0			28.5	
Approach LOS		A			B			A			C	

Intersection Summary

HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
501: NW 3rd Ct/SB On-Ramp/NW 3rd Ct & NW 2nd St

Lane Group	EBT	EBR	WBL	SBL	SBT
Lane Group Flow (vph)	34	66	227	18	1245
v/c Ratio	0.24	0.36	0.73	0.02	0.40
Control Delay	47.5	17.1	43.9	6.3	8.8
Queue Delay	0.0	0.0	29.0	0.0	0.2
Total Delay	47.5	17.1	72.9	6.3	9.0
Queue Length 50th (ft)	21	0	152	3	87
Queue Length 95th (ft)	50	38	221	m4	51
Internal Link Dist (ft)	461				279
Turn Bay Length (ft)				240	
Base Capacity (vph)	325	331	417	1095	3149
Starvation Cap Reductn	0	0	188	0	863
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.20	0.99	0.02	0.54

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
501: NW 3rd Ct/SB On-Ramp/NW 3rd Ct & NW 2nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱	↰						↰	↑↑↑	
Traffic Volume (vph)	0	30	58	200	0	0	0	0	0	16	1096	0
Future Volume (vph)	0	30	58	200	0	0	0	0	0	16	1096	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7	4.7	4.7						4.3	4.3	
Lane Util. Factor		1.00	1.00	1.00						1.00	0.91	
Frt		1.00	0.85	1.00						1.00	1.00	
Flt Protected		1.00	1.00	0.95						0.95	1.00	
Satd. Flow (prot)		1881	1599	1787						1787	5136	
Flt Permitted		1.00	1.00	0.95						0.95	1.00	
Satd. Flow (perm)		1881	1599	1787						1787	5136	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	34	66	227	0	0	0	0	0	18	1245	0
RTOR Reduction (vph)	0	0	61	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	34	5	227	0	0	0	0	0	18	1245	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA	Perm	Prot						Perm	NA	
Protected Phases		3		4							2	
Permitted Phases			3							2		
Actuated Green, G (s)		7.6	7.6	17.4						61.3	61.3	
Effective Green, g (s)		7.6	7.6	17.4						61.3	61.3	
Actuated g/C Ratio		0.08	0.08	0.17						0.61	0.61	
Clearance Time (s)		4.7	4.7	4.7						4.3	4.3	
Vehicle Extension (s)		2.5	2.5	2.5						1.0	1.0	
Lane Grp Cap (vph)		142	121	310						1095	3148	
v/s Ratio Prot		c0.02		c0.13							c0.24	
v/s Ratio Perm			0.00							0.01		
v/c Ratio		0.24	0.04	0.73						0.02	0.40	
Uniform Delay, d1		43.5	42.8	39.1						7.6	9.9	
Progression Factor		1.00	1.00	0.79						0.66	0.79	
Incremental Delay, d2		0.6	0.1	7.8						0.0	0.4	
Delay (s)		44.1	42.9	38.8						5.0	8.2	
Level of Service		D	D	D						A	A	
Approach Delay (s)		43.3			38.8			0.0			8.2	
Approach LOS		D			D			A			A	

Intersection Summary

HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
502: NB Off-Ramp & NW 3rd Ave & NW 2nd St

Lane Group	EBL	EBT	WBT	WBR	NBT	NWL	NWR
Lane Group Flow (vph)	36	22	180	159	470	55	55
v/c Ratio	0.35	0.09	0.76	0.47	0.83	0.07	0.07
Control Delay	66.8	56.4	57.5	10.8	50.1	16.8	2.4
Queue Delay	0.0	0.0	76.8	0.0	0.0	0.0	0.0
Total Delay	66.8	56.4	134.3	10.8	50.1	16.8	2.4
Queue Length 50th (ft)	20	12	108	0	205	17	0
Queue Length 95th (ft)	49	32	164	48	248	46	12
Internal Link Dist (ft)		109	427		348	296	
Turn Bay Length (ft)				90			
Base Capacity (vph)	175	419	395	462	817	828	800
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	291	0	0	156	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.05	1.73	0.34	0.58	0.08	0.07

Intersection Summary

HCM Signalized Intersection Capacity Analysis
502: NB Off-Ramp & NW 3rd Ave & NW 2nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	NWL	NWR	NWR2
Lane Configurations										
Traffic Volume (vph)	31	19	119	173	16	362	26	13	74	8
Future Volume (vph)	31	19	119	173	16	362	26	13	74	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7		4.6		4.7	4.7	
Lane Util. Factor	1.00	1.00	0.95	0.95		*0.70		1.00	0.95	
Frt	1.00	1.00	0.96	0.85		0.99		0.89	0.85	
Flt Protected	0.95	1.00	1.00	1.00		1.00		0.99	1.00	
Satd. Flow (prot)	1787	1881	1725	1519		2603		1653	1519	
Flt Permitted	0.42	1.00	1.00	1.00		1.00		0.99	1.00	
Satd. Flow (perm)	786	1881	1725	1519		2603		1653	1519	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	36	22	138	201	19	421	30	15	86	9
RTOR Reduction (vph)	0	0	12	138	0	0	0	0	27	0
Lane Group Flow (vph)	36	22	168	21	0	470	0	55	28	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	NA	Perm	Perm	NA		Prot	Perm	
Protected Phases		8	4			5		6		
Permitted Phases	8			4	5				6	
Actuated Green, G (s)	13.1	13.1	13.1	13.1		21.8		50.1	50.1	
Effective Green, g (s)	13.1	13.1	13.1	13.1		21.8		50.1	50.1	
Actuated g/C Ratio	0.13	0.13	0.13	0.13		0.22		0.50	0.50	
Clearance Time (s)	5.7	5.7	5.7	5.7		4.6		4.7	4.7	
Vehicle Extension (s)	1.0	1.0	1.0	1.0		1.0		1.0	1.0	
Lane Grp Cap (vph)	102	246	225	198		567		828	761	
v/s Ratio Prot		0.01	c0.10					c0.03		
v/s Ratio Perm	0.05			0.01		0.18			0.02	
v/c Ratio	0.35	0.09	0.75	0.11		0.83		0.07	0.04	
Uniform Delay, d1	39.6	38.2	41.8	38.3		37.3		12.9	12.7	
Progression Factor	1.52	1.56	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1	11.1	0.1		9.3		0.2	0.1	
Delay (s)	60.9	59.7	53.0	38.4		46.6		13.0	12.8	
Level of Service	E	E	D	D		D		B	B	
Approach Delay (s)		60.4	46.1			46.6		12.9		
Approach LOS		E	D			D		B		

Intersection Summary

HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
503: NW 3rd Ct & NW 3rd St

Lane Group	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	135	139	101	1048
v/c Ratio	0.13	0.13	0.21	0.76
Control Delay	5.0	5.0	27.9	37.0
Queue Delay	1.1	1.1	0.0	0.0
Total Delay	6.1	6.1	28.0	37.0
Queue Length 50th (ft)	20	20	50	223
Queue Length 95th (ft)	32	33	84	249
Internal Link Dist (ft)		86		577
Turn Bay Length (ft)				
Base Capacity (vph)	1062	1093	925	2655
Starvation Cap Reductn	739	762	0	0
Spillback Cap Reductn	0	0	113	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.42	0.12	0.39

Intersection Summary

HCM Signalized Intersection Capacity Analysis
503: NW 3rd Ct & NW 3rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	183	69	0	0	0	0	93	952	12
Future Volume (vph)	0	0	0	183	69	0	0	0	0	93	952	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0					4.7	4.7	
Lane Util. Factor				0.95	0.95					1.00	0.91	
Frt				1.00	1.00					1.00	1.00	
Flt Protected				0.95	0.98					0.95	1.00	
Satd. Flow (prot)				1681	1730					1770	5076	
Flt Permitted				0.95	0.98					0.95	1.00	
Satd. Flow (perm)				1681	1730					1770	5076	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	199	75	0	0	0	0	101	1035	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	135	139	0	0	0	0	101	1046	0
Turn Type				Split	NA					Perm	NA	
Protected Phases				4	4						2	
Permitted Phases										2		
Actuated Green, G (s)				63.2	63.2					27.1	27.1	
Effective Green, g (s)				63.2	63.2					27.1	27.1	
Actuated g/C Ratio				0.63	0.63					0.27	0.27	
Clearance Time (s)				5.0	5.0					4.7	4.7	
Vehicle Extension (s)				2.5	2.5					1.0	1.0	
Lane Grp Cap (vph)				1062	1093					479	1375	
v/s Ratio Prot				0.08	c0.08						c0.21	
v/s Ratio Perm										0.06		
v/c Ratio				0.13	0.13					0.21	0.76	
Uniform Delay, d1				7.4	7.4					28.2	33.5	
Progression Factor				0.56	0.57					1.00	1.00	
Incremental Delay, d2				0.2	0.2					1.0	4.0	
Delay (s)				4.4	4.4					29.2	37.5	
Level of Service				A	A					C	D	
Approach Delay (s)		0.0			4.4			0.0			36.8	
Approach LOS		A			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
503: NW 3rd Ct & NW 3rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	183	69	0	0	0	0	93	952	12
Future Volume (veh/h)	0	0	0	183	69	0	0	0	0	93	952	12
Number				7	4	14				5	2	12
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h				137	162	0				101	1035	13
Adj No. of Lanes				1	1	0				1	3	0
Peak Hour Factor				0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %				2	2	0				2	2	2
Cap, veh/h				674	708	0				1000	2707	34
Arrive On Green				0.38	0.38	0.00				0.70	0.70	0.70
Sat Flow, veh/h				1774	1863	0				1774	5176	65
Grp Volume(v), veh/h				137	162	0				101	678	370
Grp Sat Flow(s),veh/h/ln				1774	1863	0				1774	1695	1851
Q Serve(g_s), s				5.2	5.9	0.0				1.9	8.3	8.3
Cycle Q Clear(g_c), s				5.2	5.9	0.0				1.9	8.3	8.3
Prop In Lane				1.00		0.00				1.00		0.04
Lane Grp Cap(c), veh/h				674	708	0				1000	1773	968
V/C Ratio(X)				0.20	0.23	0.00				0.10	0.38	0.38
Avail Cap(c_a), veh/h				674	708	0				1000	1773	968
HCM Platoon Ratio				1.00	1.00	1.00				1.33	1.33	1.33
Upstream Filter(I)				0.57	0.57	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh				20.8	21.1	0.0				7.5	8.5	8.5
Incr Delay (d2), s/veh				0.4	0.4	0.0				0.2	0.6	1.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.6	5.3	0.0				1.7	7.1	7.9
LnGrp Delay(d),s/veh				21.2	21.5	0.0				7.7	9.1	9.7
LnGrp LOS				C	C					A	A	A
Approach Vol, veh/h					299						1149	
Approach Delay, s/veh					21.4						9.2	
Approach LOS					C						A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		57.0		43.0				
Change Period (Y+Rc), s		* 4.7		5.0				
Max Green Setting (Gmax), s		* 52		38.0				
Max Q Clear Time (g_c+I1), s		10.3		7.9				
Green Ext Time (p_c), s		2.8		1.0				

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Notes

Queues
504: NW 3rd Ave & NW 3rd St

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	34	73	526	720	26
v/c Ratio	0.45	0.24	0.75	0.33	0.02
Control Delay	74.3	53.7	32.1	1.8	0.0
Queue Delay	0.0	0.1	0.0	0.3	0.0
Total Delay	74.3	53.8	32.1	2.0	0.0
Queue Length 50th (ft)	24	51	108	25	0
Queue Length 95th (ft)	58	97	155	31	m0
Internal Link Dist (ft)		86	479	274	
Turn Bay Length (ft)					90
Base Capacity (vph)	175	724	1377	2174	1166
Starvation Cap Reductn	0	246	0	739	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.15	0.38	0.50	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
504: NW 3rd Ave & NW 3rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	66	0	0	215	264	36	619	24	0	0	0
Future Volume (vph)	31	66	0	0	215	264	36	619	24	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			5.5	5.5			
Lane Util. Factor	1.00	1.00			0.95			*0.80	1.00			
Frt	1.00	1.00			0.92			1.00	0.85			
Flt Protected	0.95	1.00			1.00			1.00	1.00			
Satd. Flow (prot)	1787	1881			3279			3002	1599			
Flt Permitted	0.24	1.00			1.00			1.00	1.00			
Satd. Flow (perm)	456	1881			3279			3002	1599			
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	34	73	0	0	236	290	40	680	26	0	0	0
RTOR Reduction (vph)	0	0	0	0	156	0	0	0	7	0	0	0
Lane Group Flow (vph)	34	73	0	0	370	0	0	720	19	0	0	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA			NA		Split	NA	Prot			
Protected Phases		4			8		6	6	6			
Permitted Phases	4											
Actuated Green, G (s)	16.5	16.5			16.5			72.5	72.5			
Effective Green, g (s)	16.5	16.5			16.5			72.5	72.5			
Actuated g/C Ratio	0.16	0.16			0.16			0.72	0.72			
Clearance Time (s)	5.5	5.5			5.5			5.5	5.5			
Vehicle Extension (s)	2.0	2.0			2.5			1.0	1.0			
Lane Grp Cap (vph)	75	310			541			2176	1159			
v/s Ratio Prot		0.04			c0.11			c0.24	0.01			
v/s Ratio Perm	0.07											
v/c Ratio	0.45	0.24			0.68			0.33	0.02			
Uniform Delay, d1	37.7	36.3			39.3			5.0	3.8			
Progression Factor	1.51	1.50			1.00			0.25	0.00			
Incremental Delay, d2	1.6	0.1			3.3			0.4	0.0			
Delay (s)	58.5	54.7			42.6			1.6	0.0			
Level of Service	E	D			D			A	A			
Approach Delay (s)		55.9			42.6			1.6			0.0	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
504: NW 3rd Ave & NW 3rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	66	0	0	215	264	36	619	24	0	0	0
Future Volume (veh/h)	31	66	0	0	215	264	36	619	24	0	0	0
Number	7	4	14	3	8	18	1	6	16			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1881	1900	1900	1881	1881			
Adj Flow Rate, veh/h	34	73	0	0	236	290	40	680	26			
Adj No. of Lanes	1	1	0	0	2	0	0	2	1			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1			
Cap, veh/h	149	475	0	0	452	404	115	2038	1019			
Arrive On Green	0.08	0.08	0.00	0.00	0.25	0.25	0.85	0.85	0.85			
Sat Flow, veh/h	882	1881	0	0	1881	1599	180	3197	1599			
Grp Volume(v), veh/h	34	73	0	0	236	290	416	304	26			
Grp Sat Flow(s),veh/h/ln	882	1881	0	0	1787	1599	1872	1505	1599			
Q Serve(g_s), s	3.8	3.6	0.0	0.0	11.4	16.6	4.8	4.2	0.3			
Cycle Q Clear(g_c), s	20.3	3.6	0.0	0.0	11.4	16.6	4.8	4.2	0.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.10		1.00			
Lane Grp Cap(c), veh/h	149	475	0	0	452	404	1193	959	1019			
V/C Ratio(X)	0.23	0.15	0.00	0.00	0.52	0.72	0.35	0.32	0.03			
Avail Cap(c_a), veh/h	266	724	0	0	688	616	1193	959	1019			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.33	1.33	1.33			
Upstream Filter(I)	0.99	0.99	0.00	0.00	1.00	1.00	0.69	0.69	0.69			
Uniform Delay (d), s/veh	51.7	35.9	0.0	0.0	32.2	34.1	3.1	3.1	2.8			
Incr Delay (d2), s/veh	0.3	0.1	0.0	0.0	0.7	1.8	0.6	0.6	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.7	3.4	0.0	0.0	9.6	12.0	4.5	3.4	0.2			
LnGrp Delay(d),s/veh	52.0	36.0	0.0	0.0	32.9	35.9	3.7	3.7	2.8			
LnGrp LOS	D	D			C	D	A	A	A			
Approach Vol, veh/h		107			526			746				
Approach Delay, s/veh		41.1			34.5			3.7				
Approach LOS		D			C			A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				30.8		69.2		30.8
Change Period (Y+Rc), s				5.5		5.5		5.5
Max Green Setting (Gmax), s				38.5		50.5		38.5
Max Q Clear Time (g_c+I1), s				22.3		6.8		18.6
Green Ext Time (p_c), s				2.9		1.6		3.1

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Queues
601: NW 3rd Ct/SB Off-Ramp & NW 8th St

Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	206	40	106	1148
v/c Ratio	0.71	0.36	0.37	0.25
Control Delay	50.6	51.9	48.0	4.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	50.6	51.9	48.0	4.2
Queue Length 50th (ft)	119	26	70	52
Queue Length 95th (ft)	183	m47	m122	81
Internal Link Dist (ft)	406		212	426
Turn Bay Length (ft)				
Base Capacity (vph)	376	147	377	4673
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	70
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.27	0.28	0.25

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
601: NW 3rd Ct/SB Off-Ramp & NW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	151	41	37	99	0	0	0	0	286	675	106
Future Volume (vph)	0	151	41	37	99	0	0	0	0	286	675	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		1.00		1.00	1.00						0.86	
Frt		0.97		1.00	1.00						0.99	
Flt Protected		1.00		0.95	1.00						0.99	
Satd. Flow (prot)		1809		1770	1863						6229	
Flt Permitted		1.00		0.39	1.00						0.99	
Satd. Flow (perm)		1809		724	1863						6229	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	162	44	40	106	0	0	0	0	308	726	114
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	196	0	40	106	0	0	0	0	0	1132	0
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		15.5		15.5	15.5						74.5	
Effective Green, g (s)		15.5		15.5	15.5						74.5	
Actuated g/C Ratio		0.16		0.16	0.16						0.74	
Clearance Time (s)		5.0		5.0	5.0						5.0	
Vehicle Extension (s)		2.5		2.5	2.5						1.0	
Lane Grp Cap (vph)		280		112	288						4640	
v/s Ratio Prot		c0.11			0.06							
v/s Ratio Perm				0.06							0.18	
v/c Ratio		0.70		0.36	0.37						0.24	
Uniform Delay, d1		40.0		37.8	37.9						4.0	
Progression Factor		1.00		1.22	1.23						1.00	
Incremental Delay, d2		6.9		1.2	0.5						0.1	
Delay (s)		46.9		47.3	47.0						4.1	
Level of Service		D		D	D						A	
Approach Delay (s)		46.9			47.1			0.0			4.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues
602: NW 3rd Ave/NW 3rd Ave/NB On-Ramp & NW 8th St

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	183	338	460	14	803	53
v/c Ratio	0.88	0.47	0.63	0.02	0.45	0.06
Control Delay	64.1	22.6	20.0	16.8	18.4	5.5
Queue Delay	0.0	3.0	0.0	0.0	0.0	0.0
Total Delay	64.1	25.6	20.0	16.8	18.4	5.5
Queue Length 50th (ft)	112	180	160	4	171	0
Queue Length 95th (ft)	159	224	193	17	257	22
Internal Link Dist (ft)		212	475		393	
Turn Bay Length (ft)				195		250
Base Capacity (vph)	233	799	799	957	1914	880
Starvation Cap Reductn	0	349	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.75	0.58	0.01	0.42	0.06

Intersection Summary

HCM Signalized Intersection Capacity Analysis
602: NW 3rd Ave/NW 3rd Ave/NB On-Ramp & NW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	291	0	0	124	272	12	691	46	0	0	0
Future Volume (vph)	157	291	0	0	124	272	12	691	46	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95	1.00			
Frt	1.00	1.00			0.91		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	1752	1845			1674		1752	3505	1568			
Flt Permitted	0.29	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	538	1845			1674		1752	3505	1568			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	183	338	0	0	144	316	14	803	53	0	0	0
RTOR Reduction (vph)	0	0	0	0	80	0	0	0	26	0	0	0
Lane Group Flow (vph)	183	338	0	0	380	0	14	803	27	0	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		8			4			2				
Permitted Phases	8						2		2			
Actuated Green, G (s)	38.7	38.7			38.7		51.3	51.3	51.3			
Effective Green, g (s)	38.7	38.7			38.7		51.3	51.3	51.3			
Actuated g/C Ratio	0.39	0.39			0.39		0.51	0.51	0.51			
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	2.5	2.5			2.5		2.0	2.0	2.0			
Lane Grp Cap (vph)	208	714			647		898	1798	804			
v/s Ratio Prot		0.18			0.23			c0.23				
v/s Ratio Perm	c0.34						0.01		0.02			
v/c Ratio	0.88	0.47			0.59		0.02	0.45	0.03			
Uniform Delay, d1	28.5	23.0			24.3		12.0	15.4	12.1			
Progression Factor	1.01	0.95			1.00		1.00	1.00	1.00			
Incremental Delay, d2	30.7	0.3			1.1		0.0	0.8	0.1			
Delay (s)	59.4	22.2			25.4		12.0	16.2	12.1			
Level of Service	E	C			C		B	B	B			
Approach Delay (s)		35.3			25.4			15.9			0.0	
Approach LOS		D			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
602: NW 3rd Ave/NW 3rd Ave/NB On-Ramp & NW 8th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	291	0	0	124	272	12	691	46	0	0	0
Future Volume (veh/h)	157	291	0	0	124	272	12	691	46	0	0	0
Number	3	8	18	7	4	14	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1845	1845	0	0	1845	1900	1845	1845	1845			
Adj Flow Rate, veh/h	183	338	0	0	144	316	14	803	53			
Adj No. of Lanes	1	1	0	0	1	0	1	2	1			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86			
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3			
Cap, veh/h	226	738	0	0	206	452	878	1752	784			
Arrive On Green	0.40	0.40	0.00	0.00	0.40	0.40	0.67	0.67	0.67			
Sat Flow, veh/h	919	1845	0	0	515	1130	1757	3505	1568			
Grp Volume(v), veh/h	183	338	0	0	0	460	14	803	53			
Grp Sat Flow(s),veh/h/ln	919	1845	0	0	0	1645	1757	1752	1568			
Q Serve(g_s), s	16.7	13.5	0.0	0.0	0.0	23.3	0.3	11.0	1.2			
Cycle Q Clear(g_c), s	40.0	13.5	0.0	0.0	0.0	23.3	0.3	11.0	1.2			
Prop In Lane	1.00		0.00	0.00		0.69	1.00		1.00			
Lane Grp Cap(c), veh/h	226	738	0	0	0	658	878	1752	784			
V/C Ratio(X)	0.81	0.46	0.00	0.00	0.00	0.70	0.02	0.46	0.07			
Avail Cap(c_a), veh/h	226	738	0	0	0	658	878	1752	784			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33			
Upstream Filter(I)	0.64	0.64	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	43.0	22.0	0.0	0.0	0.0	25.0	8.4	10.2	8.6			
Incr Delay (d2), s/veh	12.9	0.2	0.0	0.0	0.0	3.1	0.0	0.9	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	9.0	10.3	0.0	0.0	0.0	16.5	0.2	9.3	1.0			
LnGrp Delay(d),s/veh	55.9	22.2	0.0	0.0	0.0	28.1	8.5	11.1	8.7			
LnGrp LOS	E	C				C	A	B	A			
Approach Vol, veh/h		521			460			870				
Approach Delay, s/veh		34.1			28.1			10.9				
Approach LOS		C			C			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		55.0		45.0				45.0
Change Period (Y+Rc), s		5.0		5.0				5.0
Max Green Setting (Gmax), s		50.0		40.0				40.0
Max Q Clear Time (g_c+I1), s		13.0		25.3				42.0
Green Ext Time (p_c), s		4.3		4.7				0.0

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Queues
701: NW 62nd St & NW 7th Ave/SR 7

Existing Conditions
PM PEAK HOUR

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	128	487	129	594	84	1000	122	541
v/c Ratio	0.50	0.65	0.45	0.83	0.20	0.71	0.52	0.36
Control Delay	30.9	43.8	29.1	51.9	15.0	30.4	22.1	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	43.8	29.1	51.9	15.0	30.4	22.1	22.0
Queue Length 50th (ft)	58	159	59	202	30	317	45	137
Queue Length 95th (ft)	109	226	109	#295	52	367	71	174
Internal Link Dist (ft)		638		656		255		455
Turn Bay Length (ft)	145		160				125	
Base Capacity (vph)	257	762	289	738	435	1618	242	1700
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.64	0.45	0.80	0.19	0.62	0.50	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
701: NW 62nd St & NW 7th Ave/SR 7

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	450	32	128	488	100	83	817	173	121	446	89
Future Volume (vph)	127	450	32	128	488	100	83	817	173	121	446	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3504		1770	3449		1770	3446		1770	3451	
Flt Permitted	0.18	1.00		0.32	1.00		0.41	1.00		0.14	1.00	
Satd. Flow (perm)	337	3504		591	3449		760	3446		269	3451	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	128	455	32	129	493	101	84	825	175	122	451	90
RTOR Reduction (vph)	0	5	0	0	15	0	0	18	0	0	16	0
Lane Group Flow (vph)	128	482	0	129	579	0	84	982	0	122	525	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	34.9	23.3		32.9	22.3		50.3	44.4		53.9	46.2	
Effective Green, g (s)	34.9	23.3		32.9	22.3		50.3	44.4		53.9	46.2	
Actuated g/C Ratio	0.32	0.21		0.30	0.20		0.46	0.40		0.49	0.42	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	2.5		3.0	2.5		2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	258	742		290	699		401	1390		236	1449	
v/s Ratio Prot	c0.05	0.14		0.04	c0.17		0.01	c0.28		c0.04	0.15	
v/s Ratio Perm	0.10			0.09			0.08			0.22		
v/c Ratio	0.50	0.65		0.44	0.83		0.21	0.71		0.52	0.36	
Uniform Delay, d1	28.6	39.6		29.4	42.0		17.1	27.4		18.5	21.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	1.7		1.1	7.8		0.1	3.0		0.8	0.7	
Delay (s)	30.1	41.4		30.5	49.9		17.2	30.4		19.3	22.5	
Level of Service	C	D		C	D		B	C		B	C	
Approach Delay (s)		39.0			46.4			29.4			21.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues
Existing Conditions
702: NW 6th Ave/SB On-Ramp/SB Off-Ramp & NW 62nd St
PM PEAK HOUR

Lane Group	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	815	295	582	209	484
v/c Ratio	0.82	0.85	0.31	0.35	0.79
Control Delay	32.0	44.3	12.5	23.4	34.7
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	32.0	44.3	12.5	23.4	34.7
Queue Length 50th (ft)	233	101	86	83	218
Queue Length 95th (ft)	373	#311	148	160	392
Internal Link Dist (ft)	656		175		480
Turn Bay Length (ft)					
Base Capacity (vph)	2118	346	3084	848	850
Starvation Cap Reductn	0	0	1063	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.85	0.29	0.25	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
702: NW 6th Ave/SB On-Ramp/SB Off-Ramp & NW 62nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	548	218	277	547	0	0	0	0	196	251	204
Future Volume (vph)	0	548	218	277	547	0	0	0	0	196	251	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		3.0	5.0					5.0	5.0	
Lane Util. Factor		*0.79		1.00	0.95					1.00	1.00	
Frt		0.96		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		2763		1736	3471					1736	1704	
Flt Permitted		1.00		0.12	1.00					0.95	1.00	
Satd. Flow (perm)		2763		223	3471					1736	1704	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	583	232	295	582	0	0	0	0	209	267	217
RTOR Reduction (vph)	0	29	0	0	0	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	786	0	295	582	0	0	0	0	209	462	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		6		5	2						8	
Permitted Phases				2						8		
Actuated Green, G (s)		29.8		45.3	45.3					29.4	29.4	
Effective Green, g (s)		29.8		45.3	45.3					29.4	29.4	
Actuated g/C Ratio		0.35		0.53	0.53					0.35	0.35	
Clearance Time (s)		5.0		3.0	5.0					5.0	5.0	
Vehicle Extension (s)		1.0		2.0	1.0					2.5	2.5	
Lane Grp Cap (vph)		972		342	1856					602	591	
v/s Ratio Prot		0.28		c0.13	0.17						c0.27	
v/s Ratio Perm				c0.33						0.12		
v/c Ratio		0.81		0.86	0.31					0.35	0.78	
Uniform Delay, d1		24.9		20.1	11.0					20.5	24.8	
Progression Factor		1.00		1.00	1.00					1.00	1.00	
Incremental Delay, d2		4.7		18.9	0.0					0.3	6.5	
Delay (s)		29.6		39.0	11.0					20.8	31.2	
Level of Service		C		D	B					C	C	
Approach Delay (s)		29.6			20.5			0.0			28.1	
Approach LOS		C			C			A			C	

Intersection Summary

HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	13.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
702: NW 6th Ave/SB On-Ramp/SB Off-Ramp & NW 62nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	548	218	277	547	0	0	0	0	196	251	204
Future Volume (veh/h)	0	548	218	277	547	0	0	0	0	196	251	204
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1827	1900	1827	1827	0				1827	1827	1900
Adj Flow Rate, veh/h	0	583	232	295	582	0				209	267	217
Adj No. of Lanes	0	2	0	1	2	0				1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	4	4	4	4	0				4	4	4
Cap, veh/h	0	730	290	402	1764	0				593	318	259
Arrive On Green	0.00	0.33	0.33	0.14	0.51	0.00				0.34	0.34	0.34
Sat Flow, veh/h	0	2612	885	1740	3563	0				1740	934	759
Grp Volume(v), veh/h	0	377	438	295	582	0				209	0	484
Grp Sat Flow(s),veh/h/ln	0	1443	1671	1740	1736	0				1740	0	1693
Q Serve(g_s), s	0.0	15.8	15.8	6.9	6.6	0.0				6.0	0.0	17.5
Cycle Q Clear(g_c), s	0.0	15.8	15.8	6.9	6.6	0.0				6.0	0.0	17.5
Prop In Lane	0.00		0.53	1.00		0.00				1.00		0.45
Lane Grp Cap(c), veh/h	0	473	547	402	1764	0				593	0	577
V/C Ratio(X)	0.00	0.80	0.80	0.73	0.33	0.00				0.35	0.00	0.84
Avail Cap(c_a), veh/h	0	1372	1588	482	4085	0				1050	0	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.3	20.3	13.9	9.6	0.0				16.4	0.0	20.2
Incr Delay (d2), s/veh	0.0	1.2	1.0	3.4	0.0	0.0				0.3	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.6	11.9	6.6	5.5	0.0				5.2	0.0	13.2
LnGrp Delay(d),s/veh	0.0	21.5	21.3	17.3	9.7	0.0				16.6	0.0	22.7
LnGrp LOS		C	C	B	A					B		C
Approach Vol, veh/h		815			877						693	
Approach Delay, s/veh		21.4			12.2						20.9	
Approach LOS		C			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		38.7			12.0	26.7		27.6
Change Period (Y+Rc), s		5.0			3.0	5.0		5.0
Max Green Setting (Gmax), s		78.0			12.0	63.0		40.0
Max Q Clear Time (g_c+I1), s		8.6			8.9	17.8		19.5
Green Ext Time (p_c), s		3.9			0.2	3.9		3.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.9
HCM 2010 LOS	B

Queues

Existing Conditions

703: NW 6th Ave/NB Off-Ramp/NW 5th Ct/NB On-Ramp & NW 62nd St

PM PEAK HOUR

Lane Group	EBL	EBT	WBT	NBT
Lane Group Flow (vph)	250	537	720	927
v/c Ratio	0.73	0.26	0.61	0.85
Control Delay	27.0	12.8	29.4	44.4
Queue Delay	1.8	1.1	0.0	0.0
Total Delay	28.8	13.9	29.4	44.4
Queue Length 50th (ft)	90	103	302	342
Queue Length 95th (ft)	#181	151	414	396
Internal Link Dist (ft)		175	1613	42
Turn Bay Length (ft)				
Base Capacity (vph)	345	2195	1311	1128
Starvation Cap Reductn	26	1358	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.64	0.55	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
Existing Conditions

703: NW 6th Ave/NB Off-Ramp/NW 5th Ct/NB On-Ramp & NW 62nd St
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	526	0	0	524	181	268	345	296	0	0	0
Future Volume (vph)	245	526	0	0	524	181	268	345	296	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0			5.0				
Lane Util. Factor	1.00	0.95			*0.73			0.95				
Frt	1.00	1.00			0.96			0.95				
Flt Protected	0.95	1.00			1.00			0.99				
Satd. Flow (prot)	1752	3505			2589			3285				
Flt Permitted	0.18	1.00			1.00			0.99				
Satd. Flow (perm)	333	3505			2589			3285				
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	250	537	0	0	535	185	273	352	302	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	46	0	0	0	0
Lane Group Flow (vph)	250	537	0	0	720	0	0	881	0	0	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	1	6			2			4				
Permitted Phases	6						4					
Actuated Green, G (s)	75.0	75.0			57.4			40.0				
Effective Green, g (s)	75.0	75.0			57.4			40.0				
Actuated g/C Ratio	0.60	0.60			0.46			0.32				
Clearance Time (s)	5.0	5.0			5.0			5.0				
Vehicle Extension (s)	2.0	1.0			1.0			2.5				
Lane Grp Cap (vph)	342	2103			1188			1051				
v/s Ratio Prot	c0.07	0.15			0.28							
v/s Ratio Perm	c0.36							0.27				
v/c Ratio	0.73	0.26			0.61			0.84				
Uniform Delay, d1	16.3	11.8			25.3			39.5				
Progression Factor	1.00	1.00			1.00			1.00				
Incremental Delay, d2	6.8	0.3			2.3			5.9				
Delay (s)	23.1	12.1			27.6			45.4				
Level of Service	C	B			C			D				
Approach Delay (s)		15.6			27.6			45.4			0.0	
Approach LOS		B			C			D			A	

Intersection Summary

HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
703: NW 6th Ave/NB Off-Ramp/NW 5th Ct/NB On-Ramp & NW 62nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	526	0	0	524	181	268	345	296	0	0	0
Future Volume (veh/h)	245	526	0	0	524	181	268	345	296	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1845	1845	0	0	1845	1900	1900	1845	1900			
Adj Flow Rate, veh/h	250	537	0	0	535	185	273	352	302			
Adj No. of Lanes	1	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	3	3	0	0	3	3	0	3	0			
Cap, veh/h	478	2179	0	0	1139	393	289	385	351			
Arrive On Green	0.11	0.83	0.00	0.00	0.67	0.67	0.30	0.30	0.30			
Sat Flow, veh/h	1757	3597	0	0	2768	783	968	1289	1176			
Grp Volume(v), veh/h	250	537	0	0	317	403	507	0	420			
Grp Sat Flow(s),veh/h/ln	1757	1752	0	0	1347	1707	1796	0	1637			
Q Serve(g_s), s	8.6	4.2	0.0	0.0	14.2	14.3	34.5	0.0	30.3			
Cycle Q Clear(g_c), s	8.6	4.2	0.0	0.0	14.2	14.3	34.5	0.0	30.3			
Prop In Lane	1.00		0.00	0.00		0.46	0.54		0.72			
Lane Grp Cap(c), veh/h	478	2179	0	0	676	856	536	0	488			
V/C Ratio(X)	0.52	0.25	0.00	0.00	0.47	0.47	0.95	0.00	0.86			
Avail Cap(c_a), veh/h	478	2179	0	0	676	856	546	0	498			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.62	0.62	0.00	0.00	0.96	0.96	1.00	0.00	1.00			
Uniform Delay (d), s/veh	13.1	4.5	0.0	0.0	12.7	12.8	42.9	0.0	41.4			
Incr Delay (d2), s/veh	0.3	0.2	0.0	0.0	2.2	1.8	25.2	0.0	13.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	6.8	3.7	0.0	0.0	9.5	11.4	28.3	0.0	22.0			
LnGrp Delay(d),s/veh	13.4	4.6	0.0	0.0	15.0	14.5	68.1	0.0	55.2			
LnGrp LOS	B	A			B	B	E		E			
Approach Vol, veh/h		787			720			927				
Approach Delay, s/veh		7.4			14.7			62.2				
Approach LOS		A			B			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	15.0	67.7		42.3		82.7		
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		
Max Green Setting (Gmax), s	10.0	62.0		38.0		77.0		
Max Q Clear Time (g_c+I1), s	10.6	16.3		36.5		6.2		
Green Ext Time (p_c), s	0.0	3.4		0.8		3.4		

Intersection Summary	
HCM 2010 Ctrl Delay	30.5
HCM 2010 LOS	C

Queues
704: NW 2nd Ave & NW 62nd St

Existing Conditions
PM PEAK HOUR

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	713	34	501	126	344	47	31	155	114
v/c Ratio	0.21	0.36	0.08	0.26	0.43	0.82	0.11	0.21	0.55	0.34
Control Delay	13.4	19.0	13.8	20.3	44.1	71.5	0.5	38.7	64.1	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	19.0	13.8	20.3	44.1	71.5	0.5	38.7	64.1	12.0
Queue Length 50th (ft)	43	196	12	137	93	326	0	22	138	4
Queue Length 95th (ft)	85	290	33	213	134	415	0	44	202	57
Internal Link Dist (ft)		1613		1095		584			419	
Turn Bay Length (ft)	90		115		115		115	75		75
Base Capacity (vph)	573	1996	490	1926	301	461	473	217	447	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.36	0.07	0.26	0.42	0.75	0.10	0.14	0.35	0.25

Intersection Summary

HCM Signalized Intersection Capacity Analysis
704: NW 2nd Ave & NW 62nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	531	146	32	443	33	120	327	45	29	147	108
Future Volume (vph)	107	531	146	32	443	33	120	327	45	29	147	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3425		1770	3502		1770	1863	1583	1770	1863	1583
Flt Permitted	0.41	1.00		0.34	1.00		0.41	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	769	3425		639	3502		768	1863	1583	497	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	113	559	154	34	466	35	126	344	47	31	155	114
RTOR Reduction (vph)	0	13	0	0	3	0	0	0	36	0	0	91
Lane Group Flow (vph)	113	700	0	34	498	0	126	344	11	31	155	23
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4		4	8		8
Actuated Green, G (s)	91.7	83.2		84.3	79.5		44.0	33.7	33.7	29.7	25.4	25.4
Effective Green, g (s)	91.7	83.2		84.3	79.5		44.0	33.7	33.7	29.7	25.4	25.4
Actuated g/C Ratio	0.61	0.55		0.56	0.53		0.29	0.22	0.22	0.20	0.17	0.17
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0	2.5	2.5	2.0	2.5	2.5
Lane Grp Cap (vph)	526	1899		395	1856		309	418	355	134	315	268
v/s Ratio Prot	c0.01	c0.20		0.00	0.14		c0.03	c0.18		0.01	0.08	
v/s Ratio Perm	0.12			0.05			0.09		0.01	0.04		0.01
v/c Ratio	0.21	0.37		0.09	0.27		0.41	0.82	0.03	0.23	0.49	0.09
Uniform Delay, d1	12.5	18.7		14.9	19.3		40.8	55.3	45.4	49.7	56.5	52.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.6		0.0	0.4		0.3	12.1	0.0	0.3	0.9	0.1
Delay (s)	12.5	19.2		14.9	19.7		41.2	67.4	45.4	50.0	57.3	52.6
Level of Service	B	B		B	B		D	E	D	D	E	D
Approach Delay (s)		18.3			19.4			59.0			54.8	
Approach LOS		B			B			E			D	

Intersection Summary

HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
704: NW 2nd Ave & NW 62nd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	531	146	32	443	33	120	327	45	29	147	108
Future Volume (veh/h)	107	531	146	32	443	33	120	327	45	29	147	108
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	559	154	34	466	35	126	344	47	31	155	114
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	567	1608	441	445	1906	143	264	382	325	116	295	250
Arrive On Green	0.04	0.59	0.59	0.03	0.57	0.57	0.07	0.21	0.21	0.02	0.16	0.16
Sat Flow, veh/h	1774	2745	754	1774	3338	250	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	113	360	353	34	246	255	126	344	47	31	155	114
Grp Sat Flow(s),veh/h/ln	1774	1770	1730	1774	1770	1819	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	4.0	15.9	16.0	1.2	10.4	10.5	8.7	27.0	3.6	2.2	11.5	9.8
Cycle Q Clear(g_c), s	4.0	15.9	16.0	1.2	10.4	10.5	8.7	27.0	3.6	2.2	11.5	9.8
Prop In Lane	1.00		0.44	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	567	1036	1013	445	1010	1038	264	382	325	116	295	250
V/C Ratio(X)	0.20	0.35	0.35	0.08	0.24	0.25	0.48	0.90	0.14	0.27	0.53	0.46
Avail Cap(c_a), veh/h	638	1036	1013	542	1010	1038	280	447	380	215	447	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	16.2	16.2	13.1	16.0	16.1	47.0	58.1	48.9	52.4	58.0	57.3
Incr Delay (d2), s/veh	0.1	0.9	0.9	0.0	0.6	0.6	0.5	18.5	0.2	0.5	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	12.5	12.4	1.0	9.0	9.2	7.7	22.5	2.9	1.9	10.0	7.8
LnGrp Delay(d),s/veh	12.6	17.1	17.1	13.2	16.6	16.6	47.5	76.7	49.0	52.9	59.1	58.2
LnGrp LOS	B	B	B	B	B	B	D	E	D	D	E	E
Approach Vol, veh/h		826			535			517			300	
Approach Delay, s/veh		16.5			16.4			67.0			58.1	
Approach LOS		B			B			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	91.6	9.6	36.8	9.8	93.8	16.7	29.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	66.0	12.0	36.0	12.0	66.0	12.0	36.0
Max Q Clear Time (g_c+I1), s	6.0	12.5	4.2	29.0	3.2	18.0	10.7	13.5
Green Ext Time (p_c), s	0.1	2.9	0.0	1.7	0.0	2.9	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Queues
901: NW 7th Ave/SR 7 & NW 79th St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	232	667	63	358	60	1024	188	542	120
v/c Ratio	0.72	0.78	0.32	0.56	0.14	0.53	0.61	0.35	0.12
Control Delay	42.7	46.0	27.8	41.0	14.9	27.9	22.8	22.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.7	46.0	27.8	41.0	14.9	27.9	22.8	22.6	2.8
Queue Length 50th (ft)	121	234	30	118	20	201	67	138	0
Queue Length 95th (ft)	#237	299	58	150	43	272	113	193	29
Internal Link Dist (ft)		597		267		408		584	
Turn Bay Length (ft)	250		150		115		110		
Base Capacity (vph)	322	884	198	868	596	1938	414	1562	995
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.75	0.32	0.41	0.10	0.53	0.45	0.35	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
901: NW 7th Ave/SR 7 & NW 79th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	608	39	61	285	62	58	873	120	182	526	116
Future Volume (vph)	225	608	39	61	285	62	58	873	120	182	526	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	3440		1736	3378		1736	4897		1736	3471	1553
Flt Permitted	0.34	1.00		0.24	1.00		0.44	1.00		0.17	1.00	1.00
Satd. Flow (perm)	615	3440		443	3378		808	4897		312	3471	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	232	627	40	63	294	64	60	900	124	188	542	120
RTOR Reduction (vph)	0	5	0	0	18	0	0	14	0	0	0	56
Lane Group Flow (vph)	232	662	0	63	340	0	60	1010	0	188	542	64
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		1	6		5	2	3
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	39.3	27.4		27.7	21.6		48.3	42.4		58.7	47.6	59.5
Effective Green, g (s)	39.3	27.4		27.7	21.6		48.3	42.4		58.7	47.6	59.5
Actuated g/C Ratio	0.35	0.25		0.25	0.19		0.44	0.38		0.53	0.43	0.54
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.5		2.0	2.5		2.0	1.0		2.0	1.0	2.0
Lane Grp Cap (vph)	337	849		181	657		400	1870		307	1488	916
v/s Ratio Prot	c0.07	c0.19		0.02	0.10		0.01	0.21		c0.06	0.16	0.01
v/s Ratio Perm	0.17			0.07			0.06			c0.26		0.03
v/c Ratio	0.69	0.78		0.35	0.52		0.15	0.54		0.61	0.36	0.07
Uniform Delay, d1	27.4	39.0		32.8	40.0		18.3	26.7		16.0	21.5	12.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.6	4.5		0.4	0.5		0.1	1.1		2.5	0.7	0.0
Delay (s)	32.0	43.5		33.2	40.6		18.4	27.8		18.5	22.1	12.4
Level of Service	C	D		C	D		B	C		B	C	B
Approach Delay (s)		40.5			39.5			27.3			20.0	
Approach LOS		D			D			C			B	

Intersection Summary

HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
901: NW 7th Ave/SR 7 & NW 79th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	608	39	61	285	62	58	873	120	182	526	116
Future Volume (veh/h)	225	608	39	61	285	62	58	873	120	182	526	116
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1900	1827	1827	1900	1827	1827	1900	1827	1827	1827
Adj Flow Rate, veh/h	232	627	40	63	294	64	60	900	124	188	542	120
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	297	741	47	190	610	131	423	1894	260	354	1573	802
Arrive On Green	0.06	0.22	0.22	0.05	0.21	0.21	0.05	0.43	0.43	0.08	0.45	0.45
Sat Flow, veh/h	1740	3314	211	1740	2844	610	1740	4436	609	1740	3471	1553
Grp Volume(v), veh/h	232	328	339	63	178	180	60	674	350	188	542	120
Grp Sat Flow(s),veh/h/ln	1740	1736	1790	1740	1736	1719	1740	1663	1719	1740	1736	1553
Q Serve(g_s), s	7.0	20.1	20.1	3.1	9.9	10.2	2.1	16.2	16.3	6.6	11.2	4.5
Cycle Q Clear(g_c), s	7.0	20.1	20.1	3.1	9.9	10.2	2.1	16.2	16.3	6.6	11.2	4.5
Prop In Lane	1.00		0.12	1.00		0.35	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	297	388	400	190	372	369	423	1420	734	354	1573	802
V/C Ratio(X)	0.78	0.85	0.85	0.33	0.48	0.49	0.14	0.47	0.48	0.53	0.34	0.15
Avail Cap(c_a), veh/h	297	438	451	206	438	434	628	1420	734	514	1573	802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	39.0	41.3	41.3	32.6	38.2	38.3	15.9	22.9	22.9	17.0	19.7	14.1
Incr Delay (d2), s/veh	11.6	12.5	12.3	0.4	0.7	0.7	0.1	1.1	2.2	0.4	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.2	16.4	16.9	2.7	8.4	8.5	1.8	12.1	12.8	5.7	9.2	3.6
LnGrp Delay(d),s/veh	50.6	53.7	53.6	33.0	38.8	39.0	15.9	24.0	25.1	17.4	20.2	14.5
LnGrp LOS	D	D	D	C	D	D	B	C	C	B	C	B
Approach Vol, veh/h		899			421			1084			850	
Approach Delay, s/veh		52.9			38.0			23.9			18.8	
Approach LOS		D			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	56.3	13.0	29.8	14.8	53.4	12.0	30.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	33.0	7.0	28.0	19.0	33.0	7.0	28.0
Max Q Clear Time (g_c+I1), s	4.1	13.2	9.0	12.2	8.6	18.3	5.1	22.1
Green Ext Time (p_c), s	0.0	4.5	0.0	4.8	0.2	4.2	0.0	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	32.4
HCM 2010 LOS	C

Queues
902: NW 6th Ct/SB On-Ramp/NW 6th Ct & NW 79th St

Lane Group	EBT	EBR	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	799	169	346	479	627	94
v/c Ratio	0.47	0.19	0.36	0.68	0.85	0.14
Control Delay	20.2	3.4	5.2	31.4	40.6	3.8
Queue Delay	1.7	0.0	0.5	0.0	0.5	0.0
Total Delay	21.9	3.4	5.7	31.4	41.2	3.8
Queue Length 50th (ft)	201	0	17	264	381	0
Queue Length 95th (ft)	287	39	56	343	485	27
Internal Link Dist (ft)	267		223		463	
Turn Bay Length (ft)						
Base Capacity (vph)	1689	872	960	724	870	789
Starvation Cap Reductn	678	0	276	0	51	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.19	0.51	0.66	0.77	0.12

Intersection Summary

HCM Signalized Intersection Capacity Analysis
902: NW 6th Ct/SB On-Ramp/NW 6th Ct & NW 79th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	783	166	0	339	0	0	0	0	469	614	92
Future Volume (vph)	0	783	166	0	339	0	0	0	0	469	614	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		3.0					4.6	4.6	4.6
Lane Util. Factor		*0.91	1.00		1.00					1.00	1.00	1.00
Frt		1.00	0.85		1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00					0.95	1.00	1.00
Satd. Flow (prot)		3325	1553		1827					1736	1827	1553
Flt Permitted		1.00	1.00		1.00					0.95	1.00	1.00
Satd. Flow (perm)		3325	1553		1827					1736	1827	1553
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	799	169	0	346	0	0	0	0	479	627	94
RTOR Reduction (vph)	0	0	83	0	0	0	0	0	0	0	0	56
Lane Group Flow (vph)	0	799	86	0	346	0	0	0	0	479	627	38
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type		NA	Perm		NA					pm+pt	NA	Perm
Protected Phases		6			1 2					8	3	
Permitted Phases			6	2						3		3
Actuated Green, G (s)		55.9	55.9		55.9					44.5	44.5	44.5
Effective Green, g (s)		55.9	55.9		55.9					44.5	44.5	44.5
Actuated g/C Ratio		0.51	0.51		0.51					0.40	0.40	0.40
Clearance Time (s)		5.0	5.0							4.6	4.6	4.6
Vehicle Extension (s)		1.0	1.0							3.0	3.5	3.5
Lane Grp Cap (vph)		1689	789		928					702	739	628
v/s Ratio Prot		c0.24			0.19					0.16	c0.34	
v/s Ratio Perm			0.06							0.12		0.02
v/c Ratio		0.47	0.11		0.37					0.68	0.85	0.06
Uniform Delay, d1		17.5	14.1		16.4					25.7	29.7	20.0
Progression Factor		1.00	1.00		0.26					1.00	1.00	1.00
Incremental Delay, d2		1.0	0.3		0.1					2.7	9.2	0.0
Delay (s)		18.5	14.4		4.3					28.5	38.9	20.0
Level of Service		B	B		A					C	D	C
Approach Delay (s)		17.8			4.3			0.0			33.2	
Approach LOS		B			A			A			C	

Intersection Summary

HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Queues
903: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 79th St

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	263	1027	448	324	143
v/c Ratio	0.33	0.38	0.68	0.69	0.46
Control Delay	32.0	3.2	36.5	45.1	11.7
Queue Delay	0.0	0.2	0.0	0.0	0.0
Total Delay	32.0	3.5	36.5	45.1	11.7
Queue Length 50th (ft)	50	80	286	101	0
Queue Length 95th (ft)	111	108	#415	143	59
Internal Link Dist (ft)		223	529	429	
Turn Bay Length (ft)	190				
Base Capacity (vph)	811	2677	670	745	424
Starvation Cap Reductn	0	845	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.56	0.67	0.43	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
903: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 79th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	986	0	0	327	103	0	215	233	0	0	0
Future Volume (vph)	252	986	0	0	327	103	0	215	233	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0			5.0			4.6	4.6			
Lane Util. Factor	0.97	0.95			1.00			0.91	0.91			
Frt	1.00	1.00			0.97			0.95	0.85			
Flt Protected	0.95	1.00			1.00			1.00	1.00			
Satd. Flow (prot)	3367	3471			1768			3171	1413			
Flt Permitted	0.50	1.00			1.00			1.00	1.00			
Satd. Flow (perm)	1785	3471			1768			3171	1413			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	262	1027	0	0	341	107	0	224	243	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	47	124	0	0	0
Lane Group Flow (vph)	263	1027	0	0	439	0	0	277	19	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	custom	NA			NA			NA	Perm			
Protected Phases	1	6 8			2			7				
Permitted Phases	8								7			
Actuated Green, G (s)	37.4	85.7			40.7			14.7	14.7			
Effective Green, g (s)	37.4	81.1			40.7			14.7	14.7			
Actuated g/C Ratio	0.34	0.74			0.37			0.13	0.13			
Clearance Time (s)	3.0				5.0			4.6	4.6			
Vehicle Extension (s)	2.0				1.0			2.5	2.5			
Lane Grp Cap (vph)	782	2559			654			423	188			
v/s Ratio Prot	0.04	c0.30			c0.25			c0.09				
v/s Ratio Perm	0.08								0.01			
v/c Ratio	0.34	0.40			0.67			0.66	0.10			
Uniform Delay, d1	28.1	5.4			29.0			45.2	41.9			
Progression Factor	1.28	0.69			1.00			1.00	1.00			
Incremental Delay, d2	0.1	0.1			5.4			3.2	0.2			
Delay (s)	35.9	3.8			34.4			48.5	42.0			
Level of Service	D	A			C			D	D			
Approach Delay (s)		10.4			34.4			46.5			0.0	
Approach LOS		B			C			D			A	

Intersection Summary

HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Queues
904: NW 7th Ave/SR 7 & NW 81st St

Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	94	600	27	1278	704
v/c Ratio	0.06	0.80	0.09	0.57	0.32
Control Delay	10.3	21.1	15.5	23.6	0.9
Queue Delay	0.0	0.2	0.0	0.0	0.0
Total Delay	10.3	21.3	15.5	23.6	0.9
Queue Length 50th (ft)	13	171	10	230	0
Queue Length 95th (ft)	m19	#544	25	279	6
Internal Link Dist (ft)	263			584	561
Turn Bay Length (ft)			190		
Base Capacity (vph)	1614	753	418	2920	2274
Starvation Cap Reductn	0	9	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.81	0.06	0.44	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
904: NW 7th Ave/SR 7 & NW 81st St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	91	582	26	1240	0	0	0	683
Future Volume (vph)	0	0	0	0	91	582	26	1240	0	0	0	683
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.2	5.2	3.0	5.2			5.2	
Lane Util. Factor					0.95	1.00	1.00	0.91			0.91	
Frt					1.00	0.85	1.00	1.00			0.85	
Flt Protected					1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					3505	1568	1752	5036			4281	
Flt Permitted					1.00	1.00	0.30	1.00			1.00	
Satd. Flow (perm)					3505	1568	549	5036			4281	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	0	94	600	27	1278	0	0	0	704
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	0	0	433	0
Lane Group Flow (vph)	0	0	0	0	94	569	27	1278	0	0	271	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Actuated Green, G (s)					50.7	50.7	48.9	48.9			42.3	
Effective Green, g (s)					50.7	50.7	48.9	48.9			42.3	
Actuated g/C Ratio					0.46	0.46	0.44	0.44			0.38	
Clearance Time (s)					5.2	5.2	3.0	5.2			5.2	
Vehicle Extension (s)					3.5	3.5	2.0	1.0			1.0	
Lane Grp Cap (vph)					1615	722	283	2238			1646	
v/s Ratio Prot					0.03		0.00	c0.25			0.06	
v/s Ratio Perm						c0.36	0.04					
v/c Ratio					0.06	0.79	0.10	0.57			0.16	
Uniform Delay, d1					16.4	25.1	17.6	22.7			22.2	
Progression Factor					0.59	0.52	1.00	1.00			1.00	
Incremental Delay, d2					0.0	5.3	0.1	1.1			0.2	
Delay (s)					9.6	18.4	17.7	23.8			22.5	
Level of Service					A	B	B	C			C	
Approach Delay (s)		0.0			17.2			23.7			22.5	
Approach LOS		A			B			C			C	

Intersection Summary

HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
904: NW 7th Ave/SR 7 & NW 81st St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	91	582	26	1240	0	0	0	683
Future Volume (veh/h)	0	0	0	0	91	582	26	1240	0	0	0	683
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	1845	1845	1845	1845	0	0	1845	1900
Adj Flow Rate, veh/h				0	94	600	27	1278	0	0	0	704
Adj No. of Lanes				1	2	1	1	3	0	0	3	0
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				572	1141	510	253	2921	0	0	1770	827
Arrive On Green				0.00	0.33	0.33	0.03	0.77	0.00	0.00	0.00	0.70
Sat Flow, veh/h				1757	3505	1568	1757	5202	0	0	3523	1568
Grp Volume(v), veh/h				0	94	600	27	1278	0	0	0	704
Grp Sat Flow(s),veh/h/ln				1757	1752	1568	1757	1679	0	0	1679	1568
Q Serve(g_s), s				0.0	2.0	35.8	0.7	9.6	0.0	0.0	0.0	36.6
Cycle Q Clear(g_c), s				0.0	2.0	35.8	0.7	9.6	0.0	0.0	0.0	36.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				572	1141	510	253	2921	0	0	1770	827
V/C Ratio(X)				0.00	0.08	1.18	0.11	0.44	0.00	0.00	0.00	0.85
Avail Cap(c_a), veh/h				572	1141	510	447	2921	0	0	1770	827
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.33	1.33
Upstream Filter(I)				0.00	0.90	0.90	0.80	0.80	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				0.0	25.7	37.1	17.2	6.4	0.0	0.0	0.0	13.2
Incr Delay (d2), s/veh				0.0	0.0	96.5	0.1	0.4	0.0	0.0	0.0	10.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				0.0	1.8	71.4	0.6	7.6	0.0	0.0	0.0	24.9
LnGrp Delay(d),s/veh				0.0	25.7	133.6	17.2	6.8	0.0	0.0	0.0	24.0
LnGrp LOS					C	F	B	A				C
Approach Vol, veh/h					694			1305			704	
Approach Delay, s/veh					119.0			7.0			24.0	
Approach LOS					F			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		69.0		41.0	5.8	63.2		
Change Period (Y+Rc), s		* 5.2		* 5.2	3.0	* 5.2		
Max Green Setting (Gmax), s		* 64		* 36	15.0	* 46		
Max Q Clear Time (g_c+I1), s		11.6		37.8	2.7	38.6		
Green Ext Time (p_c), s		7.9		0.0	0.0	4.0		

Intersection Summary	
HCM 2010 Ctrl Delay	40.2
HCM 2010 LOS	D

Notes

Queues
905: NW 6th Ct/NW 6th Ct/SB Off-Ramp & NW 81st St

Lane Group	WBT	SBT
Lane Group Flow (vph)	1345	827
v/c Ratio	0.44	0.77
Control Delay	1.8	37.0
Queue Delay	0.1	0.0
Total Delay	1.8	37.0
Queue Length 50th (ft)	10	258
Queue Length 95th (ft)	13	297
Internal Link Dist (ft)	240	535
Turn Bay Length (ft)		
Base Capacity (vph)	3068	1418
Starvation Cap Reductn	508	0
Spillback Cap Reductn	35	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.53	0.58

Intersection Summary

HCM Signalized Intersection Capacity Analysis
905: NW 6th Ct/NW 6th Ct/SB Off-Ramp & NW 81st St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	579	752	0	0	0	0	0	587	232
Future Volume (vph)	0	0	0	579	752	0	0	0	0	0	587	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.2						5.2	
Lane Util. Factor					0.91						0.95	
Frt					1.00						0.96	
Flt Protected					0.98						1.00	
Satd. Flow (prot)					4977						3389	
Flt Permitted					0.98						1.00	
Satd. Flow (perm)					4977						3389	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	0	0	585	760	0	0	0	0	0	593	234
RTOR Reduction (vph)	0	0	0	0	64	0	0	0	0	0	45	0
Lane Group Flow (vph)	0	0	0	0	1281	0	0	0	0	0	782	0
Turn Type				Split	NA						NA	
Protected Phases				2 3	2 3						4	
Permitted Phases												
Actuated Green, G (s)					66.4						33.2	
Effective Green, g (s)					66.4						33.2	
Actuated g/C Ratio					0.60						0.30	
Clearance Time (s)											5.2	
Vehicle Extension (s)											3.0	
Lane Grp Cap (vph)					3004						1022	
v/s Ratio Prot					c0.26						c0.23	
v/s Ratio Perm												
v/c Ratio					0.43						0.77	
Uniform Delay, d1					11.6						34.9	
Progression Factor					0.12						1.00	
Incremental Delay, d2					0.1						3.5	
Delay (s)					1.5						38.3	
Level of Service					A						D	
Approach Delay (s)		0.0			1.5			0.0			38.3	
Approach LOS		A			A			A			D	

Intersection Summary

HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
906: NW 6th Ave/NW 6th Ave/NB On-Ramp & NW 81st St

Lane Group	WBT	WBR	NBT
Lane Group Flow (vph)	1268	460	564
v/c Ratio	0.57	0.49	0.36
Control Delay	24.4	4.0	12.0
Queue Delay	0.0	0.0	0.0
Total Delay	24.4	4.0	12.0
Queue Length 50th (ft)	233	0	66
Queue Length 95th (ft)	319	64	104
Internal Link Dist (ft)	629		23
Turn Bay Length (ft)			
Base Capacity (vph)	2228	945	1878
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.57	0.49	0.30

Intersection Summary

HCM Signalized Intersection Capacity Analysis
906: NW 6th Ave/NW 6th Ave/NB On-Ramp & NW 81st St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1167	423	177	342	0	0	0	0
Future Volume (vph)	0	0	0	0	1167	423	177	342	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.2	5.2		5.2				
Lane Util. Factor					0.91	1.00		0.95				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.98				
Satd. Flow (prot)					4940	1538		3381				
Flt Permitted					1.00	1.00		0.98				
Satd. Flow (perm)					4940	1538		3381				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1268	460	192	372	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	252	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1268	208	0	552	0	0	0	0
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type					NA	Perm	Split	NA				
Protected Phases					2		8	8				
Permitted Phases						2						
Actuated Green, G (s)					49.6	49.6		50.0				
Effective Green, g (s)					49.6	49.6		50.0				
Actuated g/C Ratio					0.45	0.45		0.45				
Clearance Time (s)					5.2	5.2		5.2				
Vehicle Extension (s)					1.0	1.0		3.0				
Lane Grp Cap (vph)					2227	693		1536				
v/s Ratio Prot					c0.26			c0.16				
v/s Ratio Perm						0.14						
v/c Ratio					0.57	0.30		0.36				
Uniform Delay, d1					22.3	19.2		19.6				
Progression Factor					1.00	1.00		0.62				
Incremental Delay, d2					1.1	1.1		0.1				
Delay (s)					23.4	20.3		12.3				
Level of Service					C	C		B				
Approach Delay (s)		0.0			22.6			12.3			0.0	
Approach LOS		A			C			B			A	

Intersection Summary

HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
Existing Conditions
1001: NW 7th Ave/SR 7 & NW 95th St
PM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	533	110	165	421	162	144	1702	159	637
v/c Ratio	0.53	0.82	0.19	0.69	0.64	0.27	0.33	0.82	0.72	0.30
Control Delay	33.6	54.6	7.2	43.1	46.0	12.0	15.1	33.3	39.7	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	54.6	7.2	43.1	46.9	12.0	15.1	33.3	39.7	22.3
Queue Length 50th (ft)	72	188	6	83	143	31	50	393	59	109
Queue Length 95th (ft)	122	250	43	#140	196	79	84	#478	#133	147
Internal Link Dist (ft)		782			226			619		446
Turn Bay Length (ft)	105		85	150			160		75	
Base Capacity (vph)	295	701	615	248	701	621	478	2078	256	2111
Starvation Cap Reductn	0	0	0	0	98	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.76	0.18	0.67	0.70	0.26	0.30	0.82	0.62	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1001: NW 7th Ave/SR 7 & NW 95th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	522	108	162	413	159	141	1444	224	156	574	50
Future Volume (vph)	143	522	108	162	413	159	141	1444	224	156	574	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	1787	5032		1787	5074	
Flt Permitted	0.36	1.00	1.00	0.22	1.00	1.00	0.38	1.00		0.09	1.00	
Satd. Flow (perm)	677	3574	1599	409	3574	1599	707	5032		165	5074	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	146	533	110	165	421	162	144	1473	229	159	586	51
RTOR Reduction (vph)	0	0	72	0	0	71	0	18	0	0	9	0
Lane Group Flow (vph)	146	533	38	165	421	91	144	1684	0	159	628	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	3	8	1	7	4	5	1	6		5	2	
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)	29.6	20.0	28.8	30.4	20.4	29.8	53.8	45.0		55.0	45.6	
Effective Green, g (s)	29.6	20.0	28.8	30.4	20.4	29.8	53.8	45.0		55.0	45.6	
Actuated g/C Ratio	0.27	0.18	0.26	0.28	0.19	0.27	0.49	0.41		0.50	0.41	
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4		6.4	6.4	
Vehicle Extension (s)	2.0	2.5	2.0	2.0	2.5	2.0	2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	279	649	511	238	662	526	432	2058		221	2103	
v/s Ratio Prot	0.05	c0.15	0.01	c0.06	0.12	0.01	0.03	c0.33		c0.06	0.12	
v/s Ratio Perm	0.10		0.02	0.13		0.04	0.14			0.30		
v/c Ratio	0.52	0.82	0.08	0.69	0.64	0.17	0.33	0.82		0.72	0.30	
Uniform Delay, d1	32.2	43.3	30.6	32.4	41.4	30.7	15.7	28.9		20.9	21.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	8.1	0.0	6.9	1.8	0.1	0.2	3.8		9.0	0.4	
Delay (s)	33.0	51.3	30.6	39.2	43.1	30.7	15.8	32.6		29.9	21.9	
Level of Service	C	D	C	D	D	C	B	C		C	C	
Approach Delay (s)		45.1			39.6			31.3			23.5	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1001: NW 7th Ave/SR 7 & NW 95th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	522	108	162	413	159	141	1444	224	156	574	50
Future Volume (veh/h)	143	522	108	162	413	159	141	1444	224	156	574	50
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1900
Adj Flow Rate, veh/h	146	533	110	165	421	162	144	1473	229	159	586	51
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	282	648	391	259	679	413	472	1913	297	238	2078	179
Arrive On Green	0.08	0.18	0.18	0.09	0.19	0.19	0.08	0.57	0.57	0.09	0.57	0.57
Sat Flow, veh/h	1792	3574	1599	1792	3574	1599	1792	4486	696	1792	4816	415
Grp Volume(v), veh/h	146	533	110	165	421	162	144	1124	578	159	415	222
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1792	1787	1599	1792	1712	1758	1792	1712	1808
Q Serve(g_s), s	7.2	15.8	6.1	8.1	11.9	9.2	4.9	27.7	27.8	5.5	6.8	6.9
Cycle Q Clear(g_c), s	7.2	15.8	6.1	8.1	11.9	9.2	4.9	27.7	27.8	5.5	6.8	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.23
Lane Grp Cap(c), veh/h	282	648	391	259	679	413	472	1460	750	238	1477	780
V/C Ratio(X)	0.52	0.82	0.28	0.64	0.62	0.39	0.31	0.77	0.77	0.67	0.28	0.28
Avail Cap(c_a), veh/h	307	702	415	268	702	423	548	1460	750	305	1477	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	43.3	33.7	33.5	40.9	33.7	15.5	19.7	19.7	21.8	14.8	14.8
Incr Delay (d2), s/veh	0.5	7.0	0.3	3.4	1.4	0.4	0.1	4.0	7.5	1.8	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	13.2	5.0	7.6	10.0	7.4	4.3	19.9	21.3	4.9	5.9	6.5
LnGrp Delay(d),s/veh	33.6	50.4	34.0	36.9	42.3	34.1	15.6	23.6	27.2	23.6	15.2	15.7
LnGrp LOS	C	D	C	D	D	C	B	C	C	C	B	B
Approach Vol, veh/h		789			748			1846			796	
Approach Delay, s/veh		45.0			39.3			24.1			17.0	
Approach LOS		D			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	53.9	15.5	27.3	13.9	53.3	16.5	26.3
Change Period (Y+Rc), s	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Max Green Setting (Gmax), s	11.6	40.6	10.6	21.6	11.6	40.6	10.6	21.6
Max Q Clear Time (g_c+I1), s	6.9	8.9	9.2	13.9	7.5	29.8	10.1	17.8
Green Ext Time (p_c), s	0.1	8.3	0.0	3.7	0.1	5.5	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	29.4
HCM 2010 LOS	C

Notes

Queues
1002: SB On-Ramp/SB Off-Ramp & NW 95th St

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	834	186	290	517	162	306
v/c Ratio	0.56	0.21	0.71	0.22	0.41	0.52
Control Delay	16.4	2.6	16.3	5.8	32.4	7.2
Queue Delay	1.1	0.0	0.1	0.0	0.0	0.0
Total Delay	17.5	2.6	16.4	5.8	32.4	7.2
Queue Length 50th (ft)	168	0	45	45	76	1
Queue Length 95th (ft)	272	33	105	67	133	65
Internal Link Dist (ft)	226			260		447
Turn Bay Length (ft)						
Base Capacity (vph)	1629	959	578	2923	399	592
Starvation Cap Reductn	520	0	20	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.19	0.52	0.18	0.41	0.52

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1002: SB On-Ramp/SB Off-Ramp & NW 95th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	817	182	284	507	0	0	0	0	159	2	298
Future Volume (vph)	0	817	182	284	507	0	0	0	0	159	2	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2	5.2	3.0	5.2					4.5	4.5	
Lane Util. Factor		*0.79	1.00	1.00	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		2943	1583	1770	3539					1770	1585	
Flt Permitted		1.00	1.00	0.19	1.00					0.95	1.00	
Satd. Flow (perm)		2943	1583	356	3539					1770	1585	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	834	186	290	517	0	0	0	0	162	2	304
RTOR Reduction (vph)	0	0	92	0	0	0	0	0	0	0	235	0
Lane Group Flow (vph)	0	834	94	290	517	0	0	0	0	162	71	0
Turn Type		NA	Perm	pm+pt	NA					Split	NA	
Protected Phases		6		5	2					8	8	
Permitted Phases			6	2								
Actuated Green, G (s)		42.7	42.7	55.7	55.7					19.1	19.1	
Effective Green, g (s)		42.7	42.7	55.7	55.7					19.1	19.1	
Actuated g/C Ratio		0.51	0.51	0.66	0.66					0.23	0.23	
Clearance Time (s)		5.2	5.2	3.0	5.2					4.5	4.5	
Vehicle Extension (s)		1.0	1.0	2.0	1.0					3.0	3.0	
Lane Grp Cap (vph)		1487	799	402	2332					400	358	
v/s Ratio Prot		0.28		c0.09	0.15					c0.09	0.04	
v/s Ratio Perm			0.06	c0.39								
v/c Ratio		0.56	0.12	0.72	0.22					0.41	0.20	
Uniform Delay, d1		14.4	11.0	8.9	5.7					27.9	26.5	
Progression Factor		1.00	1.00	1.00	1.00					1.00	1.00	
Incremental Delay, d2		1.5	0.3	5.3	0.2					0.7	0.3	
Delay (s)		16.0	11.3	14.2	6.0					28.5	26.8	
Level of Service		B	B	B	A					C	C	
Approach Delay (s)		15.1			8.9			0.0			27.4	
Approach LOS		B			A			A			C	

Intersection Summary

HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	84.5	Sum of lost time (s)	12.7
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1002: SB On-Ramp/SB Off-Ramp & NW 95th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑					↰	↦	
Traffic Volume (veh/h)	0	817	182	284	507	0	0	0	0	159	2	298
Future Volume (veh/h)	0	817	182	284	507	0	0	0	0	159	2	298
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	834	0	290	517	0				162	2	304
Adj No. of Lanes	0	2	1	1	2	0				1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2133	1147	604	2920	0				106	1	94
Arrive On Green	0.00	0.72	0.00	0.06	0.82	0.00				0.06	0.06	0.06
Sat Flow, veh/h	0	3334	1583	1774	3632	0				1774	10	1575
Grp Volume(v), veh/h	0	834	0	290	517	0				162	0	306
Grp Sat Flow(s),veh/h/ln	0	1472	1583	1774	1770	0				1774	0	1585
Q Serve(g_s), s	0.0	9.1	0.0	3.1	2.5	0.0				5.0	0.0	5.0
Cycle Q Clear(g_c), s	0.0	9.1	0.0	3.1	2.5	0.0				5.0	0.0	5.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	2133	1147	604	2920	0				106	0	94
V/C Ratio(X)	0.00	0.39	0.00	0.48	0.18	0.00				1.53	0.00	3.24
Avail Cap(c_a), veh/h	0	2133	1147	912	2941	0				106	0	94
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.50	0.00	0.83	0.83	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.4	0.0	3.1	1.5	0.0				39.5	0.0	39.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.2	0.1	0.0				282.1	0.0	1036.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.9	0.0	2.8	2.3	0.0				19.3	0.0	52.8
LnGrp Delay(d),s/veh	0.0	4.7	0.0	3.3	1.6	0.0				321.6	0.0	1076.0
LnGrp LOS		A		A	A					F		F
Approach Vol, veh/h		834			807						468	
Approach Delay, s/veh		4.7			2.2						814.9	
Approach LOS		A			A						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		74.5			8.4	66.1		9.5
Change Period (Y+Rc), s		* 5.2			3.0	* 5.2		4.5
Max Green Setting (Gmax), s		* 70			20.0	* 47		5.0
Max Q Clear Time (g_c+I1), s		4.5			5.1	11.1		7.0
Green Ext Time (p_c), s		4.2			0.4	4.1		0.0

Intersection Summary

HCM 2010 Ctrl Delay	183.5
HCM 2010 LOS	F

Notes

Queues

Existing Conditions

1003: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 95th St

PM PEAK HOUR

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	391	700	788	171	192
v/c Ratio	0.66	0.26	0.53	0.63	0.48
Control Delay	13.9	4.7	20.5	53.6	9.6
Queue Delay	0.9	0.7	0.0	0.0	0.0
Total Delay	14.8	5.4	20.5	53.6	9.6
Queue Length 50th (ft)	68	64	223	115	0
Queue Length 95th (ft)	194	111	364	175	59
Internal Link Dist (ft)		260	555	533	
Turn Bay Length (ft)					
Base Capacity (vph)	598	2681	1488	537	609
Starvation Cap Reductn	61	1545	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.62	0.53	0.32	0.32

Intersection Summary

HCM Signalized Intersection Capacity Analysis
Existing Conditions

1003: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 95th St
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	364	651	0	0	623	110	129	30	179	0	0	0
Future Volume (vph)	364	651	0	0	623	110	129	30	179	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0			5.0			5.0	5.0			
Lane Util. Factor	1.00	0.95			*0.78			1.00	1.00			
Frt	1.00	1.00			0.98			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.96	1.00			
Satd. Flow (prot)	1770	3539			2841			1790	1583			
Flt Permitted	0.21	1.00			1.00			0.96	1.00			
Satd. Flow (perm)	385	3539			2841			1790	1583			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	391	700	0	0	670	118	139	32	192	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	163	0	0	0
Lane Group Flow (vph)	391	700	0	0	780	0	0	171	29	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	1	6			2			4				
Permitted Phases	6						4		4			
Actuated Green, G (s)	83.3	83.3			57.3			16.7	16.7			
Effective Green, g (s)	83.3	83.3			57.3			16.7	16.7			
Actuated g/C Ratio	0.76	0.76			0.52			0.15	0.15			
Clearance Time (s)	3.0	5.0			5.0			5.0	5.0			
Vehicle Extension (s)	2.0	1.0			1.0			3.5	3.5			
Lane Grp Cap (vph)	581	2679			1479			271	240			
v/s Ratio Prot	c0.14	0.20			0.27							
v/s Ratio Perm	c0.37							0.10	0.02			
v/c Ratio	0.67	0.26			0.53			0.63	0.12			
Uniform Delay, d1	9.7	4.0			17.4			43.8	40.3			
Progression Factor	1.00	1.00			1.00			1.00	1.00			
Incremental Delay, d2	2.4	0.2			1.3			4.9	0.3			
Delay (s)	12.2	4.3			18.8			48.7	40.6			
Level of Service	B	A			B			D	D			
Approach Delay (s)		7.1			18.8			44.4			0.0	
Approach LOS		A			B			D			A	

Intersection Summary

HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
Existing Conditions

1003: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 95th St
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	364	651	0	0	623	110	129	30	179	0	0	0
Future Volume (veh/h)	364	651	0	0	623	110	129	30	179	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	391	700	0	0	670	118	139	32	192			
Adj No. of Lanes	1	2	0	0	2	0	0	1	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	632	2679	0	0	1735	305	221	51	241			
Arrive On Green	0.13	1.00	0.00	0.00	0.84	0.84	0.15	0.15	0.15			
Sat Flow, veh/h	1774	3632	0	0	3157	483	1455	335	1583			
Grp Volume(v), veh/h	391	700	0	0	354	434	171	0	192			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1453	1777	1790	0	1583			
Q Serve(g_s), s	8.3	0.0	0.0	0.0	6.4	6.4	9.9	0.0	12.9			
Cycle Q Clear(g_c), s	8.3	0.0	0.0	0.0	6.4	6.4	9.9	0.0	12.9			
Prop In Lane	1.00		0.00	0.00		0.27	0.81		1.00			
Lane Grp Cap(c), veh/h	632	2679	0	0	917	1122	272	0	241			
V/C Ratio(X)	0.62	0.26	0.00	0.00	0.39	0.39	0.63	0.00	0.80			
Avail Cap(c_a), veh/h	781	2679	0	0	917	1122	537	0	475			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.83	0.83	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.1	0.0	0.0	0.0	3.8	3.8	43.7	0.0	45.0			
Incr Delay (d2), s/veh	0.3	0.2	0.0	0.0	1.2	1.0	2.9	0.0	7.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	7.0	0.1	0.0	0.0	5.0	6.0	8.8	0.0	10.2			
LnGrp Delay(d),s/veh	5.4	0.2	0.0	0.0	5.0	4.8	46.6	0.0	52.1			
LnGrp LOS	A	A			A	A	D		D			
Approach Vol, veh/h		1091			788			363				
Approach Delay, s/veh		2.1			4.9			49.5				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	13.8	74.5		21.7		88.3		
Change Period (Y+Rc), s	3.0	5.0		5.0		5.0		
Max Green Setting (Gmax), s	20.0	44.0		33.0		67.0		
Max Q Clear Time (g_c+I1), s	10.3	8.4		14.9		2.0		
Green Ext Time (p_c), s	0.5	4.1		1.9		4.2		

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

Part 2
AM Peak Period

Queues
1101: NW 7th Ave/SR 7 & NW 103rd St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	949	191	777	70	679	294	1546
v/c Ratio	0.36	1.03	0.89	0.49	0.36	0.43	0.85	0.87
Control Delay	21.8	74.0	64.5	22.1	19.8	25.5	44.2	36.9
Queue Delay	0.0	26.1	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	21.8	100.1	64.5	22.2	19.8	25.5	44.2	36.9
Queue Length 50th (ft)	40	~374	68	124	23	112	113	334
Queue Length 95th (ft)	73	#501	#197	161	47	145	#232	#441
Internal Link Dist (ft)		591		251		587		519
Turn Bay Length (ft)	365		110		115		125	
Base Capacity (vph)	297	919	215	1583	234	1622	344	1777
Starvation Cap Reductn	0	0	0	160	0	0	0	0
Spillback Cap Reductn	0	119	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	1.19	0.89	0.55	0.30	0.42	0.85	0.87

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1101: NW 7th Ave/SR 7 & NW 103rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	721	124	170	535	157	62	491	113	262	1297	79
Future Volume (vph)	92	721	124	170	535	157	62	491	113	262	1297	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.1		5.0	6.1		5.0	6.3		5.0	6.3	
Lane Util. Factor	1.00	*0.59		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.97		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3163		1736	4818		1736	4848		1736	4944	
Flt Permitted	0.29	1.00		0.13	1.00		0.13	1.00		0.29	1.00	
Satd. Flow (perm)	533	3163		230	4818		239	4848		531	4944	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	103	810	139	191	601	176	70	552	127	294	1457	89
RTOR Reduction (vph)	0	12	0	0	50	0	0	39	0	0	7	0
Lane Group Flow (vph)	103	937	0	191	727	0	70	640	0	294	1539	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	35.9	29.7		40.1	31.8		36.3	30.6		42.9	33.9	
Effective Green, g (s)	35.9	29.7		40.1	31.8		36.3	30.6		42.9	33.9	
Actuated g/C Ratio	0.36	0.30		0.40	0.32		0.36	0.31		0.43	0.34	
Clearance Time (s)	5.0	6.1		5.0	6.1		5.0	6.3		5.0	6.3	
Vehicle Extension (s)	2.0	2.5		2.0	2.5		2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	265	939		217	1532		172	1483		336	1676	
v/s Ratio Prot	0.02	c0.30		c0.07	0.15		0.02	0.13		c0.08	c0.31	
v/s Ratio Perm	0.11			0.28			0.12			0.30		
v/c Ratio	0.39	1.00		0.88	0.47		0.41	0.43		0.88	0.92	
Uniform Delay, d1	22.0	35.1		24.1	27.4		23.5	27.7		22.5	31.7	
Progression Factor	1.00	1.00		1.18	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	28.6		29.6	0.2		0.6	0.9		20.9	9.6	
Delay (s)	22.3	63.8		58.2	22.3		24.1	28.7		43.4	41.3	
Level of Service	C	E		E	C		C	C		D	D	
Approach Delay (s)		59.7			29.4			28.2			41.6	
Approach LOS		E			C			C			D	

Intersection Summary

HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1101: NW 7th Ave/SR 7 & NW 103rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	721	124	170	535	157	62	491	113	262	1297	79
Future Volume (veh/h)	92	721	124	170	535	157	62	491	113	262	1297	79
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1900	1827	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	103	810	139	191	601	176	70	552	127	294	1457	89
Adj No. of Lanes	1	3	0	1	3	0	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	279	887	151	228	1111	319	192	1379	311	411	1854	113
Arrive On Green	0.06	0.27	0.27	0.08	0.29	0.29	0.06	0.45	0.45	0.12	0.51	0.51
Sat Flow, veh/h	1740	3316	567	1740	3852	1105	1740	4072	918	1740	4807	294
Grp Volume(v), veh/h	103	525	424	191	517	260	70	449	230	294	1008	538
Grp Sat Flow(s),veh/h/ln	1740	1078	1727	1740	1663	1632	1740	1663	1665	1740	1663	1775
Q Serve(g_s), s	4.2	23.6	23.8	8.0	13.1	13.5	2.6	9.0	9.3	9.0	24.7	24.7
Cycle Q Clear(g_c), s	4.2	23.6	23.8	8.0	13.1	13.5	2.6	9.0	9.3	9.0	24.7	24.7
Prop In Lane	1.00		0.33	1.00		0.68	1.00		0.55	1.00		0.17
Lane Grp Cap(c), veh/h	279	576	462	228	959	471	192	1126	564	411	1283	685
V/C Ratio(X)	0.37	0.91	0.92	0.84	0.54	0.55	0.36	0.40	0.41	0.72	0.79	0.79
Avail Cap(c_a), veh/h	315	601	482	228	959	471	274	1126	564	411	1283	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	35.5	35.6	27.5	30.0	30.1	22.1	20.7	20.7	21.5	21.0	21.0
Incr Delay (d2), s/veh	0.3	17.6	21.8	20.8	0.5	1.1	0.4	1.1	2.2	5.0	4.9	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	13.2	20.3	8.7	10.0	10.2	2.3	7.7	8.1	9.7	17.8	19.7
LnGrp Delay(d),s/veh	25.2	53.1	57.4	48.2	30.5	31.2	22.6	21.7	22.9	26.5	25.9	29.8
LnGrp LOS	C	D	E	D	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1052			968			749			1840	
Approach Delay, s/veh		52.1			34.2			22.2			27.1	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	44.9	13.0	32.8	14.0	40.2	10.9	34.9
Change Period (Y+Rc), s	5.0	6.3	5.0	* 6.1	5.0	6.3	5.0	* 6.1
Max Green Setting (Gmax), s	9.0	32.7	8.0	* 28	9.0	32.7	8.0	* 28
Max Q Clear Time (g_c+I1), s	4.6	26.7	10.0	25.8	11.0	11.3	6.2	15.5
Green Ext Time (p_c), s	0.0	3.5	0.0	0.9	0.0	7.0	0.0	7.6

Intersection Summary	
HCM 2010 Ctrl Delay	33.5
HCM 2010 LOS	C

Notes

Queues
1102: SB On-Ramp/SB Off-Ramp & NW 103rd St

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	1102	123	258	782	277	249
v/c Ratio	0.88	0.18	0.44	0.32	0.73	0.55
Control Delay	23.2	1.0	25.8	5.0	47.3	18.4
Queue Delay	31.0	0.0	0.0	0.2	0.1	0.0
Total Delay	54.2	1.0	25.8	5.1	47.4	18.4
Queue Length 50th (ft)	215	1	47	35	165	56
Queue Length 95th (ft)	m176	m0	199	85	222	115
Internal Link Dist (ft)	251			237	539	
Turn Bay Length (ft)						
Base Capacity (vph)	1373	728	590	2462	705	712
Starvation Cap Reductn	329	0	0	760	0	0
Spillback Cap Reductn	0	0	0	0	44	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.17	0.44	0.46	0.42	0.35

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1102: SB On-Ramp/SB Off-Ramp & NW 103rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	970	108	227	688	0	0	0	0	200	44	219
Future Volume (vph)	0	970	108	227	688	0	0	0	0	200	44	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0						5.0	5.0
Lane Util. Factor		*0.89	1.00	1.00	0.95						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		3349	1599	1787	3574						1807	1599
Flt Permitted		1.00	1.00	0.10	1.00						0.96	1.00
Satd. Flow (perm)		3349	1599	187	3574						1807	1599
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	1102	123	258	782	0	0	0	0	227	50	249
RTOR Reduction (vph)	0	0	77	0	0	0	0	0	0	0	0	114
Lane Group Flow (vph)	0	1102	46	258	782	0	0	0	0	0	277	135
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA	Perm	pm+pt	NA					Split	NA	Prot
Protected Phases		6		5	2					8	8	8
Permitted Phases			6	2								
Actuated Green, G (s)		37.3	37.3	68.9	68.9						21.1	21.1
Effective Green, g (s)		37.3	37.3	68.9	68.9						21.1	21.1
Actuated g/C Ratio		0.37	0.37	0.69	0.69						0.21	0.21
Clearance Time (s)		5.0	5.0	3.0	5.0						5.0	5.0
Vehicle Extension (s)		1.0	1.0	2.0	1.0						2.5	2.5
Lane Grp Cap (vph)		1249	596	586	2462						381	337
v/s Ratio Prot		c0.33		c0.13	0.22						c0.15	0.08
v/s Ratio Perm			0.03	0.18								
v/c Ratio		0.88	0.08	0.44	0.32						0.73	0.40
Uniform Delay, d1		29.3	20.2	16.5	6.2						36.8	34.0
Progression Factor		0.67	0.23	1.52	0.67						1.00	1.00
Incremental Delay, d2		3.0	0.0	2.2	0.3						6.4	0.6
Delay (s)		22.5	4.7	27.3	4.4						43.1	34.6
Level of Service		C	A	C	A						D	C
Approach Delay (s)		20.7			10.1			0.0			39.1	
Approach LOS		C			B			A			D	

Intersection Summary

HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1102: SB On-Ramp/SB Off-Ramp & NW 103rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑						↲	↱
Traffic Volume (veh/h)	0	970	108	227	688	0	0	0	0	200	44	219
Future Volume (veh/h)	0	970	108	227	688	0	0	0	0	200	44	219
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1881	1881	1881	0				1900	1881	1881
Adj Flow Rate, veh/h	0	1102	0	258	782	0				227	50	249
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88				0.88	0.88	0.88
Percent Heavy Veh, %	0	1	1	1	1	0				1	1	1
Cap, veh/h	0	1218	582	672	2540	0				280	62	303
Arrive On Green	0.00	0.48	0.00	0.42	0.95	0.00				0.19	0.19	0.19
Sat Flow, veh/h	0	3555	1599	1792	3668	0				1481	326	1599
Grp Volume(v), veh/h	0	1102	0	258	782	0				277	0	249
Grp Sat Flow(s),veh/h/ln	0	1674	1599	1792	1787	0				1807	0	1599
Q Serve(g_s), s	0.0	30.2	0.0	4.5	1.7	0.0				14.7	0.0	15.0
Cycle Q Clear(g_c), s	0.0	30.2	0.0	4.5	1.7	0.0				14.7	0.0	15.0
Prop In Lane	0.00		1.00	1.00		0.00				0.82		1.00
Lane Grp Cap(c), veh/h	0	1218	582	672	2540	0				342	0	303
V/C Ratio(X)	0.00	0.90	0.00	0.38	0.31	0.00				0.81	0.00	0.82
Avail Cap(c_a), veh/h	0	1373	656	672	2540	0				705	0	624
HCM Platoon Ratio	1.00	1.33	1.33	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.11	0.00	0.83	0.83	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.2	0.0	10.2	0.8	0.0				38.8	0.0	38.9
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.1	0.3	0.0				3.4	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	16.1	0.0	4.2	1.5	0.0				12.2	0.0	11.2
LnGrp Delay(d),s/veh	0.0	25.2	0.0	10.3	1.1	0.0				42.3	0.0	43.1
LnGrp LOS		C		B	A					D		D
Approach Vol, veh/h		1102			1040						526	
Approach Delay, s/veh		25.2			3.4						42.7	
Approach LOS		C			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		76.1			34.7	41.4		23.9
Change Period (Y+Rc), s		5.0			3.0	5.0		5.0
Max Green Setting (Gmax), s		51.0			7.0	41.0		39.0
Max Q Clear Time (g_c+I1), s		3.7			6.5	32.2		17.0
Green Ext Time (p_c), s		6.7			0.0	4.2		2.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Queues
1103: NW 6th Ave/NB Off-Ramp/NB On-Ramp & NW 103rd St

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	344	817	793	352	127	132	211
v/c Ratio	0.60	0.30	0.53	0.35	0.58	0.59	0.58
Control Delay	23.8	8.3	11.4	1.0	50.3	50.6	15.1
Queue Delay	3.7	0.9	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	9.2	11.4	1.0	50.3	50.6	15.1
Queue Length 50th (ft)	160	131	109	0	82	85	17
Queue Length 95th (ft)	m215	116	122	7	133	137	79
Internal Link Dist (ft)		237	103			611	
Turn Bay Length (ft)					110		
Base Capacity (vph)	578	2699	1507	998	497	508	596
Starvation Cap Reductn	152	1507	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.69	0.53	0.35	0.26	0.26	0.35

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1103: NW 6th Ave/NB Off-Ramp/NB On-Ramp & NW 103rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	330	784	0	0	761	338	201	48	203	0	0	0
Future Volume (vph)	330	784	0	0	761	338	201	48	203	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.2			5.2	5.2	5.4	5.4	5.4			
Lane Util. Factor	1.00	0.95			*0.77	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (prot)	1770	3539			2869	1583	1681	1716	1583			
Flt Permitted	0.20	1.00			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (perm)	375	3539			2869	1583	1681	1716	1583			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	344	817	0	0	793	352	209	50	211	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	168	0	0	158	0	0	0
Lane Group Flow (vph)	344	817	0	0	793	184	127	132	53	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Split	NA	Prot			
Protected Phases	1	6			2		4	4	4			
Permitted Phases	6					2						
Actuated Green, G (s)	76.3	76.3			52.3	52.3	13.1	13.1	13.1			
Effective Green, g (s)	76.3	76.3			52.3	52.3	13.1	13.1	13.1			
Actuated g/C Ratio	0.76	0.76			0.52	0.52	0.13	0.13	0.13			
Clearance Time (s)	3.5	5.2			5.2	5.2	5.4	5.4	5.4			
Vehicle Extension (s)	2.0	1.0			1.0	1.0	2.5	2.5	2.5			
Lane Grp Cap (vph)	572	2700			1500	827	220	224	207			
v/s Ratio Prot	c0.12	0.23			0.28		0.08	c0.08	0.03			
v/s Ratio Perm	c0.34					0.12						
v/c Ratio	0.60	0.30			0.53	0.22	0.58	0.59	0.26			
Uniform Delay, d1	7.6	3.7			15.7	12.9	40.8	40.9	39.1			
Progression Factor	3.30	1.97			0.60	0.07	1.00	1.00	1.00			
Incremental Delay, d2	0.8	0.2			1.2	0.6	3.0	3.3	0.5			
Delay (s)	25.9	7.4			10.6	1.5	43.8	44.2	39.5			
Level of Service	C	A			B	A	D	D	D			
Approach Delay (s)		12.9			7.8			42.0			0.0	
Approach LOS		B			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.1
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1103: NW 6th Ave/NB Off-Ramp/NB On-Ramp & NW 103rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	784	0	0	761	338	201	48	203	0	0	0
Future Volume (veh/h)	330	784	0	0	761	338	201	48	203	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	344	817	0	0	793	352	130	161	211			
Adj No. of Lanes	1	2	0	0	2	1	1	1	1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	489	2589	0	0	1734	957	288	303	257			
Arrive On Green	0.12	0.97	0.00	0.00	0.80	0.80	0.16	0.16	0.16			
Sat Flow, veh/h	1774	3632	0	0	3297	1583	1774	1863	1583			
Grp Volume(v), veh/h	344	817	0	0	793	352	130	161	211			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1434	1583	1774	1863	1583			
Q Serve(g_s), s	7.2	0.9	0.0	0.0	8.6	6.2	6.6	7.9	12.9			
Cycle Q Clear(g_c), s	7.2	0.9	0.0	0.0	8.6	6.2	6.6	7.9	12.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	489	2589	0	0	1734	957	288	303	257			
V/C Ratio(X)	0.70	0.32	0.00	0.00	0.46	0.37	0.45	0.53	0.82			
Avail Cap(c_a), veh/h	494	2589	0	0	1734	957	525	551	469			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.35	0.35	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	6.6	0.4	0.0	0.0	4.7	4.5	37.8	38.4	40.5			
Incr Delay (d2), s/veh	1.3	0.1	0.0	0.0	0.9	1.1	0.8	1.1	4.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	5.4	0.7	0.0	0.0	6.2	5.2	6.0	7.5	10.0			
LnGrp Delay(d),s/veh	7.9	0.5	0.0	0.0	5.6	5.6	38.7	39.5	45.3			
LnGrp LOS	A	A			A	A	D	D	D			
Approach Vol, veh/h		1161			1145			502				
Approach Delay, s/veh		2.7			5.6			41.7				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.7	65.7		21.7		78.3		
Change Period (Y+Rc), s	3.5	* 5.2		* 5.4		* 5.2		
Max Green Setting (Gmax), s	9.5	* 47		* 30		* 60		
Max Q Clear Time (g_c+I1), s	9.2	10.6		14.9		2.9		
Green Ext Time (p_c), s	0.0	5.4		1.4		5.5		

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Notes

Queues
1104: NW 5th Ave & NW 103rd St

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	79	1014	27	1121	101	251
v/c Ratio	0.23	0.39	0.08	0.49	0.46	0.77
Control Delay	7.5	8.6	10.2	11.5	38.4	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	8.6	10.2	11.5	38.4	48.5
Queue Length 50th (ft)	13	101	6	183	53	134
Queue Length 95th (ft)	31	144	21	278	91	190
Internal Link Dist (ft)		425		565	170	248
Turn Bay Length (ft)	175		200			
Base Capacity (vph)	352	2570	346	2314	302	440
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.39	0.08	0.48	0.33	0.57

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1104: NW 5th Ave & NW 103rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	827	45	23	924	40	36	37	14	41	87	88
Future Volume (vph)	68	827	45	23	924	40	36	37	14	41	87	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.6		4.6	4.6			4.8			4.8	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.98			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1787	3547		1787	3552			1803			1761	
Flt Permitted	0.19	1.00		0.28	1.00			0.63			0.93	
Satd. Flow (perm)	361	3547		532	3552			1168			1646	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	79	962	52	27	1074	47	42	43	16	48	101	102
RTOR Reduction (vph)	0	3	0	0	3	0	0	7	0	0	27	0
Lane Group Flow (vph)	79	1011	0	27	1118	0	0	94	0	0	224	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	72.3	72.3		63.9	63.9			18.3			18.3	
Effective Green, g (s)	72.3	72.3		63.9	63.9			18.3			18.3	
Actuated g/C Ratio	0.72	0.72		0.64	0.64			0.18			0.18	
Clearance Time (s)	3.5	4.6		4.6	4.6			4.8			4.8	
Vehicle Extension (s)	2.0	1.0		1.0	1.0			2.5			2.5	
Lane Grp Cap (vph)	330	2564		339	2269			213			301	
v/s Ratio Prot	0.01	c0.29			c0.31							
v/s Ratio Perm	0.16			0.05				0.08			c0.14	
v/c Ratio	0.24	0.39		0.08	0.49			0.44			0.74	
Uniform Delay, d1	5.6	5.4		6.9	9.5			36.3			38.6	
Progression Factor	1.27	1.36		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.4		0.5	0.8			1.1			9.1	
Delay (s)	7.3	7.7		7.3	10.3			37.4			47.7	
Level of Service	A	A		A	B			D			D	
Approach Delay (s)		7.7			10.2			37.4			47.7	
Approach LOS		A			B			D			D	

Intersection Summary

HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1104: NW 5th Ave & NW 103rd St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	827	45	23	924	40	36	37	14	41	87	88
Future Volume (veh/h)	68	827	45	23	924	40	36	37	14	41	87	88
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1900	1881	1900	1900	1881	1900
Adj Flow Rate, veh/h	79	962	52	27	1074	47	42	43	16	48	101	102
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	446	2524	136	437	2276	100	125	118	36	85	133	120
Arrive On Green	0.06	0.97	0.97	0.87	0.87	0.87	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1792	3449	186	559	3489	153	424	680	208	243	763	688
Grp Volume(v), veh/h	79	498	516	27	550	571	101	0	0	251	0	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1848	559	1787	1854	1311	0	0	1693	0	0
Q Serve(g_s), s	1.3	1.2	1.2	0.7	6.9	6.9	0.0	0.0	0.0	8.1	0.0	0.0
Cycle Q Clear(g_c), s	1.3	1.2	1.2	0.7	6.9	6.9	6.2	0.0	0.0	14.3	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.08	0.42		0.16	0.19		0.41
Lane Grp Cap(c), veh/h	446	1308	1352	437	1166	1209	279	0	0	338	0	0
V/C Ratio(X)	0.18	0.38	0.38	0.06	0.47	0.47	0.36	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	465	1308	1352	437	1166	1209	394	0	0	466	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.6	0.4	0.4	2.3	2.8	2.8	36.3	0.0	0.0	39.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.8	0.8	0.3	1.4	1.3	0.6	0.0	0.0	3.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	1.3	1.3	0.2	6.7	6.9	4.5	0.0	0.0	11.4	0.0	0.0
LnGrp Delay(d),s/veh	4.7	1.2	1.2	2.6	4.1	4.1	36.9	0.0	0.0	43.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D			D		
Approach Vol, veh/h		1093			1148			101			251	
Approach Delay, s/veh		1.5			4.1			36.9			43.2	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	7.9	69.8		22.2		77.8		22.2
Change Period (Y+Rc), s	3.5	* 4.6		* 4.8		* 4.6		* 4.8
Max Green Setting (Gmax), s	5.5	* 56		* 25		* 65		* 25
Max Q Clear Time (g_c+I1), s	3.3	8.9		8.2		3.2		16.3
Green Ext Time (p_c), s	0.0	6.4		1.6		6.5		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.0
HCM 2010 LOS	A

Notes

Queues
1201: NW 7th Ave/SR 7 & NW 119th St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	193	1277	112	1094	131	615	100	1611
v/c Ratio	1.02	0.93	0.60	0.81	0.72	0.34	0.28	0.95
Control Delay	96.3	48.8	39.2	42.0	40.8	22.6	17.9	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.3	48.8	39.2	42.0	40.8	22.6	17.9	45.0
Queue Length 50th (ft)	~82	286	59	253	47	99	35	362
Queue Length 95th (ft)	#219	#375	#82	297	#127	131	66	#471
Internal Link Dist (ft)		580		302		344		346
Turn Bay Length (ft)	315		270		315		170	
Base Capacity (vph)	190	1391	189	1392	183	1832	355	1701
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.92	0.59	0.79	0.72	0.34	0.28	0.95

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1201: NW 7th Ave/SR 7 & NW 119th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	1059	90	101	921	64	118	456	97	90	1280	170
Future Volume (vph)	174	1059	90	101	921	64	118	456	97	90	1280	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5026		1770	5036		1770	4951		1770	4996	
Flt Permitted	0.15	1.00		0.15	1.00		0.11	1.00		0.39	1.00	
Satd. Flow (perm)	276	5026		279	5036		213	4951		733	4996	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	193	1177	100	112	1023	71	131	507	108	100	1422	189
RTOR Reduction (vph)	0	9	0	0	8	0	0	33	0	0	17	0
Lane Group Flow (vph)	193	1268	0	112	1086	0	131	583	0	100	1594	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	33.6	27.0		33.0	26.7		41.1	35.0		38.7	33.8	
Effective Green, g (s)	33.6	27.0		33.0	26.7		41.1	35.0		38.7	33.8	
Actuated g/C Ratio	0.34	0.27		0.33	0.27		0.41	0.35		0.39	0.34	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	191	1357		186	1344		182	1732		334	1688	
v/s Ratio Prot	c0.07	0.25		0.04	0.22		c0.04	0.12		0.01	c0.32	
v/s Ratio Perm	c0.27			0.16			0.25			0.10		
v/c Ratio	1.01	0.93		0.60	0.81		0.72	0.34		0.30	0.94	
Uniform Delay, d1	29.1	35.6		26.0	34.3		22.9	23.9		19.9	32.2	
Progression Factor	1.00	1.00		1.29	1.09		1.00	1.00		1.00	1.00	
Incremental Delay, d2	67.9	11.8		3.5	3.3		10.8	0.5		0.2	12.2	
Delay (s)	97.0	47.4		37.1	40.6		33.6	24.5		20.1	44.4	
Level of Service	F	D		D	D		C	C		C	D	
Approach Delay (s)		53.9			40.3			26.1			43.0	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	26.8
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1201: NW 7th Ave/SR 7 & NW 119th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	1059	90	101	921	64	118	456	97	90	1280	170
Future Volume (veh/h)	174	1059	90	101	921	64	118	456	97	90	1280	170
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	193	1177	100	112	1023	71	131	507	108	100	1422	189
Adj No. of Lanes	1	3	0	1	3	0	1	3	0	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	1294	110	196	1302	90	194	1460	304	380	1535	204
Arrive On Green	0.06	0.27	0.27	0.06	0.27	0.27	0.08	0.46	0.46	0.07	0.45	0.45
Sat Flow, veh/h	1774	4776	406	1774	4857	337	1774	4219	879	1774	4543	604
Grp Volume(v), veh/h	193	835	442	112	714	380	131	405	210	100	1061	550
Grp Sat Flow(s),veh/h/ln	1774	1695	1791	1774	1695	1803	1774	1695	1708	1774	1695	1756
Q Serve(g_s), s	6.5	23.8	23.9	4.5	19.5	19.6	4.8	7.7	7.9	3.6	29.5	29.5
Cycle Q Clear(g_c), s	6.5	23.8	23.9	4.5	19.5	19.6	4.8	7.7	7.9	3.6	29.5	29.5
Prop In Lane	1.00		0.23	1.00		0.19	1.00		0.51	1.00		0.34
Lane Grp Cap(c), veh/h	225	918	485	196	909	483	194	1173	591	380	1146	593
V/C Ratio(X)	0.86	0.91	0.91	0.57	0.79	0.79	0.68	0.35	0.36	0.26	0.93	0.93
Avail Cap(c_a), veh/h	225	932	493	201	932	496	194	1173	591	395	1146	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	35.3	35.3	27.3	33.9	33.9	24.5	19.7	19.8	19.6	26.4	26.4
Incr Delay (d2), s/veh	25.9	12.3	20.3	2.2	4.0	7.3	7.5	0.8	1.7	0.1	13.9	22.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	18.5	20.8	4.2	14.7	16.1	4.9	6.6	7.2	3.2	22.5	25.0
LnGrp Delay(d),s/veh	57.2	47.5	55.6	29.5	37.9	41.2	32.0	20.5	21.5	19.7	40.2	49.1
LnGrp LOS	E	D	E	C	D	D	C	C	C	B	D	D
Approach Vol, veh/h		1470			1206			746			1711	
Approach Delay, s/veh		51.2			38.2			22.8			41.9	
Approach LOS		D			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	40.7	13.0	33.3	12.2	41.5	12.7	33.6
Change Period (Y+Rc), s	6.9	6.9	6.5	6.5	6.9	6.9	6.5	6.5
Max Green Setting (Gmax), s	6.1	33.1	6.5	27.5	6.1	33.1	6.5	27.5
Max Q Clear Time (g_c+I1), s	6.8	31.5	8.5	21.6	5.6	9.9	6.5	25.9
Green Ext Time (p_c), s	0.0	1.1	0.0	3.7	0.0	7.2	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	40.9
HCM 2010 LOS	D

Queues
1203: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 119th St

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	219	721	788	286	290	148
v/c Ratio	0.46	0.31	0.44	0.69	0.72	0.31
Control Delay	21.0	20.6	21.3	42.2	43.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	20.6	21.3	42.2	43.8	5.9
Queue Length 50th (ft)	125	226	178	174	183	0
Queue Length 95th (ft)	m149	m266	294	234	249	43
Internal Link Dist (ft)		213	585		247	
Turn Bay Length (ft)	130					
Base Capacity (vph)	481	2316	1801	706	679	717
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.31	0.44	0.41	0.43	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1203: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 119th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	699	0	0	695	70	514	28	160	0	0	0
Future Volume (vph)	212	699	0	0	695	70	514	28	160	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.9			4.9		5.0	5.0	5.0			
Lane Util. Factor	1.00	0.95			0.95		0.95	0.91	0.95			
Frt	1.00	1.00			0.99		1.00	0.99	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.96	1.00			
Satd. Flow (prot)	1770	3539			3491		1681	1612	1504			
Flt Permitted	0.27	1.00			1.00		0.95	0.96	1.00			
Satd. Flow (perm)	506	3539			3491		1681	1612	1504			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	219	721	0	0	716	72	530	29	165	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	3	112	0	0	0
Lane Group Flow (vph)	219	721	0	0	782	0	286	287	36	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	1	6			2			4				
Permitted Phases	6						4		4			
Actuated Green, G (s)	65.5	65.5			51.5		24.6	24.6	24.6			
Effective Green, g (s)	65.5	65.5			51.5		24.6	24.6	24.6			
Actuated g/C Ratio	0.66	0.66			0.52		0.25	0.25	0.25			
Clearance Time (s)	3.0	4.9			4.9		5.0	5.0	5.0			
Vehicle Extension (s)	2.0	1.0			1.0		2.5	2.5	2.5			
Lane Grp Cap (vph)	470	2318			1797		413	396	369			
v/s Ratio Prot	c0.05	0.20			0.22							
v/s Ratio Perm	c0.25						0.17	0.18	0.02			
v/c Ratio	0.47	0.31			0.44		0.69	0.72	0.10			
Uniform Delay, d1	8.0	7.5			15.2		34.3	34.6	29.1			
Progression Factor	2.56	2.38			1.20		1.00	1.00	1.00			
Incremental Delay, d2	0.2	0.2			0.7		4.6	6.1	0.1			
Delay (s)	20.6	18.0			18.9		38.8	40.7	29.2			
Level of Service	C	B			B		D	D	C			
Approach Delay (s)		18.6			18.9			37.6			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1203: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 119th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	699	0	0	695	70	514	28	160	0	0	0
Future Volume (veh/h)	212	699	0	0	695	70	514	28	160	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863			
Adj Flow Rate, veh/h	219	721	0	0	716	72	593	0	120			
Adj No. of Lanes	1	2	0	0	2	0	2	0	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	560	2480	0	0	1969	198	711	0	317			
Arrive On Green	0.09	0.93	0.00	0.00	0.81	0.81	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3341	326	3548	0	1583			
Grp Volume(v), veh/h	219	721	0	0	390	398	593	0	120			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1805	1774	0	1583			
Q Serve(g_s), s	4.5	1.9	0.0	0.0	6.0	6.1	16.0	0.0	6.6			
Cycle Q Clear(g_c), s	4.5	1.9	0.0	0.0	6.0	6.1	16.0	0.0	6.6			
Prop In Lane	1.00		0.00	0.00		0.18	1.00		1.00			
Lane Grp Cap(c), veh/h	560	2480	0	0	1072	1094	711	0	317			
V/C Ratio(X)	0.39	0.29	0.00	0.00	0.36	0.36	0.83	0.00	0.38			
Avail Cap(c_a), veh/h	570	2480	0	0	1072	1094	1490	0	665			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.96	0.96	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.8	1.1	0.0	0.0	4.4	4.4	38.4	0.0	34.6			
Incr Delay (d2), s/veh	0.2	0.3	0.0	0.0	0.9	0.9	2.0	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.8	1.7	0.0	0.0	5.7	5.8	12.7	0.0	5.2			
LnGrp Delay(d),s/veh	6.0	1.4	0.0	0.0	5.3	5.3	40.4	0.0	35.2			
LnGrp LOS	A	A			A	A	D		D			
Approach Vol, veh/h		940			788			713				
Approach Delay, s/veh		2.5			5.3			39.5				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	9.5	65.5		25.0		75.0		
Change Period (Y+Rc), s	3.0	* 4.9		5.0		* 4.9		
Max Green Setting (Gmax), s	7.0	* 38		42.0		* 48		
Max Q Clear Time (g_c+I1), s	6.5	8.1		18.0		3.9		
Green Ext Time (p_c), s	0.0	4.2		2.0		4.2		

Intersection Summary

HCM 2010 Ctrl Delay	14.2
HCM 2010 LOS	B

Notes

Queues
1204: NW 5th Ave & NW 119th St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	25	959	98	785	64	88	10	143
v/c Ratio	0.05	0.35	0.24	0.29	0.56	0.37	0.06	0.63
Control Delay	4.5	4.1	5.1	3.6	58.7	26.5	37.3	48.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.5	4.1	5.1	3.6	58.7	26.5	37.3	48.4
Queue Length 50th (ft)	1	27	13	56	39	27	6	77
Queue Length 95th (ft)	m16	152	36	95	78	67	20	130
Internal Link Dist (ft)		585		607		348		358
Turn Bay Length (ft)	150		150		125		120	
Base Capacity (vph)	503	2731	413	2761	148	298	198	286
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.35	0.24	0.28	0.43	0.30	0.05	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1204: NW 5th Ave & NW 119th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	757	87	86	679	11	56	39	39	9	88	38
Future Volume (vph)	22	757	87	86	679	11	56	39	39	9	88	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3451		1752	3496		1752	1706		1752	1761	
Flt Permitted	0.35	1.00		0.28	1.00		0.52	1.00		0.70	1.00	
Satd. Flow (perm)	638	3451		523	3496		963	1706		1291	1761	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	25	860	99	98	772	12	64	44	44	10	100	43
RTOR Reduction (vph)	0	8	0	0	1	0	0	37	0	0	16	0
Lane Group Flow (vph)	25	951	0	98	784	0	64	51	0	10	127	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	78.5	78.5		78.5	78.5		12.0	12.0		12.0	12.0	
Effective Green, g (s)	78.5	78.5		78.5	78.5		12.0	12.0		12.0	12.0	
Actuated g/C Ratio	0.78	0.78		0.78	0.78		0.12	0.12		0.12	0.12	
Clearance Time (s)	4.5	4.5		4.5	4.5		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	500	2709		410	2744		115	204		154	211	
v/s Ratio Prot		c0.28			0.22			0.03			c0.07	
v/s Ratio Perm	0.04			0.19			0.07			0.01		
v/c Ratio	0.05	0.35		0.24	0.29		0.56	0.25		0.06	0.60	
Uniform Delay, d1	2.4	3.2		2.8	3.0		41.5	39.9		39.0	41.7	
Progression Factor	1.35	1.09		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		1.4	0.3		4.6	0.5		0.1	4.0	
Delay (s)	3.4	3.8		4.2	3.2		46.1	40.4		39.2	45.8	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		3.8			3.4			42.8			45.4	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1204: NW 5th Ave & NW 119th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	757	87	86	679	11	56	39	39	9	88	38
Future Volume (veh/h)	22	757	87	86	679	11	56	39	39	9	88	38
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	25	860	99	98	772	12	64	44	44	10	100	43
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	588	2401	276	510	2677	42	160	125	125	202	180	78
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	680	3168	365	577	3532	55	1228	848	848	1291	1225	527
Grp Volume(v), veh/h	25	476	483	98	383	401	64	0	88	10	0	143
Grp Sat Flow(s),veh/h/ln	680	1752	1780	577	1752	1835	1228	0	1695	1291	0	1752
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	4.7	0.7	0.0	7.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	12.7	0.0	4.7	5.4	0.0	7.6
Prop In Lane	1.00		0.20	1.00		0.03	1.00		0.50	1.00		0.30
Lane Grp Cap(c), veh/h	588	1328	1349	510	1328	1390	160	0	250	202	0	258
V/C Ratio(X)	0.04	0.36	0.36	0.19	0.29	0.29	0.40	0.00	0.35	0.05	0.00	0.55
Avail Cap(c_a), veh/h	588	1328	1349	510	1328	1390	163	0	254	205	0	263
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	45.5	0.0	38.3	40.8	0.0	39.6
Incr Delay (d2), s/veh	0.1	0.7	0.7	0.8	0.5	0.5	1.2	0.0	0.6	0.1	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.5	0.5	0.2	0.4	0.4	3.2	0.0	4.0	0.5	0.0	6.8
LnGrp Delay(d),s/veh	0.1	0.7	0.7	0.8	0.5	0.5	46.7	0.0	39.0	40.8	0.0	41.6
LnGrp LOS	A	A	A	A	A	A	D		D	D		D
Approach Vol, veh/h		984			882			152			153	
Approach Delay, s/veh		0.7			0.6			42.2			41.6	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		80.3		19.7		80.3		19.7
Change Period (Y+Rc), s		4.5		5.0		4.5		5.0
Max Green Setting (Gmax), s		75.5		15.0		75.5		15.0
Max Q Clear Time (g_c+I1), s		2.0		14.7		2.0		9.6
Green Ext Time (p_c), s		5.5		0.0		5.5		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

Notes

Queues
1301: NW 7th Ave/SR 7 & NW 125th St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	180	241	248	100	10	680	229	1425
v/c Ratio	0.16	0.51	0.75	0.76	0.18	0.09	0.40	0.54	0.54
Control Delay	42.4	45.6	63.2	63.0	3.9	32.9	24.8	20.0	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	45.6	63.2	63.0	3.9	32.9	24.8	20.0	18.0
Queue Length 50th (ft)	17	55	170	174	7	4	104	78	213
Queue Length 95th (ft)	42	87	223	228	34	21	168	145	298
Internal Link Dist (ft)		569		298			419		432
Turn Bay Length (ft)	120		225			200		210	
Base Capacity (vph)	293	586	354	363	602	112	1732	452	2635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.31	0.68	0.68	0.17	0.09	0.39	0.51	0.54

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1301: NW 7th Ave/SR 7 & NW 125th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	152	16	345	110	93	9	459	173	213	1298	27
Future Volume (vph)	26	152	16	345	110	93	9	459	173	213	1298	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4	6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3489		1681	1724	1583	1770	4877		1770	5070	
Flt Permitted	0.95	1.00		0.95	0.97	1.00	0.18	1.00		0.28	1.00	
Satd. Flow (perm)	1770	3489		1681	1724	1583	327	4877		521	5070	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	28	163	17	371	118	100	10	494	186	229	1396	29
RTOR Reduction (vph)	0	8	0	0	0	69	0	61	0	0	2	0
Lane Group Flow (vph)	28	172	0	241	248	31	10	619	0	229	1423	0
Turn Type	Split	NA		Split	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases	8	8		4	4	5		6		5	2	
Permitted Phases						4	6			2		
Actuated Green, G (s)	9.8	9.8		19.1	19.1	31.1	33.5	33.5		51.9	51.9	
Effective Green, g (s)	9.8	9.8		19.1	19.1	31.1	33.5	33.5		51.9	51.9	
Actuated g/C Ratio	0.10	0.10		0.19	0.19	0.31	0.34	0.34		0.52	0.52	
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4	6.4	6.4		6.4	6.4	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.0	1.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	173	341		321	329	492	109	1633		420	2631	
v/s Ratio Prot	0.02	c0.05		0.14	c0.14	0.01		0.13		0.07	c0.28	
v/s Ratio Perm						0.01	0.03			c0.22		
v/c Ratio	0.16	0.50		0.75	0.75	0.06	0.09	0.38		0.55	0.54	
Uniform Delay, d1	41.3	42.8		38.2	38.2	24.2	22.8	25.3		14.1	16.1	
Progression Factor	1.00	1.00		1.28	1.28	1.81	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.9		9.0	8.9	0.0	1.7	0.7		0.8	0.8	
Delay (s)	41.7	43.6		57.9	57.9	43.9	24.5	26.0		14.9	16.9	
Level of Service	D	D		E	E	D	C	C		B	B	
Approach Delay (s)		43.4			55.5			26.0			16.6	
Approach LOS		D			E			C			B	

Intersection Summary

HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1301: NW 7th Ave/SR 7 & NW 125th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	152	16	345	110	93	9	459	173	213	1298	27
Future Volume (veh/h)	26	152	16	345	110	93	9	459	173	213	1298	27
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	28	163	17	244	295	100	10	494	186	229	1396	29
Adj No. of Lanes	1	2	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	243	25	320	336	436	220	1449	527	477	2836	59
Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.52	0.52	0.52	0.13	0.74	0.74
Sat Flow, veh/h	1774	3239	334	1774	1863	1583	375	3678	1339	1774	5128	107
Grp Volume(v), veh/h	28	88	92	244	295	100	10	454	226	229	923	502
Grp Sat Flow(s),veh/h/ln	1774	1770	1804	1774	1863	1583	375	1695	1627	1774	1695	1844
Q Serve(g_s), s	1.5	4.9	5.0	13.1	15.4	4.9	1.3	7.8	8.1	7.4	11.3	11.3
Cycle Q Clear(g_c), s	1.5	4.9	5.0	13.1	15.4	4.9	1.3	7.8	8.1	7.4	11.3	11.3
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.82	1.00		0.06
Lane Grp Cap(c), veh/h	133	132	135	320	336	436	220	1336	641	477	1875	1020
V/C Ratio(X)	0.21	0.67	0.68	0.76	0.88	0.23	0.05	0.34	0.35	0.48	0.49	0.49
Avail Cap(c_a), veh/h	294	294	299	348	365	461	220	1336	641	550	1875	1020
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	45.0	45.1	39.0	39.9	28.0	14.7	16.3	16.4	14.1	7.4	7.4
Incr Delay (d2), s/veh	0.6	4.2	4.4	8.3	19.2	0.2	0.4	0.7	1.5	0.3	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	4.6	4.8	11.4	14.8	3.9	0.3	6.7	7.0	6.4	9.2	10.1
LnGrp Delay(d),s/veh	44.1	49.3	49.5	47.3	59.2	28.2	15.1	17.0	17.9	14.4	8.3	9.1
LnGrp LOS	D	D	D	D	E	C	B	B	B	B	A	A
Approach Vol, veh/h		208			639			690			1654	
Approach Delay, s/veh		48.7			49.8			17.2			9.4	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		61.7		24.4	15.9	45.8		13.9
Change Period (Y+Rc), s		6.4		6.4	6.4	6.4		6.4
Max Green Setting (Gmax), s		44.6		19.6	13.6	24.6		16.6
Max Q Clear Time (g_c+I1), s		13.3		17.4	9.4	10.1		7.0
Green Ext Time (p_c), s		7.1		0.6	0.1	5.7		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Notes

Queues
1302: NB On-Ramp/SB Off-Ramp & NW 125th St

Lane Group	EBT	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	619	297	466	408	147
v/c Ratio	0.41	0.58	0.21	0.82	0.27
Control Delay	24.5	15.3	5.1	46.9	5.2
Queue Delay	0.2	0.6	0.3	0.8	0.0
Total Delay	24.6	15.9	5.4	47.7	5.2
Queue Length 50th (ft)	174	71	47	240	0
Queue Length 95th (ft)	224	m40	m22	319	40
Internal Link Dist (ft)	298		216	470	
Turn Bay Length (ft)					310
Base Capacity (vph)	1550	561	2294	563	602
Starvation Cap Reductn	280	68	1216	0	0
Spillback Cap Reductn	0	0	0	33	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.60	0.43	0.77	0.24

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1302: NB On-Ramp/SB Off-Ramp & NW 125th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	486	77	270	424	0	0	0	0	354	17	134
Future Volume (vph)	0	486	77	270	424	0	0	0	0	354	17	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4		3.0	4.4						5.0	5.0
Lane Util. Factor		*0.85		1.00	0.95						1.00	1.00
Frt		0.98		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						0.95	1.00
Satd. Flow (prot)		3132		1787	3574						1796	1599
Flt Permitted		1.00		0.30	1.00						0.95	1.00
Satd. Flow (perm)		3132		560	3574						1796	1599
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	534	85	297	466	0	0	0	0	389	19	147
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	0	106
Lane Group Flow (vph)	0	609	0	297	466	0	0	0	0	0	408	41
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA		pm+pt	NA					custom	NA	Prot
Protected Phases		6		5	2					8	8	8
Permitted Phases				2						8		
Actuated Green, G (s)		47.7		62.8	62.8						27.8	27.8
Effective Green, g (s)		47.7		62.8	62.8						27.8	27.8
Actuated g/C Ratio		0.48		0.63	0.63						0.28	0.28
Clearance Time (s)		4.4		3.0	4.4						5.0	5.0
Vehicle Extension (s)		1.0		2.0	1.0						2.5	2.5
Lane Grp Cap (vph)		1493		500	2244						499	444
v/s Ratio Prot		0.19		c0.07	0.13						c0.23	0.03
v/s Ratio Perm				c0.30								
v/c Ratio		0.41		0.59	0.21						0.82	0.09
Uniform Delay, d1		17.0		9.5	8.0						33.7	26.7
Progression Factor		1.26		1.51	0.56						1.00	1.00
Incremental Delay, d2		0.8		0.5	0.1						9.8	0.1
Delay (s)		22.2		14.8	4.5						43.5	26.8
Level of Service		C		B	A						D	C
Approach Delay (s)		22.2			8.5			0.0			39.1	
Approach LOS		C			A			A			D	

Intersection Summary

HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues

Existing Conditions

1303: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 125th St

AM PEAK HOUR

Lane Group	EBL	EBT	WBT	NBT
Lane Group Flow (vph)	207	814	1183	866
v/c Ratio	0.84	0.40	0.95	0.83
Control Delay	55.9	14.7	42.3	34.8
Queue Delay	0.0	0.5	0.0	0.0
Total Delay	55.9	15.3	42.3	34.8
Queue Length 50th (ft)	97	131	~427	222
Queue Length 95th (ft)	m#214	222	#615	288
Internal Link Dist (ft)		216	577	278
Turn Bay Length (ft)				
Base Capacity (vph)	247	2051	1249	1161
Starvation Cap Reductn	0	764	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.84	0.63	0.95	0.75

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
Existing Conditions

1303: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 125th St
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	733	0	0	632	433	67	347	365	0	0	0
Future Volume (vph)	186	733	0	0	632	433	67	347	365	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4			6.4			6.4				
Lane Util. Factor	1.00	0.95			*0.81			0.95				
Frt	1.00	1.00			0.94			0.93				
Flt Protected	0.95	1.00			1.00			1.00				
Satd. Flow (prot)	1752	3505			2806			3245				
Flt Permitted	0.08	1.00			1.00			1.00				
Satd. Flow (perm)	152	3505			2806			3245				
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	207	814	0	0	702	481	74	386	406	0	0	0
RTOR Reduction (vph)	0	0	0	0	67	0	0	109	0	0	0	0
Lane Group Flow (vph)	207	814	0	0	1116	0	0	757	0	0	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	1	6			2			4				
Permitted Phases	6						4					
Actuated Green, G (s)	58.5	58.5			42.1			28.7				
Effective Green, g (s)	58.5	58.5			42.1			28.7				
Actuated g/C Ratio	0.58	0.58			0.42			0.29				
Clearance Time (s)	6.4	6.4			6.4			6.4				
Vehicle Extension (s)	2.0	1.0			1.0			2.5				
Lane Grp Cap (vph)	248	2050			1181			931				
v/s Ratio Prot	c0.08	0.23			c0.40							
v/s Ratio Perm	0.40							0.23				
v/c Ratio	0.83	0.40			0.95			0.81				
Uniform Delay, d1	26.1	11.2			27.8			33.2				
Progression Factor	1.50	1.19			1.00			1.00				
Incremental Delay, d2	18.2	0.5			16.0			5.4				
Delay (s)	57.2	13.9			43.8			38.5				
Level of Service	E	B			D			D				
Approach Delay (s)		22.7			43.8			38.5			0.0	
Approach LOS		C			D			D			A	

Intersection Summary

HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
Existing Conditions

1303: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 125th St
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	733	0	0	632	433	67	347	365	0	0	0
Future Volume (veh/h)	186	733	0	0	632	433	67	347	365	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1845	1845	0	0	1845	1900	1900	1845	1900			
Adj Flow Rate, veh/h	207	814	0	0	702	481	74	386	406			
Adj No. of Lanes	1	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	3	3	0	0	3	3	0	3	0			
Cap, veh/h	267	2033	0	0	803	547	86	448	458			
Arrive On Green	0.11	0.77	0.00	0.00	0.58	0.58	0.29	0.29	0.29			
Sat Flow, veh/h	1757	3597	0	0	2203	1263	294	1536	1568			
Grp Volume(v), veh/h	207	814	0	0	566	617	460	0	406			
Grp Sat Flow(s),veh/h/ln	1757	1752	0	0	1494	1622	1830	0	1568			
Q Serve(g_s), s	6.3	7.7	0.0	0.0	32.3	32.7	23.8	0.0	24.7			
Cycle Q Clear(g_c), s	6.3	7.7	0.0	0.0	32.3	32.7	23.8	0.0	24.7			
Prop In Lane	1.00		0.00	0.00		0.78	0.16		1.00			
Lane Grp Cap(c), veh/h	267	2033	0	0	647	703	534	0	458			
V/C Ratio(X)	0.77	0.40	0.00	0.00	0.87	0.88	0.86	0.00	0.89			
Avail Cap(c_a), veh/h	273	2033	0	0	647	703	597	0	511			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.92	0.92	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.5	5.7	0.0	0.0	18.8	18.9	33.5	0.0	33.8			
Incr Delay (d2), s/veh	10.7	0.5	0.0	0.0	15.2	14.6	10.9	0.0	15.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	6.7	6.8	0.0	0.0	22.5	24.1	19.7	0.0	18.5			
LnGrp Delay(d),s/veh	31.2	6.2	0.0	0.0	34.0	33.5	44.4	0.0	49.3			
LnGrp LOS	C	A			C	C	D		D			
Approach Vol, veh/h		1021			1183			866				
Approach Delay, s/veh		11.3			33.8			46.7				
Approach LOS		B			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	14.7	49.7		35.6		64.4		
Change Period (Y+Rc), s	6.4	6.4		6.4		6.4		
Max Green Setting (Gmax), s	8.6	39.6		32.6		54.6		
Max Q Clear Time (g_c+I1), s	8.3	34.7		26.7		9.7		
Green Ext Time (p_c), s	0.0	2.8		2.5		6.7		

Intersection Summary	
HCM 2010 Ctrl Delay	29.9
HCM 2010 LOS	C

Queues
1401: NW 7th Ave/SR 7 & NW 135th St

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	176	894	170	638	224	1832
v/c Ratio	0.37	0.65	0.34	0.30	0.47	0.61
Control Delay	30.8	34.5	12.8	16.2	14.0	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5
Total Delay	30.8	34.5	12.8	16.2	14.0	15.4
Queue Length 50th (ft)	92	187	32	74	62	254
Queue Length 95th (ft)	135	205	76	123	123	371
Internal Link Dist (ft)		728		377		410
Turn Bay Length (ft)	195		240		195	
Base Capacity (vph)	526	1512	544	2228	503	3078
Starvation Cap Reductn	0	0	0	0	0	713
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.59	0.31	0.29	0.45	0.77

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1401: NW 7th Ave/SR 7 & NW 135th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	858	163	0	0	0	0	425	187	215	1759	0
Future Volume (vph)	169	858	163	0	0	0	0	425	187	215	1759	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.4					6.4		6.4	6.4	
Lane Util. Factor	1.00	0.91	1.00					0.91		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1736	4988	1553					4759		1736	4988	
Flt Permitted	0.95	1.00	1.00					1.00		0.33	1.00	
Satd. Flow (perm)	1736	4988	1553					4759		605	4988	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	176	894	170	0	0	0	0	443	195	224	1832	0
RTOR Reduction (vph)	0	0	76	0	0	0	0	74	0	0	0	0
Lane Group Flow (vph)	176	894	94	0	0	0	0	564	0	224	1832	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	27.8	27.8	27.8					44.2		60.8	60.8	
Effective Green, g (s)	27.8	27.8	27.8					44.2		60.8	60.8	
Actuated g/C Ratio	0.27	0.27	0.27					0.44		0.60	0.60	
Clearance Time (s)	6.4	6.4	6.4					6.4		6.4	6.4	
Vehicle Extension (s)	2.5	2.5	2.5					1.0		2.0	1.0	
Lane Grp Cap (vph)	475	1367	425					2074		476	2990	
v/s Ratio Prot		c0.18						0.12		0.05	c0.37	
v/s Ratio Perm	0.10		0.06							0.23		
v/c Ratio	0.37	0.65	0.22					0.27		0.47	0.61	
Uniform Delay, d1	29.7	32.5	28.4					18.3		9.9	12.8	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.0	0.2					0.3		0.3	0.9	
Delay (s)	30.1	33.6	28.6					18.6		10.1	13.8	
Level of Service	C	C	C					B		B	B	
Approach Delay (s)		32.4			0.0			18.6			13.4	
Approach LOS		C			A			B			B	

Intersection Summary

HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	101.4	Sum of lost time (s)	19.2
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1401: NW 7th Ave/SR 7 & NW 135th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	858	163	0	0	0	0	425	187	215	1759	0
Future Volume (veh/h)	169	858	163	0	0	0	0	425	187	215	1759	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1827				0	1827	1900	1827	1827	0
Adj Flow Rate, veh/h	176	894	170				0	443	195	224	1832	0
Adj No. of Lanes	1	3	1				0	3	0	1	3	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4				0	4	4	4	4	0
Cap, veh/h	403	1155	360				0	1711	721	554	3200	0
Arrive On Green	0.23	0.23	0.23				0.00	0.66	0.66	0.11	0.85	0.00
Sat Flow, veh/h	1740	4988	1553				0	3609	1451	1740	5152	0
Grp Volume(v), veh/h	176	894	170				0	427	211	224	1832	0
Grp Sat Flow(s),veh/h/ln	1740	1663	1553				0	1663	1571	1740	1663	0
Q Serve(g_s), s	8.7	16.9	9.5				0.0	5.3	5.6	6.1	10.6	0.0
Cycle Q Clear(g_c), s	8.7	16.9	9.5				0.0	5.3	5.6	6.1	10.6	0.0
Prop In Lane	1.00		1.00				0.00		0.92	1.00		0.00
Lane Grp Cap(c), veh/h	403	1155	360				0	1651	780	554	3200	0
V/C Ratio(X)	0.44	0.77	0.47				0.00	0.26	0.27	0.40	0.57	0.00
Avail Cap(c_a), veh/h	500	1432	446				0	1651	780	629	3200	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.62	0.62	0.00
Uniform Delay (d), s/veh	33.2	36.3	33.5				0.0	9.5	9.6	9.5	3.4	0.0
Incr Delay (d2), s/veh	0.6	1.9	0.7				0.0	0.4	0.9	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	12.6	7.5				0.0	4.5	4.7	5.0	7.4	0.0
LnGrp Delay(d),s/veh	33.7	38.3	34.2				0.0	9.9	10.4	9.6	3.9	0.0
LnGrp LOS	C	D	C					A	B	A	A	
Approach Vol, veh/h		1240						638			2056	
Approach Delay, s/veh		37.1						10.1			4.5	
Approach LOS		D						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	14.6	56.6		29.8		71.2		
Change Period (Y+Rc), s	6.4	6.4		6.4		6.4		
Max Green Setting (Gmax), s	12.6	40.6		29.0		59.6		
Max Q Clear Time (g_c+I1), s	8.1	7.6		18.9		12.6		
Green Ext Time (p_c), s	0.1	10.5		4.5		11.1		

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Notes

Queues
1402: SB On-Ramp/NW 6th Ct & NW 135th St

Lane Group	EBT	EBR	SBL	SBT
Lane Group Flow (vph)	1171	206	171	354
v/c Ratio	0.64	0.18	0.22	0.22
Control Delay	28.8	3.8	10.5	12.3
Queue Delay	0.5	0.0	0.0	0.0
Total Delay	29.2	3.8	10.5	12.3
Queue Length 50th (ft)	237	0	43	53
Queue Length 95th (ft)	289	26	83	80
Internal Link Dist (ft)	302			402
Turn Bay Length (ft)		170	190	
Base Capacity (vph)	1835	1135	851	1753
Starvation Cap Reductn	257	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.74	0.18	0.20	0.20

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1402: SB On-Ramp/NW 6th Ct & NW 135th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1124	198	0	0	0	0	0	0	234	270	0
Future Volume (vph)	0	1124	198	0	0	0	0	0	0	234	270	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8							6.8	6.8	
Lane Util. Factor		0.91	0.88							0.91	0.91	
Frt		1.00	0.85							1.00	1.00	
Flt Protected		1.00	1.00							0.95	0.99	
Satd. Flow (prot)		4940	2707							1564	3260	
Flt Permitted		1.00	1.00							0.95	0.99	
Satd. Flow (perm)		4940	2707							1564	3260	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1171	206	0	0	0	0	0	0	244	281	0
RTOR Reduction (vph)	0	0	129	0	0	0	0	0	0	21	21	0
Lane Group Flow (vph)	0	1171	77	0	0	0	0	0	0	150	333	0
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type		NA	Perm							custom	NA	
Protected Phases		2								4	4	
Permitted Phases			2							4		
Actuated Green, G (s)		37.2	37.2							49.2	49.2	
Effective Green, g (s)		37.2	37.2							49.2	49.2	
Actuated g/C Ratio		0.37	0.37							0.49	0.49	
Clearance Time (s)		6.8	6.8							6.8	6.8	
Vehicle Extension (s)		1.0	1.0							2.5	2.5	
Lane Grp Cap (vph)		1837	1007							769	1603	
v/s Ratio Prot		c0.24								0.10	c0.10	
v/s Ratio Perm			0.03									
v/c Ratio		0.64	0.08							0.20	0.21	
Uniform Delay, d1		25.8	20.3							14.3	14.4	
Progression Factor		1.00	1.00							1.00	1.00	
Incremental Delay, d2		1.7	0.1							0.1	0.0	
Delay (s)		27.6	20.4							14.4	14.4	
Level of Service		C	C							B	B	
Approach Delay (s)		26.5			0.0			0.0			14.4	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
1403: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 135th St

Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	391	1074	484	230
v/c Ratio	0.34	0.53	0.91	0.74
Control Delay	0.7	3.3	53.6	31.5
Queue Delay	0.5	0.5	0.0	0.0
Total Delay	1.2	3.8	53.6	31.5
Queue Length 50th (ft)	0	31	240	118
Queue Length 95th (ft)	0	36	#405	#338
Internal Link Dist (ft)		165	421	
Turn Bay Length (ft)				
Base Capacity (vph)	1189	2102	568	324
Starvation Cap Reductn	417	549	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.69	0.85	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1403: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 135th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	988	0	0	0	0	0	233	424	0	0	0
Future Volume (vph)	360	988	0	0	0	0	0	233	424	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8						6.8	6.8			
Lane Util. Factor	1.00	0.95						*0.54	*0.54			
Frt	1.00	1.00						0.93	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1719	3438						1814	831			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1719	3438						1814	831			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	1074	0	0	0	0	0	253	461	0	0	0
RTOR Reduction (vph)	145	0	0	0	0	0	0	39	84	0	0	0
Lane Group Flow (vph)	246	1074	0	0	0	0	0	445	146	0	0	0
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Turn Type	custom	NA						NA	Perm			
Protected Phases	2 7	2 7						8				
Permitted Phases	2 7								8			
Actuated Green, G (s)	59.2	59.2						27.2	27.2			
Effective Green, g (s)	59.2	59.2						27.2	27.2			
Actuated g/C Ratio	0.59	0.59						0.27	0.27			
Clearance Time (s)								6.8	6.8			
Vehicle Extension (s)								2.5	2.5			
Lane Grp Cap (vph)	1017	2035						493	226			
v/s Ratio Prot	0.14	c0.31						c0.25				
v/s Ratio Perm									0.18			
v/c Ratio	0.24	0.53						0.90	0.64			
Uniform Delay, d1	9.7	12.1						35.1	32.1			
Progression Factor	0.00	0.19						1.00	1.00			
Incremental Delay, d2	0.1	0.2						19.6	5.5			
Delay (s)	0.1	2.5						54.7	37.6			
Level of Service	A	A						D	D			
Approach Delay (s)		1.8			0.0			49.2			0.0	
Approach LOS		A			A			D			A	

Intersection Summary

HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
1404: NW 7th Ave/SR 7 & Opa-Locka Blvd

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	219	752	100	124	465	1772
v/c Ratio	0.62	0.68	0.22	0.58	0.15	0.73
Control Delay	41.5	37.6	6.0	25.5	8.3	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	37.6	6.0	25.5	8.3	23.9
Queue Length 50th (ft)	147	171	0	28	39	308
Queue Length 95th (ft)	212	191	33	94	69	#496
Internal Link Dist (ft)		299			410	351
Turn Bay Length (ft)	300			190		
Base Capacity (vph)	524	1653	614	213	3159	2422
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.45	0.16	0.58	0.15	0.73

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1404: NW 7th Ave/SR 7 & Opa-Locka Blvd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	228	684	94	117	437	0	0	1550	116
Future Volume (vph)	0	0	0	228	684	94	117	437	0	0	1550	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.7	6.7	6.7	6.4	6.4			6.4	
Lane Util. Factor				0.86	0.86	1.00	1.00	0.91			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.99	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1493	4706	1553	1736	4988			4936	
Flt Permitted				0.95	1.00	1.00	0.07	1.00			1.00	
Satd. Flow (perm)				1493	4706	1553	132	4988			4936	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	243	728	100	124	465	0	0	1649	123
RTOR Reduction (vph)	0	0	0	0	0	76	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	219	752	24	124	465	0	0	1765	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		1	6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)				23.7	23.7	23.7	63.6	63.6			49.1	
Effective Green, g (s)				23.7	23.7	23.7	63.6	63.6			49.1	
Actuated g/C Ratio				0.24	0.24	0.24	0.63	0.63			0.49	
Clearance Time (s)				6.7	6.7	6.7	6.4	6.4			6.4	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	1.0			1.0	
Lane Grp Cap (vph)				352	1110	366	213	3159			2413	
v/s Ratio Prot							c0.05	0.09			c0.36	
v/s Ratio Perm				0.15	0.16	0.02	0.32					
v/c Ratio				0.62	0.68	0.06	0.58	0.15			0.73	
Uniform Delay, d1				34.3	34.9	29.8	14.9	7.4			20.4	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				2.5	1.3	0.0	2.6	0.1			2.0	
Delay (s)				36.8	36.2	29.8	17.5	7.5			22.4	
Level of Service				D	D	C	B	A			C	
Approach Delay (s)		0.0			35.7			9.6			22.4	
Approach LOS		A			D			A			C	

Intersection Summary

HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.4	Sum of lost time (s)	19.5
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1404: NW 7th Ave/SR 7 & Opa-Locka Blvd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	228	684	94	117	437	0	0	1550	116
Future Volume (veh/h)	0	0	0	228	684	94	117	437	0	0	1550	116
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1827	1827	1827	1827	1827	0	0	1827	1900
Adj Flow Rate, veh/h				243	728	100	124	465	0	0	1649	123
Adj No. of Lanes				1	3	1	1	3	0	0	3	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				4	4	4	4	4	0	0	4	4
Cap, veh/h				332	1047	297	270	3382	0	0	2587	193
Arrive On Green				0.19	0.19	0.19	0.07	0.68	0.00	0.00	0.55	0.55
Sat Flow, veh/h				1740	5481	1553	1740	5152	0	0	4901	353
Grp Volume(v), veh/h				243	728	100	124	465	0	0	1157	615
Grp Sat Flow(s),veh/h/ln				1740	1827	1553	1740	1663	0	0	1663	1765
Q Serve(g_s), s				13.1	12.4	5.6	2.8	3.3	0.0	0.0	24.2	24.3
Cycle Q Clear(g_c), s				13.1	12.4	5.6	2.8	3.3	0.0	0.0	24.2	24.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				332	1047	297	270	3382	0	0	1816	964
V/C Ratio(X)				0.73	0.70	0.34	0.46	0.14	0.00	0.00	0.64	0.64
Avail Cap(c_a), veh/h				614	1935	548	274	3382	0	0	1816	964
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.97	0.97	0.97	0.96	0.96	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.0	37.7	35.0	13.7	5.7	0.0	0.0	15.8	15.8
Incr Delay (d2), s/veh				1.1	0.3	0.2	0.4	0.1	0.0	0.0	1.7	3.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				10.5	10.3	4.3	3.0	2.8	0.0	0.0	17.1	18.5
LnGrp Delay(d),s/veh				39.2	38.0	35.2	14.2	5.8	0.0	0.0	17.5	19.0
LnGrp LOS				D	D	D	B	A			B	B
Approach Vol, veh/h					1071			589			1772	
Approach Delay, s/veh					38.0			7.6			18.0	
Approach LOS					D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	13.2	61.0		25.8		74.2		
Change Period (Y+Rc), s	6.4	6.4		* 6.7		6.4		
Max Green Setting (Gmax), s	7.0	38.6		* 35		51.6		
Max Q Clear Time (g_c+I1), s	4.8	26.3		15.1		5.3		
Green Ext Time (p_c), s	0.0	5.9		4.0		8.5		

Intersection Summary	
HCM 2010 Ctrl Delay	22.5
HCM 2010 LOS	C

Notes

Queues
Existing Conditions

1405: NW 6th Ct/NW 6th Ct/SB Off-Ramp & Opa-Locka Blvd
AM PEAK HOUR

Lane Group	WBL	WBT	SBT
Lane Group Flow (vph)	283	1035	330
v/c Ratio	0.24	0.29	0.67
Control Delay	0.5	1.6	46.6
Queue Delay	0.2	0.1	0.0
Total Delay	0.8	1.7	46.6
Queue Length 50th (ft)	0	19	104
Queue Length 95th (ft)	5	16	146
Internal Link Dist (ft)		151	338
Turn Bay Length (ft)			
Base Capacity (vph)	1347	4136	1058
Starvation Cap Reductn	493	1389	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.33	0.38	0.31

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1405: NW 6th Ct/NW 6th Ct/SB Off-Ramp & Opa-Locka Blvd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	290	923	0	0	0	0	0	233	71
Future Volume (vph)	0	0	0	290	923	0	0	0	0	0	233	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0						6.4	
Lane Util. Factor				0.86	0.86						0.95	
Frt				1.00	1.00						0.96	
Flt Protected				0.95	1.00						1.00	
Satd. Flow (prot)				1507	4752						3382	
Flt Permitted				0.95	1.00						1.00	
Satd. Flow (perm)				1507	4752						3382	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	315	1003	0	0	0	0	0	253	77
RTOR Reduction (vph)	0	0	0	72	9	0	0	0	0	0	32	0
Lane Group Flow (vph)	0	0	0	211	1026	0	0	0	0	0	298	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA						NA	
Protected Phases					2 7						8	
Permitted Phases				2 7								
Actuated Green, G (s)				82.2	82.2						15.0	
Effective Green, g (s)				82.2	82.2						15.0	
Actuated g/C Ratio				0.75	0.75						0.14	
Clearance Time (s)											6.4	
Vehicle Extension (s)											3.0	
Lane Grp Cap (vph)				1126	3551						461	
v/s Ratio Prot											c0.09	
v/s Ratio Perm				0.14	0.22							
v/c Ratio				0.19	0.29						0.65	
Uniform Delay, d1				4.1	4.5						45.0	
Progression Factor				0.16	0.32						1.00	
Incremental Delay, d2				0.1	0.0						3.1	
Delay (s)				0.7	1.5						48.1	
Level of Service				A	A						D	
Approach Delay (s)		0.0			1.3			0.0			48.1	
Approach LOS		A			A			A			D	

Intersection Summary

HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
Existing Conditions

1406: NW 6th Ave/NW 6th Ave/NB On-Ramp & Opa-Locka Blvd
AM PEAK HOUR

Lane Group	WBT	WBR	NBT
Lane Group Flow (vph)	1038	430	630
v/c Ratio	0.30	0.41	0.52
Control Delay	15.1	3.0	28.1
Queue Delay	0.0	0.0	0.0
Total Delay	15.1	3.0	28.1
Queue Length 50th (ft)	109	0	177
Queue Length 95th (ft)	168	56	192
Internal Link Dist (ft)	475		403
Turn Bay Length (ft)		225	
Base Capacity (vph)	3444	1047	2193
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.30	0.41	0.29

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1406: NW 6th Ave/NW 6th Ave/NB On-Ramp & Opa-Locka Blvd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	955	396	188	392	0	0	0	0
Future Volume (vph)	0	0	0	0	955	396	188	392	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	6.0		6.4				
Lane Util. Factor					0.86	1.00		0.95				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.98				
Satd. Flow (prot)					6346	1568		3449				
Flt Permitted					1.00	1.00		0.98				
Satd. Flow (perm)					6346	1568		3449				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1038	430	204	426	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	197	0	20	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1038	233	0	610	0	0	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type					NA	Perm	Perm	NA				
Protected Phases					2			4				
Permitted Phases						2	4					
Actuated Green, G (s)					59.7	59.7		37.9				
Effective Green, g (s)					59.7	59.7		37.9				
Actuated g/C Ratio					0.54	0.54		0.34				
Clearance Time (s)					6.0	6.0		6.4				
Vehicle Extension (s)					1.0	1.0		3.0				
Lane Grp Cap (vph)					3444	850		1188				
v/s Ratio Prot					c0.16							
v/s Ratio Perm						0.15		0.18				
v/c Ratio					0.30	0.27		0.51				
Uniform Delay, d1					13.7	13.5		28.7				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					0.2	0.8		0.4				
Delay (s)					14.0	14.3		29.1				
Level of Service					B	B		C				
Approach Delay (s)		0.0			14.1			29.1			0.0	
Approach LOS		A			B			C			A	

Intersection Summary

HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
1501: NW 7th Ave/SR 7 & NW 151st St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	50	71	129	115	161	9	552	247	1628
v/c Ratio	0.47	0.24	0.44	0.27	0.23	0.07	0.22	0.43	0.49
Control Delay	66.7	46.5	40.8	37.2	3.0	25.8	17.6	12.5	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.7	46.5	40.8	37.2	3.0	25.8	17.6	12.5	12.6
Queue Length 50th (ft)	39	24	83	73	0	4	78	76	232
Queue Length 95th (ft)	79	47	123	111	32	19	131	146	341
Internal Link Dist (ft)		624		106			543		570
Turn Bay Length (ft)	175					90		100	
Base Capacity (vph)	276	761	368	824	715	130	2474	581	3322
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.09	0.35	0.14	0.23	0.07	0.22	0.43	0.49

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1501: NW 7th Ave/SR 7 & NW 151st St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	61	9	126	113	158	9	411	130	242	1557	38
Future Volume (vph)	49	61	9	126	113	158	9	411	130	242	1557	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		6.4	6.7	6.4	6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3438		1752	1845	1568	1752	4854		1752	5018	
Flt Permitted	0.68	1.00		0.42	1.00	1.00	0.14	1.00		0.38	1.00	
Satd. Flow (perm)	1260	3438		767	1845	1568	261	4854		708	5018	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	50	62	9	129	115	161	9	419	133	247	1589	39
RTOR Reduction (vph)	0	8	0	0	0	105	0	37	0	0	1	0
Lane Group Flow (vph)	50	63	0	129	115	56	9	515	0	247	1627	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		pm+pt	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		8		7	4	5		6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	9.1	9.1		29.8	29.8	43.1	60.5	60.5		80.2	80.2	
Effective Green, g (s)	9.1	9.1		29.8	29.8	43.1	60.5	60.5		80.2	80.2	
Actuated g/C Ratio	0.07	0.07		0.24	0.24	0.35	0.49	0.49		0.65	0.65	
Clearance Time (s)	6.7	6.7		6.4	6.7	6.4	6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	93	254		300	446	548	128	2385		574	3269	
v/s Ratio Prot		0.02		c0.05	0.06	0.01		0.11		0.05	c0.32	
v/s Ratio Perm	0.04			c0.05		0.02	0.03			0.23		
v/c Ratio	0.54	0.25		0.43	0.26	0.10	0.07	0.22		0.43	0.50	
Uniform Delay, d1	55.0	53.8		38.4	37.7	27.0	16.5	17.8		9.1	11.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.9	0.5		1.0	0.3	0.1	1.1	0.2		0.5	0.5	
Delay (s)	60.8	54.3		39.3	38.0	27.0	17.5	18.0		9.6	11.6	
Level of Service	E	D		D	D	C	B	B		A	B	
Approach Delay (s)		57.0			34.1			18.0			11.3	
Approach LOS		E			C			B			B	

Intersection Summary

HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	123.1	Sum of lost time (s)	25.9
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1501: NW 7th Ave/SR 7 & NW 151st St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	61	9	126	113	158	9	411	130	242	1557	38
Future Volume (veh/h)	49	61	9	126	113	158	9	411	130	242	1557	38
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	50	62	9	129	115	161	9	419	133	247	1589	39
Adj No. of Lanes	1	2	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	140	230	33	276	386	392	223	2264	691	585	3459	85
Arrive On Green	0.07	0.07	0.07	0.08	0.21	0.21	0.59	0.59	0.59	0.04	0.68	0.68
Sat Flow, veh/h	1088	3082	438	1757	1845	1568	305	3827	1169	1757	5056	124
Grp Volume(v), veh/h	50	35	36	129	115	161	9	366	186	247	1055	573
Grp Sat Flow(s),veh/h/ln	1088	1752	1767	1757	1845	1568	305	1679	1638	1757	1679	1823
Q Serve(g_s), s	5.5	2.3	2.4	8.1	6.5	10.6	1.7	6.1	6.5	5.0	17.8	17.8
Cycle Q Clear(g_c), s	5.5	2.3	2.4	8.1	6.5	10.6	8.1	6.1	6.5	5.0	17.8	17.8
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.71	1.00		0.07
Lane Grp Cap(c), veh/h	140	131	132	276	386	392	223	1986	969	585	2297	1247
V/C Ratio(X)	0.36	0.27	0.28	0.47	0.30	0.41	0.04	0.18	0.19	0.42	0.46	0.46
Avail Cap(c_a), veh/h	297	385	388	439	709	667	223	1986	969	585	2297	1247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	53.7	53.8	45.4	41.0	38.6	13.4	11.5	11.6	10.6	8.9	8.9
Incr Delay (d2), s/veh	1.5	1.1	1.1	1.2	0.4	0.7	0.3	0.2	0.4	0.5	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	2.1	2.2	7.1	6.0	8.2	0.3	5.2	5.4	3.7	13.2	14.3
LnGrp Delay(d),s/veh	56.7	54.8	54.9	46.7	41.4	39.2	13.8	11.7	12.0	11.1	9.6	10.2
LnGrp LOS	E	D	D	D	D	D	B	B	B	B	A	B
Approach Vol, veh/h		121			405			561			1875	
Approach Delay, s/veh		55.6			42.2			11.9			10.0	
Approach LOS		E			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6	7	8
Phs Duration (G+Y+Rc), s		90.6		32.4	11.4	79.2	16.6	15.9
Change Period (Y+Rc), s		6.4		* 6.7	6.4	6.4	6.4	* 6.7
Max Green Setting (Gmax), s		54.6		* 47	5.0	43.6	21.6	* 27
Max Q Clear Time (g_c+I1), s		19.8		12.6	7.0	10.1	10.1	7.5
Green Ext Time (p_c), s		22.0		1.9	0.0	21.4	0.2	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Notes

Queues
1503: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 151st St

Existing Conditions
AM PEAK HOUR

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	195	226	117	137	213	72	327
v/c Ratio	0.24	0.19	0.10	0.48	0.70	0.23	0.45
Control Delay	10.7	9.8	9.1	47.8	57.2	10.3	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	9.8	9.1	47.8	57.2	10.3	2.0
Queue Length 50th (ft)	56	62	30	93	151	0	0
Queue Length 95th (ft)	112	118	64	145	215	38	0
Internal Link Dist (ft)		229	317		343		406
Turn Bay Length (ft)	125						
Base Capacity (vph)	808	1185	1177	825	869	777	892
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.19	0.10	0.17	0.25	0.09	0.37

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1503: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 151st St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	210	0	0	103	6	127	198	67	0	0	304
Future Volume (vph)	181	210	0	0	103	6	127	198	67	0	0	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.6		4.8	4.8	4.8		4.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00			0.99		1.00	1.00	0.85		0.86	
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1752	1845			1832		1752	1845	1568		1596	
Flt Permitted	0.68	1.00			1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1258	1845			1832		1752	1845	1568		1596	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	195	226	0	0	111	6	137	213	72	0	0	327
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	60	0	307	0
Lane Group Flow (vph)	195	226	0	0	116	0	137	213	12	0	20	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm		NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases	6								4	8		
Actuated Green, G (s)	73.9	73.9			73.9		18.9	18.9	18.9		7.0	
Effective Green, g (s)	73.9	73.9			73.9		18.9	18.9	18.9		7.0	
Actuated g/C Ratio	0.64	0.64			0.64		0.16	0.16	0.16		0.06	
Clearance Time (s)	5.6	5.6			5.6		4.8	4.8	4.8		4.8	
Vehicle Extension (s)	1.0	1.0			1.0		2.5	2.5	2.5		2.5	
Lane Grp Cap (vph)	808	1185			1177		287	303	257		97	
v/s Ratio Prot		0.12			0.06		0.08	c0.12			c0.01	
v/s Ratio Perm	c0.16								0.01			
v/c Ratio	0.24	0.19			0.10		0.48	0.70	0.05		0.21	
Uniform Delay, d1	8.7	8.4			7.8		43.6	45.4	40.5		51.4	
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.7	0.4			0.2		0.9	6.7	0.1		0.8	
Delay (s)	9.4	8.7			8.0		44.5	52.1	40.5		52.1	
Level of Service	A	A			A		D	D	D		D	
Approach Delay (s)		9.0			8.0			47.6			52.1	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1503: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 151st St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	210	0	0	103	6	127	198	67	0	0	304
Future Volume (veh/h)	181	210	0	0	103	6	127	198	67	0	0	304
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	0	0	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	195	226	0	0	111	6	137	213	72	0	0	327
Adj No. of Lanes	1	1	0	0	1	0	1	1	1	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	0	0	3	3	3	3	3	3	3	3
Cap, veh/h	1027	1415	0	0	1331	72	250	263	223	0	0	0
Arrive On Green	1.00	1.00	0.00	0.00	1.00	1.00	0.14	0.14	0.14	0.00	0.00	0.00
Sat Flow, veh/h	1258	1845	0	0	1734	94	1757	1845	1568		0	
Grp Volume(v), veh/h	195	226	0	0	0	117	137	213	72		0.0	
Grp Sat Flow(s),veh/h/ln	1258	1845	0	0	0	1828	1757	1845	1568			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	8.3	12.9	4.7			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	8.3	12.9	4.7			
Prop In Lane	1.00		0.00	0.00		0.05	1.00		1.00			
Lane Grp Cap(c), veh/h	1027	1415	0	0	0	1403	250	263	223			
V/C Ratio(X)	0.19	0.16	0.00	0.00	0.00	0.08	0.55	0.81	0.32			
Avail Cap(c_a), veh/h	1027	1415	0	0	0	1403	828	869	739			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	45.9	47.8	44.3			
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.0	0.0	0.1	1.4	4.5	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.2	0.2	0.0	0.0	0.0	0.1	7.4	11.2	3.8			
LnGrp Delay(d),s/veh	0.4	0.2	0.0	0.0	0.0	0.1	47.3	52.3	44.9			
LnGrp LOS	A	A				A	D	D	D			
Approach Vol, veh/h		421			117			422				
Approach Delay, s/veh		0.3			0.1			49.4				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		93.8		21.2		93.8		
Change Period (Y+Rc), s		* 5.6		* 4.8		* 5.6		
Max Green Setting (Gmax), s		* 18		* 54		* 18		
Max Q Clear Time (g_c+I1), s		2.0		14.9		2.0		
Green Ext Time (p_c), s		0.7		1.5		0.7		

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Notes

Queues
1601: NW 7th Ave/SR 7 & GGI SB Off-Ramp

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	415	944	654	1345
v/c Ratio	0.52	0.61	0.74	0.80
Control Delay	20.1	1.8	15.9	14.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.1	1.8	15.9	14.7
Queue Length 50th (ft)	52	0	132	149
Queue Length 95th (ft)	108	0	267	254
Internal Link Dist (ft)	320		184	470
Turn Bay Length (ft)	300			
Base Capacity (vph)	1744	1538	1331	2529
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.24	0.61	0.49	0.53

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1601: NW 7th Ave/SR 7 & GGI SB Off-Ramp

Existing Conditions
AM PEAK HOUR

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	403	916	634	0	0	1305
Future Volume (vph)	403	916	634	0	0	1305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	4.0	6.4			6.4
Lane Util. Factor	0.97	1.00	1.00			0.95
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3335	1538	1810			3438
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3335	1538	1810			3438
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	415	944	654	0	0	1345
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	415	944	654	0	0	1345
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Free	NA			NA
Protected Phases	3		2			6
Permitted Phases		Free				
Actuated Green, G (s)	11.6	48.4	24.0			24.0
Effective Green, g (s)	11.6	48.4	24.0			24.0
Actuated g/C Ratio	0.24	1.00	0.50			0.50
Clearance Time (s)	6.4		6.4			6.4
Vehicle Extension (s)	2.5		1.0			1.0
Lane Grp Cap (vph)	799	1538	897			1704
v/s Ratio Prot	0.12		0.36			c0.39
v/s Ratio Perm		c0.61				
v/c Ratio	0.52	0.61	0.73			0.79
Uniform Delay, d1	16.0	0.0	9.6			10.1
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.4	1.8	2.5			2.3
Delay (s)	16.4	1.8	12.2			12.4
Level of Service	B	A	B			B
Approach Delay (s)	6.3		12.2			12.4
Approach LOS	A		B			B

Intersection Summary

HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	12.8
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1601: NW 7th Ave/SR 7 & GGI SB Off-Ramp

Existing Conditions
AM PEAK HOUR

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	403	916	634	0	0	1305
Future Volume (veh/h)	403	916	634	0	0	1305
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	0	0	1810
Adj Flow Rate, veh/h	415	0	654	0	0	1345
Adj No. of Lanes	2	1	1	0	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	5	5	5	0	0	5
Cap, veh/h	622	286	925	0	0	1758
Arrive On Green	0.19	0.00	0.51	0.00	0.00	0.51
Sat Flow, veh/h	3343	1538	1810	0	0	3619
Grp Volume(v), veh/h	415	0	654	0	0	1345
Grp Sat Flow(s),veh/h/ln	1672	1538	1810	0	0	1719
Q Serve(g_s), s	4.9	0.0	11.7	0.0	0.0	13.3
Cycle Q Clear(g_c), s	4.9	0.0	11.7	0.0	0.0	13.3
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	622	286	925	0	0	1758
V/C Ratio(X)	0.67	0.00	0.71	0.00	0.00	0.76
Avail Cap(c_a), veh/h	1943	894	1479	0	0	2810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	7.9	0.0	0.0	8.3
Incr Delay (d2), s/veh	0.9	0.0	0.4	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.0	9.7	0.0	0.0	10.3
LnGrp Delay(d),s/veh	16.9	0.0	8.3	0.0	0.0	8.6
LnGrp LOS	B		A			A
Approach Vol, veh/h	415		654			1345
Approach Delay, s/veh	16.9		8.3			8.6
Approach LOS	B		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		28.1				28.1		14.3
Change Period (Y+Rc), s		6.4				6.4		6.4
Max Green Setting (Gmax), s		34.6				34.6		24.6
Max Q Clear Time (g_c+I1), s		13.7				15.3		6.9
Green Ext Time (p_c), s		6.5				6.4		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.9
HCM 2010 LOS	A

Queues
1602: NW 7th Ave/SR 7

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	83	3	15	6	213	1314	33	20	1392
v/c Ratio	0.46	0.45	0.02	0.11	0.03	0.82	0.64	0.02	0.09	0.88
Control Delay	65.9	24.0	53.0	54.4	0.3	52.0	16.3	0.0	9.2	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	65.9	24.0	53.0	54.4	0.3	52.0	16.4	0.0	9.2	30.8
Queue Length 50th (ft)	21	9	2	10	0	99	284	0	5	451
Queue Length 95th (ft)	#73	68	13	36	0	#283	467	0	14	558
Internal Link Dist (ft)		228		106			470			188
Turn Bay Length (ft)	100		100			200		270	100	
Base Capacity (vph)	89	217	373	373	402	259	2895	1509	321	2842
Starvation Cap Reductn	0	0	0	0	0	0	503	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.38	0.01	0.04	0.01	0.82	0.55	0.02	0.06	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1602: NW 7th Ave/SR 7

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	12	66	3	15	6	209	1288	32	20	1194	171
Future Volume (vph)	35	12	66	3	15	6	209	1288	32	20	1194	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.7	5.1	4.0	5.7	5.1	
Lane Util. Factor	0.95	0.95		0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1603	1479		1603	1687	1509	1687	3374	1509	1687	3311	
Flt Permitted	0.24	0.50		1.00	1.00	1.00	0.07	1.00	1.00	0.16	1.00	
Satd. Flow (perm)	404	747		1687	1687	1509	127	3374	1509	277	3311	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	36	12	67	3	15	6	213	1314	33	20	1218	174
RTOR Reduction (vph)	0	56	0	0	0	6	0	0	0	0	8	0
Lane Group Flow (vph)	32	27	0	3	15	0	213	1314	33	20	1384	0
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Free	pm+pt	NA	
Protected Phases		7			8		5	2		1	6	
Permitted Phases	7			8		8	2		Free	6		
Actuated Green, G (s)	16.7	16.7		3.7	3.7	3.7	67.0	59.3	102.5	52.2	50.2	
Effective Green, g (s)	16.7	16.7		3.7	3.7	3.7	67.0	59.3	102.5	52.2	50.2	
Actuated g/C Ratio	0.16	0.16		0.04	0.04	0.04	0.65	0.58	1.00	0.51	0.49	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.7	5.1		5.7	5.1	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.0		2.5	1.0	
Lane Grp Cap (vph)	65	121		60	60	54	251	1951	1509	168	1621	
v/s Ratio Prot							c0.09	0.39		0.00	0.42	
v/s Ratio Perm	c0.08	0.04		0.00	0.01	0.00	c0.46		0.02	0.06		
v/c Ratio	0.49	0.22		0.05	0.25	0.00	0.85	0.67	0.02	0.12	0.85	
Uniform Delay, d1	39.0	37.3		47.7	48.1	47.6	28.4	14.9	0.0	13.3	22.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.2	0.7		0.3	1.6	0.0	22.2	0.7	0.0	0.2	4.4	
Delay (s)	43.3	37.9		48.0	49.6	47.6	50.6	15.6	0.0	13.6	27.4	
Level of Service	D	D		D	D	D	D	B	A	B	C	
Approach Delay (s)		39.4			48.9			20.1			27.2	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	102.5	Sum of lost time (s)	20.8
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues
1603: NW 2nd Ave & NW 167th St & NB On-Ramp (US 441)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL	NBT	SBT
Lane Group Flow (vph)	474	2317	864	52	2011	98	548	257	62
v/c Ratio	0.74	0.75	0.76	0.40	0.90	0.07	1.46	0.28	0.54
Control Delay	54.4	25.7	14.8	29.8	46.3	0.1	259.0	51.8	84.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	25.7	14.8	29.8	46.3	0.1	259.0	51.8	84.3
Queue Length 50th (ft)	196	645	321	18	740	0	~690	113	53
Queue Length 95th (ft)	301	784	554	51	940	0	#1162	193	124
Internal Link Dist (ft)		343			1250			512	496
Turn Bay Length (ft)	230		290	200		110	230		
Base Capacity (vph)	840	3375	1207	439	2952	1362	376	1007	163
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.69	0.72	0.12	0.68	0.07	1.46	0.26	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1603: NW 2nd Ave & NW 167th St & NB On-Ramp (US 441)

Existing Conditions
AM PEAK HOUR

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	16	434	2201	821	49	1697	203	104	364	157	218	27
Future Volume (vph)	16	434	2201	821	49	1697	203	104	364	157	218	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4	5.0	5.0	5.0	5.0		4.0		5.5	6.9	
Lane Util. Factor		0.97	0.91	1.00	1.00	0.86		0.86		1.00	0.95	
Frt		1.00	1.00	0.85	1.00	0.98		0.85		1.00	0.98	
Flt Protected		0.95	1.00	1.00	0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		3433	5085	1583	1770	4725		1362		1770	3481	
Flt Permitted		0.05	1.00	1.00	0.05	1.00		1.00		0.47	1.00	
Satd. Flow (perm)		172	5085	1583	95	4725		1362		882	3481	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	17	457	2317	864	52	1786	214	109	383	165	229	28
RTOR Reduction (vph)	0	0	0	186	0	1	0	0	0	0	4	0
Lane Group Flow (vph)	0	474	2317	678	52	2010	0	98	0	548	253	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	NA		Free	pm+pt	pm+pt	NA	
Protected Phases	1	1	6		5	2			7	7	4	
Permitted Phases	6	6		6	2			Free	4	4		
Actuated Green, G (s)		110.5	99.0	99.0	85.1	78.6		164.7		42.3	42.3	
Effective Green, g (s)		110.5	99.0	99.0	85.1	78.6		164.7		42.3	42.3	
Actuated g/C Ratio		0.67	0.60	0.60	0.52	0.48		1.00		0.26	0.26	
Clearance Time (s)		5.4	5.0	5.0	5.0	5.0				5.5	6.9	
Vehicle Extension (s)		4.5	1.0	1.0	3.0	1.0				3.5	2.5	
Lane Grp Cap (vph)		640	3056	951	115	2254		1362		367	894	
v/s Ratio Prot		c0.12	c0.46		0.02	c0.43				c0.24	0.07	
v/s Ratio Perm		0.38		0.43	0.22			0.07		c0.15		
v/c Ratio		0.74	0.76	0.71	0.45	0.89		0.07		1.49	0.28	
Uniform Delay, d1		51.9	24.1	22.9	24.7	39.2		0.0		58.7	49.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		5.2	1.0	2.1	2.8	4.8		0.1		235.9	0.1	
Delay (s)		57.1	25.1	25.1	27.5	44.0		0.1		294.6	49.2	
Level of Service		E	C	C	C	D		A		F	D	
Approach Delay (s)			29.2			41.6					216.3	
Approach LOS			C			D					F	

Intersection Summary			
HCM 2000 Control Delay	56.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	164.7	Sum of lost time (s)	22.8
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1603: NW 2nd Ave & NW 167th St & NB On-Ramp (US 441)

Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	4	34	21
Future Volume (vph)	4	34	21
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	6.9		
Lane Util. Factor	1.00		
Frt	0.87		
Flt Protected	1.00		
Satd. Flow (prot)	1627		
Flt Permitted	1.00		
Satd. Flow (perm)	1627		
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	4	36	22
RTOR Reduction (vph)	10	0	0
Lane Group Flow (vph)	52	0	0
Turn Type	NA		
Protected Phases	8		
Permitted Phases			
Actuated Green, G (s)	10.7		
Effective Green, g (s)	10.7		
Actuated g/C Ratio	0.06		
Clearance Time (s)	6.9		
Vehicle Extension (s)	2.5		
Lane Grp Cap (vph)	105		
v/s Ratio Prot	0.03		
v/s Ratio Perm			
v/c Ratio	0.49		
Uniform Delay, d1	74.4		
Progression Factor	1.00		
Incremental Delay, d2	2.6		
Delay (s)	77.0		
Level of Service	E		
Approach Delay (s)	77.0		
Approach LOS	E		

Intersection Summary

Queues
1604: N Miami Ave & NW 167th St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	2032	108	1934	177	139	48	107
v/c Ratio	0.69	0.68	0.64	0.68	0.54	0.44	0.21	0.62
Control Delay	43.2	21.4	39.6	23.3	45.5	39.0	37.4	61.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	21.4	39.6	23.3	45.5	39.0	37.4	61.4
Queue Length 50th (ft)	71	404	39	413	124	77	31	72
Queue Length 95th (ft)	154	589	103	556	178	138	59	130
Internal Link Dist (ft)		1250		567		250		225
Turn Bay Length (ft)	220		270		150			
Base Capacity (vph)	238	2979	229	2848	349	321	378	266
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.68	0.47	0.68	0.51	0.43	0.13	0.40

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1604: N Miami Ave & NW 167th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	1894	77	105	1857	19	172	62	73	47	65	39
Future Volume (vph)	147	1894	77	105	1857	19	172	62	73	47	65	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.9		4.5	4.9		3.0	5.5		3.0	5.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.92		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5056		1770	5077		1770	1712		1770	1758	
Flt Permitted	0.05	1.00		0.06	1.00		0.46	1.00		0.67	1.00	
Satd. Flow (perm)	100	5056		103	5077		865	1712		1245	1758	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	152	1953	79	108	1914	20	177	64	75	48	67	40
RTOR Reduction (vph)	0	2	0	0	1	0	0	32	0	0	17	0
Lane Group Flow (vph)	152	2030	0	108	1933	0	177	107	0	48	90	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	87.9	76.0		80.7	72.4		30.8	21.8		18.2	12.2	
Effective Green, g (s)	87.9	76.0		80.7	72.4		30.8	21.8		18.2	12.2	
Actuated g/C Ratio	0.68	0.58		0.62	0.56		0.24	0.17		0.14	0.09	
Clearance Time (s)	4.5	4.9		4.5	4.9		3.0	5.5		3.0	5.5	
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0	2.5		2.0	2.5	
Lane Grp Cap (vph)	220	2955		170	2827		313	287		198	164	
v/s Ratio Prot	c0.06	0.40		0.04	0.38		c0.07	0.06		0.01	0.05	
v/s Ratio Perm	c0.40			0.35			c0.07			0.02		
v/c Ratio	0.69	0.69		0.64	0.68		0.57	0.37		0.24	0.55	
Uniform Delay, d1	31.6	18.7		20.1	20.6		42.2	48.0		49.4	56.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	1.3		5.6	1.4		1.4	0.6		0.2	2.9	
Delay (s)	38.9	20.1		25.7	22.0		43.6	48.6		49.6	59.2	
Level of Service	D	C		C	C		D	D		D	E	
Approach Delay (s)		21.4			22.2			45.8			56.2	
Approach LOS		C			C			D			E	

Intersection Summary

HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1604: N Miami Ave & NW 167th St

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	1894	77	105	1857	19	172	62	73	47	65	39
Future Volume (veh/h)	147	1894	77	105	1857	19	172	62	73	47	65	39
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	1953	79	108	1914	20	177	64	75	48	67	40
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	3218	130	231	3284	34	264	117	137	206	85	51
Arrive On Green	0.06	0.85	0.85	0.05	0.84	0.84	0.10	0.15	0.15	0.03	0.08	0.08
Sat Flow, veh/h	1774	5015	202	1774	5189	54	1774	783	918	1774	1094	653
Grp Volume(v), veh/h	152	1319	713	108	1250	684	177	0	139	48	0	107
Grp Sat Flow(s),veh/h/ln	1774	1695	1827	1774	1695	1853	1774	0	1701	1774	0	1747
Q Serve(g_s), s	4.0	15.4	15.4	2.8	14.9	14.9	11.6	0.0	9.8	3.2	0.0	7.8
Cycle Q Clear(g_c), s	4.0	15.4	15.4	2.8	14.9	14.9	11.6	0.0	9.8	3.2	0.0	7.8
Prop In Lane	1.00		0.11	1.00		0.03	1.00		0.54	1.00		0.37
Lane Grp Cap(c), veh/h	256	2176	1172	231	2146	1173	264	0	255	206	0	136
V/C Ratio(X)	0.59	0.61	0.61	0.47	0.58	0.58	0.67	0.00	0.55	0.23	0.00	0.79
Avail Cap(c_a), veh/h	345	2176	1172	335	2146	1173	337	0	255	407	0	249
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.6	4.5	4.5	9.0	5.0	5.0	46.8	0.0	51.2	52.8	0.0	58.9
Incr Delay (d2), s/veh	0.5	0.7	1.4	0.5	1.2	2.1	1.7	0.0	2.0	0.2	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	10.3	11.2	2.4	11.3	12.6	9.7	0.0	8.4	2.8	0.0	7.3
LnGrp Delay(d),s/veh	10.1	5.3	5.9	9.6	6.1	7.1	48.5	0.0	53.2	53.0	0.0	66.1
LnGrp LOS	B	A	A	A	A	A	D		D	D		E
Approach Vol, veh/h		2184			2042			316			155	
Approach Delay, s/veh		5.8			6.6			50.6			62.0	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	87.2	7.3	25.0	9.4	88.3	16.6	15.6
Change Period (Y+Rc), s	4.5	* 4.9	3.0	5.5	4.5	* 4.9	3.0	5.5
Max Green Setting (Gmax), s	12.5	* 62	19.0	18.5	12.5	* 62	19.0	18.5
Max Q Clear Time (g_c+I1), s	6.0	16.9	5.2	11.8	4.8	17.4	13.6	9.8
Green Ext Time (p_c), s	0.1	22.4	0.0	0.6	0.1	22.2	0.1	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B

Notes

Queues

Existing Conditions

1606: NW 7th Avenue Extension & NW 4th Ave & NW 171st St/NW 7th Ave

AM PEAK HOUR

Lane Group	NBL	SET	SER	NWT	NEL	NET	SWL	SWT	SWR
Lane Group Flow (vph)	38	283	316	76	23	766	34	597	158
v/c Ratio	0.21	0.59	0.49	0.36	0.09	1.33dr	0.19	0.55	0.10
Control Delay	49.4	38.4	7.7	47.2	24.9	30.7	35.3	32.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	38.4	7.7	47.2	24.9	30.7	35.3	32.5	0.1
Queue Length 50th (ft)	22	150	5	41	9	211	15	152	0
Queue Length 95th (ft)	64	292	82	103	30	332	52	285	0
Internal Link Dist (ft)	585	329		410		390		683	
Turn Bay Length (ft)					190				
Base Capacity (vph)	303	723	821	312	370	2292	452	2684	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.39	0.38	0.24	0.06	0.33	0.08	0.22	0.10

Intersection Summary

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

HCM Signalized Intersection Capacity Analysis
Existing Conditions

1606: NW 7th Avenue Extension & NW 4th Ave & NW 171st St/NW 7th Ave
AM PEAK HOUR

Movement	NBL2	NBL	NBR	NBR2	SEL	SET	SER	SER2	NWL	NWT	NWR	NEL
Lane Configurations												
Traffic Volume (vph)	23	3	8	1	210	51	11	280	49	11	10	21
Future Volume (vph)	23	3	8	1	210	51	11	280	49	11	10	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0				6.0	6.0			6.0		6.0
Lane Util. Factor		1.00				1.00	1.00			1.00		1.00
Frt		0.96				1.00	0.85			0.98		1.00
Flt Protected		0.96				0.96	1.00			0.97		0.95
Satd. Flow (prot)		1733				1791	1583			1765		1770
Flt Permitted		0.96				0.96	1.00			0.97		0.24
Satd. Flow (perm)		1733				1791	1583			1765		449
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	3	9	1	228	55	12	304	53	12	11	23
RTOR Reduction (vph)	0	0	0	0	0	0	228	0	0	4	0	0
Lane Group Flow (vph)	0	38	0	0	0	283	88	0	0	72	0	23
Turn Type	Prot	Prot			Split	NA	Prot		Split	NA		pm+pt
Protected Phases	4	4			8	8	8		7	7		1
Permitted Phases												6
Actuated Green, G (s)		4.2				23.2	23.2			7.3		34.3
Effective Green, g (s)		4.2				23.2	23.2			7.3		34.3
Actuated g/C Ratio		0.05				0.25	0.25			0.08		0.37
Clearance Time (s)		6.0				6.0	6.0			6.0		6.0
Vehicle Extension (s)		2.5				2.5	2.5			2.5		2.0
Lane Grp Cap (vph)		78				446	394			138		192
v/s Ratio Prot		c0.02				c0.16	0.06			c0.04		0.00
v/s Ratio Perm												0.04
v/c Ratio		0.49				0.63	0.22			0.52		0.12
Uniform Delay, d1		43.3				31.1	27.7			41.2		19.9
Progression Factor		1.00				1.00	1.00			1.00		1.00
Incremental Delay, d2		3.5				2.6	0.2			2.7		0.1
Delay (s)		46.8				33.7	27.9			43.9		20.0
Level of Service		D				C	C			D		B
Approach Delay (s)		46.8				30.7				43.9		
Approach LOS		D				C				D		

Intersection Summary

HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing Conditions

1606: NW 7th Avenue Extension & NW 4th Ave & NW 171st St/NW 7th Ave — AM PEAK HOUR

Movement	NET	NER	NER2	SWL2	SWL	SWT	SWR
Lane Configurations							
Traffic Volume (vph)	10	549	145	21	10	549	145
Future Volume (vph)	10	549	145	21	10	549	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0				6.0	6.0	4.0
Lane Util. Factor	0.95				1.00	0.95	1.00
Frt	0.85				1.00	1.00	0.85
Flt Protected	1.00				0.95	1.00	1.00
Satd. Flow (prot)	3016				1770	3539	1583
Flt Permitted	1.00				0.32	1.00	1.00
Satd. Flow (perm)	3016				595	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	597	158	23	11	597	158
RTOR Reduction (vph)	15	0	0	0	0	0	0
Lane Group Flow (vph)	751	0	0	0	34	597	158
Turn Type	NA			pm+pt	Perm	NA	Free
Protected Phases	6			5		2	
Permitted Phases				2	2		Free
Actuated Green, G (s)	34.3				26.4	26.4	93.0
Effective Green, g (s)	34.3				26.4	26.4	93.0
Actuated g/C Ratio	0.37				0.28	0.28	1.00
Clearance Time (s)	6.0				6.0	6.0	
Vehicle Extension (s)	1.0				1.0	1.0	
Lane Grp Cap (vph)	1112				168	1004	1583
v/s Ratio Prot	c0.25					0.17	
v/s Ratio Perm					0.06		0.10
v/c Ratio	1.33dr				0.20	0.59	0.10
Uniform Delay, d1	24.7				25.3	28.7	0.0
Progression Factor	1.00				1.00	1.00	1.00
Incremental Delay, d2	1.3				0.2	0.6	0.1
Delay (s)	26.0				25.5	29.3	0.1
Level of Service	C				C	C	A
Approach Delay (s)	25.8					23.3	
Approach LOS	C					C	

Intersection Summary

Queues
Existing Conditions
1701: NE 2nd Ct & Miami Gardens Dr
AM PEAK HOUR

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	71	2373	46	1213	17	101	23	24	49
v/c Ratio	0.24	0.78	0.33	0.41	0.20	0.53	0.37	0.42	0.16
Control Delay	10.3	23.4	16.4	15.4	60.5	22.3	67.4	73.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	23.4	16.4	15.4	60.5	22.3	67.4	73.4	1.4
Queue Length 50th (ft)	18	546	12	193	13	3	18	18	0
Queue Length 95th (ft)	42	#743	32	272	37	58	48	50	3
Internal Link Dist (ft)		388		2453		369		320	
Turn Bay Length (ft)	165		200		105		310		
Base Capacity (vph)	337	3048	192	2994	116	223	83	76	344
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.78	0.24	0.41	0.15	0.45	0.28	0.32	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1701: NE 2nd Ct & Miami Gardens Dr

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	2165	18	42	1017	99	16	4	89	40	4	45
Future Volume (vph)	65	2165	18	42	1017	99	16	4	89	40	4	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.6		6.4	6.6		7.2	7.2		7.2	7.2	6.4
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.86		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1736	4981		1736	4921		1736	1564		1649	1666	1553
Flt Permitted	0.19	1.00		0.05	1.00		0.74	1.00		0.36	0.33	1.00
Satd. Flow (perm)	341	4981		100	4921		1353	1564		620	568	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	2353	20	46	1105	108	17	4	97	43	4	49
RTOR Reduction (vph)	0	0	0	0	7	0	0	91	0	0	0	42
Lane Group Flow (vph)	71	2373	0	46	1206	0	17	10	0	23	24	7
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			3	1
Permitted Phases	6			2			4			3		3
Actuated Green, G (s)	79.1	73.7		77.9	73.1		7.9	7.9		11.2	11.2	16.6
Effective Green, g (s)	79.1	73.7		77.9	73.1		7.9	7.9		11.2	11.2	16.6
Actuated g/C Ratio	0.63	0.59		0.62	0.58		0.06	0.06		0.09	0.09	0.13
Clearance Time (s)	6.4	6.6		6.4	6.6		7.2	7.2		7.2	7.2	6.4
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.5	2.5		2.5	2.5	2.0
Lane Grp Cap (vph)	276	2936		125	2877		85	98		55	50	206
v/s Ratio Prot	0.01	c0.48		c0.01	0.24			0.01				0.00
v/s Ratio Perm	0.15			0.22			c0.01			0.04	c0.04	0.00
v/c Ratio	0.26	0.81		0.37	0.42		0.20	0.10		0.42	0.48	0.03
Uniform Delay, d1	9.4	20.1		17.4	14.3		55.6	55.2		53.8	54.1	47.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	2.5		0.7	0.5		0.8	0.3		3.7	5.2	0.0
Delay (s)	9.6	22.6		18.1	14.7		56.4	55.5		57.5	59.3	47.2
Level of Service	A	C		B	B		E	E		E	E	D
Approach Delay (s)		22.2			14.8			55.7			52.7	
Approach LOS		C			B			E			D	

Intersection Summary

HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	27.4
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues
1702: NE 6th Ave/SB Ramps & Miami Gardens Dr

Existing Conditions
AM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	27	1225	1068	86	528	472	424	226	218	358	377	217
v/c Ratio	0.07	1.29	0.68	0.58	0.33	0.30	0.83	0.52	0.51	0.78	1.02	0.45
Control Delay	17.5	174.0	2.4	59.4	11.4	0.7	72.5	24.2	23.4	70.3	106.8	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	174.0	2.4	59.4	11.4	0.7	72.5	24.2	23.4	70.3	106.8	9.1
Queue Length 50th (ft)	12	~1128	0	40	20	0	194	71	64	164	~373	0
Queue Length 95th (ft)	28	#1351	0	m85	106	6	251	170	161	212	#600	72
Internal Link Dist (ft)		2453			851			238			650	
Turn Bay Length (ft)	420			230			110			390		400
Base Capacity (vph)	443	949	1568	164	1592	1568	573	437	428	573	369	487
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	1.29	0.68	0.52	0.33	0.30	0.74	0.52	0.51	0.62	1.02	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1702: NE 6th Ave/SB Ramps & Miami Gardens Dr

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	1164	1015	82	502	448	403	39	383	340	358	206
Future Volume (vph)	26	1164	1015	82	502	448	403	39	383	340	358	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	7.1	4.0	6.0	7.1	4.0	6.4	6.6	6.6	6.4	6.6	6.6
Lane Util. Factor	1.00	*0.63	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	2324	1568	1752	3505	1568	3400	1537	1490	3400	1845	1568
Flt Permitted	0.43	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	793	2324	1568	121	3505	1568	3400	1537	1490	3400	1845	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	27	1225	1068	86	528	472	424	41	403	358	377	217
RTOR Reduction (vph)	0	0	0	0	0	0	0	108	108	0	0	173
Lane Group Flow (vph)	27	1225	1068	86	528	472	424	118	110	358	377	44
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		Free	2		Free			4			8
Actuated Green, G (s)	60.9	57.2	140.0	68.9	61.2	140.0	20.9	30.0	30.0	19.0	28.1	28.1
Effective Green, g (s)	60.9	57.2	140.0	68.9	61.2	140.0	20.9	30.0	30.0	19.0	28.1	28.1
Actuated g/C Ratio	0.43	0.41	1.00	0.49	0.44	1.00	0.15	0.21	0.21	0.14	0.20	0.20
Clearance Time (s)	6.0	7.1		6.0	7.1		6.4	6.6	6.6	6.4	6.6	6.6
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0	2.5	2.5	2.0	2.5	2.5
Lane Grp Cap (vph)	370	949	1568	149	1532	1568	507	329	319	461	370	314
v/s Ratio Prot	0.00	c0.53		0.03	0.15		c0.12	0.08		0.11	c0.20	
v/s Ratio Perm	0.03		c0.68	0.25		0.30			0.07			0.03
v/c Ratio	0.07	1.29	0.68	0.58	0.34	0.30	0.84	0.36	0.34	0.78	1.02	0.14
Uniform Delay, d1	22.7	41.4	0.0	31.2	26.1	0.0	57.9	46.8	46.6	58.4	56.0	46.0
Progression Factor	1.00	1.00	1.00	2.21	0.43	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	138.8	2.4	2.5	0.5	0.4	11.0	0.5	0.5	7.3	51.7	0.1
Delay (s)	22.8	180.2	2.4	71.6	11.7	0.4	68.8	47.3	47.1	65.8	107.6	46.1
Level of Service	C	F	A	E	B	A	E	D	D	E	F	D
Approach Delay (s)		96.5			11.5			57.8			77.9	
Approach LOS		F			B			E			E	

Intersection Summary

HCM 2000 Control Delay	69.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	26.1
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1702: NE 6th Ave/SB Ramps & Miami Gardens Dr

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	1164	1015	82	502	448	403	39	383	340	358	206
Future Volume (veh/h)	26	1164	1015	82	502	448	403	39	383	340	358	206
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	27	1225	0	86	528	0	424	0	430	358	377	0
Adj No. of Lanes	1	2	1	1	2	1	2	0	2	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	440	1062	717	120	1657	741	478	0	617	411	335	284
Arrive On Green	0.03	0.61	0.00	0.05	0.63	0.00	0.14	0.00	0.20	0.12	0.18	0.00
Sat Flow, veh/h	1757	2324	1568	1757	3505	1568	3514	0	3136	3408	1845	1568
Grp Volume(v), veh/h	27	1225	0	86	528	0	424	0	430	358	377	0
Grp Sat Flow(s),veh/h/ln	1757	1162	1568	1757	1752	1568	1757	0	1568	1704	1845	1568
Q Serve(g_s), s	1.1	64.0	0.0	3.6	9.8	0.0	16.6	0.0	17.9	14.4	25.4	0.0
Cycle Q Clear(g_c), s	1.1	64.0	0.0	3.6	9.8	0.0	16.6	0.0	17.9	14.4	25.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	440	1062	717	120	1657	741	478	0	617	411	335	284
V/C Ratio(X)	0.06	1.15	0.00	0.72	0.32	0.00	0.89	0.00	0.70	0.87	1.13	0.00
Avail Cap(c_a), veh/h	512	1062	717	164	1657	741	592	0	617	575	335	284
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.00	0.69	0.69	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.3	27.4	0.0	32.9	15.5	0.0	59.4	0.0	52.3	60.5	57.3	0.0
Incr Delay (d2), s/veh	0.0	75.2	0.0	3.1	0.3	0.0	11.5	0.0	3.2	7.9	87.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	56.4	0.0	3.3	7.8	0.0	13.7	0.0	12.6	11.7	38.0	0.0
LnGrp Delay(d),s/veh	19.3	102.7	0.0	36.0	15.9	0.0	70.9	0.0	55.6	68.4	145.2	0.0
LnGrp LOS	B	F		D	B		E		E	E	F	
Approach Vol, veh/h		1252			614			854			735	
Approach Delay, s/veh		100.9			18.7			63.2			107.8	
Approach LOS		F			B			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	73.3	23.3	34.1	11.5	71.1	25.4	32.0
Change Period (Y+Rc), s	6.0	7.1	6.4	* 6.6	6.0	7.1	6.4	* 6.6
Max Green Setting (Gmax), s	9.0	55.9	23.6	* 25	9.0	55.9	23.6	* 25
Max Q Clear Time (g_c+I1), s	3.1	11.8	16.4	19.9	5.6	66.0	18.6	27.4
Green Ext Time (p_c), s	0.0	6.2	0.4	1.8	0.0	0.0	0.4	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	78.4
HCM 2010 LOS	E

Notes

Queues
1703: Miami Gardens Dr & NB Ramps

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	706	1319	1028	303	621	85
v/c Ratio	0.85	0.38	0.72	0.19	0.85	0.05
Control Delay	44.4	0.1	39.8	0.3	64.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	0.1	39.8	0.3	64.6	0.1
Queue Length 50th (ft)	326	0	418	0	280	0
Queue Length 95th (ft)	m290	m0	538	0	341	0
Internal Link Dist (ft)		851	430		520	
Turn Bay Length (ft)	415			400		240
Base Capacity (vph)	914	3499	1425	1568	825	1568
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.38	0.72	0.19	0.75	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1703: Miami Gardens Dr & NB Ramps

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	685	1279	997	294	602	82
Future Volume (vph)	685	1279	997	294	602	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	2.0	6.4	4.0	6.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	3505	3505	1568	3400	1568
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	3505	3505	1568	3400	1568
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	706	1319	1028	303	621	85
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	706	1319	1028	303	621	85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	NA	Free	Prot	Free
Protected Phases	1	6 8!	2		4!	
Permitted Phases				Free		Free
Actuated Green, G (s)	34.2	140.0	57.0	140.0	30.0	140.0
Effective Green, g (s)	34.2	140.0	57.0	140.0	30.0	140.0
Actuated g/C Ratio	0.24	1.00	0.41	1.00	0.21	1.00
Clearance Time (s)	6.4		6.4		6.0	
Vehicle Extension (s)	3.5		1.0		3.0	
Lane Grp Cap (vph)	830	3505	1427	1568	728	1568
v/s Ratio Prot	c0.21	0.38	c0.29		c0.18	
v/s Ratio Perm				0.19		0.05
v/c Ratio	0.85	0.38	0.72	0.19	0.85	0.05
Uniform Delay, d1	50.5	0.0	34.8	0.0	52.9	0.0
Progression Factor	0.83	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	0.0	3.2	0.3	9.5	0.1
Delay (s)	44.0	0.0	38.0	0.3	62.4	0.1
Level of Service	D	A	D	A	E	A
Approach Delay (s)		15.3	29.4		54.9	
Approach LOS		B	C		D	

Intersection Summary

HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Queues
1801: NE 205th Terrace/NE 16th Ave & Ives Dairy Rd

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	31	2453	155	1343	21	55	56	35
v/c Ratio	0.09	0.68	0.79	0.34	0.25	0.26	0.27	0.29
Control Delay	4.0	13.7	56.7	5.8	66.3	3.9	52.2	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	13.7	56.7	5.8	66.3	3.9	52.2	27.2
Queue Length 50th (ft)	4	431	79	140	17	0	42	2
Queue Length 95th (ft)	12	585	144	178	44	4	78	35
Internal Link Dist (ft)		322		1217				326
Turn Bay Length (ft)	100		335		75	40		
Base Capacity (vph)	502	3614	310	3971	134	313	223	172
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.68	0.50	0.34	0.16	0.18	0.25	0.20

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1801: NE 205th Terrace/NE 16th Ave & Ives Dairy Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	2076	58	135	1110	58	18	0	48	49	3	28
Future Volume (vph)	27	2076	58	135	1110	58	18	0	48	49	3	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.1		3.0	6.1		3.0		3.0	3.0	6.3	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00		1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00		0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1752	5015		1752	4998		1752		1568	1752	1592	
Flt Permitted	0.19	1.00		0.04	1.00		0.00		1.00	0.95	1.00	
Satd. Flow (perm)	353	5015		78	4998		0		1568	1752	1592	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	31	2386	67	155	1276	67	21	0	55	56	3	32
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	51	0	31	0
Lane Group Flow (vph)	31	2452	0	155	1341	0	21	0	4	56	4	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt		pm+ov	pm+pt	NA	
Protected Phases	1	6		5	2		7	4	5	3	8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)	94.4	91.2		104.5	98.3		4.2		10.3	16.4	5.9	
Effective Green, g (s)	94.4	91.2		104.5	98.3		4.2		10.3	16.4	5.9	
Actuated g/C Ratio	0.73	0.70		0.80	0.76		0.03		0.08	0.13	0.05	
Clearance Time (s)	3.0	6.1		3.0	6.1		3.0		3.0	3.0	6.3	
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0		2.0	2.0	2.5	
Lane Grp Cap (vph)	290	3518		195	3779		56		124	221	72	
v/s Ratio Prot	0.00	0.49		c0.06	0.27		c0.01		0.00	c0.03	0.00	
v/s Ratio Perm	0.07			c0.57								
v/c Ratio	0.11	0.70		0.79	0.35		0.38		0.04	0.25	0.06	
Uniform Delay, d1	5.0	11.3		37.0	5.3		61.6		55.3	51.3	59.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1	1.2		18.5	0.3		1.5		0.0	0.2	0.3	
Delay (s)	5.0	12.5		55.5	5.5		63.1		55.3	51.5	59.7	
Level of Service	A	B		E	A		E		E	D	E	
Approach Delay (s)		12.4			10.7			57.5			54.6	
Approach LOS		B			B			E			D	

Intersection Summary

HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1801: NE 205th Terrace/NE 16th Ave & Ives Dairy Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	2076	58	135	1110	58	18	0	48	49	3	28
Future Volume (veh/h)	27	2076	58	135	1110	58	18	0	48	49	3	28
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	31	2386	67	155	1276	67	21	0	55	56	3	32
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	393	3664	102	217	3628	191	160	98	144	194	10	104
Arrive On Green	0.03	0.97	0.97	0.05	0.99	0.99	0.02	0.00	0.05	0.04	0.07	0.07
Sat Flow, veh/h	1757	5036	141	1757	4899	257	1757	1845	1568	1757	136	1452
Grp Volume(v), veh/h	31	1587	866	155	874	469	21	0	55	56	0	35
Grp Sat Flow(s),veh/h/ln	1757	1679	1820	1757	1679	1799	1757	1845	1568	1757	0	1588
Q Serve(g_s), s	0.6	5.4	5.5	2.9	0.8	0.8	1.5	0.0	4.3	3.8	0.0	2.7
Cycle Q Clear(g_c), s	0.6	5.4	5.5	2.9	0.8	0.8	1.5	0.0	4.3	3.8	0.0	2.7
Prop In Lane	1.00		0.08	1.00		0.14	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	393	2442	1324	217	2486	1333	160	98	144	194	0	114
V/C Ratio(X)	0.08	0.65	0.65	0.71	0.35	0.35	0.13	0.00	0.38	0.29	0.00	0.31
Avail Cap(c_a), veh/h	604	2442	1324	405	2486	1333	259	166	202	261	0	143
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.0	0.7	0.7	11.4	0.3	0.3	56.5	0.0	55.6	54.0	0.0	57.3
Incr Delay (d2), s/veh	0.0	1.4	2.5	1.5	0.4	0.7	0.1	0.0	1.2	0.3	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	4.4	5.5	7.3	0.7	1.0	1.3	0.0	3.4	3.4	0.0	2.2
LnGrp Delay(d),s/veh	4.0	2.0	3.2	12.9	0.6	0.9	56.6	0.0	56.8	54.3	0.0	58.4
LnGrp LOS	A	A	A	B	A	A	E		E	D		E
Approach Vol, veh/h		2484			1498			76			91	
Approach Delay, s/veh		2.5			2.0			56.7			55.9	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	102.4	8.1	13.2	8.1	100.7	5.7	15.6
Change Period (Y+Rc), s	3.0	6.1	3.0	* 6.3	3.0	6.1	3.0	* 6.3
Max Green Setting (Gmax), s	19.0	70.9	10.0	* 12	19.0	70.9	10.0	* 12
Max Q Clear Time (g_c+I1), s	2.6	2.8	5.8	6.3	4.9	7.5	3.5	4.7
Green Ext Time (p_c), s	0.0	24.3	0.0	0.1	0.2	23.9	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	4.4
HCM 2010 LOS	A

Notes

Queues
1802: SB On-Ramp/SB Off-Ramp & Ives Dairy Rd

Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1859	443	663	1063	1390	314
v/c Ratio	0.65	0.28	0.91	0.48	0.89	0.20
Control Delay	48.4	0.4	92.7	13.2	67.1	0.3
Queue Delay	0.0	0.0	4.9	1.2	0.0	0.0
Total Delay	48.4	0.4	97.6	14.4	67.1	0.3
Queue Length 50th (ft)	453	0	418	157	559	0
Queue Length 95th (ft)	520	0	m432	m265	584	0
Internal Link Dist (ft)	1217			442		
Turn Bay Length (ft)		300				
Base Capacity (vph)	2864	1583	768	2199	1760	1583
Starvation Cap Reductn	0	0	63	845	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.28	0.94	0.79	0.79	0.20

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1802: SB On-Ramp/SB Off-Ramp & Ives Dairy Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1673	399	597	957	0	0	0	0	1251	0	283
Future Volume (vph)	0	1673	399	597	957	0	0	0	0	1251	0	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	4.0	5.4	5.5					6.5		4.0
Lane Util. Factor		0.81	1.00	0.97	0.95					0.94		1.00
Frt		1.00	0.85	1.00	1.00					1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (prot)		7544	1583	3433	3539					4990		1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		7544	1583	3433	3539					4990		1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1859	443	663	1063	0	0	0	0	1390	0	314
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1859	443	663	1063	0	0	0	0	1390	0	314
Turn Type		NA	Free	Prot	NA					Prot		Free
Protected Phases		6		5	2					8		
Permitted Phases			Free									Free
Actuated Green, G (s)		68.3	180.0	38.2	111.9					56.1		180.0
Effective Green, g (s)		68.3	180.0	38.2	111.9					56.1		180.0
Actuated g/C Ratio		0.38	1.00	0.21	0.62					0.31		1.00
Clearance Time (s)		5.5		5.4	5.5					6.5		
Vehicle Extension (s)		1.0		2.0	1.0					2.0		
Lane Grp Cap (vph)		2862	1583	728	2200					1555		1583
v/s Ratio Prot		c0.25		c0.19	0.30					c0.28		
v/s Ratio Perm			0.28									0.20
v/c Ratio		0.65	0.28	0.91	0.48					0.89		0.20
Uniform Delay, d1		46.0	0.0	69.2	18.4					59.1		0.0
Progression Factor		1.00	1.00	1.20	0.67					1.00		1.00
Incremental Delay, d2		1.2	0.4	8.9	0.4					6.8		0.3
Delay (s)		47.2	0.4	92.1	12.7					66.0		0.3
Level of Service		D	A	F	B					E		A
Approach Delay (s)		38.2			43.2			0.0			53.8	
Approach LOS		D			D			A			D	

Intersection Summary

HCM 2000 Control Delay	44.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1802: SB On-Ramp/SB Off-Ramp & Ives Dairy Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑↑	↱	↰↰	↑↑					↰↰↰		↱
Traffic Volume (veh/h)	0	1673	399	597	957	0	0	0	0	1251	0	283
Future Volume (veh/h)	0	1673	399	597	957	0	0	0	0	1251	0	283
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	1859	0	663	1063	0				1390	0	0
Adj No. of Lanes	0	5	1	2	2	0				3	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	3032	636	700	2249	0				1490	0	472
Arrive On Green	0.00	0.53	0.00	0.27	0.85	0.00				0.30	0.00	0.00
Sat Flow, veh/h	0	7898	1583	3442	3632	0				5003	0	1583
Grp Volume(v), veh/h	0	1859	0	663	1063	0				1390	0	0
Grp Sat Flow(s),veh/h/ln	0	1509	1583	1721	1770	0				1668	0	1583
Q Serve(g_s), s	0.0	30.7	0.0	34.0	13.9	0.0				48.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	30.7	0.0	34.0	13.9	0.0				48.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3032	636	700	2249	0				1490	0	472
V/C Ratio(X)	0.00	0.61	0.00	0.95	0.47	0.00				0.93	0.00	0.00
Avail Cap(c_a), veh/h	0	3032	636	757	2249	0				1765	0	559
HCM Platoon Ratio	1.00	1.33	1.33	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.70	0.00	0.30	0.30	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	32.2	0.0	64.7	6.2	0.0				61.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	8.0	0.2	0.0				8.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	17.7	0.0	20.7	8.9	0.0				31.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	32.9	0.0	72.7	6.4	0.0				69.5	0.0	0.0
LnGrp LOS		C		E	A					E		
Approach Vol, veh/h		1859			1726						1390	
Approach Delay, s/veh		32.9			31.9						69.5	
Approach LOS		C			C						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		119.9			42.0	77.8		60.1
Change Period (Y+Rc), s		5.5			* 5.4	5.5		6.5
Max Green Setting (Gmax), s		104.5			* 40	59.5		63.5
Max Q Clear Time (g_c+I1), s		15.9			36.0	32.7		50.6
Green Ext Time (p_c), s		16.1			0.6	12.6		3.0

Intersection Summary

HCM 2010 Ctrl Delay	42.7
HCM 2010 LOS	D

Notes

Queues
1803: NB Off-Ramp/NB On-Ramp & Ives Dairy Rd

Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	515	2612	3268	298	105
v/c Ratio	0.85	0.64	1.80dr	0.79	0.47
Control Delay	63.5	4.8	34.5	92.7	42.1
Queue Delay	0.0	0.1	4.6	0.8	0.0
Total Delay	63.5	5.0	39.0	93.5	42.1
Queue Length 50th (ft)	291	113	915	179	54
Queue Length 95th (ft)	346	183	#1181	229	120
Internal Link Dist (ft)		442	485		
Turn Bay Length (ft)				540	350
Base Capacity (vph)	1049	4085	3571	463	261
Starvation Cap Reductn	14	417	261	0	0
Spillback Cap Reductn	0	0	36	38	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.71	0.99	0.70	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

HCM Signalized Intersection Capacity Analysis
1803: NB Off-Ramp/NB On-Ramp & Ives Dairy Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	474	2403	0	0	1262	1744	274	0	101	0	0	0
Future Volume (vph)	474	2403	0	0	1262	1744	274	0	101	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	6.1			6.1		6.4		6.4			
Lane Util. Factor	0.97	0.91			0.86		0.97		1.00			
Frt	1.00	1.00			0.91		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	3367	4988			5738		3367		1553			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	3367	4988			5738		3367		1553			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.92	0.92	0.92
Adj. Flow (vph)	515	2612	0	0	1372	1896	298	0	105	0	0	0
RTOR Reduction (vph)	0	0	0	0	99	0	0	0	50	0	0	0
Lane Group Flow (vph)	515	2612	0	0	3169	0	298	0	55	0	0	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot	NA			NA		Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases									4			
Actuated Green, G (s)	32.5	147.3			108.9		20.2		20.2			
Effective Green, g (s)	32.5	147.3			108.9		20.2		20.2			
Actuated g/C Ratio	0.18	0.82			0.61		0.11		0.11			
Clearance Time (s)	5.9	6.1			6.1		6.4		6.4			
Vehicle Extension (s)	2.0	1.0			1.0		2.0		2.0			
Lane Grp Cap (vph)	607	4081			3471		377		174			
v/s Ratio Prot	c0.15	0.52			c0.55		c0.09					
v/s Ratio Perm									0.04			
v/c Ratio	0.85	0.64			1.80dr		0.79		0.32			
Uniform Delay, d1	71.4	6.2			31.4		77.8		73.6			
Progression Factor	0.75	0.65			1.00		1.00		1.00			
Incremental Delay, d2	7.4	0.5			4.8		10.1		0.4			
Delay (s)	61.1	4.6			36.2		87.9		73.9			
Level of Service	E	A			D		F		E			
Approach Delay (s)		13.9			36.2			84.3			0.0	
Approach LOS		B			D			F			A	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1803: NB Off-Ramp/NB On-Ramp & Ives Dairy Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	2403	0	0	1262	1744	274	0	101	0	0	0
Future Volume (veh/h)	474	2403	0	0	1262	1744	274	0	101	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1827	1827	0	0	1827	1900	1827	0	1827			
Adj Flow Rate, veh/h	515	2612	0	0	1372	1896	298	0	0			
Adj No. of Lanes	2	3	0	0	4	0	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96			
Percent Heavy Veh, %	4	4	0	0	4	4	4	0	4			
Cap, veh/h	1171	4142	0	0	2118	698	338	0	156			
Arrive On Green	0.46	1.00	0.00	0.00	0.60	0.45	0.10	0.00	0.00			
Sat Flow, veh/h	3375	5152	0	0	4969	1553	3375	0	1553			
Grp Volume(v), veh/h	515	2612	0	0	1372	1896	298	0	0			
Grp Sat Flow(s),veh/h/ln	1688	1663	0	0	1571	1553	1688	0	1553			
Q Serve(g_s), s	18.6	0.0	0.0	0.0	34.4	80.9	15.7	0.0	0.0			
Cycle Q Clear(g_c), s	18.6	0.0	0.0	0.0	34.4	80.9	15.7	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1171	4142	0	0	2118	698	338	0	156			
V/C Ratio(X)	0.44	0.63	0.00	0.00	0.65	2.72	0.88	0.00	0.00			
Avail Cap(c_a), veh/h	1171	4142	0	0	2118	698	461	0	212			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.57	0.57	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	36.6	0.0	0.0	0.0	26.8	49.6	79.9	0.0	0.0			
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.0	1.5	776.5	11.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	12.2	0.3	0.0	0.0	21.4	329.4	12.5	0.0	0.0			
LnGrp Delay(d),s/veh	36.7	0.4	0.0	0.0	28.4	826.1	91.3	0.0	0.0			
LnGrp LOS	D	A			C	F	F					
Approach Vol, veh/h		3127			3268			298				
Approach Delay, s/veh		6.4			491.2			91.3				
Approach LOS		A			F			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	68.6	87.0		24.4		155.6		
Change Period (Y+Rc), s	6.1	* 6.1		6.4		6.1		
Max Green Setting (Gmax), s	56.1	* 81		24.6		142.9		
Max Q Clear Time (g_c+I1), s	20.6	82.9		17.7		2.0		
Green Ext Time (p_c), s	16.7	0.0		0.3		21.1		

Intersection Summary

HCM 2010 Ctrl Delay	246.9	
HCM 2010 LOS	F	

Notes

Queues
1804: Highland Lakes Blvd & Ives Dairy Rd

Existing Conditions
AM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	270	1925	868	49	1995	529	262	10	92	300
v/c Ratio	0.95	0.63	0.54	0.40	0.82	0.90	0.88	0.06	0.53	0.68
Control Delay	99.5	28.6	1.3	24.7	48.0	98.7	107.3	82.6	97.2	44.3
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.5	29.3	1.3	24.7	48.0	98.7	107.3	82.6	97.2	44.3
Queue Length 50th (ft)	~414	624	0	23	752	376	369	12	123	223
Queue Length 95th (ft)	#626	667	0	43	803	#461	#542	37	197	#345
Internal Link Dist (ft)		286			473		500		485	
Turn Bay Length (ft)				330		390		225		
Base Capacity (vph)	284	3036	1599	125	2653	616	311	171	180	445
Starvation Cap Reductn	0	671	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.81	0.54	0.39	0.75	0.86	0.84	0.06	0.51	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1804: Highland Lakes Blvd & Ives Dairy Rd

Existing Conditions
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	1906	859	49	1959	16	689	71	23	11	90	297
Future Volume (vph)	267	1906	859	49	1959	16	689	71	23	11	90	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	4.0	3.0	6.6		6.1	6.1		6.1	6.1	3.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.91	0.91		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (prot)	1787	5136	1599	1787	5129		3253	1637		1698	1786	1599
Flt Permitted	0.04	1.00	1.00	0.08	1.00		0.95	0.97		0.95	1.00	1.00
Satd. Flow (perm)	77	5136	1599	145	5129		3253	1637		1698	1786	1599
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	270	1925	868	49	1979	16	696	72	23	11	91	300
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	0	41
Lane Group Flow (vph)	270	1925	868	49	1994	0	529	260	0	10	92	259
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Free	pm+pt	NA		Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		4	4		3	3	1 3
Permitted Phases	6		Free	2								
Actuated Green, G (s)	125.4	117.6	200.0	99.8	95.0		36.2	36.2		19.6	19.6	47.0
Effective Green, g (s)	125.4	117.6	200.0	99.8	95.0		36.2	36.2		19.6	19.6	47.0
Actuated g/C Ratio	0.63	0.59	1.00	0.50	0.48		0.18	0.18		0.10	0.10	0.24
Clearance Time (s)	3.0	6.6		3.0	6.6		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	282	3019	1599	111	2436		588	296		166	175	375
v/s Ratio Prot	c0.13	0.37		0.01	0.39		c0.16	0.16		0.01	0.05	0.16
v/s Ratio Perm	c0.47		c0.54	0.21								
v/c Ratio	0.96	0.64	0.54	0.44	0.82		0.90	0.88		0.06	0.53	0.69
Uniform Delay, d1	71.3	27.2	0.0	27.7	45.1		80.1	79.8		81.8	85.8	69.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	41.4	1.0	1.3	1.0	3.2		16.5	24.2		0.1	2.2	4.4
Delay (s)	112.7	28.2	1.3	28.7	48.3		96.6	103.9		82.0	87.9	74.3
Level of Service	F	C	A	C	D		F	F		F	F	E
Approach Delay (s)		28.0			47.8			99.1			77.6	
Approach LOS		C			D			F			E	

Intersection Summary

HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	21.8
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Part 2
PM Peak Period

Queues
1101: NW 7th Ave/SR 7 & NW 103rd St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	170	777	109	1132	203	1605	170	767
v/c Ratio	0.74	0.88	0.51	0.83	0.60	0.99	0.72	0.47
Control Delay	40.4	46.9	23.8	33.2	24.2	53.6	36.7	27.5
Queue Delay	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0
Total Delay	40.4	46.9	23.8	35.1	24.2	53.6	36.7	27.5
Queue Length 50th (ft)	67	270	36	252	75	~405	61	139
Queue Length 95th (ft)	#151	#395	m47	256	123	#502	#143	179
Internal Link Dist (ft)		591		251		587		519
Turn Bay Length (ft)	365		110		115		125	
Base Capacity (vph)	234	891	234	1400	349	1628	252	1615
Starvation Cap Reductn	0	0	0	139	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.87	0.47	0.90	0.58	0.99	0.67	0.47

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1101: NW 7th Ave/SR 7 & NW 103rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	651	72	101	875	178	189	1323	169	158	613	100
Future Volume (vph)	158	651	72	101	875	178	189	1323	169	158	613	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.1		5.0	6.1		5.0	6.3		5.0	6.3	
Lane Util. Factor	1.00	*0.57		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3107		1752	4908		1752	4950		1752	4930	
Flt Permitted	0.14	1.00		0.15	1.00		0.28	1.00		0.12	1.00	
Satd. Flow (perm)	262	3107		271	4908		515	4950		228	4930	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	170	700	77	109	941	191	203	1423	182	170	659	108
RTOR Reduction (vph)	0	7	0	0	31	0	0	16	0	0	22	0
Lane Group Flow (vph)	170	770	0	109	1101	0	203	1589	0	170	745	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	36.9	28.2		34.9	27.2		42.0	32.6		41.4	32.3	
Effective Green, g (s)	36.9	28.2		34.9	27.2		42.0	32.6		41.4	32.3	
Actuated g/C Ratio	0.37	0.28		0.35	0.27		0.42	0.33		0.41	0.32	
Clearance Time (s)	5.0	6.1		5.0	6.1		5.0	6.3		5.0	6.3	
Vehicle Extension (s)	2.0	2.5		2.0	2.5		2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	226	876		208	1334		332	1613		233	1592	
v/s Ratio Prot	c0.07	c0.25		0.04	0.22		0.06	c0.32		c0.07	0.15	
v/s Ratio Perm	0.21			0.14			0.20			0.24		
v/c Ratio	0.75	0.88		0.52	0.83		0.61	0.99		0.73	0.47	
Uniform Delay, d1	23.9	34.3		24.3	34.2		19.3	33.5		23.0	27.0	
Progression Factor	1.00	1.00		0.89	0.84		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.8	9.9		1.0	3.8		2.3	19.2		9.3	1.0	
Delay (s)	35.7	44.2		22.6	32.6		21.7	52.7		32.3	28.0	
Level of Service	D	D		C	C		C	D		C	C	
Approach Delay (s)		42.7			31.7			49.2			28.8	
Approach LOS		D			C			D			C	

Intersection Summary

HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1101: NW 7th Ave/SR 7 & NW 103rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	651	72	101	875	178	189	1323	169	158	613	100
Future Volume (veh/h)	158	651	72	101	875	178	189	1323	169	158	613	100
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	170	700	77	109	941	191	203	1423	182	170	659	108
Adj No. of Lanes	1	3	0	1	3	0	1	3	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	252	1012	111	256	1103	223	393	1546	198	232	1439	233
Arrive On Green	0.09	0.29	0.29	0.06	0.26	0.26	0.13	0.45	0.45	0.11	0.44	0.44
Sat Flow, veh/h	1757	3497	383	1757	4202	850	1757	4522	578	1757	4369	708
Grp Volume(v), veh/h	170	420	357	109	751	381	203	1056	549	170	505	262
Grp Sat Flow(s),veh/h/ln	1757	1051	1777	1757	1679	1695	1757	1679	1743	1757	1679	1720
Q Serve(g_s), s	7.0	17.7	17.9	4.5	21.3	21.4	7.6	29.5	29.5	6.3	10.6	10.8
Cycle Q Clear(g_c), s	7.0	17.7	17.9	4.5	21.3	21.4	7.6	29.5	29.5	6.3	10.6	10.8
Prop In Lane	1.00		0.22	1.00		0.50	1.00		0.33	1.00		0.41
Lane Grp Cap(c), veh/h	252	608	514	256	881	445	393	1148	596	232	1106	566
V/C Ratio(X)	0.68	0.69	0.70	0.43	0.85	0.86	0.52	0.92	0.92	0.73	0.46	0.46
Avail Cap(c_a), veh/h	254	608	514	306	937	473	401	1148	596	262	1106	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	31.6	31.6	25.7	35.0	35.1	18.8	26.0	26.0	23.6	21.8	21.9
Incr Delay (d2), s/veh	5.6	3.1	3.8	0.4	6.2	11.8	0.4	13.2	21.8	7.1	1.4	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	9.2	14.3	3.9	15.5	16.5	6.5	22.1	24.5	6.2	8.8	9.3
LnGrp Delay(d),s/veh	32.0	34.6	35.4	26.1	41.2	46.8	19.3	39.2	47.8	30.7	23.2	24.6
LnGrp LOS	C	C	D	C	D	D	B	D	D	C	C	C
Approach Vol, veh/h		947			1241			1808			937	
Approach Delay, s/veh		34.5			41.6			39.6			24.9	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	39.2	11.2	35.0	13.3	40.5	13.9	32.3
Change Period (Y+Rc), s	5.0	6.3	5.0	* 6.1	5.0	6.3	5.0	* 6.1
Max Green Setting (Gmax), s	10.0	30.7	9.0	* 28	10.0	30.7	9.0	* 28
Max Q Clear Time (g_c+I1), s	9.6	12.8	6.5	19.9	8.3	31.5	9.0	23.4
Green Ext Time (p_c), s	0.0	7.2	0.0	5.8	0.0	0.0	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	36.3
HCM 2010 LOS	D

Notes

Queues
1102: SB On-Ramp/SB Off-Ramp & NW 103rd St

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	835	246	222	869	259	419
v/c Ratio	0.48	0.25	0.53	0.36	0.66	0.79
Control Delay	12.8	1.7	16.5	6.6	42.5	27.3
Queue Delay	0.4	0.3	0.3	0.1	0.5	0.2
Total Delay	13.2	1.9	16.8	6.7	43.0	27.4
Queue Length 50th (ft)	148	0	47	101	151	118
Queue Length 95th (ft)	m134	m3	85	86	210	212
Internal Link Dist (ft)	251			237	539	
Turn Bay Length (ft)						
Base Capacity (vph)	1938	1064	443	2580	410	540
Starvation Cap Reductn	537	376	32	709	0	0
Spillback Cap Reductn	0	0	0	80	22	5
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.36	0.54	0.46	0.67	0.78

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1102: SB On-Ramp/SB Off-Ramp & NW 103rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	785	231	209	817	0	0	0	0	243	0	394
Future Volume (vph)	0	785	231	209	817	0	0	0	0	243	0	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0						5.0	5.0
Lane Util. Factor		*0.85	1.00	1.00	0.95						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3167	1583	1770	3539						1770	1583
Flt Permitted		1.00	1.00	0.23	1.00						0.95	1.00
Satd. Flow (perm)		3167	1583	427	3539						1770	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	835	246	222	869	0	0	0	0	259	0	419
RTOR Reduction (vph)	0	0	109	0	0	0	0	0	0	0	0	176
Lane Group Flow (vph)	0	835	137	222	869	0	0	0	0	0	259	243
Turn Type		NA	Perm	pm+pt	NA					custom	NA	Perm
Protected Phases		6		5	2					8	8	
Permitted Phases			6	2						8		8
Actuated Green, G (s)		55.5	55.5	67.7	67.7						22.3	22.3
Effective Green, g (s)		55.5	55.5	67.7	67.7						22.3	22.3
Actuated g/C Ratio		0.56	0.56	0.68	0.68						0.22	0.22
Clearance Time (s)		5.0	5.0	3.0	5.0						5.0	5.0
Vehicle Extension (s)		1.0	1.0	2.0	1.0						2.5	2.5
Lane Grp Cap (vph)		1757	878	412	2395						394	353
v/s Ratio Prot		0.26		c0.05	0.25						0.15	
v/s Ratio Perm			0.09	c0.31								c0.15
v/c Ratio		0.48	0.16	0.54	0.36						0.66	0.69
Uniform Delay, d1		13.4	10.8	7.7	6.9						35.4	35.7
Progression Factor		0.80	0.59	1.92	0.79						1.00	1.00
Incremental Delay, d2		0.5	0.2	0.6	0.4						3.5	5.1
Delay (s)		11.2	6.6	15.5	5.8						38.9	40.7
Level of Service		B	A	B	A						D	D
Approach Delay (s)		10.1			7.8			0.0			40.0	
Approach LOS		B			A			A			D	

Intersection Summary

HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
1103: NW 6th Ave/NB Off-Ramp/NB On-Ramp & NW 103rd St

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	311	815	852	318	139	140	185
v/c Ratio	0.54	0.30	0.56	0.33	0.59	0.58	0.65
Control Delay	20.2	5.8	20.0	3.0	49.3	49.0	34.8
Queue Delay	0.6	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	6.0	20.0	3.0	49.3	49.0	34.8
Queue Length 50th (ft)	84	81	215	0	89	90	69
Queue Length 95th (ft)	233	143	345	49	141	141	129
Internal Link Dist (ft)		237	103			611	
Turn Bay Length (ft)					110		
Base Capacity (vph)	578	2695	1508	959	842	852	828
Starvation Cap Reductn	71	994	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.48	0.56	0.33	0.17	0.16	0.22

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1103: NW 6th Ave/NB Off-Ramp/NB On-Ramp & NW 103rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	299	782	0	0	818	305	239	29	178	0	0	0
Future Volume (vph)	299	782	0	0	818	305	239	29	178	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.2			5.2	5.2	5.4	5.4	5.4			
Lane Util. Factor	1.00	0.95			*0.80	1.00	0.95	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (prot)	1787	3574			3010	1599	1698	1720	1599			
Flt Permitted	0.18	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (perm)	341	3574			3010	1599	1698	1720	1599			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	311	815	0	0	852	318	249	30	185	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	159	0	0	61	0	0	0
Lane Group Flow (vph)	311	815	0	0	852	159	139	140	124	0	0	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA			NA	Perm	Split	NA	Prot			
Protected Phases	1	6			2		4	4	4			
Permitted Phases	6					2						
Actuated Green, G (s)	75.4	75.4			50.1	50.1	14.0	14.0	14.0			
Effective Green, g (s)	75.4	75.4			50.1	50.1	14.0	14.0	14.0			
Actuated g/C Ratio	0.75	0.75			0.50	0.50	0.14	0.14	0.14			
Clearance Time (s)	3.5	5.2			5.2	5.2	5.4	5.4	5.4			
Vehicle Extension (s)	2.0	1.0			1.0	1.0	2.5	2.5	2.5			
Lane Grp Cap (vph)	572	2694			1508	801	237	240	223			
v/s Ratio Prot	c0.12	0.23			0.28		c0.08	0.08	0.08			
v/s Ratio Perm	c0.29					0.10						
v/c Ratio	0.54	0.30			0.56	0.20	0.59	0.58	0.56			
Uniform Delay, d1	8.1	3.9			17.4	13.8	40.3	40.3	40.1			
Progression Factor	2.57	1.25			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.5	0.3			1.5	0.6	3.1	3.0	2.4			
Delay (s)	21.4	5.1			18.9	14.4	43.3	43.2	42.5			
Level of Service	C	A			B	B	D	D	D			
Approach Delay (s)		9.6			17.7			43.0			0.0	
Approach LOS		A			B			D			A	

Intersection Summary

HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.1
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1103: NW 6th Ave/NB Off-Ramp/NB On-Ramp & NW 103rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	782	0	0	818	305	239	29	178	0	0	0
Future Volume (veh/h)	299	782	0	0	818	305	239	29	178	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1881	1881	1881	1881	1881			
Adj Flow Rate, veh/h	311	815	0	0	852	318	270	0	185			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1			
Cap, veh/h	449	2681	0	0	1920	1020	516	0	230			
Arrive On Green	0.08	0.75	0.00	0.00	0.64	0.64	0.14	0.00	0.14			
Sat Flow, veh/h	1792	3668	0	0	3386	1599	3583	0	1599			
Grp Volume(v), veh/h	311	815	0	0	852	318	270	0	185			
Grp Sat Flow(s),veh/h/ln	1792	1787	0	0	1505	1599	1792	0	1599			
Q Serve(g_s), s	5.6	7.4	0.0	0.0	14.3	9.0	7.0	0.0	11.2			
Cycle Q Clear(g_c), s	5.6	7.4	0.0	0.0	14.3	9.0	7.0	0.0	11.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	449	2681	0	0	1920	1020	516	0	230			
V/C Ratio(X)	0.69	0.30	0.00	0.00	0.44	0.31	0.52	0.00	0.80			
Avail Cap(c_a), veh/h	499	2681	0	0	1920	1020	1777	0	793			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.88	0.88	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	8.0	4.0	0.0	0.0	9.2	8.2	39.6	0.0	41.4			
Incr Delay (d2), s/veh	2.4	0.3	0.0	0.0	0.7	0.8	0.6	0.0	4.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	7.2	6.7	0.0	0.0	10.2	7.6	6.3	0.0	9.0			
LnGrp Delay(d),s/veh	10.4	4.3	0.0	0.0	9.9	9.0	40.2	0.0	46.3			
LnGrp LOS	B	A			A	A	D		D			
Approach Vol, veh/h		1126			1170			455				
Approach Delay, s/veh		6.0			9.7			42.7				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	11.2	69.0		19.8		80.2		
Change Period (Y+Rc), s	3.5	* 5.2		* 5.4		* 5.2		
Max Green Setting (Gmax), s	10.5	* 26		* 50		* 40		
Max Q Clear Time (g_c+I1), s	7.6	16.3		13.2		9.4		
Green Ext Time (p_c), s	0.2	4.0		1.2		5.6		

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Notes

Queues
1104: NW 5th Ave & NW 103rd St

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	148	819	17	1081	106	139
v/c Ratio	0.35	0.29	0.04	0.44	0.76	0.58
Control Delay	4.7	3.2	7.2	8.5	71.7	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	3.2	7.2	8.5	71.7	31.2
Queue Length 50th (ft)	15	54	3	141	62	42
Queue Length 95th (ft)	36	96	13	243	116	99
Internal Link Dist (ft)		425		565	170	248
Turn Bay Length (ft)	175		200			
Base Capacity (vph)	432	2804	443	2445	259	396
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.29	0.04	0.44	0.41	0.35

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1104: NW 5th Ave & NW 103rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	702	76	16	987	40	43	42	16	24	28	81
Future Volume (vph)	141	702	76	16	987	40	43	42	16	24	28	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.6		4.6	4.6			4.8			4.8	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.98			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1787	3522		1787	3553			1802			1711	
Flt Permitted	0.22	1.00		0.34	1.00			0.64			0.91	
Satd. Flow (perm)	405	3522		645	3553			1169			1577	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	148	739	80	17	1039	42	45	44	17	25	29	85
RTOR Reduction (vph)	0	5	0	0	2	0	0	8	0	0	63	0
Lane Group Flow (vph)	148	814	0	17	1079	0	0	98	0	0	76	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	80.9	80.9		70.0	70.0			11.5			11.5	
Effective Green, g (s)	80.9	80.9		70.0	70.0			11.5			11.5	
Actuated g/C Ratio	0.79	0.79		0.69	0.69			0.11			0.11	
Clearance Time (s)	3.5	4.6		4.6	4.6			4.8			4.8	
Vehicle Extension (s)	2.0	1.0		1.0	1.0			2.5			2.5	
Lane Grp Cap (vph)	422	2798		443	2443			132			178	
v/s Ratio Prot	c0.03	0.23			c0.30							
v/s Ratio Perm	0.25			0.03				c0.08			0.05	
v/c Ratio	0.35	0.29		0.04	0.44			0.74			0.43	
Uniform Delay, d1	3.6	2.8		5.1	7.1			43.7			42.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.3		0.2	0.6			19.1			1.2	
Delay (s)	3.8	3.1		5.3	7.7			62.8			43.3	
Level of Service	A	A		A	A			E			D	
Approach Delay (s)		3.2			7.7			62.8			43.3	
Approach LOS		A			A			E			D	

Intersection Summary

HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	101.8	Sum of lost time (s)	12.9
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1104: NW 5th Ave & NW 103rd St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	702	76	16	987	40	43	42	16	24	28	81
Future Volume (veh/h)	141	702	76	16	987	40	43	42	16	24	28	81
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1900	1881	1900	1900	1881	1900
Adj Flow Rate, veh/h	148	739	80	17	1039	42	45	44	17	25	29	85
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	524	2610	282	554	2519	102	106	84	27	64	48	110
Arrive On Green	0.06	1.00	0.80	0.96	0.96	0.96	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1792	3254	352	672	3502	142	531	798	254	210	451	1041
Grp Volume(v), veh/h	148	406	413	17	530	551	106	0	0	139	0	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1819	672	1787	1856	1582	0	0	1702	0	0
Q Serve(g_s), s	2.0	0.0	1.2	0.1	2.2	2.2	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	1.2	0.1	2.2	2.2	6.4	0.0	0.0	7.9	0.0	0.0
Prop In Lane	1.00		0.19	1.00		0.08	0.42		0.16	0.18		0.61
Lane Grp Cap(c), veh/h	524	1433	1459	554	1286	1335	218	0	0	222	0	0
V/C Ratio(X)	0.28	0.28	0.28	0.03	0.41	0.41	0.49	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	551	1433	1459	554	1286	1335	386	0	0	397	0	0
HCM Platoon Ratio	1.33	1.33	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.6	0.0	0.4	0.6	0.7	0.7	43.5	0.0	0.0	44.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.5	0.1	1.0	0.9	1.2	0.0	0.0	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	0.4	1.4	0.1	2.3	2.3	5.3	0.0	0.0	7.1	0.0	0.0
LnGrp Delay(d),s/veh	2.7	0.5	0.9	0.7	1.6	1.6	44.8	0.0	0.0	46.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D			D		
Approach Vol, veh/h		967			1098			106			139	
Approach Delay, s/veh		1.0			1.6			44.8			46.5	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	8.4	78.0		15.6		86.4		15.6
Change Period (Y+Rc), s	3.5	* 4.6		* 4.8		* 4.6		* 4.8
Max Green Setting (Gmax), s	6.5	* 60		* 22		* 70		* 22
Max Q Clear Time (g_c+I1), s	4.0	4.2		8.4		3.2		9.9
Green Ext Time (p_c), s	0.0	5.3		1.0		5.3		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A

Notes

Queues
1201: NW 7th Ave/SR 7 & NW 119th St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	201	1193	116	1156	228	1351	138	1082
v/c Ratio	1.02	0.81	0.62	0.80	0.83	0.88	0.64	0.78
Control Delay	95.5	37.3	36.6	38.7	52.2	41.4	35.4	36.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.5	37.3	36.6	38.7	52.2	41.4	35.4	36.4
Queue Length 50th (ft)	~89	256	43	154	94	302	51	219
Queue Length 95th (ft)	#216	288	m107	295	#293	#413	#129	272
Internal Link Dist (ft)		580		302		344		346
Turn Bay Length (ft)	315		270		315		170	
Base Capacity (vph)	197	1709	191	1706	274	1539	214	1396
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.70	0.61	0.68	0.83	0.88	0.64	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1201: NW 7th Ave/SR 7 & NW 119th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	1033	88	109	974	113	214	1130	140	130	798	219
Future Volume (vph)	189	1033	88	109	974	113	214	1130	140	130	798	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	5075		1787	5056		1787	5051		1787	4970	
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.15	1.00	
Satd. Flow (perm)	261	5075		266	5056		248	5051		281	4970	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	201	1099	94	116	1036	120	228	1202	149	138	849	233
RTOR Reduction (vph)	0	11	0	0	15	0	0	15	0	0	50	0
Lane Group Flow (vph)	201	1182	0	116	1141	0	228	1336	0	138	1032	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	35.6	28.8		34.6	28.3		41.6	30.3		34.6	26.8	
Effective Green, g (s)	35.6	28.8		34.6	28.3		41.6	30.3		34.6	26.8	
Actuated g/C Ratio	0.36	0.29		0.35	0.28		0.42	0.30		0.35	0.27	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.9	6.9		6.9	6.9	
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	196	1461		187	1430		277	1530		214	1331	
v/s Ratio Prot	c0.07	0.23		0.04	0.23		c0.09	c0.26		0.05	0.21	
v/s Ratio Perm	c0.29			0.17			0.25			0.17		
v/c Ratio	1.03	0.81		0.62	0.80		0.82	0.87		0.64	0.78	
Uniform Delay, d1	27.6	33.1		24.4	33.2		22.0	33.0		24.8	33.8	
Progression Factor	1.00	1.00		1.36	1.08		1.00	1.00		1.00	1.00	
Incremental Delay, d2	71.1	3.2		3.7	2.5		16.9	7.2		4.9	4.5	
Delay (s)	98.7	36.3		37.0	38.3		38.9	40.2		29.7	38.3	
Level of Service	F	D		D	D		D	D		C	D	
Approach Delay (s)		45.3			38.2			40.0			37.3	
Approach LOS		D			D			D			D	

Intersection Summary

HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	26.8
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1201: NW 7th Ave/SR 7 & NW 119th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	1033	88	109	974	113	214	1130	140	130	798	219
Future Volume (veh/h)	189	1033	88	109	974	113	214	1130	140	130	798	219
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1881	1900	1881	1881	1900
Adj Flow Rate, veh/h	201	1099	94	116	1036	120	228	1202	149	138	849	233
Adj No. of Lanes	1	3	0	1	3	0	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	226	1371	117	219	1318	152	263	1499	186	221	1300	355
Arrive On Green	0.06	0.28	0.28	0.06	0.28	0.28	0.08	0.43	0.43	0.08	0.43	0.43
Sat Flow, veh/h	1792	4820	412	1792	4670	540	1792	4630	574	1792	4016	1096
Grp Volume(v), veh/h	201	780	413	116	759	397	228	889	462	138	723	359
Grp Sat Flow(s),veh/h/ln	1792	1712	1808	1792	1712	1786	1792	1712	1780	1792	1712	1688
Q Serve(g_s), s	6.5	21.1	21.2	4.5	20.5	20.5	6.1	22.6	22.6	5.2	16.7	16.9
Cycle Q Clear(g_c), s	6.5	21.1	21.2	4.5	20.5	20.5	6.1	22.6	22.6	5.2	16.7	16.9
Prop In Lane	1.00		0.23	1.00		0.30	1.00		0.32	1.00		0.65
Lane Grp Cap(c), veh/h	226	974	514	219	966	504	263	1109	576	221	1109	547
V/C Ratio(X)	0.89	0.80	0.80	0.53	0.79	0.79	0.87	0.80	0.80	0.62	0.65	0.66
Avail Cap(c_a), veh/h	226	1147	606	223	1147	598	263	1109	576	221	1109	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	33.2	33.2	25.8	33.1	33.1	29.9	25.7	25.7	23.8	24.0	24.1
Incr Delay (d2), s/veh	31.2	3.0	5.5	1.1	2.5	4.8	24.3	6.1	11.2	4.1	3.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	15.7	16.9	4.1	15.1	16.2	8.7	17.0	18.6	4.9	13.1	13.6
LnGrp Delay(d),s/veh	62.2	36.1	38.7	26.9	35.6	37.9	54.2	31.8	36.9	27.9	27.0	30.1
LnGrp LOS	E	D	D	C	D	D	D	C	D	C	C	C
Approach Vol, veh/h		1394			1272			1579			1220	
Approach Delay, s/veh		40.7			35.5			36.5			28.0	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	39.3	13.0	34.7	13.0	39.3	12.8	34.9
Change Period (Y+Rc), s	6.9	6.9	6.5	6.5	6.9	6.9	6.5	6.5
Max Green Setting (Gmax), s	6.1	27.1	6.5	33.5	6.1	27.1	6.5	33.5
Max Q Clear Time (g_c+I1), s	8.1	18.9	8.5	22.5	7.2	24.6	6.5	23.2
Green Ext Time (p_c), s	0.0	4.8	0.0	5.5	0.0	1.9	0.0	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	35.5
HCM 2010 LOS	D

Queues
1203: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 119th St

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	212	729	1162	277	278	72
v/c Ratio	0.57	0.31	0.65	0.71	0.74	0.18
Control Delay	33.2	3.5	21.1	44.8	46.5	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	3.5	21.1	44.8	46.5	7.3
Queue Length 50th (ft)	82	28	286	171	180	0
Queue Length 95th (ft)	m142	m58	#458	234	247	32
Internal Link Dist (ft)		213	585		247	
Turn Bay Length (ft)	130					
Base Capacity (vph)	376	2369	1787	655	633	630
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.31	0.65	0.42	0.44	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1203: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 119th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	685	0	0	957	135	474	40	75	0	0	0
Future Volume (vph)	199	685	0	0	957	135	474	40	75	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.9			4.9		5.0	5.0	5.0			
Lane Util. Factor	1.00	0.95			0.95		0.95	0.91	0.95			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.96	1.00			
Satd. Flow (prot)	1770	3539			3473		1681	1622	1504			
Flt Permitted	0.14	1.00			1.00		0.95	0.96	1.00			
Satd. Flow (perm)	260	3539			3473		1681	1622	1504			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	212	729	0	0	1018	144	504	43	80	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	2	55	0	0	0
Lane Group Flow (vph)	212	729	0	0	1153	0	277	276	17	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	1	6			2			4				
Permitted Phases	6						4		4			
Actuated Green, G (s)	67.0	67.0			51.3		23.1	23.1	23.1			
Effective Green, g (s)	67.0	67.0			51.3		23.1	23.1	23.1			
Actuated g/C Ratio	0.67	0.67			0.51		0.23	0.23	0.23			
Clearance Time (s)	3.0	4.9			4.9		5.0	5.0	5.0			
Vehicle Extension (s)	2.0	1.0			1.0		2.5	2.5	2.5			
Lane Grp Cap (vph)	365	2371			1781		388	374	347			
v/s Ratio Prot	c0.07	0.21			c0.33							
v/s Ratio Perm	0.31						0.16	0.17	0.01			
v/c Ratio	0.58	0.31			0.65		0.71	0.74	0.05			
Uniform Delay, d1	11.2	6.9			17.8		35.4	35.7	29.9			
Progression Factor	3.35	0.41			0.96		1.00	1.00	1.00			
Incremental Delay, d2	1.1	0.2			1.8		5.7	7.1	0.0			
Delay (s)	38.6	3.1			18.8		41.1	42.7	29.9			
Level of Service	D	A			B		D	D	C			
Approach Delay (s)		11.1			18.8			40.5			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1203: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 119th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	685	0	0	957	135	474	40	75	0	0	0
Future Volume (veh/h)	199	685	0	0	957	135	474	40	75	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863			
Adj Flow Rate, veh/h	212	729	0	0	1018	144	546	0	68			
Adj No. of Lanes	1	2	0	0	2	0	2	0	1			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	435	2534	0	0	1944	275	656	0	293			
Arrive On Green	0.08	0.95	0.00	0.00	0.83	0.83	0.18	0.00	0.18			
Sat Flow, veh/h	1774	3632	0	0	3208	440	3548	0	1583			
Grp Volume(v), veh/h	212	729	0	0	578	584	546	0	68			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1785	1774	0	1583			
Q Serve(g_s), s	4.1	1.4	0.0	0.0	9.8	9.8	14.8	0.0	3.7			
Cycle Q Clear(g_c), s	4.1	1.4	0.0	0.0	9.8	9.8	14.8	0.0	3.7			
Prop In Lane	1.00		0.00	0.00		0.25	1.00		1.00			
Lane Grp Cap(c), veh/h	435	2534	0	0	1105	1114	656	0	293			
V/C Ratio(X)	0.49	0.29	0.00	0.00	0.52	0.52	0.83	0.00	0.23			
Avail Cap(c_a), veh/h	503	2534	0	0	1105	1114	1384	0	617			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.93	0.93	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.0	0.7	0.0	0.0	4.0	4.0	39.3	0.0	34.7			
Incr Delay (d2), s/veh	0.3	0.3	0.0	0.0	1.7	1.6	2.1	0.0	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.5	1.2	0.0	0.0	8.6	8.7	12.0	0.0	2.9			
LnGrp Delay(d),s/veh	6.3	1.0	0.0	0.0	5.7	5.7	41.4	0.0	35.0			
LnGrp LOS	A	A			A	A	D		D			
Approach Vol, veh/h		941			1162			614				
Approach Delay, s/veh		2.2			5.7			40.7				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	9.2	67.3		23.5		76.5		
Change Period (Y+Rc), s	3.0	* 4.9		5.0		* 4.9		
Max Green Setting (Gmax), s	10.0	* 38		39.0		* 51		
Max Q Clear Time (g_c+I1), s	6.1	11.8		16.8		3.4		
Green Ext Time (p_c), s	0.1	5.6		1.7		5.8		

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Notes

Queues
1204: NW 5th Ave & NW 119th St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	780	49	1038	69	126	8	69
v/c Ratio	0.15	0.28	0.09	0.37	0.50	0.56	0.07	0.33
Control Delay	7.5	7.1	3.1	3.4	54.3	33.9	39.9	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	7.1	3.1	3.4	54.3	33.9	39.9	25.7
Queue Length 50th (ft)	17	120	5	72	42	43	5	18
Queue Length 95th (ft)	29	118	16	123	83	97	18	57
Internal Link Dist (ft)		585		607		348		358
Turn Bay Length (ft)	150		150		125		120	
Base Capacity (vph)	391	2807	522	2831	198	302	157	288
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.28	0.09	0.37	0.35	0.42	0.05	0.24

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1204: NW 5th Ave & NW 119th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	680	61	47	971	15	66	52	67	8	29	36
Future Volume (vph)	54	680	61	47	971	15	66	52	67	8	29	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.92		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3496		1770	3531		1770	1705		1770	1709	
Flt Permitted	0.26	1.00		0.35	1.00		0.71	1.00		0.56	1.00	
Satd. Flow (perm)	487	3496		652	3531		1326	1705		1048	1709	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	716	64	49	1022	16	69	55	71	8	31	38
RTOR Reduction (vph)	0	5	0	0	1	0	0	49	0	0	34	0
Lane Group Flow (vph)	57	775	0	49	1037	0	69	77	0	8	35	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	80.1	80.1		80.1	80.1		10.4	10.4		10.4	10.4	
Effective Green, g (s)	80.1	80.1		80.1	80.1		10.4	10.4		10.4	10.4	
Actuated g/C Ratio	0.80	0.80		0.80	0.80		0.10	0.10		0.10	0.10	
Clearance Time (s)	4.5	4.5		4.5	4.5		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	390	2800		522	2828		137	177		108	177	
v/s Ratio Prot		0.22			c0.29			0.04			0.02	
v/s Ratio Perm	0.12			0.08			c0.05			0.01		
v/c Ratio	0.15	0.28		0.09	0.37		0.50	0.43		0.07	0.20	
Uniform Delay, d1	2.2	2.5		2.1	2.8		42.4	42.0		40.5	41.0	
Progression Factor	2.29	2.55		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.2		0.4	0.4		2.1	1.2		0.2	0.4	
Delay (s)	5.9	6.7		2.5	3.2		44.5	43.3		40.7	41.4	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		6.7			3.1			43.7			41.3	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1204: NW 5th Ave & NW 119th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	680	61	47	971	15	66	52	67	8	29	36
Future Volume (veh/h)	54	680	61	47	971	15	66	52	67	8	29	36
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	57	716	64	49	1022	16	69	55	71	8	31	38
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	501	2605	233	619	2827	44	171	83	107	124	86	105
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	541	3287	294	690	3567	56	1326	740	955	1260	763	935
Grp Volume(v), veh/h	57	385	395	49	507	531	69	0	126	8	0	69
Grp Sat Flow(s),veh/h/ln	541	1770	1811	690	1770	1853	1326	0	1694	1260	0	1698
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	7.1	0.6	0.0	3.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	7.1	7.7	0.0	3.8
Prop In Lane	1.00		0.16	1.00		0.03	1.00		0.56	1.00		0.55
Lane Grp Cap(c), veh/h	501	1403	1435	619	1403	1469	171	0	191	124	0	191
V/C Ratio(X)	0.11	0.27	0.28	0.08	0.36	0.36	0.40	0.00	0.66	0.06	0.00	0.36
Avail Cap(c_a), veh/h	501	1403	1435	619	1403	1469	221	0	254	171	0	255
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	45.1	0.0	42.6	46.3	0.0	41.1
Incr Delay (d2), s/veh	0.4	0.5	0.5	0.3	0.7	0.7	1.1	0.0	2.9	0.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.3	0.3	0.1	0.5	0.5	3.4	0.0	6.3	0.4	0.0	3.3
LnGrp Delay(d),s/veh	0.4	0.5	0.5	0.3	0.7	0.7	46.3	0.0	45.5	46.4	0.0	41.9
LnGrp LOS	A	A	A	A	A	A	D		D	D		D
Approach Vol, veh/h		837			1087			195			77	
Approach Delay, s/veh		0.5			0.7			45.7			42.4	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		83.8		16.2		83.8		16.2
Change Period (Y+Rc), s		4.5		5.0		4.5		5.0
Max Green Setting (Gmax), s		75.5		15.0		75.5		15.0
Max Q Clear Time (g_c+I1), s		2.0		10.8		2.0		9.7
Green Ext Time (p_c), s		5.6		0.4		5.6		0.5

Intersection Summary

HCM 2010 Ctrl Delay	6.1
HCM 2010 LOS	A

Notes

Queues
Existing Conditions
1301: NW 7th Ave/SR 7 & NW 125th St
PM PEAK HOUR

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	156	196	203	142	19	1323	129	705
v/c Ratio	0.21	0.47	0.77	0.77	0.30	0.06	0.62	0.53	0.24
Control Delay	44.2	45.5	63.0	62.4	4.7	21.4	24.8	19.5	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.2	45.5	63.0	62.4	4.7	21.4	24.8	19.5	11.6
Queue Length 50th (ft)	20	48	109	113	11	7	236	38	80
Queue Length 95th (ft)	50	78	#218	#224	44	25	321	75	109
Internal Link Dist (ft)		569		298			419		432
Turn Bay Length (ft)	120		225			200		210	
Base Capacity (vph)	296	591	282	292	505	294	2138	274	2899
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.26	0.70	0.70	0.28	0.06	0.62	0.47	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1301: NW 7th Ave/SR 7 & NW 125th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	141	12	264	127	139	19	1129	168	126	671	20
Future Volume (vph)	33	141	12	264	127	139	19	1129	168	126	671	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4	6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3533		1698	1756	1599	1787	5036		1787	5114	
Flt Permitted	0.95	1.00		0.95	0.98	1.00	0.37	1.00		0.11	1.00	
Satd. Flow (perm)	1787	3533		1698	1756	1599	700	5036		207	5114	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	34	144	12	269	130	142	19	1152	171	129	685	20
RTOR Reduction (vph)	0	6	0	0	0	109	0	17	0	0	3	0
Lane Group Flow (vph)	34	150	0	196	203	33	19	1306	0	129	702	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	NA		Split	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases	8	8		4	4	5		6		5	2	
Permitted Phases						4	6			2		
Actuated Green, G (s)	9.2	9.2		14.9	14.9	23.0	42.2	42.2		56.7	56.7	
Effective Green, g (s)	9.2	9.2		14.9	14.9	23.0	42.2	42.2		56.7	56.7	
Actuated g/C Ratio	0.09	0.09		0.15	0.15	0.23	0.42	0.42		0.57	0.57	
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4	6.4	6.4		6.4	6.4	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.0	1.0	1.0		2.0	1.0	
Lane Grp Cap (vph)	164	325		253	261	367	295	2125		245	2899	
v/s Ratio Prot	0.02	c0.04		0.12	c0.12	0.01		c0.26		c0.04	0.14	
v/s Ratio Perm						0.01	0.03			0.26		
v/c Ratio	0.21	0.46		0.77	0.78	0.09	0.06	0.61		0.53	0.24	
Uniform Delay, d1	42.0	43.0		40.9	41.0	30.3	17.2	22.6		13.6	10.9	
Progression Factor	1.00	1.00		1.05	1.04	1.11	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.8		13.0	12.9	0.0	0.4	1.3		0.9	0.2	
Delay (s)	42.5	43.8		55.9	55.6	33.6	17.6	23.9		14.5	11.1	
Level of Service	D	D		E	E	C	B	C		B	B	
Approach Delay (s)		43.6			49.9			23.8			11.6	
Approach LOS		D			D			C			B	

Intersection Summary

HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1301: NW 7th Ave/SR 7 & NW 125th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	141	12	264	127	139	19	1129	168	126	671	20
Future Volume (veh/h)	33	141	12	264	127	139	19	1129	168	126	671	20
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1881	1881	1881	1900	1881	1881	1900
Adj Flow Rate, veh/h	34	144	12	200	227	142	19	1152	171	129	685	20
Adj No. of Lanes	1	2	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	125	233	19	257	270	316	428	2152	319	309	3050	89
Arrive On Green	0.07	0.07	0.07	0.14	0.14	0.14	0.63	0.63	0.63	0.07	0.79	0.79
Sat Flow, veh/h	1792	3344	276	1792	1881	1599	747	4517	670	1792	5129	149
Grp Volume(v), veh/h	34	76	80	200	227	142	19	873	450	129	457	248
Grp Sat Flow(s),veh/h/ln	1792	1787	1832	1792	1881	1599	747	1712	1763	1792	1712	1855
Q Serve(g_s), s	1.8	4.1	4.2	10.8	11.8	7.8	1.0	14.1	14.1	3.5	3.4	3.4
Cycle Q Clear(g_c), s	1.8	4.1	4.2	10.8	11.8	7.8	1.0	14.1	14.1	3.5	3.4	3.4
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.38	1.00		0.08
Lane Grp Cap(c), veh/h	125	124	128	257	270	316	428	1632	840	309	2036	1103
V/C Ratio(X)	0.27	0.61	0.62	0.78	0.84	0.45	0.04	0.54	0.54	0.42	0.22	0.23
Avail Cap(c_a), veh/h	297	297	304	297	312	352	428	1632	840	384	2036	1103
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	45.2	45.2	41.3	41.7	35.3	9.8	12.2	12.2	12.5	4.6	4.6
Incr Delay (d2), s/veh	0.9	3.6	3.7	9.8	15.3	0.7	0.2	1.3	2.4	0.3	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	3.9	4.1	10.0	11.6	6.3	0.4	11.2	11.9	3.1	2.9	3.3
LnGrp Delay(d),s/veh	45.0	48.8	48.9	51.0	57.0	36.0	10.0	13.4	14.6	12.8	4.8	5.1
LnGrp LOS	D	D	D	D	E	D	A	B	B	B	A	A
Approach Vol, veh/h		190			569			1342			834	
Approach Delay, s/veh		48.2			49.7			13.8			6.2	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		65.9		20.8	11.8	54.1		13.4
Change Period (Y+Rc), s		6.4		6.4	6.4	6.4		6.4
Max Green Setting (Gmax), s		47.6		16.6	9.6	31.6		16.6
Max Q Clear Time (g_c+I1), s		5.4		13.8	5.5	16.1		6.2
Green Ext Time (p_c), s		6.7		0.6	0.1	5.6		0.5

Intersection Summary

HCM 2010 Ctrl Delay		20.8
HCM 2010 LOS		C

Notes

Queues
1302: NB On-Ramp/SB Off-Ramp & NW 125th St

Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	538	428	452	486	204
v/c Ratio	0.53	0.84	0.22	0.85	0.31
Control Delay	29.3	28.7	3.1	46.4	4.6
Queue Delay	0.0	1.3	0.3	5.2	0.0
Total Delay	29.3	30.0	3.4	51.5	4.6
Queue Length 50th (ft)	193	114	17	280	0
Queue Length 95th (ft)	222	m108	m15	#407	47
Internal Link Dist (ft)	298		216		
Turn Bay Length (ft)					310
Base Capacity (vph)	1085	568	2176	587	661
Starvation Cap Reductn	0	39	1061	0	0
Spillback Cap Reductn	0	0	0	59	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.81	0.41	0.92	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1302: NB On-Ramp/SB Off-Ramp & NW 125th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	408	92	398	420	0	0	0	0	452	0	190
Future Volume (vph)	0	408	92	398	420	0	0	0	0	452	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4		3.0	4.4					5.0		5.0
Lane Util. Factor		*0.74		1.00	0.95					1.00		1.00
Frt		0.97		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		2681		1770	3539					1770		1583
Flt Permitted		1.00		0.25	1.00					0.95		1.00
Satd. Flow (perm)		2681		467	3539					1770		1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	439	99	428	452	0	0	0	0	486	0	204
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	0	138
Lane Group Flow (vph)	0	525	0	428	452	0	0	0	0	486	0	66
Turn Type		NA		pm+pt	NA					Prot		Prot
Protected Phases		6		5	2					8		8
Permitted Phases				2						8		
Actuated Green, G (s)		37.5		58.3	58.3					32.3		32.3
Effective Green, g (s)		37.5		58.3	58.3					32.3		32.3
Actuated g/C Ratio		0.38		0.58	0.58					0.32		0.32
Clearance Time (s)		4.4		3.0	4.4					5.0		5.0
Vehicle Extension (s)		1.0		2.0	1.0					2.5		2.5
Lane Grp Cap (vph)		1005		504	2063					571		511
v/s Ratio Prot		0.20		c0.15	0.13					c0.27		0.04
v/s Ratio Perm				c0.34								
v/c Ratio		0.52		0.85	0.22					0.85		0.13
Uniform Delay, d1		24.3		14.0	10.0					31.6		23.9
Progression Factor		1.07		1.62	0.28					1.00		1.00
Incremental Delay, d2		1.8		5.7	0.1					11.5		0.1
Delay (s)		27.7		28.3	2.9					43.1		24.0
Level of Service		C		C	A					D		C
Approach Delay (s)		27.7			15.3			0.0			37.5	
Approach LOS		C			B			A			D	

Intersection Summary

HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1302: NB On-Ramp/SB Off-Ramp & NW 125th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	408	92	398	420	0	0	0	0	452	0	190
Future Volume (veh/h)	0	408	92	398	420	0	0	0	0	452	0	190
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	439	99	428	452	0				486	0	204
Adj No. of Lanes	0	2	0	1	2	0				1	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	1101	247	637	2178	0				516	0	460
Arrive On Green	0.00	0.57	0.57	0.21	0.82	0.00				0.29	0.00	0.29
Sat Flow, veh/h	0	3049	575	1774	3632	0				1774	0	1583
Grp Volume(v), veh/h	0	235	303	428	452	0				486	0	204
Grp Sat Flow(s),veh/h/ln	0	1378	1761	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	9.4	9.6	13.2	2.8	0.0				26.8	0.0	10.5
Cycle Q Clear(g_c), s	0.0	9.4	9.6	13.2	2.8	0.0				26.8	0.0	10.5
Prop In Lane	0.00		0.33	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	592	756	637	2178	0				516	0	460
V/C Ratio(X)	0.00	0.40	0.40	0.67	0.21	0.00				0.94	0.00	0.44
Avail Cap(c_a), veh/h	0	592	756	750	2178	0				532	0	475
HCM Platoon Ratio	1.00	1.33	1.33	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.86	0.86	0.27	0.27	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.3	14.3	10.9	3.7	0.0				34.6	0.0	28.9
Incr Delay (d2), s/veh	0.0	1.7	1.4	0.3	0.1	0.0				24.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	6.8	8.3	8.5	2.4	0.0				23.4	0.0	8.2
LnGrp Delay(d),s/veh	0.0	16.0	15.7	11.3	3.8	0.0				59.5	0.0	29.4
LnGrp LOS		B	B	B	A					E		C
Approach Vol, veh/h		538			880						690	
Approach Delay, s/veh		15.8			7.4						50.6	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		65.9			18.6	47.3		34.1
Change Period (Y+Rc), s		* 4.4			3.0	* 4.4		5.0
Max Green Setting (Gmax), s		* 61			22.0	* 36		30.0
Max Q Clear Time (g_c+I1), s		4.8			15.2	11.6		28.8
Green Ext Time (p_c), s		2.5			0.4	2.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Notes

Queues

Existing Conditions

1303: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 125th St

PM PEAK HOUR

Lane Group	EBL	EBT	WBT	NBT
Lane Group Flow (vph)	150	760	1256	677
v/c Ratio	0.67	0.34	0.92	0.78
Control Delay	29.2	14.2	36.9	35.4
Queue Delay	0.0	1.5	0.5	0.0
Total Delay	29.2	15.7	37.4	35.4
Queue Length 50th (ft)	66	161	444	177
Queue Length 95th (ft)	m103	m269	#772	220
Internal Link Dist (ft)		216	577	278
Turn Bay Length (ft)				
Base Capacity (vph)	241	2257	1364	1197
Starvation Cap Reductn	0	1250	0	0
Spillback Cap Reductn	0	0	13	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.62	0.75	0.93	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
Existing Conditions

1303: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 125th St
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	730	0	0	838	368	73	341	236	0	0	0
Future Volume (vph)	144	730	0	0	838	368	73	341	236	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4			6.4			6.4				
Lane Util. Factor	1.00	0.95			*0.77			0.95				
Frt	1.00	1.00			0.95			0.95				
Flt Protected	0.95	1.00			1.00			0.99				
Satd. Flow (prot)	1770	3539			2737			3328				
Flt Permitted	0.07	1.00			1.00			0.99				
Satd. Flow (perm)	135	3539			2737			3328				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	150	760	0	0	873	383	76	355	246	0	0	0
RTOR Reduction (vph)	0	0	0	0	27	0	0	93	0	0	0	0
Lane Group Flow (vph)	150	760	0	0	1229	0	0	584	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	1	6			2			4				
Permitted Phases	6						4					
Actuated Green, G (s)	63.8	63.8			48.9			23.4				
Effective Green, g (s)	63.8	63.8			48.9			23.4				
Actuated g/C Ratio	0.64	0.64			0.49			0.23				
Clearance Time (s)	6.4	6.4			6.4			6.4				
Vehicle Extension (s)	2.0	1.0			1.0			2.5				
Lane Grp Cap (vph)	225	2257			1338			778				
v/s Ratio Prot	c0.06	0.21			c0.45							
v/s Ratio Perm	0.37							0.18				
v/c Ratio	0.67	0.34			0.92			0.75				
Uniform Delay, d1	21.5	8.3			23.7			35.6				
Progression Factor	1.09	1.51			1.00			1.00				
Incremental Delay, d2	4.2	0.3			11.6			3.9				
Delay (s)	27.6	12.9			35.3			39.5				
Level of Service	C	B			D			D				
Approach Delay (s)		15.4			35.3			39.5			0.0	
Approach LOS		B			D			D			A	

Intersection Summary

HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
Existing Conditions

1303: NW 6th Ave/NB Off-Ramp/NW 6th Ave/NB On-Ramp & NW 125th St
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	730	0	0	838	368	73	341	236	0	0	0
Future Volume (veh/h)	144	730	0	0	838	368	73	341	236	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	150	760	0	0	873	383	76	355	246			
Adj No. of Lanes	1	2	0	0	2	0	0	2	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	275	2230	0	0	1106	483	91	430	320			
Arrive On Green	0.08	0.84	0.00	0.00	0.68	0.68	0.24	0.24	0.24			
Sat Flow, veh/h	1774	3632	0	0	2607	951	375	1778	1321			
Grp Volume(v), veh/h	150	760	0	0	573	683	373	0	304			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1434	1695	1844	0	1630			
Q Serve(g_s), s	3.9	4.9	0.0	0.0	27.7	28.2	19.2	0.0	17.4			
Cycle Q Clear(g_c), s	3.9	4.9	0.0	0.0	27.7	28.2	19.2	0.0	17.4			
Prop In Lane	1.00		0.00	0.00		0.56	0.20		0.81			
Lane Grp Cap(c), veh/h	275	2230	0	0	728	861	446	0	394			
V/C Ratio(X)	0.55	0.34	0.00	0.00	0.79	0.79	0.84	0.00	0.77			
Avail Cap(c_a), veh/h	324	2230	0	0	728	861	620	0	548			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	15.9	3.4	0.0	0.0	12.5	12.6	36.0	0.0	35.3			
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.0	8.4	7.4	6.3	0.0	3.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.4	4.2	0.0	0.0	18.1	21.0	15.9	0.0	12.8			
LnGrp Delay(d),s/veh	16.3	3.7	0.0	0.0	20.9	20.0	42.4	0.0	39.0			
LnGrp LOS	B	A			C	B	D		D			
Approach Vol, veh/h		910			1256			677				
Approach Delay, s/veh		5.8			20.4			40.9				
Approach LOS		A			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.2	57.2		30.6		69.4		
Change Period (Y+Rc), s	6.4	6.4		6.4		6.4		
Max Green Setting (Gmax), s	8.6	38.6		33.6		53.6		
Max Q Clear Time (g_c+I1), s	5.9	30.2		21.2		6.9		
Green Ext Time (p_c), s	0.1	4.1		3.0		6.7		

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Queues
1401: NW 7th Ave/SR 7 & NW 135th St

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	181	913	93	1435	203	892
v/c Ratio	0.40	0.71	0.19	0.64	0.73	0.28
Control Delay	33.2	36.8	5.3	22.7	50.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	33.2	36.8	5.3	22.7	50.8	7.6
Queue Length 50th (ft)	94	191	0	248	82	58
Queue Length 95th (ft)	156	235	30	307	#170	66
Internal Link Dist (ft)		728		377		410
Turn Bay Length (ft)	195		240		195	
Base Capacity (vph)	469	1349	498	2340	302	3237
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	52	4	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.68	0.19	0.63	0.68	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1401: NW 7th Ave/SR 7 & NW 135th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	886	90	0	0	0	0	1024	368	197	865	0
Future Volume (vph)	176	886	90	0	0	0	0	1024	368	197	865	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.4					6.4		6.4	6.4	
Lane Util. Factor	1.00	0.91	1.00					0.91		1.00	0.91	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1770	5085	1583					4884		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.10	1.00	
Satd. Flow (perm)	1770	5085	1583					4884		180	5085	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	181	913	93	0	0	0	0	1056	379	203	892	0
RTOR Reduction (vph)	0	0	69	0	0	0	0	42	0	0	0	0
Lane Group Flow (vph)	181	913	24	0	0	0	0	1393	0	203	892	0
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	25.5	25.5	25.5					44.8		61.7	61.7	
Effective Green, g (s)	25.5	25.5	25.5					44.8		61.7	61.7	
Actuated g/C Ratio	0.26	0.26	0.26					0.45		0.62	0.62	
Clearance Time (s)	6.4	6.4	6.4					6.4		6.4	6.4	
Vehicle Extension (s)	2.5	2.5	2.5					1.0		2.0	1.0	
Lane Grp Cap (vph)	451	1296	403					2188		278	3137	
v/s Ratio Prot		c0.18						0.29		c0.08	0.18	
v/s Ratio Perm	0.10		0.01							c0.37		
v/c Ratio	0.40	0.70	0.06					0.64		0.73	0.28	
Uniform Delay, d1	30.9	33.8	28.2					21.3		17.5	8.9	
Progression Factor	1.00	1.00	1.00					1.00		2.31	0.80	
Incremental Delay, d2	0.4	1.6	0.0					1.4		6.9	0.2	
Delay (s)	31.3	35.5	28.2					22.7		47.3	7.3	
Level of Service	C	D	C					C		D	A	
Approach Delay (s)		34.3			0.0			22.7			14.7	
Approach LOS		C			A			C			B	

Intersection Summary

HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1401: NW 7th Ave/SR 7 & NW 135th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	886	90	0	0	0	0	1024	368	197	865	0
Future Volume (veh/h)	176	886	90	0	0	0	0	1024	368	197	865	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	181	913	93				0	1056	379	203	892	0
Adj No. of Lanes	1	3	1				0	3	0	1	3	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	390	1117	348				0	1906	684	338	3318	0
Arrive On Green	0.22	0.22	0.22				0.00	0.69	0.69	0.10	0.87	0.00
Sat Flow, veh/h	1774	5085	1583				0	3861	1326	1774	5253	0
Grp Volume(v), veh/h	181	913	93				0	969	466	203	892	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583				0	1695	1629	1774	1695	0
Q Serve(g_s), s	8.9	17.1	4.9				0.0	14.5	14.5	5.1	3.0	0.0
Cycle Q Clear(g_c), s	8.9	17.1	4.9				0.0	14.5	14.5	5.1	3.0	0.0
Prop In Lane	1.00		1.00				0.00		0.81	1.00		0.00
Lane Grp Cap(c), veh/h	390	1117	348				0	1749	841	338	3318	0
V/C Ratio(X)	0.46	0.82	0.27				0.00	0.55	0.55	0.60	0.27	0.00
Avail Cap(c_a), veh/h	436	1251	390				0	1749	841	416	3318	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	1.33	1.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.77	0.77	0.00
Uniform Delay (d), s/veh	33.9	37.1	32.4				0.0	9.9	9.9	11.3	2.5	0.0
Incr Delay (d2), s/veh	0.6	3.8	0.3				0.0	1.3	2.6	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.8	13.1	3.9				0.0	11.3	11.4	4.5	2.5	0.0
LnGrp Delay(d),s/veh	34.6	40.9	32.7				0.0	11.1	12.5	11.8	2.7	0.0
LnGrp LOS	C	D	C					B	B	B	A	
Approach Vol, veh/h		1187						1435			1095	
Approach Delay, s/veh		39.3						11.6			4.3	
Approach LOS		D						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	13.6	58.0		28.4		71.6		
Change Period (Y+Rc), s	6.4	6.4		6.4		6.4		
Max Green Setting (Gmax), s	11.6	44.6		24.6		62.6		
Max Q Clear Time (g_c+I1), s	7.1	16.5		19.1		5.0		
Green Ext Time (p_c), s	0.1	8.5		2.9		9.3		

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Notes

Queues
1402: SB On-Ramp/NW 6th Ct & NW 135th St

Lane Group	EBT	EBR	SBL	SBT
Lane Group Flow (vph)	1279	199	300	619
v/c Ratio	0.58	0.14	0.48	0.49
Control Delay	19.1	6.7	33.2	34.2
Queue Delay	0.2	0.0	0.0	0.0
Total Delay	19.3	6.7	33.2	34.2
Queue Length 50th (ft)	136	1	178	194
Queue Length 95th (ft)	360	m32	283	267
Internal Link Dist (ft)	302			402
Turn Bay Length (ft)		170	190	
Base Capacity (vph)	2195	1469	875	1799
Starvation Cap Reductn	212	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	0.14	0.34	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1402: SB On-Ramp/NW 6th Ct & NW 135th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱↱							↰	↕↑	
Traffic Volume (vph)	0	1215	189	0	0	0	0	0	0	438	435	0
Future Volume (vph)	0	1215	189	0	0	0	0	0	0	438	435	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8							6.8	6.8	
Lane Util. Factor		*0.80	0.88							0.91	0.91	
Frt		1.00	0.85							1.00	1.00	
Flt Protected		1.00	1.00							0.95	0.99	
Satd. Flow (prot)		4471	2787							1610	3347	
Flt Permitted		1.00	1.00							0.95	0.99	
Satd. Flow (perm)		4471	2787							1610	3347	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1279	199	0	0	0	0	0	0	461	458	0
RTOR Reduction (vph)	0	0	101	0	0	0	0	0	0	26	26	0
Lane Group Flow (vph)	0	1279	98	0	0	0	0	0	0	274	593	0
Turn Type		NA	Perm							custom	NA	
Protected Phases		2								4	4	
Permitted Phases			2							4		
Actuated Green, G (s)		49.1	49.1							37.3	37.3	
Effective Green, g (s)		49.1	49.1							37.3	37.3	
Actuated g/C Ratio		0.49	0.49							0.37	0.37	
Clearance Time (s)		6.8	6.8							6.8	6.8	
Vehicle Extension (s)		1.0	1.0							2.5	2.5	
Lane Grp Cap (vph)		2195	1368							600	1248	
v/s Ratio Prot		c0.29								0.17	c0.18	
v/s Ratio Perm			0.04									
v/c Ratio		0.58	0.07							0.46	0.48	
Uniform Delay, d1		18.1	13.4							23.7	23.9	
Progression Factor		0.95	2.57							1.57	1.52	
Incremental Delay, d2		0.8	0.1							0.4	0.2	
Delay (s)		18.1	34.6							37.6	36.5	
Level of Service		B	C							D	D	
Approach Delay (s)		20.3			0.0			0.0			36.8	
Approach LOS		C			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
1403: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 135th St

Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	536	1123	215	96
v/c Ratio	0.38	0.44	0.69	0.42
Control Delay	0.8	2.6	46.2	10.4
Queue Delay	0.3	0.3	0.0	0.0
Total Delay	1.1	2.9	46.2	10.4
Queue Length 50th (ft)	0	26	99	0
Queue Length 95th (ft)	6	64	155	55
Internal Link Dist (ft)		165	421	
Turn Bay Length (ft)				
Base Capacity (vph)	1424	2562	615	347
Starvation Cap Reductn	376	711	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.61	0.35	0.28

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1403: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 135th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	509	1067	0	0	0	0	0	142	154	0	0	0
Future Volume (vph)	509	1067	0	0	0	0	0	142	154	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8						6.8	6.8			
Lane Util. Factor	1.00	0.95						*0.58	*0.58			
Frt	1.00	1.00						0.95	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1752	3505						2041	909			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1752	3505						2041	909			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	536	1123	0	0	0	0	0	149	162	0	0	0
RTOR Reduction (vph)	149	0	0	0	0	0	0	24	82	0	0	0
Lane Group Flow (vph)	387	1123	0	0	0	0	0	191	14	0	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	custom	NA						NA	Perm			
Protected Phases	2 7	2 7						8				
Permitted Phases	2 7								8			
Actuated Green, G (s)	72.2	72.2						14.2	14.2			
Effective Green, g (s)	72.2	72.2						14.2	14.2			
Actuated g/C Ratio	0.72	0.72						0.14	0.14			
Clearance Time (s)								6.8	6.8			
Vehicle Extension (s)								2.5	2.5			
Lane Grp Cap (vph)	1264	2530						289	129			
v/s Ratio Prot	0.22	c0.32						c0.09				
v/s Ratio Perm									0.01			
v/c Ratio	0.31	0.44						0.66	0.11			
Uniform Delay, d1	5.0	5.7						40.6	37.4			
Progression Factor	0.18	0.34						1.00	1.00			
Incremental Delay, d2	0.1	0.1						5.0	0.3			
Delay (s)	1.0	2.0						45.6	37.6			
Level of Service	A	A						D	D			
Approach Delay (s)		1.7			0.0			43.2			0.0	
Approach LOS		A			A			D			A	

Intersection Summary

HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.4
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
1404: NW 7th Ave/SR 7 & Opa-Locka Blvd

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	260	816	130	220	1047	1229
v/c Ratio	0.66	0.66	0.27	0.66	0.34	0.59
Control Delay	43.1	38.3	11.9	38.6	17.0	24.1
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	38.3	11.9	38.6	17.0	24.1
Queue Length 50th (ft)	165	172	9	118	140	212
Queue Length 95th (ft)	194	166	m35	#244	215	288
Internal Link Dist (ft)		299			410	351
Turn Bay Length (ft)	300			190		
Base Capacity (vph)	531	1672	622	332	3059	2102
Starvation Cap Reductn	21	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.49	0.21	0.66	0.34	0.58

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1404: NW 7th Ave/SR 7 & Opa-Locka Blvd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	331	723	127	216	1026	0	0	1014	190
Future Volume (vph)	0	0	0	331	723	127	216	1026	0	0	1014	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.7	6.7	6.7	6.4	6.4			6.4	
Lane Util. Factor				0.86	0.86	1.00	1.00	0.91			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.98	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1507	4737	1568	1752	5036			4917	
Flt Permitted				0.95	1.00	1.00	0.13	1.00			1.00	
Satd. Flow (perm)				1507	4737	1568	239	5036			4917	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	338	738	130	220	1047	0	0	1035	194
RTOR Reduction (vph)	0	0	0	0	0	79	0	0	0	0	24	0
Lane Group Flow (vph)	0	0	0	260	816	51	220	1047	0	0	1205	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		1	6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)				26.2	26.2	26.2	60.7	60.7			42.0	
Effective Green, g (s)				26.2	26.2	26.2	60.7	60.7			42.0	
Actuated g/C Ratio				0.26	0.26	0.26	0.61	0.61			0.42	
Clearance Time (s)				6.7	6.7	6.7	6.4	6.4			6.4	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	1.0			1.0	
Lane Grp Cap (vph)				394	1241	410	331	3056			2065	
v/s Ratio Prot							c0.08	0.21			0.25	
v/s Ratio Perm				c0.17	0.17	0.03	c0.32					
v/c Ratio				0.66	0.66	0.12	0.66	0.34			0.58	
Uniform Delay, d1				32.9	32.9	28.2	13.0	9.8			22.3	
Progression Factor				1.10	1.11	1.47	2.42	1.57			1.00	
Incremental Delay, d2				2.9	0.9	0.0	3.2	0.3			1.2	
Delay (s)				39.1	37.4	41.5	34.7	15.6			23.5	
Level of Service				D	D	D	C	B			C	
Approach Delay (s)		0.0			38.2			18.9			23.5	
Approach LOS		A			D			B			C	

Intersection Summary

HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1404: NW 7th Ave/SR 7 & Opa-Locka Blvd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	331	723	127	216	1026	0	0	1014	190
Future Volume (veh/h)	0	0	0	331	723	127	216	1026	0	0	1014	190
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1845	1845	1845	1845	1845	0	0	1845	1900
Adj Flow Rate, veh/h				269	835	130	220	1047	0	0	1035	194
Adj No. of Lanes				1	3	1	1	3	0	0	3	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				367	1157	328	389	3324	0	0	2214	414
Arrive On Green				0.21	0.21	0.21	0.10	0.88	0.00	0.00	0.69	0.69
Sat Flow, veh/h				1757	5534	1568	1757	5202	0	0	4429	798
Grp Volume(v), veh/h				269	835	130	220	1047	0	0	815	414
Grp Sat Flow(s),veh/h/ln				1757	1845	1568	1757	1679	0	0	1679	1704
Q Serve(g_s), s				14.3	14.1	7.2	5.6	3.5	0.0	0.0	11.1	11.1
Cycle Q Clear(g_c), s				14.3	14.1	7.2	5.6	3.5	0.0	0.0	11.1	11.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.47
Lane Grp Cap(c), veh/h				367	1157	328	389	3324	0	0	1744	885
V/C Ratio(X)				0.73	0.72	0.40	0.57	0.32	0.00	0.00	0.47	0.47
Avail Cap(c_a), veh/h				620	1953	553	423	3324	0	0	1744	885
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.33	1.33
Upstream Filter(I)				0.96	0.96	0.96	0.75	0.75	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.9	36.8	34.1	9.8	2.3	0.0	0.0	9.1	9.1
Incr Delay (d2), s/veh				1.0	0.3	0.3	0.5	0.2	0.0	0.0	0.9	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				11.3	11.5	5.6	4.8	2.9	0.0	0.0	9.0	9.4
LnGrp Delay(d),s/veh				38.0	37.2	34.4	10.3	2.5	0.0	0.0	10.0	10.9
LnGrp LOS				D	D	C	B	A			B	B
Approach Vol, veh/h					1234			1267			1229	
Approach Delay, s/veh					37.0			3.8			10.3	
Approach LOS					D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	14.1	58.3		27.6		72.4		
Change Period (Y+Rc), s	6.4	6.4		* 6.7		6.4		
Max Green Setting (Gmax), s	9.6	35.6		* 35		51.6		
Max Q Clear Time (g_c+I1), s	7.6	13.1		16.3		5.5		
Green Ext Time (p_c), s	0.1	7.7		4.6		8.7		

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

Notes

Queues
Existing Conditions

1405: NW 6th Ct/NW 6th Ct/SB Off-Ramp & Opa-Locka Blvd
PM PEAK HOUR

Lane Group	WBL	WBT	SBT
Lane Group Flow (vph)	297	938	747
v/c Ratio	0.30	0.32	0.77
Control Delay	1.1	0.8	33.1
Queue Delay	0.2	0.1	0.0
Total Delay	1.3	0.8	33.1
Queue Length 50th (ft)	0	2	192
Queue Length 95th (ft)	19	3	235
Internal Link Dist (ft)		151	338
Turn Bay Length (ft)			
Base Capacity (vph)	1187	3619	1131
Starvation Cap Reductn	321	944	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.35	0.66

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1405: NW 6th Ct/NW 6th Ct/SB Off-Ramp & Opa-Locka Blvd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	418	780	0	0	0	0	0	448	276
Future Volume (vph)	0	0	0	418	780	0	0	0	0	0	448	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0						6.4	
Lane Util. Factor				0.86	0.86						0.95	
Frt				1.00	1.00						0.94	
Flt Protected				0.95	0.99						1.00	
Satd. Flow (prot)				1522	4772						3337	
Flt Permitted				0.95	0.99						1.00	
Satd. Flow (perm)				1522	4772						3337	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	431	804	0	0	0	0	0	462	285
RTOR Reduction (vph)	0	0	0	58	19	0	0	0	0	0	101	0
Lane Group Flow (vph)	0	0	0	239	919	0	0	0	0	0	646	0
Turn Type				Perm	NA						NA	
Protected Phases					2 7						8	
Permitted Phases				2 7								
Actuated Green, G (s)				61.2	61.2						26.0	
Effective Green, g (s)				61.2	61.2						26.0	
Actuated g/C Ratio				0.61	0.61						0.26	
Clearance Time (s)											6.4	
Vehicle Extension (s)											3.0	
Lane Grp Cap (vph)				931	2920						867	
v/s Ratio Prot											c0.19	
v/s Ratio Perm				0.16	0.19							
v/c Ratio				0.26	0.31						0.74	
Uniform Delay, d1				8.9	9.3						34.0	
Progression Factor				0.08	0.05						1.00	
Incremental Delay, d2				0.1	0.1						3.5	
Delay (s)				0.8	0.6						37.5	
Level of Service				A	A						D	
Approach Delay (s)		0.0			0.6			0.0			37.5	
Approach LOS		A			A			A			D	

Intersection Summary

HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
Existing Conditions

1406: NW 6th Ave/NW 6th Ave/NB On-Ramp & Opa-Locka Blvd
PM PEAK HOUR

Lane Group	WBT	WBR	NBT
Lane Group Flow (vph)	1146	475	643
v/c Ratio	0.47	0.55	0.39
Control Delay	24.3	9.1	15.8
Queue Delay	0.0	0.0	0.0
Total Delay	24.3	9.1	15.8
Queue Length 50th (ft)	157	38	138
Queue Length 95th (ft)	242	163	169
Internal Link Dist (ft)	475		403
Turn Bay Length (ft)		225	
Base Capacity (vph)	2456	859	2292
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.47	0.55	0.28

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1406: NW 6th Ave/NW 6th Ave/NB On-Ramp & Opa-Locka Blvd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1066	442	95	503	0	0	0	0
Future Volume (vph)	0	0	0	0	1066	442	95	503	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0	6.0		6.4				
Lane Util. Factor					*0.82	1.00		0.95				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					6050	1568		3477				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					6050	1568		3477				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	1146	475	102	541	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	223	0	17	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1146	252	0	626	0	0	0	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type					NA	Perm	Perm	NA				
Protected Phases					2			4				
Permitted Phases						2	4					
Actuated Green, G (s)					40.6	40.6		47.0				
Effective Green, g (s)					40.6	40.6		47.0				
Actuated g/C Ratio					0.41	0.41		0.47				
Clearance Time (s)					6.0	6.0		6.4				
Vehicle Extension (s)					1.0	1.0		3.0				
Lane Grp Cap (vph)					2456	636		1634				
v/s Ratio Prot					c0.19							
v/s Ratio Perm						0.16		0.18				
v/c Ratio					0.47	0.40		0.38				
Uniform Delay, d1					21.8	21.0		17.1				
Progression Factor					1.00	1.00		0.99				
Incremental Delay, d2					0.6	1.8		0.1				
Delay (s)					22.4	22.9		17.0				
Level of Service					C	C		B				
Approach Delay (s)		0.0			22.5			17.0			0.0	
Approach LOS		A			C			B			A	

Intersection Summary

HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
1501: NW 7th Ave/SR 7 & NW 151st St

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	39	44	175	82	133	21	1006	231	712
v/c Ratio	0.34	0.14	0.55	0.17	0.18	0.07	0.48	0.59	0.23
Control Delay	50.3	37.6	36.0	27.5	6.0	22.8	21.6	16.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.3	37.6	36.0	27.5	6.0	22.8	21.6	16.7	9.5
Queue Length 50th (ft)	24	12	86	38	16	9	165	69	76
Queue Length 95th (ft)	56	28	148	77	45	26	212	107	93
Internal Link Dist (ft)		624		106			543		570
Turn Bay Length (ft)	175					90		100	
Base Capacity (vph)	276	736	319	632	753	301	2198	392	3062
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.06	0.55	0.13	0.18	0.07	0.46	0.59	0.23

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1501: NW 7th Ave/SR 7 & NW 151st St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	37	6	170	80	129	20	729	246	224	630	61
Future Volume (vph)	38	37	6	170	80	129	20	729	246	224	630	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		6.4	6.7	6.4	6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3433		1752	1845	1568	1752	4845		1752	4969	
Flt Permitted	0.70	1.00		0.39	1.00	1.00	0.37	1.00		0.18	1.00	
Satd. Flow (perm)	1298	3433		723	1845	1568	681	4845		340	4969	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	39	38	6	175	82	133	21	752	254	231	649	63
RTOR Reduction (vph)	0	6	0	0	0	49	0	59	0	0	10	0
Lane Group Flow (vph)	39	38	0	175	82	84	21	947	0	231	702	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		pm+pt	NA	pm+ov	Perm	NA		pm+pt	NA	
Protected Phases		8		7	4	5		6		5	2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	7.5	7.5		26.8	26.8	39.8	40.7	40.7		60.1	60.1	
Effective Green, g (s)	7.5	7.5		26.8	26.8	39.8	40.7	40.7		60.1	60.1	
Actuated g/C Ratio	0.08	0.08		0.27	0.27	0.40	0.41	0.41		0.60	0.60	
Clearance Time (s)	6.7	6.7		6.4	6.7	6.4	6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	257		326	494	624	277	1971		387	2986	
v/s Ratio Prot		0.01		c0.07	0.04	0.02		0.20		c0.08	0.14	
v/s Ratio Perm	0.03			c0.07		0.04	0.03			c0.28		
v/c Ratio	0.40	0.15		0.54	0.17	0.13	0.08	0.48		0.60	0.24	
Uniform Delay, d1	44.1	43.3		30.0	28.0	19.1	18.1	21.9		11.3	9.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.3		1.7	0.2	0.1	0.5	0.8		2.5	0.2	
Delay (s)	46.8	43.5		31.7	28.2	19.2	18.7	22.7		13.8	9.5	
Level of Service	D	D		C	C	B	B	C		B	A	
Approach Delay (s)		45.1			26.7			22.6			10.5	
Approach LOS		D			C			C			B	

Intersection Summary

HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	25.9
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1501: NW 7th Ave/SR 7 & NW 151st St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	37	6	170	80	129	20	729	246	224	630	61
Future Volume (veh/h)	38	37	6	170	80	129	20	729	246	224	630	61
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	39	38	6	175	82	133	21	752	254	231	649	63
Adj No. of Lanes	1	2	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	153	213	33	266	369	433	457	1975	660	452	3126	301
Arrive On Green	0.07	0.07	0.07	0.07	0.20	0.20	0.70	0.70	0.70	0.10	0.89	0.89
Sat Flow, veh/h	1150	3045	469	1757	1845	1568	728	3734	1248	1757	4673	450
Grp Volume(v), veh/h	39	21	23	175	82	133	21	675	331	231	465	247
Grp Sat Flow(s),veh/h/ln	1150	1752	1762	1757	1845	1568	728	1679	1624	1757	1679	1765
Q Serve(g_s), s	3.3	1.2	1.2	6.6	3.7	6.7	0.9	8.1	8.3	5.8	1.9	1.9
Cycle Q Clear(g_c), s	3.3	1.2	1.2	6.6	3.7	6.7	0.9	8.1	8.3	5.8	1.9	1.9
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.77	1.00		0.25
Lane Grp Cap(c), veh/h	153	123	123	266	369	433	457	1776	859	452	2246	1181
V/C Ratio(X)	0.26	0.18	0.18	0.66	0.22	0.31	0.05	0.38	0.38	0.51	0.21	0.21
Avail Cap(c_a), veh/h	317	373	375	266	633	657	457	1776	859	452	2246	1181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	43.8	43.8	40.6	33.5	28.6	7.1	8.2	8.2	8.8	1.9	1.9
Incr Delay (d2), s/veh	0.9	0.7	0.7	5.8	0.3	0.4	0.2	0.6	1.3	1.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	1.1	1.1	8.3	3.5	5.3	0.4	6.8	7.2	5.0	1.5	1.7
LnGrp Delay(d),s/veh	45.6	44.5	44.5	46.5	33.8	29.0	7.3	8.8	9.5	9.7	2.1	2.3
LnGrp LOS	D	D	D	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		83			390			1027			943	
Approach Delay, s/veh		45.0			37.9			9.0			4.0	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6	7	8
Phs Duration (G+Y+Rc), s		73.3		26.7	14.0	59.3	13.0	13.7
Change Period (Y+Rc), s		6.4		* 6.7	6.4	6.4	6.4	* 6.7
Max Green Setting (Gmax), s		52.6		* 34	7.6	38.6	6.6	* 21
Max Q Clear Time (g_c+I1), s		3.9		8.7	7.8	10.3	8.6	5.3
Green Ext Time (p_c), s		18.3		1.3	0.0	14.6	0.0	1.1

Intersection Summary

HCM 2010 Ctrl Delay		12.9
HCM 2010 LOS		B

Notes

Queues
1503: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 151st St

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	316	192	114	95	150	39	368
v/c Ratio	0.38	0.16	0.10	0.41	0.62	0.14	0.47
Control Delay	10.5	7.9	7.0	44.3	51.7	2.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	7.9	7.0	44.3	51.7	2.1	2.0
Queue Length 50th (ft)	85	43	23	57	92	0	0
Queue Length 95th (ft)	160	84	50	101	148	5	0
Internal Link Dist (ft)		229	317		343		406
Turn Bay Length (ft)	125						
Base Capacity (vph)	835	1220	1195	646	680	630	966
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.16	0.10	0.15	0.22	0.06	0.38

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1503: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 151st St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	303	184	0	0	91	18	91	144	37	0	0	353
Future Volume (vph)	303	184	0	0	91	18	91	144	37	0	0	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.6		4.8	4.8	4.8		4.8	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00			0.98		1.00	1.00	0.85		0.86	
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1787	1881			1839		1787	1881	1599		1627	
Flt Permitted	0.68	1.00			1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1286	1881			1839		1787	1881	1599		1627	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	316	192	0	0	95	19	95	150	39	0	0	368
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	34	0	342	0
Lane Group Flow (vph)	316	192	0	0	111	0	95	150	5	0	26	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA			NA		Split	NA	Perm		NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases	6								4	8		
Actuated Green, G (s)	64.9	64.9			64.9		12.9	12.9	12.9		7.0	
Effective Green, g (s)	64.9	64.9			64.9		12.9	12.9	12.9		7.0	
Actuated g/C Ratio	0.65	0.65			0.65		0.13	0.13	0.13		0.07	
Clearance Time (s)	5.6	5.6			5.6		4.8	4.8	4.8		4.8	
Vehicle Extension (s)	1.0	1.0			1.0		2.5	2.5	2.5		2.5	
Lane Grp Cap (vph)	834	1220			1193		230	242	206		113	
v/s Ratio Prot		0.10			0.06		0.05	c0.08			c0.02	
v/s Ratio Perm	c0.25								0.00			
v/c Ratio	0.38	0.16			0.09		0.41	0.62	0.02		0.23	
Uniform Delay, d1	8.2	6.9			6.6		40.1	41.2	38.1		43.9	
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.3	0.3			0.2		0.9	4.0	0.0		0.8	
Delay (s)	9.5	7.1			6.7		40.9	45.2	38.1		44.7	
Level of Service	A	A			A		D	D	D		D	
Approach Delay (s)		8.6			6.7			42.8			44.7	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1503: NW 6th Ave/NB Off-Ramp/NW 6th Ave & NW 151st St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	303	184	0	0	91	18	91	144	37	0	0	353
Future Volume (veh/h)	303	184	0	0	91	18	91	144	37	0	0	353
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1881	1900	1881	1881	1881	1900	1881	1900
Adj Flow Rate, veh/h	316	192	0	0	95	19	95	150	39	0	0	368
Adj No. of Lanes	1	1	0	0	1	0	1	1	1	0	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1	1	1	1
Cap, veh/h	1087	1485	0	0	1202	240	191	201	171	0	0	0
Arrive On Green	1.00	1.00	0.00	0.00	1.00	1.00	0.11	0.11	0.11	0.00	0.00	0.00
Sat Flow, veh/h	1286	1881	0	0	1523	305	1792	1881	1599		0	
Grp Volume(v), veh/h	316	192	0	0	0	114	95	150	39		0.0	
Grp Sat Flow(s),veh/h/ln	1286	1881	0	0	0	1827	1792	1881	1599			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.0	7.7	2.2			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	5.0	7.7	2.2			
Prop In Lane	1.00		0.00	0.00		0.17	1.00		1.00			
Lane Grp Cap(c), veh/h	1087	1485	0	0	0	1442	191	201	171			
V/C Ratio(X)	0.29	0.13	0.00	0.00	0.00	0.08	0.50	0.75	0.23			
Avail Cap(c_a), veh/h	1087	1485	0	0	0	1442	649	681	579			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	42.1	43.3	40.9			
Incr Delay (d2), s/veh	0.7	0.2	0.0	0.0	0.0	0.1	1.5	4.1	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.4	0.1	0.0	0.0	0.0	0.1	4.6	7.7	1.8			
LnGrp Delay(d),s/veh	0.7	0.2	0.0	0.0	0.0	0.1	43.6	47.4	41.4			
LnGrp LOS	A	A				A	D	D	D			
Approach Vol, veh/h		508			114			284				
Approach Delay, s/veh		0.5			0.1			45.3				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		84.5		15.5		84.5		
Change Period (Y+Rc), s		* 5.6		* 4.8		* 5.6		
Max Green Setting (Gmax), s		* 21		* 36		* 21		
Max Q Clear Time (g_c+I1), s		2.0		9.7		2.0		
Green Ext Time (p_c), s		0.7		0.9		0.7		

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Notes

Queues
1601: NW 7th Ave/SR 7 & GGI SB Off-Ramp

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	243	507	520	548
v/c Ratio	0.26	0.86	0.49	0.27
Control Delay	24.0	31.1	15.4	11.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.0	31.1	15.4	11.6
Queue Length 50th (ft)	55	164	161	75
Queue Length 95th (ft)	68	240	331	144
Internal Link Dist (ft)	320		184	470
Turn Bay Length (ft)	300			
Base Capacity (vph)	1496	809	1068	2029
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.16	0.63	0.49	0.27

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1601: NW 7th Ave/SR 7 & GGI SB Off-Ramp

Existing Conditions
PM PEAK HOUR

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	236	492	504	0	0	532
Future Volume (vph)	236	492	504	0	0	532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.4			6.4
Lane Util. Factor	0.97	1.00	1.00			0.95
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3400	1568	1845			3505
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3400	1568	1845			3505
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	243	507	520	0	0	548
RTOR Reduction (vph)	0	154	0	0	0	0
Lane Group Flow (vph)	243	353	520	0	0	548
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	3		2			6
Permitted Phases		3				
Actuated Green, G (s)	25.1	25.1	52.1			52.1
Effective Green, g (s)	25.1	25.1	52.1			52.1
Actuated g/C Ratio	0.28	0.28	0.58			0.58
Clearance Time (s)	6.4	6.4	6.4			6.4
Vehicle Extension (s)	2.5	2.5	1.0			1.0
Lane Grp Cap (vph)	948	437	1068			2029
v/s Ratio Prot	0.07		c0.28			0.16
v/s Ratio Perm		c0.22				
v/c Ratio	0.26	0.81	0.49			0.27
Uniform Delay, d1	25.2	30.2	11.1			9.5
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.1	10.2	1.6			0.3
Delay (s)	25.3	40.4	12.7			9.8
Level of Service	C	D	B			A
Approach Delay (s)	35.5		12.7			9.8
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1601: NW 7th Ave/SR 7 & GGI SB Off-Ramp

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	236	492	504	0	0	532
Future Volume (veh/h)	236	492	504	0	0	532
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	0	0	1845
Adj Flow Rate, veh/h	243	0	520	0	0	548
Adj No. of Lanes	2	1	1	0	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	0	0	3
Cap, veh/h	335	154	1401	0	0	2662
Arrive On Green	0.10	0.00	1.00	0.00	0.00	1.00
Sat Flow, veh/h	3408	1568	1845	0	0	3689
Grp Volume(v), veh/h	243	0	520	0	0	548
Grp Sat Flow(s),veh/h/ln	1704	1568	1845	0	0	1752
Q Serve(g_s), s	6.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	335	154	1401	0	0	2662
V/C Ratio(X)	0.73	0.00	0.37	0.00	0.00	0.21
Avail Cap(c_a), veh/h	1500	690	1401	0	0	2662
HCM Platoon Ratio	1.00	1.00	1.33	1.00	1.00	1.33
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.68
Uniform Delay (d), s/veh	39.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.8	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	0.0	0.5	0.0	0.0	0.1
LnGrp Delay(d),s/veh	41.6	0.0	0.8	0.0	0.0	0.1
LnGrp LOS	D		A			A
Approach Vol, veh/h	243		520			548
Approach Delay, s/veh	41.6		0.8			0.1
Approach LOS	D		A			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		74.8				74.8		15.2
Change Period (Y+Rc), s		6.4				6.4		6.4
Max Green Setting (Gmax), s		37.6				37.6		39.6
Max Q Clear Time (g_c+I1), s		2.0				2.0		8.2
Green Ext Time (p_c), s		2.8				2.8		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	8.1
HCM 2010 LOS	A

Queues
1602: NW 7th Ave/SR 7 & Park and Ride

Existing Conditions
PM PEAK HOUR

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	128	17	26	67	188	882	9	4	569
v/c Ratio	0.52	0.43	0.14	0.16	0.30	0.52	0.61	0.01	0.02	0.70
Control Delay	51.1	13.4	37.0	36.5	9.2	18.6	19.7	0.0	12.5	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	13.4	37.0	36.5	9.2	18.6	19.7	0.0	12.5	29.7
Queue Length 50th (ft)	18	8	7	11	0	54	157	0	1	125
Queue Length 95th (ft)	#85	66	30	40	26	97	282	0	6	180
Internal Link Dist (ft)		228		106			470			188
Turn Bay Length (ft)	100		100			200		270	100	
Base Capacity (vph)	90	301	328	440	475	375	3343	1495	357	3259
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.43	0.05	0.06	0.14	0.50	0.26	0.01	0.01	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1602: NW 7th Ave/SR 7 & Park and Ride

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	18	101	18	23	65	182	856	9	4	462	90
Future Volume (vph)	50	18	101	18	23	65	182	856	9	4	462	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.7	5.1	5.1	5.7	5.1	
Lane Util. Factor	0.95	0.95		0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1588	1465		1588	1665	1495	1671	3343	1495	1671	3261	
Flt Permitted	0.20	0.56		0.71	0.96	1.00	0.26	1.00	1.00	0.29	1.00	
Satd. Flow (perm)	329	822		1194	1599	1495	451	3343	1495	507	3261	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	19	104	19	24	67	188	882	9	4	476	93
RTOR Reduction (vph)	0	77	0	0	0	62	0	0	5	0	16	0
Lane Group Flow (vph)	47	51	0	17	26	5	188	882	4	4	553	0
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		7			8		5	2		1	6	
Permitted Phases	7			8		8	2		2	6		
Actuated Green, G (s)	20.3	20.3		5.6	5.6	5.6	38.6	32.0	32.0	23.9	23.0	
Effective Green, g (s)	20.3	20.3		5.6	5.6	5.6	38.6	32.0	32.0	23.9	23.0	
Actuated g/C Ratio	0.26	0.26		0.07	0.07	0.07	0.48	0.40	0.40	0.30	0.29	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.7	5.1	5.1	5.7	5.1	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.0	1.0	2.5	1.0	
Lane Grp Cap (vph)	83	209		84	112	105	370	1343	601	165	942	
v/s Ratio Prot							c0.06	c0.26		0.00	0.17	
v/s Ratio Perm	c0.14	0.06		0.01	c0.02	0.00	0.18		0.00	0.01		
v/c Ratio	0.57	0.24		0.20	0.23	0.04	0.51	0.66	0.01	0.02	0.59	
Uniform Delay, d1	25.8	23.5		34.9	35.0	34.5	13.1	19.3	14.3	19.6	24.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.0	0.4		0.9	0.8	0.1	0.8	0.9	0.0	0.0	0.6	
Delay (s)	32.8	24.0		35.8	35.7	34.6	13.9	20.2	14.3	19.6	24.8	
Level of Service	C	C		D	D	C	B	C	B	B	C	
Approach Delay (s)		26.4			35.1			19.1			24.8	
Approach LOS		C			D			B			C	

Intersection Summary

HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	20.8
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
Existing Conditions
1603: NW 2nd Ave & NW 167th St & NB On-Ramp (US 441)
PM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL	NBT	SBT
Lane Group Flow (vph)	592	1949	474	58	2227	113	551	244	158
v/c Ratio	0.82	0.62	0.42	0.40	1.04	0.17	1.82	0.27	1.10
Control Delay	63.0	22.8	4.4	24.9	75.7	5.0	413.2	52.1	169.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.0	22.8	4.4	24.9	75.7	5.0	413.2	52.1	169.5
Queue Length 50th (ft)	291	517	42	22	~1070	0	~905	115	~199
Queue Length 95th (ft)	362	574	107	39	#1268	47	#1230	169	#388
Internal Link Dist (ft)		343			1250			512	496
Turn Bay Length (ft)	230		290	200		110	230		
Base Capacity (vph)	936	3190	1137	221	2150	680	303	914	144
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.61	0.42	0.26	1.04	0.17	1.82	0.27	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1603: NW 2nd Ave & NW 167th St & NB On-Ramp (US 441)

Existing Conditions
PM PEAK HOUR

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	8	572	1910	465	57	1989	180	123	400	140	212	27
Future Volume (vph)	8	572	1910	465	57	1989	180	123	400	140	212	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4	5.0	5.0	5.0	5.0		5.0		5.5	6.9	
Lane Util. Factor		0.97	0.91	1.00	1.00	0.86		0.86		1.00	0.95	
Frt		1.00	1.00	0.85	1.00	0.99		0.85		1.00	0.98	
Flt Protected		0.95	1.00	1.00	0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		3433	5085	1583	1770	4742		1362		1770	3478	
Flt Permitted		0.05	1.00	1.00	0.08	1.00		1.00		0.20	1.00	
Satd. Flow (perm)		167	5085	1583	156	4742		1362		381	3478	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	8	584	1949	474	58	2030	184	126	408	143	216	28
RTOR Reduction (vph)	0	0	0	150	0	1	0	61	0	0	5	0
Lane Group Flow (vph)	0	592	1949	324	58	2226	0	52	0	551	239	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	NA		Perm	pm+pt	pm+pt	NA	
Protected Phases	1	1	6		5	2			7	7	4	
Permitted Phases	6	6		6	2			2	4	4		
Actuated Green, G (s)		119.7	108.5	108.5	87.4	81.2		81.2		46.2	46.2	
Effective Green, g (s)		119.7	108.5	108.5	87.4	81.2		81.2		46.2	46.2	
Actuated g/C Ratio		0.67	0.61	0.61	0.49	0.46		0.46		0.26	0.26	
Clearance Time (s)		5.4	5.0	5.0	5.0	5.0		5.0		5.5	6.9	
Vehicle Extension (s)		4.5	1.0	1.0	3.0	1.0		1.0		3.5	2.5	
Lane Grp Cap (vph)		720	3103	966	132	2165		622		298	903	
v/s Ratio Prot		c0.15	0.38		0.02	c0.47				c0.27	0.07	
v/s Ratio Perm		0.40		0.20	0.20			0.04		c0.21		
v/c Ratio		0.82	0.63	0.33	0.44	1.03		0.08		1.85	0.26	
Uniform Delay, d1		59.1	21.9	17.0	24.5	48.3		27.3		59.9	52.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		8.2	0.3	0.1	2.3	27.0		0.0		394.8	0.1	
Delay (s)		67.3	22.2	17.0	26.8	75.3		27.3		454.7	52.4	
Level of Service		E	C	B	C	E		C		F	D	
Approach Delay (s)			30.2			71.9					331.2	
Approach LOS			C			E					F	

Intersection Summary

HCM 2000 Control Delay	87.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	177.8	Sum of lost time (s)	22.8
Intersection Capacity Utilization	119.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1603: NW 2nd Ave & NW 167th St & NB On-Ramp (US 441)

Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	11	109	29
Future Volume (vph)	11	109	29
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	6.9		
Lane Util. Factor	1.00		
Frt	0.87		
Flt Protected	1.00		
Satd. Flow (prot)	1629		
Flt Permitted	1.00		
Satd. Flow (perm)	1629		
Peak-hour factor, PHF	0.98	0.98	0.80
Adj. Flow (vph)	11	111	36
RTOR Reduction (vph)	5	0	0
Lane Group Flow (vph)	153	0	0
Turn Type	NA		
Protected Phases	8		
Permitted Phases			
Actuated Green, G (s)	15.2		
Effective Green, g (s)	15.2		
Actuated g/C Ratio	0.09		
Clearance Time (s)	6.9		
Vehicle Extension (s)	2.5		
Lane Grp Cap (vph)	139		
v/s Ratio Prot	0.09		
v/s Ratio Perm			
v/c Ratio	1.10		
Uniform Delay, d1	81.3		
Progression Factor	1.00		
Incremental Delay, d2	104.8		
Delay (s)	186.1		
Level of Service	F		
Approach Delay (s)	186.1		
Approach LOS	F		

Intersection Summary

Queues
1604: N Miami Ave & NW 167th St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	133	1798	91	2117	253	208	69	141
v/c Ratio	0.76	0.65	0.58	0.80	0.64	0.48	0.22	0.46
Control Delay	57.8	25.0	29.8	31.5	51.0	52.3	41.4	45.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.8	25.0	29.8	31.5	51.0	52.3	41.4	45.4
Queue Length 50th (ft)	75	429	32	604	199	165	48	87
Queue Length 95th (ft)	#149	441	68	593	#331	#309	95	164
Internal Link Dist (ft)		1250		567		250		225
Turn Bay Length (ft)	220		270		150			
Base Capacity (vph)	196	2949	215	2945	394	430	381	306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.61	0.42	0.72	0.64	0.48	0.18	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1604: N Miami Ave & NW 167th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	1675	51	87	1993	39	243	117	83	66	49	86
Future Volume (vph)	128	1675	51	87	1993	39	243	117	83	66	49	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.9		4.5	4.9		3.0	5.5		3.0	5.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.94		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5063		1770	5071		1770	1747		1770	1684	
Flt Permitted	0.05	1.00		0.07	1.00		0.47	1.00		0.63	1.00	
Satd. Flow (perm)	92	5063		130	5071		870	1747		1169	1684	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	133	1745	53	91	2076	41	253	122	86	69	51	90
RTOR Reduction (vph)	0	2	0	0	1	0	0	14	0	0	40	0
Lane Group Flow (vph)	133	1796	0	91	2116	0	253	194	0	69	101	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	91.8	81.1		85.6	78.0		46.4	35.7		32.0	24.3	
Effective Green, g (s)	91.8	81.1		85.6	78.0		46.4	35.7		32.0	24.3	
Actuated g/C Ratio	0.61	0.54		0.57	0.52		0.31	0.24		0.21	0.16	
Clearance Time (s)	4.5	4.9		4.5	4.9		3.0	5.5		3.0	5.5	
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0	2.5		2.0	2.5	
Lane Grp Cap (vph)	176	2737		157	2636		383	415		280	272	
v/s Ratio Prot	c0.05	0.35		0.03	c0.42		c0.08	0.11		0.01	0.06	
v/s Ratio Perm	0.41			0.30			c0.12			0.04		
v/c Ratio	0.76	0.66		0.58	0.80		0.66	0.47		0.25	0.37	
Uniform Delay, d1	39.5	24.5		20.3	29.7		42.0	49.0		48.3	56.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.0	1.2		3.2	2.7		3.3	3.7		0.2	3.8	
Delay (s)	54.5	25.8		23.5	32.4		45.3	52.7		48.5	59.9	
Level of Service	D	C		C	C		D	D		D	E	
Approach Delay (s)		27.7			32.0			48.7			56.1	
Approach LOS		C			C			D			E	

Intersection Summary

HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1604: N Miami Ave & NW 167th St

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	1675	51	87	1993	39	243	117	83	66	49	86
Future Volume (veh/h)	128	1675	51	87	1993	39	243	117	83	66	49	86
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	133	1745	53	91	2076	41	253	122	86	69	51	90
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	3202	97	220	3199	63	269	175	123	197	71	125
Arrive On Green	0.04	0.63	0.63	0.03	0.62	0.62	0.10	0.17	0.17	0.04	0.12	0.12
Sat Flow, veh/h	1774	5072	154	1774	5134	101	1774	1018	718	1774	606	1069
Grp Volume(v), veh/h	133	1166	632	91	1370	747	253	0	208	69	0	141
Grp Sat Flow(s),veh/h/ln	1774	1695	1836	1774	1695	1845	1774	0	1736	1774	0	1674
Q Serve(g_s), s	4.1	29.0	29.0	2.8	38.3	38.5	15.0	0.0	16.9	5.1	0.0	12.2
Cycle Q Clear(g_c), s	4.1	29.0	29.0	2.8	38.3	38.5	15.0	0.0	16.9	5.1	0.0	12.2
Prop In Lane	1.00		0.08	1.00		0.05	1.00		0.41	1.00		0.64
Lane Grp Cap(c), veh/h	191	2141	1159	220	2112	1149	269	0	298	197	0	195
V/C Ratio(X)	0.70	0.54	0.55	0.41	0.65	0.65	0.94	0.00	0.70	0.35	0.00	0.72
Avail Cap(c_a), veh/h	266	2141	1159	310	2112	1149	269	0	298	295	0	195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	15.5	15.5	13.3	17.9	17.9	55.6	0.0	58.4	55.1	0.0	63.9
Incr Delay (d2), s/veh	1.3	0.7	1.4	0.5	1.6	2.9	38.2	0.0	12.7	0.4	0.0	20.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	18.9	20.5	2.5	25.4	27.8	10.0	0.0	14.2	4.5	0.0	11.0
LnGrp Delay(d),s/veh	25.1	16.3	16.9	13.8	19.4	20.8	93.8	0.0	71.1	55.5	0.0	84.5
LnGrp LOS	C	B	B	B	B	C	F		E	E		F
Approach Vol, veh/h		1931			2208			461			210	
Approach Delay, s/veh		17.1			19.7			83.6			74.9	
Approach LOS		B			B			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	98.4	9.7	31.3	9.4	99.6	18.0	23.0
Change Period (Y+Rc), s	4.5	* 4.9	3.0	5.5	4.5	* 4.9	3.0	5.5
Max Green Setting (Gmax), s	12.5	* 87	15.0	17.5	12.5	* 87	15.0	17.5
Max Q Clear Time (g_c+I1), s	6.1	40.5	7.1	18.9	4.8	31.0	17.0	14.2
Green Ext Time (p_c), s	0.1	22.1	0.0	0.0	0.1	23.7	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Notes

Queues

Existing Conditions

1606: NW 7th Avenue Extension & NW 4th Ave & NW 171st St/NW 7th Ave

PM PEAK HOUR

Lane Group	NBL	SET	SER	NWT	NEL	NET	SWL	SWT	SWR
Lane Group Flow (vph)	97	83	134	178	274	965	39	723	104
v/c Ratio	0.55	0.49	0.48	0.82	1.38	0.67	0.28	0.81	0.21
Control Delay	59.5	57.0	13.5	75.1	237.5	26.1	36.9	44.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	57.0	13.5	75.1	237.5	26.1	36.9	44.0	2.8
Queue Length 50th (ft)	61	53	0	114	~242	262	21	237	0
Queue Length 95th (ft)	135	116	53	#294	#495	363	54	327	19
Internal Link Dist (ft)	585	329		410		390		683	
Turn Bay Length (ft)					190				
Base Capacity (vph)	213	501	544	217	198	2093	335	2151	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.17	0.25	0.82	1.38	0.46	0.12	0.34	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis — Existing Conditions

1606: NW 7th Avenue Extension & NW 4th Ave & NW 171st St/NW 7th Ave — PM PEAK HOUR

Movement	NBL2	NBL	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR	NEL
Lane Configurations												
Traffic Volume (vph)	70	11	10	65	13	3	123	1	138	6	23	258
Future Volume (vph)	70	11	10	65	13	3	123	1	138	6	23	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0				6.0		6.0
Lane Util. Factor		1.00			1.00	1.00				1.00		1.00
Frt		0.98			1.00	0.85				0.98		1.00
Flt Protected		0.96			0.96	1.00				0.96		0.95
Satd. Flow (prot)		1690			1721	1524				1690		1703
Flt Permitted		0.96			0.96	1.00				0.96		0.95
Satd. Flow (perm)		1690			1721	1524				1690		1703
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	74	12	11	69	14	3	131	1	147	6	24	274
RTOR Reduction (vph)	0	0	0	0	0	121	0	0	0	3	0	0
Lane Group Flow (vph)	0	97	0	0	83	13	0	0	0	175	0	274
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Turn Type	Prot	Prot		Split	NA	Prot		Perm	Split	NA		Prot
Protected Phases	4	4		8	8	8			7	7		1
Permitted Phases								7				
Actuated Green, G (s)		10.9			10.4	10.4				13.2		12.2
Effective Green, g (s)		10.9			10.4	10.4				13.2		12.2
Actuated g/C Ratio		0.10			0.10	0.10				0.13		0.12
Clearance Time (s)		6.0			6.0	6.0				6.0		6.0
Vehicle Extension (s)		2.5			2.5	2.5				2.5		2.0
Lane Grp Cap (vph)		176			171	152				214		199
v/s Ratio Prot		c0.06			c0.05	0.01				c0.10		c0.16
v/s Ratio Perm												
v/c Ratio		0.55			0.49	0.09				0.82		1.38
Uniform Delay, d1		44.3			44.3	42.5				44.3		45.9
Progression Factor		1.00			1.00	1.00				1.00		1.00
Incremental Delay, d2		3.0			1.6	0.2				20.3		197.9
Delay (s)		47.2			45.9	42.7				64.5		243.9
Level of Service		D			D	D				E		F
Approach Delay (s)		47.2			43.9					64.5		
Approach LOS		D			D					E		

Intersection Summary

HCM 2000 Control Delay	57.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	104.1	Sum of lost time (s)	30.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing Conditions

1606: NW 7th Avenue Extension & NW 4th Ave & NW 171st St/NW 7th Ave — PM PEAK HOUR

Movement	NET	NER	NER2	SWL2	SWL	SWT	SWR
Lane Configurations							
Traffic Volume (vph)	746	154	7	27	9	680	98
Future Volume (vph)	746	154	7	27	9	680	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0				6.0	6.0	6.0
Lane Util. Factor	0.95				1.00	0.95	1.00
Frt	0.97				1.00	1.00	0.85
Flt Protected	1.00				0.95	1.00	1.00
Satd. Flow (prot)	3315				1703	3406	1524
Flt Permitted	1.00				0.30	1.00	1.00
Satd. Flow (perm)	3315				532	3406	1524
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	794	164	7	29	10	723	104
RTOR Reduction (vph)	1	0	0	0	0	0	77
Lane Group Flow (vph)	964	0	0	0	39	723	27
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%
Turn Type	NA			Prot	Perm	NA	Perm
Protected Phases	6			5		2	
Permitted Phases					2		2
Actuated Green, G (s)	45.6				27.4	27.4	27.4
Effective Green, g (s)	45.6				27.4	27.4	27.4
Actuated g/C Ratio	0.44				0.26	0.26	0.26
Clearance Time (s)	6.0				6.0	6.0	6.0
Vehicle Extension (s)	1.0				1.0	1.0	1.0
Lane Grp Cap (vph)	1452				140	896	401
v/s Ratio Prot	0.29					c0.21	
v/s Ratio Perm					0.07		0.02
v/c Ratio	0.66				0.28	0.81	0.07
Uniform Delay, d1	23.2				30.5	35.9	28.8
Progression Factor	1.00				1.00	1.00	1.00
Incremental Delay, d2	0.9				0.4	5.1	0.0
Delay (s)	24.1				30.9	41.0	28.8
Level of Service	C				C	D	C
Approach Delay (s)	72.7					39.0	
Approach LOS	E					D	

Intersection Summary

Queues
1701: NE 2nd Ct & Miami Gardens Dr

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	35	1796	53	1828	33	102	51	51	139
v/c Ratio	0.29	0.70	0.40	0.72	0.42	0.54	1.11	1.11	0.29
Control Delay	20.0	30.6	23.0	31.8	82.9	22.6	215.2	221.8	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	30.6	23.0	31.8	82.9	22.6	215.2	221.8	12.5
Queue Length 50th (ft)	14	502	22	510	32	1	~56	~56	28
Queue Length 95th (ft)	29	530	40	535	68	59	#166	#166	74
Internal Link Dist (ft)		388		2453		369		320	
Turn Bay Length (ft)	165		200		105		310		
Base Capacity (vph)	164	2828	170	2784	105	217	46	46	524
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.64	0.31	0.66	0.31	0.47	1.11	1.11	0.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1701: NE 2nd Ct & Miami Gardens Dr

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	1582	16	47	1580	47	29	1	90	89	2	124
Future Volume (vph)	31	1582	16	47	1580	47	29	1	90	89	2	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.6		6.4	6.6		7.2	7.2		7.2	7.2	6.4
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	5078		1770	5063		1770	1586		1681	1688	1583
Flt Permitted	0.06	1.00		0.06	1.00		0.72	1.00		0.12	0.12	1.00
Satd. Flow (perm)	104	5078		113	5063		1345	1586		213	209	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	35	1778	18	53	1775	53	33	1	101	100	2	139
RTOR Reduction (vph)	0	1	0	0	3	0	0	95	0	0	0	67
Lane Group Flow (vph)	35	1796	0	53	1825	0	33	7	0	51	51	72
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6		5	2			4			3	1
Permitted Phases	6			2			4			3		3
Actuated Green, G (s)	80.9	75.0		80.1	74.6		8.9	8.9		33.2	33.2	39.1
Effective Green, g (s)	80.9	75.0		80.1	74.6		8.9	8.9		33.2	33.2	39.1
Actuated g/C Ratio	0.54	0.50		0.53	0.50		0.06	0.06		0.22	0.22	0.26
Clearance Time (s)	6.4	6.6		6.4	6.6		7.2	7.2		7.2	7.2	6.4
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.5	2.5		2.5	2.5	2.0
Lane Grp Cap (vph)	121	2539		121	2517		79	94		47	46	412
v/s Ratio Prot	0.01	0.35		c0.02	c0.36			0.00				0.01
v/s Ratio Perm	0.14			0.22			c0.02			0.24	c0.24	0.04
v/c Ratio	0.29	0.71		0.44	0.73		0.42	0.07		1.09	1.11	0.17
Uniform Delay, d1	22.1	29.0		22.5	29.6		68.1	66.7		58.4	58.4	42.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7		0.9	1.9		2.6	0.2		157.2	166.3	0.1
Delay (s)	22.6	30.7		23.5	31.5		70.6	66.9		215.6	224.7	43.0
Level of Service	C	C		C	C		E	E		F	F	D
Approach Delay (s)		30.5			31.3			67.8			118.0	
Approach LOS		C			C			E			F	

Intersection Summary

HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	27.4
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
1702: NE 6th Ave/SB Ramps & Miami Gardens Dr

Existing Conditions
PM PEAK HOUR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	1093	728	59	668	480	706	294	279	432	423	299
v/c Ratio	0.41	0.99	0.84	0.36	0.66	0.30	1.05	0.74	0.65	0.67	0.97	0.59
Control Delay	27.6	67.7	19.7	44.2	50.7	0.3	93.9	35.8	21.3	25.3	81.5	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	67.7	19.7	44.2	50.7	0.3	93.9	35.8	21.3	25.3	81.5	22.0
Queue Length 50th (ft)	48	~489	139	33	206	0	~306	201	98	97	326	83
Queue Length 95th (ft)	85	#650	#406	m44	m265	m0	#426	#460	282	131	#526	181
Internal Link Dist (ft)		2453			851			238			650	
Turn Bay Length (ft)	420			230			110			390		400
Base Capacity (vph)	259	1100	871	196	1006	1583	675	397	430	886	440	506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.99	0.84	0.30	0.66	0.30	1.05	0.74	0.65	0.49	0.96	0.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1702: NE 6th Ave/SB Ramps & Miami Gardens Dr

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1049	699	57	641	461	678	72	478	415	406	287
Future Volume (vph)	96	1049	699	57	641	461	678	72	478	415	406	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	7.1	7.1	6.0	7.1	4.0	6.4	6.6	6.6	6.4	6.6	6.6
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	*0.63	*0.63	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1042	998	3433	1863	1583
Flt Permitted	0.22	1.00	1.00	0.12	1.00	1.00	0.95	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	418	3539	1583	219	3539	1583	3433	1042	998	889	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	100	1093	728	59	668	480	706	75	498	432	423	299
RTOR Reduction (vph)	0	0	385	0	0	0	0	80	126	0	0	132
Lane Group Flow (vph)	100	1093	343	59	668	480	706	214	153	432	423	167
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		Free			4	8		8
Actuated Green, G (s)	44.1	36.1	36.1	40.1	34.1	120.0	23.6	36.6	36.6	43.4	28.2	28.2
Effective Green, g (s)	44.1	36.1	36.1	40.1	34.1	120.0	23.6	36.6	36.6	43.4	28.2	28.2
Actuated g/C Ratio	0.37	0.30	0.30	0.33	0.28	1.00	0.20	0.31	0.31	0.36	0.23	0.23
Clearance Time (s)	6.0	7.1	7.1	6.0	7.1		6.4	6.6	6.6	6.4	6.6	6.6
Vehicle Extension (s)	2.0	1.0	1.0	2.0	1.0		2.0	2.5	2.5	2.0	2.5	2.5
Lane Grp Cap (vph)	243	1064	476	150	1005	1583	675	317	304	643	437	372
v/s Ratio Prot	0.03	c0.31		0.02	0.19		c0.21	0.21		0.08	c0.23	
v/s Ratio Perm	0.12		0.22	0.11		c0.30			0.15	0.16		0.11
v/c Ratio	0.41	1.03	0.72	0.39	0.66	0.30	1.05	0.68	0.50	0.67	0.97	0.45
Uniform Delay, d1	26.6	42.0	37.5	31.4	37.9	0.0	48.2	36.5	34.2	29.1	45.5	39.2
Progression Factor	1.00	1.00	1.00	1.83	1.26	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	34.8	9.1	0.4	2.0	0.3	47.2	5.1	0.9	2.2	34.4	0.6
Delay (s)	27.0	76.7	46.6	57.7	49.9	0.3	95.4	41.6	35.2	31.3	79.9	39.9
Level of Service	C	E	D	E	D	A	F	D	D	C	E	D
Approach Delay (s)		62.7			30.5			69.9			51.3	
Approach LOS		E			C			E			D	

Intersection Summary

HCM 2000 Control Delay	55.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.1
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1702: NE 6th Ave/SB Ramps & Miami Gardens Dr

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1049	699	57	641	461	678	72	478	415	406	287
Future Volume (veh/h)	96	1049	699	57	641	461	678	72	478	415	406	287
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	100	1093	0	59	668	0	706	0	548	432	423	0
Adj No. of Lanes	1	2	1	1	2	1	2	0	2	2	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	1109	496	128	1045	468	698	0	1007	910	441	375
Arrive On Green	0.07	0.42	0.00	0.05	0.39	0.00	0.20	0.00	0.32	0.12	0.24	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	3548	0	3167	3442	1863	1583
Grp Volume(v), veh/h	100	1093	0	59	668	0	706	0	548	432	423	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1583	1721	1863	1583
Q Serve(g_s), s	4.7	36.7	0.0	2.8	18.4	0.0	23.6	0.0	17.1	11.2	26.9	0.0
Cycle Q Clear(g_c), s	4.7	36.7	0.0	2.8	18.4	0.0	23.6	0.0	17.1	11.2	26.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	1109	496	128	1045	468	698	0	1007	910	441	375
V/C Ratio(X)	0.38	0.99	0.00	0.46	0.64	0.00	1.01	0.00	0.54	0.47	0.96	0.00
Avail Cap(c_a), veh/h	302	1109	496	197	1045	468	698	0	1007	1190	441	375
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.00	0.47	0.47	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.0	34.7	0.0	32.6	31.2	0.0	48.2	0.0	33.7	28.8	45.2	0.0
Incr Delay (d2), s/veh	0.2	18.5	0.0	0.5	1.4	0.0	37.0	0.0	0.5	0.1	32.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	26.6	0.0	2.4	12.5	0.0	27.2	0.0	12.0	9.1	24.8	0.0
LnGrp Delay(d),s/veh	28.2	53.2	0.0	33.0	32.7	0.0	85.2	0.0	34.2	29.0	77.7	0.0
LnGrp LOS	C	D		C	C		F		C	C	E	
Approach Vol, veh/h		1193			727			1254			855	
Approach Delay, s/veh		51.1			32.7			62.9			53.1	
Approach LOS		D			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	42.5	20.2	44.8	10.3	44.7	30.0	35.0
Change Period (Y+Rc), s	6.0	7.1	6.4	* 6.6	6.0	7.1	6.4	* 6.6
Max Green Setting (Gmax), s	9.0	32.9	23.6	* 28	9.0	32.9	23.6	* 28
Max Q Clear Time (g_c+I1), s	6.7	20.4	13.2	19.1	4.8	38.7	25.6	28.9
Green Ext Time (p_c), s	0.0	4.7	0.7	2.9	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.9
HCM 2010 LOS	D

Notes

Queues
1703: Miami Gardens Dr & NB Ramps

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	851	1122	1142	460	582	56
v/c Ratio	0.93	0.32	0.85	0.29	0.87	0.16
Control Delay	54.6	0.1	41.5	0.5	61.1	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	0.1	41.5	0.5	61.1	11.5
Queue Length 50th (ft)	353	0	431	0	221	0
Queue Length 95th (ft)	m#394	m0	514	0	#312	36
Internal Link Dist (ft)		851	430		520	
Turn Bay Length (ft)	415			400		240
Base Capacity (vph)	922	3528	1370	1583	695	365
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.32	0.83	0.29	0.84	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1703: Miami Gardens Dr & NB Ramps

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	817	1077	1096	442	559	54
Future Volume (vph)	817	1077	1096	442	559	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	2.0	6.4	4.0	6.0	6.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	851	1122	1142	460	582	56
RTOR Reduction (vph)	0	0	0	0	0	45
Lane Group Flow (vph)	851	1122	1142	460	582	11
Turn Type	Prot	NA	NA	Free	Prot	Perm
Protected Phases	1	6 8!	2		4!	
Permitted Phases				Free		4
Actuated Green, G (s)	32.1	120.0	45.6	120.0	23.5	23.5
Effective Green, g (s)	32.1	120.0	45.6	120.0	23.5	23.5
Actuated g/C Ratio	0.27	1.00	0.38	1.00	0.20	0.20
Clearance Time (s)	6.4		6.4		6.0	6.0
Vehicle Extension (s)	3.5		1.0		3.0	3.0
Lane Grp Cap (vph)	918	3539	1344	1583	672	310
v/s Ratio Prot	c0.25	0.32	c0.32		c0.17	
v/s Ratio Perm				0.29		0.01
v/c Ratio	0.93	0.32	0.85	0.29	0.87	0.04
Uniform Delay, d1	42.8	0.0	34.1	0.0	46.7	39.1
Progression Factor	1.02	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.0	6.9	0.5	11.3	0.0
Delay (s)	53.3	0.0	40.9	0.5	58.0	39.1
Level of Service	D	A	D	A	E	D
Approach Delay (s)		23.0	29.3		56.4	
Approach LOS		C	C		E	

Intersection Summary

HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Queues
1801: NE 205th Terrace/NE 16th Ave & Ives Dairy Rd

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	54	1572	98	2305	86	3	158	159	94
v/c Ratio	0.37	0.48	0.36	0.67	0.49	0.03	0.71	0.48	0.52
Control Delay	15.1	13.3	8.0	14.3	61.3	58.3	46.2	51.3	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	13.3	8.0	14.3	61.3	58.3	46.2	51.3	23.5
Queue Length 50th (ft)	9	243	17	386	71	2	69	121	4
Queue Length 95th (ft)	33	298	39	540	105	13	134	181	58
Internal Link Dist (ft)		322		1217		234			326
Turn Bay Length (ft)	100		335		75		40		
Base Capacity (vph)	185	3303	287	3466	189	167	233	329	224
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.48	0.34	0.67	0.46	0.02	0.68	0.48	0.42

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1801: NE 205th Terrace/NE 16th Ave & Ives Dairy Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	1471	38	94	2127	85	83	3	152	153	5	85
Future Volume (vph)	52	1471	38	94	2127	85	83	3	152	153	5	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.1		3.0	6.1		3.0	6.3	3.0	3.0	6.3	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5066		1770	5056		1770	1863	1583	1770	1598	
Flt Permitted	0.05	1.00		0.11	1.00		1.00	1.00	1.00	0.85	1.00	
Satd. Flow (perm)	95	5066		207	5056		1863	1863	1583	1585	1598	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	1532	40	98	2216	89	86	3	158	159	5	89
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	67	0	80	0
Lane Group Flow (vph)	54	1570	0	98	2302	0	86	3	91	159	14	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6		5	2		7	4	5	3	8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)	83.5	78.4		91.2	83.1		12.1	1.7	11.5	26.4	13.0	
Effective Green, g (s)	83.5	78.4		91.2	83.1		12.1	1.7	11.5	26.4	13.0	
Actuated g/C Ratio	0.64	0.60		0.70	0.64		0.09	0.01	0.09	0.20	0.10	
Clearance Time (s)	3.0	6.1		3.0	6.1		3.0	6.3	3.0	3.0	6.3	
Vehicle Extension (s)	2.0	1.0		2.0	1.0		2.0	2.5	2.0	2.0	2.5	
Lane Grp Cap (vph)	126	3055		263	3231		165	24	140	352	159	
v/s Ratio Prot	0.02	0.31		0.03	c0.46		c0.04	0.00	c0.05	c0.08	0.01	
v/s Ratio Perm	0.26			0.23			0.01		0.01	c0.02		
v/c Ratio	0.43	0.51		0.37	0.71		0.52	0.12	0.65	0.45	0.09	
Uniform Delay, d1	14.1	14.8		8.8	15.5		56.2	63.4	57.3	45.4	53.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.6		0.3	1.4		1.4	1.7	7.5	0.3	0.2	
Delay (s)	15.0	15.5		9.1	16.9		57.6	65.1	64.8	45.7	53.3	
Level of Service	B	B		A	B		E	E	E	D	D	
Approach Delay (s)		15.4			16.6			62.3			48.5	
Approach LOS		B			B			E			D	

Intersection Summary

HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1801: NE 205th Terrace/NE 16th Ave & Ives Dairy Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1471	38	94	2127	85	83	3	152	153	5	85
Future Volume (veh/h)	52	1471	38	94	2127	85	83	3	152	153	5	85
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	54	1532	40	98	2216	89	86	3	158	159	5	89
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	3334	87	313	3304	132	227	168	202	300	9	167
Arrive On Green	0.04	0.87	0.87	0.05	0.88	0.88	0.06	0.09	0.09	0.08	0.11	0.11
Sat Flow, veh/h	1774	5096	133	1774	5017	201	1774	1863	1583	1774	85	1511
Grp Volume(v), veh/h	54	1019	553	98	1494	811	86	3	158	159	0	94
Grp Sat Flow(s),veh/h/ln	1774	1695	1839	1774	1695	1827	1774	1863	1583	1774	0	1596
Q Serve(g_s), s	1.3	8.5	8.5	2.4	17.2	17.5	5.7	0.2	11.7	10.0	0.0	7.2
Cycle Q Clear(g_c), s	1.3	8.5	8.5	2.4	17.2	17.5	5.7	0.2	11.7	10.0	0.0	7.2
Prop In Lane	1.00		0.07	1.00		0.11	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	197	2218	1203	313	2233	1203	227	168	202	300	0	176
V/C Ratio(X)	0.27	0.46	0.46	0.31	0.67	0.67	0.38	0.02	0.78	0.53	0.00	0.53
Avail Cap(c_a), veh/h	261	2218	1203	370	2233	1203	263	168	202	300	0	176
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.29	0.29	0.29	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	3.5	3.5	6.9	3.8	3.8	49.9	53.9	55.0	48.1	0.0	54.6
Incr Delay (d2), s/veh	0.3	0.7	1.3	0.1	0.5	0.9	0.4	0.0	17.5	0.9	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	7.1	7.9	2.0	10.3	11.2	5.0	0.2	10.7	0.7	0.0	6.0
LnGrp Delay(d),s/veh	8.4	4.2	4.7	6.9	4.3	4.7	50.3	53.9	72.4	49.1	0.0	57.1
LnGrp LOS	A	A	A	A	A	A	D	D	E	D		E
Approach Vol, veh/h		1626			2403			247			253	
Approach Delay, s/veh		4.5			4.5			64.5			52.0	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	91.7	13.0	18.0	7.9	91.1	10.3	20.7
Change Period (Y+Rc), s	3.0	6.1	3.0	* 6.3	3.0	6.1	3.0	* 6.3
Max Green Setting (Gmax), s	9.0	80.9	10.0	* 12	9.0	80.9	10.0	* 12
Max Q Clear Time (g_c+I1), s	3.3	19.5	12.0	13.7	4.4	10.5	7.7	9.2
Green Ext Time (p_c), s	0.0	24.2	0.0	0.0	0.0	25.1	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Notes

Queues
1802: SB On-Ramp/SB Off-Ramp & Ives Dairy Rd

Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1390	479	915	1699	1266	688
v/c Ratio	0.55	0.57	0.92	0.77	0.77	1.25
Control Delay	55.8	6.8	61.5	11.1	65.6	175.7
Queue Delay	0.0	0.0	13.5	48.0	1.2	0.0
Total Delay	55.8	6.8	75.0	59.1	66.8	175.7
Queue Length 50th (ft)	357	6	474	306	555	~1137
Queue Length 95th (ft)	419	108	m306	m206	614	#1401
Internal Link Dist (ft)	1217			442		
Turn Bay Length (ft)		300				
Base Capacity (vph)	2567	851	1147	2278	1642	550
Starvation Cap Reductn	0	0	228	793	0	0
Spillback Cap Reductn	0	0	0	0	183	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.56	1.00	1.14	0.87	1.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1802: SB On-Ramp/SB Off-Ramp & Ives Dairy Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1334	460	878	1631	0	0	0	0	1215	0	660
Future Volume (vph)	0	1334	460	878	1631	0	0	0	0	1215	0	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	5.4	5.5					6.5		6.5
Lane Util. Factor		0.81	1.00	0.97	0.95					0.94		1.00
Frt		1.00	0.85	1.00	1.00					1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (prot)		7619	1599	3467	3574					5040		1599
Flt Permitted		1.00	1.00	0.09	1.00					0.95		1.00
Satd. Flow (perm)		7619	1599	311	3574					5040		1599
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1390	479	915	1699	0	0	0	0	1266	0	688
RTOR Reduction (vph)	0	0	316	0	0	0	0	0	0	0	0	29
Lane Group Flow (vph)	0	1390	163	915	1699	0	0	0	0	1266	0	659
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type		NA	Perm	pm+pt	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases			6	2								8
Actuated Green, G (s)		66.2	66.2	122.8	122.8					65.2		65.2
Effective Green, g (s)		66.2	66.2	122.8	122.8					65.2		65.2
Actuated g/C Ratio		0.33	0.33	0.61	0.61					0.33		0.33
Clearance Time (s)		5.5	5.5	5.4	5.5					6.5		6.5
Vehicle Extension (s)		1.0	1.0	2.0	1.0					2.0		2.0
Lane Grp Cap (vph)		2521	529	998	2194					1643		521
v/s Ratio Prot		0.18		c0.23	0.48					0.25		
v/s Ratio Perm			0.10	c0.33								c0.41
v/c Ratio		0.55	0.31	0.92	0.77					0.77		1.26
Uniform Delay, d1		54.7	49.8	57.4	28.4					60.7		67.4
Progression Factor		1.00	1.00	1.08	0.38					1.00		1.00
Incremental Delay, d2		0.9	1.5	1.4	0.3					2.1		133.9
Delay (s)		55.6	51.4	63.6	11.1					62.8		201.3
Level of Service		E	D	E	B					E		F
Approach Delay (s)		54.5			29.5			0.0			111.5	
Approach LOS		D			C			A			F	

Intersection Summary

HCM 2000 Control Delay	61.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1802: SB On-Ramp/SB Off-Ramp & Ives Dairy Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1334	460	878	1631	0	0	0	0	1215	0	660
Future Volume (veh/h)	0	1334	460	878	1631	0	0	0	0	1215	0	660
Number	1	6	16	5	2	12				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1881	1881	1881	0				1881	0	1881
Adj Flow Rate, veh/h	0	1390	0	915	1699	0				1266	0	0
Adj No. of Lanes	0	5	1	2	2	0				3	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	1	1	1	1	0				1	0	1
Cap, veh/h	0	3618	759	960	2405	0				1349	0	427
Arrive On Green	0.00	0.63	0.00	0.23	0.90	0.00				0.27	0.00	0.00
Sat Flow, veh/h	0	7976	1599	3476	3668	0				5052	0	1599
Grp Volume(v), veh/h	0	1390	0	915	1699	0				1266	0	0
Grp Sat Flow(s),veh/h/ln	0	1524	1599	1738	1787	0				1684	0	1599
Q Serve(g_s), s	0.0	17.8	0.0	30.3	27.1	0.0				49.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	17.8	0.0	30.3	27.1	0.0				49.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3618	759	960	2405	0				1349	0	427
V/C Ratio(X)	0.00	0.38	0.00	0.95	0.71	0.00				0.94	0.00	0.00
Avail Cap(c_a), veh/h	0	3618	759	1418	2405	0				1528	0	484
HCM Platoon Ratio	1.00	1.33	1.33	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.86	0.00	0.09	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	22.6	0.0	29.9	4.9	0.0				71.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.1	0.2	0.0				10.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.6	0.0	27.2	14.5	0.0				32.2	0.0	0.0
LnGrp Delay(d),s/veh	0.0	22.9	0.0	31.0	5.0	0.0				81.8	0.0	0.0
LnGrp LOS		C		C	A					F		
Approach Vol, veh/h		1390			2614						1266	
Approach Delay, s/veh		22.9			14.1						81.8	
Approach LOS		C			B						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		140.1			39.6	100.5		59.9
Change Period (Y+Rc), s		5.5			* 5.4	5.5		6.5
Max Green Setting (Gmax), s		127.5			* 61	61.5		60.5
Max Q Clear Time (g_c+I1), s		29.1			32.3	19.8		51.0
Green Ext Time (p_c), s		18.7			2.0	16.4		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Notes

Queues
1803: NB Off-Ramp/NB On-Ramp & Ives Dairy Rd

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	473	2039	3815	413	427	418
v/c Ratio	0.85	0.58	1.96dr	0.50	1.06	1.04
Control Delay	96.1	23.5	149.0	68.7	124.2	116.9
Queue Delay	0.0	0.2	0.1	0.0	0.0	0.0
Total Delay	96.1	23.7	149.1	68.7	124.2	116.9
Queue Length 50th (ft)	328	497	~1772	244	~607	~568
Queue Length 95th (ft)	394	512	#1777	319	#933	#890
Internal Link Dist (ft)		442	485		612	
Turn Bay Length (ft)				540		350
Base Capacity (vph)	962	4141	3088	830	402	401
Starvation Cap Reductn	20	969	193	0	0	0
Spillback Cap Reductn	0	0	185	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.64	1.32	0.50	1.06	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

HCM Signalized Intersection Capacity Analysis
1803: NB Off-Ramp/NB On-Ramp & Ives Dairy Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	1957	0	0	1994	1668	396	68	728	0	0	0
Future Volume (vph)	454	1957	0	0	1994	1668	396	68	728	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	6.1			6.1		6.4	6.4	6.4			
Lane Util. Factor	0.97	0.91			0.86		0.97	0.95	0.95			
Frt	1.00	1.00			0.93		1.00	0.87	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			5970		3433	1548	1504			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3433	5085			5970		3433	1548	1504			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.94	0.96	0.96	0.96
Adj. Flow (vph)	473	2039	0	0	2077	1738	412	71	774	0	0	0
RTOR Reduction (vph)	0	0	0	0	75	0	0	28	38	0	0	0
Lane Group Flow (vph)	473	2039	0	0	3740	0	413	399	380	0	0	0
Turn Type	Prot	NA			NA		Split	NA	Prot			
Protected Phases	1	6			2		4	4	4			
Permitted Phases												
Actuated Green, G (s)	32.3	139.1			100.9		48.4	48.4	48.4			
Effective Green, g (s)	32.3	139.1			100.9		48.4	48.4	48.4			
Actuated g/C Ratio	0.16	0.70			0.50		0.24	0.24	0.24			
Clearance Time (s)	5.9	6.1			6.1		6.4	6.4	6.4			
Vehicle Extension (s)	2.0	1.0			1.0		2.0	2.0	2.0			
Lane Grp Cap (vph)	554	3536			3011		830	374	363			
v/s Ratio Prot	c0.14	0.40			c0.63		0.12	c0.26	0.25			
v/s Ratio Perm												
v/c Ratio	0.85	0.58			1.96dr		0.50	1.07	1.05			
Uniform Delay, d1	81.6	15.5			49.5		65.3	75.8	75.8			
Progression Factor	1.04	1.50			1.00		1.00	1.00	1.00			
Incremental Delay, d2	9.2	0.5			111.9		0.2	65.4	60.1			
Delay (s)	93.8	23.7			161.4		65.5	141.2	135.9			
Level of Service	F	C			F		E	F	F			
Approach Delay (s)		36.9			161.4			114.6			0.0	
Approach LOS		D			F			F			A	

Intersection Summary

HCM 2000 Control Delay	112.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

HCM 2010 Signalized Intersection Summary
1803: NB Off-Ramp/NB On-Ramp & Ives Dairy Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	454	1957	0	0	1994	1668	396	68	728	0	0	0
Future Volume (veh/h)	454	1957	0	0	1994	1668	396	68	728	0	0	0
Number	1	6	16	5	2	12	7	4	14			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863			
Adj Flow Rate, veh/h	473	2039	0	0	2077	1738	412	71	0			
Adj No. of Lanes	2	3	0	0	4	0	2	1	1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	962	4142	0	0	2425	799	436	229	195			
Arrive On Green	0.37	1.00	0.00	0.00	0.67	0.50	0.12	0.12	0.00			
Sat Flow, veh/h	3442	5253	0	0	5067	1583	3548	1863	1583			
Grp Volume(v), veh/h	473	2039	0	0	2077	1738	412	71	0			
Grp Sat Flow(s),veh/h/ln	1721	1695	0	0	1602	1583	1774	1863	1583			
Q Serve(g_s), s	21.1	0.0	0.0	0.0	66.9	100.9	23.0	7.0	0.0			
Cycle Q Clear(g_c), s	21.1	0.0	0.0	0.0	66.9	100.9	23.0	7.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	962	4142	0	0	2425	799	436	229	195			
V/C Ratio(X)	0.49	0.49	0.00	0.00	0.86	2.18	0.94	0.31	0.00			
Avail Cap(c_a), veh/h	965	4142	0	0	2425	799	436	229	195			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.33	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.71	0.71	0.00	0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	51.9	0.0	0.0	0.0	27.3	49.6	87.0	80.0	0.0			
Incr Delay (d2), s/veh	0.1	0.3	0.0	0.0	4.2	533.2	29.0	0.3	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	14.5	0.2	0.0	0.0	39.2	290.4	19.0	6.5	0.0			
LnGrp Delay(d),s/veh	52.0	0.3	0.0	0.0	31.5	582.8	116.0	80.2	0.0			
LnGrp LOS	D	A			C	F	F	F				
Approach Vol, veh/h		2512			3815			483				
Approach Delay, s/veh		10.0			282.6			110.8				
Approach LOS		B			F			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	62.0	107.0		31.0		169.0		
Change Period (Y+Rc), s	6.1	* 6.1		6.4		6.1		
Max Green Setting (Gmax), s	56.1	* 1E2		24.6		162.9		
Max Q Clear Time (g_c+I1), s	23.1	102.9		25.0		2.0		
Green Ext Time (p_c), s	10.6	0.0		0.0		11.6		

Intersection Summary

HCM 2010 Ctrl Delay	169.9	
HCM 2010 LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Queues
1804: Highland Lakes Blvd & Ives Dairy Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	161	1677	1036	56	2653	553	278	13	84	245
v/c Ratio	0.83	0.52	1.81	0.31	0.90	1.11	1.11	0.09	0.56	0.72
Control Delay	90.3	21.7	397.1	15.2	43.5	143.7	157.6	86.2	103.3	52.2
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.3	22.2	397.1	15.2	43.5	143.7	157.6	86.2	103.3	52.2
Queue Length 50th (ft)	155	409	~1630	21	1057	~509	~510	16	113	188
Queue Length 95th (ft)	247	452	#1903	37	1150	#646	#743	45	186	269
Internal Link Dist (ft)		286			473		500		485	
Turn Bay Length (ft)				330		390		225		
Base Capacity (vph)	227	3268	571	309	3036	499	251	145	153	373
Starvation Cap Reductn	0	994	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.74	1.81	0.18	0.87	1.11	1.11	0.09	0.55	0.66

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1804: Highland Lakes Blvd & Ives Dairy Rd

Existing Conditions
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	1643	1015	55	2583	17	753	49	13	15	80	240
Future Volume (vph)	158	1643	1015	55	2583	17	753	49	13	15	80	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	6.1	3.0	6.6		6.1	6.1		6.1	6.1	3.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.91	0.91		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96		0.95	1.00	1.00
Satd. Flow (prot)	1805	5187	1615	1805	5182		3285	1653		1715	1803	1615
Flt Permitted	0.03	1.00	1.00	0.11	1.00		0.95	0.96		0.95	1.00	1.00
Satd. Flow (perm)	65	5187	1615	207	5182		3285	1653		1715	1803	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	161	1677	1036	56	2636	17	768	50	13	15	82	245
RTOR Reduction (vph)	0	0	326	0	0	0	0	1	0	0	0	44
Lane Group Flow (vph)	161	1677	710	56	2653	0	553	277	0	13	84	201
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	custom	pm+pt	NA		Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		4	4		3	3	1 3
Permitted Phases	6		4	2								
Actuated Green, G (s)	134.2	124.8	30.4	120.5	114.1		30.4	30.4		16.6	16.6	33.7
Effective Green, g (s)	134.2	124.8	30.4	120.5	114.1		30.4	30.4		16.6	16.6	33.7
Actuated g/C Ratio	0.67	0.62	0.15	0.60	0.57		0.15	0.15		0.08	0.08	0.17
Clearance Time (s)	3.0	6.6	6.1	3.0	6.6		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	2.0	1.0	2.5	2.0	1.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	192	3236	245	175	2956		499	251		142	149	272
v/s Ratio Prot	c0.07	0.32		0.01	c0.51		0.17	0.17		0.01	0.05	c0.12
v/s Ratio Perm	0.49		c0.44	0.18								
v/c Ratio	0.84	0.52	2.90	0.32	0.90		1.11	1.10		0.09	0.56	0.74
Uniform Delay, d1	70.3	20.9	84.8	17.8	37.8		84.8	84.8		84.7	88.2	79.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	25.1	0.6	865.8	0.4	4.8		73.3	87.6		0.2	3.9	8.7
Delay (s)	95.4	21.5	950.6	18.2	42.6		158.1	172.4		84.9	92.1	87.7
Level of Service	F	C	F	B	D		F	F		F	F	F
Approach Delay (s)		360.6			42.1			162.8			88.7	
Approach LOS		F			D			F			F	

Intersection Summary

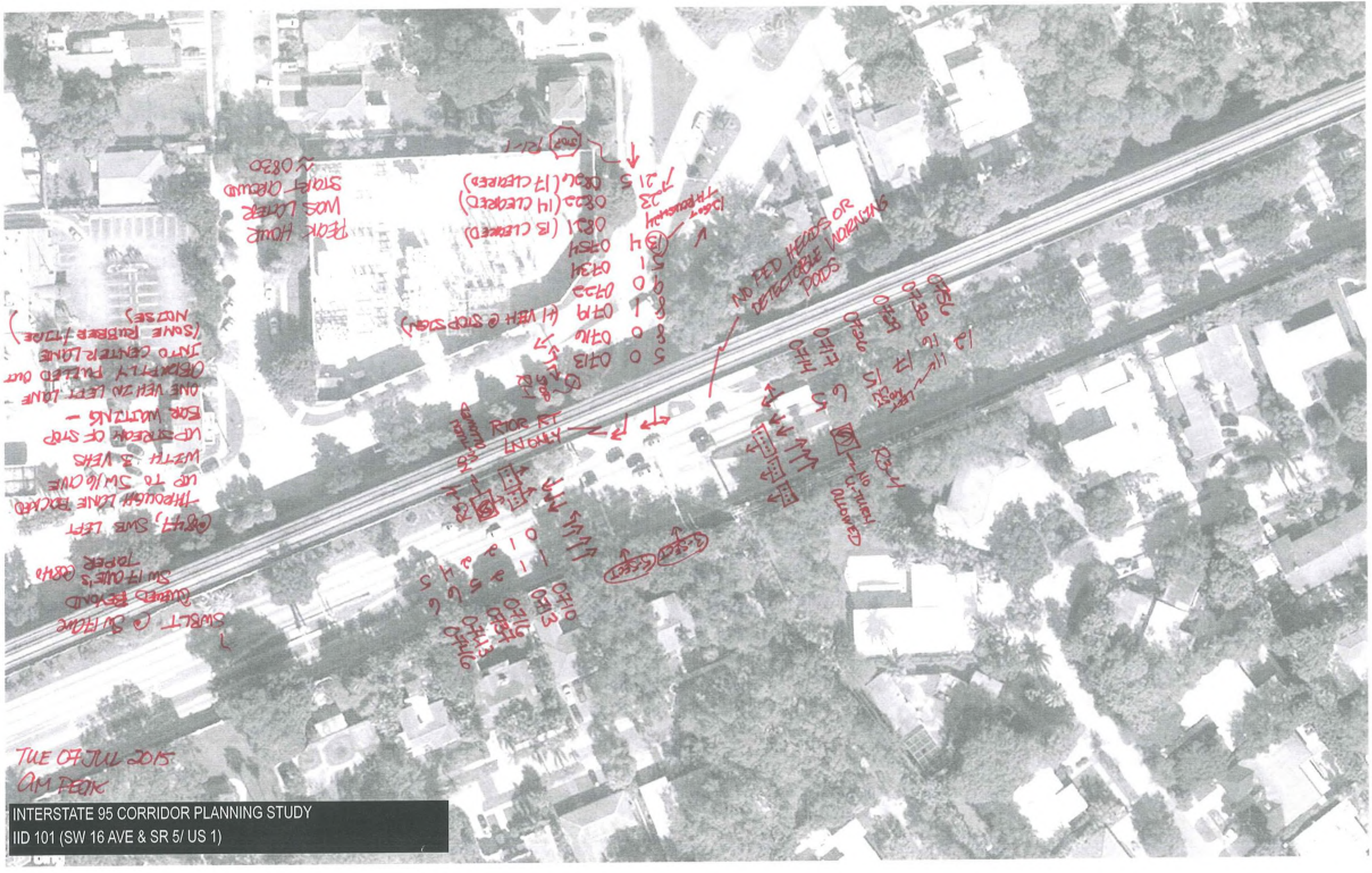
HCM 2000 Control Delay	194.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	21.8
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 analysis expects strict NEMA phasing.

Appendix D
Field Reviews Documentation

AM Peak Period


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 101 (SW 16 AVE & SR 5/ US 1)
TUE 07 JUL 2015
AM PEAK

IID 200's
IR
AT
Wed 7/22/2015

SW 26th Rd

M-Path

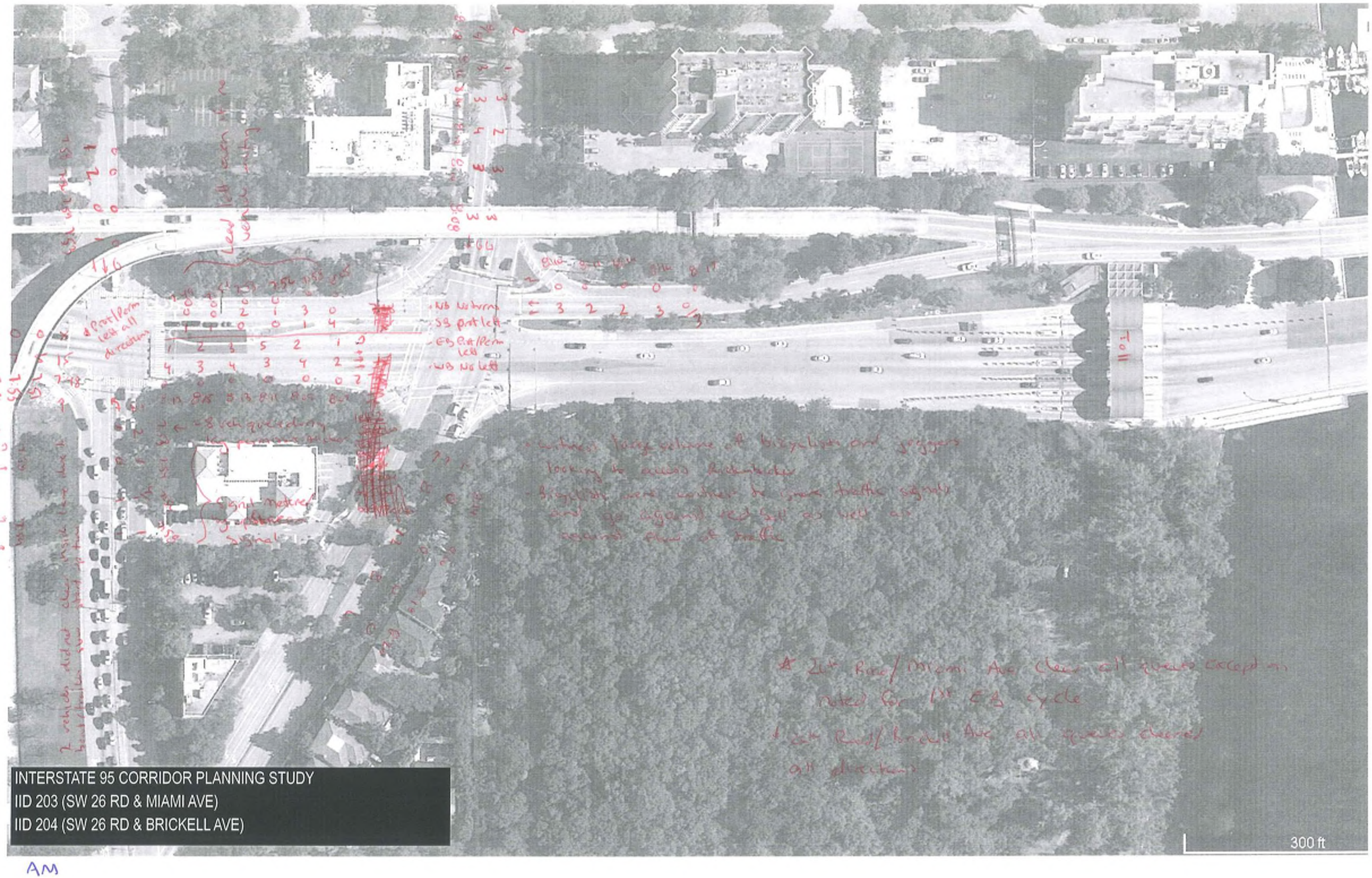
913

95

100 ft

INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 201 (SW 26 RD & SB OFF-RAMP)
IID 202 (SW 26 RD & NB ON-RAMP)

AM


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 203 (SW 26 RD & MIAMI AVE)
IID 204 (SW 26 RD & BRICKELL AVE)
300 ft

AM

escription for your map

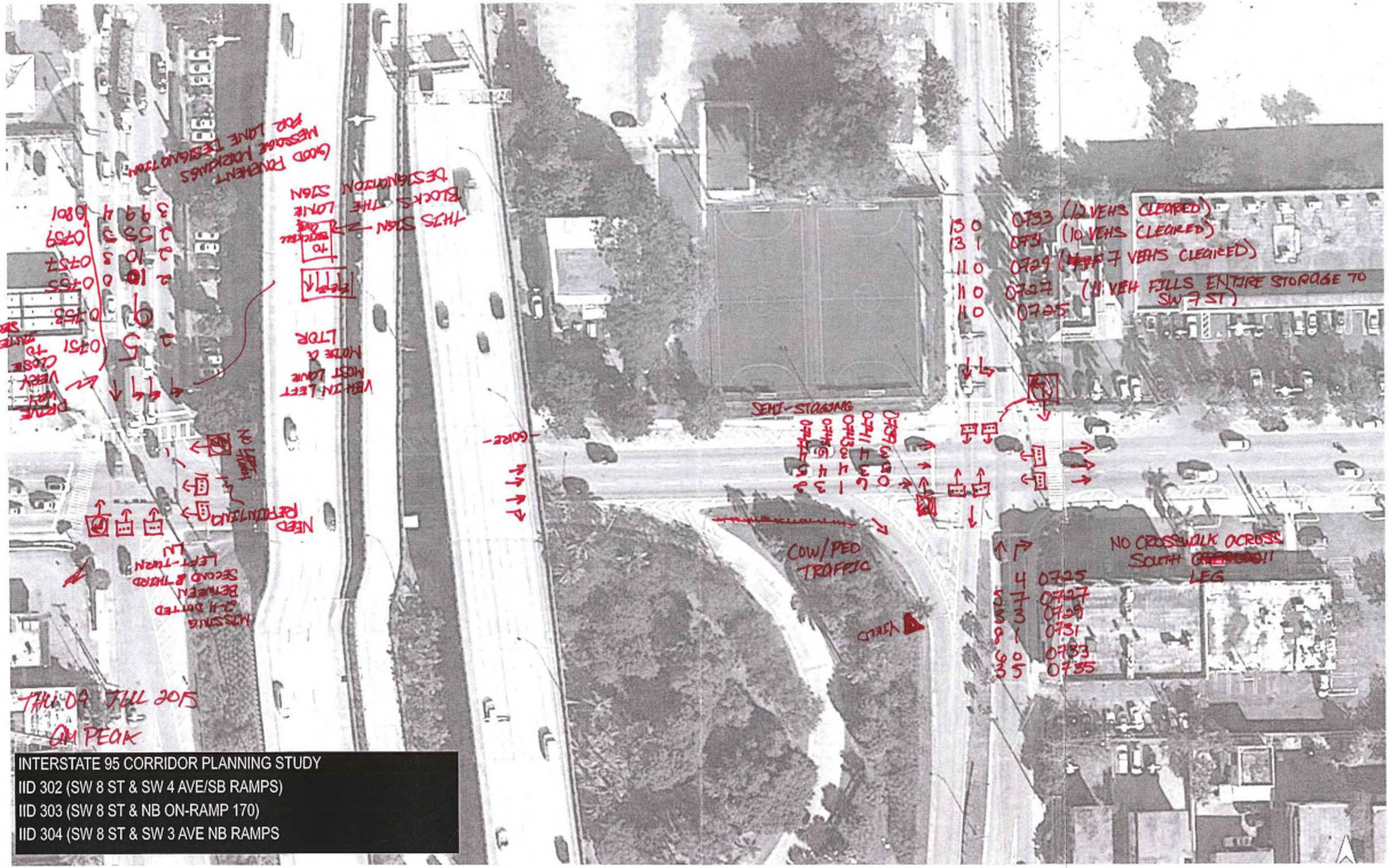
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 205 (SW 25 RD & SB OFF-RAMP)
IID 206 (SW 25 RD & NB OFF-RAMP)

200 ft

AM



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 301 (SW 8 ST & SW 5 AVE)

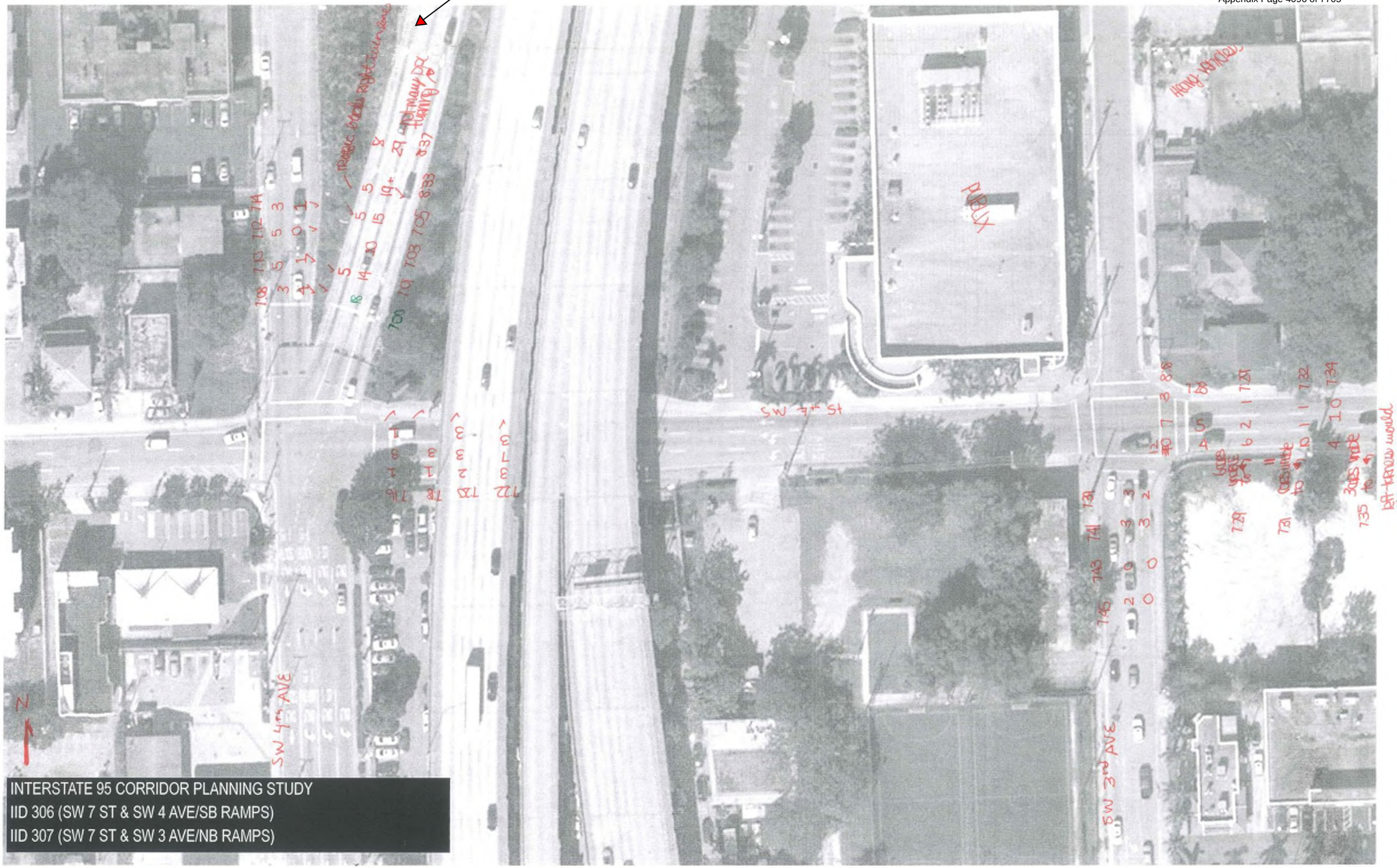

INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 302 (SW 8 ST & SW 4 AVE/SB RAMPS)
IID 303 (SW 8 ST & NB ON-RAMP 170)
IID 304 (SW 8 ST & SW 3 AVE NB RAMPS
THU 09 JUL 2015
PM PEAK
SEMI-STAGGING
COW/PED TRAFFIC
NO CROSSWALK ACROSS SOUTH LEG
(12 VEHS CLEARED)
(10 VEHS CLEARED)
(7 VEHS CLEARED)
(1 VEH FILLS ENTIRE STORAGE TO SW 7 ST)



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 305 (SW 8 ST & SW 2 AVE)

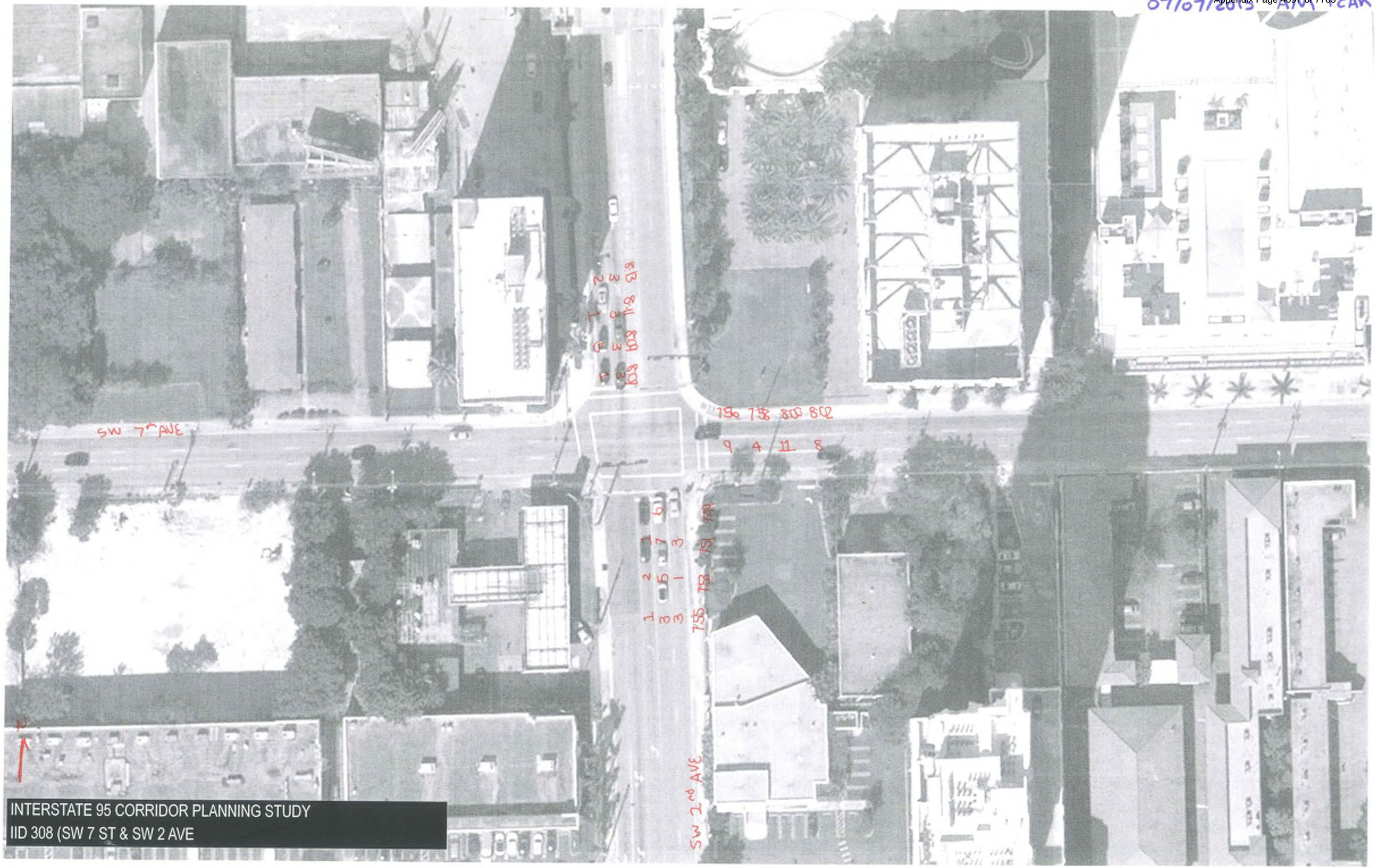
Ramp queue continued to build beyond observation point on bridge above SW 6th St

A.M. PEAK HR 7-9am

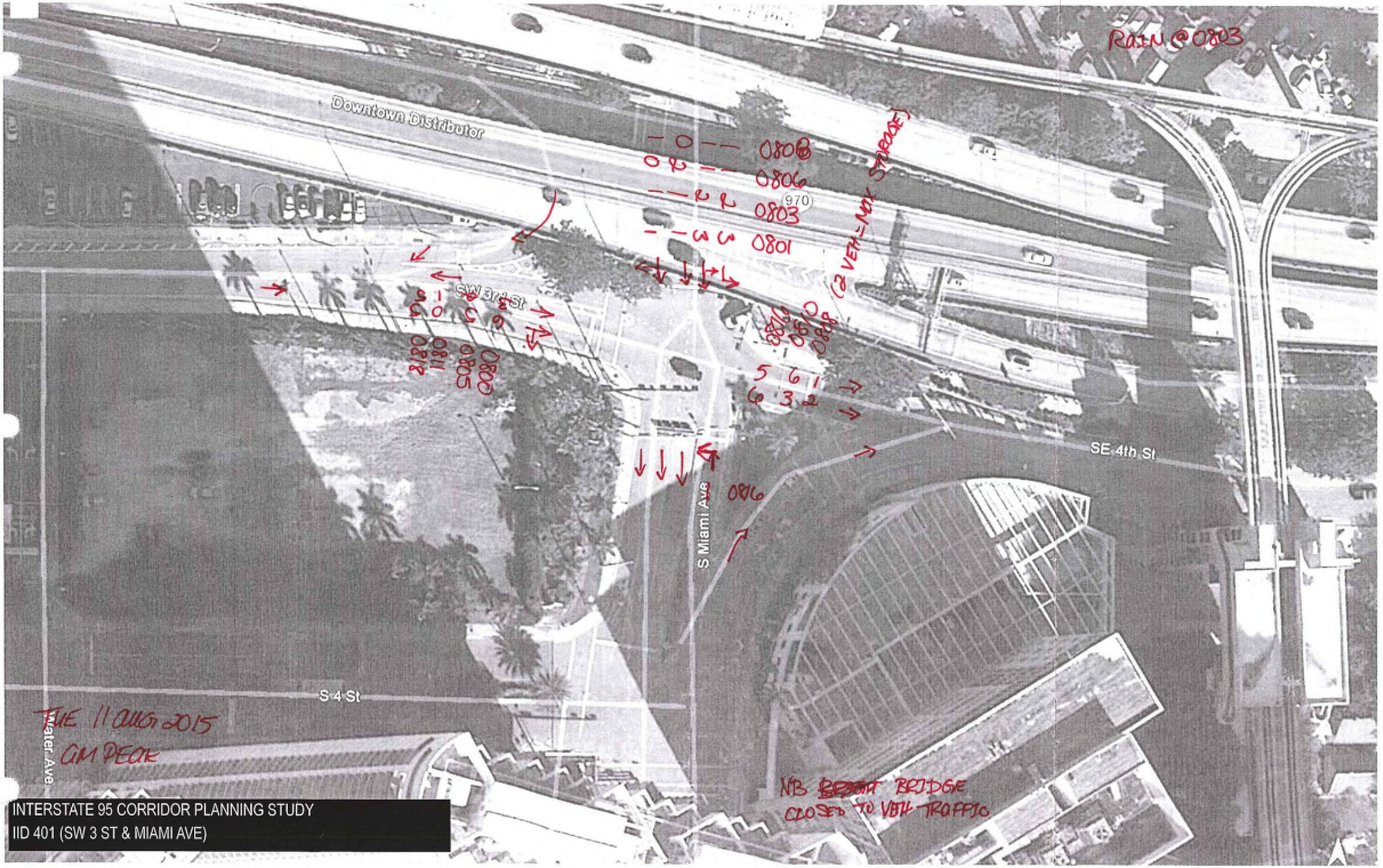


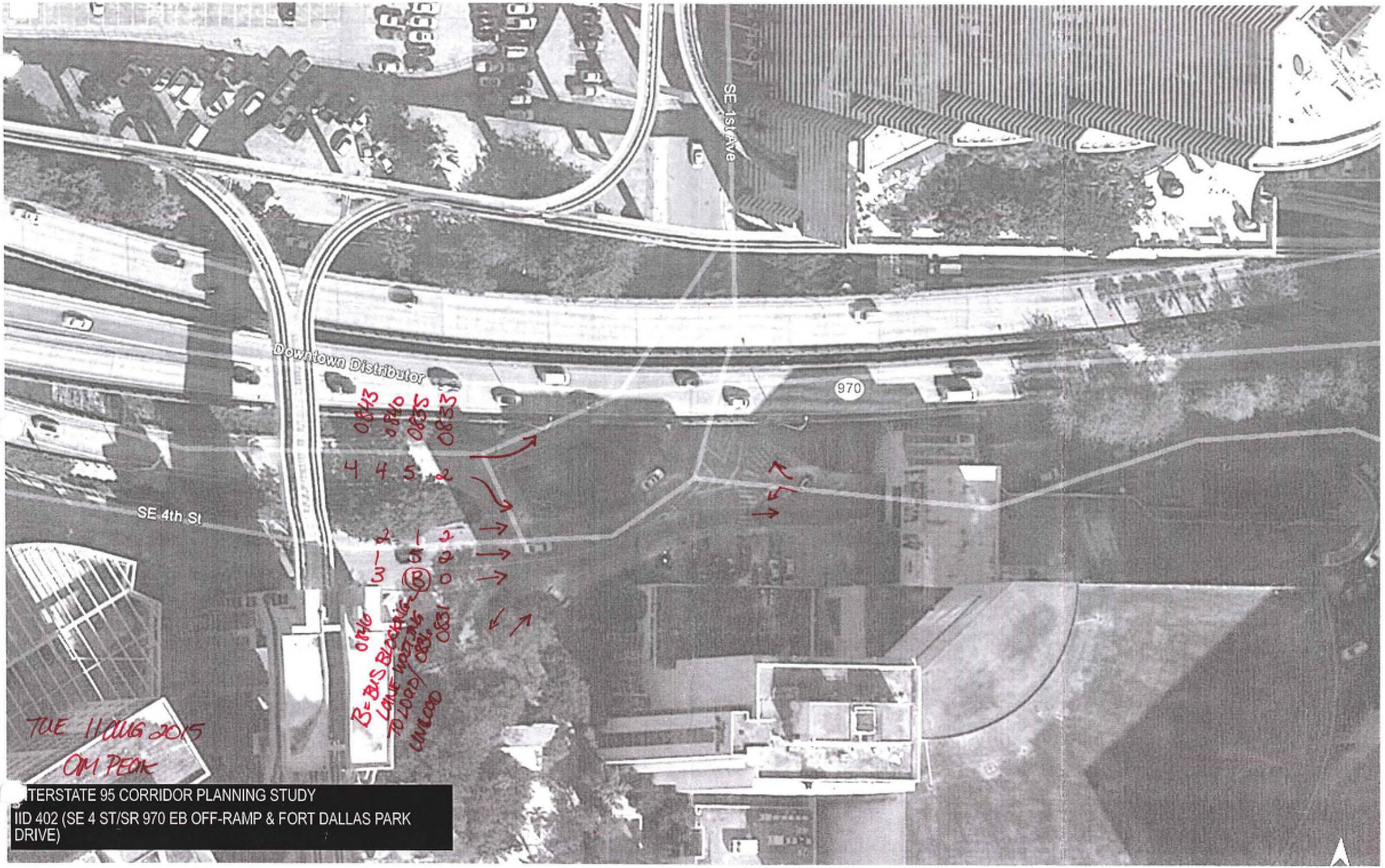
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 306 (SW 7 ST & SW 4 AVE/SB RAMPS)
IID 307 (SW 7 ST & SW 3 AVE/NB RAMPS)

07:00 - 09:00
07/07/2015 AM PEAK HR



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 308 (SW 7 ST & SW 2 AVE


RAIN @ 0803
Downtown Distributor
970
0808
0806
0803
0801
(2 VEH-MAX STORAGE)
SW 3rd St
0812
0811
0805
0800
0808
0806
0803
0801
SE 4th St
S Miami Ave
0816
S 4 St
Mater Ave
TUE 11 AUG 2015
AM PEAK
NB BRIDGE
CLOSED TO VEH TRAFFIC
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 401 (SW 3 ST & MIAMI AVE)

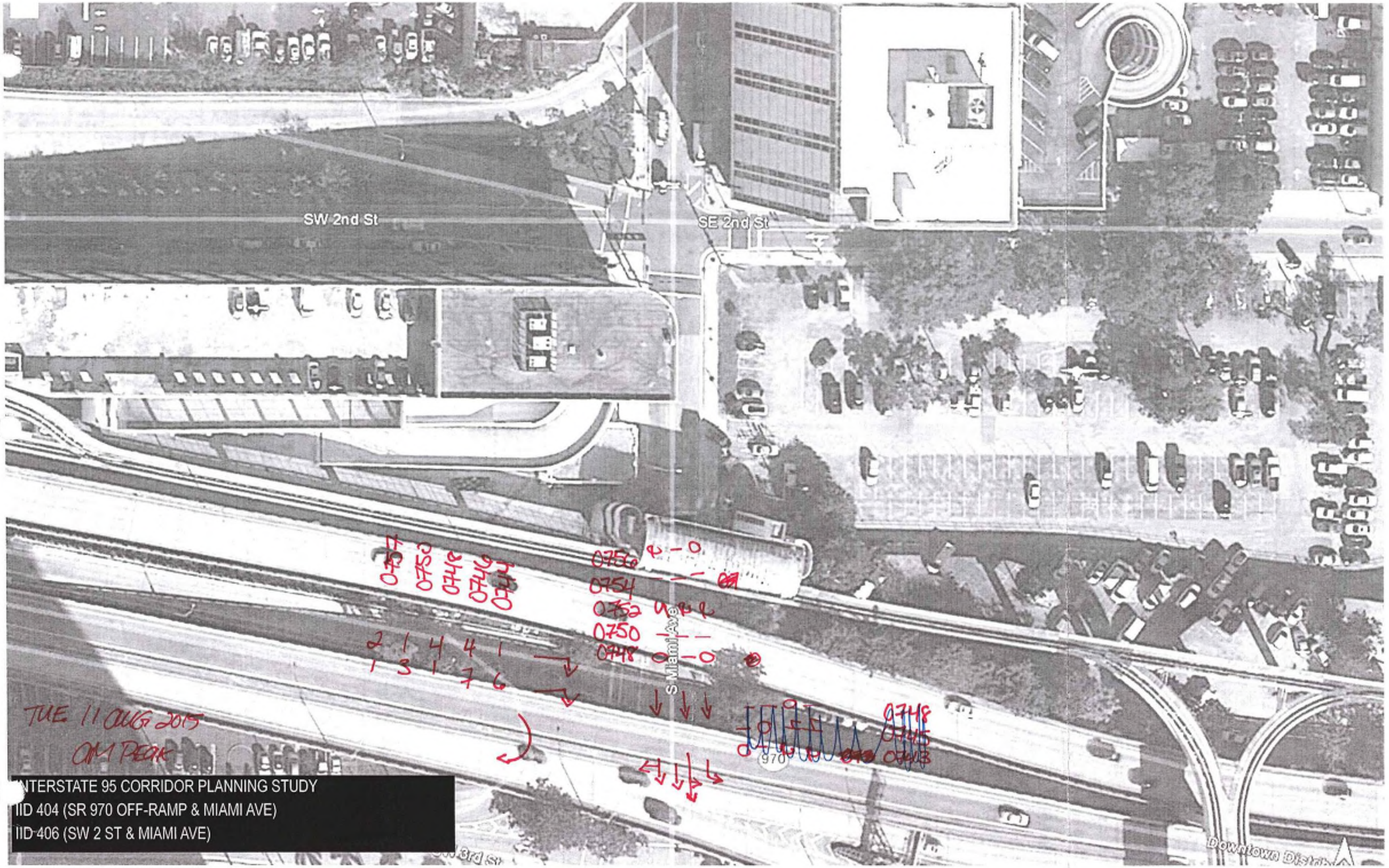


TERSTATE 95 CORRIDOR PLANNING STUDY

IID 402 (SE 4 ST/SR 970 EB OFF-RAMP & FORT DALLAS PARK DRIVE)

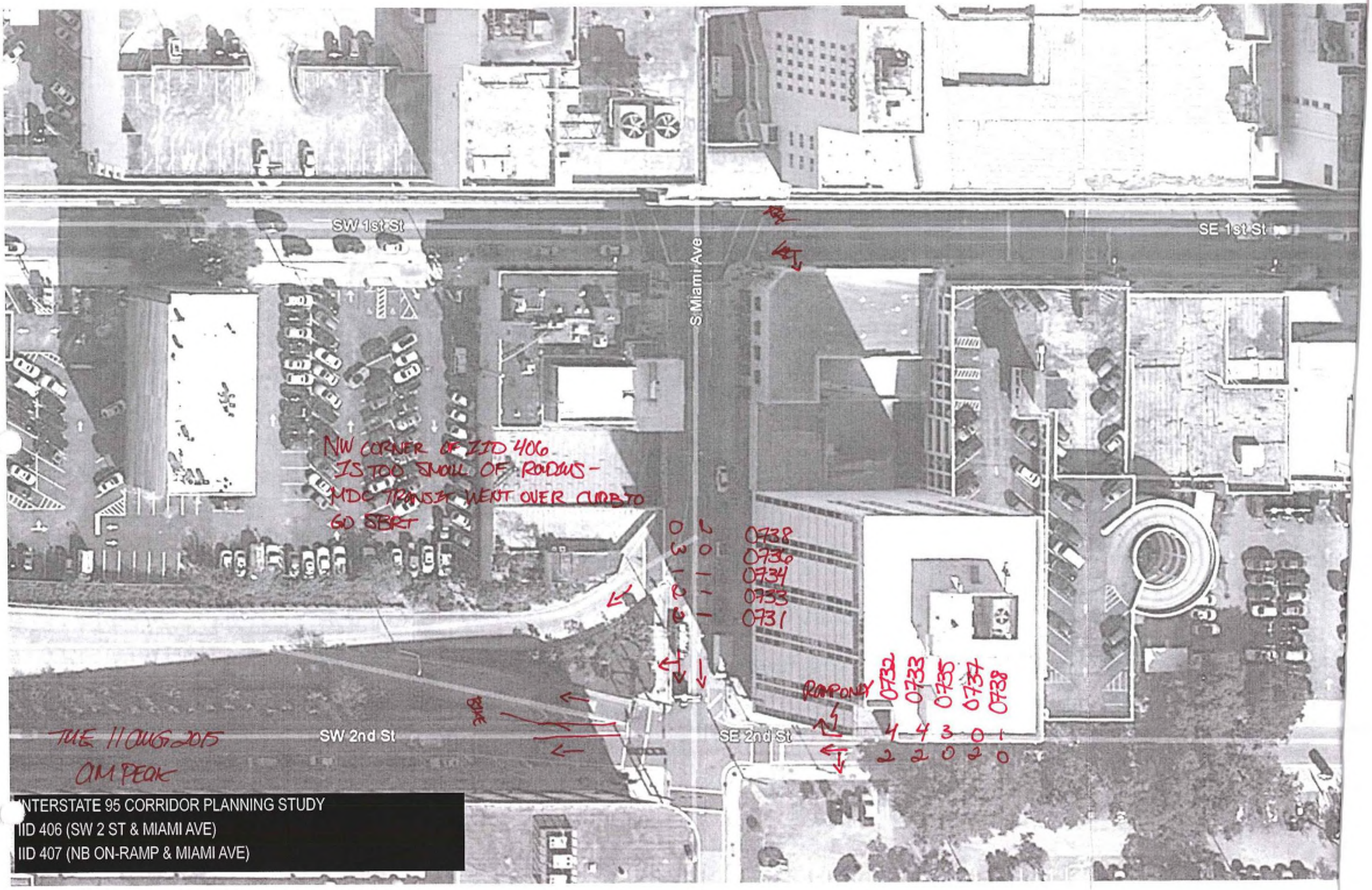


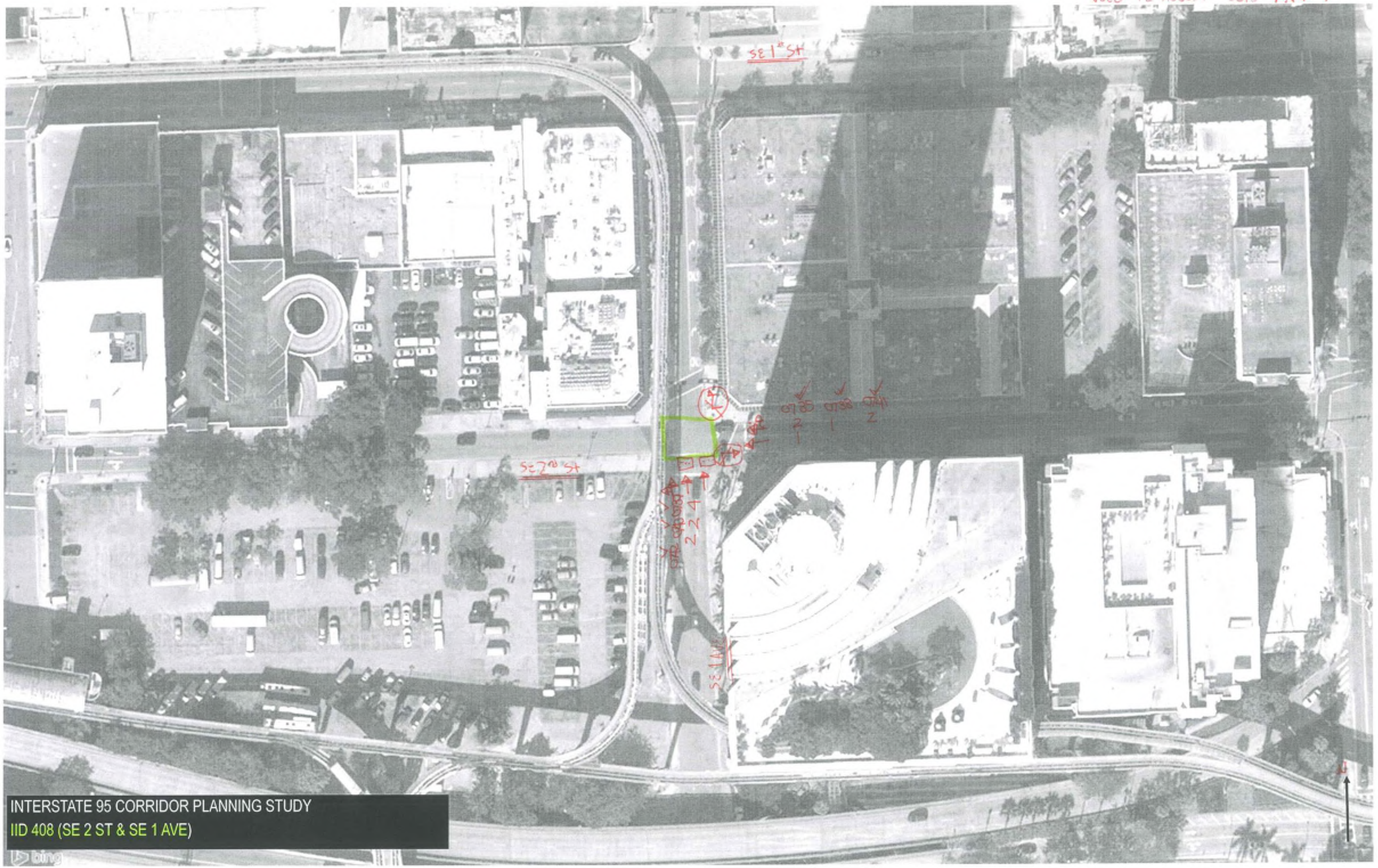
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 403 (SR 970 OFF-RAMP & SE 2 AVE)


SW 2nd St
SE 2nd St
S Miami Ave
0757
0753
0748
0746
0745
0756
0754
0752
0750
0748
2 1 4 4 1
1 3 1 7 6
TUE 11 AUG 2015
AM PEAK
970
0748
0745
0743
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 404 (SR 970 OFF-RAMP & MIAMI AVE)
IID 406 (SW 2 ST & MIAMI AVE)

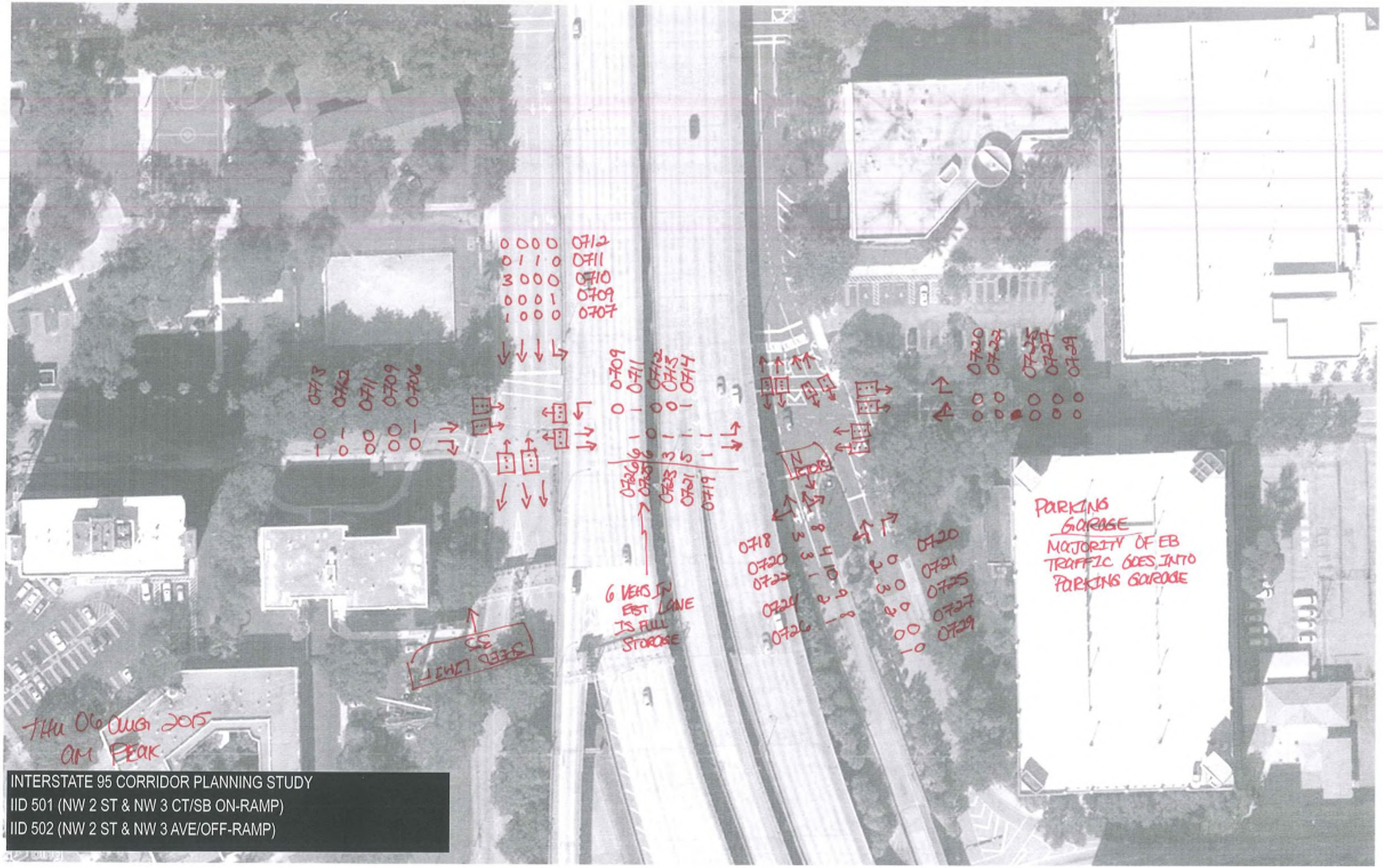
WED 12 AUGUST

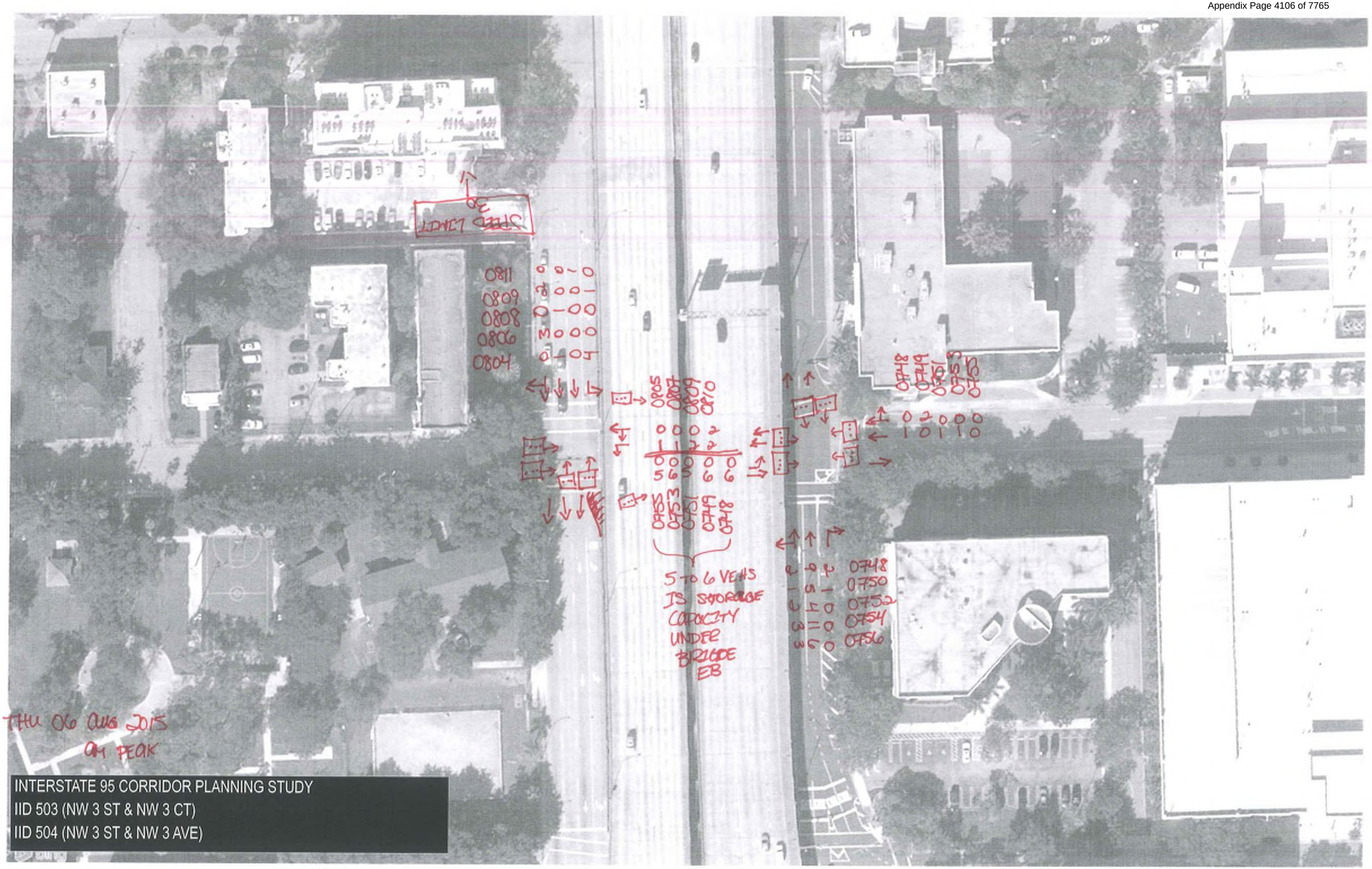
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 405 (SR 970 ON-RAMP & SE 2 AVE)
IID 409 (SE 2 ST & SE 2 AVE)


SW 1st St
S Miami Ave
SE 1st St
NW CORNER OF ID 406
IS TOO SMALL OF RADIUS -
MDC TRANSIT WENT OVER CURB TO
GO SBRT
2011
0738
0736
0734
0733
0731
RAMP ONLY
0732
0733
0735
0737
0738
4 4 3 0 1
2 2 0 2 0
BIKE
SW 2nd St
SE 2nd St
BIKE
TUE 11 AUG 2015
AM PEAK
NTERSTATE 95 CORRIDOR PLANNING STUDY
IID 406 (SW 2 ST & MIAMI AVE)
IID 407 (NB ON-RAMP & MIAMI AVE)

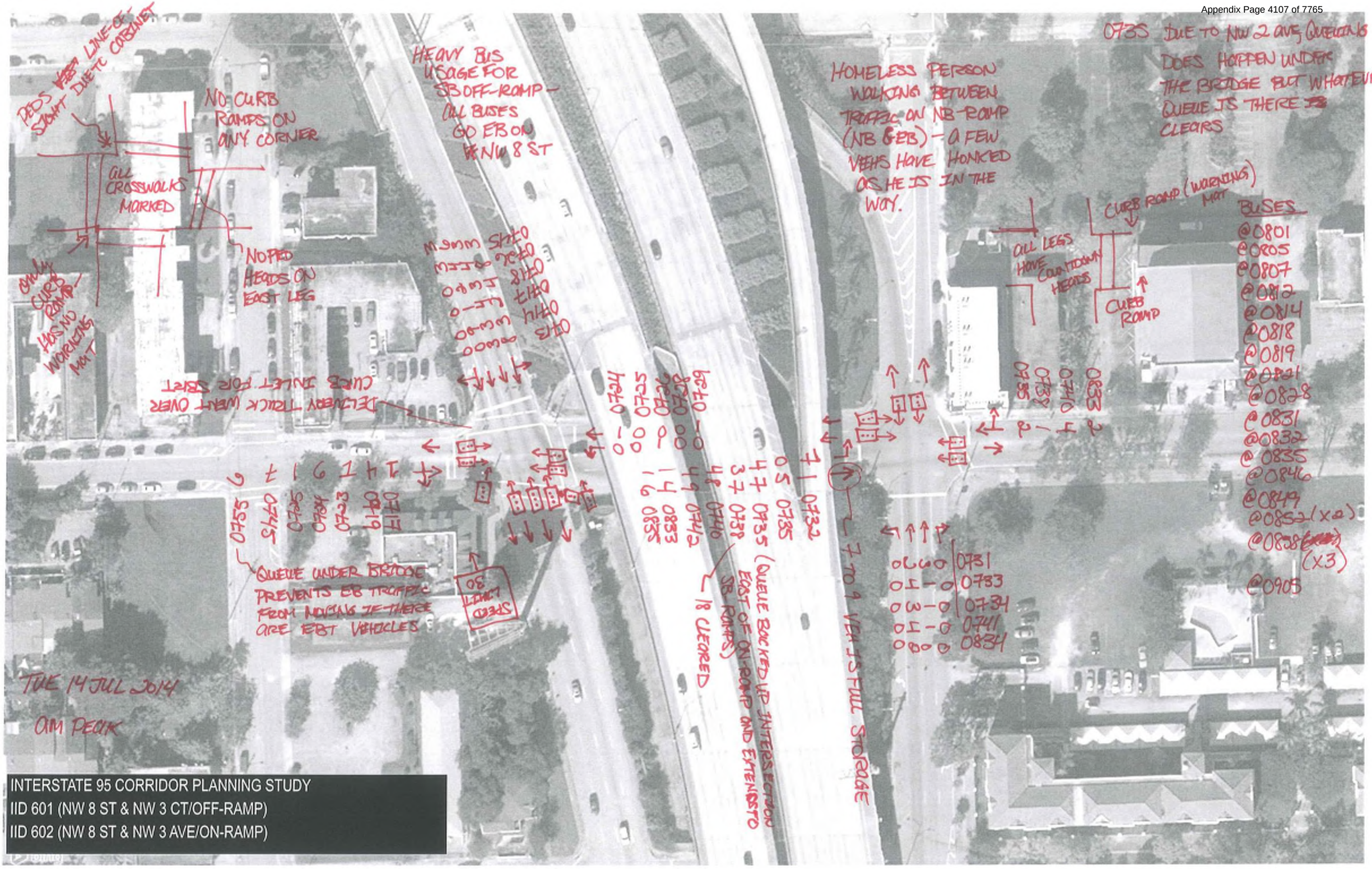


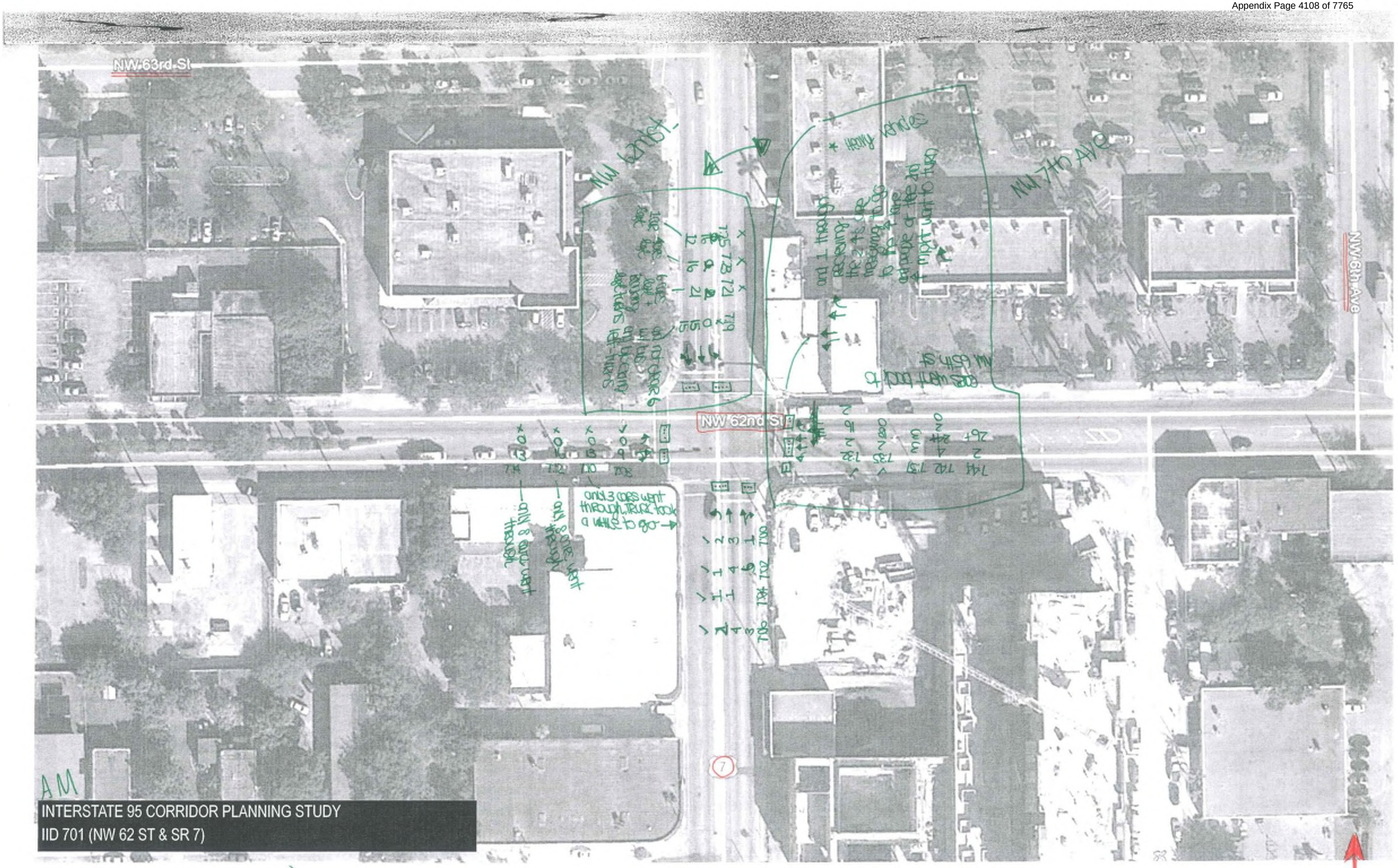
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 408 (SE 2 ST & SE 1 AVE)


0712
0711
0710
0709
0707
0713
0712
0711
0709
0706
0709
0711
0712
0713
0714
0718
0720
0722
0724
0726
0720
0722
0725
0727
0729
0721
0719
0733
0735
6 VEHS IN EST LANE IS FULL STORAGE
SEE LANE QUEUES
PARKING GARAGE
MAJORITY OF EB TRAFFIC GOES INTO PARKING GARAGE
THU 06 AUG 2015
AM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 501 (NW 2 ST & NW 3 CT/SB ON-RAMP)
IID 502 (NW 2 ST & NW 3 AVE/OFF-RAMP)

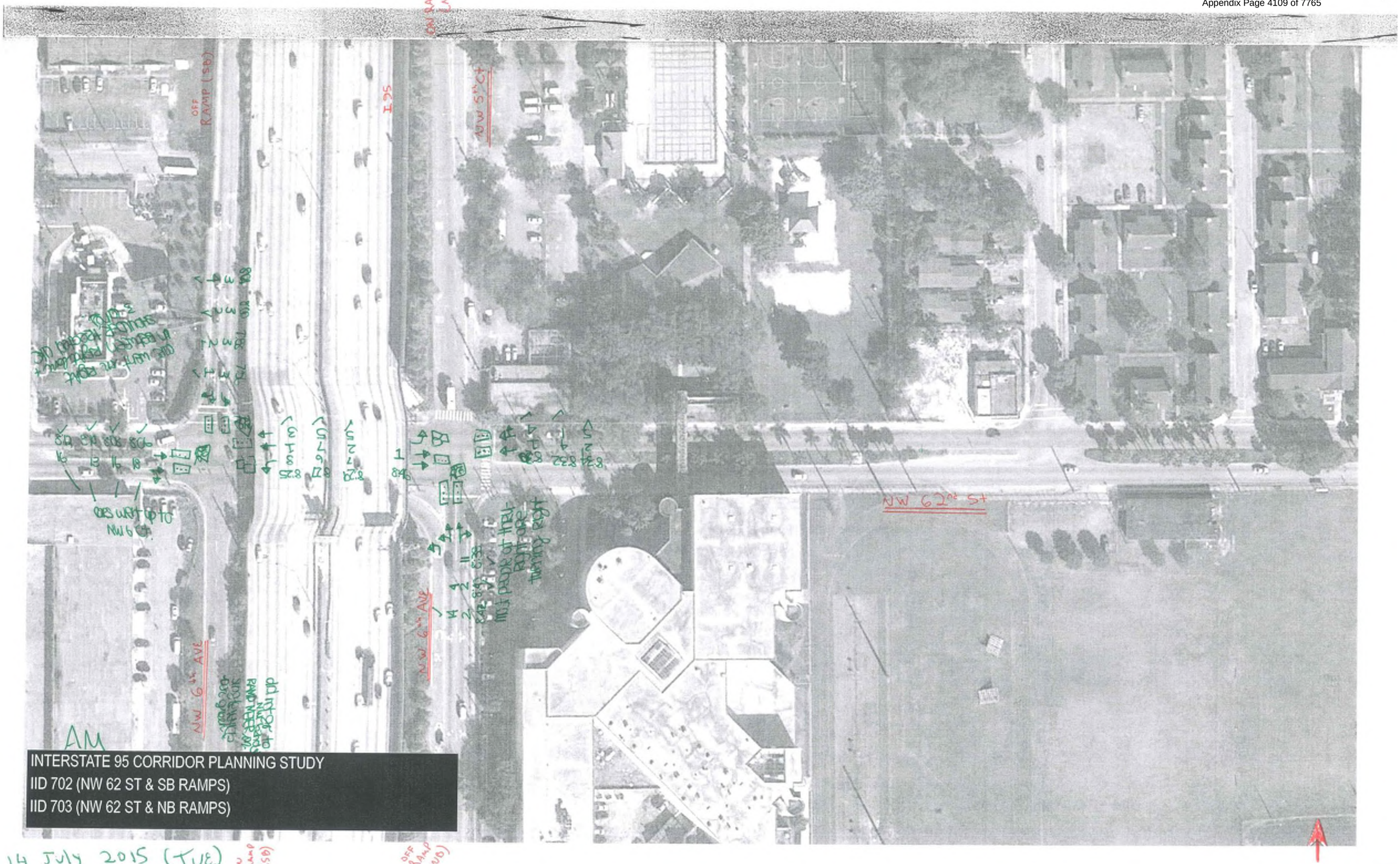


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 503 (NW 3 ST & NW 3 CT)
IID 504 (NW 3 ST & NW 3 AVE)


PEDS KEEP LINE-OF-SIGHT DUE TO CABINET
NO CURB RAMPS ON ANY CORNER
ALL CROSSWALKS MARKED
NO PED HEADS ON EAST LEG
ONLY CURB RAMP - HAS NO WARNING MAT
HEAVY BUS USAGE FOR SB OFF-RAMP - ALL BUSES GO EB ON NW 8 ST
DELIVERY TRUCK WENT OVER CURB INLET FOR SPIRIT
QUEUE UNDER BRIDGE PREVENTS EB TRAFFIC FROM MOVING IF THERE ARE EBT VEHICLES
TUE 14 JUL 2014
AM PEAK
HOMELESS PERSON WALKING BETWEEN TRAFFIC ON NB-RAMP (NB & EB) - A FEW VEHS HAVE HONKED AS HE IS IN THE WAY.
0735 DUE TO NW 2 AVE QUEUE IS DOES HAPPEN UNDER THE BRIDGE BUT WHATEVER QUEUE IS THERE IS CLEARS
ALL LEGS HAVE COUNTDOWN HEADS
CURB RAMP (WARNING MAT)
CURB RAMP
BUSES
@0801
@0805
@0807
@0812
@0814
@0818
@0819
@0821
@0828
@0831
@0832
@0835
@0846
@0849
@0852 (x2)
@0858 (x3)
@0905
7 TO 9 VEHS FULL STORAGE
QUEUE BACKED UP THROUGH INTERSECTION EAST OF ON-RAMP AND EXTENDED SB RAMPS
18 CLEARED
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 601 (NW 8 ST & NW 3 CT/OFF-RAMP)
IID 602 (NW 8 ST & NW 3 AVE/ON-RAMP)



14 July 2015 (TUE)


I-95
NW 62nd ST
NW 6th AVE
NW 6th AVE
OFF RAMP (SB)
ON RAMP (NB)
OFF RAMP (NB)
ON RAMP (SB)
AM
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 702 (NW 62 ST & SB RAMPS)
IID 703 (NW 62 ST & NB RAMPS)
14 JULY 2015 (TUE)

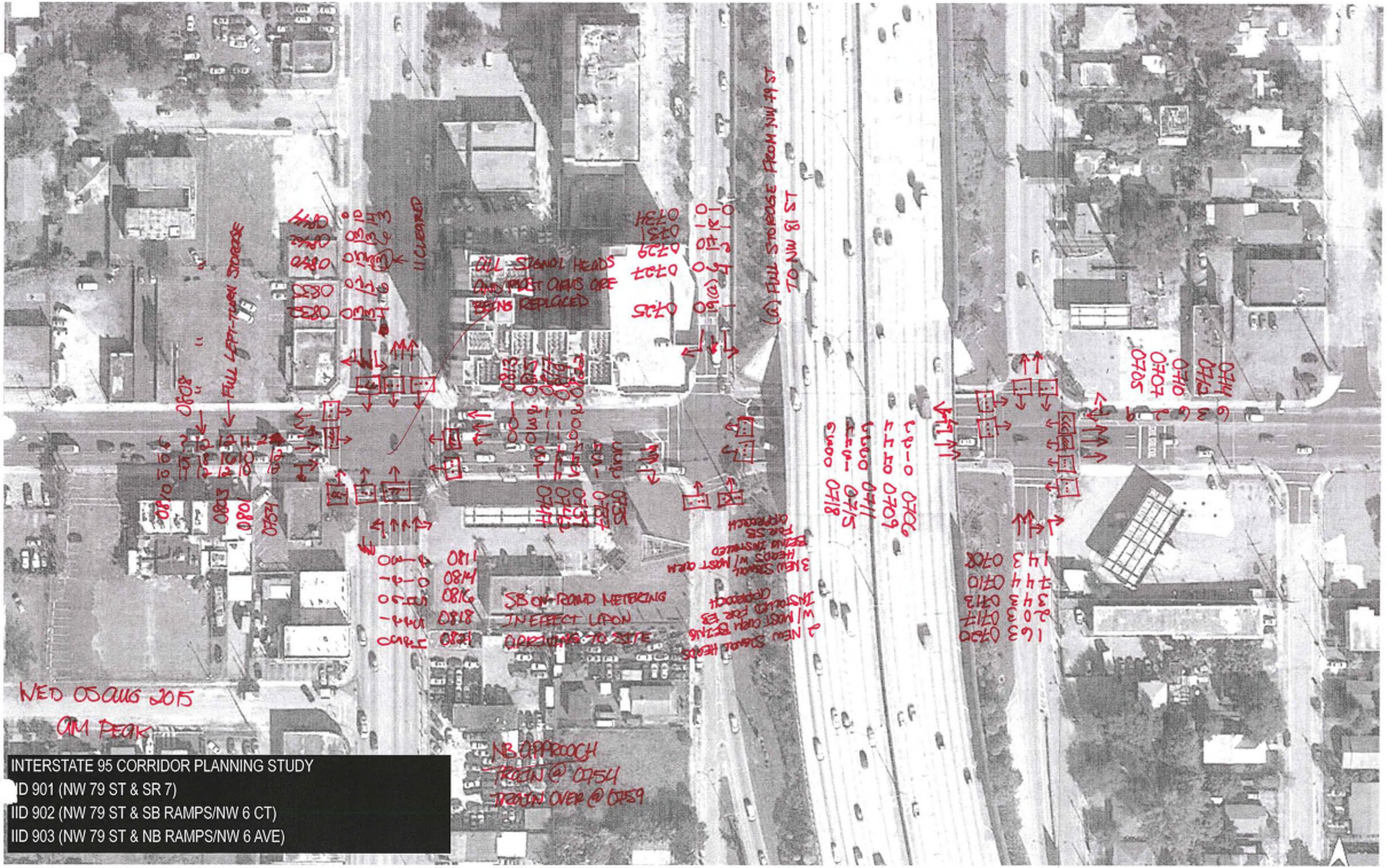


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 704 (NW 62 ST & NW 2 AVE)

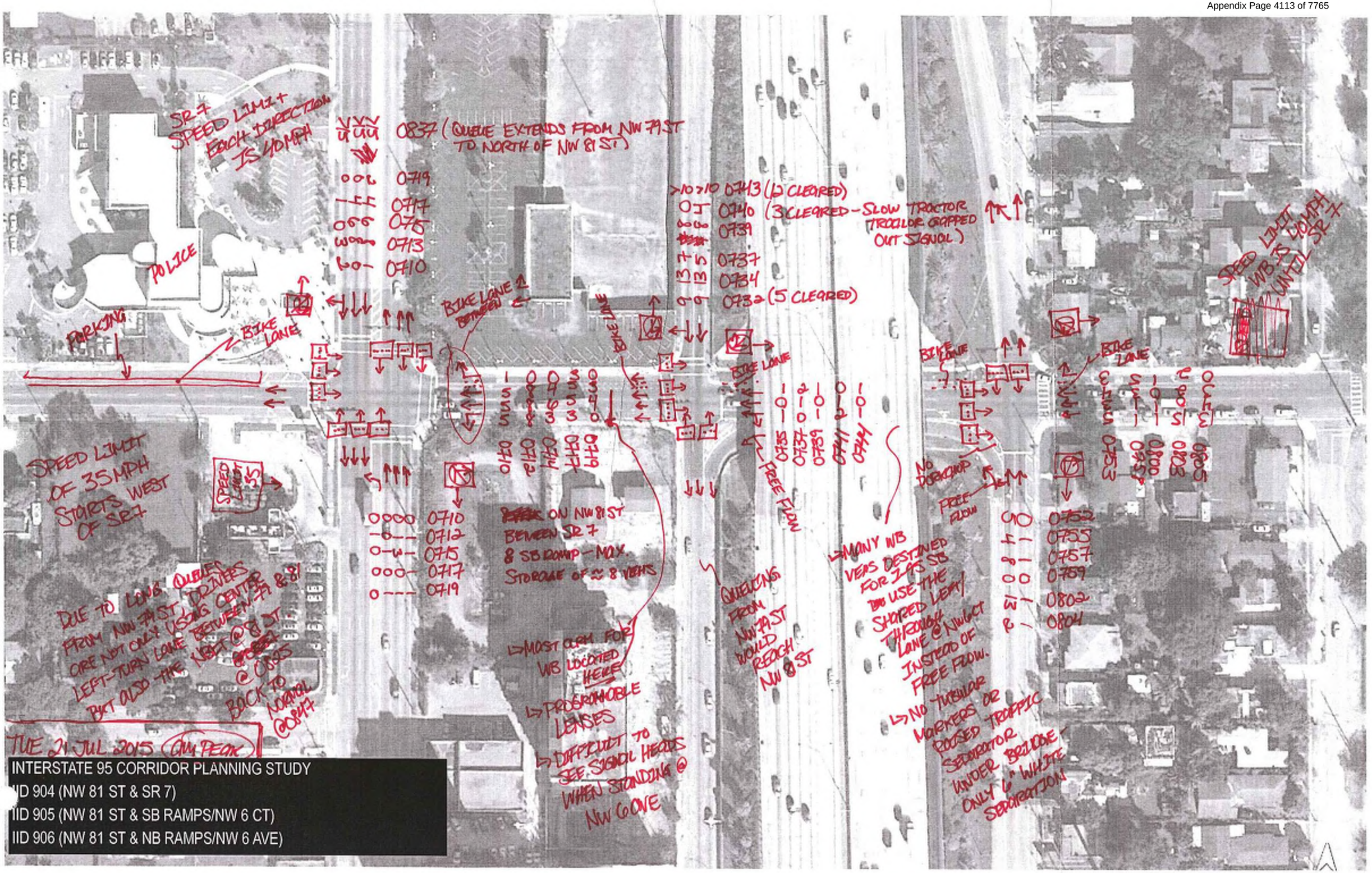
14 July 2015 (TUESDAY)

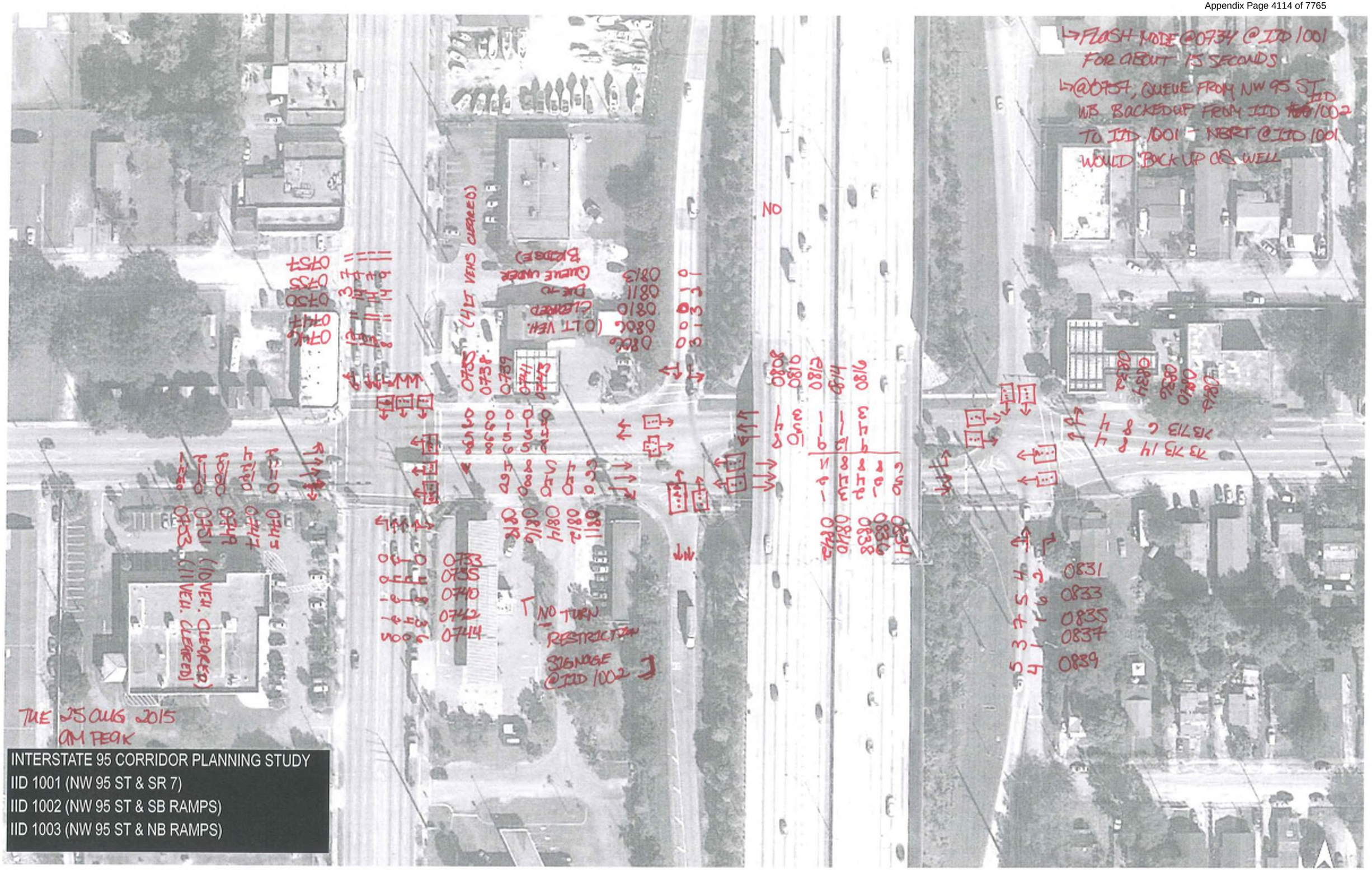


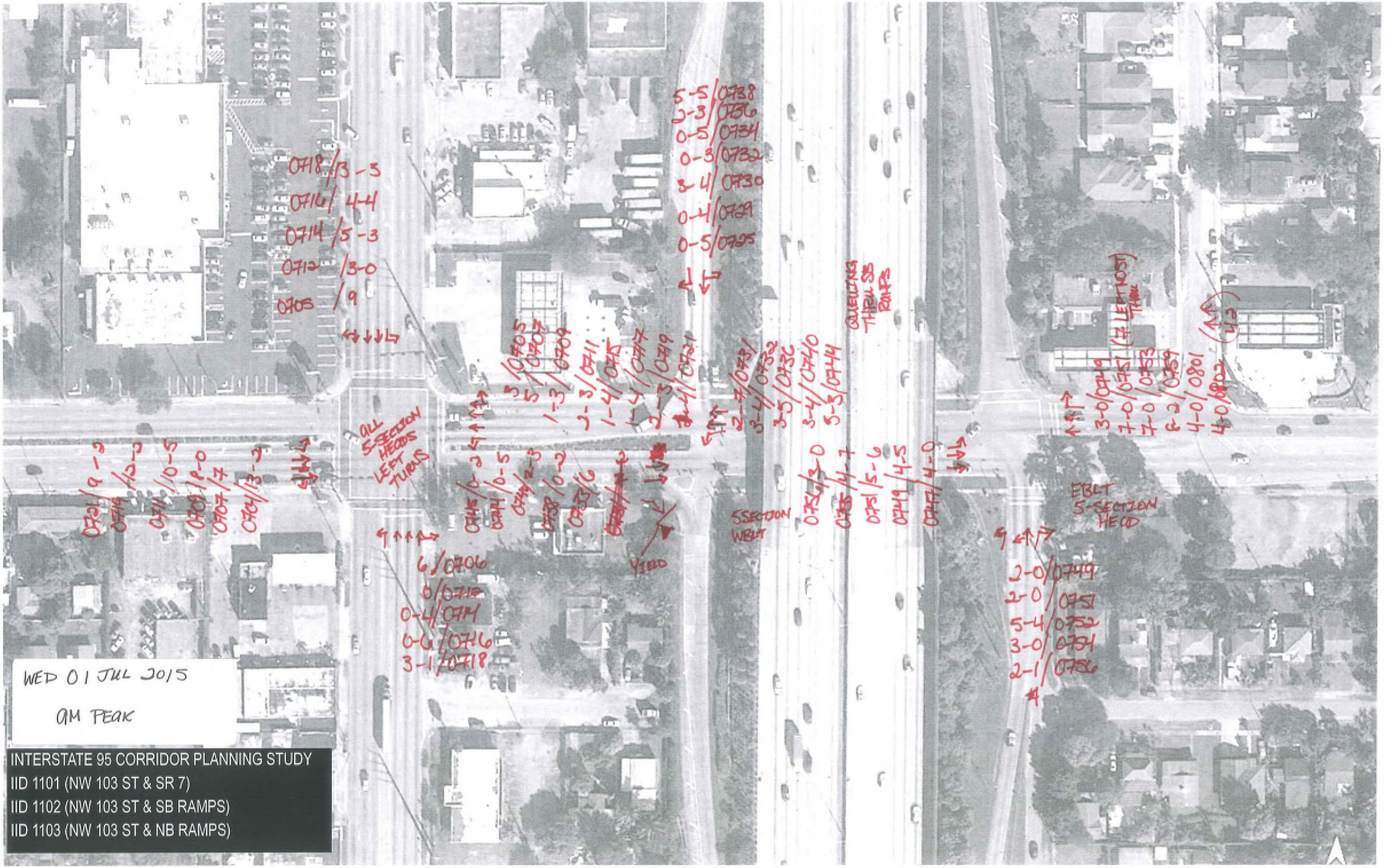
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 801 (NW 69 ST & NW 6 AVE/NW 5 PL/RAMPS)
IID 802 (NW 69 ST & NW 5 AVE/NW 5 CT/RAMPS)



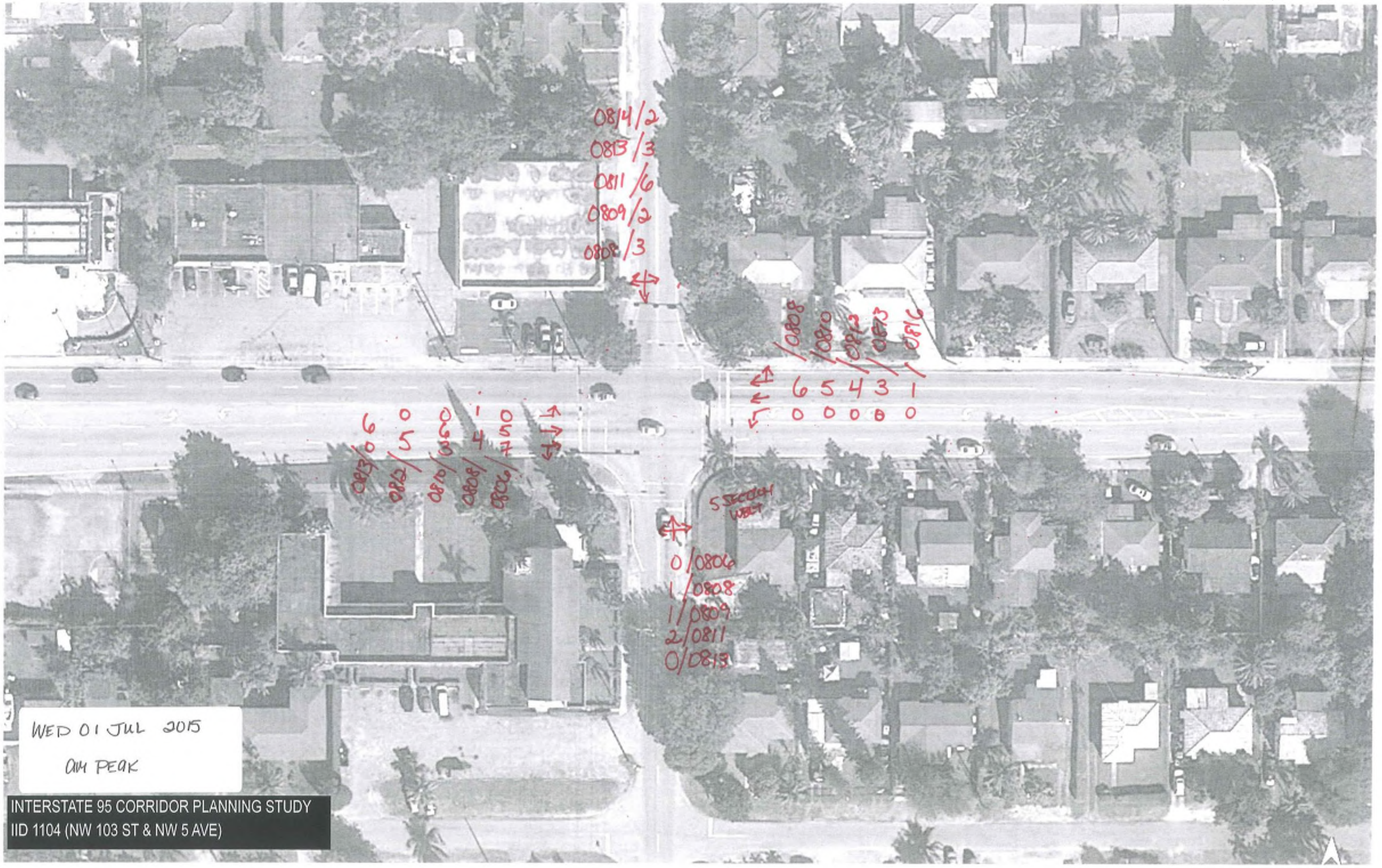
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 901 (NW 79 ST & SR 7)
IID 902 (NW 79 ST & SB RAMPS/NW 6 CT)
IID 903 (NW 79 ST & NB RAMPS/NW 6 AVE)

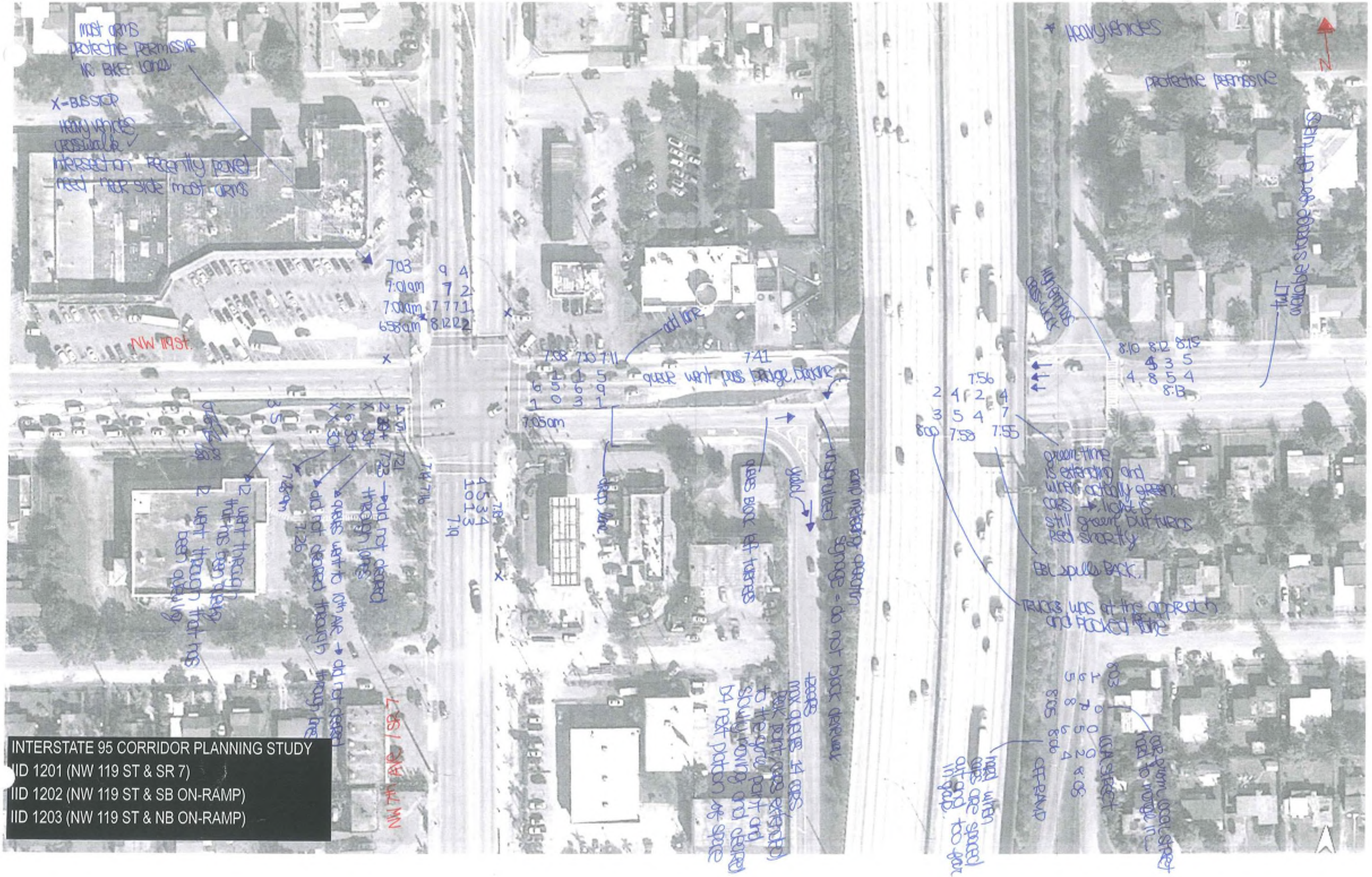

SR 7 SPEED LIMIT EACH DIRECTION IS 40 MPH
0837 (QUEUE EXTENDS FROM NW 7 ST TO NORTH OF NW 81 ST)
0719
0717
075
0713
0710
POLICE
PARKING
BIKE LANE
BIKE LANE BETWEEN
BIKE LANE
0710
0712
0715
0717
0719
0713 (10 CLEARED)
0740 (3 CLEARED - SLOW TRACTOR TROLLOR GAPPED OUT SIGNAL)
0739
0737
0734
0732 (5 CLEARED)
0340
0737
0739
0741
0742
FREE FLOW
BIKE LANE
BIKE LANE
SPEED LIMIT WB IS 40 MPH UNTIL SR 7
0753
0755
0757
0759
0802
0804
NO DOWNCHOP
FREE FLOW
SPEED LIMIT 35
SPEED LIMIT OF 35 MPH STARTS WEST OF SR 7
DUE TO LONG QUEUES FROM NW 7 ST, DRIVERS ARE NOT ONLY USING CENTER LEFT-TURN LANE BETWEEN 7 & 81 BUT ALSO THE NBLT @ 81 ST @ 0805
BACK TO NORMAL @ 0847
PARKING ON NW 81 ST BETWEEN SR 7 & SB RAMP - MAX. STORAGE OF ≈ 8 VEHS
MOST COMM. FOR WB LOCATED HERE
PROGRAMMABLE LENSES
DIFFICULT TO SEE SIGNAL HEADS WHEN STANDING @ NW 6 CT
QUEUING FROM NW 7 ST WOULD REACH NW 8 ST
FREE FLOW
MANY WB VEHS DESTINED FOR I-95 SB DO USE THE SHARED LEFT/THROUGH LANE @ NW 6 CT INSTEAD OF FREE FLOW.
NO TUBULAR MARKERS OR RAISED TRAFFIC SEPARATOR UNDER BRIDGE - ONLY 6" WHITE SEPARATION
TUE 21 JUL 2015 (AM PEAK)
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 904 (NW 81 ST & SR 7)
IID 905 (NW 81 ST & SB RAMPS/NW 6 CT)
IID 906 (NW 81 ST & NB RAMPS/NW 6 AVE)


FLASH MODE @0734 @ IID 1001
FOR ABOUT 15 SECONDS
@0757, QUEUE FROM NW 95 ST
WB BACKED UP FROM IID 1002
TO IID 1001 - NBRT @ IID 1001
WOULD BACK UP OR WELL
NO
(4 LT VEHS CLEARED)
(OLT VEH. CLEARED)
QUEUE UNDER BRIDGE
(10 VEH. CLEARED)
(11 VEH. CLEARED)
NO TURN RESTRICTION SIGNAGE @ IID 1002
TUE 25 AUG 2015
AM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1001 (NW 95 ST & SR 7)
IID 1002 (NW 95 ST & SB RAMPS)
IID 1003 (NW 95 ST & NB RAMPS)


WED 01 JUL 2015
AM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1101 (NW 103 ST & SR 7)
IID 1102 (NW 103 ST & SB RAMPS)
IID 1103 (NW 103 ST & NB RAMPS)
ALL 5-SECTION HEADS LEFT TURNS
5SECTION WBLT
QUEUING THRU SB RAMPS
EBLT 5-SECTION HEAD
YIELD

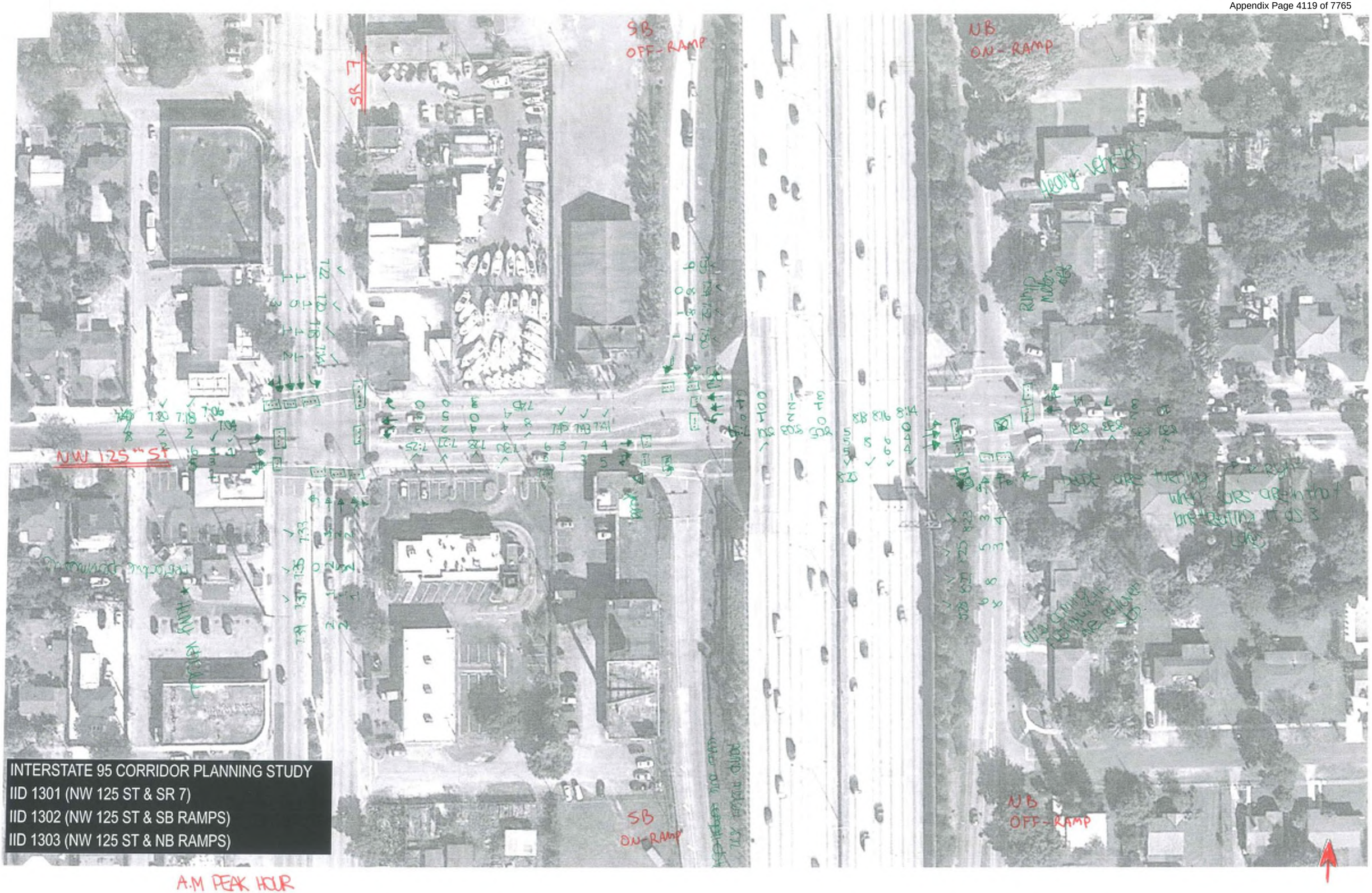
583


0814/2
0813/3
0811/6
0809/2
0808/3
0808
0810
0812
0813
0815
6 5 4 3 1
0 0 0 0 0
0813/6
0812/5
0810/3
0808/4
0806/5
0
0/0806
1/0808
1/0809
2/0811
0/0813
WED 01 JUL 2015
AM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1104 (NW 103 ST & NW 5 AVE)


mast arms
protective permissive
NO BIKE LANE
X-BUS STOP
Heavy vehicles
crosswalk
intersection recently paved
need near side mast arms
NW 119st
7:03
7:01am
7:00am
6:58am
9 4
7 2
7 7 1 1
8 12 2 2
7:08 7:10 7:11
1 1 5
6 5 6 9
1 0 3 1
7:05am
add lane
queue went past bridge, blocked
7:41
Heavy vehicles
protective permissive
Sidewalk ends
8:10 8:12 8:15
4 3 5
4 8 5 4
8:18
7:56
2 4 2 4
3 5 4 7
7:58
7:55
green time is extending and when actually green, cars → lights still green, but turns red shortly
BBL pulls back
TRUCKS use at the approach and PACKED the
803
5 6 7 0
5 8 0 5
8 0 5 2 4 6
8 0 5 6 8 6
OFF-RAMP
LCA STREET
car pool lot
need extra use area spaced out and paved too for
12 left through lanes
left through lane has been added
add not cleared through lines
does left to 10th AVE → did not cleared through
7:23
7:24
7:26
7:21
7:14 7:16
7:8
7:10
4 5 3 4
1 0 1 3
7:19
add lane
does back up here
Ramp metering operation
unsigned signage - do not block driveway
yield
does back up here
MM queue at ramps
back part ramps extended to the curve part and shoulder paving and cleared at next patch of space
NW 119 ST / SR 7
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1201 (NW 119 ST & SR 7)
IID 1202 (NW 119 ST & SB ON-RAMP)
IID 1203 (NW 119 ST & NB ON-RAMP)



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1204 (NW 119 ST & NW 5 AVE)


SB
OFF-RAMP
SR 7
NW 125 "ST
SB
ON-RAMP
NB
ON-RAMP
NB
OFF-RAMP
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1301 (NW 125 ST & SR 7)
IID 1302 (NW 125 ST & SB RAMPS)
IID 1303 (NW 125 ST & NB RAMPS)
A.M PEAK HOUR

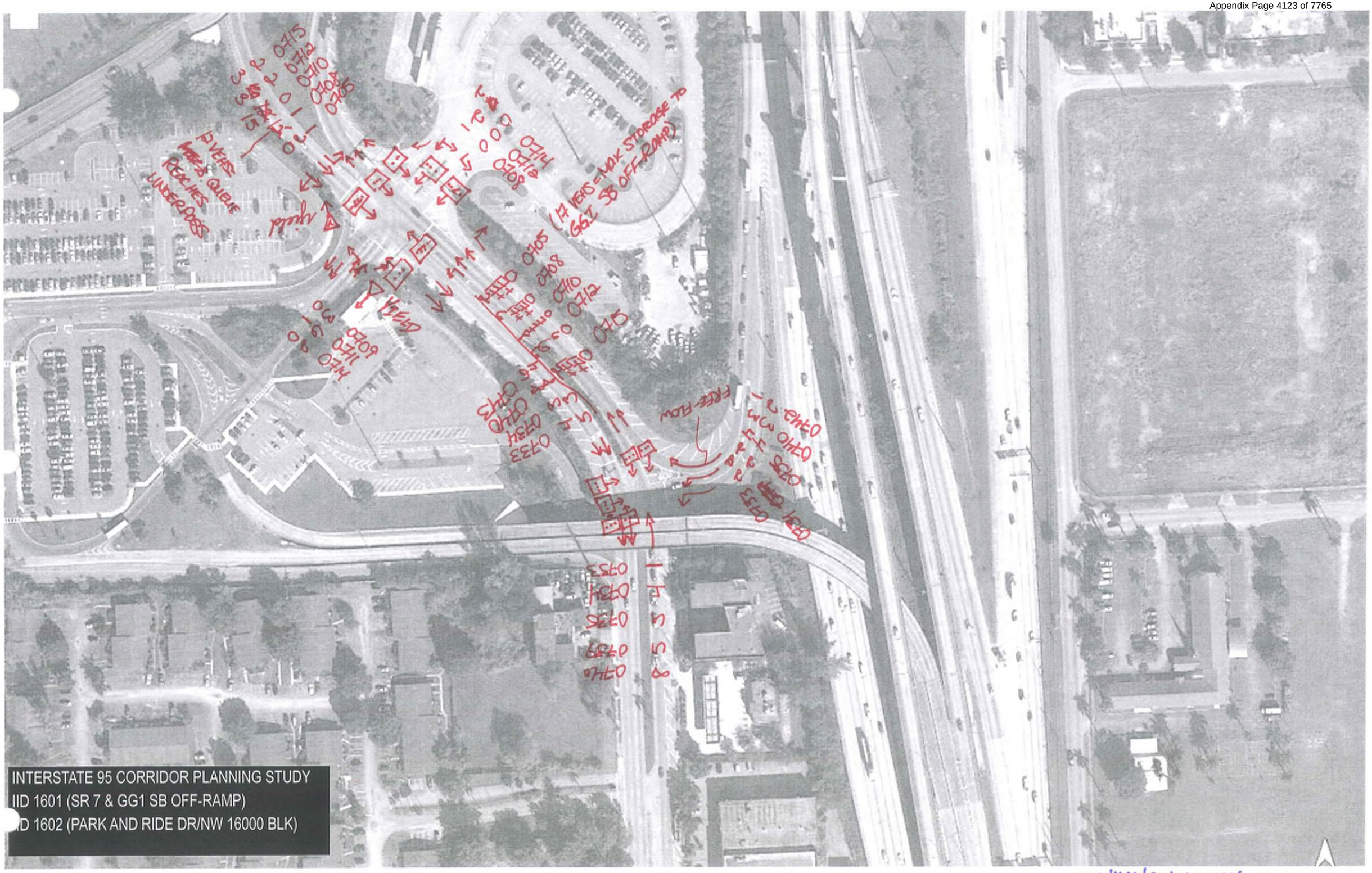


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1401 (NW 135 ST & SR 7)
IID 1402 (NW 135 ST & SB RAMPS)
IID 1403 (NW 135 ST & NB RAMPS)

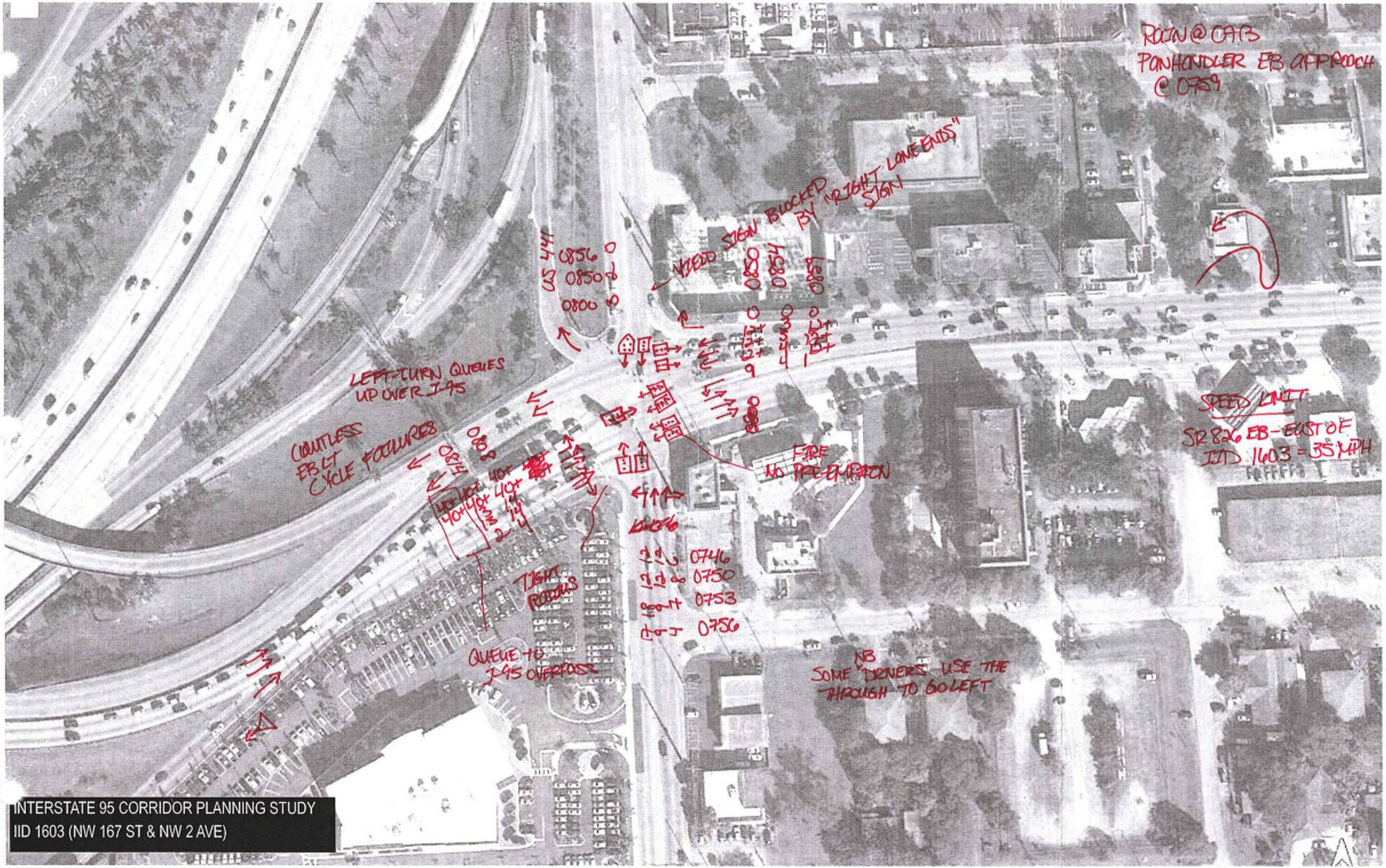
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1404 (OPA LOCKA BLVD & SR 7)
IID 1405 (OPA LOCKA BLVD & SB RAMPS)
IID 1406 (OPA LOCKA BLVD & NB RAMPS)

A.M. PH

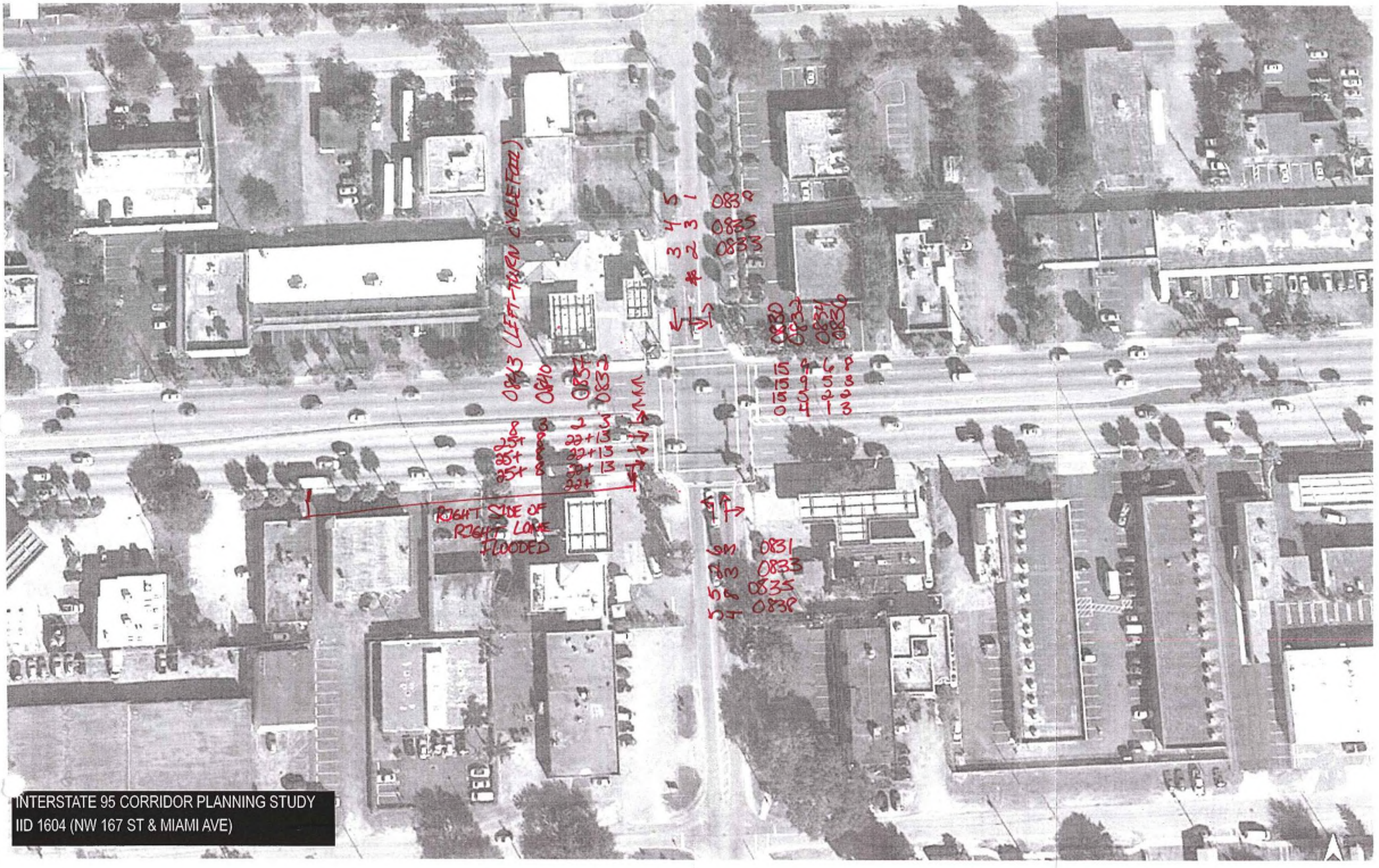
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1501 (NW 151 ST & SR 7)
IID 1502 (NW 151 ST & SB RAMPS)
IID 1503 (NW 151 ST & NB RAMPS)



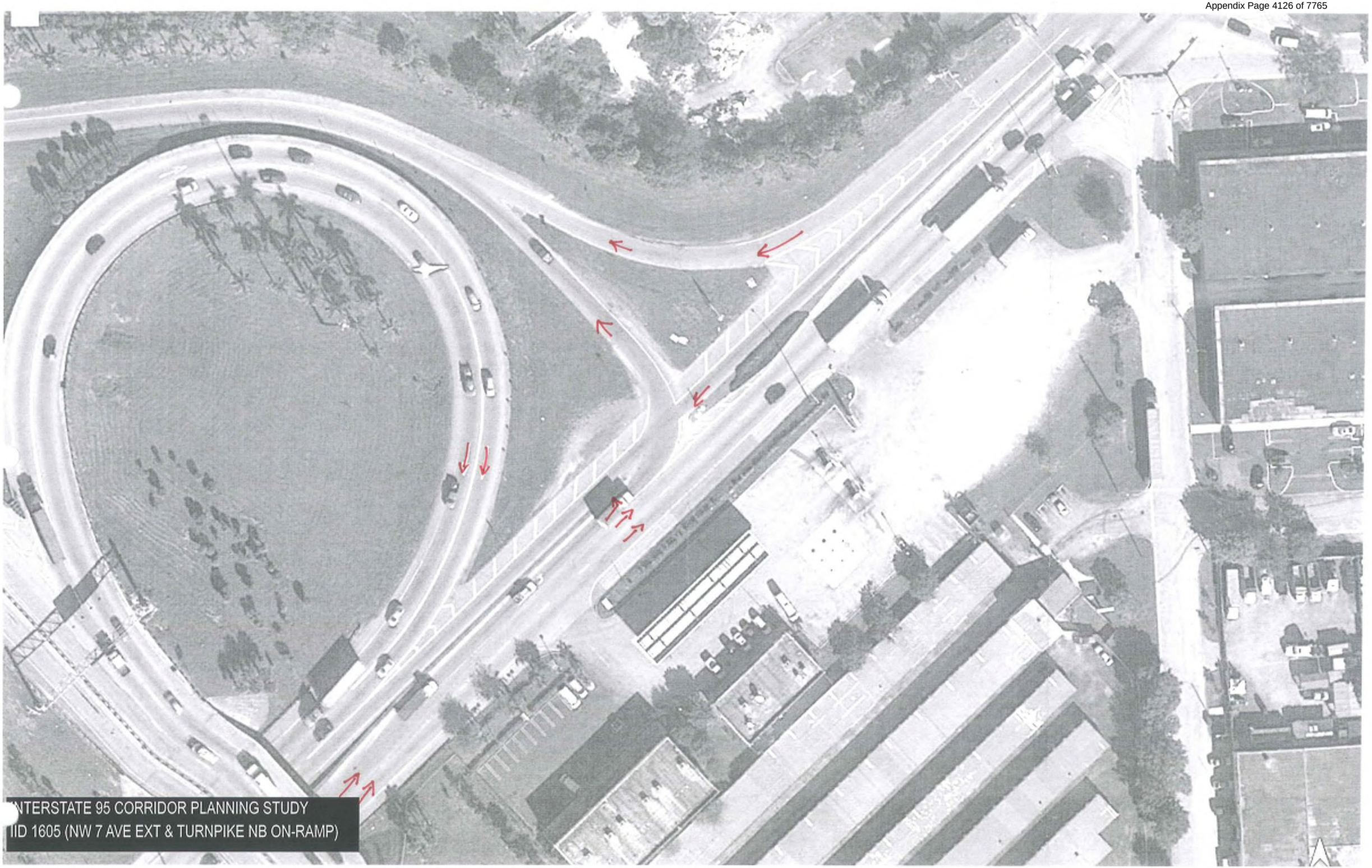
Wednesday, August 12



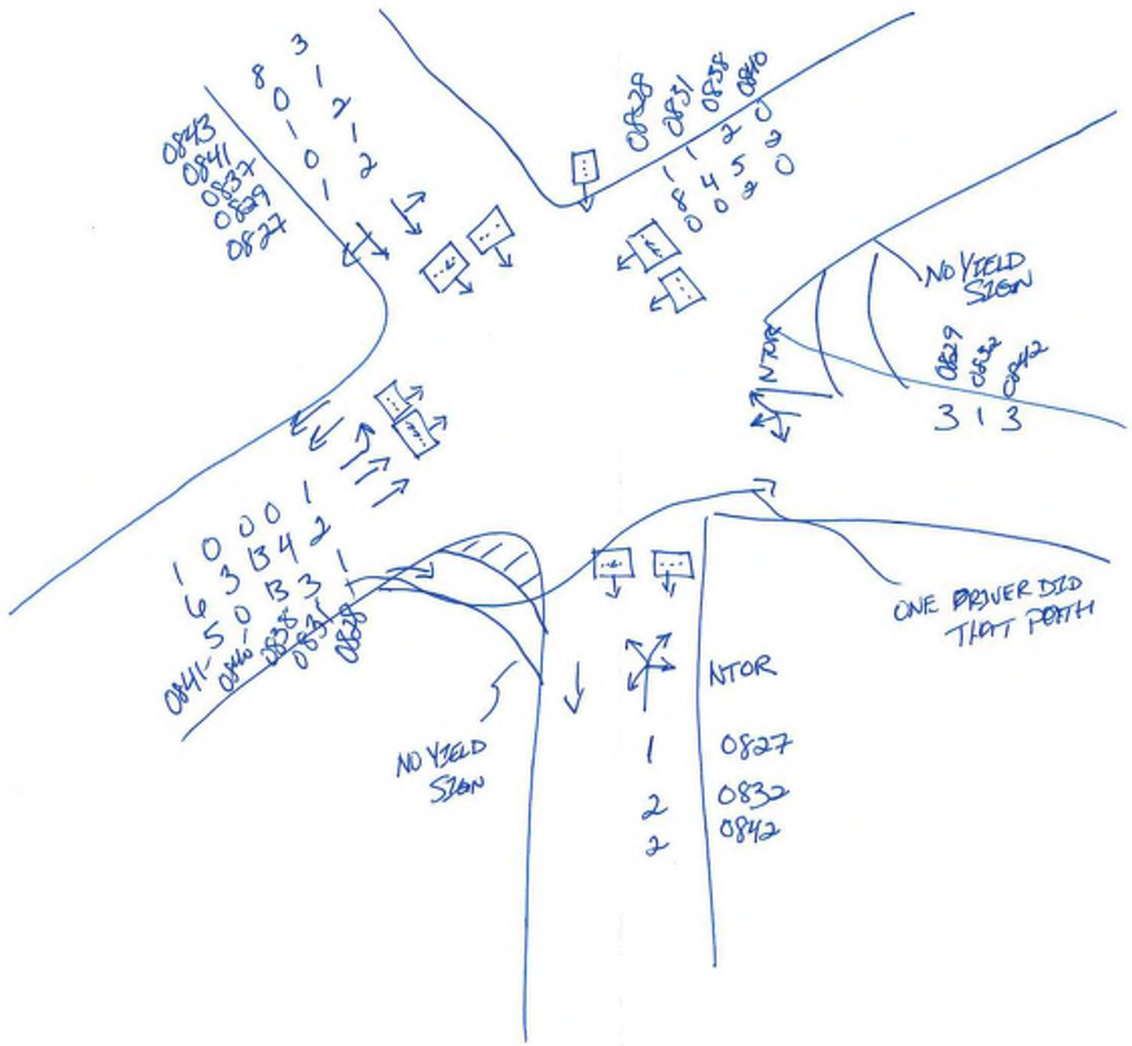
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1603 (NW 167 ST & NW 2 AVE)



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1604 (NW 167 ST & MIAMI AVE)

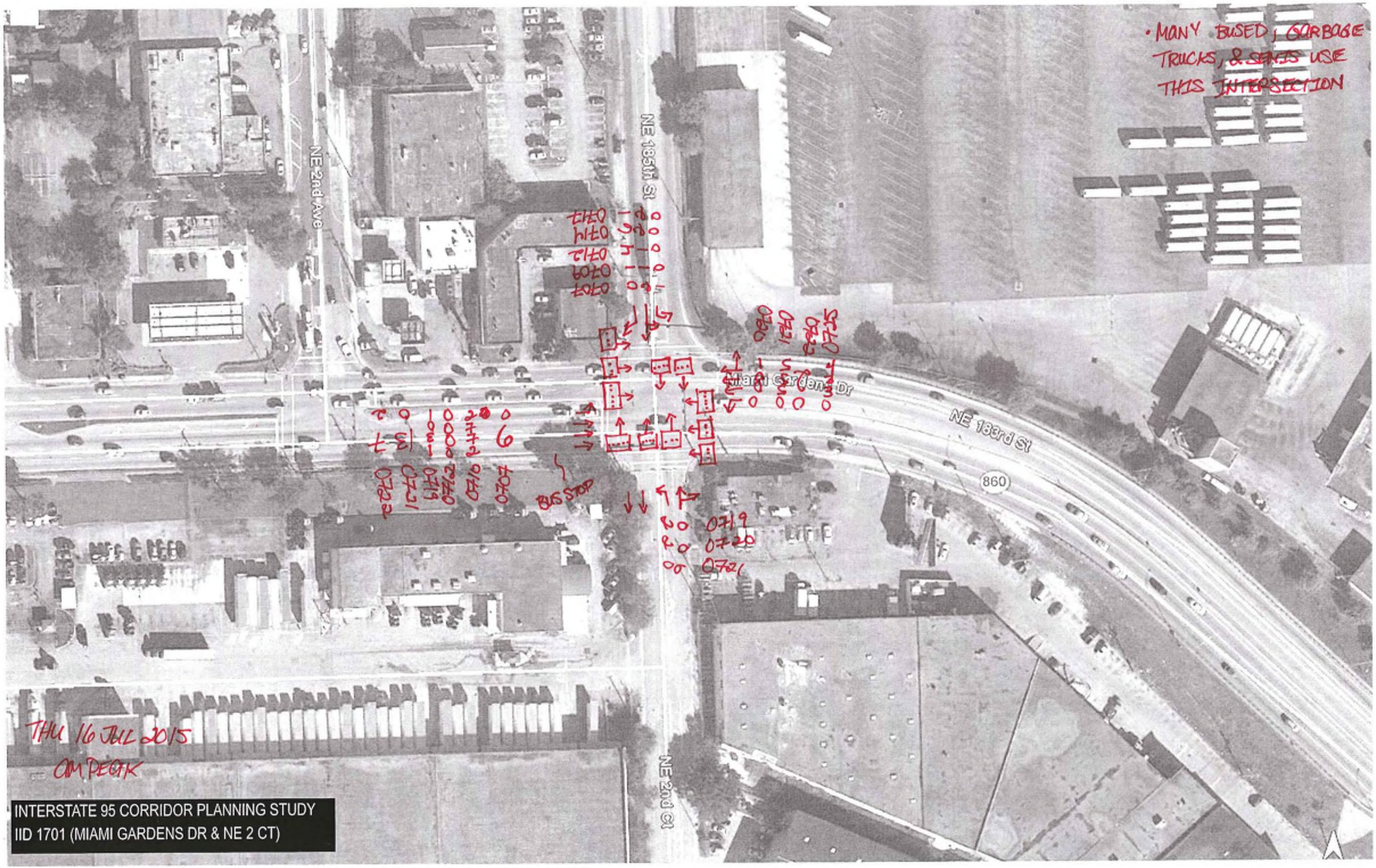


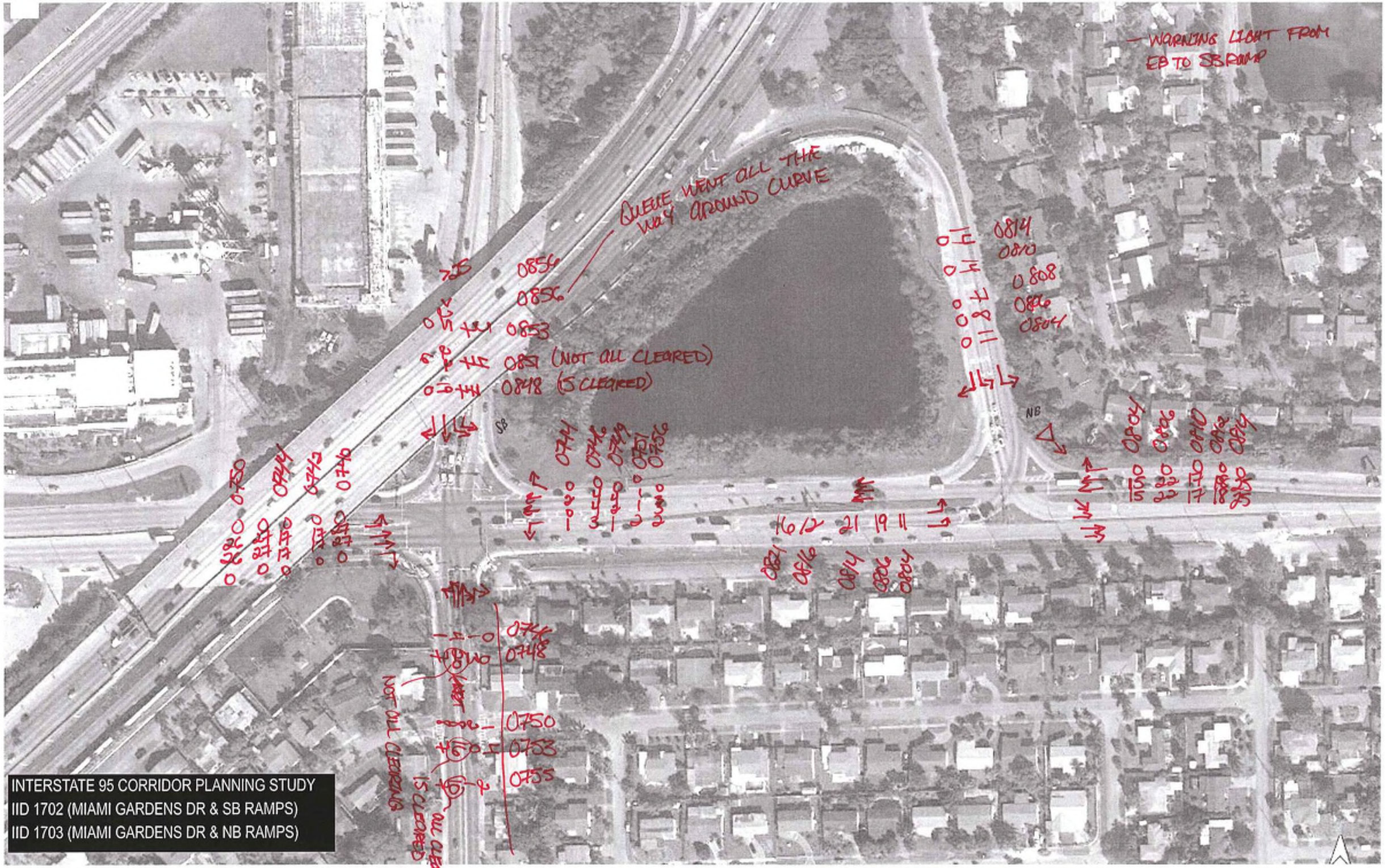
Wednesday, August 12

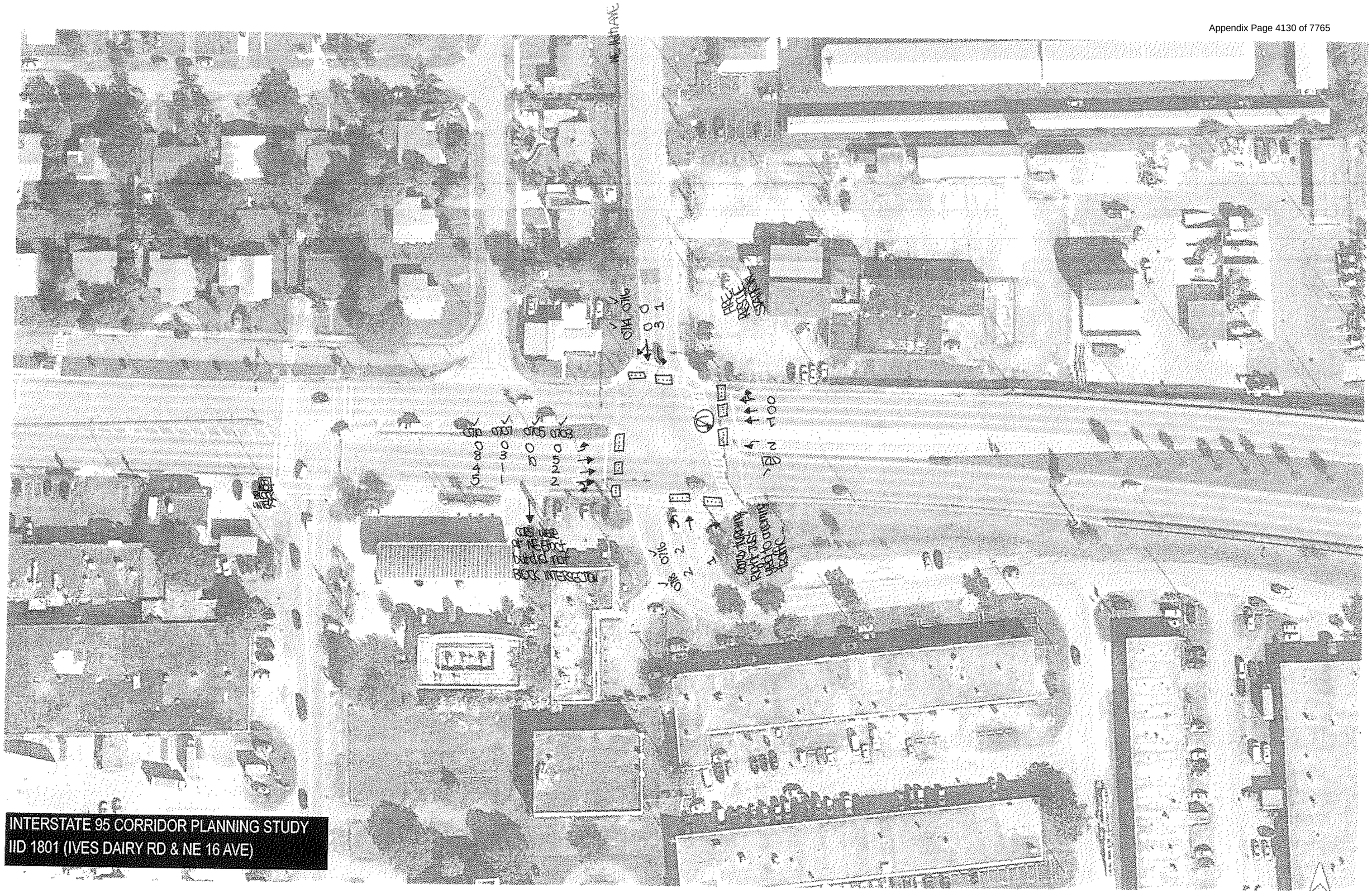


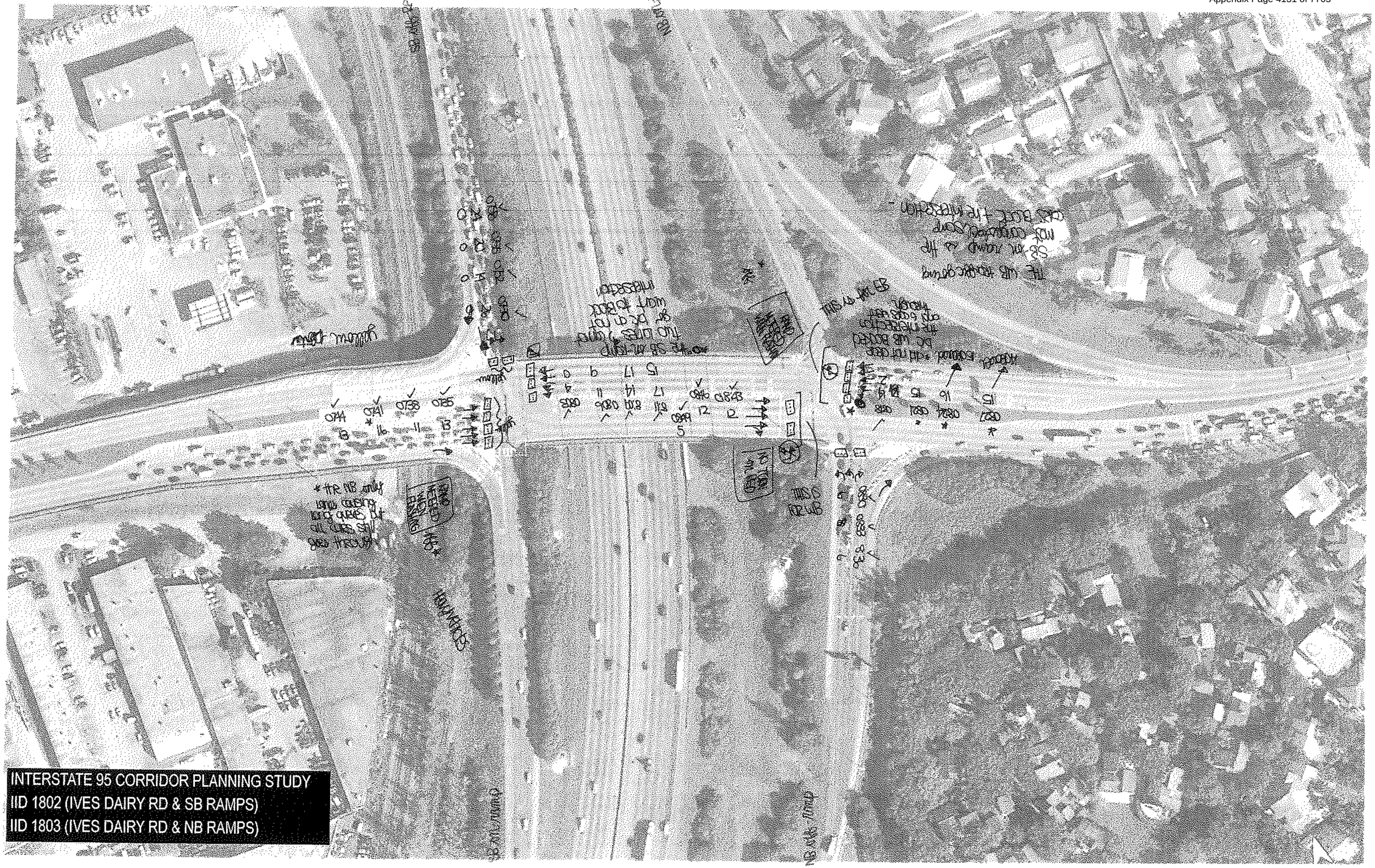
1606

Wednesday, August 12


NE 2nd Ave
NE 185th St
Miami Gardens Dr
NE 183rd St
860
NE 2nd Ct
BUS STOP
0702
0709
0712
0714
0720
0721
0722
0723
0724
0707
0719
0720
0721
• MANY BUSED, GARBAGE TRUCKS, & SEMIS USE THIS INTERSECTION
THU 16 JUL 2015
AM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1701 (MIAMI GARDENS DR & NE 2 CT)


WARNING LIGHT FROM EB TO SB RAMP
QUEUE WENT ALL THE WAY AROUND CURVE
0856
0856
0853
0851 (NOT ALL CLEARED)
0848 (5 CLEARED)
0814
0810
0808
0806
0804
NB
SB
0744
0746
0749
0751
0756
0750
0748
0750
0753
0755
NOT ALL CLEARED
15 CLEARED
ALL CLEARED
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1702 (MIAMI GARDENS DR & SB RAMPS)
IID 1703 (MIAMI GARDENS DR & NB RAMPS)


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1801 (IVES DAIRY RD & NE 16 AVE)
AM PEAK HR



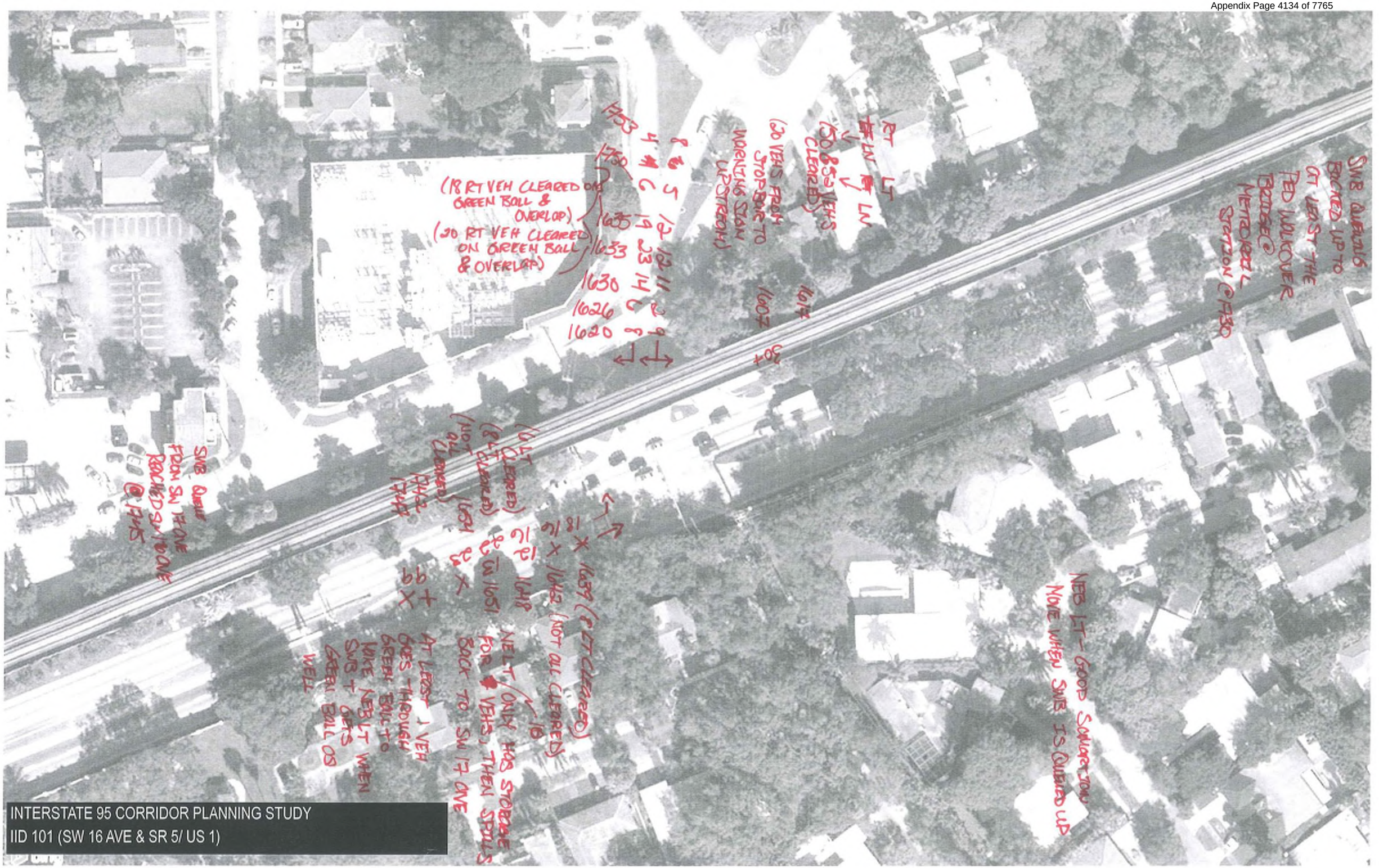
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1802 (IVES DAIRY RD & SB RAMPS)
IID 1803 (IVES DAIRY RD & NB RAMPS)

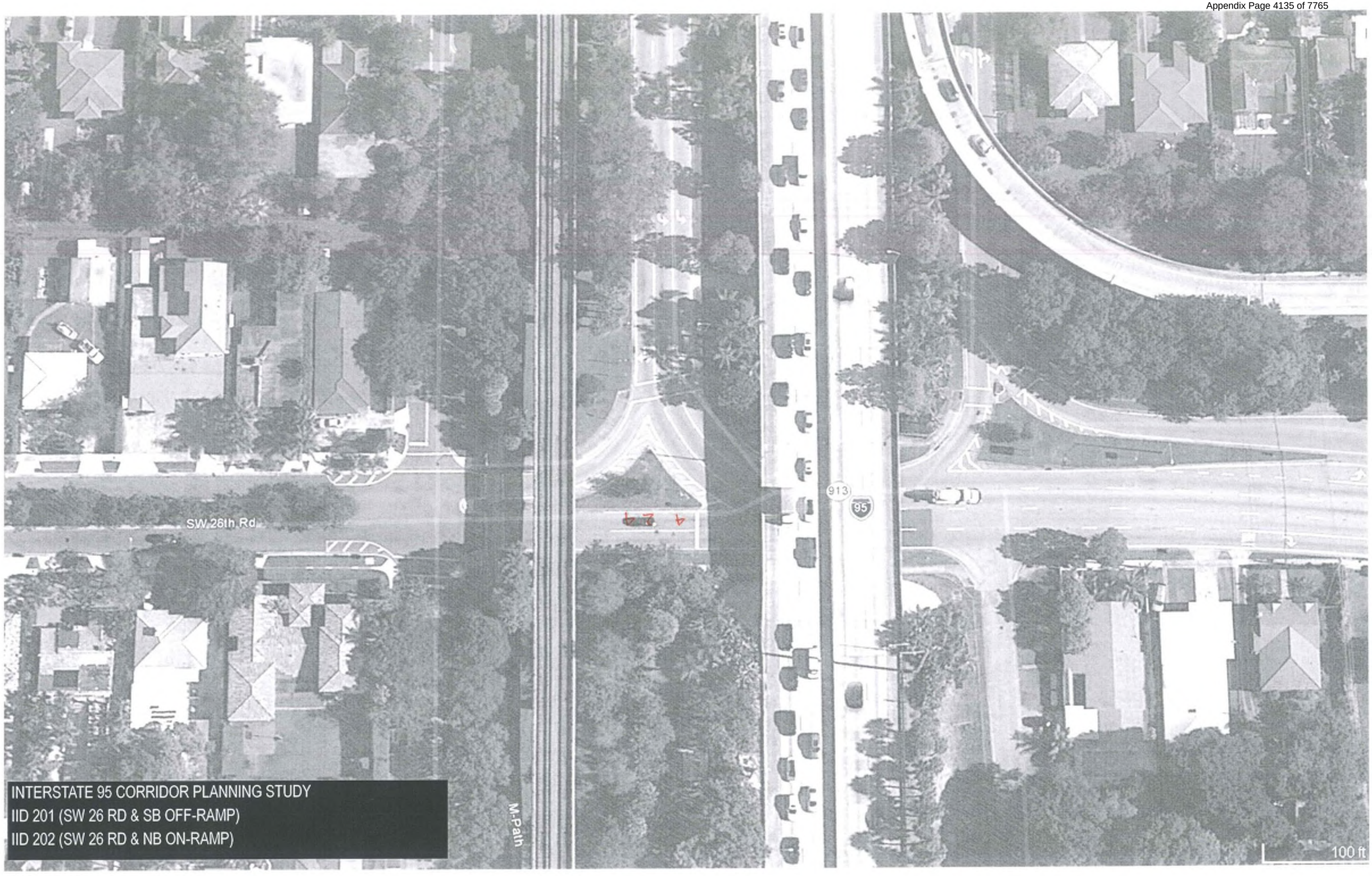
AM PEAK HR



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1804 (IVES DAIRY RD & HIGHLAND LAKES BLVD)

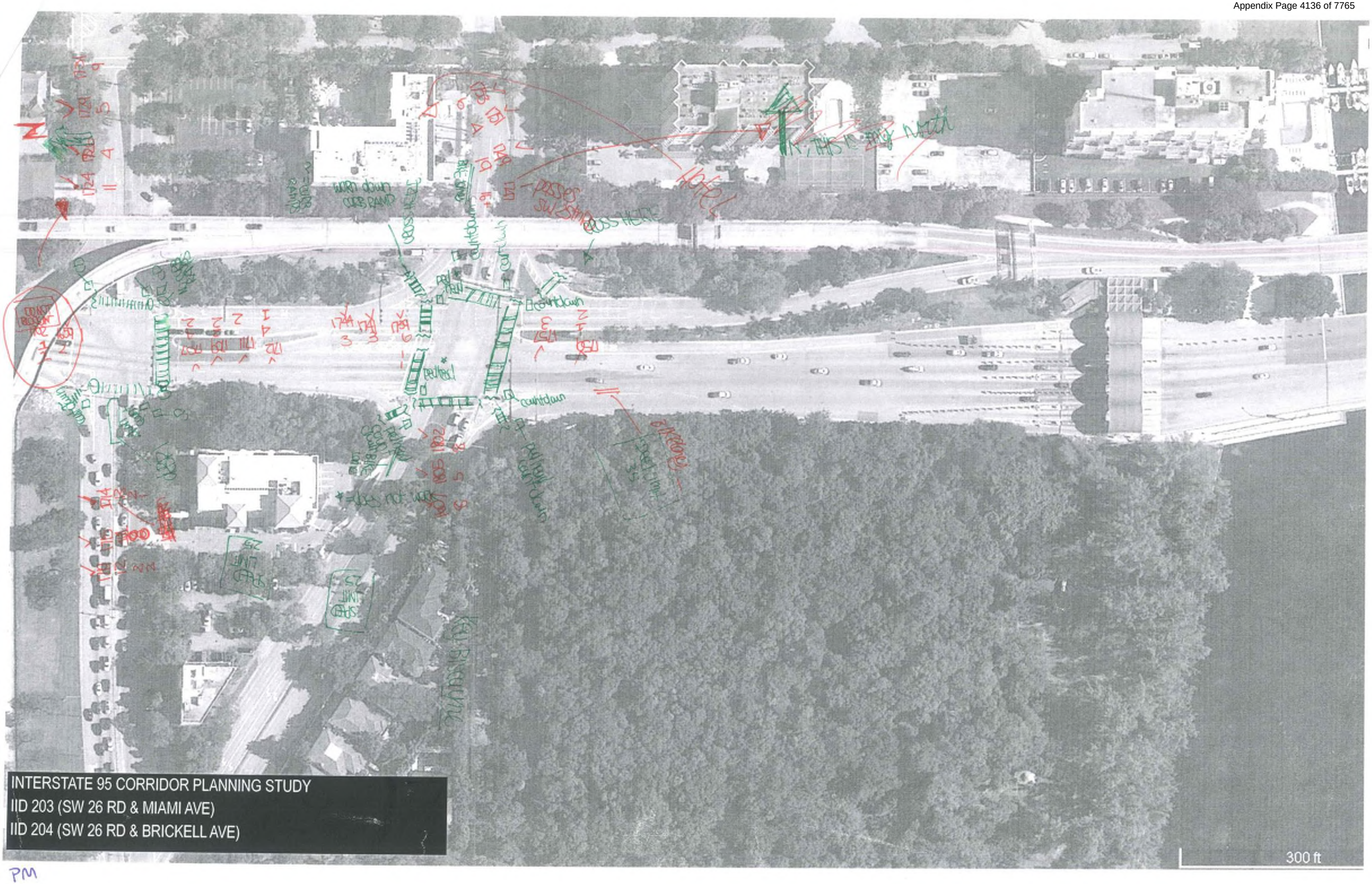
PM Peak Period


SWB QUEUES BACKED UP TO AT LEAST THE PED WALKOVER BRIDGE @ METRORAIL STATION (~F30
RT LT
RT LW RT LW
(50 & 55 VEHS CLEARED)
(20 VEHS FROM STOP BAR TO WARNING SIGN UPSTREAM)
1614
1607
304
1453
1452
(1R RT VEH CLEARED ON GREEN BALL & OVERLAP)
(2D RT VEH CLEARED ON GREEN BALL & OVERLAP)
1638
1633
1630
1626
1620
8 6 5 12 12 11 2
4 4 6 19 23 14 2 9 8
NEB LT - GOOD SCHEDULE NOW WHEN SWB IS QUEUED UP
SWB QUEUE FROM SW 17 AVE BACKED UP TO ~1745
(NOT ALL CLEARED)
(ALL CLEARED)
(NOT ALL CLEARED)
(1 VEH CLEARED)
(NOT ALL CLEARED)
(1 VEH CLEARED)
(1 VEH CLEARED)
(1 VEH



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 201 (SW 26 RD & SB OFF-RAMP)
IID 202 (SW 26 RD & NB ON-RAMP)

PM


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 203 (SW 26 RD & MIAMI AVE)
IID 204 (SW 26 RD & BRICKELL AVE)
300 ft

PM


escription for your map
N
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 205 (SW 25 RD & SB OFF-RAMP)
IID 206 (SW 25 RD & NB OFF-RAMP)
200 ft

PM

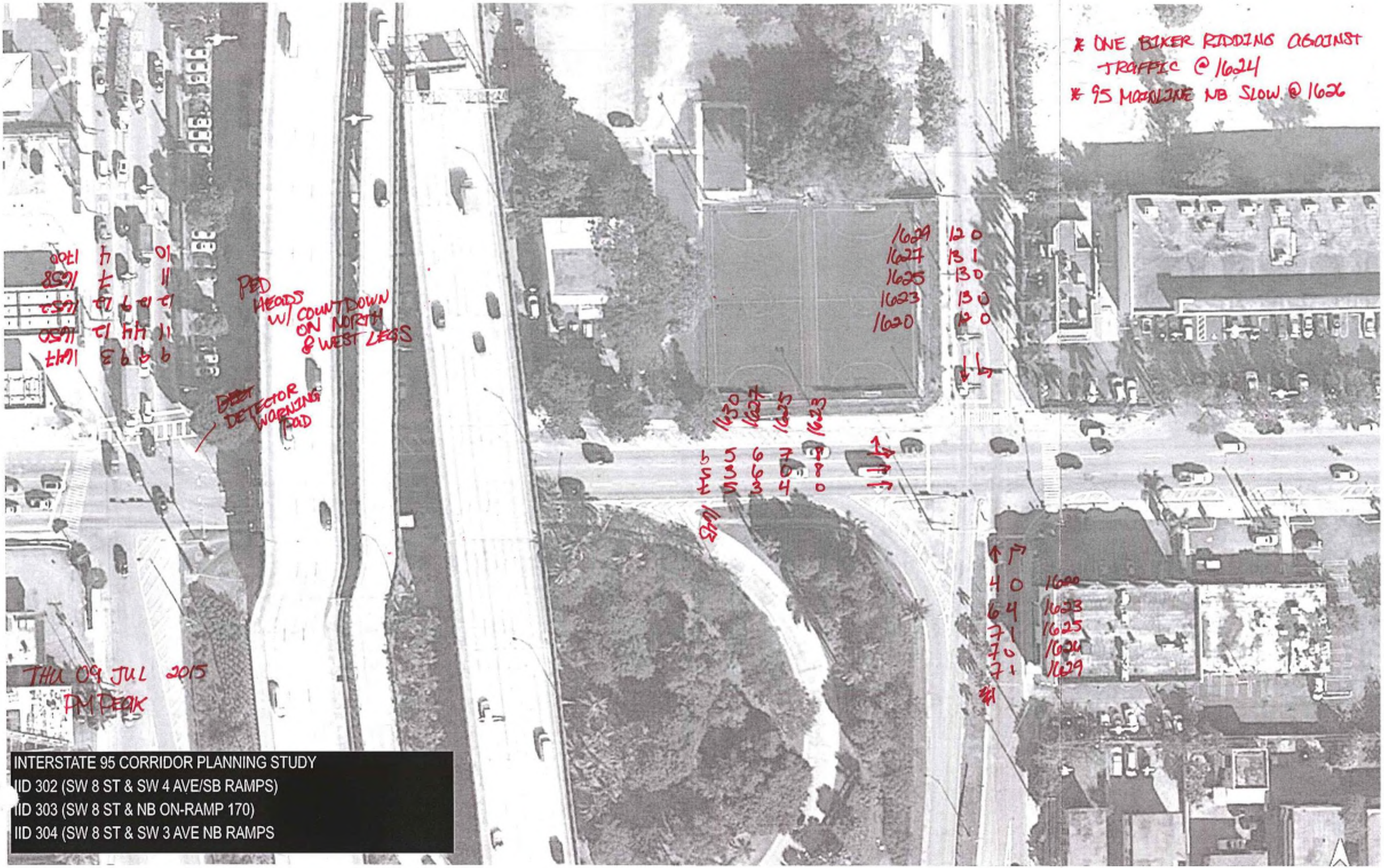


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 207 (SW 25 RD & MIAMI AVE

PM 08/17/15



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 301 (SW 8 ST & SW 5 AVE)



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 302 (SW 8 ST & SW 4 AVE/SB RAMPS)
IID 303 (SW 8 ST & NB ON-RAMP 170)
IID 304 (SW 8 ST & SW 3 AVE NB RAMPS



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 305 (SW 8 ST & SW 2 AVE)

07/07/2015

P.M. Peak HR 4:30 - 5:00 pm

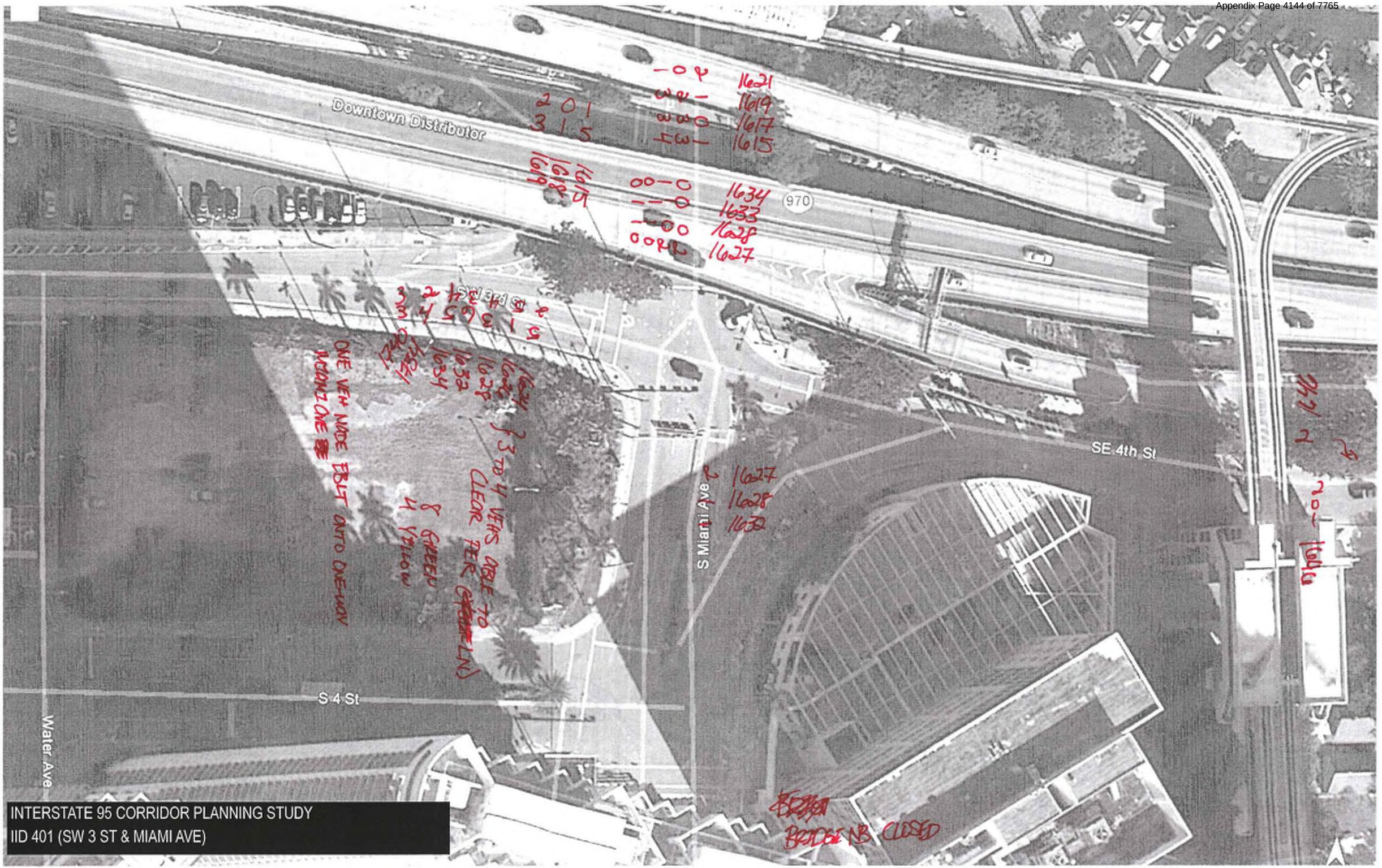


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 306 (SW 7 ST & SW 4 AVE/SB RAMPS)
IID 307 (SW 7 ST & SW 3 AVE/NB RAMPS)

07/07/2015

P.M. PEAK HR 4:00-6:00 PM

INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 308 (SW 7 ST & SW 2 AVE



Tuesday, August 11

WED 12 AUG 2015. PM

SE 2ND ST

SE 3RD AVE

SE 3RD ST

AVE of AMERICAS

SOUTH BEACH

N

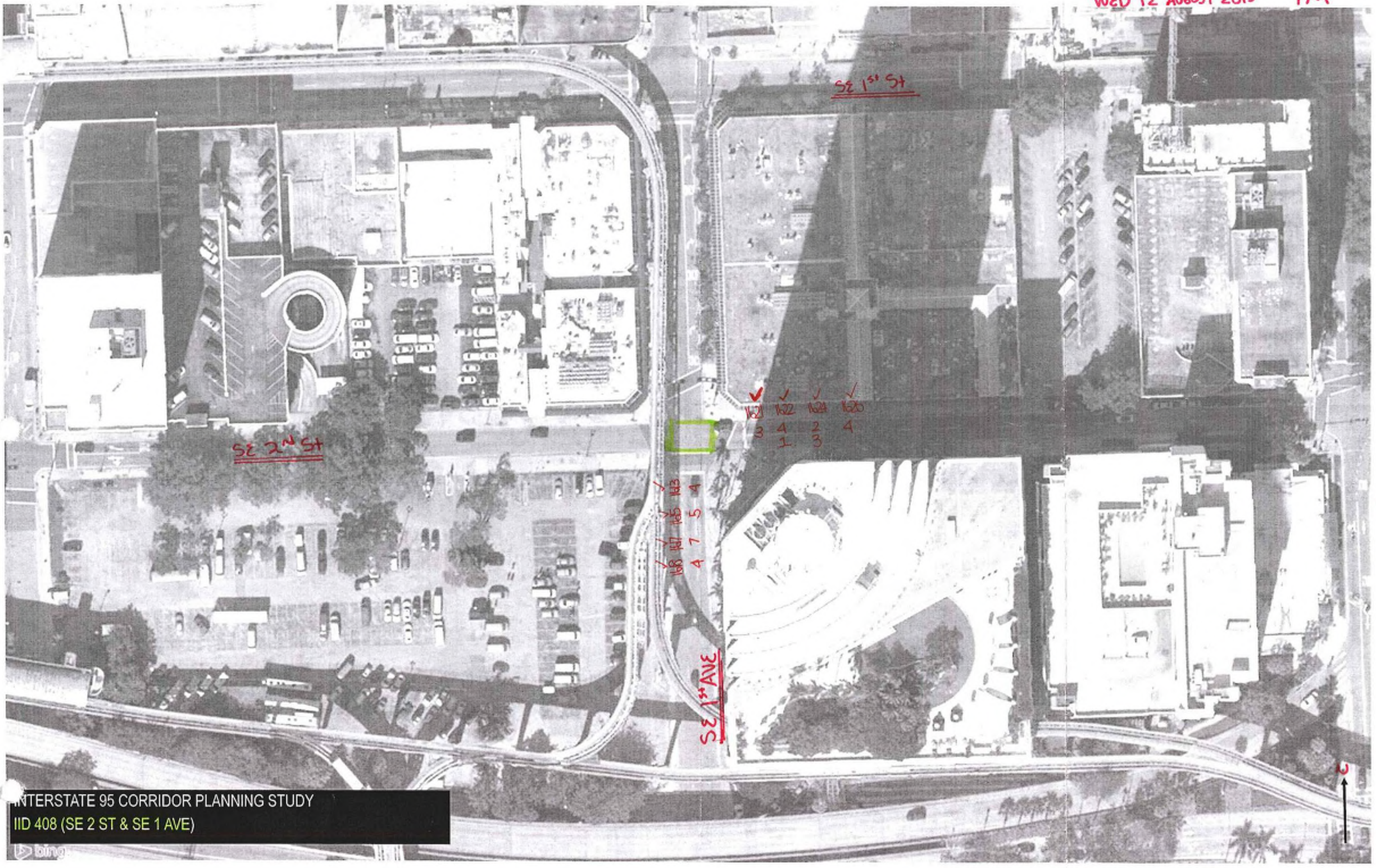
INTERSTATE 95 CORRIDOR PLANNING STUDY

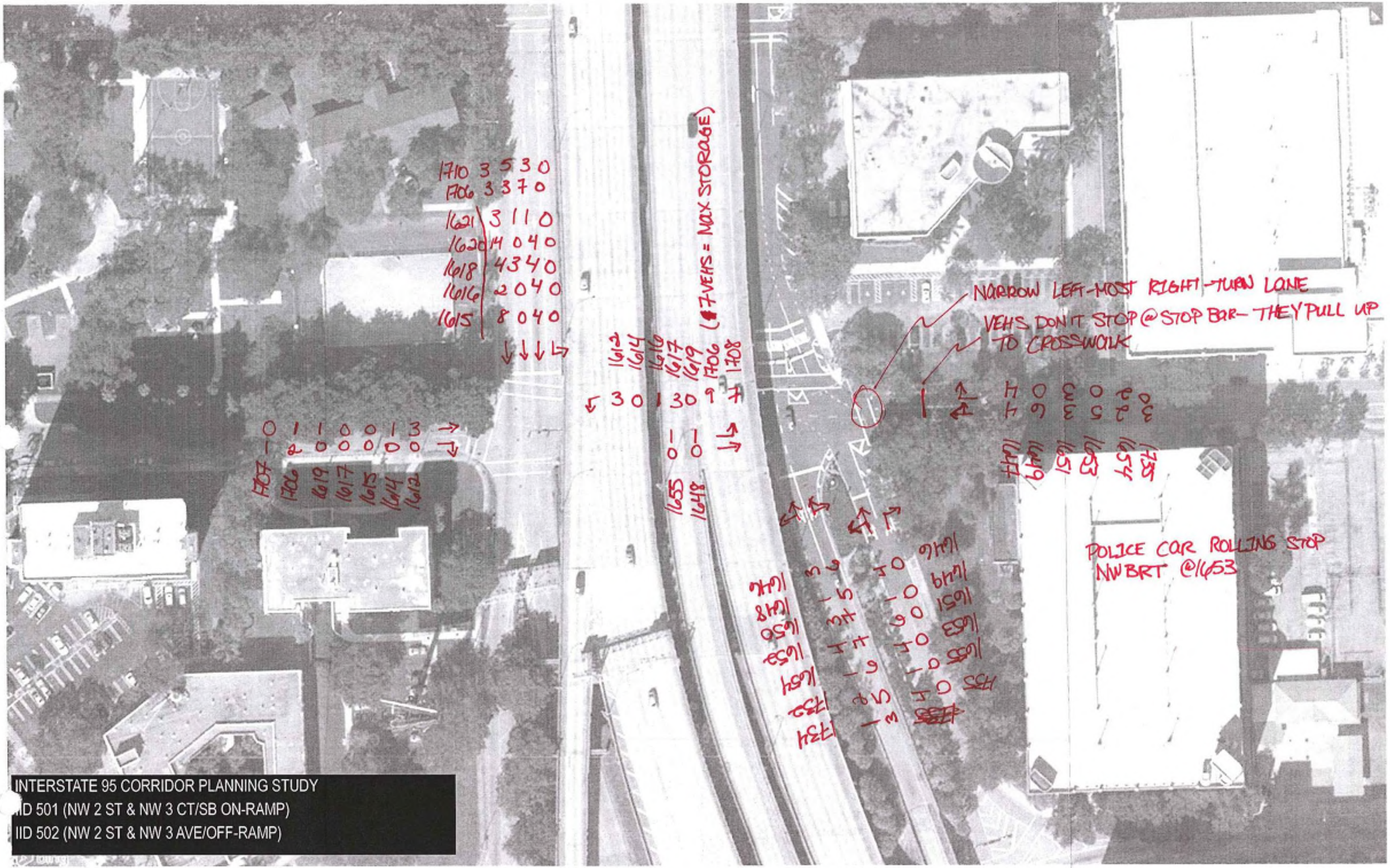
IID 403 (SR 970 OFF-RAMP & SE 2 AVE)

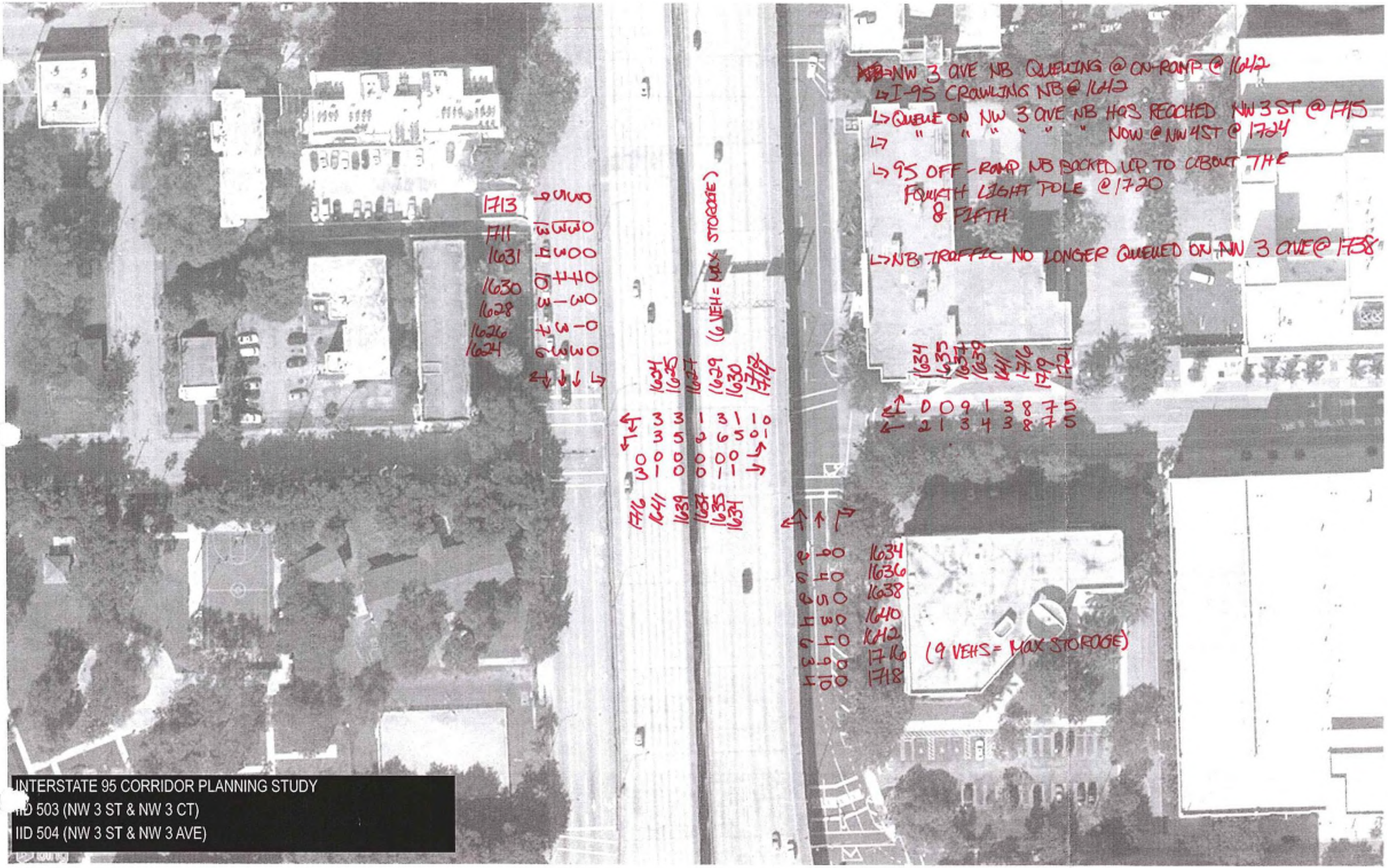
WED 12 AUGUST 2015 PM

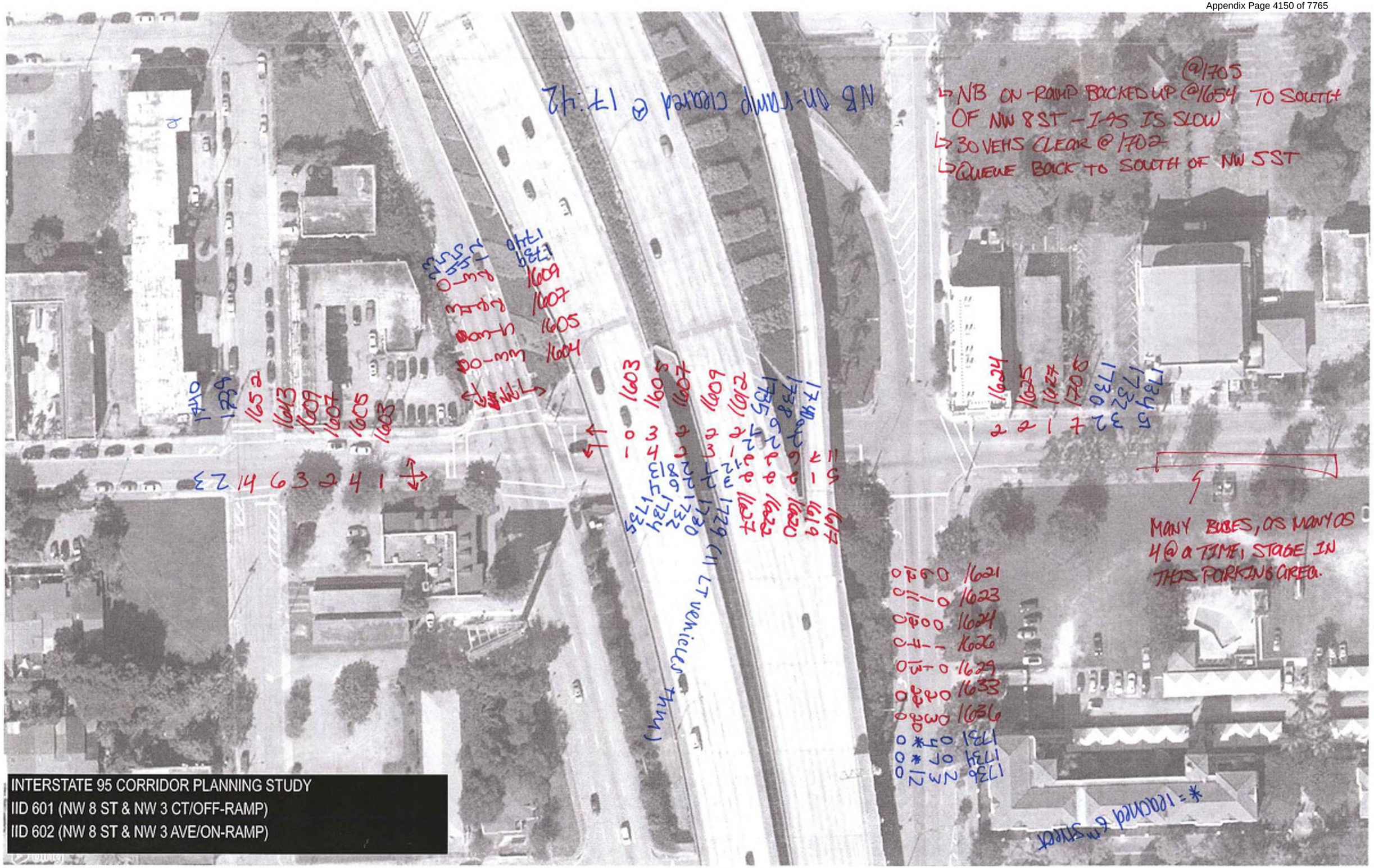
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 405 (SR 970 ON-RAMP & SE 2 AVE)
IID 409 (SE 2 ST & SE 2 AVE)

WED 12 AUGUST 2015 PM

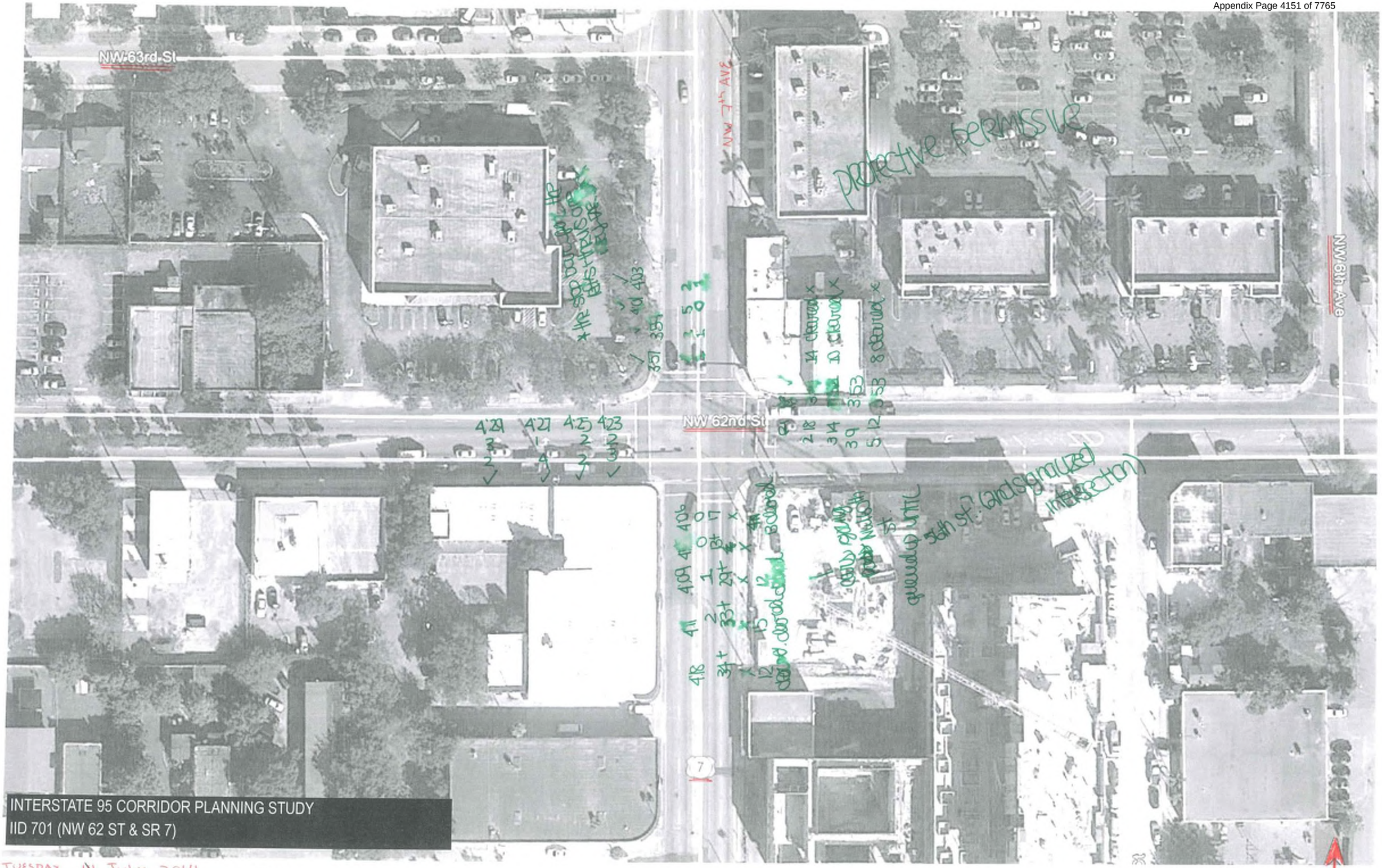



1710 3 5 3 0
1706 3 3 7 0
1621 3 1 1 0
1620 4 0 4 0
1618 4 3 4 0
1616 2 0 4 0
1615 8 0 4 0
1612
1614
1616
1617
1619
1706
1708
(7 VEHS = MAX STORAGE)
NARROW LEFT-MOST RIGHT-TURN LANE
VEHS DON'T STOP @ STOP BAR – THEY PULL UP TO CROSSWALK
POLICE CAR ROLLING STOP NWBRT @ 1653
INTERSTATE 95 CORRIDOR PLANNING STUDY
ID 501 (NW 2 ST & NW 3 CT/SB ON-RAMP)
IID 502 (NW 2 ST & NW 3 AVE/OFF-RAMP)


NB=NW 3 AVE NB QUEUING @ ON-RAMP @ 1642
↳I-95 CRAWLING NB @ 1642
↳QUEUE ON NW 3 AVE NB HAS REACHED NW 3 ST @ 1715
↳ " " " " " " NOW @ NW 4ST @ 1724
↳95 OFF-RAMP NB BACKED UP TO ABOUT THE FOURTH LIGHT POLE @ 1720 & FIFTH
↳NB TRAFFIC NO LONGER QUEUED ON NW 3 AVE @ 1738
1713
1711
1631
1630
1628
1626
1624
1634
1635
1637
1639
1641
1716
1718
(6 VEH = MAX STORAGE)
(9 VEHS = MAX STORAGE)
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 503 (NW 3 ST & NW 3 CT)
IID 504 (NW 3 ST & NW 3 AVE)

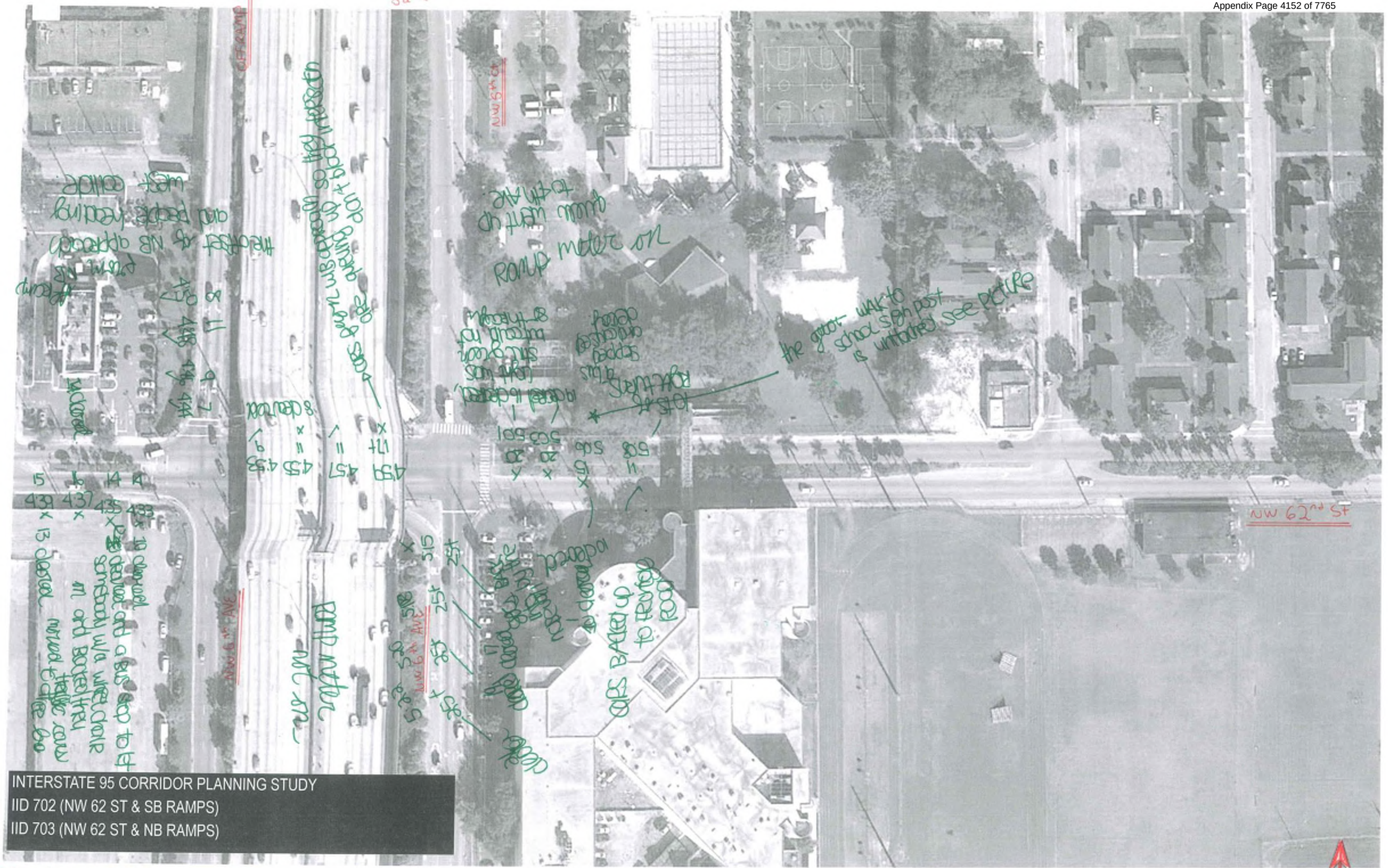


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 601 (NW 8 ST & NW 3 CT/OFF-RAMP)
IID 602 (NW 8 ST & NW 3 AVE/ON-RAMP)



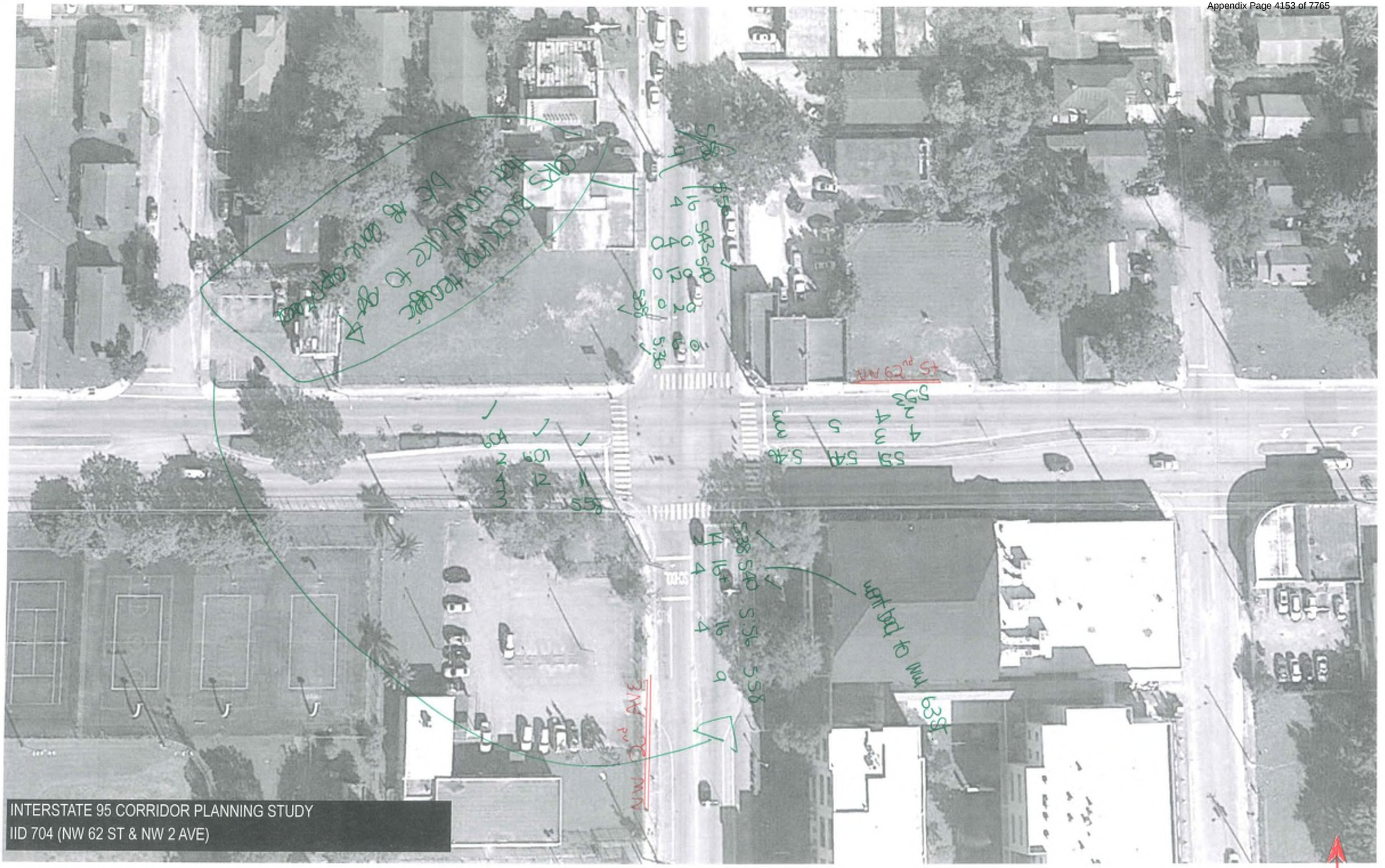
TUESDAY IN JULY 2014

PM



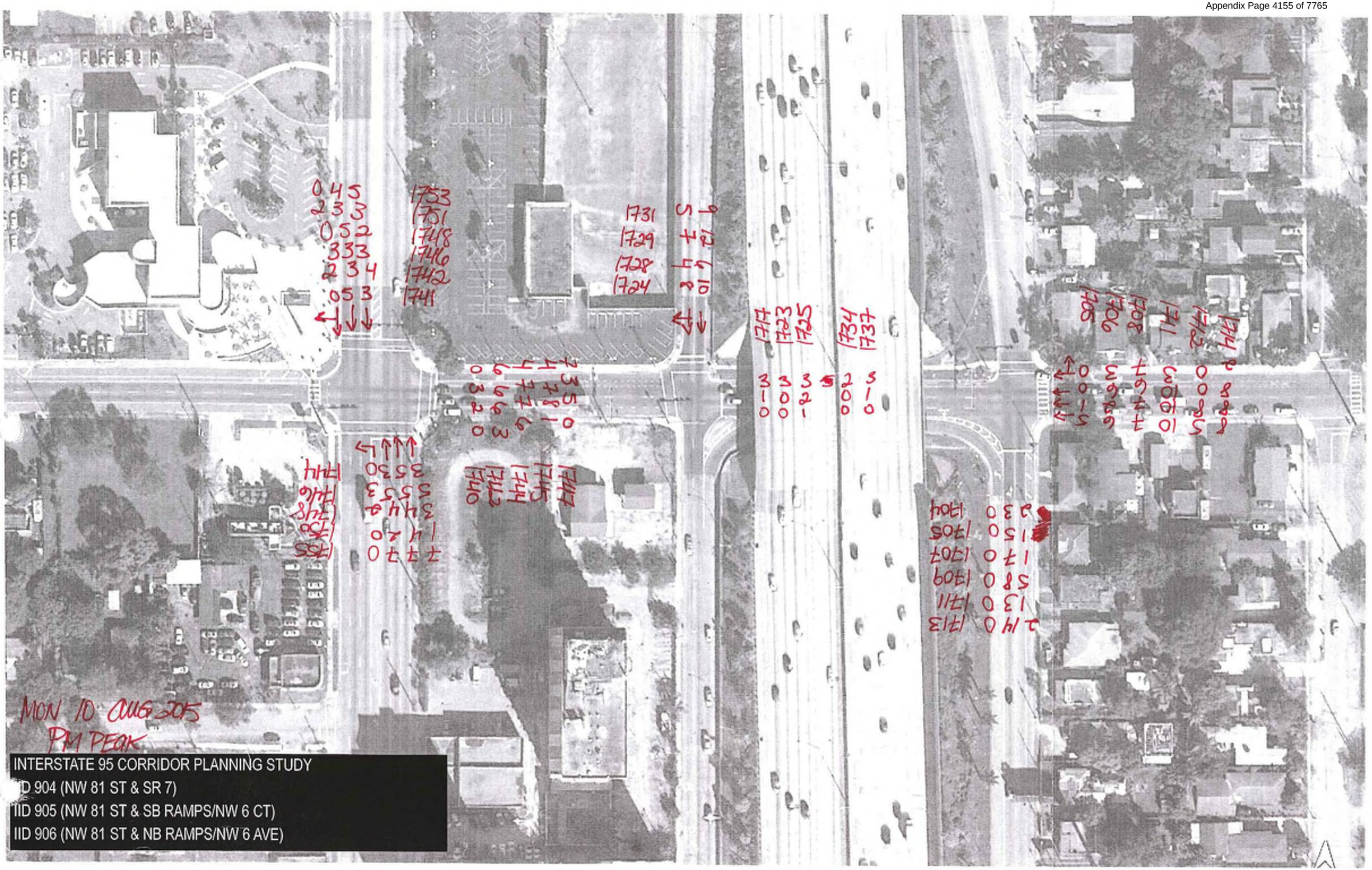
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 702 (NW 62 ST & SB RAMPS)
IID 703 (NW 62 ST & NB RAMPS)

TUESDAY 14 July 2015 PM

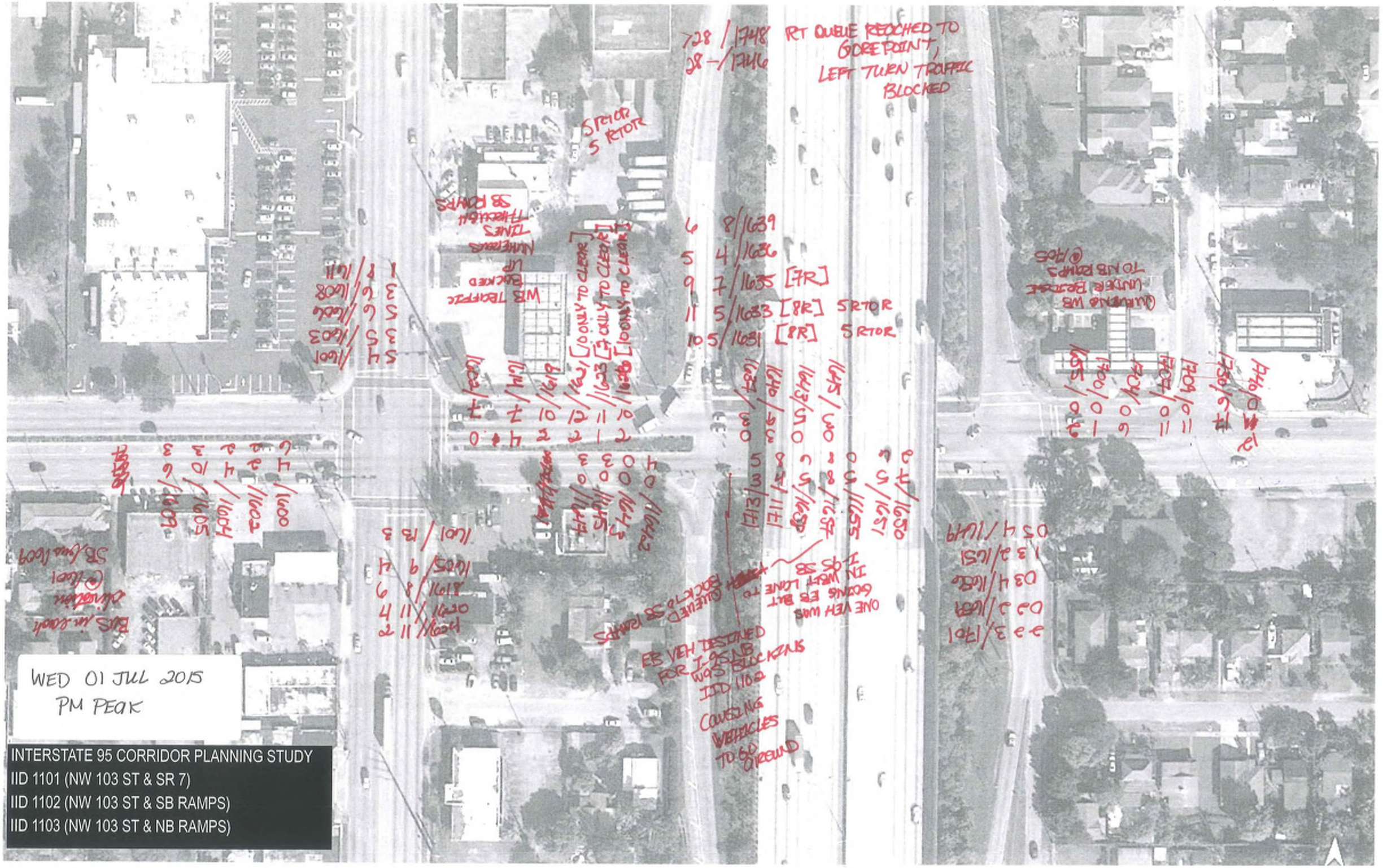


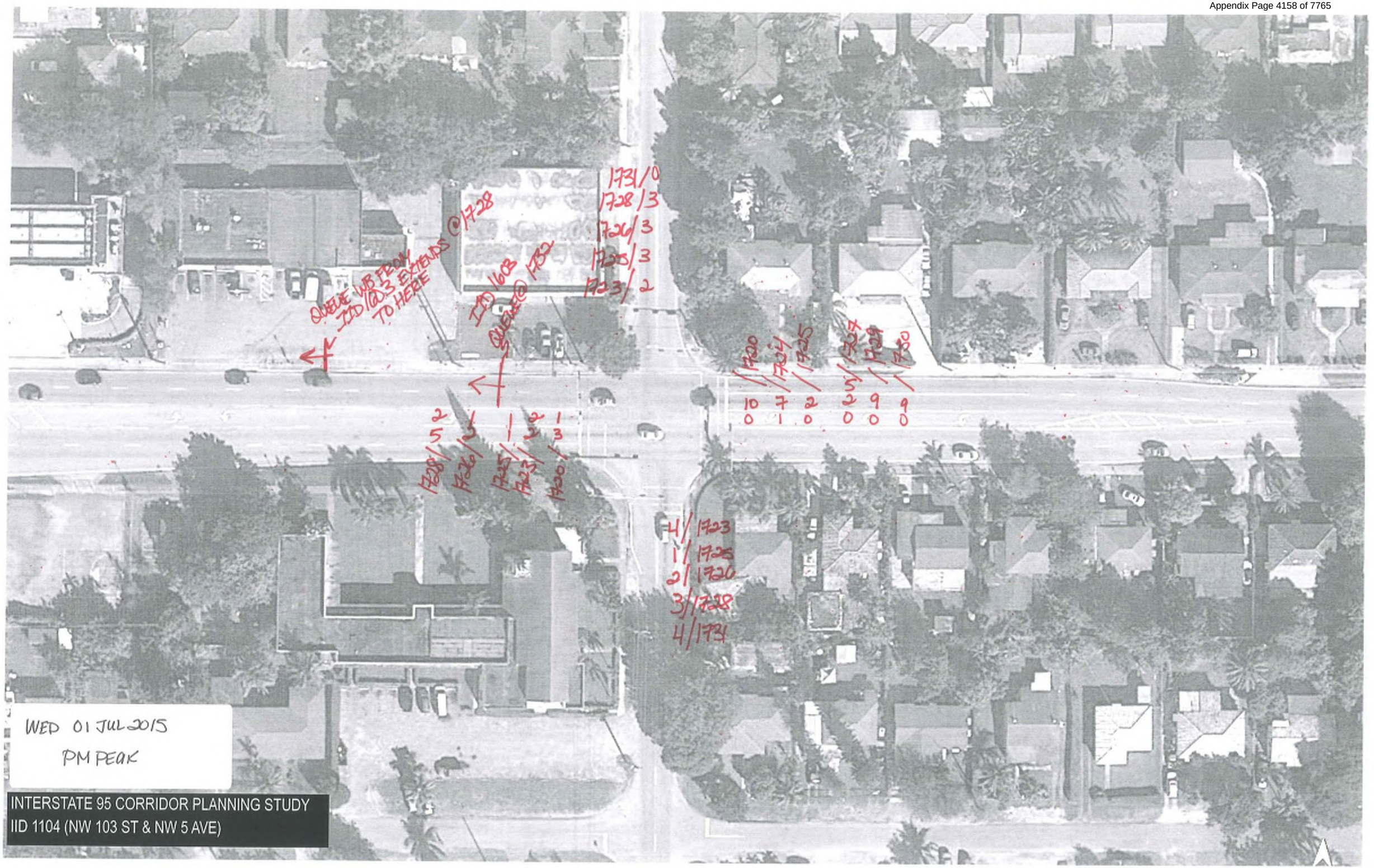
TUESDAY 14 JULY 2015 PM

INTERSTATE 95 CORRIDOR PLANNING STUDY
D 901 (NW 79 ST & SR 7)
IID 902 (NW 79 ST & SB RAMPS/NW 6 CT)
IID 903 (NW 79 ST & NB RAMPS/NW 6 AVE)


MON 10 AUG 205
PM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 904 (NW 81 ST & SR 7)
IID 905 (NW 81 ST & SB RAMPS/NW 6 CT)
IID 906 (NW 81 ST & NB RAMPS/NW 6 AVE)


40 MPH
40 MPH
40 MPH
8 VEH= FULL STORAGE
7 VEH= FULL STORAGE
NB QUEUES REACHED NW 91 ST @ 1735 AND SOUTH OF NW 91 ST
VEHS CLEARED NBT = 19 @ 1734
=16 @
TUE 24 MAR 2015 PM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1001 (NW 95 ST & SR 7)
IID 1002 (NW 95 ST & SB RAMPS)
IID 1003 (NW 95 ST & NB RAMPS)


WED 01 JUL 2015
PM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1101 (NW 103 ST & SR 7)
IID 1102 (NW 103 ST & SB RAMPS)
IID 1103 (NW 103 ST & NB RAMPS)


QUEUE WB FROM IID 103 EXTENDS @ 1728 TO HERE
IID 103 QUEUED 1732
1731/0
1728/3
1726/3
1725/3
1723/2
1720/10
1724/7
1725/2
1727/5
1729/9
1730/9
1728/5 2
1726/3 1
1725/1 0
1723/2 1
1720/3 0
4/1723
1/1725
2/1726
3/1728
4/1731
WED 01 JUL 2015
PM PEAK
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1104 (NW 103 ST & NW 5 AVE)

PM = 4-6pm

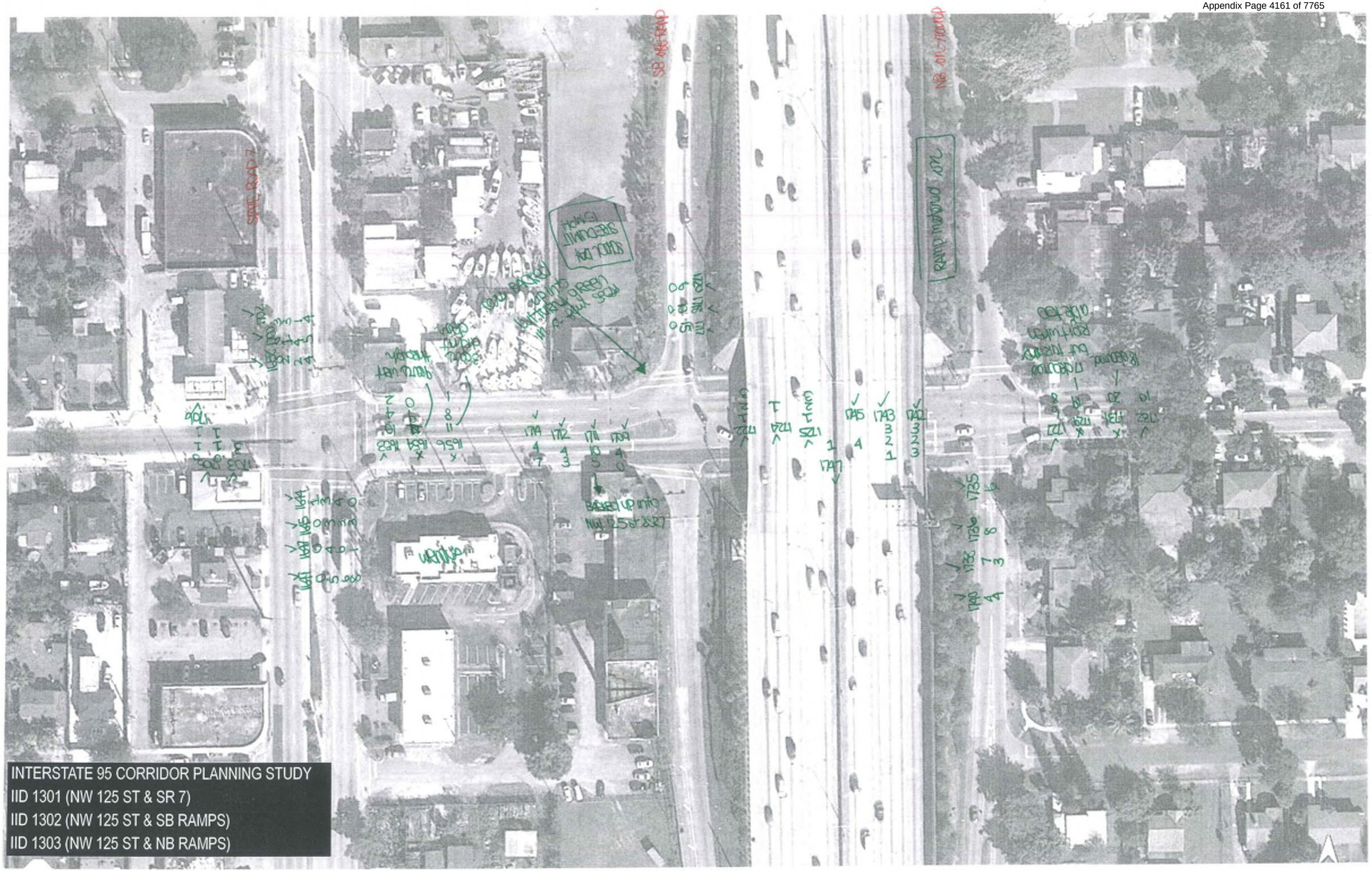
511 appr

INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1201 (NW 119 ST & SR 7)
IID 1202 (NW 119 ST & SB ON-RAMP)
IID 1203 (NW 119 ST & NB ON-RAMP)



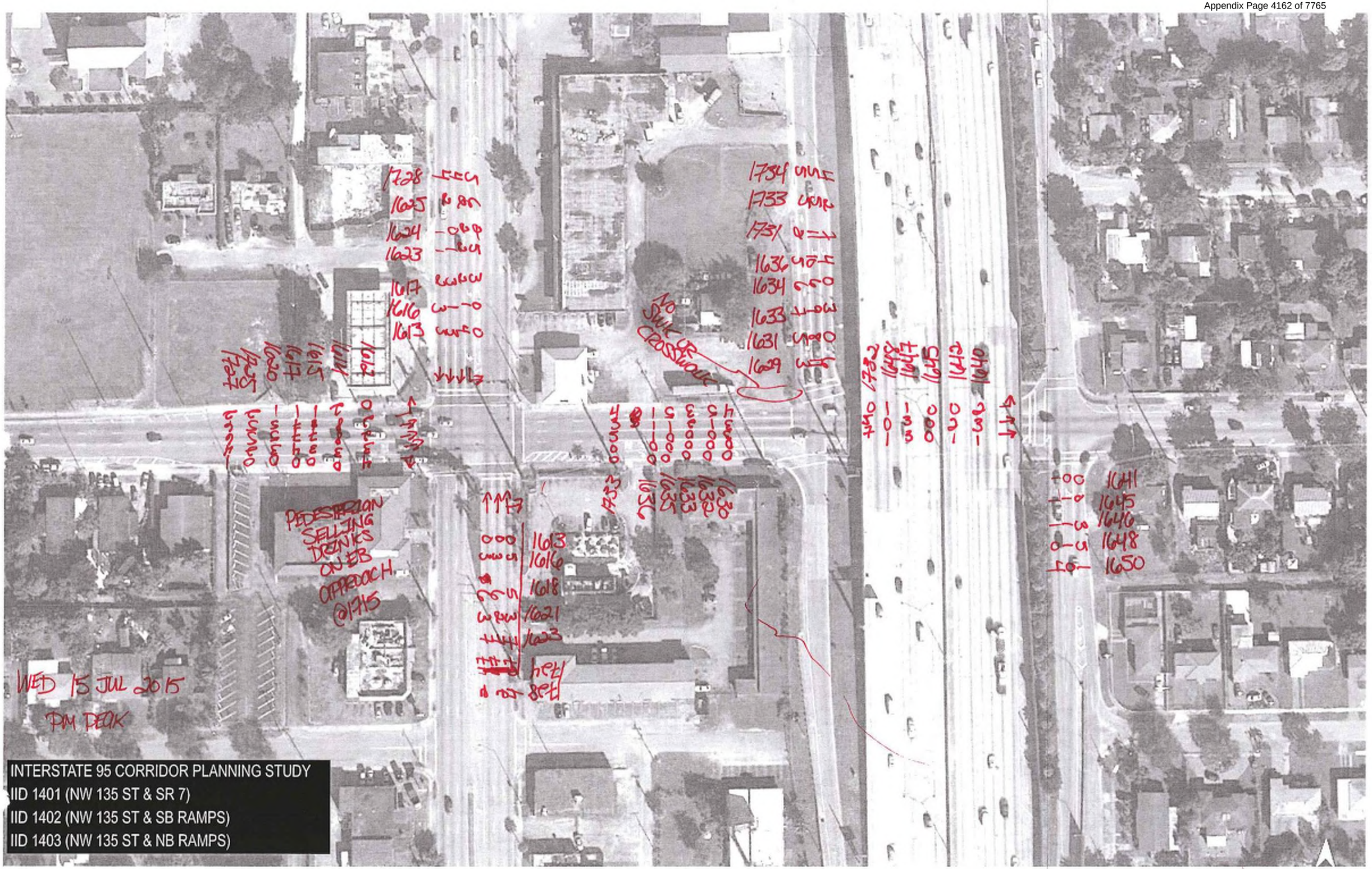
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1204 (NW 119 ST & NW 5 AVE)

PM



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1301 (NW 125 ST & SR 7)
IID 1302 (NW 125 ST & SB RAMPS)
IID 1303 (NW 125 ST & NB RAMPS)

PM 08/17/15



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1401 (NW 135 ST & SR 7)
IID 1402 (NW 135 ST & SB RAMPS)
IID 1403 (NW 135 ST & NB RAMPS)



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1404 (OPA LOCKA BLVD & SR 7)
IID 1405 (OPA LOCKA BLVD & SB RAMPS)
IID 1406 (OPA LOCKA BLVD & NB RAMPS)

P.M.P.H

INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1501 (NW 151 ST & SR 7)
IID 1502 (NW 151 ST & SB RAMPS)
IID 1503 (NW 151 ST & NB RAMPS)

P.M PH

J74/K6.

95 SB EXP CLOSED @ 1715

CURVE NN OF INTERSECTION IS ALL QUEUED Ck656

1707 1705 1701 1659 1656

1658

(17 VEH MAX STORAGE)

NB BETWEEN RAMP & RIDE & 16000 NOT QUEUED IN FULL @ 1725 SB HEAVIER NOW

1657 1700 1701 1703 1705

1658 1400

1716 1713 1712 1710 1737 1727

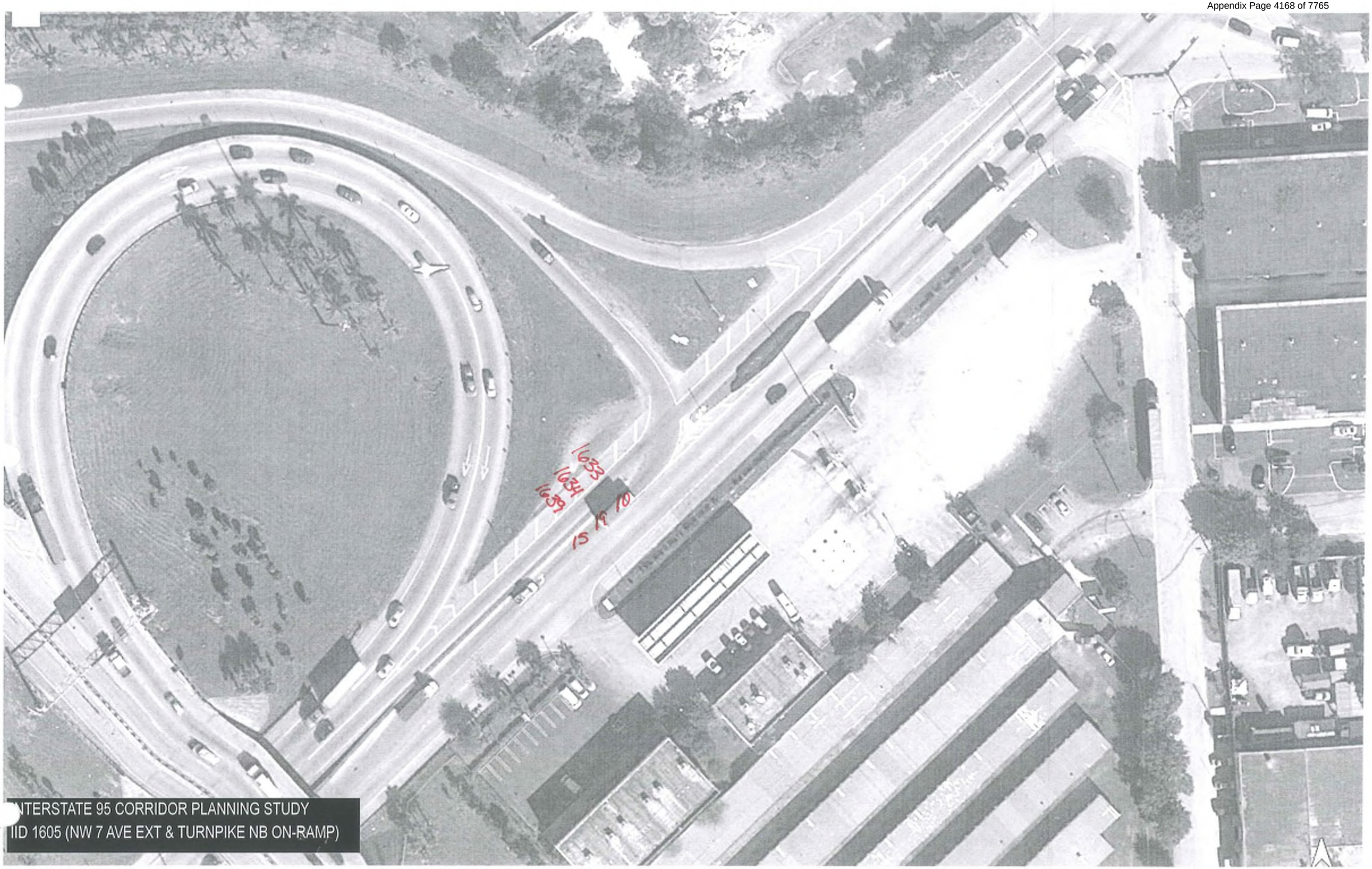
1732 1725 1723 1717 1716

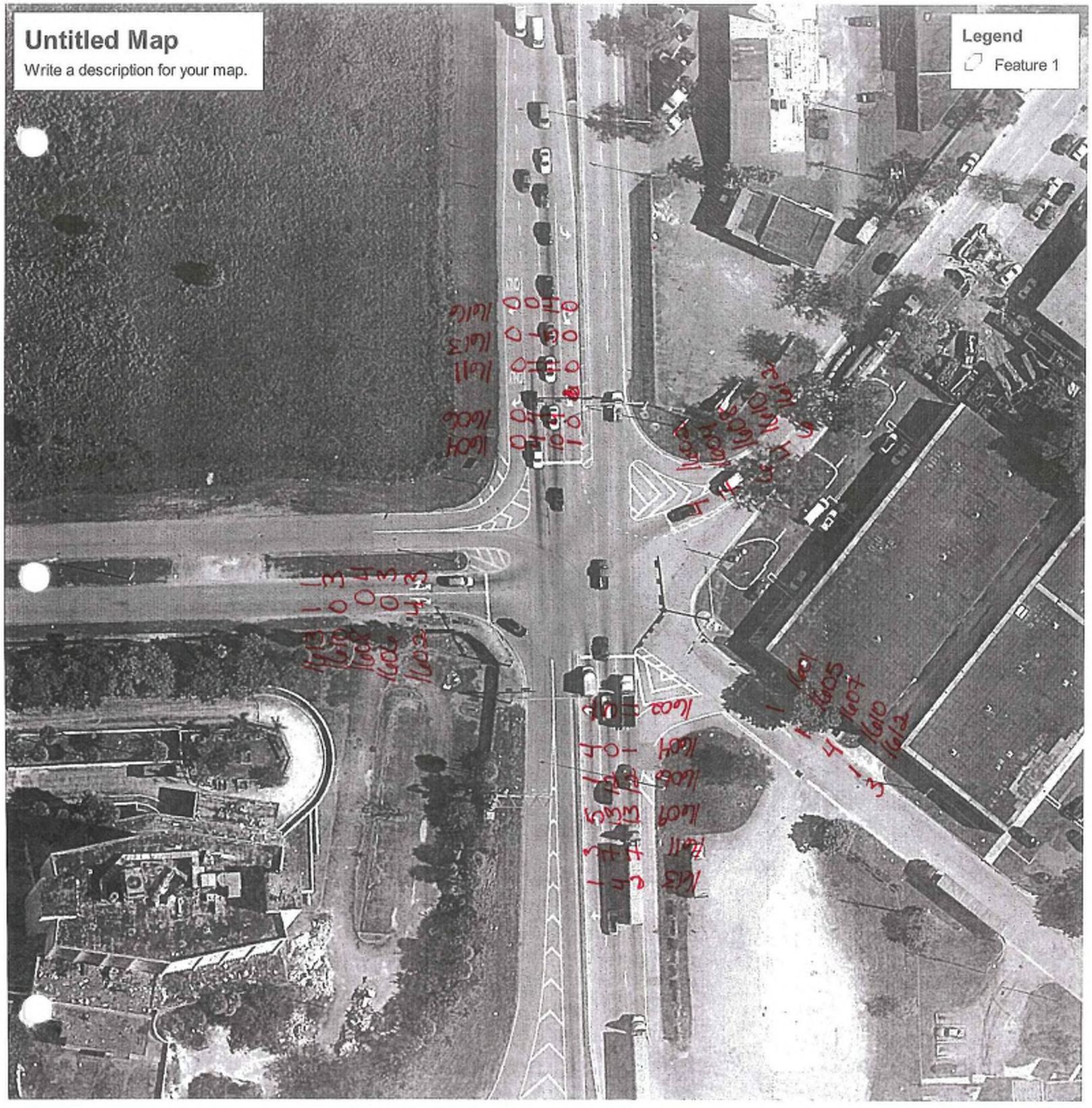
WED 12 CMS 2015 PM PEAK

INTERSTATE 95 CORRIDOR PLANNING STUDY
ID 1601 (SR 7 & GG1 SB OFF-RAMP)
D 1602 (PARK AND RIDE DR/NW 16000 BLK)

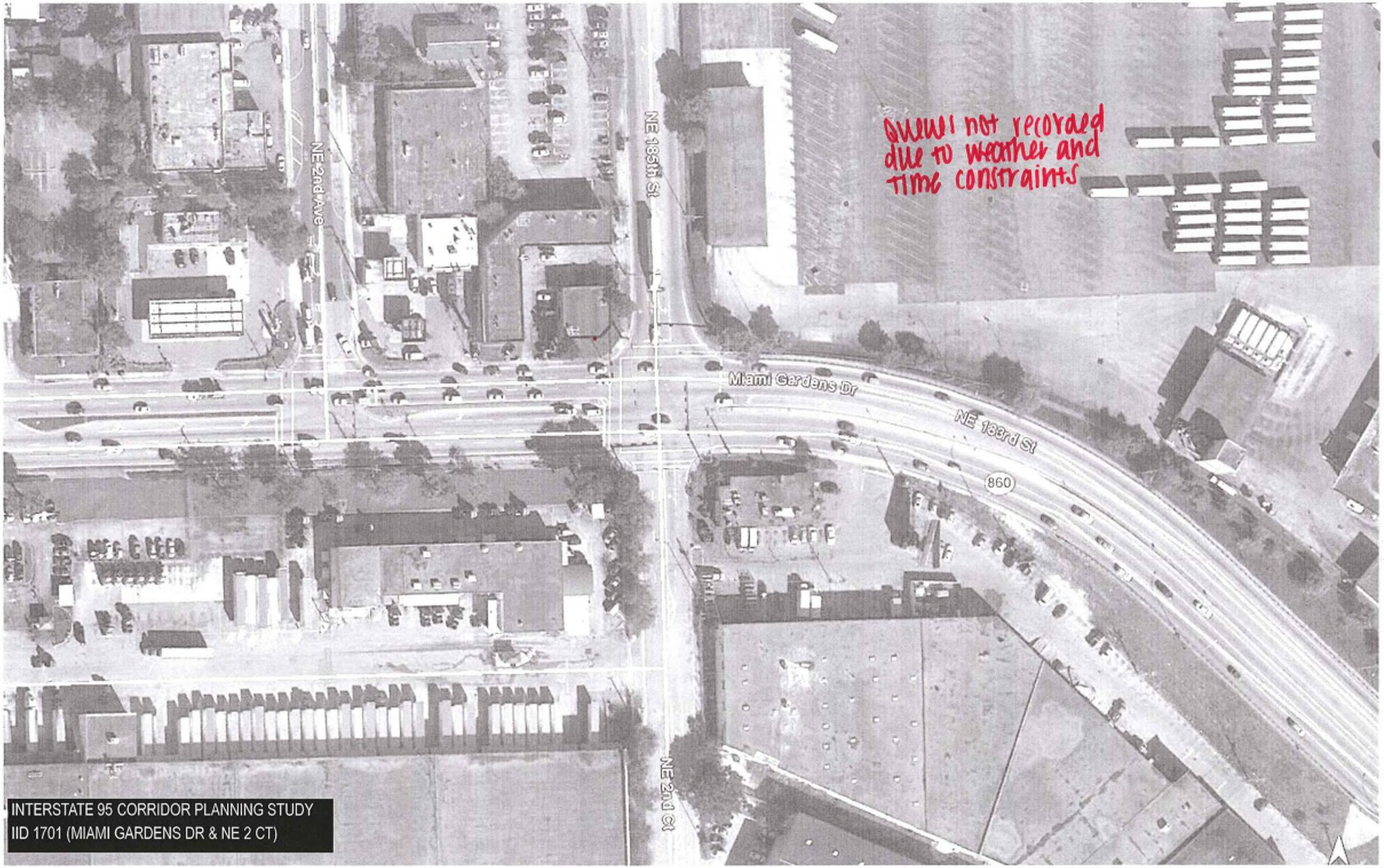

INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1603 (NW 167 ST & NW 2 AVE)
TONOA
BLOCKS PARTIAL NB THE INTERSECTION
AND BLOCKS TO ENTER
BACKUP TO NW 165 ST
2A cleared
2 cleared
20 cars cleared the left turns are blocked
1 cleared
BANS up to the stop sign
HARVEY lights
* Lights
N MIAMI AVE at NW 33 AVE
4 Lights
PARTS AUTO
NW 2 AVE
NW 165 ST
NW 167 ST
1710
1657
1654
1650
1728
1731
1721
1725
43+
12
28+
24+
32+
38
36

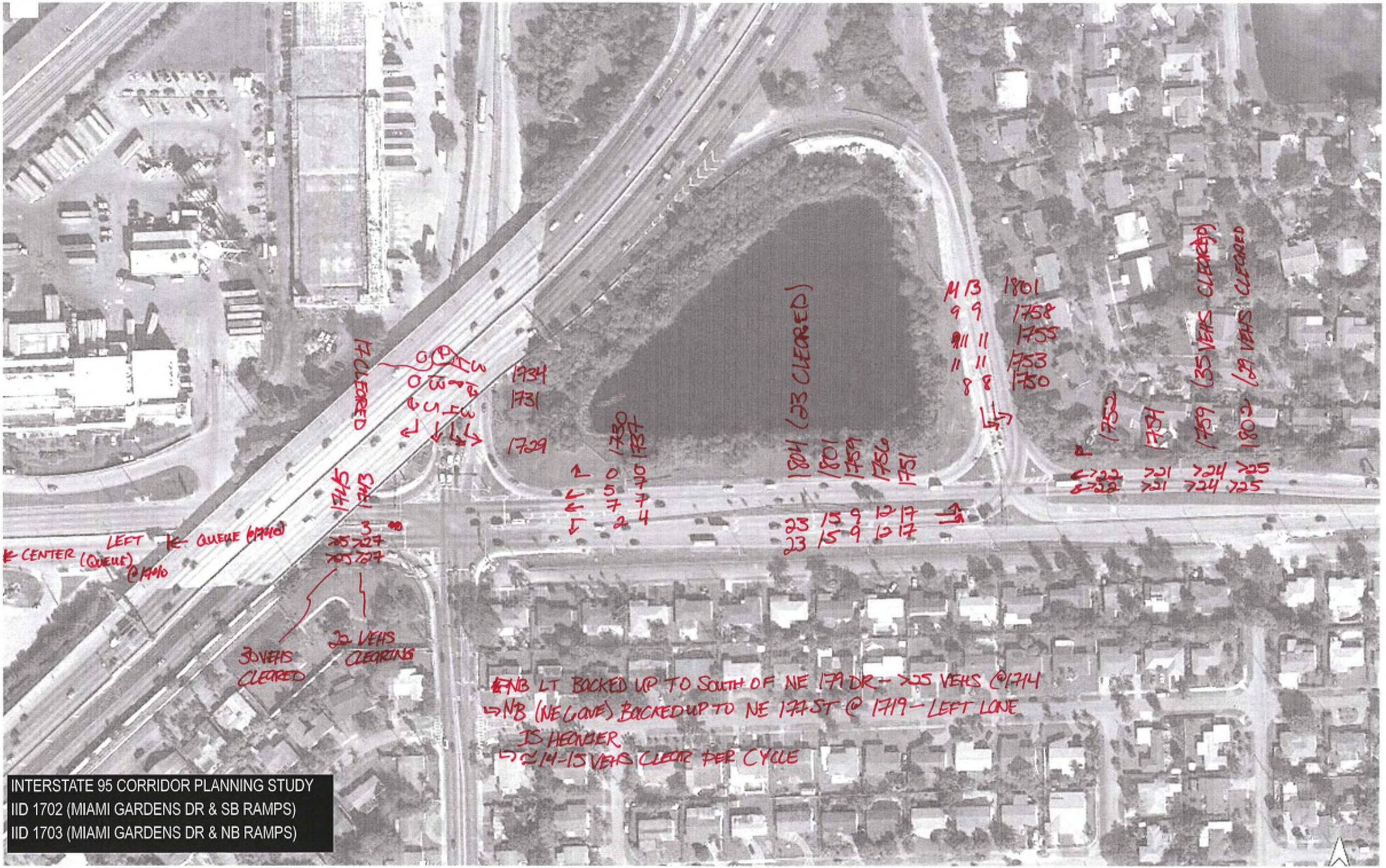

INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1604 (NW 167 ST & MIAMI AVE)

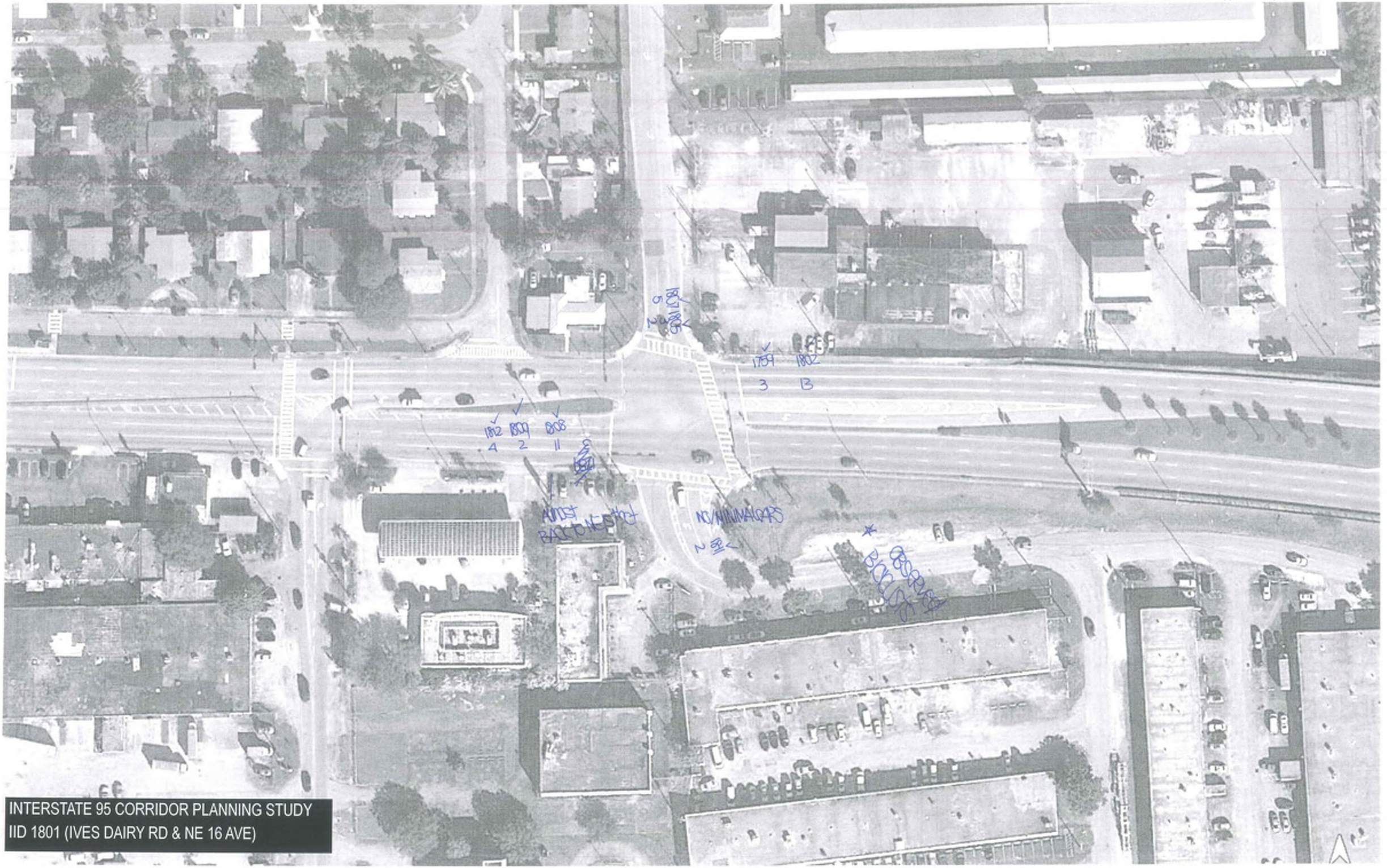

1633
1634
1639
15 14 10
NTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1605 (NW 7 AVE EXT & TURNPIKE NB ON-RAMP)

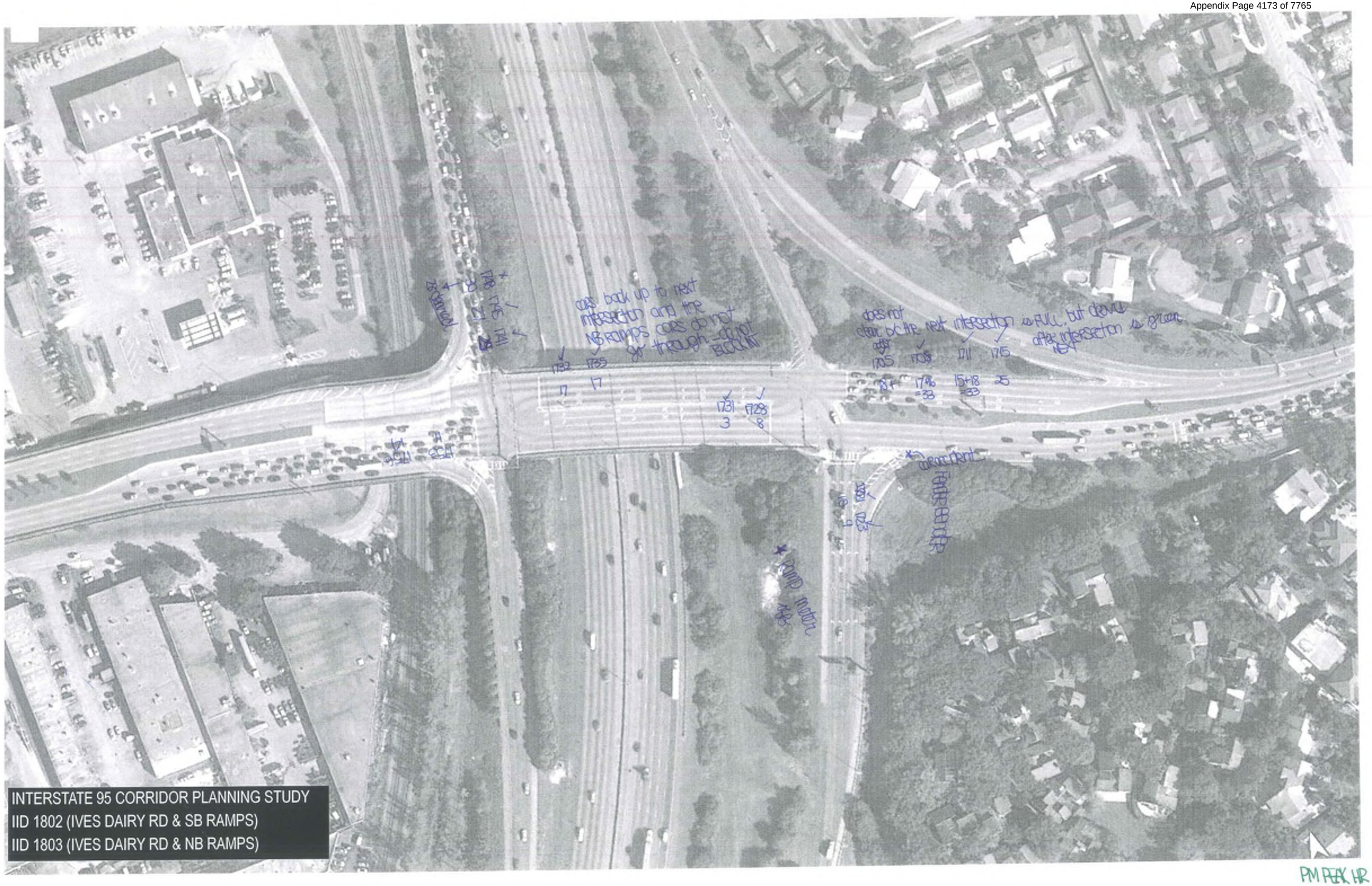


1606
WED 12 AUG 2015
PM PEAK

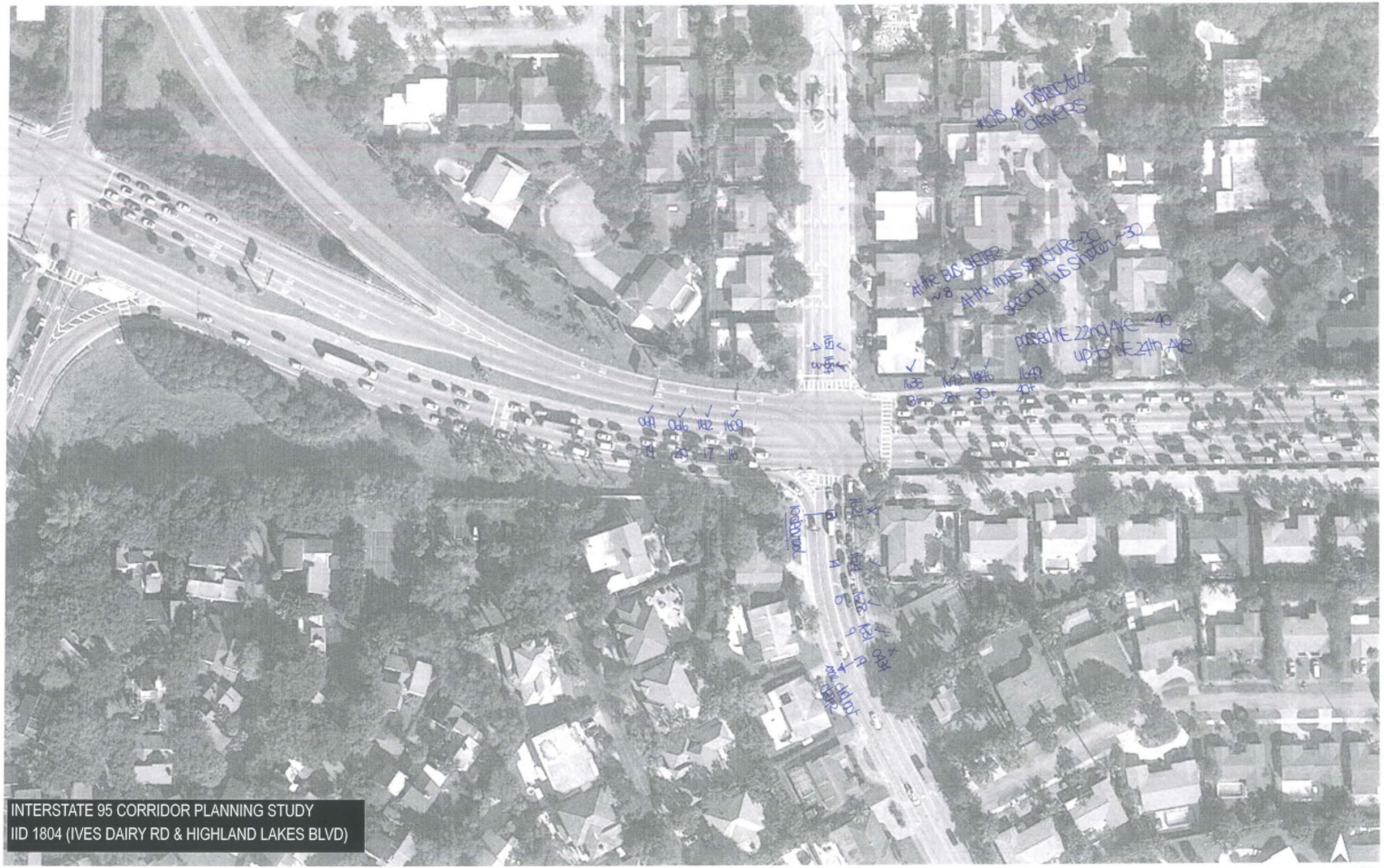

Queue not recorded due to weather and time constraints
NE 2nd Ave
NE 186th St
Miami Gardens Dr
NE 183rd St
860
NE 2nd Ct
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1701 (MIAMI GARDENS DR & NE 2 CT)


17 CLEARED
1734
1731
1729
1730
1737
1745
1743
CENTER (QUEUE) @1740
LEFT
QUEUE @1740
30 VEHS CLEARED
20 VEHS CLEARING
1804 (23 CLEARED)
1801
1759
1756
1751
1801
1758
1755
1753
1750
1752
1754
1759 (35 VEHS CLEARED)
1803 (29 VEHS CLEARED)
>22
>21
>24
>25
NB LT BACKED UP TO SOUTH OF NE 179 DR - >25 VEHS @1714
NB (NE CAVE) BACKED UP TO NE 177 ST @ 1719 - LEFT LANE IS HEAVIER
≈14-15 VEHS CLEAR PER CYCLE
INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1702 (MIAMI GARDENS DR & SB RAMPS)
IID 1703 (MIAMI GARDENS DR & NB RAMPS)


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1801 (IVES DAIRY RD & NE 16 AVE)
PM PEAK HR



INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1802 (IVES DAIRY RD & SB RAMPS)
IID 1803 (IVES DAIRY RD & NB RAMPS)


INTERSTATE 95 CORRIDOR PLANNING STUDY
IID 1804 (IVES DAIRY RD & HIGHLAND LAKES BLVD)
PM PEAK HR

Appendix B

GOLDEN GLADES INTERCHANGE PD&E STUDY

FDOT

FINAL DRAFT
PRELIMINARY
ENGINEERING REPORT

Project Development & Environment (PD&E) Study

GOLDEN GLADES INTERCHANGE

from SR 826 / Palmetto Expressway Eastbound to I-95 Northbound

Financial Management No.: 428358-1-22-01
Efficient Transportation Decision Making (ETDM) No.: 11300

March 2014

FINAL DRAFT

PRELIMINARY ENGINEERING REPORT

GOLDEN GLADES INTERCHANGE PD&E STUDY

From SR 826/Palmetto Expressway Eastbound to I-95 Northbound

Miami-Dade County, Florida

Financial Management Number: 428358-1-22-01

Efficient Transportation Decision Making (ETDM) Number: 11300

Prepared for

Florida Department of Transportation - District Six

Miami, Florida



Prepared by:

Stantec Consulting Services, Inc.

901 Ponce de Leon Boulevard, Suite 900

Coral Gables, Florida 33134

Stantec.com

March 2014

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Stantec Consulting Ltd., a corporation, authorized to operate as an engineering business (EB 00027013), FEID No. 65-0039493001, by the State of Florida, Department of Professional Regulation, Board of Professional Engineers, and that I have reviewed or approved the evaluation, findings, opinions, conclusions, or technical advice hereby reported for:

Project:	Project Development and Environment (PD&E) Study for Golden Glades Interchange from SR 826/Palmetto Expressway Eastbound to I-95 Northbound
FPID:	428358-1-22-01
ETDM:	11300
FAP:	N/A
Location:	Miami-Dade County, Florida
Client:	Florida Department of Transportation District Six

This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for the Golden Glades Interchange Project Development and Environment (PD&E) Study (FPID 428358-1-22-01). I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering and planning as applied through professional judgment and experience.

Name: Robert T. Carballo, P.E.

Signature: _____

P.E. Number: 42502

Date: _____

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1. SUMMARY OF PROJECT

This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for the Golden Glades Interchange Project Development and Environment (PD&E) Study (FPID 428358-1-22-01). The Class of Action for this project is **Type 2 Categorical Exclusion** and has been developed in compliance with Title VI of the Civil Rights Act of 1964 and other federal and state nondiscrimination authorities. Neither FDOT nor this project will deny the benefits of, exclude from participation in, or subject to discrimination anyone on the basis of race, color, national origin, age, sex, disability, or family status.

1.1 Project Description

The Golden Glades Interchange (GGI), located in northeastern Miami-Dade County in Florida, is of regional importance providing connectivity to six major principal arterials and/or limited access expressway facilities including Interstate 95 (I-95), SR 826/Palmetto Expressway, Florida's Turnpike, SR 9, SR 7/US 441 and NW 167th Street. The project study area encompasses the GGI and portions of the major transportation corridors that converge at this interchange (see **Figure 1-1**). Given the nature of the GGI, the approximate equivalent length of the ramp and mainline components within the interchange area equate to over ten miles of roadway. The GGI also supports the I-95 Express Lanes System and the Golden Glades Multimodal Facility, which provides access to inter-county transit service including the existing GGI to Downtown Miami-Dade express bus service. The GGI has a direct impact on inter-county travel between Miami-Dade, Broward and Palm Beach Counties and is the backbone for the transportation of goods and services, as well as passenger trips in the northeast region of Miami-Dade County. This interchange is bordered by the City of Miami Gardens to the north and west, the City of North Miami Beach to the east and the Golden Glades Census Designated Place (CDP) and City of North Miami to the south. The South Florida Rail Corridor (SFRC) also traverses the interchange area.

Currently, there is no dedicated system-to-system connection from SR 826/Palmetto Expressway eastbound to I-95 northbound. The existing network connection for this system-to-system movement includes the use of surface streets with tight radii, traffic signals, and weaving segments that considerably slow down traffic through this interchange. In addition, southbound Florida's Turnpike connects to I-95 southbound via a two-lane ramp that transitions to a single lane prior to merging with the SR 826/Palmetto Expressway eastbound to southbound movement. The lane drop combined with weaving movements from SR 826/Palmetto Expressway has resulted in peak period backups that extend beyond the Florida's Turnpike Golden Glades Mainline Toll Plaza.



Figure 1-1 Project Study Area

Over the years, this interchange and the surrounding multimodal facilities have been studied for the purpose of improving traffic operations and increasing user benefits by reducing congestion, increasing connectivity and improving travel delay caused by the circuitous routes in existence today. The FDOT District Six has also been evaluating, and in some cases implementing, modifications to existing ramp configurations to improve traffic operations within the GGI. This is evident by the improvements recently completed at the I-95 northbound ramps to Florida's Turnpike and westbound SR 826/Palmetto Expressway (FPID: 415456-4) and other planned operational and safety improvements along various interchange ramps (FPID: 425637-1 & 429134-1).

This GGI Project Development and Environment (PD&E) Study will focus on the development and evaluation of alternatives for a new system-to-system connection from SR 826/Palmetto Expressway eastbound to I-95 northbound and the feasibility of increasing the capacity of the southbound movement of the Florida's Turnpike to I-95 southbound to address traffic operations and safety issues and enhance multimodal (transit and freight) use. The study will also accommodates the connectivity of a potential express lanes system for SR 826/Palmetto Expressway and how it will connect to the existing I-95 Express Lanes system. The express lanes along SR 826/Palmetto Expressway are currently being evaluated under a separate adjacent PD&E Study (FPID: 418423-1-22-01). The PD&E concepts developed will be utilized to support the express lanes concepts being developed under the SR 826/Palmetto Expressway mainline PD&E Study, as well as to establish an Ultimate Master Plan for the interchange.

1.2 Purpose and Objectives

The primary purpose of this project is to provide a system-to-system connection for the SR 826/Palmetto Expressway eastbound to I-95 northbound movement and to improve the Florida's Turnpike southbound to I-95 southbound connection in order to address traffic operations and safety issues and enhance multimodal use for both transit and freight. The ultimate phase will evaluate a system-to-system connection between new express lanes on SR 826/Palmetto Expressway and the existing I-95 Express Lanes system. It also considers a direct future connection from southbound Florida's Turnpike to the southbound I-95 Express Lanes. The feasibility of express lanes along SR 826/Palmetto Expressway is currently being evaluated under a separate adjacent PD&E Study (FPID: 418423-1-22-01, ETDM #11241). In addition, interim operational improvements will also be identified within the GGI to be developed as integral components of an Ultimate Master Plan to be established for this interchange. The overall objectives of this PD&E Study include the following elements:

- Improve critical access to the Strategic Intermodal Systems (SIS) Facilities, Freight Activity Centers, Local and Regional Businesses / Hubs of Economic Importance
- Enhance safety, mobility and circulation

- Incorporate express lanes, bus rapid transit and multimodal options
- Address Transportation Systems Management and Operation concerns
- Address operational and physical deficiencies of the interchange
- Establish an Ultimate Master Plan
- Incorporate anticipated improvements into the Local Comprehensive Plan
- Maximize operational benefits with limited funds through a Master Plan
- Develop an implementation program
- Obtain Location Design Concept Acceptance (LDCA) from FHWA for the Interim Improvements

1.3 Need for the Project

1.3.1 Transportation Demand

The GGI connects major freeways and arterials including I-95, SR 826/Palmetto Expressway, Florida's Turnpike, SR 9, SR 7/US 441 and NW 167th Street. It carries over 400,000 vehicles per day and has a direct impact on inter-county travel between Miami-Dade, Broward and Palm Beach Counties. It is the backbone for the transportation of goods and services, as well as passenger trips in the northeastern region of Miami-Dade County. The GGI also supports the I-95 Express Lanes system and the Golden Glades Multimodal Facility, which provides access to inter-county transit service including the existing GGI to Downtown Miami-Dade express bus service.

In the last five decades, Miami-Dade and Broward counties have experienced significant population growth from 935,047 persons and 333,946 persons in 1960 to 2,496,435 persons and 1,748,066 persons in 2010, respectively. This represents an average annual growth rate of 1.98% for Miami-Dade County and 3.37% for Broward County. The rapid population growth has resulted in a significant increase in surface transportation demand, particularly along the major freeways and arterials linking the three counties. The population of Miami-Dade County is projected to increase by approximately 18% from 2010 to 2035 while that of Broward County is projected to increase by 11% within the same period (Source: Bureau of Economic and Business Research). As the population in these counties increase over time, transportation demand will continue to grow thereby increasing the amount of vehicular traffic using the interchange for both local and regional trips.

1.3.2 Capacity



Extended queues on SR 826 EB to I-95 NB

The GGI interchange study area is located within the City of Miami Gardens Transportation Concurrency Management Areas (TCMA) as well as the Transportation Concurrency Exemption Area / Urban Infill Area (TCEA/UIA) established by the City of North Miami Beach. These transportation concurrency areas influence the Level of Service (LOS) requirements and standards adopted for the roadway links within the GGI interchange study area. Based on field observations as well as results from the previous planning study prepared by the District Six Planning Department, the existing roadway capacity within the interchange study area is deficient at several locations along SR 826/Palmetto Expressway eastbound, Florida's Turnpike southbound, SR 7/US 441, SR 9 and I-95 at merge, diverge, weave and/or intersection locations within the interchange area. Queues at these deficient locations extend upstream, creating additional mobility issues at nodes that would otherwise operate at acceptable levels of service. The SR 826/Palmetto Expressway eastbound to I-95 northbound and the Florida's Turnpike southbound to I-95 southbound movements are the two most critical links that are currently experiencing heavy congestion during the peak hours with insufficient link capacity. Currently, there is no dedicated system-to-system connection from SR 826/Palmetto Expressway eastbound to I-95 northbound. The existing network connection for this system-to-system movement includes the use of surface streets with tight radii, traffic signals, and weaving segments that considerably slow down traffic through this system interchange. In addition, the Florida's Turnpike's ramp to I-95 southbound is currently two lanes that transitions to a single lane prior to the merge with SR 826/Palmetto Expressway eastbound to I-95 southbound movement. The lane drop combined with weaving movements from SR 826/Palmetto Expressway has resulted in peak period backups that extend beyond the Florida's Turnpike Golden Glades Mainline Toll Plaza. The congestion has also contributed to a significant number of crashes in the southbound direction in the vicinity of the toll plaza.



Weaving condition between NB Florida's Turnpike and NB SR 7/I-95 Traffic

Over the years, this interchange and the surrounding multimodal facilities have been studied for the purpose of improving traffic operations and increasing user benefits by reducing congestion, increasing connectivity

and improving travel delay caused by the circuitous routes in existence today. FDOT District Six has also been evaluating, and in some cases implementing, modifications to existing ramp configurations to improve traffic operations within the GGI. Recent improvements include the auxiliary lane addition for I-95 northbound connector to Florida's Turnpike and westbound SR 826/Palmetto Expressway (FPID: 415456-4) and other planned operational and safety improvements along various interchange ramps (FPID: 425637-1 & 429134-1). However, these projects have not alleviated the chronic congestion on the SR 826/Palmetto Expressway eastbound to I-95 southbound and the Florida's Turnpike southbound to I-95 southbound movements during the peak periods.

The proposed improvements at the GGI will provide additional capacity to accommodate the anticipated transportation demand, improve connectivity for traffic destined to northbound and southbound I-95 from SR 826/Palmetto Expressway and Florida's Turnpike respectively and ultimately improve safety, circulation and mobility for both commuter and multimodal (transit and freight) travel within both local and regional transportation networks.

1.3.3 Plan Consistency

The SR 826/Palmetto Expressway eastbound to I-95 northbound ramp connection is identified in the Miami-Dade County Metropolitan Planning Organization (MPO) 2035 LRTP Cost Feasible Plan (CFP) with funding for the planning, design and construction phases. It is also identified in the Miami-Dade County 2014 Transportation Improvement Program (TIP) (FPID: 428358-1) with funding for the design phase in 2014 and the construction phase in 2017. The proposed improvement along the Turnpike Connector to I-95 southbound is also identified in the Miami-Dade County MPO 2035 LRTP CFP Amendment, the Miami-Dade County 2014 TIP (FPID: 423373-2) with funding for the design phase in 2015 and the construction phase in 2017. The right of way phase is partially funded for 2015 and 2016.

The project is consistent with the Miami-Dade County Comprehensive Development Master plan (CDMP) as amended and the 2009 update of the MPO-approved Congestion Management System, which is federally required as an integral part of the metropolitan planning process in Transportation Management Areas under the Safe, Accountable, Flexible, Efficient, Transportation Equity Act-A Legacy for Users (SAFETEA-LU). Additionally, the project is included in the FDOT 2035 SIS CFP, as well as the 2013 State Transportation Improvement Program (STIP) with funding for the design and construction phases. FDOT will coordinate with Miami-Dade County during the next update of the LRTP to include the Turnpike Connector improvements.

1.3.4 Social Demands and Economic Development

Evacuation and Emergency Response: The GGI serves as a critical transportation hub for the evacuation network established by the Florida Division of Emergency Management for Miami-Dade County. It plays an important role in facilitating traffic movement during emergency evacuation periods between three freeways (I-95, SR 826/Palmetto Expressway, and Florida's Turnpike) and two major principal arterials (SR 9 and SR 7/US-441), all of which are designated evacuation routes for Miami-Dade County residents. In addition, the GGI provides access to the emergency entrance for the Jackson North Medical Center.

Economic Development: The GGI is a regional transportation hub linking residents and businesses of Miami-Dade and Broward Counties, with many residents commuting between these two counties for work. According to the 2000 Census, approximately 6.5% of Miami-Dade residents commute to Broward County, while 15.5% of Broward County residents and 1% of Palm Beach County residents commute to Miami-Dade County. The proposed improvements will enhance mobility within the GGI and promote economic growth and development within the three counties, as well as the South Florida region by reducing congestion and enhancing the movement of goods and services.

The City of Miami Gardens has identified planned developments including two residential developments (Legacy Pointe-Sola Bella and Lakeside Point Townhomes) adjacent to the interchange area. In addition, a 40 acre world-class water park is proposed to be developed adjacent to the Sun Life Stadium with direct access to the Florida's Turnpike. These future potential residential and commercial developments will increase the traffic demand through this interchange and exacerbate the current congestion problem. The proposed improvements within the GGI will improve mobility and support the economic development of the area, as well as stimulate major construction activities that will contribute to economic growth within the South Florida Region.

1.3.5 System Linkage

The GGI is a vital transportation hub within southeast Florida, providing an inter-regional connection for Miami-Dade and Broward Counties. It serves as a confluence point for five major regional transportation corridors SR 826/Palmetto Expressway, I-95, Florida's Turnpike, SR 7/US 441 and SR 9. SR 826/Palmetto Expressway is one of the principal north-south corridors across the heart of Miami-Dade County which feeds traffic to Florida's Turnpike and I-95 via the GGI. The I-95 corridor carries local residents and serves millions of regional travelers along the eastern seaboard from Maine to Miami. The Florida's Turnpike mainline begins at the GGI and extends northwest linking Miami to Orlando. The two major arterials, SR 9 and SR 7/US 441, also funnel tens of thousands of commuters daily from neighboring residential and commercial areas into the GGI to connect to the expressways. These regional transportation corridors constitute major elements of the surface transportation system in Southeast Florida and facilitate the movement of goods

and people between airports, seaports, and major employment centers, residential and recreational areas.

The GGI also provides connections to several SIS highways and hubs. Established by the Florida Legislature in 2003, the SIS is a network of high-priority transportation facilities that are the workhorses of Florida's air, water and ground transportation system. SR 826/Palmetto Expressway, I-95 and Florida's Turnpike are designated as SIS highways. The GGI Park-n-Ride facility located within the interchange area is a SIS intermodal facility which provides connections to South Florida Regional Transportation Authority (SFRTA) commuter trains; Miami-Dade Transit (MDT) express and local buses, Broward County Transit (BCT) express and local buses, Greyhound intercity buses and carpool commuters. In addition, the interchange facilitates connections to the Miami International Airport and the Fort Lauderdale-Hollywood International Airport, both designated SIS commercial service airport hubs, via I-95.

The GGI is also the current end terminus of the I-95 Express lanes in Miami-Dade County and will serve as a begin terminus for the proposed I-95 Express lanes in Broward County. The interchange will also facilitate connection between the potential express lanes along SR 826/Palmetto Expressway and the I-95 Express lanes along I-95.

Consequently, the proposed capacity and mobility improvements within the GGI are critical in order to improve access to these major transportation facilities, as well as enhance mobility within the South Florida Region.

1.3.6 Traffic Safety

A review of crash data for the 2006 to 2010 period indicates that 3,238 crashes occurred along the roadway segments within the study area. A total of 1,496 injury and 18 fatal crashes occurred during the five-year analysis period with 19 fatalities; ten of these fatal crashes were located along the existing SR 826/Palmetto Expressway eastbound mainline and ramp to I-95 northbound and southbound. In addition, four freeway segments, three arterial segments and four signalized intersections are identified in the FDOT's list of High Crash Locations (HCL). Refer to Section 2.9.4 for the list of High Crash Locations.

The predominant crashes are rear-end and sideswipe collisions which account for 44% and 18% respectively of the total crashes. Crashes of this type are typically attributed to the congested conditions along the interchange ramps and terminals during the peak periods. In addition, merging and weaving maneuvers between ramps due to the relatively short weaving distance between connecting ramps appear to be contributory causes for the frequent angle and sideswipe crashes.

In general, the proposed direct connection flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound as well as the widening of the Turnpike Connector southbound lanes will alleviate traffic congestion and improve mobility for these critical

movements. This will potentially mitigate the crash rate and enhance overall public safety within the interchange.

1.3.7 Roadway Deficiencies

The GGI was originally constructed in 1964 consistent with the 1954 American Association of State Highway and Transportation Officials (AASHTO) publication "A Policy on Geometric Design for Rural Highways" (also known as the Blue Book) that was in place when the facility was designed in the early 1960s. In almost five decades of its existence, the only major geometric changes that have occurred are the construction of the flyover ramps to the Golden Glades Park-n-Ride Facility in the 1970s and the construction of the elevated HOV lanes in 1995. As such, several geometric elements such as vertical clearance, sight distance, curve length, superelevation and shoulder widths, do not meet the FDOT design standards (2013) or AASHTO requirements. The proposed project would evaluate these deficiencies and provide recommendations for roadway improvements that satisfy the design standards and enhance safety within the project area.

1.3.8 Modal Interrelationships

The GGI encompasses the Golden Glades Intermodal Center located in the southwest quadrant, which consists of Park-n-Ride Lots, an adjacent vacant parcel east of the Park-n-Ride Lot, and the connecting roadways and ramps. The Park-n-Ride Lots currently accommodates the following transportation modes: SFRTA commuter trains, MDT express and local buses, BCT express and local buses, Greyhound intercity buses, and carpool commuters. The FDOT plans to redevelop the existing Golden Glades Park-n-Ride Lots into a Multimodal Facility with improved access. The proposed improvements will facilitate this goal by removing the SR 826/Palmetto Expressway eastbound to I-95 northbound traffic from SR 7/US 441. This will provide additional capacity for the multimodal traffic along SR 7/US 441, thereby improving access and mobility to the multimodal facility.

The Miami-Fort Lauderdale region is creating a 21-mile express-lane facility on I-95, between I-395 and I-595, with a long-term goal of providing a network of express lanes throughout the region. On-going studies are also considering extending the express lanes further north to the Martin County Line. The GGI will serve as an access points to three express lane systems: 1) the existing I-95 Express lanes in Miami-Dade County, 2) the proposed I-95 Express lanes in Broward County and 3) the future potential express lanes along SR 826/Palmetto Expressway currently under evaluation. The express lane network will also serve as the back-bone of a proposed bus rapid transit (BRT) system with express feeder bus services running north-south along SR 7/US 441 and SR 817 (University Drive), and east-west along SR 820 (Hollywood/Pines Boulevard). Therefore, the proposed improvements will benefit multimodal uses and congestion management throughout the South Florida region.

The Miami-Dade Parks and Open Space Master Plan and North-Dade Greenways Master Plan identify the opportunity to develop the Gold Coast Trail. This trail consists of a 20 mile path occupying the easement of the SFRC. It provides an opportunity to create a multimodal access point at the GGI Park-n-Ride facility. The proposed interchange improvements will provide a clear envelope when placing bridge piers in order to accommodate the future planned trail.

1.4 Description of Proposed Action

The Recommended Alternative (Interim Build Alternative 4) involves the construction of a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound. A new flyover ramp for the SR 826/Palmetto Expressway eastbound to I-95 northbound will also be provided. The new flyover ramp begins from the SR 826/Palmetto Expressway eastbound to I-95 southbound ramp and continues over the Turnpike Connector and underneath the I-95 Express Flyover Ramps. It then goes over I-95 and merges with the existing SR 7/US 441 northbound to I-95 northbound ramp before joining I-95 using the existing on-ramp alignment.

The Recommended Alternative maintains the NW 12th Avenue on-ramp which provides access from the Sunshine Industrial Park to I-95 southbound and northbound with connectivity to Florida's Turnpike through SR 7/US 441. In order to eliminate the current weaving issue along the SR 826 mainline, the NW 12th Avenue on-ramp will not connect directly to the SR 826 mainline. Instead, it will be relocated and connected to the three lane off-ramp to I-95 northbound and southbound as a barrier separated auxiliary lane. The provision of the NW 12th Avenue on-ramp will require the removal of the eastbound frontage road east of NW 10th Avenue. The warehouse property on the southwest quadrant of the interchange within the Sunshine Industrial Park will be acquired due to the removal of the only access road for this property. The acquisition of this property will also be used to improve he geometry of the ramp from eastbound SR 826 to southbound I-95 as well as provide additional stormwater retention swales.

The Turnpike Connector southbound lanes will be reconstructed to shift the alignment to the west in order to accommodate a future direct express lane connection from the Florida's Turnpike southbound to the I-95 southbound express lanes. The Turnpike Connector southbound lanes will also be widened to accommodate two lanes from the Florida's Turnpike and three lanes from SR 826 eastbound to I-95 southbound. In order to increase the weaving distance along the Turnpike Connector southbound lanes, the off-ramp to SR 7/US 441 will be relocated approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection. This will require the acquisition of several commercial properties between SR 7 and I-95 north of the C-9 Biscayne Canal and the existing SR 7 off-ramp from the southbound Turnpike Connector to I-95.

The reconstruction along the Turnpike Connector will require widening of the Turnpike Connector southbound bridge over SR 826 (870601) and replacement of the southbound bridges over the SFRC (870159) and SR7/US 441 (870045). An additional auxiliary lane is also provided along I-95 southbound from the GGI to NW 151st Street to provide additional capacity. This will require widening of the I-95 southbound bridge over the C-8/Biscayne Canal (870348). The entrance to the I-95 southbound express lanes will be moved 300-ft south to accommodate weaving maneuvers from SR 826 and Florida's Turnpike to the I-95 Express southbound lanes.

Texas U-Turns (matching the existing bridge vertical clearances) will be provided underneath the SR 826/Palmetto Expressway mainline bridges over NW 17th Avenue and NW 12th Avenue to enhance access and mobility for the adjacent residents and the Sunshine Industrial Park. Along the SR 826/Palmetto Expressway westbound frontage road, the two through lanes from NW 12th Avenue are maintained. In addition, exclusive westbound right turn and left turn lanes are provided at the NW 17th Avenue westbound ramp terminal. On the eastbound frontage road, the two-way segment between NW 17th Avenue and NW 16th Court will be converted into a one-way road and the intersection at NW 16th Court will also be converted to a right-in right-out configuration.

The existing unsignalized single left turn lane from SR 826/Palmetto Expressway eastbound to Florida's Turnpike northbound will be upgraded to a signalized intersection with double left turn lanes. This will require provision of an auxiliary lane along SR 826/Palmetto Expressway eastbound from the Turnpike Connector overpass to the NW 7th Avenue intersection and widening of the Turnpike northbound on-ramp to accommodate the additional left turn lane. Capacity improvements are also provided along the westbound frontage road between NW 12th Avenue and NW 17th Avenue. An additional northbound left turn lane is also provided at the NW 2nd Avenue and NW 167th Street intersection to improve both the intersection operations and traffic flow along NW 167th Street.

Florida Gas Transmission (FGT) currently owns and operates two gas transmission mains along Florida's Turnpike and SR 826/Palmetto Expressway connecting to local distribution company facilities in the Opa-Locka area. These mains consist of an 18-inch and a 24-inch installed in an easement within Florida's Turnpike which terminates approximately 145 feet north of the SR 826/Palmetto Expressway. The portions of the gas mains which continue to the west within the SR 826/Palmetto Expressway were originally installed and granted a permit by the Florida Department of Transportation allowing them to be placed within FDOT's Right-of-Way. The 24-inch FGT gas main runs along the westbound NW 167th Street while the 18-inch FGT gas main crosses beneath SR 826/Palmetto Expressway and runs along eastbound NW 167th Street within the embankment between SR 826/Palmetto Expressway and NW 167th Street.

The proposed widening of the SR 826/Palmetto Expressway mainline together with the construction of a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound and the relocation of the NW 12th Avenue on-ramp will require

the relocation of the existing 18-inch gas main along the south side of SR 826/palmetto Expressway to a more accessible location. As part of this PD&E Study, several potential routes were identified and evaluated for the relocation of the existing 18-inch gas main (Refer to the **Florida Gas Transmission Utility Relocation Assessment Memorandum**). Three routes were recommended for further evaluation during the final design phase of this project. The FDOT will work with Florida Gas Transmission (FGT) to address the final disposition of the 18-inch gas main, prepare the necessary engineering and environmental documentation for approval and obtain funding for the construction and operation of the new 18-inch gas line.

1.5 Commitments and Recommendations

The following commitments and recommendations have been made by the Florida Department of Transportation (FDOT) and will be adhered to during the final design and/or construction phases.

1. The proposed interchange improvements will provide a clear envelope over the South Florida Rail Corridor (SFRC) when placing bridge piers in order to accommodate the future planned Miami-Dade County Gold Coast Trail. Further coordination with Miami-Dade County Park and Recreation staff regarding the status of this proposed greenway will occur during final design.
2. The most current version of the *Standard Protection Measures for the Eastern Indigo Snake* will be included in the construction documents and implemented during construction.
3. The most current version of the *Standard Manatee Conditions for In-Water Work* will be included in the construction documents and adhered to during construction for any canal work.
4. The loss of Wood Stork foraging habitat in the affected stormwater features will be mitigated through construction of new stormwater features within the project area and implementation of construction Best Management Practices (BMPs), or purchase of mitigation credits from an appropriate mitigation bank. This will be coordinated with the US Fish and Wildlife Service (USFWS) during final design.
5. Coordination with the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida will occur to notify them of the results of the Cultural Resources Assessment Survey (CRAS). In addition, the Federal Highway Administration (FHWA) will provide copies of this document to each of the Tribes.
6. The FDOT will carry out a Right of Way and Relocation Program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 as amended by Public Law 100-17).
7. The FDOT will reevaluate the feasibility and reasonableness of noise abatement measures during Final Design if warranted by changes to the project's design.

8. A reassessment of the project corridor for additional sites particularly sensitive to construction noise and/or vibration will be performed during design to ensure that impacts to such sites are minimized.

9. Construction noise and vibration impacts will be minimized by adherence to the controls listed in the latest edition of the FDOT's *Standard Specifications for Road and Bridge Construction*. Coordination between the FDOT and the operators of any construction noise/vibration sensitive locations identified during design will occur, and if applicable, Technical Special Provisions (TSP) developed for the project's contract package in order to ensure that impacts to such businesses are minimized. If construction activities are to occur near the Jackson North Medical Center, alternative construction methods should be considered to reduce construction-related noise or vibration. These methods could include the following:

    a. Avoid impact pile-driving where possible in vibration-sensitive areas through the use of drilled piles or a sonic/vibratory pile driver where the geological conditions permit their use.

    b. Avoid vibratory rollers and packers near sensitive areas.

    c. Select demolition methods not involving impact, where possible. For example, sawing bridge decks in sections that can be loaded onto trucks results in lower vibration levels than impact demolition by pavement breakers.

10. Construction activities for the proposed action may potentially have short-term air quality impacts within the immediate vicinity of the project. Construction activities may generate temporary increases in air pollutant emissions in the form of dust from earthwork and unpaved roads and smoke from open burning. Such emissions and potential impacts will be minimized by adherence to all applicable State and local regulations and to the latest edition of the FDOT *Standard Specifications for Road and Bridge Construction.*

11. The FDOT is committed to coordinate with the appropriate regulatory agencies as required throughout the design and permitting phases of the project, as well as during and after construction. Any indirect (secondary) effects to Other Surface Waters (OSW) located within and outside the project limits, which include turbidity from construction activities, sedimentation resulting from erosion associated with soil disturbance, use of heavy equipment, and staging or stockpiling of materials and equipment, will be minimized. The FDOT will comply with the current National Pollutant Discharge Elimination System (NPDES) permit criteria, including preparation of a Stormwater Pollution Prevention Plan (SWPPP). Also, Best Management Practices (BMPs) typically associated with road and bridge construction projects will be implemented and maintained throughout all construction activities.

12. Water quality impacts resulting from erosion, sedimentation, and turbidity reduction will also be controlled through measures outlined in the latest edition of the FDOT *Standard Specifications for Road and Bridge Construction.* The removal of structures and debris will be in accordance with local and State regulation agencies permitting this operation. The Contractor is responsible for methods of controlling pollution on haul roads, in

borrow pits, other material pits, and areas used for disposal of waste materials from the project. Temporary erosion control features as specified in Section 104 of the FDOT *Standard Specifications for Road and Bridge Construction* may consist of temporary grassing, sodding, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms.

13. The FDOT will coordinate with Miami-Dade County Public Schools regarding the project schedule at least six months prior to construction, to avoid disruption to school bus transportation routes.

14. The sequence of construction will be planned in such a way as to minimize traffic delays. The project will involve the development and use of a Maintenance of Traffic (MOT) Plan. This Plan will include traffic management and signage, access to local businesses and residences, detour routes, public notification of alternate routes, emergency services coordination and project scheduling. The local news media will be notified in advance of road closings and other construction-related activities, which could excessively inconvenience the community so that business owners, residents, and/or tourists in the area can plan travel routes in advance. A sign providing the name, address, and telephone of an FDOT contact person will be displayed on-site to assist the public in obtaining answers to questions or complaints about project construction.

15. The FDOT will coordinate with both Miami-Dade County Transit (MDT) and Broward County Transit (BCT) regarding any temporary deviation of existing bus routes during the construction phase of this project.

16. The FDOT will coordinate with the City of Miami Gardens to participate in a Job Fair in order to facilitate interaction between potential contractors and small and/or disadvantaged business enterprises and encourage local participation on the proposed construction project.

17. The Florida Gas Transmission Utility Relocation Assessment memorandum prepared as part of this PD&E Study identified and evaluated several potential routes for the relocation of the existing 18-inch gas main along the south side of SR 826/Palmetto Expressway. Three routes were recommended for further evaluation during the final design phase of this project. The FDOT will work with Florida Gas Transmission (FGT) to address the final disposition of the 18-inch gas main, prepare the necessary engineering and environmental documentation for approval and obtain funding for the construction and operation of the new 18-inch gas line.

2. EXISTING CONDITIONS

2.1 Functional Classification

The roadway network within the project study area is comprised of state roads, county roads and local roads which provide access and traffic circulation within residential, commercial and industrial areas. The Golden Glades Interchange (GGI) is also an important transportation hub within southeast Florida that provides inter-regional connection for Miami-Dade, Broward and Palm Beach Counties. There are six major regional transportation corridors that converge within this interchange and are functionally classified as follows:

- SR 826/Palmetto Expressway (Roadway ID: 87260000, MP 23.00 to 24.708) is functionally classified as an urban freeway/expressway. It is also designated as a Strategic Intermodal System (SIS) highway and part of the Florida Intrastate Highway System (FIHS).
- SR 9A/I-95 (Roadway ID: 87270000, MP 10.90 to MP 14.30) is functionally classified as an urban interstate. SR 9A/I-95 is an integral part of the Strategic Intermodal System (SIS) highway and the Florida Intrastate Highway System (FIHS).
- SR 91/Florida's Turnpike (Roadway ID: 87470000, MP 0.00 to MP 0.584) falls under the roadway functional class of urban freeways/expressways. It is also designated as both a Strategic Intermodal System (SIS) highway and Florida Intrastate Highway System (FIHS) highway.
- SR 7/US 441 (Roadway ID: 87140000, MP 10.48 to MP 11.88) is functionally classified as an urban minor arterial from MP 10.451 to 11.429, and an urban freeway/expressway from MP 11.429 to 11.88 within the interchange. North of the interchange, it is classified as an urban principal arterial. It is designated as a Strategic Intermodal System (SIS) highway within the interchange area between the Park and Ride facility and NW 2nd Avenue.
- SR 9 (Roadway ID: 87240000, MP 13.22 to MP 13.69) falls under the roadway functional class of urban principal arterial from its terminus at NW 27th Avenue to the GGI.
- SR 826/NW 167th Street (Roadway ID: 87170000, MP 0.000 to MP 0.73) is functionally classified as an urban principal arterial from the GGI to its terminus at SR A1A. It is also on the state highway system designated as SR 826.

The street network which provide access to surrounding land uses within the project limits are urban collectors or local roads under the jurisdiction of the municipality they traverse. **Figure 2-1** shows the functional classifications of the different roadways within the project study area. Refer to **Appendix A** for the Straight Line Diagrams of the major transportation corridors within the project study area.



Figure 2-1 Functional Classifications

2.2 Typical Sections

2.2.1 SR 826/Palmetto Expressway

The segment of SR 826/Palmetto Expressway (Roadway ID: 87260000) within the project study area extends approximately 1.71 miles from NW 17th Avenue (MP 23.00) to the intersection with SR 7/US 441 at the GGI (MP 24.708). The existing typical section consists of eight 12-ft travel lanes with four lanes in each direction. The travel lanes in each direction are separated by a fully paved 16-ft median which includes a 2-ft concrete barrier wall and 7-ft inside shoulders. The outside shoulders are 12-ft wide with 10-ft paved in both directions. There are 2-lane frontage roads on each side of the expressway. The existing typical section for the frontage roads consist of two 11.5-ft travel lanes in one direction with 4-ft paved outside shoulder. A 5-ft sidewalk is located adjacent to the right of way line along each frontage road and separated from the travel lanes by a 4-ft sod buffer strip. The design speed for this freeway segment is 60 mph. It reduces to 45 mph as the expressway terminates into an arterial roadway. The posted speed is 55 mph along the expressway segment. **Figure 2-2** shows the existing typical sections along SR 826/Palmetto Expressway.

2.2.2 SR 9A/I-95

The segment of SR 9A/I-95 (Roadway ID: 87270000) within the project study area extends approximately 3.4 miles from Opa-Locka Blvd. (MP 10.90) to Miami Gardens Drive (MP 14.30). From Opa-Locka Blvd. to the GGI, the existing typical section consist of four 11-ft general purpose travel lanes and two 11-ft express lanes in the northbound and southbound directions. The travel lanes in each direction are separated by a concrete barrier wall with varying inside shoulder widths ranging from 5-ft to 12-ft. The outside shoulder widths also vary from 6-ft to 10-ft on southbound and 10-ft on northbound direction and are fully paved. **Figure 2-3** shows the existing typical section along I-95 south of the GGI. The segment of I-95 within the GGI consists of three 12-ft general purpose travel lanes and one 12-ft auxiliary lane in the northbound and southbound directions. The travel lanes in each direction are separated by a 32-ft median which includes a 2-ft concrete barrier wall and 15-ft paved inside shoulders. The outside shoulders are typically 12-ft wide with 10-ft paved. **Figure 2-4** shows the existing typical section along I-95 within the GGI.

The segment of I-95 north of the GGI is currently under construction to convert the existing HOV lanes to express lanes similar to the southern segment (95 Express Phase II). The proposed typical section consists of three 11-ft general purpose travel lanes and two 11-ft express lanes in the northbound and southbound directions. The travel lanes in each direction are separated by a concrete barrier wall with 9-ft inside shoulder width. The outside shoulder widths is typically 12-ft with 10-ft paved. **Figure 2-5** shows the existing typical section along I-95 north of the GGI. The design speed is 60 mph north and south of the interchange and 50 mph within the interchange. The posted speed is 55 mph within the interchange.

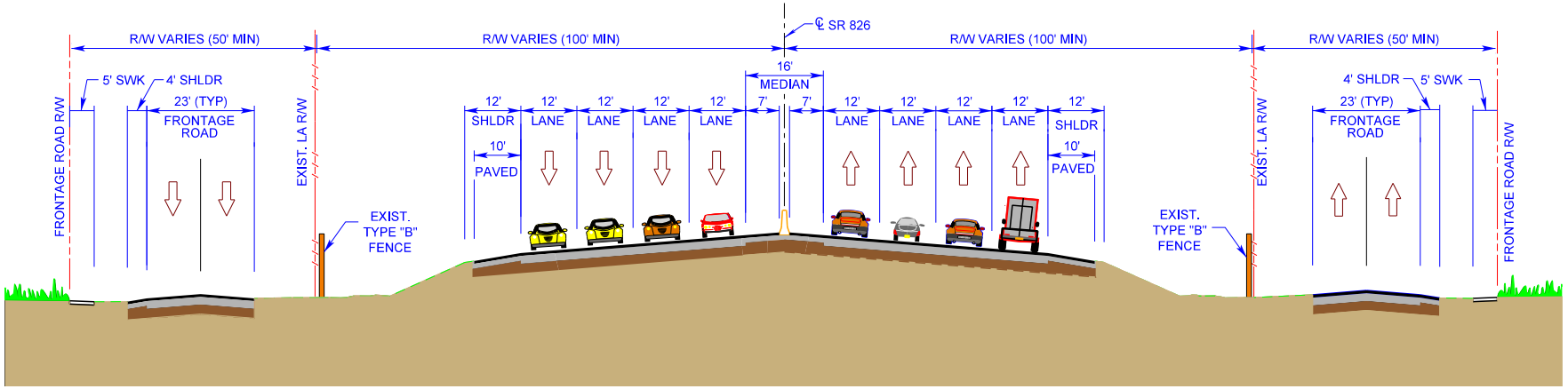


Figure 2-2 Existing Typical Section- SR826/ Palmetto Expressway

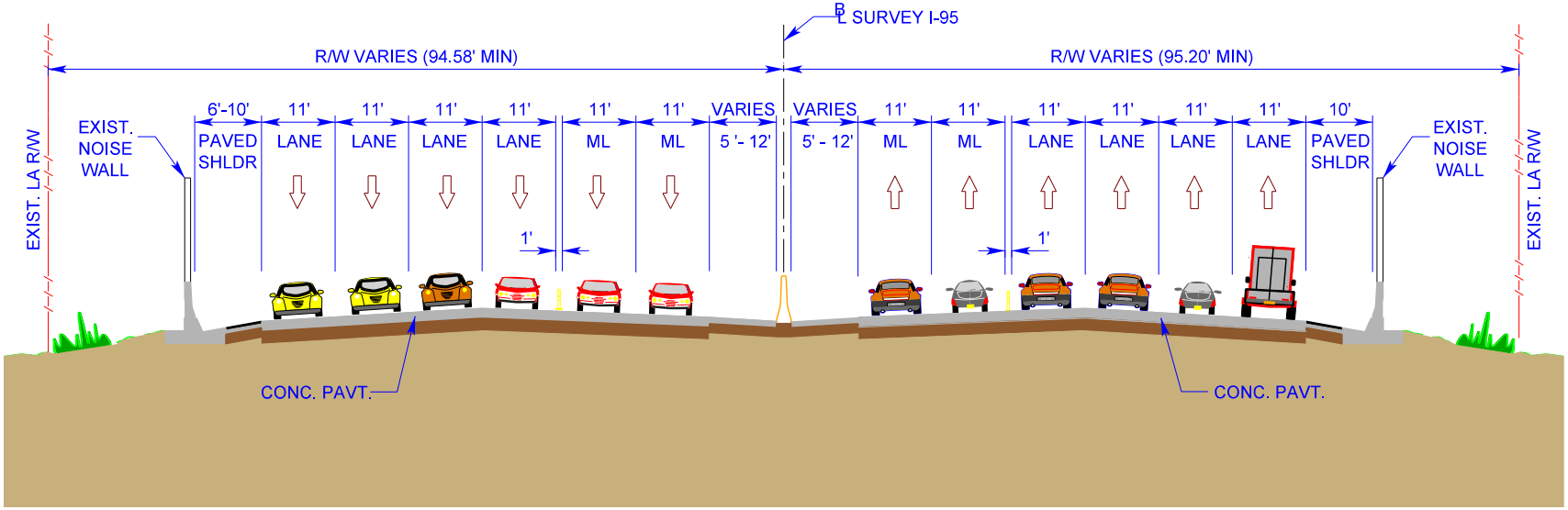


Figure 2-3 Existing Typical Section- I-95 South of Golden Glades Interchange

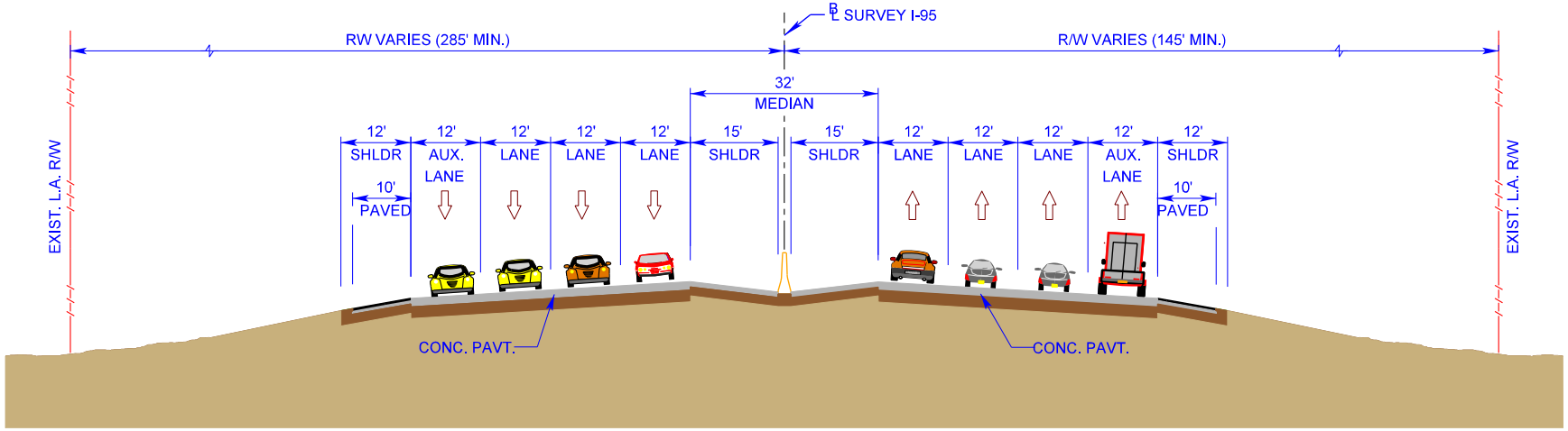


Figure 2-4 Existing Typical Section- I-95 within Golden Glades Interchange

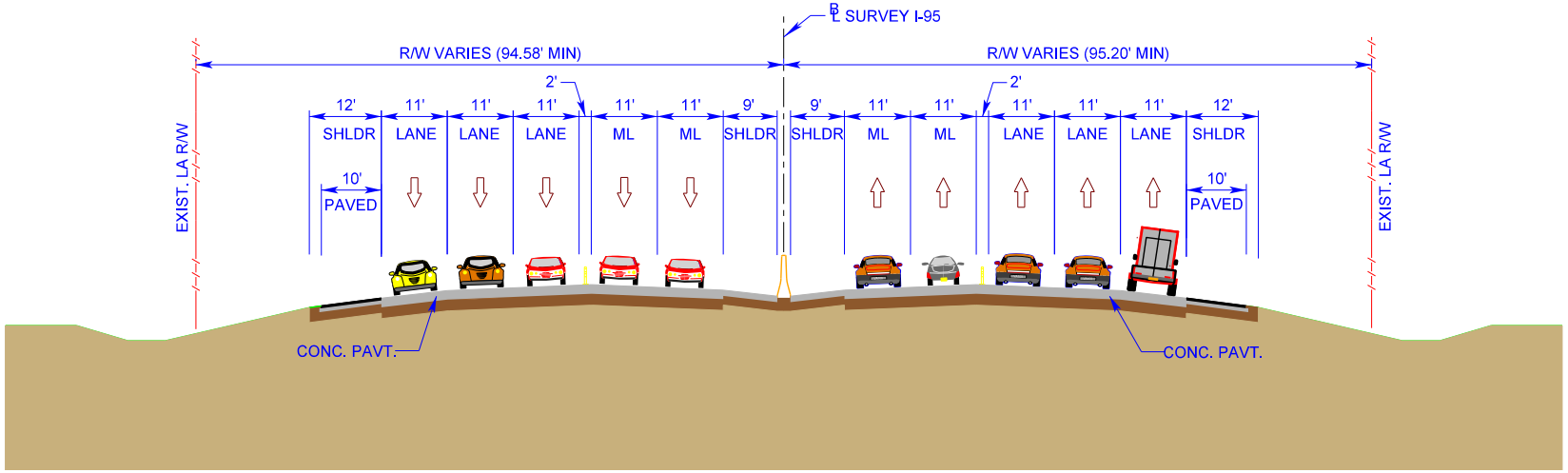


Figure 2-5 Existing Typical Section- I-95 North of Golden Glades Interchange

2.2.3 Florida's Turnpike

The Florida's Turnpike Mainline and Connector Ramp (Roadway ID: 87470000) within the project study area extend approximately 0.58 miles from SR 826/Palmetto Expressway and I-95 (MP 0.00) to the Golden Glades Toll Plaza (MP 0.584). The Florida's Turnpike mainline segment north of the GGI is currently under construction to convert the existing mixed cash toll plaza to an all-electronic toll plaza (AET Phase 4A) by 2014. The proposed mainline typical section under this project consists of three 12-ft travel lanes and one 12-ft auxiliary lane in the northbound and southbound directions. The travel lanes are separated by a concrete median barrier with 12-ft paved inside shoulders. The outside shoulders are 12-ft wide with 10-ft paved in both directions. The design and posted speed on the Florida's Turnpike mainline is 70 mph. **Figure 2-6** shows the existing typical sections along Florida's Turnpike Mainline.

Within the GGI area, the Turnpike Connector ramp connects Florida's Turnpike Mainline with I-95. The existing typical section consists of two 12-ft general purpose travel lanes and one 12-ft auxiliary travel lane in the northbound and southbound directions. The travel lanes in each direction are separated by a 32-ft median with guardrails on both sides. The inside shoulders are 10-ft wide and fully paved. The outside shoulders are typically 12-ft wide with 10-ft paved. At locations with shoulder gutter, the outside shoulders are 15.5-ft wide with 8-ft paved. The design and posted speed on the Turnpike Connector ramp is 45 mph. **Figure 2-7** shows the existing typical sections along Turnpike Connector Ramp.

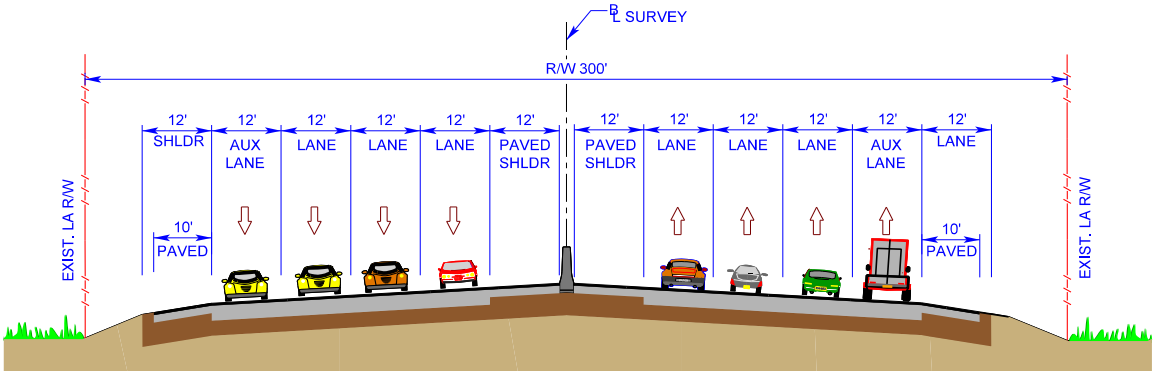


Figure 2-6 Existing Typical Section- Florida's Turnpike Mainline

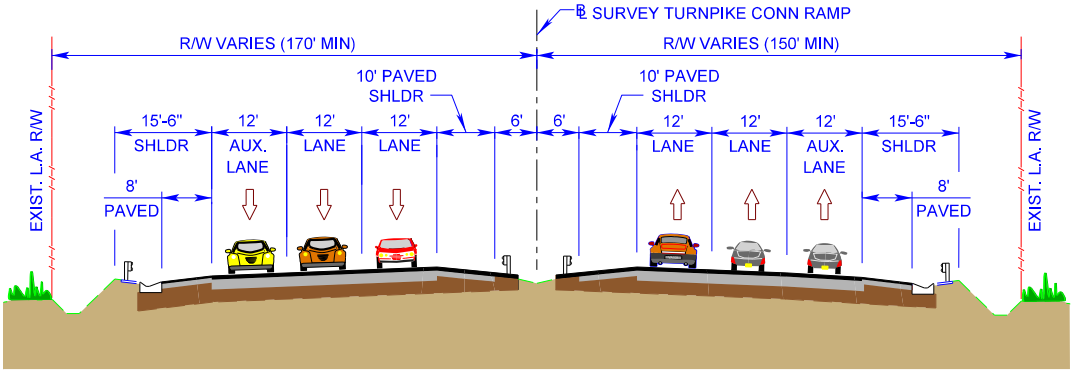


Figure 2-7 Existing Typical Section- Turnpike Connector Ramp

2.2.4 SR 7/US 441

SR 7/US 441 (Roadway ID: 87140000) within the project limits extends approximately 1.4 miles from north of the Biscayne Canal (MP 10.48) to NW 172nd Street (MP 11.88). The segment south of the GGI between the Biscayne Canal and the Park and Ride entrance generally consists of three 11-ft travel lanes northbound and southbound directions with curb and gutter on both sides of the roadway. The travel lanes in each direction are separated by an 18-ft raised median. A 5-ft sidewalk is located adjacent to the right of way line on each side of the roadway and separated from the travel lanes by a 4-ft sod buffer strip. **Figure 2-8** shows the existing typical section of SR 7/US 441 south of GGI.

Within the GGI area, the existing typical section generally consists of two 12-ft travel lanes with 6-ft inside shoulder (2-ft paved) and 7-ft outside shoulder (5-ft paved). **Figure 2-9** show the existing typical section along SR 7/US 441 within GGI.

The design speed along SR 7/US 441 within the project study area varies from 35- 45 mph. The posted speed limit also varies from 30-40 mph.

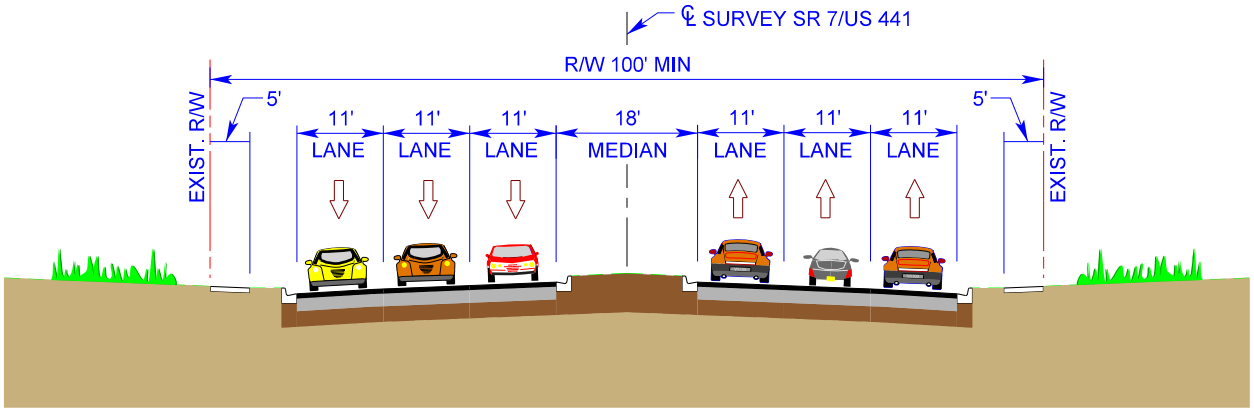


Figure 2-8 Existing Typical Section- SR 7/ US 441 south of GGI

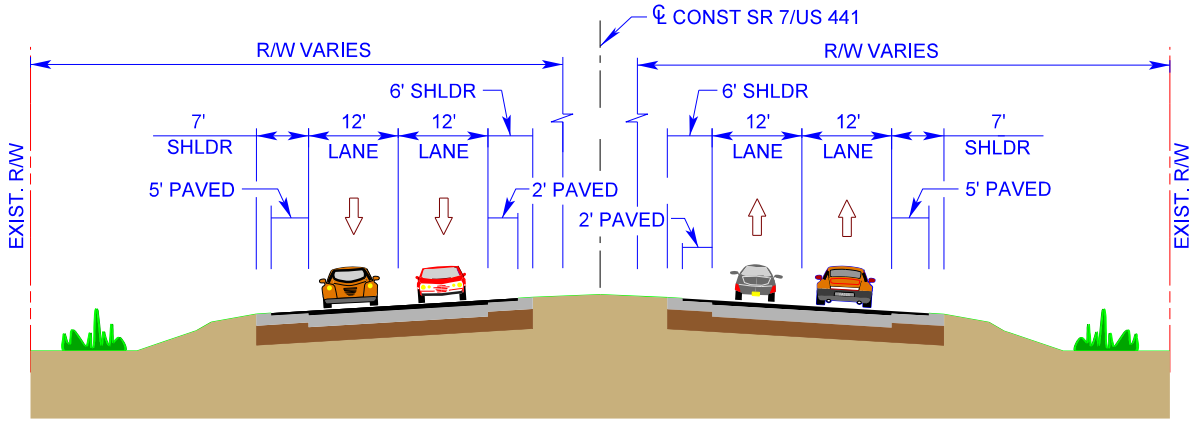


Figure 2-9 Existing Typical Section- SR 7 / US 441 within GGI

2.2.5 SR 9

SR 9 (Roadway ID: 87240000) within the project study area extends approximately 0.47 miles from the Golden Glades Park-and-Ride lot (MP 13.22) to merge at SR 7/US 441 (MP 13.69). It consists of two 12-ft travel lanes in the northbound and southbound directions, as shown in **Figure 2-10**. The travel lanes in each direction are separated by a grassed median with varying width from 40-50-ft. The inside shoulders are 4-ft wide with 2-ft paved. The outside shoulders are typically 10-ft wide with 4-ft paved. The posted speed limit along SR 9 is generally 50 mph within the project study area. No design speed information was found from the existing plans available.

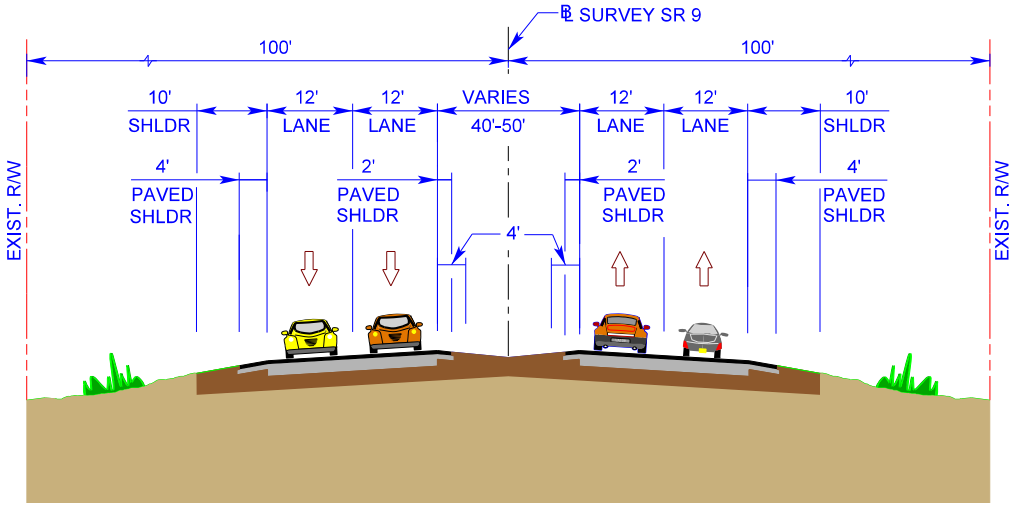


Figure 2-10 Existing Typical Section- SR 9

2.2.6 NW 167th Street

NW 167th Street (Roadway ID: 87170000) within the project study area extends approximately 0.728 miles from the NW 7th Avenue Extension west of the Turnpike Connector ramp (MP 0.00) to North Miami Avenue (MP 0.728). It is a six lane divided urban arterial with three 12-ft travel lanes in the eastbound and westbound directions, as shown in **Figure 2-11**. The travel lanes in each direction are separated by a 15.5-ft raised median. The roadway has Type F curb and gutter along both sides of the pavement with 5-ft wide sidewalks on both sides adjacent to the curb and gutter. The posted speed limit along this segment of NW 167th Street is 35 mph. No design speed information was found from the existing plans available.

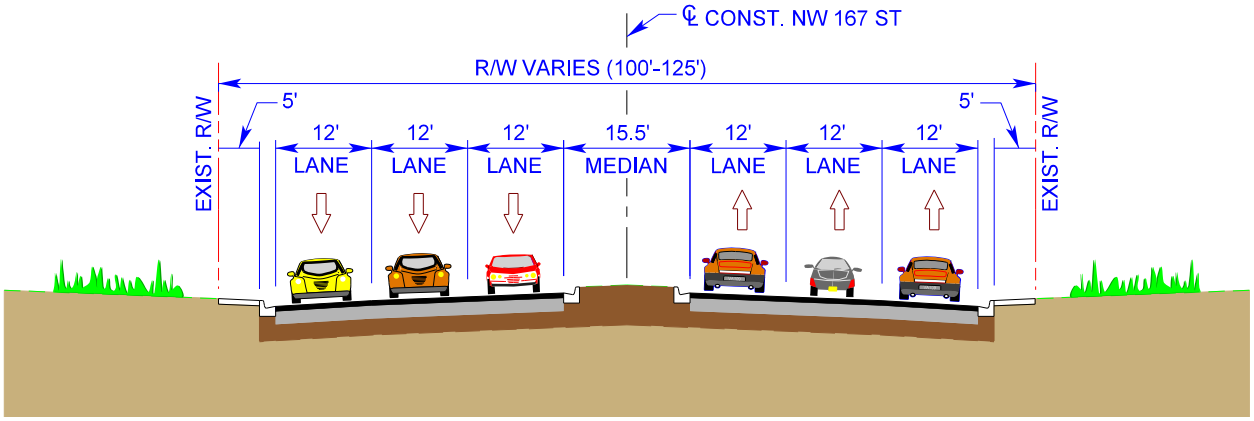


Figure 2-11 Existing Typical Section- NW 167th Street

2.3 Pedestrian and Bicycle Facilities

Florida Statute Title XXIII, Chapter 316, Section 316.091, prohibits pedestrians and bicycles from operating and/or traveling on any limited access facilities. As such, there are no pedestrian or bicycle facilities along the expressways (I-95, SR 826/Palmetto Expressway and Florida's Turnpike) and ramp connectors within the interchange area. Some of the non-limited access roadways within the study area have pedestrian facilities as listed below:

- The frontage roads along SR 826/Palmetto Expressway within the study area have 5-ft sidewalks adjacent to the northern and southern right of way lines along the frontage roads with the exception of the westbound frontage road between NW 15th Avenue and NW 17th Avenue.
- NW 12th Avenue has sidewalks along both sides of the roadway. The segment north of SR 826/Palmetto Expressway has a 5-ft sidewalk with a landscape buffer while the segment south has 6-ft sidewalks adjacent to the roadway curb and gutter.
- The segment of NW 17th Avenue north of SR 826/Palmetto Expressway has 5-ft sidewalks on both sides of the roadway. The southern segment has no existing sidewalks.
- Along SR 7/US 441, 5-ft sidewalks exist along both sides of the roadway. The sidewalks are typically separated from the roadway by a 3-ft landscape buffer. The sidewalks along SR 7/US441 terminate at the Golden Glades Park and Ride Facility.
- There are 5-ft sidewalks along both sides of NW 167th Street east of the GGI. The sidewalks are adjacent to the roadway curb and gutter.
- The segment of NW 2nd Avenue south of the GGI has 6-ft sidewalks on both sides of the roadway adjacent to the curb and gutter. The segment north of the GGI has 5-ft sidewalks on the eastern side of the roadway. There is currently no connection between the sidewalks on the north and south sides across the GGI.

There are currently no bicycle facilities along any of the non-limited access arterial roadways within the study area.

There are two pedestrian bridges within the study area. The first is located across SR 9 and provides access from the GGI park and ride facility on the east to the tri-rail station on the west of SR 9. The second pedestrian bridge is located across I-95 just south of NW 151st Street and provides access between the residential areas on the west and Thomas Jefferson Middle School on the east side of I-95.

The Miami-Dade Parks and Recreation Department has also identified the Gold Coast Trail within the study area. This trail is a potential 20.8 mile path occupying the easement of the South Florida Rail Corridor. The Gold Coast Trail will provide opportunity to create a multimodal access point at the Golden Glades Park and Ride facility and also provide bicycle and pedestrian access into Broward County.

2.4 Right of Way

The existing limited access right of way for the GGI varies to accommodate the various ramps connecting the six major transportation corridors that converge within the interchange as well as the park and ride facility. The existing limited access within the interchange area is bisected by the South Florida Rail Corridor (SFRC) which is approximately 100-ft wide. An industrial property is also located within the limited access interchange area. **Table 2-1** shows the existing right of ways along the six principal transportation corridors within the interchange area.

Table 2-1
Existing Right of Way

#	Roadway	Begin	End	Right of Way Width
1	SR 826/ Palmetto Expressway including frontage roads	NW 17th Avenue	GGI	300’
2	SR 9A/I-95	Opa-Locka Blvd	Biscayne Canal	213’ – 350’
		Biscayne Canal	GGI	220’ – 421’
		NW 173rd Terrace	Miami Gardens Dr.	200’ – 245’
3	Florida’s Turnpike	Toll Plaza	GGI	300’ – 350’
4	NW 167th Street	GGI	N Miami Avenue	100’
5	SR 7/ US 441	Biscayne Canal	GGI	100’
6	SR 9	Biscayne Canal	GGI	200’

2.5 Geometric Elements

The existing geometric elements for the major transportation corridor and interchange ramps were obtained from the existing as-built plans obtained from the FDOT District Six. Since the original construction of the GGI in 1964, most of the ramps within the interchange have not been geometrically modified. The original as-built construction plans obtained for the interchange area are barely legible; consequently, the geometric alignments of most of the interchange ramps as well as SR 7/US 441 and SR 9 could not be verified. The geometric evaluation for the ramps that have been modified as well as the major roadways, connectors and flyover ramps are discussed in the following sections.

2.5.1 Horizontal Alignment

A review of the existing horizontal geometry for the major roadway segments and ramps was performed as part of this PD&E Study. The evaluation of the horizontal geometry for the roadway and ramps compared the existing alignments to design standards and were focused on the following design elements:

1. Radius of Curvature
2. Superelevation
3. Horizontal Curve Length
4. Horizontal Stopping Sight Distance

Tables 2-2 through **2-4** summarize the existing horizontal geometric characteristics for the major roadways and ramps within the project study area.

As shown in the tables below, several of the horizontal alignment design elements along the roadway or ramp segments either do not meet the FDOT PPM standards but satisfy the AASHTO 2011 requirements (Design Variation) or do not meet both the FDOT PPM and AASHTO 2011 standards (Design Exception) as identified below:

- Radius of Curvature
  - I-95 mainline - 1 design variation
- Superelevation
  - I-95 mainline - 6 design exceptions
  - Ramp A from EB SR 826 to SB Turnpike Connector – 1 design exception
  - Ramp M from NB SR7/ US441 to NB I-95 – 2 design exceptions
- Horizontal Curve Length
  - I-95 mainline - 6 design variations
  - 95 Express Flyover – 1 design variation
  - SR 826 Connector – 1 design variation
  - Ramp J from NB Turnpike Connector to WB SR 826 – 2 design variations
  - Ramp M from NB SR7/ US441 to NB I-95 – 2 design variations
  - Ramp T from NB I-95 to EB NW 167th street– 1 design variation

- Horizontal Stopping Sight Distance
  - I-95 mainline - 1 design exception and 3 variations
  - SR 826 Mainline – 1 design exception
  - SR 826 Connector – 2 design exceptions
  - Ramp U from NB SR 7/ US 441 to NB Turnpike – 1 design exception

A search of the FDOT District Six design database did not find any documentation for the existing horizontal alignment deficiencies on file. **Figure 2-12** shows the locations of the existing horizontal and vertical alignment deficiencies.

Table 2-2
Existing Horizontal Alignment- Radius of Curvature and Superelevation

Roadway	Curve No.	Existing Curve Parameters					Criteria		Variances & Exceptions
		Base line	Design Speed (mph)	R (ft)	Super elevation	L (ft)	PPM	AASHTO	
I-95	1	NB	60	1,432.69	0.072	978.66	0.093	0.093	Exception
	2	NB	60	2,932.39	0.040	671.64	0.054	0.054	Exception
	3	NB	60	1,910.08	0.060	868.39	0.077	0.077	Exception
	4	NB	60	1,909.86	0.060	805.16	0.077	0.077	Exception
	5	SB	60	9,750.00	0.020	1,033.47	0.02	0.02	OK
	6	SB	60	14,625	0.020	975.00	0.02	0.02	OK
	7	SB	60	1494.24	0.069	889.24	0.09	0.09	Exception
	8	SB	60	2,865	0.056	925.0	0.056	0.056	OK
	9	SB	60	2,864.79	0.053	762.47	0.055	0.055	Exception
95 Express Flyover	10	NB	55	5,729.58	0.026	372.01	0.025	0.025	OK
	11	NB	55	11,401	Varies	974.12	0.02	0.02	OK
	12	NB	55	2,390.00	0.065	1,482.46	0.056	0.056	OK
	13	SB	55	8,750.00	0.023	1,127.08	0.02	0.02	OK
	14	SB	55	2,588.48	0.065	1,500.71	0.053	0.053	OK
SR 826	15	EB/WB	45	1,145.92	0.074	803.28	0.072	0.072	OK
Turnpike Connector	16	NB	45	5,729.58	Unavailable	433.89	0.02	0.02	N/A
	17	NB	45	3,274.05	0.034	575.17	0.02	0.02	OK
	18	SB	45	1,530.24	Varies	270.540	0.059	0.059	OK
	19	SB	45	17,188	0.020	768.500	0.02	0.02	OK
	20	SB	45	1,934.00	0.052	239.280	0.048	0.048	OK
SR 826 Connector	21	EB/WB	45	525.2	0.06	736.9	0.12	0.12	Exception
	22	EB/WB	45	525.2	0.06	84.28	0.12	0.12	Exception
	23	EB/WB	45	688.97	NC	384.015	0.096	0.095	Exception
Ramp C	24	SB	40	500	0.1	651.08	0.05	0.05	OK
Ramp A	25	EB	45	3844	0.084	482.11	0.026	0.026	OK
	26	EB	30	340	0.08	508.08	0.091	0.091	Exception

Table 2-2
Existing Horizontal Alignment- Radius of Curvature and Superelevation

Roadway	Curve No.	Existing Curve Parameters					Criteria		Variances & Exceptions
		Base line	Design Speed (mph)	R (ft)	Super elevation	L (ft)	PPM	AASHTO	
Ramp L	27	NB	20	284.79	0.1	226.65	N/A	0.062	OK
	28	NB	20	150.00	0.1	495.49	N/A	0.081	OK
	29	NB	20	344.48	Varies	211.82	N/A	0.055	OK
Ramp J	30	NB	20	156.81	0.1	241.80	N/A	0.082	OK
	31	NB	20	151.58	0.1	312.00	N/A	0.081	OK
	32	NB	20	278.16	0.1	61.48	N/A	0.062	OK
	33	NB	20	568.30	0.1	92.43	N/A	0.039	OK
Ramp M	34	NB	30	660	0.06	344.12	0.062	0.061	OK
	35	NB	30	600	NC	54.07	0.066	0.064	Exception
	36	NB	30	600	0.055	136.98	0.066	0.064	Exception
Ramp K	37	SB	40	2864.79	0.03	365.4	0.028	0.028	OK
Ramp T	38	NB	40	1277.57	Varies	61.76	0.057	0.057	OK
Ramp U	39	NB	30	260	Unavailable	423.45	0.099	0.099	N/A
	40	NB	25	150	Unavailable	466.28	N/A	0.098	N/A
	41	NB	30	450	Unavailable	191.45	0.079	0.075	N/A

Table 2-3
Existing Horizontal Alignment- Curve Length

Roadway	Curve No.	Existing Curve Parameters					Criteria		Variances & Exceptions
		Base line	Design Speed (mph)	R (ft)	Super elevation	L (ft)	Desirable	Minimum	
I-95	1	NB	60	1,432.69	0.072	978.66	1800	900	OK
	2	NB	60	2,932.39	0.040	671.64	1800	900	Variation
	3	NB	60	1,910.08	0.060	868.39	1800	900	Variation
	4	NB	60	1,909.86	0.060	805.16	1800	900	Variation
	5	SB	60	9,750.00	0.020	1,033.47	1800	900	OK
	6	SB	60	14,625.0	0.020	975.00	1800	900	OK
	7	SB	60	1494.24	0.069	889.24	1800	900	Variation
	8	SB	60	2,865	0.056	925.0	1800	900	OK
	9	SB	60	2,864.79	0.053	762.47	1800	900	Variation
95 Express Flyover	10	NB	55	5,729.58	0.026	372.01	1650	825	Variation
	11	NB	55	11,401.1	Varies	974.12	1650	825	OK
	12	NB	55	2,390.00	0.065	1,482.46	1650	825	OK
	13	SB	55	8,750.00	0.023	1,127.08	1650	825	OK
	14	SB	55	2,588.48	0.065	1,500.71	1650	825	OK
SR 826	15	EB/WB	45	1,145.92	0.074	803.28	1350	675	OK
Turnpike Connector	16	NB	45	5,729.58	Unavailable	433.89	675	400	OK
	17	NB	45	3,274.05	0.034	575.17	675	400	OK
	18	SB	45	1,530.24	Varies	270.540	675	400	Variation
	19	SB	45	17,188.7	0.020	768.500	675	400	OK
	20	SB	45	1,934.00	0.052	239.280	675	400	Variation
SR 826 Connector	21	EB/WB	45	525.2	0.06	736.9	200	150	OK
	22	EB/WB	45	525.2	0.06	84.28	200	150	Variation
	23	EB/WB	45	688.97	NC	384.015	200	150	OK
Ramp C	24	SB	40	500	0.1	651.08	200	150	OK
Ramp A	25	EB	45	3844	0.084	482.11	200	150	OK
	26	EB	30	340	0.08	508.08	150	100	OK

Table 2-3
Existing Horizontal Alignment- Curve Length

Roadway	Curve No.	Existing Curve Parameters					Criteria		Variances & Exceptions
		Base line	Design Speed (mph)	R (ft)	Super elevation	L (ft)	Desirable	Minimum	
Ramp L	27	NB	20	284.79	0.1	226.65	150	100	OK
	28	NB	20	150.00	0.1	495.49	65	50	OK
	29	NB	20	344.48	Varies	211.82	180	115	OK
Ramp J	30	NB	20	156.81	0.1	241.80	65	50	OK
	31	NB	20	151.58	0.1	312.00	65	50	OK
	32	NB	20	278.16	0.1	61.48	150	100	Variation
	33	NB	20	568.30	0.1	92.43	200	150	Variation
Ramp M	34	NB	30	660	0.06	344.12	200	150	OK
	35	NB	30	600	NC	54.07	200	150	Variation
	36	NB	30	600	0.055	136.98	200	150	Variation
Ramp K	37	SB	40	2864.79	0.03	365.4	200	150	OK
Ramp T	38	NB	40	1277.57	Varies	61.76	200	150	Variation
Ramp U	39	NB	30	260	Unavailable	423.45	129	88	OK
	40	NB	30	150	Unavailable	466.28	65	50	OK
	41	NB	30	450	Unavailable	191.45	180	115	OK

Table 2-4
Existing Horizontal Alignment- Stopping Sight Distance

Roadway	Curve No.	Existing Curve Parameters					Criteria		Variances & Exceptions
		Base line	Design Speed (mph)	R (ft)	HSO (ft)	Sight Distance (ft)	PPM	AASHTO	
I-95	1	NB	60	1,432.69	Clear	Clear	645.00	570.00	OK
	2	NB	60	2,932.39	16.00	613	645.00	570.00	Variation
	3	NB	60	1,910.08	22.00	580	645.00	570.00	Variation
	4	NB	60	1,909.86	Clear	Clear	645.00	570.00	OK
	5	SB	60	9,750.00	Clear	Clear	645.00	570.00	OK
	6	SB	60	14,625.00	16.00	1368	645.00	570.00	OK
	7	SB	60	1,494.24	14.00	438	645.00	570.00	Exception
	8	SB	60	2,865.00	Clear	Clear	645.00	570.00	OK
	9	SB	60	2,864.79	16.00	606	645.00	570.00	Variation
95 Express Flyover	10	NB	55	5,729.58	17.38	893	570.00	495.00	OK
	11	NB	55	11,401.14	17.38	1259	570.00	495.00	OK
	12	NB	55	2,390.00	17.38	577	570.00	495.00	OK
	13	SB	55	8,750.00	17.38	1103	570.00	495.00	OK
	14	SB	55	2,588.48	17.38	600	570.00	495.00	OK
SR 826	15	EB/WB	45	1,145.92	13.00	346	360.00	360.00	Exception
Turnpike Connector	16	NB	45	5,729.58	Clear	Clear	360.00	360.00	OK
	17	NB	45	3,274.05	Clear	Clear	360.00	360.00	OK
	18	SB	45	1,530.24	Clear	Clear	360.00	360.00	OK
	19	SB	45	17,188.73	Clear	Clear	360.00	360.00	OK
	20	SB	45	1,934.00	Clear	Clear	360.00	360.00	OK
SR 826 Connector	21	EB/WB	45	525.2	12.00	225	360.00	360.00	Exception
	22	EB/WB	45	525.2	12.00	225	360.00	360.00	Exception
	23	EB/WB	45	688.97	Clear	Clear	360.00	360.00	OK
Ramp C	24	SB	40	500	Clear	Clear	305.00	305.00	OK
Ramp A	25	EB	45	3844	Clear	Clear	360.00	360.00	OK
	26	EB	30	340	16.00	209	200.00	200.00	OK

Table 2-4
Existing Horizontal Alignment- Stopping Sight Distance

Roadway	Curve No.	Existing Curve Parameters					Criteria		Variances & Exceptions
		Base line	Design Speed (mph)	R (ft)	HSO (ft)	Sight Distance (ft)	PPM	AASHTO	
Ramp L	27	NB	20	284.79	Clear	Clear	115.00	115.00	OK
	28	NB	20	150.00	17.50	146	115.00	115.00	OK
	29	NB	20	344.48	17.50	221	115.00	115.00	OK
Ramp J	30	NB	20	156.81	Clear	Clear	115.00	115.00	OK
	31	NB	20	151.58	Clear	Clear	115.00	115.00	OK
	32	NB	20	278.16	Clear	Clear	115.00	115.00	OK
	33	NB	20	568.30	16.00	270	115.00	115.00	OK
Ramp M	34	NB	30	660	17.50	305	200.00	200.00	OK
	35	NB	30	600	17.50	291	200.00	200.00	OK
	36	NB	30	600	17.50	291	200.00	200.00	OK
Ramp K	37	SB	40	2864.79	17.50	634	305.00	305.00	OK
Ramp T	38	NB	40	1277.57	10.50	328	305.00	305.00	OK
Ramp U	39	NB	30	260	Clear	Clear	200.00	200.00	OK
	40	NB	30	150	17.50	146	200.00	200.00	Exception
	41	NB	30	450	17.50	252	200.00	200.00	OK

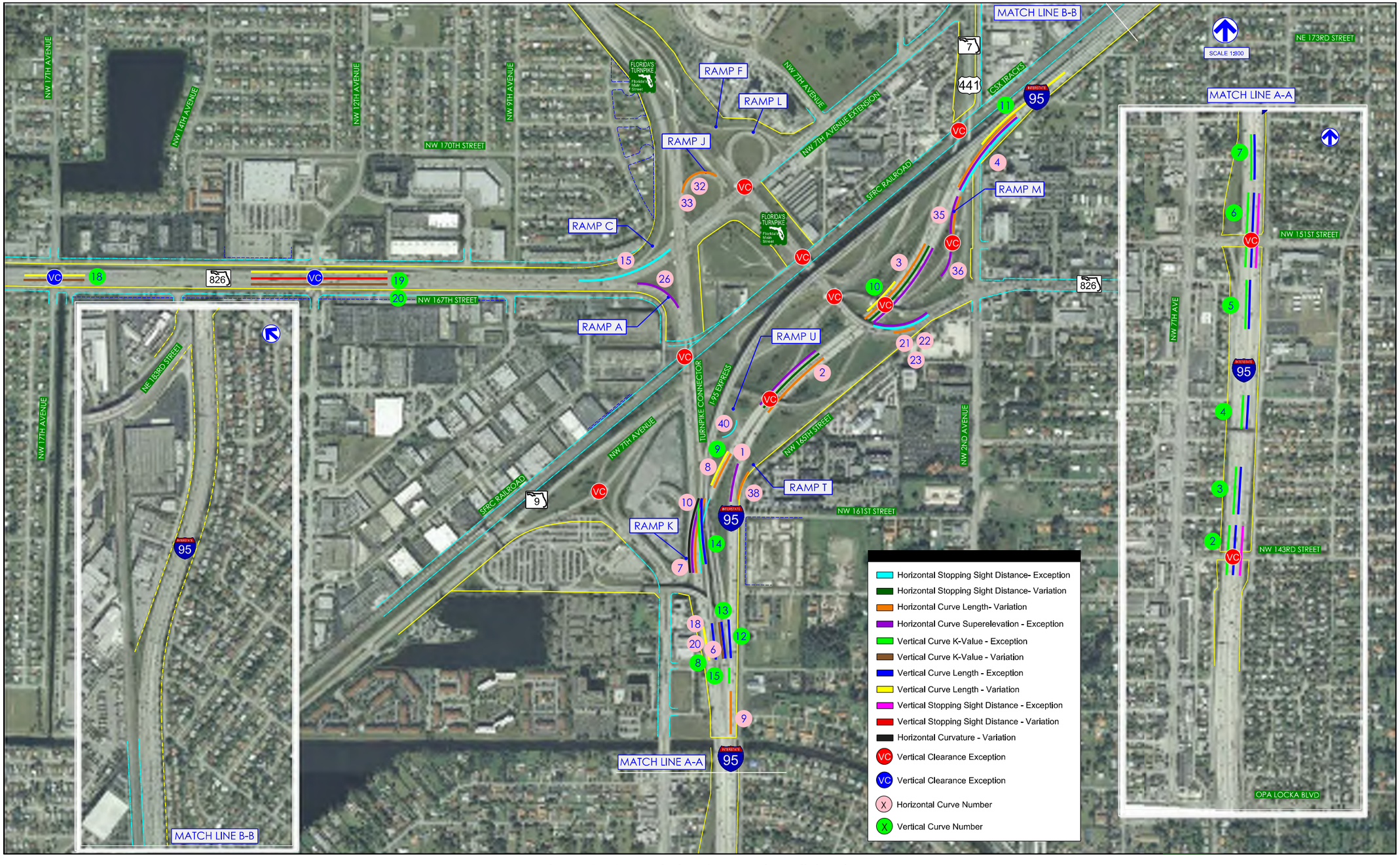


Figure 2-12 Existing Geometric Deficiencies

2.5.2 Vertical Alignment

Overview of the existing vertical geometry for the major roadway segments and ramps within the study area was also performed as part of this PD&E Study. The evaluation of the existing vertical geometry focused on the review of the following design elements:

1. Grades
2. Vertical Curve K-Values
3. Vertical Curve Length
4. Stopping Sight Distances

Tables 2-5 through **2-7** summarize the existing vertical geometric characteristics for the major roadways and ramps within the project study area.

As shown in these tables, the results of the vertical alignment evaluation identified several deficiencies along the roadways and ramp segments as follows:

- Grades
  - The maximum grade along the major roadway segments and interchange ramps within the study limits meets minimum FDOT standards for the design speed of each facility

- K-Values
  - I-95 mainline - 5 design exceptions
  - 95 Express Flyover – 3 design exceptions and 1 variation
  - SR 826/ Palmetto Expressway mainline – 3 design variations

- Vertical Curve Length
  - I-95 mainline - 5 design exceptions and 5 variations
  - 95 Express Flyover – 3 design exceptions and 1 variation
  - SR 826/Palmetto Expressway mainline – 3 design variations
  - Ramp L from NB Turnpike/ SR 826 connector to WB SR 826 – 1 design exception

- Vertical Stopping Sight Distance
  - I-95 mainline - 2 design exceptions
  - SR 826/Palmetto Expressway mainline – 2 design variations

A search of the FDOT District Six design database identified documentation for the existing vertical deficiencies along I-95 mainline between NW 135th Street and NW 151st Street that were obtained as part of the 95 Express Phase I project. No other documentation was found for the remaining identified vertical alignment deficiencies. **Figure 2-12** shows the locations of the existing horizontal and vertical alignment deficiencies.

Table 2-5
Existing Vertical Alignment- Grades and K Values

Roadway	Baseline	Curve No.	Design Speed (mph)	Vertical Curve Type	Grade		Δ G	Existing Curve Length (Ft)	Existing K-Value	Criteria- K Value		Variances & Exceptions
					Approach	Exit				PPM	AASHTO	
I-95	NB/SB	1	60	Sag	(-) 3.0	(+) 3.0	6.00	1400.00	233.00	157	136	OK
		2	60	Crest	(+) 3.0	(-) 3.0	6.00	500.00	83.00	313	151	Exception*
		3	60	Sag	(-) 3.0	(+) 0.3	3.30	400.00	121.00	157	136	Exception*
		4	60	Crest	(+) 0.3	(-) 0.3	0.60	400.00	667.00	313	151	OK
		5	60	Sag	(-) 0.3	(+) 3.0	3.300	400	121	157	136	Exception
		6	60	Crest	(+) 3.0	(-) 3.0	6.000	550	92	313	151	Exception
		7	60	Sag	(-) 3.0	(+) 0.52	3.520	400	114	157	136	Exception
		8	60	Crest	(+) 0.52	(-) 0.288	0.810	300	370	313	151	OK
		9	60	Sag	(-) 0.288	(+) 0.1733	0.461	300	650	157	136	OK
		10	60	Crest	(+) 0.172	(-) 0.226	0.400	300	750	313	151	OK
		11	60	Sag	(-) 0.226	0.00	0.226	300	1327	157	136	OK
95 Express Flyover	SB	12	55	Sag	(+) 0.11	(+) 6.00	5.890	600	102	136	115	Exception
		13	55	Crest	(+) 6.00	(-) 0.30	6.300	1,026	163	245	114	Variation
	NB	14	55	Sag	(-) 0.37	(+) 5.5	5.870	600	102	136	115	Exception
		15	55	Crest	(+) 5.0	(-) 0.3	5.300	1,100	208	245	114	Variation
	NB/SB	16	55	Crest	(-) 0.3	(-) 3.3	3.000	1,000	333	245	114	OK
		17	55	Sag	(-) 3.5	(-) 0.3	3.200	800	250	136	115	OK

Table 2-5
Existing Vertical Alignment- Grades and K Values

Roadway	Baseline	Curve No.	Design Speed (mph)	Vertical Curve Type	Grade		Δ G	Existing Curve Length (Ft)	Existing K-Value	Criteria- K Value		Variances & Exceptions
					Approach	Exit				PPM	AASHTO	
SR 826	EB/WB	18	60	Crest	(-) 3.0	(+) 3.0	6.000	1,200	200	245	151	Variation
		19	60	Crest	(+) 2.95	(+) 0.26	2.690	575	214	245	151	Variation
		20	60	Crest	(+) 0.26	(-) 2.53	2.790	600	215	245	151	Variation
		21	60	Sag	(-) 2.53	0.00	2.530	450	178	136	136	OK
		22	45	Crest	0.00	(-) 0.173	0.173	200	1156	98	61	OK
		23	45	Sag	(-) 0.173	(+) 0.10	0.273	200	733	79	79	OK
Turnpike Connector	NB/SB	24	45	Sag	(+) 0.3	(+) 3.0	2.700	500	185	79	79	OK
		25	45	Crest	(+) 3.0	(-) 2.36	5.360	550	103	98	61	OK
		26	45	Sag	(-) 2.36	(+) 0.86	3.220	300	93	79	79	OK
		27	45	Crest	(+) 0.86	(-) 2.85	3.710	400	108	98	61	OK
Ramp A	EB	28	30	Sag	(-) 0.51	(+) 5.00	5.510	300	54	37	37	OK
		29	30	Crest	(+) 5.00	(+) 1.52	3.480	287	83	31	19	OK
Ramp L	NB	30	20	Crest	(-) 0.2317	(-) 0.2670	0.035	30	850	10	7	OK
		31	20	Sag	(-) 0.2670	(+) 0.5379	0.805	89	110	17	17	OK
		32	20	Sag	(+) 0.0699	(+) 4.7639	4.694	322	68	17	17	OK
Ramp J	NB	33	20	Sag	(+) 0.81	(+) 3.50	2.690	177	66	17	17	OK
Ramp M	NB	34	30	Crest	(+) 0.44	(+) 0.40	0.840	110	131	31	19	OK

Note: Design exception documentation obtained as part of the 95 Express Phase I project*

Table 2-6
Existing Vertical Alignment- Curve Length

Roadway	Baseline	Curve No.	Design Speed (mph)	Vertical Curve Type	Grade		Δ G	Existing Curve Length (Ft)	Existing K-Value	Criteria- Curve Length		Variances & Exceptions
					Approach	Exit				PPM	AASHTO	
I-95	NB/SB	1	60	Sag	(-) 3.0	(+) 3.0	6.00	1400.00	233	800	816	OK
		2	60	Crest	(+) 3.0	(-) 3.0	6.00	500.00	83	1000	906	Exception*
		3	60	Sag	(-) 3.0	(+) 0.3	3.30	400.00	121	800	449	Exception*
		4	60	Crest	(+) 0.3	(-) 0.3	0.60	400.00	667	1000	180	Variation
		5	60	Sag	(-) 0.3	(+) 3.0	3.300	400	121	800	449	Exception
		6	60	Crest	(+) 3.0	(-) 3.0	6.000	550	92	1000	906	Exception
		7	60	Sag	(-) 3.0	(+) 0.52	3.520	400	114	800	479	Exception
		8	60	Crest	(+) 0.52	(-) 0.288	0.810	300	370	1000	180	Variation
		9	60	Sag	(-) 0.288	(+) 0.1733	0.461	300	650	800	180	Variation
		10	60	Crest	(+) 0.172	(-) 0.226	0.400	300	750	1000	180	Variation
		11	60	Sag	(-) 0.226	0.00	0.226	300	1327	800	180	Variation
95 Express Flyover	SB	12	55	Sag	(+) 0.11	(+) 6.00	5.890	600	102	677	677	Exception
		13	55	Crest	(+) 6.00	(-) 0.30	6.300	1,026	163	1166	718	Variation
	NB	14	55	Sag	(-) 0.37	(+) 5.5	5.870	600	102	675	675	Exception
		15	55	Crest	(+) 5.0	(-) 0.3	5.300	1,100	208	980	604	OK
	NB/SB	16	55	Crest	(-) 0.3	(-) 3.3	3.000	1,000	333	555	342	OK
		17	55	Sag	(-) 3.5	(-) 0.3	3.200	800	250	368	368	OK

Table 2-6
Existing Vertical Alignment- Curve Length

Roadway	Baseline	Curve No.	Design Speed (mph)	Vertical Curve Type	Grade		Δ G	Existing Curve Length (Ft)	Existing K-Value	Criteria- Curve Length		Variances & Exceptions
					Approach	Exit				PPM	AASHTO	
SR 826	EB/WB	18	60	Crest	(-) 3.0	(+) 3.0	6.000	1,200	200	1470	906	Variation
		19	60	Crest	(+) 2.95	(+) 0.26	2.690	575	214	659	406	Variation
		20	60	Crest	(+) 0.26	(-) 2.53	2.790	600	215	684	421	Variation
		21	60	Sag	(-) 2.53	0.00	2.530	450	178	344	344	OK
		22	45	Crest	0.00	(-) 0.173	0.173	200	1156	135	135	OK
		23	45	Sag	(-) 0.173	(+) 0.10	0.273	200	733	135	135	OK
Turnpike Connector	NB/SB	24	45	Sag	(+) 0.3	(+) 3.0	2.700	300	111	213	213	OK
		25	45	Crest	(+) 3.0	(-) 2.36	5.360	550	103	525	327	OK
		26	45	Sag	(-) 2.36	(+) 0.86	3.220	300	93	254	254	OK
		27	45	Crest	(+) 0.86	(-) 2.85	3.710	400	108	364	226	OK
Ramp A	EB	28	30	Sag	(-) 0.51	(+) 5.00	5.510	300	54	204	204	OK
		29	30	Crest	(+) 5.00	(+) 1.52	3.480	287	83	108	90	OK
Ramp L	NB	30	20	Crest	(-) 0.2317	(-) 0.2670	0.035	30	850	60	60	No Curve Required
		31	20	Sag	(-) 0.2670	(+) 0.5379	0.805	89	110	60	60	OK
		32	20	Sag	(+) 0.0699	(+) 4.7639	4.694	322	68	80	80	OK
Ramp J	NB	33	20	Sag	(+) 0.81	(+) 3.50	2.690	177	66	60	60	OK
Ramp M	NB	34	30	Crest	(+) 0.44	(+) 0.40	0.840	110	131	90	90	OK

Note: Design exception documentation obtained as part of the 95 Express Phase I project*

Table 2-7
Existing Vertical Alignment- Stopping Sight Distance

Roadway	Baseline	Curve No.	Vertical Curve Type	Grade		Δ G	Existing Curve Length (Ft)	Existing SSD		Criteria-SSD		Variances & Exceptions
				Approach	Exit			PPM	AASHTO	PPM	AASHTO	
I-95	NB/SB	2	Crest	(+) 3.0	(-) 3.0	6.00	500	361	430	645.00	570.00	Exception*
		4	Crest	(+) 0.3	(-) 0.3	0.60	400	941	1200	645.00	570.00	OK
		6	Crest	(+) 3.0	(-) 3.0	6.000	550	386	455	645.00	570.00	Exception
		8	Crest	(+) 0.52	(-) 0.288	0.810	300	702	894	645.00	570.00	OK
		10	Crest	(+) 0.172	(-) 0.226	0.400	300	998	1272	645.00	570.00	OK
95 Express Flyover	SB	13	Crest	(+) 6.00	(-) 0.30	6.300	1,026	618	684	570.00	495.00	OK
	NB	15	Crest	(+) 5.0	(-) 0.3	5.300	1,100	675	754	570.00	495.00	OK
	NB/SB	16	Crest	(-) 0.3	(-) 3.3	3.000	1,000	722	860	570.00	495.00	OK
SR 826	EB/WB	18	Crest	(-) 3.0	(+) 3.0	6.000	1,200	711	780	570.00	570.00	OK
		19	Crest	(+) 2.95	(+) 0.26	2.690	575	535	689	570.00	570.00	Variation
		20	Crest	(+) 0.26	(-) 2.53	2.790	600	538	687	570.00	570.00	Variation
		22	Crest	0.00	(-) 0.173	0.173	200	1240	1580	570.00	570.00	OK
Turnpike Connector	NB/SB	25	Crest	(+) 3.0	(-) 2.36	5.360	550	399	476	360.00	360.00	OK
		27	Crest	(+) 0.86	(-) 2.85	3.710	400	379	491	360.00	360.00	OK
Ramp A	EB	29	Crest	(+) 5.00	(+) 1.52	3.480	287	331	422	200.00	200.00	OK
Ramp L	NB	30	Crest	(-) 0.2317	(-) 0.2670	0.035	30	1054	1344	155.00	155.00	OK
Ramp M	NB	34	Crest	(+) 0.44	(+) 0.40	0.840	110	417	532	200.00	200.00	OK

Note: Design exception documentation obtained as part of the 95 Express Phase I project*

2.6 Existing Roadway Signage

An existing roadway sign inventory was performed within the project study area to identify major roadway sign structures and ITS signs that could be impacted as part of this project. Each major roadway sign was photographed, inventoried, numbered, classified and located on aerial photography using Global Positioning System (GPS) and Geographic Information Systems (GIS) technologies. A total of 121 major signs were identified and are summarized in **Table 2-8**. The detailed existing sign inventory is provided in **Appendix B**.

Table 2-8
Existing Roadway Sign Inventory

#	Roadway	Sign Type				
		Regulatory	Guide	Warning	Information	ITS
1	SR 826/ Palmetto Exwy.	0	15	0	2	0
2	SR 9A/I-95	11	25	0	6	1
3	Florida's Turnpike	2	12	1	2	0
4	NW 167th Street	0	10	0	2	0
5	SR 7/ US 441	0	11	0	1	0
6	SR 9	2	2	0	6	1
7	Golden Glades P&R Lot	0	9	0	0	0

2.7 Existing Drainage

2.7.1 Regional Watershed and Receiving Waterbodies

The study corridor lies within South Florida Water Management District (SFWMD) Basins C-7, C-8, and C-9 East (See **Figure 2-13**). The existing stormwater management system for GGI consists of dry detention and dry retention treatment areas located within the interchange infields. Discharge from the treatment areas is bifurcated by the South Florida Rail Corridor (SFRC). Runoff from the area north of the SFRC ultimately drains northwesterly, within the Florida's Turnpike swales, towards the C-9 Canal. The area south of the SFRC generally drains south, within two 72-in metal pipes under I-95, towards the C-8 Canal. For the purposes of this report, the area north of the SFRC is identified as Basin C-9 while the area south of the SFRC is identified as Basin C-8.

According to the SFWMD Permit Information Manual, Volume IV, the allowable off-site discharge is essentially unlimited by gravity connection for both the C-8 and C-9 Canals.

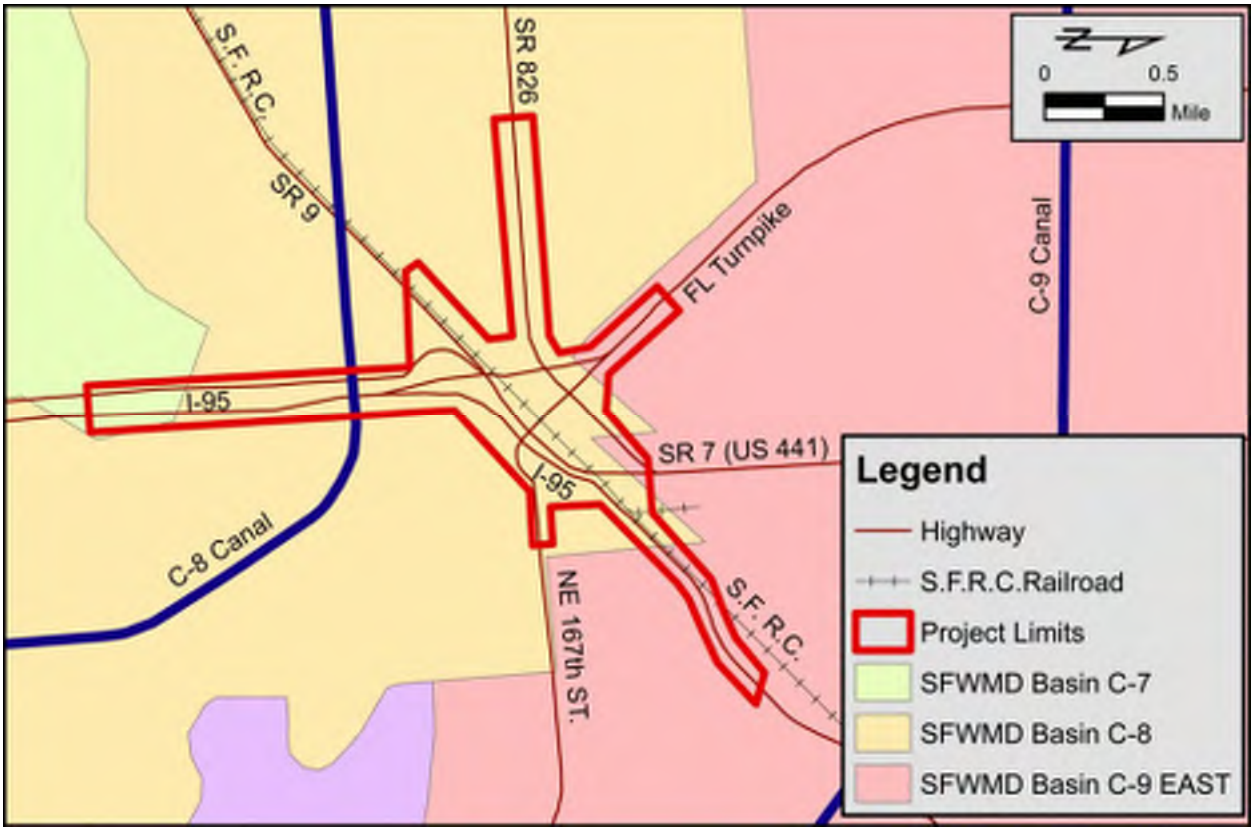


Figure 2-13 Regional Watersheds

2.7.2 Stormwater Management Systems

The project area was divided into seven main drainage systems, as shown below in **Figure 2-14**. System limits were determined using existing drainage divides, which included changes in elevation, transportation facilities and water bodies. The naming convention was chosen so that the first two characters represent the receiving water body followed by an abbreviation of the general location of the system.

The western portion of the study corridor is within the Anodyne contamination plume. A one-mile buffer around the contamination plume covers most of the study area. The Florida Department of Environmental protection (FDEP) discourages the use of wet ponds or exfiltration trenches within one mile of a superfund site. As such, water treatment facilities proposed by this study, which fall within the 1-mile Anodyne buffer, consist of dry-retention and/or dry-detention.

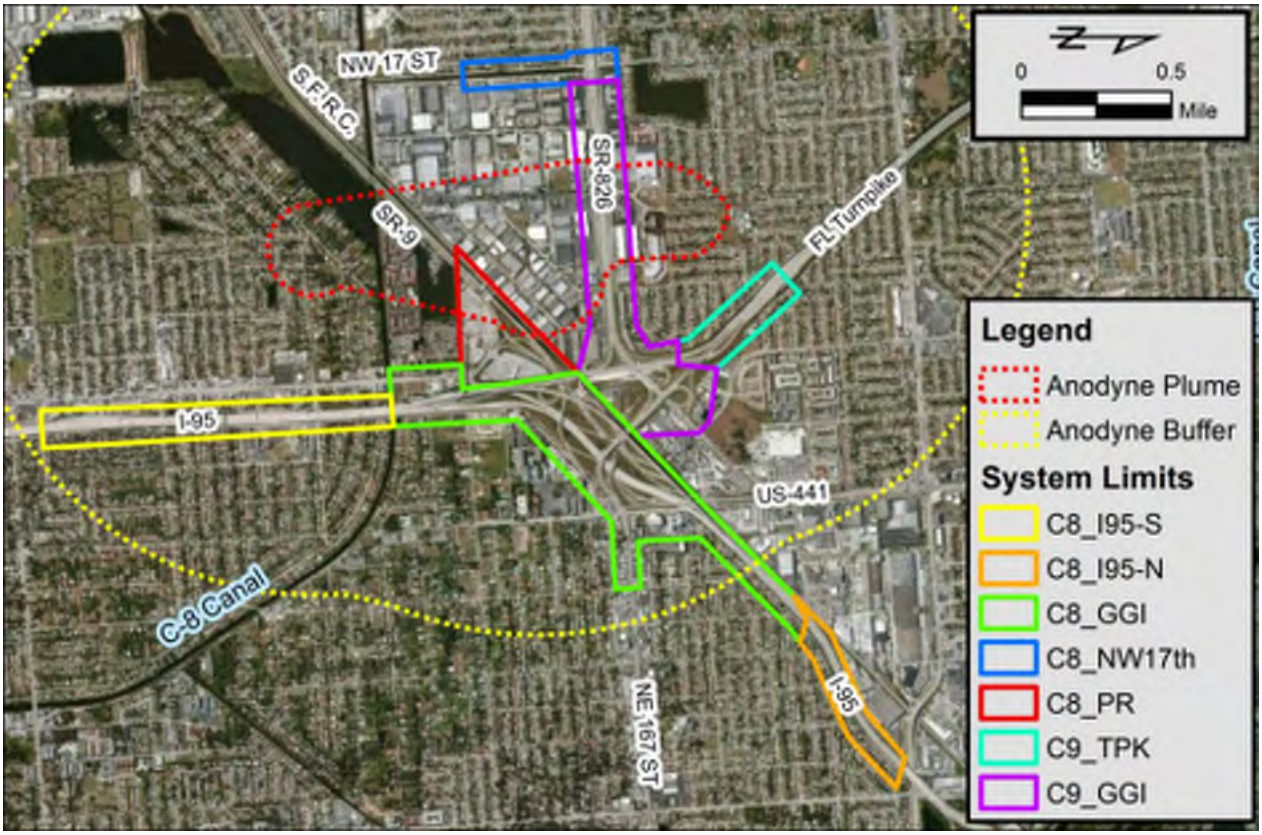


Figure 2-14 Stormwater Management Systems

2.7.2.1 System C8_I95-S

System C8_I95-S covers the area of I-95 between SR 916/NW 135TH Street/Opa-Locka Boulevard and the C-8 Canal. It is over a mile long and within the 1-mile buffer of the Anodyne contamination plume. Most of the drainage system consists of a network of inlets and closed pipes connecting to a main outfall trunk line, which discharges into the C-8 Canal. There is, nonetheless, a segment of the southbound lanes, between NW 151st Street and the C-8 canal, which has a small swale system with a 24-inch outfall pipe into the canal. The main outfall trunk line in this system consists of concrete culverts, which progress in size from 30-inch to 42-inch. The trunk line runs the length of the basin and is on the west side of I-95 from Opa-Locka Boulevard to just south of NW 151st Street. It then crosses under I-95 to connect to a 54-inch trunk line running east towards the canal. A desktop review of the limited plans available for the area indicates that the 54-inch trunk line services both I-95 and the adjacent residential community. The existing stormwater management system, for this segment of I-95, appears to be a direct discharge system with no formal water treatment being provided.

2.7.2.2 System C8_PR

System C8_PR consists of the Park & Ride, Municipal Parking facility and SR 9. The system is bound by the South Florida Rail Corridor (SFRC) on the north and the Turnpike Connector on the east. It is partially within the Anodyne contamination plume and completely within the 1-mile buffer of the plume. Stormwater runoff from this system is generally conveyed southeasterly through the Municipal Parking facility's piped drainage system. Ultimately, the runoff discharges through a 42-inch culvert into the adjacent drainage system (C8_GGI), which outfalls into the C-8 Canal. The existing stormwater management system appears to be a direct discharge system with no formal water treatment being provided.

2.7.2.3 System C8_GGI

System C8_GGI consists of the southern part of the GGI. The system is bound by the South Florida Rail Corridor (SFRC) on the north and the C-8 Canal on the south. Most of this drainage system is within the 1-mile buffer of the Anodyne contamination plume. This drainage system receives runoff from System C8_PR. A review of available plans and permit information indicates that stormwater in this system is being collected and treated via dry-retention in the various infield areas between ramps before being discharged to the C-8 Canal.

The I-95 northern segment of this drainage system has two concrete culvert trunk lines, which direct runoff south towards the GGI infield areas. One trunk line is located under each of the outside shoulders. Both trunk lines begin as an 18-inch round culvert near the northern limits of the drainage system and transition through several sizes of elliptical pipe before discharging into the GGI areas. The trunk line, located under the northbound outside shoulder ends as a 54-inch round culvert near NW 2nd Avenue while the trunk line under the southbound outside lane ends as a 36-inch round culvert near the infield are between I-95 and SR 9. Excess runoff generated within the interchange portion of the system is generally conveyed south towards a double 72-inch asphalt coated metal trunk line that is located under the southbound shoulder of I-95 between the Park & Ride ramp and the C-8 Canal.

The drainage report submitted to the Miami-Dade County Permitting, Environment and Regulatory Affairs (PERA[1]), to obtain permit OF 401 for project 87270-3419, states that 15.97 Ac-ft of retention/detention is being provided in the aforementioned infield areas. Improvements that have occurred in this drainage system, since the PERA permit was issued, have had little impacts to the amount of impervious area or treatment volume.

[1] *The acronyms PERA, DERM, and DRER refer to the same agency.*

2.7.2.4 System C8_I95-N

System C8_I95-N spans from just south of NE 1st Avenue to NE 183rd Street (Miami Gardens Drive). It is slightly less than a mile long and is outside of the Anodyne 1-mile buffer. This drainage system consists of roadside swales on both sides of the roadway with equalizer pipes connecting them and a retention area located in the western swale where I-95 turns away from the South Florida Rail Corridor (SFRC). The retention area provides 0.35 Ac-ft of dry-retention treatment. In general runoff is conveyed from the eastern swale to the western swale, which abuts the SFRC, and runs south towards Drainage System C8_GGI. A note is made that the drainage report for FPID 422796-2-52-01 states that the area served by this drainage system ultimately discharges to the C-9 Canal; however a review of existing plans did not show a connection to move runoff across NE 183rd Street. As such, the study team concluded that this drainage system ultimately discharges south along the SFRC swale towards the C-8 Canal rather than across NE 183rd Street towards the C-9 Canal.

2.7.2.5 System C8_NW17th

System C8_NW17th covers the area of NW 17th Avenue from NW 165th Street to the SR 826. It is slightly less than half a mile long and within the 1-mile buffer of the Anodyne contamination plume. NW 17th Avenue is a County owned two lane undivided rural road with no dedicated drainage system. There are, however, a few drainage inlets mostly along the western swale area, but there is no formal conveyance system to get runoff to the inlets. Construction plans for NW 17th Avenue were unavailable from Miami-Dade County at the time of this study. The assumption is made that each of the sparsely placed drainage inlets is connected to an exfiltration trench of undetermined length and condition. The roadway is crowned such that runoff from the southbound lane sheet-flows into a flat swale area shared with a residential neighborhood while runoff from the northbound lane sheet-flows into a 15-ft wide flat strip of sod before overflowing into the NW 17th Avenue canal. In general, runoff generated within this system overtops NW 17th Avenue and flows into the NW 17th Avenue canal, which discharges into the C-8 Canal.

2.7.2.6 System C9_GGI

System C9_GGI consists of the northern part of the GGI and an adjacent section of SR 826/Palmetto Expressway. It is partially within the Anodyne contamination plume and completely within the 1-mile buffer of the plume. Stormwater runoff from the SR 826 segment of this system is conveyed east, through trunk lines along both sides of the roadway, towards the GGI infield area. Runoff from the SR 826 southern swale is conveyed through a 24-inch x 38-inch cross drain under SR 826 to unite with runoff from the northern swale and flows north along the outside western Florida's Turnpike swale. In general, runoff generated within this drainage system is directed towards the GGI infield areas and then

north towards the Florida's Turnpike (Drainage System C9_TPK) where it is conveyed by a 36-inch culvert through the Toll Plaza area and ultimately into the C-9 Canal. Based on a review of available construction plans and permitting information, the existing stormwater management system was not designed to provide a specific amount of water quality treatment.

2.7.2.7 System C9_TPK

System C9_TPK covers the area of the Florida's Turnpike between the Toll Plaza and the GGI loop ramps. It is approximately half a mile long and is within the 1-mile buffer of the Anodyne contamination plume. In general, runoff from this system is conveyed along the Florida's Turnpike swales towards the C-9 Canal. This drainage system receives runoff from Drainage System C9_GGI.

For the purposes of quantifying the increase in impervious area, the existing condition in Drainage System C9_TPK was considered as the condition that will result once project FPID 415462-2-52-02 is constructed. Project FPID 415462-2-52-02 will convert the Toll Plaza to an All Electronic Tolling (AET) facility. Consequently, the facility's impervious footprint will be reduced allowing water quality treatment to be provided in the roadside swales. Documentation for permit 13-01013-P, Application 070314-4, indicates that the water quality treatment provided in the widened swales is to compensate future improvements to the Florida's Turnpike mainline.

2.8 Existing Traffic

An existing traffic operational analysis was performed as part of this study to document the existing conditions and identify operational hotspots within the project study area. Traffic data was collected in 2010 during the planning phase for this study in accordance with FDOT guidelines. The traffic count data included 72-hour weekday counts at all FDOT count stations located within the GGI interchange study area, as well as intersection turning movement counts, travel time runs and selective origin-destination surveys for calibration of the CORSIM model. The detailed traffic data collection effort and the existing traffic operational analysis are include in the Existing Traffic Conditions Memorandum prepared as part of this study.

2.8.1 AADT and Peak Hour Traffic Volumes

The existing Annual Average Daily Traffic (AADT) along the major roadway segments and peak hour traffic volumes for the morning and evening peak periods are summarized in **Table 2-9**. The existing AADT and peak hour volumes were obtained from the 72 hour volume counts collected from Tuesday and Thursday and adjusted for peak season and axle factors.

Table 2-9
Existing (2010) Traffic Volumes

#	Roadway	Segment	AADT (vpd)	Peak Period Traffic Volume (vph)	
				AM	PM
1	I-95 Mainline	From GGI to NW 151st Street	258,000	17,480	18,050
		From GGI to Miami Gardens Drive	160,000	11,030	11,020
2	I-95 Express Lanes	Within GGI (SB)	16,500	898	898
		Within GGI (NB)	11,500	673	1,207
3	SR 826/ Palmetto Exwy.	From NW 12th Ave. to Ramp to I-95 SB	164,000	11,150	11,910
		From NW 17th Ave. to NW 12th Ave.	150,000	9,735	10,500
4	Florida's Turnpike Mainline	From GGI to NW 199th Street	73,300	6,680	6,720
5	Turnpike Connector	Within GGI (NB)	44,000	3,257	3,533
		Within GGI (SB)	22,000	1,587	1,448
6	SR 7/US 441	Within GGI (NB)	22,500	1,550	1,690
		Within GGI (SB)	24,500	2,190	1,140
		From Biscayne Canal to GGI	28,000	2,070	2,230
7	SR 9	South of GGI	27,500	1,896	2,258
8	NW 167th Street	From NW 2nd Ave to N. Miami Ave	63,500	4,410	4,780

2.8.2 Freeway Segment Analysis

Basic freeway sections were analyzed using both HCM 2010 and CORSIM multiple run density averages. The analysis indicated that a number of freeway segments within GGI operate at a failing LOS. The HCM 2010 and CORSIM analysis results identifying failing and high density freeway segments and their corresponding LOS are shown in **Table 2-10**.

2.8.3 Ramp Merge/Diverge Analysis

Ramp merging and diverging segments were identified at 42 node locations within GGI. Of these, 13 individual locations were identified as being part of weaving segments. Those sections were evaluated separately in accordance with HCM 2010 weaving guidelines. The merge and diverge analysis was performed by extracting speed and densities calculated by CORSIM for the ramp segment and the 1500-feet influence area after or before the merge or diverge segments. It should be noted that CORSIM density is based on number of vehicles instead of equivalent passenger car. However, since peak hour truck percentages are relatively low within GGI, no adjustments were necessary. HCM states that currently there is no reliable empirical model for analyzing Major Merge and Major Diverge ramp junctions. As such, only CORSIM results will be used for all types of merge and diverge ramp analysis. The ramp analysis was conducted on the remaining 28 ramp junctions.

The merge and diverge analysis results are summarized in **Figure 2-15**. The merge/diverge analysis indicates that the majority of the key ramps operated at acceptable densities; however few locations operated at high density and were observed to be congested in the CORSIM simulation. The critical ramps merge/diverge sections operating at high traffic densities include:

- Turnpike SB Connector Merge to I-95 SB (Node 39)
- Turnpike SB to NW 167 Street After SR 826 EB On-Ramp Merge (Node 54)
- Turnpike NB Connector Merge to SR 826 WB (Node 702)
- Turnpike NB Merge to SR 826 (East Loop) (Node 701)
- SR 7 NB Merge with I-95 NB (Node 112)
- SR 7 NB Diverge to 167 Street on ramp (Node 154)
- Turnpike SB Diverge to SR 826 WB (Node 302)
- Turnpike SB Diverge to Turnpike Connector (Node 301)
- SR 826 EB Diverge to NW 7 Avenue Extension and NW 167 Street (Node 506)
- SR 826 EB Diverge to Turnpike SB Connector (Node 505)
- I-95 NB Diverge at NB Express Lanes (Node 104)

It should be noted that the proposed Turnpike AET Phase 4 project that converts the existing mixed cash toll plaza to an all-electronic toll plaza will improve traffic operations from southbound Turnpike to westbound SR 826 and NW 167 Street off-ramps.

Table 2-10
Existing Conditions Freeway Operational Analysis Results

Segment	Period	Direction	Volume (vph)	PHF	Speed (mph)	Density (pc/mi/ln)	Adopted LOS	LOS
I-95 S of GGI After NW 151 St Off	AM	NB	8096	0.94	54.0	40.3	E	E
I-95 S of GGI Before NW 151 St Off		SB	8156	0.97	55.0	38.6	E	E
SR 826 B/W NW 17th Ave Off and 17th Ave		EB	5644	0.91	60.0	26.2	D	D
SR 826 B/W NW 17th Ave Off and 17th Ave		WB	5255	0.97	60.0	22.6	D	C
Florida's Turnpike at Toll Plaza		SB	3611	0.96	60.0	21.3	D	C
Florida's Turnpike at Toll Plaza		NB	2725	0.92	60.0	16.8	D	B
I-95 between GGI and Miami Gardens Dr		SB	6429	0.92	49.7	47.3	E	F
I-95 between GGI and Miami Gardens Dr		NB	6426	0.94	51.1	45.1	E	F
I-95 South of NW 151 St		NB	7550	0.95	57.0	35.2	E	E
I-95 South of NW 151 St		SB	6637	0.95	59.5	29.6	E	D
I-95 S of GGI After NW 151 St Off	PM	NB	7197	0.94	58.0	33.3	E	D
I-95 S of GGI Before NW 151 St Off		SB	7658	0.97	57.2	34.8	E	D
SR 826 B/W NW 17th Ave Off and 17th Ave		EB	5017	0.91	60.0	23.3	D	C
SR 826 B/W NW 17th Ave Off and 17th Ave		WB	5481	0.97	60.0	23.9	D	C
Florida's Turnpike at Toll Plaza		SB	2542	0.96	60.0	15.0	D	B
Florida's Turnpike at Toll Plaza		NB	4470	0.92	60.0	27.6	D	D
I-95 between GGI and Miami Gardens Dr		SB	6611	0.92	47.8	50.6	E	F
I-95 between GGI and Miami Gardens Dr		NB	6435	0.94	51.0	45.2	E	F
I-95 South of NW 151 ST		NB	6316	0.95	59.9	28.0	E	D
I-95 South of NW 151 ST		SB	6158	0.95	60.0	27.3	E	D


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NW 161st St
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NW 164th St
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NW 167th St
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2.8.4 Weaving Analysis

Weaving analysis was performed using HCM 2010 software for freeway sections where an on-ramp was followed closely by an off-ramp within the maximum weaving length estimated using HCM 2010 procedure. Six segments in total were identified as weaving. A summary of the weaving results is show in **Table 2-11** and **Figure 2-16**.

Table 2-11
Existing Weaving Operational Analysis Results

Mainline	CORSIM Nodes	Weave Length	AM				PM			
			v/c Ratio	Speed (mph)	Density	LOS	v/c Ratio	Speed (mph)	Density	LOS
SR 7 NB	150-151	350	0.51	33.5	20.8	B	0.74	31.4	36.7	E
SR 7 SB	312-314	1387	0.723	40.6	33.6	D	0.417	41.4	17.8	B
SR 7 SB	315-316	800	0.776	41.7	32.6	D	0.435	39.6	19.8	B
Florida's Turnpike SB	303-305	1530	0.968	55.9	26.9	C	0.883	56.8	23.5	B
NW 167th Street to Florida's Turnpike	131-132	1130	0.713	59.0	20.0	B	0.85	54.4	25.8	C
Turnpike Connector NB	123-124	1800	0.713	59.0	18.2	B	0.732	58.4	22.3	B

The results of the weaving analysis shown above indicate that all the weaving segments within the project study area operate at LOS D or better during either the AM or PM peak hours, with the exception of the NB segment of SR 7 which operates at LOS E. However, based on field observations and CORSIM simulation files, the critical weaving segments were determined to include the following segments:

- 7 between SR 9 merge ramp to NB Turnpike Loop Ramp in the PM peak period. This roadway segment is part of the signed route for SR 826 EB and Turnpike SB to I-95 NB (Node 150 -151)
- SR 7 SB between I-95 SB and the Golden Glades Park and Ride, in the AM peak period (Node 312-314 and 315-216)
- Turnpike connector NB between the SR 7 on-ramp and the off-ramp to SR 826 WB. FDOT District 6 recently completed at project along the Turnpike Connector Ramp northbound segment that provided an auxiliary lane between the SR 7 on-ramp and the off-ramp to SR 826 WB to improve the weaving operations within this segment (Node 123-124)

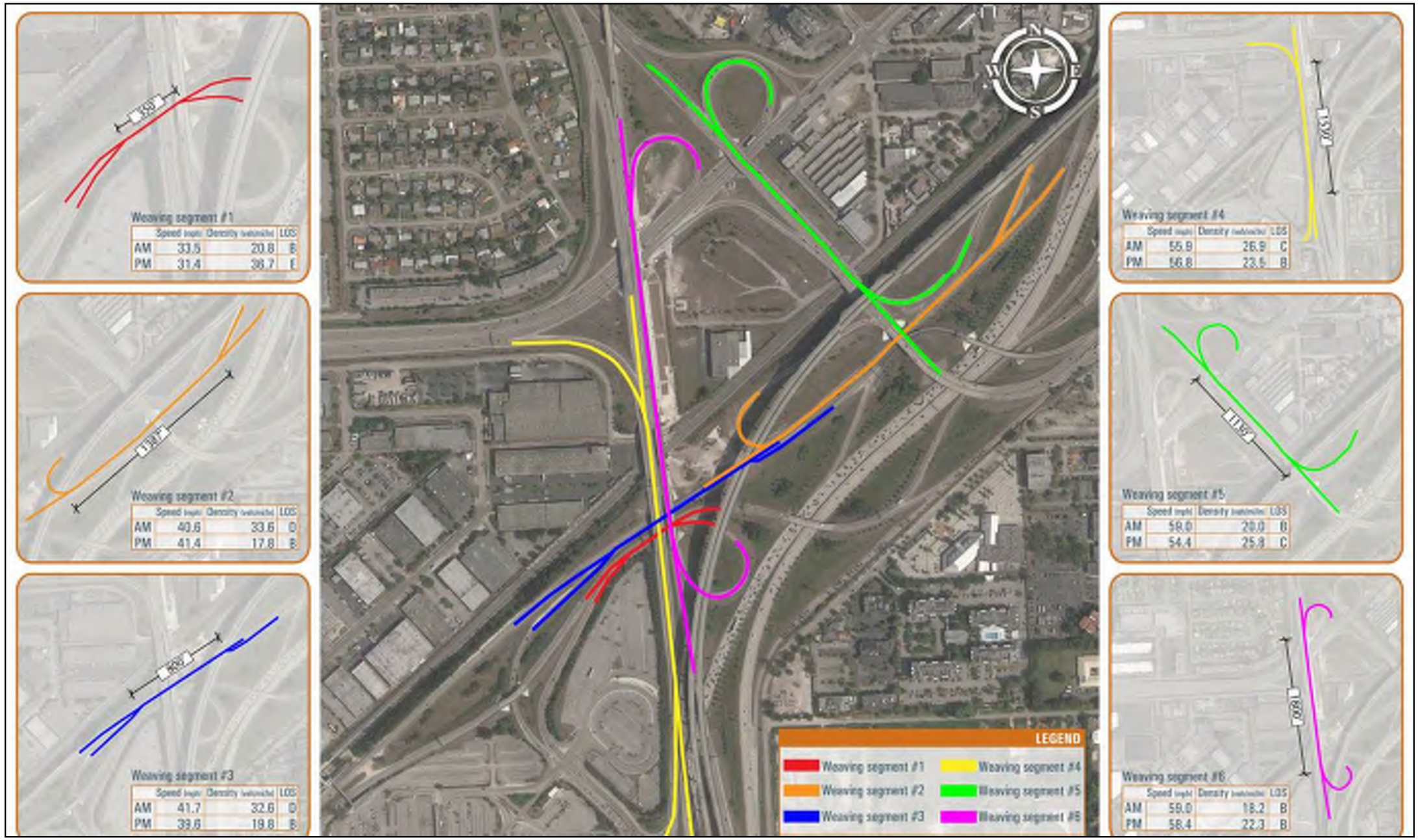


Figure 2-16 Existing Weaving Locations and Operations

2.8.5 Existing Intersection Operations

There are sixteen (16) intersections within the project study area as shown in **Table 2-12** below. Thirteen are signalized intersections and the remaining three are unsignalized intersections.

Table 2-12
Existing Intersections

#	Description	Control Type
1	NE 183 Street (Miami Gardens Drive) & NB I-95 ramps	Signalized
2	NW 2 Avenue (SR-7) and NW 7 Avenue Extension	Signalized
3	NW 171 Street & NW 7 Avenue Extension & NW 4 Avenue	Signalized
4	Turnpike NB Ramp & NW 7 Avenue Extension	Unsignalized
5	SR 826 (WB) & NW 12 Avenue	Signalized
6	SR 826 (EB) & NW 12 Avenue	Signalized
7	NW 167 Street & NW 2 Avenue	Signalized
8	NW 167 Street & N. Miami Avenue	Signalized
9	SR 7/NW 7 Avenue & Park & Ride (16000 Block)	Signalized
10	SR 7/NW 7 Avenue and NW 15900 Block (south of the P&R Lot)	Signalized
10A	SR7/US 441 SB to NW 167 Street EB Ramp and SR 826 Connector	Unsignalized
11	NW 151 Street & NW 7 Avenue	Signalized
12	NW 151 Street & I-95 SB on-ramp	Unsignalized
13	NW 151 Street & I-95 NB off-ramp	Signalized
14	SR 826 and NW 17 Avenue, diamond interchange intersection south of SR 826	Signalized
15	SR 826 and NW 17 Avenue, diamond interchange intersection north of SR 826	Signalized

The intersection of SR7/US 441 SB to NW 167 Street EB Ramp and SR 826 Connector (10A) is a one-way stop-controlled intersection; however due to the intersection location and the limitations of the modeling software this intersection was analyzed as a ramp junction.

The intersection analysis of existing conditions in 2010 identified significant traffic delays and queuing at the signalized intersections of NW 167 Street/NW 2 Avenue, NW 167 Street/North Miami Avenue, and NW 7 Avenue/GGI Park and Ride. For the intersections of NW 167 Street/NW 2 Avenue and NW 167 Street/North Miami Avenue the adopted LOS is dependent on the v/c ratio being less than 120%. For NW 167 Street/NW 2 Avenue the NB Left in the AM peak period and the NB Left and SB Thru exceed the 120% v/c threshold. For NW 167 Street/ North Miami Avenue the EB Left in the AM and the EB Left, NB Left, and SB Thru exceed the 120% v/c threshold. Furthermore, the analysis identified a number of intersections with inadequate turning movement storage lengths, including the intersections of NW 2 Avenue/NW 7 Avenue Extension, Turnpike Eastbound to I-95 SB/SR 7, NW 7 Avenue/Park and Ride entrance, NW 167 Street (Frontage Rd)/NW 12 Avenue (SR 826 EB Off-ramp), and NW 151 Street/NW 6 Avenue. The unsignalized intersection of NW 7 Avenue Extension and NB ramps to turnpike also showed deficiencies in the EB approach. The

intersection analysis results including delays and LOS for the AM and PM peak hours are provided in **Table 2-13** and **Figure 2-17**.

Table 2-13
Existing Intersections LOS

No	Intersection	Adopted LOS	Time	Approach Delay (s/veh)/LOS				Control Delay (s/veh)/LOS
				EB	WB	NB	SB	
1	Miami Gardens Dr/I-95 NB Exit	D	AM	51/D	47.8/D	0.8/A	43.8/D	31.7/C
			PM	50.2/D	85.9/F	0.7/A	45.3/D	49.7/D
2	NW 2 Ave (SR 7)/NW 7 Ave Ext	E	AM	89.5/F	-	12.2/B	59.9/E	51.9/D
			PM	112.8/F	-	16.7/B	21.9/C	35.3/D
4	NW 7 Ave Ext/NB Ramps to Turnpike* (EBL App)	E	AM	(631/F)	-	-	-	-
			PM	(876/F)	-	-	-	-
5	Frontage Rd (NW 167 St)/SR 826 WB Exit/NW 12 Ave	E	AM	0.0/A	53.4/D	12.6/B	9.0/A	30.5/C
			PM	0.0/A	54.6/D	3.9/A	8.5/A	22.4/C
6	Frontage Rd (NW 167 St)/SR 826 EB Exit/NW 12 Ave	E	AM	257.6/F	0.0/A	10.1/B	3.7/A	136.7/F
			PM	59.1/E	0.0/A	7.3/A	7.7/A	14.5/B
7	NW 167 St/NW 2 Ave	v/c<120 %	AM	68.9/E	56.6/E	351.2/F	-	97.4/F (v/c 1.19)
			PM	37.2/D	65.1/E	385.6/F	-	117.9/F (v/c 1.22)
8	NW 167 St/N Miami Ave	v/c<120 %	AM	92.5/F	30.0/C	46.4/D	60.3/E	67.1/E (v/c 1.49)
			PM	133.3/F	36.6/D	216.9/F	166.7/F	102.2/F (v/c 2.10)
9	NW 7 Ave/GGI Park and Ride**	D	AM	62.1/E	72.9/E	69.7/E	103.3/F	86.2/F
			PM	77.2/E	68.4/E	158.1/F	17.7/B	114.8/F
10	Florida's Turnpike Eastbound to I-95 SB Ramp/SR 7	D	AM	-	35.0/C	22.3/C	12.2/B	27.4/C
			PM	-	10.8/B	234.0/F	9.2/A	109.7/F
11	NW 151 St/NW 7 Ave	D	AM	45.8/D	13.5/B	24.4/C	27.0/C	25.1/C
			PM	44.5/D	43.6/D	17.0/B	8.9/A	19.3/B
12	NW 151 St/I-95 SB On Ramp* (WBL App)	D	AM	-	(1.1/A)	-	-	-
			PM	-	(3.6/A)	-	-	-
13	NW 151 St/I-95 NB Exit/NW 6 Ave	D	AM	129.7/F	61.6/E	47.1/D	15.2/B	62.0/E
			PM	1274/F	154.9/F	40.9/D	17.9/B	446.6/F
14	Frontage Rd (NW 167 St)/SR 826 EB Exit/NW 17 Ave	E	AM	60.4/E	45.1/D	38.1/D	12.2/B	42.9/D
			PM	69.2/E	30.0/C	42.4/D	2.2/A	41.0/D
15	Frontage Rd (NW 167 St)/SR 826 WB Exit/NW 17 Ave	E	AM	-	302.1/F	1.2/A	39.2/D	161.8/F
			PM	-	42.5/D	9.5/A	42.9/D	33.5/C

No	Intersection	Adopted LOS	Time	Approach Delay (s/veh)/LOS					Control Delay (s/veh)/LOS
				NW 171 ST	NW 4 Ave	NW 7 Ave	NW 7 Ave Ext		
							NB	SB	
3	NW 7 Ave Ext/NW 171 ST	E	AM	65.2/E	71.0/E	69.8/E	18.2/B	18.0/B	27.2/C
			PM	68.0/E	81.3/F	86.1/F	18.0/B	24.0/C	32.4/C

*Notes: * Unsignalized Intersection*
*** EB, WB, NB and SB for SEB, NWB, NEB, and SWB*

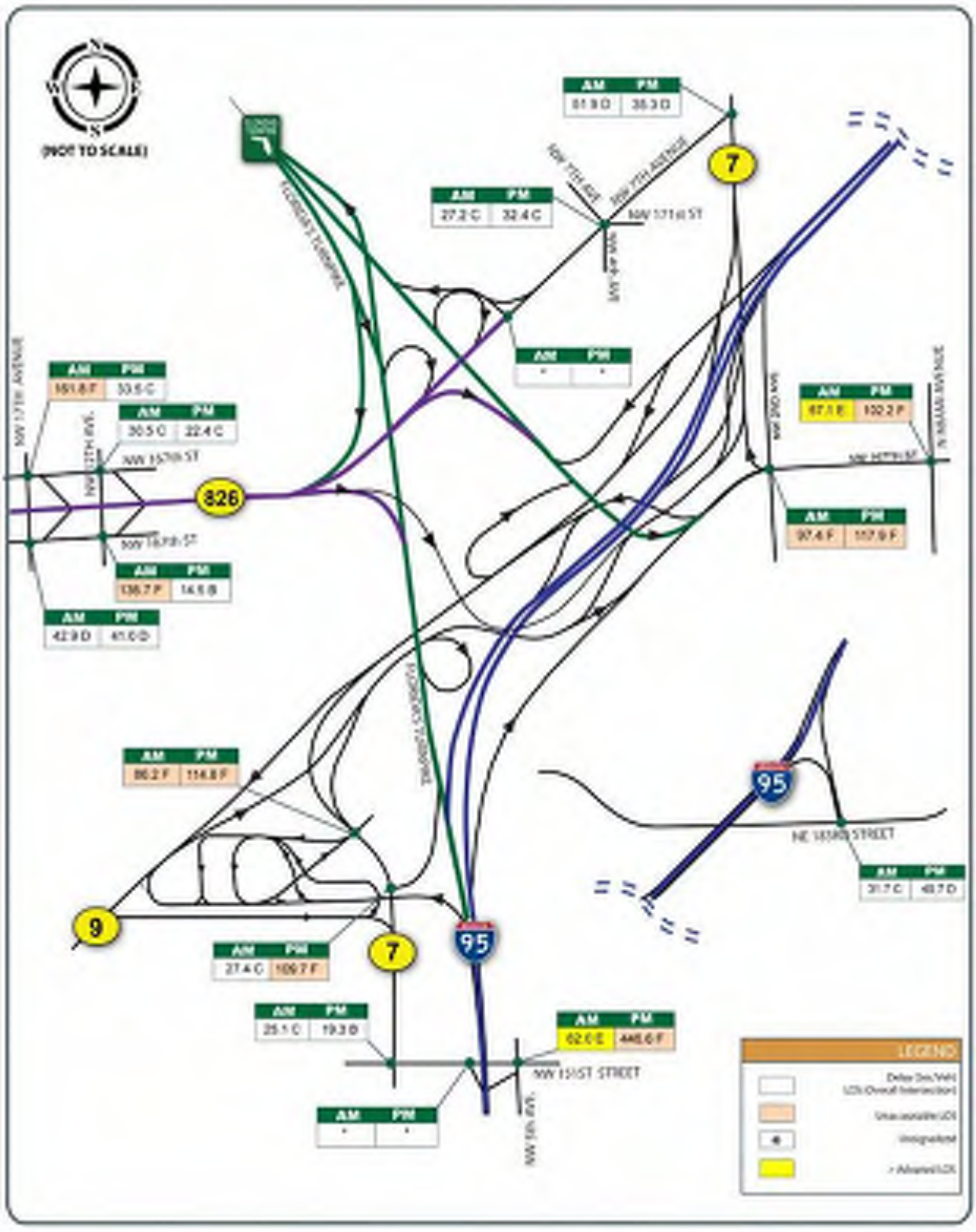


Figure 2-17 Existing Intersections LOS

2.9 Safety Analysis

Safety analysis was carried out as part of the GGI PD&E study to identify crash patterns, probable contributing cases, countermeasures and to provide recommendations for further studies, if needed. Crash analysis was performed for signalized intersections, arterial segments, ramps and freeway segments within the interchange study area of the GGI. The following sections summarize the safety analysis performed as part of this study. The detailed safety analysis is provided in the Safety Analysis Report.

2.9.1 Crash Data

Crash data for different roadway segments and intersections within the GGI was obtained from the FDOT Crash Analysis Reporting System (CAR) database from January 2006 to December 2010. The database provides roadway, environmental and driver characteristics that were existent at the time of each crash. This database provides the basis for the safety analysis.

2.9.2 Summary of Crash Frequency and Severity

Table 2-14 and Figure 2-18 shows a summary of the crash frequency, severity and historical trend for the different road classes within the project study area.

Table 2-14
Crash Frequency by Severity

Roadway Type	Severity	2006	2007	2008	2009	2010	5 Year Total	Mean Crashes Per Year
Freeway Segments (I-95, SR 826, Florida's Turnpike)	Fatal	3	1	4	2	0	10	2
	Injury	161	181	156	139	205	842	168
	PDO	183	188	173	184	246	974	195
	Total	***347***	***370***	***333***	***325***	***451***	***1826***	***365***
	Fatalities	***3***	***2***	***4***	***2***	***0***	***11***	**-**
Arterial Segments (SR 7, SR 9, NW 167th Street)	Fatal	0	1	1	0	0	2	1
	Injury	33	27	25	27	45	157	31
	PDO	40	36	41	31	42	190	38
	Total	***73***	***64***	***67***	***58***	***87***	***349***	***70***
	Fatalities	***0***	***1***	***1***	***0***	***0***	***2***	**-**
Interchange Ramps	Fatal	1	1	2	0	1	5	1
	Injury	34	37	45	41	56	213	43
	PDO	56	50	56	35	53	250	50
	Total	***91***	***88***	***103***	***76***	***110***	***468***	***94***
	Fatalities	***1***	***1***	***2***	***0***	***1***	***5***	**-**
Signalized Intersections	Fatal	0	0	0	1	0	1	0
	Injury	55	54	63	41	71	284	57
	PDO	50	67	77	58	58	310	62
	Total	***105***	***121***	***140***	***100***	***129***	***595***	***119***
	Fatalities	***0***	***0***	***0***	***1***	***0***	***1***	**-**
Total		**616**	**643**	**643**	**559**	**777**	**3,238**	**648**

PDO =Property Damage Only

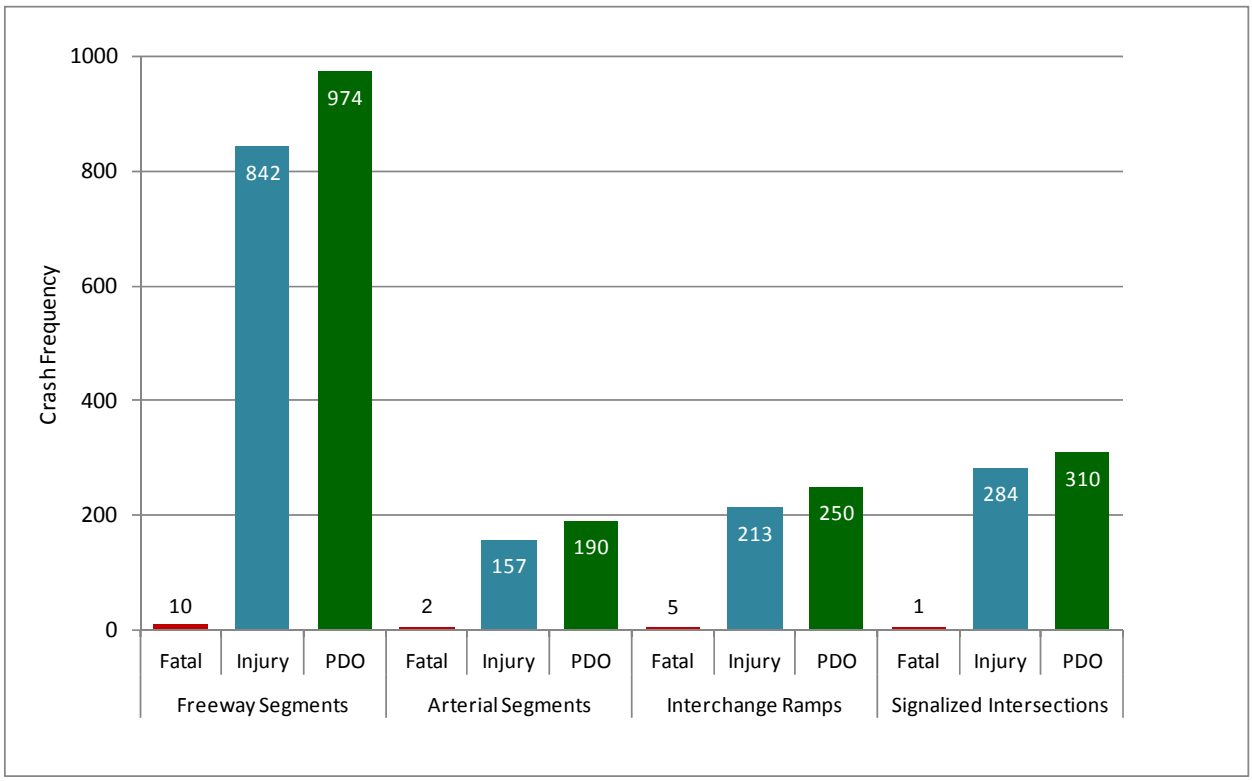


Figure 2-18 Crash Summary by Frequency and Severity

As indicated in the **Table 2-14**, a total of 3,238 crashes occurred within the study area over the five year analysis period. The majority of the crashes (56%) occurred within the freeway segments followed by the signalized intersections with 18% of the total crashes. This is indicative of the congested conditions along the freeways segments and signalized intersections within the study area.

A total of 18 fatal crashes with 19 fatalities occurred within the project study area during the five year analysis period. Out of the 18 fatal crashes within the study area, 10 occurred along the freeway segments. **Figure 2-19** shows the locations of the fatal crashes within the project study area.

2.9.3 Summary of Crash Distribution

Crashes were analyzed to identify predominant crash types along the project corridor. **Tables 2-15 through 2-23** summarize the crash distribution for the different roadway segments.

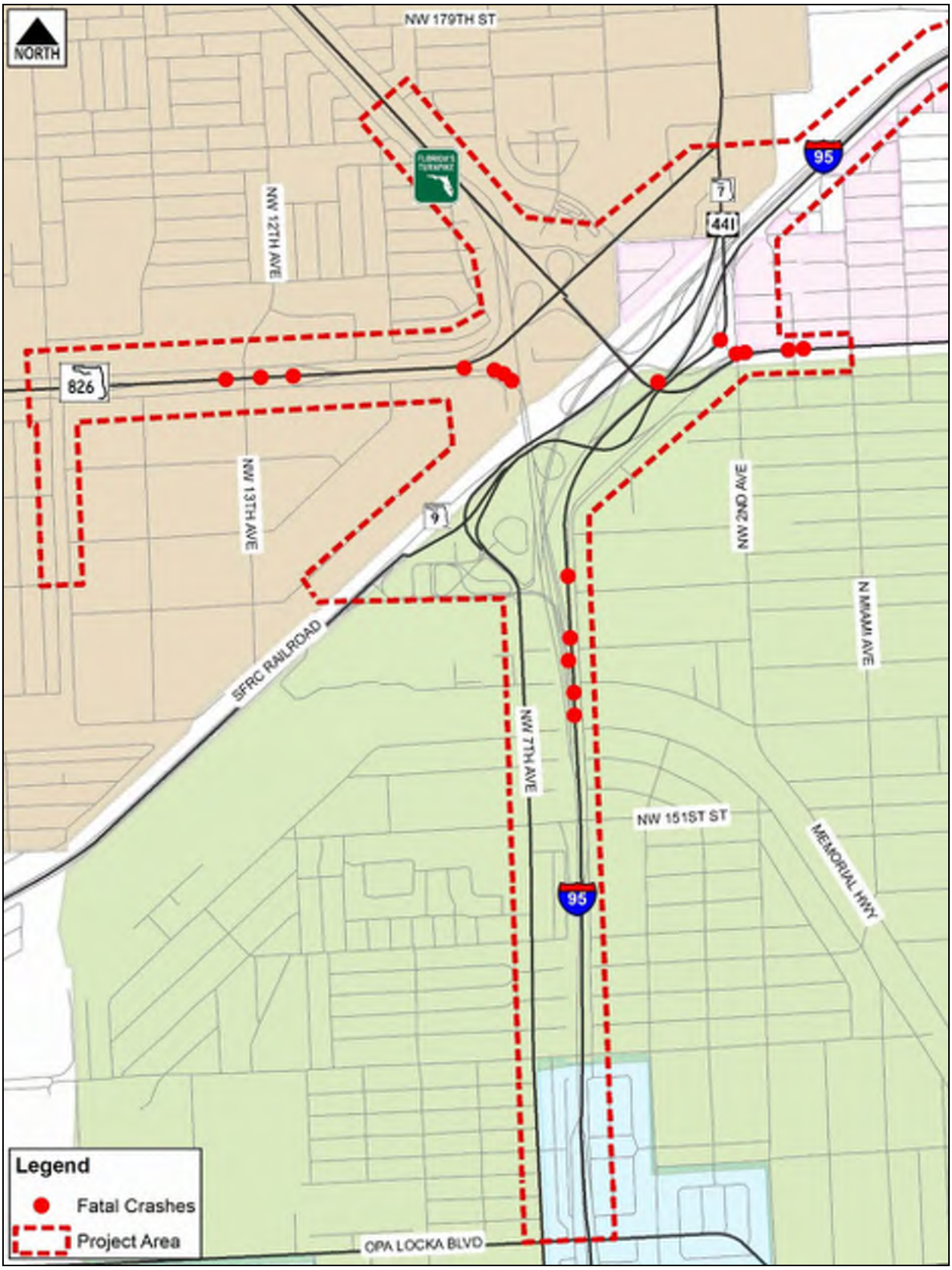


Figure 2-19 Fatal Crash Locations

Table 2-15
Crash Summary for SR 826/Palmetto Expressway (MP 23.00 to 24.708)

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes /Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	31	24	41	41	49	186	37.20	43.3%
	Head On	1	2	2	1	1	7	1.40	1.6%
	Angle	9	9	11	16	8	53	10.60	12.3%
	Left Turn	0	2	0	0	0	2	0.40	0.5%
	Right Turn	1	0	0	0	0	1	0.20	0.2%
	Sideswipe	21	20	14	13	16	84	16.80	19.5%
	Backed Into	0	0	0	0	1	1	0.20	0.2%
	Coll. w/ Parked Car	1	0	0	1	0	2	0.40	0.5%
	Coll. w/ Pedestrian	0	0	0	0	1	1	0.20	0.2%
	Fixed Object	7	8	8	9	12	44	8.80	10.2%
	Ran Off Road	1	0	0	1	1	3	0.60	0.7%
	Overturned	0	1	1	1	1	4	0.80	0.9%
	Other	9	11	5	7	10	42	8.40	9.8%
WEATHER CONDITION	Clear	45	44	43	55	52	239	47.80	55.6%
	Cloudy	28	22	22	21	28	121	24.20	28.1%
	Rain	7	11	17	14	20	69	13.80	16.0%
	Other	1	0	0	0	0	1	0.20	0.2%
LIGHTING CONDITIONS	Daylight	53	51	54	61	70	289	57.80	67.2%
	Dusk	0	2	3	0	1	6	1.20	1.4%
	Dawn	1	2	1	1	3	8	1.60	1.9%
	Dark	26	22	24	28	26	126	25.20	29.3%
	Unknown	1	0	0	0	0	1	0.20	0.2%
SURFACE CONDITIONS	Dry	63	62	54	67	69	315	63.00	73.3%
	Wet	16	15	28	23	31	113	22.60	26.3%
	Others	2	0	0	0	0	2	0.40	0.5%
MONTH OF YEAR	January	5	4	11	6	5	31	6.20	7.2%
	February	4	5	7	7	6	29	5.80	6.7%
	March	4	4	5	6	8	27	5.40	6.3%
	April	0	8	5	9	9	31	6.20	7.2%
	May	8	3	8	11	9	39	7.80	9.1%
	June	8	8	8	4	8	36	7.20	8.4%
	July	9	11	7	10	3	40	8.00	9.3%
	August	9	8	4	11	10	42	8.40	9.8%
	September	11	5	7	4	5	32	6.40	7.4%
	October	5	4	8	5	15	37	7.40	8.6%
	November	11	5	5	8	9	38	7.60	8.8%
	December	7	12	7	9	13	48	9.60	11.2%
DAY OF WEEK	Sunday	8	14	7	10	5	44	8.80	10.2%
	Monday	12	14	9	15	20	70	14.00	16.3%
	Tuesday	2	11	16	7	14	50	10.00	11.6%
	Wednesday	12	6	10	17	19	64	12.80	14.9%
	Thursday	16	12	14	19	13	74	14.80	17.2%
	Friday	19	11	15	11	20	76	15.20	17.7%
	Saturday	12	9	11	11	9	52	10.40	12.1%
HOUR OF DAY	00:00-06:00	3	7	11	9	11	41	8.20	9.5%
	06:00-09:00	17	15	13	15	23	83	16.60	19.3%
	09:00-11:00	6	9	8	11	10	44	8.80	10.2%
	11:00-13:00	4	6	5	6	5	26	5.20	6.0%
	13:00-15:00	7	10	8	14	14	53	10.60	12.3%
	15:00-18:00	16	9	18	11	15	69	13.80	16.0%
	18:00-24:00	28	21	19	24	22	114	22.80	26.5%
Total Crashes		**81**	**77**	**82**	**90**	**100**	**430**	**86.00**	**100%**

Table 2-16
Crash Summary for SR 9A/I-95 (MP 10.90 to 14.30)

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes /Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	107	88	86	65	129	475	95.00	47.0%
	Head On	3	0	1	0	5	9	1.80	0.9%
	Angle	10	14	11	16	17	68	13.60	6.7%
	Right Turn	0	0	0	0	0	0	0.00	0.0%
	Sideswipe	48	42	40	28	48	206	41.20	20.4%
	Backed Into	1	0	1	0	0	2	0.40	0.2%
	Coll. w/ Parked Car	1	0	0	1	1	3	0.60	0.3%
	Coll. w/ Pedestrian	0	0	1	0	0	1	0.20	0.1%
	Fixed Object	17	28	32	28	34	139	27.80	13.8%
	Ran Off Road	0	2	0	1	1	4	0.80	0.4%
	Overturned	0	1	1	1	2	5	1.00	0.5%
	Other	20	18	19	17	24	98	19.60	9.7%
WEATHER CONDITION	Clear	144	122	123	92	172	653	130.60	64.7%
	Cloudy	44	45	51	44	61	245	49.00	24.3%
	Rain	18	25	17	21	28	109	21.80	10.8%
	Fog	0	0	1	0	0	1	0.20	0.1%
	Other	1	1	0	0	0	2	0.40	0.2%
LIGHTING CONDITIONS	Daylight	130	124	126	107	188	675	135.00	66.8%
	Dusk	2	3	6	3	2	16	3.20	1.6%
	Dawn	2	1	2	1	4	10	2.00	1.0%
	Dark	72	64	58	46	67	307	61.40	30.4%
	Unknown	1	1	0	0	0	2	0.40	0.2%
SURFACE CONDITIONS	Dry	178	155	163	126	219	841	168.20	83.3%
	Wet	27	37	29	31	42	166	33.20	16.4%
	Others	2	1	0	0	0	3	0.60	0.3%
MONTH OF YEAR	January	35	12	21	11	11	90	18.00	8.9%
	February	19	10	7	10	18	64	12.80	6.3%
	March	13	26	15	11	17	82	16.40	8.1%
	April	7	13	22	15	18	75	15.00	7.4%
	May	19	10	21	14	25	89	17.80	8.8%
	June	15	20	17	11	31	94	18.80	9.3%
	July	16	14	16	13	28	87	17.40	8.6%
	August	15	14	18	10	23	80	16.00	7.9%
	September	15	14	15	25	20	89	17.80	8.8%
	October	17	23	12	11	20	83	16.60	8.2%
	November	18	20	11	7	22	78	15.60	7.7%
	December	18	17	17	19	28	99	19.80	9.8%
DAY OF WEEK	Sunday	25	31	27	19	31	133	26.60	13.2%
	Monday	26	22	23	24	28	123	24.60	12.2%
	Tuesday	44	30	25	21	38	158	31.60	15.6%
	Wednesday	26	21	30	24	40	141	28.20	14.0%
	Thursday	30	24	26	19	34	133	26.60	13.2%
	Friday	31	31	33	25	51	171	34.20	16.9%
	Saturday	25	34	28	25	39	151	30.20	15.0%
HOUR OF DAY	00:00-06:00	22	36	27	24	35	144	28.80	14.3%
	06:00-09:00	30	24	23	26	45	148	29.60	14.7%
	09:00-11:00	18	16	17	15	23	89	17.80	8.8%
	11:00-13:00	22	20	12	16	20	90	18.00	8.9%
	13:00-15:00	25	27	24	16	32	124	24.80	12.3%
	15:00-18:00	36	34	40	22	48	180	36.00	17.8%
	18:00-24:00	54	36	49	38	58	235	47.00	23.3%
Total Crashes		**207**	**193**	**192**	**157**	**261**	**1010**	**202.00**	**100%**

Table 2-17
Crash Summary for Florida's Turnpike (MP 0.00 to 0.584)

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes / Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	26	44	30	35	31	166	33.20	43.0%
	Head On	1	1	0	0	2	4	0.80	1.0%
	Angle	2	7	3	7	3	22	4.40	5.7%
	Left Turn	0	0	0	0	0	0	0.00	0.0%
	Right Turn	0	0	0	0	0	0	0.00	0.0%
	Sideswipe	10	15	14	13	22	74	14.80	19.2%
	Backed Into	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Parked Car	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Pedestrian	0	0	0	0	0	0	0.00	0.0%
	Fixed Object	13	23	5	14	24	79	15.80	20.5%
	Ran Off Road	1	2	2	1	1	7	1.40	1.8%
	Overturned	2	4	2	1	1	10	2.00	2.6%
	Other	4	4	3	7	6	24	4.80	6.2%
WEATHER CONDITION	Clear	36	54	28	50	46	214	42.80	55.4%
	Cloudy	13	23	15	18	26	95	19.00	24.6%
	Rain	9	23	16	10	18	76	15.20	19.7%
	Other	1	0	0	0	0	1	0.20	0.3%
LIGHTING CONDITIONS	Daylight	41	65	44	55	59	264	52.80	68.4%
	Dusk	2	0	0	1	0	3	0.60	0.8%
	Dawn	1	0	1	0	0	2	0.40	0.5%
	Dark	14	35	14	22	31	116	23.20	30.1%
	Unknown	1	0	0	0	0	1	0.20	0.3%
SURFACE CONDITIONS	Dry	44	67	39	59	57	266	53.20	68.9%
	Wet	12	33	19	19	32	115	23.00	29.8%
	Others	3	0	1	0	1	5	1.00	1.3%
MONTH OF YEAR	January	3	8	9	6	10	36	7.20	9.3%
	February	5	4	7	8	7	31	6.20	8.0%
	March	5	3	3	8	5	24	4.80	6.2%
	April	2	5	11	6	6	30	6.00	7.8%
	May	1	9	4	7	12	33	6.60	8.5%
	June	7	8	7	9	7	38	7.60	9.8%
	July	3	13	5	5	8	34	6.80	8.8%
	August	4	8	3	3	7	25	5.00	6.5%
	September	4	10	0	8	14	36	7.20	9.3%
	October	9	9	2	10	4	34	6.80	8.8%
	November	5	5	5	2	4	21	4.20	5.4%
	December	11	18	3	6	6	44	8.80	11.4%
DAY OF WEEK	Sunday	5	14	7	7	13	46	9.20	11.9%
	Monday	9	15	12	13	17	66	13.20	17.1%
	Tuesday	7	13	10	14	18	62	12.40	16.1%
	Wednesday	9	14	4	10	11	48	9.60	12.4%
	Thursday	10	13	9	12	12	56	11.20	14.5%
	Friday	11	15	8	9	10	53	10.60	13.7%
	Saturday	8	16	9	13	9	55	11.00	14.2%
HOUR OF DAY	00:00-06:00	8	14	6	6	12	46	9.20	11.9%
	06:00-09:00	10	29	14	11	19	83	16.60	21.5%
	09:00-11:00	5	6	4	7	9	31	6.20	8.0%
	11:00-13:00	8	9	7	8	6	38	7.60	9.8%
	13:00-15:00	10	11	8	11	5	45	9.00	11.7%
	15:00-18:00	9	10	7	15	15	56	11.20	14.5%
	18:00-24:00	9	21	13	20	24	87	17.40	22.5%
Total Crashes		**59**	**100**	**59**	**78**	**90**	**386**	**77.20**	**100%**

Table 2-18
Crash Summary for SR 7/ US 441 (MP 10.81 to 11.88)

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes per Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	20	21	19	19	27	106	21.20	45.7%
	Head On	1	1	1	1	1	5	1.00	2.2%
	Angle	7	3	5	1	2	18	3.60	7.8%
	Left Turn	0	0	0	0	0	0	0.00	0.0%
	Right Turn	0	0	0	0	0	0	0.00	0.0%
	Sideswipe	13	12	6	10	15	56	11.20	24.1%
	Backed Into	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Parked Car	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Pedestrian	2	0	0	0	1	3	0.60	1.3%
	Fixed Object	5	4	4	6	4	23	4.60	9.9%
	Ran Off Road	2	0	0	0	1	3	0.60	1.3%
	Overturned	0	1	0	0	0	1	0.20	0.4%
	Other	4	2	3	3	5	17	3.40	7.3%
WEATHER CONDITION	Clear	36	28	28	26	34	152	30.40	65.5%
	Cloudy	11	10	10	12	17	60	12.00	25.9%
	Rain	6	6	0	2	5	19	3.80	8.2%
	Other	1	0	0	0	0	1	0.20	0.4%
LIGHTING CONDITIONS	Daylight	32	30	32	25	39	158	31.60	68.1%
	Dusk	0	0	0	0	2	2	0.40	0.9%
	Dawn	1	0	0	1	0	2	0.40	0.9%
	Dark	20	14	6	14	15	69	13.80	29.7%
	Unknown	1	0	0	0	0	1	0.20	0.4%
SURFACE CONDITIONS	Dry	44	38	36	36	47	201	40.20	86.6%
	Wet	9	6	2	4	9	30	6.00	12.9%
	Others	1	0	0	0	0	1	0.20	0.4%
MONTH OF YEAR	January	5	6	2	6	3	22	4.40	9.5%
	February	5	4	3	1	4	17	3.40	7.3%
	March	5	4	5	1	5	20	4.00	8.6%
	April	2	3	4	5	5	19	3.80	8.2%
	May	5	3	4	2	2	16	3.20	6.9%
	June	2	3	0	3	6	14	2.80	6.0%
	July	5	3	5	4	5	22	4.40	9.5%
	August	3	3	3	1	3	13	2.60	5.6%
	September	6	4	3	3	4	20	4.00	8.6%
	October	6	5	3	6	4	24	4.80	10.3%
	November	3	3	3	4	4	17	3.40	7.3%
	December	7	3	3	4	11	28	5.60	12.1%
DAY OF WEEK	Sunday	5	6	1	4	5	21	4.20	9.1%
	Monday	9	13	8	8	13	51	10.20	22.0%
	Tuesday	14	1	5	4	8	32	6.40	13.8%
	Wednesday	8	7	5	7	9	36	7.20	15.5%
	Thursday	6	9	8	6	10	39	7.80	16.8%
	Friday	3	5	7	5	7	27	5.40	11.6%
	Saturday	6	3	4	6	4	23	4.60	9.9%
HOUR OF DAY	00:00-06:00	8	6	1	8	3	26	5.20	11.2%
	06:00-09:00	12	6	11	5	4	38	7.60	16.4%
	09:00-11:00	4	2	0	4	5	15	3.00	6.5%
	11:00-13:00	5	3	5	2	8	23	4.60	9.9%
	13:00-15:00	4	10	7	5	11	37	7.40	15.9%
	15:00-18:00	9	7	8	8	13	45	9.00	19.4%
	18:00-24:00	12	10	6	8	12	48	9.60	20.7%
Total Crashes		**54**	**44**	**38**	**40**	**56**	**232**	**46.40**	**100%**

Table 2-19
Crash Summary for SR 9 (MP 13.22 to 13.69)

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	0	1	3	2	7	13	2.60	38.2%
	Head On	0	0	0	0	0	0	0.00	0.0%
	Angle	0	2	0	0	0	2	0.40	5.9%
	Left Turn	0	0	0	0	0	0	0.00	0.0%
	Right Turn	0	0	0	0	0	0	0.00	0.0%
	Sideswipe	0	0	1	0	5	6	1.20	17.6%
	Backed Into	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Parked Car	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Pedestrian	0	0	0	0	0	0	0.00	0.0%
	Fixed Object	3	2	2	1	1	9	1.80	26.5%
	Ran Off Road	0	0	0	0	0	0	0.00	0.0%
	Overturned	0	2	0	0	0	2	0.40	5.9%
	Other	1	0	0	0	1	2	0.40	5.9%
WEATHER CONDITION	Clear	1	7	2	1	8	19	3.80	55.9%
	Cloudy	2	0	3	2	3	10	2.00	29.4%
	Rain	1	0	1	0	3	5	1.00	14.7%
	Other	0	0	0	0	0	0	0.00	0.0%
LIGHTING CONDITIONS	Daylight	1	5	3	0	8	17	3.40	50.0%
	Dusk	0	0	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0	0	0.00	0.0%
	Dark	3	2	3	3	6	17	3.40	50.0%
	Unknown	0	0	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	1	7	4	3	11	26	5.20	76.5%
	Wet	3	0	2	0	3	8	1.60	23.5%
	Others	0	0	0	0	0	0	0.00	0.0%
MONTH OF YEAR	January	0	2	1	1	0	4	0.80	11.8%
	February	0	1	1	0	0	2	0.40	5.9%
	March	0	2	1	0	3	6	1.20	17.6%
	April	0	2	0	0	0	2	0.40	5.9%
	May	1	0	0	2	0	3	0.60	8.8%
	June	0	0	2	0	2	4	0.80	11.8%
	July	0	0	0	0	2	2	0.40	5.9%
	August	0	0	0	0	0	0	0.00	0.0%
	September	0	0	0	0	1	1	0.20	2.9%
	October	1	0	0	0	1	2	0.40	5.9%
	November	0	0	0	0	4	4	0.80	11.8%
	December	2	0	1	0	1	4	0.80	11.8%
DAY OF WEEK	Sunday	2	0	2	0	4	8	1.60	23.5%
	Monday	0	0	1	0	4	5	1.00	14.7%
	Tuesday	1	2	2	0	2	7	1.40	20.6%
	Wednesday	0	2	0	1	1	4	0.80	11.8%
	Thursday	0	1	1	0	3	5	1.00	14.7%
	Friday	0	2	0	2	0	4	0.80	11.8%
	Saturday	1	0	0	0	0	1	0.20	2.9%
HOUR OF DAY	00:00-06:00	1	0	2	1	3	7	1.40	20.6%
	06:00-09:00	1	1	1	0	3	6	1.20	17.6%
	09:00-11:00	0	0	2	0	0	2	0.40	5.9%
	11:00-13:00	0	2	0	0	0	2	0.40	5.9%
	13:00-15:00	0	2	0	0	4	6	1.20	17.6%
	15:00-18:00	0	0	1	0	0	1	0.20	2.9%
	18:00-24:00	2	2	0	2	4	10	2.00	29.4%
Total Crashes		**4**	**7**	**6**	**3**	**14**	**34**	**6.80**	**100%**

Table 2-20
Crash Summary for NW 167th Street (MP 0.00 to 0.73)

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	2	1	6	1	5	15	3.00	39.5%
	Head On	1	0	0	0	0	1	0.20	2.6%
	Angle	1	2	0	1	1	5	1.00	13.2%
	Left Turn	0	0	0	0	0	0	0.00	0.0%
	Right Turn	0	0	0	0	0	0	0.00	0.0%
	Sideswipe	0	0	0	1	0	1	0.20	2.6%
	Backed Into	0	1	0	0	1	2	0.40	5.3%
	Coll. w/ Parked Car	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Pedestrian	0	1	3	0	0	4	0.80	10.5%
	Fixed Object	1	1	2	1	0	5	1.00	13.2%
	Ran Off Road	0	0	0	0	0	0	0.00	0.0%
	Overturned	0	0	0	0	1	1	0.20	2.6%
	Other	1	2	0	1	0	4	0.80	10.5%
WEATHER CONDITION	Clear	4	7	7	3	4	25	5.00	65.8%
	Cloudy	2	0	3	2	3	10	2.00	26.3%
	Rain	0	1	1	0	1	3	0.60	7.9%
	Other	0	0	0	0	0	0	0.00	0.0%
LIGHTING CONDITIONS	Daylight	6	5	5	3	7	26	5.20	68.4%
	Dusk	0	0	0	0	0	0	0.00	0.0%
	Dawn	0	1	1	0	0	2	0.40	5.3%
	Dark	0	2	5	2	1	10	2.00	26.3%
	Unknown	0	0	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	4	7	10	5	7	33	6.60	86.8%
	Wet	2	1	1	0	1	5	1.00	13.2%
	Others	0	0	0	0	0	0	0.00	0.0%
MONTH OF YEAR	January	0	1	1	2	0	4	0.80	10.5%
	February	0	0	2	0	1	3	0.60	7.9%
	March	0	1	0	1	1	3	0.60	7.9%
	April	2	2	1	0	0	5	1.00	13.2%
	May	0	0	1	0	1	2	0.40	5.3%
	June	0	0	1	1	1	3	0.60	7.9%
	July	2	0	2	0	0	4	0.80	10.5%
	August	0	0	0	0	1	1	0.20	2.6%
	September	0	2	1	0	0	3	0.60	7.9%
	October	0	0	1	1	1	3	0.60	7.9%
	November	0	2	0	0	1	3	0.60	7.9%
	December	2	0	1	0	1	4	0.80	10.5%
DAY OF WEEK	Sunday	0	3	1	1	1	6	1.20	15.8%
	Monday	0	2	4	0	2	8	1.60	21.1%
	Tuesday	1	0	1	1	0	3	0.60	7.9%
	Wednesday	1	1	0	0	1	3	0.60	7.9%
	Thursday	1	0	1	2	2	6	1.20	15.8%
	Friday	2	2	2	0	1	7	1.40	18.4%
	Saturday	1	0	2	1	1	5	1.00	13.2%
HOUR OF DAY	00:00-06:00	0	1	4	0	0	5	1.00	13.2%
	06:00-09:00	0	0	3	2	0	5	1.00	13.2%
	09:00-11:00	1	1	1	0	2	5	1.00	13.2%
	11:00-13:00	1	2	1	2	1	7	1.40	18.4%
	13:00-15:00	1	1	0	0	1	3	0.60	7.9%
	15:00-18:00	2	2	1	0	2	7	1.40	18.4%
	18:00-24:00	1	1	1	1	2	6	1.20	15.8%
Total Crashes		**6**	**8**	**11**	**5**	**8**	**38**	**7.60**	**100%**

Table 2-21
Crash Summary for NW 7th Ave Extension (MP 10.81 to 11.88)

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	0	2	4	2	2	10	2.00	22.2%
	Head On	0	0	0	0	0	0	0.00	0.0%
	Angle	1	1	3	6	2	13	2.60	28.9%
	Left Turn	1	0	1	0	1	3	0.60	6.7%
	Right Turn	0	0	1	0	0	1	0.20	2.2%
	Sideswipe	4	0	1	2	2	9	1.80	20.0%
	Backed Into	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Parked Car	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Pedestrian	0	0	0	0	0	0	0.00	0.0%
	Fixed Object	2	0	1	0	1	4	0.80	8.9%
	Ran Off Road	0	0	0	0	0	0	0.00	0.0%
	Overturned	0	0	0	0	1	1	0.20	2.2%
	Other	1	2	1	0	0	4	0.80	8.9%
WEATHER CONDITION	Clear	8	4	8	8	7	35	7.00	77.8%
	Cloudy	1	1	3	2	1	8	1.60	17.8%
	Rain	0	0	1	0	1	2	0.40	4.4%
	Other	0	0	0	0	0	0	0.00	0.0%
LIGHTING CONDITIONS	Daylight	5	5	11	8	5	34	6.80	75.6%
	Dusk	0	0	0	0	0	0	0.00	0.0%
	Dawn	0	0	0	0	0	0	0.00	0.0%
	Dark	4	0	1	2	4	11	2.20	24.4%
	Unknown	0	0	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	8	5	9	9	8	39	7.80	86.7%
	Wet	1	0	3	1	1	6	1.20	13.3%
	Others	0	0	0	0	0	0	0.00	0.0%
MONTH OF YEAR	January	0	0	0	0	1	1	0.20	2.2%
	February	2	0	1	1	0	4	0.80	8.9%
	March	2	1	2	1	0	6	1.20	13.3%
	April	0	0	1	0	2	3	0.60	6.7%
	May	1	0	1	1	0	3	0.60	6.7%
	June	0	2	2	2	0	6	1.20	13.3%
	July	1	0	1	1	0	3	0.60	6.7%
	August	0	0	0	1	0	1	0.20	2.2%
	September	0	2	1	1	1	5	1.00	11.1%
	October	2	0	2	1	1	6	1.20	13.3%
	November	1	0	0	0	2	3	0.60	6.7%
	December	0	0	1	1	2	4	0.80	8.9%
DAY OF WEEK	Sunday	0	0	0	0	1	1	0.20	2.2%
	Monday	2	0	0	2	1	5	1.00	11.1%
	Tuesday	2	1	2	2	1	8	1.60	17.8%
	Wednesday	2	1	1	1	1	6	1.20	13.3%
	Thursday	1	0	2	2	0	5	1.00	11.1%
	Friday	2	2	4	1	3	12	2.40	26.7%
	Saturday	0	1	3	2	2	8	1.60	17.8%
HOUR OF DAY	00:00-06:00	0	0	0	0	3	3	0.60	6.7%
	06:00-09:00	2	0	1	2	0	5	1.00	11.1%
	09:00-11:00	0	1	2	1	0	4	0.80	8.9%
	11:00-13:00	0	0	0	0	0	0	0.00	0.0%
	13:00-15:00	2	2	3	2	1	10	2.00	22.2%
	15:00-18:00	1	2	4	3	4	14	2.80	31.1%
	18:00-24:00	4	0	2	2	1	9	1.80	20.0%
	Total Crashes	**9**	**5**	**12**	**10**	**9**	**45**	**9.00**	**100%**

Table 2-22
Crash Summary for Interchange Ramps

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	38	40	44	45	58	225	45.00	48.1%
	Head On	1	1	1	0	5	8	1.60	1.7%
	Angle	3	6	7	4	6	26	5.20	5.6%
	Left Turn	2	0	0	0	0	2	0.40	0.4%
	Right Turn	1	0	0	0	0	1	0.20	0.2%
	Sideswipe	15	6	16	12	13	62	12.40	13.2%
	Coll. w/ Parked Car	0	0	0	0	1	1	0.20	0.2%
	Coll. w/ Pedestrian	0	0	0	0	0	0	0.00	0.0%
	Coll. w/ Bicycle	0	0	0	0	1	1	0.20	0.2%
	Fixed Object	18	22	15	6	14	75	15.00	16.0%
	Ran Off Road	3	4	2	1	1	11	2.20	2.4%
	Overturned	2	1	7	3	4	17	3.40	3.6%
	Other	8	8	11	5	7	39	7.80	8.3%
WEATHER CONDITION	Clear	61	53	52	53	67	286	57.20	61.1%
	Cloudy	20	19	39	16	21	115	23.00	24.6%
	Rain	10	15	12	7	22	66	13.20	14.1%
	Other	0	1	0	0	0	1	0.20	0.2%
LIGHTING CONDITIONS	Daylight	64	56	69	50	75	314	62.80	67.1%
	Dusk	0	1	0	2	3	6	1.20	1.3%
	Dawn	0	0	1	1	0	2	0.40	0.4%
	Dark	27	30	33	23	32	145	29.00	31.0%
	Unknown	0	1	0	0	0	1	0.20	0.2%
SURFACE CONDITIONS	Dry	71	70	81	65	83	370	74.00	79.1%
	Wet	19	18	22	10	27	96	19.20	20.5%
	Others	1	0	0	1	0	2	0.40	0.4%
MONTH OF YEAR	January	6	12	16	8	10	52	10.40	11.1%
	February	9	7	9	5	4	34	6.80	7.3%
	March	2	10	14	9	12	47	9.40	10.0%
	April	6	5	8	4	9	32	6.40	6.8%
	May	7	6	6	6	9	34	6.80	7.3%
	June	6	5	4	6	12	33	6.60	7.1%
	July	9	11	8	9	9	46	9.20	9.8%
	August	7	9	8	2	6	32	6.40	6.8%
	September	8	9	8	9	10	44	8.80	9.4%
	October	10	6	11	6	8	41	8.20	8.8%
	November	10	5	4	6	9	34	6.80	7.3%
	December	11	3	7	6	12	39	7.80	8.3%
DAY OF WEEK	Sunday	10	18	15	11	8	62	12.40	13.2%
	Monday	11	15	14	10	23	73	14.60	15.6%
	Tuesday	15	10	18	14	12	69	13.80	14.7%
	Wednesday	14	13	13	8	21	69	13.80	14.7%
	Thursday	13	12	16	8	20	69	13.80	14.7%
	Friday	10	9	11	13	14	57	11.40	12.2%
	Saturday	17	11	15	11	12	66	13.20	14.1%
HOUR OF DAY	00:00-06:00	13	7	14	12	10	56	11.20	12.0%
	06:00-09:00	7	18	13	11	13	62	12.40	13.2%
	09:00-11:00	12	8	4	5	13	42	8.40	9.0%
	11:00-13:00	10	9	1	8	11	39	7.80	8.3%
	13:00-15:00	15	9	22	13	11	70	14.00	15.0%
	15:00-18:00	16	13	20	13	21	83	16.60	17.7%
	18:00-24:00	18	24	29	14	31	116	23.20	24.8%
Total Crashes		**91**	**88**	**103**	**76**	**110**	**468**	**93.60**	**100%**

Table 2-23
Crash Summary for Intersections

Crash Pattern		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	39	47	46	43	54	229	45.80	38.5%
	Head On	1	1	4	2	6	14	2.80	2.4%
	Angle	20	20	33	27	22	122	24.40	20.5%
	Left Turn	12	13	13	4	6	48	9.60	8.1%
	Right Turn	1	2	4	0	0	7	1.40	1.2%
	Sideswipe	15	12	20	17	22	86	17.20	14.5%
	Backed Into	2	1	1	0	2	6	1.20	1.0%
	Coll. w/ Pedestrian	0	3	2	1	2	8	1.60	1.3%
	Coll. w/ Bicycle	0	0	1	0	0	1	0.20	0.2%
	Fixed Object	3	8	6	2	4	23	4.60	3.9%
	Ran Off Road	0	1	0	1	0	2	0.40	0.3%
	Overturned	0	0	2	0	1	3	0.60	0.5%
	Other	12	13	8	3	10	46	9.20	7.7%
WEATHER CONDITION	Clear	82	93	94	67	89	425	85.00	71.4%
	Cloudy	18	14	31	28	24	115	23.00	19.3%
	Rain	5	11	15	5	16	52	10.40	8.7%
	Other	0	3	0	0	0	3	0.60	0.5%
LIGHTING CONDITIONS	Daylight	74	81	102	68	79	404	80.80	67.9%
	Dusk	1	7	2	0	1	11	2.20	1.8%
	Dawn	3	2	5	2	1	13	2.60	2.2%
	Dark	27	28	31	30	48	164	32.80	27.6%
	Unknown	0	3	0	0	0	3	0.60	0.5%
SURFACE CONDITIONS	Dry	89	99	117	86	101	492	98.40	82.7%
	Wet	15	19	22	14	26	96	19.20	16.1%
	Others	1	3	1	0	2	7	1.40	1.2%
MONTH OF YEAR	January	5	12	14	12	11	54	10.80	9.1%
	February	10	8	7	11	11	47	9.40	7.9%
	March	7	12	14	10	10	53	10.60	8.9%
	April	5	11	13	8	12	49	9.80	8.2%
	May	10	8	14	7	12	51	10.20	8.6%
	June	7	9	15	10	9	50	10.00	8.4%
	July	16	12	9	6	7	50	10.00	8.4%
	August	6	11	12	4	14	47	9.40	7.9%
	September	15	9	8	8	13	53	10.60	8.9%
	October	12	12	14	11	9	58	11.60	9.7%
	November	6	8	6	5	8	33	6.60	5.5%
	December	6	9	14	8	13	50	10.00	8.4%
DAY OF WEEK	Sunday	11	18	14	11	18	72	14.40	12.1%
	Monday	20	15	24	10	18	87	17.40	14.6%
	Tuesday	17	20	39	29	17	122	24.40	20.5%
	Wednesday	20	12	16	16	18	82	16.40	13.8%
	Thursday	13	18	17	11	20	79	15.80	13.3%
	Friday	14	20	21	9	20	84	16.80	14.1%
	Saturday	10	18	9	14	18	69	13.80	11.6%
HOUR OF DAY	00:00-06:00	9	10	11	7	17	54	10.80	9.1%
	06:00-09:00	14	18	20	17	18	87	17.40	14.6%
	09:00-11:00	9	9	10	7	6	41	8.20	6.9%
	11:00-13:00	10	6	12	11	10	49	9.80	8.2%
	13:00-15:00	18	17	20	13	19	87	17.40	14.6%
	15:00-18:00	22	31	31	20	25	129	25.80	21.7%
	18:00-24:00	23	30	36	25	34	148	29.60	24.9%
Total Crashes		**105**	**121**	**140**	**100**	**129**	**595**	**119.00**	**100%**

2.9.4 High Crash Locations

Crash rates and safety ratios were computed for the different roadway segments within the project study area in order to identify any high crash locations. The evaluation process for this safety analysis involved the determination of the actual crash rate per million-vehicle-miles-travelled (MVMT) and the comparison of these values with the critical crash rates for similar type roadways. The critical crash rate and safety ratio were computed based on the average crash rate for a particular facility type and the vehicular exposure at the study location using the following equations:

$$Xc = Xb + k\sqrt{\frac{Xb}{m} + \frac{1}{2m}}$$

$$\text{Safety Ratio} = \frac{Xa}{Xc}$$

Where:

X_c = Critical crash rate for a particular location (Crash/MVMT)
X_a = Actual Crash Rate for a particular location (Crash/MVMT)
X_b = Average districtwide crash rate for similar roadways (Crash/MVMT)
m = Number of vehicles traversing a particular road section (millions of vehicle-miles)
k = Probability factor determined by the level of statistical significance (99.95%)

A safety ratio greater than one indicates that the roadway segment presents abnormally high crash occurrences, safety ratios less than one translates into random occurrences of crashes within normal ranges. Based on the safety ratio analysis the following roadway segments were identified as high crash locations and are further described in the following sections.

2.9.4.1 Freeway Segments

Table 2-24 provides the summary of the safety ratio analysis for the freeway high crash locations. Four freeway segments were identified as high crash locations. The following sections summarize the predominant crash patterns and probable causes at these freeway segments. The detailed analysis is provided in the Safety Analysis Report.

Table 2-24
High Crash Locations- Freeway Segments

Roadway	Section No.	Direction	BMP	EMP	Confidence Level*	Total Crashes	Maximum Five Year Safety Ratio
SR 826/Palmetto Expressway	87260000	Eastbound & Westbound	23.470	24.283	99.99%	325	1.710 (2010)
SR 9A/I-95	87270000	Northbound & Southbound	11.809	13.628	99.99%	970	1.146 (2006)
SR 826 Connector	87170000	Eastbound & Westbound	0.000	0.372	99.99%	106	1.417 (2008)
Turnpike Connector	87270212	Northbound	0.000	1.042	N/A	253	2.034 (2007)
	87270210	Southbound	0.000	0.758			

*Note: *Confidence values in the table reflect the calculated results*

SR 826/Palmetto Expressway from MP 23.470 to MP 24.283 (EB and WB)

A total of 325 crashes occurred along this freeway segment during the five year analysis period, including 4 fatal crashes, 163 (50.15%) injury crashes and 157 (48.3%) property damage only crashes. The frequency of night time crashes indicates that 34.78% of all crashes occurred under dark/dawn/dusk lighting conditions, which exceeds the statewide average of 34%. The distribution of crashes by type revealed that rear-end was the most predominant crash type along this segment, accounting for 42.5% of the total crashes, followed by sideswipe crashes accounting with 17.0%, angle type of crashes accounting for 15.1% and collisions with fixed objects accounting for 10.77%. The high occurrence of rear-end crashes may be due to high speed and congested conditions particularly in the eastbound direction approaching the GGI. In addition, the merging and weaving maneuvers from NW 12th Avenue on-ramp might be contributory causes for the frequent angle and sideswipe crashes within this segment.

SR 9A/I-95 from MP 11.809 to MP 13.628

A total of 970 crashes occurred along this freeway segment during the five-year analysis period including 438 (45.1%) injury crashes and 526 (54.2%) property damage only crashes. 6 fatal crashes were reported along the segment during the analysis period. The frequency of night time crashes indicates that 33.3% of all crashes occurred under dark/dawn/dusk lighting conditions, which is below the statewide average of 34%. The

distribution of crashes by type revealed that rear-end was the most predominant crash type along this segment, accounting for 445 (46.0%) of the total crashes, followed by sideswipe crashes accounting for 206 (21.2%), and collision with a fixed object accounting for 133 (13.7%). One collision with pedestrian was reported during the analysis period. The high occurrence of rear-end crashes may be due to congested conditions within the GGI during the peak periods. The merging and diverging maneuvers along this I-95 segment coupled with weavings to and from the express lanes might be contributory causes for the frequent sideswipe crashes within this segment. In addition, the presence of narrow shoulders within some segments might have contributed to collisions with fixed objects such as barrier walls or guardrails.

SR 826 Connector from MP 0.000 to MP 0.372

A total of 106 crashes occurred along this freeway segment during the five-year analysis period including 49 (46.2%) injury crashes and 57 (53.8%) property damage only crashes. No fatal crashes were reported along the segment during the analysis period. The distribution of crashes by type revealed that rear end was the most predominant crash type along this segment, accounting for 48 (45.3%) of the total crashes, followed by sideswipes accounting for 29 (27.4%) crashes. No collisions with pedestrians were reported during the analysis period. The high occurrence of rear-end and sideswipe crashes may be due to high speeds as vehicles exit the Florida's Turnpike and merge with the congested conditions and traffic back-up as drivers approach the signalized intersection at NW 2nd Avenue.

Turnpike Connector from MP 0.000 to MP 1.042 (NB) and 0.758 (SB)

A total of 253 crashes occurred along this freeway segment during the five-year analysis period including 115 (45.5%) injury crashes and 138 (54.5%) property damage only crashes. No fatal crashes were reported along the segment during the analysis period. The distribution of crashes by type revealed that rear end was the most predominant crash type along this segment, accounting for 115 (45.5%) of the total crashes, followed by collisions with fixed objects accounting for 48 (19.0%) crashes and sideswipes accounting for 43 (17.0%) of total crashes. No collisions with pedestrians were reported during the analysis period. During the morning peak period, the existing congestion backs up through the existing toll plaza sometimes extending as far as the Sunlife stadium. As a result, drivers use the adjacent tandem parking area to join back onto the Turnpike Connector southbound within this segment in order to cut through the congestion. This results in uncontrolled merge and diverge maneuvers at this location as drivers try to get into the right lanes to their destinations. The presence of barrier walls and guardrails separating the tandem truck parking area from the ramp connector also increases the occurrence of fixed object crashes as the drivers try to navigate their way within this congested segment of the ramp connector. Construction activities along the Turnpike Connector northbound between 2009 and 2010 may have also contributed to the relatively high crashes along the Turnpike Connector during the analysis period.

2.9.4.2 Arterial Segments

Three arterial segments within the project study area were identified in the FDOT District Six in the 2010 High Crash Locations list at a confidence level of 99.99%. **Table 2-25** summarizes the locations and characteristics of these high crash arterial segments.

Table 2-25
High Crash Locations- Arterial Segments

Roadway	Section No.	Direction	BMP	EMP	Confidence Level*	Total Crashes	Maximum Five Year Safety Ratio
SR 7/ US441	87140000	Eastbound & Westbound	10.863	11.993	99.99%	251	0.696 (2010)
SR 9 from (ramp to GGI Parking Lot) to SR 7/US 441	87240000	Eastbound & Westbound	13.224	13.690	99.99%	24	0.270 (2010)
SR 826/NW 167 Street between NW 2 Ave and N Miami Ave	87170000	Eastbound & Westbound	0.525	0.677	99.99%	30	0.377 (2008)

*Note: *Confidence values in the table reflect the calculated results*

SR 7/ US 441 from MP 10.863 to MP 11.993

A total of 251 crashes occurred along this arterial roadway during the 5 years analysis period including 111 (44.2%) injury crashes and 136 (54.1%) Property Damage Only (PDO) crashes. One fatal crash was reported along the segment during the analysis period. The frequency of night time crashes indicates that 31% of all crashes occurred under dark/dawn/dusk lighting condition. The distribution of crashes by type revealed that rear end was the most predominant crash type along this segment, accounting for 115 (45.8%) of the total crashes, followed by sideswipe crashes accounting for 59 (23.5%), and collision with fixed objects accounting for 26 (10.4%). Three collisions with pedestrians were reported during the analysis period. The high occurrence of rear-end and sideswipe crashes may be due to congested conditions along this arterial segment. This segment of SR 7/US 441 is part of the signed route from SR 826 to I-95 NB and it is heavily congested during the peak periods. In addition, weaving maneuvers between the SR 7/US 441 and SR 9 traffic might be contributory causes for the frequent sideswipe crashes within this segment.

SR 9 from Ramp to GGI Parking Lot (MP 13.224) to SR 7/US 441 (MP 13.690)

A total of 24 crashes occurred along this arterial roadway during the 5 years analysis period including 11 (45.8%) injury crashes and 13 (54.2%) PDO crashes. No fatal crashes were reported along the segment during the analysis period. The frequency of night time crashes indicates that 33.3% of all crashes occurred under dark/dawn/dusk lighting conditions. The distribution of crashes by type revealed that rear end and collision with a fixed object were the most predominant crash types along this segment, each accounting for 8 crashes (33.3%) of the total crashes. No collisions with pedestrians were reported during the

analysis period. The predominance of rear-end crashes may be due to congested conditions resulting from merge and weaving maneuvers as SR 9 merges with SR 7/US 441.

SR 826/NW 167 St between NW 2nd Ave (MP 0.525) and N Miami Ave (MP 0.677)

A total of 30 crashes occurred along this arterial segment during the 5 years analysis period including 16 (53.3%) injury crashes and 12 (40.0%) PDO. Two fatal crashes were reported along the segment at night time during the analysis period. The frequency of night time crashes indicates that 33.4% of all crashes occurred under dark/dawn/dusk lighting conditions. The distribution of crashes by type revealed that rear-end was the most predominant crash type along this segment, accounting for 11 (36.7%) of the total crashes, followed by angle crashes accounting for 5 (16.7%). Four collisions with pedestrian were reported during the analysis period. The high occurrence of rear-end and sideswipe crashes may be due to congested conditions approaching NW 2nd Avenue signalized intersection. The lack of adequate pedestrian facilities connecting NW 167th Street to SR 7/US 441 and other major pedestrian generators such as the Jackson North Hospital may be attributed to the pedestrian crash occurrences.

2.9.4.3 Intersections

Four signalized intersections within the project study area were identified in the FDOT District Six 2010 High Crash Locations list at a confidence level of 99.99%. **Table 2-26** summarizes the locations and characteristics of these high crash signalized intersections.

Table 2-26
High Crash Locations- Intersections

#	Intersection	Section No	MP	Confidence Level*	Total Crashes	Maximum Five Year Safety Ratio
1	NW 12 Avenue and NW 167 St/ SR 826 EB Off-ramp	87260602	0.406	99.99%	13	1.264 (2008)
2	SR 826/NW 167 Street and NW 2 Avenue	87170000	0.474	99.99%	193	2.139 (2006)
3	SR 7/US 441/NW 2 Ave and NW 7 Avenue Ext	87140000	12.044	99.99%	148	2.354 (2008-2010)
4	SR 7/US 441 and GGI Ext (Park and Ride)	87140000	10.812	99.17%	30	0.821 (2006)

*Note: *Confidence values in the table reflect the calculated results*

NW 12 Ave and NW 167th Street (SR 826 EB Off-Ramp)

A total of 13 crashes occurred at this intersection during the five-year analysis period including 6 (46.2%) injury crashes and 7 (53.8%) PDO crashes. No fatal crashes were reported at the intersection during the analysis period. The frequency of night time crashes indicates that 46.2% of all crashes occurred under dark/dawn/dusk lighting conditions which

are higher than the statewide average of 34%. The distribution of crashes by type revealed that angle crashes were the most predominant crash type at the intersection, accounting for 4 (30.8%) of the total crashes, followed by left turns accounting for 3 (23.1%). One collision with pedestrian was reported during the analysis period. The predominance of left turn and angle crashes at this intersection may be attributed to large approach and left turn volume and inadequate signal clearance time.

SR 826/NW 167th Street and NW 2nd Avenue

A total of 193 crashes occurred at the intersection during the five-year analysis period including 80 (41.5%) injury crashes and 113 (58.5%) PDO crashes. No fatal crashes were reported at the intersection during the analysis period. The distribution of crashes by type revealed that rear end was the most predominant crash type at the intersection, accounting for 80 (41.5%) of the total crashes, followed by angle crashes accounting for 44 (22.8%), and sideswipe crashes accounting for 35 (18.1%). No collision with pedestrian was reported during the analysis period. The high rear-end and sideswipe crashes may be attributed to congested conditions approaching this intersection. The predominance of angle crashes may be due to inadequate signal clearance.

SR 7/US 441/NW 2 Ave and NW 7 Avenue Extension

A total of 148 crashes occurred at the intersection during the five-year analysis period including 68 (45.9%) injury crashes and 79 (53.4%) PDO crashes. One fatal crash was reported at the intersection during the analysis period. The frequency of night time crashes indicates that 34.5% of all crashes occurred under dark/dawn/dusk lighting conditions. The distribution of crashes by type revealed that rear end was the most predominant crash type at this intersection, accounting for 59 (39.9%) of the total crashes, followed by angle crashes accounting for 31 (20.9%) and sideswipe accounting for 20 (13.5%). One pedestrian crash was reported during the analysis period. The relatively high rear-end crash may be due to high approach speed in the eastbound direction as vehicles transition from the expressway to the arterial system. Short signal clearance time was also observed potentially contributing to the angle crash occurrences.

SR 7/US 441 and GGI Exit (Park and Ride)

A total of 30 crashes occurred at this intersection during the 5-year analysis period including 11 (36.7%) injury crashes and 19 (63.3%) PDO crashes. No fatal crashes were reported at the intersection during the analysis period. The distribution of crashes by type revealed that rear-end collision was the most predominant crash type at this intersection, accounting for 13 (43.3%) of the total crashes, followed by sideswipe crashes accounting for 5 (16.7%) and angle crashes accounting for 4 (13.3%). No collisions with pedestrians were reported during the analysis period. The high rear-end and sideswipe crashes may be attributed to congested conditions approaching this intersection during the peak periods.

2.9.5 Economic Loss

In order to calculate the economic loss per year for the crashes that took place in the last five years within the project study area, average crash cost values were used for fatal, injury and property damage crashes. The values were obtained from Chapter 23 of FDOT PPM Volume I, 2013 (see **Appendix C**). For the average crash cost of injury crashes, an arithmetic mean of the costs for severe, moderate and minor injury crashes were used.

Property Damage = $6,500 per crash
Injury Crash = $245,624 per crash
Fatal Crash = $6.82 million per crash

Using these values, the annual economic loss was estimated as follows:

Freeway Segments

Annual Economic Loss = (No of fatal crashes x $6.82 mil. + No of injury crashes x $245,624 + No of PDO crashes x $6,500) / no of years
= (10 x $6.82 mil. + 842 x $245,624 + 974 x $6,500)/5
= $56,269,282 ($56 million).

Arterial Segments

Annual Economic Loss = (No of fatal crashes x $6.82 mil. + No of injury crashes x $245,624 + No of PDO crashes x $6,500) / no of years
= (2 x $6.82 mil. + 157 x $245,624 + 190 x $6,500)/5
= $10,687,594 ($11 million).

Interchange Ramps

Annual Economic Loss = (No of fatal crashes x $6.82 mil. + No of injury crashes x $245,624 + No of PDO crashes x $6,500) / no of years
= (5 x $6.82 mil. + 213 x $245,624 + 250 x $6,500)/5
= $17,608,582 ($18 million).

Signalized Intersections

Annual Economic Loss = (No of fatal crashes x $6.82 mil. + No of injury crashes x $245,624 + No of PDO crashes x $6,500) / no of years
= (1 x $6.82 mil. + 284 x $245,624 + 310 x $6,500)/5
= $15,718,443 ($16 million).

Total Economic Loss = $101 million.

2.10 Lighting

The existing lighting varies throughout the project study area. A field investigation and reviews of the as-built plans revealed that conventional lighting exists along the freeway and arterial mainlines (I-95, SR 826, Florida's Turnpike, SR 7/US 441 and SR 9) as they approach the GGI. The conventional lighting along these roadway segments consist of standard 40 to 45-ft aluminum poles with high pressure sodium fixtures. The lighting within the GGI consists of highmast poles 100 to 120-ft in height with 1000 Watt high pressure sodium luminaires. For interstate, expressway, freeway and major arterials, the FDOT requires an illumination level average initial horizontal foot candle of 1.5 foot candles for high mast lighting. The FTE TPPPH (2013) requires an illumination level average initial horizontal foot candle of 1.7 foot candles for high mast lighting.

2.11 Utilities

There are 20 Utility Agency Owners (UAO) with facilities within the study area. **Table 2-27** below shows the list of utility agency owners and utility contact data obtained from Sunshine State One Call of Florida (SSOCOF).

Table 2-27
Existing Utilities

	Utility Agency Owner	Facilities	Contact Person	Phone	Master Agreement
1	AT&T Florida	Telecommunications	Steve Massie	305-222-8745	Yes
2	AT&T Long Distance	Telecommunications	Craig Petrie	407-578-8000	Yes
3	Comcast	Cable TV	Leonard Maxwell-Newbold	954-447-8405	Yes
4	City of North Miami	Water & Sewer	Aleem Ghany	305-895-9833	Yes
5	City of North Miami Beach	Water & Sewer	Karim Rossy	305-948-2980	Yes
6	City of Miami Gardens	Storm Sewer	Mariana Pitiriciu	305-622-8000	Yes
7	Fiberlight LLC	Telecommunications	Troy Gaeta	786-271-5149	Yes
8	Florida City Gas	Gas – Distribution	Michael Alexander	305-835-3632	Yes
9	FDOT District Six – ITS	ITS	Thomas Miller	305-470-5832	Yes
10	Florida's Turnpike - ITS	ITS	Rafael Sena	954-934-1624	Yes
11	Florida Gas Transmission	Gas – Transmission	Joseph Sanchez	407-838-7171	Yes
12	FPL FiberNet	Telecommunications	Danny Haskett	305-552-2931	Yes
13	FPL – Distribution	Electric	Angel Vargas	305-442-5129	Yes
14	FPL – Transmission	Electric	George Beck	561-904-3604	Yes
15	Level3 Communications LLC	Telecommunications	Rick Miller	720-888-4968	Yes
16	Verizon Business (f.k.a. MCI)	Telecommunications	John McNeil	904-355-0187	Yes
17	Miami-Dade Co. Water & Sewer	Water & Sewer	Patrick Chong	786-268-5255	Yes
18	Miami-Dade Co Traffic	Signalization	Vishnu Rajkumnr	305-375-2090	Yes
19	TECO Peoples Gas	Gas – Distribution	Angel Quant	954-453-0805	Yes
20	XO Communications	Telecommunications	Anthony Kowaleski	305-356-3160	Yes

Florida Gas Transmission (FGT) currently owns and operates two gas transmission mains along Florida's Turnpike and SR 826/Palmetto Expressway connecting to local distribution company facilities in the Opa-Locka area. These mains consist of an 18-inch and a 24-inch installed in an easement within Florida's Turnpike which terminates approximately 145 feet north of the SR 826/Palmetto Expressway. The portions of the gas mains which continue to the west within the SR 826/Palmetto Expressway were originally installed and granted a permit by the Florida Department of Transportation allowing them to be placed within FDOT's Right-of-Way. The 24-inch FGT gas main runs along the westbound NW 167th Street while the 18-inch FGT gas main crosses beneath SR 826/Palmetto Expressway and runs along eastbound NW 167th Street within the embankment between SR 826/Palmetto Expressway and NW 167th Street.

Existing ITS buried fiber optic cable (BFO) and DMS signs run along the south side of SR 826/Palmetto Expressway, along both sides of the Turnpike Connector Ramp and along the east side of the Florida's Turnpike Mainline. Close coordination is anticipated with all the utility companies regarding any potential impacts.

The Utility Impact and Assessment Memorandum that details the utility impacts within the study is provided in **Appendix D**.

2.12 Railroads

CSX Transportation currently owns two sets of tracks within the GGI project corridor. Both tracks cross GGI running parallel to SR 9 in a northeasterly / southwesterly direction. There is a Tri-rail station located along this track close to the park and ride lot. These rail lines are currently operated for passenger transportation by Tri-rail and freight transportation by CSX Transportation to carry limerock and construction materials from quarries located in south and west Miami-Dade.

2.13 Pavement Conditions

Pavement survey data is collected, reviewed, processed, and analyzed by the Pavement Systems Evaluation Section of the FDOT State Materials Office annually. Each section of pavement is rated for cracking, ride and rutting on a 0-10 scale with 0 the worst and 10 the best. A crack rating of 6.0 or less is considered deficient. A ride rating of 6.0 or less is considered deficient for facilities with speed limits greater than 45 mph. The following ratings shown in **Table 2-28** were assigned for the major roadway segments within the project study area based on a Pavement Condition Survey (PCS) conducted for the year 2012.

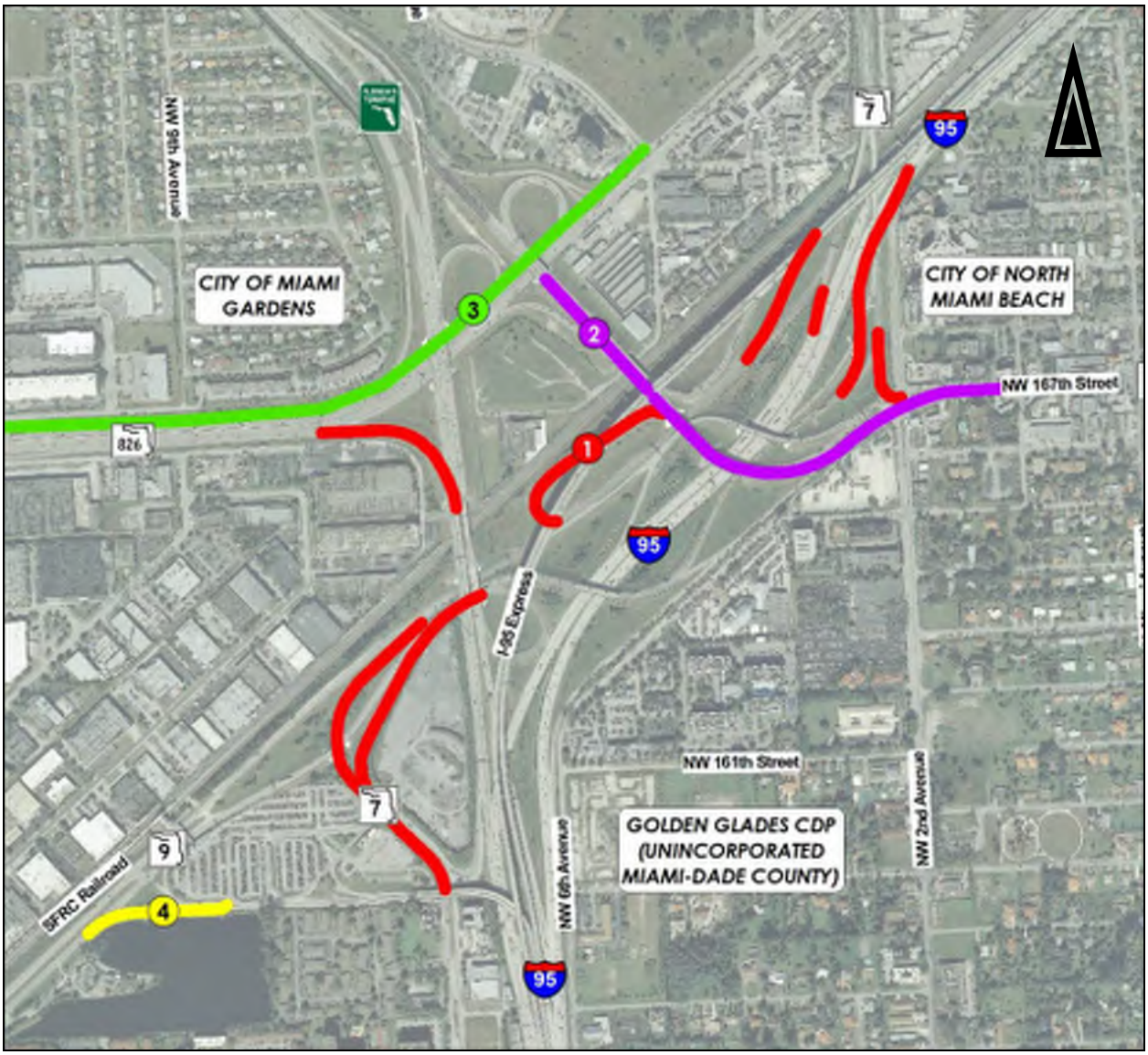
Several segments along I-95, SR 826/Palmetto Expressway, SR 7/US 441 and SR 9 were identified as having deficient cracking or ride rating. The crack rating along SR 826/Palmetto expressway, Florida's Turnpike, SR 9 and NW 167th Street are also projected to deteriorate by 2017. The FDOT has several planned resurfacing projects along SR 826 and the GGI

ramps (FPID's 425637-1, 430821-1, 428476-2 and 429134-1) to improve pavement conditions within the interchange area as shown in **Figure 2-20**.

Table 2-28
Existing Pavement Conditions

Roadway	Begin Milepost	End Milepost	Direction	Existing (2012)		Future (2017)	
				Cracking	Ride	Cracking	Ride
SR 826 /Palmetto Expressway	22.273	23.814	EB	8.0	7.7	3.5	7.5
	23.814	24.140	EB	3.5	6.9	1.0	6.7
	23.814	24.209	WB	6.5	6.6	5.0	6.6
	22.273	23.814	WB	7.0	7.9	3.5	7.7
I-95	10.170	12.091	NB	7.2	5.8	9.0	7.4
	12.091	13.208	NB	7.4	7.9	9.0	7.8
	13.208	13.669	NB	4.5	7.7	10.0	8.1
	13.669	17.260	NB	5.5	8.0	10.0	7.9
	13.669	17.260	SB	5.5	7.8	10.0	7.9
	13.208	13.669	SB	3.5	6.6	10.0	8.1
	12.091	13.208	SB	4.6	7.1	8.5	6.8
	10.202	12.091	SB	3.7	5.7	8.5	6.8
Florida's Turnpike	0.000	0.167	NB	9.5	6.7	8.0	6.5
	0.167	0.730	NB	7.0	7.2	5.0	6.9
	0.730	1.537	NB	10.0	7.7	8.0	7.4
	0.650	1.537	SB	10.0	7.8	8.0	7.5
	0.243	0.650	SB	6.5	7.4	4.5	7.1
	0.000	0.243	SB	9.5	7.3	8.0	7.1
SR 7/US 441	10.491	10.812	NB	9.0	6.9	7.5	6.8
	10.812	11.087	NB/SB	4.5	5.5	10.0	6.9
	11.087	11.896	NB/SB	10.0	6.3	8.0	6.1
	8.050	10.812	SB	9.5	7.2	8.0	7.2
SR 9	13.281	13.690	NB	5.5	6.4	10.0	7.6
	11.345	13.690	SB	6.5	7.3	5.0	7.1
NW 167th Street	0.000	0.649	EB	6.5	6.6	5.0	6.6
	0.649	3.701	EB	10.0	7.7	8.5	7.6
	0.649	3.701	WB	10.0	7.7	8.5	7.6
	0.000	0.649	WB	6.5	6.7	5.0	6.7

Note: Highlighted values indicate deficient pavement



Notes

1. 425637-1 Resurfacing of Various Ramps along SR 7/SR 826/ SR-9A within GGI
2. 429134-1 Resurfacing of SR 826 Connector from Florida's Turnpike to east of NW 1st Avenue
3. 430821-1 Resurfacing of SR 826 / Palmetto Expressway from NW 12 Ave to south of NW 7th Ave
4. 428476-2 Resurfacing of SR 9 Ramp to Park & Ride and GGI

Figure 2-20 Planned Resurfacing Projects

2.14 Transit and Railroad Facilities

The GGI includes a Park and Ride (P&R) facility located east and west of SR 7/US 441. It is designated as a SIS intermodal hub and provides connections to other SIS and FIHS facilities, such as I-95 and SR 826 (Palmetto Expressway) and Florida's Turnpike. Within the footprint of the existing GGI, there are a variety of transit systems interacting within the surface Park and Ride lots and supporting regional connectivity to the Tri-Rail and extensive bus services via Miami-Dade Transit, Greyhound and Broward County Transit.

The west P&R lot is situated to provide surface parking in front of the pedestrian walkway connecting to the Golden Glades Tri-Rail Station over SR-9 on the western side of the lot. The west P&R lot hosts a central covered bus stop for three long-side buses loading locations via bus only lanes, with a drop off/pick up lane opposite the bus only side for individual cars. The central covered stop includes benches, bicycle stands, and newspaper stands for waiting passengers. The east P&R lot also hosts a covered bus stop along the northeastern boundary of the lot with similar supportive infrastructure. Additionally, a portion of the east P&R lot also is signed as a Tandem Staging Area to accommodate load switching of freight trucks. The following transit agencies provide service within the project study area.

2.14.1 Miami-Dade Transit

The Metrobus system operated by Miami-Dade Transit (MDT) provides bus service throughout Miami-Dade County. For the most part, the routes are designed to intersect with Metrorail and Metromover and serve all major business, shopping, entertainment, and cultural centers, as well as major hospitals and schools. MDT has over 850 buses which service 100 routes with over 30 million scheduled miles each year and an annual ridership of over 75 million passengers. All buses are wheelchair accessible. The following MDT Metrobus routes provide service to and from the GGI Park & Ride area (See **Figure 2-21**):

- Route 22: City of North Miami Beach, The Mall at 163rd Street, Golden Glades Park & Ride, NW 22nd Avenue, Earlington Heights Metrorail station, Clinics, Coconut Grove Metrorail station, Sunshine State Industrial Park
- Route 77: NW 199th Street/NW 2nd Avenue (SR 7/US 441), Golden Glades Park & Ride, NW 7th Avenue, Liberty City, Culmer Metrorail Station, Government Center Metrorail Station, Main Library, Historical Museum of South Florida, Miami Art Museum, Downtown (Miami) Bus Terminal
- Route 95 Golden Glades: Golden Glades Park & Ride lot, Civic Center, Veterans Hospital, Jackson Memorial Hospital, Norwood, Earlington Heights Metrorail Station, Downtown Miami, and Brickell.
- Route E/105 Golden Glades: Golden Glades Park & Ride, Jackson North, The Mall at 163rd Street, City of North Miami Beach, Eastern Shores, Winston Towers, Aventura Mall, Turnberry Isle, Diplomat Mall/Hallandale



Figure 2-21 Miami-Dade Transit Routes

- Route 246 Night Owl: The Mall at 163rd Street, Downtown Miami, Government Center Metrorail Station, Overtown, Civic Center Metrorail station, University of Miami/Jackson Memorial Hospitals and clinics, Allapattah Metrorail station
- Route 277 NW 7th Avenue MAX: Downtown Miami, Government Center Metrorail Station, Culmer Metrorail Station, NW 7 Ave., Lindsey Hopkins, Edison Center, North Miami, Biscayne Gardens, Golden Glades Park & Ride.
- Route 95 Dade-Broward Express: Southbound AM - 95 Dade-Broward Express, Downtown Miami. Northbound PM - 95 Dade-Broward Express, Sheridan St. (serving Sheridan Street Tri-Rail Station) and 95 Dade-Broward Express, Broward Blvd (serving Ft. Lauderdale Tri-Rail Station.

2.14.2 Broward County Transit

Broward County Transit (BCT) is the primary public transportation operator in Broward County. BCT provides bus service throughout Broward County – work, schools, shopping, libraries, parks, cultural and civic activities, and other places of interest. BCT also provide links to Miami-Dade and Palm Beach counties transit systems. The following BCT routes provide service to and from the GGI Park & Ride area (See **Figure 2-21**):

- Route 18: Golden Glades Park and Ride to Sandalfoot Cove Boulevard and US 441
- Route University Breeze: Glades/Tri-Rail Park and Ride to Westview Drive and University Drive via University Drive.
- Route 441 Breeze: Golden Glades/Tri-Rail Park and Ride to Sample Rd and US 441.
- Route 95 Express Pembroke Pines: CB Smith Park and Ride to downtown Miami.
- Route 95 Express Miramar: Miramar Civic Center to downtown Miami.

Both 95 Express routes operated by BCT traverse the GGI but do not stop at the GGI Park and Ride facility.

2.14.3 Tri-Rail

Tri-Rail is the tri-county commuter train service that operates along the South Florida Rail Corridor with station stops in Miami-Dade, Broward, and Palm Beach Counties. The Main Stations include: Miami International Airport, Metrorail Transfer, Golden Glades Park and Ride, Fort Lauderdale-Hollywood International Airport, and Palm Beach International Airport. South of the GGI, Tri-Rail also connects with the Miami-Dade Transit Metrorail Transfer Station located at 2567 East 11th Avenue, Hialeah 33013.

2.14.4 Amtrak

The name "Amtrak" is the blending of the words "America" and "track" With 21,000 route miles in 46 states, the District of Columbia and three Canadian provinces, Amtrak operates more than 300 trains each day at speeds up to 150 mph to more than 500 destinations. The Amtrak system utilizes the same tracks as Tri-Rail in this location. There is no actual stop at Golden Glades Park and Ride; however the nearest Amtrak Station is located at 8303 Northwest 37th Avenue, Miami, FL 33147, approximately 9 miles (20 Minutes) away from the Golden Glades Park and Ride Facility. The Amtrak Station is the southernmost stop within the Amtrak system and operates from 7:00 AM to 9:00 PM, seven days a week.

2.14.5 Greyhound

Greyhound is the largest provider of intercity bus transportation, serving more than 2,300 destinations with 13,000 daily departures across North America. Amtrak passengers use Greyhound to make connections to cities not served by rail on Amtrak Thruway service. Greyhound uses the west Golden Glades Park and Ride stop located at 16000 NW 7th Ave Miami North, FL 33169, and operates 20 hours per day from 5:00 AM to 1:00 AM, seven days a week.

2.15 Existing Structures Characteristics

There are twenty eight (28) bridge structures along the major roadway segments and interchange ramps evaluated as part of this PD&E study. **Figure 2-22** shows the locations of these bridge structures within the GGI project study area. **Table 2-29** summarizes the general geometry and structural information pertaining to the bridges within the project limits.

Most of these bridges were originally constructed between 1951 and 1965 and were widened or reconstructed between 1975 and 1994. The 95 Express Flyover bridges were constructed in 1994 while the Park and Ride flyover bridge was constructed in 1976. In 2010, the proposed widening along the Turnpike Connector ramp widened three bridges along the northbound Turnpike Connector. The majority of the existing bridges were designed using the AASHTO Standard Specification HS-20 design truck load in place at the time of construction. For additional details on the existing structures, refer to the Bridge Analysis Report prepared as part of the PD&E Study.

2.15.1 Type of Structure

The superstructure for the majority of the existing bridges consists of a cast-in-place (CIP) deck supported on pre-stressed AASHTO girders. However, a few of these bridge structures use steel girders (870470, 870601), Florida Bulb-T beams (870774, 870952), Concrete T-Beams (870046), precast pre-stressed units (870348) or a combination of steel and AASHTO beams (870243, 870642).

The substructure for most of the bridges consists of multicolumn piers or pile bents supported by square prestressed concrete piles ranging in size from 14 to 18 inches.

2.15.2 Condition of Existing Structures

The Department performs biannual inspections and evaluations of all bridge structures under its jurisdiction, as part of the “National Bridge Inventory (NBI) and Structural Inventory and Appraisal Program” required by FHWA.

The latest available Bridge Load Rating Reports and Bridge Inspection Reports were obtained for all the existing bridges. A review of the existing bridge inspection reports indicated that all bridges have an acceptable Sufficiency Rating varying from 66 to 96 and health indexes varying from 75.26 to 99.98 with no structural deficiency based on the HS-20 design truck load standards.

The Bridge Inspection Reports also identified several bridges as Functionally Obsolete (does not meet design standards) with substandard bridge railing, shoulder widths or lane widths. The functional obsolete rating is not associated with structural capacity.

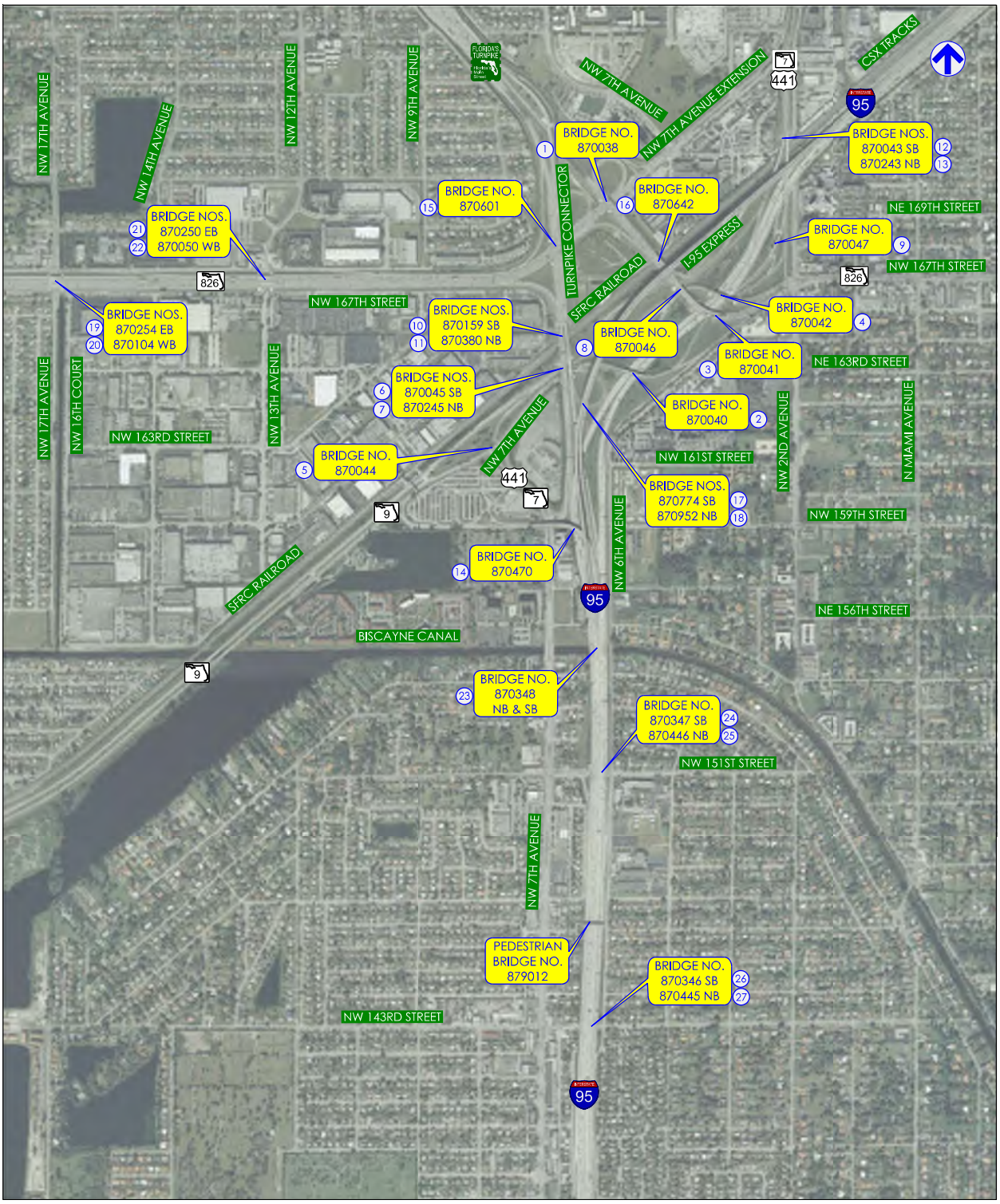


Figure 2-22 Existing Bridge Structures

Table 2-29
Existing Bridge Characteristics

#	Location	Bridge Numbers	Min. Vert. Cl. (Feet)	Superstructure Type	Substructure Type	Average Bridge Width (Feet)	Bridge Length (Feet)	No. of Spans	Max Span Length (Feet)	Load Rating	Sufficiency Rating	Health Index	Bridge Railings	Substructure	Restriction	Deficiency	Year Built / Reconst.
1	SR 826 Connector over NW 7th Avenue Extension	870038	15.34[1]	AASHTO Type III	Pier/Bents/18" Prest. piles	75.8	172.8	4	56.5	HS 20 (IRF 0.97)	68.60	99.49	Meets Standard	Very Good	Open, no Restriction	Functionally obsolete	1956/1987
2	SR-7/US 441 NB Ramp over I-95	870040	16.40[1]	AASHTO Type II/III	Pier/Bents/14"/ 18" Prest. piles	37.2	239	4	79.7	HS 20 (IRF 0.87)	76.50	90.05	Substandard	Good	Open, no Restriction	Functionally obsolete	1963
3	SR-826 Connector over I-95 & SR 7/US 441 NB	870041	16.57[1]	AASHTO Type III	Pier/Bents/18" Prest. piles	72.2	301	5	72.1	HS 20 (IRF 1.06)	90.00	85.16	Meets Standard	Very Good	Open, no Restriction	Functionally obsolete	1963
4	NW 167th Street over I-95 & SR 7/US 441 NB	870042	14.47[1]	AASHTO Type II/III/IV	Pier/Bents/14"/ 18" Prest. piles	30.2	320	5	92.6	HS 20 (IRF 0.90)	89.00	96.97	Substandard	Very Good	Open, no Restriction	Functionally obsolete	1963
5	SR-9 NB over SR-7/US 441 SB Ramp	870044	14.86[1]	AASHTO Type II	Pier/Bents/14"/ 18" Prest. piles	34.2	152	3	60	HS 20 (IRF 1.18)	76.00	99.52	Substandard	Good	Open, no Restriction	Functionally obsolete	1963
6	Turnpike Connector over SR 7/US 441 & SR 9	870045 (SB)	16.80[1]	AASHTO Type III	Pier/Bents/14"/ 18" Prest. piles	63.3	237.2	4	77.2	HS 20 (IRF 1.13)	87.40	99.83	Meets Standard	Good	Open, no Restriction	Not Deficient	1967/1986
7		870245 (NB)	17.03[1]			46.1				HS 20 (IRF 1.02)	75.50	99.90	Meets Standard			Functionally obsolete	1967/2010
8	SR-826 Connector over SR 7/US 441 SB	870046	14.41[1]	Concrete T-Beam	Pier/Bents/Steel piles	66.2	171	3	74	HS 20 (IRF 1.38)	76.00	88.08	Meets Standard	Good	Open, no Restriction	Functionally obsolete	1951/1963
9	I-95 NB to US-441 NB Ramp	870047	14.73[1]	AASHTO Type III	Pier/Bents/14"/ 18" Prest. piles	32.2	250	4	84	HS 20 (IRF 1.01)	94.20	98.70	Substandard	Good	Open, no Restriction	Not Deficient	1963
10	Turnpike Connector over SFRC	870159 (SB)	23.35[1]	AASHTO Type III	Pier/Bents/18" Prest. piles	63.3	205.3	3	81.9	HS 20 (IRF 1.09)	91.70	97.72	Meets Standard	Good	Open, no Restriction	Not Deficient	1964/1980
11		870380 (NB)	22.90[1]			34.1	187.9		63.5	HS 20 (IRF 1.00)	71.30	87.23					1957/2010
12	SR-7 over I-95	870043 (SB)	18.4/22.7[3]	AASHTO Type II, III+IV	Pier/Bents/14"/ 18" Prest. piles	34.15	523	7	95.7	HS 20 (IRF 1.25)	74.00	99.87	Substandard	Good	Open, no Restriction	Functionally obsolete	1963
13		870243 (NB)	16.50[1]	STEEL / AASHTO Type II, III+IV	Pier/Bents/18" Prest. piles	34.2	766	9	146	HS 20 (IRF 1.34)	79.00	81.64	Substandard	Good	Open, no Restriction	Functionally obsolete	1963
14	I-95 Ramp to Park and Ride Facility	870470	18.50[1]	Steel Girders	Pier/Bents/18" Prest. piles	46.8	902	6	216	HS 20 (IRF 1.35)	90.00	75.26	Substandard	Good	Open, no Restriction	Functionally obsolete	1976
15	Turnpike Connector over SR-826	870601	16.50[2]	Steel Girders	Pier/Bents/18" Prest. piles	114.9	290	3	95	HS 20 (IRF 1.12)	90.80	94.70	Meets Standard	Good	Open, no Restriction	Not Deficient	1956/1986 /2010

Table 2-29
Existing Bridge Characteristics

#	Location	Bridge Numbers	Min. Vert. Cl. (Feet)	Superstructure Type	Substructure Type	Average Bridge Width (Feet)	Bridge Length (Feet)	No. of Spans	Max Span Length (Feet)	Load Rating	Sufficiency Rating	Health Index	Bridge Railings	Substructure	Restriction	Deficiency	Year Built / Reconst.
16	SR-826 Connector over SFRC	870642	16.3/21.5[3]	Steel/AASHTO Type III	Pier/Bents/18" Prest. piles	90.8	200.3	4	57.8	HS 20 (IRF 1.34)	94.00	92.47	Meets Standard	Good	Open, no Restriction	Not Deficient	1987
17	I-95 express Flyover Ramps (SB & NB)	870774 (NB)	16.20[3]	FBT 78	Pier/Bents/18" Prest. piles	31.1/61.1	6308	48	153.8	HS 20 (IRF 1.06)	94.00	99.98	Meets Standard	Very Good	Open, no Restriction	Functionally obsolete	1994
18		870952 (SB)	16.40[3]	FBT 78		31.1	2313	18	150	HS 20 (IRF 1.20)	90.00	99.70					
19	SR 826 over NW 17th Avenue	870254 (EB)	14.3[3]	AASHTO Type II and III (spans 1 & 3); Type III (span 2)	Pier/Bents/18" Prest. piles	134.75	144.2	3	72.7	HS 20 (IRF 1.30)	94.00	99.65	Meets Standard	Good	Open, no Restriction	Not Deficient	1963/1978
20		870104 (WB)															
21	SR 826 over NW 12th Avenue	870250 (EB)	14.1[3]	AASHTO Type II and III (spans 1 & 3); Type III (span 2)	Pier/Bents/18" Prest. piles	134.8	140.8	3	68.3	HS 20 (IRF 1.10)	81.00	97.85	Substandard	Good	Open, no Restriction	Functionally obsolete	1965/1986
22		870050 (WB)															
23	I-95 over Biscayne Canal	870348 (NB & SB)	2.01[3]	21" Precast Prest. Units	18" Pile Bents	188.02/195.71	117	3	39'	HS 20 (IRF 1.70)	66.00	90.99	Meets Standard	Good	Open, no Restriction	Functionally obsolete	1961/1994
24	I-95 over NW 151st Street	870347 (SB)	14.63[1]	AASHTO Type II	Pier/Bents/18" Prest. piles	175.1	182	4	52	HS 20 (IRF 1.27)	96.00	99.52	Meets Standard	Very Good	Open, no Restriction	Not Deficient	1963/1976
25		870446 (NB)								HS 20 (IRF 1.29)	94.00	99.55					1963/1994
26	I-95 over NW 143rd Street	870346 (SB)	15.15[3]	AASHTO Type II, III, IV-II Mod	Pier/Bents/14"/18" Prest. piles	183.08	145	3	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1961/1972/1991
27		870445 (NB)															
28	Pedestrian Overpass over I-95	879012	17.5	Truss	Pier/Spread Footing	8.875	230	1	230	N/A	-2.0	99.89	N/A	Very Good	Open, no Restriction	Not Deficient	2006

Notes:
- NBI Bridge Condition; Deck, Superstructure & Substructure: Satisfactory to Very Good
- Load Rating; IRF (Inventory Rating Factor) in red is less than 1
- Vertical Clearance: 1- Field Measured, 2- Previous Widening Project, 3- Existing Plans
- Vertical clearance values in red do not meet the FDOT PPM recommended minimum of 16.5-ft (roadway over roadway), 23.5-ft (roadway over railroad) or (2-ft above design high water elevation), SFRC recommended minimum 24.25-ft (roadway over roadway)

Definitions:
- Load Rating - indicates the live-load capacity of the bridge based on current conditions
- Sufficiency Rating - a measure used to determine whether a bridge that is structurally deficient or functionally obsolete should be repaired or just replaced
- Functionally Obsolete - refers to a bridge that does not meet current roadway design standards
- Health Index - a measure used to indicate overall conditions of a bridge. A Health Index below 85 generally indicates that some repairs are needed.

The term structurally deficient means that the bridge should undergo a series of repairs. All structurally deficient bridge structures must be repaired or replace within six years of being designated as a structurally deficient structure. The term functionally obsolete means that the bridge section does not meet the latest road design standards. Health index is a tool that measures the overall condition of a bridge. The lower health index is the more work that is needed in order to bring the bridge to an ideal condition. Lastly, Sufficiency Rating is a tool used to determine whether a bridge that is structurally deficient or functionally obsolete should be repaired or replaced. The Sufficiency Rating considers several factors, only about half of which relate to the condition of the bridge itself. The sufficiency rating is not a direct reflection of the bridges' ability to carry traffic loads.

The Bridge Load Rating indicates the reserved capacity of the bridge to carry live loads. Bridges are rated at three different stress levels, referred to as Operating Rating, Inventory Rating and Legal (Posting) Rating.

A review of the Bridge Load Rating Reports and existing bridge plans analyzed using the HS-20 Design truck with American Association of State Highway Transportation Association (AASHTO), Load Factor Design (LFD) indicated that three (3) of the existing bridges (870038, 870040, and 870042) have an inventory rating factor (IRF) below 1.0. Bridges 870040 and 870042 are intended to be removed or replaced either in the interim or ultimate stages of the interchange improvements. As for Bridge 870038, we are not proposing any improvements in this area that may impact this bridge.

2.15.3 Vertical Clearance

The primary function of vertical clearance to structures going over roadways or railroads consists of providing safe passage to tall design vehicles and rail cars beneath these structures. The FDOT PPM specifies that the highest point on the roadway below a bridge structure has to measure a minimum of 16.5-ft to the lowest point (low member) beneath the structure. This includes provisions for a future underpass resurfacing of 6" over the existing pavement elevation. For railroad underpasses, a minimum 23.5-ft vertical clearance is recommended which includes allowance for 12" of railroad track adjustments. The South Florida Rail Corridor (SFRC) however, has a greater clearance requirement set at 24.25-ft.

AASHTO requires a minimum vertical clearance of 16-ft for structures passing over roadway including auxiliary lanes and the usable width of shoulders. Further guidance allows a minimum vertical clearance of 14-ft in highly urbanized areas provided there is an alternate facility with the minimum 16-ft clearance. For railroad underpasses, AASHTO recommends a minimum vertical clearance of 23-ft.

With respect to the vertical clearance above water for bridges over canals, the FDOT Drainage Manual (2014) in Section 4.6 suggests a minimum 6.0-ft clearance above the optimal water elevation to accommodate small boat traffic and 2-ft minimum clearance over the design high water elevation. There is one existing bridge (870348), which crosses over

South Florida Water Management District (SFWMD) C-8 (Biscayne Canal), preliminary coordination with SFWMD indicated that any widening of the structure had to maintain the existing vertical clearance.

An evaluation of the existing bridges within the project limits indicates that 20 of the 28 existing bridge structures do not meet the FDOT minimum vertical clearance requirements. With the exception of the Turnpike Connector northbound bridges over SR 826 (870601), South Florida Rail Corridor (SFRC) (870380) and SR 7/US 441 & SR 9, which were recently widened or upgraded, no documentation of the existing bridge vertical clearance deficiencies were found in the FDOT District Six design database.

2.15.4 Horizontal Clearance

The horizontal clearance underneath the existing bridges is the lateral distance from the roadway edge of travel lane to the bridge abutment or piers. The horizontal clearance requirements for most roadside features and objects are based on providing the required clear zone.

Both the FDOT Plans Preparation Manual (PPM) and AASHTO require bridge piers and abutment walls to be placed outside the clear zone unless shielded by a crash worthy barrier. For roadway over railroads, the FDOT PPM requires 18-ft horizontal clearance with crash walls or 25-ft if no crash walls are provided from the centerline of the outside tracks to the face of pier cap, bent cap, or any other adjacent structure.

A field review of the project corridor indicated that most the bridge abutment or piers are adequately protected by either guardrail or barrier wall system with the exception of the Turnpike Connector bridges over the SFRC. The minimum horizontal clearance at this location is 8.96-ft which is less than the required 18-ft with crash walls. This existing horizontal clearance deficiency was documented during the recent widening of the northbound bridge and a design variation obtained.

2.15.5 Historical Significance

The existing bridges within the project study area were reviewed to determine if any are considered historic or possess any substantial community value. As previously mentioned the existing bridges were originally constructed between 1951 and 1965 and most were widened or reconstructed between 1975 and 1994. As such, most of these bridges are either non-historic or have non-historic reconstruction dates. For the eight bridges that have not been reconstructed, none of original construction dates before 1960. The Cultural Resources Assessment Survey (CRAS) performed as part of this study and approved by the State Historic Preservation Office (SHPO) confirmed that these bridges are not eligible for listing in the National Register of Historic Places (NRHP).

2.16 Existing Geotechnical Data

2.16.1 Regional Geology

The project study area is located on the southern flank of the Florida Plateau, a stable, carbonate platform on which thick deposits of limestones, dolomites, and evaporites have accumulated. In the study, the upper 200 feet of this platform is composed predominately of limestone and quartz sand. The sediments were deposited during several glacial and interglacial stages during the Pleistocene Epoch. Within the explored depths of this study, two distinct geological formations were encountered below the structural fill and silt layers. These formations are in descending order: The Miami Limestone Formation and the Fort Thompson Formation.

2.16.1.1 Miami Limestone

The Miami Limestone can be described as a soft tan white porous to very porous fossiliferous quartz sandy fine-grained slightly oolitic limestone. The solution channels in the limestone may be up to 2 inches in diameter at some locations, are filled with quartz fine sand and uncemented calcareous materials. The limestone varies in both thickness and competency within the investigated area. The Miami Limestone was deposited in a shallow near-shore marine carbonate bank environment. Spherical carbonate sand grains called oolites formed and were deposited in this environment. Near shore, processes transported quartz sand into the area and reworked some of the carbonate material. Encrusting organisms called bryozoans were locally abundant and formed patches on the substrate. After sea level receded, the carbonate deposit was exposed to fresh water and the cementation process was initiated. The degree of cementation, and therefore the competency of the rock, was influenced by both the abundance and the type of calcareous material in the original deposit.

2.16.1.2 Fort Thompson Formation

Underlying the Miami Limestone Formation, the Fort Thompson Formation was generally encountered. The Fort Thompson Formation is composed of sediments of variable lithologies. The lithologies include non-fossiliferous quartz fine sand, fossiliferous quartz sandy limestone, coralline limestone, freshwater limestone and quartz sandstone. These lithologies alternate abruptly in thickness and lateral extent.

The Fort Thompson limestone grades downward into a gray quartz and calcareous fine to medium sand. This sand has been cemented to varying degrees by carbonate material leached out of the overlying limestone. The cementation commonly takes the form of hard spherical sandstone nodules 1 to 2 inches in diameter occurring in a sand matrix. Sandstone lenses within the sand layer are the result of a more complete cementation.

2.16.2 Miami-Dade County Soil Survey Map

The Soil Map of Miami-Dade County Area, Florida, published by the United States Department of Agriculture (USDA) was reviewed for general near-surface soil information within the general project vicinity. This information indicates that there are four (4) mapping units in the vicinity of the project. The map soil units encountered are summarized in **Table 2-30**.

Table 2-30
Existing Geotechnical Characteristics

Map Unit Symbol	Soil Name	AASHTO Soil Classification	Typical Profile
10	Udorthents, limestone substratum-Urban land	A-2-4/A-4	0 to 55 inches: Extremely Gravely Loam 55 to 59 inches: Unweathered Bedrock
15	Urban land	A-3, A-1-b or A-2-4	N/A
40	Pomello sand	A-3	0 to 80 inches: Sand
99	Water	N/A	100 percent Water

Based on the information provided by the USDA map, it appears that unsuitable materials are not present within the study area.

2.16.3 Groundwater Conditions

The groundwater levels in the test borings were measured at the time of drilling. Groundwater levels in the test borings typically ranged from 0.5 to 1.0 feet (NAVD88). A Seasonal High Ground Water Table (SHGWT) of 4.6-ft (NGVD 29) or 3.0-ft-NAVD 88 is recommended for design. Fluctuation in the observed groundwater levels should be expected due to seasonal climatic changes, construction activity, rainfall variations, surface water runoff and other site-specific factors such as water elevation variations at the canals. Since groundwater level variations are anticipated, design drawing and specifications should accommodate such possibilities and construction planning should be based on the assumption that variations will occur.

3. PLANNING PHASE / CORRIDOR ANALYSIS

Over the past decade, the FDOT District Six has been evaluating several operational improvements to the Golden Glades Interchange (GGI), dubbed the spaghetti bowl, in order to improve reduce congestion and improve safety at this interchange. Several planning studies were completed prior to the PD&E phase. The three most prominent studies completed prior to this PD&E study are discussed below.

3.1 Golden Glades Interchange Improvements Study

In 2003, the FDOT District Six completed the GGI Improvements Study. This study developed a conceptual design that would improve the critical movement within the interchange from SR 826 EB to I-95 NB. The conceptual design proposed a single lane ramp beginning 400-ft from the NW 12th Avenue on-ramp over the Turnpike Connector, underneath the existing 95 Express flyover ramps before merging into the existing SR 7/US 441 northbound to I-95 northbound ramp. Refer to **Appendix E** for additional information.

3.2 2008 District Interchange Review Committee Preferred Alternative

In 2008, the District Planning Department further refined the 2003 proposed direct flyover ramp concept and completed the GGI System Assessment Studies. The primary objective of these studies was to improve access to the Golden Glades Multimodal Facility and to remove the weaving between SR 7/US 441 NB to I-95 NB and SR 9 NB to Florida's Turnpike movements. To eliminate this weaving condition, the studies proposed a signal at the SR 7/SR 9 intersection which separates the movements and meters the traffic. The studies also proposed a ramp connection from SR 7/US 441 NB to I-95 NB to keep the SR 7/US 441 NB destined traffic separated from the SR 826 EB to I-95 NB destined traffic. The studies culminated in the approval of the ***2008 DIRC Preferred Alternative*** for the GGI (See **Appendix E)**.

The 2008 DIRC Preferred Alternative was broken into two phases: the Phase 1 Plan and the Ultimate Plan. The Phase 1 Plan primarily provided a single direct flyover ramp from SR 826 EB to I-95 NB one lane ramp connection. The Ultimate Plan builds upon the Phase 1 Plan while incorporating additional features to improve various movements within the interchange. These include:

- Two-lane ramp direct connection ramp from SR 826 eastbound to I-95 northbound
- Turnpike Connector SB to I-95 northbound ramp connection
- SR 7/US 441/SR 9 northbound to I-95 northbound ramp connection
- SR 7/US 441 northbound realignment and widening (one to two lanes)
- I-95 northbound to SR 7/US 441 northbound ramp realignment
- SR 9/SR 7/US 441 intersection signalization
- SR 7/US 441/Turnpike Connector southbound off-ramp intersection improvements

3.3 2010 Refined DIRC Alternative

In 2010, the District Planning Department refined the conceptual design plans and the supporting operations analysis for the 2008 DIRC Preferred Alternative. The primary purpose of this work was to identify any fatal flaws and constructability constraints in the 2008 DIRC Preferred Alternative prior to the PD&E phase. In addition, the study also identified critical areas or areas in need of special attention during the subsequent PD&E study. The study resulted in the approval of the ***2010 Refined DIRC Alternative*** for the GGI. The 2010 Refined DIRC Alternative is the 2008 DIRC Preferred Alternative that has been refined to improve constructability and support an incremental construction sequencing plan. Refer to **Appendix E** for additional information about the 2010 Refined DIRC Alternative.

3.4 PD&E Scope Changes

Discussions held with both FDOT District Six and the Florida's Turnpike Enterprise (FTE) prior to the commencement of the PD&E Phase indicated that some of the concepts developed as part of the 2008 DIRC Preferred Alternative and the 2010 Refined DIRC Alternative were no longer supported and/or found to be in conflict with changed priorities. These changed priorities included:

- Introduction of express lanes along SR 826/Palmetto Expressway
- Improvements to the connection between southbound Florida's Turnpike and southbound I-95
- Removal of the Florida's Turnpike southbound to northbound I-95 direct connection

The district is currently evaluating the feasibility of express lanes along SR 826/Palmetto Expressway from SR 836/Dolphin Expressway to I-75 and from I-75 to the Golden Glades. If express lanes are found to be feasible, this PD&E Study will evaluate the feasibility of a direct connection between the express lanes on SR 826 and the existing 95 Express flyover ramps.

To further improve traffic operations within the interchange, the Florida's Turnpike Enterprise (FTE) partnered with FDOT District Six to evaluate the feasibility of increasing the capacity of the southbound movement of the Turnpike Connector ramp to I-95 southbound as part of this PD&E Study. In addition, FTE recommended that the proposed direct connection from Florida's Turnpike southbound to I-95 northbound be dropped from further considerations since the projected traffic volume for this movement does not operationally justify the cost of the improvement.

4. PROJECT DESIGN STANDARDS

4.1 Design Criteria

Several design standards and manuals were consulted to establish the final design criteria for this PD&E Study. The design criteria are based on design parameters outlined in the current editions of the following publications:

- A Policy on Geometric Design of Highways and Streets, American Association of State Highway Transportation Officials (AASHTO), 2011
- Computer-Aided Design and Drafting (CADD) Structures Standards and Guidelines, FDOT, 2013
- Design Standards, FDOT, 2014
- Drainage Manual, FDOT, 2014
- Flexible Pavement Design Manual, FDOT, 2008
- Rigid Pavement Design Manual, FDOT, 2009
- Pavement Type Selection Manual, FDOT, 2011
- Highway Capacity Manual, Transportation Research Board, 2010
- Highway Safety Manual, Transportation Research Board, 2010
- Manual of Uniform Minimum Standards for Design, Construction and Maintenance of Streets and Highways, FDOT, 2011
- Manual of Uniform Traffic Control Devices (MUTCD), FHWA, 2009
- Project Development and Environment Manual, FDOT, 2012
- Project Traffic Forecasting Handbook, FDOT, 2012
- Roadside Design Guide, AASHTO, 2011
- Plans Preparation Manual, FDOT, 2013
- Standard Drawings, Structures Design Office, FDOT, 2013
- Standard Specifications for Road and Bridge Construction, FDOT, 2013
- Structures Design Guidelines, FDOT, 2013
- The Interchange Handbook, FDOT, 2002
- Florida's Turnpike District Plans Preparation and Practices Handbook, FTE, 2013
- Utility Accommodation Manual, FDOT, 2010

4.1.1 Roadway Design Criteria

Tables 4-1 through 4-3 summarize the roadway design criteria for the Golden Glades Interchange (GGI) freeways, interchange ramps and arterials.

4.1.1.1 Freeways/Expressways Segments

Table 4-1
Design Criteria for Freeways/Expressways

Design Elements	Criteria	Source
Functional Classification	I-95: Urban Interstate SR 826: Urban Freeway/Expressway	FDOT Straight Line Diagram
Access Classification	Class 1 (Area Type 2)	PPM I, Table 1.8.1
Interchange Spacing	2 miles (Area Type 2)	PPM I, Table 1.8.1
Number of Lanes	I-95: 6-8 General Use lanes & 4 Express Lanes SR 826: 8 General Use Lanes	Existing Conditions
Design Vehicle	WB-62FL	PPM I, Section 1.12
Design Speed/Posted Speed	I-95 : 60 mph / 55 mph SR-826 : 60 mph / 55 mph	PPM I, Table 1.9.2
Lane Widths	12-ft	PPM I, Table 2.1.1
Outside / Right Shoulder Width	12-ft (10-ft paved)	PPM I Table 2.3.1
Inside / Left Shoulder Width	12-ft (10-ft paved)	
Bridge Width	Travel Lanes + 10' Shoulders	PPM I Fig 2.0.1
Structural Capacity	HL-93 Design Load	AASHTO LRFD 2010
Vertical Clearance		
Roadway over Roadway	16-ft – 6-inch	PPM I Table 2.10.1
Roadway Over Railroad	23-ft – 6-inch	PPM I Table 2.10.1
Overhead Sign Structure	17-ft – 6-inch	PPM Table 2.10.2
Roadway Over Canal	2-ft Min from Design Flood Stage and Bridge Low Member Elev. & 6-ft above Normal High Elevation or control elevation	PPM Section 2.10.1
Grades		
Maximum	3%	PPM I Table 2.6.1
Cross Slopes		
Travel Lanes	Inside lanes sloped towards the median @ 0.02 when more than 3 lanes Remaining lanes sloped towards the outside @ 0.02 for first two lanes and @ 0.03 thereafter	PPM I Fig 2.1.1
Outside / Right Shoulder Width	6%	PPM I Table 2.3.1
Inside / Left Shoulder Width	5% for 3-lanes or less 6% for 4-lanes or more	
Bridge Deck	2% in each direction with no break in slope	PPM I Section 2.1.5
Max algebraic difference between adjacent through lanes	4%	PPM I Figure 2.1.1
Max algebraic difference at turning road terminals	6% for ramp speed less than 35 mph 5% for 35 mph or more ramp speed	PPM I Table 2.1.4
Maximum Shoulder Cross Slope Break	7%	PPM I Figure 2.3.1

Table 4-1
Design Criteria for Freeways/Expressways

Design Elements	Criteria	Source
Superelevation		
Maximum Superelevation Rate	emax = 10%	PPM I Table 2.9.1
Superelevation Transition Rate	1:180 for 6 lanes 1:170 for 8 lanes	PPM I Table 2.9.3
Superelevation Ratio	20:80 preferred, 50:50 minimum	PPM I Section 2.9 Standard Index 510
Horizontal Alignment		
Min. Length of Horizontal Curves	15V min = 900-ft 30V preferred = 1800-ft	PPM I Table 2.8.2a
Maximum deflection without curve	0° 45' 00"	PPM I Table 2.8.1a
Maximum curvature	Interstate: 3°00' Expressway: 5°15'	PPM I Table 2.8.3
Auxiliary lane length	Min 2500-ft in advance of the exit or after entry	AASHTO 2011 Figure 10-52 & 10-53
Vertical Alignment		
Max Change in Grade w/o Curve	0.40	PPM I Table 2.6.2
Min. Length of Crest Curve	Interstate - Open Highway: L=KA but not < 1000-ft Interstate – Interchange: L=KA but not < 1800-ft Expressway: L=KA	PPM I Table 2.8.5
Minimum Length of Sag Curve	Interstate : L=KA but not <800-ft Expressway: L=KA	PPM I Table 2.8.6
Minimum Crest K-Value	Interstate: 313, Expressway: 245	PPM I Table 2.8.5
Minimum Sag K-Value	Interstate: 157, Expressway: 136	PPM I Table 2.8.6
Stopping Sight Distance	Interstate: 645-ft + adjustments Expressway: 570-ft + adjustments	PPM I Table 2.7.1
Recoverable Terrain	36-ft	PPM I, Table 2.11.11
Horizontal Clearance		
Bridge Piers	Outside Clear Zone	PPM I Table 2.11.6
Above ground fixed objects (e.g. utility poles, ITS poles and other obstacles)	Outside Clear Zone	PPM I Table 2.11.3 PPM I Table 2.11.9 PPM I Table 2.11.10
Light Poles	20-ft from travel lanes 14-ft from auxiliary lanes 4-ft minimum behind guardrail	PPM I Table 2.11.2
Drop-off and Canal Hazards	60-ft from travel lanes (≥50 mph)	PPM I Table 2.11.8
Median Width	26-ft with Barrier wall	PPM I Table 2.2.1
Border Width	94-ft	PPM I Table 2.5.3
Roadway Base Clearance	3.0-ft above SHGW Elev.	PPM I Table 2.6.3
Roadside Slopes		
Front Slope	1:6 for fills <5-ft 1:6 to edge of CZ then 1:4 for fills 5-ft-10-ft 1:6 to edge of CZ then 1:3 for fills 10-ft-20-ft 1:2 (with guardrail) for fills >20-ft	PPM I, Table 2.4.1
Back Slope	1:4 or 1:3	
Transverse Slope	1:10 or Flatter	

4.1.1.2 Flyover, Connectors and Ramps

Table 4-2
Design Criteria for Flyovers, Connectors and Ramps

Design Elements	Criteria	Source
Design Vehicle	WB-62FL	PPM I, Figure 1.12.1
Design Speed / Posted Speed		
Flyover & Connector Ramps	40-50 mph / 40-50 mph	AASHTO 2011 Table 10-1
Loop and Other ramps	30 mph / 30 mph	
Lane Widths		
One-Lane Ramps	15-ft	PPM I, Table 2.1.3
Two-Lane Ramps	24-ft (12-ft each)	
Shoulder Width		
Outside / Right Shoulder Width	One-Lane Ramps: 6-ft (4-ft paved) – Interstates and Non-interstates Two-Lane Ramps: 12-ft (10-ft paved) – Interstates; 10-ft (8-ft paved) – Non-interstates	PPM I Table 2.3.1 TPPPH (2012) Section 2.3
Inside / Left Shoulder Width	6-ft (2-ft paved) – One-Lane Ramps 8-ft (4-ft paved) – Two-Lane Ramps	
Bridge Width		
One-Lane Ramps	Travel Lanes + 6-ft Shoulders	PPM I, Figure 2.0.1
Multi-Lane Ramps	Travel Lanes + 10-ft Outside and 6-ft Inside Shoulders	
Structural Capacity	HL-93 Design Load	AASHTO LRFD 2010
Vertical Clearance		
Ramp over Roadway	16-ft – 6-inch	PPM Table 2.10.1
Ramp Over Railroad	23-ft – 6-inch	PPM Table 2.10.1
Overhead Sign Structure	17-ft – 6-inch	PPM Table 2.10.2 TPPPH (2012) Section 2.10
Ramp Over Canal	2-ft Min from Design Flood Stage and Bridge Low Member Elev. & 6-ft above Normal High Elevation or control elevation	PPM Section 2.10.1
Grades	3% - 5% Max - Flyover and Connector Ramps 7% Max- Other Ramps	PPM I Table 2.6.1 TPPPH (2012) Section 2.6
Cross Slopes		
Travel Lanes	2% Min, varies for superelevated segments	PPM I Figure 2.1.1 TPPPH (2012) Section 2.1.5
Outside / Right Shoulder Width	6%	PPM I Table 2.3.1
Inside / Left Shoulder Width	5%	
Maximum Shoulder Cross Slope Break	7%	PPM I Figure 2.3.1
Superelevation (e)		
Maximum Superelevation Rate	emax = 10%	PPM I Table 2.9.1
Superelevation Transition Rate	1:200 – Flyover and Connector Ramps 1:100 – Loop and Other Ramps	PPM I Table 2.9.3 PPM I Table 2.9.4 TPPPH (2012) Section 2.9

Table 4-2
Design Criteria for Flyovers, Connectors and Ramps

Design Elements	Criteria	Source
Superelevation Ratio	20:80 preferred 50:50 minimum	PPM I Section 2.9 Standard Index 510
Horizontal Alignment		
Min. Length of Horizontal Curves	15V min	PPM I Table 2.8.2a
Maximum deflection without curve	0° 45' 00" (Flyover and Connector Ramps) N/A (Loop and Other Ramps)	PPM I Table 2.8.1a
Maximum curvature	08°15'00" (50 mph) 10°15'00" (45 mph) 13°15'00" (40 mph) 24°45'00" (30 mph)	PPM I Table 2.8.3
Exit Ramp Taper Angle	4°±	Design Standards Index 525
Ramp Entrance Taper Length	1:50	Design Standards Index 525
Lane Drop Taper	1:50 min., 1:70 Desirable	AASHTO 2011 Figure 10-52
Ramp Terminal Spacing		
Entrance - Entrance or Exit - Exit	1000-ft for freeways 800-ft for C-D Road system	AASHTO 2011 Figure 10-68
Exit - Entrance	500-ft for freeways 400-ft for C-D Road system	
Turning Roadways	800-ft for system interchange 600-ft for service interchange	
Entrance - Exit	2000-ft for system to service – freeways 1600-ft for service to service – freeways 1600-ft for system to service – C-D Road 1000-ft for service to service – C-D Road	
Vertical Alignment		
Max Change in Grade w/o Curve	0.6-0.8% - Flyover & Connector Ramps 1.0% - Loop and Other Ramps	PPM I Table 2.6.2
Min. Length of Crest Curve	Varies L=KA but not <300-ft	PPM I Table 2.8.5
Minimum Length of Sag Curve	Varies L=KA but not < 200-ft	PPM I Table 2.8.6
Minimum Crest K-Value	136 (50 mph) 98 (45 mph) 70 (40 mph) 31 (30 mph)	PPM I Table 2.8.5
Minimum Sag K-Value	96 (50 mph) 79 (45 mph) 64 (40 mph) 37 (30 mph)	PPM Table 2.8.6
Stopping Sight Distance	425-ft (50 mph) 360-ft (45 mph) 305-ft (40 mph) 200-ft (30 mph)	PPM Table 2.7.1

Table 4-2
Design Criteria for Flyovers, Connectors and Ramps

Design Elements	Criteria	Source
Horizontal Clearance		
Bridge Piers	Outside Clear Zone	PPM Table 2.11.6
Above ground fixed objects (e.g. utility poles, ITS poles and other obstacles)	Outside Clear Zone	PPM Table 2.11.3 PPM Table 2.11.9 PPM Table 2.11.10
Light Poles	20-ft from travel lanes 14-ft from auxiliary lanes 4-ft minimum behind guardrail	PPM Table 2.11.2
Drop-off and Canal Hazards	60-ft from travel lanes (≥50 mph) 50-ft from travel lanes (< 50 mph)	PPM Table 2.11.8
Border Width	94-ft	PPM I Table 2.5.3
Recoverable Terrain	10-ft - One-Lane Ramps (<45 mph) 14-ft - One-Lane Ramps (45 mph and 50 mph) 18-ft –Two-Lane Ramps (<45 mph) 24-ft –Two-Lane Ramps (45 mph and 50 mph)	PPM, Table 2.11.11
Roadway Base Clearance		
Ramp Proper	2.0-ft above SHGW Elev.	PPM Table 2.6.3
Low Point on-ramps at Cross Roads	1.0-ft above SHGW Elev.	

4.1.1.3 Arterial Segments

Table 4-3
Design Criteria for Arterials

Design Elements	Criteria	Source
Functional Classification	Urban Principal Arterial	FDOT Straight Line Diagram
Access Classification	Class 1 (Area Type 2)	PPM I, Table 1.8.1
Design Vehicle	WB-62FL	PPM I, Figure 1.12.1
Design Speed / Posted Speed	40-45 mph / 30-40 mph	PPM I Section 1.9
Lane Widths		
Through Lane	12-ft	PPM I, Table 2.1.1
Turn Lane	12-ft	
Shoulder Width		
Outside / Right Shoulder Width	12-ft (5-ft Paved)	PPM I Table 2.3.2
Inside / Left Shoulder Width	8-ft (2-ft Paved)	
Bridge Width	2 Lanes (10-ft outside, 6-ft inside)	PPM I, Figure 2.0.4
Structural Capacity	HL-93 Design Load	AASHTO LRFD 2010
Vertical Clearance		
Over Roadway	16-ft – 6-inch	PPM Table 2.10.1
Over Railroad	23-ft – 6-inch	PPM Table 2.10.1
Overhead Sign Structure	17-ft – 6-inch	PPM Table 2.10.2
Over Canal	2-ft Min from Design Flood Stage and Bridge Low Member Elev. & 6-ft above Normal High Elevation or control elevation	PPM Section 2.10.1
Grades	5% max	PPM I Table 2.6.1
Cross Slopes		
Travel Lanes	2% Min, varies for superelevated segments	PPM I Figure 2.1.1
Outside / Right Shoulder Width	6%	PPM I Table 2.3.2
Inside / Left Shoulder Width	5%	
Maximum Shoulder Cross Slope Break	7%	PPM I Figure 2.3.1
Superelevation (e)		
Maximum Superelevation Rate	emax = 10%	PPM I Table 2.9.1
Superelevation Transition Rate	1:200	PPM I Table 2.9.3
Superelevation Ratio	20:80 preferred 50:50 minimum	PPM I Section 2.9 Standard Index 510
Horizontal Alignment		
Min. Length of Horizontal Curves	15V min	PPM I Table 2.8.2a
Maximum deflection without curve	0°45'00"	PPM I Table 2.8.1a

Table 4-3
Design Criteria for Arterials

Design Elements	Criteria	Source
Maximum curvature	8°15'00"	PPM I Table 2.8.3
Vertical Alignment		
Max Change in Grade w/o Curve	0.7% (45 mph); 0.8% (40 mph)	PPM I Table 2.6.2
Min. Length of Crest Curve	Varies L=KA but not < 300-ft	PPM I Table 2.8.5
Minimum Length of Sag Curve	Varies L=KA but not < 200-ft	PPM I Table 2.8.6
Minimum Crest K-Value	45mph = 98; 40 mph = 70	PPM I Table 2.8.5
Minimum Sag K-Value	45mph = 79; 40 mph = 64	PPM Table 2.8.6
Stopping Sight Distance	360-ft + Adjustments (45 mph) 305-ft + Adjustments (40 mph)	PPM Table 2.7.1
Horizontal Clearance		
Bridge Piers	Outside Clear Zone	PPM Table 2.11.6
Above ground fixed objects (e.g. utility poles, ITS poles and other obstacles)	Outside Clear Zone	PPM Table 2.11.3 PPM Table 2.11.9 PPM Table 2.11.10
Light Poles	20-ft from travel lanes 14-ft from auxiliary lanes 4-ft minimum behind guardrail	PPM Table 2.11.2
Drop-off and Canal Hazards	50-ft from travel lanes (< 50 mph)	PPM Table 2.11.8
Border Width	33-ft	PPM I Table 2.5.1
Median Width	22-ft	PPM I Table 2.2.1
Recoverable Terrain	20-ft (45 mph)	PPM, Table 2.11.11

4.1.2 Drainage Design Criteria

Drainage design and construction criteria for the proposed improvements will adhere to FDOT Standards and will comply with the recommended standard practices as set forth in **Table 4-4**.

Table 4—4
Drainage Design Criteria

DESIGN ELEMENT	CRITERIA	SOURCE
Design Frequency		
Storm Sewer	- 10-Year design frequency standard (1, 8, 24-hour) - Check 100-Year storm (1,8, 24 hour) - 50-Year design frequency for interstate facility sag vertical curves which have no outlet other than a storm drain system	D.M. Section 3.3
Cross Drains	50-Year design frequency	D.M. Section 4.3
Design Tailwater		
All Conditions	Conditions vary with outfall	D.M. Section 3.4
Time Of Concentration (TOC)	Minimum T.O.C. of 10 Minutes Other T.O.C calculations to follow NRCS TR-55	D.M. Section 3.5.1
Pipe Slopes		
Minimum	Min. slope to produce v=2.5 ft/sec flowing full	D.M. Section 3.6.1
Manning's "n" Coefficient		
Pipes	0.012 (smooth pipes) 0.024 (corrugated pipe)	D.M. Section 3.6.4
Asphalt (rough texture)	0.016 Asphalt Pavement	S.D. Table 3-2
Grades		
Longitudinal Gutter Grade	minimum gutter grade is 0.3%	D.M. Section 3.8.1
Spread Standards		
Design Speed ≤ 45	Keep ½ lane clear	D.M. Section 3.9
45 < Design Speed ≤ 55	Keep 8-ft of lane clear	
Design Speed >55	No encroachment	
Pipe Size And Length		
Trunk Line	18-in Minimum Diameter.	D.M. Section 3.10.1
Length Between Structure	18-in Pipe=300ft., 24in – 36in=400ft,>42-in =500ft	D.M. Section 3.10.1
Exfiltration Trench		
Pipe Diameter	24-in minimum	D.M. Section 3.10.1
Pipe Lengths	Access through both ends: 300-ft 24-in to 30-in pipes; 400-ft for 36-in and larger pipes. Access through only one end: 150ft 24-in to 30-in pipes; 200-ft 36-in and larger pipes	D.M. 3.10.1
Pipe Perforations	Perforated pipes preferred in District 6	E.T.R.M Section 3.1
Skimmers/Baffles	Required at each entrance to exfiltration trench	
Trench Width	Minimum 4-ft , maximum 8-ft	
Trench Depth	Maximum of 20-ft	
Drainage Structures	2-foot sediment sump for inlets and catch basins	
Other District 6 Preferences	FDOT District 6 Exfiltration Trench Reference Manual	

Table 4—4
Drainage Design Criteria

DESIGN ELEMENT	CRITERIA	SOURCE
Ground Water Clearance		
Dry Retention	Pond bottom minimum 1-ft above SHGWT	B.M.P. Section VIII
Freeboard		
Storm Drain	Hydraulic Gradeline Minimum 1-ft below theoretical gutter elevation 1.13-ft below E.O.P. for Types E & F curb and gutter 1-ft below grate elevation for inlets Standard Index, 220-221, 230-235, 217-219.	S.D. Section 5.0
Ponds	Minimum 1-ft above peak design stage, measured from the inside edge of the maintenance berm.	D.M. Section 5.3.4.2
Permanent Pool Pond Depth		
Wet Detention	4-ft minimum depth, 8-ft maximum depth	S.M.F. Section 3.1.1
Stormwater Management System		
Water Quality	Water quality standards, as set forth in Chapter 62-302, Florida Administrative Code.	V - IV Section 5.0
Discharge Limitations	Historic Discharges, Post <= Pre	V - IV Section 6.1
Bridge Clearances		
Horizontal	Center span – 25 feet clear bent spacing, measured perpendicular to the channel. Approach bents – 20 feet between faces of bents.	V - V Section IX B
Vertical	6 feet above seasonal high optimum water control elevation, or 2 feet above the design water surface, whichever produces the greater elevation.	
	7 feet above mean high water for Miami-Dade Canals	RER Meeting 10/15/2012
Vertical	2 feet minimum clearance between design flood stage and the low member of bridge to allow for debris passage. 6 feet above Normal High Water for controlled canals	P.P.M. 2.10.1

Abbreviations
D.M. FDOT Drainage Manual; January 2014
E.T.R.M FDOT District 6 Exfiltration Trench Reference Manual; January 2008
P.P.M. Plans Preparation Manual Volume 1, January 2012
S.D. FDOT Storm Drain Handbook; January 2012
S.M.F. FDOT Stormwater Management Facility Handbook; January 2004
V-IV SFWMD Permit Information Manual Volume IV; 2012
V-V SFWMD Permit Information Manual Volume V; 1999
B.M.P SFWMD Best Management Practices for South Florida Urban Stormwater Management Systems; April 2002

5. ALTERNATIVE ALIGNMENT ANALYSIS

5.1 No-Build Alternative

The No Build Alternative assumes no proposed improvements and serves as a baseline for comparison against the other alternatives. This is consistent with requirements of the National Environmental Policy Act (NEPA) and FHWA guidelines. The No-Build Alternative includes on-going construction projects and all funded or programmed improvements scheduled to be opened to traffic during the analysis years being considered. These improvements are part of the Department's adopted Five-Year Work Program, Miami-Dade County Metropolitan Planning Organization (MPO) cost feasible Long Range Transportation Plan (LRTP), transportation elements of Local Government Comprehensive Plans (LGCP), or developer-funded transportation improvements specified in approved development orders.

The advantage of the No-Build Alternative is that it requires no expenditure of public funds for design, right-of-way acquisition, construction or utility relocation. In addition, there would be no direct or indirect impacts to the environment or socio-economic characteristics from project. However, the No-Build Alternative does not alleviate the chronic congestion, operational, safety and mobility issues currently experienced within the Golden Glades Interchange (GGI) and along the adjoining roadways during the peak hours. If no improvements are made, these conditions will continue to deteriorate. Consequently, the No-Build Alternative does not satisfy the purpose and need for this project.

5.2 Transportation Systems Management and Operations

The Transportation Systems Management (TSM) alternative considers minor improvements to enhance operations and safety without the addition of through lanes. TSM may include low-cost improvements such as adding auxiliary lanes along freeways, adding turn lanes at intersections, adjusting signal phasing and timings, and considering opportunities to enhance alternate travel modes and implement Intelligent Transportation Systems (ITS). As part of this PD&E Study, the following TSM improvements were considered:

1. Widening of the southbound Turnpike Connector between SR 826/Palmetto Expressway and the off-ramp to SR 7/US 441 to provide an additional lane for Florida's Turnpike southbound to I-95 southbound movement
2. Signal timing improvements at the intersection of NW 2nd Avenue with NW 167th Street and Turnpike Connector southbound to SR 7/US 441 off-ramp intersection

These TSM improvements are near-term types of treatments that can improve the efficiency of the interchange. In order to mitigate the existing congestion as well as accommodate the projected design year traffic volumes using the GGI and adjoining roadways, long term capacity improvements are required within the interchange. Thus, the aforementioned TSM strategies would not fulfill the project need.

5.3 Preliminary Build Alternatives

The preliminary build alternatives considered for this PD&E study are generally based on the 2010 Refined District Interchange Review Committee (DIRC) Alternative developed for this interchange under the initial planning phase of this project. The 2010 Refined DIRC Alternative developed as part of the planning study was to be implemented in two phases as follows: Phase 1 represents the interim build conditions while Phase 2 represents the ultimate configuration. As part of the alternatives analysis for this PD&E Study, both Interim and Ultimate Build improvements were developed and evaluated; however, this PD&E Study focuses on the Interim Build improvements while the Ultimate Build improvements will be studied and included as part of a separate and adjacent SR 826/Palmetto Expressway PD&E Study (FPID: 418423-1-22-01). The Ultimate Build Alternatives will be studied as part of this PD&E Study to ensure that the Interim Build Alternatives are compatible with the Ultimate Build Alternative. This includes performing the engineering and environmental evaluations. In terms of documentation for FHWA approval purposes, the Interim Build Alternatives will be documented as part of this PD&E Study, while the Ultimate Build Alternatives will be documented as part of the SR 826 PD&E Study.

The primary purpose of the preliminary build alternatives analysis was to develop conceptual build alternatives that provided a direct flyover connection from SR 826 eastbound to I-95 northbound and also increase the capacity for Florida's Turnpike southbound to I-95 southbound movement. These conceptual interim build alternatives were evaluated based on preliminary geometric design, structural, traffic operations, drainage, utility, right of way and environmental impacts. Another major consideration was the need to preserve the improvements constructed during the interim phase to ensure that they would be compatible with the ultimate master plan for the interchange which includes the development of an elevated system of express lanes, connecting new express lanes from SR 826 to the I-95 express lanes system.

Four preliminary interim build alternatives were evaluated during the initial phase of the PD&E study and are described below. The detailed preliminary alternatives analyses are documented in the Preliminary Alternatives Analysis Report prepared as part of this PD&E Study.

5.3.1 Interim Build Alternative 1A

Description: Interim Build Alternative 1A involves the construction of a new system-to-system direct connection flyover from the SR 826/Palmetto Expressway eastbound to I-95 northbound. The flyover ramp will begin from the SR 826/Palmetto Expressway eastbound and continue over the Turnpike Connector, SFRC railroad and underneath the 95 Express Flyover Ramps. It then goes over I-95 and merges with the existing SR 7/US 441 northbound to I-95 northbound ramp before joining I-95 using the existing on-ramp alignment. The southbound Turnpike Connector lanes will also be widened from SR 826/Palmetto Expressway to provide three lanes merging with I-95 southbound under this

alternative. It will require the addition of an auxiliary lane along I-95 southbound from the GGI to NW 151st Street to provide the required capacity. To improve the weaving maneuvers from Florida's Turnpike to the I-95 express lanes, the I-95 SB entrance to the express lanes will be relocated approximately 300-ft south. The conceptual layout for Interim Build Alternative 1A is shown in **Figure 5-1**.

Evaluation: The preliminary engineering design under this alternative requires the reconstruction of the two-lane off-ramp from SR 826 eastbound to I-95 southbound and northbound and the construction of a new system-to-system flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound with 40-45 mph design speed. The proposed ramp alignments were also set up to ensure that they will be compatible with the ultimate plan for GGI.

In order to ensure that both the interim and future proposed improvements can be accommodated within the constrained existing right of way along SR 826 reduced inside and outside shoulder widths will be required for the SR 826 eastbound to I-95 northbound and southbound ramp. The existing typical section for the SR 826 mainline will be maintained.

The NW 167th Street westbound to I-95 southbound bridge over I-95 (870042) will be replaced to provide adequate vertical clearance and to accommodate additional lanes underneath the bridge. The end span for the SR 826 Connector bridge over I-95 and SR 7/ US 441 (870041) will also be replaced to accommodate the direct flyover connection ramp and SR 7/US 441 northbound lanes.

The proposed improvements under this alternative will result in potential right of way impacts to three commercial properties along I-95 (two full and one partial acquisition) and one industrial property within the GGI (corner clip).

The Florida Gas Transmission (FGT) 18-inch steel gas line along the south side of SR 826 will be impacted by the reconstruction of the SR826/Palmetto Expressway eastbound to I-95 northbound and southbound ramp. It is anticipated that the gas line will have to be relocated onto a new corridor.

Preliminary traffic operational analysis based on the 2010 AM peak period traffic indicated that the travel speed for SR 826 EB to I-95 NB under this alternative will increase from 12 mph to 40 mph while the travel speed for Florida's Turnpike SB to I-95 SB movement will improve from 14 mph to 32 mph. This represents significant travel time savings over the existing conditions.

No significant environmental impacts were identified as a result of this alternative. The preliminary cost estimate for this alternative was approximately $83 Million. The preliminary evaluation is detailed in the Preliminary Alternatives Analysis Report.

5.3.2 Interim Build Alternative 1B

Description: Interim Build Alternative 1B also involves the provision of a direct connection flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound similar to Interim Build Alternative 1A. The main difference is the improvements to the Florida's Florida's Turnpike southbound to I-95 southbound movement. Under this alternative, a third-level single-lane flyover ramp from Florida's Turnpike southbound to the 95 Express southbound flyover ramp will be provided. The single-lane flyover will be merged into the existing single-lane 95 Express flyover and will be maintained as a one-lane flyover. The proposed improvements terminate at the merge between the Turnpike Connector and I-95 mainline southbound lanes; hence, no impact to the I-95 mainline southbound lanes is expected beyond the merge influence area. The conceptual layout for Interim Build Alternative 1B is shown in **Figure 5-2**.

Evaluation: This alternative also requires the reconstruction of the two-lane off-ramp from SR 826 eastbound to I-95 southbound and northbound and the construction of a new system-to-system flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound with 40-45 mph design speed. Reduced inside and outside shoulder widths will be required for the SR 826 eastbound to I-95 northbound and southbound ramp to accommodate both the interim and future proposed improvements within the constrained existing right of way along SR 826/Palmetto Expressway.

The Turnpike Connector under this build alternative consists of a single lane at-grade segment and an elevated express lane connector ramp tying into the 95 Express southbound flyover ramp. This involves widening of the southbound lanes, reconstruction of the inside lane and the replacement of the Turnpike Connector southbound bridge over the South Florida Rail Corridor (SFRC) to provide the necessary grade separation for the connector ramp to the 95 Express southbound flyover ramp.

Similar to Interim Build Alternative 1A, the NW 167th Street westbound to I-95 southbound bridge over I-95 (870042) and the end span for the SR 826 connector bridge (870041) will be replaced to provide adequate vertical clearance and to accommodate additional lanes underneath these bridges.

The proposed improvements under this alternative will result in less potential right of way impacts compared to Interim Build Alternative 1A. The right of way impact involves a corner clip to one industrial property within the GGI.

The Florida Gas Transmission (FGT) 18-inch steel gas line along the south side of SR 826 will have to be relocated onto a new corridor to accommodate reconstruction of the SR826/Palmetto Expressway eastbound to I-95 northbound and southbound ramp similar to that of Interim Build Alternative 1A.

Preliminary traffic operational analysis based on the 2010 AM peak period traffic indicated that the proposed improvements the travel speed for SR 826 EB to I-95 NB under this alternative will increase from 12 mph to 43 mph while the travel speed for Florida's

Turnpike SB to I-95 SB movement will improve from 14 mph to 45 mph. This represents significant travel time savings over both the existing conditions and Interim Build Alternative 1A. However, the merge operations between the Turnpike Connector express lane ramp and the 95 Express flyover ramp into a one-lane flyover was identified as a potential bottleneck for the projected traffic demand.

No significant environmental impacts were identified as a result of this alternative. The preliminary cost estimate for this alternative was approximately $120 Million. The preliminary evaluation is detailed in the Preliminary Alternatives Analysis Report.

5.3.3 Interim Build Alternative 2A

Description: Interim Build Alternative 2A provides a single exit for SR 826/Palmetto Expressway eastbound to I-95 northbound and to NW 167th Street movements before splitting the movements into separate ramps. The SR 826/Palmetto Expressway eastbound to I-95 northbound ramp consist of two semi-loop reverse S-curve alignment which goes over the South Florida Rail Corridor and continues underneath the 95 Express flyover ramps. It then goes over I-95 and merges with the existing SR 7/US 441 northbound to I-95 northbound ramp before joining I-95 using the existing on-ramp alignment. The improvements along the Turnpike Connector are similar to that of Interim Build Alternative 1A. **Figure 5-3** illustrates the conceptual layout for Interim Build Alternative 2A.

Evaluation: The preliminary engineering design under this alternative requires the construction of an auxiliary lane for the SR 826/Palmetto Expressway eastbound to I-95 northbound and NW 167th Street eastbound movements. Due to the physical constraints within the interchange, the design speed for the reverse S-curve alignment along the proposed SR 826/Palmetto Expressway to I-95 northbound flyover ramp is 25-30 mph. This lower design speed is required in order to provide adequate superelevation and transition lengths. The existing SR 826/Palmetto Expressway eastbound to I-95 southbound ramp will be maintained with no impacts to the frontage roads.

Similar to Interim Build Alternative 1A, the NW 167th Street westbound to I-95 southbound bridge over I-95 (870042) and the end span for the SR 826 connector bridge (870041) will be replaced to provide adequate vertical clearance and to accommodate additional lanes underneath the bridges.

The preliminary alignment of the SR 826/Palmetto Expressway eastbound to I-95 northbound ramp under alternative would impact the industrial property currently located within the GGI area. The right of way acquisition will include full acquisition of the industrial property within the GGI to accommodate the proposed improvements. In addition, the widening of the I-95 southbound lanes will also impact three commercial properties on the west side of I-95 similar to Interim Build Alternative 1A.

The impacts to the Florida Gas Transmission (FGT) 18-inch steel gas line along the south side of SR 826 under this alternative is less compared to Interim Build Alternatives 1A and 1B. The widening of the SR 826/ Palmetto Expressway Mainline to provide an additional

auxiliary lane between SR 826 eastbound to I-95 southbound and NW 167th Street eastbound ramps will require the relocation of 18-in gas line onto the south side of SR 826/ Palmetto Expressway.

The preliminary traffic operational analysis based on the 2010 AM peak period traffic indicated this alternative also provides improvements over the existing conditions, However, that the proposed lower speed (25-30 mph) for SR 826/Palmetto Expressway eastbound to I-95 direct flyover ramp due to the geometric constraints resulted in significant queues along SR 826/Palmetto Expressway mainline. In addition, the diverge operations of the single exit for SR 826/Palmetto Expressway eastbound to I-95 northbound and SR 826/Palmetto Expressway eastbound to NW 167th Avenue movements resulted in queue spill backs onto the SR 826 mainline thereby blocking the SR 826 eastbound to I-95 northbound movement during the peak periods. This does not meet the purpose and need for this project.

No significant environmental impacts were identified as a result of this alternative. The preliminary cost estimate for this alternative was approximately $80 Million. The preliminary evaluation is detailed in the Preliminary Alternatives Analysis Report.

5.3.4 Interim Build Alternative 2B

Description: Interim Build Alternative 2B is a combination of improvements under Interim Build Alternatives 2A and 1B. The proposed improvements under this alternative provides a single exit for SR 826/Palmetto Expressway eastbound to I-95 northbound and SR 826/Palmetto Expressway eastbound to NW 167th Avenue movements before splitting the movements into separate ramps similar to Interim Build Alternative 2A. However, the improvements along the Turnpike Connector are similar to that of Interim Build Alternative 1B which provides a third-level single-lane flyover ramp from Florida's Turnpike southbound merging with the 95 Express southbound flyover ramp. **Figure 5-4** illustrates the conceptual layout for Interim Build Alternative 2B.

Evaluation: Similar to Interim Build Alternatives 2A and 1B, the preliminary engineering design under this alternative requires the construction of a reverse S-curve alignment with 25-30 mph design speed for the SR 826/ Palmetto Expressway eastbound to I-95 northbound flyover ramp. The existing SR 826/ Palmetto Expressway eastbound to I-95 southbound ramp will be maintained with no impacts to the frontage roads.

In addition, the Turnpike Connector will require reconstruction of the inside lane and the replacement of the Turnpike Connector SB bridge over the South Florida Rail Corridor (SFRC) to provide the necessary grade separation to connect to the 95 Express southbound flyover ramp.

Similar to Interim Build Alternative 1B, the NW 167th Street westbound to I-95 southbound bridge over I-95 (870042) and the end span for the SR 826 connector bridge (870041) will

be replaced to provide adequate vertical clearance and to accommodate additional lanes underneath the bridge.

The preliminary alignments under this alternative would impact the industrial property currently located within the GGI area. The right of way acquisition will include full acquisition of the industrial property within the GGI to accommodate the proposed improvements.

The impact to the Florida Gas Transmission (FGT) 18-inch steel gas line along the south side of SR 826 under this alternative is similar to Interim Build Alternatives 2A. The widening of the SR 826 Mainline to provide an additional auxiliary lane between SR 826 eastbound to I-95 southbound and NW 167th Street eastbound ramps will require the relocation of 18-in gas line onto the south side of SR 826/Palmetto Expressway.

The preliminary traffic operational analysis for this alternatives resulted in similar results compared to Interim Build Alternative 2A. In addition, queue spill backs from the SR 826 eastbound to NW 167th Street eastbound ramp onto the SR 826 mainline were observed blocking the SR 826 eastbound to I-95 northbound movement during the peak periods which does not meet the purpose and need for this project. Similar to Interim Build Alternative 1B, the merge operations between the Turnpike Connector express lane ramp and the 95 Express flyover ramp into a one-lane flyover was identified as a potential bottleneck for the projected traffic demand.

No significant environmental impacts were identified as a result of this alternative. The preliminary cost estimate for this alternative was approximately $117 Million. The preliminary evaluation is detailed in the Preliminary Alternatives Analysis Report.

5.3.5 Preliminary Alternatives Analysis Summary & Recommendations

The proposed SR 826/Palmetto Expressway eastbound to I-95 northbound flyover ramp under Interim Build Alternatives 1A and 1B provides significant mobility improvements within the GGI due to the relatively higher speeds (40-45 mph) resulting from direct alignment for this movement. On the other hand, the proposed reverse S-curve alignment for the SR 826/Palmetto Expressway eastbound to I-95 northbound flyover ramp under Alternatives 2A and 2B results in lower design speeds (25-30 mph) with queues spill back extending onto the SR 826/Palmetto Expressway mainline and blocking the SR 826 eastbound to I-95 northbound movement during the peak periods. As such, Interim Build Alternatives 2A and 2B do not meet the purpose and need for this project.

Both the at-grade widening improvements for the Turnpike Connector under Build Alternatives 1A and 2A and the Turnpike Connector express lane ramp under Interim Build Alternatives 1B and 2B provide mobility improvements for the Florida's Turnpike southbound to I-95 southbound movement. However, the merge between the Turnpike Connector express lane ramp and the 95 Express flyover ramp into a one-lane flyover was identified as a potential bottleneck for the projected traffic demand. Due to the potential for operational

degradation of the express lane in attempting to accommodate the projected design year traffic demand, an additional dedicated lane for the Turnpike Connector ramp merging with the 95 Express southbound flyover ramp resulting in a two express lanes south of the merge point was recommended to be further evaluated as part of the refined alternatives. This will however significantly impact the geometric alignment along I-95 southbound while improving operations and safety.

Based on the above preliminary evaluation, Interim Build Alternatives 1A and 1B were recommended to be further evaluated and refined due to the significant operational benefit provided under these alternatives. Interim Build Alternatives 2A and 2B were recommended to be eliminated from further consideration since they do not meet the project purpose and need due to the inability of these alternatives to significantly improve mobility for the SR 826/Palmetto Expressway eastbound to I-95 northbound. In addition, Interim build Alternatives 2A and 2B resulted in more right of way impact compared to Interim Build Alternatives 1A and 1B.

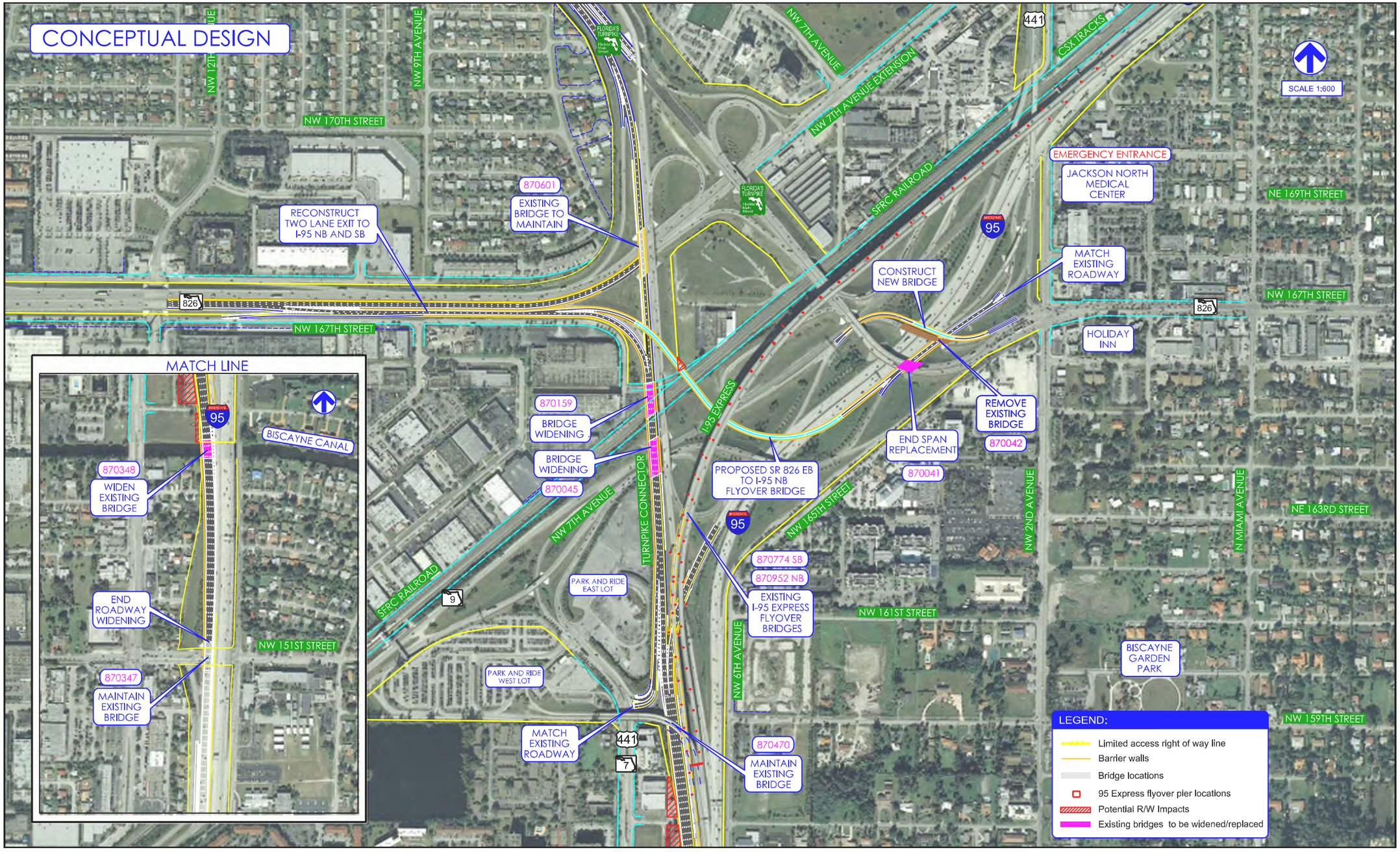


Figure 5-1 Conceptual Layout - Interim Build Alternative 1A

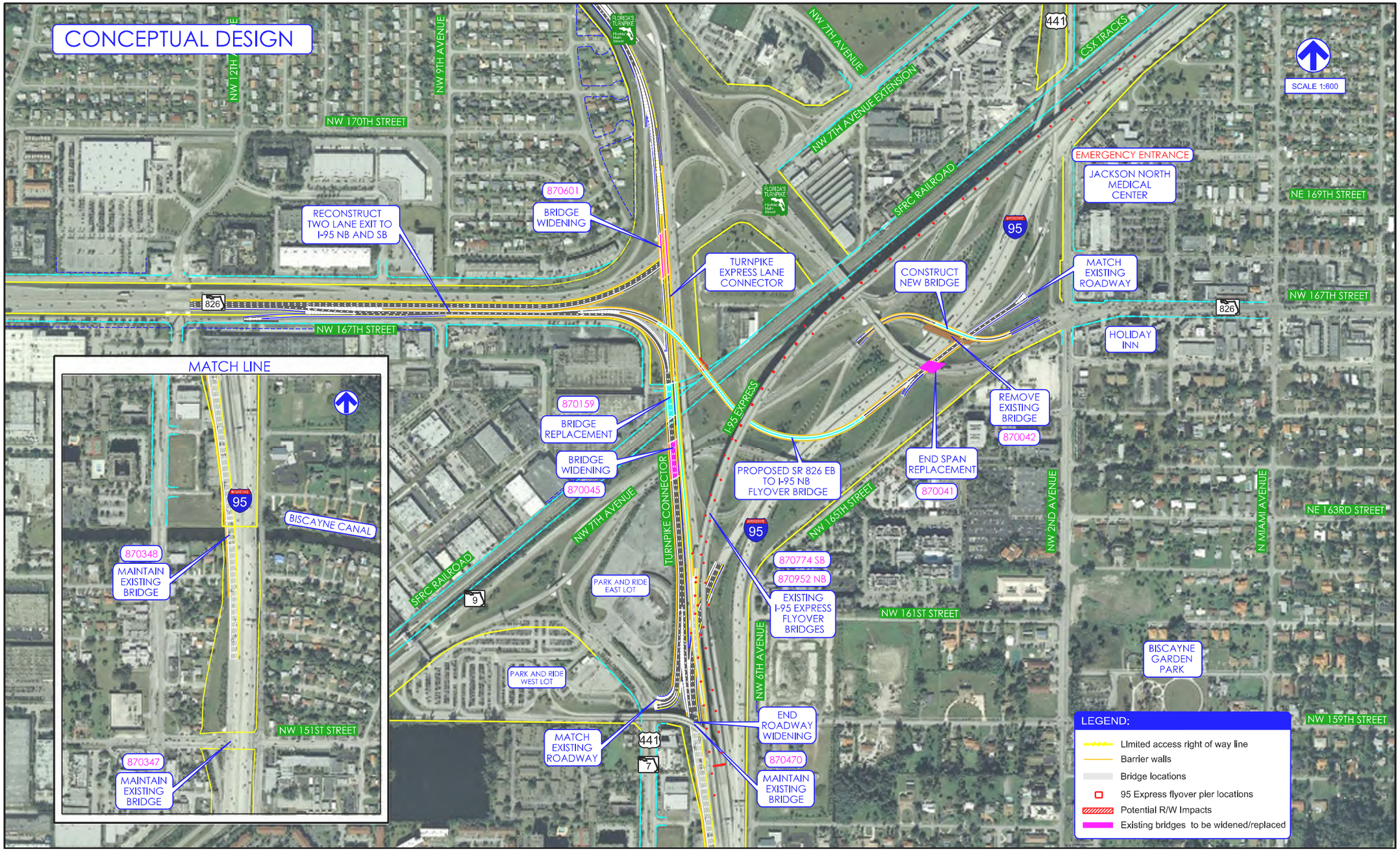


Figure 5-2 Conceptual Layout - Interim Build Alternative 1B

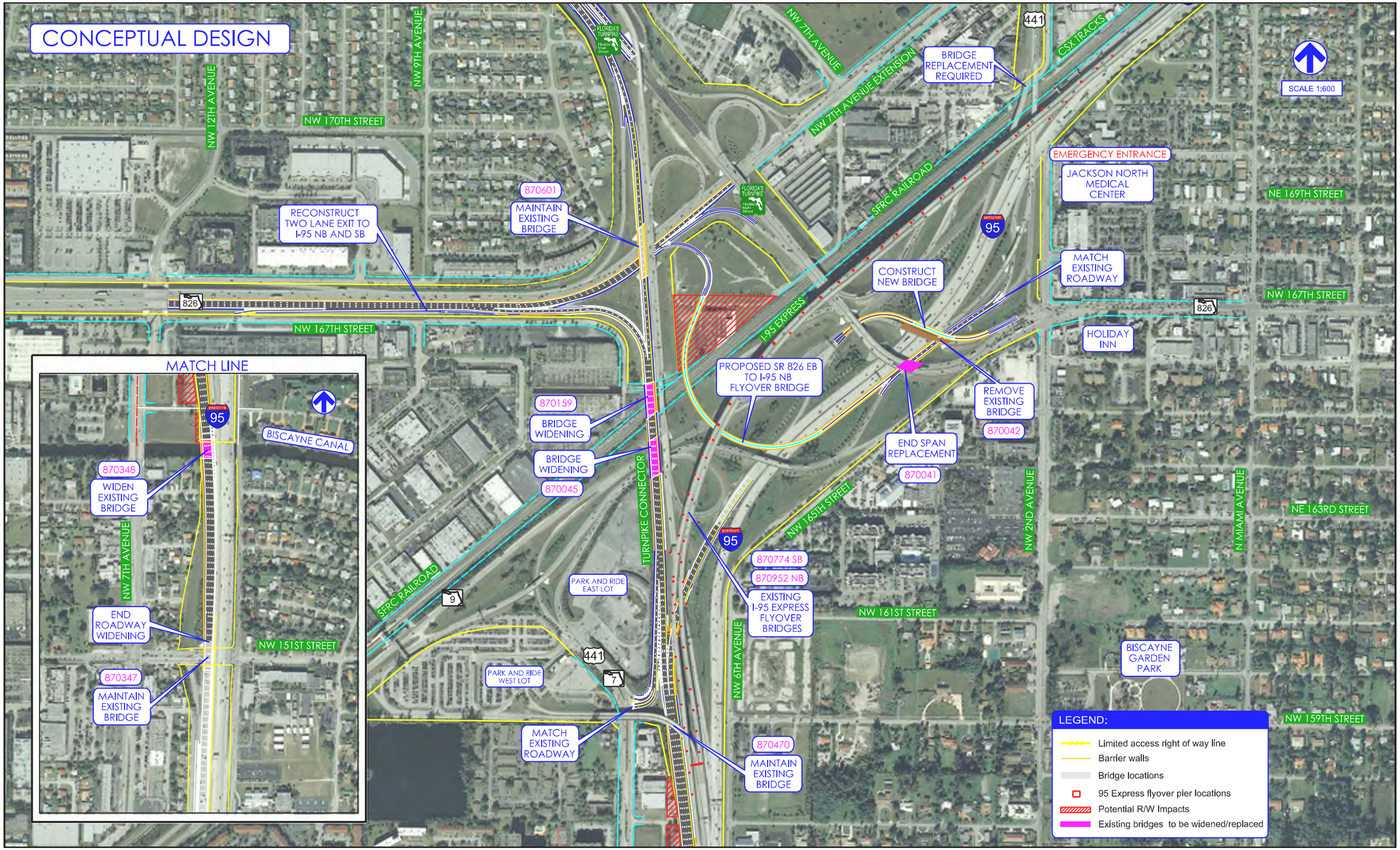


Figure 5-3 Conceptual Layout - Interim Build Alternative 2A

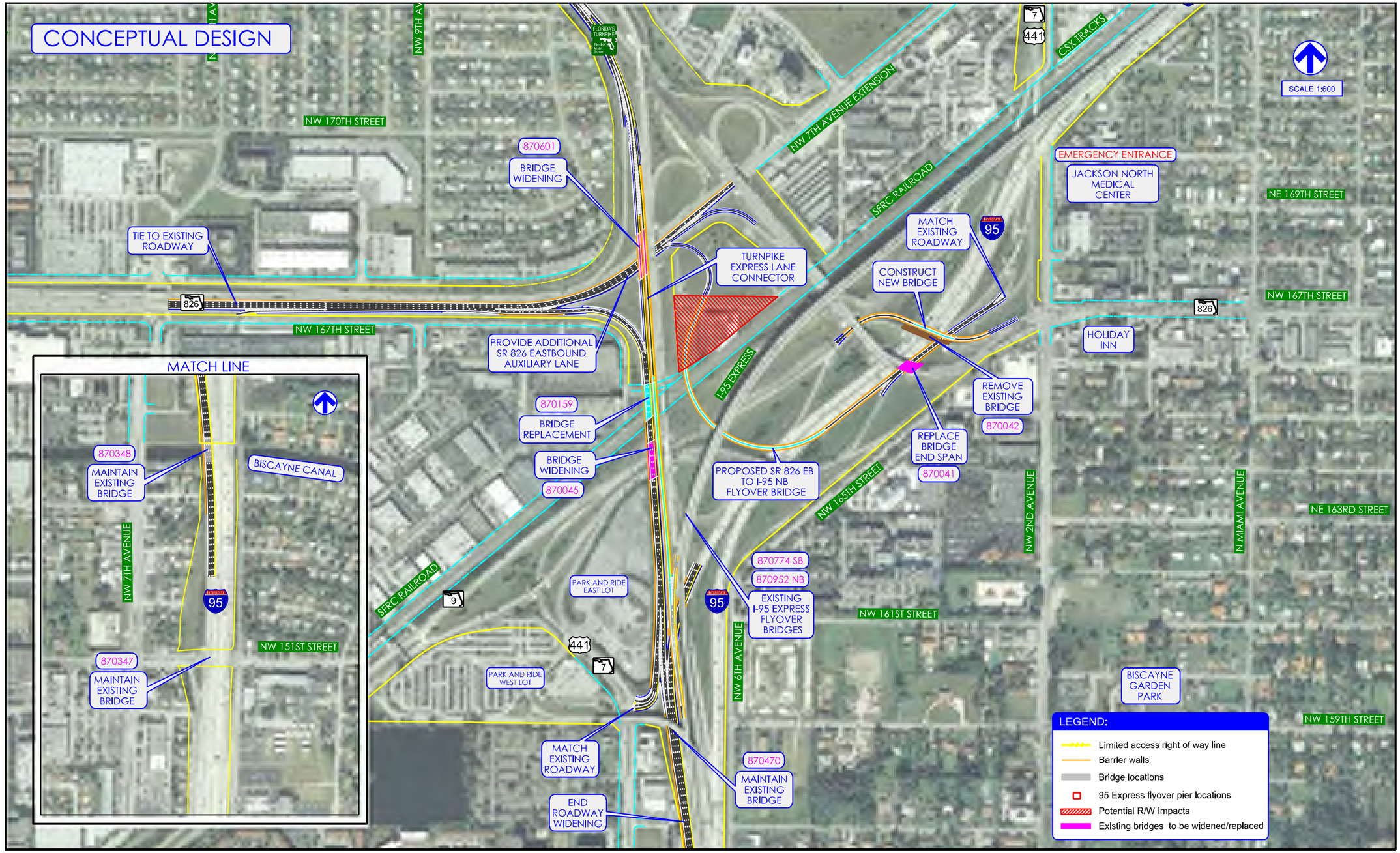


Figure 5-4 Conceptual Layout - Interim Build Alternative 2B

5.4 Refined Build Alternatives

The preliminary alternatives analysis was based on preliminary engineering and traffic analysis using the existing traffic volumes to eliminate alternatives that do not meet the project purpose and need. Following the preliminary alternatives analysis, a travel demand forecast model was developed for the project to estimate the projected traffic volumes for the opening year (2018), interim year (2030) and future year (2040) travel demand. **Table 5-1** shows the project traffic demand and lane requirements for five critical movements considered for improvements under the interim build alternatives.

Table 5-1
Projected Traffic Volumes and Lane Requirements

#	Description	Peak Period Volume (vph)			Lane Requirements		
		2018	2030	2040	2018	2030	2040
1	SR 826 EB Ramp to I-95 NB & SB	4,700	5,300	4,900	3	3	3
2	SR 826 EB to I-95 NB (New Ramp)	1,200	1,400	1,500	1	1	1
3	SR 826 EB to I-95 SB	3,500	3,900	3,400	2	3	2
4	Turnpike SB Connector (North of SR 826 EB to I-95 SB on-ramp)	2,100	2,500	3,200	1	2	2
5	Turnpike SB Connector (from SR 826 EB to I-95 SB on-ramp to SR 7 off-ramp)	5,600	6,400	6,600	3	4	4
6	TPK SB to I-95 SB (Express Ramp)	850	1,100	1,600	1	1	1

Notes:

1. Peak period volumes based on standard K_{30} values of 8% for Routes 1-3 and 9.5% for Routes 4-6
2. Ramp capacity based on HCM 2000 value of 1,900 vph for 20-30 mph design speed and 2,100 for 40-50 mph design speed

Based on the above projected traffic volumes and lane requirements, it is evident that three lanes will be required along the SR 826 eastbound off-ramp to I-95 northbound and southbound as well as the Florida's Turnpike southbound to I-95 southbound connector ramp to accommodate 2030 and 2040 traffic volumes. The volumes are based on the approved traffic forecast for the years 2030 and 2040. It is important to note that the models for the 2030 and 2040 design years have different networks with different assumptions which accounts for the reduction in the traffic volumes for the SR 826/Palmetto Expressway eastbound to I-95 southbound ramp from 2030 to 2040.

It is anticipated that the three lanes from the Turnpike Connector southbound will ultimately consist of two-at-grade lanes and one direct flyover express lane connection to the 95 Express southbound lane (i.e. combination of Interim Build Alternatives 1A and 1B). Subsequent discussions with FDOT District Six management indicated that the merge between the flyover connection from the Florida's Turnpike and the 95 Express southbound lane will require two lanes from the merge point to ensure no operational impact to the existing express lanes system along I-95. In addition, metering the single lane flyover

connection from the Florida's Turnpike will divert more traffic onto the at-grade lanes thereby degrading the traffic operations within this segment of the Turnpike Connector ramp.

Consequently, the recommended alternatives from the preliminary alternatives analysis were further refined into three Interim Build Alternatives 3A, 3B and 3C and presented at the Alternatives Public Workshop Update held on August 23, 2012. The refinements included detailed geometric design, structural analysis, traffic operations, drainage analysis, utility assessment, right of way evaluation and environmental evaluation needed to accommodate the projected traffic demands. The key features of the refined build alternatives included the provision of a three lane off ramp from SR 826 eastbound to I-95 northbound and southbound and the removal of the NW 12th Avenue on-ramp due to the right of way constraints as well as the adverse operational and safety impacts. In addition, the roadway geometry for the interim build alternatives was developed such that it will accommodate future express lanes connections between SR 826/Palmetto Expressway and the I-95 Express lanes to the north as well as provide an envelope to accommodate a future direct express lane connection from Florida's Turnpike southbound to the 95 Express southbound lanes.

Subsequent to the Alternatives Public Workshop Update, several meetings and discussions were held with the residents and businesses who may be potentially impacted by the closure of the NW 12th Avenue on-ramp. Both the business owners and residents recommended the study team to evaluate additional alternatives to maintain the on-ramp since its closure could inconvenience their operations and travel patterns. As such, an additional improvement alternative (Interim Build Alternative 4) was developed to maintain the NW 12th Avenue on-ramp as well as provide a three-lane off-ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound. The characteristics and features of the refined build alternatives are discussed in the following sub-sections.

5.4.1 Interim Build Alternative 3A

Interim Build Alternative 3A provides a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound. The new flyover ramp diverges from the SR 826/Palmetto Expressway eastbound to I-95 southbound ramp and continues over the Turnpike Connector and underneath the I-95 Express Flyover Ramps. It then goes over I-95 and merges with the existing SR 7/US 441 northbound to I-95 northbound ramp before joining I-95 using the existing on-ramp alignment. The Turnpike Connector southbound lanes will be reconstructed to shift the alignment to the west in order to accommodate a future direct express lane connection from the Florida's Turnpike southbound to the 95 Express southbound lanes.

The proposed three-lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound movements removes the NW 12th Avenue eastbound on-ramp

to SR 826 eastbound and provides a connection from NW 165th Street to NW 17th Avenue across the NW 17th Avenue Canal. It requires widening of NW 17th Avenue from two to four lanes between NW 165th Street and SR 826/Palmetto Expressway. The existing unsignalized single left turn lane from SR 826/eastbound to Florida's Turnpike northbound will also be upgraded to a signalized intersection with double left turn lanes. **Figure 5-5** illustrates the conceptual layout for Interim Build Alternative 3A.

5.4.2 Interim Build Alternative 3B

This build alternative also involves the construction of a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound movements and the provision of a direct connection flyover from SR 826/Palmetto Expressway eastbound to I-95 northbound similar to Interim Build Alternative 3A. The main differences are the improvements to the Turnpike Connector southbound and I-95 southbound movements.

Under this alternative, the southbound Turnpike Connector lanes will be reconstructed to shift the alignment to the west in order to accommodate a future direct express lane connection from Florida's Turnpike southbound to the 95 Express southbound express lanes. The Turnpike Connector southbound off-ramp to SR 7/US 441 is relocated approximately 1,150-ft south along SR 7/US 441 to Biscayne River Drive. The Turnpike Connector then merges with the I-95 southbound mainline lanes further south just after the Biscayne Canal bridge. The I-95 southbound mainline lanes will also be reconstructed and realigned.

The Interim Build Alternative 3B also includes the removal of the NW 12th Avenue eastbound on-ramp to SR 826 eastbound and the provision of new a connection from NW 165th Street to NW 17th Avenue across the NW 17th Avenue canal. This alternative will also incorporate the widening of NW 17th Avenue from two to four lanes between NW 165th Street and SR 826/Palmetto Expressway as well as the provision of a new signalized intersection with double left turn lanes for SR 826/Palmetto Expressway eastbound to Florida's Turnpike northbound. The mentioned changes are similar to that of Interim Build Alternative 3A. Figure 5-6 illustrates the conceptual layout for Interim Build Alternative 3B.

5.4.3 Interim Build Alternative 3C

The proposed improvements along SR 826/Palmetto Expressway and the Turnpike Connector under Interim Build Alternative 3C are similar to Interim Build Alternative 3B. The main difference is the provision of a third-level single-lane flyover ramp from Florida's Turnpike southbound to the I-95 express southbound lanes. The single-lane flyover merges with the existing single-lane I-95 express flyover south of the Biscayne Canal bridge to provide two express lanes south of the merge location. The improvements along the Turnpike Connector and I-95 southbound express lanes together with the direct connection flyover ramps from Florida's Turnpike to I-95 southbound express lanes represent the

ultimate configuration necessary to accommodate the design year travel demand. **Figure 5-7** illustrates the conceptual layout for Interim Build Alternative 3C.

5.4.4 Interim Build Alternative 4

Interim Build Alternative 4 provides a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound and also maintains the NW 12th Avenue on-ramp. In order to eliminate the current weaving issue along the SR 826 mainline, the NW 12th Avenue on-ramp will not connect directly to SR 826 mainline. Instead, it will be relocated and connected to the three lane off-ramp to I-95 northbound and southbound as a barrier separated auxiliary lane. As such, the NW 12th Avenue on-ramp will provide direct access to I-95 southbound and indirect access to I-95 northbound and Florida's Turnpike through SR 7/US 441.

An auxiliary lane will also be added to the Turnpike Connector southbound lanes to increase the weaving distance, and the off-ramp to SR 7/US 441 will be relocated approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection. This will require the acquisition of several commercial properties between SR 7 and I-95 north of the C-9 Biscayne Canal and the existing SR 7 off-ramp from the southbound Turnpike Connector to I-95. An additional northbound left turn lane is also provided at the NW 2nd Avenue and NW 167th Street intersection to improve operations.

The provision of the NW 12th Avenue on-ramp will require the removal of the eastbound frontage road east of NW 10th Avenue. The warehouse property on the southwest quadrant of the interchange within the Sunshine Industrial Park will be acquired due to the removal of the only access road for this property. No improvements along NW 17th Avenue; however, Texas U-Turns (matching the existing bridge vertical clearances) will be provided underneath the SR 826/Palmetto Expressway mainline bridges over NW 17th Avenue and NW 12th Avenue to enhance access and mobility for the adjacent residents and the Sunshine Industrial Park.

The provision of a direct connection flyover from SR 826/Palmetto Expressway eastbound to I-95 northbound and a new signalized intersection with double left turn lanes for SR 826/Palmetto Expressway eastbound to Turnpike northbound is similar to that of Interim Build Alternative 3A. **Figure 5-8** illustrates the conceptual layout for Interim Build Alternative 4.

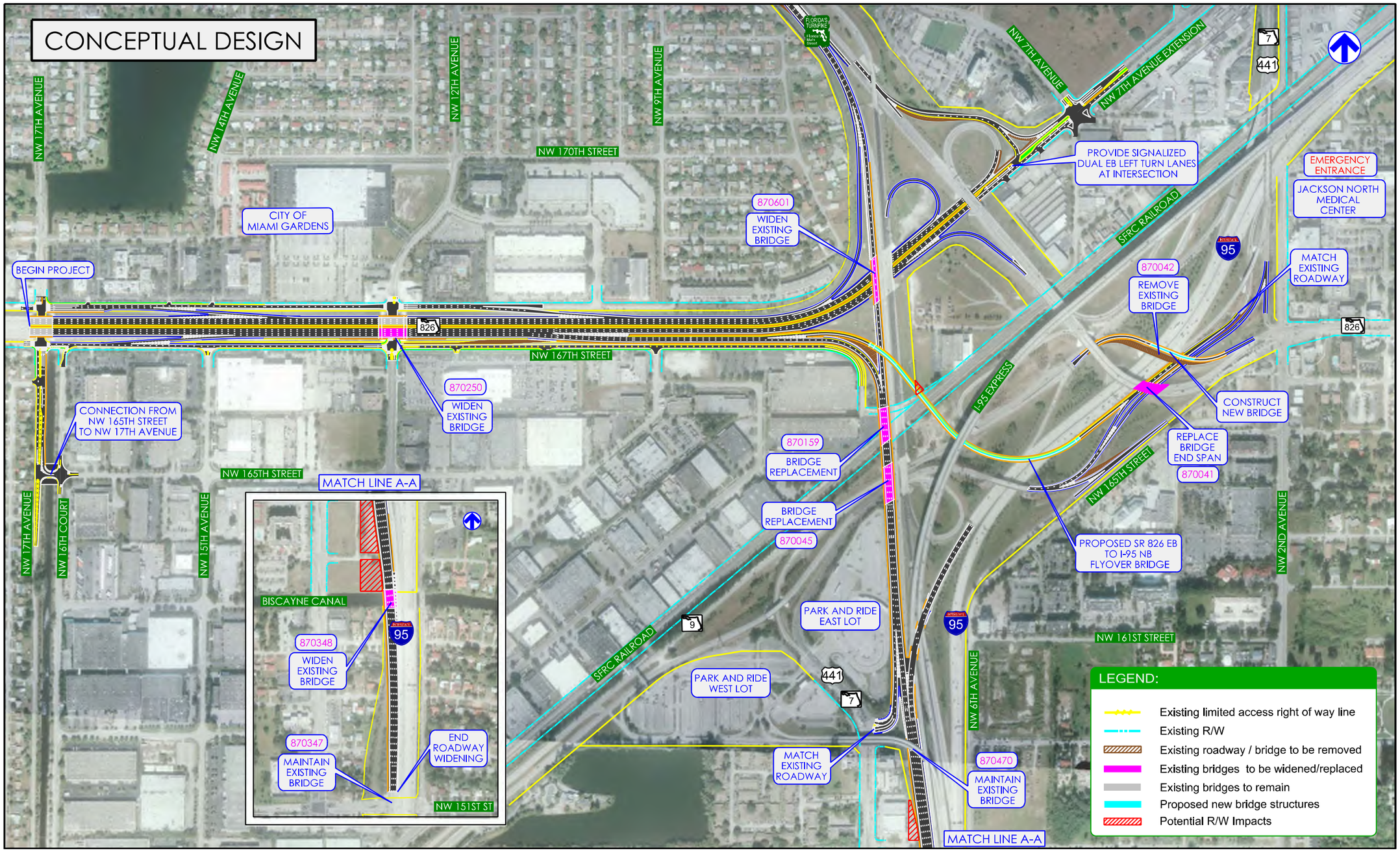


Figure 5-5 Conceptual Layout - Interim Build Alternative 3A

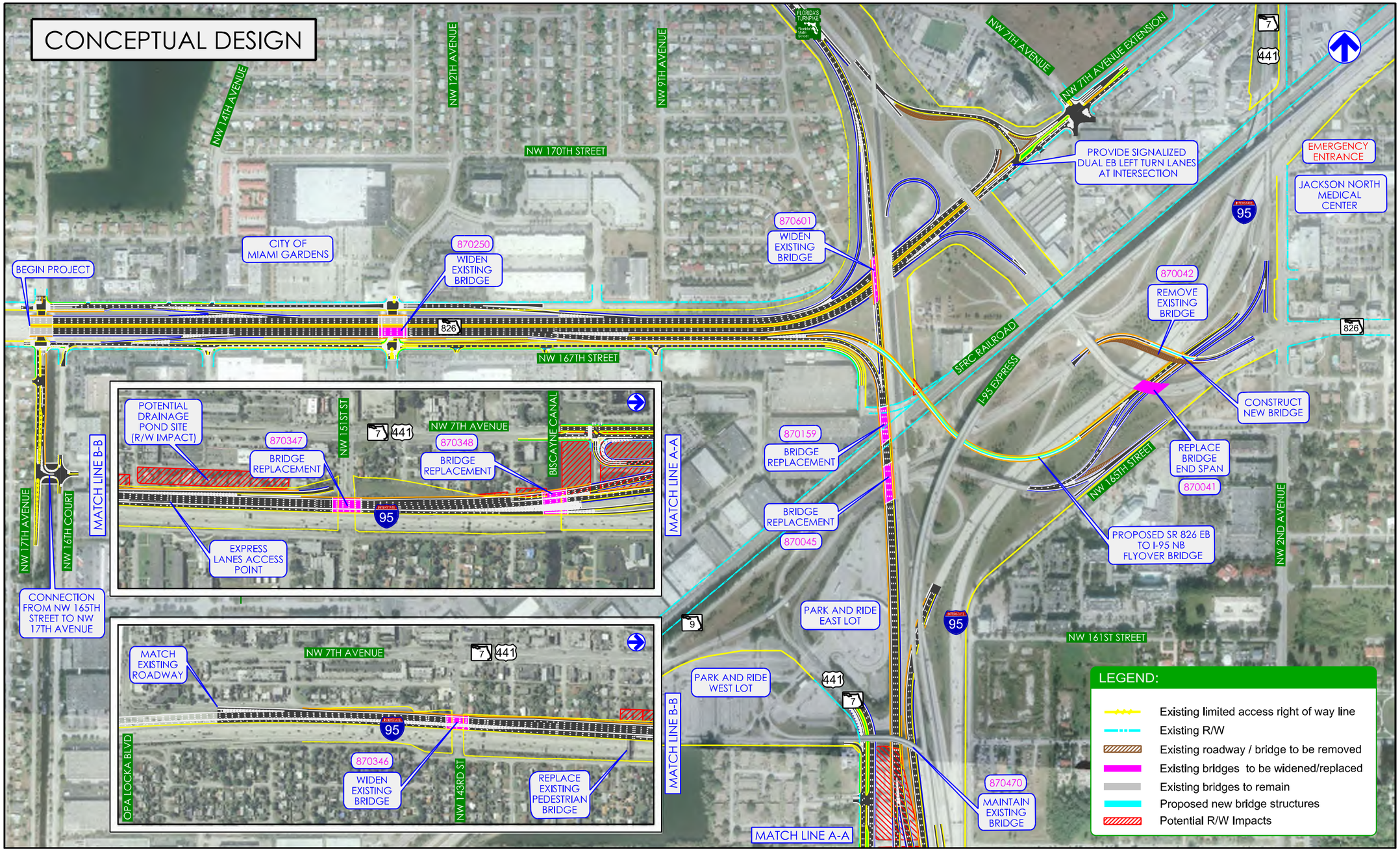


Figure 5-6 Conceptual Layout - Interim Build Alternative 3B

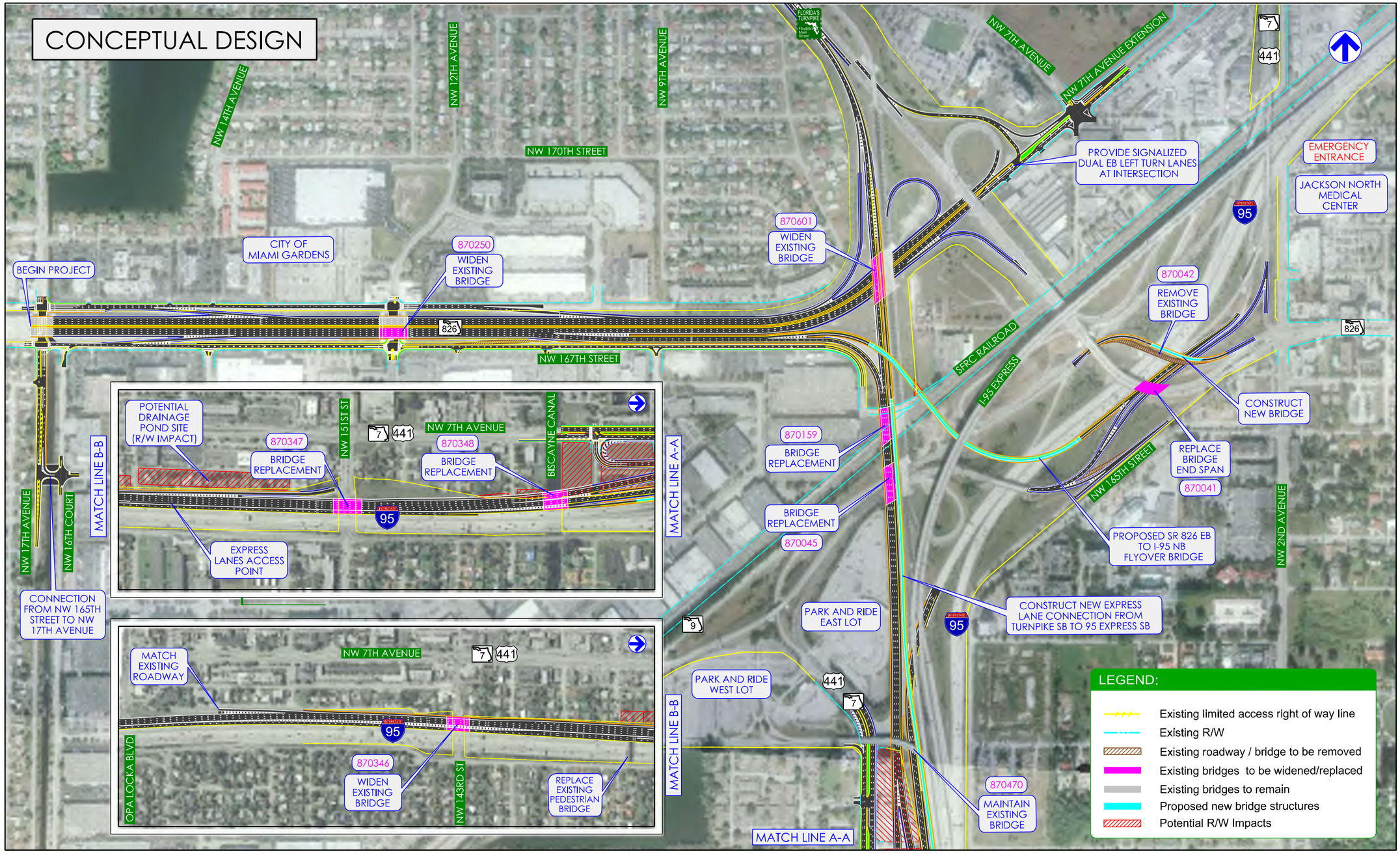


Figure 5-7 Conceptual Layout - Interim Build Alternative 3C

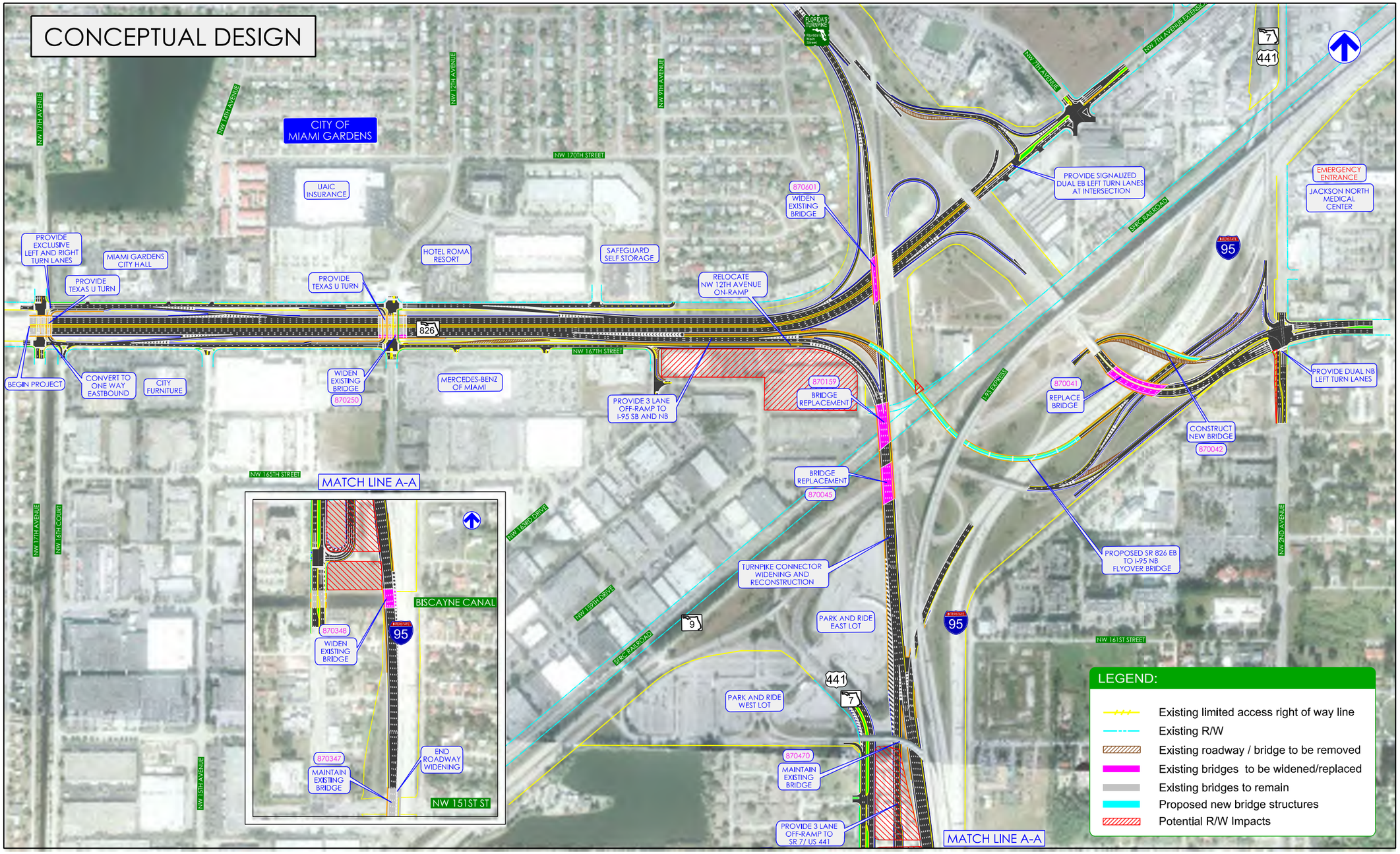


Figure 5-8 Conceptual Layout - Interim Build Alternative 4

5.4.5 Ultimate Build Alternative

The Ultimate Build Alternative represents the master plan to improve operations, safety and mobility within the GGI and provide a system-to-system connection between the new SR 826/Palmetto Expressway express lanes and the I-95 express lanes. The feasibility of express lanes along SR 826/Palmetto Expressway are currently being evaluated under a separate adjacent PD&E Study (FPID: 418423-1). In addition to the improvements provided in the recommended Interim Build Alternative, the following additional improvements are included in the Ultimate Build Alternative (See **Figure 5-9**):

1. Provide express lane connections between SR 826/Palmetto Expressway and I-95 to and from the north only with modifications to SR 826/Palmetto Expressway mainline between GGI and NW 17 Avenue to accommodate four general use lanes in each direction
2. Provide direct express lane connections between Florida's Turnpike and I-95 express southbound lanes and reconstruct I-95 southbound to accommodate new ramp
3. Provide a new ramp for the SR 9/SR 7/US 441 northbound to I-95 northbound movement that merges with the SR 826/Palmetto Expressway eastbound to I-95 northbound flyover ramp before joining I-95 as a two lane on-ramp
4. Provide an auxiliary lane along I-95 northbound between Golden Glades Interchange and Miami Gardens Drive to increase capacity along mainline
5. Widen the existing I-95 express flyover ramps from one to two lanes in each direction north of the merge/diverge locations with the new SR 826 express lanes flyover ramps
6. Widening of SR 826 connector to NW 167 Street to accommodate two lanes from SR 826/ Palmetto Expressway eastbound to NW 167 Street eastbound
7. Combination and realignment of the I-95 northbound to SR 7/US 441 northbound and NW 167 Street eastbound exit ramps
8. NW 2 Avenue and NW 167 Street intersection improvements

As previously mentioned, the Ultimate Build Alternatives will be studied as part of this PD&E Study to ensure that the Interim Build Alternatives are compatible with the Ultimate Build Alternative. This includes performing the engineering and environmental evaluations. In terms of documentation for FHWA approval purposes, the Ultimate Build Alternatives will be documented as part of the SR 826 PD&E Study.

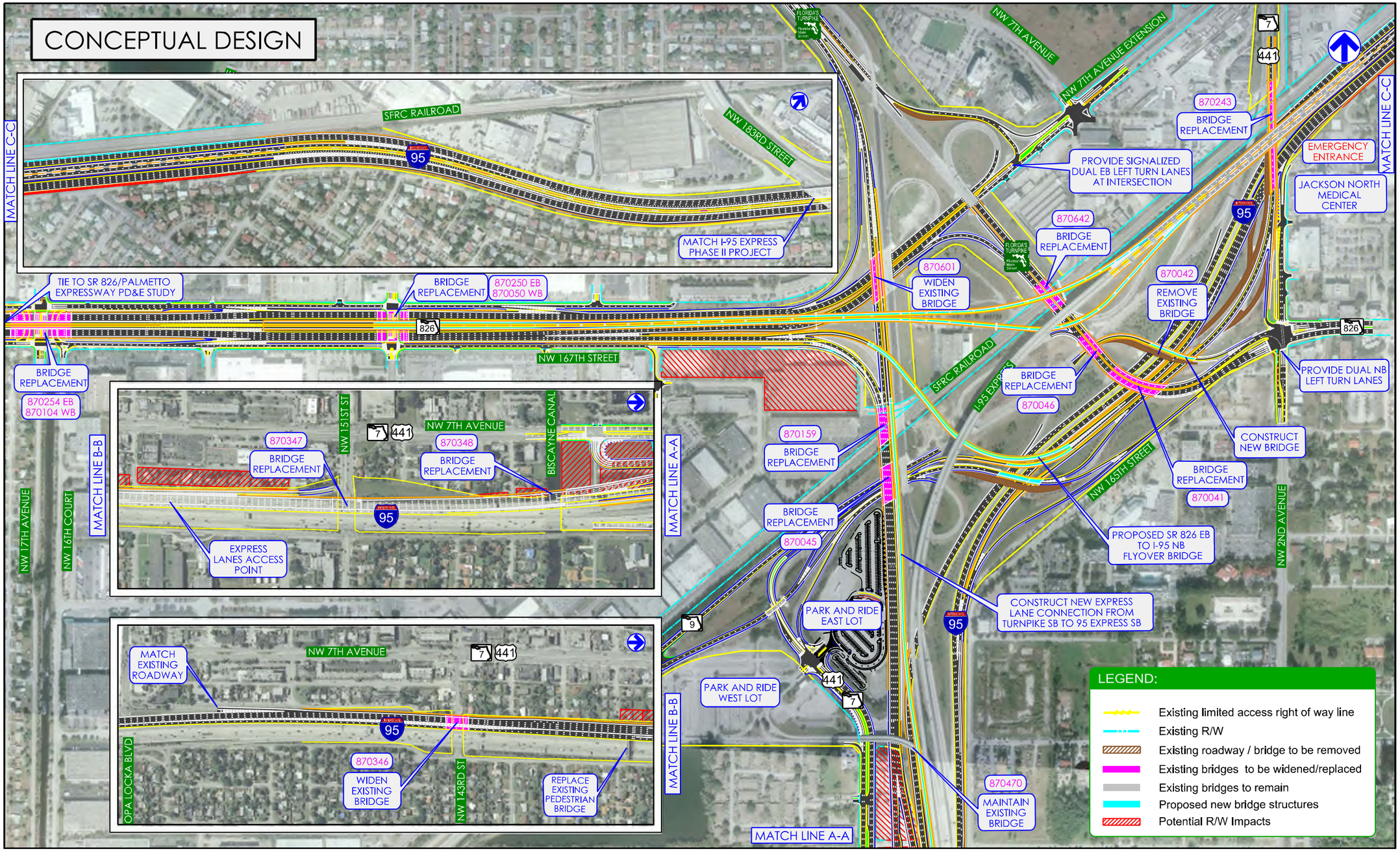


Figure 5-9 Conceptual Plan- Ultimate Build Alternative

5.4.6 Proposed Typical Sections

5.4.6.1 SR 826/Palmetto Expressway Mainline

The improvements along SR 826/Palmetto mainline under Interim Build Alternatives 3A, 3B, 3C and 4 involve widening of the existing eastbound lanes to provide five lanes between NW 17th Avenue and off-ramp to I-95 northbound and southbound. The proposed typical section as illustrated in **Figure 5-10** consists of the following features:

- Five 12-ft travel lanes in the eastbound direction
- Four 12-ft travel lanes in the westbound direction
- 16-ft median with 2-ft concrete barrier wall
- 12-ft outside shoulder with 10-ft paved
- 7-ft inside shoulder all paved

The proposed typical section maintains the existing 7-ft inside shoulder width and 16-ft median width along the SR 826/Palmetto Expressway mainline. Design variation and exception will be required to maintain the 10-ft outside and 7-ft inside shoulder widths respectively to avoid significant right of way impact to the frontage road and commercial properties on the south side of SR 826/Palmetto Expressway. A design variation will also be required to maintain the existing 16-ft median width.

5.4.6.2 SR 826/Palmetto Expressway EB to I-95 NB & SB off-Ramp

The construction of the new system-to-system direct connection flyover from SR 826/Palmetto Expressway eastbound to I-95 northbound under Interim Build Alternatives 3A, 3B and 3C will require reconstruction of the existing two lane off-ramp from SR 826/ Palmetto Expressway eastbound to I-95 southbound and northbound into a three-lane off-ramp while maintaining the existing typical section for the SR 826 mainline (See **Figure 5-11**). In addition, the one-way frontage road east of NW 12th Avenue is converted to a two-way lane road to facilitate circulation. The proposed typical section for the off-ramp consists of the following features:

- Three 12-ft travel lanes in the eastbound direction
- 8-ft outside shoulder all paved
- 6.5-ft inside shoulder all paved

The proposed reduced inside and outside shoulder widths ensure that both interim and future improvements can be accommodated within the constrained right of way along SR 826/Palmetto Expressway while preserving the existing frontage road. The reduced inside and outside shoulder widths do not meet the current design standards and will require a design variation. The proposed typical section under Interim Build Alternative 4 includes similar features as Interim Build Alternatives 3A, 3B, and 3C except that the inside and outside shoulders are 10-ft wide and the NW 12th Avenue on-ramp is maintained by relocating and connecting as a barrier separated auxiliary lane (see **Figure 5-12**).

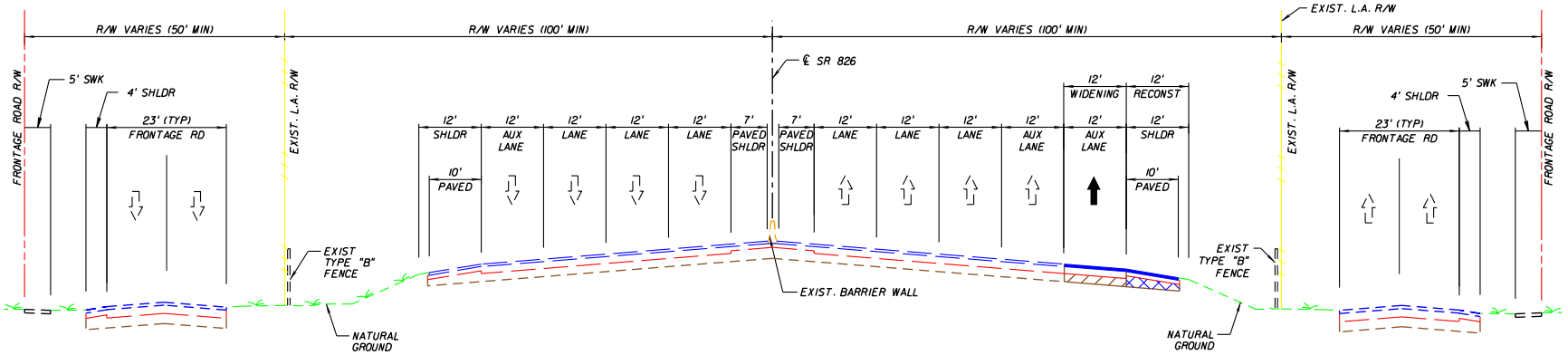


Figure 5-10 Proposed Typical Section – SR 826 west of NW 12th Avenue

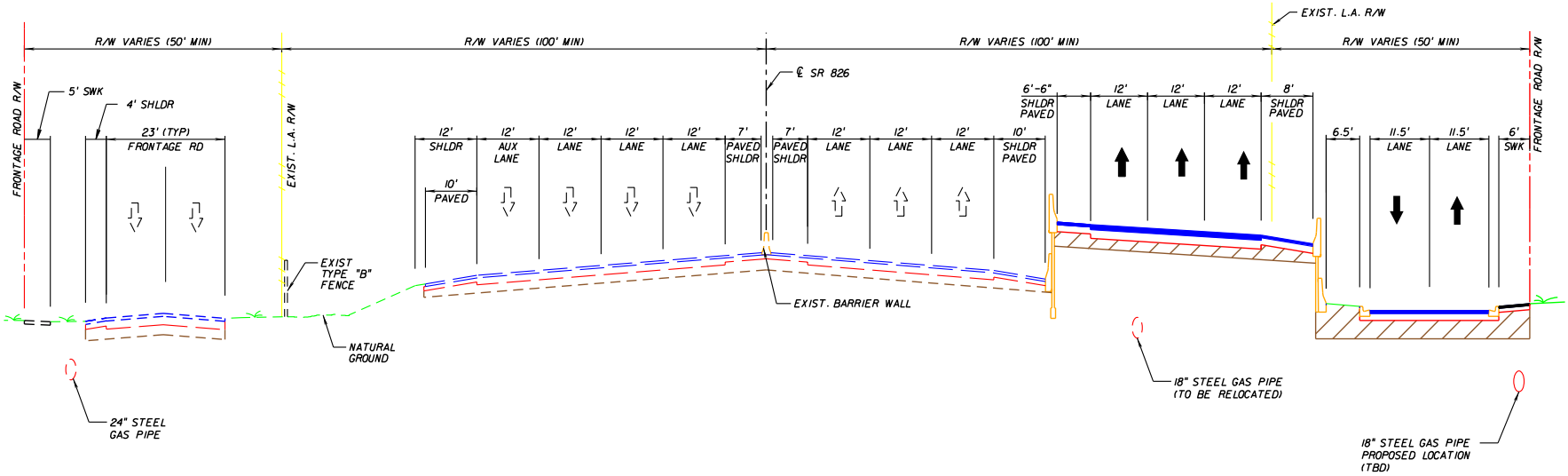


Figure 5-11 Proposed Typical Section– SR 826 E. of NW 12th Avenue– Alt. 3A, 3B & 3C

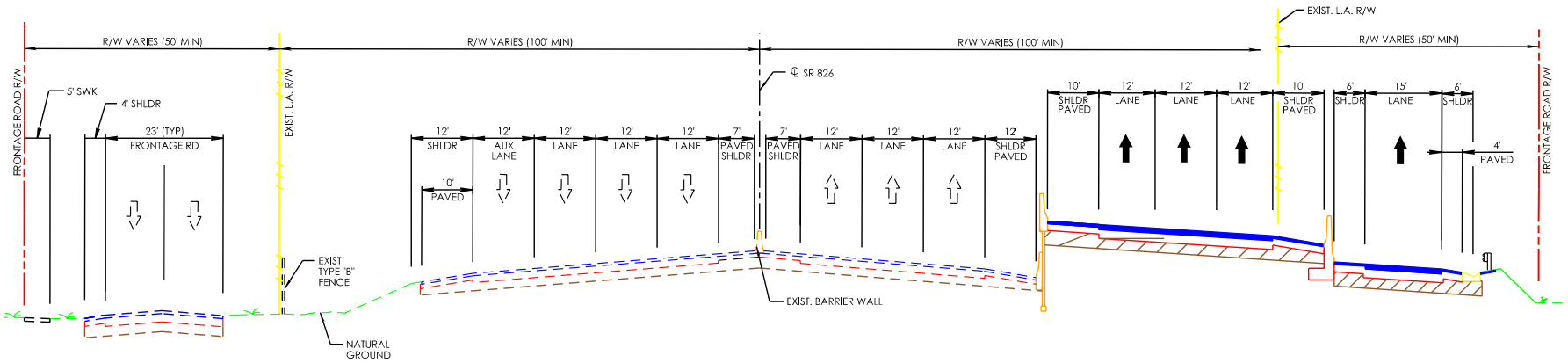


Figure 5-12 Proposed Typical Section– SR 826 W. of NW 12th Avenue– Alt. 4

This is accomplished by removing the eastbound frontage road east of NW 10th Avenue. The NW 12th Avenue on-ramp includes one 15-ft travel lane with 6-ft outside and inside shoulder width The proposed typical section for the SR 826/Palmetto Expressway eastbound to I-95 northbound is a single lane ramp with a 15-ft lane. The inside and outside shoulder widths vary from 6-12-ft to meet sight distance requirements along the reverse curves. The two-lane ramp from SR 826 eastbound to I-95 southbound under Interim Build Alternatives 3A, 3B and 3C features two 12-ft lanes with 8-10-ft paved outside shoulder and 8-ft inside shoulder with 4-ft paved (See **Figure 5-13**).

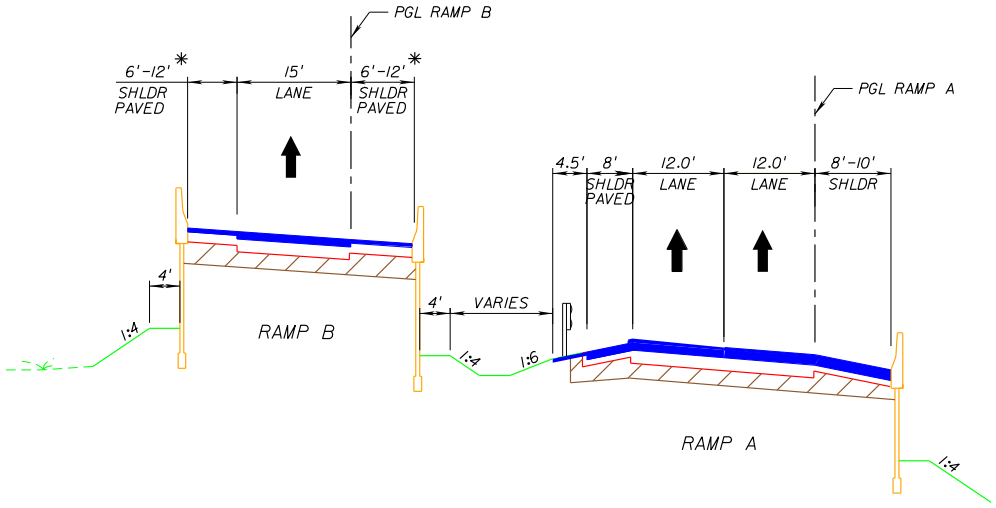


Figure 5-13 Proposed Typical– SR 826 EB to I-95 NB & SB Ramp– Alt. 3A, 3B & 3C

Under Interim Build Alternative 4, the two-lane ramp from SR 826 eastbound to I-95 southbound includes the NW 12th Avenue ramp separated by a gore (see **Figure 5-14**). The typical section includes an 8-ft inside shoulder, two 12-ft travel lanes and one 15-ft travel lane from NW 12th Avenue on-ramp, and an 8-ft outside shoulder.

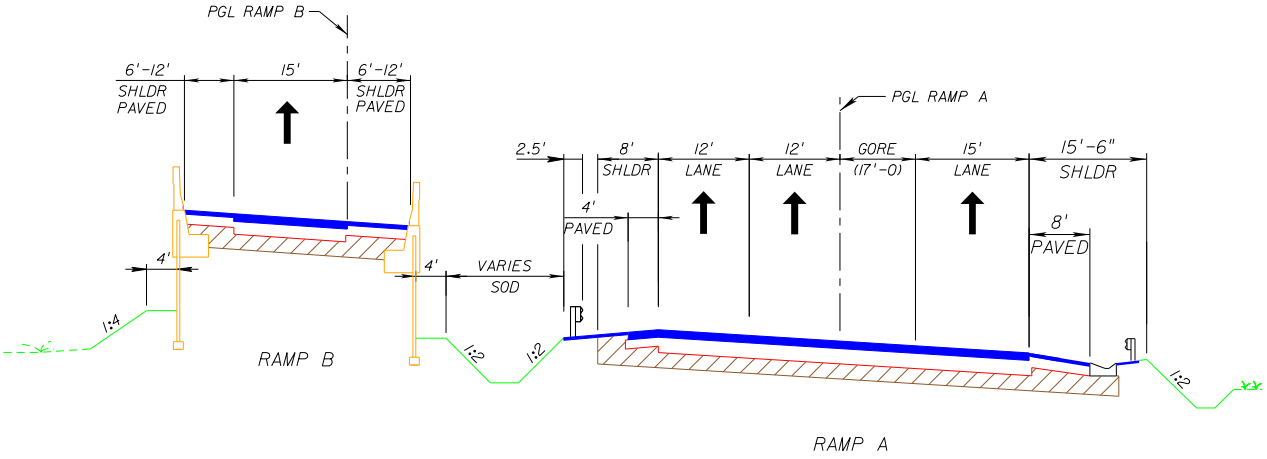


Figure 5-14 Proposed Typical Section – SR 826 EB to I-95 NB & SB Ramp – Alt. 4

5.4.6.3 Turnpike Connector

The proposed improvements along the Turnpike Connector under Interim Build Alternatives 3A and 3B provides an additional at-grade lane in the southbound direction. It involves reconstruction of the existing southbound pavement to shift the alignment west in order to preserve an envelope for the future direct express lane connection from Florida's Turnpike southbound to the I-95 southbound express lanes. The proposed typical section shown in **Figure 5-15** consists of the following features:

- Three 12-ft lanes and one 12-ft auxiliary lane southbound
- Two 12-ft lanes and one 12-ft auxiliary lane northbound
- 12-ft inside shoulders, fully paved southbound and 10-ft paved northbound
- 12-ft outside shoulders with 10-ft paved (10-ft paved shoulder provided at locations on embankment supported by MSE walls)

Interim Build Alternative 3C includes the direct express lane connection from Florida's Turnpike southbound to the 95 express southbound lanes. The proposed typical section is similar to that of Interim Build Alternatives 3A and 3B but includes a single lane ramp with 15-ft travel lane and 6-ft inside and outside shoulders for the express lane connection (See **Figure 5-16**).

The proposed typical section under Interim Build Alternative 4 is similar to 3A and 3B with the addition of an auxiliary lane to the Turnpike Connector southbound lanes. The weaving distance is also increased by relocating the off-ramp to SR 7/US 441 approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection (See **Figure 5-17**). The design features for the southbound lanes include five 12-ft travel lanes, 12-ft inside shoulders fully paved, and 12-ft outside shoulder with 10-ft paved. The northbound lanes typical section is similar to Interim Build Alternatives 3A and 3B.

For all of the interim build alternatives, at locations with shoulder gutter, the outside shoulder is 15.5-ft wide with 8-ft paved. For the segment adjacent to the park and ride facility, a 10-ft shoulder with barrier is utilized on the embankment supported by MSE walls. The proposed cross sectional features for all the interim build alternatives meet the FDOT PPM standards.

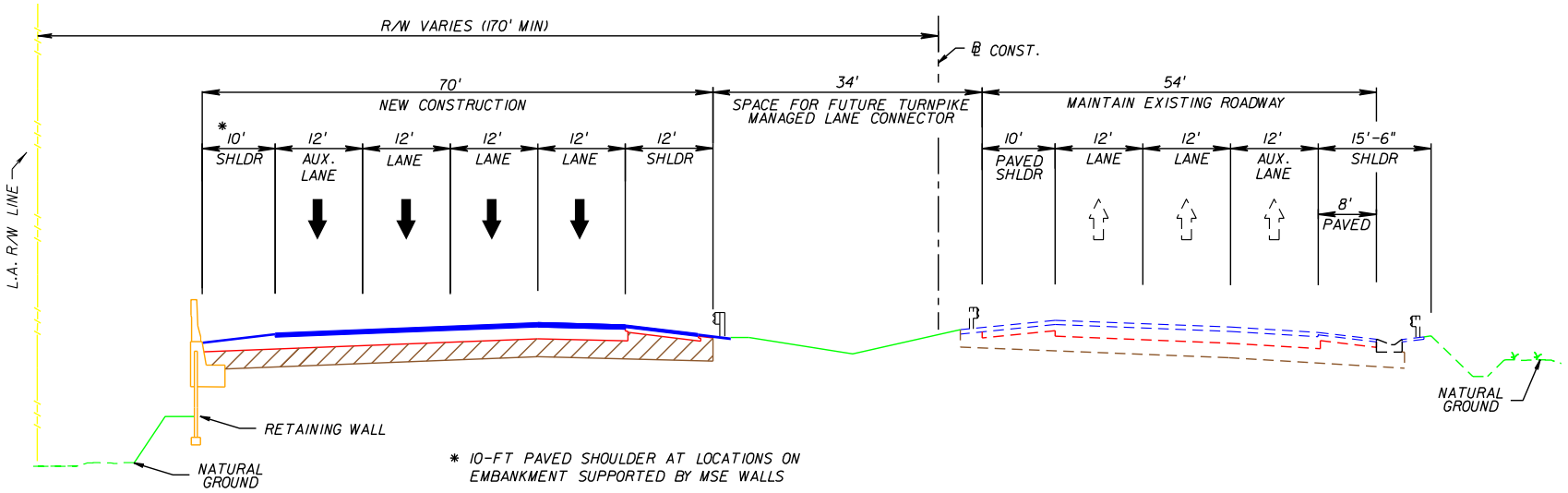


Figure 5-15 Proposed Typical Section – Turnpike Connector – Alt. 3A & 3B

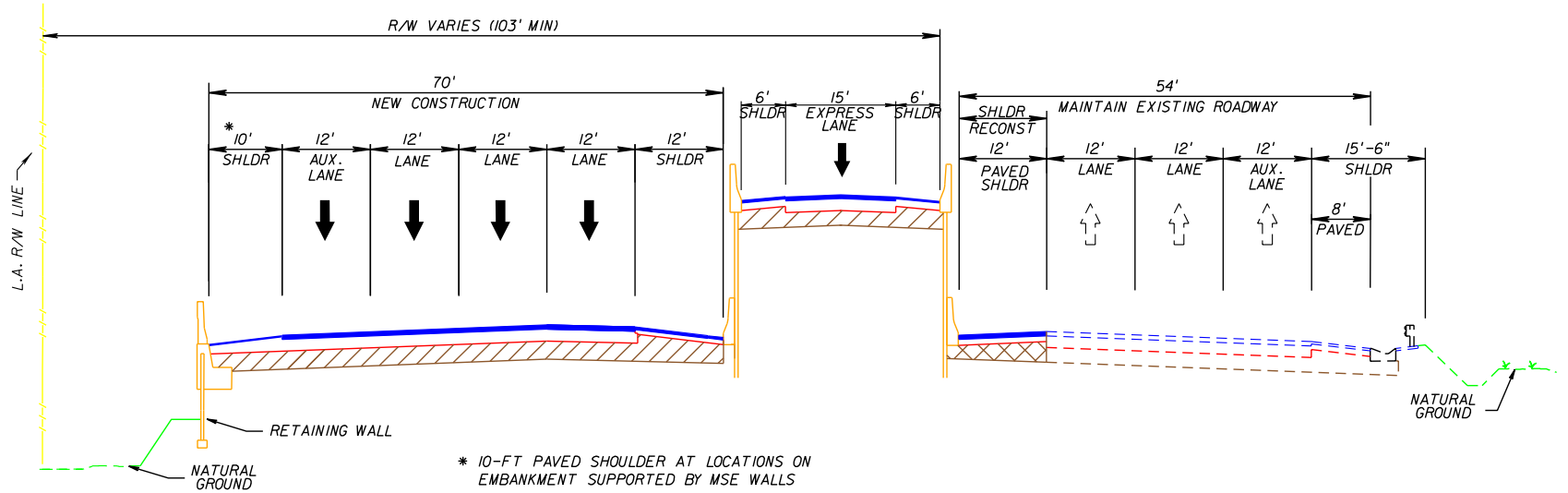


Figure 5-16 Proposed Typical Section – Turnpike Connector – Alt. 3C

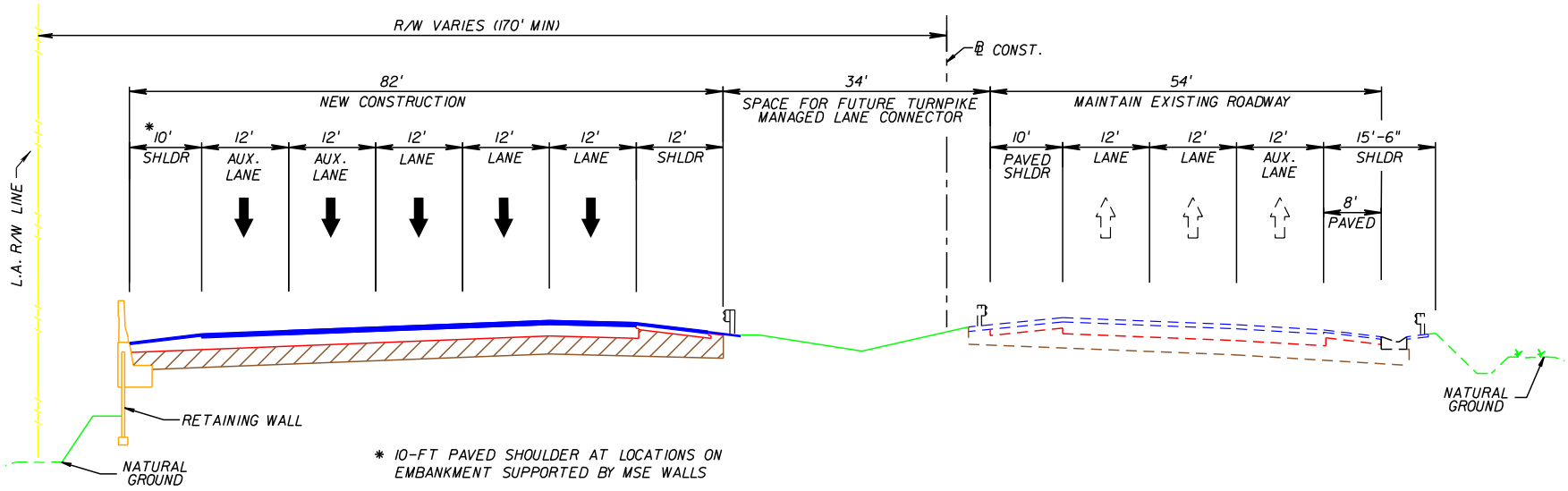


Figure 5-17 Proposed Typical Section – Turnpike Connector – Alt. 4

5.4.6.4 I-95 Southbound

The Turnpike Connector ramp under Interim Build Alternative 3A and 4 merges with the I-95 southbound mainline travel lanes at its current location just north of the Park and Ride flyover ramp. One of the three lanes from the Turnpike Connector southbound adds to the three travel lanes from I-95 southbound to provide a total of four general use lanes along I-95 southbound. The remaining two additional lanes from the Turnpike Connector continue along I-95 southbound as auxiliary lanes from the GGI to NW 151st Street.

The proposed typical section along I-95 southbound north of the Biscayne Canal consists of the following features (See **Figure 5-18**).

- Two 11-ft and two 12-ft travel lanes and two 12-ft auxiliary lanes
- 7-ft to 12-ft inside shoulder width fully paved
- 6-ft to 12-ft outside shoulder width fully paved

South of the Biscayne Canal, the proposed typical section consist of the following features (See **Figure 5-19**).

- Two 11-ft and two 12-ft travel lanes and one 12-ft auxiliary lanes
- Two 11-ft express lanes
- 7-ft to 12-ft inside shoulder width fully paved
- 12-ft outside shoulder width fully paved

The proposed 11-ft travel lane width, 6-ft minimum shoulder widths and 7-ft minimum inside shoulder width do not meet the FDOT PPM and AASHTO standards. Hence, design exceptions will be required for lane width and shoulder widths under Interim Build Alternative 3A and 4.

Under Interim Build Alternative 3B the Turnpike Connector merges with the I-95 southbound mainline lanes further south just after the Biscayne Canal bridge. The two inside lanes from the Turnpike Connector southbound adds to the two outer lanes from I-95 to provide a total of four general use lanes along I-95 southbound. The inside lane along I-95 becomes the entry lane for the 95 Express lanes and merges with the existing two express lanes while the outer lane from the Turnpike Connector continue along I-95 southbound as auxiliary lanes between the Biscayne Canal and Opa-Locka Boulevard.

The proposed typical section along I-95 southbound north of the Biscayne Canal consists of the following features (See **Figure 5-20**).

- Three 12-ft travel lanes along I-95 SB merging with three 12-ft lanes from the Turnpike Connector.
- 12-ft inside shoulder width with 10-ft paved
- 12-ft outside shoulder width fully paved

South of the Biscayne Canal, the proposed typical section consist of the following features (See **Figure 5-21**).

- Four 12-ft travel lanes and one 12-ft auxiliary lane
- Two 12-ft express lanes
- 12-ft inside shoulder width fully paved
- 12-ft outside shoulder width fully paved

The proposed improvements along I-95 southbound under Interim Build Alternative 3C are similar to those of Interim Build Alternative 3B but include a single lane ramp with 15-ft travel lane and 6-ft inside and outside shoulders for the express lane connection from Florida's Turnpike southbound to I-95 southbound express lanes (See **Figure 5-22**).

The proposed cross sectional features for Interim Build Alternatives 3B and 3C along I-95 southbound meet the FDOT PPM standards.

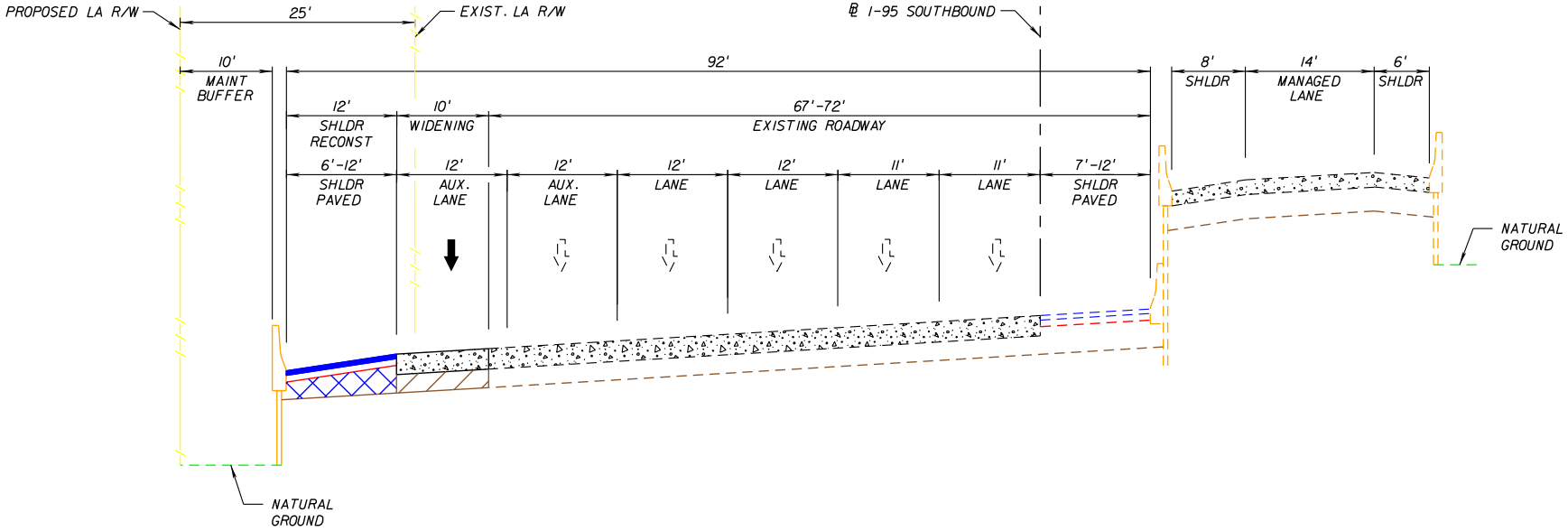


Figure 5-18 Proposed Typical– I-95 SB N. of Biscayne Canal – Alt. 3A and 4

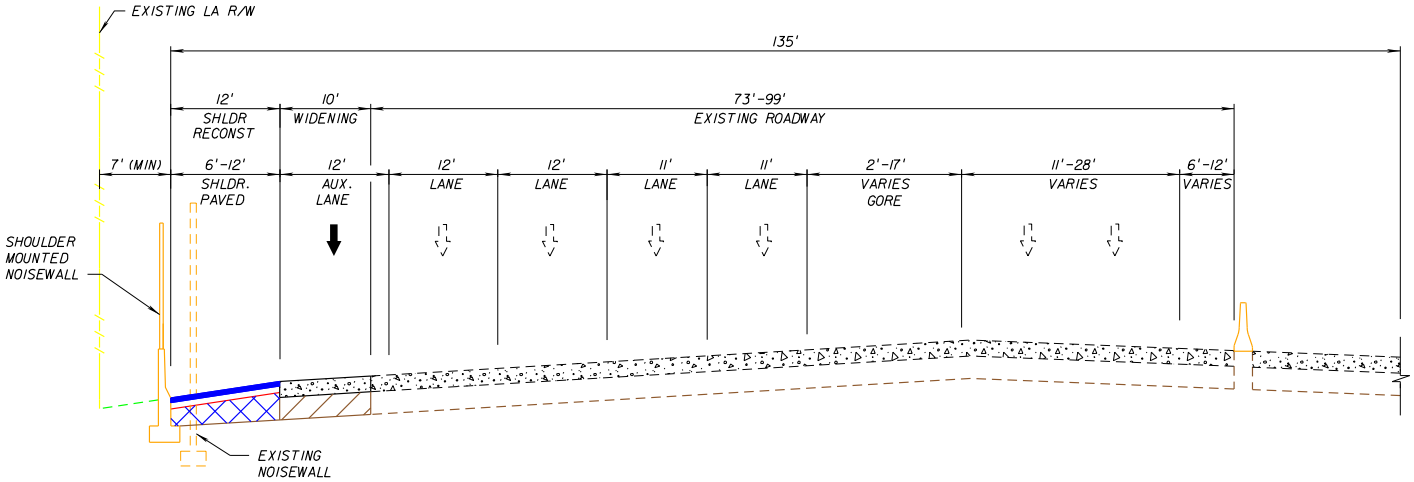


Figure 5-19 Proposed Typical Section – I-95 SB S. of Biscayne Canal – Alt. 3A and 4

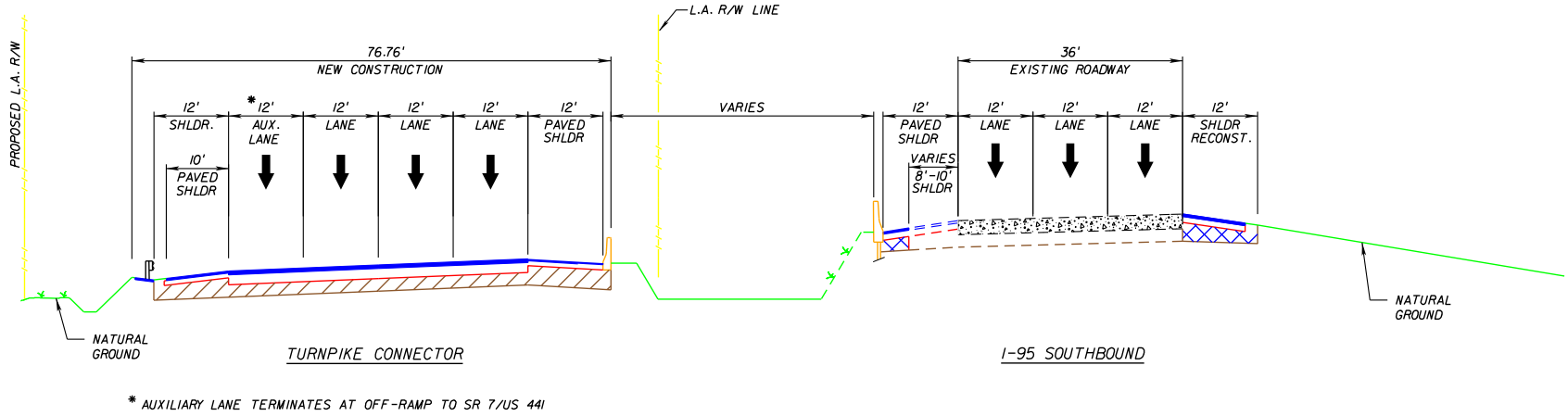


Figure 5-20 Proposed Typical Section – I-95 SB N. of Biscayne Canal – Alt. 3B

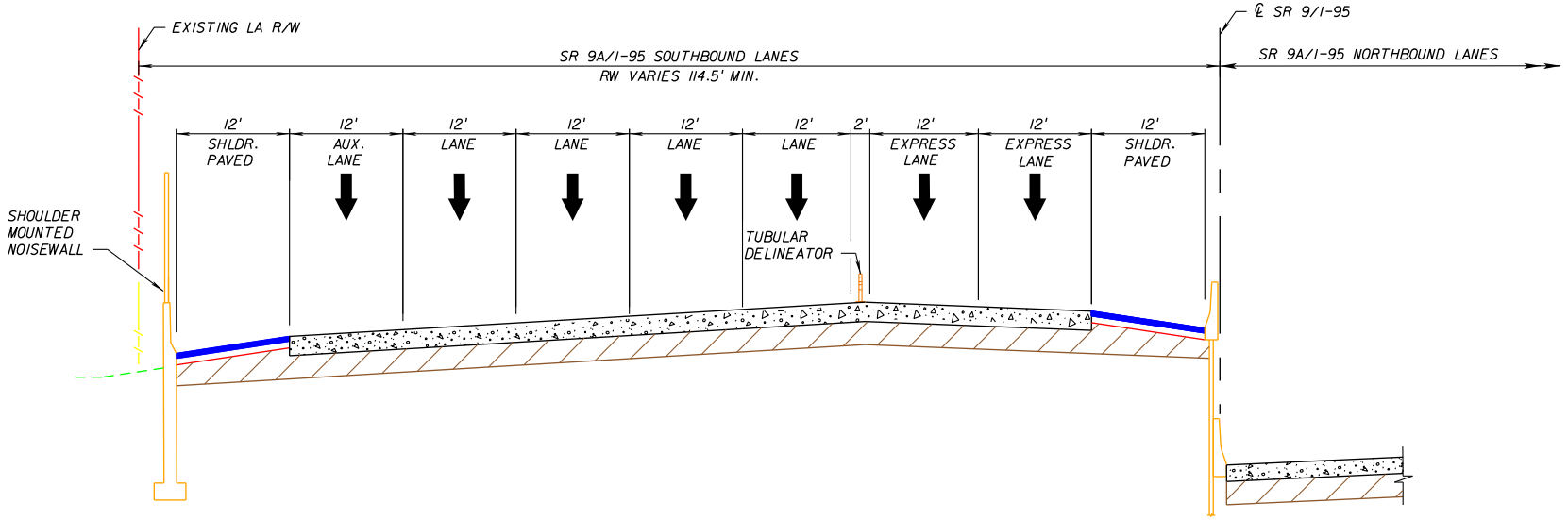


Figure 5-21 Proposed Typical Section–I-95 SB S. of Biscayne Canal–Alt. 3B & 3C

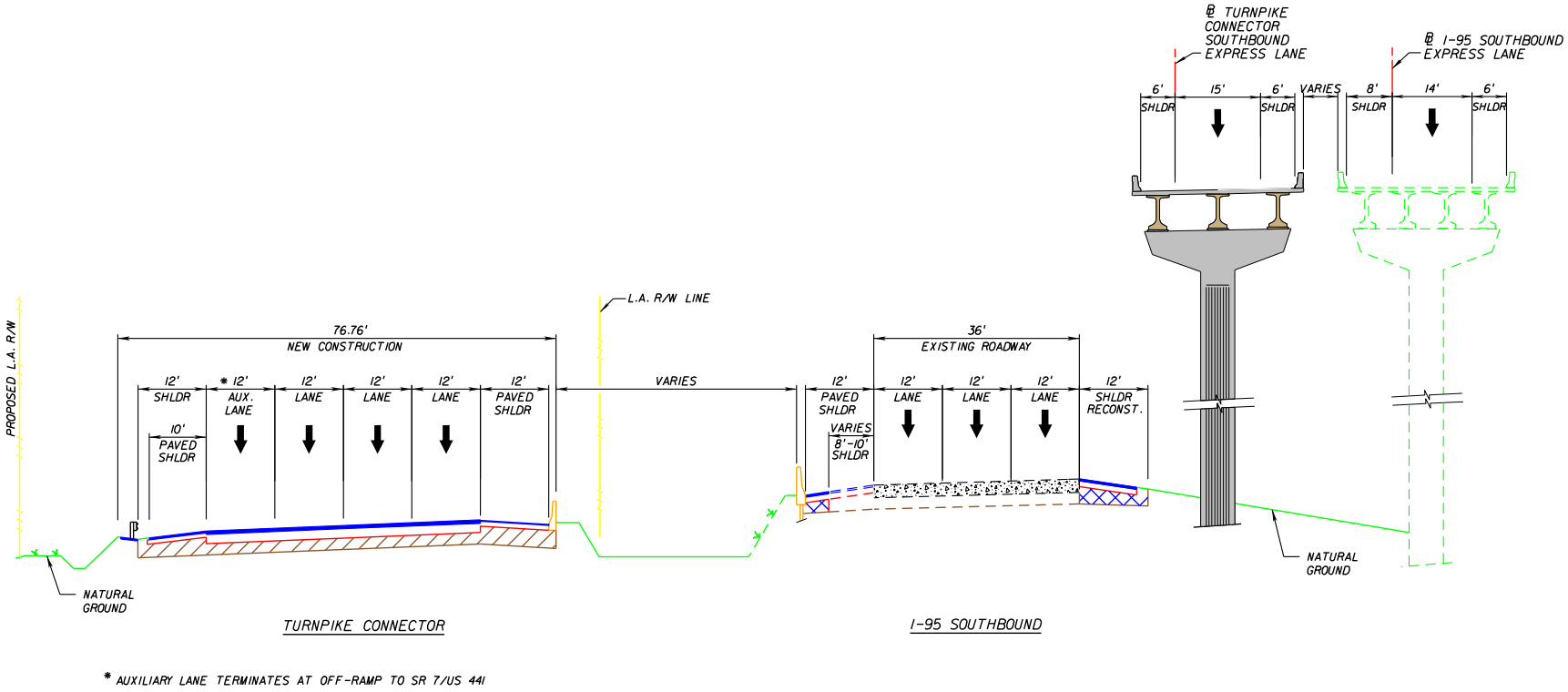


Figure 5-22 Proposed Typical Section – I-95 SB north of Biscayne Canal – Alt. 3C

5.4.7 Horizontal and Vertical Alignment

5.4.7.1 Interim Build Alternative 3A

Horizontal Alignment

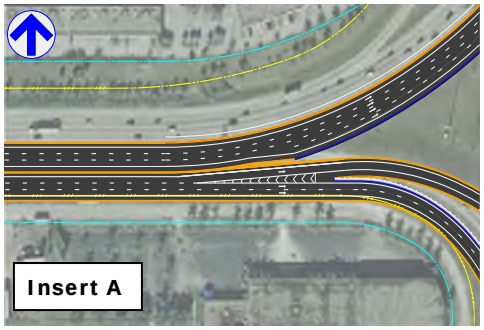
Table 5-2 summarizes the horizontal alignment for the proposed improvements under Interim Build Alternative 3A.

Table 5-2
Horizontal Alignment for Alternative 3A

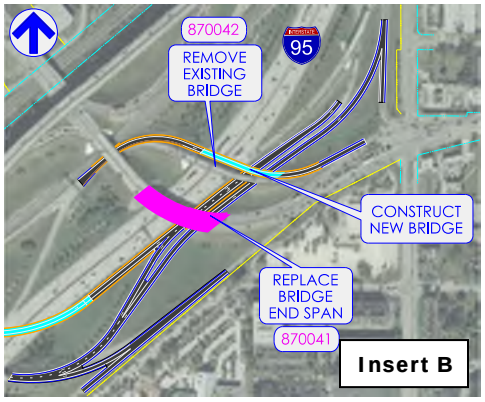
Roadway	Curve No.	Design Speed (mph)	Radius (ft)	Length (ft)	Super-elevation (e)	Stopping Sight Distance (ft)	Variation / Exception
SR 826/ EB to I-95 SB Ramp	RAMPA_3A-1	45	7,036	491.21	0.020	Clear	None
	RAMPA_3A-2	30	350	523.04	0.090	215	None
SR 826 EB to I-95 NB Ramp	RAMPB-1	40	600	589.30	0.092	308	None
	RAMPB-2	40	615	975.93	0.092	308	None
	RAMPB-3	40	5,685	535.85	0.020	917	None
	RAMPB-4	30	415	412.75	0.083	214	None
	RAMPB-5	30	660	349.36	0.062	267	None
SR 826/ NW 167th Street WB to I-95 SB Ramp	SR826WB-1	30	365	317.07	0.088	201	None
	SR826WB-2	30	285	307.53	0.097	203	None
	SR826WB-3	30	700	292.54	0.059	Clear	None
Turnpike Connector Ramp	TPKCON3A-1	45	15,000	707.56	0.02	Clear	None
	TPKCON3A-2	45	22,918	680.44	0.02	Clear	None
	TPKCON3A-3	45	1,500	925.74	0.06	Clear	None
I-95 Mainline Southbound	I95SB3A-1	60	23,322	620.65	0.02	Clear	None
	I95SB3A-2	60	9,750	1033.47	0.020	Clear	None
	I95SB3A-3	60	14,625	975.00	0.020	Clear	None
	I95SB3A-4	60	1,340	684.46	0.069	374	Variation[2] Exception[1,3]
	I95SB3A-5	60	2,865	925.00	0.055	Clear	None

Note: 1 = Reduced Stopping Sight Distance, 2 = Reduced Curvature and Curve Length, 3 = Reduced Superelevation

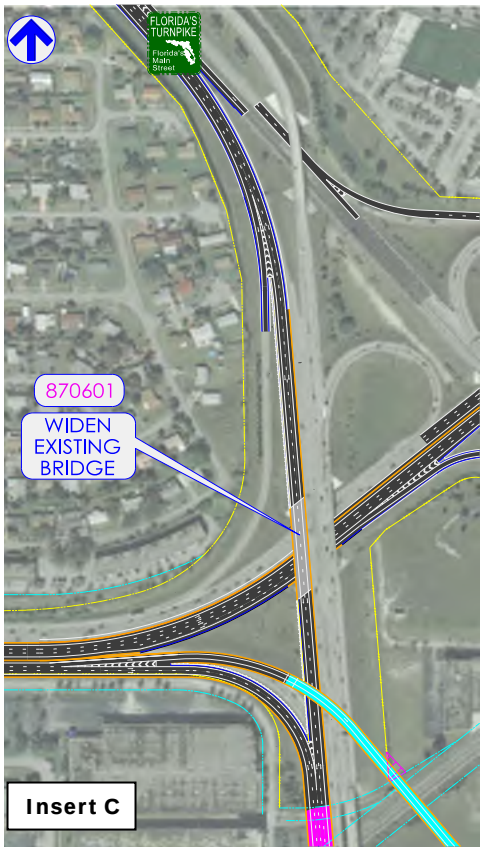
The horizontal curvature for the three-lane off-ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound was designed for speeds ranging from 30 mph to 45 mph due to physical and right of way constraints along SR 826/Palmetto Expressway (See **Insert A**). The SR 826/Palmetto Expressway eastbound to I-95 northbound flyover ramp was designed for 40 mph speed with 12-ft inside shoulders along the reverse curves to provide adequate sight distance for 40 mph design speed.



The NW 167th Street westbound to I-95 southbound bridge over I-95 (870042) will be replaced to provide adequate vertical clearance and to accommodate additional lanes underneath the bridge. This requires realignment of the ramp and bridge over I-95 and SR 7/US 441 (See **Insert B**). The proposed horizontal alignment meets the FDOT PPM requirements for the selected design speeds. The end span of the bridge of SR 826/ NW 167th Street connector over I-95 mainline will be replaced, but no alignment change is required.



The proposed alignment for the Turnpike Connector ties into the current improvements proposed under the Florida's Turnpike All Electronic Tolling Phase 4A (AET 4A) Project. Under the AET 4A project, a total of four southbound lanes approach the GGI from Florida's Turnpike southbound. The outer lane is dedicated lane for Florida's Turnpike southbound to SR 826/Palmetto Expressway westbound while the inside lane goes to NW 167th Street eastbound. The remaining two lanes then continue towards I-95 southbound (See **Insert C)**. As previously mentioned, the proposed southbound alignment is shifted west of the existing alignment to preserve an envelope for the future direct express lane connection from Florida's Turnpike southbound to the I-95 Express southbound lanes. The proposed reverse and compound curves along the new alignment meet the FDOT PPM design requirements for 45 mph design speed. No design variations or exceptions are required for this improvement.



The addition of an auxiliary lane along I-95 southbound from the GGI to NW 151st Street to provide the required capacity under this build alternative will require the realignment of the I-95 southbound lanes within the vicinity of the merge with the Turnpike Connector southbound lanes. In order to maintain the existing Park and Ride lot flyover bridge as well as to avoid impacts to the existing pier locations for the 95 Express Flyover ramps, the widening along I-95 will initially occur on the inside underneath the Park and Ride lot flyover bridge (See **Insert D**). It then transitions to the outside from the Park and Ride bridge to NW 151st Street. The existing horizontal sight distance and curve lengths do not meet the FDOT PPM design standards for 60 mph design speed. The proposed realignment will maintain most of the existing horizontal alignment with the exception of the horizontal curve radius at the merge with the Turnpike Connector Ramp that will be modified from 1,494-ft to 1,340-ft. Correction of the horizontal alignment to meet the requirements for 60 mph design speed will require reconstruction of I-95 mainline and 95 Express flyover ramps. In order to preserve the existing roadway facility, design variations will be required for horizontal curve length and shoulder width while design exceptions will be required for stopping sight distance and superelevation.



Vertical Alignment

The existing GGI configuration features numerous constraints for the proposed vertical alignment to meet the desired design speeds. **Table 5-3** summarizes the vertical alignment for the proposed improvements under Interim Build Alternative 3A.

Table 5-3
Vertical Alignment for Alternative 3A

Baseline	Curve Number	Curve Type	Design Speed (mph)	K-Value	Curve Length (ft)	Max Grade	Stopping Sight Distance (ft)	Variation / Exception
SR 826 EB to I-95 SB Ramp	1	Sag	45	100	300	2.53	Clear	None
	2	Sag	45	110	500	5.00	Clear	None
	3	Crest	30	71	515	5.00	390	None
	4	Sag	30	49	235	2.50	Clear	None
SR 826/ Palmetto Expressway EB to I-95 NB Ramp	1	Sag	45	167	300	4.00	Clear	None
	2	Crest	40	139	1,150	4.30	547*	None
	3	Sag	40	91	425	4.30	Clear	None
	4	Crest	30	462	300	0.35	Clear	None
SR 826/ NW 167th Street WB to I-95 SB Ramp	1	Sag	30	200	300	6.0	Clear	None
	2	Crest	30	31	360	6.0	260*	None
	3	Sag	30	52	300	5.5	Clear	None
	4	Crest	30	1,000	300	0.30	Clear	None
Turnpike Connector Ramp	1	Sag	45	167	500	3.5	Clear	None
	2	Crest	45	117	700	3.5	502	None
	3	Sag	45	119	400	2.5	Clear	None
	4	Crest	45	108	400	2.85	491	None
I-95 Mainline Southbound**	1	Sag	60	121	400	3.0	Clear	Exception[1,2]
	2	Crest	60	92	550	3.0	349	Exception[1,2,3]
	3	Sag	60	114	400	3.0	Clear	Exception[1,2]
	4	Crest	60	370	300	0.52	970	Variation[2]
	5	Sag	60	649	300	0.289	Clear	Variation[2]
	6	Crest	60	752	300	0.226	1811	Variation[2]
	7	Sag	60	1327	300	0.226	Clear	Variation[2]

Note: 1 = Reduced K value, 2 = Reduced Curve Length, 3 = Reduced Sight Distance
** Stopping Sight Distance controlled by horizontal geometry*
*** Maintain existing substandard profile*

The current exit location (physical gore point) for the SR 826/Palmetto Expressway eastbound to I-95 southbound (Ramp A) and northbound flyover ramp (Ramp B) will be moved approximately 1600-ft west to enable grade separation between the ramp and the SR 826/Palmetto Expressway mainline in order to provide the required vertical clearance over the Turnpike Connector. The proposed design profiles for these ramps meet the required design speeds and provide adequate vertical clearance over the Turnpike Connector, SFRC, I-95 mainline and SR 7/US 441 as well as underneath the 95 Express Flyover ramps and the SR 826/Palmetto Expressway connector.

The vertical alignment for the proposed NW 167th Street westbound to I-95 southbound ramp improves the existing vertical alignment by providing adequate vertical clearance over I-95 and underneath the SR 826 Connector. The proposed profile meets the requirements for 25-30 mph design speed.

The vertical alignment for the proposed reconstruction and widening of the Turnpike Connector southbound lanes was adjusted to provide adequate vertical clearance over the SFRC and SR 7/US 441. The proposed profile meets the requirements for 45 mph design speed.

The vertical alignment for the proposed widening along I-95 will match the existing roadway profile. The existing profile along I-95 southbound does not meet the FDOT PPM requirements for the 60 mph design speed. Correction of the vertical alignment to meet the requirements for 60 mph design speed will require reconstruction of I-95 mainline and bridge replacements over NW 151st Street and Biscayne Canal. In order to preserve the existing roadway facility, design variations and or exceptions would be required for K-value, curve length and stopping sight distance.

5.4.7.2 Interim Build Alternative 3B

Horizontal Alignment

Table 5-4 summarizes the horizontal alignment for the proposed improvements under Interim Build Alternative 3B.

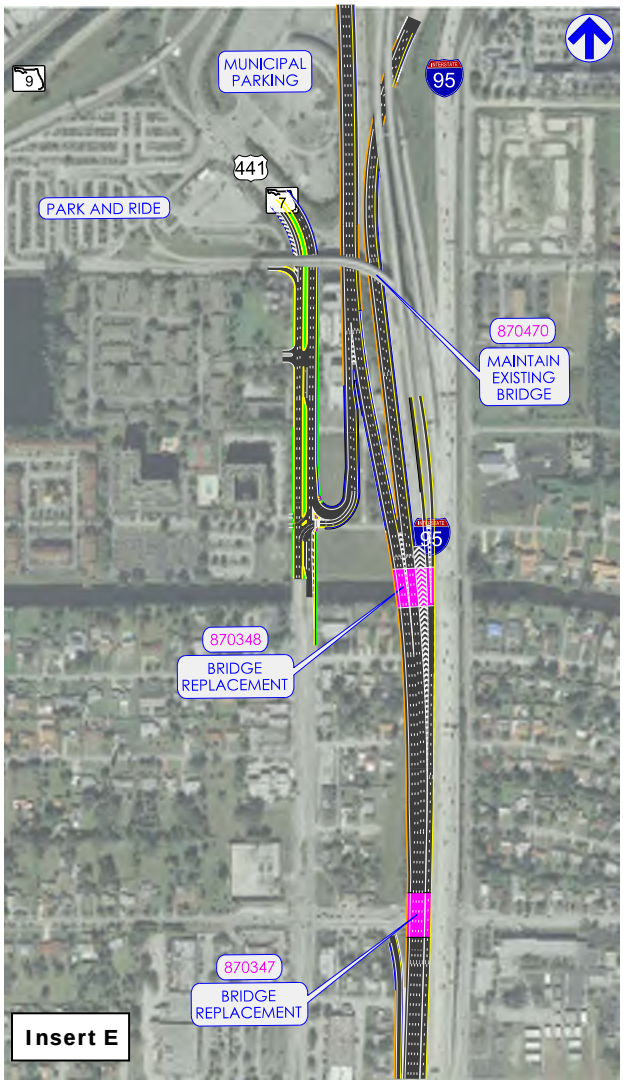
Table 5-4
Horizontal Alignment for Alternative 3B

Roadway	Curve No.	Design Speed (mph)	Radius (ft)	Length (ft)	Super-elevation (e)	Stopping Sight Distance (ft)	Variation / Exception
SR 826/ EB to I-95 SB Ramp	RAMPA_3A-1	45	7,036	491.21	0.020	Clear	None
	RAMPA_3A-2	30	350	523.04	0.090	215	None
SR 826 EB to I-95 NB Ramp	RAMPB-1	40	600	593.68	0.092	307	None
	RAMPB-2	40	615	965.13	0.092	308	None
	RAMPB-3	40	5,835	481.87	0.020	917	None
	RAMPB-4	30	415	412.75	0.083	214	None
SR 826/ NW 167th Street WB to I-95 SB Ramp	SR826WB-1	30	365	317.07	0.088	201	None
	SR826WB-2	30	285	307.53	0.097	176	None
	SR826WB-3	30	700	292.54	0.059	Clear	None
Turnpike Connector Ramp	TPKCON3B-1	45	3,886	518.7	0.026	Clear	None
	TPKCON3B-2	45	3,832	772.10	0.026	Clear	None
	TPKCON3B-3	45	22,918	1,830.14	0.02	Clear	None
	TPKCON3B-4	45	1,500	925.74	0.059	Clear	None
I-95 Mainline Southbound	I95SB3B-1	60	14,785	1,692	0.02	Clear	None
	I95SB3B-2	60	17,141.7	462.15	0.02	Clear	None
	I95SB3B-3	60	8,338	1,169.33	0.021	1,033	None
	I95SB3B-4	60	1,707	935.32	0.069	414	Variation[2] Exception[1,3]
	I95SB3B-5	60	2,877	915.00	0.055	Clear	None

Note: 1 = Reduced Stopping Sight Distance, 2 = Reduced Curvature, 3 = Reduced Superelevation

The horizontal alignments for the SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound ramps as well as the NW 167th Street westbound to I-95 SB Ramp are similar to that of Interim Build Alternative 3A and described under **Section 5.4.7.1**.

The proposed alignment for the Turnpike Connector reconstructs the existing southbound lanes and shifts the alignment west to accommodate a future direct connection ramp from Florida's Turnpike southbound to the I-95 southbound express lanes. Two lanes from the Florida's Turnpike mainline merges with the two lanes from SR 826 eastbound to I-95 southbound to provide four lanes southbound along the Turnpike Connector. The four lanes go underneath the Park and Ride flyover ramp bridge along a new alignment then merges with the I-95 southbound mainline lanes further south just after the Biscayne Canalbridge (See **Insert E**). The existing off-ramp to SR 7/US 441 is also relocated approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection to increases the signal spacing between the Park and Ride Lot signal and the SR 7/US 441 off-ramp signal. The proposed reverse and compound curves along the new alignment meet the design requirements for 45 mph design speed.



Interim Build Alternative 3B will also require the realignment of I-95 southbound lanes to preserve an envelope for the future direct connection ramp from Florida's Turnpike southbound to the I-95 southbound express lanes. In addition, the proposed realignment of the Turnpike Connector requires reconstruction of the existing bridges over the Biscayne Canal and NW 151st Street to provide adequate vertical clearance. The reconstruction of these bridges will also require reconstruction of the I-95 southbound mainline lanes from the Park and Ride Flyover ramp bridge to NW 143rd Street to meet the 2012 design standards. The proposed horizontal stopping sight distance, superelevations and curve lengths meet the 2012 criteria for 60 mph design speed with the exception of the horizontal curve between the existing 95 Express flyover piers (Curve I95SB3B-4) which does not meet the required superelevation and sight distance requirements. This correction of this curve to meet the requirements for 60 mph design speed will require reconstruction of 95

Express flyover ramps. In order to preserve the existing 95 Express flyover ramp bridges, design variations will be required for shoulder width while design exceptions will be required for stopping sight distance and superelevation.

Vertical Alignment

Table 5-5 summarizes the vertical alignment for the proposed improvements under Interim Build Alternative 3B.

The vertical alignments for the SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound ramps as well as the NW 167th Street WB to I-95 SB Ramp are similar to that of Interim Build Alternative 3A and described under **Section 5.4.7.1**.

The vertical alignment for the proposed reconstruction and widening of the Turnpike Connector southbound lanes was adjusted to provide adequate vertical clearance over the SFRC and SR 7/US 441, underneath the proposed SR 826/Palmetto Expressway eastbound to I-95 northbound flyover ramp and the existing park and ride flyover ramp bridge and over the Biscayne Canal. The proposed profile meets the requirements for 45 mph design speed.

The vertical alignment for the proposed reconstruction along I-95 begins from the Park and Ride Flyover ramp bridge and ties down to the existing roadway profile just north of NW 143rd Street. In order to meet the 2012 vertical alignment standards for this facility, the southbound lanes will be raised higher than the northbound lanes This will require a retaining wall system to accommodate the split vertical profiles between the proposed profile for the southbound lanes and the existing profile along the northbound lanes. The proposed alignment provides adequate vertical clearance over the Biscayne Canal and NW 151st Street. However, the existing substandard vertical clearance at NW 141st Street will be maintained since the improvements along I-95 southbound lanes south of this location only involves minor widening. A design exception will be required for vertical clearance in order to maintain the existing vertical profile over NW 143rd Street.

Table 5-5
Vertical Alignment for Alternative 3B

Baseline	Curve Number	Curve Type	Design Speed (mph)	K-Value	Curve Length (ft)	Max Grade	Stopping Sight Distance (ft)	Variation / Exception
SR 826 EB to I-95 SB Ramp	1	Sag	45	100	300	2.53	NA	None
	2	Sag	45	110	500	5.00	NA	None
	3	Crest	30	71	515	5.00	390	None
	4	Sag	30	52	250	2.50	NA	None
SR 826/ Palmetto Expressway EB to I-95 NB Ramp	1	Sag	45	167	300	4.00	Clear	None
	2	Crest	40	139	1,150	4.30	547[1]	None
	3	Sag	40	91	425	4.30	Clear	None
	4	Crest	30	462	300	0.35	Clear	None
SR 826/ NW 167th Street WB to I-95 SB Ramp	1	Sag	30	200	300	6.0	Clear	None
	2	Crest	30	31	360	6.0	260*	None
	3	Sag	30	52	300	5.5	Clear	None
	4	Crest	30	1,000	300	0.30	Clear	None
Turnpike Connector Ramp	1	Sag	45	386	400	0.737	Clear	None
	2	Sag	45	156	500	3.5	Clear	None
	3	Crest	45	117	700	3.5	502	None
	4	Sag	45	119	400	2.5	Clear	None
	5	Crest	45	108	400	2.85	491	None
I-95 Mainline Southbound	1	Sag	60	333	1,500	2.5	Clear	None
	2	Crest	60	450	1,800	2.0	985	None
	3	Sag	60	500	1,150	2.0	Clear	None
	4	Crest	60	1,667	1,000	2.0	2,298	Exception[2]

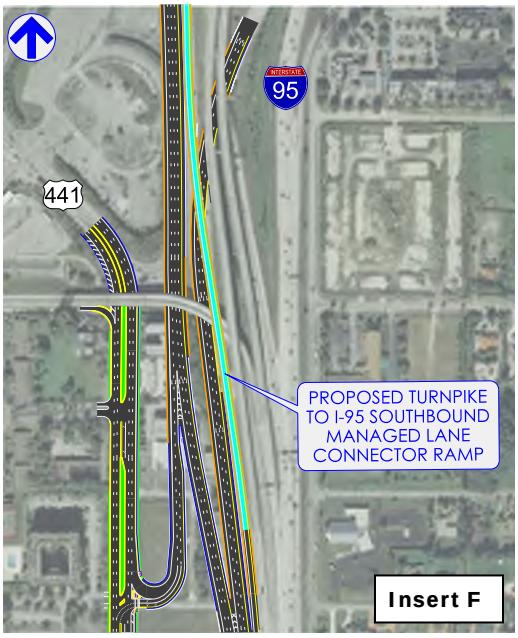
Note: 1=Stopping Sight Distance controlled by horizontal geometry, 2= Reduced Curve Length

5.4.7.3 Interim Build Alternative 3C

Horizontal Alignment

Table 5-6 summarizes the horizontal alignment for the proposed improvements under Interim Build Alternative 3C.

The horizontal alignments for the proposed improvements under interim Build Alternative 3C are similar to that of Interim Build Alternative 3B discussed under **Section 5.4.7.2**. The main difference is the inclusion of a third-level single-lane flyover ramp from Florida's Turnpike southbound to the I-95 southbound express lanes.



The horizontal alignment for this new express lanes connector ramp parallels the Turnpike Connector at-grade alignment from Florida's Turnpike mainline before splitting at the Park and Ride facility to merge with the I-95 southbound express lanes (see **Insert F**). The proposed reverse and compound curves within the horizontal alignment avoids the existing straddle piers for the existing 95 Express flyover ramps and merge with the existing I-95 southbound express lane. The proposed ramp meets the FDOT PPM design standards for 50 mph design speed.

Table 5-6
Horizontal Alignment for Alternative 3C

Roadway	Curve No.	Design Speed (mph)	Radius (ft)	Length (ft)	Super-elevation (e)	Stopping Sight Distance (ft)	Variation / Exception
SR 826/ EB to I-95 SB Ramp	RAMPA_3A-1	45	7,036	491.21	0.020	Clear	None
	RAMPA3A-2	30	350	523.04	0.090	215	None
SR 826 EB to I-95 NB Ramp	RAMPB-1	40	600	593.68	0.092	308	None
	RAMPB-2	40	615	965.13	0.092	308	None
	RAMPB-3	40	5,835	481.87	0.020	917	None
	RAMPB-4	30	415	410.59	0.083	214	None
SR 826/ NW 167th Street WB to I-95 SB Ramp	SR826WB-1	30	365	317.07	0.088	201	None
	SR826WB-2	30	285	307.53	0.097	178	None
	SR826WB-3	30	700	292.54	0.059	Clear	None
Turnpike Connector Ramp	TPKCON3C-1	45	3,886	518.7	0.026	Clear	None
	TPKCON3C-2	45	3,832	772.10	0.026	Clear	None
	TPKCON3C-3	45	22,918	1,830.14	0.02	Clear	None
	TPKCON3C-4	45	1,500	925.74	0.059	Clear	None
Turnpike Express Lane Connector to I-95 Express Flyover	TPKML-1	60	10,960	1,797.68	0.020	Clear	None
	TPKML-2	50	5,265	734.33	0.023	753*	None
	TPKML-3	50	12,000	727.91	0.020	1,138	None
	TPKML-4	50	8,500	574.94	0.020	958	None
	TPKML-5	45	1,503	837.58	0.059	404	None
I-95 Mainline Southbound	I95SB3B-1	60	14,785	1,692	0.02	Clear	None
	I95SB3B-2	60	17,141.7	462.15	0.02	Clear	None
	I95SB3B-3	60	8,338	1,169.33	0.021	1,033	None
	I95SB3B-4	60	1,707	935.32	0.069	414	Variation[2] Exception[1,3]
	I95SB3B-5	60	2,877	915.00	0.055	Clear	None

Note: 1 = Reduced Stopping Sight Distance, 2 = Reduced Curvature, 3 = Reduced Superelevation
** Stopping Sight Distance controlled by vertical geometry*

Vertical Alignment

Table 5-7 summarizes the vertical alignment for the proposed improvements under Interim Build Alternative 3C.

Table 5-7
Vertical Alignment for Alternative 3C

Baseline	Curve Number	Curve Type	Design Speed (mph)	K-Value	Curve Length (ft)	Max Grade	Sight Distance (ft)	Variation / Exception
SR 826 EB to I-95 SB Ramp	1	Sag	45	100	300	2.53	NA	None
	2	Sag	45	110	500	5.00	NA	None
	3	Crest	30	71	515	5.00	390	None
	4	Sag	30	49	235	2.50	NA	None
SR 826/ Palmetto Expressway EB to I-95 NB Ramp	1	Sag	45	167	300	2.53	Clear	None
	2	Crest	40	139	1,150	4.30	547*	None
	3	Sag	40	91	425	4.30	Clear	None
	4	Crest	30	462	300	0.35	Clear	None
SR 826/ NW 167th Street WB to I-95 SB Ramp	1	Sag	30	200	300	6.0	Clear	None
	2	Crest	30	31	360	6.0	260*	None
	3	Sag	30	52	300	5.5	Clear	None
	4	Crest	30	1,000	300	0.30	Clear	None
Turnpike Connector Ramp	1	Sag	45	386	400	0.737	Clear	None
	2	Sag	45	156	500	3.5	Clear	None
	3	Crest	45	117	700	3.5	502	None
	4	Sag	45	119	400	2.5	Clear	None
	5	Crest	45	108	400	2.85	491	None
Turnpike Express Lane Connector to I-95 Express Flyover	1	Crest	60	464	650	2.0	1,096	None
	2	Sag	50	100	800	6.0	Clear	None
	3	Crest	50	145	1,200	6.0	560	None
	4	Sag	50	129	400	2.25	Clear	None
	5	Crest	45	108	400	2.85	491	None
I-95 Mainline Southbound	1	Sag	60	333	1,500	2.5	Clear	None
	2	Crest	60	450	1,800	2.0	985	Exception[1.2.3]
	3	Sag	60	500	1,150	2.0	Clear	None
	4	Crest	60	1,667	1,000	0.3	2,298	None

Note: 1 = Reduced K value, 2 = Reduced Curve Length, 3 = Reduced Sight Distance
** Stopping Sight Distance controlled by horizontal geometry*

The vertical alignments for the proposed improvements under interim Build Alternative 3C are similar to that of Interim Build Alternative 3B discussed under **Section 5.4.7.2**. The main difference is the inclusion of a third-level single-lane flyover ramp from Florida's Turnpike southbound to the I-95 southbound express lanes.

The vertical alignment for this new express lanes connector begins just after the new flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound and rises quickly to provide adequate vertical clearance over the Park and Ride flyover ramp bridge before descending and merging with the I-95 southbound express lanes at the same grade. The proposed vertical alignment meets the design standards for 45 mph design speed.

5.4.7.4 Interim Build Alternative 4

Horizontal Alignment

Table 5-8 summarizes the horizontal alignment for the proposed improvements under Interim Build Alternative 4.

The horizontal curvature for the three-lane off-ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound was designed for speeds ranging from 30 mph to 45 mph similar to Interim Build Alternatives 3A. The main difference is that Interim Build Alternative 4 maintains the NW 12th Avenue on-ramp by relocating and connecting to the three lane off-ramp to I-95 northbound and southbound as a barrier separated auxiliary lane (see **Insert G**). The SR 826/Palmetto Expressway eastbound to I-95 southbound radius was also increased from 340-ft to 500-ft to enhance safety.



Insert G

The SR 826 connector bridge (870041) over the I-95 mainline as well as the SR 826/NW 167th Street westbound to I-95 southbound bridge (870042) over the I-95 mainline will be replaced to provide adequate vertical clearance and to accommodate additional lanes underneath these bridges from the direct flyover connection ramp and SR 7/US 441 northbound lanes. An additional northbound left turn lane is also provided at the NW 2nd Avenue and NW 167th Street intersection to improve both the intersection operations and traffic flow along NW 167th Street.



Insert H

Table 5-8 Horizontal Alignment for Alternative 4							
Roadway	**Curve No.**	**Design Speed (mph)**	**Radius (ft)**	**Length (ft)**	**Super-elevation (e)**	**Stopping Sight Distance (ft)**	**Variation / Exception**
SR 826/ EB to I-95 SB Ramp	RAMPA-1	45	7,036	491.21	0.02	Clear	None
	RAMPA-2	30	500	747.2	0.074	215	None
SR 826 EB to I-95 NB Ramp	RAMPB-1	40	600	593.68	0.092	308	None
	RAMPB-2	40	615	965.13	0.092	308	None
	RAMPB-3	40	5,835	481.87	0.02	917	None
	RAMPB-4	30	415	410.59	0.082	214	None
SR 826/ NW 167th Street WB to I-95 SB Ramp	SR826WB-1	30	365	320.9	0.088	201	None
	SR826WB-2	30	285	307.53	0.097	203	None
	SR826WB-3	30	700	292.54	0.059	Clear	None
Turnpike Connector Ramp	TPCON4-1	45	15,000	707.56	0.02	Clear	None
	TPCON4-2	45	22,918	680.44	0.02	Clear	None
	TPCON4-3	45	1,500	925.74	0.06	Clear	None
I-95 Mainline Southbound	I95SB4-1	60	23,322	620.65	0.02	Clear	None
	I95SB4-2	60	9,750	1033.47	0.02	Clear	None
	I95SB4-3	60	14,625	975	0.02	Clear	None
	I95SB4-4	60	1,340	684.46	0.069	374	Variation[2] Exception[1,3]
	I95SB4-5	60	2,865	925	0.055	Clear	None
SR 826 Connector to NW 167th Street	SR826CON-1	30	526	414.91	0.05	Clear	None
	SR826CON-2	30	471	471	0.02	Clear	None
	SR826CON-3	30	800	800	0.02	Clear	None

Note: 1 = Reduced Stopping Sight Distance, 2 = Reduced Curvature and Curve Length, 3 = Reduced Superelevation
** Stopping Sight Distance controlled by vertical geometry*

The alignment for the Turnpike Connector southbound lanes is reconstructed to shift the alignment west to accommodate a future direct connection ramp from Florida's Turnpike southbound to the I-95 southbound express lanes similar to Interim Build Alternative 3A. One design feature that is distinct for Interim Build Alternative 4 is that the Turnpike Connector southbound lanes will be widened to accommodate the additional lane from the NW 12th Street on-ramp. The weaving distance is also increased along the Turnpike

Connector southbound lanes by relocating the off-ramp to SR 7/US 441 approximately 1,150-ft south along SR 7/US 441 towards the intersection at Biscayne River Drive.

The reconstruction along the Turnpike Connector will require widening of the Turnpike Connector southbound bridge over SR 826 (870601) and replacement of the southbound bridges over the SFRC (870159) and SR7/US 441 (870045). An additional auxiliary lane is also provided along I-95 southbound from the GGI to NW 151st Street to provide additional capacity. This will require widening of the I-95 southbound bridge over the C-8/Biscayne Canal (870348) (see **Insert I**). The entrance to the I-95 southbound express lanes will be moved 300-ft south to accommodate weaving maneuvers from SR 826 and Florida's Turnpike to the I-95 Express southbound lanes.



Insert I

The addition of an auxiliary lane along I-95 southbound from the GGI to NW 151st Street to provide the required capacity under this build alternative will require the realignment of the I-95 southbound lanes within the vicinity of the merge with the Turnpike Connector southbound lanes. In order to maintain the existing Park and Ride lot flyover bridge as well as to avoid impacts to the existing pier locations for the 95 Express Flyover ramps, the widening along I-95 will initially occur on the inside underneath the Park and Ride lot flyover bridge (See **Insert J**). This design is similar to that of Interim Build Alternative 3A. The adjacent span underneath the Park and Ride flyover will accommodate the relocation of the Turnpike Connector southbound off-ramp to SR 7/US 441.



Vertical Alignment

Table 5-9 summarizes the vertical alignment for the proposed improvements under Interim Build Alternative 4.

Table 5-9
Vertical Alignment for Alternative 4

Baseline	Curve Number	Curve Type	Design Speed (mph)	K-Value	Curve Length (ft)	Max Grade	Sight Distance (ft)	Variation / Exception
SR 826 EB to I-95 SB Ramp	1	Sag	45	99	300	2.53	Clear	None
	2	Sag	45	110	500	5.0	Clear	None
	3	Crest	30	100	700	5.0	465	None
	4	Sag	30	83	250	2.0	Clear	None
SR 826/ Palmetto Expressway EB to I-95 NB Ramp	1	Crest	40	160	1,150	4.2	587*	None
	2	Sag	40	108	500	4.2	Clear	None
	3	Crest	30	428	1,692	0.4	Clear	None
SR 826/ NW 167th Street WB to I-95 SB Ramp	1	Sag	30	200	300	6.0	Clear	None
	2	Crest	30	31	360	6.0	260*	None
	3	Sag	30	52	300	5.5	Clear	None
	4	Crest	30	1,000	300	0.3	Clear	None
Turnpike Connector Ramp	1	Sag	45	167	500	3.5	Clear	None
	2	Crest	45	117	700	3.5	502	None
	3	Sag	45	119	400	2.5	Clear	None
	4	Crest	45	108	400	2.85	491	None
I-95 Mainline Southbound**	1	Sag	60	121	400	3.0	Clear	Exception[1,2]
	2	Crest	60	92	550	3.0	349	Exception[1,2,3]
	3	Sag	60	114	400	3.0	Clear	Exception[1,2]
	4	Crest	60	370	300	0.52	970	Variation[2]
	5	Sag	60	649	300	0.289	Clear	Variation[2]
	6	Crest	60	752	300	0.226	1811	Variation[2]
	7	Sag	60	1327	300	0.226	Clear	Variation[2]
SR 826 Connector	1	Crest	30	46	325	6.6	314	None
	2	Sag	30	44	275	6.6	Clear	None

Note: 1 = Reduced K value, 2 = Reduced Curve Length, 3 = Reduced Sight Distance
** Stopping Sight Distance controlled by horizontal geometry*
*** Maintain existing substandard profile*

The vertical alignment for Interim Build Alternative 4 is similar to 3A with a few differences. Along the ramps by SR 826/Palmetto eastbound to I-95 northbound and southbound, the vertical alignment is distinct due to the relocated NW 12th Street ramp. In order for the design features to meet the minimum FDOT PPM requirements, one vertical curve was

removed from the SR 826/Palmetto Expressway eastbound to I-95 northbound vertical alignment when compared to Interim Build Alternative 3A.

Additionally, a new vertical alignment was developed for the SR 826 Connector. Under Interim Build Alternative 4 this bridge will be replaced to accommodate the additional capacity and provide adequate vertical clearance.

5.4.8 Bridge Analysis

The proposed improvements under the Interim Build Alternatives 3A, 3B, 3C, and 4 will require eastbound widening of the SR 826/Palmetto Expressway mainline bridge over NW 12th Street (870250) and the construction of a new flyover bridge for the SR 826/Palmetto Expressway eastbound to I-95 northbound movement. This will also require end span replacement of the SR 826 Connector over I-95 and SR 7/US 441 (870041) and the full replacement of the NW 167th Street westbound to I-95 northbound ramp bridge (870042) to accommodate the new flyover ramp.

The reconstruction and widening of the southbound Turnpike Connector will require widening of the bridge over SR 826/Palmetto Expressway (870601) and the replacement of the bridges over the SFRC (870159) and SR 7/US 441 (870045) under all four interim build alternatives.

The proposed I-95 southbound widening under Interim Build Alternative 3A and 4 will require widening of the I-95 southbound bridge over the Biscayne Canal (870348). However the proposed realignment and reconstruction of the I-95 southbound lanes under Interim Build Alternatives 3B and 3C will require replacement of the I-95 southbound bridges over the Biscayne Canal (870348) and NW 151st Street (870347). In addition, the bridge over NW 143rd Street (870346) will also be widened under Interim Build Alternatives 3B and 3C to accommodate the improvements along I-95 southbound.

Interim Build Alternative 3C will also require the construction of a new flyover bridge for the direct express lane connection from Florida's Turnpike southbound to the I-95 southbound express lanes.

The recommended structural improvements under the different interim build alternatives are summarized in **Table 5-10**. The detailed structural analysis for this alternative is included in the Bridge Analysis Report prepared as part of this PD&E Study.

Table 5-10
Bridge Analysis Summary

#	Location	Bridge Number	Existing Min. Vert. Cl.	Recommended Improvements				Proposed Minimum Vertical Clearance				Variations /Exceptions
				Interim Build Alt. 3A	Interim Build Alt. 3B	Interim Build Alt. 3C	Interim Build Alt. 4	Interim Build Alt. 3A	Interim Build Alt. 3B	Interim Build Alt. 3C	Interim Build Alt. 4	
1	SR 826 over NW17th Ave	870104	14.3-ft	Maintain Existing	Maintain Existing	Maintain Existing	Texas U-Turn Underneath	14.3-ft	14.3-ft	14.3-ft	14.3-ft	Variation
1	SR 826 over NW12th Ave	870050	14.1-ft	EB Bridge Widening	EB Bridge Widening	EB Bridge Widening	EB Bridge Widening & Texas U-Turn	14.1-ft	14.1-ft	14.1-ft	14.1-ft	Variation
2	Turnpike Connector SB over SR 826	870601	16.5-ft	SB Bridge widening	SB Bridge widening	SB Bridge widening	SB Bridge widening	16.5-ft	16.5-ft	16.5-ft	16.5-ft	None
3	Turnpike Connector SB over SFRC	870159	23.35-ft	SB Bridge Replacement	SB Bridge Replacement	SB Bridge Replacement	SB Bridge Replacement	24.25-ft Min	24.25-ft Min	24.25-ft Min	24.25-ft Min	None
4	Turnpike Connector SB over SR 7/US 441	870045	16.80-ft	SB Bridge Replacement	SB Bridge Replacement	SB Bridge Replacement	SB Bridge Replacement	16.5-ft Min	16.5-ft Min	16.5-ft Min	16.5-ft Min	None
5	I-95 Flyover Ramp to Park & Ride Lot	870470	18.50-ft	Widen Roadway Underneath Bridge	Widen Roadway Underneath and Accommodate New Ramp	Widen Roadway Underneath and Accommodate New Ramp	Widen Roadway Underneath and Accommodate New Ramp	18.01-ft	18.5-ft	18.5-ft	18.01-ft	None
6	I-95 SB over Biscayne Canal	870348	2.01-ft	SB Bridge widening	Replacement	Replacement	SB Bridge widening	2.01-ft	6-ft Min above Normal High Water Elev.	6-ft Min above Normal High Water Elev.	2.01-ft	None
7	I-95 SB over NW 151st Street	870347	14.63-ft	N/A	Replacement	Replacement	N/A	N/A	16.5-ft Min	16.5-ft Min	N/A	None
8	I-95 SB over NW 143rd Street	370346	15.15-ft	N/A	Widening	Widening	N/A	N/A	15.15-ft	15.15-ft	N/A	Exception
9	SR 826 Connector over I-95 and SR 7/US 441	870041	16.57-ft	Bridge End Span Replacement	Bridge End Span Replacement	Bridge End Span Replacement	Replacement	16.5-ft Min	16.5-ft Min	16.5-ft Min	16.5-ft Min	None
10	NW 167th Street WB to I-95 Ramp over I-95 and SR 7/US 441	870042	14.47-ft	Bridge Replacement	Bridge Replacement	Bridge Replacement	Bridge Replacement	16.5-ft Min	16.5-ft Min	16.5-ft Min	16.5-ft Min	None
11	SR 826 EB to I-95 NB Flyover Ramp	N/A	N/A	New flyover ramp bridge	New flyover ramp bridge	New flyover ramp bridge	New flyover ramp bridge	16.5-ft Min	16.5-ft Min	16.5-ft Min	16.5-ft Min	None
12	Turnpike Connector SB Express Lane Connection to I-95 express SB	N/A	N/A	N/A	N/A	New flyover connector ramp bridge	N/A	N/A	N/A	16.5-ft Min	N/A	None
13	Pedestrian Bridge over I-95	N/A	N/A	N/A	Replace Pedestrian Bridge	Replace Pedestrian Bridge	N/A	N/A	17.5-ft min	17.5-ft min	N/A	None

5.4.9 Future Traffic Operational Analysis

Traffic operational analysis was performed for the future conditions under the No-Build and refined Interim Build Alternatives. Due to the location of the interchange, the close spacing of interchanges and intersections, and complexity of the GGI in conjunction with the saturated urban conditions of the area, CORSIM was used to evaluate the operating conditions of the main freeway sections and ramps. The CORSIM model limits generally include all the freeways, ramps and intersections within the study area to account for traffic backup from ramp intersections into the freeway facilities.

The CORSIM analysis for future conditions was based on two 4-hour periods that include the 2-hour peak period and the shoulder hours. The hourly volumes of the peak period and shoulder hours were developed for each entry location as a ratio of the global peak hour based on existing counts. These hourly ratios were maintained for future conditions. These percentages were applied to the future peak hour volumes estimated using the forecasted AADT, the standard K factor and the D_{30} factor for non-directional volumes.

5.4.9.1 Network-wide Comparison

Tables 5-11 and **5-12** show the results of the preliminary traffic operational analysis and the comparison to the No-Build Alternative for the 2030 AM and PM peak periods.

Table 5-11
Preliminary Traffic Operational Results (2030 AM Peak)

Network-Wide Statistics	Alternatives				
	No-Build	Interim Build Alternative 3A	Interim Build Alternative 3B	Interim Build Alternative 3C	Interim Build Alternative 4
Total Veh-Miles	345,567	466,585	470,169	472,960	470,840
Move Time (Veh-Hrs)	6,867	9,164	9,249	9,213	9,255
Delay Time (Veh-Hrs)	10,846	3,975	4,003	2,822	4,247
Total Time (Veh-Hrs)	17,713	13,139	13,251	12,035	13,503
Average Speed (mph)	19.55	35.53	35.50	39.31	34.89
Move/Total Ratio	0.39	0.70	0.70	0.77	0.69
Delay (min/mile)	1.89	0.51	0.51	0.36	0.54
Total Time (min/mile)	3.08	1.69	1.69	1.53	1.71

Table 5-12 Preliminary Traffic Operational Results (2030 PM Peak)					
Network-Wide Statistics	**Alternatives**				
	No-Build	**Interim Build Alternative 3A**	**Interim Build Alternative 3B**	**Interim Build Alternative 3C**	**Interim Build Alternative 4**
Total Veh-Miles	350,620	465,097	473,983	481,882	454,239
Move Time (Veh-Hrs)	7,011	9,161	9,362	9,440	8,975
Delay Time (Veh-Hrs)	13,701	8,753	9,990	10,029	11,086
Total Time (Veh-Hrs)	20,712	17,914	19,352	19,469	20,061
Average Speed (mph)	16.93	26.00	24.51	24.77	22.71
Move/Total Ratio	0.34	0.51	0.48	0.49	0.45
Delay (min/mile)	2.34	1.13	1.26	1.25	1.47
Total Time (min/mile)	3.55	2.31	2.45	2.42	2.65

The results shown above indicate that for 2030 AM peak period, the overall delay within the Golden Glades Interchange influence area will decrease by approximately 73%, 73%, 81% and 71% under Interim Build Alternatives 3A, 3B, 3C and 4 respectively compared to the No-Build Alternative. Also, the network average speed is projected to increase by approximately 82%, 82%, 101% and 78% under Interim Build Alternatives 3A, 3B, 3C and 4 respectively compared to the No-Build Alternative. These results represent significant improvements over the No-Build conditions.

Similar operational analysis results were obtained for the 2030 PM peak period. The overall delay within the Golden Glades Interchange influence area will decrease by approximately 52%, 46%, 47% and 37% under Interim Build Alternatives 3A, 3B, 3C and 4 respectively compared to the No-Build Alternative. Also, the network average speed is projected to increase by approximately 54%, 45%, 46% and 34% under Interim Build Alternatives 3A, 3B, 3C and 4 respectively compared to the No-Build Alternative. These results represent significant improvements over the No-Build conditions.

5.4.9.2 Travel Time and Speed Analysis

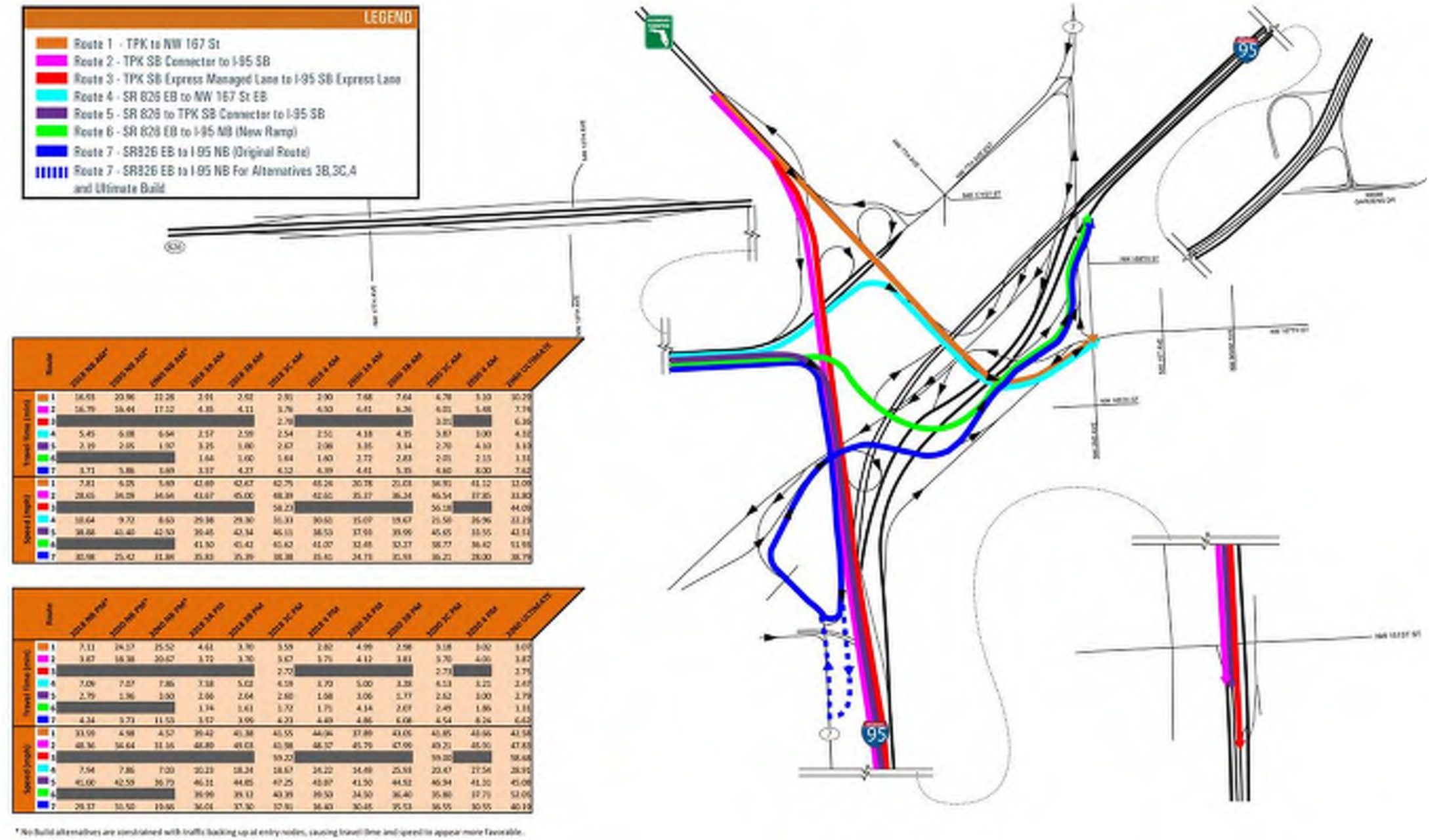
Travel time and speed analysis were also performed for the three interim build alternatives and compared to the No-Build Alternative. Six critical roadway links were selected for the comparison analysis and are shown in **Figure 5-23**. The results are summarized in **Tables 5-13** through **5-16**.

Table 5-13
Travel Time Summary (2030 AM Peak)

Route	Description	Travel Time (minutes)				
		No-Build	3A	3B	3C	4
Route 1	Turnpike SB to NW 2 Avenue	20.96	7.68	7.64	4.78	3.10
Route 2	Turnpike SB Connector to I-95 SB	16.44	6.41	6.26	4.01	5.48
Route 3	TPK SB to I-95 SB (Express Ramp)				3.01	
Route 4	SR 826 EB to NW 2 Avenue	6.08	4.18	4.35	3.87	3.00
Route 5	SR 826 EB to I-95 SB	2.05	3.35	3.14	2.70	4.10
Route 6	SR 826 EB to I-95 NB (New Ramp)		2.72	2.83	2.01	2.13
Route 7	SR 826 EB to I-95 NB (Existing Route)	5.86	4.41	5.35	4.60	8.00

Table 5-14
Travel Time Summary (2030 PM Peak)

Route	Description	Travel Time (minutes)				
		No-Build	3A	3B	3C	4
Route 1	Turnpike SB to NW 2 Avenue	24.17	4.99	2.98	3.18	3.02
Route 2	Turnpike SB Connector to I-95 SB	18.38	4.12	3.81	3.70	4.01
Route 3	TPK SB to I-95 SB (Express Ramp)				2.73	
Route 4	SR 826 EB to NW 2 Avenue	7.07	5.00	3.28	4.13	3.21
Route 5	SR 826 EB to I-95 SB	1.96	3.06	1.77	2.62	3.00
Route 6	SR 826 EB to I-95 NB (New Ramp)		4.14	2.07	2.49	1.86
Route 7	SR 826 EB to I-95 NB (Existing Route)	3.73	4.86	6.08	4.54	8.24



Route	2019 NB AM*	2020 NB AM*	2040 NB AM*	2019 SB AM	2019 SB AM	2019 3C AM	2019 4 AM	2040 SB AM	2040 SB AM	2040 3C AM	2040 4 AM	2040 CUTOMEATE
Travel Time (min)												
1	16.93	20.96	22.26	2.91	2.92	2.91	2.90	7.68	7.64	6.78	3.10	10.29
2	16.79	16.44	17.12	4.35	4.11	3.76	4.50	6.41	6.26	6.01	5.48	7.76
3						2.79				3.01		6.16
4	5.45	6.08	6.64	2.57	2.59	2.54	2.51	4.18	4.35	3.87	3.00	4.10
5	2.19	2.05	1.92	3.25	1.80	2.67	2.06	3.35	3.14	2.70	4.10	3.13
6				1.64	1.60	1.64	1.60	2.72	2.83	2.01	2.15	3.16
7	3.71	5.86	3.69	3.17	4.27	6.52	6.39	4.41	5.35	6.60	8.00	7.62
Speed (mph)												
1	7.81	6.05	5.69	42.69	42.67	42.79	43.26	20.78	21.03	16.91	41.12	11.09
2	28.65	34.29	34.64	43.67	45.00	48.39	42.65	35.17	36.24	46.54	17.85	33.80
3						58.23				56.18		44.09
4	58.64	9.72	8.65	29.38	29.30	16.33	30.65	15.07	15.47	15.50	36.96	12.25
5	58.88	43.40	42.93	39.45	42.34	46.15	38.53	37.91	39.99	45.65	11.55	42.51
6				41.50	43.42	43.42	41.07	32.48	32.37	38.77	36.42	51.98
7	30.98	25.42	11.84	35.83	35.39	38.38	35.45	24.73	25.53	36.21	28.00	38.79

Route	2019 NB PM*	2020 NB PM*	2040 NB PM*	2019 SB PM	2019 SB PM	2019 3C PM	2019 4 PM	2040 SB PM	2040 SB PM	2040 3C PM	2040 4 PM	2040 CUTOMEATE
Travel Time (min)												
1	7.11	24.17	25.52	4.61	3.70	3.59	2.82	4.99	2.98	3.18	3.02	3.69
2	3.67	16.38	20.67	3.73	3.70	3.67	3.76	4.13	3.81	3.70	4.01	3.82
3						2.72				2.73		2.75
4	7.09	7.07	7.86	3.18	5.02	6.18	3.70	5.00	3.28	6.53	3.21	2.67
5	2.79	1.36	1.50	2.66	2.64	2.60	1.68	3.06	1.77	2.62	1.00	2.79
6				1.74	1.61	1.72	1.75	4.14	2.07	2.49	1.86	1.16
7	4.24	3.73	11.53	3.12	3.06	4.23	4.69	4.86	6.08	4.54	8.26	6.42
Speed (mph)												
1	33.59	4.98	4.57	39.42	41.38	43.55	44.06	37.89	43.05	43.85	43.66	42.56
2	48.36	16.64	11.16	48.80	49.03	43.98	48.37	45.79	47.99	49.21	46.91	47.83
3						59.27				59.05		58.68
4	7.54	7.86	7.00	30.23	18.24	18.67	34.22	34.49	25.93	20.47	27.56	28.95
5	45.00	42.59	36.73	46.31	44.85	47.25	43.87	43.50	44.52	46.94	41.31	45.08
6				36.99	39.13	40.39	39.53	34.50	36.40	35.80	37.71	52.05
7	29.37	10.50	10.66	36.04	37.30	37.91	36.43	30.48	35.53	36.95	30.95	40.19

* No Build alternatives are constrained with traffic backing up at entry nodes, causing travel time and speed to appear more favorable.

Figure 5-23 Critical Routes for Network Analysis

Table 5-15 Travel Speed Summary (2030 AM Peak)						
Route	Description	Travel Speed (mph)				
		No-Build	3A	3B	3C	4
Route 1	Turnpike SB to NW 2 Avenue	6.05	20.78	21.03	34.91	41.12
Route 2	Turnpike SB Connector to I-95 SB	34.09	35.37	36.24	46.54	37.85
Route 3	TPK SB to I-95 SB (Express Ramp)				56.18	
Route 4	SR 826 EB to NW 2 Avenue	9.72	15.07	19.67	21.50	26.96
Route 5	SR 826 EB to I-95 SB	41.40	37.93	39.99	45.65	33.55
Route 6	SR 826 EB to I-95 NB (New Ramp)		32.45	32.27	38.77	36.42
Route 7	SR 826 EB to I-95 NB (Existing Route)	25.42	24.73	31.93	36.21	28.00

Table 5-16 Travel Speed Summary (2030 PM Peak)						
Route	Description	Travel Speed (mph)				
		No-Build	3A	3B	3C	4
Route 1	Turnpike SB to NW 2 Avenue	4.98	37.89	43.05	41.85	43.66
Route 2	Turnpike SB Connector to I-95 SB	34.64	45.79	47.99	49.21	45.91
Route 3	TPK SB to I-95 SB (Express Ramp)				59.00	
Route 4	SR 826 EB to NW 2 Avenue	7.86	14.49	25.93	20.47	27.54
Route 5	SR 826 EB to I-95 SB	42.59	41.50	44.92	46.94	41.31
Route 6	SR 826 EB to I-95 NB (New Ramp)		24.50	36.40	35.80	37.71
Route 7	SR 826 EB to I-95 NB (Existing Route)	31.50	30.45	35.53	36.55	30.55

The proposed improvements under the interim build alternatives will result in significant travel time savings and increased speed over the No-Build Alternative for both the AM and PM peak periods. For the SR 826/Palmetto Express eastbound to I-95 northbound route, the travel time on the new flyover ramp under Interim Build Alternatives 3A, 3B, 3C and 4 will decrease by an average of 59% during the AM peak period compared to the existing circuitous route under the No Build Alternative. The SR 826/Palmetto Expressway eastbound and Florida's Turnpike southbound to NW 2nd Avenue routes show significant improvements for build alternatives 3B, 3C and 4 compared to the No-Build due to the rerouting of SR 826 EB to I-95 NB traffic onto the new flyover ramp.

The proposed direct flyover connection from Florida's Turnpike Southbound to the I-95 southbound express lane under Interim Build Alternative 3C provides significant improvements over Interim Build Alternatives 3A, 3B and 4. This additional capacity improvement accommodates the traffic volume for the year 2030 by significantly reducing the traffic backing up at the Florida's Turnpike southbound entry node. As previously mentioned, Interim Build Alternatives 3A and 3B are constrained with traffic backing up at entry nodes. As such, the travel times and speeds may appear better than they are due to limited volume throughput in the system.

No significant improvements were observed for the SR 826/Palmetto Expressway eastbound to I-95 southbound route. This is due to the fact that the No-Build Alternative is constrained with traffic backing up at entry nodes so travel times and speeds may appear better than they are due to limited volume throughput.

5.4.10 Access Management

The existing eastbound on-ramp from NW 12th Avenue to SR 826/ Palmetto Expressway eastbound ties into an auxiliary lane along the freeway which also serves as an exit only lane for the exit ramp for SR 826/ Palmetto Expressway eastbound to I-95 southbound and northbound movements. The relatively heavy volumes for the exit ramp conflicts with the traffic from NW 12th Avenue on-ramp resulting in a major weaving condition within this segment of the freeway. This weaving condition may also be a contributing factor to the several rear-end and sideswipe collisions within this segment of the freeway.

The proposed improvements under Interim Build Alternatives 3A, 3B and 3C remove the direct connection from the NW 12th Avenue on-ramp to SR 826/ Palmetto Expressway eastbound auxiliary lane to accommodate the three-lane ramp for the SR 826 eastbound to I-95 northbound and southbound ramp. The traffic using this ramp will be routed along NW 165th Street onto NW 17th Avenue across a new connection over the NW 17th Street Canal. This access modification will alleviate potential traffic circulation impact to the business and warehouse district on the south side of SR 826/Palmetto Expressway and also provides access to SR 826/Palmetto expressway via the NW 17th Avenue on-ramp.

The proposed improvements under Interim Build Alternative 4, maintains the NW 12th Avenue on-ramp which provides access from the Sunshine Industrial Park to I-95 southbound and northbound with connectivity to Florida's Turnpike through the SR 7/US 441. In order to eliminate the current weaving issue along the SR 826 mainline, the NW 12th Avenue on-ramp will not connect directly to SR 826 mainline. Instead, it will be relocated and connected to the three lane off-ramp to I-95 northbound and southbound as a barrier separated auxiliary lane. The provision of the NW 12th Avenue on-ramp will require the removal of the eastbound frontage road east of NW 10th Avenue. The warehouse property on the southwest quadrant of the interchange within the Sunshine Industrial Park will be acquired due to the removal of the only access road for this property.

The proposed improvements under Interim Build Alternatives 3B, 3C and 4 relocates the Turnpike Connector southbound off-ramp to SR 7/US 441 approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection. This increases the signal spacing between the Park and Ride Lot signal and the SR 7/US 441 off-ramp signal from 500-ft to 1,650-ft. The increased signal spacing meets the FDOT Access Management Standards requirement of 1320-ft for signal spacing along this facility type. In addition, a new signalized intersection with double left turn lanes for SR 826/Palmetto Expressway eastbound to Florida's Turnpike northbound to improve operations and safety at this intersection.

A new signalized intersection is proposed at the eastbound SR 826 to northbound Florida's Turnpike with dual left-turns. The adjacent signal is about 500-ft which is less than the FDOT recommended 1,320-ft for controlled access facilities with design speed less than 45 mph. Therefore, a design variation will be required for this signal.

5.4.11 Right of Way Impacts

Table 5-17 summarizes the potential right of way impacts among the different interim build alternatives. The detailed right of way impact analysis is provided in **Appendix F**.

Table 5-17
Potential Right of Way Impact Summary (Parcels)

Property Type	Interim Build Alt. 3A	Interim Build Alt. 3B	Interim Build Alt. 3C	Interim Build Alt. 4
Residential	0	18	18	0
Commercial	2	5	5	10
Industrial	1	1	1	1
Vacant	1	11	11	12
FDOT Property (Park & Ride Lot)	1	1	1	1
Total number of Parcels	**5**	**36**	**36**	**24**

The proposed improvements under Interim Build Alternative 3A will require additional right of way to accommodate the reconstruction along Turnpike Connector and widening along I-95. Approximately 32-ft right of way acquisition along the park and ride lot west of the Turnpike Connector is required. In addition, two commercial properties and one vacant property west of I-95 between the Park and Ride and the Biscayne Canal will be affected. The right of way acquisition will include full acquisition of the two commercial properties and partial acquisition of the vacant property along I-95. A corner clip of the industrial property within the GGI will also be required to accommodate the proposed SR 826 eastbound to I-95 northbound flyover within the GGI.

The proposed reconstruction along I-95 southbound under Interim Build Alternatives 3B and 3C requires significant right of way impact to properties on the west side of I-95 between the Park and Ride Lot and NW 146th Street to accommodate the proposed improvements. This includes eighteen residential properties, five commercial properties and eleven vacant properties. The right of way acquisition will include full acquisition of sixteen residential and all the commercial and vacant properties. The remaining two residential properties involve partial acquisition. The right of way impacts to the Park and Ride Lot and the industrial property within the GGI under Interim Build Alternatives 3B and 3C are identical.

Interim Build Alternative 4 involves full acquisition of 8 commercial parcels and 9 vacant parcels west of I-95 between the Park and Ride and the Biscayne Canal to accommodate the proposed widening of the I-95 southbound lanes and the relocation of the SR 7/Us 441 off ramp. Full acquisition of 2 commercial parcels and 2 vacant parcels within the Sunshine Industrial Park located south of SR 826 will be required to accommodate the NW 12th Avenue eastbound on-ramp. Additionally, approximately 15-ft right of way to the west of NW 2nd Avenue, south of NW 167th Street will be required to accommodate the additional northbound left turn lane. The right of way impacts to the Park and Ride east lot has a slightly greater impact compared to Alternative 3A. However, right of way impacts to the industrial property within the GGI is similar to that of Interim Build Alternative 3A.

5.4.12 Preliminary Drainage

Stormwater management systems proposed by this study meet existing water quality standards as set forth in Chapter 62-302 of the Florida Administrative Code. The approach to meeting water quality requirements is to provide treatment for the increase in impervious area and restore or replace existing treatment facilities impacted by this project. This approach was discussed with SFWMD during an interagency monthly meeting held on April 19th 2012. The detailed drainage analysis is provided in the Stormwater Management Report prepared for this PD&E Study.

5.4.12.1 Interim Build Alternative 3A

Interim Build Alternative 3A increases the impervious area by approximately 3.84 Ac and 4.16 Ac in Basins C-8 and C-9, respectively. Using the SFWMD water quality criteria, this Alternative will need 0.41 Ac-ft of dry retention treatment in Basin C-8 and 0.43 Ac-ft of additional dry retention treatment in Basin C-9.

The required treatment volume for Basin C-8 can be provided by creating dry retention areas along the drainage swales within the individual or adjacent drainage systems. Right of way acquisition of two parcels, folios 30-2113-001-0850 and 30-2113-001-0920, is anticipated in Basin C-8 to accommodate I-95 roadway improvements. These parcels are located along the western edge of I-95 and near the C-8 Canal. They are ideally situated to capture and treat runoff from the I-95 increase in impervious area. Together, the parcels have an available area of 0.8 Acres that can be used for dry retention. A total of 1.97 Ac-ft of dry retention is provided for water treatment within this basin.

For Basin C-9, the required treatment volume can be provided by creating dry retention area in the FDOT owned vacant lot, Folio 34-2112-000-0083, located just north of the railroad and bordered by both the SR 826 and Turnpike Connectors. This vacant lot can accommodate a 3.5 Ac dry retention pond while avoiding impacting the Intelligent Transportation System (ITS) existing building on the site. A depth of 0.5-ft will be needed to create the 1.8 Ac-ft of dry retention required for Basin C-9.

The improvement along NW 17th Avenue is also within Basin C-8. The proposed treatment will require two shallow ditches within the swale for the southbound lane with outfall into the NW 17th Avenue Canal. The ditches would have side slopes of 1H:3V, average width of 5.5-ft, a combined length of 1,100-ft and a retention depth of 0.5-ft to provide 0.07 Ac-ft of dry-retention treatment.

In addition, the proposed widening improvements to the I-95 southbound lanes will move the travel lanes towards the west, which will result in the double 72-inch outfall pipes located between the GGI and the C-8 canal, and corresponding manholes, being in the travel lanes. Relocation of the double 72-inch outfall pipes (approximately 1,400-ft) is recommended to avoid having manholes in the travel lanes.

5.4.12.2 Interim Build Alternative 3B

Interim Build Alternative 3B increases the impervious area by approximately 6.5 Ac and 4.5 Ac in Basins C-8 and C-9, respectively. Using the SFWMD water quality criteria, this Alternative will need 0.67 Ac-ft of dry retention treatment in Basin C-8 and 0.47 Ac-ft of additional dry retention treatment in Basin C-9.

For Basin C-8, several parcels, in the vicinity of NW 6th Court between NW 146th Street and NW 151st, will be acquired to accommodate the roadway improvements. A review of the proposed roadway geometry suggests that 1.8 Acres will be available for storm water treatment in the area where parcels will be acquired. This area can be used to

accommodate a dry-retention pond with a bottom area of 1.2 Acres and a depth of 1.0-ft to provide a dry-retention treatment volume of 1.2 Ac-ft. A total of 3.59 Ac-ft of dry retention is provided for water treatment within this basin.

Similar to Interim Build Alternative 3A, the required treatment volume for Basin C-9 can be provided by creating a dry retention area in the FDOT owned vacant lot, Folio 34-2112-000-0083, located just north of the railroad and bordered by both the SR 826 and Turnpike Connectors. This vacant lot can accommodate a 3.5 Ac dry retention pond while avoiding impacting the Intelligent Transportation System (ITS) existing building on the site. A depth of 0.5 ft will be needed to create the 1.8 Ac-ft of dry retention required for Basin C-9.

The drainage treatment along NW 17th Avenue and the relocation of the double 72-inch outfall pipes located between the GGI and the C-8 canal and corresponding manholes to avoid having manholes in the travel lanes similar to Interim Build Alternative 3A.

5.4.12.3 Interim Build Alternative 3C

Interim Build Alternative 3C increases the impervious area by approximately 9.0 Ac and 4.7 Ac in Basins C-8 and C-9, respectively. Using the SFWMD water quality criteria, this Alternative will need 0.94 Ac-ft of dry retention treatment in Basin C-8 and 0.49 Ac-ft of additional dry retention treatment in Basin C-9.

The required treatment volume for Basins C-8 and C-9 is similar to that of Interim Build Alternative 3B. In addition, the drainage treatment along NW 17th Avenue and the relocation of the double 72-inch outfall pipes located between the GGI and the C-8 canal and corresponding manholes to avoid having manholes in the travel lanes similar to Interim Build Alternative 3A.

5.4.12.4 Interim Build Alternative 4

Interim Build Alternative 4 increases the impervious area by approximately 3.3 ac and 4.4 ac in Basins C-8 and C-9, respectively. Using the SFWMD water quality criteria, this will require 0.34 ac-ft of treatment in Basin C-8 and 0.45 ac-ft of additional treatment in Basin C-9.

The required treatment volume for Basin C-8 can be provided by creating dry retention areas along the drainage swales within the individual or adjacent drainage systems. Right of way acquisition several parcels is anticipated in Basin C-8 to accommodate the I-95 roadway improvements. These parcels are located west of I-95 and near the C-8/Biscayne Canal. They are ideally situated to capture and treat runoff from the I-95 increase in impervious area. Together, the parcels have an available area of approximately 7 acres that can be used for dry retention. A total of 2.62 ac-ft of dry retention is provided for water treatment within this basin.

For Basin C-9, the required treatment volume can be provided by creating dry retention area in the FDOT-owned vacant lot located just north of the railroad and bordered by both the SR 826/Palmetto Expressway and Turnpike Connectors. This vacant lot can accommodate a 3.5 ac dry retention pond while avoiding impacting the existing Intelligent Transportation System (ITS) building on the site. A depth of 0.5-ft will be needed to create the 1.8 ac-ft of dry retention required for Basin C-9. Right of way acquisition of four parcels is anticipated in Basin C-9 to accommodate the SR 826/Palmetto Expressway roadway improvements while maintaining the NW 12th Avenue on-ramp to I-95 southbound. The parcels are located in the Sunshine Industrial Park south of SR 826/Palmetto Expressway. It can provide an appropriate location for water quality treatment. This potentially acquired area can accommodate a 4.2-ac dry-retention pond.

In addition, the proposed widening improvements to the I-95 southbound lanes will move the travel lanes towards the west, which will result in the double 72-inch outfall pipes located between the GGI and the C-8/Biscayne Canal, and corresponding manholes, being in the travel lanes. Relocation of the double 72-inch outfall pipes (approximately 1,400-ft) is recommended to avoid having manholes in the travel lanes.

5.4.13 Utility and Facility Impacts

The proposed reconstruction of the three-lane ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound under Interim Build Alternatives 3A, 3B, 3C and 4 will impact the Florida Gas Transmission (FGT) 18-inch steel gas line along the south side of the SR 826 mainline. It is anticipated that the gas line will have to be relocated due to potential conflicts with the proposed Mechanically Stabilized Earth (MSE) walls. In discussion with the Florida Gas Transmissions (FGT) it is understood that given the future plan to widen SR 826/Palmetto Expressway from I-75 to GGI, it may be necessary for FGT to relocate the existing line to another corridor. Existing ITS buried fiber optic cable (BFO) and DMS signs running along the south side of SR-826/Palmetto Expressway may be impacted by the proposed widening and may require adjustments under all four Interim Build Alternatives.

The proposed flyover from SR 826/Palmetto Expressway eastbound to I-95 northbound under all four Interim Build Alternatives will impact existing Florida Power & Light Company's (FPL) 138KV overhead electric crossing and Verizon Business (f.k.a. MCI) fiber optic lines inside 2-2" PVC ducts running north and parallel to the SFRC railroad tracks. The proposed flyover ramp may also impact overhead fiber optics cables attached to the overhead electric poles.

The proposed widening and reconstruction the I-95 southbound lanes under Interim Build Alternatives 3B and 3C will impact several water and sewer mains crossing underneath I-95 between NW 151st Street and NW 135th Street. The BFO communications trunk line on the

west side of I-95 that links the various ITS facilities will also be impacted from the proposed reconstruction and widening under Interim Build Alternatives 3B and 3C.

In addition, the proposed relocation of the off-ramp from the Turnpike Connector southbound to SR 7/US 441 under Interim Build Alternatives 3B, 3C and 4 will impact water and sewer mains, and buried telephone cables along SR 7/US 441 between the Biscayne Canal and the GGI Park and Ride Lot.

The proposed elevated direct express lane connection from Florida's Turnpike southbound to the 95 Express southbound lanes under Interim Build Alternative 3C will also impact overhead electric lines crossing over I-95 at NW 157th Street.

Table 5-18 summarizes the potential utility impacts due to the proposed improvements under Interim Build Alternatives 3A, 3B, 3C and 4. The detailed utility impacts are provided in the utility impacts assessment memorandum prepared as part of this PD&E study.

Table 5-18
Summary of Potential Utility Impacts

Utility Agency Owner	Number of Facilities Impacted			
	Interim Build Alt. 3A	Interim Build Alt. 3B	Interim Build Alt. 3C	Interim Build Alt. 4
AT&T Florida	4	5	5	5
City of North Miami Beach	3	5	5	4
City of North Miami Water & Sewer Dept.	1	1	1	1
Comcast	1	1	1	1
FDOT ITS	4	5	5	5
FTE - ITS	2	2	2	2
Florida Gas Transmission	2	2	2	2
FPL Distribution	3	3	4	3
FPL FiberNet	2	2	2	2
FPL Transmission	2	2	2	2
Level 3 Communications	2	2	2	2
Miami-Dade Water and Sewer Department	3	8	8	5
TECO Peoples Gas	4	4	4	4
Verizon Business Solution	1	1	1	1
Total	**34**	**43**	**44**	**39**

All UAOs facilities appeared to be located on FDOT's right-of-way by permits with the exception of Verizon Business Solution (f.k.a. MCI) one (1) 4" PVC conduits located on SFRC right-of-way**.** No Utility Easement have been identified and No UAO's have claimed compensable interest along the corridor, however given the fact that this project will be

likely funded with federal funds and that portions of the work are along I-95 those utility relocation located along I-95 may be compensable. Funding should be program in the event. Amount of funding will be determined as the study progress.

All UAO(s) owning major facilities within the area of the Project have Master Agreements with the Department; this should expedite the coordination process eliminating the need for individual work agreements.

5.4.14 Bicycle and Pedestrian Accommodations

No pedestrian or bicycle facilities are planned as part of the proposed improvements along the SR 826/Palmetto Expressway mainline and I-95 southbound corridors. The existing sidewalks along the SR 826/Palmetto Expressway frontage roads, SR 7/US 441, NW 17th Avenue and NW 12th Avenue will be maintained. However, in order to accommodate the relocated NW 12th Avenue on-ramp, the existing sidewalk along the eastbound frontage road east of NW 10th Avenue will be removed. The proposed widening of the westbound frontage road to accommodate an exclusive right-turn lane at NW 17th Avenue ramp terminal will also provide an adjacent 6-ft sidewalk between NW 15th Avenue and NW 17th Avenue to maintain sidewalk continuity. Additionally, a 6-ft sidewalk adjacent to the curb & gutter on the west side is proposed along NW 17th Avenue between NW 161st Street and SR 826/Palmetto Expressway for Interim Build Alternatives 3A, 3B and 3C. No improvements are proposed along NW 17th Avenue under Interim Build Alternative 4.

The replacement of the Turnpike Connector Southbound Bridge over the SFRC (870159) will also provide adequate horizontal and vertical clearance necessary to accommodate the proposed Gold Coast Trail which runs along the easement of the South Florida Rail Corridor (SFRC) for all the interim build alternatives.

The proposed reconstruction and widening along I-95 southbound mainline under Interim Build Alternatives 3B and 3C will require replacement of the pedestrian bridge across I-95 just south of NW 151st Street which provides access between the residential areas on the west and Thomas Jefferson Middle School on the east side of I-95.

5.4.15 Multi-modal Accommodations

Seven Miami-Dade Transit (MDT) bus routes (95 Golden Glades, 95 Dade-Broward Express, 22, 246, 77, 277) and five Broward County Transit bus routes (18, University Breeze, 441 Breeze, 95 Express Pembroke Pines, 95 Express Miramar) currently traverse the GGI or connect to the Park and Ride Lot. The improved mobility resulting from the proposed improvements under Interim Build Alternatives 3A, 3B, 3C and 4 will benefit transit operations within the interchange.

In addition, Interim Build Alternative 3C, which provides a direct express lanes connection from the Turnpike Connector ramp to the 95 Express will improve transit travel time for the I-95 Express Miramar service route. This route was recently added as part of the 95 Express transit service and begins at the Miramar Central Station, located at Miramar Town Center, Civic Center Place at Red Road, and travels along Red Road, the Florida's Turnpike Extension, and then proceeds on I-95 in the express lanes to downtown Miami.

5.4.16 Traffic Control Concepts

5.4.16.1 Interim Build Alternative 3A

The preliminary concept for maintenance of traffic for Interim Build Alternative 3A is shown in **Appendix G**. The maintenance of traffic can be accomplished in three phases as follows:

PHASE I of the construction sequence would include reconstruction of NW 17th Avenue, NW 165th Street including culvert at the canal along the NW 17th Avenue, widening, of SR 826/Palmetto Expressway eastbound to add lanes for relocated two-lane ramp from SR 826/Palmetto Expressway eastbound (Ramp A) to widened Turnpike Connector southbound and for a new flyover ramp (Ramp B) from SR 826/Palmetto Expressway eastbound to I-95 northbound. In this phase it is proposed to widen and reconstruct Turnpike Connector southbound to accommodate an additional lane, add one auxiliary lane to SR 826/Palmetto Expressway eastbound before ramp for Florida's Turnpike extension to NW 167th Street and add left turn lane from SR 826/Palmetto Expressway eastbound to Florida's Turnpike northbound, resurface SR 826/Palmetto Expressway eastbound from Florida's Turnpike overpass to NW 7th Avenue and widen I-95 southbound up to the NW 151st Street.

PHASE II of the construction sequence includes construction of SR 826/Palmetto Expressway eastbound flyover ramp to I-95 northbound (Ramp B) up to the merge with existing SR 7/US 441 northbound, construction of temporary ramp for SR 7/US 441 relocated closer to I-95 northbound to allow for extension/replacement of existing end span of Bridge No 870041, construction of new bridge and relocated ramp from NW 167th Street (SR 826/Palmetto Expressway westbound) to I-95 southbound, resurfacing and reconstruction of SR 826/Palmetto Expressway westbound from NW 7th Avenue to the interchange with Florida's Turnpike extension including ramps to Florida's Turnpike northbound.

PHASE III of the construction sequence includes widening of SR 7/US 441 under the new bridges No 870041 and 870042 and completion of SR 826/Palmetto Expressway eastbound ramp to I-95 northbound.

5.4.16.2 Interim Build Alternative 3B

The preliminary concept for maintenance of traffic for Interim Build Alternative 3B is shown in **Appendix G**. The maintenance of traffic can be accomplished in three phases as follows:

PHASE I of the construction sequence is identical with Phase I of Alternative 3A with the following exceptions: the proposed Southbound Turnpike Connector is shifted more to the west to provide space for future Florida's Turnpike Southbound Express Lane to be connected to existing I-95 southbound Express Lanes. In this phase the construction sequence would require relocation of Turnpike Connector southbound on new horizontal and vertical alignment, construction of new connecting ramp to SR 7/US 441, reconstruction of SR 7/US 441 and widening of westerly side of I-95 southbound roadway and bridges on new profile and partially on a new temporary alignment.

The next phases of construction on I-95 southbound are controlled by the phasing of replacement of bridges over the Biscayne Canal and over the NW 151st Street, geometric constraints of temporary shifts of I-95 southbound travel lanes and mandatory maintenance of existing access for all movements to I-95 southbound Express Lanes. The reconstruction of I-95 southbound in next phases will progress from the west to the east without split of three I-95 southbound lanes.

PHASE II of the construction sequence is identical with Phase II of Alternative 3A with the following additions: construct middle portion of the bridge over Biscayne Canal and the middle-west portion of the bridge over NW 151st Street. Reconstruct middle-west portion of I-95 SB roadway up to the south limit of the project.

PHASE III of the construction sequence is identical with Phase III of Alternative 3A with the following additions: complete reconstruction of the bridge over Biscayne Canal and reconstruct middle-easterly portion of the bridge over NW 151st Street. Reconstruct middle-east portion of I-95 southbound roadway up to the south limit of the project.

PHASE IV of the construction sequence includes completion of the replacement of the bridge over the NW 151st Street and reconstruction of the remaining portion of I-95 southbound on the east side up to the south limit of the project.

5.4.16.3 Interim Build Alternative 3C

The preliminary concept for maintenance of traffic for Interim Build Alternative 3C is shown in **Appendix G**. The construction sequence is identical with phasing of Alternative 3B with assumption, that the scope of work shown in Interim Build Alternative 3B is completed. This alternative would require to temporary shift apart Turnpike Connector southbound and northbound lanes to create work zone for construction of Florida's Turnpike southbound Express Lane flyover to be connected to existing I-95 southbound flyover.

5.4.16.4 Interim Build Alternative 4

The preliminary concept for maintenance of traffic for Interim Build Alternative 4 is shown in **Appendix G**. The maintenance of traffic can be accomplished in three phases as follows:

PHASE I of the construction sequence would include widening of SR 826/Palmetto Expressway eastbound to add lanes for relocated two-lane ramp from SR 826/Palmetto Expressway eastbound and the NW 12th Avenue on-ramp to widened Turnpike Connector southbound and for a new flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound. In this phase it is proposed to widen and reconstruct Turnpike Connector southbound to accommodate an additional lane, add one auxiliary lane to SR 826/Palmetto Expressway eastbound before ramp for Florida's Turnpike extension to NW 167th Street and add left turn lane from SR 826/Palmetto Expressway eastbound to Florida's Turnpike northbound, resurface SR 826/Palmetto Expressway eastbound from Florida's Turnpike overpass to NW 7th Avenue, construct the new three lane off ramp from the Turnpike Connector to SR 7/US 441 and widen I-95 southbound up to the NW 151st Street.

PHASE II of the construction sequence includes construction of SR 826/Palmetto Expressway eastbound flyover ramp to I-95 northbound up to the merge with existing SR 7/US 441 northbound, Shift traffic on the existing SR 7 northbound ramp to allow for extension/replacement of existing end span of Bridge No 870041, construction of new bridge and relocated ramp from NW 167th Street (SR 826/Palmetto Expressway westbound) to I-95 southbound, resurfacing and reconstruction of SR 826/Palmetto Expressway westbound from NW 7th Avenue to the interchange with Florida's Turnpike extension including ramps to Florida's Turnpike northbound.

PHASE III of the construction sequence includes widening of SR 7/US 441 ramp and the new single ramp under the new bridges No 870041 and 870042 and completion of SR 826/Palmetto Expressway eastbound ramp to I-95 northbound.

5.4.17 Design Variations and Exceptions

The proposed project study area along I-95 from NW 151st to Opa-Locka Blvd overlaps the construction limits for the 95 Express Phase I project completed in 2009. As part of that construction project, several design exceptions including lane width, shoulder width, bridge width, stopping sight distance, vertical clearance and vertical alignment were obtained within this segment of I-95. Design variations were also obtained for pavement cross slope, guardrail offset and horizontal clearance.

As part of this project, several variations and exceptions are necessary to implement the proposed improvements under each alternative and would result in reducing right of way needs as well as potential cost savings without compromising safety. **Table 5-19** summarizes the design variation and exceptions identified for the Interim Build Alternatives.

The design exception for the existing vertical alignment along I-95 south of NW 151st Street was obtained during the construction of the 95 Express Phase I project. Consequently,

documentation and approval of the design exception for the substandard K-value, curve length and stopping sight distance along the crest curve over NW 143rd Street may not be required since it is consistent with prior approvals along this segment of I-95.

In addition, the design variations for the substandard vertical clearance at the SR 826/Palmetto Expressway bridges over NW 12th Avenue and NW 17th Avenue as well as the design variations for the substandard median width and vertical alignment along SR 826/Palmetto Expressway mainline will be fixed as part of the Ultimate Build improvements. At that time, the segment of SR 826/Palmetto Expressway between NW 17th Avenue and GGI will be reconstructed to upgrade these deficient design elements.

Table 5-19
Design Variations & Exceptions Summary

Design Compliance	Design Element	Location / Description			
		Interim Build Alternative 3A	**Interim Build Alternative 3B**	**Interim Build Alternative 3C**	**Interim Build Alternative 4**
Design Variations	1. Shoulder Width	• 10-ft outside shoulder width along SR 826 mainline • 8-ft outside and 6.5-ft inside shoulder along SR 826 EB to I-95 NB & SB off Ramp	• 10-ft outside shoulder width along SR 826 mainline • 8-ft outside and 6.5-ft inside shoulder along SR 826 EB to I-95 NB & SB off Ramp	• 10-ft outside shoulder width along SR 826 mainline • 8-ft outside and 6.5-ft inside shoulder along SR 826 EB to I-95 NB & SB off Ramp	• None
	2. Median Width	• 16-ft median width along SR 826 mainline	• 16-ft median width along SR 826 mainline	• 16-ft median width along SR 826 mainline	• 16-ft median width along SR 826 mainline
	3. Vertical Alignment	• Reduced vertical curve length for four curves (Curves 4, 5, 6 and 7) along I-95 southbound mainline	• None	• None	• Reduced vertical curve length for four curves (Curves 4, 5, 6 and 7) along I-95 southbound mainline
	4. Horizontal Alignment	• Reduced horizontal curvature and curve length for one curve (Curve I95SB-3) along I-95 mainline southbound	• Reduced horizontal curvature for one curve (Curve I95SB3B-4) along I-95 mainline southbound	• Reduced horizontal curvature for one curve (Curve I95SB3C-4) along I-95 mainline southbound	• Reduced horizontal curvature and curve length for one curve (Curve I95SB-3) along I-95 mainline southbound
	5. Stopping Sight Distance	• Reduced vertical stopping sight distance for two curve along SR 826 mainline	• Reduced vertical stopping sight distance for two curve along SR 826 mainline	• Reduced vertical stopping sight distance for two curve along SR 826 mainline	• Reduced vertical stopping sight distance for two curve along SR 826 mainline

Table 5-19
Design Variations & Exceptions Summary

Design Compliance	Design Element	Location / Description			
		Interim Build Alternative 3A	**Interim Build Alternative 3B**	**Interim Build Alternative 3C**	**Interim Build Alternative 4**
Design Variations	6. Vertical Clearance	• Reduced vertical clearance for SR 826/Palmetto Expressway over NW 12th Avenue & NW 17th Avenue	• Reduced vertical clearance for SR 826/Palmetto Expressway over NW 12th Avenue & NW 17th Avenue	• Reduced vertical clearance for SR 826/Palmetto Expressway over NW 12th Avenue & NW 17th Avenue	• Reduced vertical clearance for SR 826/Palmetto Expressway over NW 12th Avenue & NW 17th Avenue
	7. Cross Slope	• 4-5 lanes sloping in one direction along SR 826/Palmetto Expressway • 5 lanes sloping to one direction along I-95 SB	• 4-5 lanes sloping in one direction along SR 826/Palmetto Expressway • 5 lanes sloping to one direction along I-95 SB	• 4-5 lanes sloping in one direction along SR 826/Palmetto Expressway • 5 lanes sloping to one direction along I-95 SB	• 4-5 lanes sloping in one direction along SR 826/Palmetto Expressway • 5 lanes sloping to one direction along I-95 SB
Design Exceptions	1. Lane Widths	• 11-ft lane widths along I-95 mainline and SR 826/NW 7th Ave Ext.	• 11-ft lane widths along SR 826/NW 7th Ave Ext.	• 11-ft lane widths along SR 826/NW 7th Ave Ext.	• 11-ft lane widths along I-95 mainline and SR 826/NW 7th Ave Ext.
	2. Shoulder Width	• 7-ft inside shoulder width along SR 826 mainline • 6-ft min outside shoulder widths and 7-ft min. inside shoulder width along I-95 mainline southbound lanes	• 7-ft inside shoulder width along SR 826 mainline	• 7-ft inside shoulder width along SR 826 mainline	• 7-ft inside shoulder width along SR 826 mainline • 6-ft min outside shoulder widths and 7-ft min. inside shoulder width along I-95 mainline southbound lanes

Table 5-19
Design Variations & Exceptions Summary

Design Compliance	Design Element	Location / Description			
		Interim Build Alternative 3A	**Interim Build Alternative 3B**	**Interim Build Alternative 3C**	**Interim Build Alternative 4**
	3. Stopping Sight Distance	• Reduced horizontal stopping sight distance for one curve (Curve I95SB-3) along I-95 southbound mainline • Reduced vertical stopping sight distance for one curve (Curve 2) along I-95 southbound mainline	• Reduced horizontal stopping sight distance for one curve (Curve I95SB3B-4) along I-95 southbound mainline • Reduced vertical stopping sight distance for one curve (Curve 2) along I-95 southbound mainline (see note)	• Reduced horizontal stopping sight distance for one curve (Curve I95SB3C-4) along I-95 southbound mainline • Reduced vertical stopping sight distance for one curve (Curve 2) along I-95 southbound mainline (see note)	• Reduced horizontal stopping sight distance for one curve (Curve I95SB-3) along I-95 southbound mainline • Reduced vertical stopping sight distance for one curve (Curve 2) along I-95 southbound mainline
Design Exceptions (continued)	4. Superevelation	• Reduced superelevation for one curve (Curve I95SB-3) along I-95 southbound mainline	• Reduced superelevation for one curve (Curve I95SB3B-4) along I-95 southbound mainline	• Reduced superelevation for one curve (Curve I95SB3C-4) along I-95 southbound mainline	• Reduced superelevation for one curve (Curve I95SB-3) along I-95 southbound mainline
	5. Vertical Alignment	• Reduced vertical curve K-value and vertical curve length for three curves (Curves 1, 2 and 3) along I-95 southbound mainline	• Reduced vertical curve K-value and vertical curve length for one curve (Curve 2) along I-95 southbound mainline (see note)	• Reduced vertical curve K-value and vertical curve length for one curve (Curve 2) along I-95 southbound mainline (see note)	• Reduced vertical curve K-value and vertical curve length for three curves (Curves 1, 2 and 3) along I-95 southbound mainline
	6. Vertical Clearance	• None	• Reduced vertical clearance for I-95 over NW 143rd Street	• Reduced vertical clearance for I-95 over NW 143rd Street	• None

Note: Design Exception for Lane Width processed as part of 95 Express Phase 2 project on file at the department

5.4.18 Cost Estimates

The estimated construction cost for the Interim Build Alternatives were developed using a combination of the FDOT Long Range Estimate (LRE) and the Basis of Estimate for individual pay items. The unit costs for the pay items were obtained from the FDOT Historical Average Item Unit Cost for Miami-Dade County. The right of way costs for the alternatives were obtained from the FDOT District Six Right of Way Office. The right of way cost estimates include the additional fees associated with right of way acquisition. **Table 5-20** summarizes the preliminary cost estimates. The detailed Cost Estimates are provided in **Appendix H**.

Table 5-20
Preliminary Cost Estimates

Cost Components	Interim Build Alternative 3A	Interim Build Alternative 3B	Interim Build Alternative 3C	Interim Build Alternative 4
Roadway	$11,843,770	$22,216,334	$22,216,334	$13,430,711
Structures	$27,139,338	$34,828,234	$50,927,434	$32,140,365
Lighting	$619,500	$957,000	$957,000	$600,750
Drainage	$5,196,325	$6,614,900	$6,614,900	$4,683,837
Signalization	$1,050,000	$1,400,000	$1,400,000	$1,400,000
Sign Structures	$1,535,359	$2,107,236	$2,107,236	$1,643,971
Signing and Pavement Marking	$230,572	$315,986	$315,986	$231,364
ITS facilities	$2,155,000	$5,555,000	$5,555,000	$2,230,000
Utilities	$3,640,000	$5,340,000	$5,340,000	$2,700,000
Noise Walls	$661,952	$1,633,308	$1,633,308	$316,892
Park and Ride Restoration	$500,000	$500,000	$500,000	$800,000
Environmental Mitigation	$583,144	$1,190,184	$1,592,664	$683,566
Landscaping	$583,144	$1,138,259	$1,460,243	$683,566
Subtotal	**$55,738,104**	**$83,796,441**	**$100,620,105**	**$60,601,436**
Mobilization & MOT	$12,975,208	$20,094,488	$24,300,404	$14,339,145
Project Unknowns & Contingency	$17,928,997	$27,184,062	$32,651,752	$20,038,678
Construction Cost Total	**$86,642,309**	**$131,074,991**	**$157,572,261**	**$94,979,259**
Right Of Way	$5,633,600	$32,545,500	$32,545,500	$45,752,600
Eng Design & CEI	$13,135,385	$19,969,894	$24,007,573	$15,282,413
Total	**$105,411,294**	**$183,590,384**	**$214,125,335**	**$156,014,272**

Note that the cost estimates shown in the table above are for comparative purposes only and should not be used as the final estimates.

5.5 Engineering Evaluation of Environmental Impacts

5.5.1 Land Use

The project study area traverses a region of diverse land use designations such as low and medium-high density residential communities, business, industrial, office, institution and transportation land uses (see **Figure 5-24**). Along the SR 826/ Palmetto Expressway, corridor, the primary land uses are business and office to the north and industrial and office to the south. As SR 826/Palmetto Expressway converges with I-95 heading north, the land uses to the northwest are industrial and office and to the southeast are low density residential with pockets of medium density residential, transportation, business and office, and institution, utilities, and communication facilities.

A single, comprehensive future land use map for the study area is not available from Miami-Dade County due to the presence of cities and municipalities which govern their own land use designations. The cities and municipalities include the City of Miami Gardens, City of North Miami Beach, City of North Miami, and the Golden Glades Census Designated Place (CDP), which is unincorporated Miami-Dade County. Individual future land use maps were obtained from the City of Miami Gardens, North Miami Beach, North Miami and Miami-Dade County. These future land use maps were evaluated and they indicate that the existing commercial, industrial, office and single-family residential will retain their same land use designations. The following Future Land Use resources were reviewed:

- SEFL 2060: Baseline Future Land Use Map, Miami-Dade County, August 21, 2009
- Adopted 2015-2025 Land Use Plan Map, Miami-Dade County, Revised July 2011
- City of North Miami Beach Comprehensive Plan, Future Land Use Map, Adopted April 21, 1998; Revised September 2007
- City of North Miami Comprehensive Plan, Future Land Use Map, 2007
- City of Miami Gardens, Comprehensive Development Master Plan, Future Land Use Map, September 2005
- Generalized Land Use Derived from 2010 Parcels, FDOT District Six, Florida Geographic Data Library

The character of the study area remains relatively unchanged due to the similar land use designations from the Future Land Use Maps from the Cities of North Miami Beach and Miami Gardens to the 2015-2025 Miami-Dade Future Land Use Map. Therefore, the project improvements are not anticipated to significantly affect the land use in the area. However, the potential right of way acquisition required to accommodate the proposed improvements will impact the land uses within the affected properties. Interim Build Alternative 3A will result in less land use impacts than Interim Build Alternatives 3B, 3C and 4 due to the differences in right of way impacts.

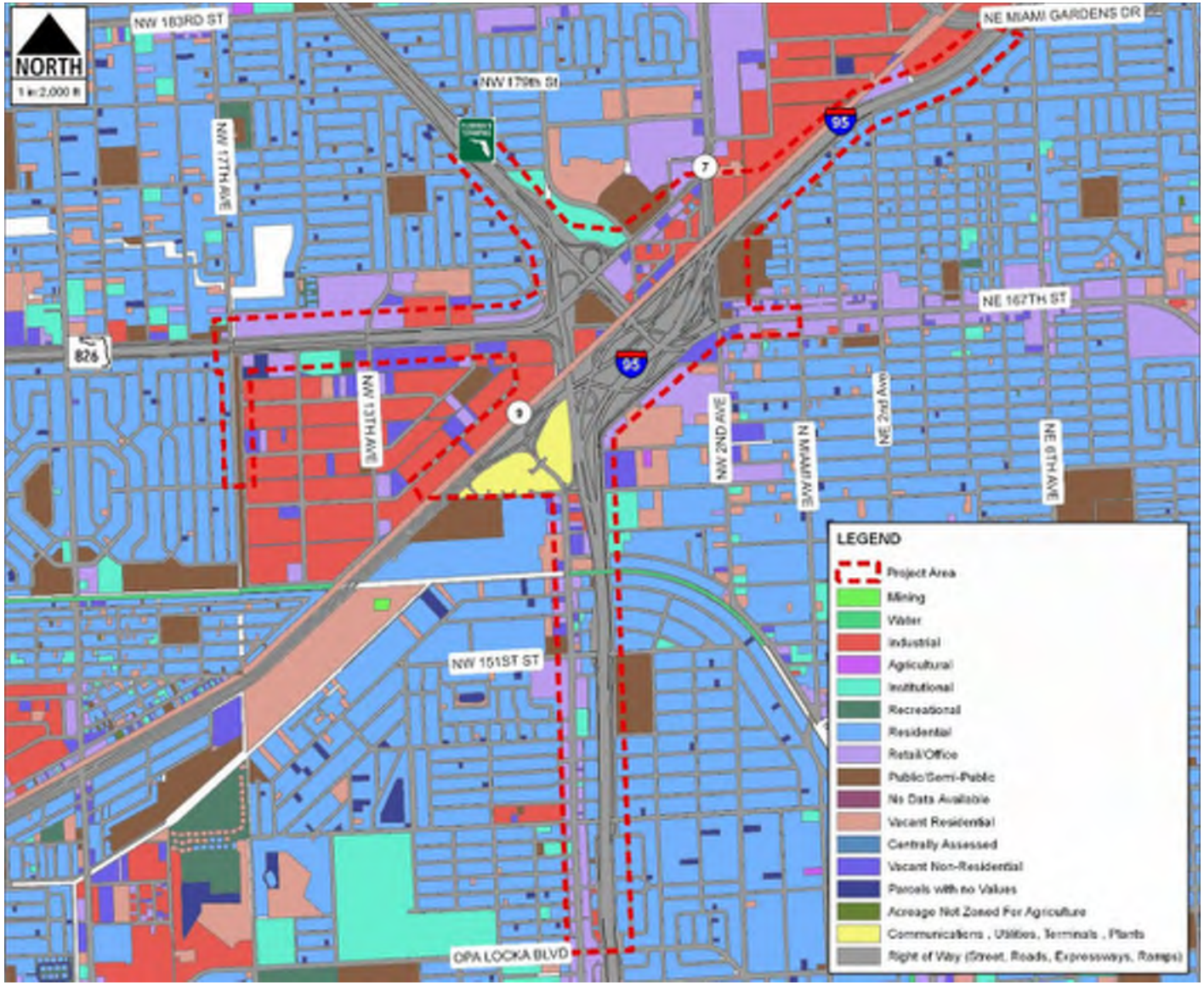


Figure 5-24 Land Use Designation

5.5.1.1 Religious Facilities

There are nineteen (19) religious facilities within 500-ft of the project study area. The religious facilities are listed below and are illustrated in **Figure 5-25**.

- AA Allen Gospel Ministries
- Baruch Christian Fellowship
- Bethesda Church Ministries
- Christ Community Church
- Damascus Road Baptist Church
- Eglise Baptist Samarie
- End Time Ministries
- Evangel Church International
- Faith Pentecostal Deliverance Center
- Faith Team Ministries
- International Church of Four Square Gospel
- Jesus is Lord Worship Center
- Liberty Fellowship Church
- North Dade Community Church
- Pass It On Ministries
- Seventh Day Church of God International Ministries
- Sunshine Christian Church
- Unity Light of the World
- World Deliverance Ministries

No impacts to the religious facilities identified within the study area are anticipated from any of the Interim Build Alternatives due to their relative distances from the roadway footprint and the right of way required for the proposed improvements.

5.5.1.2 Medical and Emergency Facilities

The Jackson North Medical Center is located within the project study area to the northeast. Additionally, several healthcare facilities are located near the study area, but outside its limits. Near the hospital is the Miami Regional Dialysis Center. There are several small medical and private practices along NW 167th Street and NW 2nd Avenue as well as along NE 3rd Court. One emergency facility in the vicinity of the project study area is the Miami-Dade County Fire Rescue Station #32. None of the medical facilities are anticipated to be impacted due their relative distances from the proposed improvements. These medical and emergency facilities are illustrated in the **Figure 5-26**.



Figure 5-25 Religious Facilities



Figure 5-26 Medical and Emergency Facilities

5.5.1.3 Educational Facilities

There are thirteen educational facilities identified within 500-ft of the project study area. The first four institutions were identified as colleges/universities while the remaining nine educational facilities are either primary or secondary schools. **Figure 5-27** illustrates the location of these educational facilities which are also listed below.

- ATI Career Training Center
- Applied Technical Institute College of Health
- Miami Technical College
- Caribbean Training Educational Center
- Lubavitch Education Center
- Biscayne Gardens Elementary School
- Thomas Jefferson Middle School
- Son-Shine Child Care Academy
- Landow Yeshiva Center
- Primary Learning Center
- Neytz Hachochma
- GDS Christian Academy
- Work & Play Day Care Center

None of the educational facilities are expected to be impacted due to their relative distances from the proposed improvements.

5.5.1.4 Government Facilities

Three government facilities were identified along and within the proximity of the study area. These facilities include the City of Miami Gardens Public Works Department which is located within the project study area, as well as the City of Miami Gardens Police Department and the United States Federal Bureau of Investigation, which are located just outside the project study area. Impacts to these facilities are not anticipated. The government facilities are illustrated in **Figure 5-28**.

5.5.1.5 Community and Cultural Centers

Four community and cultural centers were identified within or in close proximity to the project study area. These include the Miami Gardens Junior Chamber of Commerce, Wentworth Gallery, the Cultural Arts Society of South Florida, and the Center of Family and Child Enrichment. Impacts to these community and cultural centers are not anticipated from the proposed improvements under any of the Interim Build Alternatives. The community and cultural centers are illustrated in **Figure 5-29**.



Figure 5-27 Educational Facilities



Figure 5-28 Government Facilities



Figure 5-29 Community and Cultural Centers

5.5.2 Economic Impacts

The proposed project will improve mobility and support the increasing economic development of the area, as well as stimulate major construction activities that will create jobs and contribute to economic growth within the South Florida region.

A recent publication by the National Cooperative Highway Research Program (NCHRP) titled "*Mining Recovery Act Data for Opportunities to Improve the State of Practice for Overall Economic Impact Analysis of Transportation Investment*s (NCHRP 08-36, Task 103)" estimates that approximately 16.8 jobs were created in the state of Florida for every million dollars spent on transportation improvement projects between 2009 and 2011 (See **Appendix I**).

Based on the estimated construction costs for the various alternatives, it is estimated that Interim Build alternative 3A will result in approximately 1,771 jobs, Interim Build Alternatives 3B will result in 3,084 while Interim Build Alternatives 3C and 4 will result in 3,597 and 2,481 jobs respectively within the south Florida region.

5.5.3 Visual Impacts and Aesthetics

The visual impacts of an area are ascertained by establishing the visual environment and identifying the key visual resources within the area. The evaluation of the visual and aesthetics impacts is based on two perspectives - 1) the view from the road and 2) the view of the road. The view from the road is the driver's perspective and leaves a lasting impression of the community or area on the driver or resident while the view of the road by the driver or resident contribute to the feeling of community value and pride.

The GGI is also known as the "Spaghetti Bowl" to drivers due to the numerous twists and turns required to navigate from one roadway to another. The view from the major roadways and interchange ramps comprises mainly of noise walls and Mechanically Stabilized Earth (MSE) walls and overhead bridge structures. Noise walls are located along Florida's Turnpike and I-95. The interchange area includes several green spaces with some isolated landscaping along SR 826, I-95 and Florida's Turnpike.

The proposed improvements under the Interim Build Alternatives provide opportunity for additional landscaping within the project study area. For Interim Build Alternative 3A, the potential right of way acquisition of the properties adjacent to the west right of way line along I-95 between the Park and Ride lot and the Biscayne (C-8) Canal will allow additional landscaping within this area. Interim Build Alternatives 3B, 3C and 4 involve additional right of way between the Park and Ride lot and NW 145th Street and provides significant green space for landscaping to enhance the visual environment within this area as well.

5.5.4 Relocation

All the Interim Build Alternatives under consideration as part of this PD&E Study require right of way acquisition to accommodate the proposed improvements. As identified in **Section 5.4.11**, Interim Build Alternative 3A will impact five properties, Interim Build Alternatives 3B and 3C will impact thirty six properties and Interim Build Alternative 4 will impact 24 properties. Relocation of a residential property or business is required when a full right of way acquisition is anticipated for the parcel. A parcel is generally considered a full acquisition if the construction impact limits encroach on a structure, remove all reasonable access, or acquire more than 20% of the parcel.

Based on the preliminary right of way estimates, Interim Build Alternative 3A will result in 2 business relocations located on 2 parcels. Interim Build Alternatives 3B and 3C will require 14 residential and 5 business relocations located on 22 parcels while Interim Build Alternative 4 will require 6 business relocations located on 10 parcels. FDOT will carry out a Right of Way and Relocation Program in accordance with Florida Statute 339-09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646, as amended by Public Law 100-17). **Table 5-21** shows the summary of relocations for all four alternatives.

Table 5-21
Summary of Relocations

#	Folio Number	Property Address	Land Use	Relocation
1	30-2113-001-0460	15901 NW 7th Avenue	Warehouse or Storage	3B, 3C & 4
2	30-2113-001-0480	15821 NW 7th Avenue	Service Station-Automotive	3B, 3C & 4
3	30-2113-001-0490			3B, 3C & 4
4	30-2113-001-0860	15781 NW 7th Avenue	Light MFG & Food Processing	3B, 3C & 4
5	30-2113-001-0880			3B, 3C & 4
6	30-2113-001-0890			3B, 3C & 4
7	30-2113-001-0850	651 NW 157th Street	Light MFG & Food Processing	3A, 3B, 3C & 4
8	30-2113-001-0920	655 N. Biscayne River Drive	Warehouse or Storage	3A, 3B, 3C & 4
9	34-2114-007-0380	16601 NW 8 Avenue	Warehouse or Storage	4
10	34-2114-000-0220			4
11	30-2124-006-0010	14940 NW 6 Court	Residential	3B & 3C
12	30-2124-006-0020	14920 NW 6 Court	Residential	3B & 3C
13	30-2124-006-0030	14910 NW 6 Court	Residential	3B & 3C
14	30-2124-006-0040	14900 NW 6 Court	Residential	3B & 3C
15	30-2124-006-0050	14832 NW 6 Court	Residential	3B & 3C

Table 5-21
Summary of Relocations

#	Folio Number	Property Address	Land Use	Relocation
16	30-2124-006-0060	14828 NW 6 Court	Residential	3B & 3C
17	30-2124-006-0070	14822 NW 6 Court	Residential	3B & 3C
18	30-2124-006-0080	14816 NW 6 Court	Residential	3B & 3C
19	30-2124-006-0090	14750 NW 6 Court	Residential	3B & 3C
20	30-2124-006-0100	14740 NW 6 Court	Residential	3B & 3C
21	30-2124-006-0110	14730 NW 6 Court	Residential	3B & 3C
22	30-2124-006-0120	14700 NW 6 Court	Residential	3B & 3C
23	30-2113-003-1490	644 NW 147 Street	Residential	3B & 3C
24	30-2113-003-1420	643 NW 146 Street	Residential	3B & 3C

5.5.5 Endangered Species Impacts

As part of the PD&E study, an Endangered Species Biological Assessment (ESBA) was performed to determine potential impacts of the proposed project on Federally Endangered and Threatened species and potential suitable habitat for these species that might occur within or adjacent to the study area. State protected species were also considered.

The project corridor is located within the Core Foraging Area (CFA) of two active wood stork colonies. However, direct impacts to wood storks and their critical habitat are not anticipated in association with any of the Interim Build Alternatives. Minor impacts to wood stork Suitable Foraging Habitat (SFH) in association with the proposed improvements may result from construction activities that directly impact existing swales, ditches and dry retention ponds adjacent to the interchange, as these stormwater features may serve as potential wood stork SFH. However, these impacts will be mitigated through the construction of new stormwater features and the implementation of best management practices for road and bridge construction projects. Therefore, no net loss of wood stork SFH is anticipated as a result of the construction of the Interim Build Alternatives.

The West Indian manatee (*Trichechus manatus)* is listed as endangered by both the USFWS and the FWC. Manatee's habitat includes coastal waters, bays, rivers, canals, and (occasionally) lakes. The designated critical habitat for the manatee includes all of the marine and freshwater areas of Miami-Dade and Monroe Counties. The proposed improvements under the Interim Build Alternatives will widen or replace the bridge over the Biscayne (C-8) Canal, which is potentially inhabited by the federally endangered West Indian manatee. In addition, a bridge culvert is proposed across the NW 17th Avenue Canal at NW 165th Street. These improvements may affect, but are not likely to adversely affect

manatees within these canals. Standard Manatee Conditions for In-Water Work will be required during construction.

The eastern indigo snake frequents several habitat types, including forested uplands and wetlands as well as wet and dry prairies. It also occurs in human-altered habitats. Generally, in xeric (very dry environment) habitats, the presence of indigo snakes is associated with gopher tortoise (*Gopherus polyphemus*) occurrences, as the burrows provide shelter for the snakes during the winter. Habitat within the project corridors considered to be xeric is limited to portions of the 16 acre vacant lot located to the north of the NW 7th Avenue Extension corridor. No gopher tortoise burrows were found within the lot. Due to the lack of suitable refugia and the developed/maintained nature of the area, the eastern indigo snake is unlikely to be encountered within and adjacent to the project corridors. Consequently, the proposed improvements under the Interim Build Alternatives are not likely to adversely affect eastern indigo snake.

State listed species including bald eagle, gopher tortoise and burrowing owl were also considered. There are no documented eagle nests or rookeries within or nearby the project corridor and no suitable foraging habitat was identified during the field survey. In addition, no burrows or gopher tortoises were observed within the project corridor during the field review.

A burrowing owl was observed within the project area approximately 250 feet southeast of the intersection between the NW 7th Avenue Extension and the Turnpike Connector/I-95 during the design of the Turnpike Connector Ramp Project. However, the area where the burrowing owl and the burrow were discovered was turned into a storm water retention system. Although the permit for the removal of the burrow was obtained, the burrow was abandoned before the project construction start date in May, 2010. This area is still used for stormwater retention purposes and no other burrow or burrowing owl was observed at this location during the field review.

5.5.6 Wetlands Impacts

A Wetland Impact Evaluation Technical Memorandum was prepared as part of this PD&E Study. The project's potential for impacts to wetlands and Other Surface Waters (OSW) was analyzed using literature reviews, agency database searches, and a field review of the project area conducted on June 20, 2011.

A review of GIS databases from the South Florida Water Management District (SFWMD) and the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) indicated that no wetlands are located within or adjacent to the project area. A 6.1-acre lacustrine wetland area is located within the 300-foot buffer, on the southwest side of the project area (See **Figure 5-30**). However, no construction activities associated with the Interim Build Alternatives will occur near or adjacent to this wetland. Therefore, no wetland impacts are anticipated from any of the proposed alternatives.

The NW 17th Avenue Canal and the Biscayne (C-8) Canal are two man-made features located within the study area. The NW 17th Avenue Canal is a conveyance canal off the Biscayne (C-8) Canal owned by Miami-Dade County while the Biscayne (C-8) Canal is under the jurisdiction of SFWMD. The NW 17th Avenue and the C-8/Biscayne Canals are both constructed features and considered OSW.

The proposed improvements under Interim Build Alternatives 3A and 4 will widen the bridge over the C-8/Biscayne Canal, while the proposed improvements under Interim Build Alternatives 3B and 3C will replace the bridge over the canal. This involves construction activities over the canal and may also require the installation of piers within the canal banks. In addition, a bridge culvert is proposed across the NW 17th Avenue Canal at NW 165th Street for Interim Build Alternatives 3A, 3B, and 3C; however, is not proposed in Interim Build Alternative 4. The proposed culvert crossing will impact surface waters.

Under Interim Build Alternative 3A OSW impacts are approximately 0.27 acres. Interim Build Alternatives 3B and 3C will both result in 0.46 acres of impact. The Interim Build Alternative 4 OSW impacts are approximately 0.16.

These potential impacts to the Biscayne and NW 17th Avenue Canals and their water quality will be minimized by adherence to all applicable State and local regulations and to the FDOT Standard Specifications for Road and Bridge Construction, including Best Management Practices (BMPs) for erosion control and the control of construction debris.

Wetland vegetation was also identified within the constructed elements of the stormwater management system for the GGI. Specifically, it was discovered during the field review in five man-made ditches and one dry retention pond adjacent to the expressway ramps. Four of the ditches and the dry retention pond are in close proximity to the proposed footprint of the Interim Build Alternatives and may be impacted during the reconfiguration of the drainage features in this area. However, they are existing features of the existing stormwater management system and do not constitute jurisdictional wetlands, but are typically categorized OSW. Impacts to OSW will be estimated during final design as a result of the possible reconfiguration of the drainage features in this area. Impacts to these drainage features will only occur if pilings are designed to be located within the ditches themselves.

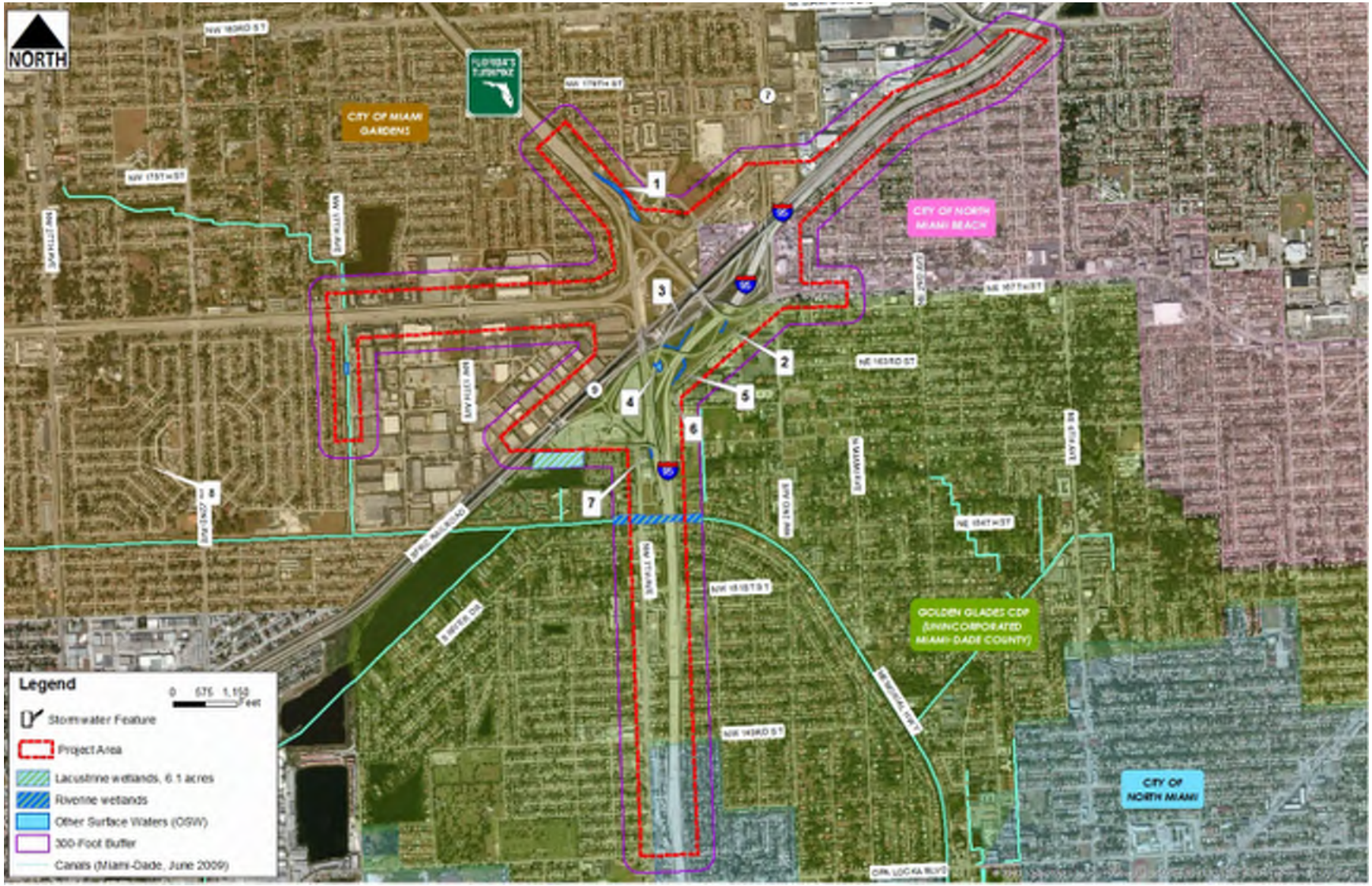


Figure 5-30 Wetlands and Other Surface Waters

5.5.7 Air Quality Impacts

Land uses surrounding the project study area include low and medium-high density residential communities, business, industrial, office, institution, and transportation. However, primary land uses along the project corridor are business and office to the north and industrial and office to the south. Residential land use with potential for sensitivity to changes in air quality is concentrated to the northwest of the GGI, with smaller residential areas along the east and west sides of I-95 south of SR 826. Other sites that may be sensitive to changes in air quality include the religious, social, and educational facilities and the community and cultural centers located within 500-feet of the study area.

The south Florida region is currently in attainment for all of the pollutants for which National Ambient Air Quality Standards (NAAQS) have been developed. As of June 2005, Miami-Dade County is located in an area which is designated as attainment for all of the NAAQS under the criteria provided in the Clean Air Act. Therefore, the project is located in an area which is designated as attainment under the criteria provided in the Clean Air Act; the Clean Air Act conformity requirements do not apply to the project and a project level air quality analysis is not necessary.

However, construction activities for the proposed action may potentially have short-term air quality impacts within the immediate vicinity of the project. Construction activities may generate temporary increases in air pollutant emissions in the form of dust from earthwork and unpaved roads and smoke from open burning. Such emissions and potential impacts will be minimized by adherence to all applicable State and local regulations and to the FDOT Standard Specifications for Road and Bridge Construction.

5.5.8 Contamination Screening Evaluation

A Contamination Screening Evaluation Report (CSER) was performed for this PD&E study. The purpose of the contamination screening is to identify and evaluate known or potential contamination issues, present recommendations concerning these issues, and discuss possible impacts to the proposed project. The contamination study area extended 500-feet in all directions beyond the project corridor. Sites found to have a history of contamination, or to house a hazardous substance, were evaluated for potential contamination involvement with the proposed project and a degree of risk was assigned for each site.

Risk ratings were assigned in accordance with Part 2, Chapter 22, Section 2.2.3 (01-17-08 revision) of the FDOT PD&E Manual. The contamination rating system is divided into four degrees of risk: High, Medium, Low and No risk. This system expresses the degree of likelihood for potential contamination problems that may impact project construction. Known problems may not necessarily present a high cause for concern if the regulatory agencies are aware of the situation and actions, where necessary, are either complete or are underway, and these actions will not have an adverse impact on the proposed project.

A review of the Miami-Dade County Department of Regulatory and Economy Resources (DRER[2]), Florida Department of Environmental Protection (FDEP), and the Environmental Protection Agency (EPA) files identified 118 permitted and/or known contaminated facilities within the primarily transportation-use project corridor including one Superfund site within a 1-mile buffer. Agency files were obtained for each site of potential concern for the contamination screening evaluation. The sites were assigned a risk rating for the potential impact to the proposed action after a review of all available data, including DERM[3], FDEP, and EPA files.

There are nine sites with a contamination history which indicated a high risk and six with medium risk of potential involvement with the proposed project alternatives. Six high risk sites and three medium risk sites are located along the I-95 and SR 7/US 441 corridors. One high risk site and two medium risk sites are located along SR 826. One high risk site is located along the Florida's Turnpike. The remaining high risk and medium risk sites are located along just south of SR 826. **Figure 5-31** shows the locations of the potential high and medium risk contamination sites within the project area.

Anodyne Inc. is a superfund site with volatile organic compound groundwater contamination is present and extends off-site. The contamination plume, as estimated in 2010 by the TerranearPMC groundwater remediation study, extends into the western portion of the study corridor. The Florida Department of Environmental protection (FDEP) discourages the use of wet ponds or exfiltration trenches within one mile of a superfund site. As such, water treatment facilities proposed by this study, which fall within the 1-mile Anodyne buffer, will consist of dry-retention and/or dry-detention.

In addition to the individual potentially contaminated properties identified, the project corridor passes through the Dade-Opa-Locka Area Brownfield. Brownfields are areas of perceived contamination and generally have a history of industrial and/or commercial use. Site No. 3 (Mercedes-Benz of Miami/Modern Age Furniture) described below is located within the Dade-Opa-Locka Area Brownfield. No other Brownfield impacts are anticipated.

Because a High or Medium Risk for soil and/or groundwater contamination has been documented for six sites within the project study area, a Level II Contamination Assessment investigation is warranted during the final design phase for the High and Medium Risk sites adjacent to the proposed construction areas, including any proposed drainage areas outside the FDOT right of way, to confirm the existence of soil and/or groundwater contamination at these sites.

Table 5-22 lists the potential contaminated sites and summarizes the contaminant of concern at each site.

[2, 3] *The acronyms PERA, DERM, and DRER refer to the same agency.*

Table 5-22
Potential Contamination Sites

Site No.	Facility Name	Facility Address	Contaminant of Concern	Risk
1	Anodyne Inc.	1270 NW 165 ST	Superfund Site. Volatile organic compound groundwater contamination is present and extends off-site.	High
2	Oasis Truck Spill	SR 826 WB Ramp To Florida's Turnpike	Groundwater and soil hydrocarbon contamination status is unknown.	High
3	D.B. Trucking Tanker Spill	SR 826 & I-95 Intersection	Groundwater and soil hydrocarbon contamination status is unknown.	High
4	Cloverleaf Servicenter, Inc.	13705 NW 7 AVE	Groundwater hydrocarbon contamination status is unknown.	High
5	Cuties Island Take-Out Restaurant/Seavey Property	14005 NW 7 AVE	Groundwater hydrocarbon contamination status is unknown.	High
6	HP Performance Automotive, Inc./Jimmy's Shell	14601 NW 7 AVE	Groundwater and soil hydrocarbon contamination status is unknown.	High
7	Hi-Test Service Station	14301 NW 7 AVE	Groundwater and soil hydrocarbon contamination is present and extends off-site.	High
8	Mobil #12526	650 OPA LOCKA BLVD	Groundwater hydrocarbon contamination is present.	High
9	Exxon Station	16700 NW 17 AVE	Groundwater and soil hydrocarbon contamination is present and extends off-site.	High
10	Texaco Station (Previously Gables Service, Inc.)	1195 NW 167 ST	Groundwater and soil hydrocarbon contamination status is unknown.	Medium
11	Southern Wine and Spirits/Hart & Cooley	1600-1675 NW 163 ST	Groundwater and soil hydrocarbon contamination status is unknown.	Medium
12	Mercedes-Benz of Miami (Previously Modern Age Furniture)	1200 NW 167 ST	Groundwater hydrocarbon contamination status is unknown.	Medium
13	Howie Fina Service	13640 NW 7 AVE	Groundwater hydrocarbon contamination status is unknown.	Medium
14	Infantino Auto Tech, Inc.	14540 NW 7 AVE	Groundwater and soil hydrocarbon contamination status is unknown.	Medium
15	American Waste Srvc-Truck Accident	NB SR 9 @ TP & 826 WB	Groundwater and soil hydrocarbon contamination status is unknown.	Medium

Based on the above evaluation, Interim Build Alternative 3A and 4 may be impacted by four high risk and four medium risk sites. Interim Build Alternatives 3B and 3C may be impacted by all eight high risk and six medium risk sites.

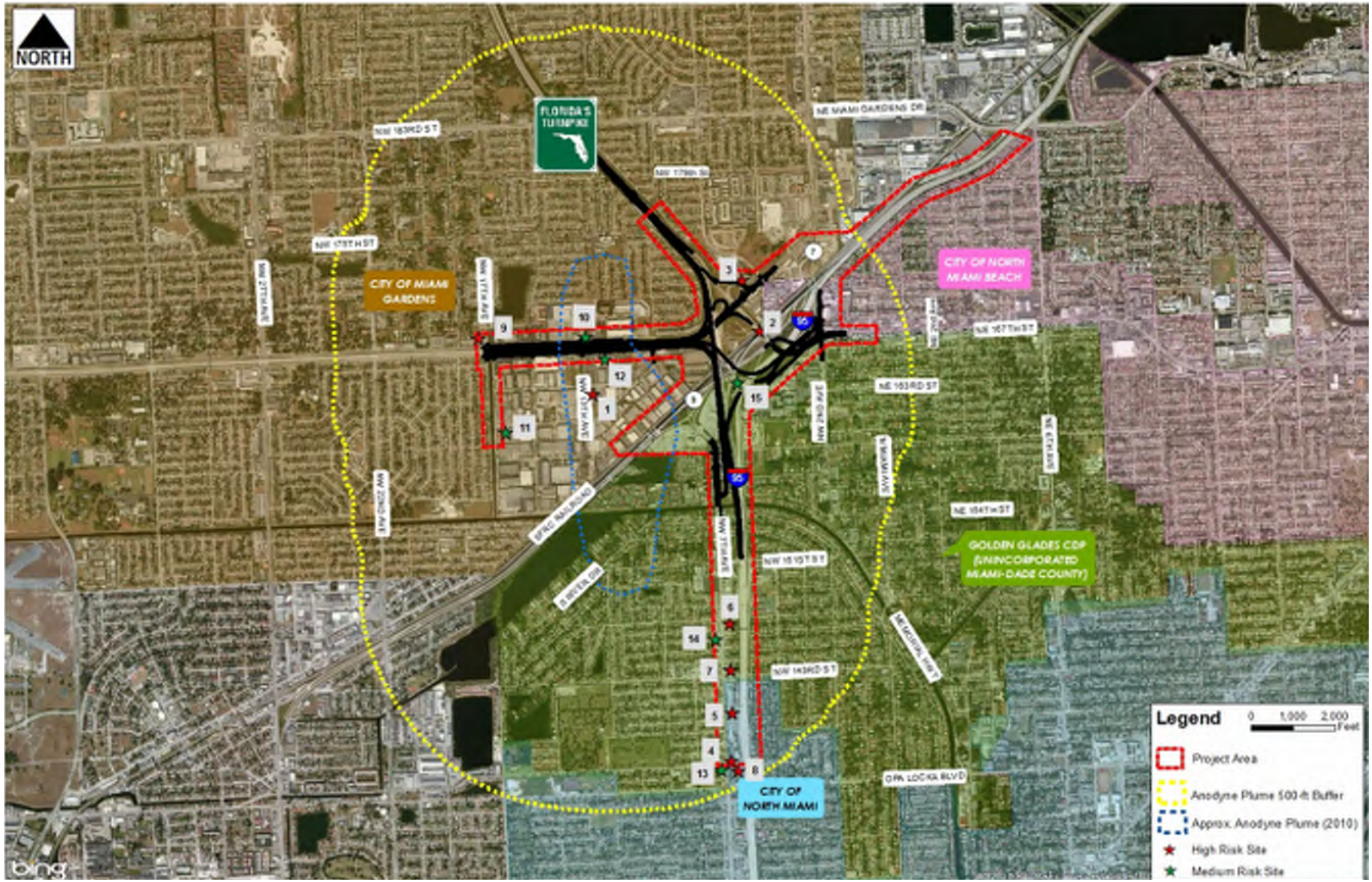


Figure 5-31 Potential Contamination Sites

5.5.9 Water Quality Impact

Possible long-term indirect impacts include water quality impacts to adjacent waters. With the construction of a new stormwater treatment system designed in accordance with the Miami-Dade County code and the SFWMD permitting standards, there will be no impacts in the quality of stormwater runoff after project completion. The Interim Build Alternatives will provide water quality treatment for all new impervious areas. In addition, part of the project design involves the restoration of stormwater treatment features impacted by the construction or rehabilitation activities associated with all the Interim Build Alternatives. The implementation of a new stormwater treatment system with all the Interim Build Alternatives will minimize secondary impacts to adjacent waters.

5.5.10 Noise Impacts

A GIS review identified several residential neighborhoods and healthcare facilities within 500-ft of the project study area. The noise sensitive areas with the greatest potential to be affected include the following single family neighborhoods (see **Figure 5-32**).

NSA-1. Single-family home neighborhood located west of NW 17th Avenue between NW 165th Street and SR 826/Palmetto Expressway

NSA-2. Single-family home neighborhood located west of the Turnpike Connector and north of SR 826/Palmetto Expressway

NSA-3. Single-family home neighborhood located west of I-95 between the Biscayne (C-8) Canal and NW 151st Street

NSA-4. Single-family home neighborhood located west of I-95 between NW 151st Street and Opa-Locka Blvd.

Existing noise barriers are located adjacent to these neighborhoods with the exception of the residential neighborhood located west of NW 17th Avenue. The noise sensitive area west of NW 17th Avenue (NSA-1) will be impacted by the proposed improvements from Interim Build Alternative 3A, 3B, and 3C due to the rerouted traffic from the industrial park to NW 17th Avenue. The single family areas located west of the Turnpike Connector (NSA-2) and also west of I-95 between the Biscayne (C-8) Canal and NW 151st Street (NSA-3) will be impacted by all of the proposed interim alternatives. The proposed reconstruction along I-95 southbound under Interim Build Alternatives 3B and 3C will impact the single-family home neighborhood located west of I-95 between NW 151st Street and Opa-Locka Blvd. (NSA-4). The existing noise walls on the west side of I-95 between the Biscayne Canal and Opa-Locka Blvd will be reconstructed to accommodate the proposed improvements.

Potential project-related impacts to noise and vibration sensitive land uses, as well as any measured proposals to abate the impacts, are addressed in the Noise Study Report prepared as part of this study.



Figure 5-32 Noise Sensitive Areas

5.5.11 Cultural Resource Assessment Survey (CRAS)

In order to comply with federal and state regulations, a Cultural Resource Assessment Survey (CRAS) was conducted to identify all historic and archaeological resources that may be affected by the project improvements. The Area of Potential Effect (APE) for this CRAS was established by considering the footprint of the proposed roadway improvements, right of way impacts and the potential effects these improvements could have on cultural resources. The CRAS is on file at the FDOT District Six Intermodal Systems Development (ISD) Office.

The CRAS' historic resources survey resulted in the identification of 187 historic resources within the APE. These resources include nine bridges, one canal, one railroad line segment, one parabolic arch, one gas pipeline facility, one historic district, and 173 buildings. Five previously recorded historic resources were identified: *Seaboard Air Line (CSX) Railroad (8DA10753), Bunche Park Historic District (8DA11613), Sunshine State Arch (8DA11167), K&A Diagnostic Medical Centers (8DA5388),* and *Biscayne/C-8 Canal (8DA6537).* One resource, *K&A Diagnostic Medical Centers* has been demolished. The remaining 183 resources identified are newly recorded.

Of the 187 identified historic resources, three (3) are considered eligible for listing on the National Register: *Seaboard Air Line (CSX) Railroad*, *Bunche Park Historic District*, and *Sunshine State Arch.* The remaining newly recorded resources, as well as the previously recorded *Biscayne/C-8 Canal,* are considered ineligible for listing in the National Register, either individually or as part of a historic district. These historic resources are identified in **Figure 5-33**.

No previously recorded archaeological sites were identified within the APE. In addition, no locally-designated archaeological sites or zones are located within one mile of the project's archaeological APE.

The CRAS was submitted to the FHWA/State Historic Preservation Office (SHPO) for review and eligibility concurrence on December 26, 2012; concurrence was provided by FHWA on January 28, 2013 and by the SHPO on February 8, 2013. The Section 106 Determination of Effects case study is in preparation, to evaluate the Recommended Alternative's proposed improvements in proximity to the National Register eligible resources identified during the CRAS.



Figure 5-33 Archaeological and Historic Sites

6. EVALUATION MATRIX

The evaluation of transportation projects to select the most desirable alternative is often based on a wide range of performance criteria (i.e., traffic operations and safety, environmental impacts, construction costs, drainage impacts, travel time reduction etc.). The evaluation methodology used in this study involves a two-step process using both comparative (qualitative) and multi-criteria (quantitative) analysis to determine the recommended alternative.

6.1 Comparative Analysis

A comparative (qualitative) analysis of the advantages and disadvantages for the interim build alternatives was conducted based on the engineering and environmental impacts among the alternatives discussed in the previous chapter. **Table 6-1** presents a summary of this analysis.

Table 6-1
Comparative Analysis of Interim Build Alternatives

Alternative	Advantages	Disadvantages
No-Build Alternative	• No roadway design and construction costs • No right of way acquisition cost • No utility impacts • No inconveniences to commuters and adjacent property owners due to construction maintenance of traffic (MOT) • No social, business and neighborhood impacts due to construction	• Traffic operations may continue to deteriorate resulting in more congestion • Decrease in air quality due to increase congestion • Increase in accident rates due to increased congestion may compromise safety • Inconsistent with FDOT and FTE Work Program • Does not meet the purpose and need of the project
Interim Build Alternative 3A	• Significant traffic operational improvements for SR 826 EB to I-95 NB and Florida's Turnpike SB to I-95 SB movements over No-Build • Potential safety benefits due to reduced congestion and improved mobility over No-Build • Lowest overall construction cost compared to Build Alternatives 3B, 3C and 4 • Lowest right of way impacts compared to Build Alternative 3B, 3C and 4 • Lowest structural and drainage impacts compared to Build Alternatives 3B, 3C and 4 • Minimal environmental impacts compared to Build Alternatives 3B, 3C and 4 • Potential to create construction jobs for South Florida economy • Consistent with FDOT and FTE work program	• Relocation required for the Florida Gas Transmission line along the south side of SR 826/Palmetto Expressway • Several design variation and exceptions required to preserve existing roadway facility • Improvements can only accommodate traffic demand up to 2030 interim year • Significant reconstruction required along I-95 SB to accommodate 2040 design year traffic demand • Impacts to utilities and drainage • May impact operations for Sunshine Industrial Park

Table 6-1
Comparative Analysis of Interim Build Alternatives

Alternative	Advantages	Disadvantages
Interim Build Alternative 3B	• Additional traffic operational improvements for SR 826 EB to I-95 NB and Florida's Turnpike SB to I-95 SB movements over Interim Build Alternatives 3A and 4 • Additional safety benefits due to reduced congestion and improved mobility over Interim Build Alternatives 3A and 4 • Lower construction cost compared to Build Alternatives 3C • Lower structural and drainage impacts compared to Build Alternatives 3C • Improved geometry alignments with few design variations and exceptions compared to Interim Build Alternatives 3A and 4 • Less additional construction required to accommodate 2040 traffic demand compared to Interim Build Alternatives 3A and 4 • Potential to create construction jobs for South Florida economy	• Higher construction cost than Build Alternatives 3A and 4 • Significant right of way impacts to several residential and commercial properties along I-95 southbound • Relocation required for the Florida Gas Transmission line along the south side of SR 826/Palmetto Expressway • Additional impact to drainage and utilities compared to Interim Build Alternatives 3A and 4 • Additional environmental impacts compared to Interim Build Alternatives 3A and 4 • Construction of express lane connection between Florida's Turnpike and 95 Express southbound flyover ramp still required to accommodate 2040 traffic demand • May impact operations for Sunshine Industrial Park
Interim Build Alternative 3C	• Express lane connection between Florida's Turnpike and 95 Express southbound flyover ramp accommodates 2040 traffic demand and provides additional traffic operational improvements over Interim Build Alternatives 3A, 3B and 4 • Additional safety benefits due to reduced congestion and improved mobility over Interim Build Alternatives 3A, 3B and 4 • Improved geometry alignments with few design variations and exceptions compared to Interim Build Alternative 3A and 4 • No additional construction required along I-95 SB to accommodate 2040 future traffic demand • Potential to create construction jobs for South Florida economy	• Highest overall construction cost among the four alternatives • Significant right of way impacts to several residential and commercial properties along I-95 southbound • Relocation required for the Florida Gas Transmission line along the south side of SR 826/Palmetto Expressway • Additional impact to drainage and utilities compared to Interim Build Alternatives 3A and 4 • Additional environmental impacts compared to Interim Build Alternatives 3A and 4 • May impact operations for Sunshine Industrial Park

Table 6-1
Comparative Analysis of Interim Build Alternatives

Alternative	Advantages	Disadvantages
Interim Build Alternative 4	• Relocates and maintains NW 12th Avenue on-ramp to I-95 SB • Potential safety benefits due to reduced congestion and improved mobility over No-Build • Lower construction cost compared to Build Alternatives 3B and 3C • Less right of way impacts compared to Build Alternative 3B and 3C • Lowest structural and drainage impacts compared to Build Alternatives 3B and 3C • Minimal environmental impacts compared to Build Alternatives 3B and 3C • Potential to create construction jobs for South Florida economy • Consistent with FDOT and FTE work program	• Relocation required for the Florida Gas Transmission line along the south side of SR 826/Palmetto Expressway • Several design variation and exceptions required to preserve existing roadway facility • Improvements can only accommodate traffic demand up to 2030 interim year • Significant reconstruction required along I-95 SB to accommodate 2040 design year traffic demand • Impacts to utilities and drainage • Highest impact to Park & Ride East Lot • Additional right of way required within Sunshine Industrial park

6.2 Multi-criteria Evaluation Methodology

The Multi-criteria Evaluation methodology involves quantitative analysis to combine the different impacts for each alternative. These performance criteria are not all monetized and usually have different dimensions (units). Consequently, each performance criteria has to be converted to a dimensionless unit.

Several techniques have been proposed for decision making when multiple criteria with both monetary and non-monetary dimensions are involved. For this PD&E study, the Impact Index Method (*Transportation Decision Making – Principles of Project Evaluation and Programming*, Sinha & Labi, 2007) was used to estimate the combined effect of the various performance criteria for each alternative. The Impact Index Method involves establishing weights for each of the performance criterion and scaling or establishing a common unit of measurement so that all the performance criteria can be expressed in commensurable units to enable combination or comparison of the performance criteria.

The first task in this approach is establishing weights for the different performance criteria. The weights assigned to each performance criteria reflect the importance decision makers attach to the different criteria. For each performance criterion, the relative weight (Rj) is given by.

$$R_j = \frac{w_j}{\sum_{j=1}^{J} |w_j|}$$

Where

R_j = Relative weight of each performance criterion.

w_j = Arbitrary weight assigned for each performance criterion by decision makers.

J = 1, 2,…., J (total number of performance criterion under consideration).

For this study, identical weights will be used for the different performance criterion categories to ensure that each factor is of equal importance as follows.

- Engineering – 20%
- Traffic Operation and Safety – 20%
- Socio-Economic – 20%
- Environmental – 20%
- Project Cost – 20%

A negative sign is assigned to the weight if higher measured values for the performance criterion indicate a more negative effect.

The next task in this approach is scaling of the impacts. This involves converting each criterion from its original dimension to one that is uniform and commensurate across all the performance criteria. For each performance criteria, the scale factor is given by:

$$S_j = \frac{1}{Max(X_{1j}, X_{2j}, ..., X_{Nj})}$$

Where

S_j = Scale factor for each performance criterion

X_{ij} = Measured impact of each performance criterion under each alternative. For example, right of way acquisition (in acres) for each alternative

N = number of alternatives considered

The measured values for the performance criteria categories will be obtained from the engineering and environmental evaluation of the build alternatives developed for the project.

After all the performance criteria have been weighted and scaled, the product of the relative weight (R_j), scale factor (S_j) and the measured impact (X_{ij}) for each performance criterion under each alternative is computed. This is a dimensionless value which is summed up for the various performance criteria to obtain the Impact Index Value for each alternative and is expressed as:

$$I = \sum_{j=1}^{J} R_j S_j X_{ij}$$

The alternative with the highest Impact Index Value (less negative) is the most favorable alternative.

6.3 Performance Evaluation Criteria

Each Build Alternative was evaluated based on several engineering, traffic operations and environmental performance criteria. Construction costs and right of way impacts were also factored into this comparative analysis. The various criteria used in the evaluation are summarized below:

6.3.1 Engineering Impacts

- **Geometric Compliance to Design Controls:** Assesses the compliance of the Build alternatives with FDOT design standards (2013) and Plans Preparation Manuals (PPM) and the need for variations.
- **Utility and Facility Impacts:** Measures the utility impacts of the alternatives. This includes potential conflicts and relocation of the utility lines that are located within the project study area.
- **Multi-modal (Transit/Pedestrian/Bicycle Facilities):** Measures how a particular alternative enhances the ability to promote alternate forms of transportation such as transit, pedestrian and bicycle facilities.

6.3.2 Traffic Operation and Safety Impacts

- **Total Delay**: This criterion measures the ability of an alternative to provide adequate capacity and minimize travel time delay through the corridor and to the various access points within the corridor.
- **Average Speed**: This criterion measures the ability of an alternative to provide adequate travel speed through the corridor and to the various access points within the corridor.
- **Total Travel Time**: This criterion measures the ability of an alternative to provide adequate travel time through the corridor and to the various access points within the corridor.
- **Safety Benefits:** This criterion provides consideration for an alternative's physical, geometric and operational features identifying to what extent they would minimize actual or potential safety hazards.

6.3.3 Socio-Economic Impacts

- **Right of Way/Business Impacts:** This criterion addresses variations in right of way requirements and business impacts among the different alternatives.
- **Economic & Employment Impacts:** This criterion identifies whether an alternative impacts the local economy. The measure of economic impact is the expected number of jobs created by the construction activity. This is based on FHWA estimates of 16.8 jobs per million dollars spent (see **Section 5.5.2**).

- **Visual & Aesthetics:** This criterion measures an alternative's potential effect on the aesthetics of the surrounding communities based on the landscaping improvement cost.

- **Inconvenience for Residents and Businesses:** This criterion measures an alternative's inconvenience to the mobility of residents and businesses.

6.3.4 Environmental Impacts

- **Wetlands/Surface Water Impacts:** This criterion measures an alternative's potential effect on surface water resources within the project limits.

- **Noise & Air Impacts:** This criterion measures the ability of an alternative to meet pre-established noise and air quality standards and the additional number of sites that would be impacted by the proposed project.

- **Contamination:** This criterion measures the potential impact on existing or potential hazardous material sites and or generators.

- **Cultural / Historic / Archaeological:** Measures the degree of impact associated with historic structures or archaeological sites that may be caused by the development of a specific corridor or concept.

6.3.5 Project Cost

- **Right of Way Costs:** This criterion compares each alternative based on right of way costs.

- **Preliminary Construction:** This criterion compares each alternative based on construction costs.

- **Engineering Design:** This criterion compares each alternative based on design costs.

- **Construction Engineering & Inspection:** This criterion compares each alternative based on Construction Engineering & Inspection costs.

6.4 Project Alternatives Evaluation Matrix

The evaluation matrix for the project alternatives based on the multi-criteria evaluation methodology is provided in **Table 6-2**.

Table 6-2
Evaluation Matrix for Project Alternatives

Performance Criteria	Units	Weights (wi)	Relative Weights (Rj)	Scale Factor (Sj)	Project Alternatives									
					Measured Impact (Xij)					Impact Index Values (I)				
					No Build	Interim Build Alt. 3A	Interim Build Alt. 3B	Interim Build Alt. 3C	Interim Build Alt. 4	No Build	Interim Build Alt. 3A	Interim Build Alt. 3B	Interim Build Alt. 3C	Interim Build Alt. 4
Engineering														
Geometric Compliance to Design Controls	Locations	-0.067	-0.33	0.029	35	12	12	12	11	-0.333	-0.114	-0.114	-0.114	-0.105
Utility and Facility Impacts	Num	-0.067	-0.33	0.023	0	34	43	44	39	0.000	-0.258	-0.326	-0.333	-0.295
Multi-modal (Transit /Pedestrian / Bicycle Facilities)	Index	0.067	0.33	0.200	1	3	4	5	4	0.067	0.200	0.267	0.333	0.267
Traffic Operation and Safety														
Total Delay	veh-Hours	-0.050	-0.25	0.000	10,846	3,975	4,003	2,822	4,247	-0.250	-0.092	-0.092	-0.065	-0.098
Average Speed	mph	0.050	0.25	0.025	19.55	35.53	35.50	39.31	34.89	0.124	0.226	0.226	0.250	0.222
Travel Time	min/mile	-0.050	-0.25	0.325	3.08	1.69	1.69	1.53	1.71	-0.250	-0.137	-0.137	-0.124	-0.139
Potential Crash Reduction (CRF)	%	0.050	0.25	0.029	-25	30	30	35	30	-0.179	0.214	0.214	0.250	0.214
Socio-Economic														
Business Relocation	Num	-0.050	-0.25	0.053	0	2	19	19	6	0.000	-0.026	-0.250	-0.250	-0.079
Economic & Employment Impacts	Jobs	0.050	0.25	0.000	0	1771	3084	3597	2621	0.000	0.123	0.214	0.250	0.182
Aesthetics & Landscaping (4% of Construction Cost)	$ Million	0.050	0.25	0.159	0	3.47	5.24	6.30	3.80	0.000	0.137	0.208	0.250	0.151
Inconvenience for Residents and Businesses	Index	0.050	0.25	0.200	1	2	4	4	5	0.050	0.100	0.200	0.200	0.250
Environmental														
Wetlands/Surface Water Impacts	Acres	-0.050	-0.25	2.174	0	0.27	0.46	0.46	0.16	0.000	-0.147	-0.250	-0.250	-0.087
Noise Impacts	Sites	-0.050	-0.25	0.250	0	3	4	4	2	0.000	-0.188	-0.250	-0.250	-0.125
Contamination	Sites	-0.050	-0.25	0.071	0	8	14	14	8	0.000	-0.143	-0.250	-0.250	-0.143
Cultural / Historic / Archaeological	Index	-0.050	-0.25	0.333	3	3	3	3	3	-0.250	-0.250	-0.250	-0.250	-0.250
Project Cost														
Right of Way Costs	$ Million	-0.050	-0.25	0.022	0	5.63	32.55	32.55	45.75	0.000	-0.031	-0.178	-0.178	-0.250
Preliminary Construction	$ Million	-0.050	-0.25	0.006	0	86.64	131.07	157.57	94.98	0.000	-0.137	-0.208	-0.250	-0.151
Engineering Design	$ Million	-0.050	-0.25	0.083	0	6.57	9.98	12.00	7.64	0.000	-0.137	-0.208	-0.250	-0.159
Construction Engineering & Inspection	$ Million	-0.050	-0.25	0.083	0	6.57	9.98	12.00	7.64	0.000	-0.137	-0.208	-0.250	-0.159
Sum of Scaled Impacts										**-1.021**	**-0.795**	**-1.392**	**-1.281**	**-0.754**
Ranking										**3**	**2**	**5**	**4**	**1**

6.5 Selection of Recommended Alternative

Based on the evaluation and analysis of several key evaluation parameters including horizontal and vertical alignment, right of way impacts, construction cost, potential utility impacts, bridge analysis, traffic operations and safety, maintenance of traffic, environmental impacts and transit considerations, in addition to extensive discussions with both FDOT and FTE management, the Interim Build Alternative 4 was selected as the Recommended Interim Build Alternative. The Recommended Interim Build Alternative offers several advantages when compared with the No-Build Alternative including the following:

- **Enhanced Safety:** The safety analysis prepared as part of this study identified five fatal crashes located along the existing SR 826/Palmetto Expressway eastbound ramp to I-95 southbound or SR 7/US 441, which leads to I-95 northbound. The proposed direct connection flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound and widening of the Turnpike Connector southbound lanes will minimize the weaving condition within these roadway segments. The proposed design also eliminates weaving maneuvers by barrier separating NW 12th Avenue on-ramp from three-lane off-ramp from SR 826 eastbound to I-95 northbound and southbound to potentially reduce the frequent angle crashes as well as the resulting fatalities from this crash type. This will potentially mitigate the crash rate and enhance overall public safety within the interchange.
- **Reduced Travel Time and Delays:** The traffic operational analysis performed as part of this study indicated that, for the 2030 analysis year, the improvements proposed as part of Interim Build Alternative 4 will reduce the travel time for the SR 826 eastbound to I-95 northbound movement by 64% and 50% during the AM and PM peak periods respectively. Similarly, for the Florida's Turnpike southbound to I-95 southbound movement, the travel time will be reduced by 67% and 78% during the AM and PM peak periods respectively. These improvements will significantly alleviate traffic congestion, reduce delays and improve mobility for these critical movements.
- **Emergency Evacuation:** The improved mobility resulting from the improvements proposed as part of the Recommended Interim Build Alternative will also facilitate traffic movement during emergency evacuation periods between three freeways (I-95, SR 826 and Florida's Turnpike) and two major principal arterials (SR 9 and SR 7/US-441), all of which are designated evacuation routes for Miami-Dade County residents. In addition, the traffic operational analysis shows significant travel time reduction from either Florida's Turnpike or SR 826/Palmetto Expressway to the NW 2nd Avenue and NW 167th Street intersection. This intersection provides access to the emergency entrance for the Jackson North Medical Center.

Based on the above evaluation and the documentation presented in this report, Interim Build Alternative 4 meets the overall project objectives of this PD&E study as well as the purpose and need for this project.

7. RECOMMENDED ALTERNATIVE

7.1 Design Details of Recommended Alternative

The Recommended Interim Build Alternative (Interim Build Alternative 4) involves the construction of a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound. A new flyover ramp for the SR 826/Palmetto Expressway eastbound to I-95 northbound will also be provided. The new flyover ramp begins from the SR 826/Palmetto Expressway eastbound to I-95 southbound ramp and continues over the Turnpike Connector and underneath the I-95 Express Flyover Ramps. It then goes over I-95 and merges with the existing SR 7/US 441 northbound to I-95 northbound ramp before joining I-95 using the existing on-ramp alignment.

The Recommended Interim Build Alternative maintains the NW 12th Avenue on-ramp which provides access from the Sunshine Industrial Park to I-95 southbound and northbound with connectivity to Florida's Turnpike through SR 7/US 441 (See **Appendix J**). In order to eliminate the current weaving issue along the SR 826 mainline, the NW 12th Avenue on-ramp will not connect directly to the SR 826 mainline. Instead, it will be relocated and connected to the three lane off-ramp to I-95 northbound and southbound as a barrier separated auxiliary lane. The provision of the NW 12th Avenue on-ramp will require the removal of the eastbound frontage road east of NW 10th Avenue. The warehouse property on the southwest quadrant of the interchange within the Sunshine Industrial Park will be acquired due to the removal of the only access road for this property.

The Turnpike Connector southbound lanes will be reconstructed to shift the alignment to the west in order to accommodate a future direct express lane connection from the Florida's Turnpike southbound to the I-95 southbound express lanes. The Turnpike Connector southbound lanes will also be widened to accommodate two lanes from the Florida's Turnpike and three lanes from SR 826 eastbound to I-95 southbound. In order to increase the weaving distance along the Turnpike Connector southbound lanes, the off-ramp to SR 7/US 441 will be relocated approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection.

The reconstruction along the Turnpike Connector will require widening of the Turnpike Connector southbound bridge over SR 826 (870601) and replacement of the southbound bridges over the SFRC (870159) and SR7/US 441 (870045). An additional auxiliary lane is also provided along I-95 southbound from the Golden Glades Interchange (GGI) to NW 151st Street to provide additional capacity. This will require widening of the I-95 southbound bridge over the C-8/Biscayne Canal (870348). The entrance to the I-95 southbound express lanes will be moved 300-ft south to accommodate weaving maneuvers from SR 826 and Florida's Turnpike to the I-95 Express southbound lanes.

Texas U-Turns (matching the existing bridge vertical clearances) will be provided underneath the SR 826/Palmetto Expressway mainline bridges over NW 17th Avenue and NW 12th Avenue to enhance access and mobility for the adjacent residents and the

Sunshine Industrial Park. Along the SR 826/Palmetto Expressway westbound frontage road, the two through lanes from NW 12th Avenue are maintained. In addition, exclusive westbound right turn and left turn lanes are provided at the NW 17th Avenue westbound ramp terminal. On the eastbound frontage road, the two-way segment between NW 17th Avenue and NW 16th Court will be converted into a one-way road and the intersection at NW 16th Court will also be converted to a right-in right-out configuration.

The existing unsignalized single left turn lane from SR 826/Palmetto Expressway eastbound to Florida's Turnpike northbound will be upgraded to a signalized intersection with double left turn lanes. This will require provision of an auxiliary lane along SR 826/Palmetto Expressway eastbound from the Turnpike Connector overpass to the NW 7th Avenue intersection and widening of the Turnpike northbound on-ramp to accommodate the additional left turn lane. Capacity improvements are also provided along the westbound frontage road between NW 12th Avenue and NW 17th Avenue. An additional northbound left turn lane is also provided at the NW 2nd Avenue and NW 167th Street intersection to improve both the intersection operations and traffic flow along NW 167th Street.

7.1.1 Proposed Typical Section

The proposed typical sections for the freeways and interchange ramp improvements under the Recommended Interim Build Alternative are provided in the PD&E conceptual design plans prepared as part of this study and provided under a separate cover.

7.1.2 Access Management & Intersection Concepts

7.1.2.1 NW 12th Avenue On-ramp

The proposed improvements under the Recommended Interim Build Alternative maintains the NW 12th Avenue on-ramp; however, in order to eliminate the current weaving concerns along the SR 826 mainline, the ramp will not connect directly to SR 826 (see **Figure 7-1**). Instead, the ramp will be relocated by connecting to the three lane off-ramp to I-95 northbound and southbound as a barrier separated auxiliary lane to prevent weaving maneuvers from NW 12th Avenue to the new I-95 northbound flyover ramp.

The typical section in this area includes two travel lanes from SR 826 eastbound, one travel lane from the NW 12th Avenue on-ramp, and a gore between the ramps. An auxiliary lane will also be added to the Turnpike Connector southbound lanes to accommodate the additional lane from the NW 12th Avenue ramp. The weaving distance will be increased by relocating the off-ramp to SR 7/US 441 approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection. The provision of the NW 12th Avenue on-ramp will require the removal of the eastbound frontage road east of NW 10th Avenue. The warehouse property on the southwest quadrant of the interchange within the Sunshine Industrial Park will be acquired due to the removal of the only access road for this property.

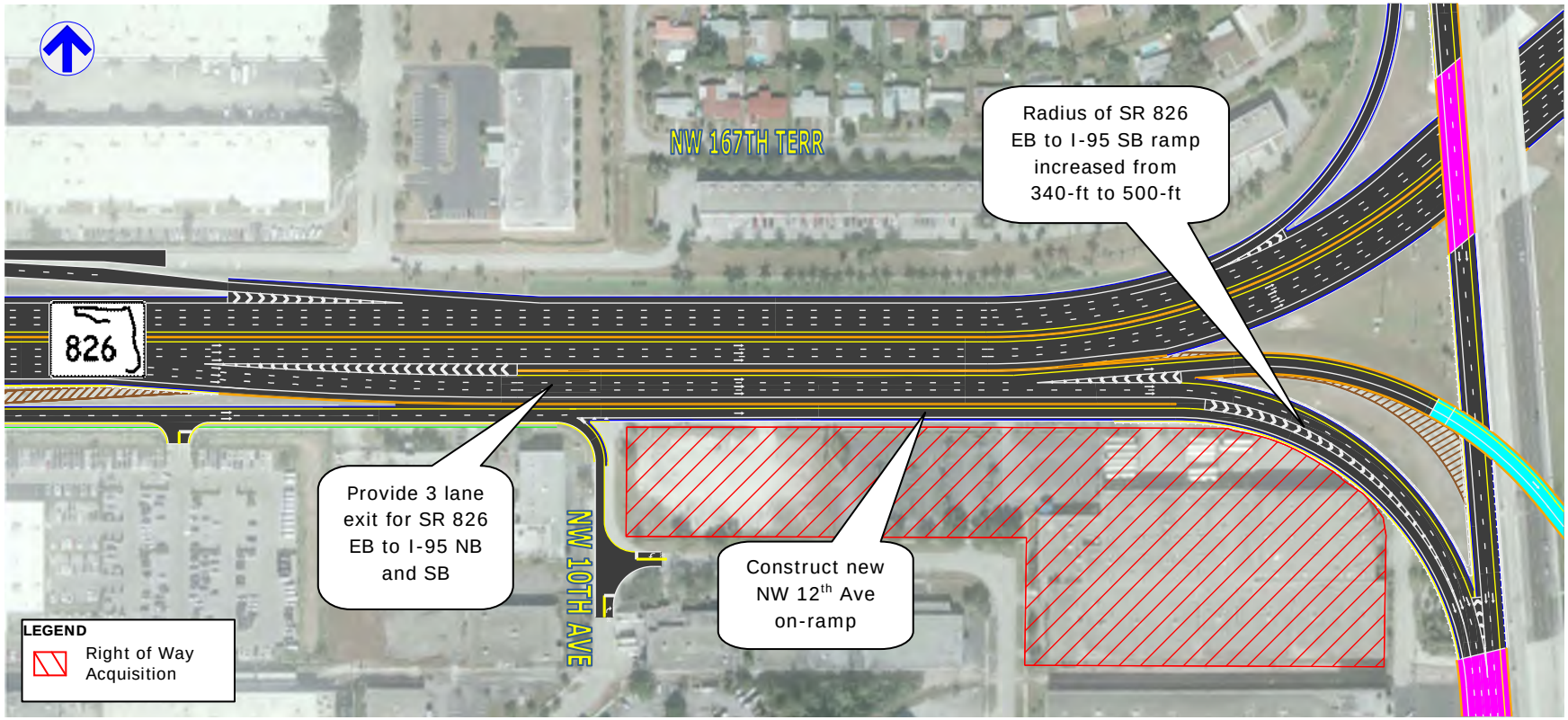


Figure 7-1 New NW 12th Avenue on-ramp

7.1.2.2 Texas U-Turns at NW 17th Avenue and NW 12th Avenue Interchanges.

Texas U-Turns (matching the existing bridge vertical clearances) will be provided underneath the SR 826/Palmetto Expressway mainline bridges over NW 17th Avenue and NW 12th Avenue to enhance access and mobility for the adjacent residents and the Sunshine Industrial Park. Figures **7-2** and **7-3** illustrates the location and geometry of the Texas U-Turns at NW 17th Avenue and 12th Avenue interchanges respectively.

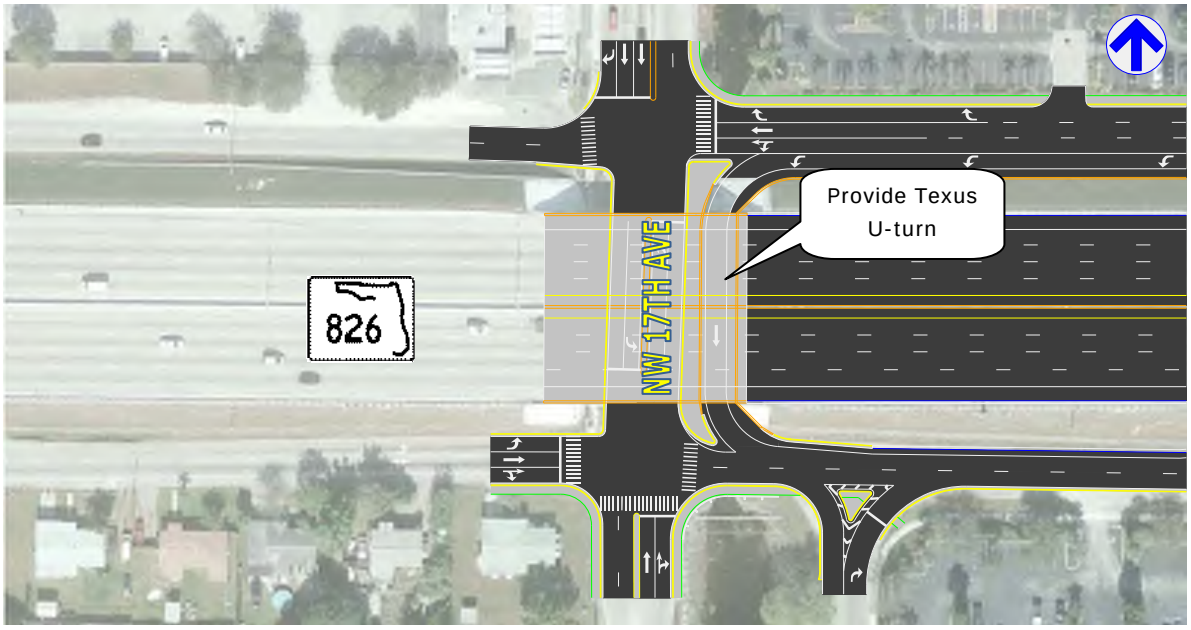


Figure 7-2 Texas U-Turn at NW 17th Avenue

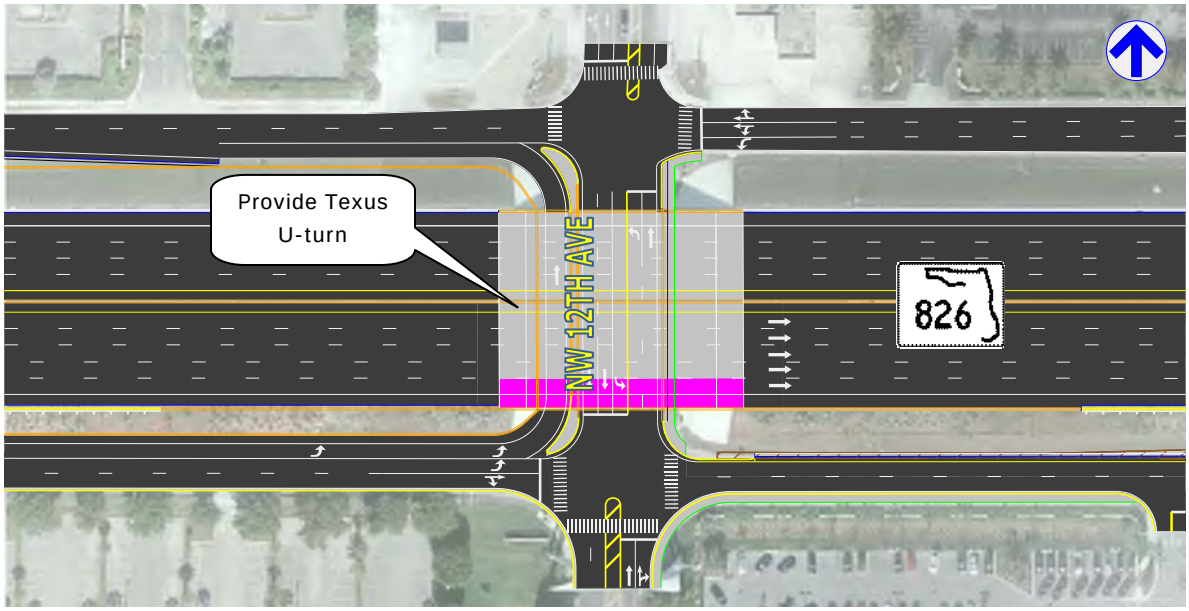


Figure 7-3 Texas U-Turn at NW 12th Avenue

7.1.2.3 SR 826 Frontage Roads at NW 17th Avenue

Figure 7-4 shows the conceptual layout of the proposed improvements for the SR 826 frontage roads at the NW 17th Avenue interchange under the Recommended Interim Build Alternative. On the eastbound frontage road, the two-way segment between NW 17th Avenue and NW 16th Court will be converted into a one-way road. The intersection at NW 16th Court will also be converted to a right-in right-out configuration to improve traffic operations at this interchange. On the westbound frontage road, an exclusive right turn lane is provided for the westbound to northbound movement at the westbound ramp terminal. In additional, the inside westbound lanes merging with the off-ramp will continue as a full lane. The proposed improvements will improve operations and enhance safety at this location.

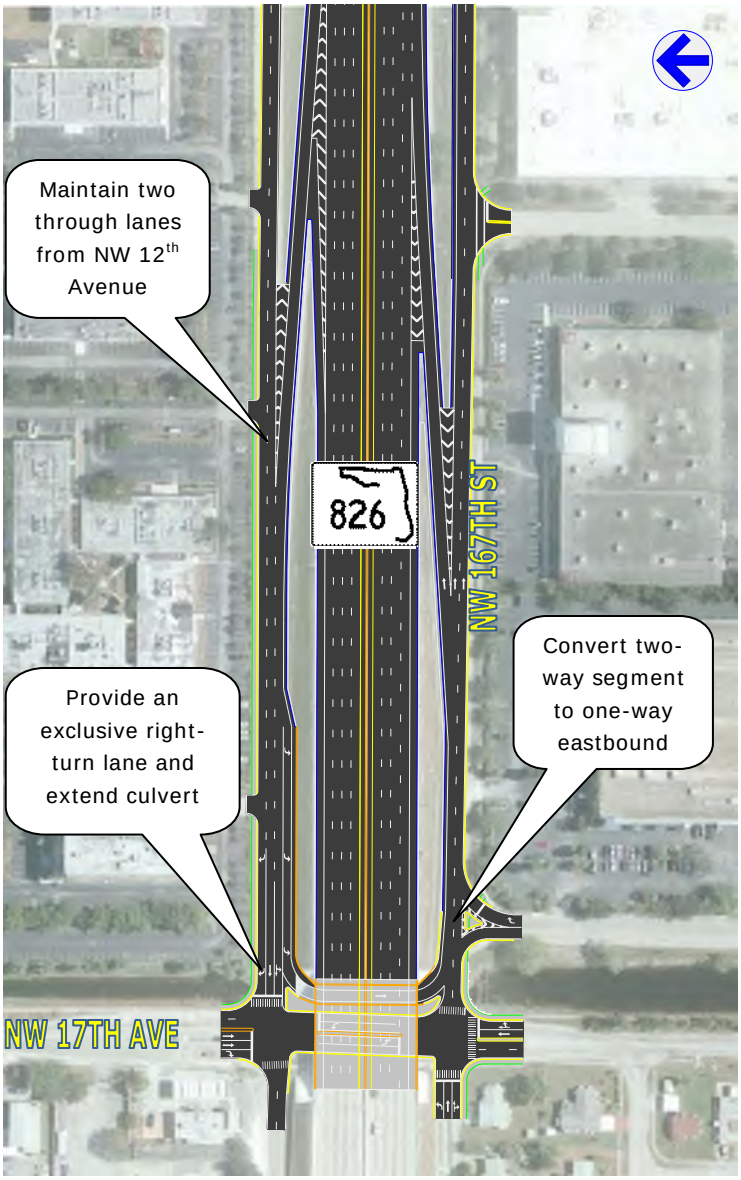


Figure 7-4 NW 17TH Avenue and NW 167TH Street

7.1.2.4 SR 826 Eastbound to Florida's Turnpike Northbound

Figure 7-5 shows the proposed improvements for the SR 826/Palmetto Expressway eastbound to Florida's Turnpike northbound intersection under the Recommended Interim Build Alternative. The existing unsignalized single left turn lane from SR 826/eastbound to Florida's Turnpike northbound will also be upgraded to a signalized intersection with double left turn lanes. The adjacent signalized intersection at NW 7th Avenue extension is located approximately 500-ft which does not meet does not meet the recommended 1,320-ft for access class 5 (see **Table 7-1**). Therefore, a design variation is required for the proposed signal spacing. The proposed dual left turn lanes will improve operations and mobility and enhance safety at this location.

Table 7-1
FDOT Access Management Standards

Access Class	Medians "Restrictive" physically prevent vehicle crossing. "Non-Restrictive" allow turns across at any point	Connection Spacing (feet)		Median Opening Spacing (feet)		Signal Spacing (feet)
		>45 mph	≤45 mph	Directional	Full	
2	Restrictive with Service Roads	1320	660	1,320	2,640	2,640
3	Restrictive	660	440	1,320	2,640	2,640
4	Non-Restrictive	660	440			2,640
5	Restrictive	440	245	660	***2,640/1,320**	***2,640/1,320**
6	Non-Restrictive	440	245			1,320
7	Both Median Types	125		330	660	1,320

* 2640 feet for >45 mph; 1320 feet for ≤45 mph

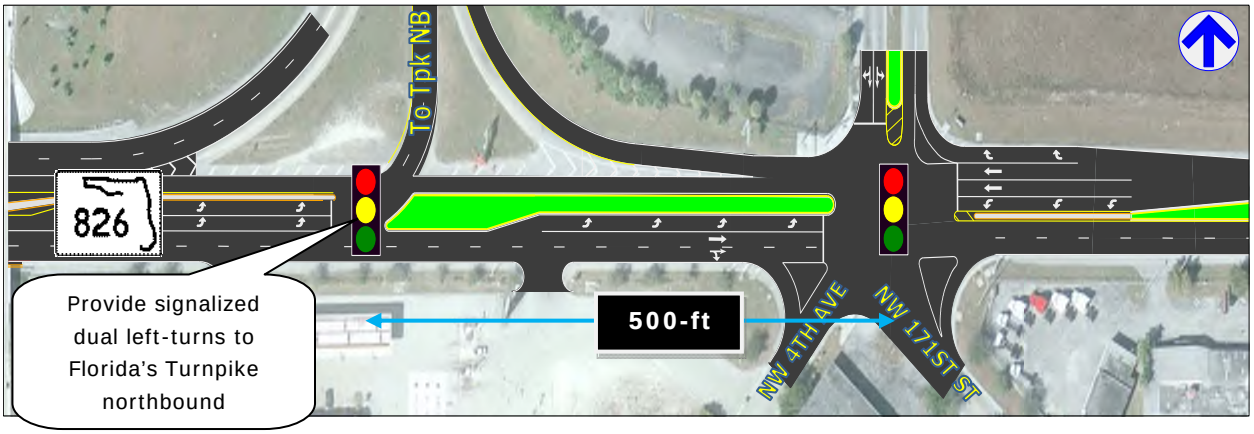


Figure 7-5 SR 826 EB and NW 7th Avenue Extension

7.1.2.5 Turnpike Connector southbound off-ramp to SR 7/US 441

Figure 7-6 shows the new configuration of the proposed off-ramp from southbound Turnpike Connector to SR 7/US 441 under the Recommended Interim Build Alternative. The proposed THREE lane off-ramp leads to a signalized intersection with an exclusive left turn lane, a shared left-right turn lane, and an exclusive right-turn lane. The exclusive right-turn lane is provided as a free-flow operational lane. The relocated ramp terminal signalized intersection is approximately 1700-ft south of the park and ride signalized intersection and approximately 1600-ft north of the NW 151st Street intersection. This meets the signal spacing requirements for the SR 7 corridor.

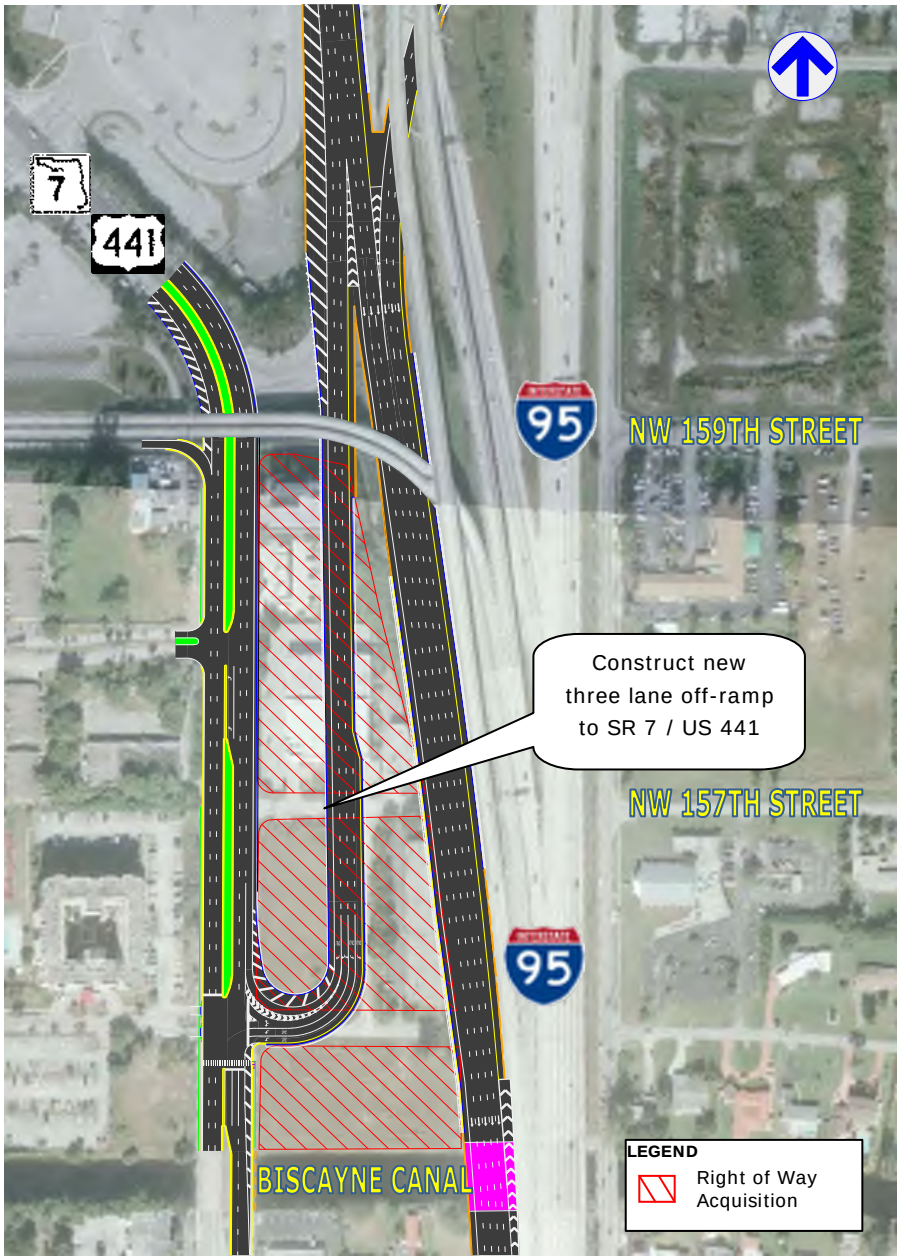


Figure 7-6 Turnpike Connector southbound off-ramp to SR 7/US 441

7.1.2.6 NW 2nd Avenue and NW 167th Street

Figure 7-7 shows the conceptual layout of the proposed modifications at the signalized intersection at NW 2nd Avenue and NW 167th Street under the Recommended Interim Build Alternative. The proposed improvements maintains all the movements at this intersection are and provides dual left turn lanes for the northbound to westbound movement. Approximately 15-ft of right of way will be required on the west side of the roadway to accommodate the proposed improvements. The proposed improvements will further improve traffic operations at this critical intersection within the interchange. This will also enhance the operations of emergency vehicles which use this intersection to access the emergency entrance at the Jackson North Memorial Hospital.

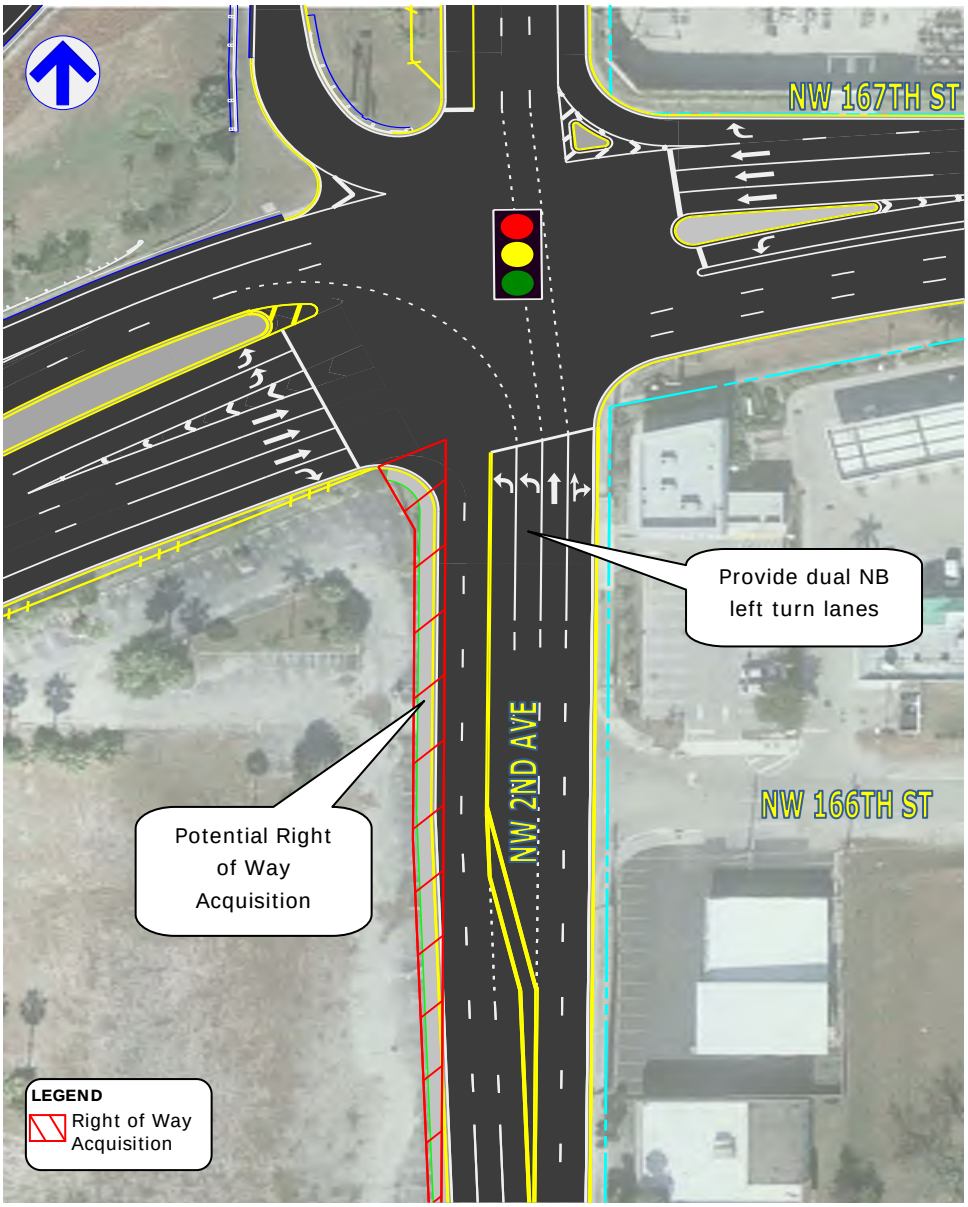


Figure 7-7 NW 2nd Avenue and NW 167th Street

7.1.2.7 I-95 Express Lanes Southbound Entrance

Figure 7-8 shows the conceptual layout of the proposed modifications to the I-95 southbound express lanes entrance. The addition of an auxiliary lane along I-95 southbound from the GGI to NW 151st Street to accommodate the additional lane from the Turnpike Connector requires the I-95 SB entrance to the express lanes to be relocated approximately 300-ft south in order to improve the weaving maneuvers from Florida's Turnpike to the I-95 express lanes.



Figure 7-8 Relocation of I-95 Southbound Express Lane Entrance

7.1.3 Design Variations and Exceptions

Based on the preliminary design performed as part of the PD&E study, it is anticipated that the following design variations and exceptions will be necessary in order to implement the proposed improvements under the Recommended Interim Build Alternative. These would result in reduced right of way needs as well as potential cost savings without compromising safety. **Table 7-2** and **Table 7-3** summarizes the design variation and exceptions identified for the Recommended Interim Build Alternative. The locations of the design variations and exceptions are depicted in **Figure 7-9** and **7-10**.

The design exception for the substandard vertical clearance at the SR 826/Palmetto Expressway bridge over NW 17th Avenue and NW 12th Avenue as well as the design variation for the substandard median and shoulder widths along SR 826/Palmetto Expressway mainline will be upgraded to meet the design standards as part of the Ultimate Build improvements. As this time, the segment of SR 826 between NW 17th Avenue and GGI will be reconstructed to upgrade these deficient design elements.

Table 7-2
Design Variations for Recommended Interim Build Alternative

#	Design Element	Location / Description	Existing	Proposed	Criteria	Comment
1	Cross Slope	A. 4-5 lanes sloping outside along SR 826 mainline	3-4 lanes sloping outside	4-5 lanes sloping outside	PPM: Max. 3 lanes sloping in same direction AASHTO: More than 3 lanes sloping in same direction	Maintain Existing Condition for Interim Build. Upgraded for Ultimate Build to PPM Standards.
		B. 5 lanes sloping outside along I-95 SB mainline	4-5 lanes sloping outside	5 lanes sloping outside		
2	Median Width	A. 16-ft median width along SR 826 mainline	16-ft	16-ft	PPM: 26-ft AASHTO: 22-ft	Maintain Existing for Interim Build. Upgraded for Ultimate Build to PPM Standards.
3	Vertical Alignment	A. Reduced vertical curve length for 3 curves along I-95 SB mainline	300-ft Min	300-ft Min	PPM: Sag800-ft, Crest 1000-ft AASHTO: L=KA	Maintain Existing Profile for Interim Build.
		B. Reduced vertical K-values for 2 curves along SR 826 mainline	200 Min	200 Min	PPM: 245-ft AASHTO:151-ft	Maintain Existing Profile for Interim Build. Upgraded for Ultimate Build to PPM Standards.
4	Horizontal Alignment	A. Reduced horizontal curve length for one curve along I-95 SB mainline	765-ft	685-ft	PPM: 900-ft AASHTO:900-ft	Required for widening along I-95 SB without impacts to 95 Express flyover piers.
5	Stopping Sight Distance	A. Reduced vertical stopping sight distance for two curve along SR 826 mainline	PPM: 535-ft AASHTO: 689-ft	PPM: 535-ft AASHTO: 689-ft	PPM: 570-ft AASHTO:570-ft	Maintain existing profile for Interim Build. Upgraded for Ultimate Build to PPM Standards.
6	Vertical Clearance	A. Reduced vertical clearance for SR 826 over NW 12th Ave & NW 17th Ave	14.3-ft & 14.1-ft Min	14.3-ft & 14.1-ft Min	PPM: 16.5-ft AASHTO: 14.0-ft	Maintain Existing for Interim Build. Upgraded for Ultimate Build to PPM Standards



Figure 7-9 Recommended Interim Build Alternative- Design Variations

Table 7-3
Design Exceptions for Recommended Interim Build Alternative

#	Design Element	Location / Description	Existing	Proposed	Criteria	Comment
1	Lane Width	A. 11-ft Lanes widths along I-95 Mainline	12-ft	11-ft	PPM: 12-ft AASHTO: 12-ft	Reduced lane width to minimize impacts. Consistent with existing I-95 lane width
		B. 11-ft Lanes widths along SR 826/NW 7th Ave Ext. EB	12-ft	11-ft	PPM: 12-ft AASHTO: 12-ft	Reduced lane width to minimize impacts.
2	Shoulder Width	A. 2.5-ft outside shoulder width along NW 7th Avenue Ext.	10-ft	2.5-ft Min	PPM: 12-ft AASHTO: 10-ft	Maintain existing condition to avoid impact to existing bridge
		B. 7-ft inside shoulder width along SR 826 mainline	7-ft	7-ft	PPM: 12-ft AASHTO: 10-ft	Maintain existing condition to minimize R/W impacts
		C. 6-ft min inside and outside shoulder widths along I-95 SB mainline	6-ft Min	6-ft Min	PPM: 12-ft AASHTO: 10-ft	Maintain existing condition to avoid impacts to existing bridges
3	Stopping Sight Distance	A. Reduced horizontal stopping sight distance for one curve along I-95 SB mainline	406-ft Min	406-ft Min	PPM: 645-ft AASHTO: 570-ft	Required for widening along I-95 SB without impacts to 95 Express flyover piers
		B. Reduced vertical stopping sight distance for one curve along I-95 SB mainline	PPM: 386-ft AASHTO: 455-ft	PPM: 386-ft AASHTO: 455-ft	PPM: 645-ft AASHTO: 570-ft	Maintain existing profile for Interim Build. Upgraded for Ultimate Build to PPM Standards
4	Super-elevation	A. Reduced superelevation for one curve along I-95 southbound mainline	0.072	0.072	PPM: 0.093 AASHTO: 0.093	Maintain Existing Condition to avoid impacts to existing bridge clearances
5	Vertical Alignment	A. Reduced vertical curve K-value and vertical curve length for three curves along I-95 SB mainline	Sag 114-ft, Crest 92-ft	Sag 114-ft, Crest 92-ft	PPM: Sag 157-ft, Crest 313-ft AASHTO: Sag 136-ft, Crest 151-ft	Maintain existing profile for Interim Build. Upgraded for Ultimate Build to PPM Standards



Figure 7-10 Recommended Interim Build Alternative- Design Exceptions

7.2 Traffic Operational Analysis

7.2.1 Future Annual Average Daily Traffic Volumes

Future daily traffic forecasts (AADTs) were developed for the following analysis years: opening year 2018, interim year 2030 and design year 2040. Traffic forecasts were based on SERPM 6.5 regional model. A sub-area model refinement was performed to improve model forecasting within study limits. One No Build and one Build model were developed for each analysis year. Future SERPM models were created by adjusting zonal (population, employment, school) and network data for each analysis phase using updated information obtained from State and private sources such as the Bureau of Economic and Business Research (BEBR), FDOT work plans, Miami- Dade MPO, and county and local comprehensive plans.

AADTs were adjusted to peak hour directional volumes using the approved Standard K and D factors. Intersections turning movement volumes were developed using TMTOOL and balanced with ramp volumes. Peak hour directional volumes throughout GGI were reviewed and adjustments were made to smooth and balance traffic throughout the system.

Figures 7-11 and **7-12** show the 2030 peak hour volumes for the No-Build and Recommended Interim Build Alternative.

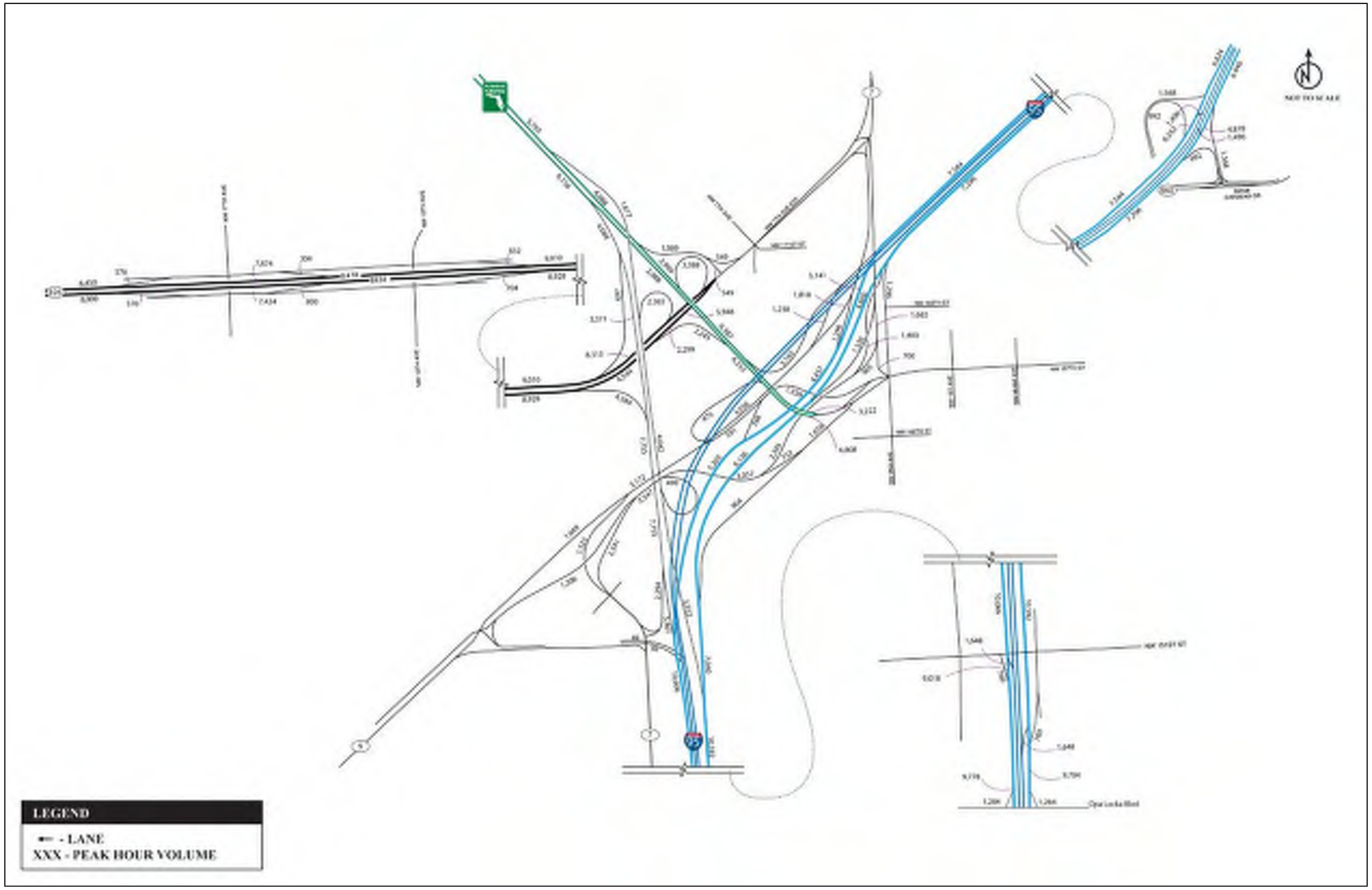


Figure 7-11 No-Build (2030) Peak Hour Volume

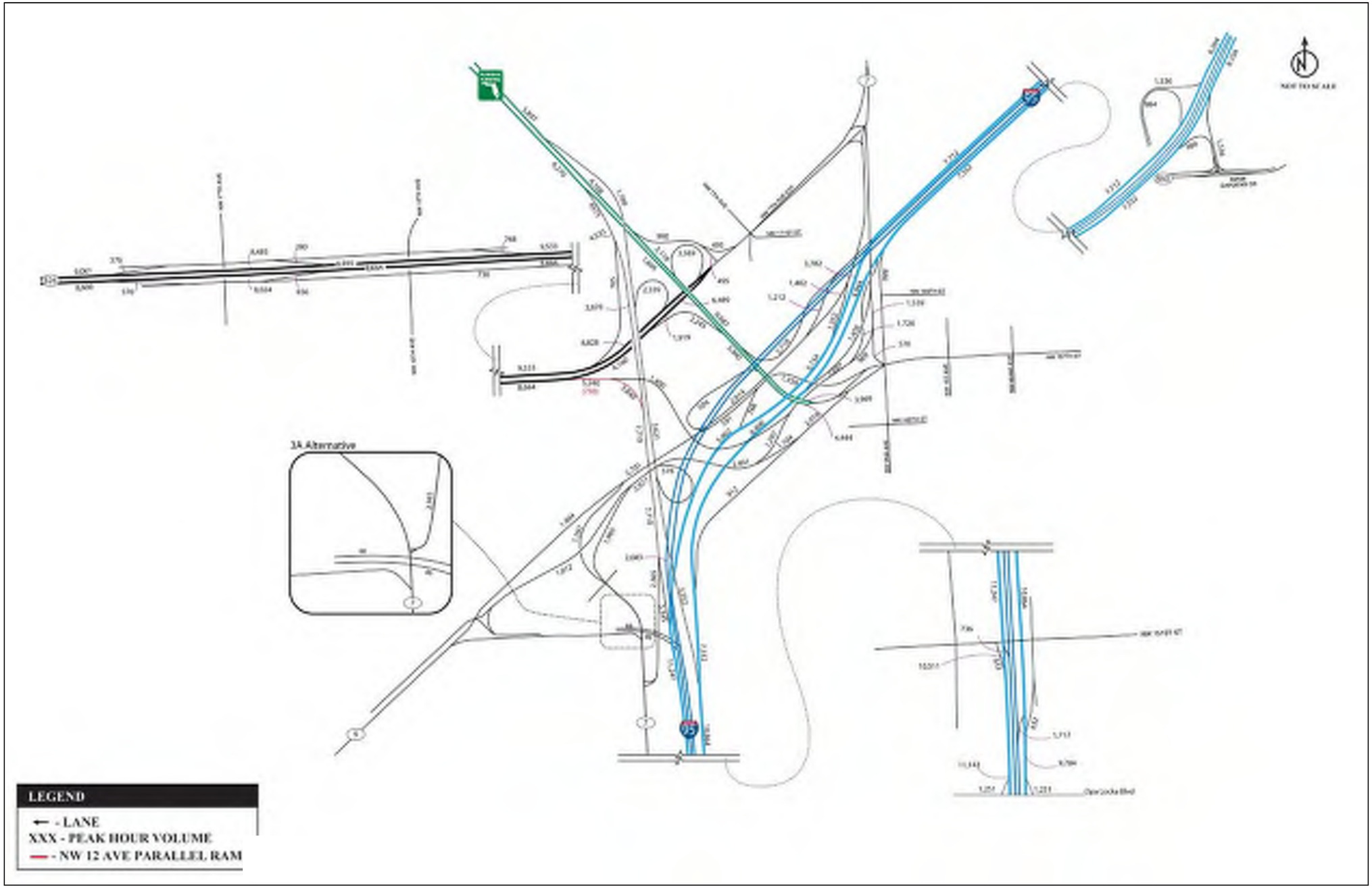


Figure 7-12 Recommended Build (2030) Peak Hour Volume

7.2.2 Future Network Analysis Results

Traffic operational analysis was performed for the future conditions under the No-Build and Recommended Interim Build Alternative. CORSIM was used to evaluate the operating conditions of the main freeway sections and ramps. **Tables 7-4** through **7-6** show the comparative traffic operational analysis for both AM and PM peak periods for the No-Build and Recommended Interim Build Alternative. The detailed traffic analysis results are provided in the Design Traffic Technical Memorandum (DTTM) prepared as part of this Study.

Table 7-4
Network Measures of Effectiveness

#	Network Statistics	AM Peak			PM Peak		
		No-Build	Recom-mended Build	% Change	No-Build	Recom-mended Build	% Change
1	Delay Time (Veh-Hrs)	10,486	4,247	**-60%**	13,701	11,086	**-19%**
2	Average Speed (mph)	19.55	34.89	**78%**	16.93	22.71	**34%**

Table 7-5
Travel Time Comparison

#	Route	AM Peak			PM Peak		
		No-Build	Recom-mended Build	% Change	No-Build	Recom-mended Build	% Change
1	Turnpike SB to NW 2 Avenue/ NW 167 St	20.96	3.10	**-85%**	24.17	3.02	**-88%**
2	Turnpike SB Connector to I-95 SB	16.44	5.48	**-67%**	18.38	4.01	**-78%**
4	SR 826 EB to NW 2 Avenue/ NW 167 St	6.08	3.00	**-51%**	7.07	3.21	**-55%**
5	SR 826 EB to I-95 SB*	2.05	4.10	**100%**	1.96	3.00	**53%**
6	SR 826 EB to I-95 NB (New Ramp)		2.13	**-64%**		1.86	**-50%**
7	SR 826 EB to I-95 NB (Existing Route)*	5.86			3.73		

**No-Build alternative is constrained with traffic backing up at entry nodes, as such, travel times appear better than they are due to limited volume throughput in the system*

Table 7-6
Travel Speed Comparison

#	Route	AM Peak			PM Peak		
		No-Build	Recom-mended Build	% Change	No-Build	Recom-mended Build	% Change
1	Turnpike SB to NW 2 Avenue/ NW 167 St	6.05	41.12	**580%**	4.98	43.66	**777%**
2	Turnpike SB Connector to I-95 SB	34.09	37.85	**11%**	34.64	45.91	**32%**
4	SR 826 EB to NW 2 Avenue/ NW 167 St	9.72	26.96	**177%**	7.86	27.54	**250%**
5	SR 826 EB to I-95 SB*	41.40	33.55	**-19%**	42.59	41.31	**-3%**
6	SR 826 EB to I-95 NB (New Ramp)		36.42	**43%**		37.71	**20%**
7	SR 826 EB to I-95 NB (Existing Route)*	25.42			31.50		

**No-Build alternative is constrained with traffic backing up at entry nodes, as such, travel speeds appear better than they are due to limited volume throughput in the system*

The overall network analysis for the No-Build and Recommended Interim Build Alternative for the year 2030 shows significant improvements in travel times and travel speeds for most of the critical routes within the GGI. The proposed new flyover will reduce travel time by 64% and 50% for AM and PM peak periods respectively for the Recommended Interim Build Alternative compared to the No-Build alternative. The rerouting of the traffic onto the proposed new flyover ramp will also significantly increase the travel speeds for the Turnpike southbound and SR 826 eastbound movements to NW 2 Avenue.

The SR 826 eastbound to I-95 southbound however, shows an increased travel time and reduced travel speed for the Recommended Interim Build Alternative compared to the No-Build. This is due to the fact that in the No-Build model, the entry node sustains starvation due to traffic backup at the upstream node, as such, the travel times and speeds appear better than they are due to limited volume throughput in the system.

7.2.3 Future Freeway Operations Results

Table 7-7 shows the basic freeway operational analysis results for the No-Build and Recommended Interim Build Alternative.

Table 7-7
Level of Service and Density Results (2030)

Basic Freeway Segment	Direction	No-Build		Recommended Alternative	
		Density	LOS	Density	LOS
AM					
I-95 S of GGI After NW 151 St Off	NB	40.5	E	30.2	D
I-95 S of GGI Before NW 151 St Off	SB	66.7	F	42.6	E
SR 826 B/W NW 17 Ave Off and 17 Ave	EB	44.5	E	29.9	D
SR 826 B/W NW 17 Ave Off and 17 Ave	WB	28.6	D	22.9	C
Turnpike at Toll Plaza	SB	37.8	E	26.7	D
Turnpike at Toll Plaza	NB	34.1	D	25.1	C
I-95 B/W GGI and Miami Gardens Dr	SB	55.4	F	33.0	D
I-95 B/W GGI and Miami Gardens Dr	NB	59.5	F	25.9	C
I-95 South OF NW 151 St	NB	35.0	E	35.4	E
I-95 South OF NW 151 St	SB	51.4	F	79.3	F
PM					
I-95 S of GGI After NW 151 St Off	NB	81.5	F	44.6	E
I-95 S of GGI Before NW 151 St Off	SB	52.5	F	37.0	E
SR 826 B/W NW 17 Ave Off and 17 Ave	EB	44.2	E	29.5	D
SR 826 B/W NW 17 Ave Off and 17 Ave	WB	46.7	F	32.2	D
Turnpike at toll plaza	SB	22.1	C	16.9	B
Turnpike at toll plaza	NB	20.7	C	15.9	B
I-95 B/W GGI and Miami Gardens Dr	SB	45.6	F	29.8	D
I-95 B/W GGI and Miami Gardens Dr	NB	59.5	F	34.8	D
I-95 South OF NW 151 St	NB	59.0	F	60.5	F
I-95 South OF NW 151 St	SB	43.0	E	59.4	F

The comparative analysis for the basic freeway segments show substantial improvements for the freeway segments under the Recommended Interim Build Alternative compared to the No-Build with the exception of the segments of I-95 south of NW 151st Street. No improvements are currently proposed for these segments under the Recommended Interim Build Alternative; however, the ultimate build alternative provides improvements for these segments to mitigate the congestion.

7.2.4 Future Weaving Analysis Results

The operational analysis results for weaving conditions are presented in **Table 7-8** for the No-Build and Recommended Interim Build Alternative. **Figure 7-13** and **Figure 7-14** shows the locations of the weaving segments.

Table 7-8
Weaving Analysis Results (2030)

#	Location	No Build		Recommended Alternative	
		AM	PM	AM	PM
1	SR 7/US 441 NB between SR 9 merge ramp and SR 7/US 441 NB traffic to NW 167th Street off-ramp and I-95 NB	C	E	C	D
2	SR 7/US 441 SB between NW 167th Street on-ramp traffic to SR 7/US 441 SB and SR 9 SB	E	D	D	C
3	SR 9 SB between NW 167th Street to SR 9 SB ramp and SR 7/ US 441 SB to SR 9 SB Traffic	E	E	D	C
4	Turnpike Connector SB between the SR 826 EB on-ramp and Florida's Turnpike SB traffic to SR 7/US 441 and I-95 SB	F	F	F	B
5	SR 826 Connector WB between I-95 SB on-ramp and NW 167th Street WB traffic to SR 826 WB and Florida's Turnpike NB	F	C	F	C
6	Turnpike Connector NB between the SR 7/US 441 on-ramp and I-95 NB traffic to SR 826 WB and Florida's Turnpike NB	B	C	B	B

The comparative analysis results show that significant improvements in the weaving conditions under the Recommended Interim Build Alternative compared to the No-Build. The critical weaving segment along the Turnpike Connector between the SR 826 eastbound on-ramp and the SR 7/US 441 off ramp shows a significant improvement fromLLOS F to LOS B for the PM peak period, However, for the AM peak period it operates at LOS F.

This weaving segment on the Turnpike connector SB was designed to incorporate the NW 12 Avenue Ramp. The resulting multi-weaving segment in conjunction with a merge segment is one of the listed limitations of the Highway Capacity methodologies, as outlined in the Highway Capacity Manual (2010), page 12-9. For the purpose of Highway Capacity Analysis, this merge was assumed to take place upstream of the expected point of convergence. While the results in the Highway Capacity Analysis do not reflect the practical application of the design, it is shown for informative purposes only.

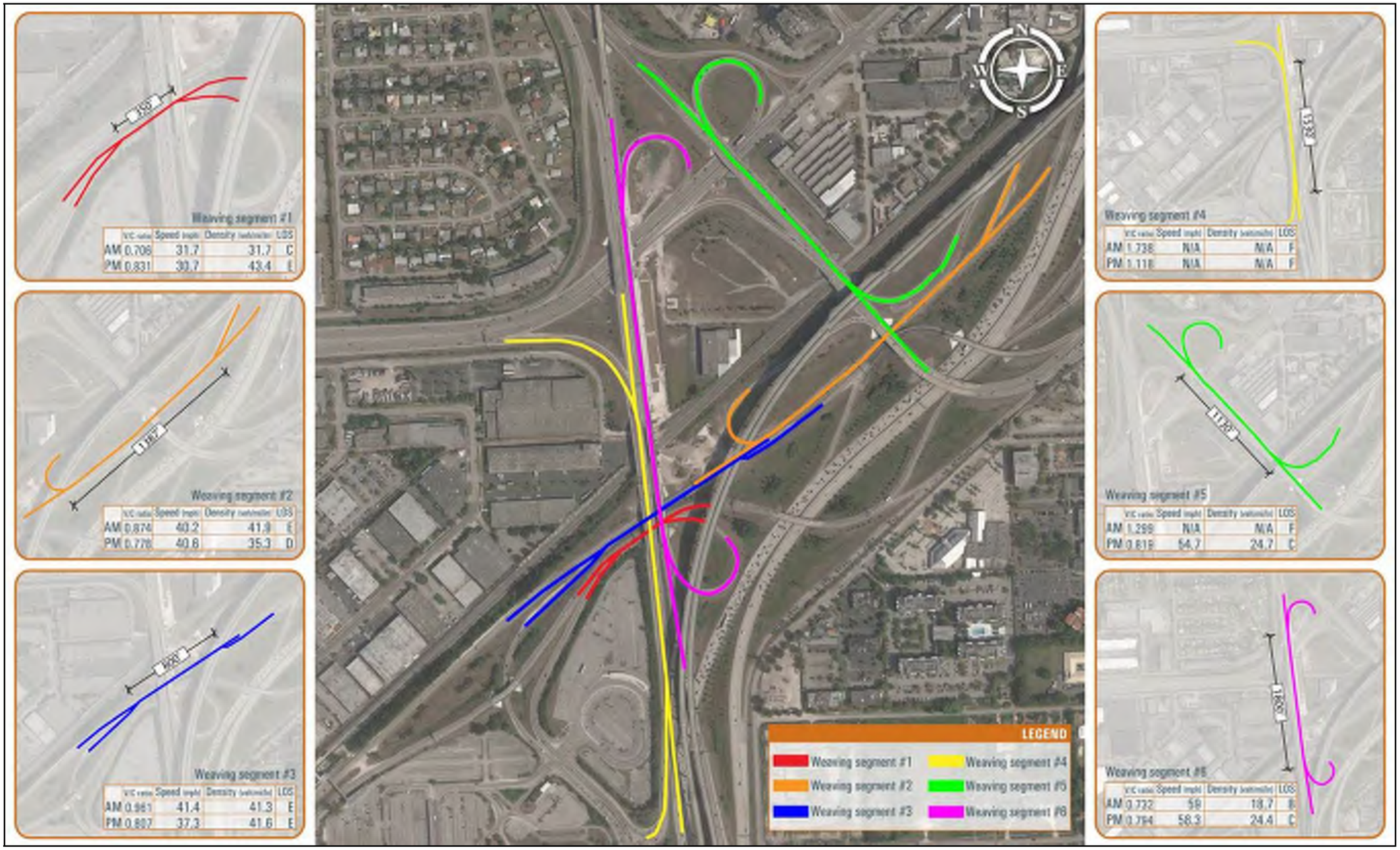


Figure 7-13 Weaving Analysis Results for No-Build (2030)

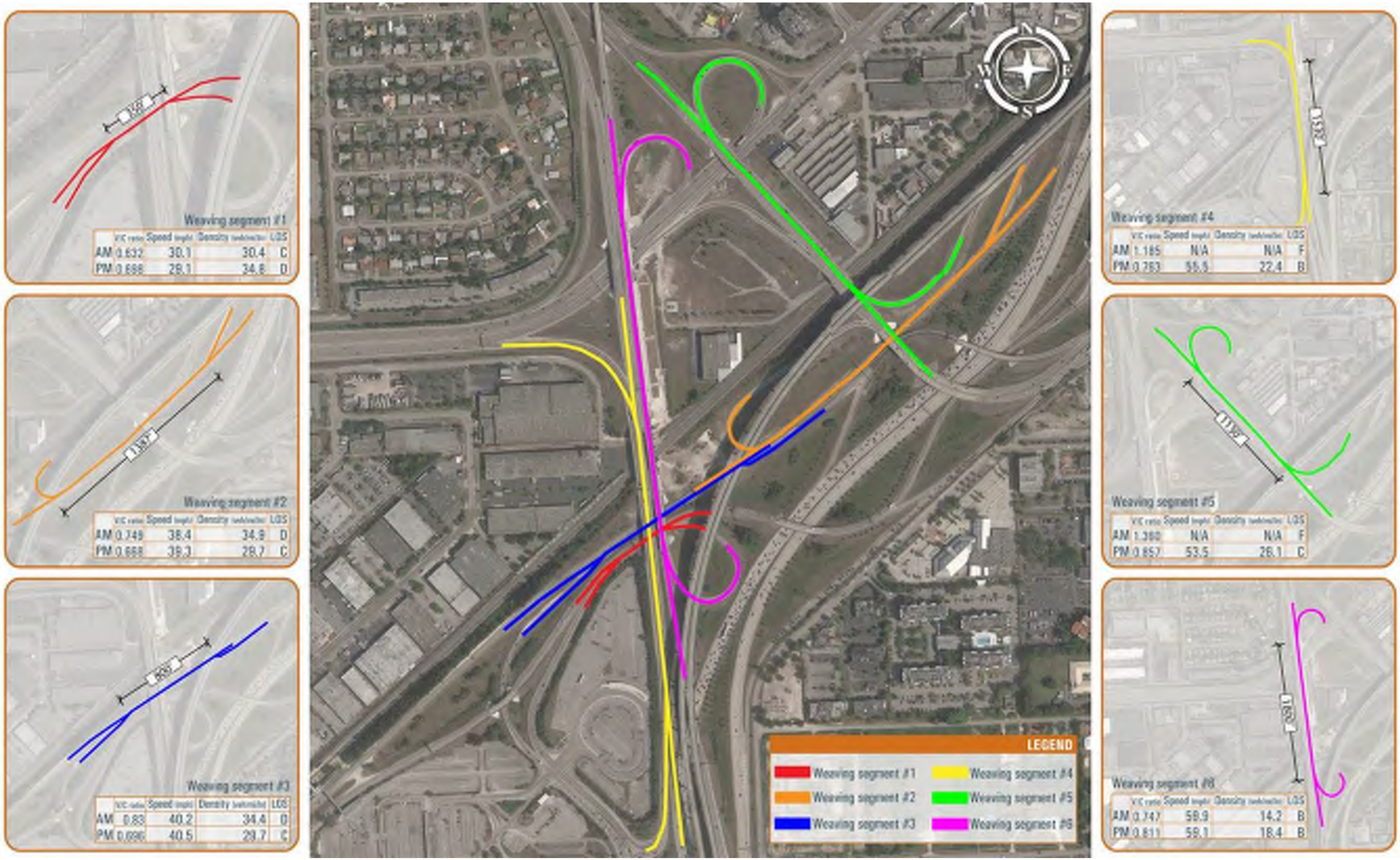


Figure 7-14 Weaving Analysis Results for Recommended-Build (2030)

7.2.5 Future Intersection Analysis Results

Operational analysis for the intersections was performed for the future conditions under the No-Build and Recommended Interim Build Alternative. SYNCHRO was used to evaluate the operating conditions of the intersection in terms of delay and level of service. **Table 7-9** shows the traffic operational analysis for both AM and PM peak periods for the No-Build and Recommended Interim Build Alternative.

Generally, the results of the intersection analysis show improvements under the Recommended Interim Build Alternative compared to the No-Build Alternative for both AM and PM peak periods. The level of service at the intersections of Miami Gardens Drive & I-95 northbound exit and NW 167 Street & North Miami Avenue will continue to operate at LOS F during the PM peak period. The intersections at NW 167th Street and NW 2nd Avenue will continue to operate at LOS F during both AM and PM peak periods for the Recommended Interim Build Alternative. The intersection at NW 7th Avenue and GGI Park and Ride will operate at LOS E in the PM peak period. All the other intersections show improvements over the No-Build Alternative.

Table 7-9
Comparison of Intersection LOS and Delay

No	Intersection	Adopted LOS	Time	Control Delay	
				No-Build	Recommended Build
1	Miami Gardens Dr/I-95 NB Exit	D	AM	34.0/C	31.6/C
			PM	114.2/F	112.1/F
2	NW 2 Ave (SR 7)/NW 7 Ave Ext	E	AM	89.4/F	53.6/D
			PM	91.4/F	55.8/E
3	NW 7 Ave Ext/NW 171 ST	E	AM	26.6/C	26.1/C
			PM	29.2/C	27.7/C
4	NW 7 Ave Ext/NB Ramps to Turnpike* (EBL)	E	AM	-	25.5/C
			PM	-	17.8/B
5	Frontage Rd (NW 167 St)/SR 826 WB Exit/NW 12 Ave	E	AM	12.5/B	14.0/B
			PM	20.1/C	17.3/B
6	Frontage Rd (NW 167 St)/SR 826 EB Exit/NW 12 Ave	E	AM	15.2/B	11.2/B
			PM	15.9/B	22.2/C
7	NW 167 St/NW 2 Ave	v/c<120%	AM	166.2/F (v/c 1.57)	137.2/F (v/c 1.36)
			PM	293.1/F (v/c 1.69)	214.4/F (v/c 1.50)
8	NW 167 St/N Miami Ave	v/c<120%	AM	45.0/D (v/c 1.04)	57.9/E (v/c 1.08)
			PM	132.3/F (v/c 1.30)	148.5/F (v/c 1.34)
9	NW 7 Ave/GGI Park and Ride**	D	AM	50.2/D	21.3/C
			PM	71.8/E	65.7/E
10	Turnpike Eastbound to I-95 SB Ramp/SR 7	D	AM	109.1/F	51.4/D
			PM	93.1/F	54.0/D
11	NW 151 St/NW 7 Ave	D	AM	34.7/C	33.8/C
			PM	31.7/C	24.4/C
12	NW 151 St/I-95 SB On Ramp* (WBL)	D	AM	-	-
			PM	-	-
13	NW 151 St/I-95 NB Exit/NW 6 Ave	D	AM	44.8/D	33.4/C
			PM	37.3/D	32.5/C
14	Frontage Rd (NW 167 St)/SR 826 EB Exit/NW 17 Ave	E	AM	48.9/D	18.7/B
			PM	30.6/C	17.9/B
15	Frontage Rd (NW 167 St)/SR 826 WB Exit/NW 17 Ave	E	AM	47.2/D	15.5/B
			PM	35.3/D	15.9/B

**Unsignalized Intersections*
*** EB, WB, NB and SB for SEB, NWB, NEB, and SWB*

7.2.6 Provision of Texas U-Turn

Based on several meetings and discussions with the City of Miami Gardens, adjacent residents and business owners within the Sunshine Industrial Park, Texas U-Turns were provided at both NW 12th Avenue and NW 17th Avenue as part of the interim project as a mitigation strategy to address the business community's circulation and access concerns until the ultimate project is constructed that implements the permanent Texas U-Turn at NW 17th Avenue. The interim Texas U-Turns are required in order to receive the MPO approval and support for the project. For this reason additional intersection level analysis was conducted for the signalized ramp terminal intersections at NW 12th Avenue and NW 17th Avenue interchanges using SYNCHRO.

In the ultimate build, where the NW 17th Avenue Texas U-Turn is permanent, the traffic projections model attributed 20% of traffic that wanted to do the turnaround would use the Texas U-Turn and 80% will remain using the circulation through the two signalized intersections. To maintain consistency, the same traffic split is assumed for the interim Texas U-Turns. **Table 7-10** presents the intersection analysis results for the recommended build alternative with and without the Texas U-Turns.

Table 7-10
Intersection Analysis of Interim Texas U-Turns (2030)

#	Intersection	Time Period	Without Texas U-Turns		With Texas U-Turns	
			Control Delay (sec/Veh)	LOS	Control Delay (sec/Veh)	LOS
14	Frontage Rd (NW 167 St)/ SR 826 EB Exit/ NW 17th Avenue	AM	18.7	B	17.8	B
		PM	17.9	B	18.0	B
15	Frontage Rd (NW 167 St)/ SR 826 WB Exit/ NW 17th Avenue	AM	15.5	B	15.5	B
		PM	15.9	B	15.6	B
6	Frontage Rd (NW 167 St)/ SR 826 EB Exit/ NW 12th Avenue	AM	11.2	B	10.9	B
		PM	22.2	C	22.0	C
5	Frontage Rd (NW 167 St)/ SR 826 WB Exit/ NW 12th Avenue	AM	14.0	B	14.4	B
		PM	17.3	B	17.2	B

The comparison of the values shows that the proposed Texas U-Turns will only result in very minor improvements to the intersection LOS. This is due to the low peak hour left turn volumes and the linked signal timing plans of these two intersections, which allows for more efficient signal timing coordination to move traffic through the signals.

7.3 Right of Way Needs and Relocation

Based on the preliminary design preformed during this study, additional right of way will be required in order to implement the proposed improvements under the Recommended Interim Build Alternative. In implementing the recommended interim improvements, a total of 24 parcels will be impacted. The right of way acquisition will include full acquisition of 8 commercial parcels and 9 vacant parcels west of I-95 between the Park and Ride and the Biscayne Canal to accommodate the proposed widening of the I-95 southbound lanes and the relocation of the SR 7/US 441 off ramp. Full acquisition of 2 commercial parcels and 2 vacant parcels within the Sunshine Industrial Park located south of SR 826 will be required to accommodate the NW 12th Avenue eastbound on-ramp. Approximately 58-ft right of way along the park and ride east lot will also be acquired to accommodate the reconstruction of the Turnpike Connector southbound lanes. A corner clip of the industrial property within the GGI will also be required to accommodate the proposed SR 826 eastbound to I-95 northbound flyover. Additionally, approximately 15-ft right of way to the west of NW 2nd Avenue, south of NW 167th Street will be required to accommodate the additional northbound left turn lane. **Table 7-11** summarizes the right of way impacts and the locations are shown in **Figure 7-15**.

Based on the preliminary right of way estimates, the Recommended Interim Build Alternative will result in will result in six (6) business relocations located on ten (10) commercial parcels. No residential relocations are anticipated as a result of the interim project. A Conceptual Stage Relocation Plan (CSRP) has been prepared for this project and is in accordance with the Project Development and Environment (PD&E) Manual. FDOT will carry out a Right of Way and Relocation Program in accordance with Florida Statute 339-09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646, as amended by Public Law 100-17).

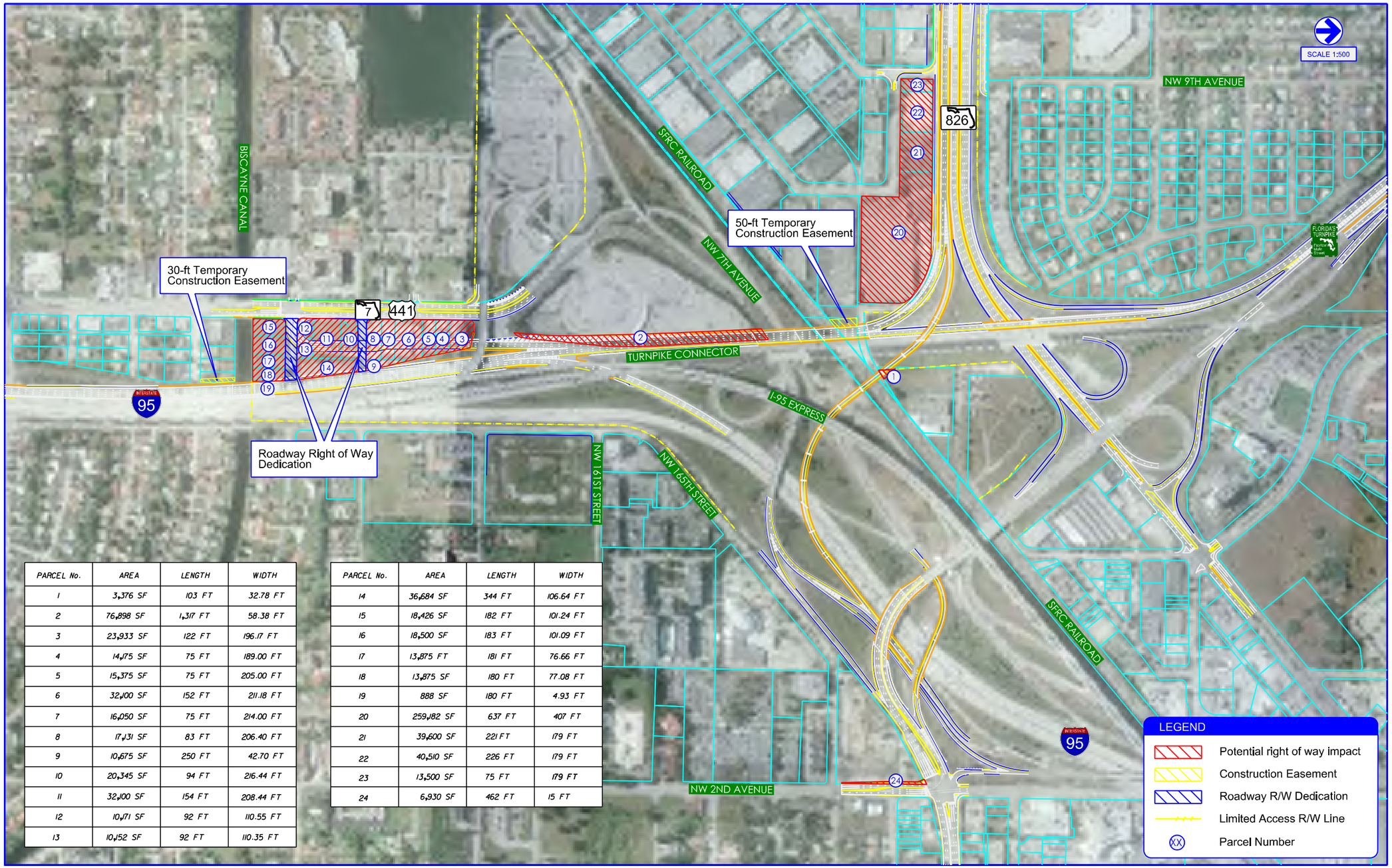
Additional right of way may also be required to accommodate the gas pipeline relocation depending on the final route selected during the next phase of the project (Refer to the **Florida Gas Transmission Utility Relocation Assessment Memorandum**). The right of way impacts is primarily associated with the purchase of easements or obtaining right of way occupancy permits. However, no business relocation is anticipated as a result of the gas pipeline relocation.

Table 7-11
Summary of Right of Way Impacts

#	Folio Number	Owner	Property Address	Land Use	R/W Impact (Sq-ft)	Relocation Required
1	34-2113-000-0080	Lucius & Mary N Whatley	600 NW 167th St	Warehouse or Storage	3,376	No
2	N/A	FL Department of Transportation	Golden Glades Park and Ride East Lot	Park and Ride	76,898	No
3	30-2113-001-0460	Simon Sitbon	15901 NW 7th Avenue	Warehouse Or Storage	23,933	Yes

Table 7-11
Summary of Right of Way Impacts

#	Folio Number	Owner	Property Address	Land Use	R/W Impact (Sq-ft)	Relocation Required
4	30-2113-001-0480	American Petro-leum of N. Miami	15821 NW 7th Avenue	Service Station-Automotive	14,175	Yes
5	30-2113-001-0490	American Petro-leum of N. Miami	15821 NW 7th Avenue	Service Station-Automotive	15,375	Yes
6	30-2113-001-0860	Marmur Inc	15781 NW 7th Avenue	Light MFG & Food Processing	32,100	Yes
7	30-2113-001-0880	Marmur Inc	15721 NW 7th Avenue	Light MFG & Food Processing	16,050	Yes
8	30-2113-001-0890	Marmur Inc	15721 NW 7th Avenue	Light MFG & Food Processing	17,131	Yes
9	30-2113-001-0850	Mario Zacco	651 NW 157th Street	Light MFG & Food Processing	10,675	Yes
10	30-2113-001-0900	Angelo Napolitano	685 N. Biscayne River Drive	Vacant Land	20,345	No
11	30-2113-001-0910	Angelo Napolitano	685 N. Biscayne River Drive	Vacant Land	32,100	No
12	30-2113-001-0911	Angelo Napolitano	685 N. Biscayne River Drive	Vacant Land	10,171	No
13	30-2113-001-0912	Angelo Napolitano	685 N. Biscayne River Drive	Vacant Land	10,152	No
14	30-2113-001-0920	Angelo Napolitano	655 N. Biscayne River Drive	Warehouse Or Storage	36,684	Yes
15	30-2113-001-1340	7th Avenue Terminal INC	N/A	Vacant Land	18,426	No
16	30-2113-001-1350	7th Avenue Terminal INC	N/A	Vacant Land	18,500	No
17	30-2113-009-0010	7th Avenue Terminal INC	N/A	Vacant Land	13,875	No
18	30-2113-009-0020	7th Avenue Terminal INC	N/A	Vacant Land	13,875	No
19	30-2113-009-0030	7th Avenue Terminal INC	N/A	Vacant Land	888	No
20	34-2114-007-0380	Gerald D. Ross & W. Frances M	16601 NW 8 Avenue	Warehouse or Storage	259,182	Yes
21	34-2114-000-0220	Gerald D. Ross & W. Frances M	16601 NW 8 Avenue	Warehouse or Storage	39,600	Yes
22	34-2114-000-0190	Gerald D. Ross & W. Frances M	16601 NW 8 Avenue	Vacant Land	40,510	No
23	34-2114-000-0210	Gerald D. Ross & W. Frances M	16601 NW 8 Avenue	Vacant Land	13,500	No
24	30-2113-000-0050	FRL Automotive LLC	16600 NW 2 Avenue	Vacant Land	6,930	No



PARCEL No.	AREA	LENGTH	WIDTH
1	3,376 SF	103 FT	32.78 FT
2	76,898 SF	1,317 FT	58.38 FT
3	23,933 SF	122 FT	196.17 FT
4	14,175 SF	75 FT	189.00 FT
5	15,375 SF	75 FT	205.00 FT
6	32,100 SF	152 FT	211.18 FT
7	16,050 SF	75 FT	214.00 FT
8	17,131 SF	83 FT	206.40 FT
9	10,675 SF	250 FT	42.70 FT
10	20,345 SF	94 FT	216.44 FT
11	32,100 SF	154 FT	208.44 FT
12	10,171 SF	92 FT	110.55 FT
13	10,152 SF	92 FT	110.35 FT

PARCEL No.	AREA	LENGTH	WIDTH
14	36,684 SF	344 FT	106.64 FT
15	18,426 SF	182 FT	101.24 FT
16	18,500 SF	183 FT	101.09 FT
17	13,875 FT	181 FT	76.66 FT
18	13,875 SF	180 FT	77.08 FT
19	888 SF	180 FT	4.93 FT
20	259,182 SF	637 FT	407 FT
21	39,600 SF	221 FT	179 FT
22	40,510 SF	226 FT	179 FT
23	13,500 SF	75 FT	179 FT
24	6,930 SF	462 FT	15 FT

Figure 7-15 Right of Way impacts for Recommended Interim Build Alternative

7.4 Preliminary Cost Estimates

Preliminary project costs for construction, preliminary engineering (PE), right-of-way and construction engineering and inspection (CEI) costs were developed for the Recommended Interim Build Alternative. The estimates included the major cost components typically associated with highway construction including roadway, bridge and interchange construction. The estimated construction cost was developed using the FDOT Long Range Estimate (LRE). It should be noted that the construction cost for the Recommended Interim Build Alternative shown in **Table 7-12**, includes milling and resurfacing of the SR 826 mainline and other interchange ramps within the GGI. These additional costs were not included in the cost estimates for the alternatives evaluation (See **Section 5.4.18**).

Table 7-12
Preliminary Cost Estimates for Recommended Interim Build Alternative

Roadway Construction	
Component	**Cost (2014$)**
Construction Cost	$88,600,000
Project Unknowns/Contingency	$17,700,000
Subtotal Cost	**$106,300,000**
Engineering Design Cost	$11,400,000
Construction, Engineering, Inspection Service Costs	$10,600,000
Right of Way Cost	$45,800,000
Total Cost (Roadway Construction)	**$174,100,000**
FGT Gas Main Relocation	
Component	**Cost (2014$)**
Pipe Installation Cost	$24,800,000 - $45,000,000
Right of Way Cost	$0 - $22,638,000
Total Cost (Gas Main Relocation)	**$27,800,000 - $47,500,000**

The total estimated construction cost is approximately $88.6 million and the total estimated project cost is approximately $174.1 million. The total estimated project cost includes 10% for Maintenance of Traffic, 10% for Mobilization and 20% for Project Unknowns /Contingency. This cost is preliminary in nature and will be refined as the project enters subsequent phases. FDOT estimated PE costs and CEI service costs as a percentage of the total construction cost. PE cost was estimated at 11% of the total construction cost, which includes preliminary engineering fees, final engineering design fees, legal fees, administration fees and post design services. CEI cost was estimated at 10%. The estimated right-of-way cost was prepared by FDOT based on the conceptual design plans for the Recommended Alternative. The cost includes property, support, relocation of personal property/signs and administrative costs. The detailed LRE cost estimates are provided in **Appendix K.**

In addition to the above construction estimates for the interim project, the relocation of the 18-inch gas main along the south side of SR 826/Palmetto Expressway will require additional construction and right of way costs not included in the cost estimate shown above. The preliminary cost for the pipe abondonment, installation of a new pipeline and right of way is estimated at approximately **$27.8 million to $47.5 million** depending on the final route selected during the next phase of this project (Refer to the **Florida Gas Transmission Utility Relocation Assessment Memorandum**).

7.5 Schedule and Funding

The PD&E Phase of this project commenced in March 2011 and is anticipated to be completed by Summer 2014 with the approval of the Local Design Concept and Acceptance (LDCA) by FHWA. The preparation of the final design plans is anticipated to be completed in Summer 2016. The right of way acquisition is anticipated to be completed by Summer 2016. Construction is anticipated to begin in Summer 2017 and completed within 24 months. **Figure 7-16** lists the major milestones needed to accomplish the project tasks.

The SR 826/Palmetto Expressway eastbound Ramp to SR 9A/I-95 northbound project (FPID 428358-1) is included in the FDOT District Six Five-Year Work Program with funding allocated for design in 2014 ($1,100,000) and construction in 2017 ($65,759,000) and 2018 ($7,219,000). The Florida's Turnpike Enterprise will be contributing funds toward the completion of the GGI PD&E Study and has also identified the Turnpike Connector improvements in the FTE Five Year Work Program (FPID: 423373-2) with funding for design in 2015 ($6,000,000) and 2017 ($337,000) and construction in 2017 ($63,169,000). The right of way phase is partially funded for 2015 and 2016.

The Department will also coordinate with Florida Gas Transmission (FGT) to address the final disposition of the 18-inch gas main, prepare the necessary engineering and environmental documentation for approval and obtain funding for the construction and operation of the new 18-inch gas line.

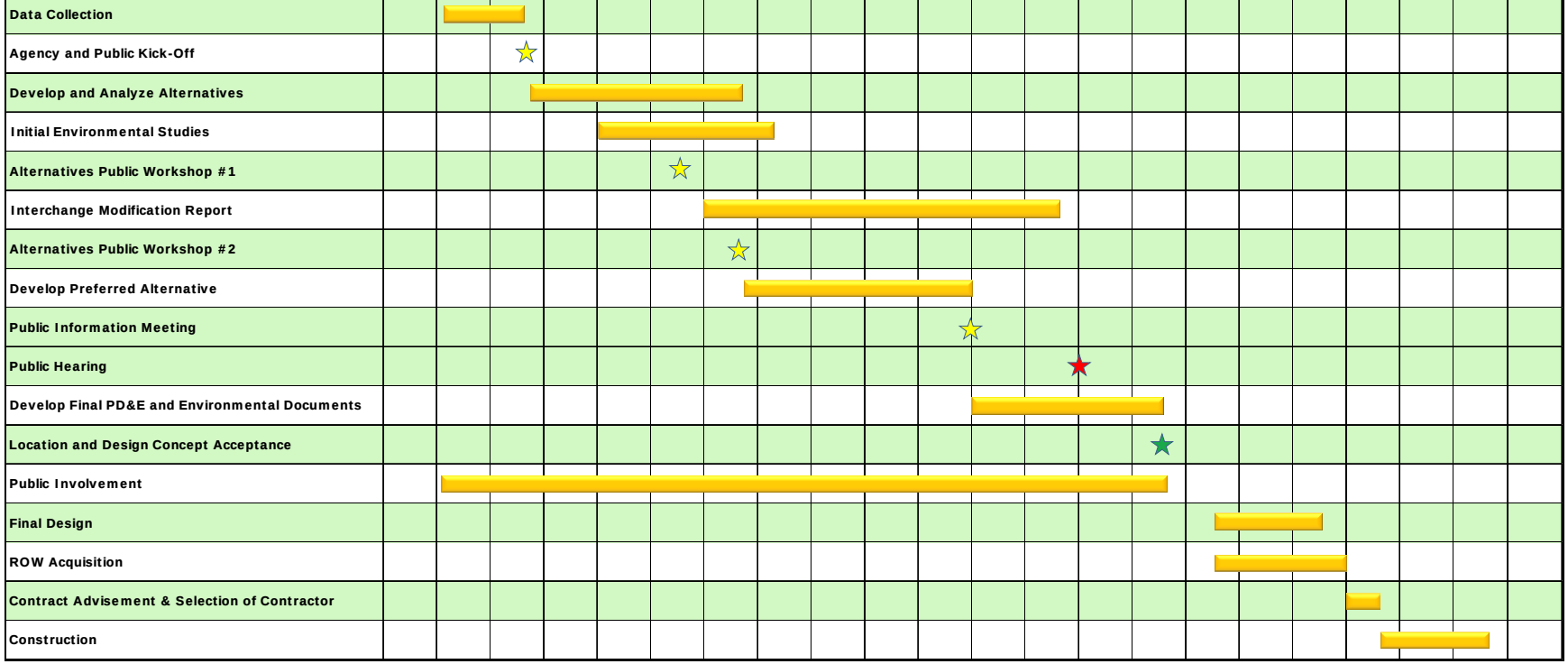


Figure 7-16 Project Schedule

7.6 Pedestrian and Bicycle Facilities

The Florida Statute Title XXIII, Chapter 316, Section 316.091, prohibits pedestrians and bicycles from operating and/or traveling on any limited access facilities. As such, no pedestrian or bicycle facilities are planned as part of the proposed improvements under the Recommended Interim Build Alternative along the expressways (I-95, SR 826/Palmetto Expressway and Florida's Turnpike) and ramp connectors within the interchange area.

The existing sidewalks along some of the non-limited access roadways within the study area will be maintained. These include:

- 5-ft sidewalks adjacent to the northern right of way line along the SR 826/Palmetto Expressway westbound frontage road east of NW 15th Avenue.
- 5-ft sidewalks adjacent to the southern right of way line along the SR 826/Palmetto Expressway eastbound frontage road west of NW 10th Avenue.
- 5-ft sidewalk with a landscape buffer along both sides of NW 12th Avenue north of SR 826/Palmetto Expressway and 6-ft sidewalks adjacent to the roadway curb and gutter along both sides of NW 12th Avenue south of SR 826/Palmetto Expressway.
- 5-ft sidewalks adjacent to the roadway curb and gutter on both sides of NW 17th Avenue north of SR 826/Palmetto Expressway.
- 5-ft sidewalks adjacent to the roadway curb and gutter along both sides of NW 167th Street east of the GGI.
- 6-ft sidewalks adjacent to the curb and gutter on both sides of NW 2nd Avenue south of the GGI.

Any pedestrian and bicycle facilities that are not compliant with the Americans with Disabilities Act (ADA) will be upgraded to meet the ADA standards.

The proposed widening of the westbound frontage road to accommodate an exclusive right-turn lane at NW 17th Avenue ramp terminal will also provide an adjacent 6-ft sidewalk between NW 15th Avenue and NW 17th Avenue to maintain sidewalk continuity.

The replacement of the Turnpike Connector southbound Bridge over the SFRC (870159) will also provide adequate horizontal and vertical clearance necessary to accommodate the proposed Gold Coast Trail which runs along the easement of the South Florida Rail Corridor (SFRC). This trail is a potential 20.8 mile path occupying the easement of the South Florida Rail Corridor. The Gold Coast trail will provide opportunity to create a multimodal access point at the Golden Glades Park and Ride facility and also provide bicycle and pedestrian access into Broward County.

The proposed improvements under the Recommended Interim Build Alternative will not impact the two existing pedestrian bridges within the study area. The first is located across SR 9 and provides access from the GGI park and ride facility on the east to the tri-rail

station on the west of SR 9. The second pedestrian bridge is located across I-95 just south of NW 151st Street and provides access between the residential areas on the west and Thomas Jefferson Middle School on the east side of I-95. However, in order to accommodate the relocated NW 12th Avenue on-ramp, the existing sidewalk along the eastbound frontage road east of NW 10th Avenue will be removed.

7.7 Utility Impacts

As part of the PD&E study, twenty (20) Utility Agency Owners (UAOs) known to have operations within the project corridor were contacted to obtain information on their respective facilities within the project's study limits. All the utility companies contacted have responded; four (4) of the twenty (20) UAO's contacted responded that they have no facilities within the project limits. These include City of Miami Gardens, Florida City Gas, AT&T Long Distance and XO Communications. **Table 7-13** shows the list of utility companies with potential for involvement within the project study limits.

Table 7-13
Existing Utility Agencies/Owners

#	Utility Companies	Facilities	Contact Person	Phone Number	Master Agreement
1	AT&T Florida	Telecommunications	Steve Massie	305-222-8745	Yes
2	Comcast	Cable TV	Leonard Maxwell-Newbold	954-447-8405	Yes
3	City of North Miami	Water & Sewer	Aleem Ghany	305-895-9833	Yes
4	City of North Miami Beach	Water & Sewer	Karim Rossy	305-948-2980	Yes
5	Fiberlight LLC	Telecommunications	Troy Gaeta	786-271-5149	Yes
6	FDOT District Six – ITS	ITS	Sergio Bravo	305-499-2482	Yes
7	Florida's Turnpike - ITS	ITS	Rafael Sena	954-934-1624	Yes
8	Florida Gas Transmission	Gas – Transmission	Joseph Sanchez	407-838-7171	Yes
9	FPL FiberNet	Telecommunications	Danny Haskett	305-552-2931	Yes
10	FPL – Distribution	Electric	Angel Vargas	305-442-5129	Yes
11	FPL – Transmission	Electric	George Beck	561-904-3604	Yes
12	Level3 Communications LLC	Telecommunications	Rick Miller	720-888-4968	Yes
13	Verizon Business (f.k.a. MCI)	Telecommunications	John McNeil	904-355-0187	Yes
14	Miami-Dade Co. Water & Sewer	Water & Sewer	Patrick Chong	786-268-5255	Yes
15	Miami-Dade Co Traffic	Signalization	Vishnu Rajkumnr	305-375-2090	Yes
16	TECO Peoples Gas	Gas – Distribution	Angel Quant	954-453-0805	Yes

A preliminary evaluation of potential utility conflicts within the project corridor based on the Recommended Alternative is provided in the Utility Impact Assessment Memorandum prepared for this study. All UAOs' facilities appeared to be located on FDOT's right of way by permits, with the exception of Verizon Business Solution (f.k.a. MCI), which has one 4-inch PVC conduit located on SFRC right of way. No utility easements have been identified along the corridor.

As previously mentioned in Section 2.11, Florida Gas Transmission (FGT) currently owns and operates two gas transmission mains along Florida's Turnpike and SR 826/Palmetto Expressway connecting to local distribution company facilities in the Opa-Locka area. These mains consist of an 18-inch and a 24-inch installed in an easement within Florida's Turnpike which terminates approximately 145 feet north of the SR 826/Palmetto Expressway. The portions of the gas mains which continue to the west within the SR 826/Palmetto Expressway were originally installed and granted a permit by the Florida Department of Transportation allowing them to be placed within FDOT's Right-of-Way. The 24-inch FGT gas main runs along the westbound NW 167th Street while the 18-inch FGT gas main crosses beneath SR 826/Palmetto Expressway and runs along eastbound NW 167th Street within the embankment between SR 826/Palmetto Expressway and NW 167th Street.

On August 21st, 2013 the Florida Department of Transportation entered into a global settlement agreement with Florida Gas Transmission regarding potential impacts to FGT facilities (on a statewide basis) and guidance procedures to address their disposition within FDOT Right of Ways. Under permitted scenario's which is the case for the facilities located within FDOT's R/W along SR 826/Palmetto Expressway and its frontage roads along NW 167th Street: if relocation is warranted, alternative space for the relocation of the facility within FDOT's R/W is accommodated where practical. In the event that suitable space is not available within existing R/W; FDOT is responsible for acquiring suitable replacement R/W and FGT is responsible for the cost of relocation of those facilities to the available right of way. In the event that FDOT cannot secure the R/W, FGT has the ability to secure the R/W on FDOT's behalf including use of condemnation rights through the federal eminent domain process. FGT has this ability through the Federal Energy Regulatory Commission (FERC) issuance of a certificate of public convenience and necessity.

It is anticipated that the proposed widening of the SR 826/Palmetto Expressway mainline together with the construction of a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound and the relocation of the NW 12th Avenue on-ramp will result in the existing 18-inch gas main being further buried behind proposed retaining walls and in several cases fall beneath the mainline expressway travel lanes. These conditions will restricts access to the gas main under emergency situations. As such, relocation of the existing 18-inch gas main along the south side of SR 826/palmetto Expressway to a more accessible location will be required. As part of this PD&E Study, several potential routes were identified and evaluated for the relocation of the existing 18-inch gas main (Refer to the **Florida Gas Transmission Utility Relocation Assessment Memorandum**). Three routes were recommended for further evaluation during the final

design phase of this project. The FDOT will coordinate with Florida Gas Transmission (FGT) to address final disposition of the 18-inch gas main, prepare the necessary engineering and environmental documentation for approval and obtain funding for the construction and operation of the new 18-inch gas line.

The FDOT District Six Utility Office will maintain coordination with all the utility providers throughout the subsequent final design phase regarding any potential impacts. Based on early coordination with the utility owners, no significant impacts to the utility services or disruptions of services to area businesses are expected to occur.

7.8 Temporary Traffic Control Plan

Proper traffic control will be critical in order to minimize impacts to the community and construction cost. Care should be taken to ensure the safety and mobility of both vehicular and pedestrian traffic, and impacts to transit and businesses should be minimized. As part of this PD&E Study, a preliminary traffic control plan for the construction of the proposed improvements under the Recommended Interim Build Alternative. Due to the high traffic volume along the freeways and interchange ramps, the existing number of travel lanes should be maintained during each construction phase. However, temporary lane closures may be required in some locations such as overhead construction over existing roadway and should be limited to off -peak hours. The preliminary temporary traffic control plan can be accomplished in three phases as follows:

PHASE I of the construction sequence would include widening of SR 826/Palmetto Expressway eastbound to add lanes for relocated two-lane ramp from SR 826/Palmetto Expressway eastbound and the NW 12th Avenue on-ramp to widened Turnpike Connector southbound and for a new flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound. In this phase it is proposed to widen and reconstruct Turnpike Connector southbound to accommodate an additional lane, add one auxiliary lane to SR 826/Palmetto Expressway eastbound before ramp for Florida's Turnpike extension to NW 167th Street and add left turn lane from SR 826/Palmetto Expressway eastbound to Florida's Turnpike northbound, resurface SR 826/Palmetto Expressway eastbound from Florida's Turnpike overpass to NW 7th Avenue, construct the new three lane off ramp from the Turnpike Connector to SR 7/US 441 and widen I-95 southbound up to the NW 151st Street.

PHASE II of the construction sequence includes construction of SR 826/Palmetto Expressway eastbound flyover ramp to I-95 northbound up to the merge with existing SR 7/US 441 northbound, Shift traffic on the existing SR 7 northbound ramp to allow for extension/replacement of existing end span of Bridge No 870041, construction of new bridge and relocated ramp from NW 167th Street (SR 826/Palmetto Expressway westbound) to I-95 southbound, resurfacing and reconstruction of SR 826/Palmetto Expressway westbound from NW 7th Avenue to the interchange with Florida's Turnpike extension including ramps to Florida's Turnpike northbound.

PHASE III of the construction sequence includes widening of SR 7/US 441 ramp and the new single ramp under the new bridges No 870041 and 870042 and completion of SR 826/Palmetto Expressway eastbound ramp to I-95 northbound.

The details of the temporary traffic control plans are included in the conceptual design plans under a separate cover.

7.9 Drainage

The proposed roadway improvements under the Recommended Interim Build Alternative will require major drainage improvements along the freeways and interchange ramps, including new drainage structures, pipes, and stormwater treatment facilities. In addition to the existing stormwater management facilities that will be impacted from the reconstruction, the project will result in an increase in impervious area. The Recommended Interim Build Alternative increases the impervious area by approximately 3.3 ac and 4.4 ac in the C-8 and Basins C-9, respectively. Using the SFWMD water quality criteria, this will require 0.34 ac-ft of treatment in Basin C-8 and 0.45 ac-ft of additional treatment in Basin C-9.

The required treatment volume for Basin C-8 can be provided by creating dry retention areas along the drainage swales within the individual or adjacent drainage systems. Right of way acquisition of several parcels is anticipated in Basin C-8 to accommodate the I-95 roadway improvements. These parcels are located west of I-95 and near the C-8/Biscayne Canal. They are ideally situated to capture and treat runoff from the I-95 increase in impervious area. Together, the parcels have an available area of approximately 7 acres that can be used for dry retention. A total of 2.62 ac-ft of dry retention is provided for water treatment within this basin.

For Basin C-9, the required treatment volume can be provided by creating dry retention area in the FDOT-owned vacant lot located just north of the railroad and bordered by both the SR 826/Palmetto Expressway and Turnpike Connectors. This vacant lot can accommodate a 3.5 ac dry retention pond while avoiding impacting the Intelligent Transportation System (ITS) existing building on the site. A depth of 0.5-ft will be needed to create the 1.8 ac-ft of dry retention required for Basin C-9. Right of way acquisition of four parcels is anticipated in Basin C-9 to accommodate the SR 826/Palmetto Expressway roadway improvements while maintaining the NW 12th Avenue on-ramp to I-95 southbound. The parcels are located in the Sunshine Industrial Park south of SR 826/Palmetto Expressway. It can provide an appropriate location for water quality treatment. This potentially acquired area can accommodate a 4.2-ac dry-retention pond.

In addition, the proposed widening improvements to the I-95 southbound lanes will move the travel lanes towards the west, which will result in the double 72-inch outfall pipes located between the GGI and the C-8/Biscayne Canal, and corresponding manholes, being in the travel lanes. Relocation of the double 72-inch outfall pipes (approximately 1,400-ft) is recommended to avoid having manholes in the travel lanes.

The preliminary drainage analysis which documents the existing drainage conditions, the proposed drainage concept (including the basins and pond size requirements), and the location analysis and recommendations are included in the Stormwater Management Report prepared as part of this PD&E Study.

7.10 Bridge Analysis

A comprehensive analysis of the existing bridge conditions and proposed improvements for each bridge structure was conducted as part of this PD&E study. There are twenty eight (28) bridge structures along the major roadway segments and interchange ramps within the study limits. As part of this study, each bridge was evaluated to determine if the bridge needed to be replaced, widened and/or remain in place. This assessment was based on the proposed roadway geometrics and alignment, horizontal and vertical clearance requirements and structural condition. Where practical, widening or retrofitting the existing structures was recommended instead of replacing them. However, there are several structures where the proposed improvement cannot be accommodated and as such, the existing bridges will have to be replaced.

The proposed improvements under the Recommended Interim Build Alternative involve, three bridge widening and four bridge replacements. A new flyover bridge structure for the SR 826 eastbound to I-95 northbound direct connection ramp will also be constructed. **Table 7-14** summarizes the proposed bridge improvements. The detailed bridge analysis and recommendations are provided in the Bridge Analysis Report.

Table 7-14
Recommended Bridge Structure Treatments

#	Location	Bridge Number	Proposed Improvement	Bridge Width (Feet)	Bridge Length (Feet)	Depth of Structure (Feet)	Minimum Vertical Clearance (Feet)	Super-structure Type	No. of Spans	Max Span Length (Feet)
1	SR 826 over NW 12th Ave	870104	Texas U-Turns Underneath	134.75	134.75	4.58	14.3-ft	Pre-stressed Beams	3	72.7
2	SR 826 over NW 12th Ave	870050	EB Bridge Widening & Texas U-Turns	79.62	140.08	4.58	14.1-ft	Pre-stressed Beams	3	68.3
3	Turnpike Connector SB over SR 826	870601	SB Bridge widening	75.54	290.0	3.25	16.5-ft	Pre-stressed Beams	3	95.0
4	Turnpike Connector SB over SFRC	870159	SB Bridge Replacement	83.05	289.0	4.75	24.25-ft Min	Pre-stressed Beams	3	107.83
5	Turnpike Connector SB over SR 7/US 441	870045	SB Bridge Replacement	83.05	140.0	4.0	16.5-ft Min	Pre-stressed Beams	2	80.0
6	I-95 SB over Biscayne Canal	870348	SB Bridge Widening	112.41 – 120.08	117.0	1.75	2.01-ft	Pre-stressed Slab Unit	3	39.0
7	SR 826 Connector over I-95 and SR 7/US 441	870041	Bridge End Span Replacement	91.08	332.5	4.75	16.5-ft Min	Pre-stressed Beams	3	132.42
8	NW 167th Street WB to I-95 Ramp over I-95 and SR 7/US 441	870042	Bridge Replacement	30.08	329.0	4.75	16.5-ft Min	Pre-stressed Beams	4	98.0
9	SR 826 EB to I-95 NB Flyover Ramp	N/A	New flyover ramp bridge	36.08	1,633.0	5.5	16.5-ft Min	Steel Box Girders	11	167.83

7.11 Special Features

7.11.1 Noise Barriers

A traffic noise study was performed in accordance with the Code of Federal Regulations Title 23, Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise and Title XXVI Chapter 335.17 of the Florida Statutes using the methodology established in the Florida Department of Transportation's (FDOT) Project Development and Environment (PD&E) Manual, Part 2 Chapter 17 (May 24, 2011). Predicted noise levels were determined using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) version 2.5. A Noise Study Report (NSR) documenting the traffic noise analysis was prepared for this study and is available under separate cover.

Noise levels developed for this analysis are expressed in decibels (dB) using an "A" scale (dBA) weighting. This scale most closely approximates the response characteristics of the human ear. All predicted noise levels represent hourly equivalent levels (LAeq1h) consistent with the noise metric established in the Federal regulation. Traffic noise levels were predicted at noise sensitive sites for existing conditions and the design year No-Build and Recommended Interim Build Alternative.

Approximately 167 residences, all single-family homes, were identified along I-95, Florida's Turnpike and NW 17th Avenue within the project study area. Also, eight non-residential noise sensitive sites were identified within the project study area which includes three churches, a school, two outdoor areas at an educational center, a hospital, and a hotel. Under the existing conditions, the primary source of noise at the nearby noise sensitive sites is traffic on the nearby expressways (I-95, Florida's Turnpike and SR 826/palmetto Expressway) and on NW 17th Avenue. During the design year, the primary source of noise in the area is expected to remain traffic on the nearby expressways. Predicted design year traffic noise levels for the Recommended Interim Build Alternative were compared to the noise abatement criteria (NAC) and to the noise levels predicted for the existing conditions to assess potential noise impacts associated with the proposed improvements.

Traffic noise levels with the Recommended Alternative are expected to range from 37.1 to 44.9 dB(A) at interior locations and from 57.0 to 70.9 dB(A) at exterior locations Traffic noise levels are predicted to approach or exceed the FHWA Noise Abatement Criteria (NAC) at 11 homes, one church playground and one school playground along I-95; 52 condominiums in one condominium complex along SR 7/US 441; and three homes along Florida's Turnpike. In total, 66 residences, one church playground and one school playground are expected to be impacted by this project. Therefore, based on the FHWA and FDOT methodologies used to evaluate traffic noise levels in this study, modifications proposed with this project were determined to generate noise impacts at noise sensitive sites within the project study area. Consideration of noise abatement is required to mitigate these impacts. Although a number of sites approach or exceed the NAC, the proposed improvements do not result in any substantial noise increases (i.e., greater than 15 dB(A) over existing levels).

In accordance with FHWA requirements, noise abatement was considered for all noise sensitive locations where design-year traffic noise levels were predicted to equal or exceed the FDOT NAC. Conceptual noise barrier designs were evaluated for each impacted area to determine the most effective location, length, and height that would achieve the maximum noise level reduction at reasonable cost. A total of five noise barriers were evaluated for feasibility and reasonableness. Many of the locations where noise impacts are predicted to occur are near existing noise barriers. In these cases, alternatives such as increasing the length of an existing noise barrier or filling in gaps in noise barrier coverage were selected since increasing the height of an existing noise barrier is not possible without replacing the noise barrier completely with a new taller noise barrier. The results of the noise barrier analysis for this project segment are summarized in **Table 7-15**.

The results of the noise barrier analysis indicate that construction of the noise barriers appears feasible. However, none of the noise barriers are considered reasonable since they were unable to reduce noise levels by the FDOT's noise reduction design goal (7.0 dB(A) for at least one benefitted receptor). Thus, none of the noise barriers evaluated for this study are recommended for further consideration and there are no apparent solutions available to mitigate the noise impacts at the impacted locations. The traffic noise impacts to the 66 nearby residences and the playgrounds at Evangel Church International and Small World Montessori are considered to be an unavoidable consequence of the project.

For details, please refer to the **Noise Study Report** submitted as a separate cover as part of this PD&E study.

Table 7-15
Noise Barriers Under Consideration

General Location (Cross Streets)	Barrier Type	Height (feet)	Length (feet)	Maximum Noise Level Reduction [dB(A)]	Number of Receptors with Noise Level Reductions of at Least 7.0 dB(A)	Notes
I-95 Northbound - East side between NW 151st Street and NW 159th Street	Structure-Mounted	8	220	6.2	0	**Not Recommended** - Filling in the gaps in existing noise barrier coverage extend coverage to the north is not recommended since these additions do not meet FDOT's noise level reduction reasonableness criteria.
	Structure-Mounted	8	155			
	Ground-Mounted	22	1,510			
I-95 Northbound – East Side between NW 159th Street and NW 165th Street	Ground-Mounted	22	1,400	2.3	0	**Not Recommended** – This noise barrier does not meet FDOT's noise level reduction reasonableness criteria due to traffic on nearby elevated roadways and on adjacent local street.
I-95 Southbound – West Side between NW 151st Street and Biscayne Canal	Structure-Mounted	8	1,100	2.5	0	**Not Recommended** – This noise barrier does not meet FDOT's noise level reduction reasonableness criteria due to insufficient height.
SR 7/US 441 – West Side of Parkway Towers Condominium	Ground-Mounted	22	380	6.6	0	**Not Recommended** – This noise barrier does not meet FDOT's noise level reduction reasonableness criteria due to insufficient height.
Turnpike Connector – West Side between SR 826 and NW 168th Drive	Ground-Mounted	22	350	5.1	0	**Not Recommended** – This noise barrier does not meet FDOT's noise level reduction reasonableness since it is possible to only add a short noise barrier to the existing noise barrier.

7.11.2 Intelligent Transportation Systems

The Recommended Interim Build Alternative will include Intelligent Transportation System (ITS) elements to support traffic management and operations of the major roadways within the interchange. Existing ITS devices are currently being used to analyze and manage the major roadways within the interchange but the Recommended Interim Build Alternative will impact the ITS requiring the relocation of the devices and infrastructure. Following is a description of the existing ITS features within the project study area and potential impacts on them for the proposed improvements as part of the Recommended Interim Build Alternative. **Figure 7-17** shows the major ITS features within the project study area.

7.11.2.1 Closed Circuit Television (CCTV) cameras

CCTV cameras currently provide coverage on the major roadways within GGI and enables traffic monitoring and early incident detection capabilities. Within the study limits, the existing cameras are located along the following major roadways.

- I-95 – eight (8) CCTVs
- SR 826/Palmetto Expressway – one (1) CCTV close to NW 17th Avenue and one (1) at the merger/diverge point of SR 826, Florida's Turnpike and I-95 southbound
- Turnpike Connector – one (1) CCTV near Park and Ride area and one (1) CCTV at Turnpike Connector overpassing the SR 826 Connector

The proposed widening as part of the Recommended Interim Build Alternative may potentially impact the existing CCTVs along southbound I-95 near NW 151st Street, Biscayne Canal and Park and Ride. The CCTV near Park and Ride area along the Turnpike Connector as well as the CCTV along the SR 826 eastbound may be impacted by the proposed widening along these roadways. These cameras will have to be relocated as part of the proposed improvements. The CCTV on the northbound side of Turnpike will not be impacted.

7.11.2.2 Dynamic Message Signs (DMS)

DMSs are currently deployed along the corridor to inform motorists of current traffic conditions and incidents such as crashes, disabled vehicles, road work, car fires, hazmat spills, evacuations and AMBER alerts. Within the study limits, the existing DMSs are located along the following major roadways.

- I-95 – 4 DMSs
- SR 826/Palmetto Expressway – none
- Turnpike Connector – none

The proposed widening along I-95 southbound lanes as part of the Recommended Interim Build Alternative may potentially impact the existing 2 DMSs along southbound I-95 close to the express lane entrance.



Figure 7-17 Major ITS Features within the Study Area

7.11.2.3 Vehicle Detection System

Microwave Vehicle Detection System (MVDS) sensors are part of the District Six Vehicle Detection System. These devices are non-intrusive, mounted on poles along the shoulders and collect volume, occupancy, average speed and long vehicle count data. Within the study limits, the existing MVDSs are located along the following major roadways.

- I-95 – 8 MVDSs
- SR 826/Palmetto Expressway – 6 MVDSs
- Turnpike Connector – 1 MVDS

The proposed widening along I-95 southbound lanes as part of the Recommended Interim Build Alternative may potentially impact the existing 2 MVDSs on southbound I-95 near the Park and Ride area.

7.11.2.4 ITS Hubs

There are two ITS hubs located within the project study area: Whatley Plaza Hub and the Park and Ride Hub. As part of the proposed improvements, no relocation or modification of the existing hub is anticipated for the Whatley plaza hub. However, due to widening and reconstruction of the Turnpike Connector southbound lanes, the ITS hub within the Park and Ride area will have to be relocated.

7.11.2.5 Ramp Metering Signals (RMS)

There are three ramp metering signals within the project area. These ramp metering signals are located on I-95 access ramps at NW 151st street to southbound I-95, NW 167th street to southbound I-95 and NW 2nd avenue to I-95 northbound. None of the RMSs will be impacted due to the proposed improvements as part of the Recommended Interim Build Alternative.

7.11.2.6 Fiber Optic Communication System

Fiber Optic (FO) infrastructure is already in place for the currently deployed ITS equipment. The current FO backbones will have to be relocated or modified as part of the modified locations to CCTV cameras, MVDS sensors and DMSs.

A detailed evaluation of the proposed ITS conflict should be done during the final design phase to identify any ITS conflict and potential modification or replacement of any dynamic message sign structure. A detailed ITS plans component will be required as part of the final design construction design plans package.

7.11.2.7 Transit Considerations

The Recommended Interim Build Alternative on the Palmetto Expressway maintains the existing transit service entry and exit access through the GGI area, including the existing Park & Ride lots. There may be temporary delays due to construction activities for the proposed entrance and exit modifications between SR 826, the Turnpike Connector and I-95; however, existing transit routes should continue without re-routing during construction. Bus Routes 95 and 195 will continue to provide the express bus service to and from I-95 unaffected. Bus Route 105 should continue to run unimpeded on NW 6th Ave/NW 165th St. Routes 22 and 246 will go unaffected at the SR 9 fork onto I-95 and SR 7/US 441, since this fork will maintain access to both roadways despite the alterations to improve capacity at the fork.

The widening of the southbound Turnpike Connector to I-95 Southbound shows an encroachment into the Golden Glades Park & Ride east lot. It is estimated that 49 parking spaces will be removed due to the roadway widening. However, the impacts will be minimized with the construction of a vertical MSE wall to contain the fill required to widen the Turnpike Connector southbound lanes. The widening will impact the existing bus shelter resulting in a loss of one bus bay. In order to mitigate these impacts, the parking spaces within the east will be reconfigured as shown in **Figure 7-18**. Bus routes 77, 277 and 95 may encounter temporary construction delays due to construction activities and reconfiguration of the park and ride east lot.

The Recommended Interim Build Alternative will result in better connectivity of SR 826 to I-95 allowing for better access of Miami-Dade Bus Transit links to and from Broward County, such as future 95 Express route expansion. While no additional direct impacts are anticipated to the existing transit service from the Recommended Interim Build Alternative, there may be delays in the bus routes due to traffic during the construction phase. Coordination will be required for construction over the railroad tracks to minimize potential impact to rail operations, including Tri-Rail service for the Turnpike Connector route to southbound I-95.

7.11.2.8 Landscaping

The proposed improvements under the recommended interim build alternative will impact the existing landscape along SR 826/Palmetto Expressway as well as within the interchange loop ramps. However, these areas will be restored when construction activities are comleted. It is recommended to incorporate the Bold initiative into the landscape plans during the final design phase whenever feasible.

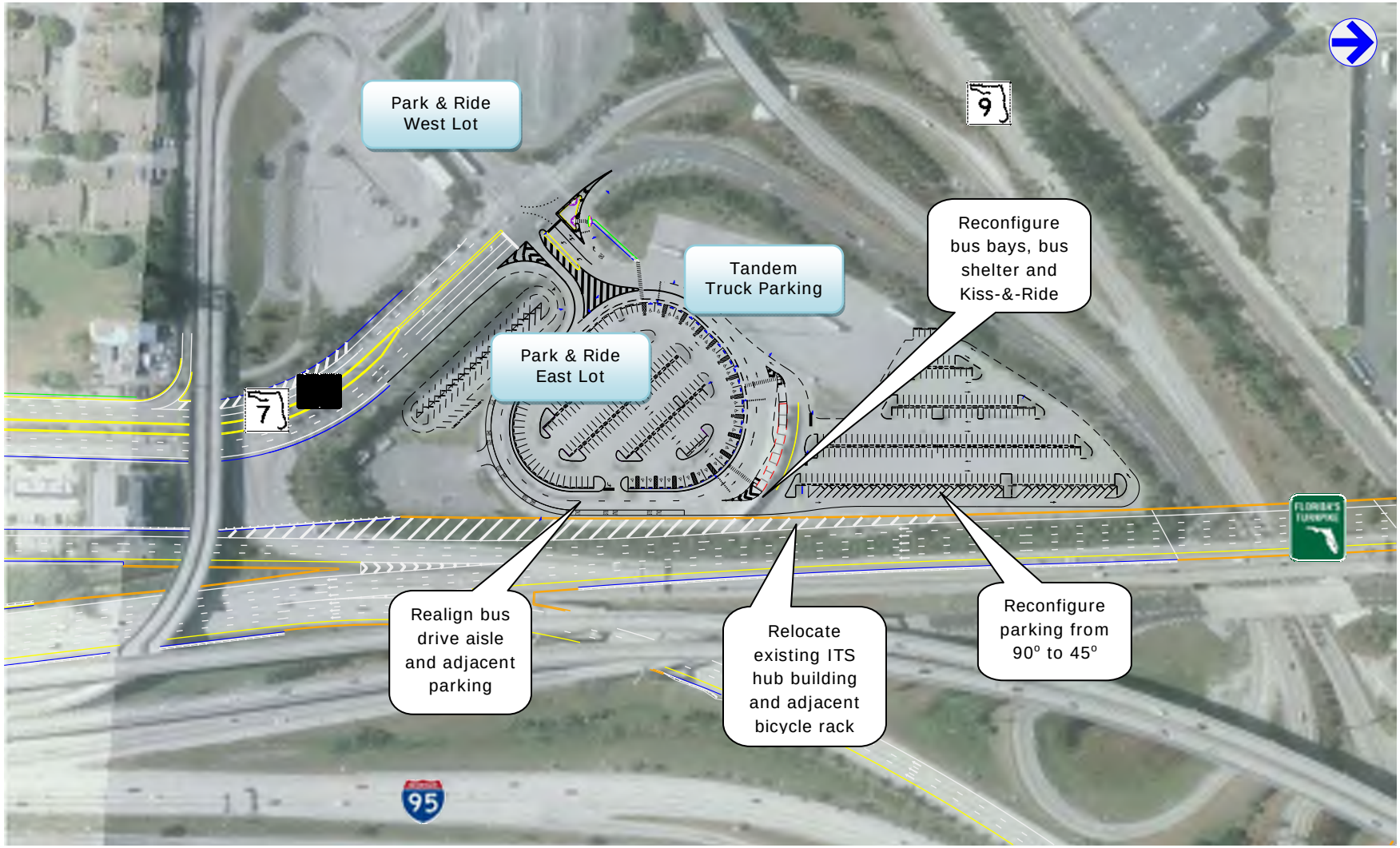


Figure 7-18 Proposed Modifications to GGI Park and Ride East Lot Parking

7.12 Cost Risk Analysis

A Cost Risk Analysis (CRA) workshop was conducted as part of this PD&E Study from July 31 through August 2, 2012. The purpose of the cost risk analysis is to manage the project risks related to performance, cost and schedule for the various project alternatives. During the CRA workshop, key risks to the project were identified and quantified. The discussion revolved around 125 risk and uncertainty items dealing with all aspects of the project, including: schedule, design, structures and geotechnical, right of way, utilities, construction, traffic management and maintenance, environmental and drainage, management and funding, contracting and procurement, and public and local government risks. The top ten cost risks factors identified, together with the targeted mitigation strategies are shown in **Table 7-16**.

Table 7-16
Targeted Mitigation Strategies for Top Cost Risks

Risk ID	Risk Name	Mitigation Strategy
DES.19	Reroute SB Florida's Turnpike traffic to a new roadway from about SR 826 to NW 2nd Avenue intersection that avoids temporary widening of the bridge over I-95 (870041).	The SR 826 connector bridge over I-95 (870041) will be replaced as part of the Recommended Interim Build Alternative. A detailed MOT scheme for the bridge replacement was evaluated to avoid the need for temporary widening.
UTL.03	Utility relocation costs may be responsibility of project	All UAO(s) owning major facilities within the area of the Project have Master Agreements with the Department. No utility easements have been identified and No UAO's have claimed compensable interest along the corridor. Coordination with the utility agencies will continue throughput the project.
DES.17	Replace full bridge (870041) in 3A rather than just End Span to avoid throw away cost.	This recommendation was incorporated. The Recommended Interim Build Alternative includes the replacement of the SR 826 connector bridge over I-95 (870041).
DES.04	Design Exceptions or Variations are not approved by FHWA	Coordination with FHWA has been on-going throughout the study. Approvals for the identified design variations and exceptions are anticipated prior to the completion of the PD&E Study.
ENV.25	Clean-up of contaminants located near I-95 & Florida's Turnpike to avoid additional right of way acquisition	The Recommended Interim Build Alternative includes the acquisition of additional right of way within the Sunshine Industrial Park to accommodate the NW 12th Avenue on-ramp. This additional right of way will provide additional area for stormwater treatment using dry retention ponds.
ENV.18	Design Changes for Ponds due to Superfund Site	The Recommended Interim Build Alternative includes the acquisition of additional right of way to accommodate the NW 12th Avenue on-ramp. This additional right of way will provide additional area for stormwater treatment using dry retention ponds as proposed.

Table 7-16
Targeted Mitigation Strategies for Top Cost Risks

Risk ID	Risk Name	Mitigation Strategy
ROW.06	Drainage cannot be accommodated within Existing ROW near the I-95 Biscayne Bridge	The Recommended Interim Build Alternative includes right of way acquisition for the properties west of I-95 and north of the Biscayne Canal. This will provide adequate area for stormwater treatment as well as relocation of the double 72" drainage pipes currently draining this area.
DES.11	Unexpected Additional Drainage Costs due to the need for additional ROW	See mitigation strategy for previous risk.
TMT.09	Extraordinarily complex Staging/ Maintenance of Traffic	A requirement will be included in the design build criteria package based on lane closure analysis which will establish allowable traffic restrictions and work days/hours that will be placed on the contractor early to better quantify the cost/schedule impacts.
CNS.16	Other Construction Projects in Region Limit Supply / Cost of Materials	It is anticipated that most of the major construction projects within the tri-county area (I-595, I-75, SR 826, port of Miami) would be completed by the anticipated construction year of 2017. Thus there should be availability of construction materials for the project.

7.13 Value Engineering Summary

A Value Engineering (VE) Study was conducted from August 13 to August 17, 2012 for the interim project. The purpose of the Value Engineering Study is to ensure that the project objectives are addressed and the project remains cost effective, constructible, and makes the most efficient use of existing resources. The Value Engineering Report detailing the findings and recommendations from the VE Study Team was submitted to the Florida Department of Transportation – District Six on September 6, 2012. **Table 7-17** summarizes the Study Team's responses to the VE Team's recommendations. These recommendations are detailed in the Value Engineering Report.

Table 7-17
Value Engineering Recommendations

Recommendations		Description	Status	Reason
SR 826 to Northbound I-95	1A	Reduce the length of bridge by using a combination of Steepened slopes, MSE walls, fill and pavement.	Rejected	The VE Alternative will present significant problems for maintenance of the sloped vegetation. In addition, proposed MSE Walls with heights of 50-ft and a ramp width of 36-ft 1-inch will require a Bin Wall Special design since the strap lengths are constricted and not long enough.
	1B	Reduce the length of bridge by using a combination of MSE walls, fill and pavement.		
	2	Realign the new ramp under I-95 Express bridge then over the Turnpike Connector and NW 167th Street, then touchdown to NB I-95	Rejected	The VE alternative will require the replacement of the SR 7 NB bridge over I-95. In addition, alignment conflicts with the proposed alignment for the SR 826 express lanes connection to the I-95 express lanes under the ultimate improvements.
Southbound Turnpike Connection	3A	Restripe/reduce lanes to avoid widening bridge number 870601 or replacing bridges 870159 and 870045	Rejected	The MOT for the VE alternative will reduce the existing weaving distance between the two traffic streams from 1,650-ft to 850-ft and create significant traffic operational and safety problems for SR 826 EB to I-95 SB as well as Florida's Turnpike SB to I-95 NB and SR 7/US 441 traffic.
	3B	Restripe/reduce lanes to avoid widening bridge number 870601 or replacing bridges 870159 and 870045, but widen the roadway.	Rejected	
SB I-95 Widening	4	Purchase Right-of-way north of Biscayne Canal, construct the SR 7 Ramp exit at NW 156th Street and relocate the drainage	Accepted	The Recommended Interim Build Alternative requires relocation of the Turnpike Connector to SR 7 off-ramp to provide adequate weaving distance along the Turnpike Connector. This requires the right of way acquisition of the properties west of I-95 and north of the Biscayne Canal. This will provide additional area for stormwater treatment as well as relocation of the double 72" drainage pipes.
	5	Purchase enough right-of-way to relocate the existing double 72" drainage pipes	Accepted	
	6	Reroute the twin 72" RCP's away from I-95. The pipes will travel approximately 230' to the east edge of SR 7 from the current inlet. Then will turn south along SR 7 to the Biscayne Canal	Rejected	Alternative no longer applicable due to acquisition of adequate right of way to relocate double 72" drainage pipes.
NW 167th Street and NW 2nd Avenue	7	Make NW 2nd Avenue between NW 167th Street and I-95, northbound only as part of the interim improvements	Rejected	Based on discussions with the Hospital, the recommended VE improvements will significantly impact operations of the Hospital emergency vehicles.
NW 17th Avenue Reconstruction	8	Eliminate the 17th Avenue improvements entirely by redirecting traffic onto NW 16th Court so that the NB to EB traffic can turn right onto the south Frontage Road and enter the expressway at the On Ramp east of NW 17th Avenue	Rejected	The initial recommendation was applicable to Interim Build Alternative 3A which is no longer the Recommended Interim Build Alternative. There are no impacts to NW 17th Avenue under the current Recommended Interim Build Alternative (Interim Build Alternative 4).

The detailed responses to each of the above Value Engineering recommendations are provided in Value Engineering Response Memorandum (See **Appendix L**).

7.14 Conceptual Design Plans

The conceptual layouts that details typical sections, horizontal and vertical alignments, bridge improvements and right of way impacts for the Recommended Interim Build Alternative are provided in the PD&E Conceptual Design Plans prepared for this study.

7.15 List of Technical Reports Completed for the Project

Below is a list of technical studies performed during this PD&E Study and on file at the Florida Department of Transportation, District Six. The ones shown with an asterisk * are included as an appendix to this report.

Environmental Technical Studies

- Wetlands Evaluation Report
- Water Quality Impact Evaluation Checklist
- Endangered Species Biological Assessment
- Noise Study Report
- Air Quality Technical Memorandum
- Contamination Screening Evaluation Report
- Cultural Resource Assessment Survey
- Conceptual Stage Relocation Plan

Engineering Technical Studies

- Methodology Letter of Understanding
- Project Traffic Forecasting Report
- Interchange Modification Report
- Design Traffic Technical Memorandum
- Preliminary Alternatives Analysis Report
- Stormwater Management Report
- Location Hydraulics Memorandum
- Bridge Analysis Report
- Safety Analysis Report
- Preliminary Geotechnical Report
- Value Engineering Study Report
- Cost And Schedule Risk Assessment Report
- Utilities Impact and Assessment Memorandum *
- Florida Gas Transmission Utility Relocation Assessment Memorandum

APPENDIX A

(Straight Line Diagrams)

A=ASPHALT
B=BRICK
C=CONCRETE
O=OTHER

INTERIM REVISIONS	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	02/25/10	03/17/10				
BY	URS	URS				
0						

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION

INT. OR US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO.
	SR 826	MIAMI-DADE	6	87170000	1

SHEET OF. 2 1

MIAMI-DADE COUNTY

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

0.000 INSIDE URBAN, OUTSIDE CITY; MIAMI; <=GOLDEN GLADES INTCHG; <SR 826

SR91/SE END BR 038

91

OFF RAMP 87205618 A 0.070

GPS COORDINATES
25°55' 53" N
80°12' 44" W

SEABOARD RD

S.A.F. RR TRACKS

I-95 HOV SB FLYOVER

I-95 HOV NB FLYOVER

ON RAMP 87170353 A 0.174

OFF RAMP 87140063 A 0.174

SR 9/US 441

RAMP 87170354

2QUAD, CLV

9

SR 9A/I-95 SB

SR 9A/I-95 NB

SR 9/US 441

9A

9

GOLDEN GLADES INTCHG=>|<=NW 167 ST

OFF RAMP 87170354 A 0.405

ON RAMP 87140068 A 0.474

TRN LN TO NW 7 AVE A 0.503

ON RAMP 87170352 A 0.373

SA 0.474 A

NW 167 ST =>|<=NE 167 ST

NW 1 AVE A 0.603

N MIAMI AVE A 0.728

SA 0.728 A

0366 0.786

NE 1 AVE A 0.853

NE 2 AVE A 0.977

SA 0.977 A

0.000 78.0' - 48.0'
4 - 12.0' RDWY
6.0' BWALL MED
2*9.0' PVD SHLD 1
2*3.0' VG SHLD2
2*2.0' PVD INSHLD 1

0.174 68.0' - 48.0'
4 - 12.0' RDWY
6.0' CB>6/GR MED
10.0' PVD SHLD 1 - LT
2.0' C&G SHLD2 - LT
2.0' PVD SHLD 1 - RT
0.0' RC SHLD2 - RT

0.373 86.0' - 66.0'
6 - 11.0' RDWY
16.0' CB<6/LWN MED
2*2.0' C&G SHLD 1
2*2.0' C&G INSHLD 1

0.603 86.0' - 66.0'
6 - 11.0' RDWY
16.0' C<6 MED
2*2.0' C&G SHLD 1

35 MPH

ROADWAY COMPOSITION: 28/FC-2 / 28/FC-2 — 0.114 — 8 / 8 — 0.153 — 28/FC-2 / 28/FC-2 — 0.196 — 8 / 8 — 0.307 — 28/FC-2 / 28/FC-2

HORIZONTAL ALIGNMENT: B=N43°3'28"W; Δ=80°3'32" D=10°4'00.00 PC=0.251 PI=0.335 PT=0.404; B=N59°4'38"E; PC=0.534 PI=0.557 PT=0.579 D=2°0'00.00 Δ=4°0'54"; B=N86°7'50"E; Δ=0°0'16" PI=0.977; B=N85°1'50"E

STRUCTURE DESCRIPTION: 0.114 0642 205' BR 0.153; 0.159 0774 31' UP 0.165 0952 26' UP 0.170; 0.196 0046 274' BR 0.248; 0.248 0041 311' BR 0.307

TRAFFIC DATA: AADT= 64,500 D= 55.75 K= 9.09 T= 3.76 — All Traffic Data as of 12-31-08

SIS:

FUNCTIONAL CLASSIFICATION: URBAN PRINCIPAL ARTERIAL -- OTHER FREEWAYS AND EXPRESSWAYS NHS | 0.184 URBAN PRINCIPAL ARTERIAL -- OTHER FREEWAYS AND EXPRESSWAYS STP | 0.474 URBAN OTHER PRINCIPAL ARTERIAL STP

● = SIGNALIZED INTERSECTION

1 2 3

MIAMI-DADE COUNTY

NORTH MIAMI BEACH

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

1.728 INSIDE CITY & URBAN; NORTH MIAMI BCH., MIAMI

5229

NE 167 ST => |<=NE 163 ST

NE 3 AVE A 1,102 — NE 3 AVE A 1,102

NE 3 CT A 1,169 — SA

NE 4 AVE A 1,229 — NE 4 AVE A 1,229

NE 4 CT A 1,289

NE 4 PL A 1,321

NE 5 AVE A 1,353 — NE 5 AVE A 1,353

SR 915/NE 6 AVE A 1,477 — SA — A 1,477

915

NE 7 AVE A 1,601 — NE 7 AVE A 1,601

NE 8 AVE A 1,728 — SA — A 1,728

NE 167 ST A 1,840 — SA

TRN LN FR NE 10 AVE A 1,980

NE 10 AVE A 2,007

TRN LN FR NE 10 AVE A 2,042

2,028 A

2,028 A

NE 11 AVE A 2,178

2,178 A

NE 11 CT A 2,234

NE 12 AVE A 2,306 — SA — A 2,306

NE 12 CT A 2,347

MALL ENTRANCE A 2,380

NE 13 AVE A 2,442

NE 14 AVE A 2,566

MALL ENT A 2,641

NE 15 AVE A 2,689 — SA — A 2,689

2,718 A

MIAMI DR

2,728 A

NE 16 AVE A 2,816 — NE 16 AVE A 2,816

NE 17 AVE A 2,941 — NE 17 AVE A 2,941

1.840 86.0' - 66.0'
6 - 11.0' RDWY
16.0' CB<6/LWN MED
2*2.0' C&G SHLD 1
2*2.0' C&G INSHLD 1

1.973 86.0' - 66.0'
6 - 11.0' RDWY
16.0' C<6 MED
2*2.0' C&G SHLD 1

2.541 86.0' - 66.0'
6 - 11.0' RDWY
16.0' CB<6/LWN MED
2*2.0' C&G SHLD 1
2*2.0' C&G INSHLD 1

35 MPH

ROADWAY COMPOSITION: 28/FC-2 / 28/FC-2

HORIZONTAL ALIGNMENT: Δ=0°0'03" PI=1.477 B=N85°4'50"E; PC=1.741 PI=1.856 PT=1.959 D=3°5'00.00 Δ=43°3'54"; Δ=43°9'09" D=3°5'00.00 PC=2.101 PI=2.216 PT=2.320; Δ=0°4'40" PI=2.347 B=N85°0'10"E; Δ=0°0'40" PI=2.566 B=N85°9'30"E

STRUCTURE DESCRIPTION:

TRAFFIC DATA: AADT= 64,500 D= 55.75 K= 9.09 T= 3.76 — All Traffic Data as of 12-31-08 | 1.477 AADT= 56,000 D= 55.75 K= 9.09 T= 3.58

SIS:

FUNCTIONAL CLASSIFICATION: URBAN OTHER PRINCIPAL ARTERIAL STP

GOLDEN GLADES INTERCHANGE/NW 167 STREET/NE 167 STREET/NE 163 STREET (Miami-Dade County/North Miami Beach)

A=ASPHALT
B=BRICK
C=CONCRETE
O=OTHER

INTERIM REVISIONS						
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	09/03/10	10/01/10				
BY	URS	URS				

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION

INT. OR US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO.
I 95	SR 9A	MIAMI-DADE	6	87270000	4 OF. 6

8 9

MIAMI-DADE COUNTY

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

OFF RAMP 87270190 C 7.504

LITTLE RIVER CANAL

ON RAMP 87270192 C 8.105

OFF RAMP 87270193 C 8.112

NW 95 ST

2041

DIAMOND

8.263

OFF RAMP 87270194 C 8.427

ON RAMP 87270195 C 8.421

Exit-008A

NW 6 AVE

ON RAMP 87270196 C 8.638

OFF RAMP 87270198 C 8.633

NW 103 ST

SR 932

2085

DIAMOND

Exit-008B

8.857

OFF RAMP 87270197 C 8.920

ON RAMP 87270199 C 8.908

932

186.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
10.0' PVD/WD SHLD1 - LT
12.0' LWN SHLD2 - LT
6.0' PVD SHLD1 - RT
12.0' LWN SHLD2 - RT
2*6.0' PVD INSHLD1

7.749 190.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
10.0' PVD/WD SHLD1 - LT
12.0' LWN SHLD2 - LT
10.0' PVD SHLD1 - RT
12.0' LWN SHLD2 - RT
2*6.0' PVD INSHLD1

8.112 166.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
8.0' PVD/WD SHLD1 - LT
2.0' VG SHLD2 - LT
10.0' PVD SHLD1 - RT
2*6.0' PVD INSHLD1

8.421 188.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
10.0' PVD SHLD1 - LT
10.0' LWN SHLD2 - LT
10.0' PVD SHLD1 - RT
12.0' LWN SHLD2 - RT
2*6.0' PVD INSHLD1

8.633 167.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
3.0' PVD SHLD1 - LT
3.0' VG SHLD2 - LT
10.0' PVD/WD SHLD1 - RT
2*6.0' PVD INSHLD1

8.908 172.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
10.0' PVD SHLD1 - LT
10.0' LWN SHLD2 - LT
6.0' PVD SHLD1 - RT
2*6.0' PVD INSHLD1

55 MPH

ROADWAY COMPOSITION: 8 — 8

HORIZONTAL ALIGNMENT: PC=7.539 PI=7.619 PT=7.700; D=0°2' Δ=1°1'42"; B=N1°5'42"E; Δ=1°6'03" PI=8.287; B=N0°0'21"E; Δ=4°5'30" D=1°0'00.00 PC=8.871 PI=8.919 PT=8.965; B=N3°9'48"E

STRUCTURE DESCRIPTION:
7.540 1-18" X 210' CC
7.726 0317 121' BR 7.749
7.749 0433 121' BR 7.726
7.765 1-18" X 210' CC
7.780 1-18" X 210' CC
7.815 1-18" X 210' CC
7.850 1-18" X 85' CC
7.875 1-18" X 210' CC
7.915 1-18" X 210' CC
8.070 1-18" X 85' CC
8.175 1-14" X 85' CC
8.246 0434 205' BR 8.285
8.465 1-14" X 85' CC
8.575 1-14" X 85' CC
8.715 1-14" X 85' CC 1-14" X 85' CC
8.756 0435 179' BR 8.790
8.945 1-14" X 85' CC

TRAFFIC DATA: AADT= 251,000 D= 50.56 K= 7.93 T= 4.07 — All Traffic Data as of 12-31-09
8.767 AADT= 222,000 D= 50.56 K= 7.93 T= 4.07

SIS: SIS HIGHWAY FACILITY

FUNCTIONAL CLASSIFICATION: URBAN PRINCIPAL ARTERIAL – INTERSTATE; NHS

● = SIGNALIZED INTERSECTION

9 10 11

MIAMI-DADE COUNTY

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

NW 111 ST

ON RAMP 87270200 C 9.630

OFF RAMP 87270201 C 9.620

SR 924/NW 119 ST

Exit-009

PAR. DIAMOND

924

9.181 166.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
8.0' PVD SHLD1 - LT
2.0' VG SHLD2 - LT
10.0' PVD/WD SHLD1 - RT
2*6.0' PVD INSHLD1

9.946
x INSIDE CITY & URBAN
x NORTH MIAMI, MIAMI

ON RAMP 87270202 C 10.007

OFF RAMP 87270203 C 9.995

SR 922/NW 125 ST

Exit-010A

2100

DIAMOND

OFF RAMP 87270210 C 10.238

C 10.288

C 10.289

N W 6 AVE

ON RAMP 87270211

922

NORTH MIAMI

NW 131 ST

NW 6 AVE

ON RAMP 87270204 C 10.661

OFF RAMP 87270205 C 10.653

SR 916/NW 135 ST

Exit-010B

SR 916/ OPALOCKA BLVD

DIAMOND

916

916

10.289 172.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
10.0' PVD/WD SHLD1 - LT
8.0' PVD SHLD1 - RT
2.0' VG SHLD2 - RT
6.0' LWN SHLD3 - RT
2*6.0' PVD INSHLD1

10.405 164.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
10.0' PVD/WD SHLD1 - LT
8.0' PVD SHLD1 - RT
2*6.0' PVD INSHLD1

10.661 166.0' - 132.0'
2 - 11.0' RDWY
4.0' BWALL MED
10.0' PVD/WD SHLD1 - LT
10.0' PVD SHLD1 - RT
2*6.0' PVD INSHLD1

55 MPH

ROADWAY COMPOSITION: 8 — 8

HORIZONTAL ALIGNMENT: PC=9.021 PI=9.062 PT=9.102; D=1°0'00.00 Δ=4°5'31" B=N0°5'43"E; PC=9.542 PI=9.644 D=1°0' Δ=5°1'18"; Δ=5°1'48" D=1°0' PC=9.699 PI=9.753 PT=9.807 B=N5°7'01"E; B=N0°5'13"E; Δ=2°8'18" PI=10.450 B=N2°3'05"W; Δ=3°2'41" D=0°3' PC=10.806 PI=10.848 PT=10.891; PC=10.925 PI=11.080 PT=11.235; D=0°4'00.00 Δ=6°3'25" B=N6°5'46"W

STRUCTURE DESCRIPTION:
9.020 1-14" X 85' CC
9.175 1-14" X 85' CC
9.260 0436 163' BR 9.291
9.330 1-14" X 85' CC
9.360 1-14" X 85' CC
9.380 1-14" X 85' CC
9.440 1-18" X 85' CC
9.475 1-14" X 85' CC
9.560 1-18" X 85' CC
9.665 1-14" X 85' CC
9.725 1-14" X 85' CC 9.756
9.756 1-14" 9.793
9.793 0437 195' BR
9.895 1-14" X 85' CC
9.920 1-18" X 85' CC
9.980 1-14" X 85' CC
10.030 1-18" X 85' CC
10.085 1-18" X 85' CC
10.133 0322 184' BR 10.168
10.133 0438 184' BR 10.168
10.215 1-14" X 85' CC
10.350 1-14" X 85' CC 1-14" X 85' CC
10.400 1-14" X 85' CC
10.511 0323 353' BR 10.578
10.511 0439 353' BR 10.578
10.762 0344 174' BR 10.795
10.762 0443 174' BR 10.795
10.858 0444 179' BR 10.892

TRAFFIC DATA: AADT= 222,000 D= 50.56 K= 7.93 T= 4.07 — All Traffic Data as of 12-31-09
9.772 AADT= 228,000 D= 50.56 K= 7.93 T= 4.07
10.777 AADT= 232,000 D= 50.56 K= 7.93 T= 4.07

SIS: SIS HIGHWAY FACILITY

FUNCTIONAL CLASSIFICATION: URBAN PRINCIPAL ARTERIAL – INTERSTATE; NHS

A=ASPHALT
B=BRICK
C=CONCRETE
O=OTHER

INTERIM REVISIONS	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	09/03/10	10/01/10				
BY	URS	URS				

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION

INT. OR US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO.
12 I 95	SR 9A	MIAMI-DADE	6	87270000	5

OF. 6

11

ROADWAY FEATURES

NORTH MIAMI

11.310 INSIDE URBAN, OUTSIDE CITY MIAMI

NW 6 CT

OFF RAMP 87270206 C 11.007

ON RAMP 87270207 C 11.010

NW 6 AVE

NW 143 ST

PEDESTRIAN CROSSWALK

MIAMI-DADE COUNTY

11.685 C

NW 151 ST

Exit-011

11.659

OFF RAMP 87270208

PAR. DIAMOND

BISCAYNE RIVER CANAL

12.074 (RAMP 525) C SB FLYOVER

Exit-012A

NB FLYOVER RAMP 526

2134

12.190

12.131 C

(RAMP 212) 12.256 C

ON RAMP 225 OFF RAMP 211

OFF RAMP 87270212

12.379 (RAMP 210) C

RAMP 87140069

I-95 SB FLYOVER

I-95 NB FLYOVER ON RAMP 87270210

OFF RAMP 87270212

Exit-012B

12.416 C

OFF RAMP 87270213

LANE WIDTHS ARE AVERAGED

11.010 162.0' - 132.0'
12 - 11.0' RDWY
4.0' BWALL MED
10.0' PVD/WD SHLD I - LT
10.0' PVD SHLD I - RT
2*6.0' PVD INSHLD I

11.293 158.0' - 132.0'
12 - 11.0' RDWY
4.0' BWALL MED
2*6.0' PVD SHLD I
2*6.0' PVD INSHLD I

11.633 160.0' - 60.0'+66.0'
5 - 12.0'L + 6 - 11.0'R RDWY
4.0' BWALL MED
2*10.0' PVD/WD SHLD I
2*6.0' PVD INSHLD I

11.809 162.0' - 60.0'+66.0'
5 - 12.0'L + 6 - 11.0'R RDWY
4.0' BWALL MED
10.0' PVD/WD SHLD I - LT
2.0' VG SHLD2 - LT
10.0' PVD/WD SHLD I - RT
2*6.0' PVD INSHLD I

11.917 160.0' - 60.0'+66.0'
5 - 12.0'L + 6 - 11.0'R RDWY
4.0' BWALL MED
2*10.0' PVD/WD SHLD I
2*6.0' PVD INSHLD I

12.131 288.0' - 72.0'
6 - 12.0' RDWY
200.0' OTHER MED
10.0' PVD/WD SHLD I - LT
6.0' PVD SHLD I - RT
8.0' PVD/WD INSHLD I - LT
10.0' PVD INSHLD I - RT

12.416 304.0' - 72.0'
6 - 12.0' RDWY
200.0' OTHER MED
10.0' PVD/WD SHLD I - LT
10.0' PVD/WD SHLD I - RT
12.0' LWN SHLD2 - RT
8.0' PVD/WD INSHLD I - LT
10.0' PVD INSHLD I - RT

55 MPH

ROADWAY COMPOSITION: 8 / 8

HORIZONTAL ALIGNMENT:
Δ=1°2'41" D=0°0' PC=11.514 PI=11.558 PT=11.602
Δ=2°9'39" D=0°0' PC=11.840 PI=11.911 PT=11.982
PC=12.438 PI=12.535 PT=12.624 D=4°0'00.00 Δ=39°8'47"
B=N0°7'39"E
B=N1°5'02"W
B=N0°6'23"W

STRUCTURE DESCRIPTION:
11.085 1-18" X 210' CC
11.240 1-18" X 210' CC
11.260 0445 174' BR 11.293
11.485 0012 10' UP 11.487
11.769 0347 211' BR 0446 211' BR 11.809
11.769 11.809
11.895 1-18" X 210' CC
11.930 1-18" X 210' CC
12.039 0348 85' BR 12.057
12.266 0470 89' UP 12.283
12.382 0774 100' UP 12.401
12.420 0952 100' UP 12.430
12.450 0349 105' UP 12.470
12.470 1-18" X 75' CC

TRAFFIC DATA: AADT= 232,000 D= 50.56 K= 7.93 T= 4.07 — All Traffic Data as of 12-31-09
12.074 AADT= 171,000 D= 50.56 K= 7.93 T= 4.07

SIS: SIS HIGHWAY FACILITY

FUNCTIONAL CLASSIFICATION: URBAN PRINCIPAL ARTERIAL -- INTERSTATE; NHS

● = SIGNALIZED INTERSECTION

13 14

ROADWAY FEATURES

MIAMI-DADE COUNTY

826

12.871 INSIDE CITY & URBAN NORTH MIAMI BCH., MIAMI

NORTH MIAMI BEACH

SR 9 NW 6TH ST

ON RAMP 87170354

RAMP 87170353

SR 7/US-441 SB

I-95 SB FLYOVER

I-95 NB FLYOVER

RAMP 87140067

RAMP 87170363

13.212 INSIDE URBAN, OUTSIDE CITY MIAMI

MIAMI-DADE COUNTY

SR 9A >|<SR 9

2137

13.220

SB FLYOVER

13.613 C

NB FLYOVER

13.828 C

12.672 C

PAR. DIAMOND

Exit-012C

13.007 C

RAMP 87140048

13.172 C

PAR. DIAMOND

12.885 C

OFF RAMP 87270214

ON RAMP 87140065

SR 7/US-441 NB

SR 7/US-441 NB

13.155 C

ON RAMP 87140065

ON RAMP

RAMP 213

RAMP 87170362

SR 826

RAMP 87170364

LANE WIDTHS ARE AVERAGED

12.617 136.0' - 72.0'
6 - 12.0' RDWY
24.0' BWALL MED
10.0' PVD SHLD I - LT
8.0' LWN SHLD2 - LT
10.0' PVD/WD SHLD I - RT
12.0' LWN SHLD2 - RT
10.0' PVD/WD INSHLD I - LT
10.0' PVD INSHLD I - RT

12.854 136.0' - 72.0'
6 - 12.0' RDWY
24.0' BWALL MED
10.0' PVD SHLD I - LT
8.0' LWN SHLD2 - LT
10.0' PVD/WD SHLD I - RT
12.0' LWN SHLD2 - RT
2*10.0' PVD/WD INSHLD I

13.116 172.0' - 72.0'
6 - 12.0' RDWY
60.0' OTHER MED
10.0' PVD SHLD I - LT
8.0' LWN SHLD2 - LT
10.0' PVD/WD SHLD I - RT
2*10.0' PVD/WD INSHLD I

13.172 184.0' - 48.0'+36.0'
4 - 12.0'L + 3 - 12.0'R RDWY
60.0' OTHER MED
10.0' PVD SHLD I - LT
8.0' LWN SHLD2 - LT
10.0' PVD/WD SHLD I - RT
12.0' LWN SHLD2 - RT
2*10.0' PVD/WD INSHLD I

13.234 164.0' - 48.0'+36.0'
4 - 12.0'L + 3 - 12.0'R RDWY
60.0' OTHER MED
2*10.0' PVD SHLD I
2*10.0' PVD/WD INSHLD I

13.465 164.0' - 48.0'+36.0'
4 - 12.0'L + 3 - 12.0'R RDWY
60.0' OTHER MED
2*10.0' PVD SHLD I
10.0' PVD/WD INSHLD I - LT
10.0' PVD INSHLD I - RT

13.628 140.0' - 96.0'
8 - 12.0' RDWY
24.0' BWALL MED
2*10.0' PVD SHLD I
2*10.0' PVD INSHLD I

13.794 152.0' - 96.0'
8 - 12.0' RDWY
24.0' BWALL MED
10.0' PVD SHLD I - LT
10.0' PVD SHLD I - RT
12.0' LWN SHLD2 - RT
2*10.0' PVD INSHLD I

13.894 140.0' - 96.0'
8 - 12.0' RDWY
24.0' BWALL MED
2*10.0' PVD SHLD I
2*10.0' PVD INSHLD I

55 MPH

ROADWAY COMPOSITION: 8 / 8 — 13.368 28/FC-2 / 28/FC-2

HORIZONTAL ALIGNMENT:
PC=12.624 PI=12.684 PT=12.744 D=2°4'00.00 Δ=13°7'45"
Δ=26°4'55" D=3°3'00.00 PC=12.838 PI=12.922 PT=13.003
Δ=24°0'35" D=0°3'00.00 PC=13.118 PI=13.195 PT=13.270
PC=13.744 PI=13.852 PT=13.958 D=2°1'00.00 Δ=22°0'00"
B=N51°0'09"E
B=N25°5'14"E
B=N47°8'38"E
B=N69°8'38"E

STRUCTURE DESCRIPTION:
12.530 2-48" X 75' CC
12.560 1-48" X 99' CC
12.600 1-18" X 95' CC
12.620 2-36" X 75' CC
12.617 0040 36' UP 12.624
12.660 1-24" X 190' CC
12.760 1-24" X 85' CC
12.796 0041 100' UP 12.815
12.835 1-24" X 85' CC
12.854 0042 26' UP 12.859
12.970 1-24" X 210' CC
13.005 1-14" X 85' CC
13.045 1-16" X 75' CC
13.099 0243 79' UP 13.114
13.123 0243 89' UP 13.140
13.158 0952 95' UP 13.177
13.805 1-16" X 95' CC
13.845 1-14" X 80' CC

TRAFFIC DATA: AADT= 171,000 D= 50.56 K= 7.93 T= 4.07 — All Traffic Data as of 12-31-09

SIS: SIS HIGHWAY FACILITY

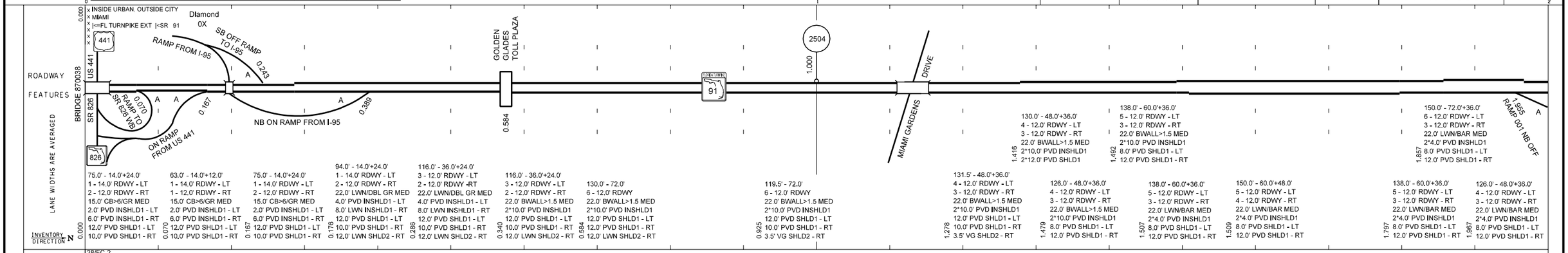
FUNCTIONAL CLASSIFICATION: URBAN PRINCIPAL ARTERIAL -- INTERSTATE; NHS

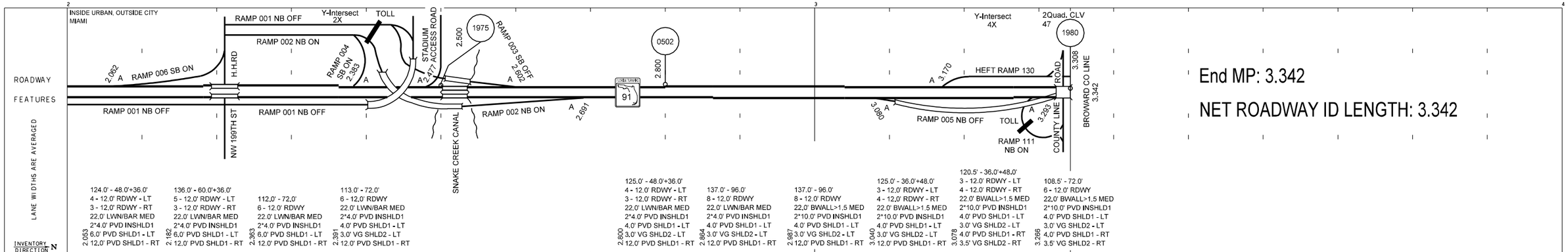
STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION

INTERIM REVISIONS						
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	01/10/08	03/13/08	0.000	3.342	05/10/09 SF	05/20/09 URS
BY	JCE/URS	CM/PBSJ				

INT. or US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO.:
	SR 91	MIAMI - DADE	8	87470000	1 OF 1





End MP: 3.342

NET ROADWAY ID LENGTH: 3.342

n:\OOT Statistics\District Eight - Turnpike\SLD Generation\87_Miami Dade\87470000.dgn
PRINTED: 5/21/2009 6:50:12 AM

A=ASPHALT
B=BRICK
C=CONCRETE
O=OTHER

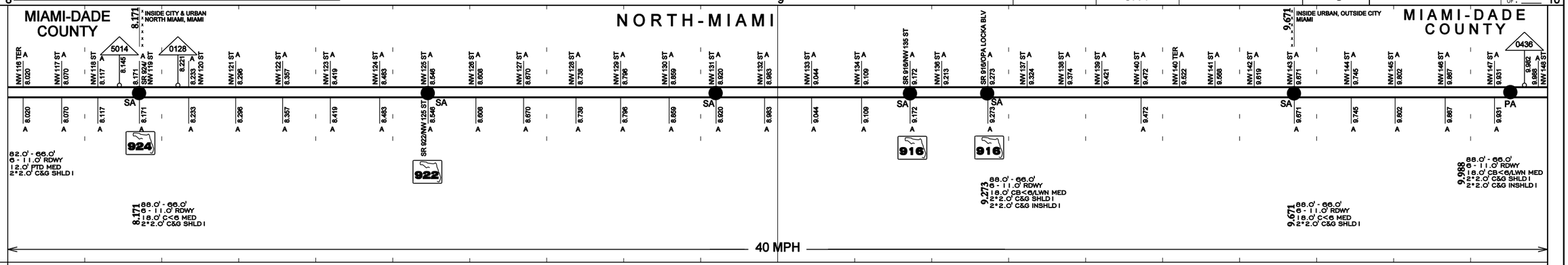
INTERIM REVISIONS					
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	03/18/10	04/22/10	10.714	11.113	01/04/12	01/09/12
BY	URS	URS				

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION

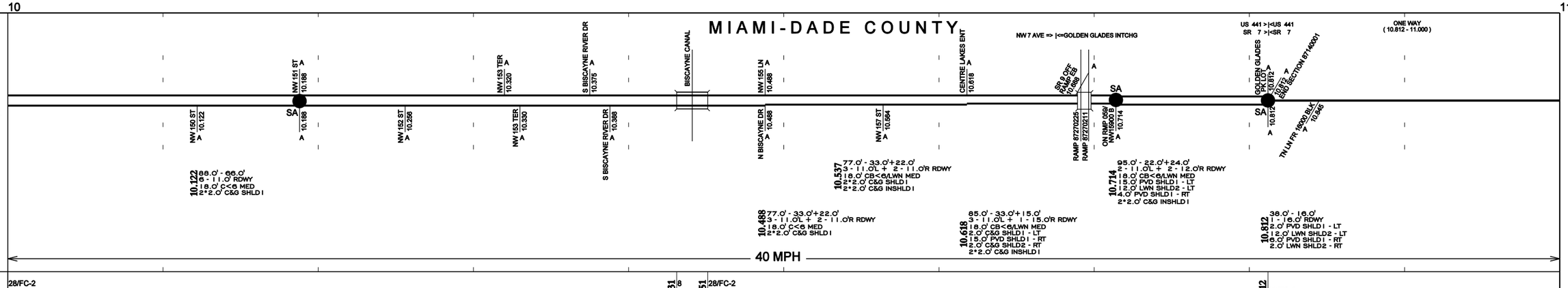
INT. OR US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET / OF.
US 441	SR 7	MIAMI-DADE	6	87140000	3 / 4

8 9 10



● = SIGNALIZED INTERSECTION

10 11



NW 7 AVE/GOLDEN GLADES INTERCHANGE (Miami-Dade County/North Miami)

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	03/15/12	04/04/12	12.147	14.680	04/13/2012	04/17/2012
BY	URS	URS	0.000	14.680	01/04/2012	01/09/2012
			0.991	0.991	N/A	11/2011 FDOT

INTERIM REVISIONS

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. OR US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO.
02	US 441	SR 7	MIAMI-DADE	06	87140000	4 OF 4

11.0 12.0

MIAMI-DADE COUNTY

11.000 INSIDE URBAN, OUTSIDE CITY
* MIAMI
1<=GOLDEN GLADES INTCHG <SR 7
1<=US 441

SR 9 OFF RAMP EB 11.018 — RAMP 87270210 — RAMP 87270212 — 2-QUADRANT CLOVERLEAF

11.018 38.0' - 24.0'
2 - 12.0' RDWY
2.0' PAVED SHLD I - LT
6.0' PAVED SHLD I - RT
4.0' LAWN SHLD2 - LT
2.0' LAWN SHLD2 - RT

11.000 38.0' - 16.0'
1 - 16.0' RDWY
2.0' PAVED SHLD I - LT
6.0' PAVED SHLD I - RT
2.0' LAWN SHLD2 - LT
2.0' LAWN SHLD2 - RT

11.113 44.0' - 24.0'
2 - 12.0' RDWY
4.0' PAVED SHLD I - RT
10.0' PAVED SHLD I - RT
4.0' LAWN SHLD2 - LT
2.0' CURB&GUTTER SHLD2 - RT

11.113 OFF RAMP A 87140062 — 5021 — 11.140 — 87270535 — 87270538 — HOV FLYOVER — HOV FLYOVER — I-95 — INTERSTATE 95

11.320 45.0' - 15.0'
1 - 15.0' RDWY
2* 3.0' PAVED SHLD I
2* 12.0' LAWN SHLD2

11.320 RAMP 87170352

ONE WAY (10,812 TO 11,883) — 826 — SR 826 87170000

11.493 RAMP 87170354

11.493 INSIDE CITY AND URBAN
* NORTH MIAMI BCH.
* MIAMI
1<=GOLDEN GLADES INTCHG <SR 7
1<=US 441

NORTH MIAMI BEACH

11.546 29.0' - 15.0'
1 - 15.0' RDWY
2* 4.0' PAVED SHLD I
2.0' CURB&GUTTER SHLD2 - LT
4.0' LAWN SHLD2 - RT

OFF RAMP 87140065 11.585 — ON RAMP 87140066 A 11.638

11.435 27.0' - 15.0'
1 - 15.0' RDWY
4.0' PAVED SHLD I - LT
6.0' PAVED SHLD I - RT
2.0' CURB&GUTTER SHLD2 - LT

OFF RAMP 87270214 A 11.720 — RAMP 87140065 — I-95 NB — I-95 SB — I-95 HOV NB — I-95 HOV SB

11.879 INSIDE URBAN, OUTSIDE CITY
* MIAMI
1<=GOLDEN GLADES INTCHG <SR 7
1<=US 441

FEC — NW 171 ST — RAILROAD TRACKS — INTERSTATE 95

11.883 INSIDE URBAN, OUTSIDE CITY
* MIAMI
1<=GOLDEN GLADES INTCHG <SR 7
1<=US 441

BEGIN SEC 87140001 A 11.883

11.896 INSIDE URBAN, OUTSIDE CITY
* MIAMI
1<=GOLDEN GLADES INTCHG <SR 7
1<=US 441

MIAMI-DADE COUNTY

11.738 28.0' - 24.0'
2 - 12.0' RDWY
2* 2.0' PAVED SHLD I
2* 0.0' RAISED CURB SHLD2

11.883 78.0' - 48.0'
4 - 12.0' RDWY
6.0 C.<6 IN. & GU.RAIL MED
2* 10.0' PAVED SHLD I
2* 2.0' CURB&GUTTER SHLD2

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

ROADWAY COMPOSITION

11.000 28/FC-2 — 11.191 08/FC-0 — 11.237 28/FC-2 — 11.738 08/FC-0 — 11.883 28/FC-2 / 28/FC-2

HORIZONTAL ALIGNMENT

Δ=77°13'54.00" D=13°26'00.00 PC=11.133 PI=8.198 PT=11.242
PC=11.306 PI=8.322 PT=11.339 Δ=22°22'10.00" D=12°57'00.00
PC=11.375 PI=8.396 PT=11.417 Δ=6°40'18.00" D=3°00'00.00
PC=11.455 PI=8.920 PT=11.477 Δ=60°11'10.00" D=3°56'00.00
Δ=57°18'20.00" D=13°26'00.00 PC=11.477 PI=8.521 PT=11.493
Δ=27°28'28.00" D=5'00" PC=11.493 PI=8.551 PT=11.558
Δ=27°28'28.00" D=5'00" PC=11.558 PI=8.551 PT=11.602
PC=11.602 PI=8.920 PT=11.661 Δ=60°11'10.00" D=3°56'00.00
Δ=17°18'38.00" D=3°56'00.00 PC=11.661 PI=8.703 PT=11.743
PC=11.743 PI=8.920 PT=11.859 Δ=60°11'10.00" D=3°56'00.00
PC=11.859 PI=8.920 PT=11.908 Δ=60°11'10.00" D=3°56'00.00
PC=11.908 PI=8.920 PT=11.985 Δ=60°11'10.00" D=3°56'00.00 B=N00°05'28"W

STRUCTURE DESCRIPTION

11.062 #0045 73 UP 11.076 11.079 #0245 47 UP 11.088
11.14 #0774 31 UP 11.146 #0952 31 UP 11.152
11.191 #0040 242 BR 11.237
11.435 #0041 100 UP 11.454
11.491 #0042 42 UP 11.499
11.738 #0243 765 BR 11.883
11.803 #0952 52 UP 11.813 11.814 #0774 52 UP 11.824
11.970 1 - 16" * 100' CC

TRAFFIC DATA

AADT= 24,000 D= 99.90 K= 9.00 T= 7.80 — All Traffic Data as of 12-31-11
11.883 AADT= 55,500 D= 55.10 K= 9.00 T= 5.30

SIS

11.000 SIS CONNECTOR

FUN CLASS

11.000 URBAN MINOR ARTERIAL STP
11.429 URBAN OTHER FREEWAY/EXPRESSWAY STP

SPEED LIMIT

11.000 40MPH
11.883 45MPH / 40MPH

● = SIGNALIZED INTERSECTION

12.0 13.0 14.0

MIAMI-DADE COUNTY

12.000 INSIDE URBAN, OUTSIDE CITY
* MIAMI
1<=GOLDEN GLADES INTCHG <SR 7
1<=US 441

RAMP 87260519 12.071 — RAMP 87260520 12.017 — NW 2 AVE 12.040 — NW 175 ST 12.088

SA 12.051 RAMP 87260520 — NW 176 ST 12.147

12.044 INSIDE URBAN, OUTSIDE CITY
* MIAMI
1<=NW 2 AVE <SR 7
1<=US 441

NW 177 ST 12.221 — NW 179 ST 12.343 — NW 181 ST 12.456

5021 — 12.545 — SR 860/ MIA GRDNS DR 12.604 — 5006 — 12.671

NW 187 ST 12.844 — NW 188 ST 12.894 — NW 189 ST 12.944 — NW 189 TER 12.993 — NW 190 ST 13.042 — NW 191 ST 13.096 — NW 193 ST 13.221 — NW 195 TER 13.370 — NW 196 ST 13.418 — NW 197 ST 13.470

FRONTAGE RD ENTRANCE 13.566 — NW 199 ST 13.598 — 0365 — 13.623

SNAKE CREEK CANAL — NW 202 TR/NW 203 TR 13.882 — NW 204 ST 13.998 — NW 204 TER 14.034 — NW 207 ST 14.177 — NW 209 ST 14.317 — 21200 BLK 14.533 — NW 215 ST 14.680

852 — SR 852/NW 215 ST — DADE/BROWARD CO LINE

END MP: 14.680
NET ROADWAY ID LENGTH: 14.680

GPS COORDINATES 25° 58' 21" N 80° 12' 21" W

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

12.044 83.0' - 24.0'L+33.0'R
2 - 12.0'L + 3 - 11.0'R RDWY
22.0 CURB W/LAWN/TURF MED
2* 2.0' CURB&GUTTER SHLD I
2* 2.0' CURB&GUTTER INSHLD I

12.147 88.0' - 66.0'
6 - 11.0' RDWY
18.0 TRAFFIC SEPARATOR/CONCRETE CRB MED
2* 2.0' CURB&GUTTER SHLD I

12.000 78.0' - 48.0'
4 - 12.0' RDWY
6.0 C.<6 IN. & GU.RAIL MED
2* 10.0' PAVED SHLD I
2* 2.0' CURB&GUTTER SHLD2

12.343 88.0' - 66.0'
6 - 11.0' RDWY
18.0 CURB W/LANDSCAPING MED
2* 2.0' CURB&GUTTER SHLD I
2* 2.0' CURB&GUTTER INSHLD I

12.604 86.0' - 66.0'
6 - 11.0' RDWY
16.0 TRAFFIC SEPARATOR/CONCRETE CRB MED
2* 2.0' CURB&GUTTER SHLD I

13.221 86.0' - 66.0'
6 - 11.0' RDWY
16.0 CURB W/LAWN/TURF MED
2* 2.0' CURB&GUTTER SHLD I
2* 2.0' CURB&GUTTER INSHLD I

13.497 86.0' - 66.0'
6 - 11.0' RDWY
16.0 TRAFFIC SEPARATOR/CONCRETE CRB MED
2* 2.0' CURB&GUTTER SHLD I

13.744 86.0' - 66.0'
6 - 11.0' RDWY
16.0 CURB W/LANDSCAPING MED
2* 2.0' CURB&GUTTER SHLD I
2* 2.0' CURB&GUTTER INSHLD I

14.074 86.0' - 66.0'
6 - 11.0' RDWY
16.0 TRAFFIC SEPARATOR/CONCRETE CRB MED
2* 2.0' CURB&GUTTER SHLD I

14.533 88.0' - 66.0'
6 - 11.0' RDWY
16.0 TRAFFIC SEPARATOR/CONCRETE CRB MED
2.0' PAVED SHLD I - LT
2.0' CURB&GUTTER SHLD I - RT
2.0' CURB&GUTTER SHLD2 - LT

ROADWAY COMPOSITION

12.000 28/FC-2 / 28/FC-2 — 12.147 28/FC-9.5 / 28/FC-9.5 — 14.447 28/FC-2 / 28/FC-2

HORIZONTAL ALIGNMENT

PI=12.595 Δ=1°20'30.00" B=N00°05'28"W B=N03°01'22"W B=N01°40'52"W
PI=13.097 Δ=1°20'30.00" B=N01°40'02"W
PI=13.596 Δ=1°20'30.00" B=N01°28'22"W

STRUCTURE DESCRIPTION

13.76 #0075 153 BR 13.789

TRAFFIC DATA

AADT= 55,500 D= 55.10 K= 9.00 T= 5.30 — All Traffic Data as of 12-31-11
12.604 AADT= 56,000 D= 55.10 K= 9.00 T= 7.80
13.598 AADT= 57,000 D= 55.10 K= 9.00 T= 4.10

SIS

FUN CLASS

12.000 URBAN OTHER FREEWAY/EXPRESSWAY STP
12.088 URBAN OTHER PRINCIPAL ARTERIAL STP

SPEED LIMIT

12.000 45MPH / 40MPH
12.631 45MPH / 45MPH
13.014 40MPH / 45MPH

GOLDEN GLADES INTERCHANGE/NW 2 AVE (Miami-Dade County/North Miami Beach)

A=ASPHALT
B=BRICK
C=CONCRETE
O=OTHER

	5 YR INV	SLD REV
DATE	02/19/08	02/24/08
BY	URS	URS

INTERIM REVISIONS

BMP	EMP	INV	SLD REV

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

FLORIDA DEPARTMENT OF TRANSPORTATION

INT. OR US ROUTE NO	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO.	OF.
	SR 9	MIAMI-DADE	6	87240000	4	4

12 13 14

OPA-LOCKA | MIAMI - DADE COUNTY

INSIDE URBAN, OUTSIDE CITY MIAMI

0607 12.364 | 0096 12.365 | 12.379

GPS COORDINATES 25°54' 45" N 80°13' 37" W

BISCAYNE CANAL

UNSIGNED A 13.072 | CORRECTIONAL INSTITUTE A 13.162 | RAMP TO PARK & RIDE A 13.224 | RAMP FR PARK & RIDE 13.282 | 13.302 A 7 | 13.306 PARK & RIDE

PEDESTRIAN OVERPASS

SR 7/US 441 SB 13.869 | SR 7/US 441 NB 13.880

GPS COORDINATES 25°55' 29" N 80°12' 44" W

GOLDEN GLADES INTCHG

End MP: 13.690
NET ROADWAY ID LENGTH: 13.690

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

12.059 | 45 MPH

113.0' - 44.0'
4 - 11.0' RDWY
45.0' LWN MED
2*5.0' PVD SHLD1
2*7.0' LWN SHLD2

12.716 101.0' - 44.0'
4 - 11.0' RDWY
45.0' LWN MED
2*8.0' PVD SHLD1

12.923 113.0' - 44.0'
4 - 11.0' RDWY
45.0' LWN MED
2*5.0' PVD SHLD1
2*7.0' LWN SHLD2

13.074 113.0' - 44.0'
4 - 11.0' RDWY
45.0' LWN MED
5.0' PVD SHLD1 - LT
7.0' LWN SHLD2 - LT
12.0' PVD SHLD1 - RT

13.310 290.0' - 44.0'
4 - 11.0' RDWY
230.0' LWN/GR MED
5.0' PVD SHLD1 - LT
7.0' LWN SHLD2 - LT
14.0' LWN SHLD1 - RT

13.412 290.0' - 44.0'
4 - 11.0' RDWY
230.0' LWN/BARCB<6 MED
5.0' PVD SHLD1 - LT
7.0' LWN SHLD2 - LT
14.0' LWN SHLD1 - RT
4.0' PVD INSHLD1 - LT
8.0' PVD INSHLD1 - RT

50 MPH

ROADWAY COMPOSITION: 28/FC-2 | 28/FC-2

HORIZONTAL ALIGNMENT:
Δ=14°0'18" D=1°0'00.00 PC=12.303 PT=12.482
B=N47°8'38"E
PC=13.316 PT=13.352 PT=13.388
D=3°6'00.00 Δ=14°9'12"
Δ=28°6'12" D=6°0'00.00 PC=13.477 PT=13.523 PT=13.567

STRUCTURE DESCRIPTION:
12.637 1-18" x 72° CC
12.819 0092 184° BR | 0091 184° BR 12.854
13.035 1-18" x 72° CC
13.225 1-18" x 130° CC
13.514 0044 142° BR 13.541
13.665 1-18" x 78° CC

TRAFFIC DATA: AADT= 25,003 D= 54.58 K= 10.01 T= 8.42 — All Traffic Data as of 12-31-06

SIS:

FUNCTIONAL CLASSIFICATION: URBAN OTHER PRINCIPAL ARTERIAL
STP

● = SIGNALIZED INTERSECTION

APPENDIX B

(Existing Sign Inventory)

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SIX

Existing Signage Inventory

For

PD&E Study for Golden Glades Interchange
From SR 826/Palmetto Expressway Eastbound
To Interstate 95 Northbound
FM # 428358-1-22-01
ETDM # 11300

Miami-Dade County, Florida

FDOT Project Manager: Dat Huynh, P.E.

April 2013

Corzo Castella Carballo Thompson and Salman, LLC

1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) District Six initiated a Project Development and Environment (PD&E) Study for the Golden Glades Interchange (GGI) from SR 826/Palmetto Expressway Eastbound (EB) to I-95 Northbound (NB). The Golden Glades Interchange is of regional importance that provides connectivity to six major principal arterials and limited access expressways facilities including SR 826/Palmetto expressway, I-95, Florida's Turnpike, SR 7/US 441, SR 9 and NW 167th Street.

The primary purpose of this study is to evaluate options for a direct connection from SR 826/Palmetto Expressway EB to I-95 NB in order to increase connectivity and reduce travel delay caused by the indirect routes in existence today. The project will also identify interim improvements for the GGI and evaluate connecting a potential managed lanes system for SR 826/Palmetto Expressway to the existing 95 Express Managed Lanes system. These improvements are in support of a separate and adjacent SR 826 PD&E Study from I-75 to GGI (FM: 418423-1-22-01) that is currently under study and an Ultimate Master Plan to be established for this interchange.

The project corridor is bounded by NW 12th Street to the west, NW 151st Street to the south, North Miami Avenue to the east and the Turnpike Plaza to the north. (See **Figure 1**) Along the project corridor, numerous directional signs serve to guide motorists through the interchange area to arrive at their destination or connect them to other roadways. As part of this study, an existing sign inventory was conducted to identify and catalog the major signs that could be impacted as part of the proposed improvements. Reconnaissance of project corridor was undertaken on June 14, 2011; June 20, 2011; and June 21, 2011 during regular business hours. The sign inventory was conducted using Global Positioning System (GPS) and Geographic Information Systems (GIS) technologies. The equipment used to geo-reference the signs is the *Trimble GeoTX GeoExplorer 2008 Series*. The detailed sign inventory is provided in the following pages.



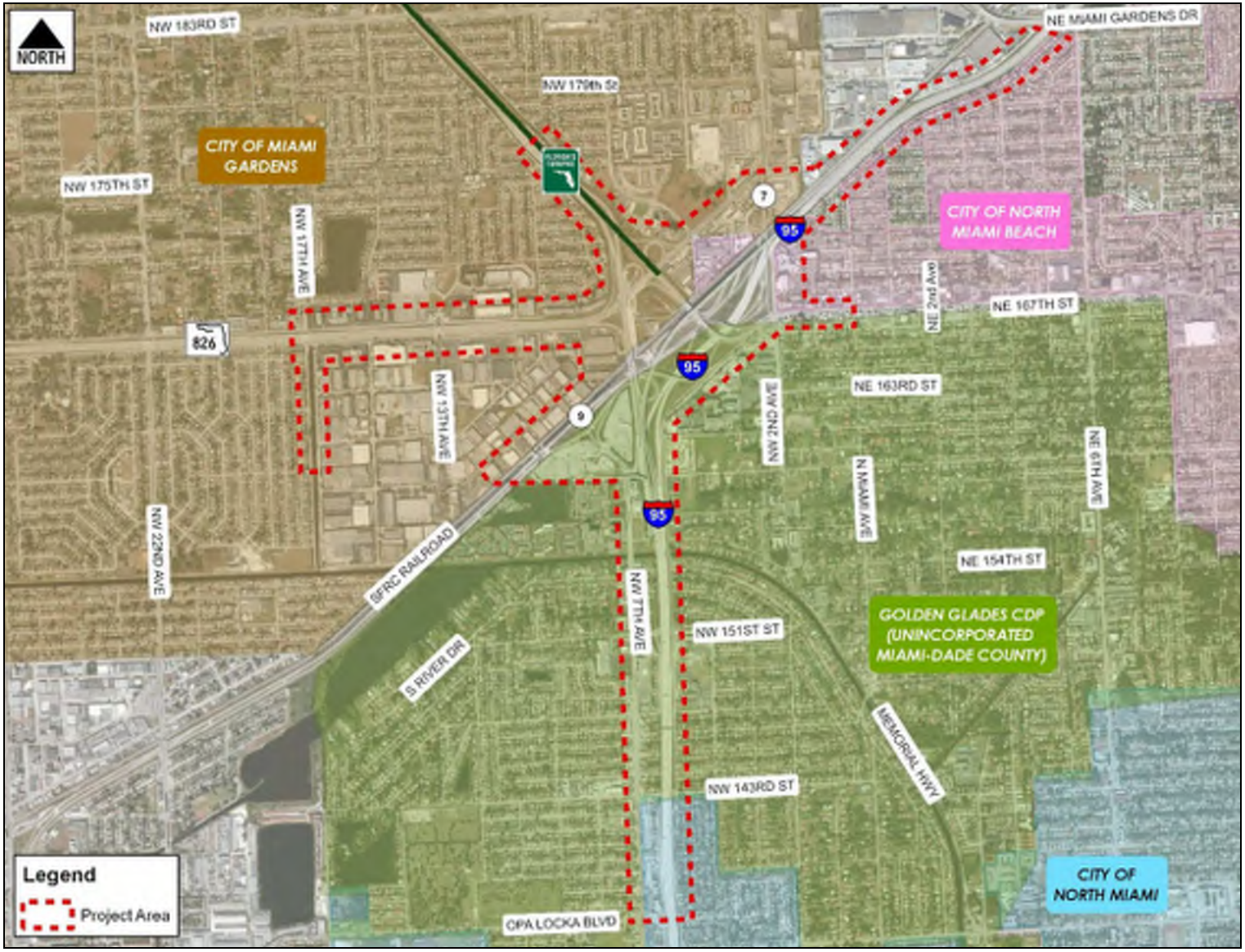


Figure 1 Project Study Area

2.0 EXISTING SIGN INVENTORY

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
1	Overhead Cantilever	Guide	MIAMI GARDENS DR/ SR860	I-95	
2	Overhead Truss	Guide	US 441/ US 9/ SR 826/ TPK/ I-95	I-95	
3	Overhead Truss	Guide	US 441/ US 9/ SR 826/ TPK/ I-95 SOUTH	I-95	
4	Multi Post	Guide	EXIT 12/PARK & RIDE/ TRIRAIL	I-95	

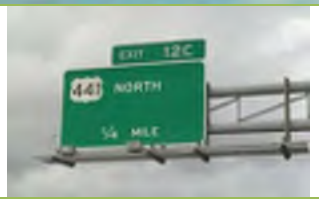
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
5	Overhead Truss	Guide	EXIT 12-US 441/ US 9/ SR 826/ TPK	I-95	
6	Multi Post	Informational	TRIRAIL FREE PARKING	I-95	
7	Single Post	Informational	PARK & RIDE	I-95	
8	Overhead Truss	Guide	US 441 S/ US 9 S/ SR 826EAST /TPK WEST & 826W	I-95	
9	Single Post	Informational	TRIRAIL	I-95	

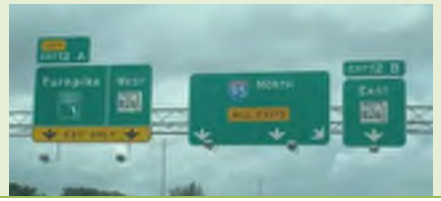
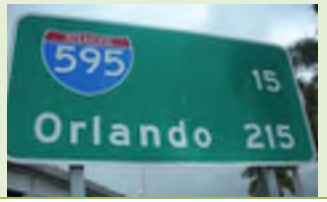
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
10	Overhead Truss	Guide	US 441 S/ US 9 S/ 826E/ 95SOUTH	SR 7/US 441	
11	Overhead Truss	Guide	I-95 S/ US 441 S/ US 9 S/ 826E BEACHES	SR 7/US 441	
12	Single Post	Guide	826 EAST	I-95	
13	Multi Post	Informational	FREE PARKING	I-95	
14	Overhead Truss	Guide	US 441 S/ US 9 S/ OPALOCKA	SR 7/US 441	

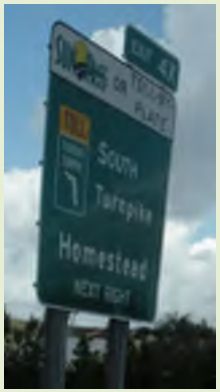
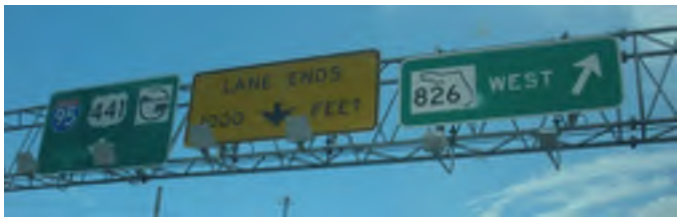
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
15	Overhead Truss	Guide	95N/ US 441 N/ 826E /BEACHES	SR 7/US 441	
16	Overhead Truss	Guide	US 441 N/ 95N / SR 826/TPK	SR 9	
17	Overhead Truss	Guide	US 441 N/ 95N/ 826E BEACHES/ 826 W/TPK	SR 7/US 441	
18	Overhead Truss	Guide	US 441 N/ 95N/ 826E BEACHES	SR 7/US 441	
19	Single Post	Guide	826E /W	NW 167th	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
20	Single Post	Guide	826E /TO A1A	NW 167th St	
21	Overhead Truss	Guide	US 441/ US 9 /I-95/ 826 W/TPK	NW 167th St	
22	Single Post	Informational	TRIRAIL	NW 167th St	
23	Multi Post	Guide	95 N /S	NW 167th St	
24	Overhead Cantilever	Guide	95N EXPRESS / 826/TPK	I-95	

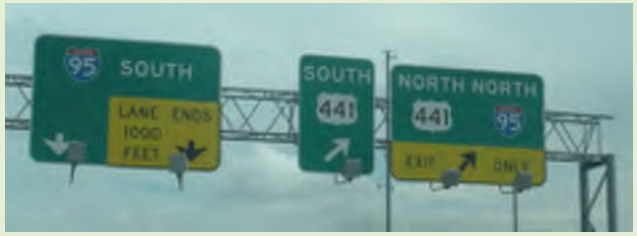
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
25	Overhead Cantilever	Guide	EXPRESS BUSES/TRIRAIL FREE PARKING	I-95	
26	Overhead Truss	Regulatory	95 EXPRESS SB SUNPASS	I-95	
27	Overhead Truss	Guide	EXIT 12A/ TPK/826 W/ 95N	I-95	
28	Overhead Cantilever	Regulatory	HOV 2+ ENDS 1/2 MILE	I-95	
29	Overhead Truss	ITS	VMS	I-95	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
30	Overhead Truss	Guide	95 EXPRESS S /US 441 US 9 826 TPK	I-95	
31	Overhead Cantilever	Regulatory	EXPRESS LANE ENTRANCE	I-95	
32	Overhead Truss	Regulatory	TOLL VIOLATIONS / EXPRESS LANE ENTRANCE	I-95	
33	Overhead Truss	Regulatory	EXPRESS LANE ENTRANCE / 95 S EXITS	I-95	
34	Overhead Cantilever	Guide	US 441 N EXIT 12 C	I-95	

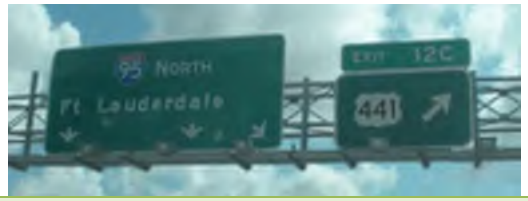
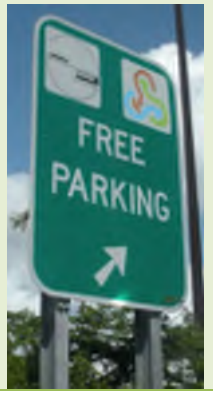
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
35	Overhead Truss	Guide	TPK/ W 826/ 95N/ 826E	I-95	
36	Overhead Cantilever	Guide	US 441 N/ 826E BEACHES /EXIT 12 B	I-95	
37	Overhead Truss	Guide	TPK / 826 WEST	Florida's Turnpike	
38	Overhead Truss	Guide	826E /95/ US 441 / 826 WEST	Florida's Turnpike	
39	Multi Post	Informational	595/ ORLANDO	SR 826	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
40	Overhead Truss	Regulatory	CHANGE PROVIDED/ PREPAID TOLLS SUNPASS	Florida's Turnpike	
41	Multi Post	Guide	TPK S / HOMESTEAD	Florida's Turnpike	
42	Overhead Truss	Guide	US 441/95 /826 WEST /LANE ENDS	Florida's Turnpike	

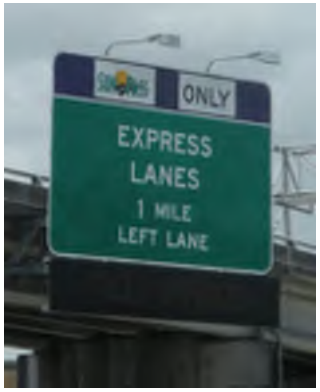
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
43	Single Post	Guide	826 WEST	Florida's Turnpike	
44	Overhead Truss	Guide	US 441 N/ TPK/ 826EAST /BEACHES	SR 826	
45	Overhead Truss	Guide	95 S /MIA INTL AIRPORT/ US 441/ 95N	Florida's Turnpike	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
46	Single Post	Informational	FREE PARKING/ TRIRAIL	Florida's Turnpike	
47	Overhead Truss	Guide	95 S /LANE ENDS 1000FT/US 441 S/N 95N	Florida's Turnpike	
48	Single Post	Informational	TO TRIRAIL	Florida's Turnpike	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
49	Single Post	Informational	95S	I-95	
50	Overhead Truss	Regulatory	TOLLS ENFORCED / EXPRESS LANE ENTRANCE	Florida's Turnpike	
51	Overhead Cantilever	Guide	EXIT 12C / US 441 N	I-95	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
52	Overhead Truss	Guide	95N FT LAUDERDALE/ EXIT 12 C US 441	I-95	
53	Overhead Truss	Guide	US 441 / 95 N	SR 7/US 441	
54	Overhead Truss	Guide	TPK/ 826 WEST /95 US 441 S/US 9	NW 167th St	
55	Multi Post	Informational	FREE PARKING TRIRAIL	NW 167th St	

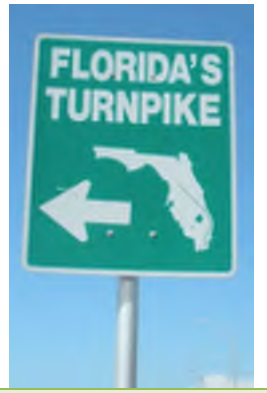
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
56	Multi Post	Guide	TO 95N	NW 167th St	
57	Single Post	Guide	TO 95N	NW 167th St	
58	Overhead Cantilever	Guide	US 441 N	NW 167th St	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
59	Single Post	Guide	95N	NW 167th St	
60	Bridge Mounted	Regulatory	EXPRESS LANE 1MILE LEFT	I-95	
61	Overhead Truss	Guide	95 S /US 441 S /US 9	NW 167th St	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
62	Single Post	Guide	US 441 S	SR 826	
63	Overhead Truss	Guide	95 S RAMP ONLY/ US 441 S US 9 S/826EAST	SR 7/US 441	
64	Multi Post	Guide	US 441 S /US 9 S /826EAST	SR 7/US 441	

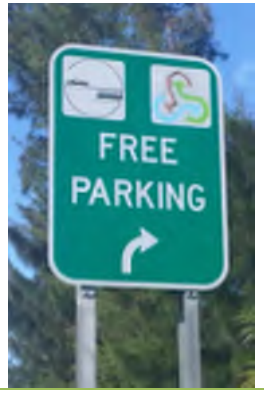
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
65	Single Post	Guide	826 WEST	SR 7/US 441	
66	Single Post	Guide	US 441 N	SR 826	
67	Overhead Truss	Guide	826 WEST /TKP RAMP ONLY	SR 826	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
68	Multi Post	Guide	NW 7TH AVENUE	SR 826	
69	Overhead Cantilever	Guide	TPK RAMP ONLY	SR 826	
70	Overhead Cantilever	Guide	TPK /US 441	Florida's Turnpike	
71	Bridge Mounted	Guide	TPK /ORLANDO /826 WEST	Florida's Turnpike	

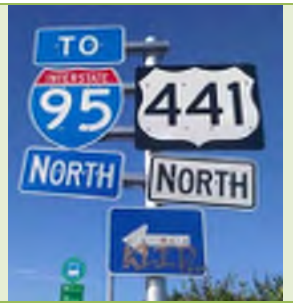
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
72	Single Post	Guide	TPK ENTERPRISE	SR 826	
73	Multi Post	Guide	826 WEST / LEFT LANE ONLY	SR 826	
74	Single Post	Informational	TO TRIRAIL	SR 7/US 441	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
75	Overhead Cantilever	Guide	US 441 S TRIRAIL	SR 7/US 441	
76	Multi Post	Informational	FREE PARKING TRIRAIL	SR 9	
77	Multi Post	Informational	FREE PARKING TRIRAIL/ UTURN	SR 9	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
78	Single Post	Informational	TRIRAIL UTURN	SR 9	
79	Single Post	Informational	TO TRIRAIL	SR 9	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
80	Single Post	Guide	TO US 441 S	SR 9	
81	Single Post	ITS	VMS	SR 9	
82	Multi Post	Informational	FREE PARKING TRIRAIL RIGHT TURN	SR 9	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
83	Single Post	Informational	TO TRIRAIL STRAIGHT AHEAD	SR 9	
84	Single Post	Guide	S EXPRESS LANE / SUNPASS ONLY	Golden Glades Park & Ride	
85	Single Post	Guide	TO US 441 /95	Golden Glades Park & Ride	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
86	Single Post	Guide	TO 95 S / US 441 S	Golden Glades Park & Ride	
87	Single Post	Guide	TO 95 N /US 441 N	Golden Glades Park & Ride	
88	Multi Post	Regulatory	SUNPASS ONLY /EXPRESS LANE/112/836/VMS	SR 9	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
89	Single Post	Guide	95/ US 441	Golden Glades Park & Ride	
90	Multi Post	Regulatory	SUNPASS ONLY /EXPRESS LANE/112/836/VMS	SR 9	
91	Single Post	Guide	441 / 95 S	Golden Glades Park & Ride	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
92	Single Post	Guide	US 9/95N	Golden Glades Park & Ride	
93	Single Post	Guide	US 9 N	Golden Glades Park & Ride	
94	Single Post	Guide	US 9 N/S	Golden Glades Park & Ride	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
95	Overhead Truss	Guide	826E/BEACHES/95/441/826W	Florida's Turnpike	
96	Overhead Cantilever	Warning	LANES END/MERGE LEFT	Florida's Turnpike	
97	Overhead Truss	Guide	TURNPIKE/826W	Florida's Turnpike	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
98	Multi Post	Informational	EXPRESS LANES REGISTERED CARPOOLS AND PREPAID TOLLS BEGIN ½MILE	I-95	
99	Bridge Mount	Regulatory	EXPRESS LANES 1/2MILE / DMS	I-95	
100	Overhead Cantilever	Regulatory	SUNPASS ONLY/ 395/112/836/ DMS	I-95	

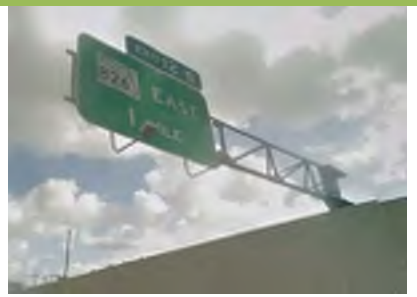
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
101	Overhead Truss	Guide	EXPRESS BUSSES/FREE PARKING	I-95	
102	Overhead Truss	Guide	EXIT 12A/TURNPILE/826W/ 95N/826E	I-95	
103	Overhead Cantilever	Guide	EXIT 10B/OPA-LOCKA BLVD	I-95	
104	Overhead Cantilever	Guide	826W	SR 826	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
105	Overhead Truss	Regulatory	SUNPASS ONLY/ 395/112/836/ DMS	I-95	
106	Overhead Truss	Guide	TURNPIKE/441N/ 826E BEACHES/95S&N /441N	SR 826	
107	Overhead Truss	Guide	TURNPIKE/441N/ 826E BEACHES/95S & N/441S	SR 826	

Number	Mounting Type	Designation	Sign Description	Roadway	Picture
108	Overhead Cantilever	Guide	NW 12 AVE	SR 826	
109	Multi Post	Informational	FREE PARKING	SR 826	
110	Overhead Cantilever	Guide	826W	Florida's Turnpike	

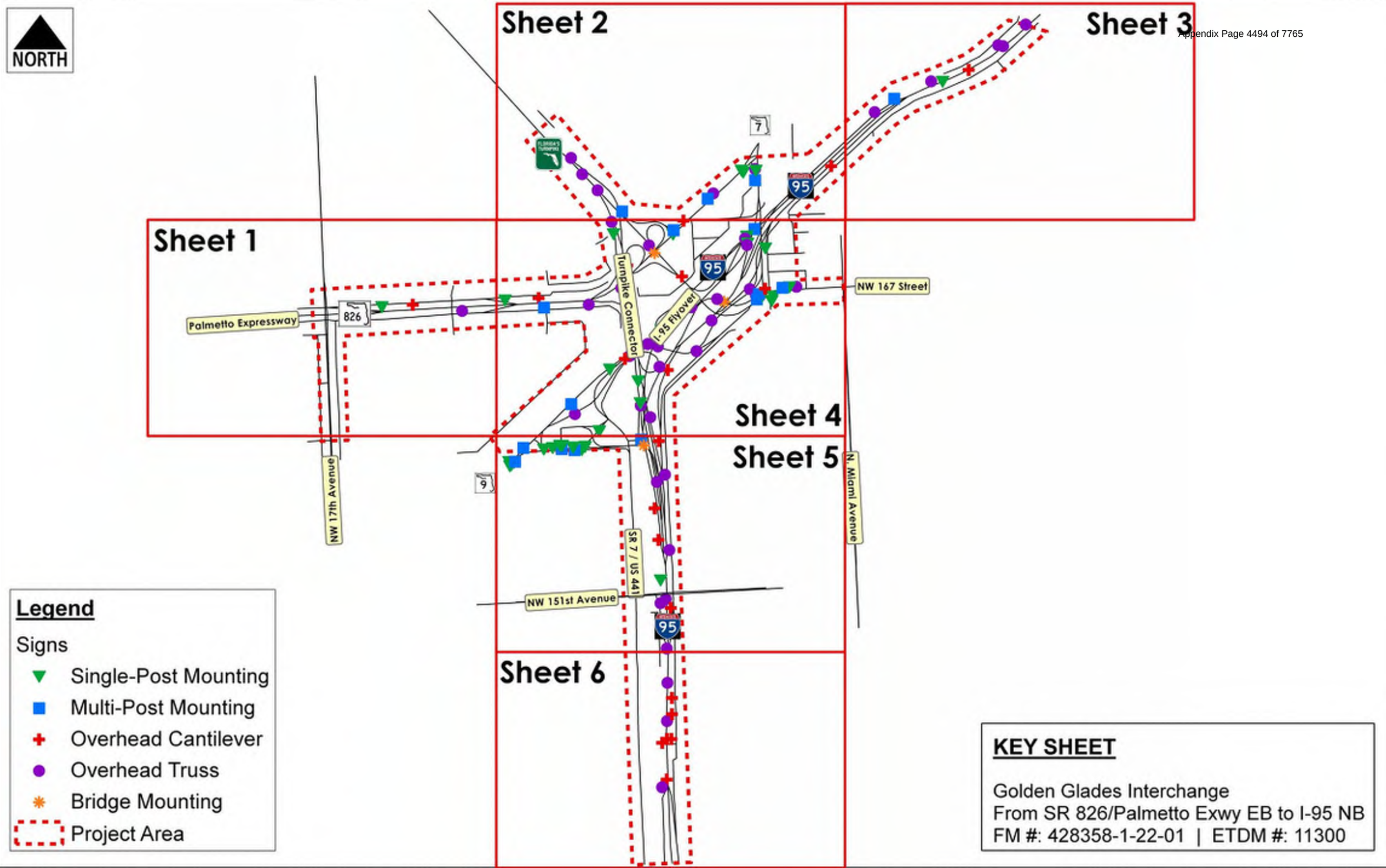
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
111	Single	Guide	Exit Sign	SR 826	
112	Overhead Cantilever	Guide	NW 22nd Ave/ NW 17th Ave	SR 826	
113	Single	Guide	Exit Sign	SR 826	

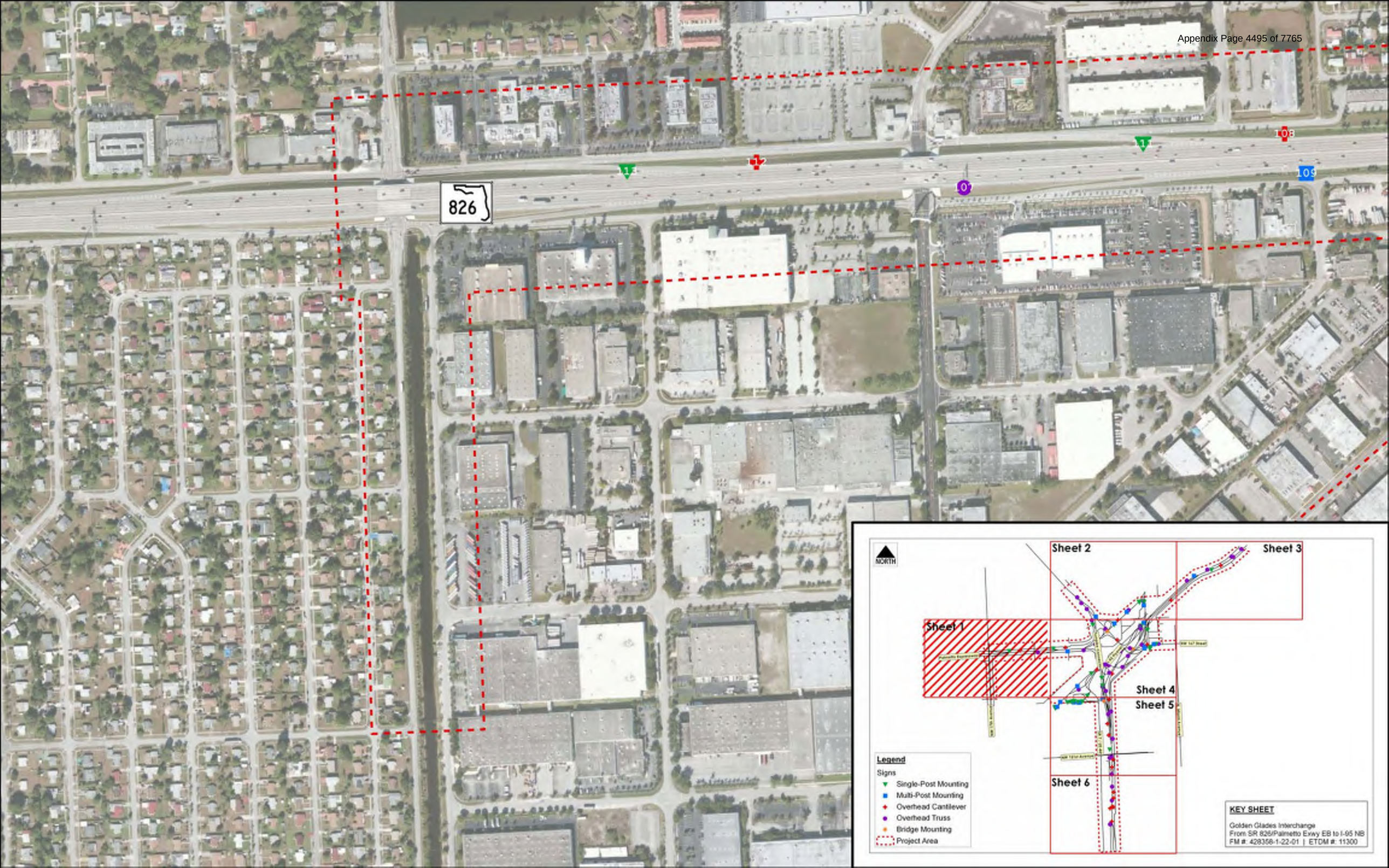
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
114	Overhead Cantilever	Guide	NW 151 ST/Express Bus and TriRail/TPK & 826	95	
115	Overhead Truss	Guide	Exit 10A & 10B	95	
116	Overhead Cantilever	Guide	NW 135St/NW 125St/ NW 103St	95	
117	Overhead Cantilever	Guide	Ft. Lauderdale Via 95/ Orlando Via Turnpike	95	

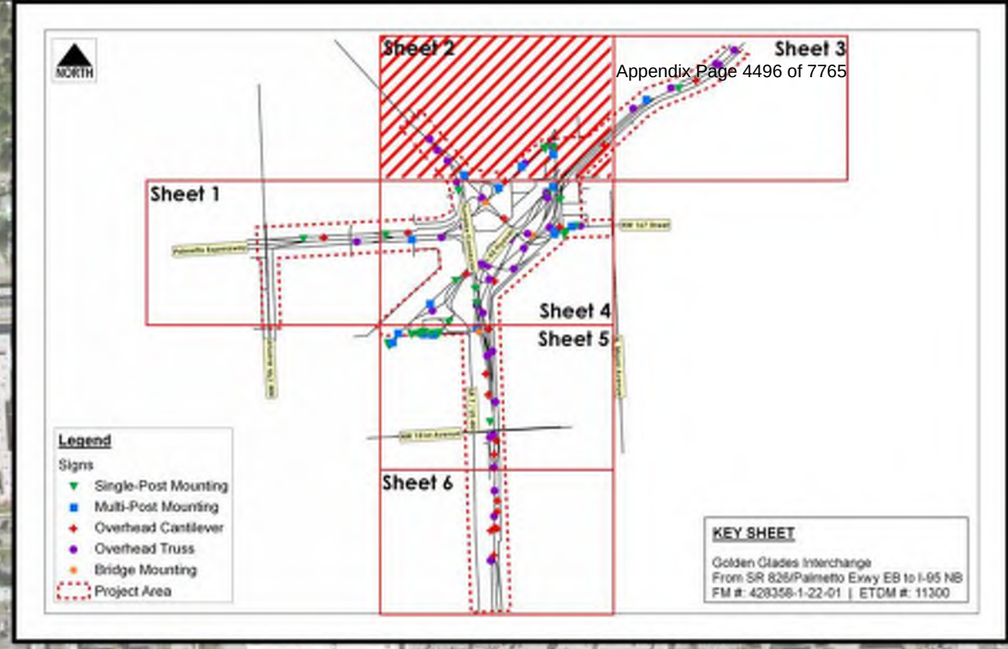
Number	Mounting Type	Designation	Sign Description	Roadway	Picture
118	Overhead Cantilever	Guide	Exit 12B/ 826 East	95	
119	Overhead Cantilever	Regulatory	Express Lanes/Sunpass Only/ Exit to Turnpike/826	95	
120	Single	Guide	Miami Gardens Dr/Ives Dairy Rd/ Hallandale Blvd Blvd	95	
121	Overhead Truss	Regulatory	Registered Carpools/ Sunpass Only/ 395/836/112/DMS	95	

APPENDIX A –

SIGN INVENTORY AERIALS


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Sheet 5
Sheet 6
Palmetto Expressway
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NW 17th Avenue
Turnpike Connector
I-95 Flyover
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9
NW 167 Street
N. Miami Avenue
SR 7 / US 441
NW 151st Avenue
Legend
Signs
Single-Post Mounting
Multi-Post Mounting
Overhead Cantilever
Overhead Truss
Bridge Mounting
Project Area
KEY SHEET
Golden Glades Interchange
From SR 826/Palmetto Exwy EB to I-95 NB
FM #: 428358-1-22-01 | ETDM #: 11300


826
NORTH
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Multi-Post Mounting
Overhead Cantilever
Overhead Truss
Bridge Mounting
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FLORIDA'S TURNPIKE
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INTERSTATE
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NW 167 Street
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INTERSTATE
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NORTH
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Overhead Cantilever
Overhead Truss
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Golden Glades Interchange
From SR 826/Palmetto Exwy EB to I-95 NB
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APPENDIX C

(Crash Costs)

Option 3: KABCO

Crash Severity	Comprehensive Crash Cost
Fatal (K)	$6,820,000
Severe Injury (A)	$557,752
Moderate Injury (B)	$111,228
Minor Injury (C)	$67,890
Property Damage Only (O)	$6,500

Source: Florida Department of Transportation Crash Analysis Reporting (C.A.R.) System

2. Historical Crash Method (HCM)

This method can be used for sites with a crash history. It is basically the ratio (benefit/cost) of the estimated reduction in crash costs to the estimated increase in construction and maintenance cost. The annualized conversion will show whether the estimated expenditure of funds for the benefit will exceed the direct cost, thereby lending support as to whether the improvement should be done or not.

The HCM uses the following ***Highway Safety Improvement Program Guideline (HSIPG)*** cost per crash by facility type to estimate benefit to society while the cost to society is estimated by the cost of right of way, construction, and maintenance.

HSIPG COST/CRASH BY FACILITY TYPE						
FACILITY TYPE	DIVIDED			UNDIVIDED		
	URBAN	SUBURBAN	RURAL	URBAN	SUBURBAN	RURAL
2-3 Lanes	$98,837	$150,613	$262,821	$114,040	$222,040	$416,658
4-5 Lanes	$110,115	$183,372	$369,954	$87,390	$158,476	$93,628
6+ Lanes	$109,638	$130,645	$545,271	n/a	n/a	n/a
Interstate	$138,873	n/a	$274,449	n/a	n/a	n/a
Turnpike	$127,584	n/a	$218,394	n/a	n/a	n/a

All State Roads Average Cost/Crash: **$141,085**

The above values were derived from 2007, 2008, 2009, 2010 and 2011 traffic crash and injury severity data for crashes on state roads in Florida using the formulation described in ***FHWA Technical Advisory "Motor Vehicle Accident Costs", T 7570.2, dated October 31, 1994*** and from a memorandum from USDOT, ***Revised Departmental Guidance: Treatment of the Value of Preventing Fatalities and Injuries in Preparing Economic Analyses, dated February 5, 2008*** updating the value of life saved to $5.8 million, updated from $5.8 million to $6 million on March 18, 2009 and to $6.2 million on July 29, 2011, per the memo posted at http://www.dot.gov/sites/dot.dev/files/docs/Value_of_Life_Guidance_2011_Update_07-29-2011.pdf.

APPENDIX D

(Utility Impact and Assessment Memorandum)

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SIX

Utility Impact Assessment Memorandum

For

PD&E Study for Golden Glades Interchange
From SR 826/Palmetto Expressway Eastbound
To Interstate 95 Northbound
FM # 428358-1-22-01
ETDM # 11300

Miami-Dade County, Florida

FDOT Project Manager: Dat Huynh, P.E.

February 2014

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1.0 INTRODUCTION

The This Golden Glades Interchange Project Development and Environment (PD&E) Study will focus on the development and evaluation of alternatives for a new system-to-system connection from SR 826/Palmetto Expressway eastbound to I-95 northbound and the feasibility of increasing the capacity of the southbound movement of the Turnpike to I-95 southbound to address traffic operations and safety issues and enhance multimodal (transit and freight) use. The study will also evaluate the connectivity of a potential managed lanes system for SR 826/Palmetto Expressway and how it will connect to the existing 95 Express Managed Lanes system. The managed lanes along SR 826/Palmetto Expressway are currently being evaluated under a separate adjacent PD&E Study (FPID: 418423-1-22-01, The PD&E concepts developed will be utilized to support the managed lanes concepts being developed under the SR 826 mainline PD&E Study, as well as to establish an Ultimate Master Plan for the interchange. **Figure 1** shows the project study area.

As part of the PD&E study, twenty (20) Utility Agency Owners (UAOs) known to have operations within the project corridor were contacted to obtain information on their respective facilities within the project's study limits. A letter explaining the project together with aerial plans was sent to the various UAOs, requesting feedback on their respective existing and/or planned facilities within the study area. This memo outlines the utility assessments within the project limits and the potential impacts due to the proposed improvements under the recommended alternative.

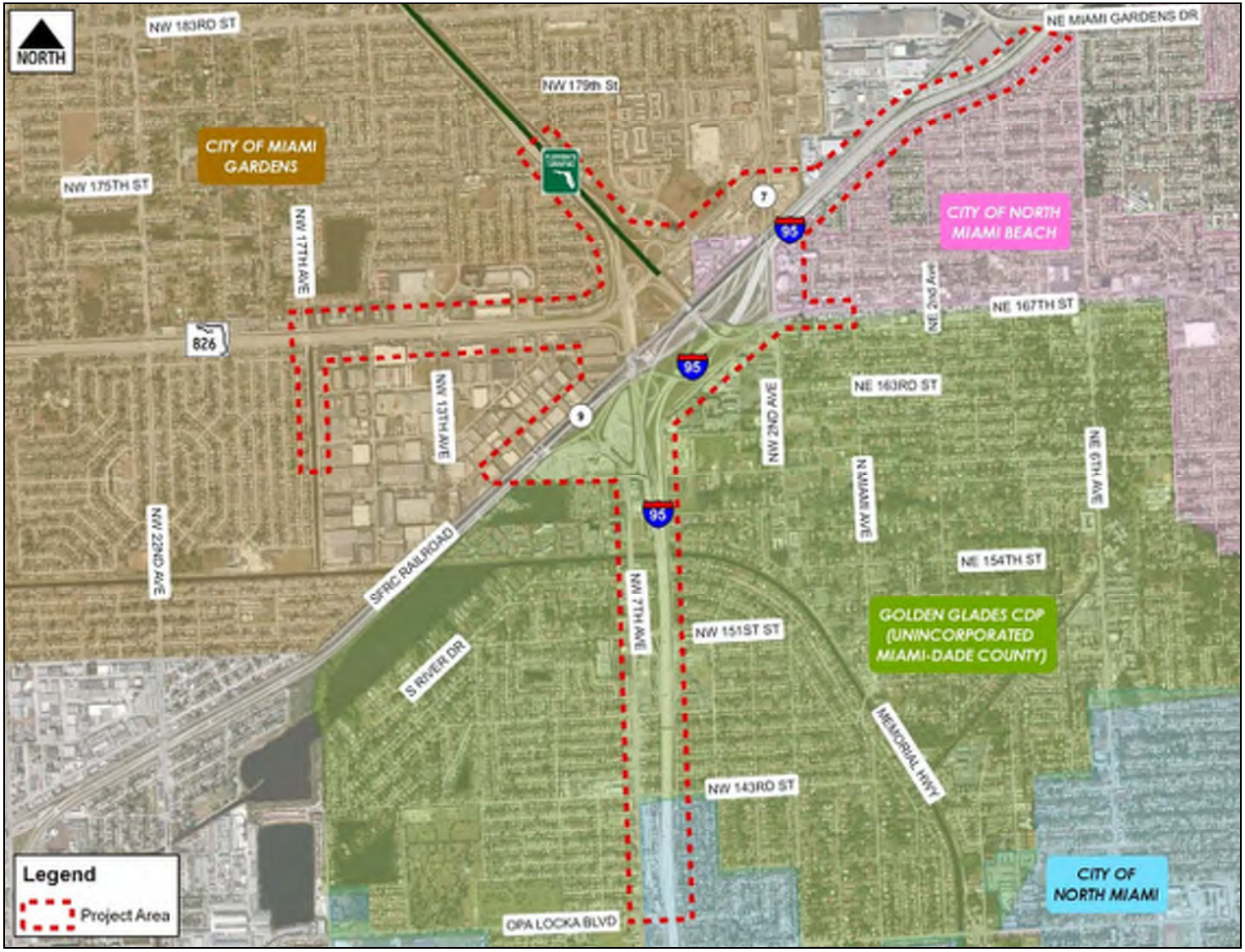


Figure 1 Project Study Area

2.0 UTILITY CONTACTS

The latest list of Utility Agency Owners (UAO) and utility contacts data obtained from Sunshine State One Call (SSOCOF) Tickets No. 173201199-000 & 1732011145-000 dated June 21, 2012 are tabulated in **Table 1** below.

Table 1
Existing Utility Agencies/Owners

#	Utility Companies	Facilities	Contact Person	Phone Number	Master Agreement
1	AT&T Florida	Telecommunications	Steve Massie	305-222-8745	Yes
2	AT&T Long Distance	Telecommunications	Craig Petrie	407-578-8000	Yes
3	Comcast	Cable TV	Leonard Maxwell-Newbold	954-447-8405	Yes
4	City of North Miami	Water & Sewer	Aleem Ghany	305-895-9833	Yes
5	City of North Miami Beach	Water & Sewer	Karim Rossy	305-948-2980	Yes
6	City of Miami Gardens	Storm Sewer	Mariana Pitiriciu	305-622-8000	Yes
7	Fiberlight LLC	Telecommunications	Troy Gaeta	786-271-5149	Yes
8	Florida City Gas	Gas – Distribution	Michael Alexander	305-691-8710	Yes
9	FDOT District Six – ITS	ITS	Thomas Miller	305-470-5832	Yes
10	Florida's Turnpike - ITS	ITS	Rafael Sena	954-934-1624	Yes
11	Florida Gas Transmission	Gas – Transmission	Joseph Sanchez	407-838-7171	Yes
12	FPL FiberNet	Telecommunications	Danny Haskett	305-552-2931	Yes
13	FPL – Distribution	Electric	Angel Vargas	305-442-5129	Yes
14	FPL – Transmission	Electric	George Beck	561-904-3604	Yes
15	Level3 Communications LLC	Telecommunications	Jake Jacobson	954-217-6773	Yes
16	Verizon Business (f.k.a. MCI)	Telecommunications	John McNeil	904-355-0187	Yes
17	Miami Dade Co. Water & Sewer	Water & Sewer	Patrick Chong	786-268-5255	Yes
18	Miami Dade Co Traffic	Signalization	Vishnu Rajkumnr	305-375-2090	Yes
19	TECO Peoples Gas	Gas – Distribution	Angel Quant	954-453-0805	Yes
20	XO Communications	Telecommunications	Anthony Kowaleski	305-356-3160	Yes

20 Utility Agency Owners (UAOs) have operations within the project study area. All the utility companies contacted have responded; four (4) of the twenty (20) UAO's contacted responded that they have no facilities within the project limits and are listed below:

- City of Miami Gardens
- Florida City Gas
- AT&T Long Distance
- XO Communications

3.0 EXISTING UTILITIES & POTENTIAL IMPACTS

3.1 AT&T Florida

AT&T Florida operates the following facilities within the project limits:

- A duct bank with 12- 4" PVC ducts crossing SR-826 at NW 17th Avenue. These facilities may be impacted by the proposed widening of the SR-826 WB frontage road to accommodate a right turn at NW 17th Avenue.
- A 1- 4" PVC duct running along the south side of NW 167th Street (EB Frontage Rd.) from west of NW 17th Avenue to NW 15th Avenue. These facilities may be impacted by the proposed drainage along the SR-826 EB frontage road. Coordination with AT&T Florida is needed to adjust the duct to install drainage.
- A 6-4" PVC duct bank running along the north side of NW 167th Street (WB Frontage Rd.) from west of NW 17th Avenue to NW 12th Avenue, then turning north along the east side of NW 12th Avenue. These facilities may be impacted by the proposed widening and drainage of the SR 826 WB frontage road.
- A 4-4" duct bank crossing SR-826 at NW 12th Avenue. These facilities may be impacted by the proposed widening of the bridge over NW 12th Avenue. This conflict should be further analyzed, horizontal and vertical (vvh) location of the duct bank should be determined and considered during the final design of the bridge foundation.
- A 2-4" PVC ducts running along the south side of NW 167th Street (EB Frontage Rd.) from NW 12th Avenue to east of NW 10th Avenue. These facilities may be impacted by the proposed new three-lane off-ramp from SR 826 EB to I-95 NB and SB.
- BFO cables running along the east side of NW 6th Avenue within the limits of the project. These facilities should not be impacted by the proposed improvements under the recommended alternative.
- BFO cables running along the east side of NW 7th Avenue within the limits of the project. These facilities may be impacted by the proposed reconstruction of the SB Off-Ramp from the Turnpike Connector SB to SR 7/US 441.
- BFO running along NW 7th Avenue north to SR-7 across the Municipal Parking Lot. This facility may be impacted by the proposed reconstruction of the SB Off-Ramp to SR-7. AT&T will adjust/relocate this fiber optic to accommodate proposed improvements under the recommended alternative.

3.2 Comcast

Comcast operates the following facilities within the project limits:

- Overhead fiber optic cable attached to FPL poles running along the south side of NW 167th Street (EB Frontage Rd.) from NW 10th Avenue to the east side of NW 7th Avenue, then running south along the east side of NW 7th Avenue attached to FPL Transmission pole line. These facilities could be impacted by proposed SR-826 EB on-ramp to I-95 NB and SB. Comcast will transfer their facilities following the relocation of FPL power poles.
- Overhead fiber optic cable attached to FPL poles running north along the west side of NW 6th Avenue and continuing along NW 165th Street within the limits of this project. These facilities should not be impacted by the proposed improvements under the recommended alternative.
- Overhead coaxial cable attached to FPL poles on NW 7th Avenue Extension east of Florida's Turnpike. This facility should not be impacted by the proposed improvements under the recommended alternative.

3.3 City of North Miami Water & Sewer Department

City of North Miami Water & Sewer Department owns and maintains the following facilities:

- An 8" CI Force Main crossing I-95 at North Biscayne River Drive. This line may be impacted by the proposed widening of SB I-95. This conflict should be further analyzed, horizontal and vertical (vvh) location of the force main should be determined and considered during final design. If the forced main is ensured, then the casing should be extended beyond west to beyond southbound I-95 widening.
- A 4" FM on NW 167th Street east of NW 2nd Avenue. This line will not be impacted by the proposed improvements under the recommended alternative.

3.4 City of North Miami Beach

City of North Miami Beach operates a number of large water and wastewater facilities within the limits of the project including:

- 16" WM crossing I-95 at NW 159th Street. This line may be impacted by the proposed widening of I-95 SB lanes and the proposed relocation of the off-ramp from the Turnpike Connector SB to SR 7/US 441. If water main is ensured, then casing should be extended beyond southbound I-95 widening.
- 18" WM running along NW 7th Avenue and crossing SR-826 west of the SB Turnpike Connector to a point at approximately NW 170th Terrace and then turning east and crossing Florida's Turnpike. This line could be impacted by the proposed widening of the Turnpike Connector, the SR-826 SB Ramp to I-95 and the SR-826 EB to I-95 NB flyover ramp. This conflict should be further analyzed, horizontal and vertical (vvh)

location of water main should be determined and considered during the final design. At SR 826/ Palmetto Expressway southbound to I-95 ramp, the 18" water main will be under a proposed MSE wall. If the line is not currently ensured at this location then a steel casing must be added.

- 12" WM running along the north side of NW 167th Street (WB Frontage Rd.). This line should not be impacted by the proposed improvements under the recommended alternative.
- 12" WM running along the south side of NW 167th Street (EB Frontage Rd.) from NW 17th Avenue to NW 10th Avenue. This line may be impacted by the proposed new three-lane off-ramp from SR 826 EB to I-95 NB and SB and potential proposed drainage along south side of NW 167th Street.
- 6" WM along NW 6th Avenue from NW 159th Street to NW 161st Street within the limits of this project. This line should not be impacted by the proposed improvements under the recommended alternative.
- 12" WM crossing I-95 at NW 151st Street. This line should not be impacted by the proposed improvements under the recommended alternative.
- 6" WM on North Biscayne River Drive and NW 157th Avenue. These facilities may be impacted by the I-95 SB widening and the proposed new off-ramp from the Turnpike Connector SB to SR 7/US 441.

3.5 Florida Power & Light Co. (Distribution)

Florida Power & Light Co. (Distribution) operates the following facilities within the project limits:

- 13 kV underground conduit crossing SR-826 on the west side of NW 17th Avenue. This facility should not be impacted by the proposed improvements under the recommended alternative.
- 13 kV overhead electric (OE) running along the south side of NW 167th Street (EB Frontage Rd.) from NW 10th Avenue to the east side of NW 7th Avenue, then running south along the east side of NW 7th Avenue attached to FPL Transmission pole line. These facilities could be impacted by the proposed new three-lane off-ramp from SR 826 EB to I-95 NB and SB. FPL Distribution to follow FPL Transmission relocation scheme.
- 13 kV OE attached to FPL-Transmission power poles on NW 7th Avenue and crossing SR-826 west of Turnpike Connector. This overhead crossing will be impacted by the proposed SR-826 EB to I-95 NB Flyover Ramp. FPL Distribution to follow FPL Transmission relocation scheme.

- 23 kV OE attached to FPL-Transmission power poles crossing I-95 at NW 2nd Avenue. This line will not be impacted by the proposed improvements under the recommended alternative.
- 13 kV OE crossing I-95 at NW 157th Street. This facility may be impacted by the proposed relocation of the off-ramp from the Turnpike Connector SB to SR 7/US 441. FPL to relocate underground via directional bore.
- 13 KV OE running north along the west side of NW 6th Avenue and continuing along NW 165th Street within the limits of this project. These facilities should not be impacted by the proposed improvements under the recommended alternative.

3.6 Florida Power & Light Co. (Transmission)

Florida Power & Light Co. (Transmission) operates the following facilities within the project limits:

- A 138 kV OE along NW 7th Avenue crossing SR-826 west of the Turnpike Connector running north to a point on the west side of the WB Ramp to SR-826, then turning northeast and crossing the Turnpike Connector to continue along the east side of Florida's Turnpike. This overhead crossing will be impacted by the proposed new three-lane off-ramp from SR 826 EB to I-95 NB and SB and the Flyover Ramp to I-95 NB. Clearance between existing OE and proposed flyover ramp should be further analyzed. FPL may relocate a portion of this line using taller concrete spun poles.
- 138 kV OE line along the east side of NW 7th Avenue running south of SR-826 and crossing the Miami-Dade Municipal Parking Lot and continuing along NW 7th Avenue south within the limits of this project. This line may be impacted by the proposed SR-826 EB Ramp to I-95 SB.
- A 138 kV OE along NW 2nd Avenue crossing I-95. This line should not be impacted by the proposed improvements under the recommended alternative.

3.7 FPL FiberNet

FPL FiberNet operates the following facilities within the project limits:

- BFO cable crossing SR-826 at NW 17th Avenue. This facility may be impacted by the proposed widening of the SR-826 WB frontage road to accommodate a right turn at NW 17th Avenue. This conflict should be further analyzed, horizontal and vertical (vvh) location of the BFO line should be determined and considered during the final design.
- BFO cable running along the north side of NW 167th Street (EB Frontage Rd.) from NW 17th Avenue to NW 10th Avenue, turning south on NW 10th Avenue. This facility could be impacted by the proposed relocation of the NW 12th Avenue on-ramp. This conflict should be further analyzed, horizontal and vertical (vvh) location of the BFO line should be determined and considered during the final design.

3.8 Level 3 Communications

Level 3 Communications maintains the following facilities:

- BFO cable inside a 3" conduit crossing SR-826 at NW 17th Avenue. This facility may be impacted by the proposed widening of the SR-826 WB frontage road to accommodate a right turn at NW 17th Avenue. This conflict should be further analyzed, horizontal and vertical (vvh) location of the BFO line should be determined and considered during the final design.
- BFO cable inside a 3" conduit crossing SR-826 at NW 12th Avenue. This facility may be impacted by the proposed bridge widening over NW 12th Avenue.

3.9 FiberLight LLC

FiberLight LLC owns fiber optic cables within the limits of the project. FiberLight leases conduit space from Level 3 Communications. They do not have stand-alone facilities within the project. Level 3 will perform the relocation of conduit in conflict and FiberLight LLC will perform the splicing and transferring of their fiber optic cable.

3.10 Miami-Dade Water and Sewer Department

Miami-Dade Water and Sewer Department operates the following utilities facilities within the project limits:

- 24" WM running along west side of NW 17th Avenue and crossing SR-826. This facility may be impacted by the widening of the SR-826 WB frontage road to accommodate a right turn at NW 17th Avenue.
- 10" CI FM running along NW 17th Avenue and crossing SR-826. This facility may be impacted by the widening of the SR-826 WB frontage road to accommodate a right turn at NW 17th Avenue.
- 8" CI WM running along NW 12th Avenue and crossing SR-826. This line may be impacted by the proposed widening of the bridge over NW 12th Avenue. This conflict should be further analyzed, horizontal and vertical (vvh) location of the water line should be determined and considered during the final design.
- 16" WM running along NW 7th Avenue within the limits of this project. This line may be impacted by the proposed relocation of the off-ramp from the Turnpike Connector SB to SR 7/US 441.
- 12" CI FM running along NW 7th Avenue within the limits of this project. This line may be impacted by the proposed relocation of the off-ramp from the Turnpike Connector SB to SR 7/US 441.

3.11 Florida Gas Transmission Company

Florida Gas Transmission Company operates the following utilities facilities within the project limits:

- An 8" steel high pressure natural gas line that interconnects between two (2) existing valve stations. No impacts are anticipated to this 8" gas line from the proposed improvements.
- A 24" steel high pressure natural gas transmission line along the north side of NW 167th Street (WB Frontage Rd.). This facility may be impacted by the widening of the SR-826 WB frontage road to accommodate a right turn at NW 17th Avenue.
- An 18" steel high pressure natural gas transmission line along the south side of EB SR-826/Palmetto Expressway. A segment of this line east of NW 17th Avenue will be impacted by the proposed new three-lane off-ramp from SR 826 EB to I-95 NB and SB.

Attachment A includes a summary of the coordination effort with FGT that was done during the study. A **Florida Gas Transmission Utility Relocation Assessment Memorandum** was also prepared as part of the study to evaluate the feasibility of relocation the existing 18-inch gas main onto alternate corridor routes to avoid conflict with the proposed widening along SR 826/Palmetto Expressway.

3.12 Verizon Business Solution

Verizon Business Solution (f.k.a. MCI) owns and operates BFO cables inside one (1) 4" PVC conduit running along the south side of the SFRC right-of-way and crossing the Turnpike Connector. This facility may be impacted by the proposed SR-826 EB to I-95 NB flyover ramp and the SR-826 SB ramp to I-95. This conflict should be further analyzed, horizontal and vertical (vvh) location of the conduit should be determined and considered during final design.

3.13 Florida Department of Transportation – District Six ITS

Florida Department of Transportation – District Six ITS maintains a number of fiber optic cables along the south side of SR-826 EB crossing the Turnpike connector and on both sides of I-95 within the limits of this project. The fiber optic cable supports the intelligent transportation system field devices such as cameras and dynamic message signs and it includes a number of control cabinets and pull boxes. The fiber optic cables may be impacted by the proposed new three-lane off-ramp from SR 826 EB to I-95 NB and SB and proposed SR-826 EB to I-95 NB Flyover Ramp and the widening of the Turnpike Connector. In addition, the ITS Hub located on the Park and Ride east lot will also be impacted by the widening of the Turnpike Connector. This conflict should be further analyzed, horizontal and

vertical (vvh) location of the buried fiber optic cables should be determined and considered during final design.

3.14 Florida's Turnpike Enterprise – ITS

The Florida Turnpike Enterprises, Traffic Management Center at the Turnpike Operations Center in Pompano Beach (mile post 65) operates several Intelligent Transportation System (ITS) field devices such as closed circuit television cameras and dynamic message signs to enhance safety, services and traffic flow and monitors traffic along the project corridor. These ITS devices are supported by a buried fiber optic (BFO) line that runs along the east side of the Florida's Turnpike.

The BFO cable may be impacted within the interchange areas due to the addition of an auxiliary lane along SR 826/Palmetto Expressway eastbound from the Turnpike Connector overpass to the NW 7th Avenue intersection and the widening of the Florida's Turnpike northbound on-ramp from SR 826. The buried junction box and cables will also need to be extended and/or relocated during construction of the proposed widening.

3.15 Miami Dade County Traffic Division

Miami Dade County Traffic Division maintains traffic signals, loops and control devises at all major intersection along SR-826/Palmetto Expressway and I-95. These facilities may be impacted by the proposed bridge widening and arterial improvements along the projects corridor.

3.16 TECO Peoples Gas

TECO Peoples Gas operates the following facilities within the project limits:

- A 4" Steel gas line crossing SR-826 at NW 17th Avenue. This line may be impacted by the widening of the SR-826 WB frontage road to accommodate a right turn at NW 17th Avenue.
- A 2" Steel gas line crossing SR-826 at NW 12th Avenue. This line may be impacted by the proposed bridge widening over NW 12th Avenue. This conflict should be further analyzed, horizontal and vertical (vvh) location of the gas line should be determined and considered during the final design of the bridge foundation.
- A 6" gas line running along the north side of NW 167th Street (WB Frontage Rd.) along the limits of this project. This gas line may be impacted by the widening of the SR-826 WB frontage road to accommodate a right turn at NW 17th Avenue.
- A 4" Steel gas line running along the south side of NW 167th Street (EB Frontage Rd.) from NW 15th Avenue to the east side of NW 7th Avenue, then running south along NW 7th Avenue. These facilities could be impacted by the proposed new

three-lane off-ramp from SR 826 EB to I-95 NB and SB. This conflict should be further analyzed, horizontal and vertical (vvh) location of the gas line should be determined and considered during the final design.

- A 4” gas line on NW 6th Avenue continuing north along NW 165th Street within the limits of this project. These facilities should not be impacted by the proposed improvements under the recommended alternative.
- A 4” Steel line running along the south side of NW 7th Avenue Extension east of Florida’s Turnpike. This gas line should not be impacted by the proposed improvements under the recommended alternative.

4.0 SUMMARY

This is a preliminary evaluation of potential utility conflicts within the project corridor based on proposed improvements under the recommended alternative; additional conflicts may be identified during final design due to proposed drainage, lighting, signals, MOT, etc. All UAOs facilities appeared to be located on FDOT's right-of-way by permits with the exception of Verizon Business Solution (f.k.a. MCI) one (1) 4" PVC conduits located on SFRC right-of-way. No utility easement have been identified a along the corridor. All UAO(s) owning major facilities within the area of the Project have Master Agreements with the Department; this should expedite the coordination process eliminating the need for individual work agreements.

In addition, on August 21st, 2013 the Florida Department of Transportation entered into a global settlement agreement with Florida Gas Transmission regarding potential impacts to FGT facilities (on a statewide basis) and guidance procedures to address their disposition within FDOT Right of Ways. Under permitted scenario's which is the case for the facilities located within FDOT's R/W along SR 826/Palmetto Expressway and its frontage roads along NW 167th Street: if relocation is warranted, alternative space for the relocation of the facility within FDOT's R/W is accommodated where practical. In the event that suitable space is not available within existing R/W; FDOT is responsible for acquiring suitable replacement R/W and FGT is responsible for the cost of relocation of those facilities to the available right of way. In the event that FDOT cannot secure the R/W, FGT has the ability to secure the R/W on FDOT's behalf including use of condemnation rights through the federal eminent domain process. FGT has this ability through the Federal Energy Regulatory Commission (FERC) issuance of a certificate of public convenience and necessity.

It is anticipated that the proposed widening of the SR 826/Palmetto Expressway mainline together with the construction of a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound and the relocation of the NW 12th Avenue on-ramp will result in the existing 18-inch gas main being further buried behind proposed retaining walls and in several cases fall beneath the mainline expressway travel lanes. These conditions will restricts access to the gas main under emergency situations. As such, relocation of the existing 18-inch gas main along the south side of SR 826/palmetto Expressway to a more accessible location will be required. As part of this PD&E Study, several potential routes were identified and evaluated for the relocation of the existing 18-inch gas main (Refer to the **Florida Gas Transmission Utility Relocation Assessment Memorandum**). Three routes were recommended for further evaluation during the final design phase of this project. The FDOT will coordinate with Florida Gas Transmission (FGT) to address the final disposition of the 18-inch gas main, prepare the necessary engineering and environmental documentation for approval and obtain funding for the construction and operation of the new 18-inch gas line.

The FDOT District Six Utility Office will maintain coordination with all the utility providers throughout the subsequent final design phase regarding any potential impacts. Based on

early coordination with the utility owners, no significant impacts to the utility services or disruptions of services to area businesses are expected to occur. Given the fact that this project will be likely funded with federal funds and that portions of the work are along I-95 those utility relocation located along I-95 may be compensable. Funding should be programmed in the event. Amount of funding will be determined as the study progresses. A preliminary estimate of the potential utility impacts cost is provided in **Attachment B**.

ATTACHMENT A

Utility Coordination Meeting with Florida Gas Transmission
(FM#s 428358-1 thru -5)

November 12, 2013

Attendees

Name	Firm/Agency	E-Mail	Telephone No.
Tony Soto	FDOT	Tony.Soto@dot.state.fl.us	305-470-5232
Dat Huynh	FDOT	Dat.Huynh@dot.state.fl.us	305-470-5217
Tom Bane (by phone)	FDOT	Thomas.Bane@dot.state.fl.us	850-414-4379
Ozzie Sanchez	FDOT	Ozzie.Sanchez@dot.state.fl.us	305-470-5235
Javier Bustamante	FDOT	Javier.Bustamante@dot.state.fl.us	305-470-5470
Laura Palmberg	FDOT	Laura.Palmberg@dot.state.fl.us	305-470-5479
Alejandro Casals	FDOT	Alejandro.Casals@dot.state.fl.us	305-470-5473
Will Sloup (by phone)	FDOT-FTE	William.Sloup@dot.state.fl.us	407-264-3080
Henry Pinzon (by phone)	FDOT-FTE	Henry.Pinzon@dot.state.fl.us	407-264-3802
Jim Kervin (by phone)	FDOT- FTE	James.Kervin@dot.state.fl.us	407-264-3007
Mike Van Der Heyden (by phone)	Turnpike	Mike.Vanderheyden@dot.state.fl.us	407-264-3440
Becky Bolan (by phone)	Turnpike	Rebecca.Bolan@dot.state.fl.us	407-264-3416
Dave Shellhouse	FGT	Dave.Shellhouse@sug.com	407-838-7122
Joseph E. Sanchez	FGT	Joseph.E.Sanchez@sug.com	407-838-7171
David Parham	FGT	David.Parham@sug.com	407-838-7112
Terry Coleman	FGT R/W	Terry.Coleman@energytransfer.com	407-838-7054
Adam Broad	FGT	Adam.Broad@energytransfer.com	713-989-2057
Robert T. Carballo	Stantec	Robert.Carballo@Stantec.com	305-445-2900
Dave Clarke	Stantec	Dave.Clarke@Stantec.com	305-445-2900
Raul Salazar	Stantec	Raul.Salazar@Stantec.com	305-445-2900
Julieta Manso	RS&H	Julieta.Rivero@RSandH.com	786-388-0234
Sam Gonzalez	RS&H	Sam.Gonzalez@RSandH.com	786-388-0234
Godfrey Lamptey	Stantec	Godfrey.Lamptey@Stantec.com	305-445-2900

Existing FGT Pipe Lines

Florida Gas Transmission (FGT) has two existing gas pipe lines which run south along the Florida's Turnpike Mainline spur to the Golden Glades Interchange (GGI) and then west along State Road (S.R.) 826/Palmetto Expressway. The gas lines are buried in the road embankments.

A 24" line runs on the west side of the Turnpike and then on the north side of the S.R. 826 westbound (WB) frontage road which is on the north side of S.R. 826. The 24" line is near the right of way (ROW) line. (At or about the interchange with NW 67 Avenue, the 24" line moves to the south side of S.R. 826.)

An 18" line runs on the west side of the Turnpike. The line crosses under the Turnpike's Connector (at approximately station 140+00) to the east side of the Turnpike's Connector and

then proceeds along the south side of the S.R. 826 eastbound (EB) frontage road to S.R. 93/I-75. This line is further inside the Florida Department of Transportation (FDOT)'s ROW than the 24" line is, because it is between S.R. 826 and the EB frontage road which is on the south side of S.R. 826.

Statewide Settlement Agreement

Relatively recently (August 2013), FDOT signed a statewide settlement agreement, also called the 'global settlement agreement' (GSA), with FGT which gives FGT discretion to determine if the department's improvements would impact FGT's facilities. FDOT will provide FGT 90% plans or something equivalent for each FDOT project which may impact FGT lines; FGT will reply in no more than 90 days to indicate whether or not the project will impact the lines. Tony Soto is the point of contact between FDOT District Six (D6) and FGT for matters relating to the GSA.

'Suitable replacement right of way' for relocating a single FGT gas line must include 15' completely clear on both sides of the line for access to the pipe and 25' on one side for temporary room for construction of FGT's work. FGT's need for space will be the greatest when it is constructing the pipe line. Once the new pipe is in the ground, FGT will not need as much space, unless FGT needs to do an upgrade or address a defect in the pipe. FGT still needs access to the pipe line so FGT can operate and maintain the line.

If the cost to relocate FGT's line is over $31.4 million, FGT would have to do a '7c' filing and go through a three-year process. The Federal Highway Administration (FHWA) will not pay for a second relocation of a line for which it already paid for one relocation.

FDOT Projects

FDOT Financial Management (FM) project number 428358-1 would construct a new interchange ramp to provide a direct connection from EB S.R. 826/Palmetto Expressway to northbound (NB) S.R. 9A/I-95 and make other improvements to S.R. 826 at the interchanges between NW 12 Avenue and NW 17 Avenue. This project also is called the 'interim improvement' (or phase 1) project for the GGI. Dat Huynh is FDOT's project manager (PM) for this project, which is at the project development and environment (PD&E) study stage. This project has funding for construction in fiscal year (FY) 2016/17. FDOT wants to finalize the PD&E study and 'tie down' what to do in this area, get environmental approvals and proceed with a Request for Proposals (RFP) package for a design-build project.

Mike Van Der Heyden is the PM for the Florida Turnpike Enterprise (FTE) interchange improvement project FM# 423373-2 for improvements on the Turnpike Mainline spur at mile post (MP) 0X in the GGI. This project would widen the connection from the southbound (SB) Turnpike to SB I-95 from one to two lanes. This project is being coordinated with FM# 428358-1. It also has funding for construction in FY 2016/17.

Dat Huynh is the PM for D6's PD&E study under FM# 418423-1, which may lead to reconstruction of S.R. 826 from S.R. 93/I-75 to the GGI. It would 're-work' multiple ramps and add express lanes connecting SB I-95 to WB S.R. 826, EB S.R. 826 to NB I-95 and SB Turnpike to SB I-95. This project also includes the GGI 'ultimate improvements.' It is not funded for design or construction. FDOT is trying to design the interim improvements so that

they will not be 'thrown away' by the ultimate improvements project, but instead the ultimate improvements will build on the interim improvements as much as possible. One ramp in the interim project is almost the way it would be in the ultimate project.

Dat Huynh also is the PM for D6's project under candidate FM# 418423-5 for the future design and construction. This 'Palmetto East-West' project may add express lanes to S.R. 826 from NW 154 Street to NW 17 Avenue. This candidate project is not funded.

FDOT's consultant Stantec is doing the PD&E study on the interim improvements. FDOT's consultant RS&H is doing the PD&E studying for the ultimate improvements and the east-west project.

Impact to FGT 24" Line

FDOT does not expect the interim improvement project to require re-routing of FGT's 24" line because that project will not do much work on the north side of S.R. 826. There will be some work on drainage structures, including adding flumes for drainage around the pipe line. Also the project will widen the road slightly to extend a right turn lane at an intersection and add sidewalk for connectivity. This will place some pavement over the current location of the pipe line. Under the terms of the GSA, FGT will decide whether or not the 24" line will be affected by the interim project.

Dave Shellhouse said that FGT would be reasonable. The location where the 24" line will be covered by the widened pavement is small and isolated, so FGT may not relocate that line for that pavement addition.

The ultimate project and/or the Palmetto East-West project may construct pavement over the current location of the 24" line.

Impact to FGT 18" Line

FDOT expects that the interim improvement project would require re-routing of FGT's 18" line. At an earlier meeting D6 gave FGT concept drawings for this project so FGT could look at the potential impact to their line.

Mr. Shellhouse reported that FGT looked at the drawings but they don't show all the conflicts. FGT asked for 90% plans or the equivalent. The changes that can be made to the plans until the point of 90% plans can impact utilities such as FGT's facilities. However, FGT is committed to work with FDOT.

The drawings show a conflict between the interim improvement project and the 18" line, so that line needs to move. The GSA indicated that the replacement route must have unencumbered and unobstructed space of 30' plus the width of the pipe plus 25' of temporary work space for the line, but the agreement did not contemplate the challenges of re-routing a line in the highly urban conditions found at this location.

A consultant's surveyor is working at the location of the interim project to get the exact locations of the FGT line through subsurface utility exploration. Eventually they will survey the entire GGI to include a Digital Terrain Model (DTM). They should have select surveyed cross-sections

(maybe eight of them) by early December 2013; some locations will have the gas line incorporated. With that information FDOT can refine its preliminary drawings for these locations reflecting the actual location of the line.

Robert Carballo indicated that there must be a realistic timeline for relocating the gas line. If the whole line must be re-routed, the process could take three or four years.

The ultimate project and/or the Palmetto East-West project may construct pavement over the relocated 18" line, depending on where it is relocated.

Considering Interim and Ultimate Improvements

FGT has a concern about the uncertainty of what impact the ultimate improvements may have to FGT's lines. If FGT had more certainty about the long-term solution, it would be easier for FGT to work within constraints for a temporary solution. FGT understands that it is important to address safety and other issues by doing the interim improvements, but this may require making improvements that will not be compatible with the ultimate improvements. FGT is concerned that they will have to abandon the new line in place for the ultimate improvements. It is a 'balancing act.' FGT wants to 'set the stage' to make interim improvements that will make the future improvements easier for everyone. Can the PD&E study work on a utility issue that is not also a road issue? FGT is not the only utility at the project location.

FDOT and FGT could go straight to a 'global solution' which would move FGT's pipe lines out of the way of all FDOT's planned projects on S.R. 826. The other option is to find space within which FGT could re-route the 18" pipe line, but in the future that temporary fix may be scrapped when FGT and FDOT go to the global solution. FGT started looking at alternatives for the global solution. However, the information FGT has on the ultimate project is very preliminary and conceptual. FGT looked for green space where its lines may be re-routed.

Mr. Soto said that FDOT welcomes FGT's ideas for corridors that will work for all the parties. Though not funded now, the ultimate project can happen when funds become available. This has happened for other large projects previously.

Mr. Carballo suggested that there may need to be an interim solution for the interim project with a parallel discussion of what will be needed for the ultimate project.

Mr. Huynh said that part of the gas line might have to be re-done later. FDOT and FGT would work the cost of that into a future agreement. FDOT wants to move forward with its funded (interim) project and not tie those improvements to the unfunded (ultimate) project. Look at the alternative corridors for re-routing the 18" line and the costs for both ROW and relocation of the gas line for each. FDOT and FGT will 'keep everything on the table' and work out an agreement that satisfies all parties.

Mr. Shellhouse said to consider all the options, and look at the cost of making improvements that may be 'lost' eventually due to the ultimate project. Probably FGT needs an agreement for preliminary engineering, but they have not yet gone to the point of an engineering team. FGT could have conceptual discussions but not agree to anything yet. This is a very specialized project and may need a unique solution. FGT would have a shared cost for looking at the ultimate project; this is not covered by the GSA. Tom Bane could not say if FDOT could reimburse FGT for looking at the ultimate project.

FGT is open to 'cost-neutral' solutions. This may require cost sharing. Look for the 'middle ground' when reaching a 'one-off,' separate agreement between FGT and FDOT for this project. Mr. Bane said that the fact that FDOT and FGT have the GSA doesn't mean that the parties can't 'cut a better deal.' Mr. Shellhouse said that the GSA 'provides guidance' as FDOT and FGT work together. FGT really appreciates FDOT's 'can-do' attitude shown in multiple districts, making it great to work with FDOT.

Considering ROW and Easement Acquisition

Mr. Shellhouse said that Florida Secretary of Transportation Ananth Prasad wanted FDOT to have unfettered access to FGT's pipe line locations so he agreed that FDOT would provide suitable space to relocate FGT's lines. This may require ROW acquisition in the corridor for the pipe line. The obligations are different depending on whether the pipe line is on the ROW by permit or by easement.

The 18" line is there by permit now, so for the re-routing FGT would pay the construction cost for the new pipe and FDOT would pay the cost for suitable replacement ROW.

Mr. Shellhouse said that FGT can't ask FDOT to acquire an easement if FGT's line is there by permit, but FDOT can acquire ROW for FGT to continue to operate by permit. For a project in another FDOT district, houses need to be acquired to make room for a gas line. Another project required FGT to move a pipe line out of the road's ROW entirely. The GSA contemplated FDOT acquiring the ROW but FDOT and FGT can consider the situation. FGT is acquiring the ROW at S.R. 694/Gandy Boulevard in FDOT District Seven.

Mr. Soto said that FDOT can acquire ROW and give FGT a permit to have a line on that ROW. However, FDOT cannot obtain an easement and have FGT install a line there by easement.

Mr. Bane said that FDOT can acquire ROW for FDOT's transportation facility. Also FDOT can acquire land for utilities, but can't condemn property just to give an exclusive easement to a utility. FGT could obtain an easement itself. FGT cannot impact previously permitted facilities to install their permitted facility.

Mr. Soto said that FDOT works extensively with utilities to minimize impacts. The department works within constraints to avoid major impacts, and usually does not acquire right of way for utilities. FGT and FDOT are in 'uncharted territory' under the new settlement agreement. If D6 finds a suitable alternative corridor for a pipe line with no obstructions but asphalt, would that be a feasible alternative for FGT even if FDOT does not own the ROW?

Mr. Shellhouse said that FGT won't say that it wouldn't consider any particular alternative. Consider the cost of constructing miles of new pipe line if the re-routing makes a long 'detour' from the current line. (Tony Soto said that the new line could stay close to the current line. The new route would have to be in an urban corridor; rural corridors are miles away.) FGT and FDOT can have a frank discussion on the 'balance of costs.' One alternative route may cost less for ROW acquisition but cost more for pipe line construction. FDOT might bear some of the increased pipe construction costs. (Mr. Huynh said that FDOT and FGT need to know the costs for acquiring the ROW and for relocating the pipe line so they can consider those costs and move forward.) It takes time to understand the value of getting the line out of the way and the value to acquire ROW for relocating the line off the road entirely.

FGT and FDOT can compromise to find a 'win-win' solution. No one document (such as the global settlement) can contemplate every situation. FGT and FDOT can work through issues to reach good solutions.

Alternative Corridors for 18" Line

FDOT is acquiring ROW near the GGI for the interim project, so there will be room for the FGT line in the eastern part of the project, but room must be found for the rest of the length of the project to fit the re-routed line until it can 'tie back in' (connect) to the existing line. Mr. Carballo said that it makes more sense to tie the new line in to the existing line past the box culvert near NW 17 Avenue, but the parties will need to look at the alternatives.

Mr. Carballo reported that Stantec looked at some alternative corridors on which the 18" line could be re-routed. On a large map of the project area provided at the November 12 meeting, a green line shows an alternative route along the S.R. 826 EB frontage road ROW and a yellow line shows a route along NW 165 Street. A pink line shows an alternative route along a rail spur, but the ROW is as narrow as 15' along this route. A blue dimension line runs roughly parallel to but south of the EB frontage road; this line runs through parking lots and buildings. The legend for the map does not show that the blue line indicates an alternative route.

FDOT has not yet done survey on the alternative corridors for re-routing the gas line, but could do such survey on a route found to be feasible. Also 'preliminary locates' could be done for decision making purposes.

Mr. Huynh said that the interim project's PD&E study will document the most feasible route for re-routing the gas line and notify residents of the impacts.

EB Frontage Road

One alternative corridor would move the 18" line further south on FDOT's ROW between S.R. 826 and the EB frontage road. Instead of being under the embankment on the south side of S.R. 826, the line would run just north of the EB frontage road. This would require addressing some engineering challenges. Construction of a gas line typically is done using long segments of welded pipe installed at one time but work in an urban corridor may require alternative methods of construction.

A canal near the NW 17 Avenue interchange has a box culvert. It would make sense to use a horizontal directional drill there and also at the NW 12 Avenue interchange so as to maintain traffic flow. The line would go 10' under the box culvert, using 'jack and bore.' (Someone from FGT said that 3' to 5' under is standard.) In between those locations the 'cut and cover' (or 'drag section') method could be used with 40' sections of pipe so the trench will not have to be left open.

This is a very constrained location. What would it take to make the line fit? If the frontage road were reduced to one lane there would be 25' available. (FDOT needs to keep at least one lane open on the frontage road.) Possibly the project could install temporary walls, or sheet piling in embankments, to make a series of 40' x 100' pit areas for pipe line construction, with directional drilling done between them. The work would be 10' from the existing gas line.

FGT looked at the conceptual drawings for this alternative route. Mr. Shellhouse said that typically FGT needs a 200' by 200' pit for drilling so there is enough space for the equipment.

Someone else from FGT (possibly David Parham) said that possibly they could use a 100' x 300' pit if they reconfigure the equipment. Space is needed for a 'lay down' area in which to fabricate pipe to insert into the drill hole. It takes a day to prepare an 18" weld, including making the weld, letting it cool and x-raying it.

FGT has a concern with directional drilling. FGT will use this method where it has to be used, for example, for a canal or to cross a road, but it cannot be done for an indefinite linear distance. There is a minimum length for the drill. The depth of the drilling depends on the length of the drill and under what material the drilling is being done. FGT would need core samples to determine the strata at the drilling location. Wherever FGT does not have to do directional drilling, FGT will use an 'open cut' method.

FGT understands that FDOT wants to minimize the impact on traffic, but it is important not to put the pipe line under an active road. Putting a pipe line under an active road is different than putting the line under a parking lot. The clear space should be 30'.

Mr. Shellhouse said that this route is 'not an option.' Mr. Carballo suggested further analysis.

NW 165 Street

Another alternative corridor Stantec considered runs along NW 165 Street, which has 60' to 70' of city-owned ROW. (Mr. Soto mentioned that urban ROW tends to be about 50'; this street is an exception.) All the existing utilities are on one side of the road. The pipe line could come back up along a canal and tie in to the existing line along S.R. 826.

Mr. Shellhouse said that FGT has not yet looked at the NW 165 Street corridor but it 'is an option.' Part of the ROW is covered with the active road, which probably would make re-routing the gas line in the ROW problematic, but FGT will look at it.

Blue Line

Mr. Shellhouse suggested that there would be a better replacement space for the 18" line if FDOT acquired some of the privately owned ROW currently used by businesses along the frontage road. Later in the meeting he said that FGT doesn't expect FDOT to acquire portions of businesses' parking lots along this road.

Javier Bustamante said that the business damages to the property would be reduced by using an easement. The decision depends on the schedule and if FDOT would want the ROW to be a multi-utility corridor. If FDOT wants to acquire an easement, FDOT has to prove to the courts that there is a transportation necessity for the easement. (Mr. Soto said that the agreement impacts the FDOT project so there is a transportation need.) Another option is for FGT to acquire an easement.

Mr. Carballo said that a permanent easement costs 90% to 100% as much as acquiring ROW outright. The land along the south side of S.R. 826 includes recently constructed parking for a

car dealership, among other operational parking lots. If FDOT acquired this ROW, FDOT would have to lease the parking lots back to the companies for their use. If FDOT acquired parking lots it also would have to acquire houses. There is an historic arch on the south side of S.R. 826 at NW 13 Avenue which must be protected, so the pipe line must stay away from the arch's foundation.

Mr. Shellhouse said that the 'blue line' (on the map) 'is an option.'

North Side of S.R. 826

Another possibility would be to move the 18" line to the north side of S.R. 826. Mr. Shellhouse said that usually if FGT has multiple lines running along a road, they are on one side of the road. It is unusual for FGT to have lines on both sides of a road, as they do along S.R. 826 here. Typically FGT keeps its lines 15' apart from each other. FGT would not object to putting the 18" and 24" lines together in a wider easement. For two pipes, FGT would need a 60' easement. Also FGT would have to reconfigure the 'interconnects' if the 18" line were to be moved to the north side of S.R. 826. The line still would need a 'tie-in' to the Opa-Locka Distribution Center.

Biscayne Canal

Mr. Huynh said that the Biscayne Canal runs to the Opa-Locka Airport. This canal runs roughly for the length of the interim project and has green land; however, it is further away from S.R. 826 and not on FDOT's ROW. FDOT has not looked at the Biscayne Canal yet as a possible alternative route for the FGT 18" line.

HEFT

Mr. Shellhouse said that another option would be to move the pipe line further west. S.R. 821/Homestead Extension of Florida's Turnpike (HEFT) is in a less developed area so it would be easier to acquire space along it. Mr. Carballo indicated that even if the pipe line were re-routed down the HEFT, the line would have to connect to an urban area to provide service to areas such as the Opa-Locka Airport.

Action Items

FGT

- FGT will look at the drawings for the interim project and see if that project would require relocating the 24" gas line.
- FGT will continue to look for a 'global solution' to get FGT's lines out of the S.R. 826 corridor, taking into account the S.R. 826 typical sections information for the Palmetto East-West project that FDOT gave FGT at the November 12 meeting.
- FGT will do an 'AFE' to do preliminary engineering.
- Mr. Shellhouse will consult with FGT about possible cost sharing with FDOT for FGT looking at the ultimate improvements.

- Mr. Carballo suggested that FGT evaluate the alternative route along the EB frontage road and say why the 18" line can or cannot be re-routed there. Indicate what are FGT's restrictions and costs such as fitting equipment in the work area and doing dewatering and decontamination of the water. A thorough analysis will provide information for making decisions on costs.
- FGT will look at the space requirements for their drilling pits.
- FGT will look at the alternative route along NW 165 Street, including driving along the route to understand the layout there.
- FGT will start 'engineering' associated with the blue line and look at construction costs.
- Mr. Shellhouse will reply in about a week about the schedule for FGT's preliminary evaluation.

FDOT

- FDOT will look at the ROW costs for the blue line (property adjacent to the S.R. 826 EB frontage road).

The meeting adjourned at approximately 1:15 PM.

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DATE: October 17, 2013 **REVISION (1)**

TO: Dat Huynh, P.E., FDOT Project Manager

FROM: Robert Carballo, P.E. Project Manager

PROJECT: PD&E Study for Golden Glades Interchange
From SR 826/Palmetto Expressway Eastbound to SR 9A/I-95 Northbound
Financial Project ID: 4283581-22-01; ETDM No.: 11300
Miami-Dade County, Florida

COPY TO: Tony Soto – FDOT District Utility Manager
All attendees
Project correspondence file

SUBJECT: MEETING WITH FLORIDA GAS TRANSMISSION September 24th 2013

A Coordination Meeting was held on Tuesday, September 24th, 2013 with representatives from Florida Gas Transmission (FGT) at their office (2405 Lucien Way, Suite 200 Maitland, Fl. 32751-5100) to discuss the accommodation of their existing facilities on the above referenced project. The following individuals were present at this meeting:

Attendees

Name	Firm/Agency	E-mail	Tel. No.
Dave Shellhouse	FGT	dave.Shellhouse@sug.com	407 838 7122
Joseph E. Sanchez	FGT	joseph.e.sanchez@sug.com	407 838-7171
David Parham	FGT	david.parham@sug.com	407 838-7112
Beth Porter	FGT Right of Way	bporter.rightofway@comcast.net	352-308-7504
Terry Coleman	FGT Right of Way	terry.coleman@sug.com	407-838-7054
Adam Broad	FGT	adam.broad@energytransfer.com	713-989-2057
Doug Mulhausen	FGT	douglas.mulhausen@ energytransfer.com	407-838-7118
Robert T. Carballo	Stantec	robert.Carballo@stantec.com	305-445-2900
Dave Clarke	Stantec	dave.clarke@stantec.com	305-445-2900

The following is a summary of what was discussed;

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1. Introductions

2. The purpose of this meeting was a follow up with FGT from the last meeting held with Mr. Joseph Sanchez and Mr. David Parham which occurred on February 21st 2013 for the above referenced project. In order to bring all of the current meeting participants up to speed with the project, the following was discussed.

3. The current study being developed provides improvements to addresses interim needs (2030 Traffic) within the Golden Glades Interchange (GGI) from NW 17th Avenue to NE 2nd Avenue. The interim project's primary goal is to address the movement from Eastbound SR 826/Palmetto Expressway to Northbound I-95. The project also addresses the connection from Florida's Turnpike (FL TPK) to southbound I-95 which currently transitions from two lanes down to one as it connects with the eastbound to southbound ramp lanes coming from SR 826/Palmetto Expressway. These two lanes will be continued at grade and the alignment shifted to the west to accommodate a future direct connection from FL TPK to the southbound express lanes along I-95 which will be part of the ultimate improvements to the interchange. The embankment along SR 826/Palmetto Expressway will be cut back and Texas U-turns will be provided at the interchanges of NW 12th and NW 17th Avenue respectively. The existing bridges at these locations will remain as part of the interim improvement project (This is a new feature from what was presented on the February 21st 2013). These will however be reconstructed as part of the Ultimate Improvements and the reconstruction of the SR 826/Palmetto Expressway being studied under an adjacent PD&E Study. That Study is looking to reconstruct SR 826/Palmetto Expressway from I-75 to the Golden Glades Interchange. Those improvements are considering the inclusion of express lanes in each direction to address 2040 traffic capacity needs. Mr. Carballo suggested that FGT should meet with FDOT's Project Manager Dat Huynh and the department's consultant RS&H to discuss the project and offered to facilitate this meeting. FGT agreed.

4. Mr. Carballo indicated that a public hearing was currently scheduled in the 1st quarter of next year for the Ultimate project. For the Ultimate project the GGI study team is developing additional improvements at the Golden Glades interchange to connect the Palmetto Express Lanes to I-95 (to and from the north) as well as other additional improvements. Mr. Carballo explained that the ultimate project is not currently funded (estimated cost approximately $1 billion).

5. Mr. Carballo indicated that the interim project referenced above is currently scheduled to be funded at a cost of around $170 Million including right-of-way costs. This project is going to be presented to the public at a public hearing which is scheduled to occur on October 2nd, 2013; with anticipated Location Design

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Concept Acceptance (LDCA) from FHWA by January 2014. It is the Departments intent to commence the development of a Design Build (D/B) Criteria package (for the interim project) in November of this year. The interim project is tentatively scheduled to be advertised in October 2016, with a letting in May of 2017 and completed sometime in the summer of 2019. These dates may shift slightly.

6. The department is also evaluating the reconstruction of the Golden Glades Park and Ride Facility. It will be transformed into a Multimodal Transportation Facility with expanded Bus Terminal, a Parking Garage and reconfigured surface parking. The east Park and Ride Lot will be reconfigured as a Truck and Travel Center. Both of these projects are part of another project to be let as a separate design build to be completed around the same time as the proposed interim GGI improvements.

7. FGT currently has an existing 8", 18" and 24" natural gas line within the proposed project limits. Roadway as built plans reflect an existing 6" gas line service on the south side of eastbound SR 826/Palmetto Expressway running south west to the property located at NW 167th Street (eastbound frontage road) and NW 7th Avenue. This gas line was not identified on FGT's original green line mark ups. Mr. Joseph Sanchez confirmed that this line does not belong to them since they do not own distribution service in this area and suggested that it may belong to TECO gas.

8. Both the existing 18" and 24" FGT gas mains along SR 826/Palmetto Expressway where originally installed by permit. FGT currently holds an easement beginning approximately 145 feet north of SR 826/Palmetto Expressway. During the meeting held with FGT on February 21st 2013, the potential need to relocate the existing 18" gas main away from the proposed MSE walls and into the Right of Way along eastbound NW 167th Avenue was discussed and FGT was going to evaluate the potential relocation of the 18 inch line as part of the interim project. They were also going to discuss internally the potential impacts associated with their facilities as part of the ultimate improvements along SR 826/Palmetto Expressway. Mr. Sanchez indicated that FGT had not finalized their evaluation.

9. The global settlement agreement recently executed between FDOT and FGT regarding potential impacts to FGT facilities within FDOT R/W's was then discussed (See Attached Excerpt of Agreement for FGT Facilities in FDOT R/W under permit). Per the agreement, FGT has 90 days after receipt of 90% plans or their equivalent for proposed FDOT improvements to determine whether relocation of their facilities is required. The agreement also describes the required space for a single relocated pipe line (≥9"Diameter) which would be 15-feet unencumbered and free of obstructions measured from the outside of pipe line on both sides plus an additional 25-feet temporary workspace on one side. Mr. Parham indicated that FGT would

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need to follow the agreement in reviewing the plans. Mr. Carballo stated that during the PD&E and D/B criteria package process 90% construction plans are not typically developed. Mr. Carballo added that FDOT District 6 wanted FGT to know that they have always maintained a good working relationship with FGT and wanted to continue that relationship. Since 90% would not be available, FDOT District 6 wishes to rely on the working relationship to continue with the current interim projects and work towards the "equivalent" of a 90% plans as mentioned in the global agreement. He further went on to state that the department was in the process of scoping a full survey of FGT's gas line (including DTMs and soft digs) as part of the D/B criteria package development from approximately 100-ft west of NW 17th Avenue to the project terminus at Turnpike. FGT requested to have personnel in the field as soft digs are being performed. This will assist in evaluating potential impacts to FGT's facilities. He also suggested that some phase review procedures could be developed with FGT to provide comments on the design during the D/B criteria package development process. This would assist in helping FGT evaluate potential issues and serve in the spirit of equivalent information to allow FGT to make its determinations without the necessity of a 90% set of plans. Mr. Sanchez said that FGT could look at areas based on the PD&E documents and identify conflicts and constraints at certain locations. Mr. Sanchez went on to say that FGT can also work with FDOT District 6 to develop instructions to the bidders that would be part of and included in the RFP language to summarize this coordination effort so that any agreements and understanding do not change. As for making a final determination of whether or not a relocation; would be required, Mr. Sanchez said that FGT would still require 90% plans per the global agreement. Mr. Carballo stated that there is time before the project goes to construction for FGT and FDOT District 6 to work together in developing a solution.

10. Mr. Carballo indicated that the preliminary concept as presented today (on 36"x72" roll plot) has not significantly changed since the last meeting (2/21/13) and potentially impacts to FGT's existing 18" gas line currently running east-west, within the existing swale between EB SR 826 and NW 167th Street. Mr. Carballo stated that additional R/W was identified for acquisition (south of EB NW 167th Street and NW 7th Avenue) for the proposed NW 12th Avenue ramp relocation and will also serve to support additional drainage storage for the project as presented on February 21st 2013. Mr. Carballo explained that there is an existing contamination zone with a plume which prohibited the use of exfiltration trench within this interchange. Therefore the design was modified to include solid pipe which will pipe storm water runoff to the newly acquired drainage retention area. FGT requested a copy of the environmental document that shows the limits of the contamination which could impact any proposed relocation work.

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11. The proposed NW 12th Avenue ramp and widening will result in the existing 18" gas line being buried under the proposed MSE wall. Mr. Sanchez indicated that FGT would not typically allow a line to remain in that condition. Mr. Carballo suggested that if this was the case the 18" FGT gas line could be relocated from under the proposed MSE wall to the property identified for acquisition along EB NW 167th Street east of NW 10th Avenue. This proposed R/W (property currently for sale) will provide an unencumbered space. Beyond this point the line would have to transition along the existing frontage road to connect to the existing line as previously discussed in our prior meeting with FGT. At NW 12th and 17th Avenue Mr. Carballo pointed out that the existing 18" gas line is already within an existing embankment and currently represents a constraint to FGT that does not provide an unobstructed area. At NW 12th Avenue, improvements would include a retaining wall to hold back the existing embankment. Mr. Carballo suggested a possible solution where the gas line is currently under the existing embankment as it is today but relocated outside of the proposed retaining wall. Mr. Sanchez added that the existing 18" gas line would have to be removed from under the existing embankment and did not think FGT would allow this condition to remain. Mr. Carballo explained that there are significant challenges with land lock due to existing build out which would make it difficult to find the unencumbered space to relocate the 18" gas line. The Mercedes-Benz of Miami located on the south side of EB NW 167th Street would be a very expensive acquisition. Mr. Broad discussed the possibility of installing the gas line through horizontal directional drilling due to the constrained conditions along the frontage road. This would need to be evaluated further. FGT requested a timeline of when this new R/W will be purchased and available.

12. Mr. Parham indicated that FGT would want 90% plans for review and asked if the roll plot being used today was for review. Mr. Carballo indicated he was not sure if the 90% requirement or equal considered PD&E and D/B criteria development projects. Mr. Carballo reaffirmed that the intent of this and other meetings is to work towards the "equivalent" of 90% plans to address any and all of FGT's concerns. According to Mr. Sanchez, Mr. Dave Shellhouse sat in on the negotiations of the global agreement and can better address the equivalent of 90% plans. Mr. Adam Broad asked if there were existing impacts to the 24" gas line located along WB NW 167th Street on the north side of WB SR 826. Mr. Carballo explained that resurfacing and sidewalk improvements will take place and design considerations to avoid impact to the 24" gas line would be taken. In placing drainage pipe and inlets near the gas main we may need to develop special details that flume the drainage away from the curb towards manholes placed in the travel lanes. This will need to be developed as part of the evaluation and D/B criteria package.

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13. Mr. Broad also inquired about relocating the 18" gas line to the north side in what appeared to be an open swale area on the roll plot. However, this area is actually embankment and initially does not seem feasible.

14. Mr. Carballo asked FGT how much time they would require to relocate the existing 18" gas line and what space is required for construction. According to Mr. Broad, design, permitting and relocation would take about 18-24 months after receipt of 90% plans and require a 25-feet temporary work space in addition to the permanent location envelop. **If required, FGT would prefer to** relocate prior to any construction of the FDOT project and perform the design internally. Horizontal directional drill is not a preferred method of installation because if there is a problem with the gas line FGT will have to re-drill but it may be possible in tight areas. As for the abandonment of the existing gas line, FGT prefers the use of water and nitrogen more so than then grout filled. Contamination is a concerned when FGT is relocating which will require an Environmental assessment. Mr. Carballo added that a Phase II Environmental assessment will be done as part of the D/B Criteria Package.

15. A preliminary discussion regarding the Federal Energy Regulatory Commission (FERC) Permitting requirements were discussed and the level of effort and time frame based on the cost of the relocation. In the prior meeting with FGT a dollar amount of $31.4 million was the trigger amount to require a 7c filing. This was again confirmed by Mr. Sanchez (This could extend the process up to 3 years). **The Prior Notice Filing threshold is from $11 million dollars up to $31.4 million dollars. The Prior Notice filing is a 90 period. A Land Owner Objection during the Prior Notice Phase will trigger an automatic upgrade to a 7C filing.**

16. As for the 24" gas line running along the west side of the FL TPK connector, Mr. Carballo explained that 15' easement did not appear to be impacted by the proposed improvements. The improvements along the Turnpike Connector to Southbound I-95 would utilize a retaining wall system in the area and outside of FGT's easement. Mr. Sanchez indicated that FGT would review this as well and confirm. The line crosses beneath the ramp from Southbound Turnpike to Westbound SR 826/Palmetto Expressway.

17. Mr. Dave Shellhouse joined the meeting and Mr. Carballo provided an overview of both the interim and ultimate for his benefit. With regards to the global agreement, Mr. Carballo stated that he did not know if PD&E and DB projects were considered. Mr. Shellhouse stated that PD&E and DB projects were absolutely considered and **are an important driver of the time lines established in the Global Settlement for evaluations and decisions on conflicts.** Mr. Shellhouse went on to say that DB

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projects in general, due to their accelerated schedule do not accommodate FGT's process which is why 90% plans are required before a determination on relocation is made. Mr. Shellhouse went on to say that FGT cannot allow the 18" gas line to remain in the embankment in the interim west of NW 12th street which constrains FGT and would interfere with their maintenance and **perform maintenance on** the line.

18. Mr. Carballo asked if FGT would accept an interim relocation within a narrow strip. Mr. Shellhouse said they would have to **see details on the proposals and** discuss internally **to provide comments**. Mr. Shellhouse said that due to the ultimate improvement **project**, FGT is internally discussing a possible global solution.

19. Mr. Carballo stated that the challenge of the new global agreement would be allowing the interim improvements to be built today with some constraints to FGT and provide traffic relief in the area which currently has approximately 400,000 vehicles today. Mr. Shellhouse added that it is not FGT intent to stop the project but was unable to say that FGT can live within the constraints identified. Mr. Shellhouse agreed to continue to meet and work with FDOT District 6 to solve this challenge. He indicated that FGT would accept the PD&E concept plan on the role plot provided and conduct a review to identify constraints officially and provide possible solutions within 30 days. Mr. Shellhouse also indicated that FGT would like for FDOT to evaluate potential alternate routes within the existing and/or new Right of Way or obtaining some potential easement rights that could be obtained if needed. He indicated that the cost of relocating the line was a shared responsibility with FGT paying for the relocated line and FDOT being responsible for obtaining property to place the line if it needed to be relocated. He stated that this has potential costs to both FDOT and FGT and that is why the agreement was drafted as a shared risk. He indicated that FGT would work with FDOT toward a beneficial solution.

Action Items:

1. FDOT to facilitate a meeting with FGT and RS&H to discuss to the ultimate project.
2. FDOT to notify FGT when soft digs are being performed so that FGT can be on site.
3. FDOT to send out invite for next meeting with a tentative date of October 24th, 2013 (Subsequent to the meeting the future meeting date was established to be November 12, 2013 at FDOT).
4. FDOT to provide FGT a timeline of when the new R/W will be purchased and available at EB NW 167th Street and NW 7th Avenue. Find out if R/W can be purchased early for FGT's use.
5. Stantec to provide PDF's of roll plot used during the meeting and environmental study which shows contamination plume. At the meeting a hard copy of the roll

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plot was provided to FGT along with two copies of the latest project concept plans for their review and reference.

6. FGT to review current improvement for interim improvements prior to next meeting tentatively scheduled for October 24th 2013 (Subsequent to the meeting the future meeting date was established to be November 12, 2013 at FDOT).
7. FDOT to review interim improvements for possible corridor where FGT can relocate the 18" gas line from under the embankment and MSE wall as an alternative if it is decided that the line cannot be located within the existing Right of Way.
8. FGT to provide a schedule breakdown of the 18-24 months required for design and relocation of a gas line to determine how activities in a DB schedule can be overlapped.
9. FGT to provide feedback on horizontal separation from other underground utilities.

These notes accurately reflect the matters discussed and/or agreed-to at the referenced meeting, as recorded by the author. You are requested to review these meeting notes and provide your comments and proposed corrections to us within 72 hours of your receipt hereof. These notes will be published to FDOT and/or others, as required, after the above referenced 72-hour period.

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DATE: March 6, 2013 **REVISION (1)**

TO: Dat Huynh, P.E., FDOT Project Manager

FROM: Robert Carballo, P.E. Project Manager

PROJECT: PD&E Study for Golden Glades Interchange
From SR 826/Palmetto Expressway Eastbound to SR 9A/I-95 Northbound
Financial Project ID: 4283581-22-01; ETDM No.: 11300
Miami-Dade County, Florida

COPY TO: All attendees
Project correspondence file

SUBJECT: MEETING WITH FLORIDA GAS TRANSMISSION FEBRUARY 21, 2013

A Coordination Meeting was held on Thursday, February 21st, 2013 with Florida Gas Transmission (FGT) to discuss the accommodation of their existing facilities of the above referenced project. The following individuals were present at this meeting:

Attendees

Name	Firm/Agency	E-mail	Tel. No.
Joseph E. Sanchez	FGT	joseph.e.sanchez@sug.com	407 838-7171
David Parham	FGT	david.parham@sug.com	407 838-7112
Robert T. Carballo	C3TS Stantec	Robert.Carballo@stantec.com	305-445-2900
Raul Salazar	C3TS Stantec	Rauls@c3ts.com	305-445-2900
Dave Clarke	C3TS Stantec	dave.clarke@stantec.com	305-445-2900
Pedro Ugas	C3TS Stantec/Hadonne	pedrou@hadonne.com	305 226 1188

The following is a summary of what was discussed;

1. Mr. Robert Carballo began by explaining that the purpose of this meeting was a follow up to the last meeting that occurred last fall for the above referenced project. Mr. Carballo explained that another consultant (RS&H) was currently working on a study that would address improvements along SR 826 from I-75 to Golden Glades Interchange (GGI) for ultimate taffic needs (2040). The project also addresses an express lane connection from

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southbound Florida's Turnpike to southbound I-95. The current study that is being developed address interim needs (2030 Traffic) with the GGI from NW 17th Avenue to NE 2nd Avenue. Mr. Carballo explained that the larger project is not currently funded, but the above referenced interim project is currently funded, and scheduled to open in 2018. Mr. Carballo indicated that this project will be let as a design build (D/B) project at an estimated cost of $155 million.

2. Mr. Carballo said that during the last meeting with FGT, the proposed NW 12th Avenue Ramp was being removed as part of the near term interim improvements due to the limited available Right of Way (R/W). Mr. Carballo stated that after further evaluation, additional R/W was being acquired (south of NW 167th St) for the proposed NW 12th Avenue Ramp to remain and serve as to support additional drainage storage for the project. Mr. Carballo explained that there is an existing contamination zone with a plume which prohibited the use of exfiltration trench within this interchange. Therefore the design was modified to include solid pipe which will pipe storm water runoff to the newly acquired drainage retention area. FGT currently has an existing 6", 8", 18" and 24" natural gas line within the proposed project limits. The 18" gas line currently runs east west, within the existing swale between SR 826 and NW 167th Street. The proposed NW 12th Avenue ramp and widening will result in the existing 18" gas line being buried under the proposed MSE wall and will have to be relocated per UAM. Mr. Carballo suggested that FGT can investigate relocating the existing 18" gas line from under the MSE wall to the newly acquired R/W along NW 167th Street.

3. Mr. Joseph Sanchez stated that FGT has to keep both the existing 18" and 24" gas lines active and cannot reduce down to one line in service. Mr. Sanchez went on to say that FGT has to examine the overall big picture with regards to the 18" and 24" gas line and the longer term corridor improvements. Mr. Sanchez informed all that depending on the scope and cost of the relocation project will determine how FGT has to file with the Federal Energy Regulatory Commission (FERC) who regulates construction and relocation of natural gas pipe lines. If the estimated project cost is less than $31.**4** million, then a Prior Notice Filing (45 days) would apply. However if the estimated cost is above $31.**4** million, then a 7c filing would be triggered. Mr. Sanchez added that the 7c filing would involve comprehensive environmental impact assessment, public notifications, meetings etc. and can take **up to 3 years**. Mr. Carballo added that from a scheduled stand point, the Location Design Concept Acceptance (LDCA) for the interim improvements will occur by the end of the summer after which C3TS Stantec will begin the design criteria package. There is a Public hearing scheduled this coming June 2013.

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4. Next item discussed was regarding how the existing gas lines that would no longer be in service within the project limits will be addressed. Mr. Sanchez stated that FGT will have these existing lines grout filled and/or removed.

5. Mr. Carballo asked if FGT would have the relocated gas line work done by the D/B Contractor through a JPA. FGT responded that they will perform the design and construction for the relocation of the gas lines and have the D/B contractor remove the existing gas lines. FGT stated that they will have an in house team to manage the overall relocation, but will eventually sub out the design portion of the work. Mr. Carballo informed FGT that they will need to provide a preliminary concept for the interim relocation of the 18" gas line along SR 826. Mr. Sanchez said that FGT will look into interim or ultimate depending on what directive is received from upper management. Mr. Sanchez added that if FGT does not look at the ultimate, they can address the interim without filing for a 7c if the estimated cost is less than $31.**4** million.

6. Mr. Sanchez asked Mr. Carballo if he knew the schedule for the improvements which extends from SR 826 to I-75. Mr. Carballo responded that the LDCA for that portion will occur in 2014 with construction to begin sometime in 2020 or 2021.

7. Mr. Carballo informed FGT that bigger scale drawings were available and would be provided to FGT so that they can further investigate the interim relocation concept. Mr. Sanchez stated that FGT currently has three soft digs on the existing 18" gas line and would provide this information. Mr. Carballo said that C3TS Stantec would use this information to adjust the line work for the existing gas line.

8. Mr. Pedro Ugas informed FGT that the existing gas lines within the Turnpike R/W to the north are there by permit. Mr. Sanchez said that FGT has an easement near this area and would provide these documents.

9. FGT stated that they would not be able to fully commit to this interim project by 2014, but will be able to perform some conceptual work and coordination.

Action Items:

1. Mr. Sanchez to provide soft digs on the existing 18" gas line.

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2. C3TS Stantec to adjust the line work for the existing gas line based on soft digs from FGT.
3. C3TS Stantec to provide notification to FGT for public notice.

These minutes accurately reflect the matters discussed and/or agreed-to at the referenced meeting, as recorded by the author. You are requested to review these minutes and provide your comments and proposed corrections to us within 72 hours of your receipt hereof. These minutes will be published to FDOT and/or others, as required, after the above referenced 72-hour period.

Lamptey, Godfrey

From: Pedro Ugas
Sent: Monday, June 11, 2012 2:43 PM
To: Sanchez, Joseph
Cc: Robert T. Carballo; Godfrey Lamptey; Raul Salazar
Subject: FW: Golden Glades Interchange PD&E, Miami Dade County

Hi Joe,

Thank you for taken the time to meet with us this past Wednesday, June 06, 2012. Here is a summary of the issues discussed:

- C3TS is currently finalizing the PD&E Study for the Golden Glades Interchange. There are a number of design alternatives currently under consideration for the interchange.
- The Interim Build Alternative includes the construction of a On-Ramp from EB SR-826 to NB I-95. This alternative is currently funded for construction for fiscal year 2016.
- Under this alternative, a segment of the existing 18" gas will end up under asphalt from approximately the Golden Glades Interchange to east of NW 12th Avenue . This condition is not favorable to FGT as they are require to have access to their lines for inspection every three to five years. We discuss the possible relocation this segment of the line to the south side of the EB Frontage Road. FGT facilities in question are located on FDOT right-of-way by permit, therefore the cost of relocation will be bear by FGT.
- FGT will require 6 to 12 month to relocate prior to the beginning of construction. FGT relocation can only take place during their construction season from November to April.
- We also discuss the ultimate plan for the widening of SR-826. The Ultimate Build Alternative calls for the widening of SR-826 including the reconstruction of both EB & WB Frontage Roads from right-of-way to right-of-way. This widening will match the ultimate typical west of the project
- This ultimate widening of SR-826 will impact both the 18" & 24" gas lines by constructing the roadway over the lines. As previously discussed, FGT does not favor having their gas lines under pavement and therefore will work toward finding an alternative corridor to run new lines in place of the 18" & 24".

Please feel free to add/provide any additional comments. If you have any questions or require additional information, please feel free to call me.

Pedro Ugas

Senior Utility Coordinator

Corzo Castella Carballo Thompson Salman, P.A. (C3TS)

901 Ponce de Leon Blvd., Suite 900

Coral Gables, Florida 33134

Voice 305.445.2900 ext. 2248

ATTACHMENT B

FLORIDA DEPARTMENT OF TRANSPORTATION - DISTRICT 6

UTILITY IMPACT COST ESTIMATE

PD&E Study for Golden Glades Interchange

from SR-826/Palmetto Expressway EB to Interstate 95 NB

Miami Dade County

FM 428358-1-22-01

Recommended Interim Build

Utility Agency Owner	Description	Area of Conflict	Conflict with	Total Amount
AT&T Florida	12-4" PVC Duct	SR-826 over NW 17 Avenue	SR 826 WB Frontage Road Widening	$150,000.00
AT&T Florida	6-4" PVC Duct	SR 826 WB Frontage Road	SR 826 WB Frontage Road Widening	$100,000.00
AT&T Florida	4-4" PVC Duct	SR-826 over NW 12 Avenue	SR 826 Bridge widening - EB	$100,000.00
AT&T Florida	2-4" PVC Duct	SR 826 EB Frontage Road	SR-826 EB to I-95 off-ramp reconstruction	$100,000.00
AT&T Florida	BFO	TPK Connector SB Off-Ramp to SR-7	Ramp reconstruction	$75,000.00
Comcast	OFO/CaTV	SR 826 EB Frontage Road & NW 7 Avenue	SR-826 EB to I-95 off-ramp reconstruction	$65,000.00
City of North Miami	8" CI force main	I-95 at N. Biscayne River Dr.	I-95 SB widening ; Add or extend casting	$50,000.00
City of North Miami Beach	16" DI water main	I-95 SB at NW 159th St.	I-95 Widening & TPK Con off-Ramp to SR 7	$100,000.00
City of North Miami Beach	18" CI water main	TPK Connector and NW 7 Avenue	TPK Connector Widening & off Ramp to SR 7	$125,000.00
City of North Miami Beach	12" water main	SR 826 EB Frontage Road	SR-826 EB to I-95 off-ramp reconstruction; Proposed drainage on South side of NW 167th St	$75,000.00
City of North Miami Beach	6" water main	S. Biscayne River Dr. & NW 157 Ave.	I-95 SB widening	$50,000.00
FPL - Distribution	13kV OE	SR 826 EB Frontage Road & NW 7 Avenue	SR-826 EB to I-95 off-ramp reconstruction	$75,000.00
FPL - Distribution	13kV OE	SR-826 crossing west of TPK Con	SR-826 EB to I-95 NB flyover ramp	$75,000.00
FPL - Distribution	13kV OE	I-95 at NW 157 Avenue	I-95 SB widening	$75,000.00
FPL - Transmission	138kV OE	SR-826 crossing west of TPK Con	SR-826 EB to I-95 NB flyover ramp	$2,000,000.00
FPL - Transmission	138kV OE	NW 7 Avenue	I-95 SB widening	$750,000.00
FiberNet	BFO	SR-826 at NW 17 Avenue	SR 826 WB Frontage Road Widening	$45,000.00
FiberNet	BFO	SR 826 EB Frontage Road	SR-826 EB to I-95 off-ramp reconstruction	$45,000.00
Florida Gas Transmission	18" Steel Gas line	SR 826 EB Frontage Road	SR-826 EB to I-95 off-ramp reconstruction	$47,200,000.00
Florida Gas Transmission	24" Steel Gas line	SR 826 WB Frontage Road	SR 826 WB Frontage Road Widening	$500,000.00

FLORIDA DEPARTMENT OF TRANSPORTATION - DISTRICT 6

UTILITY IMPACT COST ESTIMATE

PD&E Study for Golden Glades Interchange

from SR-826/Palmetto Expressway EB to Interstate 95 NB

Miami Dade County

FM 428358-1-22-01

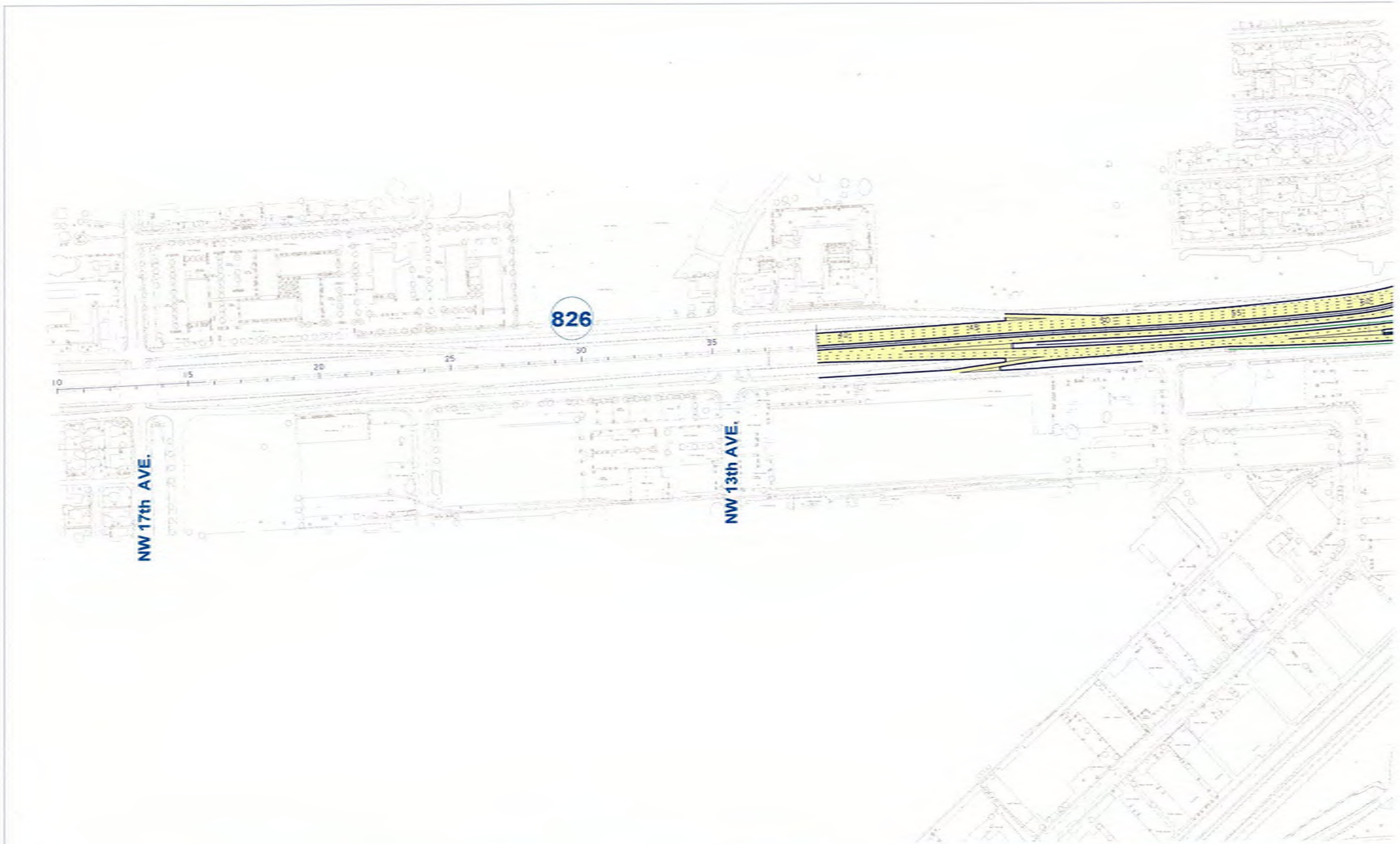
Recommended Interim Build

Utility Agency Owner	Description	Area of Conflict	Conflict with	Total Amount
Level3 Communication	BFO in 1-3"PVC duct	SR-826 at NW 17 Avenue	bridge widening	$45,000.00
Level3 Communication	BFO in 1-3"PVC duct	SR-826 at NW 12 Avenue	SR 826 Bridge widening - EB	$45,000.00
Miami Dade Water & Sewer	24" DI water main	SR-826 at NW 17 Avenue	SR 826 WB Frontage Road Widening	$120,000.00
Miami Dade Water & Sewer	10" CI force main	SR-826 at NW 17 Avenue	SR 826 WB Frontage Road Widening	$50,000.00
Miami Dade Water & Sewer	8" water main	SR-826 over NW 12 Avenue	SR 826 Bridge widening - EB	$50,000.00
Miami Dade Water & Sewer	16" water main	NW 7 Avenue	I-95 Widening & TPK Con off-Ramp to SR 7	$100,000.00
Miami Dade Water & Sewer	12" force main	NW 7 Avenue	I-95 Widening & TPK Con off-Ramp to SR 7	$75,000.00
Verizon Business Solution	BFO in 1-4" PVC duct	SR-826 EB to I-95 NB flyover ramp	SR-826 EB to I-95 NB flyover ramp	$50,000.00
TECO Peoples Gas	4" steel gas line	SR-826 at NW 17 Avenue	SR 826 WB Frontage Road Widening	$25,000.00
TECO Peoples Gas	2" steel gas line	SR-826 at NW 12 Avenue	SR 826 Bridge widening - EB	$15,000.00
TECO Peoples Gas	6" gas line	WB Frontage Road	SR 826 WB Frontage Road Widening	$45,000.00
TECO Peoples Gas	4" gas line	EB Frontage Road	SR-826 EB to I-95 off-ramp reconstruction	$25,000.00
Utility Cost Estimate				$52,150,000.00
FDOT District Six - ITS	BFO	EB & WB SR-826	SR-826 Improvements	$25,000.00
FDOT District Six - ITS	BFO	TPK SB connector to I-95	TPK Connector Widening & off Ramp to SR 7	$25,000.00
FDOT District Six - ITS	BFO	I-95/I-95 NB & SB	I-95 widening	$25,000.00
FDOT District Six - ITS	ITS Hub	Park and Ride Facility	TPK Connector Widening & off Ramp to SR 7	$150,000.00
FDOT District Six - ITS	ITS Structures	I-95/SR-826 & TPK const.	bridge/ramp widening/const.	$200,000.00
ITS Cost Estimate				$425,000.00
Total Cost Estimate				$52,575,000.00

Notes : Florida Gas Transmission will place the existing 18" and 24" steel gas lines out of service and install new facilities in an alternative corridor under the Ultimate Concept conditions.

APPENDIX E

(Excerpts from Previous Planning Studies)

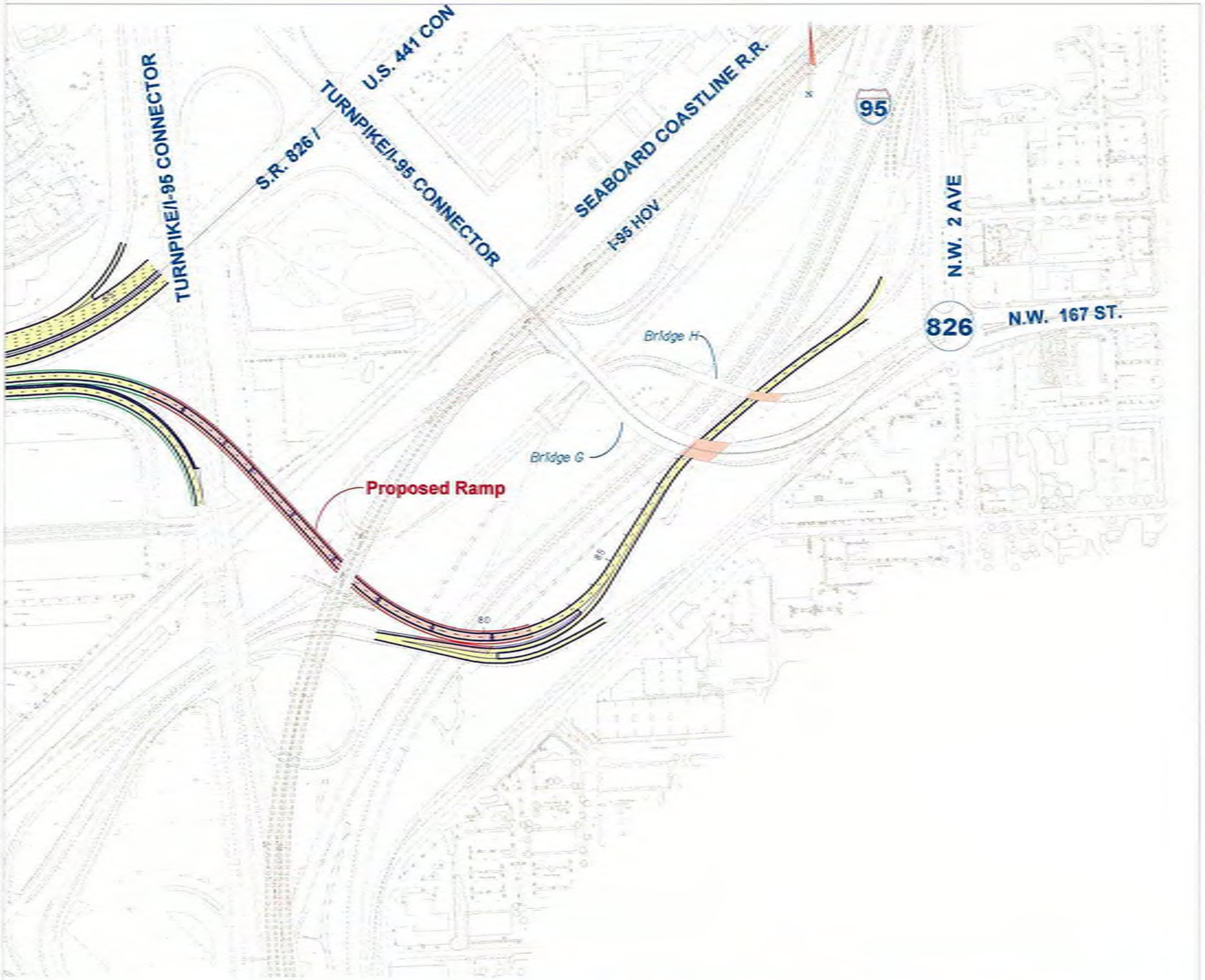


FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 6

CONSUL-TECH TRANSPORTATION, INC.

BEISWENGER, HOCH & ASS

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GOLDEN GLADES INTERCHANGE IMPROVEMENTS
PROPOSED RAMP FROM SR-826 EB TO I-95 NB
PHASE 1

GOC.,INC.

MAY, 2003



I-95 HOV

TURNPIKE/I-95 CONNECTOR

95

To I-95

To US 441

N.W. 2 AVE

N

826

N.W. 167 ST.

BRIDGE H

BRIDGE G



The easternmost spans of bridges G and H need to be reconstructed to provide adequate shoulders on the existing I-95/US441 ramp connection. The bridge construction will be done in stages in order to facilitate the maintenance of traffic.

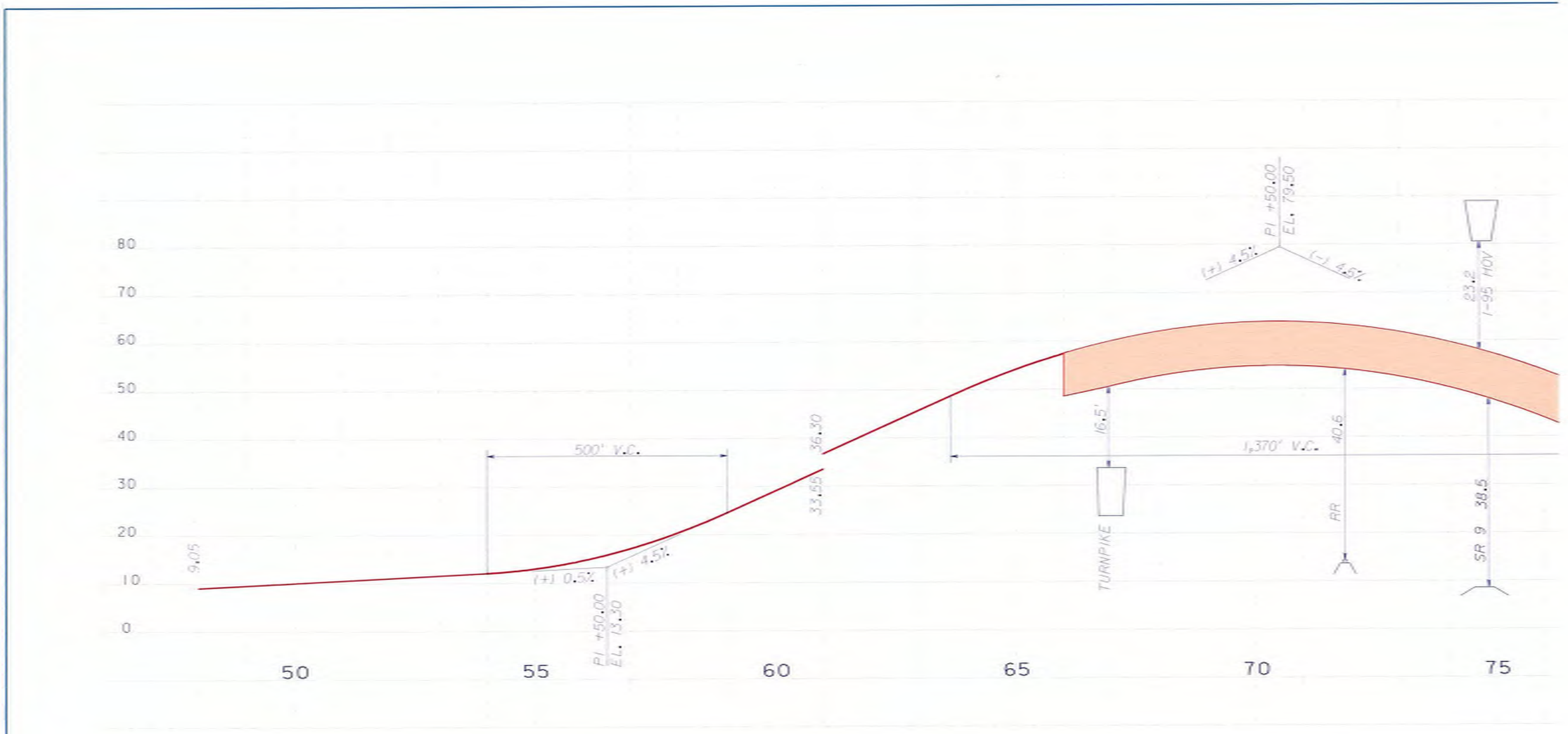
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 6
GOLDEN GLADES INTERCHANGE IMPROVEMENTS
PROPOSED RAMP FROM SR-826 EB TO I-95 NB

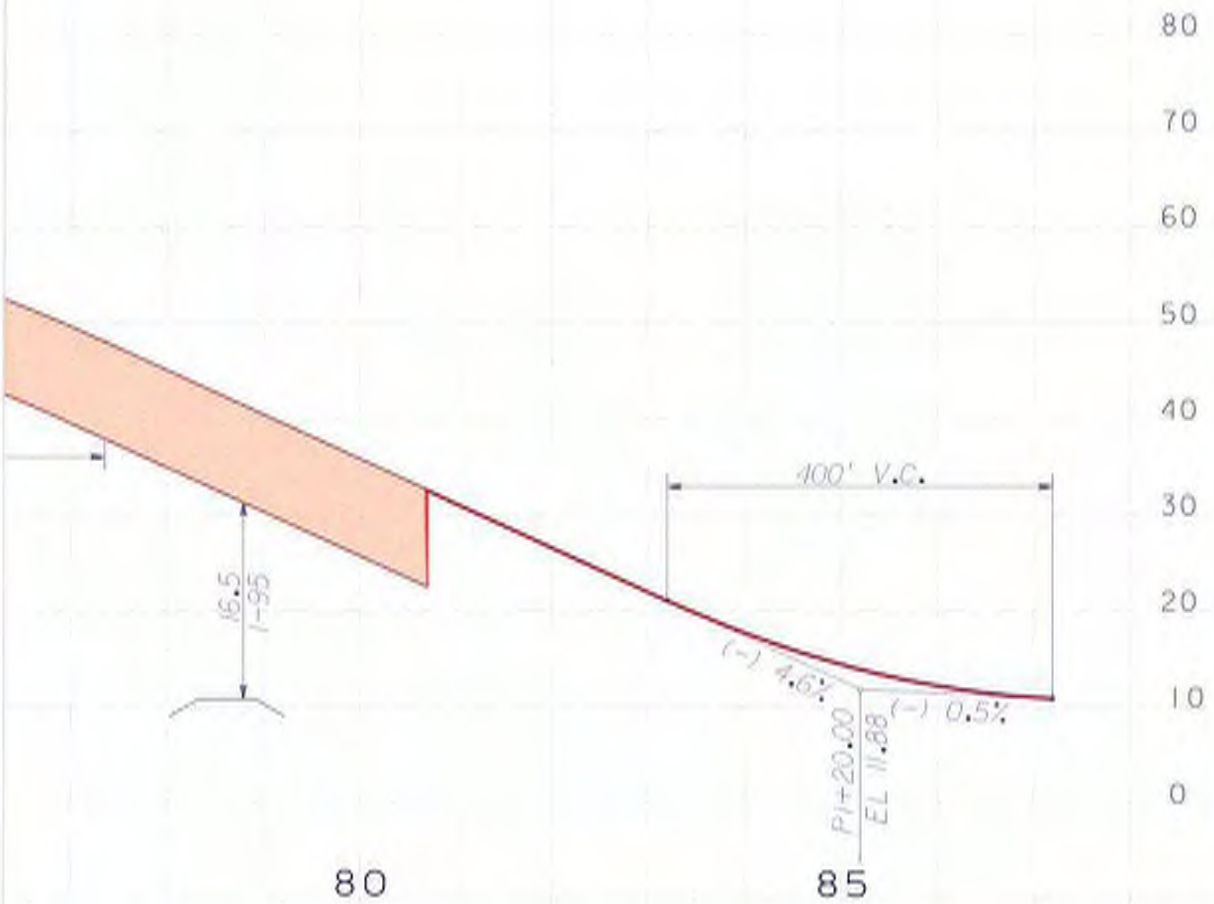
CTE
CONSUL-TECH TRANSPORTATION, INC.

BEISWENGER, HOCH & ASSOC., INC.

MAY, 2003

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80
70
60
50
40
30
20
10
0
50
55
60
65
70
75
500' V.C.
1,370' V.C.
9.05
36.30
33.55
PI +50.00
EL. 13.30
(+) 0.5%
(+) 4.5%
PI +50.00
EL. 79.50
(+) 4.5%
(-) 4.5%
16.5'
40.6
23.2
I-95 HOV
TURNPIKE
RR
SR 9 38.5



FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 6

GOLDEN GLADES INTERCHANGE IMPROVEMENTS

PROPOSED RAMP FROM SR-826 EB TO I-95 NB

CONSUL-TECH TRANSPORTATION, INC.

BEISWENGER, HOCH & ASSOC., INC.

JUNE 2003

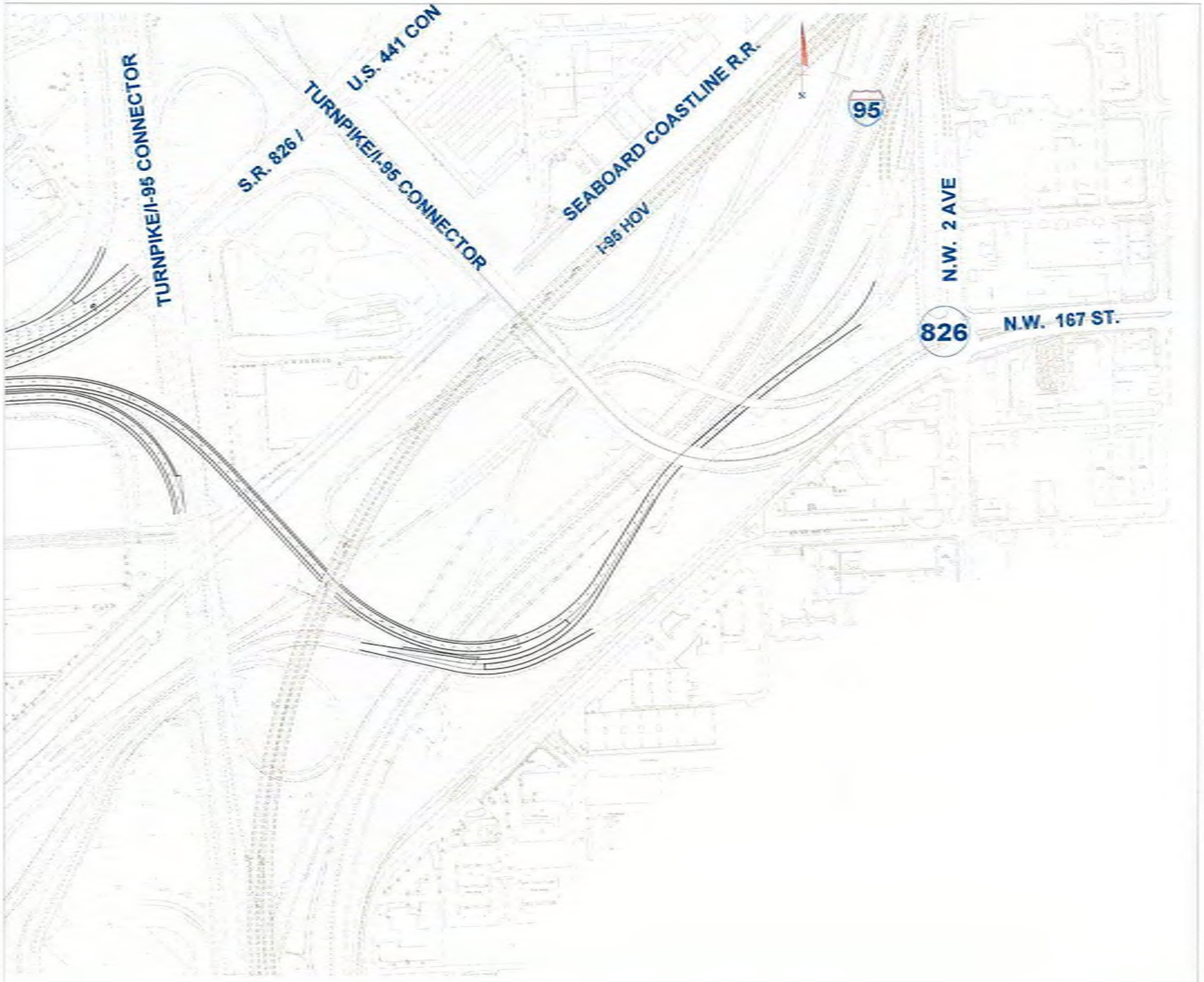


FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 6

CONSUL-TECH TRANSPORTATION, INC.

BEISWENGER, HOCH & ASSOC

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GOLDEN GLADES INTERCHANGE IMPROVEMENTS
PROPOSED RAMP FROM SR-826 EB TO I-95 NB
PHASE 2

C.,INC.

MAY, 2003

Golden Glades Interchange



LEGEND

- 2010 REFINED DIRC ALTERNATIVE
- 2008 DIRC PREFERRED ALTERNATIVE

H:\projfile\6761-Golden Glades\figs\cdrfiles\Figure 01.cdr

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

2010 Refined DIRC Alternative and 2008 DIRC Prefered Alternative (Ultimate Configuration)
Miami-Dade County, Florida

1





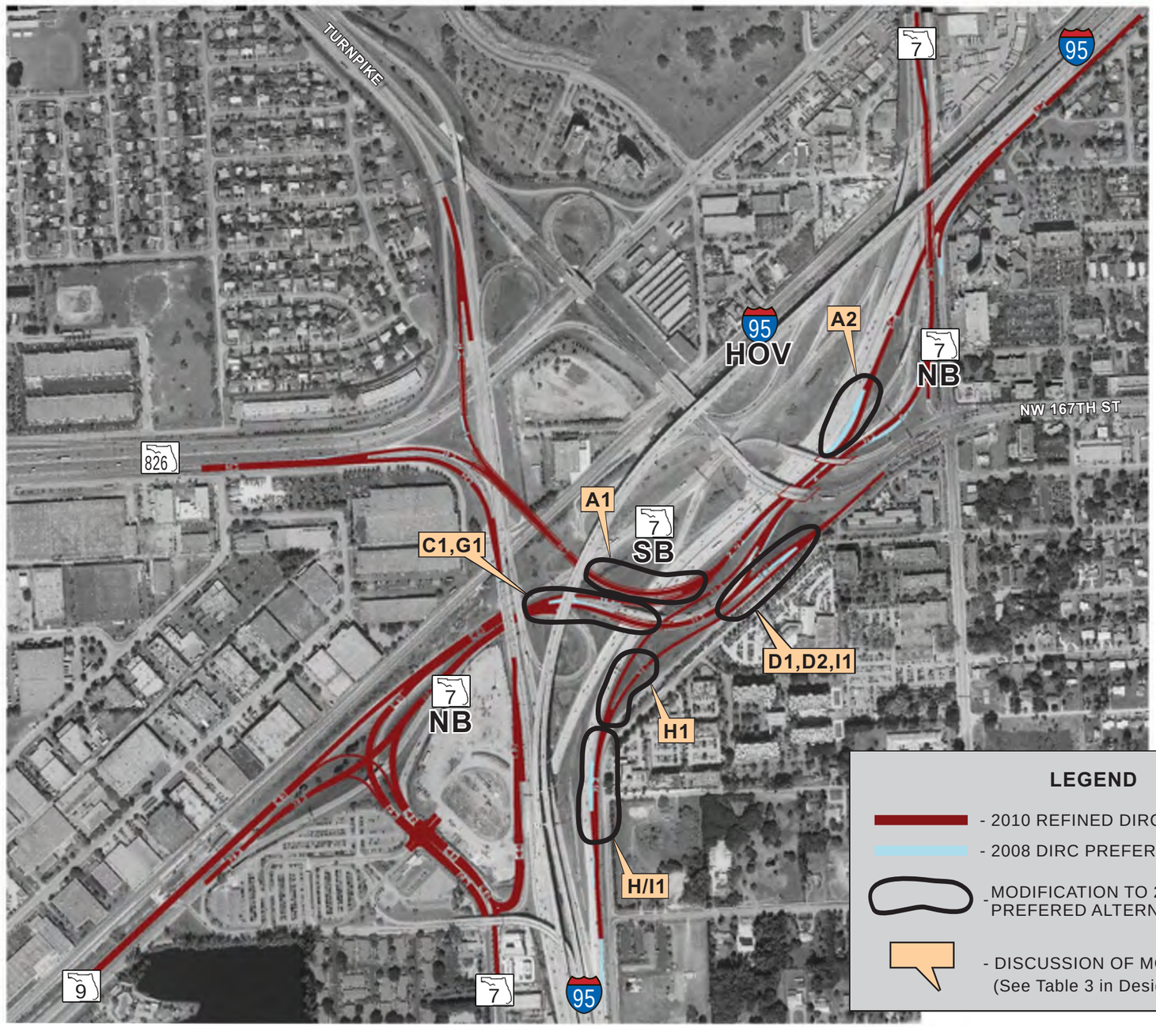




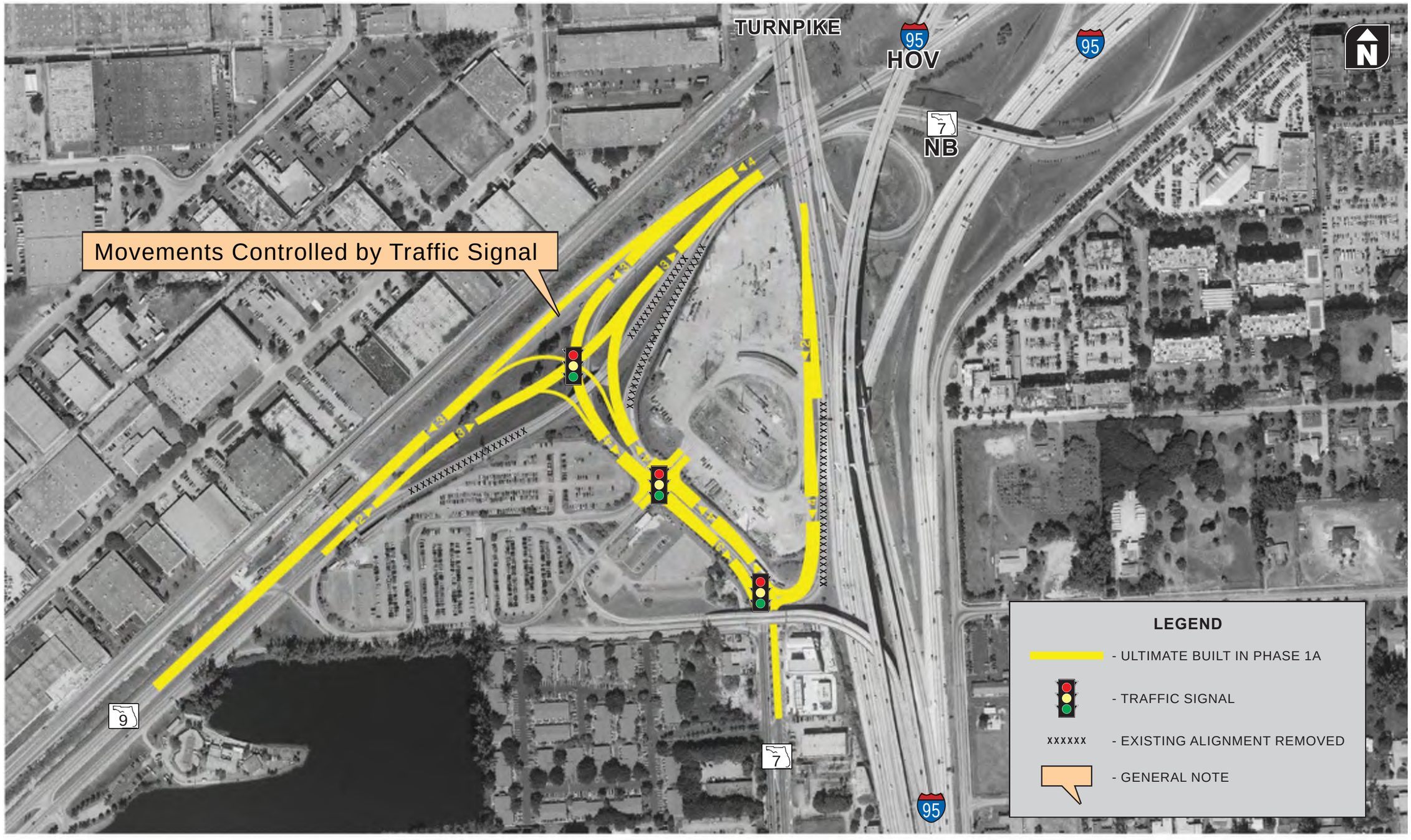
LEGEND

- ULTIMATE BUILT IN PHASE 1A
- ULTIMATE BUILT IN PHASE 1B
- ULTIMATE BUILT IN PHASE 1C
- ULTIMATE BUILT IN PHASE 2
- TEMPORARY CONSTRUCTION FOR PHASES 1B AND 1C

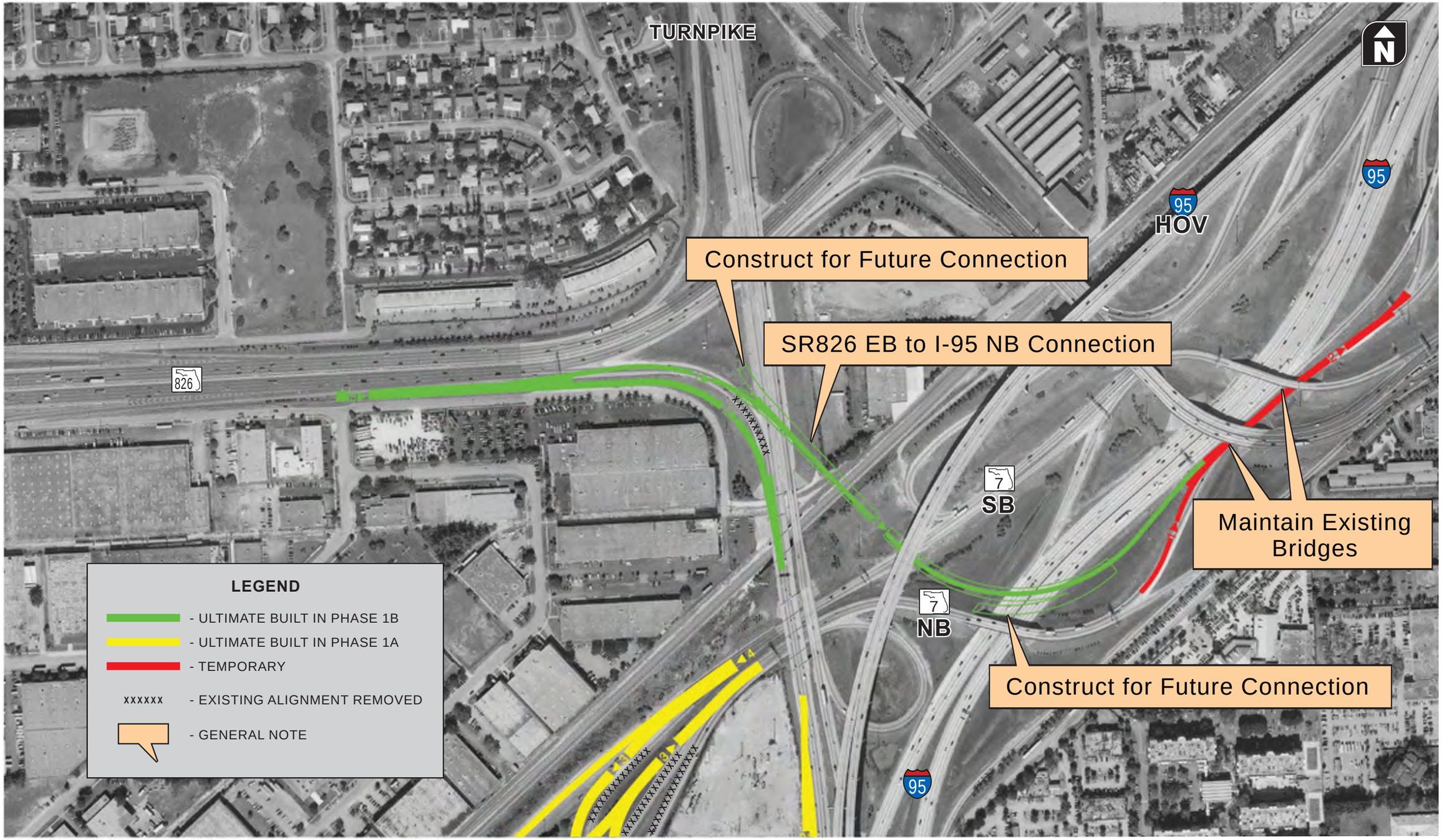
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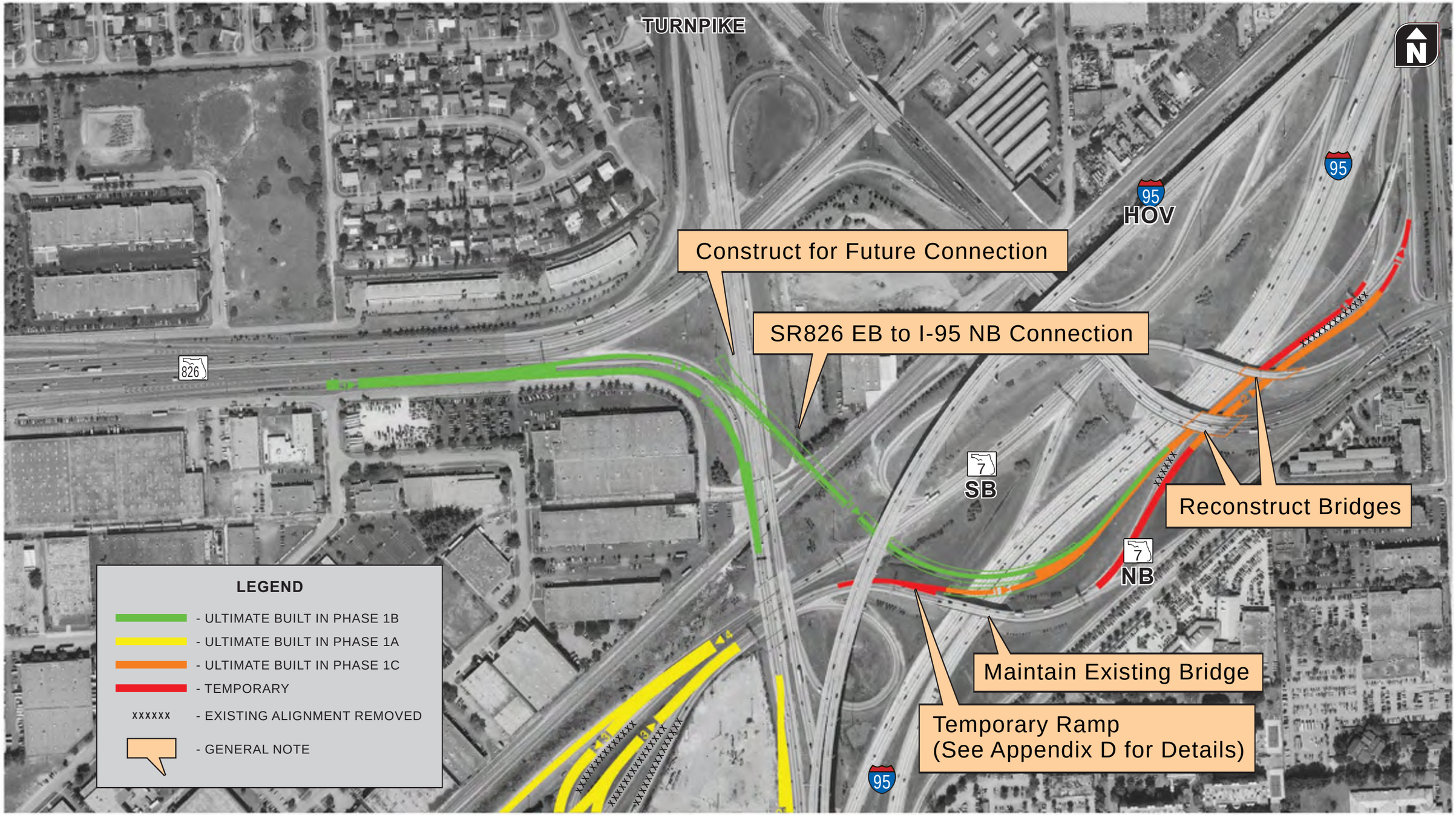
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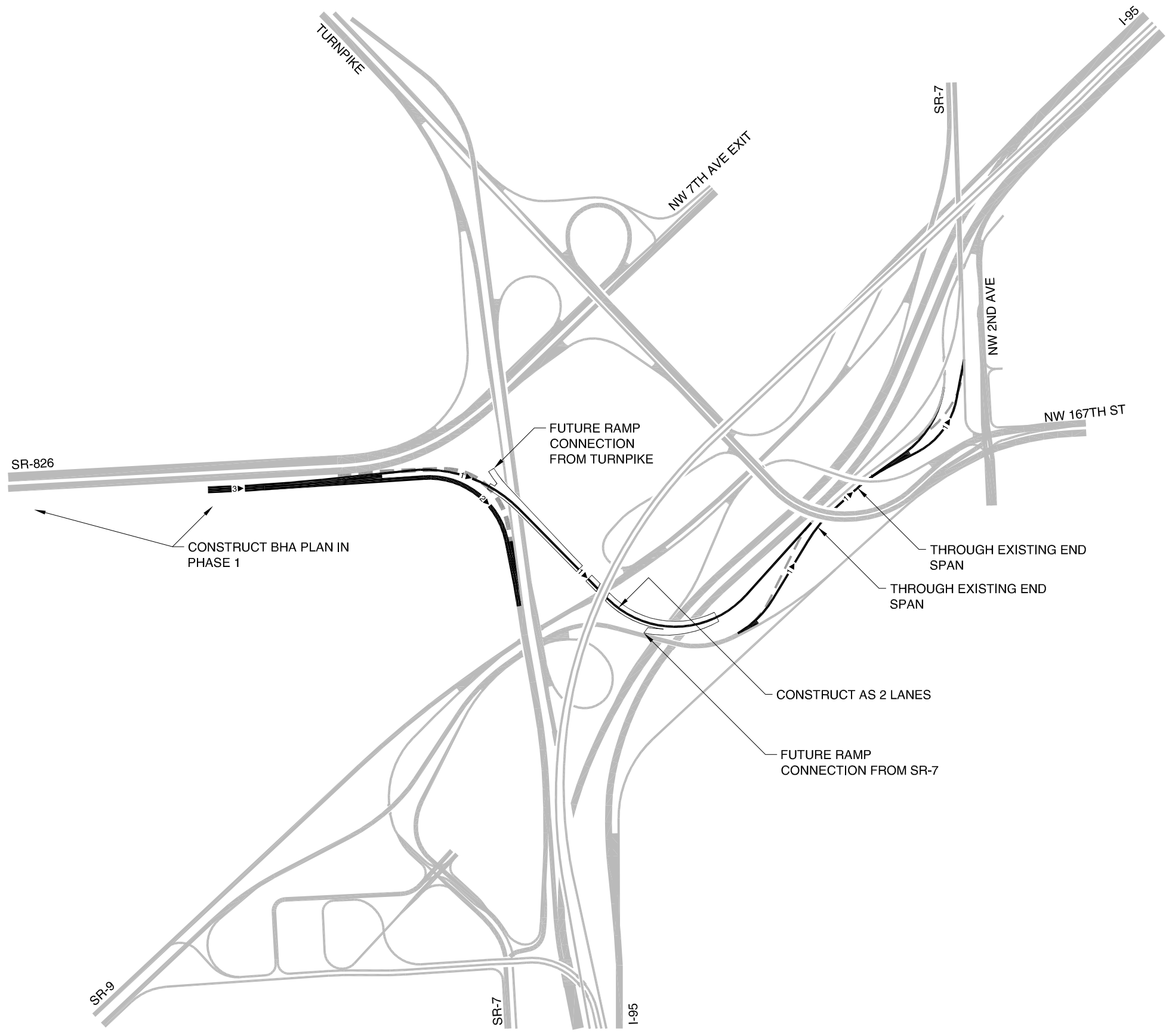


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(NO SCALE)

LEGEND

- EXISTING ROADWAY
- REMOVED ROADWAY

PROPOSED ROADWAYS

- 1 - SINGLE LANE
- 2 - TWO LANES
- 3 - THREE LANES
- 4 - FOUR LANES
- 5 - FIVE LANES
- LANE WITH BRIDGE

ALTERNATIVE 3, PHASE 1 PLAN
MIAMI-DADE COUNTY, FLORIDA

FIGURE 1

APPENDIX F

(Preliminary Right-of-Way Cost Estimates)

Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

OFFICE OF THE
SECRETARY

MEMORANDUM

DATE: July 12, 2012

TO: Dat Huynh, P.E. District Project Development Engineer

FROM: Gary Cotroneo, Senior Appraiser, Cost Estimator

VIA: Steven D. Johnson, MAI, DDRWM-Appraisal

COPIES TO: Alejandro G. Casals, Javier Bustamante, Steven D. Johnson, Gary Cotroneo & Parcel File

SUBJECT: **RIGHT OF WAY COST ESTIMATE TRANSMITTAL**

Item Segment No.:	428358-1
S.R. No.:	I-95/Golden Glades
From :	NW 151 Street
To:	Golden Glades Interchange
County:	Miami-Dade
Project Name:	PD&E Study Interchange Ramp (New)

Attached please find a Right of Way Cost Estimate for the above referenced project. The total cost is as follows:

Alternate (s)	Amount	(Enter into work program)
3A	$4,734,900	No
3B	$32,545,500	No

The estimate provided is not intended to be an appraisal and should not be used as such. This report is a Cost Estimate, and is, therefore, limited in its scope. The work performed is a "consulting service" and is NOT an appraisal.

The Estimator has assigned a level of confidence in relation to the quality and quantity of data available to complete this cost estimate according to GUIDANCE DOCUMENT 2, Effective, October 10, 1997. Under those criteria, the level of confidence is considered Average . (**HIGH, AVERAGE, BELOW AVERAGE** or **POOR**).

FLORIDA DEPARTMENT OF TRANSPORTATION

Thursday, July 12, 2012

RIGHT-OF-WAY COST ESTIMATE

I.S. Number: 4283581 District: 6 C.E. Date: 7/2/12 County: MIAMI-DADE

From: NW 151 STRE

State Road No.: I-95 Proj. Name: GOLDEN GLA Alt.: 3B To: GOLDEN GLA

EST. NO. OF PARCELS

Business: 6 Uninproved: 3

Residential: 16 Govt./TIITF: 0

TOTAL: 25

EST. RELOCATEES

Business: 13 Signs: 0

Residential: 14 Special: 0

TOTAL: 27

R/W SUPPORT COSTS (PHASE 41)

1.	Direct Labor Cost (No. of Parcel X $30,000)	$750,000	
2.	Indirect Overhead (Parcels - TIITF X $0.00)	$0	
3.	Line 1 + Line 2 . . . TOTAL PHASE 41 PDC (RD)		$750,000

R/W OPS (PHASE 4B)

4.	Appraisal Fees (State):	$189,500	
5.	Business Damages CPA Fees:	$20,000	
6.	Court Reporter Witness Fees:	$115,000	
7.	Demolition Contracts	$0	
8.	Move Cost Estimate Fees:	$5,000	
9.	Attorney Fees (Outside Counsel):	$0	
10.	Title Search:	$37,500	
11.	Hazardous Waste Investigations	$0	
	Other:	$0	
12.	Total (Lines 4 thru Other . . . TOTAL PHASE 4B PDC (RD		$367,000

R/W LAND COST (PHASE 43)

13.	Land Improvement and Severance Damages:	$13,994,700		
14.	Water Retention Area:	$0		
15.	SUBTOTAL (Lines 13 and 14):		$13,994,700 (NP)	
16.	Adm. Sttlmnt. (40% of Line 15) X 80%:	$4,478,300		
17.	Litig. Awards (10% of Line 15) X 45%:	$629,700		
18.	Business Damages (1 x $00):	$00		
19.	Owner Appraisal Fees (25 x $4,500):	$112,000		
20.	Owner CPA Fees (1 x $20,00):	$20,000		
21.	Def. Att. Fees (Ant. Dep. $20,841,700 x .40):):	$8,336,700		
22.	Oth Cond Csts.(Ant. De $20,841,700 x .10):):	$2,084,200		
23.	SUBTOTAL (Lines 16 thru 22):		$15,660,900 (NP)	
24.	Total (Lines 15 + 23)	TOTATL PHASE 43 PDC (RD)		$29,655,600

R/W AQUISITION CONSULTANT (PHASE 42)

25.	Total Contract Estimate	TOTAL PHASE 42 PDC (RD)	$00

RELOCATION COSTS (PHASE 45)

	Replacement Housing	Amount		Moving Costs	Amount
26.	Owner:	$1,050,000	28.	Residential:	$15,400
27.	Tenant:	$00	29.	Business/Farm:	$707,500
			30.	Personal Property:	$00
31.	Total Contract Estimate		TOTAL PHASE 45 PDC (RD)		$1,772,900
32.	Relocation Service Cost:	$400,000 (Not in Phase Total			

R/W UTILITY COSTS (PHASE 46)

33.	Total Contract Estimate	TOTAL PHASE 46 PDC (RD)	$00
		TOTAL ALL PHASES PDC . . . . . (RD)	$32,545,500
34.	Project Multiplier (Line 23 Divided by Line 15):	1.119	

Est. By: Mary Cabrera Date: 7/12/12 Rvwd. By: _____ Date: _____

Cost Estimate Sequence Number: _____ Supersedes Estimate Dated: _____

Update Number: _____ Data Input Completion Date: _____

Note: The above estimate provided is not intended to be an appraisal and should not be used as such. This Report is a cost estimate and therefore limited in scope. The work performed is different from the work required to complete an appraisal report. Right of Way Cost Estimates measure cost and not value.

Remarks: THE RIGHT OF WAY ESTIMATE FOR THIS PROJECT IS BASED ON PRESENT DAY COSTS. DUE TO

FLORIDA DEPARTMENT OF TRANSPORTATION

Thursday, July 12, 2012

RIGHT-OF-WAY COST ESTIMATE

I.S. Number: 4283581 District: 6 C.E. Date: 7/2/12 County: MIAMI-DADE
From: NW 151 STRE
State Road No.: I-95 Proj. Name: GOLDEN GLA Alt.: 3A To: GOLDEN GLA

EST. NO. OF PARCELS

Business: 3 Uninproved: 1
Residential: 0 Govt./TIITF: 0
TOTAL: 4

EST. RELOCATEES

Business: 3 Signs: 0
Residential: 0 Special: 0
TOTAL: 3

R/W SUPPORT COSTS (PHASE 41)

1. Direct Labor Cost	(No. of Parcel X $30,000)	$120,000	
2. Indirect Overhead	(Parcels - TIITF X $0.00)	$0	
3. Line 1 + Line 2	TOTAL PHASE 41 PDC (RD)		$120,000

R/W OPS (PHASE 4B)

4. Appraisal Fees (State):	$145,000		
5. Business Damages CPA Fees:	$0		
6. Court Reporter Witness Fees:	$15,000		
7. Demolition Contracts	$0		
8. Move Cost Estimate Fees:	$1,000		
9. Attorney Fees (Outside Counsel):	$0		
10. Title Search:	$6,000		
11. Hazardous Waste Investigations	$0		
Other:	$0		
12. Total (Lines 4 thru Other	TOTAL PHASE 4B PDC (RD		$167,000

R/W LAND COST (PHASE 43)

13. Land Improvement and Severance Damages:		$1,868,000		
14. Water Retention Area:		$0		
15. SUBTOTAL	(Lines 13 and 14):		$1,868,000 (NP)	
16. Adm. Sttlmnt.	(40% of Line 15) X 80%:	$597,700		
17. Litig. Awards	(10% of Line 15) X 45%:	$84,000		
18. Business Damages	(0 x $00):	$150,000		
19. Owner Appraisal Fees	(4 x $14,500):	$58,000		
20. Owner CPA Fees	(0 x $20,00):	$00		
21. Def. Att. Fees (Ant. Dep.	$2,665,400 x .40):):	$1,066,200		
22. Oth Cond Csts.(Ant. De	$2,665,400 x .10):):	$266,500		
23. SUBTOTAL	(Lines 16 thru 22):		$2,222,400 (NP)	
24. Total (Lines 15 + 23)		TOTATL PHASE 43 PDC (RD)		$4,090,400

R/W AQUISITION CONSULTANT (PHASE 42)

25. Total Contract Estimate — TOTAL PHASE 42 PDC (RD) $00

RELOCATION COSTS (PHASE 45)

Replacement Housing	Amount	Moving Costs	Amount
26. Owner:	$00	28. Residential:	$00
27. Tenant:	$00	29. Business/Farm:	$357,500
		30. Personal Property:	$00

31. Total Contract Estimate — TOTAL PHASE 45 PDC (RD) $357,500
32. Relocation Service Cost: $50,000 (Not in Phase Total

R/W UTILITY COSTS (PHASE 46)

33. Total Contract Estimate — TOTAL PHASE 46 PDC (RD) $00

TOTAL ALL PHASES PDC . . . . . (RD) $4,734,900

34. Project Multiplier (Line 23 Divided by Line 15): 1.190

Est. By: Mary Cabrera Date: 7/12/12 Rvwd. By: _____ Date: _____
Cost Estimate Sequence Number: _____ Supersedes Estimate Dated: _____
Update Number: _____ Data Input Completion Date: _____

Note: The above estimate provided is not intended to be an appraisal and should not be used as such. This Report is a cost estimate and therefore limited in scope. The work performed is different from the work required to complete an appraisal report. Right of Way Cost Estimates measure cost and not value.

Remarks: THE RIGHT OF WAY ESTIMATE FOR THIS PROJECT IS BASED ON PRESENT DAY COSTS. DUE TO

FLORIDA DEPARTMENT OF TRANSPORTATION

Wednesday, March 27, 2013

RIGHT-OF-WAY COST ESTIMATE

I.S. Number: 4283581 District: 6 C.E. Date: 3/25/13 County: MIAMI-DADE
From: NW 151 STRE
State Road No.: I-95 Proj. Name: GOLDEN GLA Alt.: 3A4 To: GOLDEN GLA

EST. NO. OF PARCELS

Business: 8 Uninproved: 4
Residential: 0 Govt./TIITF: 2
TOTAL: 14

EST. RELOCATEES

Business: 10 Signs: 0
Residential: 0 Special: 0
TOTAL: 10

R/W SUPPORT COSTS (PHASE 41)

1. Direct Labor Cost	(No. of Parcel X $30,000)	$420,000	
2. Indirect Overhead	(Parcels - TIITF X $0.00)	$0	
3. Line 1 + Line 2	TOTAL PHASE 41 PDC (RD)		$420,000

R/W OPS (PHASE 4B)

4. Appraisal Fees (State):	$235,000		
5. Business Damages CPA Fees:	$20,000		
6. Court Reporter Witness Fees:	$50,000		
7. Demolition Contracts:	$0		
8. Move Cost Estimate Fees:	$1,000		
9. Attorney Fees (Outside Counsel):	$0		
10. Title Search:	$18,000		
11. Hazardous Waste Investigations	$0		
Other:	$0		
12. Total (Lines 4 thru Other	TOTAL PHASE 4B PDC (RD)		$324,000

R/W LAND COST (PHASE 43)

13. Land Improvement and Severance Damages:		$25,907,500		
14. Water Retention Area:		$0		
15. SUBTOTAL	(Lines 13 and 14):		$25,907,500 (NP)	
16. Adm. Sttlmnt.	(40% of Line 15) X 80%:	$8,290,400		
17. Litig. Awards	(10% of Line 15) X 45%:	$1,165,800		
18. Business Damages	(1 x $00):	$00		
19. Owner Appraisal Fees	(12 x $10,800):	$130,000		
20. Owner CPA Fees	(1 x $20,000):	$20,000		
21. Def. Att. Fees (Ant. Dep.	$17,724,600 x .40):):	$7,089,900		
22. Oth Cond Csts.(Ant. Dep	$17,724,600 x .10):):	$1,772,500		
23. SUBTOTAL	(Lines 16 thru 22):		$18,468,600 (NP)	
24. Total (Lines 15 + 23)		TOTATL PHASE 43 PDC (RD)		$44,376,100

R/W AQUISITION CONSULTANT (PHASE 42)

25. Total Contract Estimate	TOTAL PHASE 42 PDC (RD)	$00

RELOCATION COSTS (PHASE 45)

Replacement Housing	Amount	Moving Costs	Amount
26. Owner:	$00	28. Residential:	$00
27. Tenant:	$00	29. Business/Farm:	$632,500
		30. Personal Property:	$00
31. Total Contract Estimate		TOTAL PHASE 45 PDC (RD)	$632,500
32. Relocation Service Cost:	$50,000 (Not in Phase Total)		

R/W UTILITY COSTS (PHASE 46)

33. Total Contract Estimate	TOTAL PHASE 46 PDC (RD)	$00
	TOTAL ALL PHASES PDC (RD)	$45,752,600

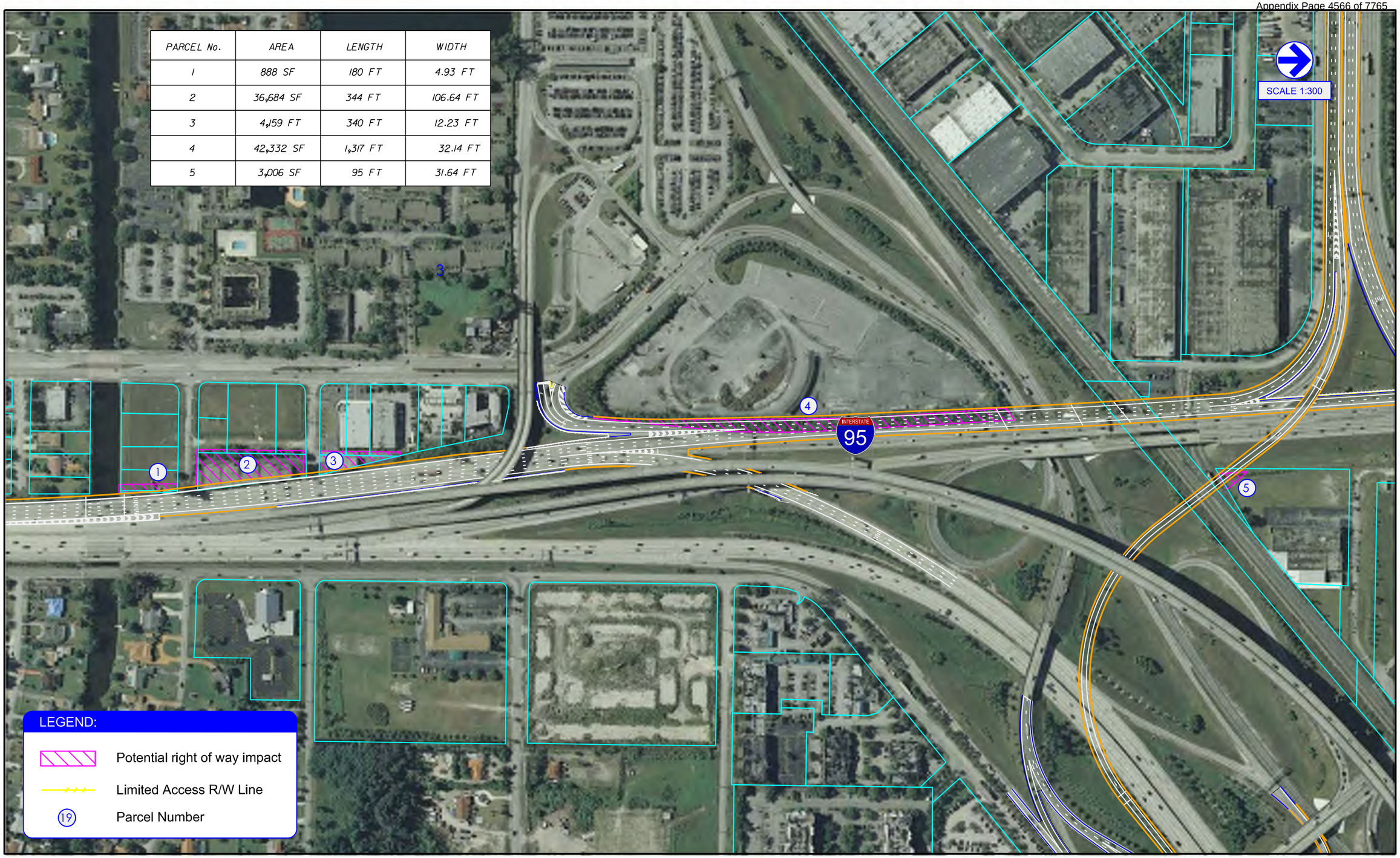
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Cost Estimate Sequence Number:
Update Number:
Supersedes Estimate Dated:
Data Input Completion Date:

Note: The above estimate provided is not intended to be an appraisal and should not be used as such. This Report is a cost estimate and therefore limited in scope. The work performed is different from the work required to complete an appraisal report. Right of Way Cost Estimates measure cost and not value.

Remarks: THE RIGHT OF WAY ESTIMATE FOR THIS PROJECT IS BASED ON PRESENT DAY COSTS. DUE TO THE PRELIMANARY STAGE OF THIS ESTIMATE, DEMOLITION COSTS WERE NOT ADDRESSED. WORK PROGRAM - NO. THIS ALTERNATE IS REFERRED TO AS INTERIM BUILD ALTERNATIVE 4. IT IS NEARLY IDENTICAL TO THE LAST CE 3A3 DATED 1/11/13. THE BULK OF THE COSTS ARE ASSOICATED WITH 8 WHOLE TAKE COMMERCIAL PROPERTIES. ONE NEW PARCEL (110) HAS BEEN ADDED.

PARCEL No.	AREA	LENGTH	WIDTH
1	888 SF	180 FT	4.93 FT
2	36,684 SF	344 FT	106.64 FT
3	4,159 FT	340 FT	12.23 FT
4	42,332 SF	1,317 FT	32.14 FT
5	3,006 SF	95 FT	31.64 FT



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

R/W ACQUISITION
INTERIM BUILD ALT 3A

SHEET NO.

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PARCEL No.	AREA	LENGTH	WIDTH
21	3,072 SF	144 FT	21.33 FT
22	578 SF	61 FT	9.48 FT
23	9,931 SF	89 FT	111.58 FT
24	8,250 SF	76 FT	108.55 FT
25	8,250 SF	75 FT	110.00 FT
26	8,250 SF	73 FT	113.01 FT
27	8,250 SF	82 FT	100.61 FT
28	8,250 SF	81 FT	101.85 FT

PARCEL No.	AREA	LENGTH	WIDTH
29	8,250 SF	73 FT	113.01 FT
30	8,250 SF	69 FT	119.57 FT
31	8,250 SF	73 FT	113.01 FT
32	8,250 SF	92 FT	89.67 FT
33	8,250 SF	80 FT	103.13 FT
34	13,530 SF	107 FT	126.45 FT
35	10,800 SF	145 FT	74.48 FT
36	10,800 SF	145 FT	74.48 FT



REVISIONS			
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STATE OF FLORIDA
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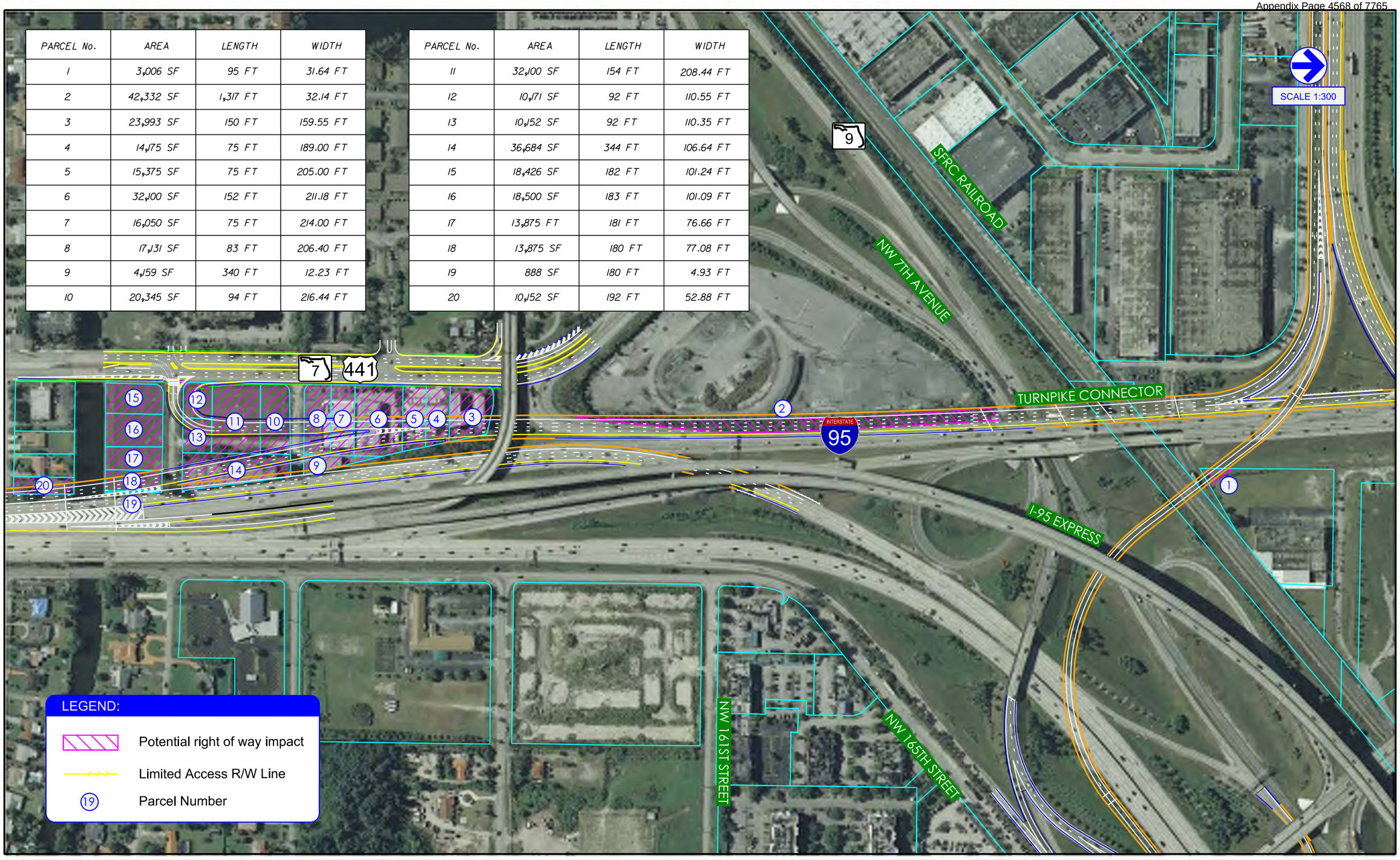
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

R/W ACQUISITION
INTERIM BUILD ALT 3B & 3C

SHEET NO.

PARCEL No.	AREA	LENGTH	WIDTH
1	3,006 SF	95 FT	31.64 FT
2	42,332 SF	1,317 FT	32.14 FT
3	23,993 SF	150 FT	159.55 FT
4	14,175 SF	75 FT	189.00 FT
5	15,375 SF	75 FT	205.00 FT
6	32,100 SF	152 FT	211.18 FT
7	16,050 SF	75 FT	214.00 FT
8	17,131 SF	83 FT	206.40 FT
9	4,159 SF	340 FT	12.23 FT
10	20,345 SF	94 FT	216.44 FT

PARCEL No.	AREA	LENGTH	WIDTH
11	32,100 SF	154 FT	208.44 FT
12	10,171 SF	92 FT	110.55 FT
13	10,152 SF	92 FT	110.35 FT
14	36,684 SF	344 FT	106.64 FT
15	18,426 SF	182 FT	101.24 FT
16	18,500 SF	183 FT	101.09 FT
17	13,875 FT	181 FT	76.66 FT
18	13,875 SF	180 FT	77.08 FT
19	888 SF	180 FT	4.93 FT
20	10,152 SF	192 FT	52.88 FT



REVISIONS			
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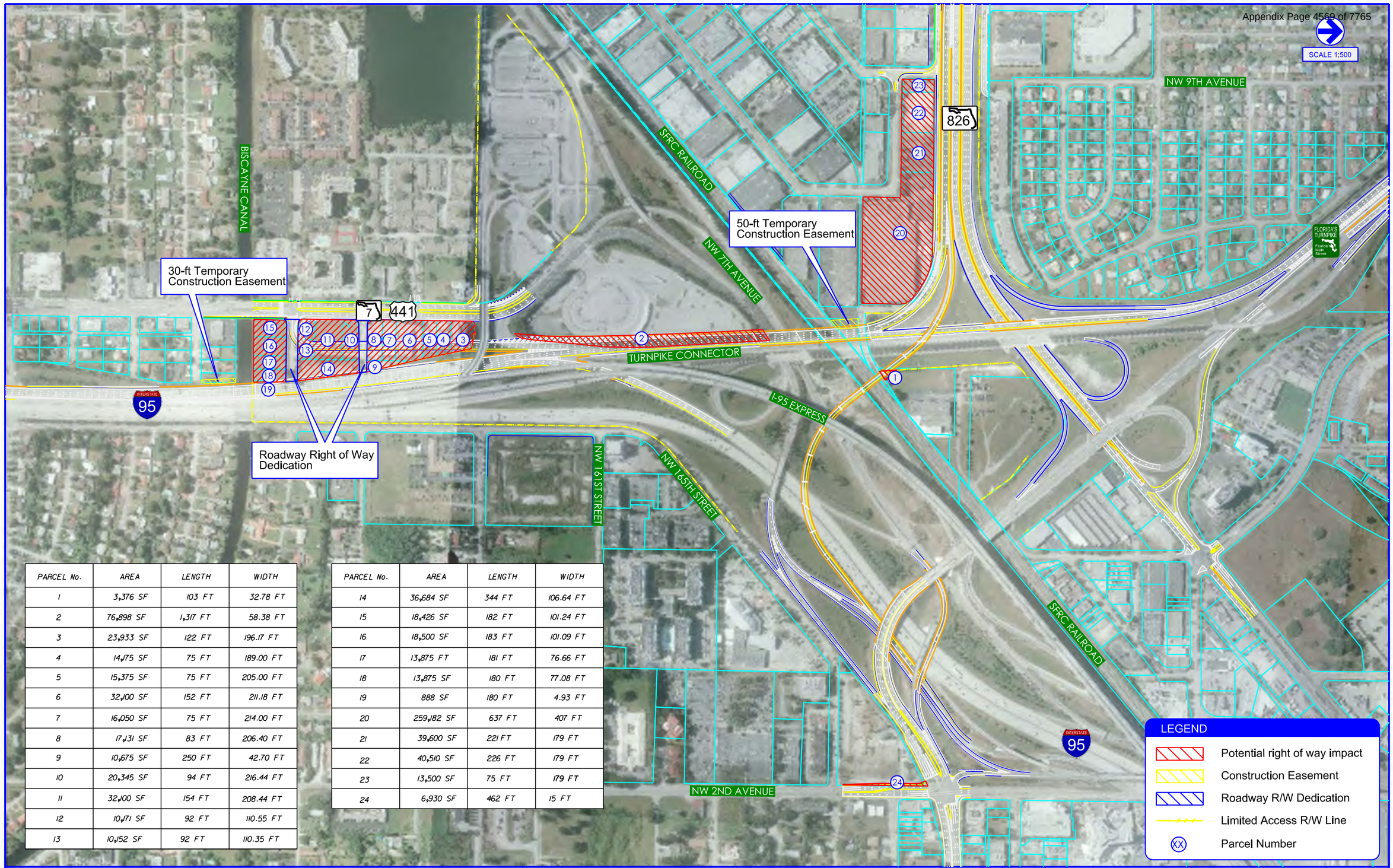
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

R/W ACQUISITION
INTERIM BUILD ALT 3B & 3C

SHEET NO.

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PARCEL No.	AREA	LENGTH	WIDTH
1	3,376 SF	103 FT	32.78 FT
2	76,898 SF	1,317 FT	58.38 FT
3	23,933 SF	122 FT	196.17 FT
4	14,175 SF	75 FT	189.00 FT
5	15,375 SF	75 FT	205.00 FT
6	32,100 SF	152 FT	211.18 FT
7	16,050 SF	75 FT	214.00 FT
8	17,131 SF	83 FT	206.40 FT
9	10,675 SF	250 FT	42.70 FT
10	20,345 SF	94 FT	216.44 FT
11	32,100 SF	154 FT	208.44 FT
12	10,171 SF	92 FT	110.55 FT
13	10,152 SF	92 FT	110.35 FT

PARCEL No.	AREA	LENGTH	WIDTH
14	36,684 SF	344 FT	106.64 FT
15	18,426 SF	182 FT	101.24 FT
16	18,500 SF	183 FT	101.09 FT
17	13,875 FT	181 FT	76.66 FT
18	13,875 SF	180 FT	77.08 FT
19	888 SF	180 FT	4.93 FT
20	259,182 SF	637 FT	407 FT
21	39,600 SF	221 FT	179 FT
22	40,510 SF	226 FT	179 FT
23	13,500 SF	75 FT	179 FT
24	6,930 SF	462 FT	15 FT

REVISIONS			
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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

R/W ACQUISITION ALTERNATIVE 1

SHEET NO.

APPENDIX G

(Preliminary Traffic Control Plan)

PHASE I

1. CONSTRUCT NEW BRIDGE CULVERT OVER CANAL NW 163RD STREET AND RECONSTRUCT NW 17TH AVENUE FROM NW 163RD STREET TO NW 167TH STREET.
2. SHIFT AND REDUCE WIDTH OF TRAVEL LANES ON SR-826 EB. MAINTAIN TRAFFIC FROM SR-826 EB TO I-95 SB ON EXISTING RAMP. CONSTRUCT PROPOSED SR-826 EB RAMP CONNECTION TO I-95 SB.
3. SHIFT TRAVEL LANES ON SR-826 EB UP TO NW 7TH AVENUE & REDUCE LANE WIDTH CONSTRUCT THE AUXILIARY LANE AND ADD A LEFT TURN LANE TO TURNPIKE NORTHBOUND RAMP.
4. SHIFT TRAVEL LANES ON TURNPIKE CONNECTOR & REDUCE LANE WIDTH ON I-95 SB. MAINTAIN EXISTING NUMBER OF LANES .
5. CONSTRUCT TURNPIKE CONNECTOR SB AND I-95 SB WIDENING SOUTH OF THE PARK AND RIDE OVERPASS.

PHASE II

1. REMOVE EXISTING SR 826 EB TO I-95 SB RAMP AND SHIFT TRAFFIC TO NEWLY CONSTRUCTED RAMP BUILT DURING PHASE 1.
2. CONSTRUCT NEW FLYOVER RAMP FROM SR-826 EB TO I-95 NB UP TO THE MERGE WITH SR-7 NB TO I-95 NB.
3. RECONSTRUCT OFF RAMP OF SR-826 WB TO TURNPIKE NB AND MILL AND RESURFACE SR-826 WB FROM NW 7TH AVENUE TO WEST OF SR-826 CONNECTOR BRIDGE (870038).
4. CONSTRUCT TEMPORARY RAMP FROM SR-7 NB TO CONNECT TO I-95 NB. SHIFT AND REDUCE WIDTH OF TRAVEL LANES ON I-95 NB UNDER THE BRIDGE 870041 TO ACCOMMODATE THE TEMPORARY RAMP.
5. CONSTRUCT END SPAN REPLACEMENT FOR BRIDGE 870041 OVER SR 7 NB RAMP TO ACCOMODATE FUTURE LANES.
6. CONSTRUCT NEW SR 826 WB TO I-95 SB BRIDGE 870042 WHILE MAINTAINING TRAFFIC ON THE EXISTING BRIDGE.
7. SHIFT TRAFFIC TO NEWLY CONSTRUCTED BRIDGE AND DEMOLISH EXISTING SR 826 WB TO I-95 SB BRIDGE.

PHASE III

1. WIDEN EXISTING SR-7 RAMP TO 2 LANES WHILE MAINTAINING TRAFFIC ON THE TEMPORARY PAVEMENT.
2. SHIFT SR 826 EB (NEW FLYOVER) AND SR 7 NB TRAFFIC TO THE NEW TWO LANE RAMP CONNECTING TO I-95 NB AND US441 NB.

LEGEND:
- PHASE I
- PHASE II
- PHASE III

SCALE 1:600

TIE TO SR 826/PALMETTO EXPRESSWAY PD&E STUDY
RECONSTRUCT NW 17TH AVENUE
CONSTRUCT NEW BRIDGE CULVERT OVER CANAL AT NW 163RD STREET
870601 WIDEN EXISTING BRIDGE
870050 WIDEN EXISTING BRIDGE
870348 WIDEN EXISTING BRIDGE
870347 MAINTAIN EXISTING BRIDGE
870159 BRIDGE REPLACEMENT
870045 BRIDGE REPLACEMENT
870042 REMOVE EXISTING BRIDGE
CONSTRUCT NEW BRIDGE
REPLACE BRIDGE END SPAN
870041
PROPOSED SR 826 EB TO I-95 NB FLYOVER BRIDGE
MATCH EXISTING ROADWAY
MAINTAIN EXISTING BRIDGE
PARK AND RIDE
MUNICIPAL PARKING
EMERGENCY ENTRANCE
JACKSON NORTH MEDICAL CENTER
MATCH LINE A-A
NW 167TH STREET
NW 165TH STREET
NW 163RD STREET
NW 151ST ST
NW 17TH AVENUE
NW 16TH COURT
NW 15TH AVENUE
NW 2ND AVENUE
NW 7TH AVENUE
NW 7TH AVENUE EXTENSION
I-95 EXPRESS
SFRC RAILROAD
BISCAYNE CANAL
FLORIDA'S TURNPIKE
INTERSTATE 95
441
7
826
9

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

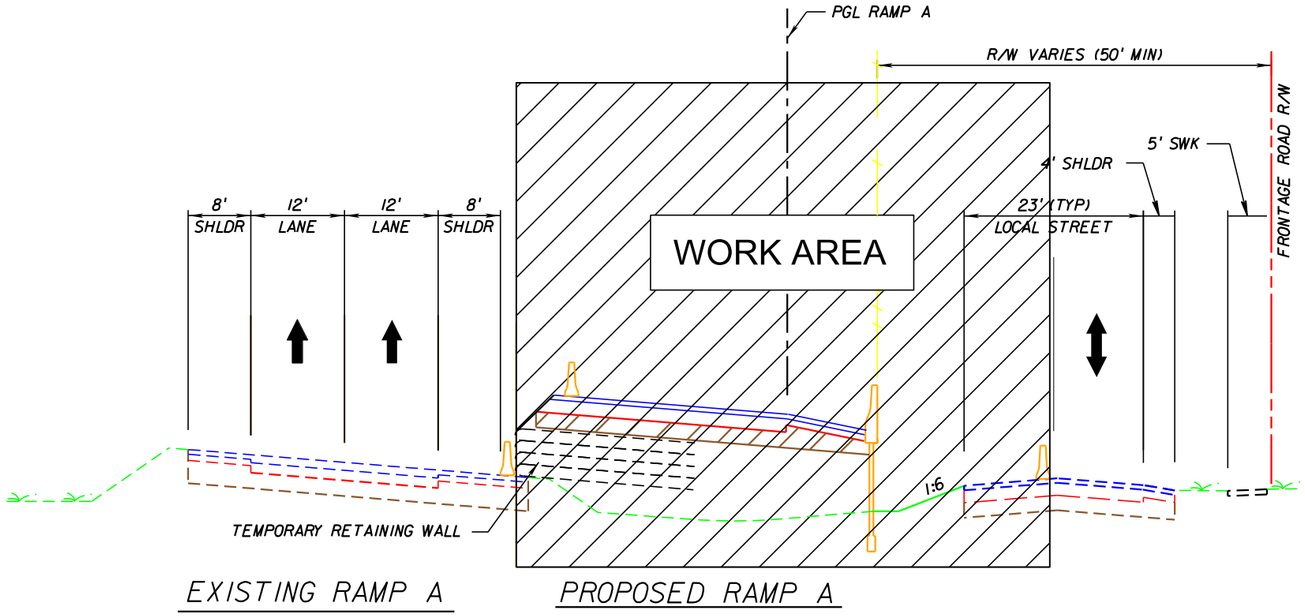
ENGINEER OF RECORD:
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALTERNATIVE 3A CONSTRUCTION SEQUENCE

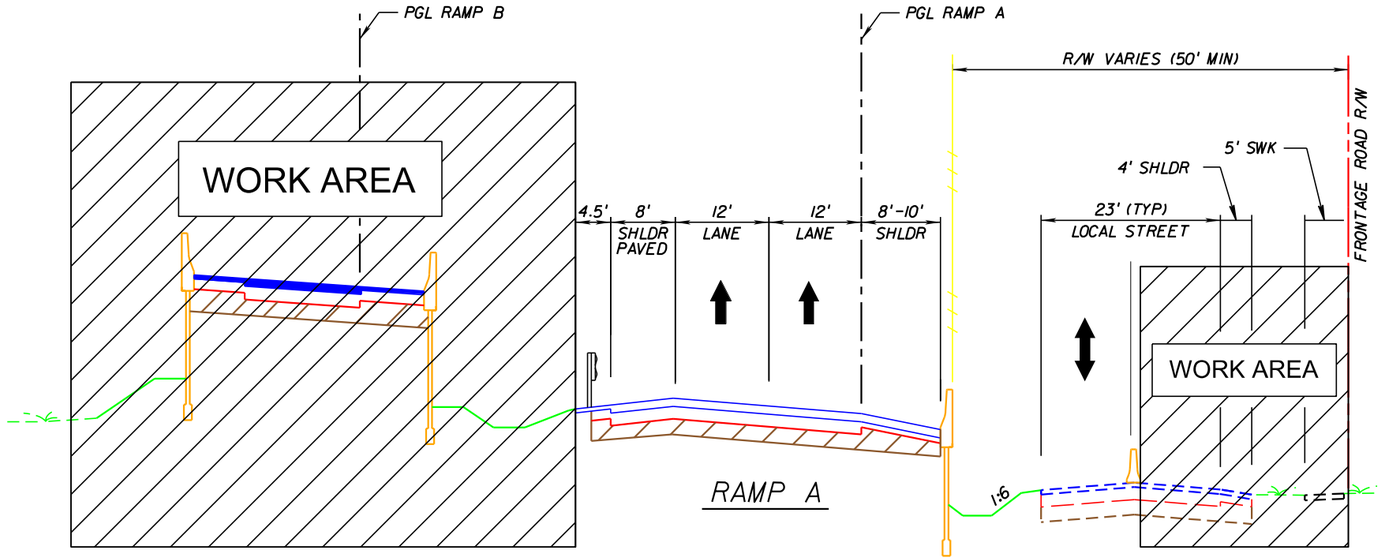
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EXISTING RAMP A

PROPOSED RAMP A

PHASE I



RAMP A

RAMP B
UNDER CONSTRUCTION

PHASE II

SECTION A-A

SR 826 EB TO I-95 SB (RAMP A)
SR 826 EB TO I-95 NB (RAMP B)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

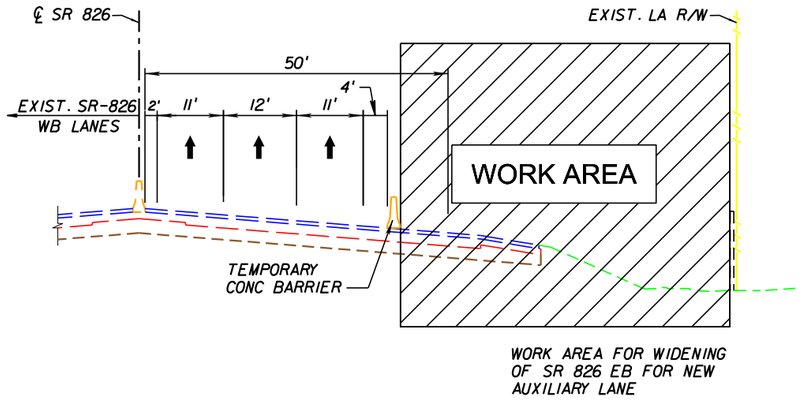
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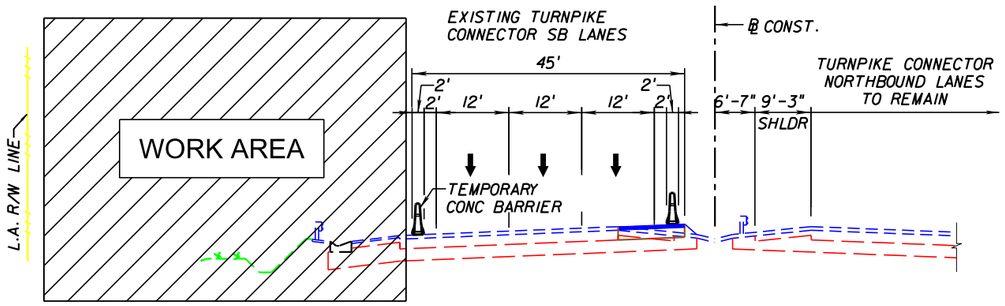
INTERIM BUILD ALTERNATIVE 3A CONSTRUCTION SEQUENCE

SHEET NO.



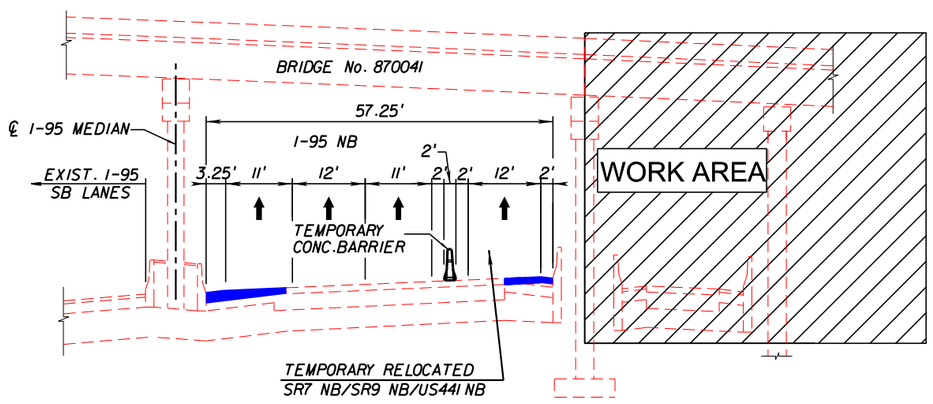
SR 826 EASTBOUND
CONSTRUCTION TYPICAL SECTION

SECTION B-B



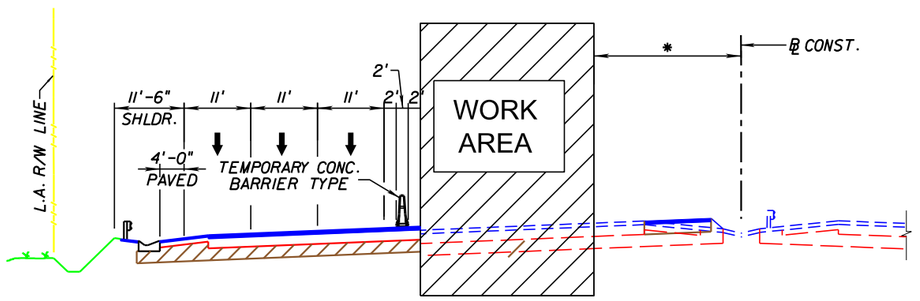
WIDENING OF SOUTHBOUND
TURNPIKE CONNECTOR

SECTION C-C
PHASE I



I-95 NORTHBOUND
CONSTRUCTION TYPICAL SECTION

SECTION D-D



WIDENING OF SOUTHBOUND
TURNPIKE CONNECTOR

SECTION C-C
PHASE II

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALTERNATIVE 3A CONSTRUCTION SEQUENCE

SHEET NO.

PHASE I

1. SHIFT TRAVEL LANES AND MAINTAIN TRAFFIC FROM SR-826 EB TO I-95 SB ON EXISTING RAMP. CONSTRUCT PROPOSED SR-826 EB RAMP CONNECTION TO I-95 SB.
2. SHIFT TRAVEL LANES ON SR-826 EB UP TO NW 7TH AVENUE & REDUCE LANE WIDTH. CONSTRUCT THE AUXILIARY LANE AND ADD A LEFT TURN LANE FOR THE RAMP TO NORTHBOUND FLORIDA'S TURNPIKE.
3. SHIFT TRAVEL LANES ON TURNPIKE CONNECTOR & REDUCE LANE WIDTH ON I-95 SB TO MAINTAIN EXISTING NUMBER OF LANES. MAINTAIN TRAFFIC ON EXISTING OFF RAMP TO SR-7/ SR-9 AND PARK & RIDE.
4. CONSTRUCT TURNPIKE CONNECTOR SB, OFF- RAMP TO SR-7 (INCLUDING ALL THE IMPROVEMENTS ON SR-7) .
5. CONSTRUCT PARTIAL BRIDGE OVER BISCAYNE CANAL (870348) AND OVER NW 151ST STREET (870347). WIDEN I-95 SB ON THE WEST SIDE.

PHASE II

1. REMOVE EXISTING SR 826 EB TO I-95 SB RAMP AND SHIFT TRAFFIC TO NEWLY CONSTRUCTED RAMP BUILT IN PHASE I.
2. SHIFT TRAFFIC TO THE NEW SEGMENT OF TURNPIKE CONNECTOR AND A NEW OFF RAMP TO SR-7 CONSTRUCTED DURING PHASE I.
3. CONSTRUCT NEW FLYOVER RAMP FROM SR-826 EB TO I-95 NB UP TO THE MERGE WITH SR-7 NB CONNECTOR TO I-95 NB.
4. CONSTRUCT END SPAN REPLACEMENT FOR BRIDGE 870041 WHILE MAINTAINING A MINIMUM ONE LANE IN EACH DIRECTION.
5. CONSTRUCT NEW SR 826 WB TO I-95 SB BRIDGE 870042 WHILE MAINTAINING TRAFFIC ON THE EXISTING BRIDGE.
6. COMPLETE RECONSTRUCTION OF SR-826 WB AT THE INTERCHANGE WITH TURNPIKE, INCLUDING RAMP TO NORTHBOUND TURNPIKE

NOTE:
FOR PHASE II, III AND IV ALONG I-95 SB SEE CONSTRUCTION SEQUENCE ON THE NEXT SHEET.

LEGEND:
- PHASE I
- PHASE II
- PHASE III
- PHASE IV

SCALE 1:600

NW 167TH STREET
NW 7TH AVENUE
NW 151 ST ST
BISCAYNE CANAL
NW 17TH AVENUE
NW 16TH COURT
MATCH LINE B-B
MATCH LINE A-A
OPA LOCKA BLVD
NW 143RD ST
FLORIDA'S TURNPIKE
SFRC RAILROAD
I-95 EXPRESS
NW 165TH STREET
NW 2ND AVENUE
EMERGENCY ENTRANCE
JACKSON NORTH MEDICAL CENTER
MUNICIPAL PARKING
PARK AND RIDE

PHASE III

1. WIDEN EXISTING SR-7 RAMP TO 2 LANES WHILE MAINTAINING TRAFFIC ON THE TEMPORARY PAVEMENT.
2. CONSTRUCT NEW BRIDGE CULVERT OVER CANAL NW 163RD STREET.
3. RECONSTRUCT NW 17TH AVENUE FROM NW 163RD STREET TO NW 167TH STREET.
4. CONNECT SR 826 EB (NEW FLYOVER) AND SR 7 NB TO THE NEW TWO LANE RAMP TO I-95 NB.

NOTE:
FOR PHASE II, III AND IV ALONG I-95 SB SEE CONSTRUCTION SEQUENCE ON THE NEXT SHEET.

REVISIONS			
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SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALTERNATIVE 3B CONSTRUCTION SEQUENCE

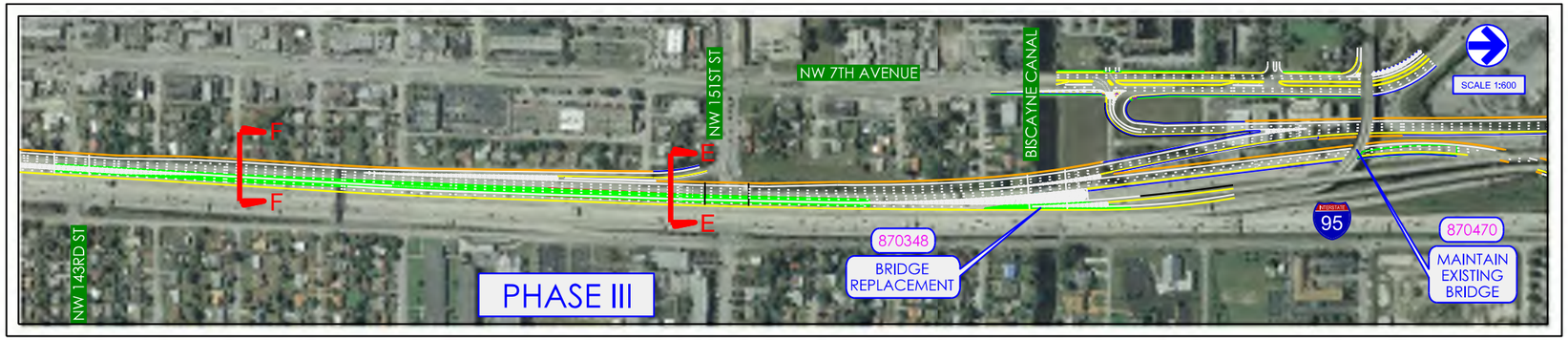
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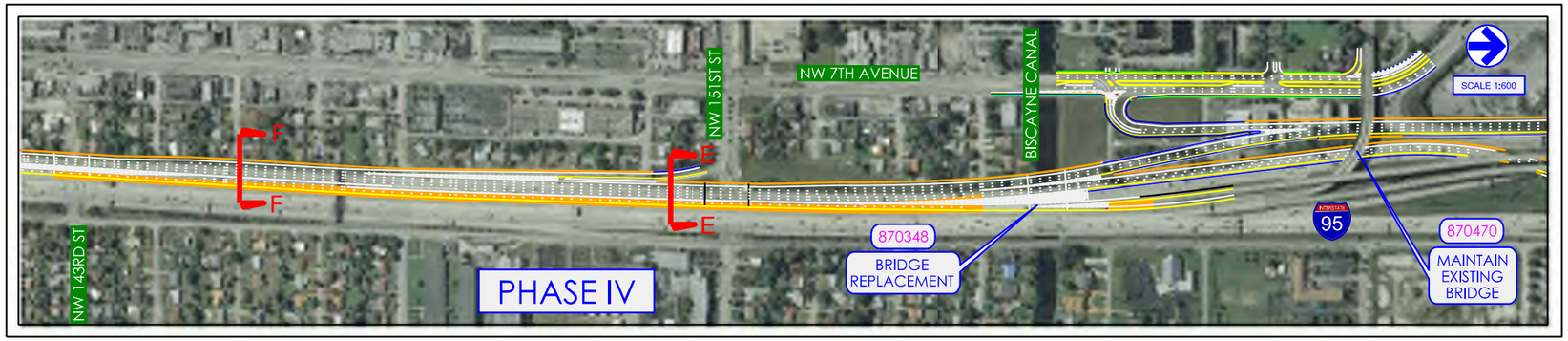
PHASE II
SHIFT EXISTING MANAGED LANE TOWARDS THE CENTER I-95 SB/NB DIVIDER. SHIFT WEST TURNPIKE CONNECTOR TRAFFIC ON THE NEW ROADWAY. CARRY TWO TURNPIKE LANES ALONG THE WEST SIDE FOR THE ENTIRE LENGTH OF THE PROJECT. PROVIDE A RAMP ON EXISTING PAVEMENT FROM RELOCATED TURNPIKE CONNECTOR TO I-95 SB LANES TO MAINTAIN CURRENT ACCESS TO MANAGED LANES FOR TURNPIKE MOTORISTS. SHIFT WEST I-95 SB LANES PARTIALLY ON TEMPORARY PAVEMENT PREPARED IN PHASE I AND ON THE NEW PORTION OF BRIDGE OVER THE BISCAYNE CANAL CONSTRUCTED IN PHASE I. AFTER PASSING THE BISCAYNE BRIDGE TURN THE SB TRAFFIC ON THE RESTRIPED PORTION OF I-95 SB PAVEMENT TO THE EAST TOWARDS THE SHIFTED MANAGED LANES BEFORE THE BRIDGE OVER 151ST STREET. PROVIDE ACCESS TO MANAGED LANES AT THIS LOCATION. IN VICINITY OF BRIDGE OVER BISCAYNE CANAL SEPARATE TURNPIKE LANES FROM I-95 SB LANES WITH TUBULAR DELINEATORS TO PREVENT WEAVING.RECONSTRUCT MIDDLE-WESTERLY PORTIONS OF TWO BRIDGES AND FULL LENGTH STRIP OF I-95 SB ROADWAY BETWEEN TWO LANES ON THE WEST SIDE AND FIVE LANES ON THE EAST SIDE.



PHASE III
CONSTRUCT TEMPORARY PAVEMENT NEAR THE TOUCHDOWN OF I-95 SB EXPRESS LANE AND PARK&RIDE RAMP JUST NORTH OF BISCAYNE BRIDGE TO MATCH THE NEW DECK ELEVATION. SHIFT I-95 SB EXPRESS LANE FLYOVER AND PARK & RIDE RAMP ONTO THE TEMPORARY ALIGNMENT TO CIRCUMVENT ON THE WEST SIDE THE WORK ZONE ON THE REMAINING EASTERLY PORTION OF THE BRIDGE OVER BISCAYNE CANAL. MERGE THESE TWO LANES INTO ONE MANAGED LANE JUST NORTH OF BRIDGE OVER NW 151ST STREET. RECONSTRUCT REMAINING EASTERLY PORTION OF BRIDGE OVER BISCAYNE CANAL AND MIDDLE-EASTERLY PORTION OF THE BRIDGE OVER NW 151ST STREET.RECONSTRUCT THE FULL LENGTH STRIP OF MIDDLE-EASTERLY PORTION OF I-95 SB ROADWAY.MAINTAIN FIVE LANES OF I-95 SB TRAFFIC ON THE WESTERLY SIDE OF THE ROAD AND ONE MANAGED LANE ALONG THE CENTER I-95 SB/NB DIVIDER.SHIFT ALL THREE I-95 SB LANES TO THE WEST AND CARRY THEM ADJACENT TO TWO LANES FROM TURNPIKE. REMOVE TUBULAR SEPARATORS IN VICINITY OF BISCAYNE BRIDGE.



PHASE IV
SHIFT TO THE WEST MANAGED LANE CARRYING COMBINED TRAFFIC FROM I-95 SB EXPRESS LANE, PARK&RIDE RAMP AND TURNPIKE CONNECTOR. RECONSTRUCT REMAINING EASTERLY PORTION OF I-95 SB ROADWAY AND BRIDGE OVER 151ST STREET RESTRIPE THE COMPLETED ROADWAY AND SHIFT ALL TRAFFIC LANES TO THE FINAL LAYOUT.



LEGEND:
- PHASE I
- PHASE II
- PHASE III
- PHASE IV

PHASES II, III, AND IV

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

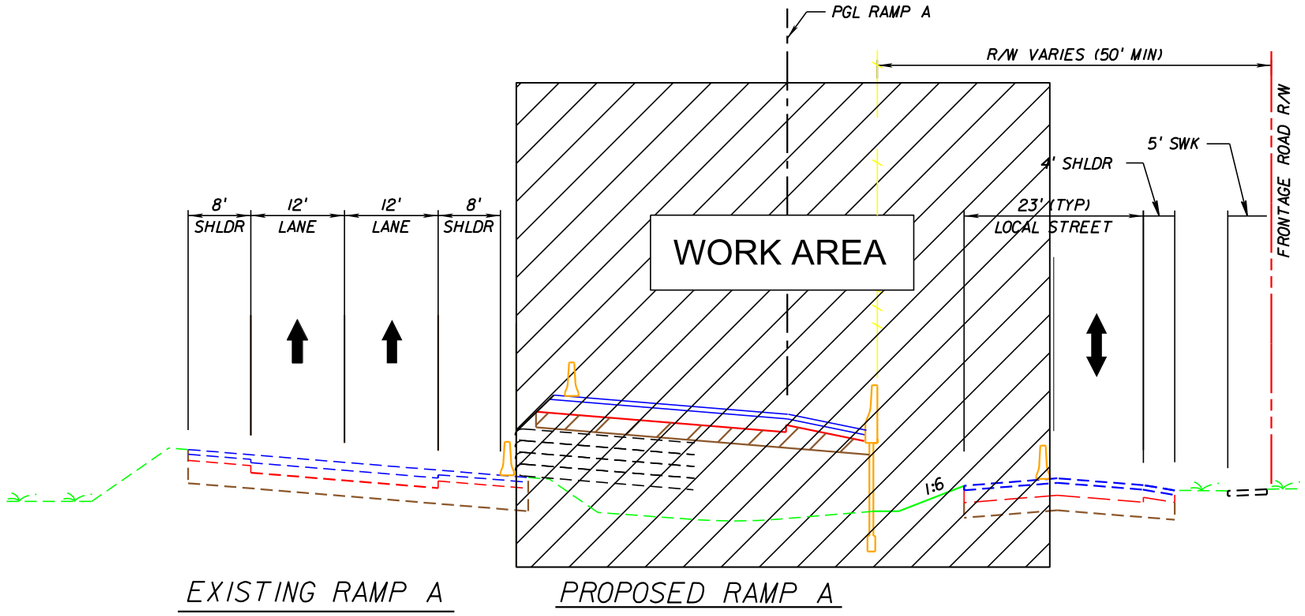
ENGINEER OF RECORD:
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INTERIM BUILD ALTERNATIVE 3B CONSTRUCTION SEQUENCE

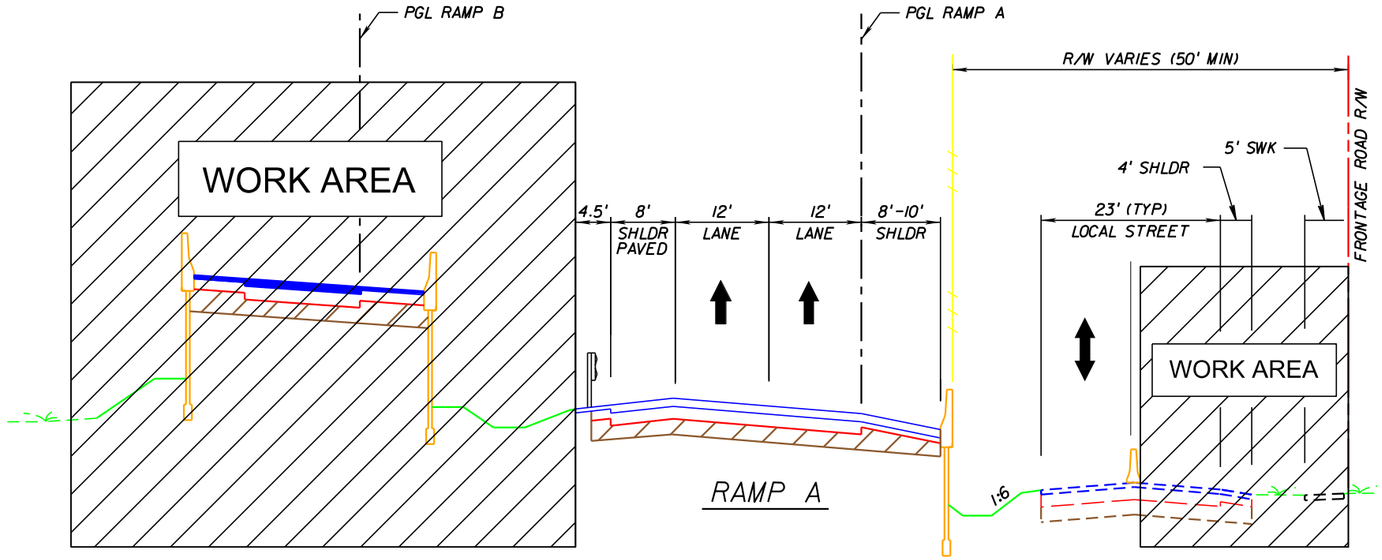
SHEET NO.



EXISTING RAMP A

PROPOSED RAMP A

PHASE I



RAMP A

RAMP B
UNDER CONSTRUCTION

PHASE II

SECTION A-A

SR 826 EB TO I-95 SB (RAMP A)
SR 826 EB TO I-95 NB (RAMP B)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

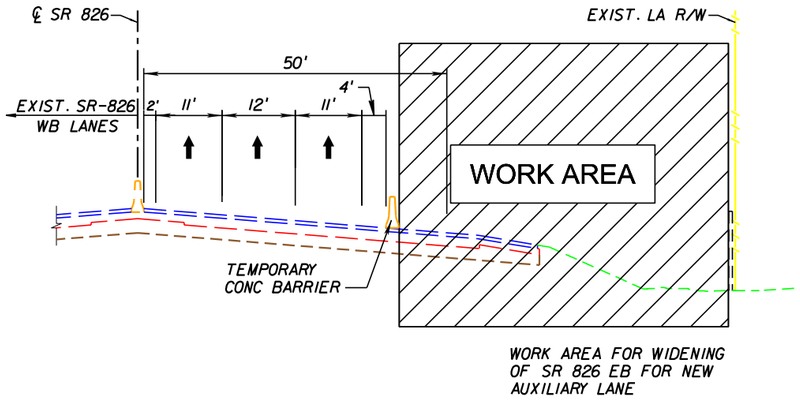
ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

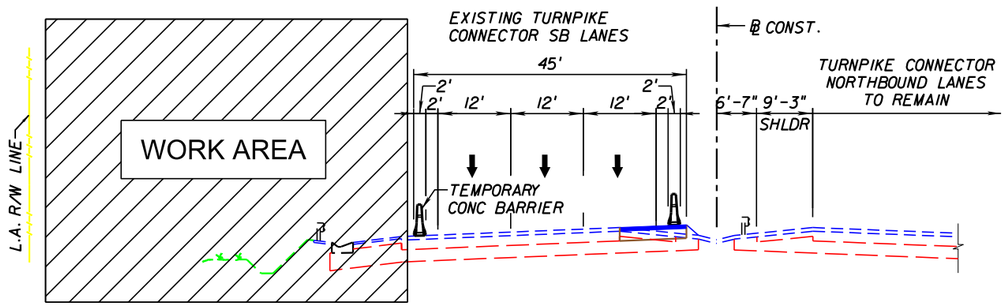
INTERIM BUILD ALTERNATIVE 3B CONSTRUCTION SEQUENCE

SHEET NO.



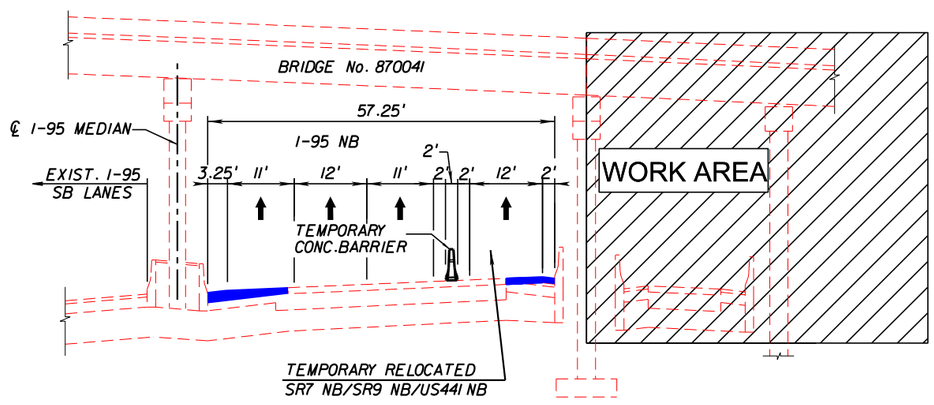
SR 826 EASTBOUND
CONSTRUCTION TYPICAL SECTION

SECTION B-B



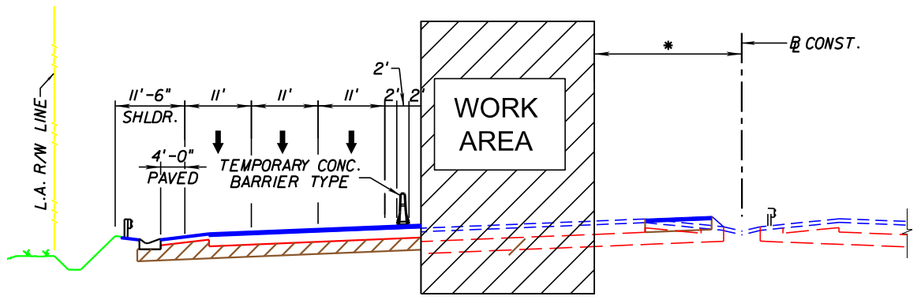
WIDENING OF SOUTHBOUND
TURNPIKE CONNECTOR

SECTION C-C
PHASE I



I-95 NORTHBOUND
CONSTRUCTION TYPICAL SECTION

SECTION D-D



WIDENING OF SOUTHBOUND
TURNPIKE CONNECTOR

SECTION C-C
PHASE II

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

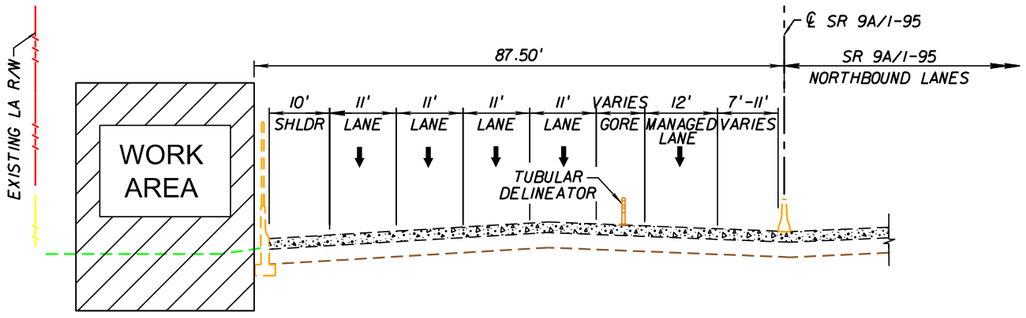
ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

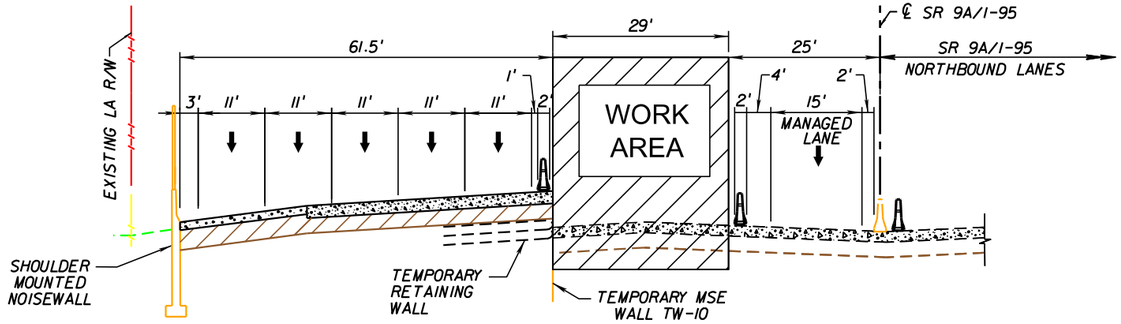
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALTERNATIVE 3B CONSTRUCTION SEQUENCE

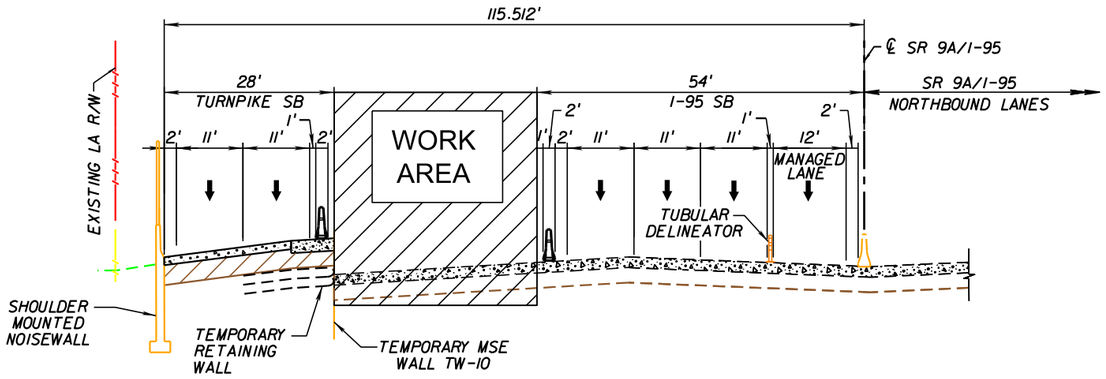
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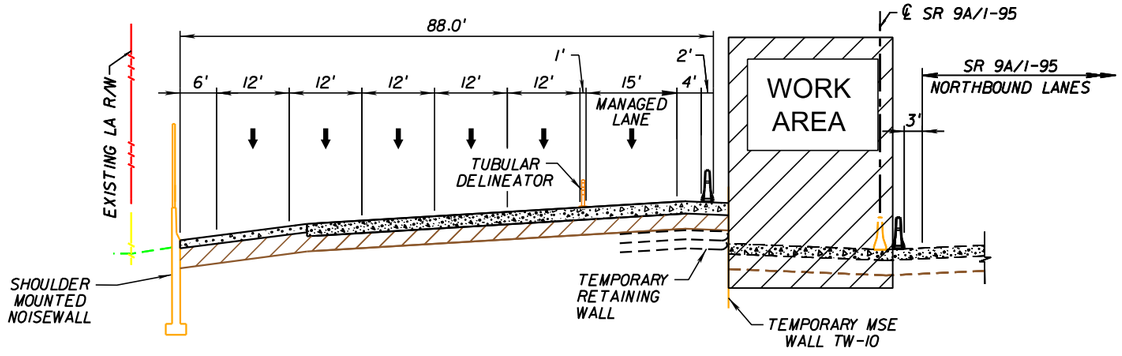
PHASE I



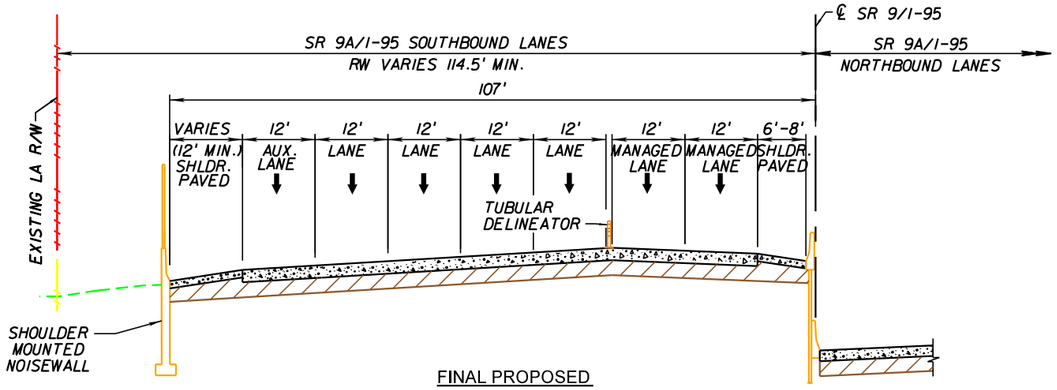
PHASE III



PHASE II



PHASE IV



FINAL PROPOSED

I-95 SOUTHBOUND
TYPICAL SECTIONS OF CONSTRUCTION SEQUENCE
IN VICINITY OF I-95 SB BRIDGE OVER NW 151ST STREET

SECTION E-E

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

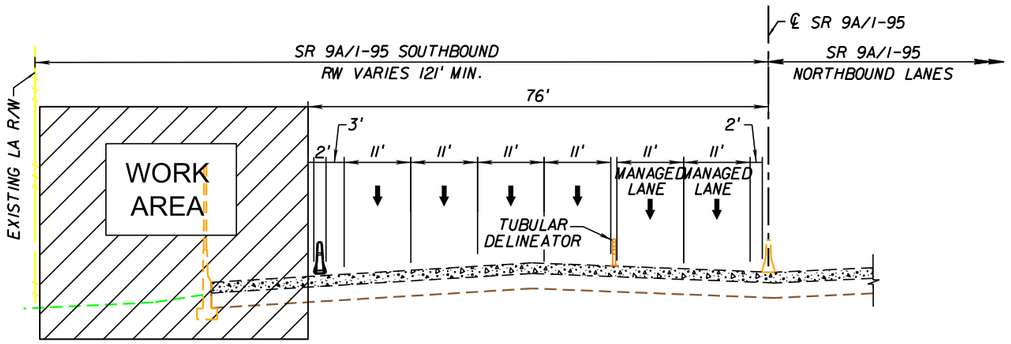
ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

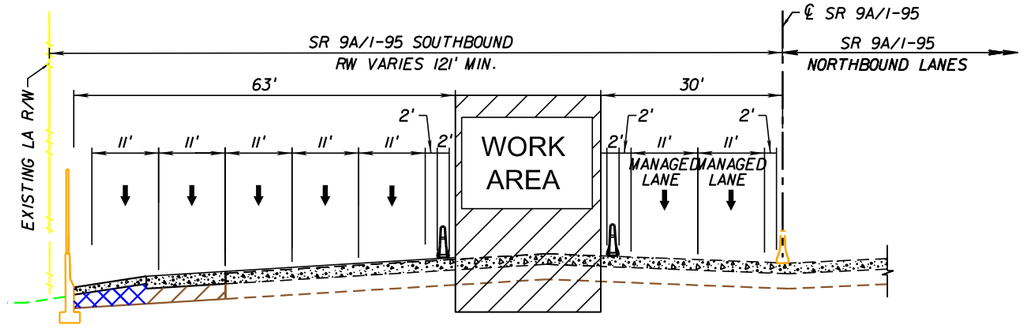
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALTERNATIVE 3B CONSTRUCTION SEQUENCE

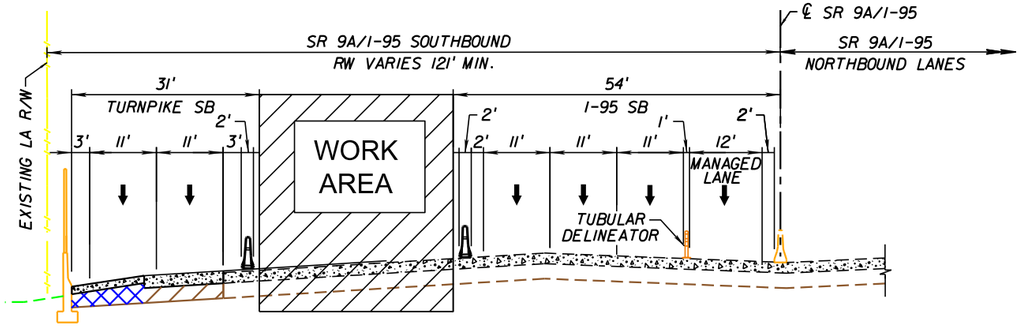
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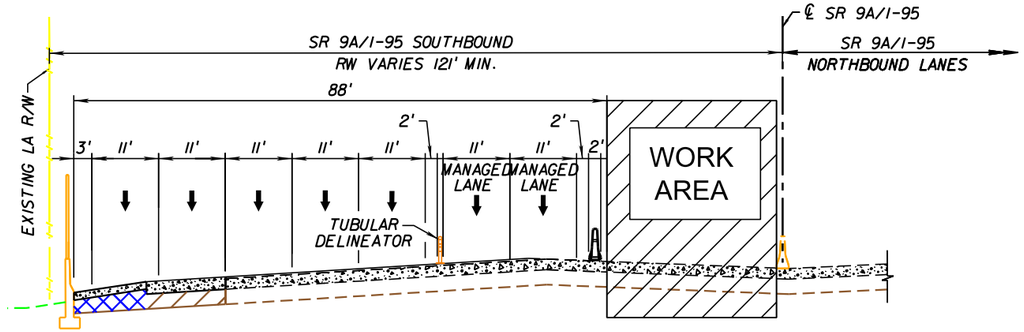
PHASE I



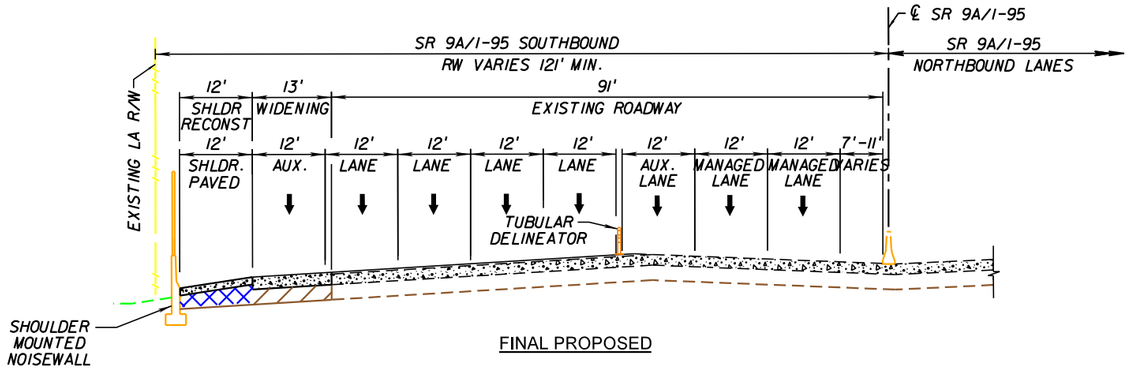
PHASE III



PHASE II



PHASE IV



FINAL PROPOSED

I-95 SOUTHBOUND
CONSTRUCTION PHASING TYPICAL SECTION
(SECTION JUST NORTH OF NW 145TH STREET)

SECTION F-F

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

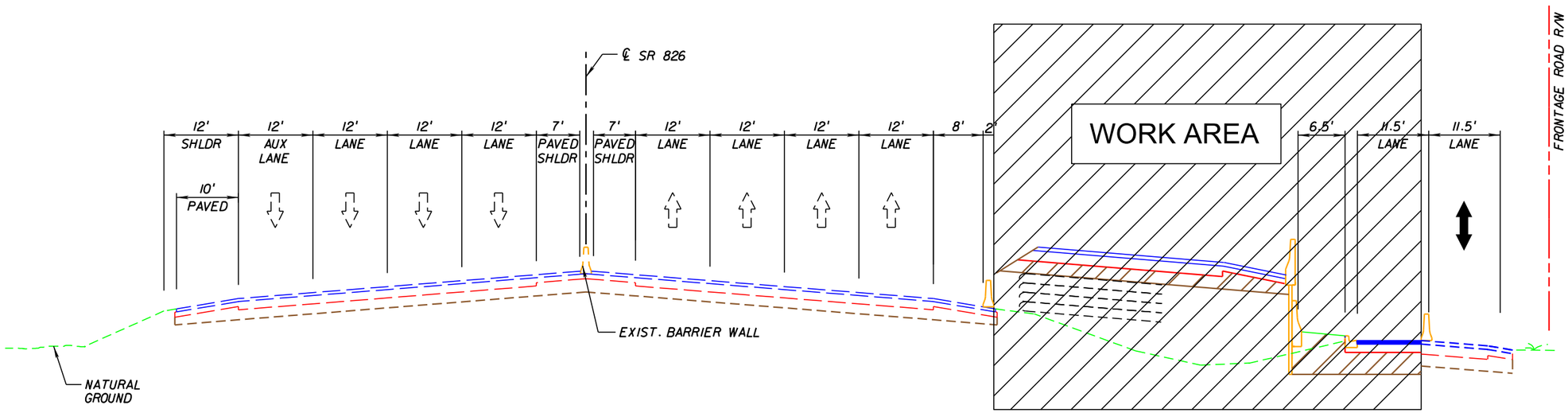
ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

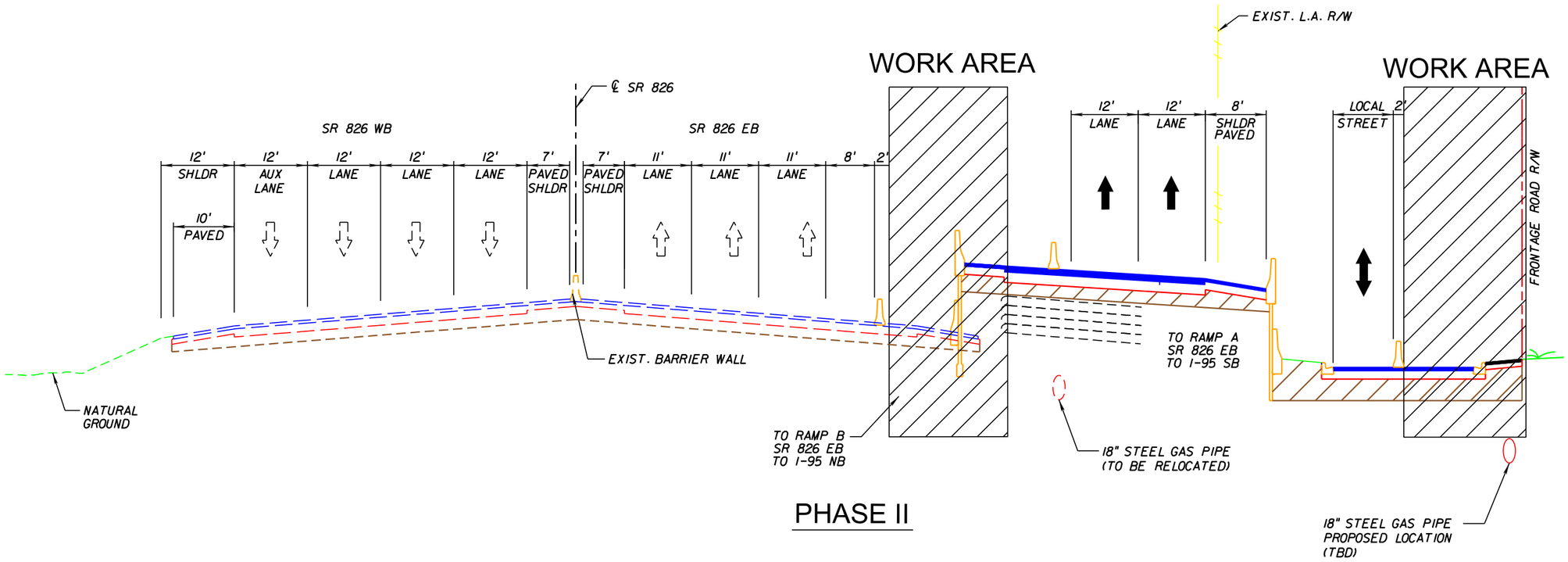
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALTERNATIVE 3B
CONSTRUCTION SEQUENCE

SHEET NO.



PHASE I



PHASE II

SECTION H-H

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALT 3B CONSTRUCTION SEQUENCE

SHEET NO.

NW 14TH AVENUE
NW 12TH AVENUE
NW 9TH AVENUE
NW 170TH STREET
CITY OF MIAMI GARDENS
TIE TO SR 826/PALMETTO EXPRESSWAY PD&E STUDY
826
NW 167TH STREET
RECONSTRUCT NW 17TH AVENUE
NW 17TH AVENUE
NW 16TH COURT
MATCH LINE B-B
NW 163RD STREET
CONSTRUCT NEW BRIDGE CULVERT OVER CANAL AT NW 163RD STREET
OPA LOCKA BLVD
NW 143RD ST
MATCH LINE B-B
MATCH LINE A-A
NW 151 ST ST
POTENTIAL DRAINAGE POND SITE (R/W IMPACT)
870347
BRIDGE REPLACEMENT
MANAGED LANES ACCESS POINT
NW 7TH AVENUE
870348
BRIDGE REPLACEMENT
BISCAYNE CANAL
95
7
441
MATCH EXISTING ROADWAY
870346
WIDEN EXISTING BRIDGE
870601
WIDEN EXISTING BRIDGE
870159
BRIDGE REPLACEMENT
870045
BRIDGE REPLACEMENT
MUNICIPAL PARKING
PARK AND ROAD
9
NW 7TH AVENUE
NW 7TH AVENUE EXTENSION
FLORIDA'S TURNPIKE
SFRC RAILROAD
I-95 EXPRESS
870042
REMOVE EXISTING BRIDGE
CONSTRUCT NEW BRIDGE
REPLACE BRIDGE END SPAN
870041
NW 165TH STREET
PROPOSED SR 826 EB TO I-95 NB FLYOVER BRIDGE
CONSTRUCT NEW MANAGED LANE CONNECTION FROM TURNPIKE SB TO I-95 EXPRESS SB
870470
MAINTAIN EXISTING BRIDGE
MATCH LINE A-A
EMERGENCY ENTRANCE
JACKSON NORTH MEDICAL CENTER
NW 2ND AVENUE
SCALE 1:600

PHASE I

1. SHIFT TRAVEL LANES ON TURNPIKE CONNECTOR SB AND NB FROM TURNPIKE TO SOUTH OF BRIDGE OVER SR-9 (870045). REDUCE LANE WIDTH TO MAINTAIN EXISTING NUMBER OF LANES.
2. SHIFT TRAVEL LANES ON I-95 SB FROM BRIDGE 870470 TO NORTH OF BISCAYNE CANAL. MAINTAIN EXISTING NUMBER OF LANES.
3. CONSTRUCT NEW MANAGED LANE CONNECTION FROM TURNPIKE SB TO I-95 SB MANAGED LANES.

LEGEND:
PHASE I

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

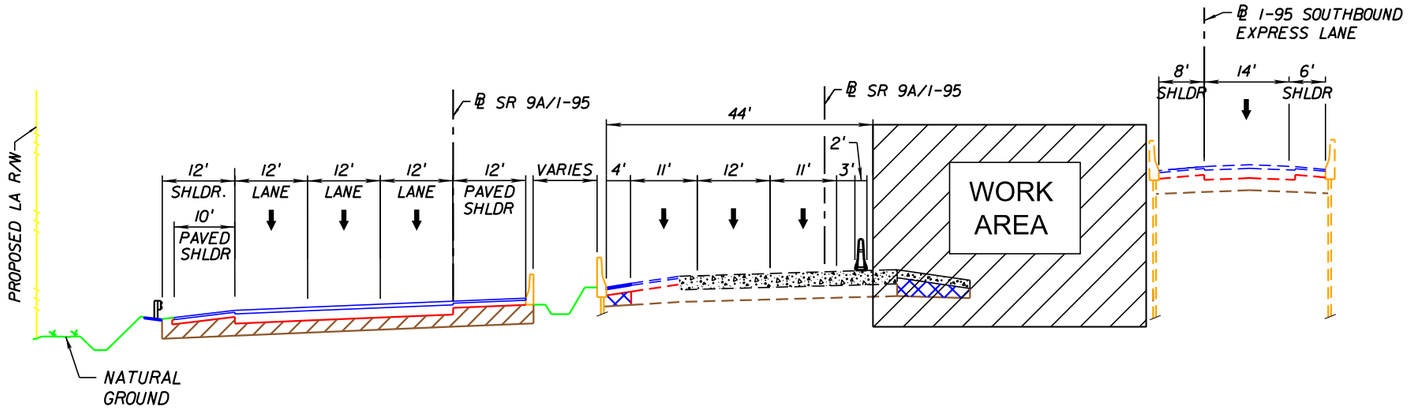
ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

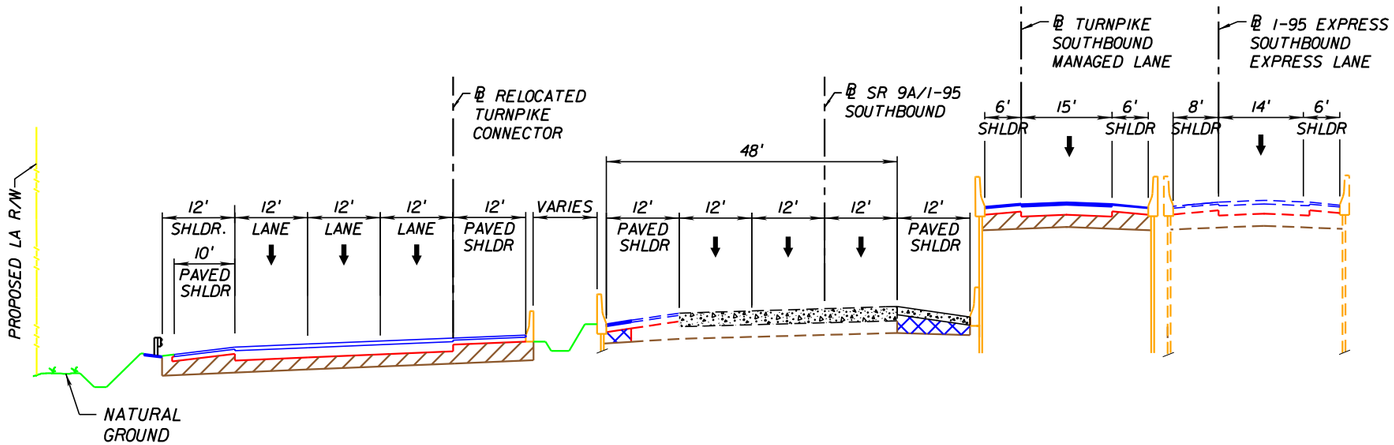
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALTERNATIVE 3C CONSTRUCTION SEQUENCE

SHEET NO.



PHASE I



FINAL PROPOSED

I-95 SOUTHBOUND
CONSTRUCTION TYPICAL SECTION
(FROM PARK AND RIDE BRIDGE (870470) TO NORTH OF BISCAYNE CANAL BRIDGE)

SECTION G-G

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

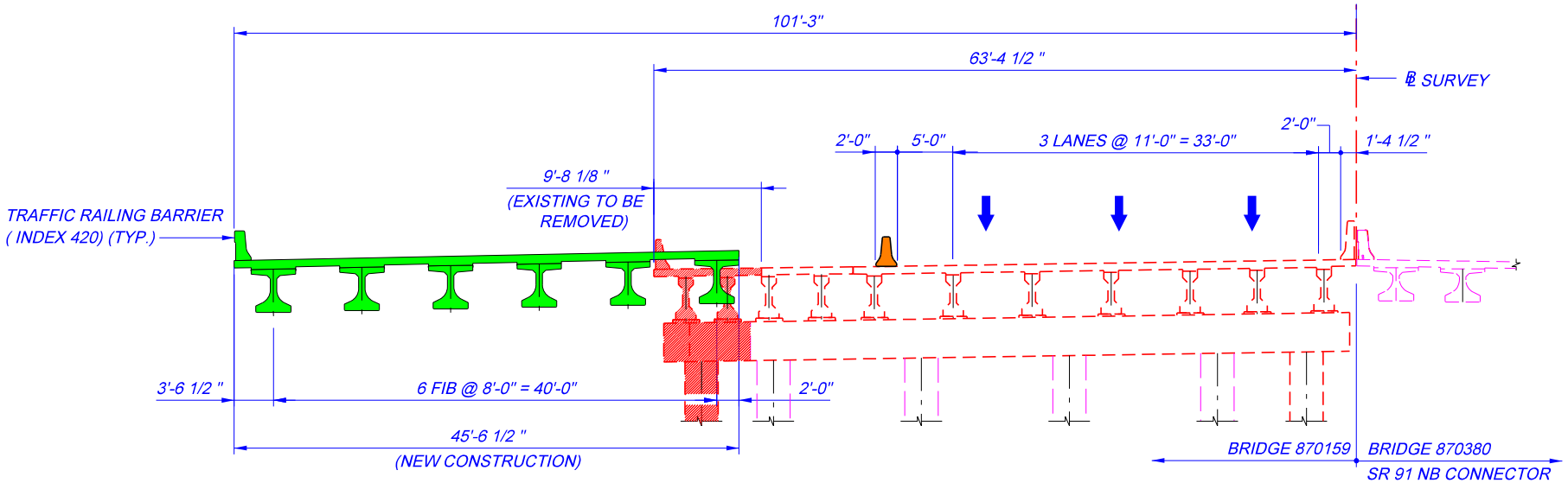
ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

INTERIM BUILD ALTERNATIVE 3C CONSTRUCTION SEQUENCE

SHEET NO.



PHASE 1

N-S EXPRESSWAY CONNECTING RAMPS
OVER SAL RAILROAD

BRIDGE No. 870159
SB TURNPIKE CONNECTOR
OVER SFRC RAILROAD
ALTERNATIVES 3A,3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
301 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

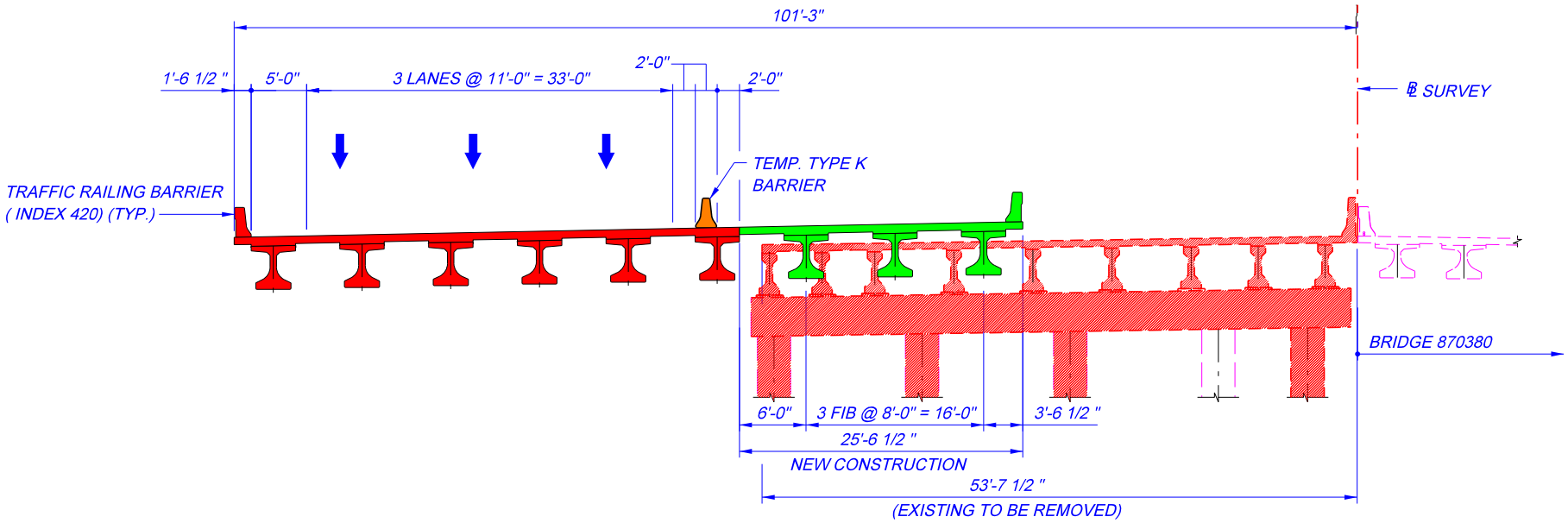
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

BRIDGE CONSTRUCTION SEQUENCE

SHEET NO. 13

AllisonG 11/8/2012 2:18:32 PM T:\428358122201\9-Analysis Activities\9.13 CADD Files\Structure\Interim3A_ConstSeqDia.dgn



PHASE 2

N-S EXPRESSWAY CONNECTING RAMPS
OVER SAL RAILROAD

BRIDGE No. 870159
SB TURNPIKE CONNECTOR
OVER SFRC RAILROAD
ALTERNATIVES 3A,3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
301 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

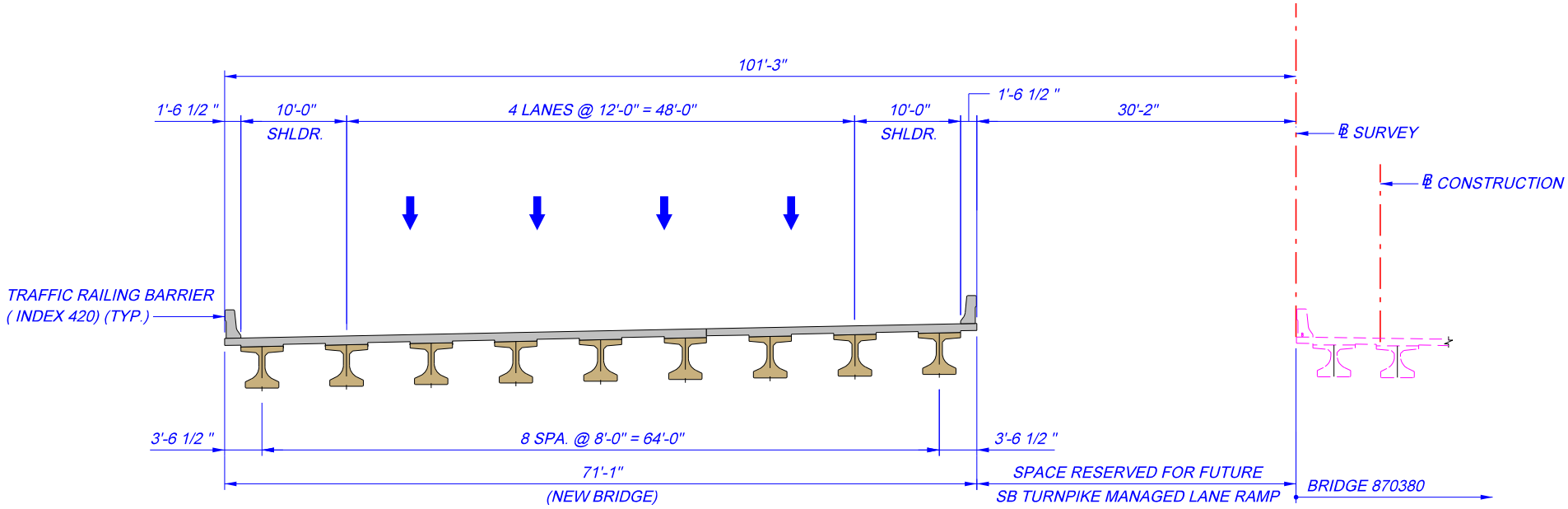
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

BRIDGE CONSTRUCTION SEQUENCE

SHEET NO. 14

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FINAL BRIDGE TYPICAL

N-S EXPRESSWAY CONNECTING RAMPS
OVER SAL RAILROAD

BRIDGE No. 870159
SB TURNPIKE CONNECTOR
OVER SFRC RAILROAD
ALTERNATIVES 3A,3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
301 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

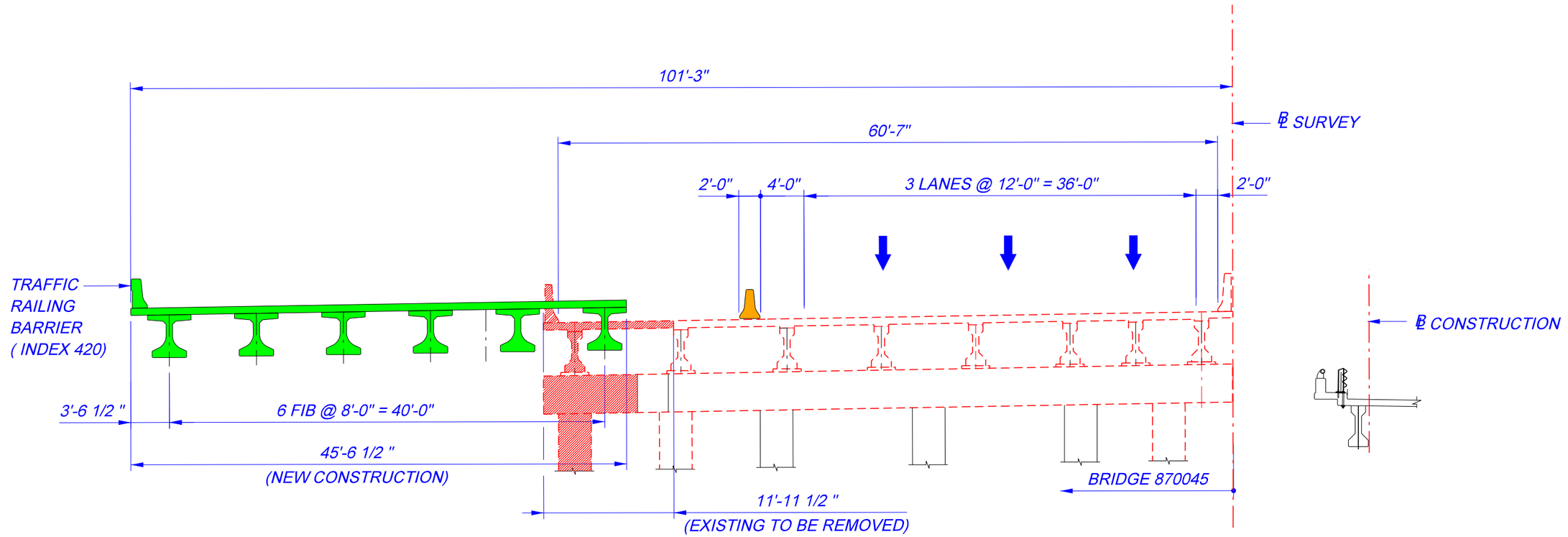
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

BRIDGE CONSTRUCTION SEQUENCE

SHEET NO. 15

AllisonG 11/8/2012 2:19:08 PM T:\428358\220\9-Analysis Activities\9.13 CADD Files\structure\Interim3A_ConstSeq01a.dgn



PHASE I

BRIDGE No. 870045
SB TURNPIKE CONNECTOR
OVER US441, SR 7 & SR 9
ALTERNATIVES 3A,3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

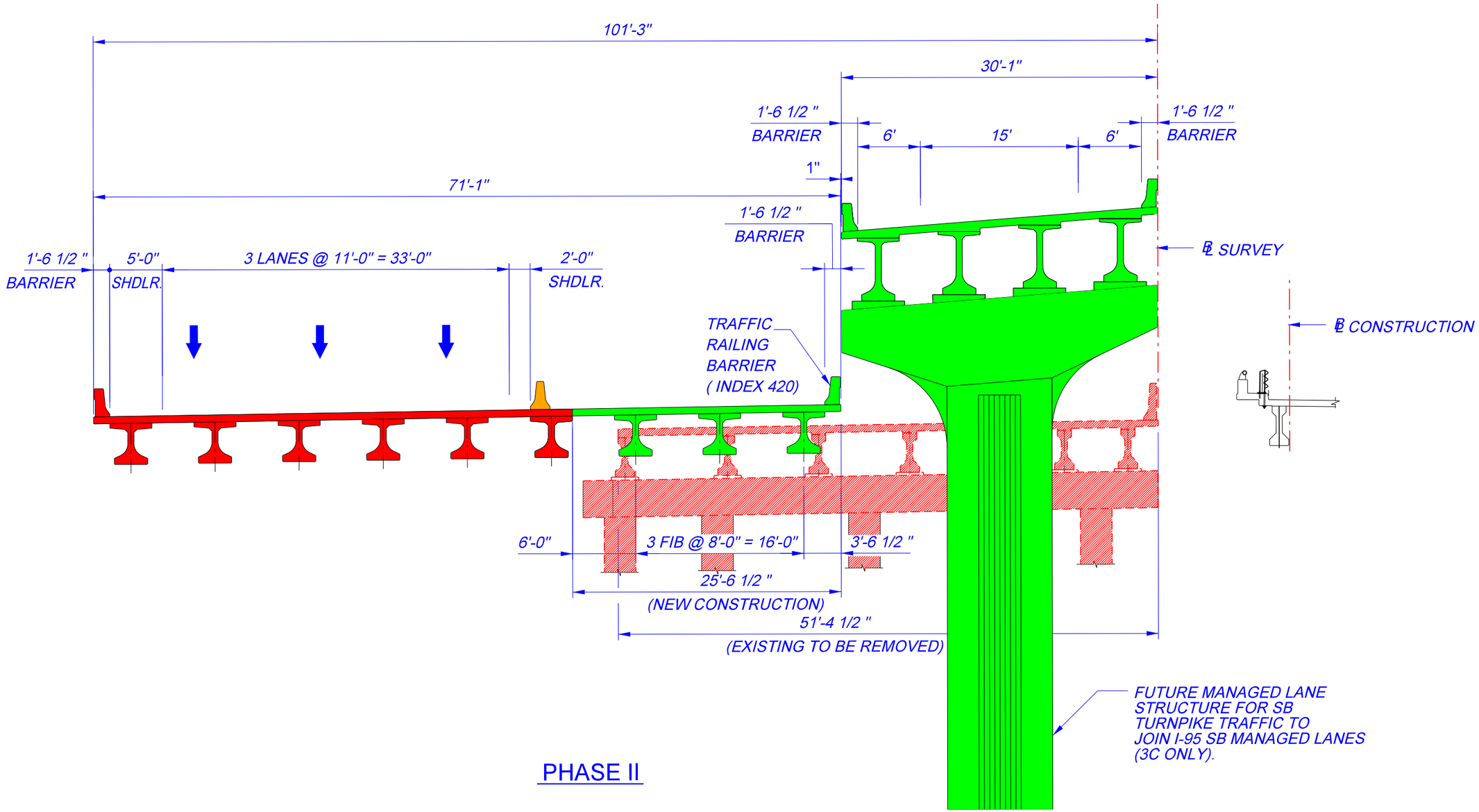
ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

BRIDGE CONSTRUCTION SEQUENCE

SHEET NO.



PHASE II

BRIDGE No. 870045
SB TURNPIKE CONNECTOR
OVER US441, SR 7 & SR 9
ALTERNATIVES 3A,3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

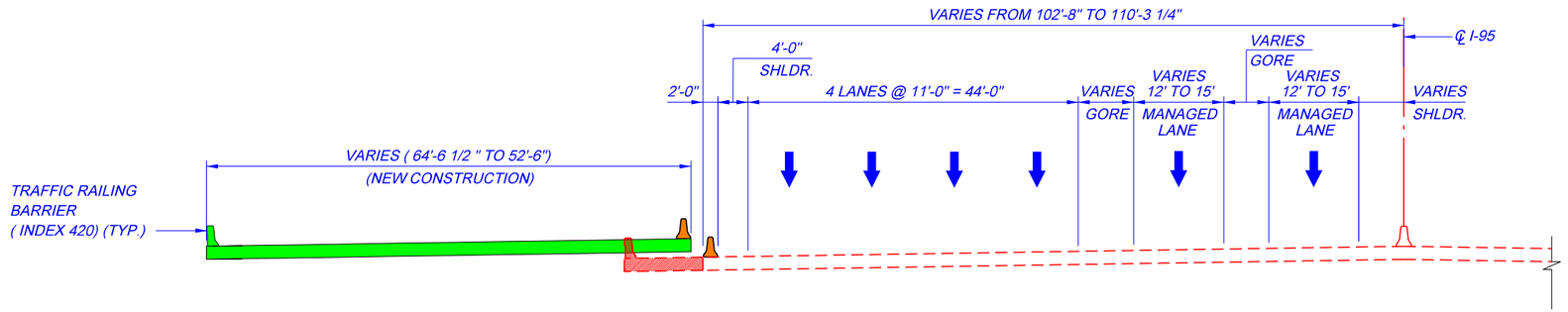
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

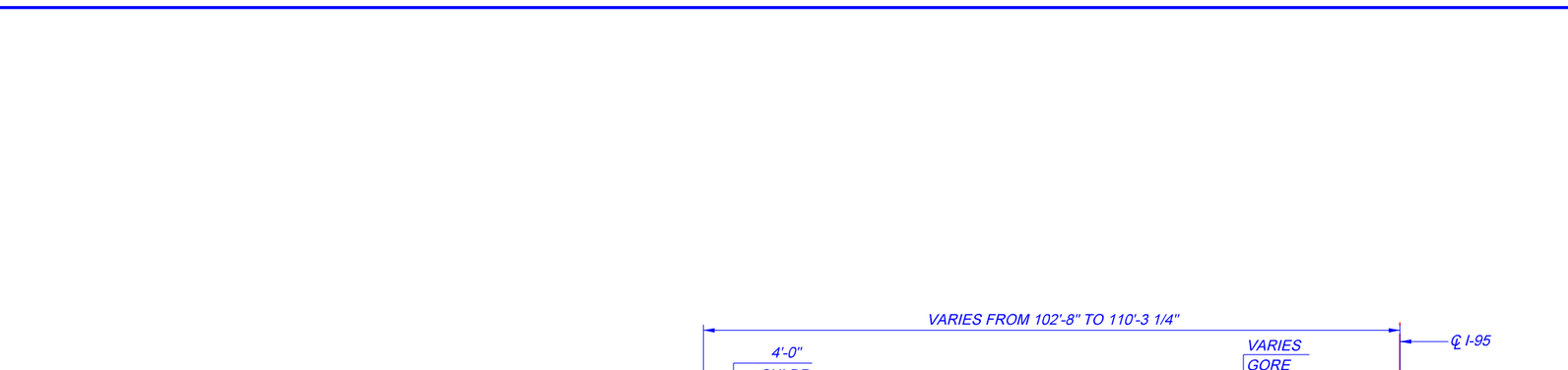
BRIDGE CONSTRUCTION SEQUENCE

SHEET NO.

DavidC 8/6/2012 8:36:32 PM T:\428358122201\9-Analysis Activities\9.13 CADD Files\structure\TypSectCulvert_MG.dgn



PHASE I



PHASE II

BRIDGE No. 870348
I-95 OVER BISCAYNE CANAL
ALTERNATIVE 3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

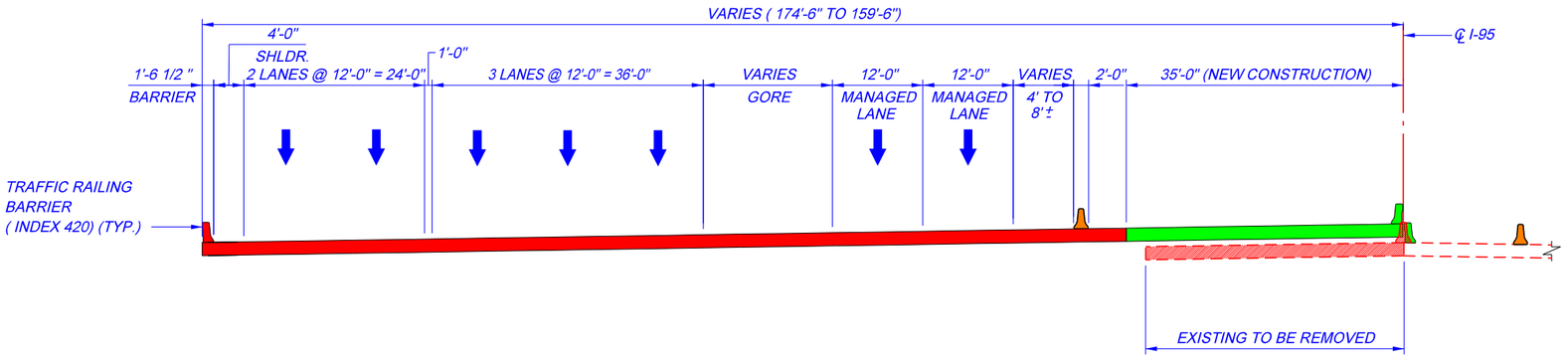
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

BRIDGE CONSTRUCTION SEQUENCE

SHEET NO.

I-95 SOUTHBOUND



PHASE III

BRIDGE No. 870348
I-95 OVER BISCAYNE CANAL
ALTERNATIVE 3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

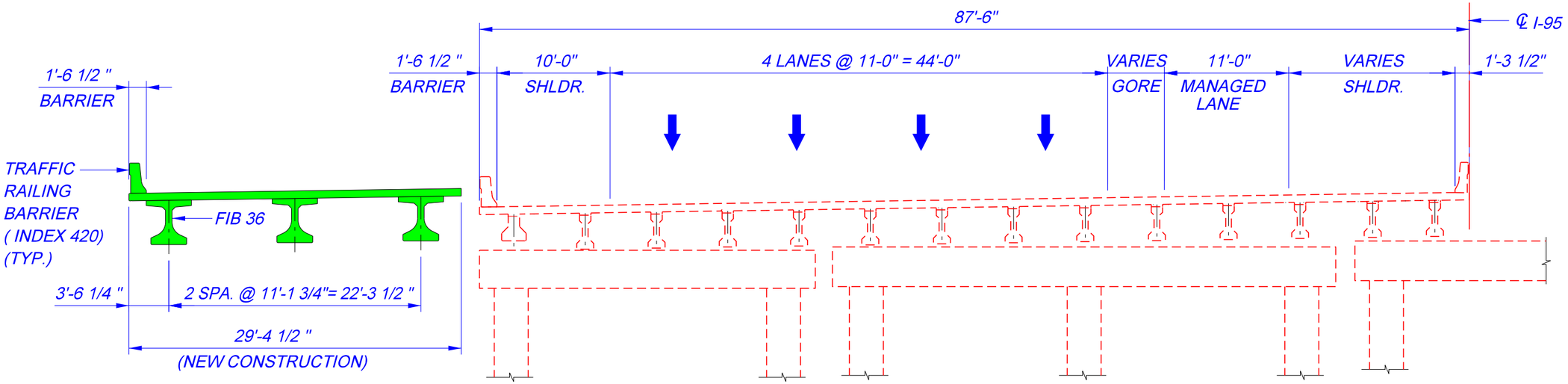
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

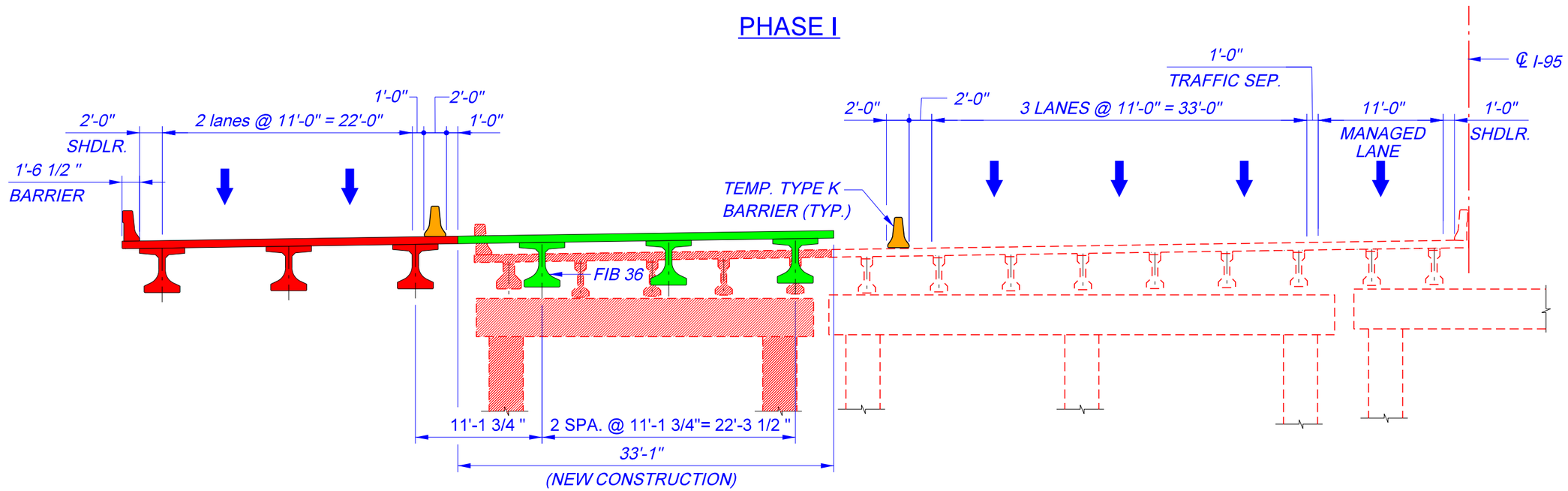
BRIDGE CONSTRUCTION SEQUENCE

SHEET NO.

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PHASE I



PHASE II

BRIDGE No. 870347
I-95 SB OVER NW 151ST STREET
ALTERNATIVES 3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

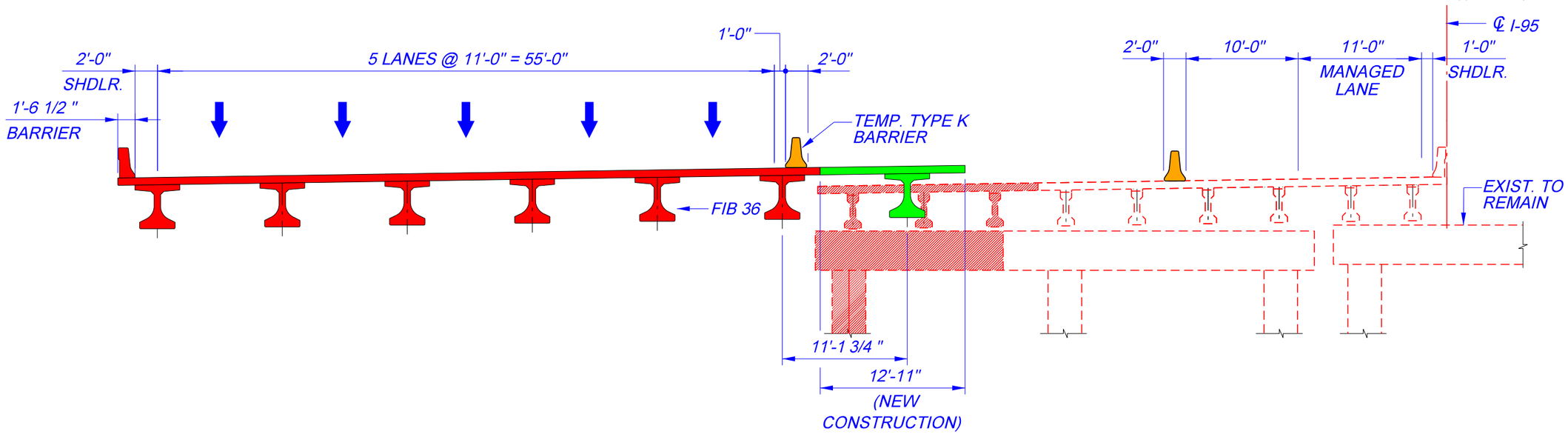
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

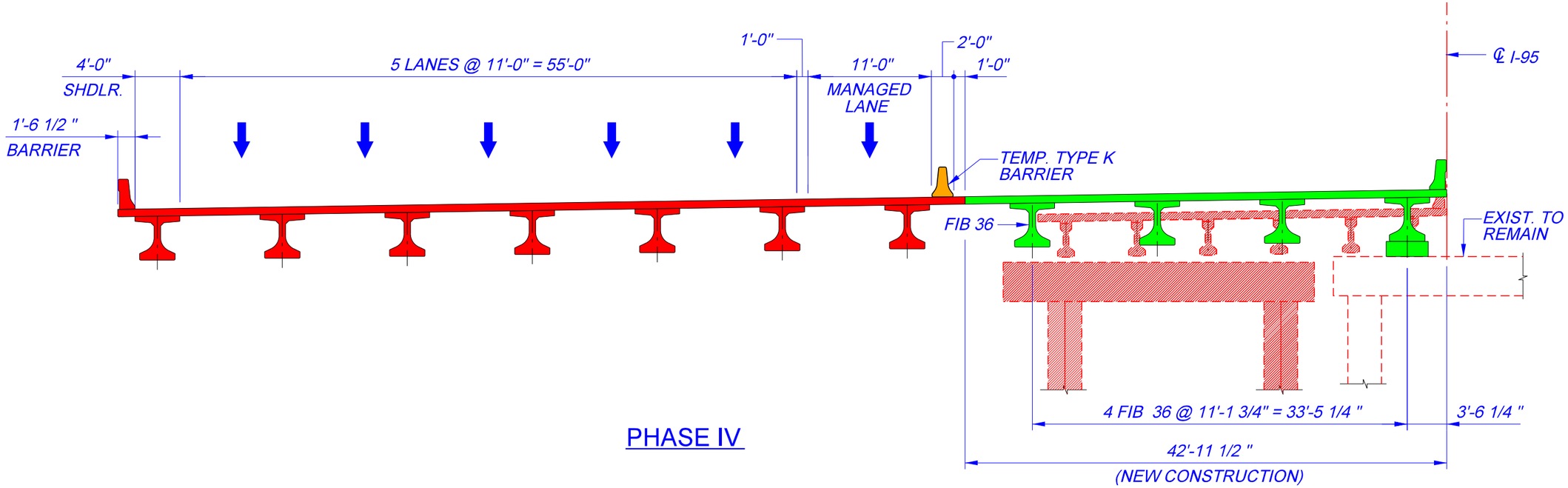
BRIDGE CONSTRUCTION SEQUENCE

SHEET NO.

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PHASE III



PHASE IV

BRIDGE No. 870347
I-95 SB OVER NW 151ST STREET
ALTERNATIVES 3B & 3C

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

BRIDGE CONSTRUCTION SEQUENCE

SHEET NO.

PHASE I

1. SHIFT TRAVEL LANES ON SR-826 EB UP TO NW 7TH AVENUE & REDUCE LANE WIDTH CONSTRUCT THE AUXILIARY LANE AND ADD A LEFT TURN LANE TO TURNPIKE NORTHBOUND RAMP.
2. SHIFT TRAVEL LANES ON TURNPIKE CONNECTOR & REDUCE LANE WIDTH ON I-95 SB. MAINTAIN EXISTING NUMBER OF LANES .
3. SHIFT AND REDUCE WIDTH OF TRAVEL LANES ON SR-826 EB. MAINTAIN TRAFFIC FROM SR-826 EB TO I-95 SB ON EXISTING RAMP. CONSTRUCT PROPOSED SR-826 EB RAMP CONNECTION TO I-95 SB AND THE NEW NW 12TH AVENUE ON-RAMP.
4. CONSTRUCT TURNPIKE CONNECTOR SB AND I-95 SB WIDENING SOUTH OF THE PARK AND RIDE OVERPASS.
5. CONSTRUCT NEW THREE LANE OFF-RAMP TO SR 7 / US 441.

PHASE II

1. REMOVE EXISTING SR 826 EB TO I-95 SB RAMP AND SHIFT TRAFFIC TO NEWLY CONSTRUCTED RAMP BUILT DURING PHASE I.
2. CONSTRUCT NEW FLYOVER RAMP FROM SR-826 EB TO I-95 NB UP TO THE MERGE WITH SR-7 NB TO I-95 NB.
3. RECONSTRUCT OFF RAMP OF SR-826 WB TO TURNPIKE NB AND MILL AND RESURFACE SR-826 WB FROM NW 7TH AVENUE TO WEST OF SR-826 CONNECTOR BRIDGE (870038).
4. SHIFT TRAVEL LANE ON THE EXISTING SR-7 NB RAMP UNDER THE BRIDGE (870041) AND ON I-95 TO REPLACE THE EXISTING BRIDGE (EASTBOUND).
5. CONSTRUCT NEW SR 826 WB TO I-95 SB BRIDGE (870042) WHILE MAINTAINING TRAFFIC ON THE EXISTING BRIDGE.
6. SHIFT TRAFFIC TO NEWLY CONSTRUCTED BRIDGE AND DEMOLISH EXISTING SR 826 WB TO I-95 SB BRIDGE.

PHASE III

1. WIDEN EXISTING SR-7 RAMP TO 2 LANES WHILE MAINTAINING TRAFFIC ON THE TEMPORARY PAVEMENT AND CONSTRUCT THE SINGLE RAMP FROM SR-7 TO US 441 NB.
2. SHIFT SR 826 EB (NEW FLYOVER) AND SR 7 NB TRAFFIC TO THE NEW TWO LANE RAMP CONNECTING TO I-95 NB.
3. SHIFT TRAFFIC LANES TO NEWLY CONSTRUCTED EASTBOUND BRIDGE (870041) AND CONSTRUCT WESTBOUND.
4. MILL AND RESURFACE MAINLINE AND RAMPS (SEE PLAN SHEETS AND TYPICAL SECTIONS FOR DETAILS).

LEGEND:
- PHASE I
- PHASE II
- PHASE III

SCALE 1:600

TIE TO SR 826/PALMETTO EXPRESSWAY PD&E STUDY
NW 17TH AVENUE
NW 15TH AVENUE
NW 165TH STREET
NW 167TH STREET
870250 WIDEN EXISTING BRIDGE
870601 WIDEN EXISTING BRIDGE
870159 BRIDGE REPLACEMENT
BRIDGE REPLACEMENT 870045
NW 7TH AVENUE
NW 7TH AVENUE EXTENSION
SFRC RAILROAD
EMERGENCY ENTRANCE
JACKSON NORTH MEDICAL CENTER
870042 REMOVE EXISTING BRIDGE
CONSTRUCT NEW BRIDGE
REPLACE BRIDGE 870041
I-95 EXPRESS
NW 165TH STREET
PROPOSED SR 826 EB TO I-95 NB FLYOVER BRIDGE
NW 2ND AVENUE
PARK AND RIDE EAST LOT
PARK AND RIDE WEST LOT
MATCH EXISTING ROADWAY
MAINTAIN EXISTING BRIDGE
MATCH LINE A-A
NW 163RD STREET
870347 MAINTAIN EXISTING BRIDGE
870348 WIDEN EXISTING BRIDGE
BISCAYNE CANAL
NW 151ST ST
MATCH LINE A-A

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

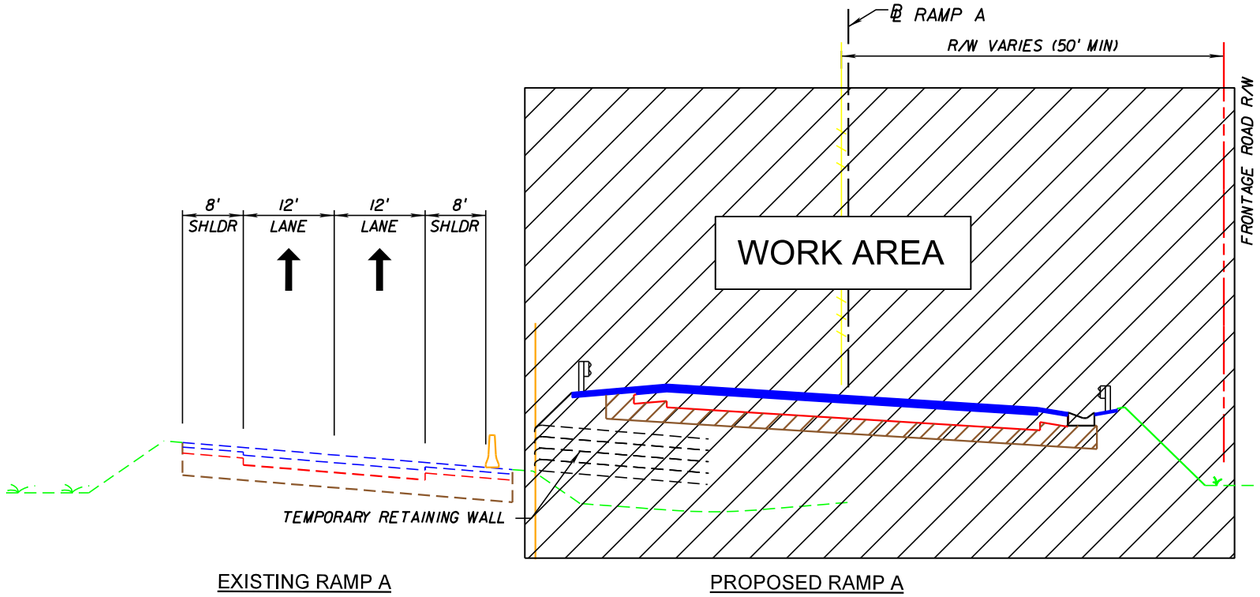
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

CONSTRUCTION SEQUENCE

SHEET NO.

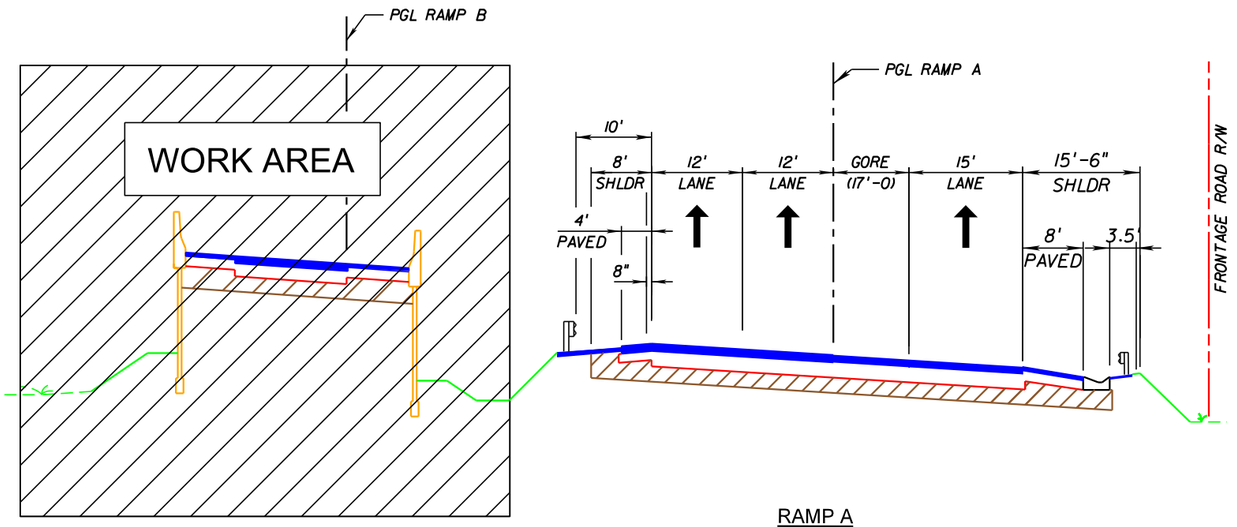
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EXISTING RAMP A

PROPOSED RAMP A

PHASE I



RAMP B
UNDER CONSTRUCTION

RAMP A

PHASE II

SECTION A-A

SR 826 EB TO I-95 SB (RAMP A)
SR 826 EB TO I-95 NB (RAMP B)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

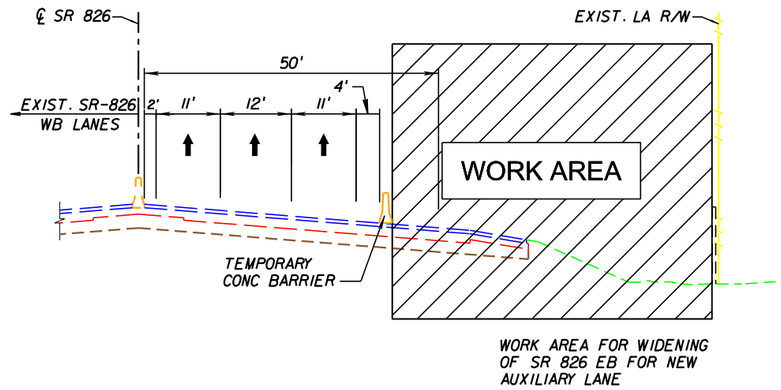
ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

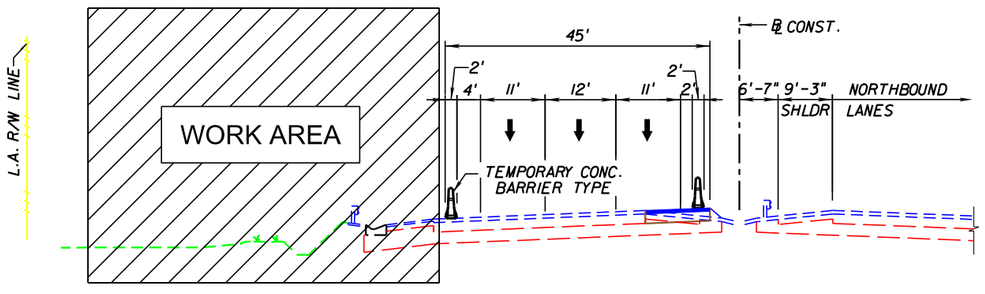
CONSTRUCTION SEQUENCE

SHEET NO.



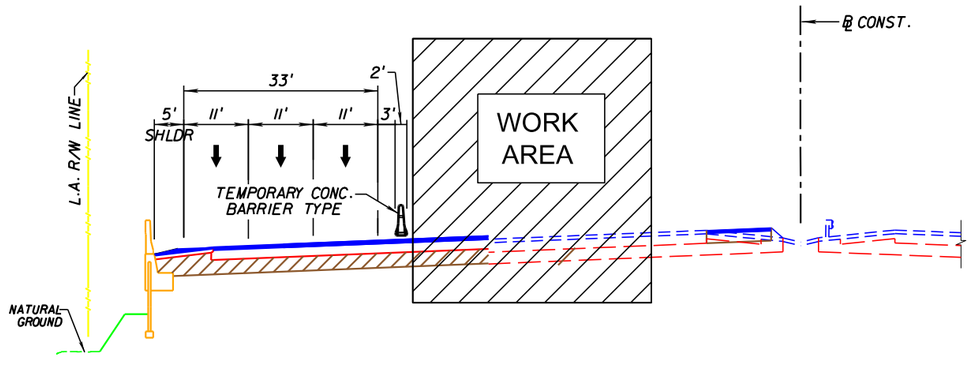
SR 826 EASTBOUND
CONSTRUCTION TYPICAL SECTION

SECTION B-B



WIDENING OF SOUTHBOUND
TURNPIKE CONNECTOR

SECTION C-C
PHASE I



WIDENING OF SOUTHBOUND
TURNPIKE CONNECTOR

SECTION C-C
PHASE II

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

CONSTRUCTION SEQUENCE

SHEET NO.

APPENDIX H

(Preliminary Project Cost Estimates)

GOLDEN GLADES INTERCHANGE PD&E STUDY
PRELIMINARY TURNPIKE IMPROVEMENTS COST ESTIMATES
INTERIM BUILD ALTERNATIVE 3A

Cost Components	Sequence 1: SR 826 to I-95 SB Ramp Reconstruction	Sequence 2: SR 826 to I-95 NB New Flyover Ramp	Sequence 3: NW 17th Avenue Reconstruction	Sequence 4: Turnpike Connector Reconstruction	Sequence 5: I-95 Southbound Widening	Total
Roadway	$5,184,726	$1,353,168	$1,683,659	$2,088,653	$1,533,563	$11,843,770
Structures	$2,154,038	$14,675,620	$2,280,000	$7,171,257	$858,423	$27,139,338
Lighting	$213,375	$102,375	$56,250	$135,000	$112,500	$619,500
Drainage	$1,119,665	$824,405	$701,713	$911,188	$1,639,355	$5,196,325
Signalization	$1,050,000	$0	$0	$0	$0	$1,050,000
Sign Structures	$400,000	$200,000	$107,236	$228,123	$600,000	$1,535,359
Signing and Pavement Marking	$52,309	$29,095	$42,182	$56,137	$50,850	$230,572
ITS facilities	$25,000	$25,000	$0	$2,005,000	$100,000	$2,155,000
Utlities	$1,190,000	$2,075,000	$25,000	$100,000	$250,000	$3,640,000
Noise Walls	$0	$0	$345,060	$0	$316,892	$661,952
Park and Ride Restoration	$0	$0	$0	$500,000	$0	$500,000
Environmental Mitigation	$110,081	$240,432	$64,631	$136,874	$31,126	$583,144
Landscaping	$110,081	$240,432	$64,631	$136,874	$31,126	$583,144
Subtotal	**$11,609,277**	**$19,765,526**	**$5,370,361**	**$13,469,106**	**$5,523,835**	**$55,738,104**
Mobilization & MOT	$2,321,855	$4,935,741	$1,074,072	$3,421,026	$1,222,513	$12,975,208
Project Unknowns & Contingency	$3,743,992	$6,416,463	$1,731,941	$4,447,334	$1,589,267	$17,928,997
Construction Cost Total	**$17,675,123**	**$31,117,730**	**$8,176,375**	**$21,337,466**	**$8,335,614**	**$86,642,309**
Right Of Way	$0	$0	$0	$0	$5,633,600	$5,633,600
Eng Design & CEI	$2,693,352	$4,738,311	$1,245,924	$3,284,185	$1,173,612	$13,135,385
Total	**$20,368,476**	**$35,856,042**	**$9,422,298**	**$24,621,652**	**$15,142,827**	**$105,411,294**
FDOT (Sequences 1, 2 & 3)						**$65,646,815**
Turnpike (Sequences 4 & 5)						**$39,764,478**

Notes

Mobilization = 10% of Construction Cost

Maintenance of Traffic (MOT) = 10% to 15% of Construction Cost

Project Unknowns = 25% of Construction Cost

Engineering Design = 8% of Project Costs

Construction Engineering Inspection (CEI) = 8% of Project Costs

Project Contingency = 10% of Project Costs

GOLDEN GLADES INTERCHANGE PD&E STUDY
PRELIMINARY TURNPIKE IMPROVEMENTS COST ESTIMATES
INTERIM BUILD ALTERNATIVE 3B

Cost Components	Sequence 1: SR 826 to I-95 SB Ramp Reconstruction	Sequence 2: SR 826 to I-95 NB New Flyover Ramp	Sequence 3: NW 17th Avenue Reconstruction	Sequence 4: Turnpike Connector Reconstruction	Sequence 5: I-95 Southbound Widening	Total
Roadway	$5,184,726.44	$1,353,167.97	$1,683,659.26	$3,391,352.94	$10,603,427.18	$22,216,334
Structures	$2,154,037.71	$14,675,619.74	$2,280,000.00	$6,993,626.16	$8,724,950.20	$34,828,234
Lighting	$213,375.00	$102,375.00	$56,250.00	$135,000.00	$450,000.00	$957,000
Drainage	$1,119,665.04	$824,405.04	$701,712.54	$911,187.54	$3,057,929.50	$6,614,900
Signalization	$1,050,000.00	$0	$0.00	$350,000.00	$0.00	$1,400,000
Sign Structures	$400,000.00	$200,000.00	$107,235.89	$200,000.00	$1,200,000.00	$2,107,236
Signing and Pavement Marking	$52,309.39	$29,094.54	$42,181.66	$56,137.38	$136,263.47	$315,986
ITS facilities	$25,000	$25,000	$0	$2,005,000	$3,500,000	$5,555,000
Utlities	$1,190,000	$2,075,000	$25,000	$100,000	$1,950,000	$5,340,000
Noise Walls	$0	$0	$345,060	$0	$1,288,248	$1,633,308
Park and Ride Restoration	$0	$0	$0	$500,000	$0	$500,000
Environmental Mitigation	$110,081	$240,432	$64,631	$259,624	$515,416	$1,190,184
Landscaping	$110,081	$240,432	$64,631	$207,700	$515,416	$1,138,259
Subtotal	**$11,609,277**	**$19,765,526**	**$5,370,361**	**$15,109,628**	**$31,941,650**	**$83,796,441**
Mobilization & MOT	$2,321,855	$4,935,741	$1,074,072	$3,777,407	$7,985,412	$20,094,488
Project Unknowns & Contingency	$3,743,992	$6,416,463	$1,731,941	$4,910,629	$10,381,036	$27,184,062
Construction Cost Total	**$17,675,123**	**$31,117,730**	**$8,176,375**	**$23,797,664**	**$50,308,098**	**$131,074,991**
Right Of Way	$0	$0	$0	$0	$32,545,500	$32,545,500
Eng Design & CEI	$2,693,352	$4,738,311	$1,245,924	$3,626,311	$7,665,996	$19,969,894
Total	**$20,368,475.62**	**$35,856,041.53**	**$9,422,298.25**	**$27,423,974.96**	**$90,519,594.05**	**$183,590,384**
FDOT (Sequences 1, 2 & 3)						**$65,646,815.40**
Turnpike (Sequences 4 & 5)						**$117,943,569.01**

Notes

Mobilization = 10% of Construction Cost

Maintenance of Traffic (MOT) = 10% to 15% of Construction Cost

Project Unknowns = 25% of Construction Cost

Engineering Design = 8% of Project Costs

Construction Engineering Inspection (CEI) = 8% of Project Costs

Project Contingency = 10% of Project Costs

GOLDEN GLADES INTERCHANGE PD&E STUDY
PRELIMINARY TURNPIKE IMPROVEMENTS COST ESTIMATES
INTERIM BUILD ALTERNATIVE 3C

Cost Components	Sequence 1: SR 826 to I-95 SB Ramp Reconstruction	Sequence 2: SR 826 to I-95 NB New Flyover Ramp	Sequence 3: NW 17th Avenue Reconstruction	Sequence 4: Turnpike Connector Reconstruction	Sequence 5: I-95 Southbound Widening	Total
Roadway	$5,184,726	$1,353,168	$1,683,659	$3,391,353	$10,603,427	$22,216,334
Structures	$2,154,038	$14,675,620	$2,280,000	$23,092,826	$8,724,950	$50,927,434
Lighting	$213,375	$102,375	$56,250	$135,000	$450,000	$957,000
Drainage	$1,119,665	$824,405	$701,713	$911,188	$3,057,930	$6,614,900
Signalization	$1,050,000	$0	$0	$350,000	$0	$1,400,000
Sign Structures	$400,000	$200,000	$107,236	$200,000	$1,200,000	$2,107,236
Signing and Pavement Marking	$52,309	$29,095	$42,182	$56,137	$136,263	$315,986
ITS facilities	$25,000	$25,000	$0	$2,005,000	$3,500,000	$5,555,000
Utlities	$1,190,000	$2,075,000	$25,000	$100,000	$1,950,000	$5,340,000
Noise Walls	$0	$0	$345,060	$0	$1,288,248	$1,633,308
Park and Ride Restoration	$0	$0	$0	$500,000	$0	$500,000
Environmental Mitigation	$110,081	$240,432	$64,631	$662,104	$515,416	$1,592,664
Landscaping	$110,081	$240,432	$64,631	$529,684	$515,416	$1,460,243
Subtotal	**$11,609,277**	**$19,765,526**	**$5,370,361**	**$31,933,292**	**$31,941,650**	**$100,620,105**
Mobilization & MOT	$2,321,855	$4,935,741	$1,074,072	$7,983,323	$7,985,412	$24,300,404
Project Unknowns & Contingency	$3,743,992	$6,416,463	$1,731,941	$10,378,320	$10,381,036	$32,651,752
Construction Cost Total	**$17,675,123**	**$31,117,730**	**$8,176,375**	**$50,294,935**	**$50,308,098**	**$157,572,261**
Right Of Way	$0	$0	$0	$0	$32,545,500	$32,545,500
Eng Design & CEI	$2,693,352	$4,738,311	$1,245,924	$7,663,990	$7,665,996	$24,007,573
Total	**$20,368,476**	**$35,856,042**	**$9,422,298**	**$57,958,925**	**$90,519,594**	**$214,125,335**
FDOT (Sequences 1, 2 & 3)						**$65,646,815.40**
Turnpike (Sequences 4 & 5)						**$148,478,519.17**

Notes

Mobilization = 10% of Construction Cost

Maintenance of Traffic (MOT) = 10% to 15% of Construction Cost

Project Unknowns = 25% of Construction Cost

Engineering Design = 8% of Project Costs

Construction Engineering Inspection (CEI) = 8% of Project Costs

GOLDEN GLADES INTERCHANGE PD&E STUDY
PRELIMINARY TURNPIKE IMPROVEMENTS COST ESTIMATES
CONCEPTUAL ALTERNATIVE 4

Cost Components	Sequence 1: SR 826 to I-95 SB Ramp Reconstruction	Sequence 2: SR 826 to I-95 NB New Flyover Ramp	Sequence 3: NW 12th Avenue On-Ramp	Sequence 4: Turnpike Connector Reconstruction	Sequence 5: I-95 Southbound Widening	Total
Roadway	$5,184,726	$2,429,259	$1,022,346	$3,260,816	$1,533,563	$13,430,711
Structures	$6,854,038	$16,984,863	$766,307	$6,993,626	$541,532	$32,140,365
Lighting	$213,375	$102,375	$37,500	$135,000	$112,500	$600,750
Drainage	$1,119,665	$824,405	$279,000	$821,413	$1,639,355	$4,683,837
Signalization	$1,050,000	$0	$0	$350,000	$0	$1,400,000
Sign Structures	$400,000	$200,000	$43,971	$400,000	$600,000	$1,643,971
Signing and Pavement Marking	$52,309	$29,095	$44,684	$54,427	$50,850	$231,364
ITS facilities	$100,000	$25,000	$0	$2,005,000	$100,000	$2,230,000
Utilities	$250,000	$2,075,000	$25,000	$100,000	$250,000	$2,700,000
Noise Walls	$0	$0	$0	$0	$316,892	$316,892
Park and Ride Restoration	$0	$0	$0	$800,000	$0	$800,000
Environmental Mitigation	$180,581	$291,212	$26,830	$153,817	$31,126	$683,566
Landscaping	$180,581	$291,212	$26,830	$153,817	$31,126	$683,566
Subtotal	**$15,224,114**	**$22,669,997**	**$2,272,467**	**$15,227,915**	**$5,206,943**	**$60,601,436**
Mobilization & MOT	$3,117,055	$5,813,105	$454,493	$3,731,979	$1,222,513	$14,339,145
Project Unknowns & Contingency	$5,026,252	$7,557,037	$732,871	$4,851,572	$1,870,947	$20,038,678
Construction Cost Total	**$23,367,421**	**$36,040,138**	**$3,459,832**	**$23,811,466**	**$8,300,403**	**$94,979,259**
Right Of Way	$0	$0	$18,038,600	$7,078,100	$20,635,900	$45,752,600
Eng Design & CEI	$3,615,784	$5,580,581	$428,360	$3,582,700	$2,074,988	$15,282,413
Total	**$26,983,205**	**$41,620,719**	**$21,926,792**	**$34,472,265**	**$31,011,291**	**$156,014,272**

Notes
Mobilization = 10% of Construction Cost
Maintenance of Traffic (MOT) = 10% to 15% of Construction Cost
Project Unknowns = 25% of Construction Cost
Engineering Design = 8% of Project Costs
Construction Engineering Inspection (CEI) = 8% of Project Costs
Project Contingency = 10% of Project Costs

$74,940,581

APPENDIX I

(Excerpts from NCHRP Report 08-36, Task 103)

NCHRP 08-36, Task 103
Mining Recovery Act Data for Opportunities to Improve the State of Practice for Overall Economic Impact Analysis of Transportation Investments

Requested by:

American Association of State Highway and Transportation Officials (AASHTO)
Standing Committee on Planning

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The information contained in this report was prepared as part of NCHRP Project 08-36, Task 103, National Cooperative Highway Research Program (NCHRP). **Special Note:** This report **IS NOT** an official publication of the NCHRP, the Transportation Research Board, or the National Academies.

5.0 Analysis of Individual State-Level Data

5.1 Overview of State Collected Data

The public record includes, for each ARRA project, quarterly employment, and spending data. Employment is understood to represent current FTE, and spending is cumulative. In addition, four state databases were acquired from Florida, Kansas, Washington, and Wisconsin which include reported quarterly hours worked and payroll expenditure. Both of these are incremental, or in-period measures. By merging each of these databases with the public record, hours and payroll for each project could be appended to the existing public record of FTE and expenditure.

All projects are matched between databases based on their unique Federal project ID number. The major concern is consistency between databases. First, expenditures in the public dataset are differenced to produce incremental spending. In addition, there are some small chronographic differences between datasets, such as projects beginning or ending at different times. To ensure data consistency, each metric of interest was summed over quarters for which data was reported in both the public and state records. In a limited number of cases, a project is missing from one of the databases, and hence it is not included. Once the data are matched, four statistics are presented for each project: Hours, Payroll, FTE Jobs, and Expenditures. From these, four ratios are then calculated: Payroll/ Expenditures (representing labor‟s share of the project), Payroll/Hour (average hourly wage), Hours/FTE Job, and FTE Jobs/$1 Million Expenditure. For each state, these ratios are calculated both in the aggregate and by project type, as it was believed that the project category would be a significant determinant of labor input.

All four states exhibit a potential definitional issue, which concerns the Hours/Job metric. An annual FTE job should equal approximately 2,080 hours, given 40 hours per week and 52 weeks in the year. In this case, three of the states‟ provided quarterly reports that appeared to show Hours/Job averaging in the 628 to 701 range, which is somewhat higher than the 510 hours/quarter that would normally be expected. The fourth state provided monthly reports for Hours/Job averaging in the 225 range, which is slightly above the 173 hours/month that would normally be expected. The reason may be due to differences in accounting of part-time workers. Another issue is that all of the states appeared to report a number of jobs that differed from the U.S. DOT public dataset. The reason may be that contractors are actually reporting hours to the states, which then gets reported in the RADS system. U.S. DOT then converts the hours to FTE on a per quarter basis and it is this FTE number that is available in the public dataset, not the number of hours as originally reported.

The major findings from this exercise provide insight into labor‟s share of ARRA expenditure, average wages, and direct job creation associated with stimulus spending. The fact that these findings are relatively consistent across states provides an additional level of confidence in the results. Additionally, there are evident trends with project types across states. Below is a summary of the results from these four cases:

- The number of projects in each state varies widely, ranging from 150 to just over 1,000;
- The mix of projects varies slightly between states, but Pavement Improvement held by far the greatest share in each state, ranging from 32 percent to 55 percent of total project share;
- In three of the four states, payroll is 20.9 percent to 25.3 percent of total expenditure; in the fourth, this ratio is 6.7 percent;
- Average hourly wages for ARRA jobs ranges between $21 and $40, with three of the states being in the $21 to $28 range; and
- Jobs per one million of expenditure ranges from 9.0 to 16.8; this figure varied widely by project type; Transportation Enhancements and New Construction produces by far the most jobs, with figures consistently close to 20 and in one case above 32.

5.2 Florida Data

Table 5.1 presents the results for data provided by the State of Florida. The data reveal a Payroll/Expenditure ratio of 0.22, and average wage of $20.95, Hours/Job of 628, and 16.8 jobs per one million dollars. These results largely mirror those for the Pavement Improvement category, which makes up the largest share across project types. It should be noted that 38 percent of the Florida projects which were matched between the two databases did not have a designated project type.

Table 5.1 Florida ARRA Data – Based on Quarterly Reports

	Count	Share	Hours	Payroll	FTE	Expenditures	Payroll/ Expenditure	Payroll/Hour	Hours/Job	Jobs/$1MM Exp
Bridge Improvement	19	2%	291,118	5,277,650	504.9	12,222,207	0.4318	18.13	576.56	41.31
Bridge Replacement	6	1%	24,369	509,945	40.1	2,553,922	0.1997	20.93	607.56	15.71
New Bridge Construction	2	0%	191,012	6,416,264	364.1	38,233,844	0.1678	33.59	524.64	9.52
Other	4	0%	1,088,927	26,250,353	1017.5	100,419,458	0.2614	24.11	1,070.22	10.13
Pavement Improvement	352	32%	2,095,506	40,431,329	3372.9	178,762,166	0.2262	19.29	621.27	18.87
Pavement Widening	29	3%	2,672,467	56,464,906	4733.5	293,084,628	0.1927	21.13	564.59	16.15
Safety/Traffic Management	103	9%	278,729	5,488,896	461.7	21,219,094	0.2587	19.69	603.70	21.76
Transportation Enhancements	160	15%	543,107	9,667,598	943.4	34,519,433	0.2801	17.80	575.67	27.33
(Unknown)	422	38%								
All	**1,097**		**7,185,234**	**150,506,942**	**11438.2**	**681,014,751**	**0.2210**	**20.95**	**628.18**	**16.80**

APPENDIX J

(NW 12th Avenue On-Ramp Improvement Alternatives)

Date: January 28, 2013

To: Mr. Dat Huynh, P.E., FDOT Project Manager

From: Mr. Godfrey Lamptey, P.E., PTOE, C3TS Deputy Project Manager

Reference: **NW 12th Avenue On-Ramp Improvement Alternatives**
Golden Glades Interchange PD&E Study from SR 826/Palmetto Expressway) Eastbound to SR 9A / I-95 Northbound
Miami-Dade County, Florida
FPID No.: 428358-1-22-01
ETDM No.: 11300

Attachments: Attachment A – Summary of Crash Occurrence
Attachment B – Preliminary Traffic Operations Results
Attachment C – Preliminary Layout for Conceptual Alternative 4

CC: Project File

EXECUTIVE SUMMARY

Introduction

The Golden Glades Interchange (GGI) PD&E Study is currently evaluating alternatives to improve mobility and safety within the interchange. The primary purpose of the study is to provide a system-to-system connection for the SR 826/Palmetto Expressway eastbound to I-95 northbound movement and to improve the Turnpike southbound to I-95 southbound connection in order to address traffic safety and operations, improve access, address local and regional travel demands and enhance multimodal use for both transit and freight.

The GGI connects major freeways and arterials including I-95, SR 826/Palmetto Expressway, Turnpike, SR 9, SR 7/US 441 and NW 167th Street and carries over 400,000 vehicles per day. the existing roadway capacity within the interchange study area is deficient at several locations within the interchange area. The SR 826/Palmetto Expressway between NW 17th Avenue and the GGI is one of most critical roadway segments currently experiencing heavy congestion during the peak hours with insufficient capacity.

This segment of SR 826/Palmetto Expressway consist of eight (8) general use lanes with four (4) lanes in each direction. The segment also includes a full interchange at NW 17th Avenue and a partial interchange at NW 12th Avenue to and from the east. A total of 135 crashes occurred along the eastbound direction for the half mile freeway segment between NW 12th Avenue and the GGI during the five year analysis period from 2006 to 2010, including 3 fatal crashes (See **Attachment A**). The high crash frequency and severity may be attributed to the high speed and congested conditions as well as merging and weaving maneuvers between the NW 12th Avenue on-ramp and the SR 826 off-ramp to I-95 northbound and southbound.

Figure 1 illustrates the project study area including the SR 826/Palmetto Expressway segment which is the subject area under evaluation for this memorandum.

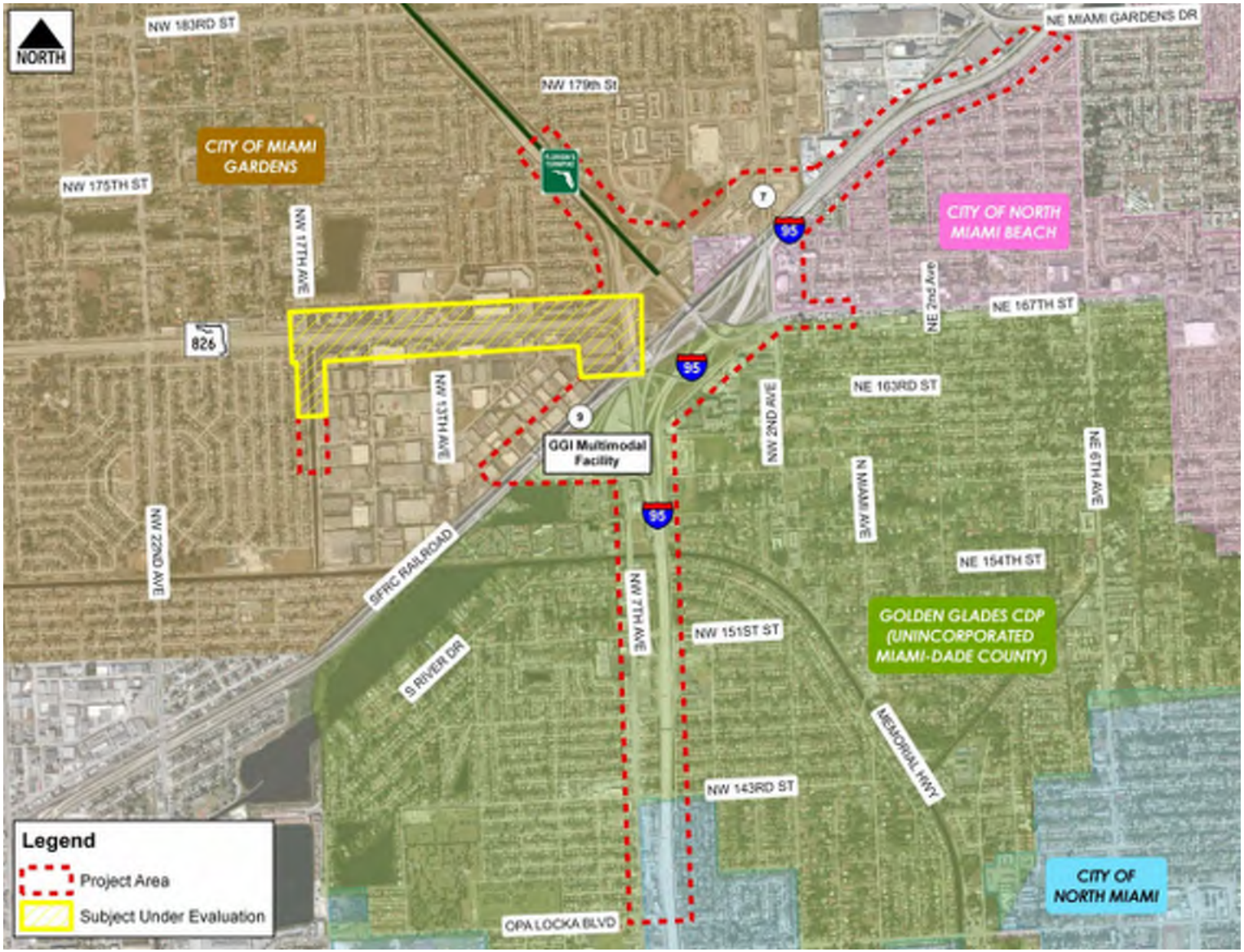


Figure 1: Project Study Area and Subject Area Under Evaluation

Four preliminary interim build alternatives and one ultimate build alternative were evaluated during the initial phase of the PD&E study based on the concept developed for this interchange under the initial planning phase of this project. These preliminary interim alternatives provided a two-lane off-ramp from SR 826 eastbound to I-95 northbound and southbound and maintained the NW 12th Avenue on-ramp; however, the ultimate build alternative eliminated the NW 12th Avenue on-ramp and provided a Texas U-Turn at NW 17th Avenue interchange due to the right of way constraints.

Based on the traffic forecast analysis perform for this study, the initial interim and ultimate build alternatives were refined into three interim and two ultimate build alternatives. The refined alternatives provided a three-lane off-ramp from SR 826 eastbound to I-95 northbound and southbound in order to accommodate the projected traffic volume in 2030 (mid-design year) as well as 2040 (design year). Consequently, the NW 12th Avenue on-ramp was now eliminated as part of the refined interim build alternatives due to the right of way constraints as well as the adverse operational and safety impacts.

As part of the of the public involvement process, several meetings and discussions were held with the residents and businesses who may be potentially impacted by the closure of the NW 12th Avenue on-ramp. Both the business owners and residents recommended the study team to evaluate additional alternatives to maintain the on-ramp since its closure could inconvenience their operations and travel patterns. As such, four additional improvement alternatives to maintain the NW 12th Avenue on-ramp and the SR 826/Palmetto Expressway three-lane off-ramp as well as the PD&E refined alternative were evaluated to accommodate the 2030 mid-design and 2040 design year traffic demand, improve the safety conditions as well as providing adequate access and mobility for the businesses within the Sunshine Industrial Park as well as for local area residents.

Summary of Analysis

In developing the additional conceptual alternatives to maintain the NW 12th Avenue on-ramp, several key issues were considered including:

- Traffic operation and safety
- Geometric compliance with design standards
- Right of way acquisition
- Potential Impacts to Sunshine Industrial Park
- Potential Impacts to the existing and planned configuration of the Golden Glades Park and Ride East Lot Facility
- Construction cost

Table 1 below provides a comparison of the traffic operational impacts, safety impacts, construction impacts and right of way impacts among the alternatives evaluated.

Table 1: Comparison of Alternatives		
Impact Category	**Alternatives Considered**	**Summary of Impacts / Improvements**
Safety Impacts	PD&E Refined Alt.	• Improved mobility potentially reduces the high rear-end and sideswipe crash frequency within this segment resulting in Improved overall safety compared to existing conditions. • Removal of the NW 12th Avenue on-ramp will eliminate weaving maneuvers between low-speed traffic from the frontage road on-ramp and the high speed traffic exiting from SR 826 eastbound to I-95 NB and SB. This potentially could reduce the frequent angle crashes as well as the resulting fatalities from this crash type.
	Conceptual Alt. 1	• Potential safety concerns due to friction from NW 12th Avenue on-ramp tapered entry design – driver expectancy may be an issue. • Overlapping gores between the NW 12th Avenue on-ramp and the off-ramp for the proposed new flyover to I-95 NB discourages weaving maneuvers to potentially reduce the frequent angle crashes as well as the resulting fatalities from this crash type • NW 12th Avenue on-ramp merge occurs just before a superelevated curve resulting in a potential safety concern.
	Conceptual Alt. 2	• Eliminates weaving maneuvers by barrier separating NW 12th Avenue On-ramp from three-lane off-ramp from SR 826 eastbound to I-95 NB and SB to potentially reduce the frequent angle crashes as well as the resulting fatalities from this crash type. • Merge maneuvers from NW 12th Avenue on-ramp increases congestion for SR 826 EB to I-95 SB movement which may potentially increase rear end crashes. • Improved weaving maneuvers along Turnpike connector due to realignment and reconstruction of I-95 SB lanes, and longer distance between ramp terminals.
	Conceptual Alt. 3	• Congested conditions due to merge lane from NW 12 Avenue on-ramp will potentially increase the occurrence of rear-end crashes. • Eliminates weaving maneuvers by barrier separating NW 12th Avenue On-ramp from three-lane off-ramp from SR 826 eastbound to I-95 NB and SB to potentially reduce the frequent angle crashes as well as the resulting fatalities from this crash type.
	Conceptual Alt. 4	• Additional auxiliary lane along Turnpike Connector SB and relocation of SR 7/US 441 off-ramp reduces congestion and improves safety for mid-year (2030) improvements. • Eliminates weaving maneuvers by barrier separating NW 12th Avenue On-ramp from three-lane off-ramp from SR 826 eastbound to I-95 NB and SB to potentially reduce the frequent angle crashes as well as the resulting fatalities from this crash type. • Potential for increased weaving maneuvers along Turnpike connector SB due to additional lanes.

Table 1: Comparison of Alternatives		
Impact Category	**Alternatives Considered**	**Summary of Impacts / Improvements**
Traffic Operational Impacts	PD&E Refined Alt.	• Improved mobility and reduced congestion due to removal of NW 12th Avenue on-ramp • No traffic back-up along SR 826 eastbound mainline and Turnpike Southbound in both the mid-year (2030) and ultimate (2040). • Closure of the NW 12th Avenue on-ramp adds approximately 3 minutes to the travel time from NW 12th Avenue to SR 826 eastbound • Provision of the Texas U-Turn at the NW 17th Avenue interchange as part of the interim build improvements as well as ultimate will also improve the operations of the intersection
	Conceptual Alt. 1	• Reduced mobility with significant congestion along SR 826 EB and off-ramp to I-95 NB and SB resulting from the NW 12th Avenue on-ramp tapered merge. • Significant traffic back-up onto the SR 826 mainline eastbound lanes due to inadequate capacity with approximately 1,900 vehicles backed up behind node. (See **Attachment B**) • No traffic back-up along Turnpike connector southbound lanes due to congested conditions along SR 826 EB which meters traffic flow from SR 826
	Conceptual Alt. 2	• Some congestion along SR 826 EB and off-ramp to I-95 NB and SB due to NW 12th Avenue on-ramp merge with Turnpike Connector SB lanes. • Significant traffic back-up onto the SR 826 mainline eastbound lanes due to inadequate capacity with approximately 2,300 vehicles backed up behind node. (See **Attachment B**) • No traffic back-up along Turnpike connector southbound lanes due to metered traffic flow from SR 826. • Improved overall traffic operations within the interchange compared to Conceptual Alternative 1 due to realignment of Turnpike Connector SB lanes and reconstruction of I-95 SB lanes
	Conceptual Alt. 3	• Reduced mobility with significant congestion along SR 826 EB and off-ramp to I-95 NB and SB resulting from the NW 12th Avenue on-ramp merge with Turnpike Connector SB lanes. • Significant traffic back-up onto the SR 826 mainline eastbound lanes due to inadequate capacity with approximately 4,200 vehicles backed up behind node. (See **Attachment B**) • Significant traffic back-up along Turnpike connector southbound lanes with approximately 1,050 vehicles backed up behind node
	Conceptual Alt. 4	• Improved mobility and reduced congestion due to additional auxiliary lane along Turnpike Connector SB lanes for NW 12th Avenue on-ramp • No traffic back-up along SR 826 eastbound mainline. • Some traffic back-up along Turnpike connector southbound lanes with approximately 350 vehicles backed up behind node. (See **Attachment B**) • Improved overall traffic operations within the interchange similar to PD&E Refined Alternative due to realignment of Turnpike Connector SB lanes and relocation of SR 7 exit ramp terminal.

Table 1: Comparison of Alternatives		
Impact Category	**Alternatives Considered**	**Summary of Impacts / Improvements**
Construction Impacts	PD&E Refined Alt.	• Additional access from NW 165th Street onto NW 17th Avenue will impact adjacent canal • Lowest construction cost
	Conceptual Alt. 1	• No impacts to NW 17th Avenue Canal • No additional impacts to Turnpike Connector bridges • Lower construction cost compared to Conceptual Alternative 2
	Conceptual Alt. 2	• Requires additional widening of two bridges along Turnpike Connector SB lanes • Requires significant reconstruction along I-95 SB lanes • Additional impacts to Park & Ride East Lot • Highest construction cost
	Conceptual Alt. 3	• No reconstruction required along I-95 SB lanes • Requires relocation of SR 7/US 441 exit ramp terminal and additional widening of two bridges along Turnpike Connector (Part of Ultimate) • Additional impact to Park & Ride East Lot similar to Conceptual Alternative 2 • Lower construction cost compared to Conceptual Alternative 2
	Conceptual Alt. 4	• No reconstruction required along I-95 SB lanes beyond interim impr. • Requires additional auxiliary lane and additional widening of two bridges along Turnpike Connector SB lanes. • Requires relocation of SR 7/US 441 exit ramp terminal (Ultimate Imp) • Highest impact to Park & Ride East Lot • Lower construction cost compared to Conceptual Alternative 2 but higher than Conceptual Alternative 3
Right of Way Impacts	PD&E Refined Alt.	• No additional right of way impact to Sunshine Industrial Park and Park and Ride facility
	Conceptual Alt. 1	• Additional right of way required within Sunshine Industrial park to relocate NW 12th Avenue on-ramp
	Conceptual Alt. 2	• Additional right of way required within Sunshine Industrial park • Additional right of way required along Park and Ride facility • Significant right of way impact and along I-95 SB lanes between NW 143rd Street and GGI Park and Ride (Part of Ultimate Improvements)
	Conceptual Alt. 3	• Additional right of way required within Sunshine Industrial park and Park and Ride facility similar to Conceptual Alternative 2 • Additional right of way impact and along I-95 SB lanes between Biscayne Canal and GGI Park and Ride
	Conceptual Alt. 4	• Additional right of way required within Sunshine Industrial park similar to Conceptual Alternative 2 • Additional right of way required along Park and Ride facility greater than Conceptual Alternative 3 • Additional right of way impact and along I-95 SB lanes between Biscayne Canal and GGI Park and Ride

Alternatives Evaluation Matrix

Alternative	Safety Impacts	Access Impacts	Traffic Operations	Travel Time		Community Impacts			Tax Revenue	R/W Impact	Project Cost	Total	Ranking
				Local Businesses & Residents	Regional	Industrial Park	Bunche Park	Scott Lakes					
No-Build	1	5	1	3	1	3	3	3	3	3	5	31	4
PD&E Refined Alternative	5	3	5	2	5	2	1	2	3	3	4	35	2
Conceptual Alternative 1	2	4	3	3	2	4	4	4	1	1	2	30	5
Conceptual Alternative 2	3	4	4	4	3	4	4	4	1	1	1	33	3
Conceptual Alternative 3	2	4	2	4	2	4	4	4	1	1	2	30	5
Conceptual Alternative 4	4	4	4	4	4	4	4	4	1	1	2	36	1

Legend:

1. Substantial negative effect or worst alternative
2. Generally negative effect or inferior alternative
3. Generally no effect or moderate alternative
4. Substantial positive effect or best alternative
5. Generally positive effect or good alternative

Preliminary Cost Estimates

The preliminary cost estimates for the alternatives under evaluation are provided below:

1. PD&E Refined Alternative $105.6 Million
2. Conceptual Alternative 1 $107.6 Million
3. Conceptual Alternative 2 $193.2 Million
4. Conceptual Alternative 3 $155.6 Million
5. Conceptual Alternative 4 $155.8 Million

Recommendations

Based on the preliminary evaluation, Conceptual Alternative 4 provides comparable traffic operations and safety improvements to the PD&E Refined Alternative for both the interim (2030) and ultimate (2040) design years. In addition, it maintains NW 12th Avenue on-ramp which provides direct access from the Sunshine Industrial Park to I-95 southbound and northbound with connectivity to the turnpike through SR 7 connectors.

Conceptual Alternative 4 also eliminates the need to provide an alternative access from the Industrial Park via NW 17th Avenue and therefore reduces the potential noise impacts to Bunche Park Residents adjacent to NW 17th Avenue. This access was being provided as a mitigation measure for the removal of the NW 12th Avenue On-ramp with the Refined PD&E Alternative.

Implementing Conceptual Alternative 4 however has some drawbacks. First, it requires that some of the proposed improvements as part of the ultimate golden glades interchange plan will need to be advanced. This includes the acquisition of additional right-of-way north of the Biscayne Canal to allow for the relocation of the SR 7 off-ramp with the interim project in 2018 rather than at a later date. This concept also requires the acquisition of additional right-of-way within the Sunshine Industrial Park to accommodate the relocation of the NW 12th Avenue Ramp. This will result in a loss of tax revenue for the City of Miami Gardens. Additionally, more area is required from the Golden Glades Park and Ride East Lot Facility to accommodate improvements along the Turnpike Southbound connector. This will have some impact to the current operations of the facility and provide less room for the future Truck Parking Service Facility that the Department is evaluating. All of this will require advancing additional funding for the interim improvements; but many of the items being constructed will have long-term utilization as part of the ultimate plan for the interchange.

Based upon this preliminary evaluation Conceptual Alternative 4 could be considered comparable to the Refined PD&E Alternative with the added value that it addresses desired access features for the Sunshine Industrial Park and area residences and many of the additional improvements and funding related issues provide long-term benefit as part of the ultimate plan of the interchange. Refer to Attachment C for conceptual layout.

ATTACHMENT A

(Summary of Crash Occurrence)

CRASH STATISTICS

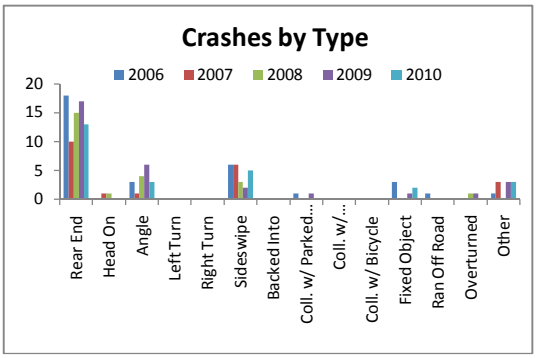
SR 826 b/w MP 23.470 and MP 23.981 (EB/NB)		Number of Crashes Year					5 Year Total Crashes	Mean Crashes Per Year	%
		2006	2007	2008	2009	2010			
CRASH TYPE	Rear End	18	10	15	17	13	73	14.60	54.1%
	Head On	0	1	1	0	0	2	0.40	1.5%
	Angle	3	1	4	6	3	17	3.40	12.6%
	Sideswipe	6	6	3	2	5	22	4.40	16.3%
	Coll. w/ Parked Car	1	0	0	1	0	2	0.40	1.5%
	Fixed Object	3	0	0	1	2	6	1.20	4.4%
	Ran Off Road	1	0	0	0	0	1	0.20	0.7%
	Overturned	0	0	1	1	0	2	0.40	1.5%
	Other	1	3	0	3	3	10	2.00	7.4%
	Total Crashes	**33**	**21**	**24**	**31**	**26**	**135**	**27.00**	**100.0%**
SEVERITY	PDO Crashes	12	9	11	17	11	60	12.00	44.4%
	Fatal Crashes	2	0	0	1	0	3	0.60	2.2%
	Injury Crashes	19	12	13	13	15	72	14.40	53.3%
LIGHTING CONDITIONS	Daylight	23	14	12	20	19	88	17.60	65.2%
	Dusk	0	1	1	0	0	2	0.40	1.5%
	Dawn	0	0	0	0	0	0	0.00	0.0%
	Dark	10	6	11	11	7	45	9.00	33.3%
	Unknown	0	0	0	0	0	0	0.00	0.0%
SURFACE CONDITIONS	Dry	29	21	20	24	19	113	22.60	83.7%
	Wet	4	0	4	7	7	22	4.40	16.3%
	Others	0	0	0	0	0	0	0.00	0.0%
MONTH OF YEAR	January	2	1	3	3	1	10	2.00	7.4%
	February	3	0	2	3	2	10	2.00	7.4%
	March	2	1	2	3	2	10	2.00	7.4%
	April	0	4	0	1	1	6	1.20	4.4%
	May	4	0	2	2	3	11	2.20	8.1%
	June	3	0	1	1	3	8	1.60	5.9%
	July	1	4	3	4	2	14	2.80	10.4%
	August	5	2	1	2	0	10	2.00	7.4%
	September	4	3	2	1	0	10	2.00	7.4%
	October	2	2	1	1	4	10	2.00	7.4%
	November	3	1	5	5	4	18	3.60	13.3%
	December	4	3	2	5	4	18	3.60	13.3%
DAY OF WEEK	Sunday	0	1	3	4	0	8	1.60	5.9%
	Monday	3	4	1	4	4	16	3.20	11.9%
	Tuesday	1	3	5	2	2	13	2.60	9.6%
	Wednesday	6	1	1	6	5	19	3.80	14.1%
	Thursday	11	5	6	10	5	37	7.40	27.4%
	Friday	8	4	5	3	7	27	5.40	20.0%
	Saturday	4	3	3	2	3	15	3.00	11.1%
HOUR OF DAY	00:00-06:00	1	1	2	3	1	8	1.60	5.9%
	06:00-09:00	10	5	5	2	3	25	5.00	18.5%
	09:00-11:00	1	0	1	5	3	10	2.00	7.4%
	11:00-13:00	2	2	1	2	1	8	1.60	5.9%
	13:00-15:00	2	3	2	5	3	15	3.00	11.1%
	15:00-18:00	8	2	5	6	7	28	5.60	20.7%
	18:00-24:00	9	8	8	8	8	41	8.20	30.4%

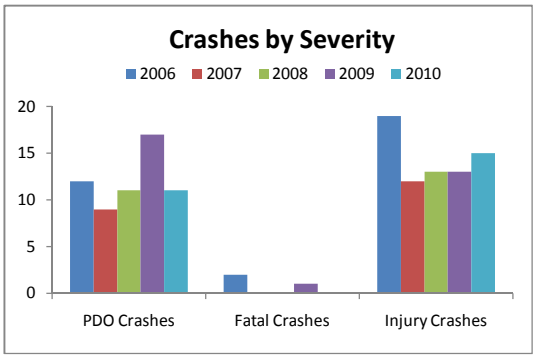
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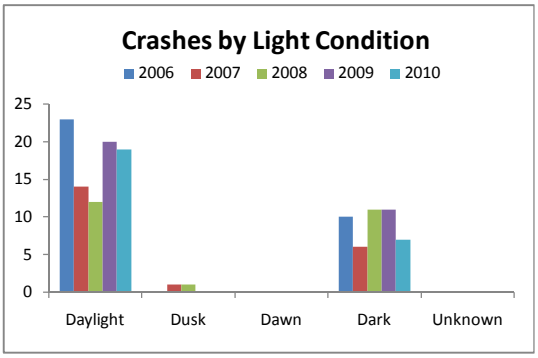
1) Collision with Bicycle Crashes include Collision with Bicycle/Collision with Bicycle in Bike Lane (Codes 11 and 12).
2) Fixed Object Crashes include collisions with sign/sign post, utility/light pole, guardrail, fence, concrete barrier wall, bridge, pier, abutment, rail, tree, shrubbery, construction barricade/sign, traffic gate, crash attenuators, other fixed objects (incl. above road).
3) Ran-off-Road Crashes include Ran in Ditch/Culvert and Ran off road into water (Codes 29 and 30).
4) Other crashes include crashes not categorized as the crash types shown in the table.
5) Dark Crashes include both scenarios - with and without street lighting.

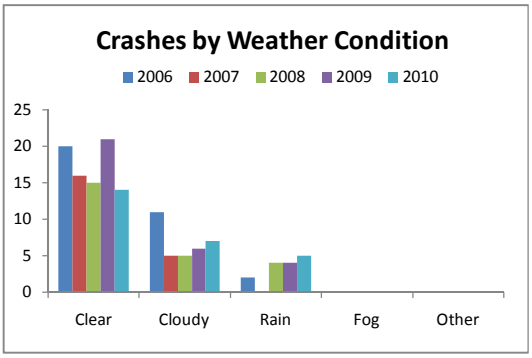
CRASH HISTOGRAMS

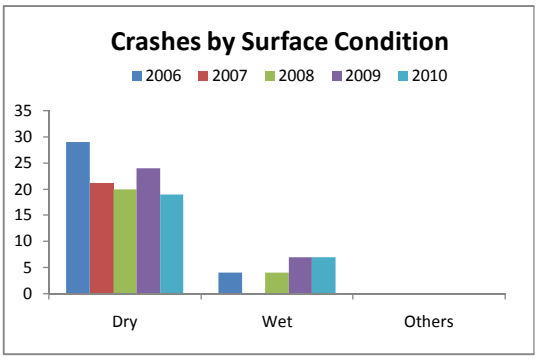
SR 826 b/w MP 23.470 and MP 23.981 (EB/NB)

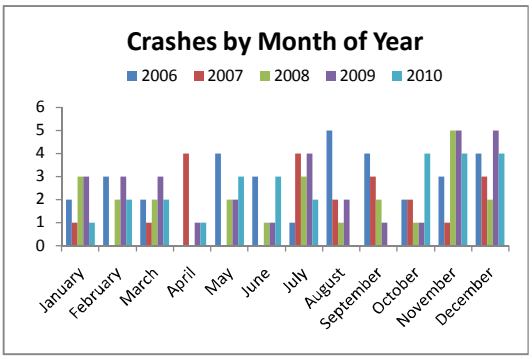


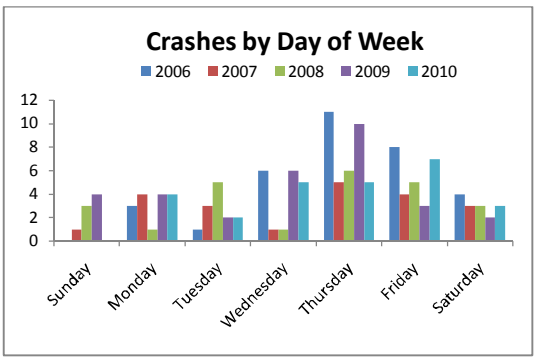


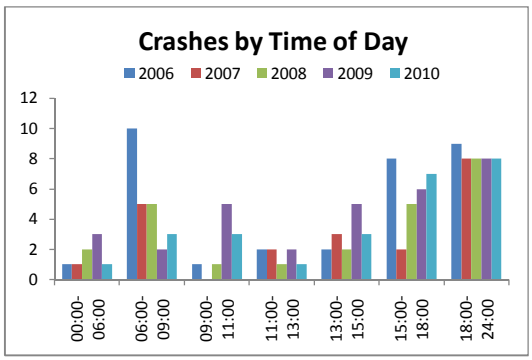












ATTACHMENT B

(Preliminary Traffic Operations Results)

Network-Wide Statistics									
Alternative	Alternative	Total Vehicle-Miles	Move Time	Delay Time	Total Time	Average Speed	Move/Total	Delay Time	Total Time
			Vehicle-Hours			(MPH)		Minutes/Mile	
Existing	2010 Existing Conditions AM	399859.66	7929.74	3183.48	11113.22	35.98	0.71	0.48	1.67
No-Build	2030 AM No-Build	352702.31	7011.14	9404.97	16416.11	21.49	0.43	1.60	2.79
Interim 3A	2030 AM Build 3A	465035.47	9142.59	3773.78	12916.37	36.00	0.71	0.49	1.67
Concept 1	2030 AM Build 3A w/ NW 12 Ave (3+1Merge)	465435.94	9140.87	4931.63	14072.50	33.07	0.65	0.64	1.81
Concept 2	2031 AM Build 3A w/ NW 12 Ave (3+1Barrier)	461400.75	9058.75	4863.81	13922.55	33.14	0.65	0.63	1.81
Concept 3	2030 AM Build 3A w/ NW 12 Ave (Connect @ Curve)	449801.62	8813.04	6394.03	15207.06	29.58	0.58	0.85	2.03
Concept 4	2030 AM Build 3A w/ NW 12 Ave (5 Lanes on TPK SB)	472740.91	9309.75	4529.62	13839.37	34.16	0.67	0.57	1.76
Ultimate	2040 AM Ult. Build 1 w/NW 12 Ave (5 Lanes on TPK SB)	493100.44	9613.8	3741.6	13355.40	36.92	0.72	0.46	1.63

Alternative	Alternative	Back-up Behind Entry Node	Does Queue Dissipate	Back-up Behind Entry Node	Does Queue Dissipate
		SR 826 (EB)	SR 826 (EB)	Turnpike (SB)	Turnpike (SB)
Existing	2010 Existing Conditions AM**	450 vehs	No	50 vehs	No
No-Build	2030 AM No-Build	>10,000 vehs	No	9,950 vehs	No
Interim 3A	2030 AM Build 3A	0	-	0	-
Concept 1	2030 AM Build 3A w/ NW 12 Ave (3+1Merge)	1900	Yes	0	-
Concept 2	2031 AM Build 3A w/ NW 12 Ave (3+1Barrier)	2300	Partially	0	-
Concept 3	2030 AM Build 3A w/ NW 12 Ave (Connect @ Curve)	4200	No	1,050 vehs	No
Concept 4	2030 AM Build 3A w/ NW 12 Ave (5 Lanes on TPK SB)	0	-	350 vehs	Yes
Ultimate	2040 AM Ult. Build 1 w/NW 12 Ave (5 Lanes on TPK SB)	0	-	0	-

** For Existing: the model begins to back up late in the simmulation peak period, so if the model was to run past 10 am, these backups would be much more significant.

ATTACHMENT C

(Preliminary Layout for Conceptual Alternative 4)

ALTERNATIVE IMPROVEMENTS

1. CONVERT TWO-WAY SECTION BETWEEN NW 17TH AVENUE AND NW 16TH COURT TO ONE-WAY EASTBOUND FRONTAGE ROAD.
2. PROVIDE WESTBOUND RIGHT-TURN ONLY LANE AND EASTBOUND LEFT-TURN LANE AT NW 17TH AVENUE. THIS REQUIRES EXTENSION OF BOX CULVERT UNDERNEATH PALMETTO EXPRESSWAY.
3. EXISTING RETAINING WALLS ADJACENT TO THE EXPRESSWAY WILL NEED TO BE REPLACED TO ACCOMODATE THE LEFT-TURN.

SCALE 1:200

NW 168th TERRACE

NW 17TH AVENUE

NW 12TH AVENUE

MIAMI GARDENS CITY HALL

2

3

1

826

RIGHT TURN ONLY

NW 166TH STREET

NW 16TH COURT

ROOMS TO GO

CITY FURNITURE

MERCEDES-BENZ OF MIAMI

NW 165TH STREET

MATCH LINE (SEE SHEET 2)

LEGEND:

- Existing limited Access Right of Way Line
- Existing Right of Way
- Barrier wall
- Existing bridges to be widened
- Existing bridges to remain
- Proposed new bridge structures
- Existing roadway to be removed
- Potential R/W Impacts

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
C3TS, PA
901 PONCE DE LEON BLVD., SUITE 900
CORAL GABLES, FLORIDA 33134
MIAMI (305)-445-2900 FLORIDA (800)-448-0227
CERTIFICATION OF AUTHORIZATION NO. 0005022

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

CONCEPTUAL ALTERNATIVE 4

SHEET NO. 1

ALTERNATIVE IMPROVEMENTS:

4. NW 12TH AVENUE ON-RAMP.
5. PROPOSED BARRIER WALL BETWEEN NW 12TH AVENUE ON-RAMP AND I-95 NORTHBOUND OFF-RAMP.
6. EASTBOUND FRONTAGE ROAD EAST OF NW 10TH AVENUE TO BE REMOVED.
7. INCREASE RADIUS ON I-95 SOUTHBOUND RAMP FROM 340-FT TO 500-FT.
8. ADDITIONAL RIGHT OF WAY ACQUISITION AT SUNSHINE INDUSTRIAL PARK. ADDITIONAL AREA TO BE USED FOR WATER RETENTION POND.
9. AERIAL R/W ENCROACHMENT.

SCALE 1:200

PARK CENTRE BLVD

HOTEL ROMA RESORT

SAFEGUARD SELF STORAGE

NW 9TH AVENUE

NW 167TH TERRACE

WIDEN EXISTING BRIDGE

826

MERCEDES-BENZ OF MIAMI

NW 10TH AVENUE

NW 166TH STREET

NW 8TH AVENUE

BRIDGE REPLACEMENT

4 5 6 7 8 9

MATCH LINE (SEE SHEET 1)

FOR CONTINUATION (SEE SHEET 3)

LEGEND:

- Existing limited Access Right of Way Line
- Existing Right of Way
- Barrier wall
- Existing bridges to be widened
- Existing bridges to remain
- Proposed new bridge structures
- Existing roadway to be removed
- Potential R/W Impacts

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ROBERT T. CARBALLO, P.E. NO.: 42502
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CORAL GABLES, FLORIDA 33134
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

CONCEPTUAL ALTERNATIVE 4

SHEET NO. 2

ALTERNATIVE IMPROVEMENTS:

8. ADDITIONAL RIGHT OF WAY ACQUISITION AT SUNSHINE INDUSTRIAL PARK.
9. AERIAL R/W ENCROACHMENT.
10. ADDITIONAL BRIDGE WIDENING REQUIRED.
11. IMPACT TO PARKING SPACES, DRIVE ISLE AND TO THE EXISTING ITS HUB BUILDING.
12. IMPACT TO DRIVE ISLE AND BUS TERMINAL PLATFORM AND CANOPY.
13. ADDITIONAL R/W REQUIRED BETWEEN PARK & RIDE LOT AND BISCAYNE CANAL. TO ADDRESS INTERIM AND FUTURE HIGHWAY IMPROVEMENTS.
14. CONSTRUCT NEW TURNPIKE CONNECTOR TO SR 7 EXIT RAMP.

SCALE 1:200



MATCH LINE (SEE SHEET 4)

FOR CONTINUATION (SEE SHEET 2)

LEGEND:

- Existing limited Access Right of Way Line
- Existing Right of Way
- Barrier wall
- Existing bridges to be widened
- Existing bridges to remain
- Proposed new bridge structures
- Existing roadway to be removed
- Potential R/W Impacts

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

CONCEPTUAL ALTERNATIVE 4

SHEET NO. 3

ALTERNATIVE IMPROVEMENTS:

13. ADDITIONAL R/W REQUIRED BETWEEN PARK & RIDE LOT AND BISCAYNE CANAL. TO ADDRESS INTERIM AND FUTURE HIGHWAY IMPROVEMENTS.
14. CONSTRUCT NEW TURNPIKE CONNECTOR TO SR 7 EXIT RAMP.
15. RELOCATE SR 7 OFF-RAMP TERMINAL APPROXIMATELY 1400 FT SOUTH TO NORTH BISCAYNE DRIVE.

SCALE 1:200

NW 7TH AVENUE

7 441

NW 151ST STREET

NORTH BISCAYNE RIVER DRIVE

BRIDGE WIDENING

BISCAYNE CANAL

INTERSTATE 95

NW 6TH AVENUE

END ROADWAY WIDENING

MATCH LINE (SEE SHEET 3)

LEGEND:

- Existing limited Access Right of Way Line
- Existing Right of Way
- Barrier wall
- Existing bridges to be widened
- Existing bridges to remain
- Proposed new bridge structures
- Existing roadway to be removed
- Potential R/W Impacts

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-826	MIAMI-DADE	428358-1-22-01

CONCEPTUAL ALTERNATIVE 4

SHEET NO. 4

DavidC 1/25/2013 12:12:04 PM T:\428358122\01\9-Analysis Activities\9.13 CADD Files\CONCEPT PLANS\Options 1 and 2\Basemap-Concept 4-Sheet 4.dgn

APPENDIX K

(Long Range Cost Estimates)

Date: 8/16/2013 2:27:23 PM

FDOT Long Range Estimating System - Production

R4: Project Details Composite Report

By Component

Project: 428358-1-52-01 **Letting Date:** 04/2017

Description: SR 826/PALMETTO EXPY - SR 826 EASTBOUND RAMP TO SR 9A/I-95 NORTHBOUND

District: 06 **County:** 87 MIAMI-DADE

Project Manager: HUYNH, DAT

Version 6-P Project Grand Total **$97,540,695.18**

Description: Recommended Build Alternative for GGI Interim Project including Texas U-Turns at NW 17th Avenue and NW 12th Avenue Interchanges

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EARTHWORK COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
110-1-1	CLEARING & GRUBBING	38.54	AC	$20,000.00	$770,800.00
120-1	REGULAR EXCAVATION	47,203.89	CY	$8.00	$377,631.12
120-6	EMBANKMENT	490,229.16	CY	$10.00	$4,902,291.60
	Earthwork Component Total				$6,050,722.72

ROADWAY COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
160-4	TYPE B STABILIZATION	137,061.37	SY	$4.00	$548,245.48
285-709	OPTIONAL BASE,BASE GROUP 09	76,429.99	SY	$18.00	$1,375,739.82
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	5,919.00	SY	$2.00	$11,838.00
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	168,614.81	SY	$2.50	$421,537.05
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	24,326.83	TN	$115.00	$2,797,585.45
334-1-24	SUPERPAVE ASPH CONC, TRAF D, PG76-22,PMA	195.00	TN	$150.00	$29,250.00
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	3,594.11	TN	$135.00	$485,204.85
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	8,931.64	TN	$120.00	$1,071,796.80
339-1	MISCELLANEOUS ASPHALT PAVEMENT	18.00	TN	$300.00	$5,400.00
350-1-4	PLAIN CEMENT CONC PAVT, 9"	2,303.09	SY	$50.00	$115,154.50
350-72	CLEANING & RESEALING JOINTS - CONC PVMT	8,033.00	LF	$5.00	$40,165.00
352-70	GRINDING CONCRETE PAVT	43,385.40	SY	$5.00	$216,927.00
520-6	SHOULDER GUTTER- CONCRETE	1,985.00	LF	$20.00	$39,700.00
521-72-3	SHLDR CONC BARRIER WALL, RIGID-	3,948.00	LF	$120.00	$473,760.00

	SHLDR				
534-72-101	SOUND/NOISE BARRIER-INC FOUNDATION, PERM	4,400.00	SF	$30.00	$132,000.00
536-1-1	GUARDRAIL- ROADWAY	14,425.00	LF	$16.00	$230,800.00
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	4.00	EA	$1,650.00	$6,600.00
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	3,088.00	EA	$3.50	$10,808.00
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	43.56	NM	$850.00	$37,026.00
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	30.86	GM	$400.00	$12,344.00
711-11-111	THERMOPLASTIC, STD, WHITE, SOLID, 6"	2.81	NM	$4,150.00	$11,661.50
711-11-131	THERMOPLASTIC, STD, WHITE, SKIP, 6"	4.92	GM	$1,250.00	$6,150.00
	Roadway Component Total				$8,079,693.45

SHOULDER COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
104-10-3	SEDIMENT BARRIER	92,950.92	LF	$1.50	$139,426.44
104-11	FLOATING TURBIDITY BARRIER	1,327.37	LF	$10.00	$13,273.70
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	1,327.37	LF	$5.50	$7,300.58
104-15	SOIL TRACKING PREVENTION DEVICE	26.00	EA	$2,300.00	$59,800.00
104-18	INLET PROTECTION SYSTEM	131.00	EA	$75.00	$9,825.00
107-1	LITTER REMOVAL	80.22	AC	$100.00	$8,022.00
107-2	MOWING	80.22	AC	$150.00	$12,033.00
285-704	OPTIONAL BASE,BASE GROUP 04	52,412.94	SY	$10.00	$524,129.40
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	19,124.04	SY	$2.00	$38,248.08
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	3,827.13	TN	$115.00	$440,119.95
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	1,117.82	TN	$135.00	$150,905.70
337-7-33	ASPH CONC FC,TRAFFIC C,FC-12.5,RUBBER	1,940.33	TN	$120.00	$232,839.60
520-1-10	CONCRETE CURB & GUTTER, TYPE F	24,060.96	LF	$20.00	$481,219.20
521-72-10	SHLDR CONC BARRIER WALL,RIGID SHLDR 42"	1,625.00	LF	$200.00	$325,000.00
522-1	CONC SIDEWALK AND DRIVEWAYS, 4" THICK	10,877.45	SY	$35.00	$380,710.75
546-72-51	RUMBLE STRIPS, GROUND-IN, 16" MIN. WIDTH	4.15	PM	$1,820.00	$7,553.00
570-1-1	PERFORMANCE TURF	20,174.73	SY	$3.00	$60,524.19
	Shoulder Component Total				$2,890,930.59

MEDIAN COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
285-704	OPTIONAL BASE,BASE GROUP 04	3,082.19	SY	$10.00	$30,821.90
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	22,313.86	SY	$2.00	$44,627.72
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,786.01	TN	$115.00	$320,391.15
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	1,010.96	TN	$135.00	$136,479.60
520-1-7	CONCRETE CURB & GUTTER, TYPE E	2,964.16	LF	$18.00	$53,354.88
520-5-41	TRAF SEP CONC-TYPE IV, 4' WIDE	818.00	LF	$35.00	$28,630.00
520-70	CONCRETE TRAFFIC SEPARATOR, SP- VAR WIDT	662.00	SY	$70.00	$46,340.00
570-1-1	PERFORMANCE TURF	9,690.28	SY	$3.00	$29,070.84
	Median Component Total				$689,716.09

DRAINAGE COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
121-70	FLOWABLE FILL	2,100.00	CY	$175.00	$367,500.00
400-2-2	CONC CLASS II, ENDWALLS	108.39	CY	$900.00	$97,551.00
400-4-1	CONC CLASS IV, CULVERTS	473.20	CY	$550.00	$260,260.00
415-1-1	REINF STEEL- ROADWAY	53,442.00	LB	$1.00	$53,442.00
425-1-351	INLETS, CURB, TYPE P-5, <10'	81.00	EA	$3,760.00	$304,560.00
425-1-451	INLETS, CURB, TYPE J-5, <10'	24.00	EA	$4,500.00	$108,000.00
425-1-521	INLETS, DT BOT, TYPE C, <10'	12.00	EA	$2,500.00	$30,000.00
425-1-551	INLETS, DT BOT, TYPE E, <10'	4.00	EA	$3,000.00	$12,000.00
425-1-814	INLETS, MED BARRIER, TYPE 2, J BOT, >10'	10.00	EA	$8,000.00	$80,000.00
425-2-41	MANHOLES, P-7, <10'	12.00	EA	$2,850.00	$34,200.00
425-3-82	JUNCTION BOX, DRAINAGE, SPECIAL, > 10'	5.00	EA	$8,000.00	$40,000.00
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	4,008.00	LF	$85.00	$340,680.00
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	4,472.00	LF	$45.00	$201,240.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	1,312.00	LF	$110.00	$144,320.00
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	9,736.00	LF	$150.00	$1,460,400.00
430-175-172	PIPE CULV, OPT MATL, ROUND, 72"S/CD	2,504.00	LF	$200.00	$500,800.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	180.00	EA	$950.00	$171,000.00
443-70-4	FRENCH DRAIN, 24"	200.00	LF	$110.00	$22,000.00
524-1-1	CONCRETE DITCH PAVT, NR, 3"	1,261.40	SY	$60.00	$75,684.00
550-10-120	FENCING, TYPE A, 5.1-6.0, STANDARD	3,300.00	LF	$15.00	$49,500.00
556-1-5	JACK AND BORE, CASE DIA 24"TO<36"	190.00	LF	$400.00	$76,000.00
570-1-1	PERFORMANCE TURF	4,198.77	SY	$3.00	$12,596.31

570-1-2	PERFORMANCE TURF, SOD	39,300.00	SY	$2.50	$98,250.00

EX-Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
1	BOX CULVERT EXTENSION	1.00	LS	$350,000.00	$350,000.00

Drainage Component Total $4,889,983.31

SIGNING COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
700-20-11	SINGLE POST SIGN, F&I, LESS THAN 12 SF	79.00	AS	$300.00	$23,700.00
700-20-12	SINGLE POST SIGN, F&I, 12-20 SF	138.00	AS	$850.00	$117,300.00
700-20-40	SINGLE POST SIGN, RELOCATE	16.00	AS	$120.00	$1,920.00
700-20-60	SINGLE POST SIGN, REMOVE	102.00	AS	$25.00	$2,550.00
700-21-11	MULTI- POST SIGN, F&I, 50 OR <	32.00	AS	$3,350.00	$107,200.00
700-21-12	MULTI- POST SIGN, F&I, 51-100	5.00	AS	$5,500.00	$27,500.00
700-21-60	MULTI- POST SIGN, REMOVE	16.00	AS	$500.00	$8,000.00
700-22-111	OHD TRUSS SPAN SGN,F&I,T50 OR<,S300 OR<	2.00	AS	$70,000.00	$140,000.00
700-22-122	OHD TRUSS SPAN SGN,F&I,T51-100',S301-500	3.00	AS	$85,000.00	$255,000.00
700-22-134	OHD TRUSS SPAN SGN,F&I,T101-150',S >700	4.00	AS	$150,000.00	$600,000.00
700-22-600	OHD TRUSS SPAN SGN, REMOVE	1.00	AS	$6,250.00	$6,250.00
700-23-111	OHD TRUSS CANT SGN,F&I,T30 OR<,S100 OR <	1.00	AS	$3,000.00	$3,000.00
700-23-600	OHD TRUSS CANT SGN,REMOVE	1.00	AS	$5,000.00	$5,000.00

Signing Component Total $1,297,420.00

LIGHTING COMPONENT

Pay Items

Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	101,740.85	LF	$1.25	$127,176.08
715-2-11	LIGHTING-CONDUIT, F&I, UNDERGROUND	32,460.62	LF	$6.00	$194,763.72
715-2-12	LIGHTING-CONDUIT, F&I, UNDER EXIST PVMT	1,428.14	LF	$12.00	$17,137.68
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	111.00	EA	$4,500.00	$499,500.00
715-14-11	LIGHTING - PULL BOX,F&I,ROADSIDE-MOULDED	157.00	EA	$450.00	$70,650.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	157.00	EA	$600.00	$94,200.00
715-511-140	LIGHT POLE COMP,F&I,SGL ARM SM, AL,40'	46.00	EA	$5,000.00	$230,000.00

	Lighting Component Total	$1,233,427.48

SIGNALIZATIONS COMPONENT

Pay Items

Pay Item	Description	Total Unit Quantity		Weighted Avg. Unit Price	Total Amount
630-1-12	CONDUIT, F& I, UNDERGROUND	12,705.00	LF	$5.00	$63,525.00
630-1-13	CONDUIT, F&I, UNDER EXIST PAVT	295.00	LF	$16.00	$4,720.00
630-1-14	CONDUIT,F& I, UG JACKED	2,400.00	LF	$15.00	$36,000.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	10.00	PI	$4,150.00	$41,500.00
633-123-2	CAB-FIB OPT, F&I, UG, COMP, 26- 50 PR	5,400.00	LF	$5.00	$27,000.00
635-1-11	PULL & JUNCTION BOX, F&I, PULL BOX	160.00	EA	$450.00	$72,000.00
635-1-15	PULL & JUNCTION BOX, F&I, FIBER OPTICS	4.00	EA	$950.00	$3,800.00
635-1-16	PULL & JUNCTION BOX, F&I, SPECIAL	8.00	EA	$1,200.00	$9,600.00
639-1-22	ELECT POWER SERV,UG,PUR CONT	10.00	AS	$2,250.00	$22,500.00
639-2-1	ELECTRICAL SERVICE WIRE	600.00	LF	$1.20	$720.00
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	4.00	EA	$1,150.00	$4,600.00
649-1-10	STEEL STRAIN POLE, F&I, PEDESTAL	4.00	EA	$950.00	$3,800.00
649-31-105	M/ARM,F&I, WS-150,SINGLE ARM,W/0 LUM-78	16.00	EA	$38,500.00	$616,000.00
649-31-111	M/ARM,F&I, WS-150,DBL ARM,W/0 LU 36-46	24.00	EA	$35,500.00	$852,000.00
650-51-311	TRAFFIC SIGNAL, F&I, 3 SECT, 1 WAY, STD	128.00	AS	$850.00	$108,800.00
653-191	PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1	80.00	AS	$625.00	$50,000.00
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	128.00	EA	$250.00	$32,000.00
660-2-102	LOOP ASSEMBLY, F&I, TYPE B	32.00	AS	$680.00	$21,760.00
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	128.00	AS	$650.00	$83,200.00
665-11	PED DET, F&I, DET STA POLE OR CAB MTD	80.00	EA	$160.00	$12,800.00
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	10.00	AS	$20,300.00	$203,000.00
700-48-18	SIGN PANELS, F & I, 15 OR <	40.00	EA	$400.00	$16,000.00
	Signalizations Component Total				$2,285,325.00

INTELLIGENT TRAFFIC SYSTEM (ITS) COMPONENT

Pay Items

Pay Item	Description	Total Unit Quantity		Weighted Avg. Unit Price	Total Amount
1	ITS FACILITIES	4.00	LS	$575,000.00	$2,300,000.00
	Intelligent Traffic System (ITS) Component Total				$2,300,000.00

LANDSCAPING COMPONENT

Landscaping Lump Sum Cost Total	$323,045.95
Landscaping Component Total	$323,045.95

BRIDGES COMPONENT

Bridge Type: Medium Level, Widen

Pay Items

Pay Item	Description	Total Unit Quantity	Weighted Avg. Unit Price	Total Amount
400-2-10	CONC CLASS II, APPROACH SLABS	57.78 CY	$600.00	$34,668.00

Bridge No. 870250 Type=MLW **Length=140.83 FT** **Width=14 FT**

Bridge Basic Cost based on Factored Cost $189.00 SF $372,636.18

Bridge Final Cost Per SF $201.23

Bridge No. 870348 Type=MLW **Length=122 FT** **Width=12 FT**

Bridge Basic Cost based on Factored Cost $189.00 SF $276,696.00

Bridge Final Cost Per SF $203.12

Bridge Type: High Level

Pay Items

Pay Item	Description	Total Unit Quantity	Weighted Avg. Unit Price	Total Amount
415-1-9	REINF STEEL- APPROACH SLABS	111,734.00 LB	$1.00	$111,734.00

Bridge No. 870041 Type=HLB **Length=332.5 FT** **Width=91.08 FT**

Bridge Basic Cost based on Factored Cost $248.00 SF $7,510,456.80

Bridge Final Cost Per SF $253.18

Bridge No. 870045 Type=HLB **Length=237.15 FT** **Width=83.08 FT**

Bridge Basic Cost based on Factored Cost $248.00 SF $4,886,200.66

Bridge Final Cost Per SF $255.26

Bridge No. 870159 Type=HLB **Length=269.08 FT** **Width=83.08 FT**

Bridge Basic Cost based on Factored Cost $248.00 SF $5,544,081.27

Bridge Final Cost Per SF $254.40

Bridge No. 870042 Type=HLB **Length=329 FT** **Width=30.08 FT**

Bridge Basic Cost based on Factored Cost $160.00 SF $1,583,411.20

Bridge Final Cost Per SF $165.23

Bridge Type: Low Level, Widen

Pay Items

Pay Item	Description	Total Unit Quantity	Weighted Avg. Unit Price	Total Amount
400-2-10	CONC CLASS II, APPROACH SLABS	644.44 CY	$600.00	$386,664.00

Bridge No. 870601 Type=LLW **Length=27.04 FT** **Width=290 FT**

Bridge Basic Cost based on Factored Cost $137.55 SF $1,078,612.08

Bridge Final Cost Per SF $201.24

Bridge Type: Elevated Roadway

Pay Items

Pay Item	Description	Total Unit Quantity	Weighted Avg. Unit Price	Total Amount
400-2-10	CONC CLASS II, APPROACH SLABS	80.18 CY	$600.00	$48,108.00
415-1-9	REINF STEEL- APPROACH SLABS	14,031.50 LB	$1.00	$14,031.50

Bridge No. B Type=ELR **Length=1676.87 FT** **Width=36.08 FT**

Bridge Basic Cost based on Factored Cost $165.00 SF $9,982,742.48

Bridge Final Cost Per SF $166.03

Bridge Type: Medium Level, Widen

Pay Items

Pay Item	Description	Total Unit Quantity	Weighted Avg. Unit Price	Total Amount
415-1-9	REINF STEEL- APPROACH SLABS	10,111.50 LB	$1.00	$10,111.50

Bridge No. 870250 Type=MLW **Length=140.83 FT** **Width=14 FT**

Bridge Basic Cost based on Factored Cost $189.00 SF $372,636.18

Bridge Final Cost Per SF $201.23

Bridge No. 870348 Type=MLW **Length=122 FT** **Width=12 FT**

Bridge Basic Cost based on Factored Cost $189.00 SF $276,696.00

Bridge Final Cost Per SF $203.12

Bridge Type: High Level

Pay Items

Pay Item	Description	Total Unit Quantity	Weighted Avg. Unit Price	Total Amount
400-2-10	CONC CLASS II, APPROACH SLABS	638.48 CY	$600.00	$383,088.00

Bridge No. 870041 Type=HLB **Length=332.5 FT** **Width=91.08 FT**

Bridge Basic Cost based on Factored Cost $248.00 SF $7,510,456.80

Bridge Final Cost Per SF $253.18

Bridge No. 870045 Type=HLB **Length=237.15 FT** **Width=83.08 FT**

Bridge Basic Cost based on Factored Cost $248.00 SF $4,886,200.66

Bridge Final Cost Per SF $255.26

Bridge No. 870159 Type=HLB **Length=269.08 FT** **Width=83.08 FT**

Bridge Basic Cost based on Factored Cost $248.00 SF $5,544,081.27

Bridge Final Cost Per SF $254.40

Bridge No. 870042 Type=HLB **Length=329 FT** **Width=30.08 FT**

Bridge Basic Cost based on Factored Cost $160.00 SF $1,583,411.20

Bridge Final Cost Per SF $165.23

Bridge Type: Low Level, Widen

Pay Items

Pay Item	Description	Total Unit Quantity		Weighted Avg. Unit Price	Total Amount
415-1-9	REINF STEEL- APPROACH SLABS	112,777.00	LB	$1.00	$112,777.00

Bridge No. 870601 Type=LLW **Length=27.04 FT** **Width=290 FT**

Bridge Basic Cost based on Factored Cost $137.55 SF $1,078,612.08

Bridge Final Cost Per SF $201.24

Bridges Component Total $32,336,018.67

RETAINING WALLS COMPONENT

Pay Items

Pay Item	Description	Total Unit Quantity		Weighted Avg. Unit Price	Total Amount
451-70	PREST SOIL ANCHORS	130.00	EA	$2,850.00	$370,500.00
455-133-3	SHEET PILING STEEL, F&I PERMANENT	24,100.00	SF	$45.00	$1,084,500.00
548-12	RET WALL SYSTEM, PERM, EX BARRIER	163,279.50	SF	$25.00	$4,081,987.50

EX-Items

Pay Item	Description	Total Unit Quantity		Weighted Avg. Unit Price	Total Amount
1	SOLDIER PILE WALL	5,250.00	SF	$110.29	$579,000.00
2	TEMPORARY SHEET PILE WALL	10,000.00	SF	$12.88	$128,800.00

Retaining Walls Component Total $6,244,787.50

UTILITIES COMPONENT

Pay Items

Pay Item	Description	Total Unit Quantity		Weighted Avg. Unit Price	Total Amount
1	UTILITIES	7.00	LS	$445,714.29	$3,120,000.00

Utilities Component Total $3,120,000.00

MISCELLANEOUS COMPONENT

Pay Items

Pay Item	Description	Total Unit Quantity		Weighted Avg. Unit Price	Total Amount
1	ENVIRONMENTAL MITIGATION	4.00	LS	$118,750.00	$475,000.00
1	PARK AND RIDE RESTORATION	1.00	LS	$800,000.00	$800,000.00

2	ENVIRONMENTAL MITIGATION	1.00 LS	$155,000.00	$155,000.00
	Miscellaneous Component Total			$1,430,000.00

Date: 8/16/2013 2:27:24 PM

FDOT Long Range Estimating System - Production

R4: Project Details Composite Report

By Component

Project: 428358-1-52-01 **Letting Date:** 04/2017

Description: SR 826/PALMETTO EXPY - SR 826 EASTBOUND RAMP TO SR 9A/I-95 NORTHBOUND

District: 06 **County:** 87 MIAMI-DADE

Project Manager: HUYNH, DAT

Version 6-P Project Grand Total **$97,540,695.18**

Description: Recommended Build Alternative for GGI Interim Project including Texas U-Turns at NW 17th Avenue and NW 12th Avenue Interchanges

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Project Sequences Subtotal				**$73,171,070.76**
102-1	MAINTENANCE OF TRAFFIC	10.00		$7,317,107.08
101-1	MOBILIZATION	10.00		$8,048,817.78
Project Sequences Total				**$88,536,995.62**
Project Unknowns		10.00%		$8,853,699.56
Design/Build		0.00%		$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	$150,000.00	$150,000.00
Project Non-Bid Subtotal					$150,000.00
Version 6-P Project Grand Total					**$97,540,695.18**

APPENDIX L

(Value Engineering Responses Memorandum)

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SIX

PD&E Study for Golden Glades Interchange
From SR 826/Palmetto Expressway Eastbound To Interstate 95 Northbound
FM # 428358-1-22-01 | ETDM # 11300

Miami-Dade County, Florida

VALUE ENGINEERING RESPONSE MEMORANDUM

Prepared for

By

September 2012

INTRODUCTION

A Value Engineering (VE) Study for the Golden Glades Interchange Project Development and Environment (PD&E) Study was conducted from August 13 to August 17, 2012 for the Interim Build Alternative 3A. The purpose of the Value Engineering Study is to ensure that the project objectives are addressed and to identify and remove any unnecessary costs associated with the Interim Build Alternative. The Value Engineering Report detailing the findings and recommendations from the VE Study Team was submitted to the Florida Department of Transportation – District 6 on September 6, 2012. The following summarizes the Study Team's responses to the VE Team's recommendations:

SR 826 TO NORTHBOUND I-95

Value Engineering Recommendations 1A and 1B: **REJECTED**

PD&E Alternative: Provide continuous bridge structure for the SR 826 eastbound to I-95 northbound direct flyover ramp.

VE Alternative 1A: Reduce the length of bridge by using a combination of Steepened slopes, MSE walls, fill and pavement.
Possible savings of $2,077,401

VE Alternative 1B: Reduce the length of bridge by using a combination of MSE walls, fill and pavement.
Possible savings of $1,913,921

Discussion: The elimination of a couple of bridge spans and replacing them with steepened slopes and or MSE possess the following disadvantages:

- The height of the connector ramp with an approximate height of 50-ft above natural grade below presents significant problems with trying to maintain sloped vegetation.
- The proposed MSE Walls with heights of 50-ft and a ramp width of 36-ft 1-inch will require a Bin Wall Special design since the strap lengths are constricted and not long enough.
- The use of 1:2 (V:H) or steeper 1:1.5 (V:H) slopes will impact the existing swales storage within the interchange that is being utilized for water quality and attenuation purposes. These are permitted swales with no significant excess storage. In fact the work being done within the interchange will required additional storage beyond the existing permitted volumes.
- The use of high (50-ft+) MSE walls also impact the area swales from a drainage standpoint, although a less than with the steepened slopes.

Recommendation: Based on the above evaluation, it is recommended to maintain the PD&E alternative which provides a continuous bridge structure for SR 826 eastbound to I-95 northbound direct flyover ramp.

Value Engineering Recommendation 2: **REJECTED**

PD&E Alternative: Provide new flyover ramp from the SR 826 eastbound to I-95 northbound. The proposed ramp goes over the Turnpike Connector, SFRC railroad and underneath the 95 Express Flyover Ramps. It then goes over I-95, and merges with the existing SR 7/US 441 northbound to I-95 northbound ramp before joining I-95 using the existing on-ramp alignment.

VE Alternative 2: Realign the new ramp under I-95 Express bridge then over the Turnpike Connector and NW 167th Street, then touchdown to NB I-95.
Possible savings of $6,615,732

Discussion: The VE recommended alternative for the SR 826 eastbound to I-95 northbound ramp for the interim improvements eliminates impacts to the existing bridges 870041 and 870042. In order to maintain the current on-ramp from SR 7/US 441 to I-95 northbound, the single lane from the SR 826 eastbound to I-95 northbound will have to merge with the SR 7/US 441 on-ramp to I-95 northbound thereby creating two-lane ramp merging with I-95 northbound. Currently, this movement is served by a one lane ramp which traverses underneath the end span of the existing SR 7/US 441 northbound lanes (See **Figure 1**).



Figure 1 – Single Lane On-Ramp from SR 826 EB and SR 7/US 441 NB to I-95 NB

As noted above, the proposed VE recommended alternative will require two lanes to be accommodated under this bridge end span. An evaluation of this bridge structure was done as part of the ultimate build improvements to accommodate two lanes from SR 826 eastbound to I-95 northbound ramp and a dedicated flyover ramp from SR 7/US 441 to I-95 northbound (See **Figure 2**).

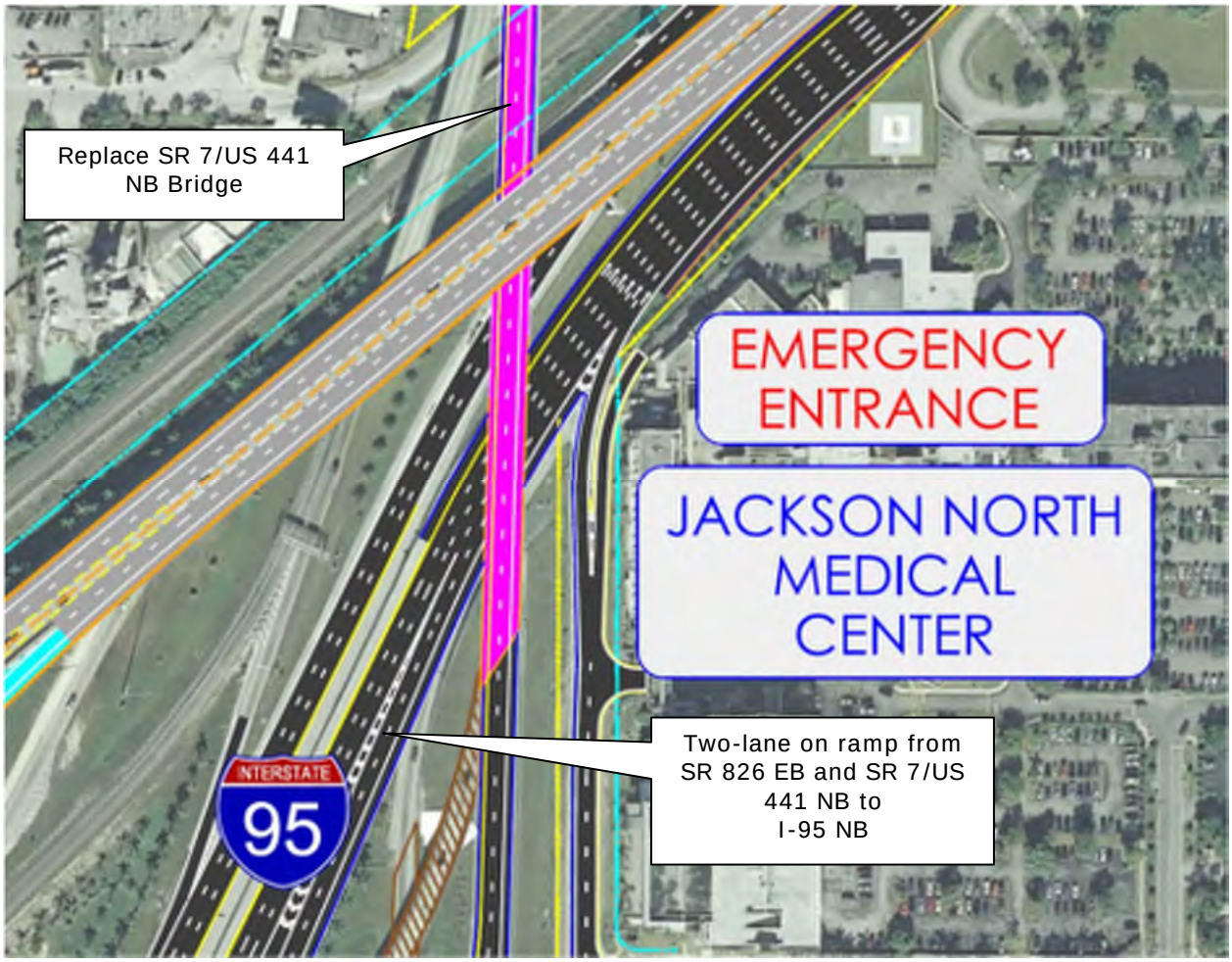


Figure 2 – Proposed Conceptual Alignment for Two-Lane Ramp Merging with I-95 NB

In order to accommodate the two lanes underneath the existing bridge with adequate vertical and horizontal clearances and minimal impacts to the adjacent Hospital, the piers between the NB I-95 lanes and the on-ramp will have to be relocated. The bridge section across the I-95 is a continuous steel structure and hence the existing bridge will have to be replaced with a new four span bridge as shown in **Figure 3** as part of the interim improvements instead of with the ultimate improvements.

The updated VE cost estimates to include the replacement cost for this bridge results in an additional cost increase of $4.15 million over the PD&E Alternative for the interim improvements (See **Attachment A**).

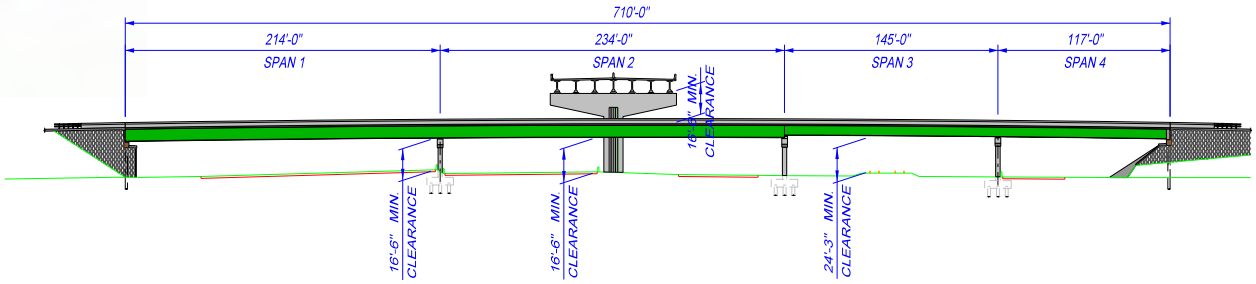


Figure 3 – Proposed SR 7/US 441 NB Bridge Replacement

Furthermore, as shown in **Figure 4**, the proposed alignment for the VE recommended alternative conflicts with the proposed alignment for the SR 826 express lanes connection to the I-95 express lanes under the ultimate improvements proposed for the Golden Glades Interchange.

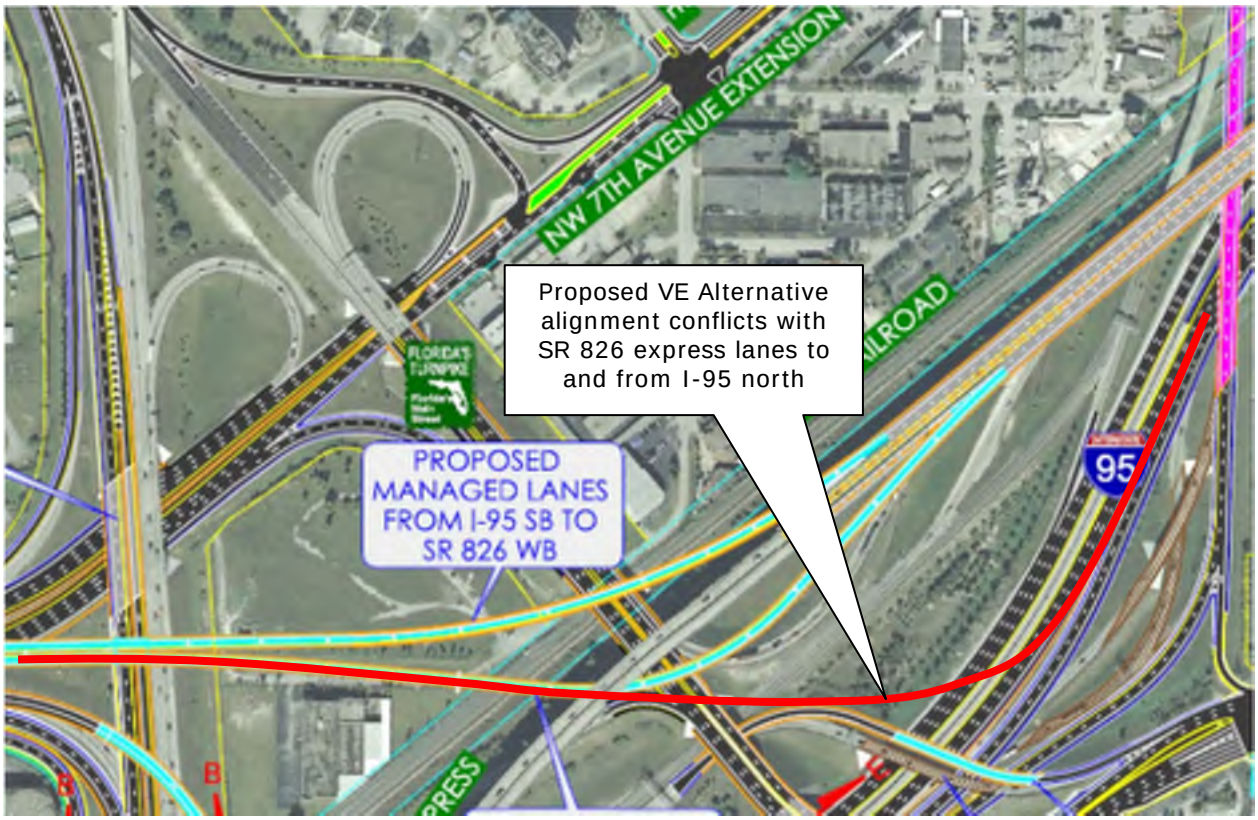


Figure 4 – Conflict with SR 826 Express Lane Flyover Ramps (Ultimate)

Recommendation: It is recommended that the VE alternative be dropped from further evaluation due to the above stated constraints.

SOUTHBOUND TURNPIKE CONNECTION

Value Engineering Recommendations 3A and 3B: **REJECTED**

PD&E Alternative: Reconstruct Turnpike Connector southbound lanes to shift the alignment to the west in order to accommodate a future direct managed lane connection from Turnpike southbound to the 95 Express southbound lanes. This requires widening of Bridge 870601 and replacement of bridges 870159 and 870045.

VE Alternative 3A: Restripe/reduce lanes to avoid widening bridge number 870601 or replacing bridges 870159 and 870045.
Possible savings of $ 15,616,678

VE Alternative 3B: Restripe/reduce lanes to avoid widening bridge number 870601 or replacing bridges 870159 and 870045, but widen the roadway.
Possible savings of $ 9,820,232

Discussion: The proposed PD&E Alternative sets up the Turnpike Connector southbound lanes as part of the interim improvements to accommodate a future direct express lane connection from Turnpike southbound to the 95 Express southbound lanes in order to meet the projected traffic demand for the 2040 design year. The advantages of constructing to accommodate the future ultimate configuration are to minimize throw away improvements and maintenance of traffic during the future construction.

The VE recommended alternatives suggest narrowing the travel lanes and shoulder widths to accommodate the additional lane without the bridge widening or replacements proposed under the PD&E Alternative. Several alternatives were further evaluated for Turnpike Connector improvements based on the VE recommendations as shown in the **Table 1**.

The Federal Highway Administration (FHWA) publication, Mitigation Strategies for Design Exceptions, states that on roadways with both narrow lane and shoulder widths, the risk of severe lane-departure crashes increases. The Turnpike Connector is the primary route used by tandem trucks from the Turnpike to the tandem truck staging area within the Park and Ride facility. As such, 12-ft travel lanes are recommended to minimize traffic operational impacts along this roadway segment. Consequently, the modified TSM Alternative and the VE Alternative 3A (Alternative 1A-1) both have reduced lane and shoulder widths and should be eliminated from further consideration.

In addition, the Rule 14-61 of the Florida Administrative Code which covers the operation and safety of tandems trucks on the Turnpike System specifies that parking, standing, or stopping on the shoulders of the Turnpike System shall be permitted only on the right shoulder on condition that all wheels and projecting parts of the vehicle and load shall be completely clear of the travel lanes (See **Attachment C**). The rule also specifies that Turnpike Tandems shall not exceed 8 feet 6 inches in width. This suggests that a minimum shoulder width of 10-ft to accommodate the tandem trucks.

Table 1 – Turnpike Connector Alternatives Evaluation			
Alternative	**Description**	**Proposed Improvements**	**Comments**
Modified TSM	This modified TSM alternative includes the SR 826 EB to I-95 NB flyover ramp. The improvements along the Turnpike connector include restriping of the Turnpike Connector SB lanes to provide an addition lane with no roadway or bridge widening along the Turnpike Connector. The additional lane however drops at the SR 7/US 441 off-ramp. No widening along I-95 SB is needed.	Roadway • No roadway widening • Four 11-ft travel lanes • 6-ft outside shoulder width • 4-ft inside shoulder width Bridges • No bridge widening • Four 11-ft travel lanes • 8-ft outside shoulder width • 8-ft inside shoulder width	• Requires design exceptions for lane and shoulder widths • Does not meet traffic demand for interim (2030) design year • Does not accommodate future direct express lane connection • **Eliminate from Further Evaluation**
Interim Build Alt. 1A-1 (VE Alt. 3A)	This alternative includes the SR 826 EB to I-95 NB flyover ramp. The improvements along the Turnpike connector include restriping of the Turnpike Connector SB lanes to provide an addition lane with no roadway or bridge widening along the Turnpike Connector. The I-95 SB lanes will also be widened to accommodate the additional lane from the turnpike Connector.	Roadway • Roadway widening on I-95 SB Only • Four 11-ft travel lanes • 6-ft outside shoulder width • 4-ft inside shoulder width Bridges • No bridge widening • Four 11-ft travel lanes • 8-ft outside shoulder width • 8-ft inside shoulder width	• Design exception required for lane and shoulder widths • Potential operational and safety concerns due to narrow lanes and shoulder widths for tandem truck use • Does not accommodate future direct express lane connection • **Eliminate from Further Evaluation**
Interim Build Alt. 1A-2 (VE Alt. 3B)	This alternative includes the SR 826 EB to I-95 NB flyover ramp. The improvements along the Turnpike connector include restriping of the Turnpike Connector SB lanes to provide an addition lane with some roadway widening but no bridge widening along the Turnpike Connector. The I-95 SB lanes will also be widened to accommodate the additional lane from the turnpike Connector.	Roadway • Roadway widening on Turnpike Connector and I-95 SB • Four 12-ft travel lanes • 10-ft outside shoulder width • 6-ft inside shoulder width Bridges • No bridge widening • Four 12-ft travel lanes • 6-ft outside shoulder width • 6-ft inside shoulder width	• Design exceptions required for shoulder widths • Meets traffic demand for interim (2030) design year • Does not accommodate future direct express lane connection • **Further Evaluation Recommended**

Table 1 – Turnpike Connector Alternatives Evaluation			
Alternative	**Description**	**Proposed Improvements**	**Comments**
Interim Build Alt. 1A-3	This alternative includes the SR 826 EB to I-95 NB flyover ramp. The improvements along the Turnpike connector include both roadway and bridge widening of the Turnpike Connector SB lanes to provide an addition lane with adequate lane and shoulder widths.	Roadway • Roadway widening on Turnpike Connector and I-95 SB • Four 12-ft travel lanes • 10-ft outside shoulder width • 10-ft inside shoulder width Bridges • Bridge widening required • Four 12-ft travel lanes • 10-ft outside shoulder width • 10-ft inside shoulder width	• No design exceptions for lane and shoulder widths required • Meets traffic demand for interim (2030) design year • Does not accommodate future direct express lane connection • **Further Evaluation Recommended**
Interim Build Alt. 3A (PD&E Alt.)	This alternative includes the SR 826 EB to I-95 NB flyover ramp. The proposed improvements along the Turnpike Connector involve reconstruction of the SB lanes to accommodate a future direct express lane connection from Turnpike SB to the 95 Express southbound lanes. The I-95 SB lanes will also be widened to accommodate the additional lane from the turnpike Connector.	Roadway • Roadway widening on Turnpike Connector and I-95 SB • Four 12-ft travel lanes • 10-ft outside shoulder width • 10-ft inside shoulder width Bridges • Bridge widening/replacement required • Four 12-ft travel lanes • 10-ft outside shoulder width • 10-ft inside shoulder width	• No design exceptions for lane and shoulder widths required • Meets traffic demand for interim (2030) design year • Accommodates future direct express lane connection • **Further Evaluation Recommended**

A life cycle cost analysis of the alternatives recommended for further evaluation was performed on the preliminary cost estimates. The initial capital costs represents the cost required to implement the improvements described under the alternatives while the additional future cost represents the cost required to realignment the Turnpike Connector in order to be able to accommodate a future direct managed lane connection from Turnpike southbound to the 95 Express southbound lanes for the 2040 design year. **Table 2** summarizes the results of the Life Cycle Cost Analysis. The preliminary cost estimates for these alternatives are provided in **Attachment B.**

Table 2 – Life Cycle Cost Analysis

Alternative	Initial Capital Cost (2012)	Additional Future Cost (2012)	Projected Future Costs		Discounted Future Costs (2018)	Annualized Costs
			2018	2038		
Interim Build Alt. 1A-2 (VE Alt. 3B)	$8,000,000	$16,400,000	$9,834,043	$40,113,720	$28,141,421	$2,070,695
Interim Build Alt. 1A-3	$10,500,000	$16,100,000	$12,907,181	$44,636,764	$33,278,817	$2,448,714
Interim Build Alt. 3A (PD&E Alt.)	$23,500,000	$0	$28,887,500	$0	$28,887,500	$2,125,593

Notes
Consumer Price Index = 3.5%
Interest Rate = 4.0%
Analysis Period = 20 years

Based on the Life Cycle Cost Analysis, the annualized cost for the PD&E Alternative is slightly more than that of the VE alternative. However, this analysis does not account for the potential increased user costs associated with increased maintenance of traffic during the future. The future traffic volume of 6,567 vph requires four travel lanes to accommodate the traffic demand. Postponing the proposed reconstruction until a future date as recommended by the VE alternative will result in the following disadvantages:

- Four lanes of traffic will have to be maintained during the future construction of the VE Alternative whereas only three lanes of traffic will have to be maintained for the PD&E Alternative.
- The replacement of existing bridges, which includes raising the existing profile, will require a three phased construction. Phase 1: outside, Phase 2: middle and Phase 3: inside. The second phase will require the traffic to be split between the two lanes from SR 826 on the outside and the other two lanes from the Turnpike on the inside. This will reduce the existing weaving distance between the two traffic streams from 1,650-ft to 850-ft and create significant traffic operational and safety problems for SR 826 EB to I-95 SB as well as Turnpike SB to I-95 NB and SR 7/US 441 traffic.

- The three phased construction will also increase the complexity for the construction of the crash walls underneath the bridge over the SFRC corridor, particularly during the second phase when the construction occurs in the middle of the roadway between traffic streams on both sides. This will require additional maintenance of traffic cost resulting in increased project budget.
- In order to avoid the weaving problem during the future reconstruction of the VE alternative, the bridges will have to be constructed with a two phased construction sequence which accommodates only three travel lanes. This implies that one of the travel lanes from the Turnpike will have to be shut down during the construction. The traffic volume from the Turnpike is projected to increase by 55.74% from 2,054 vph to 3,199 vph between 2018 and 2040. This will result in congested conditions with significant operational and safety concerns.
- Furthermore, the reduced weaving distance resulting from the three phased construction to replace the bridges during the future construction of the VE Alternative will significantly impact the ability of the Tandem Trucks travelling down the Turnpike to exit onto SR 7/US 441 and into the Tandem Truck Staging area within the Park and Ride. The relatively short distance of approximately 800-ft to weave over two lanes will result in significant operational and safety problems.

Recommendation: Based on the above evaluation, the PD&E Alternative is recommended due to the perceived benefits of reconstructing the Turnpike connector southbound as part of the interim to accommodate a future direct managed lane connection from Turnpike southbound to the 95 Express southbound lanes.

SB I-95 WIDENING

Value Engineering Recommendation 4: **ACCEPTED**

PD&E Alternative: Maintain the existing Turnpike Connector southbound off-ramp to SR 7/US 441 and purchase right of way along I-95 southbound lanes to accommodate proposed widening under Interim Build Alternative 3A. The proposed VE concept is included in the Ultimate Build Alternative for the Golden Glades Interchange.

VE Alternative 4: Purchase Right-of-way north of Biscayne Canal, construct the SR 7 Ramp exit at NW 156th Street and relocate the drainage.
Possible increase of $ 21,670,125

Discussion: The proposed VE alternative to purchase the entire right of way north of the Biscayne Canal between I-95 and SR 7/US 441 in order to relocate Turnpike Connector SB to SR 7/US 441 off-ramp is included as part of the ultimate improvements proposed for the Golden Glades Interchange.

Recommendation: The proposed NW 12th Avenue On-ramp provided in Interim Build Alternative 4 requires an additional lane along the Turnpike Connector. In order to provide adequate weaving distance, the recommended build alternative incorporates the recommendations from the VE study. The Department is considering advanced right of way acquisition to take advantage of the current low real estate market prices.

Value Engineering Recommendation 5: **REJECTED**

PD&E Alternative: Relocate the existing double 72" pipes west outside of the proposed roadway footprint and within the right of way to be acquired.

VE Alternative 5: Reroute the twin 72" RCP's away from I-95. The pipes will travel approximately 230' to the east edge of SR 7 from the current inlet. Then will turn south along SR 7 to the Biscayne Canal.
Possible increase of $2,366,068

Discussion: The VE alternative to reroute the existing double 72" drainage pipes along the eastside of SR 7/US 441 by acquiring a permanent easement along the impacted properties. The intention of this alternative is to avoid having to relocate the pipes during the ultimate improvements. The VE study identified the potential right of way impact associated with this alternative. In addition to the right of way costs, the proposed rerouting of the pipes will impact almost the entire parking area for the Murray's Speed & Custom Automotive

Warehouse. This will significantly impact their business operations during the construction and will result in additional cots to the project beyond the right of way cost. In addition, the proposed alignment will place the drainage pipes closer to the adjacent Chevron Gas Station with associated increased risk of potential contamination.

The proposed PD&E alternative shown in **Figures 5 and 6** will acquire the necessary right of way to relocate the existing double 72" drainage pipes to ensure that their location is compatible with the ultimate improvements proposed for the Golden Glades.

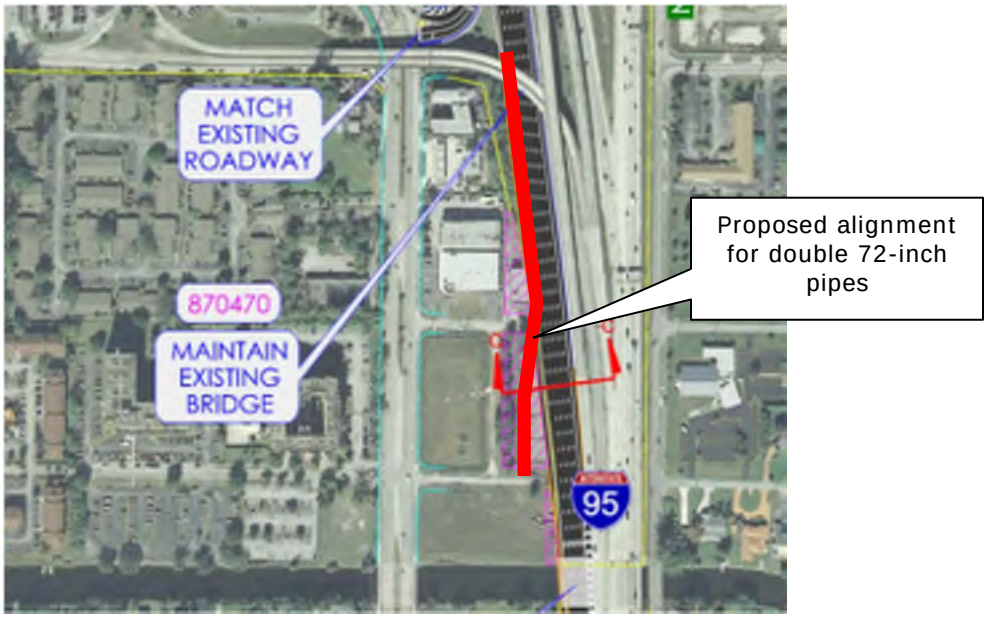


Figure 5 – Proposed Alignment for Double 72" Pipes (Interim Build)

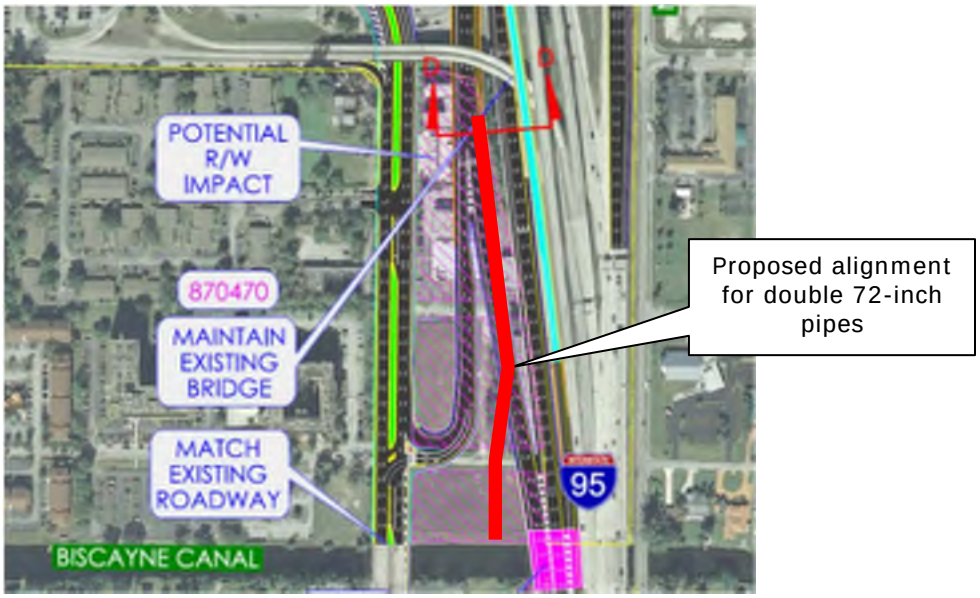


Figure 6 – Proposed Alignment for Double 72" Pipes (Ultimate Build)

Recommendation: Based on the above evaluation, it is recommended to maintain the PD&E alternative which relocates the existing double 72" pipes west outside of the proposed roadway footprint and within the right of way to be acquired.

Value Engineering Recommendation 6: **ACCEPTED**

PD&E Alternative: Relocate the existing double 72" pipes west outside of the proposed roadway footprint and within the right of way to be acquired.

VE Alternative 6: Purchase enough right-of-way to relocate the existing double 72" drainage pipes
Possible increase of $ 851,120

Discussion: The VE study identified the need to purchase additional right of way to relocate the existing double 72" drainage pipes. This recommendation was also identified during the Cost Risk Workshop.

Recommendation: The relocation of the Turnpike connector southbound ramp to SR 7 under Interim Build Alternative 4 will require the right of way identified by the VE and is recommended. The Department is considering advanced right of way acquisition to take advantage of the current low real estate market prices.

NW 167TH STREET AND NW 2ND AVENUE

Value Engineering Recommendation 7: **REJECTED**

PD&E Alternative: Maintain the existing two-way configuration along NW 2nd Avenue between NW 167th Street and I-95 as part of the interim improvements

VE Alternative 7: Make NW 2nd Avenue between NW 167th Street and I-95 northbound only as part of the interim improvements.
Possible increase of $ 47,673

Discussion: The VE recommendation to eliminate the southbound leg along NW 2nd Avenue between NW 167th Street and I-95 was identified as part of the ultimate improvements for this intersection.

The preliminary traffic analysis for the opening and interim years shown in **Table 3** indicates a significant reduction in delays at the intersection when the proposed improvements are implemented.

Table 3 - Intersection LOS and Delay

Alternative	Measure of Effectiveness	2018		2030	
		AM	PM	AM	PM
PD&E Alternative	LOS	F	F	F	F
	Delay (sec)	155.4	223.7	177.8	260.1
VE Alternative	LOS	F	F	F	F
	Delay (sec)	138.8	174.4	153.2	203.3
Intersection Delay Improvement		**11%**	**22%**	**14%**	**22%**

The updated benefit-cost ratio is 400.98 (See **Attachment D**), which suggests that this improvement will result in significant benefit to the GGI operations when implemented as part of the interim improvements.

Recommendation: Based on discussions with the Hospital, the recommended VE improvements will significantly impact operations of the Hospital emergency vehicles. Alternative improvements at this intersection will be investigated.

NW 17TH AVENUE RECONSTRUCTION

Value Engineering Recommendation 8: **REJECTED**

PD&E Alternative: Provide connection from NW 163rd Street to NW 17th Avenue and widen NW 17th Avenue from NW 161st Street to SR 826. Access to SR 826 at NW 12th Avenue and NW 167th Street is removed.

VE Alternative 2: Eliminate the 17th Avenue improvements entirely by redirecting traffic onto NW 16th Court so that the NB to EB traffic can turn right onto the south Frontage Road and enter the expressway at the On Ramp east of NW 17th Avenue
Possible savings of $ 7,498,422

Discussion: The interim improvement eliminates the NW 12th Avenue on-ramp access to SR 826 eastbound to accommodate the proposed three-lane off-ramp from SR 826 eastbound to I-95 northbound and southbound. It also eliminates the two-way operations along the 100-ft segment of the eastbound frontage road between NW 17th Avenue and NW 16th Court. During the PM peak period, a significant number of vehicles from the industrial park use NW 16th Court and make a left turn at the intersection with the frontage to access NW 17th Avenue. This causes a huge traffic back-up along NW 16th Court during the evening peak period.

The VE Alternative converts the NW 16th Court intersection with the frontage road into a signalized right turn only intersection and redirect traffic from NW 12th Avenue to NW 16th Court to access SR 826 eastbound. This recommendation eliminates the existing left turn at the NW 16th Court intersection without providing an alternative access for vehicles utilizing this movement.

The proposed connection from NW 163rd Street to NW 17th Avenue and widening of NW 17th Avenue from NW 161st Street to SR 826 as proposed in the PD&E Alternative will improve traffic circulation within the industrial area while accommodating all the existing movements to and from the industrial area including a westbound egress from NW 16th Court for the industrial park. In addition, the traffic operational analysis indicates that the proposed improvements along NW 17th Avenue will result in LOS D at the NW 17th Avenue intersection and will not degrade operations (See **Attachment E**).

Recommendation: Based on the above evaluation, it is recommended to maintain the PD&E alternative which provides a connection from NW 163rd Street to NW 17th Avenue and widen NW 17th Avenue from NW 161st Street to SR 826 to improve access and mobility within the industrial park.

ATTACHMENT A

(Bridge Replacement Cost)

Golden Glades Interchange Value Engineering Study
SR 7/ US 441 NB Bridge Replacement Cost

DESCRIPTION	UNITS	UNIT COST	PROP'D QTY.	PROP'D COST	V.E. QTY.	V.E. COST
Flyover Bridge 1633 ft by 36 ft	SF	$165	58,930	$9,723,450		
Widening (870041)	SF	$160	15,155	$2,424,800		
NW 167 WB to I-95 SB-New	SF	$150	9,897	$1,484,550		
SR 7/US 441 Bridge Replacement	SF	$165			34,894	$5,757,434
Bridge Demolition	SF	$40	17,627	$705,080	26171.67	$1,046,867
Reconstructed Roadway	LF	$618	1,954	$1,208,412		
Milling & Resurfacing	LS	$122,191	1	$122,191	1	$122,191
MSE Walls	SF	$26	12,987	$337,662	78,684	$2,045,794
Lighting & Drainage	LS	$4,001,556	1	$4,001,556	1	$4,001,556
Signing & Pavement Marking	LS	$400,156	1	$400,156	1	$100,039
ITS & Utilities	LS	$800,311	1	$800,311	1	$800,311
Flyover Bridge A - 155 ft by 36 ft	SF	$145			5,700	$826,500
Flyover Bridge B - 1530 ft by 36 ft	SF	$165			54,400	$8,976,000
Embankment	CY	$11			36,000	$396,000
Barrier Wall	LF	$205			1,250	$256,250
SUBTOTAL				**$21,208,168**		**$24,328,942**
MOBILIZATION (THIS IS SUB+CONTIN. X % =)			10.0%	$2,651,021	10.0%	$2,432,894
MAINTENANCE OF TRAFFIC			15.0%	$3,181,225	10.0%	$3,649,341
PROJECT UNKNOWNS			25.0%	$5,302,042	25.0%	$6,082,235
GRAND TOTAL				**$32,342,457**		**$36,493,412**
				Difference =		**$4,150,955**

ATTACHMENT B

(Cost Estimates of Different Alternatives)

INTERIM BUILD ALTERNATIVE 1A-2				
Sequence 4: Turnpike Connector Widening -Initial Capital Cost				
Description	**Qty**	**Unit**	**Unit Cost**	**Total Cost**
Roadway - Reconstruction				
Stabilization	9368	SY	$2.18	$20,422.20
Base	8395	SY	$13.46	$112,992.58
Asphalt (Structural)	1790	TN	$92.77	$166,083.53
Asphalt (Friction Course)	346	TN	$107.40	$37,190.59
Embankment	24981	CY	$10.77	$269,048.48
Barrier Walls	2793	LF	$205.23	$573,207.39
Guardrail	3600	LF	$17.00	$61,200.00
Roadway - Milling & Resurfacing				
Milling	13447	SY	$2.97	$39,937.95
Asphalt (Structural)	1313	TN	$92.77	$121,783.33
Asphalt (Friction Course)	555	TN	$107.40	$59,574.11
Structures				
MSE Walls	5049	SF	$26.00	$131,274.00
Lighting	1	LS	$181,532.01	$181,532.01
Drainage	1	LS	$1,820,849.91	$1,820,849.91
Signalization	1	EA	$350,000.00	$350,000.00
Signing, Pavement Marking & Sign Structures	1	LS	$90,766.00	$90,766.00
ITS & Utlities	1	LS	$181,532.01	$181,532.01
Subtotal				**$4,217,394.08**
Right of Way				$0.00
MOBILIZATION	10%			$421,739.41
MAINTENANCE OF TRAFFIC	15%			$632,609.11
PROJECT UNKNOWNS	25%			$1,054,348.52
Total Construction Cost				**$6,326,091.13**
ENGINEERING DESIGN	8%			$506,087.29
CONSTRUCTION ENGINEERING AND INSPECTION	8%			$506,087.29
CONTINGENCY	10%			$632,609.11
TOTAL SEQUENCE 4:				**$7,970,874.82**

INTERIM BUILD ALTERNATIVE 1A-2				
Sequence 4: Turnpike Connector Reconstruction- Additional Future Cost				
Description	**Qty**	**Unit**	**Unit Cost**	**Total Cost**
Roadway - Reconstruction				
Stabilization	8880	SY	$2.18	$19,358.40
Base	8880	SY	$13.46	$119,524.80
Asphalt (Structural)	1954	TN	$92.77	$181,235.47
Asphalt (Friction Course)	305	TN	$107.40	$32,783.85
Embankment	17760	CY	$10.77	$191,275.20
Barrier Walls	2060	LF	$205.23	$422,773.80
Guardrail	3600	LF	$17.00	$61,200.00
Roadway - Milling & Resurfacing				
Milling	7000	SY	$2.97	$20,790.00
Asphalt (Structural)	770	TN	$92.77	$71,432.90
Asphalt (Friction Course)	289	TN	$107.40	$31,011.75
Structures				
Bridge Structures Replacements - (870159)	19127	SF	$140.00	$2,677,780.00
Bridge Structures - Replacements (870045)	9952	SF	$140.00	$1,393,280.00
Bridge Structures - Widening (870601)	7842	SF	$150.00	$1,176,300.00
Bridge Demolision	28651	SF	$43.60	$1,249,183.60
MSE Walls	5049	SF	$26.00	$131,274.00
Crash Walls	2	EA	$37,500.00	$75,000.00
Lighting	1	LS	$80,044.11	$80,044.11
Drainage	1	LS	$200,110.29	$200,110.29
Signing, Pavement Marking & Sign Structures	1	LS	$160,088.23	$160,088.23
ITS & Utlities	1	LS	$120,066.17	$120,066.17
Subtotal				**$8,414,512.57**
Right of Way				$0.00
MOBILIZATION	10%			$841,451.26
MAINTENANCE OF TRAFFIC	20%			$1,682,902.51
PROJECT UNKNOWNS	25%			$2,103,628.14
Total Construction Cost				**$13,042,494.49**
ENGINEERING DESIGN	8%			$1,043,399.56
CONSTRUCTION ENGINEERING AND INSPECTION	8%			$1,043,399.56
CONTINGENCY	10%			$1,304,249.45
TOTAL SEQUENCE 4:				**$16,433,543.06**

INTERIM BUILD ALTERNATIVE 1A-3				
Sequence 4: Turnpike Connector Widening -Initial Capital Cost				
Description	**Qty**	**Unit**	**Unit Cost**	**Total Cost**
Roadway - Reconstruction				
Stabilization	9368	SY	$2.18	$20,422.20
Base	8395	SY	$13.46	$112,992.58
Asphalt (Structural)	1790	TN	$92.77	$166,083.53
Asphalt (Friction Course)	346	TN	$107.40	$37,190.59
Embankment	31227	CY	$10.77	$336,310.60
Barrier Walls	2793	LF	$205.23	$573,207.39
Guardrail	3600	LF	$17.00	$61,200.00
Roadway - Milling & Resurfacing				
Milling	13447	SY	$2.97	$39,937.95
Asphalt (Structural)	1313	TN	$92.77	$121,783.33
Asphalt (Friction Course)	555	TN	$107.40	$59,574.11
Structures				
Bridge Structures (Widening)	7723	SF	$165.00	$1,274,342.85
MSE Walls	5049	SF	$26.00	$131,274.00
Crash Walls	2	EA	$37,500.00	$75,000.00
Lighting	1	LS	$150,465.96	$150,465.96
Drainage	1	LS	$1,820,849.91	$1,820,849.91
Signalization	1	EA	$350,000.00	$350,000.00
Signing, Pavement Marking & Sign Structures	1	LS	$75,232.98	$75,232.98
ITS & Utlities	1	LS	$150,465.96	$150,465.96
Subtotal				**$5,556,333.93**
Right of Way				$0.00
MOBILIZATION	10%			$555,633.39
MAINTENANCE OF TRAFFIC	15%			$833,450.09
PROJECT UNKNOWNS	25%			$1,389,083.48
Total Construction Cost				**$8,334,500.89**
ENGINEERING DESIGN	8%			$666,760.07
CONSTRUCTION ENGINEERING AND INSPECTION	8%			$666,760.07
CONTINGENCY	10%			$833,450.09
TOTAL SEQUENCE 4:				**$10,501,471.12**

INTERIM BUILD ALTERNATIVE 1A-3				
Sequence 4: Turnpike Connector Reconstruction -Additional Future Cost				
Description	**Qty**	**Unit**	**Unit Cost**	**Total Cost**
Roadway - Reconstruction				
Stabilization	7400	SY	$2.18	$16,132.00
Base	7400	SY	$13.46	$99,604.00
Asphalt (Structural)	1628	TN	$92.77	$151,029.56
Asphalt (Friction Course)	305	TN	$107.40	$32,783.85
Embankment	14800	CY	$10.77	$159,396.00
Barrier Walls	2060	LF	$205.23	$422,773.80
Guardrail	3600	LF	$17.00	$61,200.00
Roadway - Milling & Resurfacing				
Milling	7000	SY	$2.97	$20,790.00
Asphalt (Structural)	770	TN	$92.77	$71,432.90
Asphalt (Friction Course)	289	TN	$107.40	$31,011.75
Structures				
Bridge Structures Replacements - (870159)	19127	SF	$140.00	$2,677,780.00
Bridge Structures - Replacements (870045)	9952	SF	$140.00	$1,393,280.00
Bridge Structures - Widening (870601)	7842	SF	$150.00	$1,176,300.00
Bridge Demolision	33151	SF	$43.60	$1,445,383.60
MSE Walls	5049	SF	$26.00	$131,274.00
Crash Walls	2	EA	$37,500.00	$75,000.00
Lighting	1	LS	$79,651.71	$79,651.71
Drainage	1	LS	$199,129.29	$199,129.29
Signing, Pavement Marking & Sign Structures	1	LS	$159,303.43	$159,303.43
ITS & Utlities	1	LS	$119,477.57	$119,477.57
Subtotal				**$8,522,733.46**
Right of Way				$0.00
MOBILIZATION	10%			$852,273.35
MAINTENANCE OF TRAFFIC	15%			$1,278,410.02
PROJECT UNKNOWNS	25%			$2,130,683.37
Total Construction Cost				**$12,784,100.19**
ENGINEERING DESIGN	8%			$1,022,728.02
CONSTRUCTION ENGINEERING AND INSPECTION	8%			$1,022,728.02
CONTINGENCY	10%			$1,278,410.02
TOTAL SEQUENCE 4:				**$16,107,966.24**

INTERIM BUILD ALTERNATIVE 3A				
Sequence 4: Turnpike Connector Reconstruction -Initial Capital Cost				
Description	**Qty**	**Unit**	**Unit Cost**	**Total Cost**
Roadway - Reconstruction				
Stabilization	27700	SY	$2.18	$60,386.74
Base	26889	SY	$13.46	$361,929.53
Asphalt (Structural)	5984	TN	$92.77	$555,163.91
Asphalt (Friction Course)	1109	TN	$107.40	$119,126.17
Embankment	46167	CY	$10.77	$497,221.12
Barrier Walls	2310	LF	$205.23	$474,164.64
Structures				
Bridge Structures Replacements - (870159)	19127	SF	$150.00	$2,869,101.04
Bridge Structures - Replacements (870045)	9952	SF	$150.00	$1,492,750.00
Bridge Structures - Widening (870601)	7842	SF	$165.00	$1,293,943.75
Bridge Demolision	28651	SF	$43.60	$1,249,188.61
MSE Walls	5049	SF	$26.00	$131,274.00
Lighting	1	LS	$455,212.48	$455,212.48
Drainage	1	LS	$1,820,849.91	$1,820,849.91
Signalization	1	EA	$350,000.00	$350,000.00
Signing, Pavement Marking & Sign Structures	1	LS	$227,606.24	$227,606.24
ITS & Utlities	1	LS	$455,212.48	$455,212.48
Subtotal				**$12,413,130.62**
Right of Way				$0.00
MOBILIZATION	10%			$1,241,313.06
MAINTENANCE OF TRAFFIC	15%			$1,861,969.59
PROJECT UNKNOWNS	25%			$3,103,282.66
Total Construction Cost				**$18,619,695.93**
ENGINEERING DESIGN	8%			$1,489,575.67
CONSTRUCTION ENGINEERING AND INSPECTION	8%			$1,489,575.67
CONTINGENCY	10%			$1,861,969.59
TOTAL SEQUENCE 4:				**$23,460,816.88**

ATTACHMENT C

(Excerpt from Florida Rule 14-61)

CHAPTER 14-61
FLORIDA TURNPIKE SYSTEM

14-61.0011 Florida's Turnpike System (Repealed)
14-61.0012 Definitions
14-61.0013 Tolls
14-61.0014 Limitation on Use of Turnpike System
14-61.0015 Prohibitions on the Turnpike System
14-61.0016 Turnpike Tandem Access
14-61.0017 Other Regulations
14-61.0018 Tractor Requirements
14-61.0019 Tire Requirements
14-61.0020 Brake Requirements
14-61.0021 Emergency Equipment
14-61.0022 Lead Trailer Requirements
14-61.0023 Converter Dolly Requirements
14-61.0024 Lamps, Etc.
14-61.0025 Inspection by Driver
14-61.0026 Coupling Devices/Hitch Connections
14-61.0027 Staging
14-61.0028 Speed Limits, Minimum Distances, Passing, and Operations Under Hazardous Conditions

14-61.0011 Florida's Turnpike System.

Rulemaking Authority 316.515(12), 334.044(2), 338.239 FS. Law Implemented 338.01, 338.22-.241 FS. History–New 8-5-96, Amended 10-30-96, Repealed 11-5-09.

PART I GENERAL PROVISIONS

14-61.0012 Definitions.

Unless defined below, words, phrases, or terms contained herein shall have the definitions set forth in Florida Statutes, including Chapters 316 and 338, F.S. As used in these rules and regulations, the following words, phrases, or terms shall have the following meanings, where context will permit:

(1) "Department" means the State of Florida Department of Transportation.

(2) "Turnpike System" means as defined in Section 338.221(6), F.S.

(3) "Turnpike Tandem" means any combination of truck tractor, semitrailer, and trailer combination coupled together so as to operate as a single unit, in which either the semitrailer or the trailer unit exceeds 28 feet in length but in which neither the semitrailer nor the trailer unit exceeds 48 feet in length and which are operated in compliance with Parts II or III of this rule chapter.

(4) "Turnpike Tandem Permit" means an authorization issued by the Department's Road Use Permits Office for the specific and limited purpose of allowing combinations known as turnpike tandems to operate on the Turnpike System.

(5) "Tandem Trailer Truck" means as defined in Section 316.03(71), F.S.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 316.515, 338.239 FS. History–New 11-5-09.

14-61.0013 Tolls.

(1) Vehicle Classifications for Toll Schedule Purposes. For purposes of determining tolls payable under the Toll Schedule fixed by the Department for use of the Turnpike System, the base fare shall be based on two-axle vehicles and increased by an equal amount for each additional axle.

(2) Toll Rules and Rates on the Florida Turnpike System.

(a) Evasion of Tolls. This includes entering or leaving the Turnpike System or any part of its right of way, except through the regular toll lanes (except in emergency cases, and then only under the control and supervision of the Florida Highway Patrol or Toll

Collectors), or committing any other act with the intent to defraud or evade payment of tolls is prohibited. Enforcement of toll violations shall be in accordance with Rule Chapter 14-100, F.A.C., and all applicable toll enforcement statutes.

(b) Loss of Toll Ticket. The operator of a vehicle on the ticket system portion of the Turnpike System who, for any reason, does not have a toll ticket upon reaching an exit toll station, shall be charged the toll for the appropriate vehicle classification from the most distant toll station within the closed ticket portion of the Turnpike System.

(c) Exit of Vehicle at Point of Entry.

1. The operator of a vehicle on the ticket system portion of the Turnpike System who presents a toll ticket for payment to a toll collector at the same toll station at which such toll ticket was issued, shall be charged the toll for the appropriate vehicle classification from the nearest legal U-Turn point.

2. The operator of a vehicle on the electronic toll collection portion of the Turnpike System who exits the electronic toll collection portion of the Turnpike System at the same toll station at which such vehicle entered the electronic toll collection portion of the Turnpike System, shall be charged the toll for the appropriate amount for the vehicle classification from the nearest legal U-turn point.

(3) Upon entering the Turnpike System a Turnpike Tandem will be treated as two units and charged according to the current classification schedules and method of toll collection;

(a) The first unit will be the tractor and lead trailer; and

(b) The second unit will be the converter dolly and the second trailer.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 316.1001, 338.155, 338.165(3), 338.239 FS. History–New 11-5-09.

14-61.0014 Limitations on Use of Turnpike System.

In addition to the prohibitions and limitations of Chapters 316 and 338, F.S., use of the Turnpike System and entry thereon by the following is prohibited:

(1) Vehicles, including any load thereon, exceeding the maximum dimensions of Section 316.515, F.S., except under special hauling permit issued by the Department or vehicles operated under Tandem Permits issued by the Department.

(2) Vehicles carrying explosives, except under a special hauling permit issued by the Department, and in compliance with the rules and regulations promulgated by the State Insurance Commissioner and Section 316.302, F.S.

Rulemaking Authority 316.550(5), 334.044(2), 338.239 FS. Law Implemented 316.550(1), 324.044(14), 338.239 FS. History–New 11-5-09.

14-61.0015 Prohibitions on the Turnpike System.

(1) Hitchhiking – Loitering. The solicitation of a ride, commonly known as “hitchhiking,” on any portion of the Turnpike System, including toll plazas, is strictly prohibited. Loitering in or about the toll plazas, bridges, overpasses, underpasses, or any other structure, or any other portion of the Turnpike System, is prohibited.

(2) Soliciting or Carrying on Commercial Activity. No person shall:

(a) Engage in any commercial activity on the Turnpike System without the written permission of, or unless under contract with, the Department or Turnpike Enterprise. Nor shall any person solicit business or funds for any purpose on the Turnpike System without written permission granted by the Department or Turnpike Enterprise. No person shall at any time or in any manner electioneer on any part of the Turnpike System for or against any party ticket or any candidate for nomination, or officer on any party ticket, or for or against any proposition of any kind or nature to be voted upon at any election.

(b) Post, distribute, or display signs, advertisements, circulars, printed or written matter on the Turnpike System without written permission from, or written contract with, the Department or Turnpike Enterprise.

(c) Throw, cast, fling, heave, hurl, toss, shoot or discharge any pellet, rock, stone, bomb, gun, firearm or any other article, or item over, across, under or along any road, bridge, overpass, underpass, or any other structure of the Turnpike System.

(d) No person shall disturb, tamper with or attempt to destroy, injure or deface, damage, mutilate, or remove any sign, delineator, structure, building, fence, trees, flowers, shrubs, or any other property or equipment of the Turnpike System, or any of its concessionaires.

(e) Fail, neglect or refuse to comply with the collectors at toll booths and such other officials as may be employed by the Turnpike system for such purposes.

(3) Alcoholic Beverages. The consumption of alcoholic beverages is prohibited on the Turnpike System.

(4) Weapons. Brandishing of weapons by any person is prohibited on the Turnpike System.

(5) Operation of Vehicles. Except for those provisions which are inconsistent with or modified by these rules, the provisions of Chapter 316, State Uniform Traffic Control, F.S., shall apply on the Turnpike System.

(6) Speed Limits. All vehicles shall comply with the posted speed limit. No vehicles shall be operated on the Turnpike System less than 50 miles per hour, except where a lesser speed is posted, or when necessary to do so under the conditions of the road, inclement weather, or with regard to the actual and potential hazards then existing upon the Turnpike System.

(7) Use of Median Strip. No person shall operate a vehicle on the median strip. Driving a vehicle on the median strip is prohibited.

(a) Exceptions. Prohibition on use of the median strip shall not apply to Turnpike construction vehicles, Florida Highway Patrol, Turnpike Maintenance or official Department vehicles, or to their emergency service vehicles; nor to fire vehicles or ambulances, when operated in the performance of their official duties, provided that the operator thereof uses caution so as not to interfere with or endanger traffic.

(b) Prohibition on use of the median strip shall not apply to other emergency-service vehicles, if the crossing or use of the median strip is necessary for the purpose of towing, repairing or otherwise servicing a disabled vehicle provided that such crossing of the median strip shall be made only under the supervision and with the consent of the Florida Highway Patrol or an employee, agent, or contractor of the Department. Such crossing or use on the Turnpike System shall be further restricted to emergency service vehicles, not operated by garages under contract with the Department, coming to the assistance of a disabled trucking or bus company vehicle, provided that such emergency service vehicle is owned and operated by, or under contract with, the subject company whose vehicle is disabled. Disabled vehicles in tow by any emergency service vehicles operating under these conditions shall be allowed to cross or use the median strip.

(c) Upon the recommendation of the Florida Highway Patrol the Department will authorize parking in the median strip. Parking shall, however, be permitted only if such parking will not interfere with maintenance operations. Such parking in the median strip shall be authorized only if considered by the Florida Highway Patrol to not be dangerous or impractical.

(8) No U Turns. The making of a U turn at any point on the Turnpike System is prohibited unless authorized by the Florida Highway Patrol or the Department. Excepted from the provisions of this paragraph are such authorized vehicles as described under subsection 14-61.015(7), F.A.C., above, and then only under such conditions as are described therein.

(9) Overtaking a Vehicle. The provisions of the Florida Uniform Traffic Control Law shall be applicable to the overtaking and passing of vehicles on the Turnpike System except in areas posted to the contrary.

(10) Parking, Stopping or Standing of Vehicles on Traffic, Deceleration or Acceleration Lanes. No vehicle on the Turnpike System shall be parked, stopped, or allowed to stand on the traffic lanes, acceleration lanes, deceleration lanes, bridges, structures, access ramps, or on shoulders in front of service areas between the traffic lane and the service area, or at any other place where posted to the contrary. Parking, standing, or stopping on the shoulders of the Turnpike System shall be permitted only in an emergency, or when authorized by the Department, or as directed by the Florida Highway Patrol, and then only on the shoulder to the right of the traffic lane facing in the direction of travel and only on condition that all wheels and projecting parts of the vehicle and load shall be completely clear of the travel lanes. In the event that it is necessary for the operator of a truck or tractor-trailer to leave a vehicle on the Turnpike System unattended and it is impossible or impractical to have such vehicle towed off the Turnpike System, the operator shall obtain a parking permit from the Florida Highway Patrol before leaving the Turnpike System. The provisions of this paragraph shall not apply to vehicles owned by the Department.

(11) Impounding of Vehicles. Vehicles illegally parked or abandoned on the Turnpike System may be towed off the Turnpike System and impounded. Such vehicles may not be removed from the storage compound until after the payment of towing, storage and other charges.

(12) Penalty. The penalty provisions of the laws of the State of Florida, and Section 316.655, F.S., where applicable, shall apply to any person violating any of the above rules and regulations.

Rulemaking Authority 334.044(2), 338.2216(1)(b), 338.235, 338.239 FS. Law Implemented 316.083, 316.090, 316.183, 316.655, 338.234, 338.237, 338.239 FS. History–New 11-5-09.

PART II TURNPIKE TANDEMS

14-61.0016 Turnpike Tandem Access.

The Turnpike Enterprise will allow turnpike tandems access to the Turnpike System, consistent with the provisions specified herein:

(1) Size, Weight, and Safety Enforcement.

(a) The Motor Carrier Compliance Office, the Turnpike Enterprise, the Florida Highway patrol, or their respective staffs are authorized to inspect all equipment used in the tandem operation and to reject any defective equipment.

(b) The Motor Carrier Compliance Office has primary responsibility for enforcing commercial vehicle size, weight, and safety laws and rules on the Turnpike System.

(c) The Florida Highway Patrol has primary responsibility for enforcing the State's general traffic safety on the Turnpike System.

(2) Turnpike Tandem Permits and Certifications.

(a) The Department's Road Use Permits Office is responsible for issuing oversize/overweight Turnpike Tandem permits. All other certifications must be obtained from the Turnpike Enterprise.

(b) The permittee is responsible for any vehicle operating with an oversize/overweight permit and other certifications and for complete compliance with all terms of the permit and certification, including:

1. Ensuring that the driver is qualified to operate the vehicle and understands the terms and conditions of the permit, certifications, and the provisions of this rule chapter.

2. Ensuring that the vehicle is inspected and maintained in a safe and reliable condition; and

3. Ensuring that the vehicle operates in conformity with the permit, certifications, and the provisions of this rule chapter.

(c) Turnpike tandem permits are issued for the Turnpike system only. No authority is given to Turnpike Tandems to travel on routes off the Turnpike System.

(3) Original Application. To operate Turnpike Tandems on the Turnpike System, submit the following certifications to: Florida Turnpike Enterprise, Director of Highway Operations, Pompano Service Area, M.P. 65, Post Office Box 9828, Fort Lauderdale, Florida 33310-9828.

Form Number	Revision Date	Title
800-040-01	04/09	Certification of Turnpike Tandem Trailer Equipment (Tractor)
800-040-02	04/09	Certification of Turnpike Tandem Trailer Equipment (First or Lead Trailers)
800-040-03	04/09	Certificate of Insurance
800-040-04	04/09	General Certification Covering Turnpike Tandem Trailer Operations by Permittee
800-040-05	04/09	Certification for Special Permit to Operate Turnpike Tandem Trailer Vehicle
800-040-06	04/09	Certification of Turnpike Tandem Trailer Equipment (Dolly Converters)
800-040-07	04/09	Certification for Special Certificate to Operate Turnpike Tandem Trailer Vehicle

The above listed forms are hereby incorporated by reference and made a part of these rules. Copies of these forms are available at: http://formserver.dot.state.fl.us/capture/listings/FormListing.aspx?ListType=FormNumber.

(4) All tractors, laden first semi-trailer, and dollies must be approved and authorized by the Turnpike Enterprise before operating under a Turnpike Tandem certification. Authorization will be withdrawn by the Turnpike Enterprise when it determines that there is a material inconsistency between the provisions of the certification and the equipment in question, or that the continued operation on the Turnpike System would constitute an unsafe operation.

(5) Identification Numbers and Certification.

(a) An identification number will be issued by the Turnpike Enterprise. A decal displaying the identification number must be purchased by the Permittee and shall be placed on the left side of each tractor, lead trailer, and dolly approved for use in tandem trailer operations. The numerals must be white on green background; at least three inches in height; and, must be visible to a person standing at ground level.

(b) The Permittee must complete Form 800-040-01, Certification of Turnpike Tandem Trailer Equipment (Tractor), bearing a description of the tractor. Upon review and approval by the Department, this certification shall be carried in the cab of the tractor which it describes. Tractor certificates authorize only the vehicle described therein and shall be made available at any time for inspection by the Turnpike Enterprise, Motor Carrier Compliance Office, Florida Highway Patrol, or their respective staffs. Any

discrepancy between the description on the tractor certificate and the actual description of the vehicle will result in the withdrawal of approval.

(c) The Permittee must complete Form 800-040-02, Certification of Turnpike Tandem Trailer Equipment (First or Lead Trailers), bearing a description of the lead trailer or dolly. Certificates for lead trailers and dollies are not required to be carried by the operator.

(6) Renewal of General Certification. Turnpike Tandem certifications may be renewed by submitting Form 800-040-04, General Certification Covering Turnpike Tandem Trailer Operations. The certificate is renewed and effective September 1st of each year, through August 31st of the following year. Request for certification renewal must be submitted at least 30 days prior to the expiration date. The Florida Turnpike Enterprise does not provide notification of certification expiration.

(7) Responsibility of Permittee.

(a) Each certificate to operate turnpike tandems shall be valid only when the Permittee has filed Form 800-040-03, Certificate of Insurance, attesting to the fact that the Permittee has secured public liability insurance maintained in compliance with Sections 627.7415 and 627.742, F.S., and 49 C.F.R., Part 387, Subpart A, where applicable. The named insured shown on all such applied policies shall include the Florida Highway Patrol, the Motor Carrier Compliance Office, the Turnpike Enterprise, and each of their respective officers, agents, and employees.

(b) Such public liability insurance certificate shall explicitly state that the Turnpike Tandem operations of the Permittee are expressly covered under the policy(ies) in effect, or in the alternative, that there is no exclusion in said policy relative to Turnpike Tandem operations by the Permittee. Such certificate shall also provide that the coverage under the policy may not be canceled without 30 days prior notice, in writing, to the Executive Director of the Florida Turnpike Enterprise. In the event of cancellation of such public liability insurance policy, every Turnpike Tandem covered by that certificate shall be automatically cancelled.

(c) Certificates of self-insurance issued by the Florida Department of Highway Safety and Motor Vehicles will be accepted in fulfillment of the insurance requirements stated herein, providing such certificates satisfy all the specific requirements.

(d) Description of coverage shall include: Public liability arising in respect to all movement of tandem trailer units. This includes service trucks, wreckers, or any other vehicles used in the service of the tandem trailer operation, by the Permittee or by anyone acting by, through, or for the Permitee, including omissions and supervisory acts of the Motor Carrier Compliance office, the Turnpike Enterprise, the Florida Highway Patrol, and each of their respective officers, agents, or employees.

(8) Other Permittee information. The Permittee shall, upon request, furnish the Turnpike Enterprise with all data and information pertaining to an individual trip by a Turnpike Tandem or the overall tandem trailer operation of the Permittee on the Turnpike System.

(9) Voided Certifications and Permits. When in the interest of health, safety, or welfare of the citizens of the State, the Turnpike Enterprise determines that operation of a turnpike tandem constitutes a hazard to Turnpike System operations, certifications will be voided in whole or in part. A turnpike tandem oversize/overweight permit will be voided, in whole or in part, by the Road Use Permits Office or the Motor Carrier Compliance Office if the vehicle is in violation of the requirements of the oversize/overweight permit; or if the operation of the Turnpike Tandem is determined to be unsafe.

Rulemaking Authority 334.044(2), 334.044(14), 338.2216(1)(b), 338.239 FS. Law Implemented 316.515, 316.646, 321.05, 324.171, 334.044(14), 334.044(32), 338.22-.244, 338.239(2) FS. History–New 11-5-09.

PART III REGULATIONS COVERING THE OPERATION AND SAFETY OF TURNPIKE TANDEMS

14-61.0017 Other Regulations.

(1) Driver Requirements.

(a) All drivers of Turnpike Tandem trailer must have a current Commercial Driver's License (CDL) with an endorsement for double trailers consistent with the provisions of Section 322.57, F.S.

(b) All drivers of Turnpike Tandems and all other individuals or companies operating turnpike tandems must comply with Section 316.302(1), F.S., except that driver exemptions as set forth in 49 C.F.R. 391.21 and 391.67 shall not apply to drivers of turnpike tandems.

(c) All drivers of Turnpike Tandems must have a minimum of five years' experience driving truck tractor semi-trailer combinations.

(d) A driver of a Turnpike Tandem must have had no suspension or revocation of driving privileges in any state or province during the past three years where such suspension arose out of operations of a commercial motor vehicle.

(2) Overall Length, Height, and Width.

(a) All overdimensional rules of the Turnpike Enterprise shall apply to Turnpike Tandems unless specifically excluded under the provisions of this rule chapter.

(b) The overall cargo carrying length of a Turnpike Tandem, as measured from the front of the first trailer to the rear of the second trailer including, the interval between the two trailers, shall not exceed 106 feet.

(c) Turnpike Tandems shall not exceed 13 feet 6 inches in height or 8 feet 6 inches in width.

(3) Weight and Axle Requirements.

(a) All overweight rules of Section 316.515, F.S., shall apply to Turnpike Tandems unless specifically excluded under the provisions of this rule chapter.

(b) The maximum gross weight of the truck tractor and the first semitrailer of a Turnpike Tandem shall not exceed 80,000 pounds.

(c) The maximum gross weight of the unit of dolly and second trailer of a Turnpike Tandem shall not exceed the lesser of:

1. 67,000 pounds, or

2. The weight provisions of the State's outer bridge formula set forth in Section 316.535(5), F.S., as measured between the center of the foremost axle of the dolly and the rearmost axle of the trailer.

(d) In the event that a Turnpike Tandem is composed of trailers of unequal gross weight, the heavier of the two shall be used as the lead trailer.

(e) The gross weight limits described in Chapter 316, F.S., may be exceeded with valid oversize/overweight permit issued by the Road Use Permits Office for a maximum gross weight not to exceed 147,000 pounds.

(f) A minimum of five load bearing axles are required unless stated otherwise in a valid oversize/overweight permit issued by the Road Use Permits Office.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 316.515(12), 322.57, 322.61, 338.239 FS. History–New 11-5-09.

14-61.0018 Tractor Requirements.

(1) A tractor used to propel a Turnpike Tandem shall be capable of traveling at a speed of not less than 50 mph except where lower speed limits are posted.

(2) Prior to approval, both the tractor manufacturer and the Permittee shall certify to the Turnpike Enterprise on Form 800-040-01, Certification of Turnpike Tandem Trailer Equipment (Tractor), that the vehicles proposed to be furnished and used will meet the minimum speed requirements.

(3) A tractor engaged in Turnpike Tandem operations failing to meet such requirement shall not be used to haul a turnpike tandem on the Turnpike System until the gross loads are reduced, the tractor is modified, or other corrective measures have been taken.

(4) Upon a new certification by both the tractor manufacturer and the Permittee that corrective measures have been taken and the tractor meets the minimum speed requirement, the Turnpike Enterprise will reinstate its approval of the described Turnpike Tandem and it may be used in Turnpike Tandem operations.

(5) A tractor engaged in Turnpike Tandem trailer operations must also certify on Form 800-040-01, Certification of Turnpike Tandem Trailer Equipment (Tractor), that the unit is qualified to haul a total gross weight of at least 147,000 pounds.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 316.183(2) FS. History–New 11-5-09.

14-61.0019 Tire Requirements.

(1) Each axle on a Turnpike Tandem must have tires of the same size and construction. Tires must be properly inflated for the load to be carried. In no event shall any tire, wheel, or rim exceed the manufacturer's maximum load-carrying limit. Tires and tire usage must be consistent with the requirements of 49 C.F.R., 393.75, as required by Section 316.302(1), F.S.

(2) A vehicle equipped with dual tires may have the dual tires replaced by a single tire so long as the vehicle, axle, and tire load ratings are not exceeded.

(3) No tire may exceed 550 pounds per inch of tire section width as defined by the rating molded in the tire sidewall. For example, a designation of 445/50R22.5 designates a tire section width of 445 mm (17.5 inches).

Rulemaking Authority 316.535(1), 334.044(2), 338.239(1) FS. Law Implemented 316.535(6), 338.239 FS. History–New 11-5-09.

14-61.0020 Brake Regulations.

(1) Every Turnpike Tandem shall be equipped with full air brakes or air activated hydraulic brakes on the tractor and either air or electric brakes on the dolly and trailers. All brakes shall equal or exceed both the equipment requirements and the performance standards cited in Chapter 316, F.S., and 49 C.F.R., 393.40 through 393.52, hereby incorporated by reference.

(2) The brakes on any vehicle or combination of vehicles, used in the Turnpike Tandem operations shall be adequate to control the movement of, and to stop and hold, such vehicle, or combination of vehicles, and meet the general requirements of the provisions of the Florida Uniform Traffic Control Law, Section 316.262, F.S.

(3) The Permittee shall certify to the Turnpike Enterprise on Form 800-040-04, General Certification Covering Turnpike Tandem Operations by Permittee, that the brakes on any vehicle or combination of vehicles used as a Turnpike Tandem meet the specific requirements specified in this rule.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 316.261-.263, 338.239 FS. History–New 11-5-09.

14-61.0021 Emergency Equipment.

Each tractor used in Turnpike Tandem trailer operations shall be equipped with the following emergency equipment:

(1) A fire extinguisher having an Underwriters Laboratories rating of 5B:C or two or more fire extinguishers having an Underwriters Laboratories rating of 4B:C or more. For the purpose of this requirement, a vehicle deemed to be transporting hazardous materials must be placarded in accordance with Section 316.302, F.S., and 49 C.F.R. 393.95.

(2) Warning devices for stopped vehicles. At least three bi-directional reflective triangles which conform to the standard for such devices contained in 49 C.F.R. 393.95.

Rulemaking Authority 316.302(5), 334.044(2), 338.239 FS. Law Implemented 316.301, 338.239 FS. History–New 11-5-09.

14-61.0022 Lead Trailer Requirements.

Prior to approval, both the trailer manufacturer and the Permittee shall certify to the Turnpike Enterprise on Form 800-040-02, Certification of Tandem Trailer Equipment (First or Lead Trailers) that the vehicle proposed to be furnished will be adequate to meet all requirements of a first semi-trailer. Semi-trailers operated with this certification must comply with all requirements listed on that form.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 338.239 FS. History–New 11-5-09.

14-61.0023 Converter Dolly Requirements.

(1) A converter (fifth-wheel) dolly used in the Turnpike Tandem operations may have either a single or a double axle, according to its total gross weight. In addition to the tow bar(s), the dolly vehicle must be equipped with safety chains or cables for connecting the dolly to the lead semi-trailer and adequate to prevent breakaway.

(2) When the distance between the rear of the first semi-trailer and the front of the second semi-trailer is 10 feet or more, the dolly shall be equipped with a device, or the trailers shall be connected along the sides with suitable material, which will advise other motorists that the trailers are connected and are in effect one unit.

(3) The Permittee shall certify to the Turnpike Enterprise on Form 800-040-06, Certification of Turnpike Tandem Equipment (Dolly Converters), that the equipment proposed complies with all the requirements listed on that form.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 338.239 FS. History–New 11-5-09.

14-61.0024 Lamps, Etc.

(1) Lamps and Reflectors. Each tractor, trailer, and converter dolly in a Turnpike Tandem shall be equipped with electrical lamps and reflectors mounted on the vehicle in accordance with Chapter 316, F.S., 49 C.F.R. 393.9 through 393.33, as required by Section 316.302(1), F.S.

(2) Mud Flaps, splash, and spray suppressant devices. Each Turnpike Tandem shall be equipped with mud flaps and splash and spray suppressant devices meeting the requirements of and mounted on the vehicle in accordance with Section 316.252, F.S.

Rulemaking Authority 316.252, 334.044(2), 338.239 FS. Law Implemented 316.252, 338.239 FS. History–New 11-5-09.

14-61.0025 Inspection by Driver.

After all of the component vehicles in a Turnpike Tandem are completely hooked up and prior to the departure of the unit from the assembly area, the driver or a mechanic shall inspect the tandem unit to ensure that each item is in proper operating condition. No Turnpike Tandem shall be driven unless the driver thereof shall have satisfied the requirements of 49 C.F.R. 392.7 through 392.9, hereby incorporated by reference, as required by Section 316.302(1), F.S.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 338.239 FS. History–New 11-5-09.

14-61.0026 Coupling Devices/Hitch Connections.

(1) All coupling devices shall equal or exceed both the equipment requirements and the performance standards established in 49, C.F.R. 393.70, as required by Section 316.302(1), F.S.

(2) Vehicles in a Turnpike Tandem shall be designed, constructed, and connected as to ensure that shifting or swerving from side to side will not exceed two inches to each side of the path of the towing vehicle when it is moving in a straight line.

(3) All coupling devices/hitch connections shall be of a no-slack type which must be visible and operating. All drawbars, pickup plates, and fifth wheels must be rated to exceed the weight carried. Any kingpin must be rated to exceed the weight carried. Any kingpin must be solid and must be permanently fastened.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 338.239 FS. History–New 11-5-09.

14-61.0027 Staging.

(1) Turnpike Tandems shall be made and broken down only in designated Turnpike System staging areas. All movement across traffic while entering or leaving a staging area shall be made using extreme caution.

(2) Permitees shall assume all responsibility for their vehicles and equipment, as well as the contents thereof, while such vehicles and equipment are in a staging area.

(3) For the purposes of safety and meeting unforeseen local conditions, the Permittees' use of staging areas is subject to Turnpike Enterprise regulations at the staging areas, including the prohibition of staging during certain hours; temporary suspension of staging; and limitation of the time that equipment may be parked in the staging area.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 338.239 FS. History–New 11-5-09.

14-61.0028 Speed Limits, Minimum Distances, Passing, and Operations under Hazardous Conditions.

(1) Speed Limits. When the speed of a Turnpike Tandem drops to 20 mph less than the posted maximum speed limit, the driver must use emergency flashers to notify the passing traffic that they are approaching a vehicle traveling substantially slower than the rest of the traffic.

(2) Minimum Distances. A minimum distance of 100 feet for each 10 mph of speed shall be maintained between a Turnpike Tandem trailer and another vehicle traveling in front of it in the same travel lane, unless weather or other roadway conditions do not permit such distance.

(3) Passing. A Turnpike Tandem may pass another vehicle traveling in the same direction only if the speed differential will allow the Turnpike Tandem to complete the maneuver and return to the normal driving lane within a distance of one mile and be performed within the posted speed limit. Turnpike Tandems must stay in the right lane, or those lanes designated for travel by posted signs, unless they are in the act of passing.

(4) Operations under Hazardous Conditions.

(a) Drivers of Turnpike Tandems shall exercise extreme caution when hazardous conditions exist, such as fog, smoke, dust, mist, or rain. Speed shall be reduced when such conditions exist.

(b) When hazardous weather conditions become dangerous, the driver or Permittee shall discontinue operations, and such operations shall not be resumed until the vehicle can be safely operated. The Turnpike Enterprise, Motor Carrier Compliance Office, Florida Highway Patrol, or their respective staffs may restrict or prohibit operations during periods when traffic, weather, or other safety conditions make such operations unsafe or inadvisable.

Rulemaking Authority 334.044(2), 338.239 FS. Law Implemented 316.55, 338.239 FS. History–New 11-5-09.

ATTACHMENT D

(Benefit Cost Estimates)

Golden Glades Interchange Alternatives
Value Engineering Study
Benefit-Cost Evaluation for NW 2nd Avenue and NW 167th Street Intersection

Total Intersection Delay (veh-hrs)		
	PD&E	**VE**
Total Delays Time (veh-hrs)	967	822
Difference with PD&E		-15%

Travel Time Savings

Net Savings	VE vs PD&E
Savings in Delay (veh-hrs)	145
Annual Savings (Daily x 250) (veh-hrs)	36,250

Value of Time	$25.82
Consumer Price Index	3.5%
Assumed Interest Rate	4.0%

Annual Benefit Calculations	VE vs PD&E
Total Annual Benefit (2018)	$940,000
Estimated Additional Cost (2012)	$47,673
Estimated Additional Cost (2018)	$58,602
2018 Annualized Cost (over 20-years horizon)	$2,344

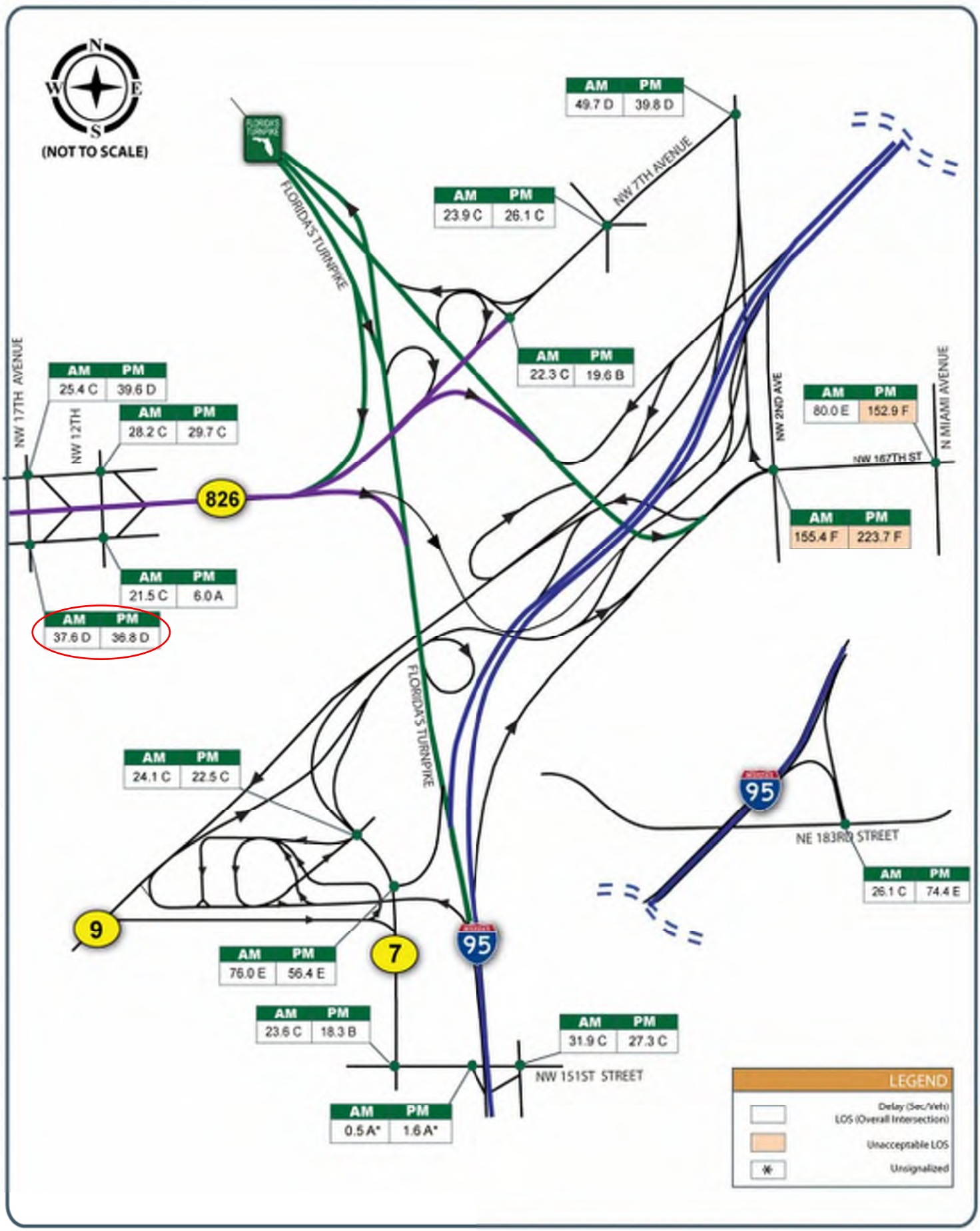
Annualized Benefit/Cost	**400.98**

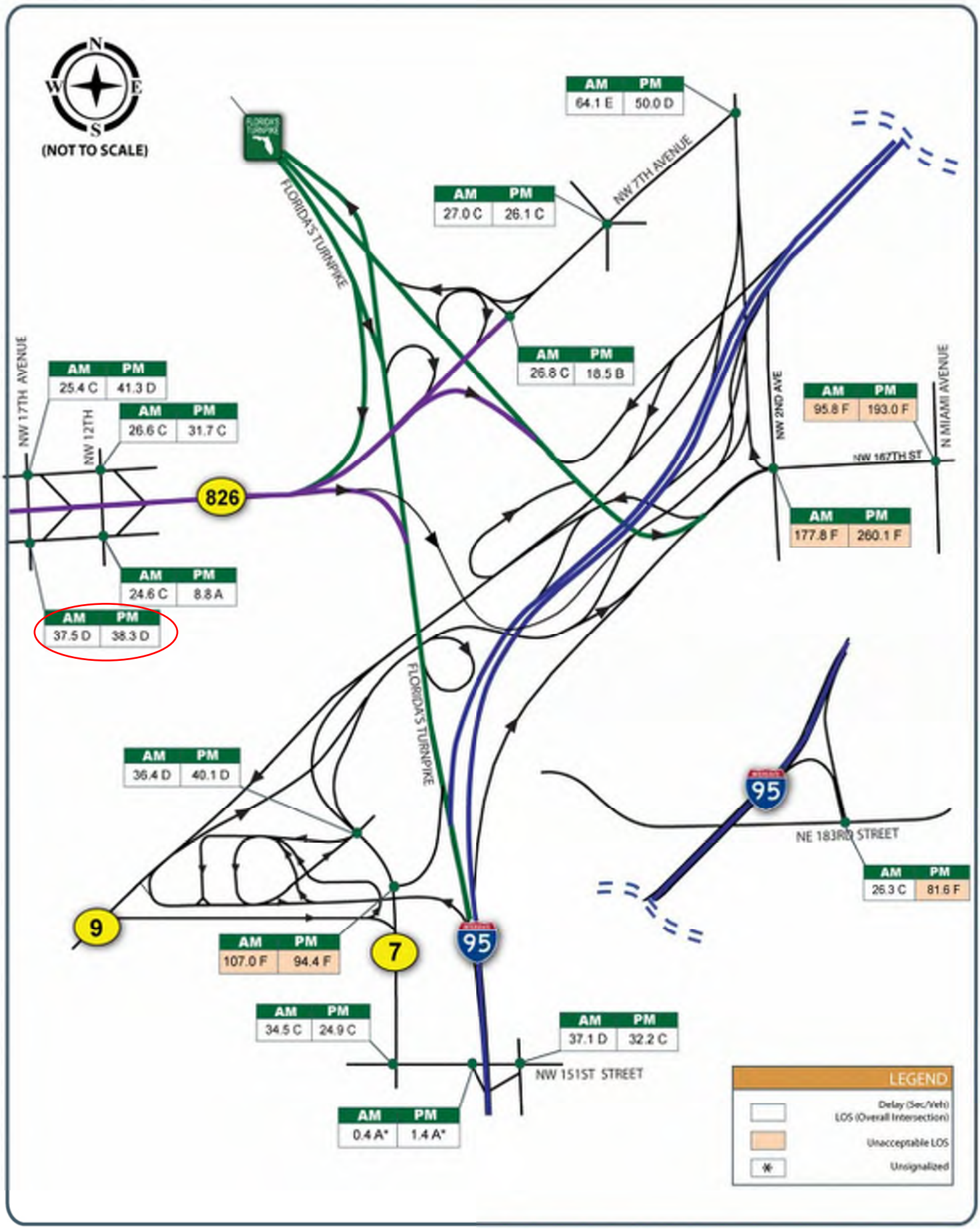
2011 Texas Transportation Institute (TTI) - Urban Mobility Report Value of Time (

2010 Average Cost of Time	$16.30	Source: TTI Urban Mobility Report, 2011
Average Occupancy during peak conditions	1.34	Source: Southeast Florida Travel Characteristics Survey, 2000
2010 Commercial Vehicle Operating Cost	$88.12	Source: TTI Urban Mobility Report, 2011
Turnpike Mainline Percent Trucks (peak hour)	6.00%	Source: CY 2010 Traffic Factors
2010 Weighted Value of Time	$25.82	

ATTACHMENT E

(Traffic Analysis Results)


(NOT TO SCALE)
FLORIDA'S TURNPIKE
NW 7TH AVENUE
NW 17TH AVENUE
NW 12TH
NW 2ND AVE
N MIAMI AVENUE
NW 167TH ST
826
95
9
7
NE 183RD STREET
NW 151ST STREET
AM PM
49.7 D 39.8 D
23.9 C 26.1 C
22.3 C 19.6 B
25.4 C 39.6 D
28.2 C 29.7 C
80.0 E 152.9 F
155.4 F 223.7 F
21.5 C 6.0 A
37.6 D 36.8 D
24.1 C 22.5 C
26.1 C 74.4 E
76.0 E 56.4 E
23.6 C 18.3 B
31.9 C 27.3 C
0.5 A* 1.6 A*
LEGEND
Delay (Sec/Veh)
LOS (Overall Intersection)
Unacceptable LOS
Unsignalized


(NOT TO SCALE)
N
W
E
S
FLORIDA'S TURNPIKE
NW 7TH AVENUE
NW 17TH AVENUE
NW 12TH
NW 2ND AVE
N MIAMI AVENUE
NW 167TH ST
826
95
9
7
NE 183RD STREET
NW 151ST STREET
AM PM
64.1 E 50.0 D
AM PM
27.0 C 26.1 C
AM PM
26.8 C 18.5 B
AM PM
25.4 C 41.3 D
AM PM
26.6 C 31.7 C
AM PM
95.8 F 193.0 F
AM PM
177.8 F 260.1 F
AM PM
24.6 C 8.8 A
AM PM
37.5 D 38.3 D
AM PM
36.4 D 40.1 D
AM PM
107.0 F 94.4 F
AM PM
34.5 C 24.9 C
AM PM
37.1 D 32.2 C
AM PM
0.4 A* 1.4 A*
AM PM
26.3 C 81.6 F
LEGEND
Delay (Sec/Veh)
LOS (Overall Intersection)
Unacceptable LOS
Unsignalized

Appendix C

SR 924 EAST EXTENSION PD&E STUDY

May 2013

MDX Work Program No: 92407
ETDM No: 11500





Project Development and Environment (PD&E) Study for the

SR 924 / Gratigny Parkway East Extension

From West of NW 32nd Avenue to I-95

Draft Preliminary Engineering Report

Draft

Prepared For:

Miami-Dade Expressway Authority
3790 NW 21st Street
Miami, FL 33142

Submitted by:

HDR

MIAMI-DADE EXPRESSWAY AUTHORITY

MDX Work
Program No: 92407

Project Development and
Environment (PD&E) Study for the

SR 924 / Gratigny Parkway East Extension

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Draft Preliminary Engineering Report

May 2013

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ACRONYMS

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
CARS	Crash Analysis System
CD	Collector-Distributer
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Administration
FHWA	Federal Highway Administration
FIHS	Florida Intrastate Highway System
FPL	Florida Power and Light
GP	General Purpose
HEFT	Homestead Extension of Florida's Turnpike
ICPR	Interconnected Channel and Pond Routing
ITS	Intelligent Transportation Systems
LOS	Level of Service
LRE	Long Range Estimates
LRTP	Long Range Transportation Plan
MD-RER	Miami-Dade's Department of Regulatory and Economic Resources
MDX	Miami-Dade Expressway Authority
MDT	Miami-Dade Transit
MOT	Maintenance of Traffic
MPH	Miles per Hour
MPO	Metropolitan Planning Organization
NGVD	National Geodetic Vertical Datum
PD&E	Project Development and Environment

PER	Preliminary Engineering Report
PMS	Pavement Management System
PPM	Plans Preparation Manual
SFWMD	South Florida Water Management District
SIS	Strategic Intermodal System
SR	State Road
TCP	Temporary Traffic Control Plan
TSM&O	Transportation System Management and Operations
VMS	Variable Message Signs
WASD	Water and Sewer Department
WQ	Water Quality

1.0 Summary of Project

The Miami-Dade Expressway Authority (MDX) is conducting a Project Development and Environment (PD&E) Study for a proposed eastward extension of State Road (SR) 924 / Gratigny Parkway to I-95. The project is being performed in collaboration with the Florida Department of Transportation (FDOT) and Federal Highway Administration (FHWA) and studied in accordance with FDOT's PD&E Study process. The PD&E Study includes an evaluation of alternatives for a potential new expressway extension from the current eastern terminus of Gratigny Parkway west of NW 32nd Avenue to the existing NW 119th Street/I-95 interchange, a distance of approximately 2.5 miles. Project improvements are also being evaluated for potential new Gratigny Parkway ramp connections at NW 32nd Avenue/ NW 27th Avenue, NW 7th Avenue, and to and from I-95 between NW 103rd Street and NW 135th Street. Reconfiguration and partial reconstruction of NW 119th Street (at-grade) below the potentially elevated expressway are also being evaluated, and are documented in this report. **Figure 1-1** illustrates the location and limits of the study.

This Preliminary Engineering Report (PER) contains detailed engineering information for the Gratigny Parkway East Extension to I-95 Project per the requirements of the PD&E Manual.

Figure 1-1 | Location Map



1.1 Description of Existing Facility

From west of NW 32nd Avenue to I-95, SR 924 is a controlled access facility also known as NW 119th Street. It is classified as an urban principal arterial and has a posted speed limit of 45 miles per hour (MPH) from NW 32nd Avenue to NW 27th Avenue and 40 MPH from NW 27th Avenue to I-95. The existing design speeds are 50 MPH from NW 32nd Avenue to NW 27th Avenue and 45 MPH from NW 27th Avenue to I-95. The typical section varies from eight lanes (from west of NW 32nd Avenue to NW 27th Avenue) to six lanes (from NW 27th Avenue to NW 7th Avenue). A raised median is provided throughout this section of SR 924. The western five miles of SR 924, from SR 826 to west of NW 32nd Avenue, is a six-lane limited access all electronic toll road maintained by MDX. The posted speed limit of SR 924 west of NW 32nd Avenue is 55 MPH and the design speed is 60 MPH. SR 924 from I-75 to I-95 is categorized as a National Highway System (NHS), Florida Intrastate Highway System (FIHS) and Strategic Intermodal System (SIS) facility.

Interstate-95 is a north-south limited access facility with a functional classification of urban principal arterial-interstate and is part of the NHS, FIHS, and SIS. Within the study area, I-95 is a 12-lane divided facility with a posted speed limit of 55 MPH and a design speed of 60 MPH. It consists of eight general purpose (GP) lanes and four express toll / special use lanes (I-95 Express). The express lanes utilize a dynamic tolling scheme with variable pricing based on congestion levels within the express lanes.

1.2 Need for the Project

The purpose of the project is to provide a more integrated highway system to serve the needs of the area and to improve access and mobility to and from the major origins and destinations in northern Miami-Dade County. The goals of the project are to:

- Alleviate existing and future traffic congestion along NW 119th Street;
- Reduce travel times and minimize delays on NW 119th Street by separating pass-through traffic from local traffic; and
- Provide a critical east-west limited access expressway connection in northern Miami-Dade County.

In addition, the project seeks to provide livable community enhancements which may include the removal of existing lanes, more integrated residential and business communities between the north and

south sides of NW 119th Street, improved pedestrian connectivity, wider sidewalks, enhanced lighting, bike lanes, and landscaping. The potential enhancements under consideration for this project are consistent with the North Miami Community Redevelopment and downtown Master Plans, the 7th Avenue Community Redevelopment Master Plan, and the Miami-Dade County North Central Charrette Master Plan.

The following sections summarize the need for the proposed improvements. A more detailed discussion of the purpose and need for the project is provided in the *Type II Categorical Exclusion*.

1.2.1 Area Wide Needs

1.2.1.1 System Linkage

There is currently a missing link in the limited access highway system along SR 924 from NW 32nd Avenue to I-95 where SR 924, as a limited access facility, becomes an urban arterial roadway, NW 119th Street. Filling this gap would enhance the mobility of travelers in the northern area of Miami-Dade County by providing a limited access interconnection of the county's major highways: SR 826, SR 924, I-75, Homestead Extension of Florida's Turnpike (HEFT), and I-95. These highway interconnections will reduce travel times and minimize delays by separating through traffic from local traffic in the study area.

In addition, several managed lanes alternatives with a tolling component are being considered in Miami-Dade County on existing limited access expressways. The I-95 Express Lanes Project from downtown Miami to the Golden Glades interchange was opened to traffic in December 2008. Appropriate interconnection between the proposed Gratigny Parkway East Extension and the existing I-95 GP lanes and consideration of the I-95 managed lanes is a significant component for this study in coordination with the FDOT. Express lanes alternatives are also being evaluated under separate studies for I-75 and SR 826.

MDX is also considering two other projects which would compliment the Gratigny Parkway East Extension with additional system linkage. The western extension of SR 924 (west of SR 826/I-75), which would provide an interchange with the HEFT, is currently in the PD&E study phase. The potential Connect 4 Express Project will study a new, approximately nine mile north/south connector from SR 836/Dolphin Expressway to SR 826/Palmetto Expressway, with potential for direct access to SR 924 and for future extension to the HEFT.

1.2.1.2 Population Growth

The immediate regions surrounding the project area have experienced significant growth since 1990 and are expected to continue to grow over the next 25 years. The 2010 Census documented the population of Miami-Dade County at nearly 2.5 million, a 10.8 percent increase since 2000 and a 29 percent increase since 1990. By 2035, the Miami-Dade Metropolitan Planning Organization (MPO) estimates that the county population will grow to more than 3.2 million people. In the northern part of Miami-Dade County, where the project is located, population was 493,241 in 2005 and is expected to have a 23% population increase by 2035. Population growth will continue to create more transportation demand for the region and study area.

1.2.1.3 Transportation Demand

Miami-Dade County conducts continuous studies of its transportation network that are updated every one to seven years in its comprehensive plan. The Gratigny Parkway East Extension to I-95 project is included in the Miami-Dade County MPO's 2035 Cost Feasible Long Range Transportation Plan (LRTP). It is scheduled for planning and design from 2010 to 2020, right-of-way acquisition between 2015 and 2020, and construction between 2021 and 2035.

Additionally, the enhancements under consideration for this project have the potential to support implementation of local community development and land use plans including the North Miami Community Redevelopment Plan and the Miami-Dade County North Central Charrette. Both of these plans envision enhancements to NW 119th Street, including wider sidewalks and landscaping. The recommendations from these plans will be considered in the design of the project.

1.2.1.4 Modal Relationships

In the project area, there are local bus routes along NW 119th Street and along crossing streets including: NW 32nd Avenue, NW 27th Avenue, NW 22nd Avenue, NW 17th Avenue, and NW 7th Avenue. Currently, there are no bicycle lanes within the study limits. Miami-Dade Transit (MDT) is proposing Enhanced Bus Service along NW 27th Avenue as an alternative to the Metrorail extension. The Enhanced Bus Route will be designated as Route 297, replacing Route 97. Enhanced Bus Service upgrades local bus service by providing specially branded buses, upgrades to bus shelters, strategic park-and-ride lot locations, and improved technology. It is scheduled for near term implementation.

As part of the City of North Miami's Economic Redevelopment Plan, several bicycle and pedestrian improvements are planned along the project corridor. The Gratigny Parkway East Extension will

consider the inclusion of bicycle lanes and sidewalks to accommodate these efforts. MDX is committed to enhancing the bicycle and pedestrian experience and livability within the area as part of the proposed project.

1.2.2 Project Corridor Needs

1.2.2.1 Capacity

East-west limited access expressway capacity in northern and central Miami-Dade County is presently limited to SR 826 and SR 836, which are currently congested and anticipated to remain congested in the future. Therefore, an additional east-west limited access facility is needed to serve the continuous growth and development in this part of the county and the region.

Additionally, several intersections and segments on NW 119th Street are operating at or above capacity during peak hours. The adopted level of service (LOS) standard for NW 119th Street is LOS E. An existing conditions intersection analysis reported that eleven unsignalized intersections (side street approaches) and two signalized intersections on NW 119th Street operated at LOS E or F in one or both peak periods in 2010. Also, six westbound and five eastbound segments on NW 119th Street currently operate at a LOS E or F. By 2040, the entire NW 119th Street corridor traveling eastbound during the morning, and westbound during the evening peak hours, will be operating at LOS F according to the *Design Traffic Technical Memorandum* (DTTM).

1.2.2.2 Safety

A safety analysis study was performed along SR 924 from west of the NW 57th Avenue/Red Road interchange to NW 5th Avenue east of I-95. SR 924/NW 119th Street within these limits experienced an abnormally high crash rate during the time period from 2005 to 2009. Approximately 249 crashes were experienced annually along the corridor. Several roadway segments and intersections along the study corridor were listed as high crash locations in the FDOT Crash Analysis Reporting System (CARS) database. The high crash segments and intersection that were identified in the safety analysis are as follows:

High Crash Segments:

- SR 924 from west of Red Road to east of Red Road
- SR 924/Gratigny Parkway from NW 32nd Avenue to NW 5th Avenue

High Crash Intersections:

- SR 924 at NW 32nd Avenue
- SR 924 at NW 27th Avenue
- SR 924 at NW 7th Avenue

Improvements proposed under the Gratigny Parkway East Extension to I-95 project will improve capacity along the SR 924 corridor and separate pass-through traffic from local traffic.

1.3 Commitments and Recommendations

To be added after final review and approval of the *Type II Categorical Exclusion*.

1.4 Description of Proposed Action

1.4.1 Description of Recommended Alternative

The Recommended Alternative includes an elevated four-lane limited access extension of Gratigny Parkway from west of NW 32nd Avenue to I-95 and modifications to the existing NW 119th Street which would be reduced from six lanes to four lanes. Interchanges would be located at I-95 and NW 32nd/NW 27th Avenue. The interchange at I-95 would be a full interchange including the following ramps:

- I-95 southbound to Gratigny Parkway westbound (2nd level ramp – over NW 119th Street and local roads);
- I-95 northbound to Gratigny Parkway westbound (3rd level ramp – over I-95, southbound to NW 103rd Street ramp and NW 119th Street);
- Gratigny Parkway eastbound to I-95 northbound (4th level ramp – over northbound to westbound ramp, I-95, southbound to NW 103rd Street ramp and NW 119th Street);
- Gratigny Parkway eastbound to I-95 southbound (3rd level ramp – over southbound to NW 103rd Street ramp and NW 119th Street); and
- I-95 southbound to NW 103rd Street (2nd level ramp – over NW 119th Street and local roads).

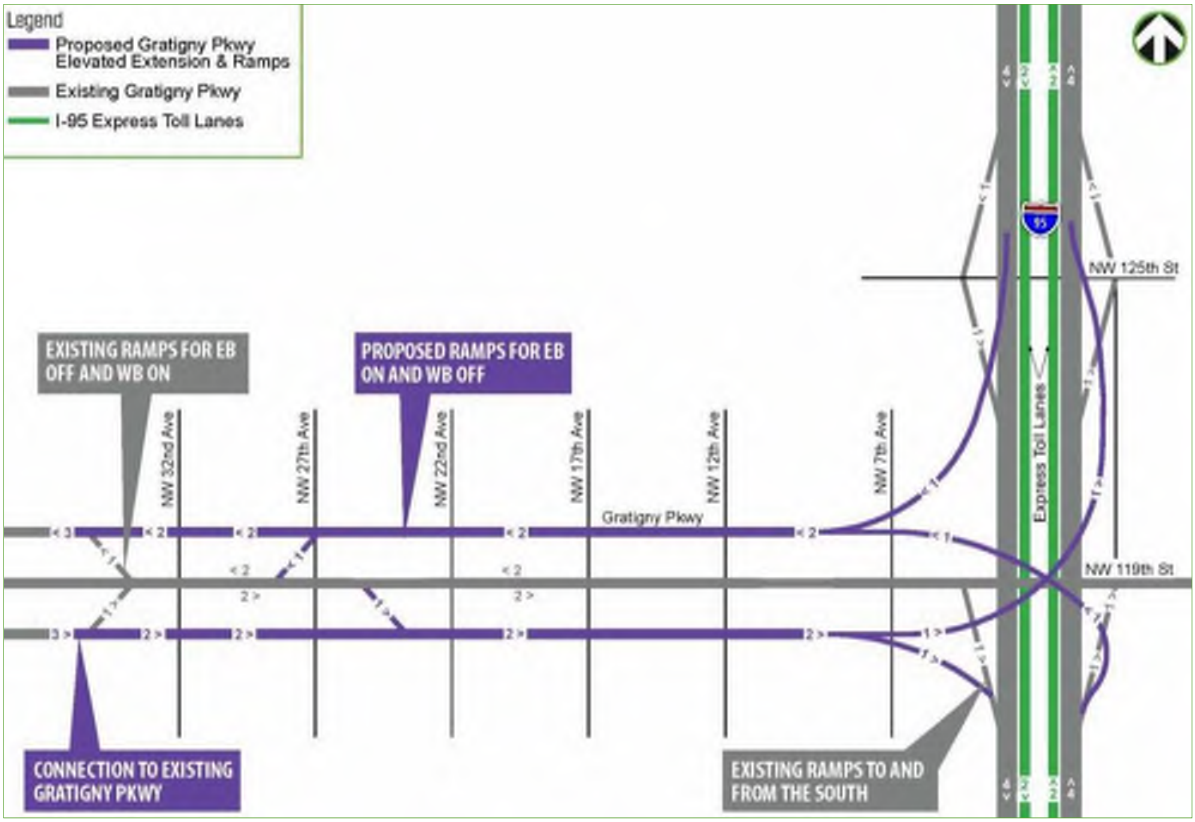
The interchange at NW 27thAvenue/32nd Avenue incorporates an eastbound entrance ramp east of NW 27th Avenue and a westbound exit ramp east of NW 32nd Avenue. The existing eastbound exit and westbound entrance ramps will remain.

Both interchanges would require additional right-of-way. The elevated mainline of the Recommended Alternative would stay within the existing right-of-way between the interchanges at either end and

connect to the existing Gratigny Parkway. The Recommended Alternative typical sections are shown in the *Typical Section Package* in Appendix D.

At the ground level on NW 119th Street, intersections will be located at NW 32nd Avenue, NW 30th Place/Lake Road, NW 27th Avenue, NW 27th Place, West Golf Drive, East Golf Drive, NW 22nd Avenue, NW 19th Avenue, NW 17th Avenue, NW 15th /NW 14th Avenue, NW 12th Avenue, NW 10th Avenue, and NW 7th Avenue. The median will restrict left turning movements to these locations. For more detailed information on the Recommended Alternative, please see Section 5.0.

Figure 2-2 | Recommended Alternative



1.4.2 Related Projects within the Study Area

The proposed Gratigny Parkway East Extension is being studied as an independent utility. However, consideration was given, to the extent possible, for the following known projects located within the vicinity of the project.

- I-95 Express Lanes Project: This project will extend the I-95 Express Lanes from Golden Glades Interchange in Miami-Dade County to Broward Boulevard in Broward County. This project is currently under construction and is scheduled for completion in 2014.
- Gratigny Parkway West Extension: This project proposes to extend the Gratigny Parkway west from SR 826 and provide a limited access facility connecting to I-75 and the HEFT. This project is currently the subject of an on-going PD&E Study.
- Connect 4 Expressway: This project proposes to construct a new north/south limited access facility extending from SR 836 to SR 826. This potential new freeway facility could have future connections to the Gratigny Parkway. Additionally, it may be extended to the north and provide connections to the HEFT. This project is currently programmed for planning and design in year 2015 though 2020.
- I-75 Express Lanes Project: This project proposes to implement tolled express lanes along I-75 between SR 826 in Miami-Dade County and I-595 in Broward County. A PD&E Study was completed and approved in March 2012. The project is currently moving forward through design phase and has an anticipated opening year of late 2017.
- SR 826 Express Lanes Project: This project proposes to implement tolled express lanes along the segment of SR 826 between SR 836 and I-75. The project is currently the subject of an on-going PD&E Study with anticipated opening year of late 2017.
- SR 826 (East-West) PD&E Study: This project is evaluating additional capacity alternatives along the segment of SR 826 between I-75 and the Golden Glades Interchange (I-95 Interchange). The project is currently the subject of an on-going PD&E Study.
- SR 826 Eastbound to I-95 Northbound, PD&E Study: This project proposes to implement new ramp connections for traffic movements to/from SR 826 West to/from I-95 North. Ultimate improvements may include direct connections between express lanes on SR 826 and along I-95. The project is currently the subject of an on-going PD&E Study.
- SR 823/NW 57th Avenue, widening from four to six lanes: This project proposes to widen NW 57th Avenue from four lanes to six lanes along the segment between W 19th Street to W 65th Street. The project is currently scheduled for construction continuing through the period 2015 to 2020.
- Enhanced Bus Service along NW 27th Avenue: This project is being proposed by MDT and intersects the study area. It is scheduled for near term implementation. This project is further described in Section 1.2.1.4.

2.0 Existing Conditions

The following sections describe the existing conditions within the project limits.

2.1 Functional Classification

SR 924 from I-75 to I-95 is categorized as a FIHS, NHS, and SIS facility. It is also a primary evacuation route connecting to several other evacuation routes including NW 27th Avenue, I-95, SR 826, and I-75. SR 924 within the project limits from west of NW 32nd Avenue to I-95 is a controlled access facility also known as NW 119th Street. Its functional classification is urban principal arterial. It runs in a general east-west direction. From NW 17th Avenue to I-95 its access management class is five and from NW 32nd Avenue to NW 17th Avenue it is class three. SR 924 west of NW 32nd Avenue is classified as an urban principal arterial-expressway with class one access management.

Interstate-95 within the project area is a north-south limited access facility with a functional classification of urban principal arterial-interstate. It is categorized as a FIHS, NHS, and SIS facility. It is also a primary evacuation route connecting to other evacuation routes including SR 826 and the HEFT to the north of SR 924 and SR 112 to the south.

2.2 Typical Section

The existing typical section for SR 924 from west of NW 32nd Avenue to I-95 varies from eight lanes (from west of NW 32nd Avenue to NW 27th Avenue) to six lanes (from NW 27th Avenue to I-95).

The six lane typical section from NW 27th Avenue to I-95 consists of six 11-foot wide lanes, three in each direction, with a 17.5-foot raised median. The curb and gutter on either side is two feet and sidewalks are provided on both sides at a width of 6.25 feet. The total right-of-way is 100 feet. **Figure 2-1** shows the existing typical section.

The eight lane typical section from west of NW 32nd Avenue to NW 27th Avenue consists of eight 11 foot lanes, four in each direction, with a 19.5 foot raised median. The curb and gutter on either side is two feet and sidewalks are provided on both sides at a width of six feet. The total right-of-way varies but maintains a minimum of 123.5 feet. **Figure 2-2** shows the existing typical section. Where NW 119th Street becomes the Gratigny Parkway, SR 924 is a six lane tolled facility that utilizes Open Road Tolling.

Figure 2-1 | NW 119th Street Existing Typical Section – West of NW 32nd Avenue to NW 27th Avenue

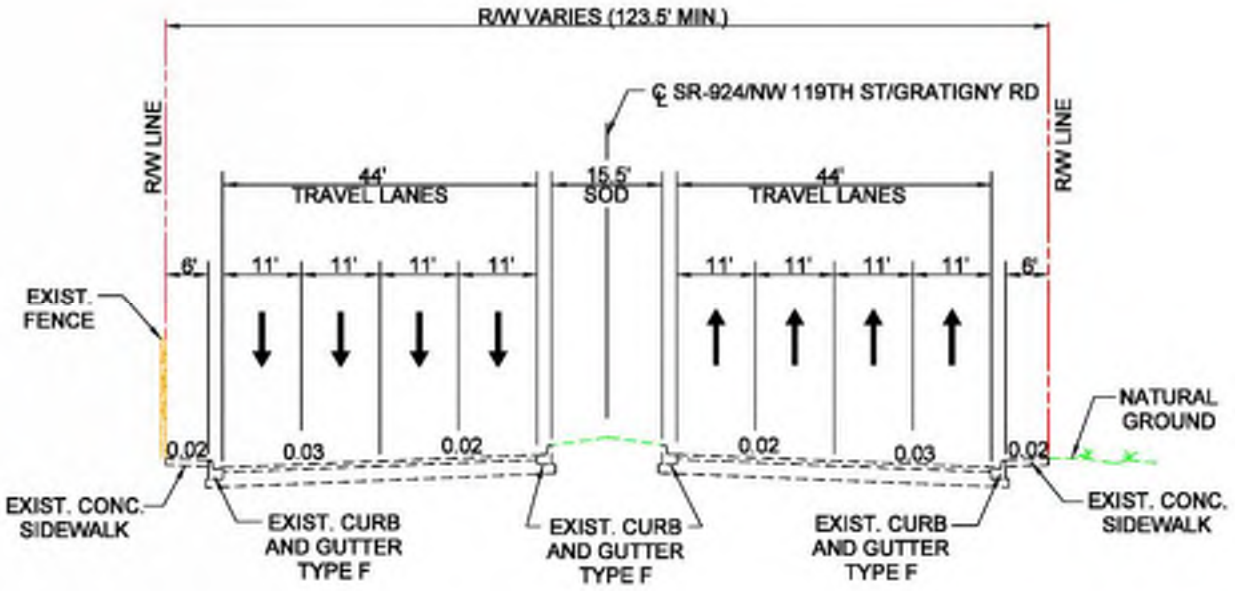
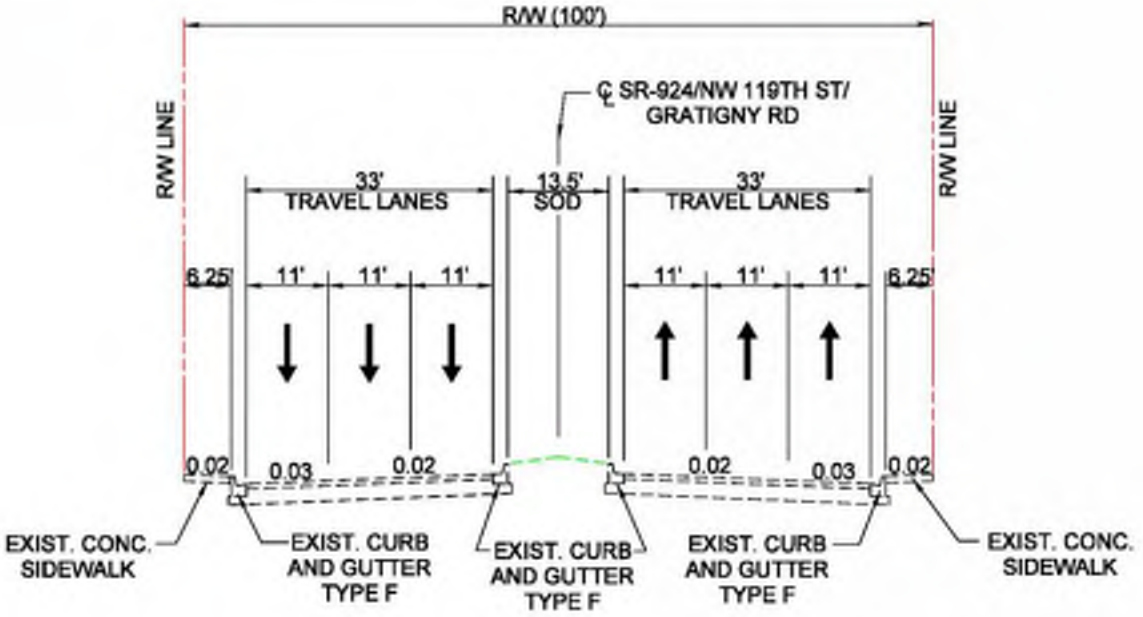
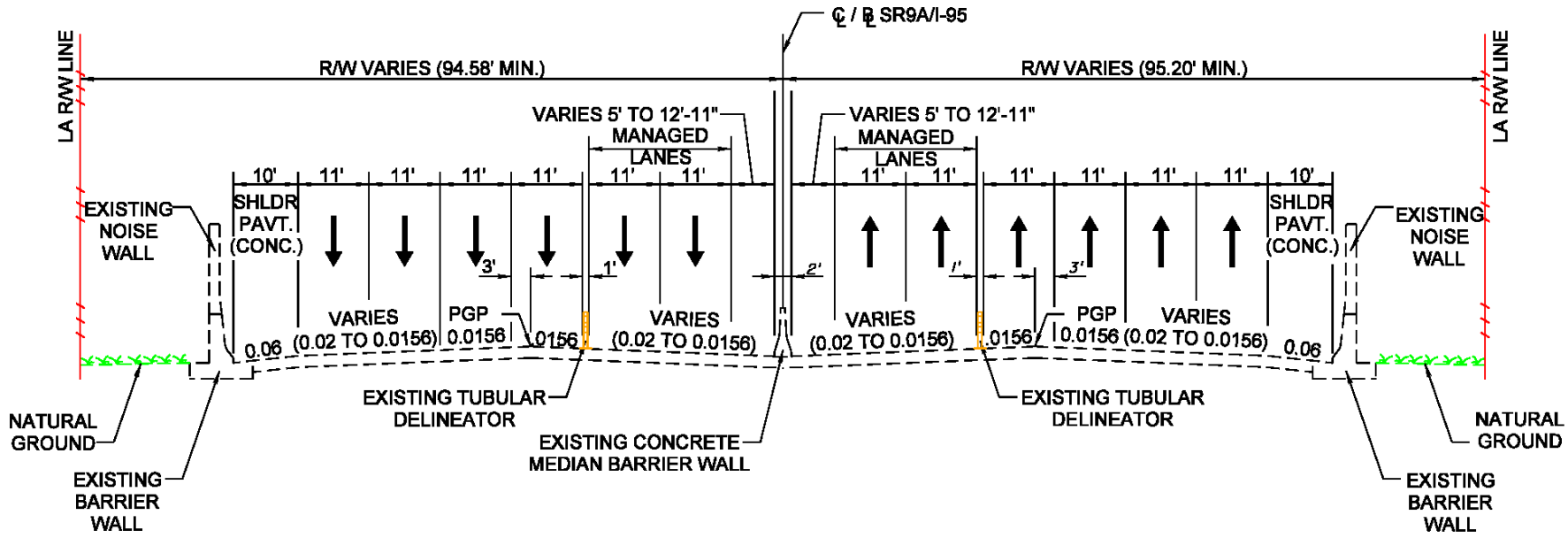


Figure 2-2 | NW 119th Street Existing Typical Section – NW 27th Avenue to I-95



Interstate-95 within the study area is a 12-lane divided facility consisting of eight 11-foot GP lanes (four in each direction) and four 11-foot managed lanes/express toll lanes (two in each direction) with tubular delineators in between the GP and managed lanes. The managed lanes utilize a dynamic tolling method with variable pricing based on congestion levels within the express lanes. There are shoulders on the inside that vary from 5-foot to 12-foot and 11-inch wide with a barrier wall in between and 10-foot shoulders to the outside. The right-of-way varies but maintains a minimum of 189.78 feet. **Figure 2-3** shows the existing typical section.

Figure 2-3 | I-95 Existing Typical Section – NW 103rd Street to NW 135th Street



2.3 Pedestrian Facilities

Sidewalks are provided on both sides of NW 119th Street throughout the project limits. The sidewalk width varies from 6 to 6.25 feet as described in Section 2.2. All signalized intersections have crosswalks and provide handicap access. There are four school bus stops on NW 119th Street between NW 17th Avenue and 11th Avenue. There are no mid-block pedestrian crossings along NW 119th Street.

I-95 is a limited access facility and no pedestrians are allowed on the corridor within the project limits.

2.4 Bicycle Facilities

Bicycle lanes are not provided on the corridor. A greenway called the Gold Coast Trail is proposed and would run along NW 119th Street between NW 27th Avenue and NW 32nd Avenue. This facility is planned as a bicycle and pedestrian trail. NW 27th Avenue currently has wide curb lanes which provide a safer operational environment for both motorists and bicyclists; however, the lanes are not designated for bicycle use (Miami-Dade MPO Bicycle and Pedestrian Plan Update, 2009). No other bicycle facilities are present within the project study limits.

I-95 is a limited access facility and no bicycles are allowed on the corridor within the project limits.

2.5 Multimodal Facilities

There are several local MDT bus routes in the study area including Route 19 along NW 119th Street and routes along the following cross streets: NW 32nd Avenue, NW 27th Avenue, NW 22nd Avenue, NW 17th Avenue, and NW 7th Avenue. **Figure 2-4** shows the transit routes in the project vicinity.

MDT has proposed transit improvements that will cross the study area. The near term plan is to implement Enhanced Bus Service along NW 27th Avenue (existing Route 97). In the short term (2012/2013), the route will provide limited stops from the new MIC Metrorail Station to NW 199th Street and then provide skip stops north of NW 199th Street to NW 211th Street. The existing Route 97 makes all stops north of NW 199th Street to NW 211th Street. Over the long term (November 2017), the enhanced bus route would make approximately 10 total stops between the new MIC Metrorail Station and NW 215th Street with no local stops. MDT is no longer pursuing the previously planned North Corridor Metrorail Extension, which would have extended the Metrorail north along NW 27th Avenue

through the study area with a stop at the Miami-Dade College North Campus. This elevated Metrorail extension was removed from the Miami-Dade MPO's LRTP.

Figure 2-4 | Transit Routes



2.6 Right-of-Way

NW 119th Street from west of NW 32nd Avenue to NW 27th Avenue lies within a minimum right-of-way of 123.5 feet and NW 119th Street from NW 27th Avenue to I-95 lies within a minimum right-of-way of 100 feet. The existing right-of-way shown on the typical sections are represented according to the following SR 924/NW 119th Street/Gratigny Parkway As-Built Plans:

87300-3505: NW 119th Street from NW 32nd Avenue to NW 27th Avenue

405655-1-50-01: NW 119th Street from NW 27th Avenue to NW 7th Avenue

80752-3501: NW 119th Street from NW 7th Avenue to NE 2nd Avenue

West of NW 32nd Avenue, the existing right-of-way changes from standard right-of-way to limited access right-of-way. The right-of-way width varies but maintains a minimum of 150 feet.

The right-of-way along I-95 varies but maintains a minimum of 189.78 feet and widens at interchanges.

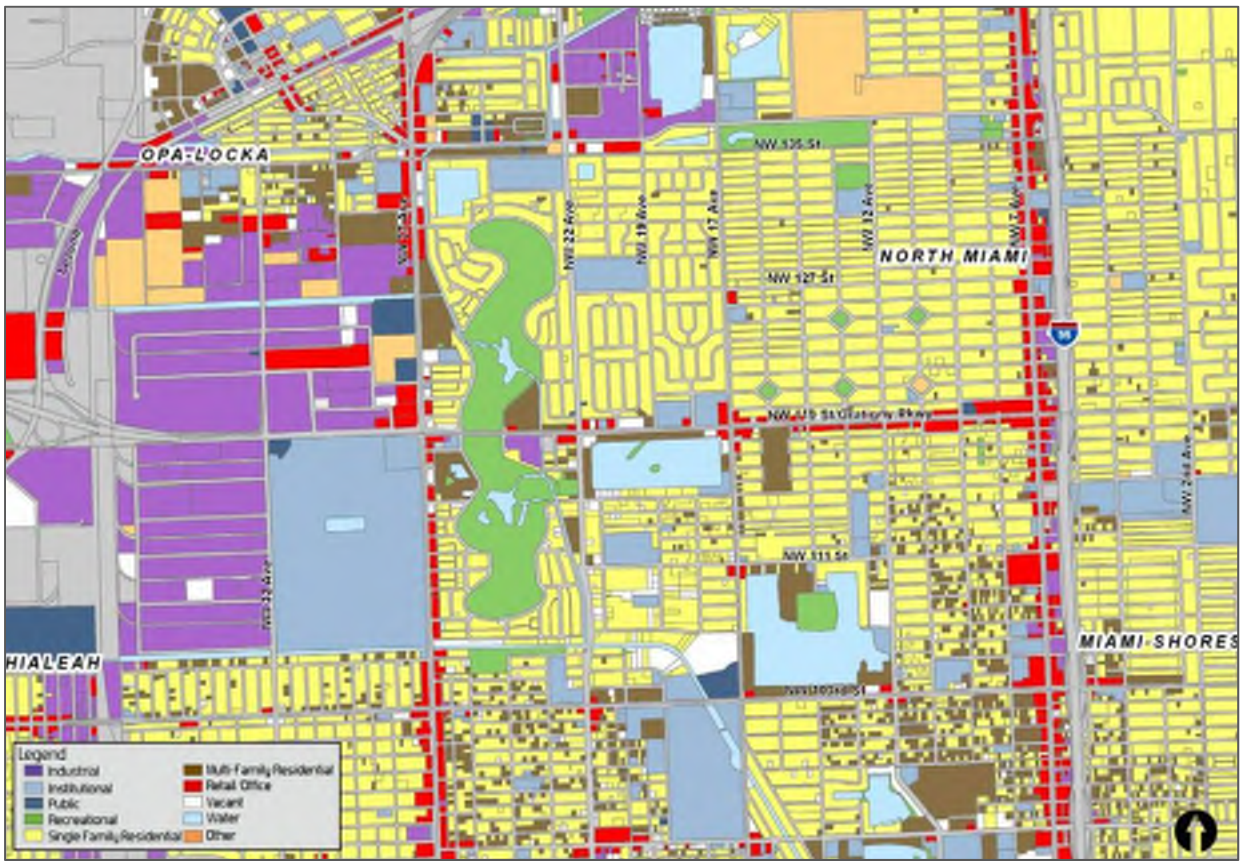
2.7 Land Use

Land use along NW 119th Street in the study area transitions from an industrial and institutional area on the west end to an urban, mixed-use area on the east end. From NW 32nd Avenue to NW 27th Avenue, land use is primarily light industrial with the exception of the Miami-Dade College North Campus, located south of NW 119th Street and west of NW 27th Avenue. The area between NW 27th Avenue and NW 17th Avenue is a transitional area that includes the former Westview Country Club and residential developments adjacent to NW 119th Street. From NW 17th Avenue to I-95, the study area is primarily residential with the corridor fronted by commercial use and residential lots backing the commercial parcels.

Land use along the west side of I-95 within the project limits is primarily commercial and industrial. The east side of I-95 is lined with residential developments and some property of Barry University. **Figure 2-5** shows the existing land use in the study area.

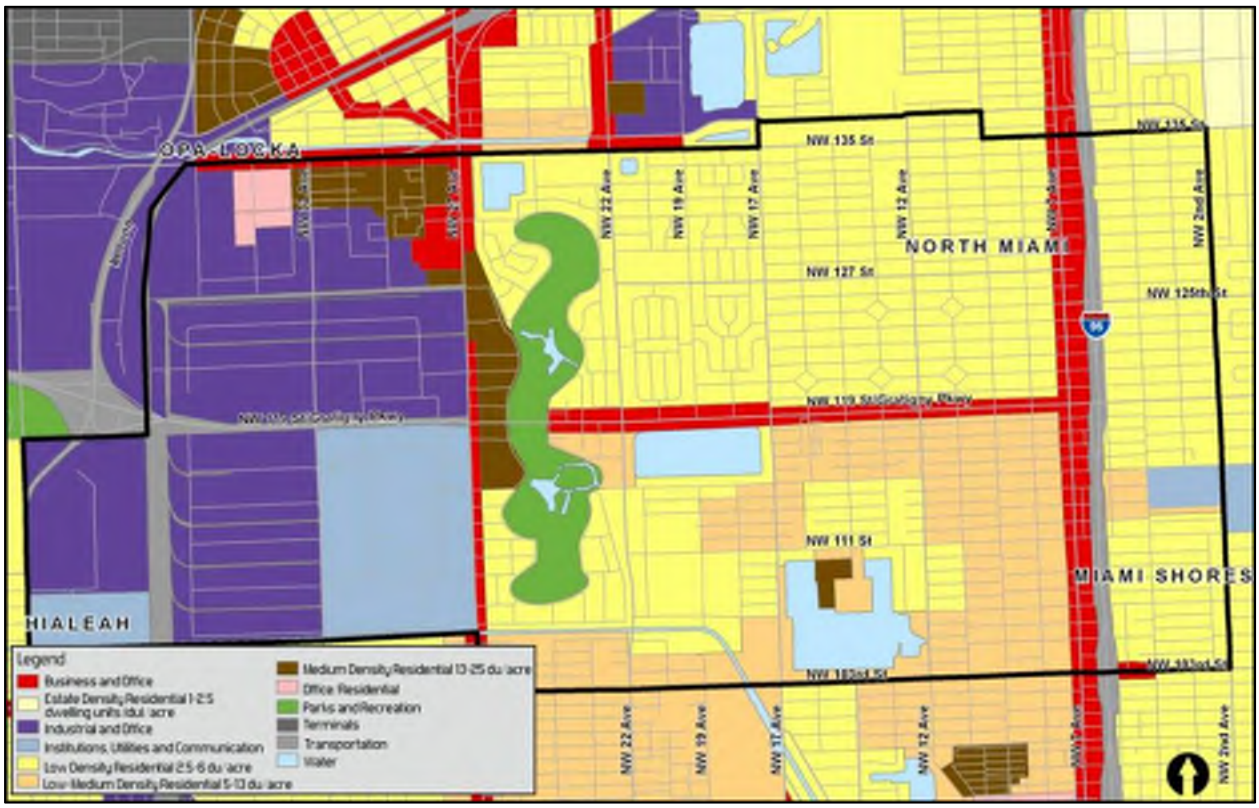
Future land use will remain similar to existing land use as shown in Miami-Dade County Planning and Zoning future land use map (**Figure 2-6**).

Figure 2-5 | Existing Land Use



Source: Miami-Dade County Property Appraiser

Figure 2-6 | Future Land Use



Source: Miami-Dade County Planning and Zoning Department

2.8 Geometric Elements

2.8.1 Horizontal Alignment

The design elements reviewed during the evaluation of the existing horizontal alignment conditions include radii of curves, superelevation of the roadway surface, and horizontal clearance to adjacent obstacles. The mainline alignment of NW 119th Street in the project area contains four horizontal curves which meet or exceed FDOT's minimum standards for the facility design speed of 45 MPH. **Table 2-1** summarizes the design review of the existing horizontal alignment. Interstate-95 at the intersection of NW 119th Street has two mainline curves and two ramps as shown in **Table 2-2**.

Table 2-1 | Existing Horizontal Geometry Inventory for NW 119th Street

Curve	Station	R	L	T	D	DA	V	L_{req}≥400'	e	e_{req}		
BL 1	PI 417+30.94 PC 408+60.05 PT 425+88.60	5,729.58'	1,728.55'	870.89'	01°00'00.00"	17°17'07.80"	45	✓	NC	Eastbound Westbound	NC NC	✓ ✓
BL 2	PI 433+81.19 PC 432+22.07 PT 435+40.23	5,729.54'	318.16'	159.12'	01°00'00.02"	03°10'53.84"	45	x	NC	Eastbound Westbound	NC NC	x x
BL 3	PI 464+78.63 PC 462+70.49 PT 466+86.35	3,819.70'	415.86'	208.14'	01°30'00.03"	06°14'16.54"	45	✓	NC	Eastbound Westbound	NC NC	✓ ✓

Legend:

R = Radius of Curve (ft)
L = Length of Curve (ft)
D = Degree of Curve (degree-minutes-seconds)
DA = Deflection Angle
e = Superelevation (ft/ft)
RC = Reverse Crown
NC = Normal Crown
T = Tangent Distance

L_{req} = Required Length of Curve (ft), as per PPM, Vol. 1, Table 2.8.2a

e_{req} = Required Superelevation (ft/ft), as per PPM, Vol. 1, Table 2.9.1

V = Curve Design Speed

✓ Meets Requirements of FDOT PPM

x Does Not Meet Requirements of FDOT PPM

Table 2-2 | Existing Horizontal Geometry Inventory for I-95

Curve	Location	Station	R	L	T	D	DA	V	L_{req}≥400'	e	e_{req}	
24	I-95 Center Line	PC 431+77.99 PI 434+45.94 PT 437+13.49	5,729.65'	535.50'	267.95'	00°59'59.95"	05°21'18"RT	60	✓	0.019	0.025	x
25	I-95 Center Line	PC 440+05.47 PI 442+90.54 PT 437+75.15	5,729.65'	569.67'	265.07'	00°59'59.95"	05°41'48"LT	60	✓	0.019	0.025	x
26	I-95 Base Line Survey West	PC 431+77.99 PI 434+49.12 PT 437+19.85	5,797.65'	541.86'	271.13'	00°59'17.73"	05°21'18"RT	-	-	-	-	-
27	I-95 Base Line Survey West	PC 440+11.83 PI 442+93.52 PT 445.74.74	5,661.65'	562.91'	281.69'	01°00'43.19"	05°41'48"LT	-	-	-	-	-
28	I-95 Base Line Survey East	PC 431+77.99 PI 434+42.76 PC 437+07.14	5,661.65'	529.15'	264.77'	01°00'43.19"	05°21'18"RT	-	-	-	-	-
29	I-95 Base Line Survey East	PC 439+99.12 PI 442.87.58 PT 445.75.56	5,797.65'	576.44'	288.46'	00°59'17.73"	05°41'48"LT	-	-	-	-	-
30	Base Line Survey Ramp A	PC 437+62.13 PI 438+24.65 PT 438+87.13	2,291.83'	125.00'	62.52'	02°30'00"	03°07'30"RT	35	x	0.020	0.028	x
31	Base Line Survey Ramp A	PC 441+12.27 PI 441+66.56 PT 442+20.80	1,542.89'	108.53'	54.29'	03°42'48.73"	04°11'49"LT	35	x	0.036	0.039	x
32	Base Line Survey Ramp A	PC 442+20.80 PI 443+16.28 PT 444+11.52	1,527.89'	190.72'	95.48'	03°45'00"	07°09'07"LT	35	x	0.036	0.039	x
33	Base Line Survey Ramp B	PC 433+23.96 PI 435+39.83 PT 437+55.68	22,918.31'	431.72'	215.87'	00°15'00"	01°04'45"LT	50	✓	0.020	NC	✓

2.8.2 Vertical Alignment

The NW 119th Street corridor from NW 32nd Avenue to the I-95 Intersection has a profile without vertical curves and consists of a minimum grade of (-)0.30 percent and a maximum (+)0.40 percent as is normal for an urban principal arterial. The maximum grade required is 7.0 percent in accordance to the *Plans Preparation Manual* (PPM), Volume 1, Chapter 2, Table 2.6.1. In addition, the existing change in grade meets standards in accordance to the PPM, Volume 1, Chapter 2, Table 2.6.2.

The I-95 corridor from NW 103rd Street to NW 135th Street consists of a profile with a total of five crest vertical curves and six sag vertical curves. The average length of the crest curves is 500 feet which does not meet the required 1800 feet minimum length for a crest curve in accordance to the PPM, Volume 1, Chapter 2, Table 2.8.5. For the sag curves, four average 400 feet in length and two have an average length of 900 feet. The required minimum length is 800 feet in accordance to the PPM, Volume 1, Chapter 2, Table 2.8.6. For that reason, the only curves that meet the standards are the two that average 900 feet in length. In addition, the existing grades range from (-)3.0 to (+)3.0 percent and are in compliance with the maximum allowed grade of 3.0 percent for an interstate in accordance to the PPM, Volume 1, Table 2.6.1.

2.8.3 Design and Posted Speeds

NW 119th Street has a posted speed limit of 45 MPH from NW 32nd Avenue to NW 27th Avenue and 40 MPH from NW 27th Avenue to I-95. The design speeds are 50 MPH from NW 32nd Avenue to NW 27th Avenue and 45 MPH from NW 27th Avenue to I-95.

The posted speed limit of SR 924 west of NW 32nd Avenue is 55 MPH and the design speed is 60 MPH.

Interstate-95, within the study area, has a posted speed limit of 55 MPH and a design speed of 60 MPH.

2.9 Drainage

The existing drainage for NW 119th Street from west of NW 32nd Avenue to I-95 is composed of various independent drainage systems. To assess these systems, information was gathered from existing as-builts and other available design plans from FDOT, as well as the available drainage infrastructure GIS layers from FDOT and Miami-Dade County. Further, existing permit information was obtained from the South Florida Water Management District (SFWMD) and Miami-Dade's Department of Regulatory and Economic Resources (MD-RER). The following sub-sections summarize the existing drainage systems

within the project limits of this PD&E Study. Specific evaluation of the pre-development hydrologic and hydraulic conditions of the existing drainage systems will be included in the *Preliminary Drainage Report* that has been prepared under a separate cover.

2.9.1 Existing Permits

Existing permit information was obtained from SFWMD and MD-RER. **Table 2-3** indicates the existing permits within the project limits and adjacent areas that may be impacted. The permit number and date the permit was issued are also included in the table. Considering that the original roadway development pre-dates the current regulatory framework, there are no permits available for SR 924 or NW 119th Street in the project limits. Permits listed as having a direct impact intersect the project corridor and all other listed permits are from properties adjacent to the project.

Table 2-3 | Existing Drainage Permits

Permit Name and ID. NO.	Issued Date	Project	Permit Impact
SFWMD Surface Water Management No. 82-00142-S	8-16-1982	NW 32nd Avenue from NW 103rd Street to NW 135th Street	Direct Impact
SFWMD Surface Water Management No. 87-00018-S	3-16-1987	NW 119th Street / NW 122nd Street Improvements	Direct Impact
RER Class II Permit No. OF-010207-1	7-19-2001	NW 17th Avenue from NW 103rd Street to NW 119th Street	Direct Impact
SFWMD Surface Water Management No. 84-0065-S	6-21-1984	NW 42nd Avenue / NW 37th Avenue	Adjacent to project limits
SFWMD Water Use Permit No. 13-00570-W	4-9-1992	Brothers and Son Service Station	Adjacent to project limits
SFWMD Water Use Permit No. 13-00616-W	10-16-1992	21 Auto Service	Adjacent to project limits
SFWMD Water Use Permit No. 13-00639-W	4-12-1993	Exxon Station #4-4138	Adjacent to project limits
SFWMD Water Use Permit No. 13-0725-W	4-12-1994	Remedial Action Plan	Adjacent to project limits
SFWMD Water Use Permit No. 13-00962-W	10-18-1996	Dagam Service Station	Adjacent to project limits
SFWMD Environmental Resource Permit No. 13-00153-DA	7-7-1997	Smart & Final (Cord Storage-AC)	Adjacent to project limits
SFWMD Water Use Permit No. 13-01067-W	12-30-1997	Shoprite Shopping Center	Adjacent to project limits
SFWMD Environmental Resource Permit	1-16-1998	ABC Distributing - Phase 1	Adjacent to project limits

No. 13-00178-DA			
SFWMD Water Use Permit No. 13-01088-W	4-13-1998	Jome Service Station	Adjacent to project limits
SFWMD Environmental Resource Permit No. 06-02942-P	5-29-1998	South Florida Rail Corridor Phase IV	Adjacent to project limits
SFWMD Environmental Resource Permit No. 13-00273-DA	3-8-1999	Industrial Galvanizers, Miami	Adjacent to project limits
SFWMD Environmental Resource Permit No. 13-00383-DA	10-7-1999	Westview Gardens	Adjacent to project limits
SFWMD Water Use Permit No. 13-00022-W	4-10-2000	Westview Country Club	Adjacent to project limits
SFWMD Environmental Resource Permit No. 13-01457-P	7-5-2000	Westview Country Club	Adjacent to project limits
SFWMD Environmental Resource Permit No. 13-01994-P	8-6-2002	Copart-Hialeah	Adjacent to project limits
SFWMD Environmental Resource Permit No. 13-02033-P	3-26-2003	Alhambra Cove Apartments	Adjacent to project limits
SFWMD Environmental Resource Permit No. 13-02106-P	6-26-2003	Don Greene Poultry	Adjacent to project limits
SFWMD Water Use Permit No. 13-03695-W	6-8-2007	Lazaro Gonzalez	Adjacent to project limits
SFWMD Water Use Permit No. 13-03940-W	9-7-2007	Pepper Ben Franklin Griffin CNM Library Cagni Kiwanis Parks	Adjacent to project limits

2.9.2 Project Parameters

Project specific parameters for existing drainage conditions for this PER are summarized in this section.

- The existing drainage information was made available from existing as-builts and other available design plans from FDOT, as well as the available drainage infrastructure GIS layers from FDOT and Miami-Dade County.
- As-built documentation is unavailable for the entire corridor, but there are records of a widening project from 1990 for a portion west of NW 27th Avenue, which included exfiltration trench installation.
- The project lies within the SFWMD C-7 Basin.
- SFWMD will have permitting authority for the proposed improvements.

- Typically projects that discharge to any surface water in Miami-Dade County require a Class II Permit from MD-RER. Considering that the proposed project is part of the FHWA system with no encroachment on Miami-Dade County right-of-way, the permit is not required; however, the regulatory rules are still applicable and must be adhered to.
- The water and sewer utilities within the NW 119th Street corridor are maintained by the City of North Miami and Miami-Dade County Water and Sewer Department (WASD) and shall be coordinated for conflicts.
- There are three water bodies which act as receiving waters for the proposed drainage system along NW 119th Street: a lake behind Lakeview Estates which is connected to the Rio Vista Canal, the Rio Vista Canal which is connected to the C-7 Canal, and the C-7 Canal, as shown in **Figure 2-9**.
- The average October groundwater elevation varies between 2.25 and 2.75 feet relative to the National Geodetic Vertical Datum of 1929 (ft-NGVD) east to west, respectively, per Miami-Dade County's Public Works Standards. Additionally, the Average Yearly Highest groundwater elevation is 3.5 ft-NGVD.
- As outlined in the Chapter 24 of the Miami-Dade County Code of Ordinance, French drains cannot be constructed within wellfield protection areas that are less than 30 days in travel time from a potable water supply well. There is a potable water supply wellfield approximately two blocks north of NW 119th Street, between NW 17th Avenue and NW 11th Avenue (see **Figure 2-7**). The illustration shows that NW 119th Street traverses the 30-day cone of influence.
- The Rio Vista Canal along NW 119th Street, between NW 23rd Avenue and NW 22nd Court, is to remain without structural modifications such as additional pilings, piers or abutments, which would impact the conveyance capacity of the channel cross-section. The only modifications will be with respect to inflows from the proposed NW 119th Street drainage system. Therefore, a bridge hydraulic report is not required.
- FDOT owns an approximately 0.34 acre parcel of land located at the northeast corner of NW 27th Avenue that could be used for stormwater quality and quantity dry retention volumes. Based on MD-RER regulations and SFWMD for projects in Miami-Dade County, neither detention nor wet retention can be counted towards stormwater quality treatment, and considering the size of the available parcel, there is insufficient dry retention volume available on the FDOT parcel to meet all regulatory requirements. No additional parcel acquisition is anticipated considering that exfiltration trenches are proposed to meet all of the drainage needs within the existing right-of-way.
- The Federal Emergency Management Agency (FEMA) flood elevation varies throughout the project. The majority of the project area is within Flood Zone X, which corresponds to areas

outside the 100-year floodplains. However, the area west of NW 32nd Avenue is zoned AH with flood elevation 9.0 ft-NGVD, and the small area between NW 23rd Avenue and NW 22nd Court is zoned AH with flood elevation 6.0 ft-NGVD. The project area is covered by two separate FEMA maps (Panel 12086C0138L west of NW 12th Ave and 12086C0139L to the east). The FEMA flood maps were revised in September 2009 with elevations which were derived from the C-7 Basin Stormwater Management Master Plan 100-year, 72-hour scenario.

- The Miami-Dade County Flood Criteria Elevation varies between elevation 5.5 ft-NGVD to elevation 6.0 ft-NGVD. **Figure 2-8** shows the variation of the flood criteria elevation in the project vicinity.
- Presently there are known flooding concerns along the NW 119th Street corridor; however, this conceptual effort is not intended to document known flooding problems that should be addressed immediately. The significant flooding concerns have been brought to the attention of MDX so that the appropriate resolution can be implemented with the FDOT.

Figure 2-7 | Wellfield Protection Areas

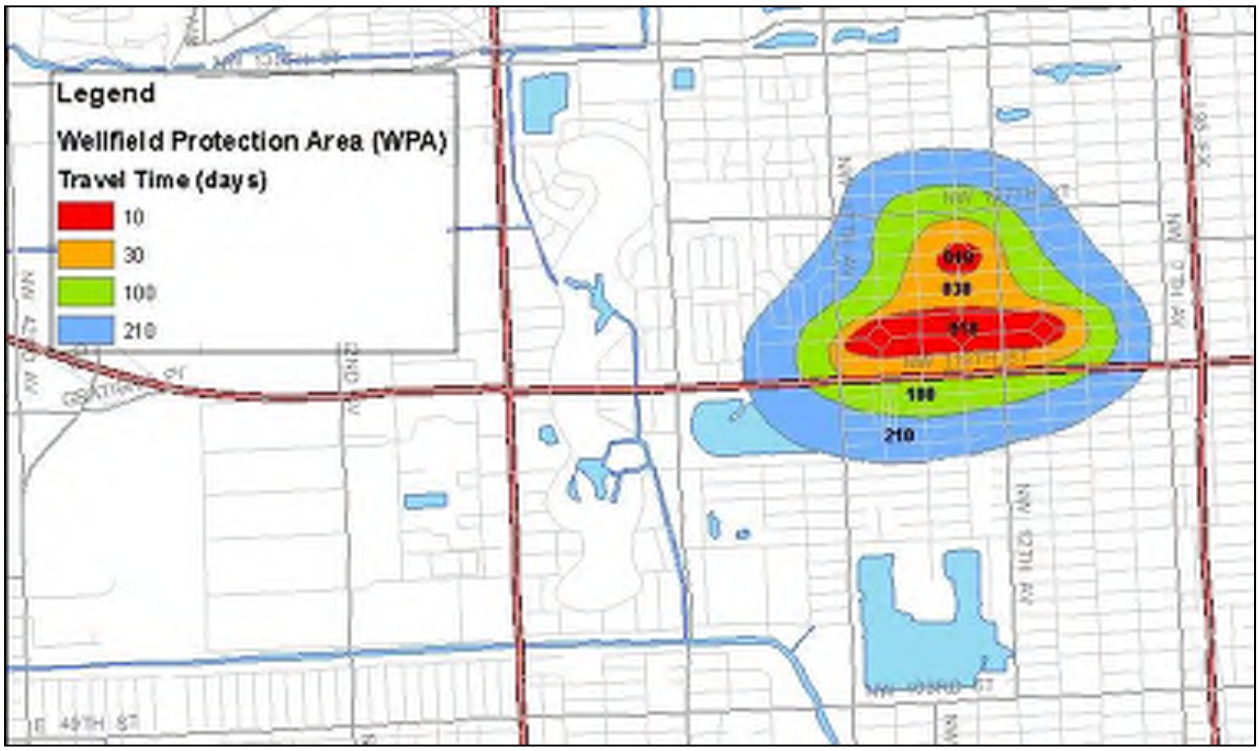
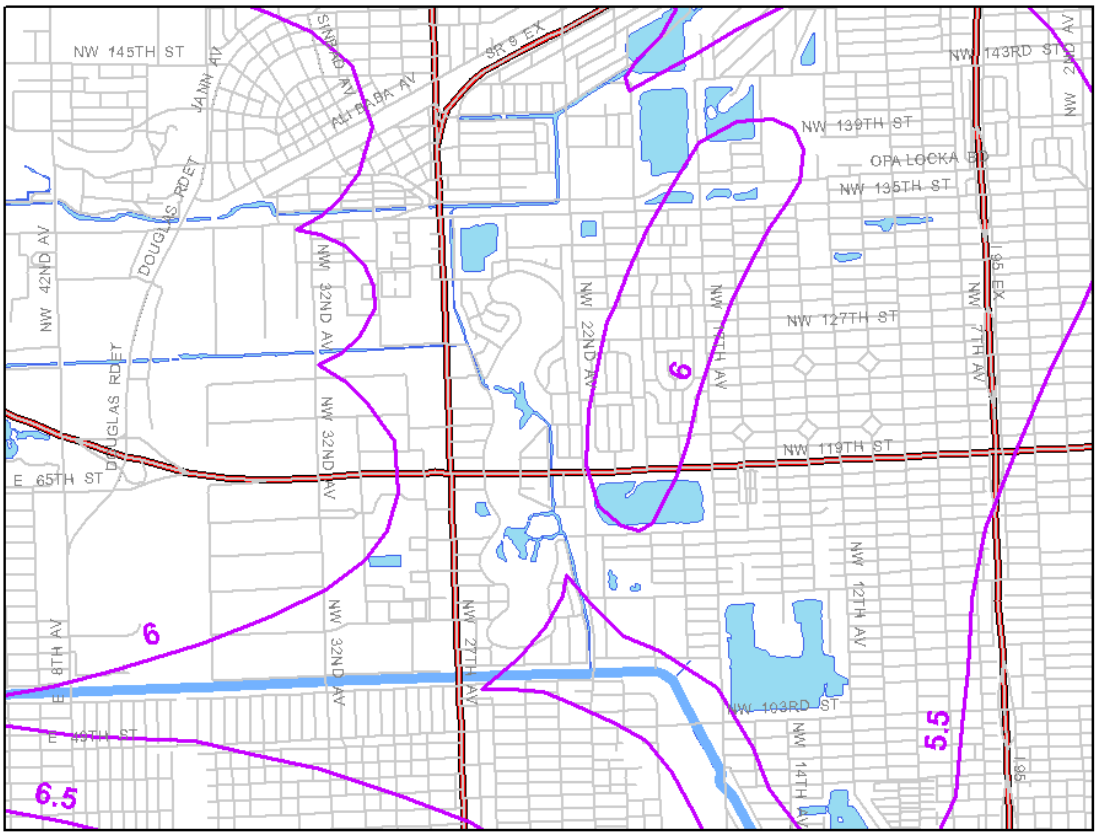


Figure 2-8 | Miami-Dade County Flood Criteria Elevation at Project Location



2.9.3 Pre-Development Drainage System

The drainage system along the project limits is comprised of eight separate drainage systems. Six drainage systems are along NW 119th Street and two are along I-95. The existing typical section along NW 119th Street consists of raised medians with curb inlets throughout its length. A detailed description of the proposed typical section is available for the Recommended Alternative in Section 5.1 Typical Section Package. **Table 2-4** shows the drainage system limits, as well as the size of the trunk line and outfall, if applicable.

Table 2-4 | NW 119th Street Drainage Summary

Basin	Location	System Limits			Receiving Water
1	NW 119th Street	West of NW 32nd Avenue	To	NW 27th Avenue	None (Self-Contained)
2	NW 119th Street	NW 27th Avenue	To	NW 23rd Avenue	Gravity Outfall to Rio Vista Canal
3	NW 119th Street	NW 23rd Avenue	From	NW 22nd Avenue	Gravity Outfall to Rio Vista Canal
4	NW 119th Street	NW 22nd Avenue	From	NW 19th Avenue	Gravity Outfall to Lake behind Lakeview Estates
5	NW 119th Street	NW 19th Avenue	From	NW 7th Avenue	Gravity Outfall to Lake behind Lakeview Estates
6	I-95	NW 135th Street	To	NW 103rd Street	None (Self-Contained)

Noticeably, Basin 6 consists of a significant portion of the I-95 corridor. Based on a review of FDOT stormwater atlas data, there are several sub-systems in the drainage infrastructure that serve the I-95 corridor. However, for the purposes of this conceptual planning effort, the drainage conditions were evaluated solely to determine if the water quality and water quantity impacts could be managed within the existing right-of-way. Therefore, the affected I-95 corridor was treated as a single system and not evaluated separately. Also of note is the intersection of NW 119th Street with NW 7th Avenue. The proposed improvements at this location consist of flyover ramps that connect to I-95, there is no additional impervious area proposed that contributes runoff to NW 7th Avenue. The existing drainage system for NW 7th Avenue is connected to the C-7 Canal to the south by a series of drainage pipes with no existing exfiltration trenches. There are no proposed changes to the NW 7th Avenue drainage system. **Figure 2-9** illustrates the location of each basin with respect to the project area as well as flow arrows.

Figure 2-9 | Existing Drainage Basins and Receiving Waters



Presently there are known flooding concerns along the NW 119th Street corridor; however, this conceptual effort is not intended to document known flooding problems that should be addressed immediately. The significant flooding concerns have been brought to the attention of MDX so that the appropriate resolution can be implemented with the FDOT.

2.9.4 Pre-Development Stormwater Quality

Along NW 119th Street, water quality is currently being provided only in the area west of NW 25th Avenue (Basin 1). Based on as-built plans and FDOT records, the Basin 1 existing drainage system consists of 5,338 feet of exfiltration trench. The geometry of the existing exfiltration trench incorporates two perforated 24-inch pipes embedded in 7.8-foot wide gravel media with a top elevation of 5.05 ft-NGVD, and the bottom elevation of the trench varies from -2.0 to -7.0 ft-NGVD. East of NW 25th Avenue up to I-95 (Basins 2 through 5), the network of drainage pipes discharges via positive outfall

to the Rio Vista Canal or the lake behind Lakeview Estates without any storage or additional treatment. Based on the C-7 Basin Stormwater Master Plan, the lake behind Lakeview Estates is connected to the Rio Vista Canal by a 1,000-foot long 36-inch pipe, such that all positive outfall sub-systems ultimately discharge to the SFWMD C-7 Canal.

The impacted segment of the I-95 corridor (Basin 6) contains 9,284 of exfiltration trench along the green areas and swales adjacent to the east and west sides of the roadway that is used to provide water quality treatment. Examples of locations with existing exfiltration trenches include, along the west side of I-95 from NW 114th Street to NW 112th Street or the east side of I-95 from NW 120th Street to NW 122nd Street.

Other than the exfiltration trenches for western NW 119th Street and I-95, there are no facilities for water quality treatment in the existing system. Because the original roadway was constructed prior to implementation of the current state regulations, the existing stormwater management system acts primarily to provide drainage and prevent flooding of the roadway and does not mitigate discharges or water quality concerns downstream.

2.9.5 Pre-Development Stormwater Quantity

Stormwater quantity within the project limits is achieved through different methods. The following is a summary of each drainage system within the project limits, as illustrated in **Figure 2-9**.

1. Along NW 119th Street, from the current eastern terminus of Gratigny Parkway west of NW 32nd Avenue to NW 27th Avenue, there are twin 24-inch French drains without discharge. The French drain systems provide water quality and quantity.
2. Along NW 119th Street, from NW 27th Avenue to NW 23rd Avenue, a 36-inch gravity outfall discharges to the Rio Vista Canal, east of NW 23rd Avenue.
3. Along NW 119th Street, from NW 23rd Avenue to NW 22nd Avenue, an 18-inch gravity outfall discharges to the Rio Vista Canal, east of NW 23rd Avenue.
4. Along NW 119th Street, from NW 22nd Avenue to NW 19th Avenue, a gravity line conveys stormwater to a 30-inch outfall at a lake behind Lakeview Estates, which lies between NW 22nd Avenue and NW 17th Avenue.
5. Along NW 119th Street, from NW 19th Avenue to NW 7th Avenue, a 54-inch gravity outfall also discharges to the lake behind Lakeview Estates.
6. Along I-95, from NW 135th Street to NW 103rd Street, the system is a self-contained drainage system that consists of French drains along the east and west swales.

Four of the six drainage systems (Basins 2, 3, 4 and 5) within the project limits have positive outfalls that discharge to receiving waters, whereas the other two basins (Basins 1 and 6) are self-contained. In the accompanying *Preliminary Drainage Report* under a separate cover, calculations document how any additional runoff due to impacts from the proposed improvements are retained and applicable stormwater quantity requirements will be met. There are no available surface water permits documenting required storage volume or allowable discharges for any segment of NW 119th Street, however based on meetings with SFWMD and MD-RER regulatory staff, current discharges from NW 119th Street are "grandfathered" in and the proposed system will be allowed to continue discharging to the current receiving bodies assuming no increase in the existing peak discharge rate during a 25-year, 3-day design storm event.

2.10 Traffic Data

The DTTM collected existing conditions traffic data including 72-hour counts used to estimate the average annual daily traffic along corridors in the study area and LOS. **Figure 2-10** shows the existing AADT along SR 924 and I-95. **Tables 2-5** through **2-7** provide the existing LOS for the mainline of SR 924, the freeway mainlines in the study area, and the intersections in the study area. For more detailed traffic data, please see the DTTM.

Figure 2-10 | Existing 2010 AADT

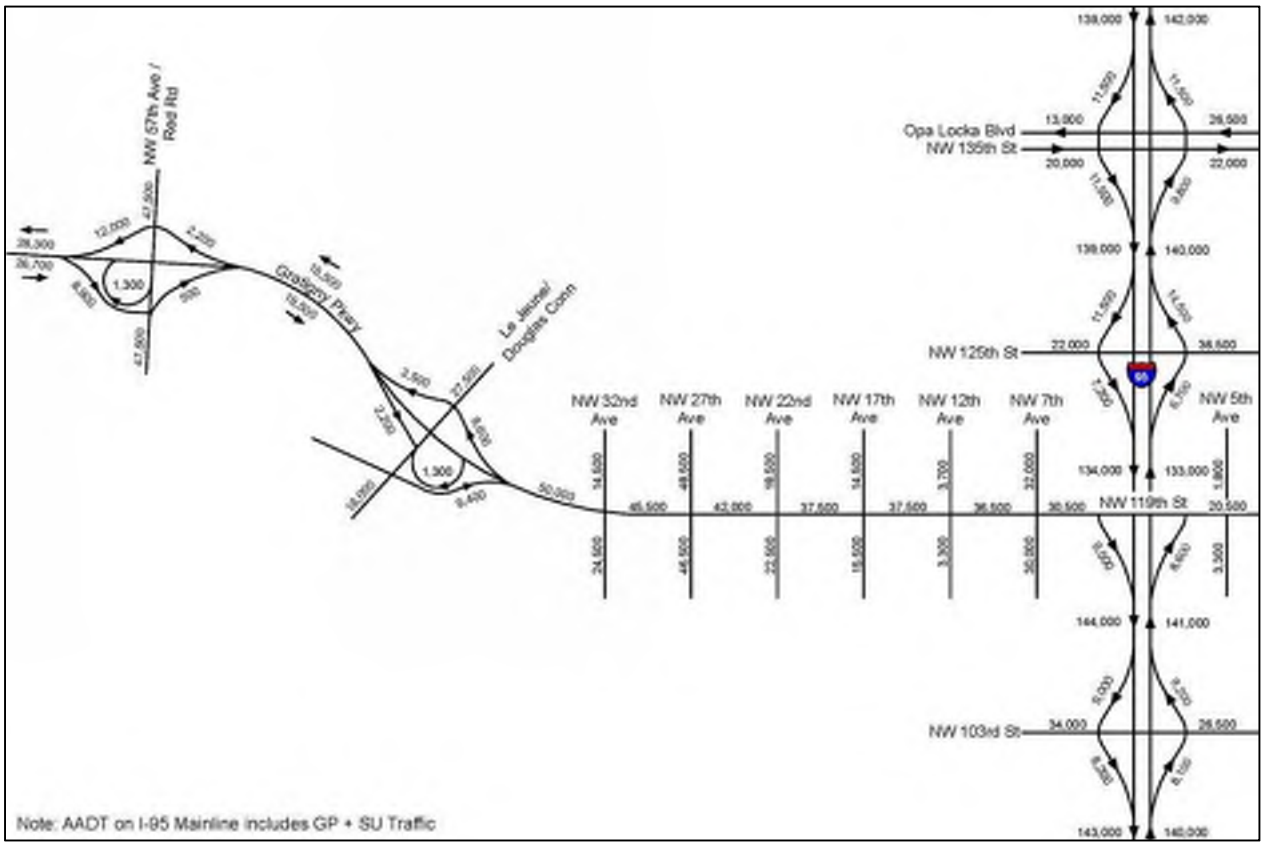


Table 2-5 | 2010 Existing Level of Service (LOS) NW 119th Street Mainline

Roadway	From	To	LOS WB AM	LOS WB PM	LOS EB AM	LOS EB PM
NW 119th Street	NW 32nd Avenue	NW 30th Place	F	F	C	D
NW 119th Street	NW 30th Place	NW 27th Place	B	B	B	D
NW 119th Street	NW 27th Place	NW 27th Avenue	D	F	F	F
NW 119th Street	NW 27th Avenue	Westview CC	F	F	B	B
NW 119th Street	Westview CC	NW 22nd Avenue	B	C	E	D
NW 119th Street	NW 22nd Avenue	NW 17th Avenue	C	E	C	C
NW 119th Street	NW 17th Avenue	NW 12th Avenue	C	D	A	B
NW 119th Street	NW 12th Avenue	NW 10th Avenue	B	C	C	D
NW 119th Street	NW 10th Avenue	NW 7th Avenue	C	D	F	D
NW 119th Street	NW 7th Avenue	I-95 NB Off Ramp	F	F	B	E

Table 2-6 | 2010 Existing Level of Service (LOS) Freeway Mainline Segments

Freeway Segment	Direction	Number of Lanes	AM		PM	
			Volume	LOS	Volume	LOS
Gratigny Parkway						
West of Red Road	Eastbound	3	4,131	C	1,743	A
	Westbound	3	1,845	A	3,476	C
Red Road to LeJeune /Douglas Connector	Eastbound	3	3,372	C	1,346	A
	Westbound	3	1,176	A	2,544	B
East of LeJeune /Douglas Connector	Eastbound	3	3,643	C	1,965	B
	Westbound	3	1,558	A	2,914	B
I-95 General Purpose Lanes						
South of NW 103rd Street	Northbound	5	6,496	C	6,485	C
	Southbound	5	6,107	C	6,948	C
NW 103rd Street to NW 119th Street	Northbound	4	6,542	D	6,269	D
	Southbound	4	5,720	C	6,768	D
NW 119th Street to NW 125th Street	Northbound	4	5,970	D	5,587	C
	Southbound	4	5,079	C	6,326	D
North of Opa Locka Boulevard	Northbound	5	6,396	C	6,440	C
	Southbound	4	5,173	C	6,951	D
95 Express Lanes						
NW 103rd Street to Opa Locka Boulevard	Northbound	2	1,801	B	2,400	C
	Southbound	2	3,145	C	1,670	B

Table 2-7 | 2010 Existing Level of Service (LOS) Signalized Intersections

Intersection	Approach	AM Peak		PM Peak	
		Delay[1]	LOS	Delay[1]	LOS
SR 924 WB On-ramp & Red Road	Overall	26.1	C	33.0	C
SR 924 EB Off-ramp & Red Road	Overall	35.7	D	21.6	C
E 65th Street & LeJeune Douglas/ Connector	Overall	24.0	C	32.4	C
SR 924 WB Off-ramp & LeJeune Douglas Connector	Overall	21.3	C	31.1	C
SR 924/NW 119th Street & NW 32nd Avenue	Overall	114.3	F	64.6	E
SR 924/NW 119th Street & NW 30th Place	Overall	41.4	D	14.7	B
SR 924/NW 119th Street & NW 27th Place	Overall	44.7	D	29.8	C
SR 924/NW 119th Street & NW 27th Avenue	Overall	92.0	F	102.3	F
SR 924/NW 119th Street & Westview Country Club	Overall	0.9	A	5.3	A
SR 924/NW 119th Street & NW 22nd Avenue	Overall	40.2	D	50.7	D
SR 924/NW 119th Street & NW 17th Avenue	Overall	29.6	C	34.3	C
SR 924/NW 119th Street & NW 12th Avenue	Overall	5.1	A	10.8	B
SR 924/NW 119th Street & NW 10th Avenue	Overall	14.3	B	27.7	C
SR 924/NW 119th Street & NW 7th Avenue	Overall	36.5	D	33.2	C
SR 924/NW 119th Street & NW 6th Avenue	Overall	18.1	B	26.0	C
SR 924/NW 119th Street & NW 5th Avenue	Overall	12.3	B	6.9	A
North Miami Blvd/125th Street & I-95 SB Off-ramp	Overall	21.4	C	30.4	C
North Miami Blvd/125th Street & I-95 NB On-ramp	Overall	25.0	C	24.2	C
NE 103rd Street (SR 932) & I-95 SB Off-ramp	Overall	26.7	C	29.8	C
NE 103rd Street & I-95 NB Off ramp	Overall	22.2	C	27.8	C
SR 916/NW 135th Street & I-95 SB On-ramp	Overall	39.5	D	171.5	F
SR 916/NW 135th Street & I-95 NB Off-ramp	Overall	18.6	B	19.1	B
Opa Locka Boulevard & I-95 SB Off-ramp	Overall	15.2	B	40.6	D
Opa Locka Boulevard & I-95 NB On-ramp	Overall	24.4	C	34.2	C

1. Delay reported in seconds per vehicle and represents control delay

2.11 Crash Data and Safety Analysis

A safety analysis study was performed along SR 924 from west of the NW 57th Avenue/Red Road interchange to NW 5th Avenue east of I-95. FDOT's CARS was used to identify crashes reported along the corridor during the period from January, 2005 through December, 2009. SR 924 within these limits experienced an abnormally high crash rate during this time period. The SR 924 study corridor experienced a total of 1,242 crashes during the five-year period. These crashes resulted in 12 fatalities and 575 persons injured. On average, approximately 249 crashes were experienced annually along the corridor. These crashes translate to an annual economic loss of approximately $26,806,842 per year.

Several roadway segments and intersections along the study corridor were listed as high crash locations in the FDOT CARS database. The high crash segments and intersection that were identified in the safety analysis are as follows:

High Crash Segments:

- SR 924 from west of Red Road to east of Red Road
- SR 924 from NW 32nd Avenue to NW 5th Avenue

High Crash Intersections:

- SR 924 at NW 32nd Avenue
- SR 924 at NW 27th Avenue
- SR 924 at NW 7th Avenue

An analysis of predominant crash patterns was conducted at all of the high crash locations. Rear end, angle, sideswipe, and left-turn crashes were predominant. Based on the field observations, the intersections identified in the high crash locations list are heavily congested during peak periods with large turning volumes. Angle crashes at these locations may be due to inadequate signal timing, large turning volumes and the presence of driveways close to these intersections. Rear end collisions may be due to the lack of right-turn lanes at the intersections. Inadequate signal timings and congestion during peak periods are probable causal factors for left-turn crashes and sideswipe may be due to improper lane changes.

More detailed information is contained in the *Safety Analysis Report*.

2.12 Interchanges, Intersections and Signalization

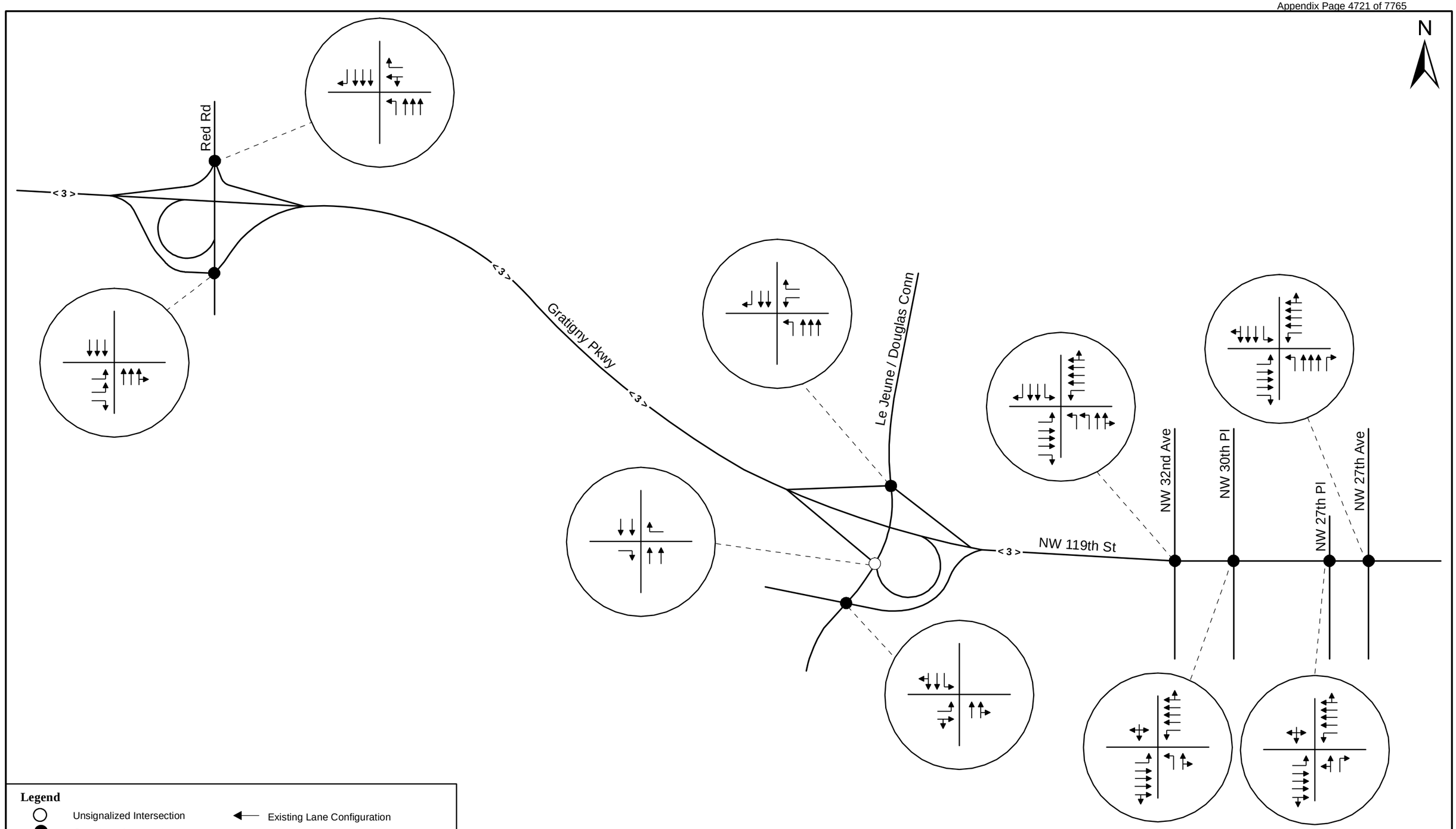
There are 10 signalized and 12 unsignalized intersections along NW 119th Street within the study corridor. The intersections are listed in the table below.

Table 2-8 | NW 119th Street Intersections

Signalized	Unsignalized
NW 32nd Avenue	W Golf Drive
NW 30th Place	E Golf Drive
NW 27th Place	NW 22nd Court
NW 27th Avenue	NW 21st Avenue
Westview Country Club	NW 19th Avenue
NW 22nd Avenue	NW 18th Avenue
NW 17th Avenue	NW 16th Avenue
NW 12th Avenue	NW 15th Avenue
NW 10th Avenue	NW 13th Avenue
NW 7th Avenue	NW 11th Avenue
	NW 8th Avenue
	I-95 Southbound On Ramps

Within the study area, there are four interchanges along I-95. They are located at NW 103rd Street, NW 119th Street, NW 125th Street, and NW 135th Street. All of these interchanges have a diamond shape, except for the interchange at NW 119th Street, which has a half diamond configuration with on and off ramps only on the south side of NW 119th Street. The full diamond interchange at NW 135th Street consists of on and off ramps at Opa Locka Boulevard on the northern end that utilize NW 6th Court to feed into the southern on and off ramps at NW 135th Street. All ramp termini are signalized.

Figure 2-11 shows the intersection configurations for SR 924 and I-95.



MIAMI-DADE EXPRESSWAY AUTHORITY

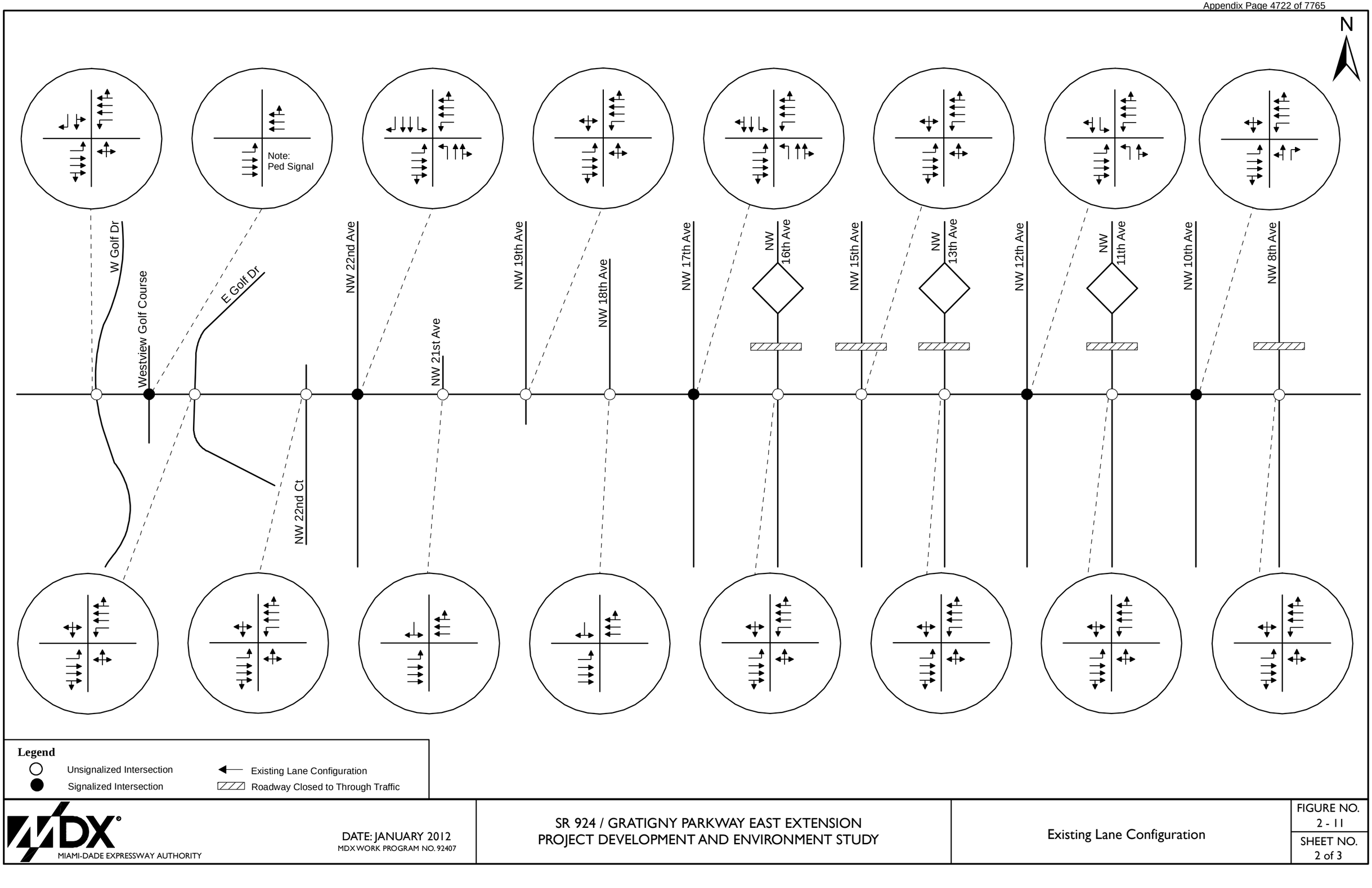
DATE: JANUARY 2012
MDX WORK PROGRAM NO. 92407

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

Existing Lane Configuration

FIGURE NO. 2 - 11

SHEET NO. 1 of 3



MIAMI-DADE EXPRESSWAY AUTHORITY

DATE: JANUARY 2012
MDX WORK PROGRAM NO. 92407

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

Existing Lane Configuration

FIGURE NO. 2 - 11

SHEET NO. 2 of 3

N

NW 7th Ave

NW 6th Ave

NW 5th Ave

NW 103rd St

NW 119th St

NW 125th St

NW 135th St

Opa Locka Blvd

95

< 5 | < 4 | < 4 | < 4 | < 4

< 2 | < 2 | < 2 | < 2 | < 2

2 > | 2 > | 2 > | 2 > | 2 >

5 > | 4 > | 4 > | 4 > | 5 >

< 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1

1 > | 1 > | 1 > | 1 > | 1 > | 1 > | 1 > | 1 > | 1 > | 1 >

Legend

- Unsignalized Intersection
- Signalized Intersection
- Intersection Lane Configuration
- < 1 Mainline/Ramp Lanes
- I-95 Express Lanes

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DATE: JANUARY 2012
MDX WORK PROGRAM NO. 92407

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

Existing Lane Configuration

FIGURE NO. 2 - 11

SHEET NO. 3 of 3

2.13 Intelligent Transportation Systems

Table 2-9 is an inventory of the existing Variable Message Signs (VMS) throughout the I-95 corridor within the study limits.

Table 2-9 | Existing Intelligent Transportation Systems Devices

Description	Approx. Miles Post	Location
VMS SIGN	9.141	Northbound after the On-Ramp of NW 103rd Street
VMS SIGN	9.356	Southbound at the NW 111th Street overpass
VMS SIGN	10.255	Southbound & Northbound at the NW 125th Street overpass

In addition to the VMS along I-95, the "Main Communication Conduit" for the I-95 ITS system runs along the west side of the I-95 right-of-way within the study limits, in close proximity to the west L/A right-of-way line through the study limits. Also, along both the northbound and southbound directions of I-95 within the study limits, the following Intelligent Transportation Systems (ITS) components were identified:

- Ramp Metering at all entrance ramps
- Closed Circuit Television poles/equipment
- Microwave Vehicle Detection System poles/equipment
- ITS Cabinets
- Miscellaneous Communication conduits connecting all ITS components

Additional information on the existing I-95 ITS system can be found on the as-builts for FDOT project numbers 251682-1-52-01 and 415456-1-52-01.

2.14 Lighting

Table 2-10 lists the location and type of lighting systems found throughout the SR 924 and I-95 corridors within the study limits. The roadway lighting is maintained by Florida Power and Light (FPL).

Table 2-10 | Existing Lighting System

Location	Light Pole Height (ft)	Type of Luminaire	Average Spacing (ft)	Remarks
SR 924/NW 119th Street (From NW 32nd Avenue to NW 27th Avenue)	35	400 Watt High Pressure Sodium Luminaire	140	Located at the back of sidewalk on the south and north sides of the corridor.
SR 924/NW 119th Street (From NW 27th Avenue to I-95)	50	400 Watt High Pressure Sodium Luminaire	130	Located at the back of sidewalk on the south and north sides of the corridor.
I-95 (From NW 103rd Street to NW 135th Street)	50	400 Watt High Pressure Sodium Luminaire	210	Barrier wall mounting in median
I-95 (On and Off Ramps)	30	200 Watt High Pressure Sodium Luminaire	160	Shoulder mounting

2.15 Utilities

There are many utilities within the limits of the proposed improvements along SR 924 and I-95 that may be impacted. A design utility ticket from 811, the federally-mandated "Call Before You Dig" campaign, was created. Design Ticket No. 109204787 was created on April 18th, 2012. **Table 2-11** shows the utility name and type, based on the information found on 811, which are used for design.

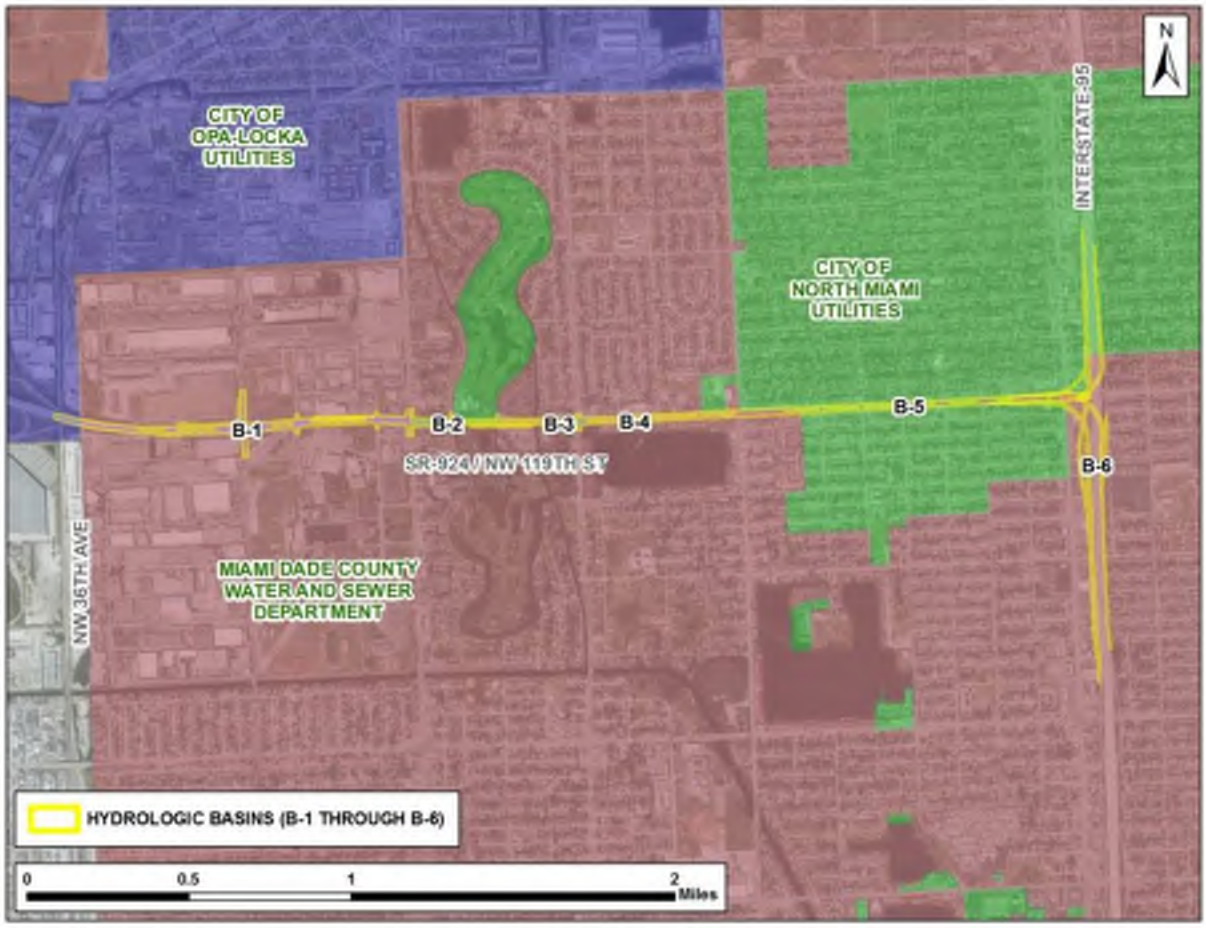
Table 2-11 | 811 List of Existing Utilities

Service Name	Utility Type
AT&T	Communication / Fiber Optic
Comcast Cable	Cable TV and Fiber Optic
Connexion Technologies FKA Capital Infrastructure	Cable TV, Phone Lines, Fiber Optic
Florida City Gas	Natural Gas Distribution System
City of North Miami	Water, Gravity Sewer, and Force Main
City of Hialeah	Water and Sewer
Miami-Dade County Public Works and Traffic	Traffic & Street Lighting
FDOT District 6 ITS	Fiber Optic
FPL - Dade	Electric
FPL Fibernet LLC	Fiber Optic
Level 3 Communications	Fiber Optic
MCI	Communications / Fiber Optic
City of Miami Gardens	Fiber Optic
AT&T Distribution	Telephone

2.15.1 Water and Sewer Utilities

Considering private utility arrangements, one of the larger utility relocation costs associated with project implementation is for public utilities such as the water and sewer providers. **Figure 2-12** illustrates the service areas for sanitary sewer in the project limits.

Figure 2-12 | Utility Service Areas in the Project Area



There is a variety of available information from the City of North Miami and MD-WASD with respect to the location and geometry of underground water and sewer facilities. The City of North Miami maintains an atlas documenting the locations of water lines, gravity sewer lines, and force mains. **Figure 2-13** provides an example of the atlas documentation for water lines in the vicinity of NW 10th Avenue, while **Figure 2-14** provides the same documentation for sanitary sewer lines.

Figure 2-13 | Example of City of North Miami Water Utility Atlas

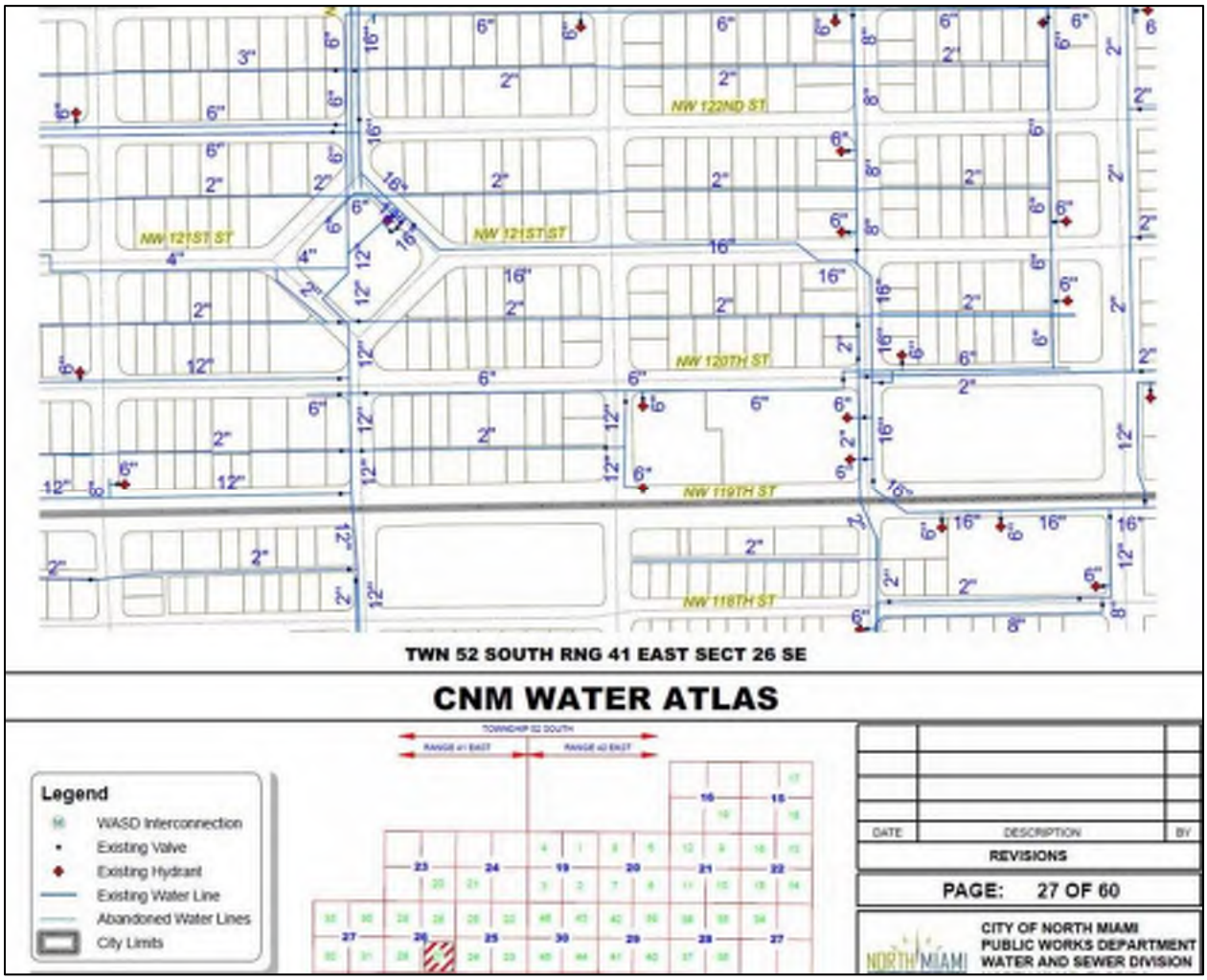
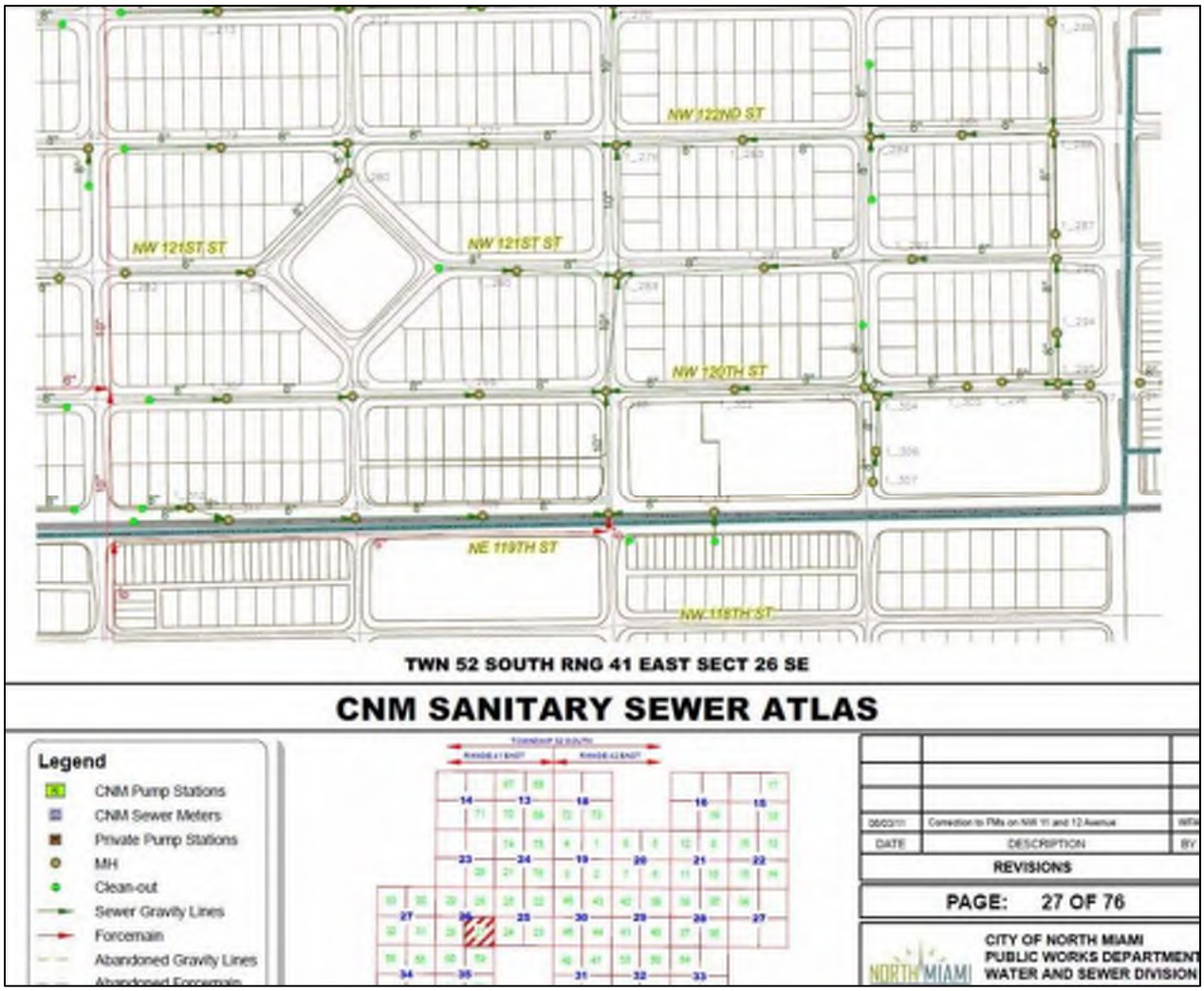


Figure 2-14 | Example of City of North Miami Sanitary Sewer Utility Atlas



There is also as-built documentation available from MD-WASD for SR 924 from NW 36th Avenue on the west to NW 27th Avenue on the east and for NW 7th Avenue that illustrates the utilities between NW 7th Avenue and I-95. **Figure 2-15** illustrates the as-built records for the roadway segment between NW 7th Avenue and I-95.

Figure 2-15 | Example of MD-WASD As-Built Utility Documentation



Table 2-12 includes a summary of inventory of known water and sewer mains along SR 924, and **Table 2-13** includes a summary of known water and sewer mains crossing SR 924 at each of the intersections within the project limits. This inventory is inclusive only of information available in recorded documentation. In order to provide a full description of potential utility conflicts, field investigation is recommended during the design phases.

The inventory does not include a listing of planned improvements, retrofits or replacements within the project limits for either utility.

Table 2-12 | Inventory of Known Water and Sewer Utilities in the SR 924 Corridor

Utility	Diameter [inches]	Utility Type	Length [feet]
MD-WASD	8	Water Main	1,500
MD-WASD	8	Sanitary Gravity Main	1,500
MD-WASD	16	Water Main	2,500
MD-WASD	16	Water Main	500
North Miami	2	Sanitary Force Main	500
North Miami	6	Sanitary Force Main	2,000
North Miami	6	Sanitary Force Main	500
North Miami	6	Sanitary Force Main	2,500
North Miami	6	Water Main	2,000
North Miami	12	Water Main	2,500
North Miami	8	Sanitary Gravity Main	500
North Miami	12	Water Main	1,500
North Miami	6	Sanitary Force Main	1,500
North Miami	8	Sanitary Gravity Main	2,000
North Miami	16	Water Main	1,000

Table 2-13 | Inventory of Known Water and Sewer Utilities Crossing the SR 924 Corridor

Utility	Diameter [inches]	Utility Type	Location
MD-WASD	10	Sanitary Gravity Main	NW 32nd Avenue
MD-WASD	12	Water Main	NW 32nd Avenue
MD-WASD	12	Sanitary Force Main	NW 32nd Avenue
MD-WASD	16	Water Main	East Road
MD-WASD	16	Water Main	NW 27th Avenue
MD-WASD	4	Sanitary Force Main	NW 7th Avenue
MD-WASD	12	Water Main	NW 7th Avenue
MD-WASD	20	Water Main	NW 7th Avenue
MD-WASD	8	Sanitary Gravity Main	NW 7th Avenue
North Miami	8	Water Main	Golf Road West
North Miami	6	Water Main	Golf Road East
North Miami	12	Water Main	Rio Vista Canal
North Miami	6	Water Main	NW 22nd Avenue
North Miami	6	Sanitary Force Main	NW 14th Avenue
North Miami	6	Sanitary Force Main	NW 17th Avenue
North Miami	10	Sanitary Force Main	NW 12th Avenue
North Miami	12	Water Main	NW 11th Avenue
North Miami	2	Water Main	NW 9th Avenue
North Miami	6	Sanitary Force Main	NW 10th Avenue
North Miami	8	Sanitary Gravity Main	NW 10th Avenue
North Miami	4	Sanitary Force Main	NW 19th Avenue
North Miami	2	Water Main	NW 14th Avenue
North Miami	6	Water Main	NW 19th Avenue
North Miami	8	Sanitary Gravity Main	NW 18th Avenue

2.15.2 Overhead Lines and Street Lighting

There are several overhead electric lines along the NW 119th Street corridor that will require relocation. Some of the lines run parallel to the corridor along the back of the right-of-way and others cross the roadway at intersections. There is approximately 2,850 feet of overhead wires along the north side of NW 119th Street west of NW 27th Avenue with the only gap between NW 27th Place and NW 30th Place. This segment includes 1,050 feet west of NW 32nd Avenue. There is approximately 6,700 feet of overhead wires along the south side of NW 119th Street between NW 27th Avenue and NW 14th Avenue.

There are ten locations where overhead wires cross NW 119th Street at the following intersections: NW 27th Avenue, W Golf Road, E Golf Road, NW 22nd Avenue, NW 17th Avenue, NW 14th Avenue, NW 12th Avenue, NW 11th Avenue, NW 8th Avenue and NW 7th Avenue. Section 5.8.2 includes a detailed summary of all the overhead utilities that will be in conflict with the proposed improvements.

In addition to overhead wires, there are nine locations where there are four mast arms utilized for intersection traffic lighting: NW 32nd Avenue, NW 30th Place, NW 27th Place, NW 27th Avenue, NW 22nd Avenue, NW 17th Avenue, NW 12th Avenue, NW 11th Avenue, NW 8th Avenue, and NW 7th Avenue. There is one location between E Golf Road and W Golf Road where the golf cart crossing has a pair of mast arms traffic signals. NW 119th Street has cobra-head street lighting with underground service throughout the corridor. The street lighting is on both sides of the street west of NW 27th Avenue and east of NW 15th Avenue. The segment of the corridor between NW 27th Avenue and NW 15th Avenue has street lighting only on the north side of the street. All light poles are positioned along the back of the sidewalk. Along I-95, light poles along the median barrier wall are apparent from NW 103rd Street to NW 135th Street, with various sections having light poles on the east and west sides.

2.15.3 Natural Gas, Telephone, Fiber Optic and Other Utilities

Gas, telephone, and various fiber optic lines exist throughout the length of NW 119th Street within the project limits. As noted in **Table 2-11**, there are several utilities that manage fiber optic lines in the project corridor including FDOT which utilizes the communication for Dynamic Message Signs. At present, there are two known potential conflicts regarding fiber optic cabling: 1) Level 3 Communications, which maintains a north-south line along NW 27th Avenue that crosses NW 119th Street and 2) AT&T, which maintains a north-south line along NW 32nd Avenue that crosses NW 119th Street. Verizon / MCI has reported no fiber optic or other utilities in the project area.

2.16 Railroads

There is a CSX spur track crossing approximately 2,550 feet west of NW 32nd Avenue at the start of the NW 42nd Avenue/SR 924 interchange, and a CSX mainline track crossing another approximately 350 feet west. Both tracks are active and cross underneath SR 924. Several spur tracks travel off of the CSX spur into industrial facilities south of NW 119th Street. The bridge over the railroads will not be modified as a result of this project.

2.17 Pavement Conditions

Based on a review of pavement condition ratings from FDOT's comprehensive Pavement Management System (PMS), it is concluded that the existing flexible pavement on SR 924 within the study limits is considered in good condition in accordance with the Work Program Instructions, Chapter 28, section C. The current pavement condition ratings for SR 924 taken from FDOT's 2012 Pavement Condition Survey are listed in **Table 2-14**. The pavement on SR 924 from NW 32nd Avenue to NW 27th Avenue was resurfaced, restored, and rehabilitated in 2011. The pavement on SR 924 from NW 27th Avenue to I-95 was resurfaced, restored and rehabilitated in 2003.

The pavement condition on I-95 within the study limits is concrete pavement and was also reviewed using the PMS. It was concluded that the existing pavement is deficient due to the crack and ride values. According to the Work Program Instructions, Chapter 28, section C, any pavement having a rating of 6.4 or below is classified as deficient. The current pavement condition ratings for I-95 within the project limits are listed in **Table 2-14**. The current pavement age for the segment of I-95 from 103rd Street to NW 125th Street is 26 years and the current pavement age of I-95 from NW 125th Street to NW 135th Street is 12 years.

Table 2-14 | Pavement Condition

Roadway	Begin Mile Point	End Mile Point	Side	Current Pavement Age	2012 Cracking Rating	2012 Ride Rating	2012 Rutting Rating
SR 924	0.000	2.021	LT	9 years	9.0	6.8	9.0
SR 924	0.000	2.021	RT	9 years	10.0	7.4	10.0
SR 924	1.340	5.378	LT	1 year	10.0	8.3	10.0
SR 924	1.340	5.378	RT	1 year	10.0	8.3	10.0
I-95	8.823	10.202	LT	26 years	6.6	6.2	N/A
I-95	8.792	10.170	RT	26 years	7.2	7.6	N/A

2.18 Existing Bridges

There are six existing bridges within the study area: I-95 over NW 103rd Street, I-95 over NW 111th Street, I-95 over NW 119th Street, I-95 southbound over NW 125th Street, I-95 northbound over NW 125th Street, and SR 924 over Rio Vista Canal. The locations, bridge numbers, and other important characteristics for each bridge are identified in **Table 2-15**.

2.18.1 Type of Structure

All I-95 bridges within the project limits are American Association of State Highway and Transportation Officials (AASHTO) concrete pre-stressed beam bridges. The SR 924 over Rio Vista Canal bridge is pre-stressed concrete slab structure with a small section of open grid steel deck in the median curb (refer to **Table 2-15**). The I-95 bridges have substructures consisting of reinforced concrete columns, abutments, and pier caps with a concrete sloped embankment below. The SR 924 bridge has a substructure consisting of pre-stressed concrete piles and reinforced concrete abutments and pier caps with a rip-rap lined embankment below.

2.18.2 Condition

As part of the National Bridge Inventory and Structural Inventory and Appraisal program conducted by the FHWA, FDOT requires biannual evaluations of all bridges under its jurisdiction. Inspection results based on the latest Bridge Inspection Reports are shown in **Table 2-15**. The I-95 bridges have sufficiency ratings ranging from a very high of 93.9 to a high 83.7. The SR 924 bridge has an adequate sufficiency rating of 73.2. These sufficiency rating values typically mean that the bridges are candidates for rehabilitation and not replacement, should any major needs arise. Both the I-95 over NW 125th Street (vertical clearance issue) and SR 924 over Rio Vista Canal (deck geometry issue) bridges within the project limits were listed as functionally obsolete. A concern is raised with the Inventory LFR Load Ratings shown in **Table 2-15**. Based on these values, a minimum Rating Factor of 1.0 requires the Inventory LFR Load Rating value to be a minimum of 36.0 tons. Based on the inspection reports, this approximate method of analysis seems to be used for the ratings; therefore, the live load ratio can continue to be rounded up to 1.0 as allowed per FDOT Structures Design Guidelines Section 7.1.1.C. A new load rating is not required per the Load Rating manual if there are no significant changes. Further, by placing new beams closer to the existing, the existing beam ratings should remain unchanged. Therefore, I-95 over NW 119th Street and I-95 over NW 125th Street bridges will continue to have a

current rating factor that rounds up to 1.0. Any future changes in the rating values could result in the need for a variation.

2.18.3 Horizontal and Vertical Clearance

Horizontal and vertical clearances for bridges were obtained from the bridge as-built plans and are tabulated in **Table 2-15**.

2.18.4 Span Arrangement

All of the existing bridges within the project limits have a three span arrangement and can be summarized as follows:

- I-95 over NW 103rd Street bridge is 167'-0" in length, AASHTO beam bridge, with a span arrangement consisting of 41'-6" x 84'-0" x 41'-6"
- I-95 over NW 111th Street bridge is 151'-0" in length, AASHTO beam bridge, with a span arrangement consisting of 41'-6" x 68'-0" x 41'-6"
- I-95 over NW 119th Street bridge is 168'-0" in length, AASHTO beam bridge, with a span arrangement consisting of 42'-0" x 84'-0" x 42'-0"
- I-95 over NW 125th Street bridge is 168'-0" in length, AASHTO beam bridge, with a span arrangement consisting of 42'-0" x 84'-0" x 42'-0"
- SR 924 over Rio Vista Canal bridge is 60'-0" in length, precast slab bridge, with a span arrangement consisting of 20'-0" x 20'-0" x 20'-0"

Refer to **Table 2-15** for a detailed breakdown.

2.18.5 Historical Significance

None of the existing bridges along or on SR 924 within the project limits have been, or will be, assigned as historical bridges.

2.18.6 Geotechnical Information

The existing soil boring information is contained in the *Geotechnical Report for Bridge Structure* located in Appendix C.

Table 2-15 | Existing Bridges

	I-95 Over NW 103rd Street	I-95 Over NW 111th Street	I-95 Over NW 119th Street	I-95 SB Over NW 125th Street	I-95 NB Over NW 125th Street	SR 924 Over Rio Vista Canal
Facility Carried	I-95 NB and SB	I-95 NB and SB	I-95 NB and SB	I-95 SB	I-95 NB	SR 924
Approx. MP	8.781	9.285	9.786	10.163	10.163	0.385
Bridge Number	870435	870436	870437	870322	870438	870621
Facility or Feature Intersected	Over NW 103rd Street	Over NW 111th Street	Over NW 119th Street	Over NW 125th Street	Over NW 125th Street	Over Rio Vista Canal
Year Built/ Reconstructed	1961/1991	1961/1991	1962/1991	1962/1991	1962/1991	1957/1971
Structure Type	Concrete Pre-stressed Girder	Concrete Pre-stressed Girder	Concrete Pre-stressed Girder	Concrete Pre-stressed Girder	Concrete Pre-stressed Girder	Concrete Slab
No. of Spans	3	3	3	3	3	3
Total Bridge Length	167	151	168	168	168	60
Bridge Width	174’-4”	175’-0”	174’-4”	87’-8”	87’-4”	100’-0”
Year of Last Inspection	2012	2010	2012	2011	2011	2012
Sufficiency Rating	83.7	87.6	93.9	87.7	87.8	73.2
LFR Load Rating Inv.	39.9 tons	37.8 tons	35.3 tons	35.4 tons	35.5 tons	37.3 tons
LFR Load Rating Opr.	66.4 tons	63.1 tons	58.9 tons	59.0 tons	59 tons	53.7 tons
Acceptable Load Rating	YES	YES	YES	YES	YES	YES
Min Clear Zone (Horiz. Clearance or shoulder width) (ft)	8.0’	8.0’	8.0’ ’	8.0’	8.0’	7.2’
Existing Minimum Vertical Clearance (Survey/As-Builts) (ft)	14.64’ above NW 103rd Street	14.58’ above NW 111th Street	15.03’ above NW 119th Street	14.79’ above NW 125th Street	14.79’ above NW 125th Street	3.25’ above NWL

2.19 Geotechnical Data

2.19.1 Miami-Dade County Soils Survey

The *Soil Survey of Miami-Dade County Area*, Florida, published by the U.S. Department of Agriculture in 1996, was reviewed for general near-surface soil information within the general project vicinity. The map soil units encountered are described in **Table 2-16**.

Table 2-16 | Summary of Map Soil Units along Project Corridor

Mapping Unit No.	Soil Name	Unified Soils Classification System Symbol*	Typical Thickness (Inches)
10	Udorthents, Limestone Substratum-Urban Land Complex	SP/SP-SM/SM	55 (Over Limestone)
15	Urban Land	SP/SP-SM/SM	55 (Over Limestone)
35	Margate Fine Sand	SP/SP-SM	36 (Over Limestone)
42	Udorthents, Limestone Substratum, 0 to 5 Percent Slopes	SP/SP-SM/SM	30 (Over Limestone)

*SM = silty sand; SP = poorly graded sand

2.19.2 Site Stratigraphy

The Miami area of southern Florida is underlain by an alternating sequence of cemented and uncemented Pleistocene sedimentary deposits (Pleistocene Epoch, deposited 10,000 to 2 million years before the present). A near surface poorly cemented, oolitic Miami Limestone is underlain by a wide variety of loose to dense quartz sands and coarse to fine-grained limestones (Fort Thompson Formation). However, in many portions of Miami-Dade County, surface and deposits of the Pamlico Formation and man-made fill materials are encountered. The Pamlico Formation is composed of unfossiliferous, unconsolidated quartz fine sand. The man-made fill deposit generally consists of granular fill material. The thickness of these deposits is in the order of three to five feet. Generally, the Pamlico Formation overlies the Miami Limestone Formation. In the west part of the county, portions of the Everglades interfinger with the Pamlico Formation sands. The Everglades soils consist of peat, organic silt and calcareous silt marl. Typically, the Everglades soils have a thickness in the order of three to seven feet and overlie the Miami Limestone Formation.

The limestones found in the Miami area are much softer than the hard rock formations found elsewhere in the United States. Although the limestone in Miami can be very porous and have a sponge-like open interconnected network of vugs and small voids, large cavities prone to sinkhole activity are not generally found in the Miami area because the rock formations of south Florida are relatively young, as compared to those encountered other parts of Florida.

2.19.3 Groundwater Hydrology

The primary source of potable groundwater in the Miami-Dade County area is the Biscayne Aquifer. The Biscayne Aquifer is a very permeable unconfined hydrologic unit of water-bearing rocks ranging in age from the late Miocene to Pleistocene.

The Biscayne Aquifer reaches its maximum thickness of approximately 300 feet along the Atlantic Coastal Ridge area and wedges out in the western portion of the county with a thickness of less than 50 feet. The Biscayne Aquifer is one of the most productive aquifer systems in the nation. The high permeability of the formation is attributed to the weathered zones of the limestone, which compose the major portion of the aquifer. The major geologic deposits comprising the Biscayne aquifer include Miami Limestone, the Fort Thompson Formation, the Anastasia Formation, and the Key Largo Limestone.

The Biscayne Aquifer is recharged by local rainfall. Discharge occurs principally by means of evapotranspiration and by flow into canals and into the ocean. The water level and the unconfined aquifer fluctuate with seasonal rainfall condition.

3.0 Project Design Standards

3.1 Design Controls

The Design Controls proposed for the Gratigny Parkway East Extension Project are summarized below:

- **Traffic –** Design Year = 20 years (2040) and DHV = 30th highest hour
- **Capacity and Level of Service –**
  - **I-95 Mainline and Ramps** – LOS E
  - **SR 924/Gratigny Parkway** – LOS D
  - **Terminal Intersection** – LOS E
  - **Other Project Intersections** – LOS E
- **Roadway Functional Classification –** The following Functional Classifications are applicable to this Study.
  - **I-95 –** Urban Principal Arterial/Other Freeways and Expressways
  - **Gratigny Parkway –** Urban Principal Arterial/Other Freeways and Expressways
  - **NW 119th Street –** Urban Minor Arterial
- **Transportation Design for Livable Communities (TDLC) –**TDLC should be incorporated for the NW 119th Street at-grade roadway, during the Final Design Phase
- **Access Management (Median Spacing) –**
  - **NW 119th Street –** Access Class 5
- **Design Speed –**
  - **I-95 –** 55 MPH
  - **Gratigny Parkway –** 60 MPH
  - **System to System Ramps –** 40-45 MPH
  - **NW 119th Street –** 40 MPH
- **Design Vehicle –** WB-62FL

3.2 Highway Design Criteria

The design criteria used for the SR 924/Gratigny Parkway/NW 119th Street and I-95 mainline and ramps are in conformance with the following documents:

- FDOT, Plans Preparation Manual, Volume I (2012);
- FDOT, Standard Specifications for Roadway and Bridge Construction, 2010;
- FDOT, Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System Topic No. 625-010-005, 2013;
- FHWA, Manual on Uniform Traffic Control Devices, 2009 Edition; and
- American Association of State Highway and Transportation Officials, A policy on Geometric Design of Highways and Streets, 2011 Sixth Edition.

Tables 3-1 to **3-4** summarize the applicable design criteria for NW 119th Street, Gratigny Parkway East Extension, and I-95/Gratigny Parkway ramps, respectively.

The design criteria provided below apply only to the proposed modifications. The existing conditions that are outside of the proposed work are to remain as is, including the existing I-95 Express Lanes and GP Lanes. It is anticipated that most traffic signals will have to be replaced at the signalized intersections due to lane reconfiguration and reconstruction of the outside sidewalk areas. These signals will be designed to meet current FDOT criteria and will not require any exceptions or variations. The existing signals in the area of the I-95, if they do not meet current standards, will be replaced and designed to meet the standard and will not require any variations or exceptions.

Table 3-1 | Design Criteria for NW 119th Street (Urban Principal Arterial)

Design Element	Design Criteria	Proposed Value	Source
Design Speed (DS)	40 mph	40 mph	PPM (Table 1.9.1)
Lane Width (Minimum)	11 ft	11 ft	PPM (Table 2.1.1)
Pavement Cross Slopes	2% Min. 4% Max.	2% Min. 4% Max.	PPM (Figure 2.1.1)
Median Width (Minimum)	22 ft 15.5 ft (When severe right-of-way constraints exist)	24 ft	PPM (Table 2.2.1)
Roadside Slopes	Front Slope 1:2 or to suit property owner, not flatter than 1:6. Back Slope 1:2 or to suit property owner, not flatter than 1:6. Transverse Slope: 1:4	Front Slope 1:2 or to suit property owner, not flatter than 1:6. Back Slope 1:2 or to suit property owner, not flatter than 1:6. Transverse Slope: 1:4	PPM (Table 2.4.1)
Border Width (Minimum)	12 ft	16 ft	PPM (Table 2.5.2)
Grades	7% Max. 0.3% Min. (curb and gutter)	7% Max. 0.3% Min. (curb and gutter)	PPM (Table 2.6.1) PPM (Table 2.6.4)
Maximum Change in Grade without Vertical Curve	0.80%	0.80%	PPM (Table 2.6.2)
Stopping Sight Distance (Minimum)	Grades ≤ 2% 305 ft	Grades ≤ 2% 305 ft	PPM (Table 2.7.1)
Horizontal Curves Length	Desired: 15 (DS) Minimum: 400 ft	≥ 400 ft	PPM (Table 2.8.2a)
Horizontal Curves Maximum Curvature	For Normal 2% Cross Slope 3°45' (e max = 0.05)	For Normal 2% Cross Slope 3°45' (e max = 0.05)	PPM (Table 2.8.4)
Maximum Deflection without a Horizontal Curve	2 degrees 5 degrees (through intersection)	2 degrees 5 degrees (through intersection)	PPM (Table 2.8.1a) PPM (Table 2.8.1b)
Crest Vertical Curves K Values	70	70	PPM (Table 2.8.5)
Minimum Vertical Curve Length (Crest and Sag)	120 ft (=3*DS)	120 ft (=3*DS)	PPM (Table 2.8.5) (See Note Below)
Sag Vertical Curves K Values	64	64	PPM (Table 2.8.6)
Superelevation Rates	D (max) = 10°45' e (max) = 0.05	D (max) = 10°45' e (max) = 0.05	PPM (Table 2.9.2)
Superelevation Transitions Slope Rate	1:125	1:125	PPM (Table 2.9.4)
Vertical Clearance (Minimum)	Roadway over Roadway: 16.5 ft Over Water: 6 ft. above Normal	Roadway over Roadway: 16.5 ft Over Water: 6 ft. above Normal	PPM (Table 2.10.1) PPM (Table 2.10.3)

	High Water Overhead Signs: 17.5 ft Mast Arm Mounted Signals: 17.5 ft	High Water Overhead Signs: 17.5 ft Mast Arm Mounted Signals: 17.5 ft	
Horizontal Clearance	To Bridge Piers and Abutments: 6 ft from edge of inside traffic lane Other Roadside Obstacles: No less than 4 ft from the face of curb	To Bridge Piers and Abutments: 6 ft from edge of inside traffic lane Other Roadside Obstacles: No less than 4 ft from the face of curb	PPM (Table 2.11.6) PPM (table 2.11.9)
Minimum Base Clearance above Water Elevation	1 ft.	1 ft.	PPM (Table 2.6.3)
Minimum Sidewalk Width	6ft. Adjacent to curb and gutter 5 ft. with utility grass strip	6ft. Adjacent to curb and gutter 5 ft. with utility grass strip	PPM (Section 8.3.1)
Minimum Bike Lane Width	4ft. Adjacent to curb and gutter	4ft. Adjacent to curb and gutter	PPM (Section 8.4.1)

NOTES: 1) The length of Crest and Sag Vertical Curves should be calculated based on the formula and K values provided in the FDOT PPM, Volume I, Tables 2.8.5 and 2.8.6. The length of curves based on 3 times the design speed should is the minimum when the length per these tables is not feasible.

2) The proposed design will ensure that the longitudinal grades will be at least 0.3% and that in the case where the existing grade is less than 0.3% the proposed curb will have a special gutter grade to ensure that the 0.3% minimum is maintained for the final configuration.

Table 3-2 | Design Criteria for the Gratigny Parkway East Extension (Urban Expressway)

Design Element	Design Value	Proposed Value	Source	Remarks
Design Speed (DS)	60 mph	60 mph	PPM (Table 1.9.1)	
Lane Width (Minimum)	12 ft	12 ft	PPM (Table 2.1.1)	
Pavement Cross Slopes	2% Min. 3% Max.	2% Min. 3% Max.	PPM (Figure 2.1.1)	
Median Width on Bridge (Minimum)	26 ft	14 ft	PPM (Figure 2.0.4)	Design Variation is required.
Bridge Shoulder Width (Minimum)	Outside: 10 ft Inside: 12 ft	Outside: 10 ft Inside: 6 ft	PPM (Table 2.0.4)	Design Variation is required.
Grades	3% Max.	3% Max.	PPM (Table 2.6.1)	
Maximum Change in Grade without Vertical Curve	0.40%	0.40%	PPM (Table 2.6.2)	
Stopping Sight Distance (Minimum)	Grades ≤ 2% 570 ft	Grades ≤ 2% 570 ft	PPM (Table 2.7.1)	
Horizontal Curves Length	Desired: 30 (DS) Minimum: 15 (DS)	30 (DS) Minimum: 15 (DS)	PPM (Table 2.8.2a)	
Horizontal Curves Maximum Curvature	For Normal 2% Cross Slope 0°15' (e max = 0.10)	0°15' (e max = 0.10)	PPM (Table 2.8.4)	
Maximum Deflection without a Horizontal Curve	45 minutes	45 minutes	PPM (Table 2.8.1a)	
Crest Vertical Curves K Values	245	245	PPM (Table 2.8.5)	
Sag Vertical Curves K Values	136	136	PPM (Table 2.8.6)	
Minimum Vertical Curve Length	Crest = 400 ft Sag = 300 ft	Crest = 400 ft Sag = 300 ft	PPM (Table 2.8.5)	
Superelevation Rates	D (max) = 5°15' e (max) = 0.10	D (max) = 5°15' e (max) = 0.10	PPM (Table 2.9.1)	
Superelevation Transitions Slope Rate	1:225	1:225	PPM (Table 2.9.3)	
Vertical Clearance (Minimum)	Roadway over Roadway: 16.5 ft Overhead Signs: 17.5 ft Overhead DMS Signs: 19.5 ft	Roadway over Roadway: 16.5 ft Overhead Signs: 17.5 ft Overhead DMS Signs: 19.5 ft	PPM (Table 2.10.1) PPM (Table 2.10.2) PPM (Table 2.10.4)	

Table 3-3 | Design Criteria for I-95 NB to Gratigny Parkway WB and Gratigny Parkway EB to I-95 NB Ramps (Urban Principal Arterial - Ramps)

Design Element	Design Value	Proposed Value	Source
Design Speed (DS)	45 mph	45 mph	
Lane Width (Minimum)	Single Lane Ramp: 15 ft. Two Lane Ramps: 24 ft.	Single Lane Ramp: 15 ft. Two Lane Ramps: 24 ft.	PPM (Table 2.1.3)
Pavement Cross Slopes	2% Min. 4% Max.	2% Min. 4% Max.	PPM (Figure 2.1.1)
Maximum Algebraic Difference in Cross Slope at Turning Roadways	5.0%	5.0%	PPM (Table 2.1.4)
Bridge Shoulder Width (Minimum)	Single Lane Ramp: Outside: 6 ft Median or Left: 6 ft Two Lane Ramp: Outside: 10 ft. Median or Left: 6 ft.	Single Lane Ramp: Outside: 6 ft Median or Left: 6 ft Two Lane Ramp: Outside: 10 ft. Median or Left: 6 ft.	PPM (Figure 2.0.1)
Roadside Slopes	Front Slope: 1:6 < 5 ft fill Back Slope: 1:4 or 1:3 Transverse Slope: 1:10 or Flatter	Front Slope: 1:6 < 5 ft fill Back Slope: 1:4 or 1:3 Transverse Slope: 1:10 or Flatter	PPM (Table 2.4.1)
Maximum Change in Grade without a Vertical Curve	0.70%	0.70%	PPM (Table 2.6.2)
Border Width (Minimum)	33 ft	33 ft (min.)	PPM (Table 2.5.1)
Grades	5% Max.	5% Max.	PPM (Table 2.6.1)
Stopping Sight Distance (Minimum)	Grades ≤ 2% 360 ft	Grades ≤ 2% 360 ft	PPM (Table 2.7.1)
Horizontal Curves Length	Desired: 30 (DS) Minimum: 400 ft.	400 ft (min.)	PPM (Table 2.8.2a)
Horizontal Curves Maximum Curvature	8°15’ (e max = 0.10)	8°15’ (e max = 0.10)	PPM (Table 2.8.3)
Maximum Deflection without a Horizontal Curve	45 minutes	45 minutes	PPM (Table 2.8.1a)
Crest Vertical Curves K Values	98	98	PPM (Table 2.8.5)
Sag Vertical Curves K Values	79	79	PPM (Table 2.8.6)

Minimum Vertical Curve Length (Crest and Sag)	135 ft (=3*DS)	135 ft (=3*DS)	PPM (Table 2.8.5)
Superelevation Rates	D (max) = 10°15' e (max) = 0.10	D (max) = 10°15' e (max) = 0.010	PPM (Table 2.9.1)
Superelevation Transitions Slope Rate	1:200	1:200	PPM (Table 2.9.3)
Vertical Clearance (Minimum)	Roadway over Roadway: 16.5 ft Overhead Signs: 17.5 ft Overhead DMS Signs: 19.5 ft	Roadway over Roadway: 16.5 ft Overhead Signs: 17.5 ft Overhead DMS Signs: 19.5 ft	PPM (Table 2.10.1) PPM (Table 2.10.2) PPM (Table 2.10.4)

Table 3-4 | Design Criteria for I-95 SB to Gratigny Parkway WB and Gratigny Parkway EB to I-95 SB Ramps (Urban Principal Arterial - Ramps)

Design Element	Design Value	Proposed Value	Source
Design Speed (DS)	40 mph	40 mph	
Lane Width (Minimum)	Single Lane Ramp: 15 ft. Two Lane Ramps: 24 ft.	Single Lane Ramp: 15 ft. Two Lane Ramps: 24 ft.	PPM (Table 2.1.3)
Pavement Cross Slopes	2% Min. 4% Max.	2% Min. 4% Max.	PPM (Figure 2.1.1)
Maximum Algebraic Difference in Cross Slope at Turning Roadways	5.0%	5.0%	PPM (Table2.1.4)
Bridge Shoulder Width (Minimum)	Single Lane Ramp: Outside: 6 ft Median or Left: 6 ft Two Lane Ramp: Outside: 10 ft. Median or Left: 6 ft.	Single Lane Ramp: Outside: 6 ft Median or Left: 6 ft Two Lane Ramp: Outside: 10 ft. Median or Left: 6 ft.	PPM (Figure 2.0.1)
Roadside Slopes	Front Slope: 1:6 < 5 ft fill Back Slope: 1:4 or 1:3 Transverse Slope: 1:10 or Flatter	Front Slope: 1:6 < 5 ft fill Back Slope: 1:4 or 1:3 Transverse Slope: 1:10 or Flatter	PPM (Table 2.4.1)
Border Width (Minimum)	33 ft	33 ft (min.)	PPM (Table 2.5.1)
Grades	6% Max.	6% Max.	PPM (Table 2.6.1)
Maximum Change in Grade without a Vertical Curve	0.80%	0.80%	PPM (Table 2.6.2)
Stopping Sight Distance (Minimum)	Grades ≤ 2% 305 ft	Grades ≤ 2% 305 ft	PPM (Table 2.7.1)
Horizontal Curves Length	Desired: 30 (DS) Minimum: 400 ft.	400 ft (min.)	PPM (Table 2.8.2a)
Horizontal Curves Maximum Curvature	10°45’ (e max = 0.10)	10°45’ (e max = 0.10)	PPM (Table 2.8.3)
Maximum Deflection without a Horizontal Curve	2 degrees	2 degrees	PPM (Table 2.8.1a)
Crest Vertical Curves K Values	70	70	PPM (Table 2.8.5)
Sag Vertical Curves K Values	64	64	PPM (Table 2.8.6)
Minimum Vertical Curve Length (Crest and Sag)	120 ft (=3*DS)	120 ft (=3*DS)	PPM (Table 2.8.5)
Superelevation Rates	D (max) = 13°15’ e (max) = 0.10	D (max) = 13°15’ e (max) = 0.010	PPM (Table 2.9.1)

Superelevation Transitions Slope Rate	1:175	1:175	PPM (Table 2.9.3)
Vertical Clearance (Minimum)	Roadway over Roadway: 16.5 ft Overhead Signs: 17.5 ft Overhead DMS Signs: 19.5 ft	Roadway over Roadway: 16.5 ft Overhead Signs: 17.5 ft Overhead DMS Signs: 19.5 ft	PPM (Table 2.10.1) PPM (Table 2.10.2) PPM (Table 2.10.4)

3.3 Drainage Design Criteria

The design criteria for the improvements along SR 924/Gratigny Parkway/NW 119th Street and I-95 shall conform to the following references:

- FDOT Drainage Manual (2012)
- FDOT Storm Drain Handbook (2012)
- FDOT Hydrology Handbook (2012)
- FDOT Culvert Handbook (2004)
- FDOT Optional Pipe Materials Handbook (2012)
- FDOT District 6 ICPR Applications Manual (ICPR-AM) (2008)
- FDOT District 6 Exfiltration Trench Reference Manual (ETRM) (2008)
- FDOT Plans Preparation Manual (PPM) (2012)
- FDOT Standard Specifications for Roadway and Bridge Construction (2010)
- FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System (2012)
- FDOT Temporary Drainage Handbook (2001)
- Miami-Dade County Code of Ordinances Chapter 24 (2012)
- SFWMD Permit Volume IV (2010)

Table 3-5 provides a summary of the drainage design criteria based on the applicable standards.

Table 3-5 | Drainage Design Criteria Summary

Design Element	Drainage Criteria
Storm Drain Design Frequency	10 year design storm of critical duration (1hr, 8hr, 24hr or 72 hr)
Cross Drain Design Frequency	50 year design storm of critical duration (1hr, 8hr, 24hr or 72 hr) (if any culvert crossings exist or are proposed)
Design Groundwater Elevation/Control Elevations	▪ Varies 2.25 to 2.75 ft-NGVD (East to West) ▪ Avg. Yearly Highest Elevation 3.5 ft-NGVD
Min. Time of Concentration	10 minutes
Min. Pipe Velocity	2.5 ft/sec
Min. Pipe Size	▪ 18'' min. ▪ 24'' min. for French drains

Max. Pipe Length	For gravity pipes without French drains: ▪ 18'' pipes, max. 300 ft length without access ▪ Pipes 24'' to 36'', max. 400 ft length without access ▪ Pipes > 42 inch max. 500 ft length without access
Max. Length of French drain without a terminus structure	▪ Max. 150 ft with access though one end only ▪ Max. 300 ft with access at two ends
Min. Dry Pond Bottom Elevation	1 ft above Design Groundwater Elevation
Min. Inlet and Manhole Sump	▪ 2 ft min. sump below lowest pipe invert ▪ For French drains, 4 ft min. sump below lowest invert
Hydraulic Gradient	When minor the Hydraulic Grade Line (HGL) energy losses are not considered, HGL shall be 1 ft below the theoretical gutter elevation
Outlet Velocity	If outlet velocity exceeds 6 ft/s, provide erosion control
Base Clearance Criteria	▪ For 4-lane roadways, min. base clearance of 2 - 3 ft ▪ For interstate roadways, min. base clearance of 3 ft ▪ Allowable High Water (during 10-year storm frequency) shall not exceed a period > 24 hours
Spread Criteria	Rainfall Intensity of 4 in/hr and spread criteria for: ▪ Expressways where a shoulder is provided shall have no encroachment into the travel lane, for all other roads; ▪ Design Speed < 45 mph; Keep 1/2 of lane clear ▪ 45 mph < Design Speed < 55 mph; Keep 8 ft of lane clear ▪ Design Speed > 55 mph; No encroachment; and ▪ Shoulder gutter spread < 1 ft-3 in outside the gutter in the direction toward the front slope (for a 10-year frequency storm)
Basin Allowable Discharge	Per SFWMD Permit Vol. 4, C-7 Canal: Essentially unlimited inflow by gravity connection (100-year design frequency). However, post-development flows cannot exceed pre-development flows during a 25-year, 72-hour design storm event.
Dry Retention Pond Drawdown	Drawdown must be achieved within 24 hours after rainfall event through the use of French drains at bottom of retention pond.
French Drain Exfiltration Rate Capacity	French drain exfiltration rate shall not exceed 0.1 cfs/LF of trench for design calculations
Water Quality	Provide the larger volume required by RER vs SFWMD water quality volume
Rainfall Events SCS Distributions	▪ FDOT distribution of 10- and 100-year, 1-, 8-, and 24-hour ▪ SFWMD distribution of 25- and 100-year, 72-hour ▪ FDOT distribution of 50-year, 1-, 8-, and 24-hour for any proposed culvert crossings
Hydrologic and Hydraulic Analyses	Use Interconnected Pond Routing (ICPR) Model

4.0 Alternative Analysis

4.1 Planning Phase/Corridor Analysis

The purpose and need for this project involves providing additional east-west mobility along a limited access facility from I-95 to Gratigny Parkway as identified in the MDX Vision Plan. The missing link in the limited access system between Gratigny Parkway and I-95 was the only logical corridor for providing additional east-west limited access capacity in northern Miami-Dade County. The relocation of SR 924/Gratigny Parkway from the existing corridor would require significant acquisition of right-of-way for the new facility with associated impacts to existing neighborhoods, businesses, community services, and natural features. Therefore, improving the existing corridor is the only feasible alternative at this time. The corridor analysis portion of this PD&E Study consisted of evaluating the existing SR 924 corridor and addressing interchange and mainline capacity deficiencies. Transportation System Management and Operations (TSM&O) and multimodal alternatives were dismissed from further evaluation because these alternatives do not meet purpose and need for this project, which calls for a limited access connection, and they are not able to accommodate the design year traffic. Additionally, it was not feasible within the existing right-of-way to provide a limited access expressway, local arterial lanes, and a transit envelope. Therefore, TSM&O and multimodal alternatives were not carried forward into the alternatives analysis. Alternatives for providing limited access connectivity within the SR 924/NW 119th Street corridor were evaluated as described in the following sections.

4.2 No Build and TSM&O/Multimodal Alternatives

This study considers an alternative that assesses what would happen in the future if the proposed project is not built. This alternative, called the No Build Alternative, includes the routine maintenance improvements of the existing roadway and assumes no improvements beyond the currently programmed, committed and funded roadway projects as included in the Miami-Dade County MPO 2035 LRTP. While the No Build Alternative does not meet the project needs, it provides a baseline condition to compare and measure the effects of all the Build Alternatives.

4.3 Build Alternatives

In December 2010, MDX conducted a technical charrette to evaluate and screen various alternative concepts for the proposed Gratigny Parkway East Extension and the system-to-system connection at I-95. The technical charrette was conducted over three days and involved multiple stakeholders including

FDOT, Miami-Dade County, Miami-Dade MPO, MDT, the City of North Miami, and several other local agencies and community organizations.

Five conceptual typical section alternatives were presented at the technical charrette and are included in Appendix A. All of the alternatives begin west of NW 32nd Avenue and continue to I-95. Typical Section Alternative 1 is a four-lane elevated expressway, with four at-grade lanes serving local traffic. The other four typical section alternatives (Typical Sections 2-5 in **Table 2-1**) are all at-grade and involve right-of-way acquisition on one or both sides of NW 119th Street. Typical Section 2 involves three limited access lanes in each direction, with no local arterial lanes, and requires 27 feet of additional right-of-way on both sides of NW 119th Street. Typical Sections 3, 4, and 5 all include four limited access lanes in the center and two local arterial lanes in each direction on the outsides of the limited access right-of-way. Typical Section 3 requires 39 feet of additional right-of-way on both sides of NW 119th Street; Typical Section 4 requires 78 feet of additional right-of-way south of NW 119th Street; and Typical Section 5 requires 78 feet of additional right-of-way north of NW 119th Street

Through stakeholder and agency input, the four at-grade typical section alternatives were eliminated from further analysis due to the large amounts of right-of-way acquisition required and resulting impacts to the community. **Table 4-1** compares the estimated right-of-way acquisitions required for each typical section alternative from the technical charrette. The proposed Gratigny Parkway East Extension would be a four-lane limited access facility and the existing NW 119th Street would be reduced from six lanes to four lanes.

Table 4-1 | Typical Section Alternatives Screening

Alternative	Residential Parcel Impacts	Non-Residential Parcel Impacts
Typical Section 1	0	9
Typical Section 2	8	143
Typical Section 3	8	143
Typical Section 4	2	68
Typical Section 5	6	75

Alternatives for the proposed new interchange with I-95 considered during the technical charrette included:

- Connections to I-95 GP lanes only
- Connections to I-95 express lanes only
- Connections to I-95 GP lanes and I-95 express lanes

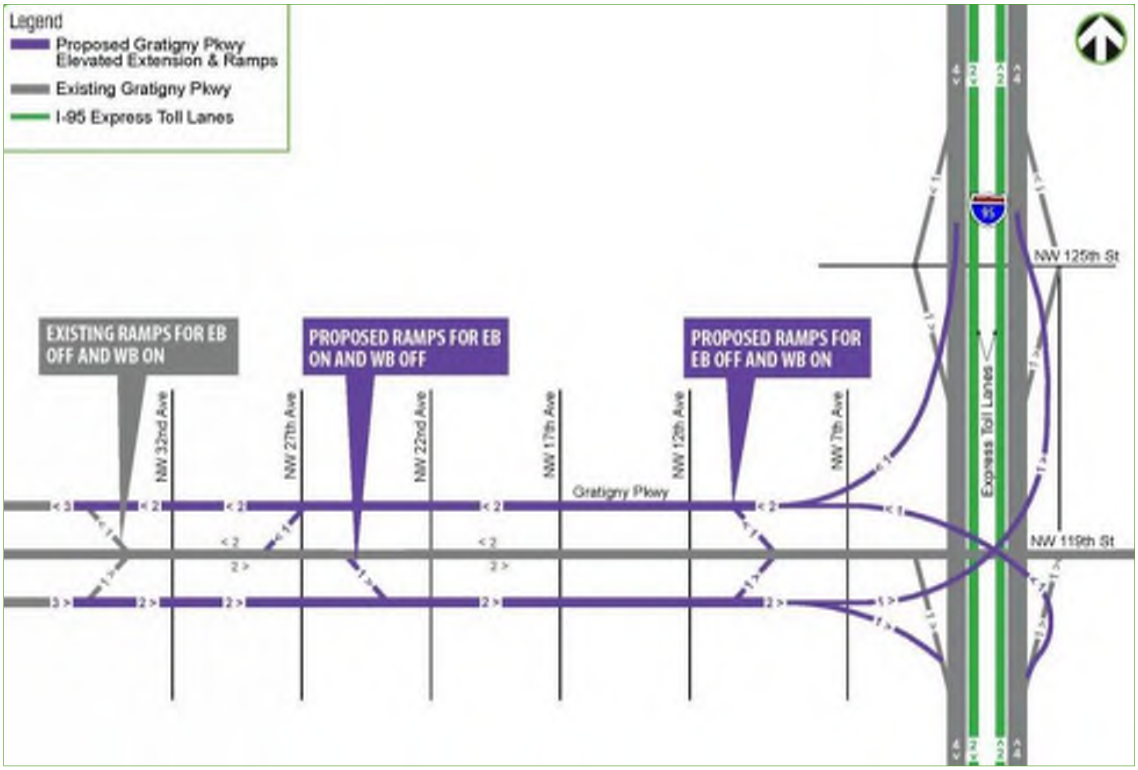
From the interchange alternatives, connections to the I-95 GP lanes only was determined to be the only viable alternative for the proposed new system-to-system connection on I-95. FDOT District Six indicated that a Gratigny Parkway connection to the I-95 Express Lanes would be problematic to the priority north-south nature of the regional I-95 Express System in Miami-Dade and ultimately Broward Counties. This concern was especially critical for the eastbound to southbound AM peak condition. As such, the FDOT representatives in attendance at the technical charrette requested that only the GP Lanes be evaluated for the I-95 connection. The technical charrette also considered alternatives for potential new interchanges along the proposed Gratigny Parkway East Extension at NW 7th Avenue, NW 17th Avenue and NW 27th/32nd Avenue. The interchange at NW 17th Avenue was included in the 2035 LRTP but was eliminated from further consideration due to the significant right-of-way impacts on all four quadrants, primarily along NW 119th Street.

Resulting from the technical charrette and subsequent consultations which are described in the *Type II Categorical Exclusion*, three Build Alternatives were identified as potentially viable alternatives for further consideration in the PD&E Study. These alternatives are described in the following sections. All three proposed design concepts include the same typical section for an elevated Gratigny Parkway East Extension and a new system-to-system interchange with full connections to I-95 GP lanes. The proposed concepts also maintain a partial interchange (with connections to/from I-95 South) for the existing I-95 / NW 119th Street interchange. The difference among the three Build Alternatives is the inclusion or dismissal of proposed interchanges at NW 7th Avenue and NW 32nd/NW 27th Avenues as shown in **Figures 4-1** through **4-3**.

4.3.1 Build Alternative 1

Build Alternative 1 consists of an elevated eastern extension of Gratigny Parkway from west of NW 32nd Avenue to I-95 with ramps providing direct connections to and from the north and south I-95 GP lanes only. This alternative also proposes to install a full interchange at NW 32nd Avenue/NW 27th Avenue (eastbound entrance ramp and westbound exit ramp near NW 27th Avenue), complementing the existing westbound entrance ramp and eastbound exit ramp near NW 32nd Avenue. Furthermore, a partial interchange is proposed at NW 7th Avenue (eastbound exit ramp and westbound entrance ramp). The improvements proposed under this alternative are all consistent with the 2035 LRTP except for the proposed new interchange at NW 7th Avenue. Also, the LRTP proposed a new interchange at NW 17th Avenue, which was eliminated from further consideration at the technical charrette.

Figure 4-1 | Build Alternative 1

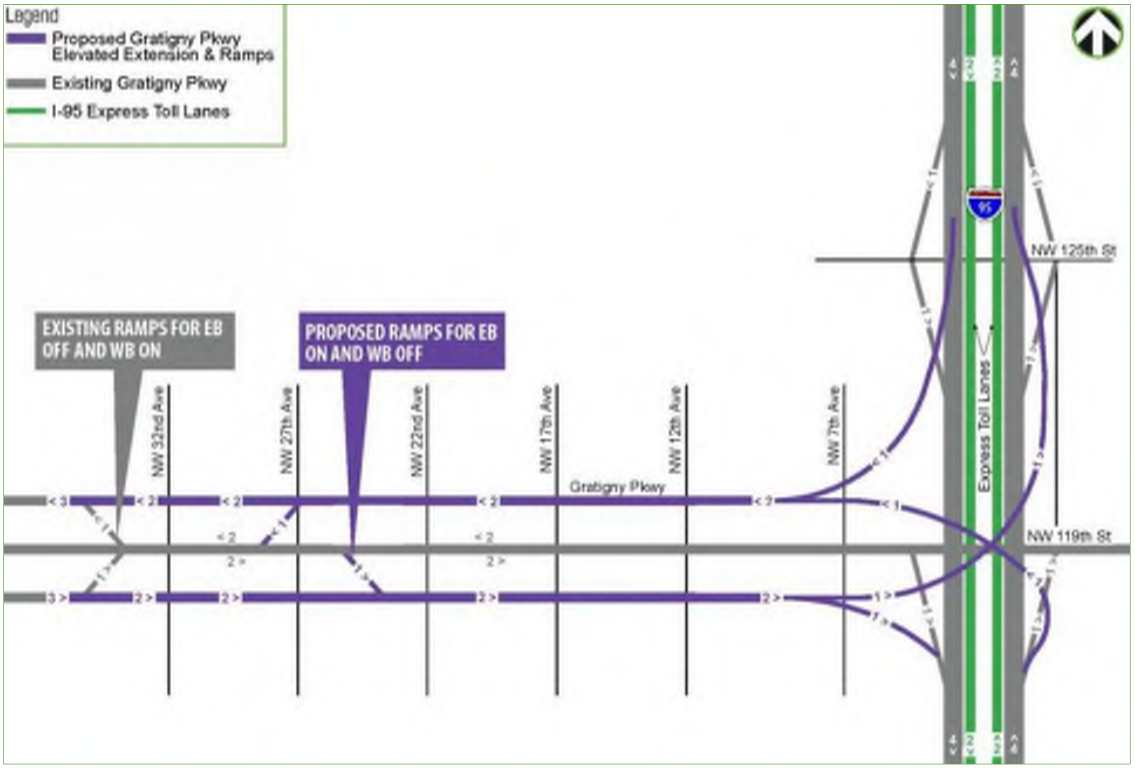


4.3.2 Build Alternative 2

Build Alternative 2 (the Recommended Alternative) consists of an elevated eastern extension of Gratigny Parkway from west of NW 32nd Avenue to I-95 with ramp connections to the I-95 GP lanes similar to Build Alternative 1. This alternative also proposes a full interchange at NW 32nd Avenue/NW 27th Avenue, similar to Build Alternative 1. The NW 7th Avenue interchange is omitted in this alternative.

The improvements proposed under this alternative are all consistent with the 2035 LRTP (except that the LRTP proposed a full interchange at NW 17th Avenue, as discussed under Build Alternative 1).

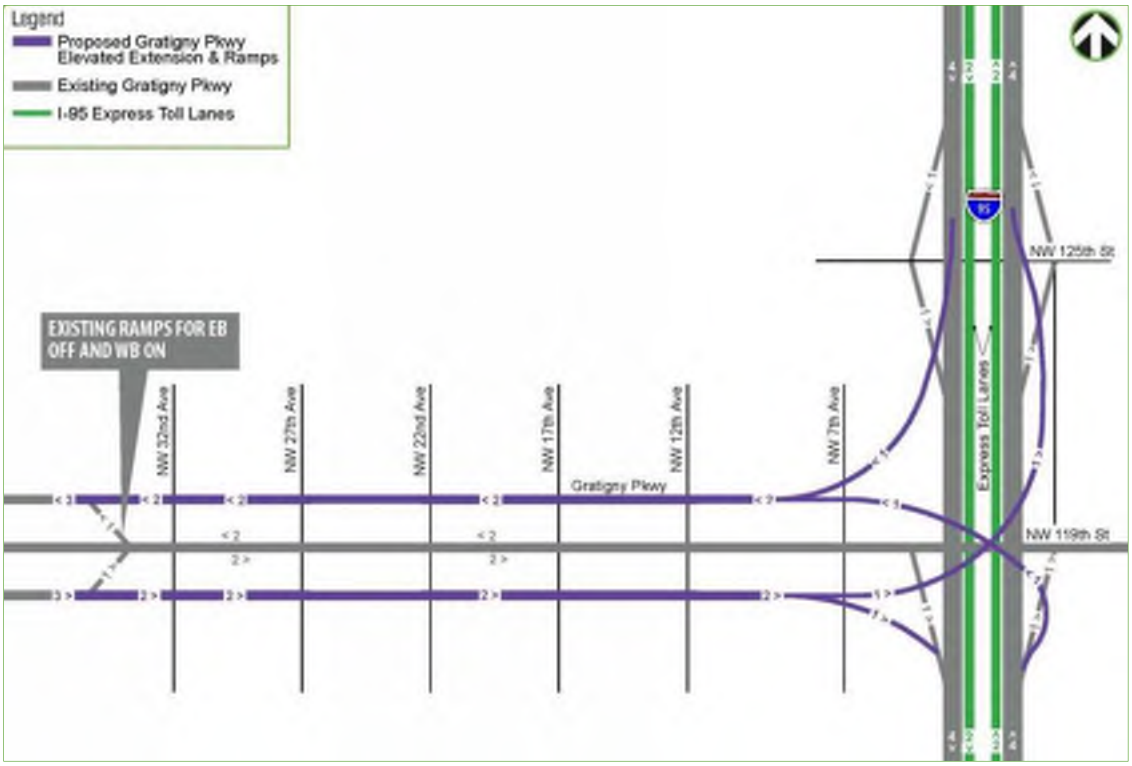
Figure 4-2 | Build Alternative 2



4.3.3 Build Alternative 3

Build Alternative 3 consists of an elevated east extension of Gratigny Parkway from west of NW 32nd Avenue to I-95 with ramp connections to the I-95 GP lanes similar to Build Alternative 1. This alternative includes only the existing eastbound exit and westbound entrance movements west of NW 32nd Avenue. The NW 7th Avenue interchange is omitted in this alternative as well. The improvements proposed under this alternative are all consistent with the 2035 LRTP (except that the LRTP proposed a full interchange at NW 17th Avenue, as discussed under Build Alternative 1).

Figure 4-3 | Build Alternative 3



4.4 Interchange Alternatives

Interchange alternatives were evaluated for the proposed interchanges at I-95, NW 32nd Avenue/NW 27th Avenue, and NW 7th Avenue to determine which Build Alternative would be selected as the Recommended Alternative. Alternatives were evaluated based on cost, right-of-way impacts, bicycle and pedestrian compatibility, traffic control, environmental impacts, sociocultural effects, traffic operations/safety, land use compatibility, and accessibility to the Gratigny Parkway extension. The Alternative Interchange Concept Plans are included in Appendix E.

4.4.1 I-95/Gratigny Parkway Interchange Alternatives

Seven alternatives were developed for the I-95/Gratigny Parkway interchange. All of the ramps described in this section are potential new ramps that were evaluated as part of the Alternatives Development and Screening, to identify the Recommended Alternative. The existing NW 119th Street/I-95 ramps to and from the south will remain in place, and therefore are not discussed in this section.

This section includes a description of each alternative followed by a ranking matrix that was developed to compare the alternatives. **Table 4-2** shows the criteria used to calculate the ranking and **Table 4-3**

shows how the alternatives ranked against each other. The highest value is considered the best. Graphics illustrating each alternative are contained in Appendix E.

Alternative 95-1

This alternative includes a two-lane flyover for the eastbound to southbound movement from Gratigny Parkway to I-95. A two-lane flyover is also provided for the northbound to westbound movement. Single lane ramps are provided for eastbound to northbound and southbound to westbound movements. This alternative also incorporates a new two-lane CD roadway extending northbound from south of NW 95th Street to north of NW 135th Street. A similar two-lane CD road is proposed for southbound movements extending from north of NW 135th Street to south of NW 95th Street.

Alternative 95-2

Alternative 95-2 is the same as Alternative 95-1 except for the CD roadway limits. The CD roadway for Alternative 95-2 would travel from south of NW 95th Street to NW 136th Street northbound and from north of NW 125th Street to south of NW 103rd Street southbound.

Alternatives 95-1 and 95-2 are the only alternatives that propose a CD roadway. Both Alternatives 95-1 and 95-2 would require extensive right-of-way acquisition for implementation of the proposed CD roadways. Based on the extensive right-of-way needs, both alternatives were eliminated from further consideration.

Alternatives 95-3A and 95-3B

These two alternatives are similar in all respects except that the ramp alignment proposed under Alternative 3B avoids impacts to the New Museum Warehouse, located in southwest corner of the interchange. Alternative 95-3A, impacts this warehouse. Alternatives 95-3A and 95-3B propose a two-lane flyover for the eastbound to southbound movement from Gratigny Parkway to I-95. A two-lane flyover is also provided for the northbound to westbound movement. Single lane ramps are provided for eastbound to northbound and southbound to westbound movements.

Both Alternatives 95-3A and 95-3B would impact several businesses along NW 119th Street which conflicts with the Miami-Dade County and City of North Miami goals. Based on these considerations, Alternatives 95-3A and 95-3B were eliminated from further evaluation. Neither of these alternatives is therefore incorporated in the Recommended Alternative for the project.

Alternative 95-4

This alternative includes a single flyover for all movements to/from Gratigny Parkway (eastbound/westbound) and to/from I-95 (northbound/southbound). It also incorporates braided ramps separating conflicting movements for Gratigny Parkway eastbound to I-95 southbound and the I-95 southbound exit ramp to NW 103rd Street. Similarly, braided ramps are provided to separate conflicting movements for I-95 northbound to Gratigny Parkway westbound and the NW 103rd Street on ramp to I-95 northbound.

The forecasted peak hour volumes for the eastbound to southbound movement and northbound to westbound movements are expected to exceed the capacity of the single lane ramps in the design year 2040. Based on these forecasts, two-lane ramps would be required to accommodate the eastbound to southbound and northbound to westbound movements. The proposed single lane ramps for these movements would therefore be inadequate to accommodate the forecasted design year traffic. Based on these considerations, Alternative 95-4 was eliminated from further consideration. This alternative is therefore not incorporated in the Recommended Alternative for the project.

Alternative 95-5

This alternative includes a single flyover for all movements to/from SR 924 (eastbound/westbound) and to/from I-95 (northbound/southbound). The eastbound to southbound movement merges directly onto I-95 GP lanes (no braided ramps provided). Similarly, no braided ramps are provided for the northbound to westbound movement.

Similar to Alternative 95-4, the single lane ramps proposed under Alternative 95-5 are inadequate to service the forecasted traffic volumes in the design year 2040. Based on these considerations, Alternative 95-5 was eliminated from further evaluation. This alternative is therefore not incorporated in the Recommended Alternative for the project.

Alternative 95-6

This alternative includes a two-lane flyover for the eastbound to southbound movement from SR 924 to I-95. A two-lane flyover is also provided for the northbound to westbound movement. Single lane ramps are provided for eastbound to northbound and southbound to westbound movements. This alternative also incorporates a new CD roadway extending southbound from NW 125th Street to NW

103rd Street. This CD roadway would accommodate southbound traffic along I-95 exiting to NW 103rd Street and Gratigny Parkway westbound.

The matrix evaluation shown in **Tables 4-2** and **4-3** identified no fatal flaws in the proposed design concept for Alternative 95-6. Hence, based on this evaluation, Alternative 95-6 was determined to be a potentially viable alternative for the interchange at I-95/ Gratigny Parkway. This alternative was therefore carried forward and incorporated in the Recommended Alternative for the Gratigny Parkway East Extension Project.

Recommendation

Alternative 95-6 is recommended from the I-95/ Gratigny Parkway interchange alternatives because it performs the best in terms of traffic operations and minimizes right-of-way acquisitions relative to other alternatives operating at similar levels of service. Appendix B contains coordination documents regarding alternative selection.

Table 4-2 | Gratigny Parkway/**I-**95 Interchange Evaluation Ranking Criteria

Policy Elements	Ranking Scale				
	1 **Significantly Worse than Other Alternatives**	**2** **Worse than Other Alternatives**	**3** **Neutral/Neither Better nor Worse than Other Alternatives**	**4** **More Beneficial than Other Alternatives**	**5** **Significantly More Beneficial than Other Alternatives**
Construction Costs (includes Engineering Costs)	Requires significantly more construction of high level structures				Minimizes construction of high level structures
Right-of-Way Impacts (Note 1)	More than 100 parcels impacted	50-100 parcels impacted	Less than 50 parcels impacted		
Bicycle and Pedestrian Facilities			Ramp conflicts with pedestrian and bicycle movements.		
Traffic Control/Maintenance of Traffic (MOT)	Complex traffic control plan and construction phasing required	Medium level traffic control	Base level traffic control plan and MOT requirements		
Environmental Impacts	High natural impacts	Medium natural impacts	No natural impacts		
Sociocultural Effects	More than 100 residences impacted.	10 - 50 residences affected with moderate visual impacts.	10 or less residences impacted and minimizes visual impact by involving fewer structures.		
Traffic Operations/Safety (Note 2)	Failed during HCS analysis			Performed well during HCS analysis	Performed best during HCS analysis
Land Use Plan Compatibility (Note 3)	Parcel impacts may interfere with at least one local plan.		Minimal to no impact to the future land use plan.		

Note 1: Includes partial impacts.
Note 2: Alternatives 1 and 2 were not included in the HCS analysis because they are fatally flawed due to extensive right-of-way impacts. Alternatives 4 and 5 did not provide the required two-lane ramp for eastbound to southbound or northbound to westbound movements.
Note 3: Land use plans for Miami-Dade County, the City of North Miami, the City of North Miami Community Redevelopment Area, and the 7th Avenue Community Redevelopment Area were considered. Alternatives 1 and 2 conflict with the 7th Avenue Corridor Plan and Alternatives 3A and 3B impact several businesses along NW 119th Street which conflicts with the county and City of North Miami goals.

Table 4-3 | Gratigny Parkway/I-95 Interchange Evaluation Matrix

Policy Elements	Alternatives						
	95-1	95-2	95-3A	95-3B	95-4	95-5	95-6
Construction Costs (includes Engineering Costs)	1	1	5	4	5	5	4
Right-of-Way Impacts (Note 1)	1	2	3	3	2	3	3
Bicycle and Pedestrian Facilities	3	3	3	3	3	3	3
Traffic Control	1	1	2	2	3	3	2
Environmental Impacts	3	3	3	3	3	3	3
Sociocultural Effects	1	2	3	3	2	3	3
Traffic Operations/Safety (Note 2)	N/A (see Note 2)	N/A (see Note 2)	4	2	1	1	5
Land Use Plan Compatibility (Note 3)	1	1	3	3	3	3	3
Total	N/A (see Note 2)	N/A (see Note 2)	26 (see Note 4)	23	N/A (see Note 2)	N/A (see Note 2)	**26** (see Note 4)

Note 1: Includes partial impacts.

Note 2: Alternatives 1 and 2 were not included in the HCS or CORSIM analysis due to extensive right-of-way impacts. They are eliminated from further consideration based on right-of-way impacts. Alternatives 4 and 5 did not provide the required two-lane ramp for eastbound to southbound or northbound to westbound movements and therefore do not meet the projected 2040 traffic conditions. As such these alternatives have also been eliminated from further consideration. Alternative 6 preferred over Alternative 3 due to elimination of any freeway weave condition for the high volume AM peak movements of EB Gratigny Parkway Ramp to SB I-95 with the SB I-95 exit ramp to NW 103rd Street.

Note 3: Land use plans for Miami-Dade County, the City of North Miami, the City of North Miami Community Redevelopment Area, and the 7th Avenue Community Redevelopment Area were considered. Alternatives 1 and 2 conflict with the 7th Avenue Corridor Plan and Alternatives 3A and 3B impact several businesses along NW 119th Street which conflicts with the county and City of North Miami goals.

Note 4: Alternative 95-6 to be analyzed in the IJR using CORSIM as the Recommended Alternative, as recommended by the Engineer and concurred by MDX.

4.4.2 Gratigny Parkway/NW 32nd Avenue/NW 27th Avenue Interchange Alternatives

Four alternatives were evaluated for the potential SR 924/NW 32nd Avenue/NW 27th Avenue interchange. The difference among the build alternatives is the location of the eastbound entrance and westbound exit ramps being at NW 32nd Avenue or NW 27th Avenue. **Table 4-4** shows the criteria used to calculate the ranking and **Table 4-5** shows how the alternatives ranked against each other. Higher scores are considered better. Graphics illustrating each alternative are contained in Appendix E.

Alternative 27-AA

Alternative 27-AA includes an eastbound entrance ramp and a westbound exit ramp at NW 32nd Avenue.

Alternative 27-BA

Alternative 27-BA includes an eastbound entrance ramp at NW 27th Avenue and a westbound exit ramp at NW 32nd Avenue.

Alternative 27-BB

Alternative 27-BB includes an eastbound entrance ramp and a westbound exit ramp at NW27th Avenue.

Alternative 27-EX

Alternative 27-EX includes the existing ramps to and from the existing Gratigny Parkway west of NW 32nd Avenue only. Alternative 27-EX would provide no connection to the Gratigny Parkway East Extension to/from I-95 for vehicles beginning or ending their trips near NW 27thAvenue/NW 32nd Avenue.

Recommendation

Although Alternative 27-BA did not have the highest score, it is the recommended alternative for the following reasons.

Right-of-Way: Of the four potential interchange alternatives evaluated for NW 27th Avenue, Alternative 27-BA is recommended because it minimizes potential residential relocations. When compared to Alternative 27-BB, Alternative 27-BA impacts fewer parcels and also avoids the potential residential

impacts associated with the multi-family residential structure on the north side of NW 119th Street near NW 22nd Avenue.

Traffic: Alternative 27-BB slightly performs better operationally due to maintaining the full interchange access directly at NW 27th Avenue; however, the impacts and costs of the potential residential impacts for the multi-family residential structure on the north side near NW 22nd Avenue outweigh the operational considerations. Alternative 27-BA avoids this structure.

Cost: The construction and engineering costs associated with the three potential build alternatives are comparable. However, the right-of-way and relocation costs for Alternative 27-BA would be considerably less than Alternative 27-BB because the alternative avoids the multi-family residential structure. Alternative 27-BB would likely require a whole take of the multi-family structure which contains 34 residential units.

Accessibility and Truck Mobility: In terms of accessibility and truck mobility, Alternative 27-BA performs better than Alternatives 27-AA and 27-EX. Compared to the on-ramp at NW 32nd Avenue proposed in Alternative 27-AA, the eastbound on-ramp at NW 27th Avenue provides better accessibility to the proposed Gratigny Parkway Extension for Miami-Dade College and the nearby industrial facilities/land uses on the north side of NW 119th Street, between NW 32nd Avenue and NW 27th Avenue. The westbound off-ramp at NW 27th Avenue proposed in Alternative 27-BB provides comparable accessibility to the college and industrial area from the proposed extension; however, the relocations required for impacts to the multi-family residential structure would be substantial. The eastbound on-ramp at NW 27th Avenue associated with Alternative 27-BA would also provide greater truck mobility for the manufacturing and industrial-based businesses in the area. The on-ramp provides direct expressway access to the proposed extension with improved access to I-95.

Overall, Alternative 27-BA is recommended from the potential interchange alternatives, for this location, from the standpoint of avoiding a significant number of residential relocations as would be required with Alternative 27-BB.

Table 4-4| Gratigny Parkway/NW 27th Avenue Interchange Evaluation Ranking Criteria

Policy Elements	Ranking Scale				
	1 **Significantly Worse than Other Alternatives**	**2** **Worse than other Alternatives**	**3** **Neutral/Neither Better nor Worse than Other Alternatives**	**4** **More Beneficial than Other Alternatives**	**5** **Significantly More Beneficial than Other Alternatives**
Construction Costs (includes Engineering Costs)		Requires significantly more construction of ramp structures and walls.		No new construction of ramp structures and walls.	
Right-of-Way Impacts		More than 20 parcels impacted	10 - 20 parcels impacted	10 or less parcel impacts	
Residential Relocations		More than 20 residential relocations anticipated.		No residential relocations anticipated.	
Bicycle and Pedestrian Facilities		Ramp conflicts with pedestrian and bicycle movements.		No ramps conflicts.	
Traffic Control/MOT		Increased level of traffic control versus base project		Base level traffic control plan and MOT requirements	
Environmental Impacts		Some potential for contamination impacts	Minor potential for contamination impacts	Minimal potential for contamination impacts	
Sociocultural Effects	Ramps and structures are located in a residential area where viewers are more sensitive to visual quality. Involves residential parcel impacts.	Ramps and structures are located in an industrial area where viewers are less sensitive to visual quality. No residential parcel impacts.	No ramps or residential parcel impacts.		
Traffic Operations /Safety	Introduces new conflict points.		No new conflict points.		
Land Use Plan Compatibility		Parcel impacts may interfere with the future land use plan.		Minimal to no impact to the future land use plan.	
Gratigny Parkway Extension Accessibility	Maintains existing ramps only with no access provided to new facility at NW 27th Avenue/NW 32nd Avenue		Provides access to new facility with entrance and exit ramps at NW 32nd Avenue	Provides access to new facility including entrance ramp at NW 27th Avenue and exit ramp at NW 32nd Avenue	Provides best overall access to new facility. Entrance and exit ramps at NW 27th Avenue

Table 4-5 | Gratigny Parkway/NW 27th Avenue/NW 32nd Avenue Interchange Evaluation Matrix

Policy Elements	Alternatives			
	27-AA	27-BA	27-BB	27-EX
Construction Costs (includes Engineering Costs)	2	2	2	4
Right-of-Way Impacts	3	2	2	4
Residential Relocations	4	4	2	4
Bicycle and Pedestrian Facilities	2	2	2	4
Traffic Control	2	2	2	4
Environmental Impacts	3	2	2	4
Sociocultural Effects	2	1	1	3
Traffic Operations /Safety	1	2	3	3
Land Use Plan Compatibility	2	2	2	4
Gratigny Parkway Extension Accessibility	3	4	5	1
Total	**24**	**23**	**23**	**35**

Alternative 27-EX achieved the highest overall ranking. However, Alternative 27-EX does not facilitate access to the new elevated expressway for the local trip generators west of NW 27th Avenue, which includes extensive industrial land uses, as well as the Miami-Dade College North Campus. Local access for these properties to the new elevated expressway is an important consideration for the Gratigny Parkway East Extension Project. Hence, Alternative 27-EX was eliminated as it was determined to be inconsistent with local traffic needs.

Alternatives 27-AA, 27-BA, and 27-BB provide marginally similar overall ranking scores and all facilitate some access to the local community. Alternative 27-BA was determined to be the recommended alternative at this location from the standpoint that it avoids a significant number of residential relocations.

4.4.3 Gratigny Parkway/NW 7th Avenue Interchange Alternatives

Two alternatives were evaluated for the potential Gratigny Parkway/NW 7th Avenue interchange: with ramps to/from the elevated structure and a no build alternative which includes the existing intersection at NW 7th Avenue/NW 119th Street but no ramps to/from the elevated structure. The ramps would include a westbound entrance to the new facility from NW 7th Avenue and an eastbound exit from the new facility to NW 7th Avenue. **Table 4-6** shows the criteria used to calculate the ranking and **Table 4-7** shows how the alternatives ranked against each other. The highest value is considered the best. Graphics illustrating each alternative are contained in Appendix E.

Recommendation

It is recommended that the NW 7th Avenue ramps NOT be included in the Recommended Alternative. The ramps would involve significant right-of-way impacts along NW 119th Street and be too costly to justify.

Table 4-6 | Gratigny Parkway/NW 7th Avenue Interchange Evaluation Ranking Criteria

Policy Elements	Ranking Scale		
	1 **Worse than Other Alternative**	**2** **Neutral/Neither Better nor Worse than Other Alternative**	**3** **More Beneficial than Other Alternative**
Construction Costs (includes Engineering Costs)	Requires significantly more construction of ramp structures and walls.		Minimizes construction of ramp structures and walls.
Right-of-way Impacts	Significantly more parcels impacted.		Significantly fewer parcels impacted.
Bicycle and Pedestrian Facilities	More ramp conflicts with pedestrian and bicycle movements.		Fewer ramps conflicts with pedestrian and bicycle movements.
Traffic Control/MOT	Complex traffic control plan and construction phasing required		Base level traffic control plan and MOT requirements
Environmental Impacts	High natural resource impacts		No natural resource impacts
Sociocultural Effects		No residential parcels impacted.	
Traffic Operations/Safety	Introduces new conflict points		No new conflict points
Land Use Plan Compatibility	Parcel impacts may interfere with the future land use plan.		Minimal to no impact to the future land use plan.
Gratigny Parkway Extension Accessibility	Access to I-95 is only provided from Gratigny Parkway		Ramps at NW 7th Avenue are included.

Table 4-7 | Gratigny Parkway/NW 7th Avenue Interchange Evaluation Matrix

Policy Elements	Alternatives	
	With Ramps	No Build
Construction Costs (includes Engineering Costs)	1	3
Right-of-way Impacts	1	3
Bicycle and Pedestrian Facilities	1	3
Traffic Control	1	3
Environmental Impacts	2	2
Sociocultural Effects	2	2
Traffic Operations/Safety	1	3
Land Use Plan Compatibility	1	3
Gratigny Parkway Extension Accessibility	3	1
Total	**13**	**23**

4.5 Structure Alternatives

4.5.1 Structure Considerations

Three Build Alternatives were identified as potentially viable alternatives for further consideration in the PD&E Study and all three include the same typical section for the elevated Gratigny Parkway East Extension and the new system-to-system interchange with full connections to and from the I-95 GP lanes.

For evaluation of the structure alternatives, the Gratigny Parkway East Extension was divided into the Elevated Viaduct and the Gratigny Parkway/I-95 Interchange.

4.5.2 Study of Alternatives – Elevated Viaduct

Two basic structure types have been considered, a steel box girder and a concrete box girder bridge. The box girder shape has been selected for its aesthetic value. An aesthetic Level Three is recommended due to the emphasis on the overall aesthetics when passing through or under the viaduct in a highly urbanized area. The bridge itself shall comply with Level Two requirements. The structure proposed for the Gratigny Parkway East Extension to I-95 is an elevated viaduct with single columns in the median. Traditional bridge types, such as pre-cast concrete I-beams and/or steel I-girders have been ruled out as they provide poor aesthetics in an urban environment and do not satisfy Level Two requirements. In addition, it would not be practical or structurally feasible to construct concrete or steel I-beams from a single column in the median. The viaduct structure evaluated in this section was chosen since it provided a balance of cost, constructability, aesthetics, and low maintenance. The objective is for the structure to provide a modern and graceful shape that not only integrates into the urban environment, but also enhances it.

The bridge width is considerably wide, 85 feet 1 inch, and larger than the 24-foot wide median where the columns are placed. In order to reduce the visual bridge volume, the mass and inertia of the deck are concentrated in the center over the median. This core is conceived as a box girder of curved shapes and it has two overhangs that are partially supported on struts. Due to the overhangs, the vertical clearance over the NW 119th Street lanes is larger than over the median.

The following concrete and steel box girder bridges (**Figures 4-4** and **4-5**) are considered as alternatives for this corridor. The struts can be either steel or concrete. Steel struts can provide a slight weight

reduction of the section over the concrete struts. In general, the struts should match the core section; however, steel struts with a concrete core is also feasible.

Figure 4-4 | Bridge Alternatives Typical Section – Concrete Box Girder

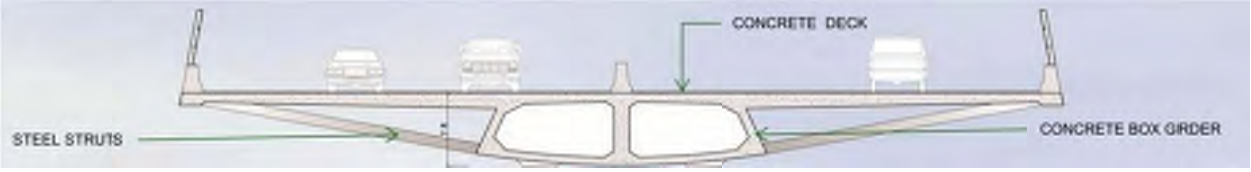
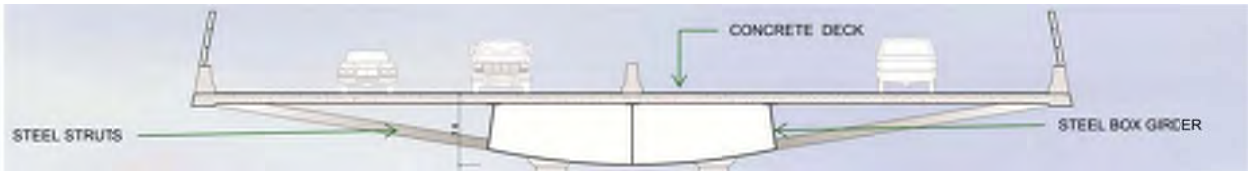


Figure 4-5 | Bridge Alternatives Typical Section – Steel Box Girder



4.5.2.1 Span Lengths

Both the steel and concrete box girder bridges were evaluated for two different span lengths: 170-foot and 210-foot spans (**Figure 4-6**). These span arrangements assure that the superstructure can span up to 210 feet to avoid conflicts with traffic needs below the structure, to the maximum extent practicable.

At the 170-foot span length, more columns are required increasing the cost of the substructure. At the 210-foot span length, the superstructure depth required an increase from approximately 7 feet to 9 feet, increasing the cost of the superstructure. However, a balance between superstructure and substructure costs can be achieved during the Bridge Development Report analysis work effort of final design within the 170-foot and 210-foot span lengths. It is important to avoid a clutter of piers in the urbanscape and to create a visually transparent structure.

To illustrate the two different span lengths considered, 3-dimentional representations were developed at this conceptual design stage to evaluate the proportions and make visual judgments and adjustments.

Figure 4-6 | 170-Foot Span and 210-Foot Span Arrangement



4.5.2.2 Pier Configurations

The same single column pier configurations can be used for both the steel and concrete bridge alternatives up to the 210-foot span length. The visible surfaces of the pier have vertical striations to increase their apparent slenderness. The pier axis coincides with the axis of the superstructure under the box girder.

Piers would be one of the most visible bridge components of the viaduct structure, and their spacing, dimensions and shapes are crucial for an attractive structure. Pier dimensions at the top are governed by the minimum required spacing between bearings to prevent uplift for torsional moment. Dimensions of the columns are kept to a minimum to reduce visual impact and to place them within the median.

The alternatives analyzed are vertical piers with curved shapes to create an attractive sculptural pier. Even with the curved shape geometry, compared to the standard column, its economic impact is very small for this long viaduct because there is a high degree of repetition.

Figures 4-7 and **4-8** both show a single column hammerhead pier along the median that can support both the steel and concrete bridge options. The Pier Option 1 column has a relatively constant width while the Pier Option 2 column increases in width as the column height increases. Column dimensions are taken at the base to be 8 feet by 6.5 feet. **Figure 4-9** shows a single column with a Y-shape pier.

Figure 4-7 | Single Column Hammerhead Pier Option 1



Figure 4-8 | Single Column Hammerhead Pier Option 2



Figure 4-9 | Single Column Y-Shape Pier



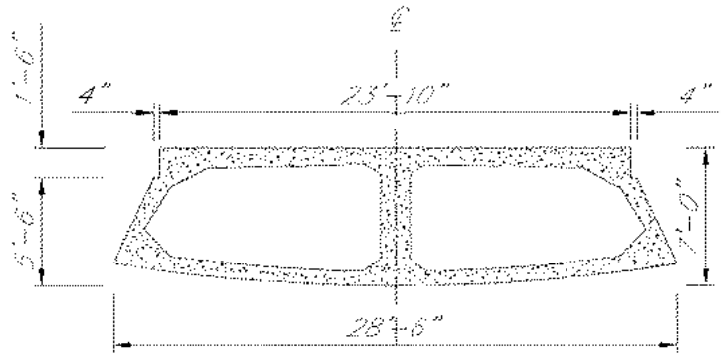
4.5.2.3 Constructability

Construction of both the concrete and steel alternatives requires phased construction.

4.5.2.3.1 Concrete Box Girder Bridge

The concrete box girder can be built in two phases, core and cantilevers, or in a single section with the wings or partial wings attached, as shown in **Figures 4-10** and **4-11**.

Figure 4-10 | Concrete Box Girder Core and Cantilever Construction



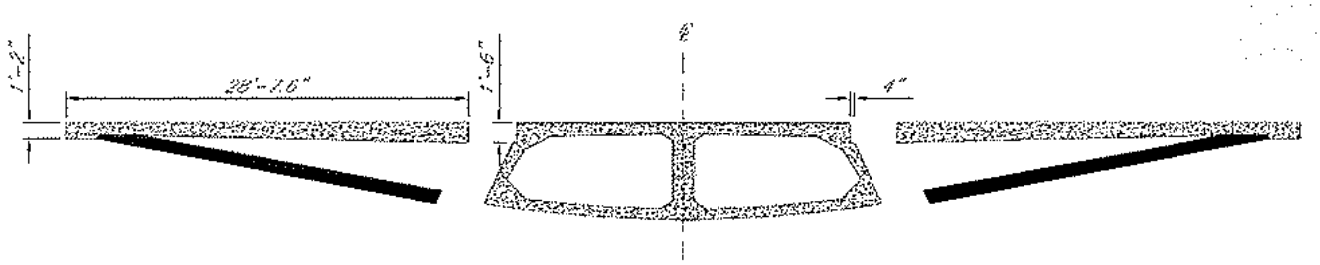


Figure 4-11 | Concrete Box Girder and Core Single Section Cantilevered Construction



For the concrete bridge alternative, there are several construction methods that can be considered. It will be the contractor's option, depending on his construction equipment and schedule, whether he erects the core and cantilevers separately or both at once. For either scenario, viable construction techniques include:

- Span by span construction utilizing an overhead gantry,
- Balanced cantilever construction,
- Construction on falsework, and
- Incremental launching.

All construction techniques, except for construction on falsework, have the capabilities of constructing this portion of the bridge from the top down. Construction on falsework is typically recommended where there are significant changes in the cross-section that requires custom forming. For this long viaduct, this method is not recommended since there are other methods that allow for prefabrication and quicker construction times, such as span by span, balanced cantilever and incremental launching. The span by span construction utilizing an overhead gantry allows construction with segments delivered from the ground or from the top of the completed structure. The balanced cantilever construction method utilizing an overhead gantry will allow for delivery of segments from the top. **Figure 4-11** shows alternative methods of balanced cantilever construction, such as utilizing a lifting frame (beam and winch) and crane erection of segments. Both these approaches will require segment delivery from the ground. The incremental launching method requires a casting bed to fabricate the segments at the same location the segments are pushed or launched forward, eliminating the need to deliver segments from ground level.

Table 4-8 provides a comparison of the advantages and disadvantages of different construction techniques for a concrete box girder bridge core section.

Table 4-8 | Evaluation of Concrete Box Girder Construction Matrix

Construction Technique	Pros	Cons
Span by Span construction	▪ Proven method of segmental construction known for fast erection rates. Once crew has learned the routine, can get one span erected per week. ▪ Top down construction minimizes impacts to local traffic.	▪ Proposed spans lengths greater than 170 feet may be outside the range of span by span. ▪ Requires a construction work zone limited to the area under the core segment.
Construction on Falsework	▪ Segments are cast or erected on site	▪ All construction operations are ground based, causing the most impacts to the local traffic. ▪ Falsework settlements can cause structural problems/damage to the structure. ▪ Requires a construction work zone limited to the area under the core segment.
Incremental Launching	▪ Segments are cast behind the abutment and launched forward. ▪ Improved quality control of the segment production since staging and fabrication is at one location.	▪ Temporary supports may be required since the launching span may need to be less than the final span to reduce launching moments. ▪ Very few contractors have experience in the US with this approach. ▪ Requires a construction work zone limited to the area under the core segment.
Cantilever Construction	▪ Proven method of segmental construction. Segment lengths are typically 10-ft to 15-ft. Typical method used for proposed span lengths. ▪ Top down construction minimizes impacts to local traffic.	▪ Requires a construction work zone limited to the area under the core segment.

For the proposed span lengths, the economic and recommended method of construction is balanced cantilever, but span-by-span is also viable.

4.5.2.3.2 Steel Box Girder Bridge

The steel box girder can be built similarly to the concrete box girder in two phases, core and cantilevers, or in a single section with the wings or partial wings attached, as shown in **Figure 4-12**.

Figure 4-12 | Construction of the Steel Box Girder Two-Phases (Left) or One-Phase (Right)



Compared to the concrete bridge alternative, the steel bridge alternative has limited construction options. A typical construction method for steel is construction on falsework. Therefore, some of the other construction techniques available for the concrete option would not be feasible for the steel option. The same construction options are compared for the steel bridge in **Table 4-9**.

Table 4-9| Evaluation of Steel Box Girder Construction

Construction Technique	Pros	Cons
Span by Span construction	▪ Feasible	▪ Requires splices in high stress areas which is not typical. ▪ All construction operations are ground based, causing the most impacts to the local traffic.
Construction on Falsework	▪ Erection typically consists of sections of bridge over the pier with drop-in sections. ▪ Erection is fairly rapid since sections can range up to 100 feet or more in length that are spliced together at the job site.	▪ All construction operations are ground based, causing the most impacts to the local traffic. ▪ Falsework consists of erection towers that support the sections to be spliced. ▪ Requires a construction work zone that needs to allow for cranes that can pick up and place the sections. ▪ Does not allow for top-down construction.
Incremental Launching	▪ Not applicable	▪ Not applicable
Cantilever construction	▪ Not applicable	▪ Not applicable

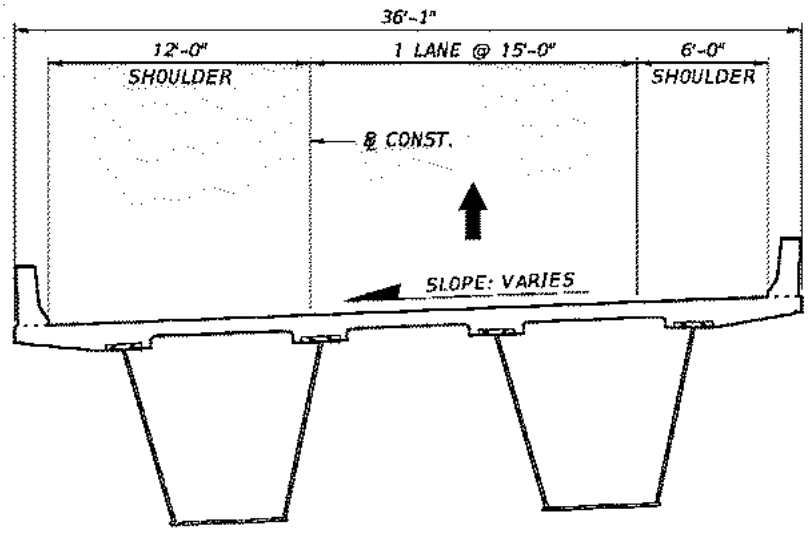
4.5.3 Study of Alternatives – SR 924 / I-95 Interchange

The Recommended Alternative (Alternative 95-6) includes a full interchange at I-95. The two basic structures considered included a steel box girder and a concrete segmental box girder bridge. The box girder shape has been selected for its aesthetic value. An aesthetic Level Two is selected due to the emphasis in this level to the overall aesthetics when passing through or under the ramps in a highly urbanized area. Two of the bridges are 3rd level ramp bridges and another bridge is a 4th level ramp bridge. Therefore, traditional bridge types, such as pre-cast concrete I-beams and/or steel I-girders, have been ruled out as they provide poor aesthetics in an urban environment and do not satisfy Level Two requirements.

The bridge widths and steel box cross-sections are shown as follows:

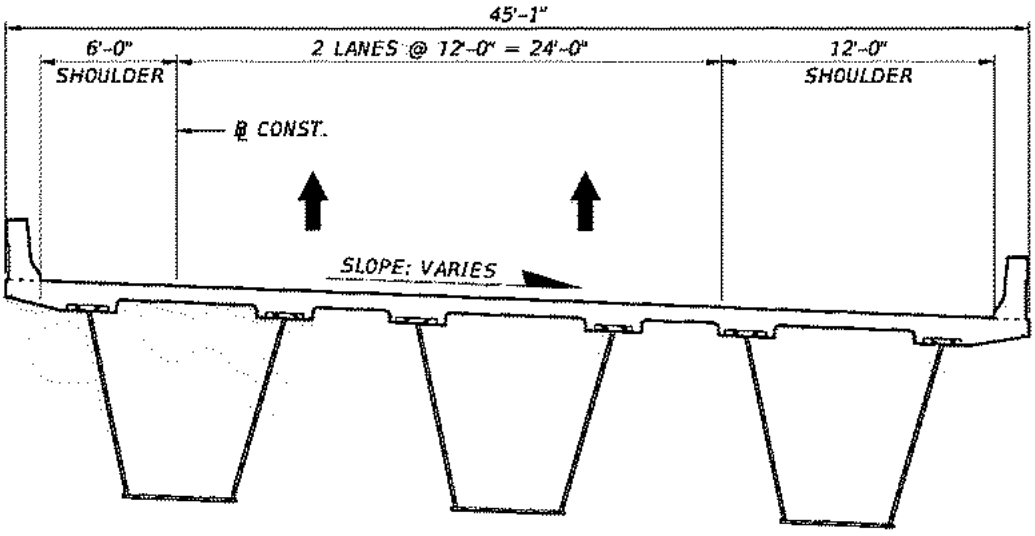
- Gratigny Parkway eastbound to I-95 northbound (4th level ramp – over I-95 northbound to Gratigny Parkway westbound ramp, I-95 southbound to NW 103rd Street ramp, and NW 119th Street), see **Figure 4-13**;

Figure 4-13 | Gratigny Parkway Eastbound to I-95 Northbound



- Gratigny Parkway eastbound to I-95 southbound (3rd level ramp – over I-95 southbound to NW 103rd Street ramp and NW 119th Street), see **Figure 4-14**;

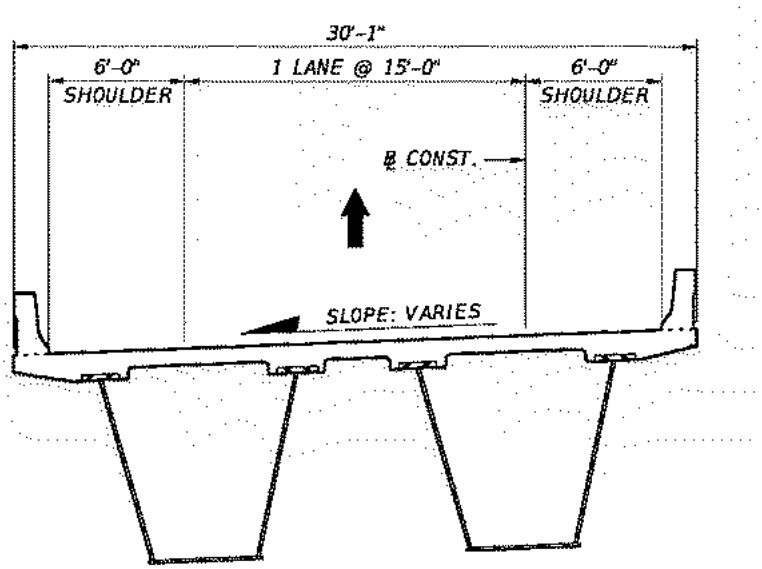
Figure 4-14 | Gratigny Parkway Eastbound to I-95 Southbound



- I-95 northbound to Gratigny Parkway westbound (3rd level ramp – over I-95 southbound to NW 103rd Street ramp and NW 119th Street), similar to **Figure 4-14** except lane arrows are reversed;

- I-95 southbound to Gratigny Parkway westbound (2nd level ramp – over NW 119th Street and local roads), similar to **Figure 4-13** except lane arrows are reversed; and
- I-95 southbound to NW 103rd Street (2nd level ramp – over NW 119th Street and local roads), see **Figure 4-15**.

Figure 4-15 | I-95 Southbound to NW 103rd Street



Steel box girder bridges were shown but concrete segmental bridges are also a viable, cost competitive alternative. Depending on the selection of the Elevated Viaduct superstructure type, the interchange ramps should be of the same superstructure type.

4.5.3.1 Span Lengths and Pier Configurations

For the PD&E study, span lengths of 150 feet to 180 feet were used in the layout of the ramps. Both the steel and concrete box girder superstructures can span greater span lengths.

For the steel alternative, spans up to 280 feet can be evaluated in the design to eliminate some of the piers, including straddle piers. However, the proposed concept, as shown in the Recommended Alternative Preliminary Plans (contained in Appendix F), is feasible and can be improved by increasing the span lengths to minimize piers during the design phase.

For the segmental concrete alternative, spans up to 400 feet can be evaluated in the design to eliminate some of the piers, including straddle piers. Therefore, the proposed concept, as shown in the

Recommended Alternative Preliminary Plans (contained in Appendix F), is feasible and can be improved by increasing the span lengths to minimize piers during the design phase for the concrete segmental option.

Table 4-10| Estimated Bridge Depths versus Span Length

	Estimated Depths of Structure (ft)		
Span Lengths (ft)→	150	280	400
Curved Steel Box Girder Bridge [1]	5.5 [3]	10	N/A
Concrete Segmental [2]	7.5	15 at Pier 12 at Center	22 at Pier 12 at Center

[1] *Curved Steel Box Girder Span to depth per LRFD 2.5.2.6.3*
[2] *Concrete Segmental Span to depth per LRFD 5.14.2.3.10d*
[3] *Based on the Structures Design Guidelines, for maintenance and inspection, the minimum interior clear height for box girders is 6 feet.*

As shown in **Table 4-10**, increasing the span length of a steel box girder from 150 feet to 280 feet almost doubles the depth of structure. For a 4th level interchange, this would mean an increase of 13.5 feet in structure depths to provide the same vertical clearances at 150-foot span lengths. For concrete segmental bridges, the impact to the bridge depths is minimized by utilizing a variable depth section. Therefore, the bridge depth is greatest at the pier supports and decreases in depth at midspan, providing the necessary minimum vertical clearances. Ultimately, the need to minimize the overall height of the proposed system to system interchange warrants shorter span lengths for either a concrete or steel bridge type for the Gratigny Parkway/I-95 interchange, to keep bridge depths down.

4.5.3.2 Constructability

Construction of both the steel and concrete alternatives requires construction over traffic.

Major disadvantages for the steel boxes include:

- Weathering steel is now the preferred material for steel bridges. The disruption to the traffic under the structure for painting is no longer an issue with weathering steel. However, the rustic look of the steel boxes for a 3rd and 4th level ramp bridge may be an eye sore to some of the travelling public.
- During erection of the steel boxes, the requirement by FDOT to not perform construction over traffic will significantly impact existing traffic, particularly over I-95. Very heavy

construction equipment would be required to lift the steel box sections for the erection at the 3rd and 4th level.

- Typically, steel box girders are spliced together to form one continuous structure. Temporary supports are utilized to provide platforms for workers to setup the connections. Temporary supports and splicing on the ground prior to erection are options available to the contractor that would require heavy erection equipment and would need to block off traffic during the erection operations.

Concrete segmental bridges do offer greater benefits than the steel superstructure. While the span arrangement of 150 feet to 180 feet can allow for span-by-span erection in the straight sections, there are significant benefits to considering balanced cantilever erection that can achieve spans up to and exceeding 400 feet.

The same evaluation matrix used for the Elevated Viaduct can be used for the concrete segmental box girder bridges. Therefore **Table 4-8** is also viable for the ramp bridges since both span by span and balanced cantilever erection methods are viable.

4.5.3.3 Widening of Existing Structures

While I-95 proper is not being modified, there are existing bridges that will need to be widened to accommodate the auxiliary lanes for the exit and entrance ramps. Some of these existing bridges have the required vertical clearance to satisfy AASHTO, but do not have the required vertical clearance to satisfy PPM standards. Therefore, when they are widened it will be necessary to secure design variations for the areas where the vertical clearance to satisfy the PPM standards is not provided. Every practicable measure will be taken to provide as much clearance as possible, such as using a shallower structure depth for the bridge widening in areas where possible. Additionally, in the event that the required superelevation transition length for the new width of I-95 is not met, a design variation or exception will be needed. This will be addressed during the final design phase when complete horizontal and vertical geometrics are prepared (30% plans stage). Where possible, a custom design would be used to avoid a design variation on the portion of the bridge being widened.

The bridges in **Table 4-11** show the proposed widening of the existing bridges due to the interchange ramp movements. The existing bridges have been summarized in Section 2.18. These bridges have been previously widened and will require additional widening per the concept of this report. The bridge widening can be accomplished using the new FDOT beam standards, FIB-36 beams (FDOT Index 20036).

The existing bridge at NW 111th Street was widened utilizing modified AASHTO Type III beams (3'-4" depth) that were shortened in depth by 5 inches. To maintain the existing vertical clearances at this location, FIB-36 beams (3'-0" depth) are proposed, which are 4 inches shallower than the existing beams. For the southbound widening only, it is estimated that in order to maintain the existing vertical clearance, an estimated 7/8 inch reduction in the beam depth will be required. Shortening of the beam depth required to maintain existing vertical clearance or minimize impacts will require permission from FDOT Central Office. As an alternative, a special beam design or different beam type may be required to maintain existing vertical clearance and will need further evaluation during final design. The local street roadway can also be lowered by an inch or more in order to maintain existing or improve on existing vertical clearances. While this is an option, the recommendation is to work with Central Office to allow a reduction in depth of the FIB-36 in the magnitude of 1 inch.

The existing bridge at NW 125th Street was widened utilizing modified AASHTO Type III beams (3'-7" depth) that were shortened in depth by 2 inches. To maintain the existing vertical clearances at this location, the proposed FIB-36 beams (3'-0" depth) are 7 inches shallower than the existing beams, allowing maintenance of the existing vertical clearances. For the southbound widening only, it is estimated that in order to maintain the existing vertical clearance, an estimated 1-1/4 inch reduction in the beam depth will be required. Modifying the FIB-36 beams will require permission from FDOT Central Office. As an alternative, a special beam design or different beam type may be required to maintain existing vertical clearance and will need further evaluation during final design. The local street roadway can also be lowered an inch or more in order to maintain existing or improve on existing vertical clearances. While this is an option, the recommendation is to work with Central Office to allow a reduction in depth of the FIB-36 in the magnitude of 1-1/4 inch.

Table 4-11| Bridge Widenings

Bridges Impacted by Proposed Ramps	I-95 Bridge Over NW 103rd Street	I-95 Bridge Over NW 111th Street	I-95 Bridge Over NW 119th Street	I-95 Bridge Over NW 125th Street	SR 924 Over Rio Vista Canal
I-95 NB to Gratigny Parkway WB ramp	---	15.5' NB widening (+1-7/8") [1]	---	---	---
Gratigny Parkway EB to I-95 NB ramp	---	---	---	17.5' min. 23.5'max NB widening (+2-5/8") [1]	---
Gratigny Parkway EB to I-95 SB ramp		25.5' SB widening (-7/8") [2]			
I-95 SB to NW 103rd Street ramp	---	30' separate parallel structure	---	23.5' min. 43.5' max. SB widening (-1-1/4") [2]	---

[1] Proposed impact to existing vertical clearance in ft, + means net increase in minimum vertical clearance in widened section only relative to existing vertical clearance. Values are computed by taking the widening amount shown at a 0.0156 ft/ft cross-slope per existing plans and adjusting for difference in FIB-36 and AASHTO Mod Type III beam heights. These values also assume matching the existing deck thickness of 7 inches.
[2] Proposed impact to existing vertical clearance in ft, - means the beams will need to be modified and decreased in depth by the amount shown in order to maintain the minimum existing vertical clearances.

As discussed in Section 2.18.4, a concern is raised with the Inventory LFR Load Ratings shown in **Table 2-14**. Based on these values, it is expected that the Load Rating values for the existing bridge will govern if the bridges are widened at I-95 over NW 119th Street and I-95 over NW 125th Street. These bridges have a current rating factor that rounds up to 1.0 per the latest inspection reports. Any changes in the rating values are not anticipated based on the information reviewed for the PD&E Study. If the ratings were to decrease, it could result in the need for a variation. However, variations should only be considered for bridges off of the NHS. Widening is proposed for the I-95 over NW 125th Street bridge, which currently has an acceptable rating value.

At both bridge locations, a "minor widening" is assumed. A minor widening is applicable if the widening does not double the number of traffic lanes or does not double the existing deck area. A minor widening classification can allow the proposed widening to occur utilizing the existing deck slab of 7

inches. If an 8 inch deck slab thickness were to be required, the vertical clearance impacts will increase by an additional inch. Our recommendation during this PD&E Study is that the Final Design Phase Bridge Development Report include a prioritization of obtaining Central Office approval of the FIB-36 modifications, to avoid reducing the already substandard vertical clearance at any location of existing bridge widening and obtain approval to match the existing previously widened deck thickness. It is our belief that I-95 bridge reconstruction to address existing vertical clearance deficiencies would not be supported by FDOT or MDX during the design phase, for cost-benefit reasons.

5.0 Recommended Alternative

5.1 Typical Section Package

The Recommended Alternative mainline of NW 119th Street from west of NW 32nd Avenue to I-95 includes the following elements:

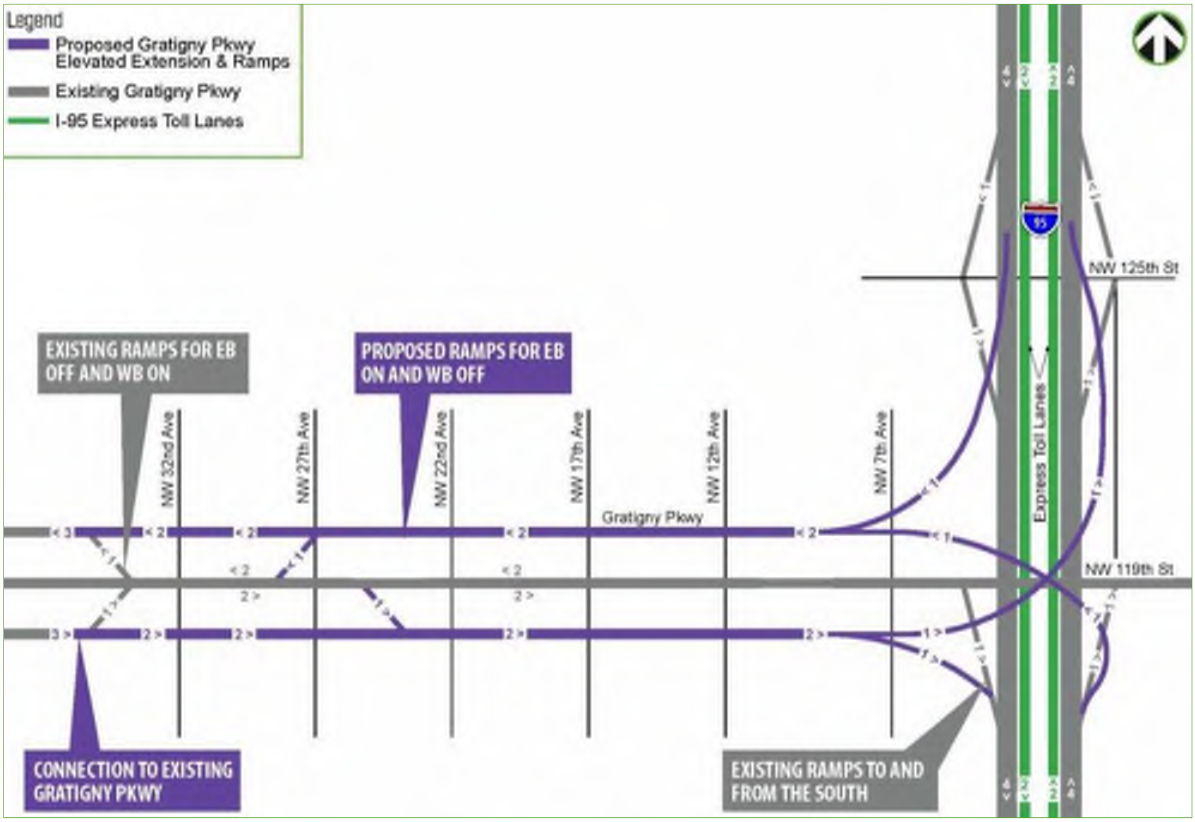
- The typical section for the at-grade roadway is reduced from eight lanes to six lanes along the segment from NW 32nd Avenue to NW 27th Avenue.
- The typical section for the at-grade roadway is reduced from six lanes to four lanes along the segment from NW 27th Avenue to NW 7th Avenue.
- Six-foot sidewalks are provided on both sides of NW 119th Street between NW 32nd Avenue and NW 27th Avenue. Four-foot bicycle lanes are provided on eastbound NW 119th Street from NW 32nd Avenue to NW 27th Avenue and on westbound NW 119th Street from NW 30th Place to NW 27th Avenue. The westbound bicycle lane terminates at NW 30th Place because of safety concerns with the merging of the westbound exit ramp from Gratigny Parkway. Also, NW 30th Place is the western-most entrance into Miami-Dade College North Campus and is therefore a logical terminus. A design variation will be required for the portion of NW 119th Street westbound for the absence of a bicycle lane per PPM requirements.
- Ten-foot sidewalks/pedestrian enhancement areas and four-foot bike lanes are provided on both sides of NW 119th Street between NW 27th Avenue and I-95. Sidewalks are wider in this area because the abutting land uses are commercial/residential and would benefit from wider sidewalks.

The Recommended Alternative mainline of the Gratigny Parkway East Extension from west of NW 32nd Avenue to I-95 includes the following elements:

- Elevated east extension of Gratigny Parkway from west of NW 32nd Avenue to I-95. Typical sections of the elevated extension consist of two eastbound and two westbound lanes.
- New system-to-system connection at Gratigny Parkway/I-95, for all movements to and from the north and south, for the extended Gratigny Parkway.
- New ramp connections at Gratigny Parkway/NW 27th Avenue/NW 32nd Avenue including an eastbound entrance ramp east of NW 27th Avenue and a westbound exit ramp east of NW 32nd Avenue.
- Maintaining the existing eastbound exit and westbound entrance ramps at NW 32nd Avenue, for connections to/from the existing Gratigny Parkway west of NW 32nd Avenue.

- Connection to the existing Gratigny Parkway west of NW 32nd Avenue and east of NW 42nd Avenue. (Access to/from NW 42nd Avenue will not change)

Figure 5-1 | Recommended Alternative



The Recommended Alternative typical sections are shown in the *Typical Section Package* in Appendix D. The Gratigny Parkway elevated extension will require design variations for median width and inside shoulder width. The required median width is 26 feet where the Recommended Alternative shows 14 feet. The required inside shoulder width is 12 feet where the Recommended Alternative has 6 foot inside shoulders.

5.2 Interchange Concepts and Signal Analysis

5.2.1 Gratigny Parkway/I-95

The Recommended Alternative includes a two-lane flyover for the eastbound to southbound movement from Gratigny Parkway to I-95 as well as for the northbound to westbound movement. Single lane ramps are proposed for the eastbound to northbound and southbound to westbound movements. Existing movements to and from I-95 will remain. The Recommended Alternative also incorporates a

new CD roadway extending southbound from NW 125th Street to NW 103rd Street. This CD roadway would accommodate southbound traffic along I-95 exiting to NW 103rd Street and Gratigny Parkway westbound. **Figure 5-1** shows the basic line work for the interchange and Appendix E contains detailed line work (please refer to Alternative 95-6).

5.2.2 Gratigny Parkway/NW 32nd Avenue/NW 27th Avenue

The Recommended Alternative proposes an eastbound entrance ramp at NW 27th Avenue and a westbound exit ramp at NW 32nd Avenue. The connections between the entrance ramp to Gratigny Parkway eastbound from NW 37thAvenue, as well as westbound Gratigny Parkway exit ramp to NW 37th Avenue, have been checked for weaving and LOS, and the documentation is included in the *Interchange Justification Report*. Both segments of Gratigny Parkway show acceptable LOS.

The Recommended Alternative ramps at this interchange include two lane ramps for the westbound entrance from NW 119th Street to westbound Gratigny Parkway and eastbound Gratigny Parkway to eastbound NW 119th Street, and single lane ramps from NW 119th Street to eastbound Gratigny Parkway and westbound Gratigny Parkway to NW 119th Street. **Figure 5-1** shows the basic line work for the interchange and Appendix E contains detailed line work (please refer to Alternative 27-BA).

5.2.3 Gratigny Parkway /Lejeune-Douglas Connector (NW 37th Avenue/42nd Avenue) Interchange

The Recommended Alternative at this interchange proposes three left turn lanes and two right turn lanes on the exit ramp from Gratigny Parkway westbound to the Lejeune-Douglas Connector. The triple left serves the southbound direction and requires the Lejeune-Douglas Connector to be widened to the west to accommodate the additional lane. The additional third lane on the Lejeune-Douglas Connector southbound is dropped prior to the signalized intersection with the Gratigny Parkway eastbound ramps. The Gratigny Parkway bridge over the Lejeune-Douglas Connector was built to accommodate future widening and does not need to be modified to accommodate the additional southbound lane. The dual right turn lanes feed into the existing two lane segment of the Lejeune-Douglas Connector heading northbound. The additional turn lanes are required to provide the required storage length for the traffic volume exiting Gratigny Parkway onto the Connector and to maintain an acceptable LOS at this ramp terminal intersection.

In addition to the changes at the NW 37th Avenue/NW 42nd Avenue interchange, the weaving segment along Gratigny Parkway between LeJeune-Douglas Connector and NW 32nd Avenue is expected to experience operating speeds ranging from approximately 30-40 MPH. These operating speeds are substantially better than the No Build Condition where operating speeds are expected to be less than 5 MPH, in the eastbound direction.

5.3 Design Traffic Volume

5.3.1 Traffic Characteristics

Recommended traffic factors for the PD&E Study were developed by conducting research and analyses of various parameters, guidelines and industry standards used for estimating traffic forecasting factors. Details of this research effort and the rationale for the recommended traffic factors are documented in the *Gratigny Parkway East Extension, Traffic Assessment Report* dated October 17, 2011. This traffic assessment report was approved along with the Methodology Letter of Understanding by the District Interchange Review Committee on November 2, 2011. The approved traffic factors for the project are reflected in **Table 5-1**.

Table 5-1 | Recommended Traffic Factors

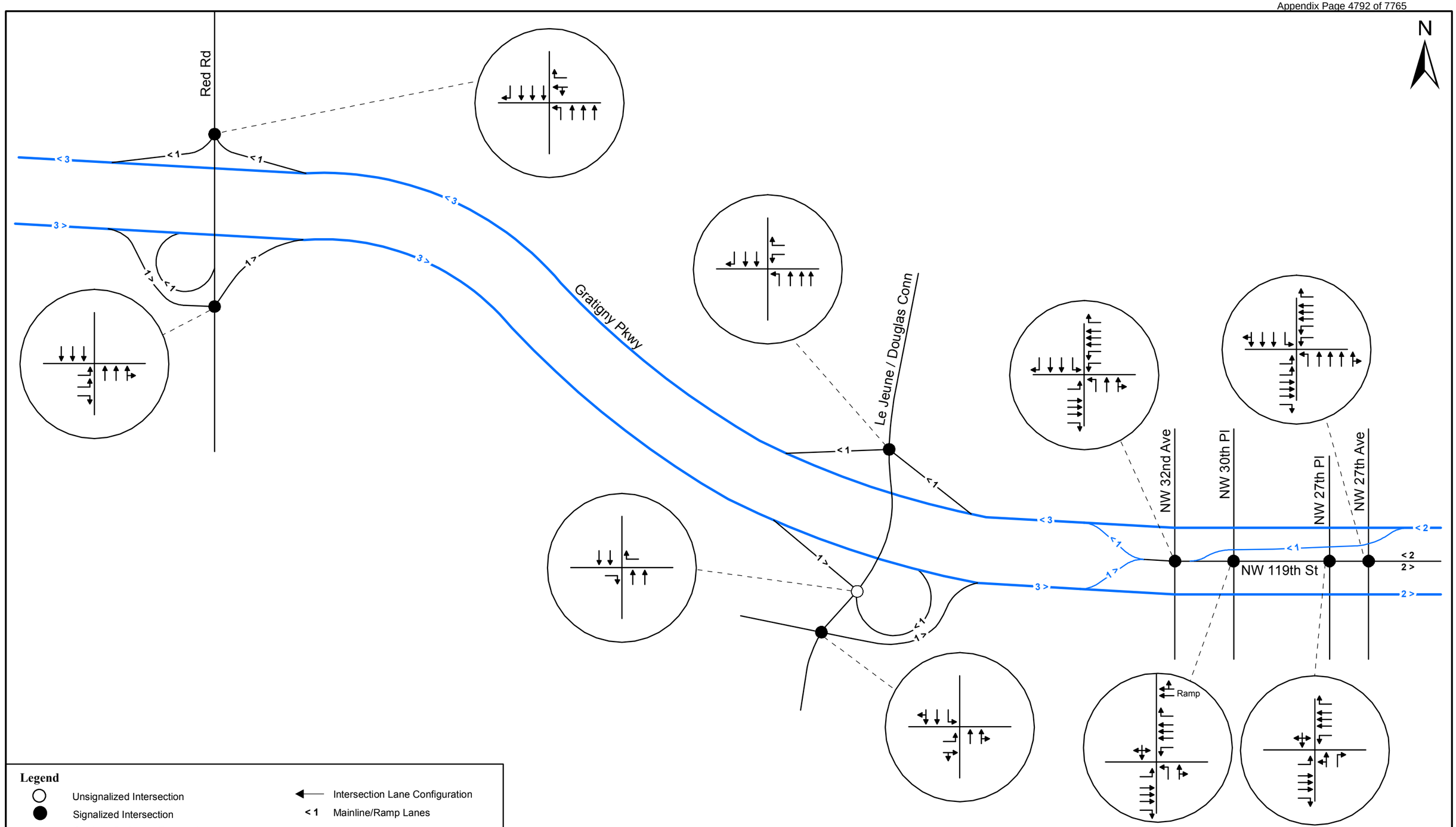
Road Segment	Facility Type	K_{30}	D_{30}	T_{24}
I -95 from North of Opa Locka Boulevard to South of NW 103rd Street	Freeway	8.0%	56.0%	4.0%
SR 924/Gratigny Parkway from West of Red Road to West of NW 32nd Avenue	Freeway	10.0%	61.2%	7.0%
SR 924/NW 119th Street from W of 32nd Avenue to NW 27th Avenue	Arterial	9.7%	66.3%	5.5%
SR 924/NW 119th Street from NW 27th Avenue to I-95	Arterial	9.2%	57.2%	5.5%
SR 924/NW 119th Street from I-95 to NW 5th Avenue	Arterial	9.2%	55.1%	4.5%
Opa Locka Boulevard/135th Street, East of I-95	Arterial	9.2%	51.0%	2.0%
Opa Locka Boulevard/135th Street, West of I-95	Arterial	9.2%	59.2%	3.0%
NW 125th Street, East of I-95	Arterial	9.2%	51.8%	3.5%
NW 125th Street, West of I-95	Arterial	9.2%	62.5%	5.5%
NW 103rd Street, East of I-95	Arterial	9.2%	53.3%	3.0%
NW 103rd Street, West of I-95	Arterial	9.2%	55.6%	3.5%
NW 32 Avenue, North/South of NW 119th Street	Arterial	9.2%	60.7%	5.5%
NW 27th Avenue, North/South of NW 119th Street	Arterial	9.2%	61.8%	5.5%
NW 22nd Avenue, North/South of NW 119th Street	Arterial	10.1%	67.1%	5.5%
NW 17th Avenue, North/South of NW 119th Street	Arterial	9.7%	63.6%	5.5%
NW 12th Avenue, North/South of NW 119th Street	Arterial	10.1%	67.1%	5.5%
NW 10th Avenue, North/South of NW 119th Street	Arterial	10.2%	59.9%	5.5%
NW 7th Avenue, North/South of NW 119th Street	Arterial	9.2%	67.1%	5.5%
NW 5th Avenue, North/South of NW 119th Street	Arterial	10.8%	57.9%	4.5%

5.3.2 Recommended Alternative – Year 2040 Road Network

Figure 5-2 shows the Recommended Alternative road network for the NW 119th Street and I-95 corridors. Conceptual roadway plans for the Recommended Alternative are contained in Appendix F.

5.3.3 Recommended Alternative – Future Traffic Forecast

The Southeast Regional Planning Model (SERPM, Version 6.5, time-of-day) was used as the basis for travel demand forecasting for this study. Traffic forecasts for the Recommended Alternative are shown in **Figures 5-3** through **5-5**. **Figure 5-3** shows the 2020 AADT for the Recommended Alternative, **Figure 5-4** shows the 2020 peak hour traffic volumes, **Figure 5-5** shows the 2040 AADT, and **Figure 6-6** shows the 2040 peak hour traffic volumes. For more detailed information on the traffic model development and forecast please refer to the DTTM.



MIAMI-DADE EXPRESSWAY AUTHORITY

DATE: NOVEMBER 2012
MDX WORK PROGRAM NO. 92407

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
INTERCHANGE JUSTIFICATION REPORT

Recommended Alternative
Lane Configuration

FIGURE NO.
5 - 2

SHEET NO.
1 of 3

N

W Golf Dr
Westview Golf Course
E Golf Dr
NW 22nd Ave
NW 21st Ave
NW 19th Ave
NW 18th Ave
NW 17th Ave
NW 15th Ave
NW 12th Ave
NW 10th Ave
NW 8th Ave
NW 22nd Ct
NW 16th Ave
NW 13th Ave
NW 11th Ave

< 2
1 >
2 >

Legend

- Unsignalized Intersection
- Signalized Intersection
- Gratigny Parkway (Freeway)
- Intersection Lane Configuration
- < 1 Mainline/Ramp Lanes
- Closed Median

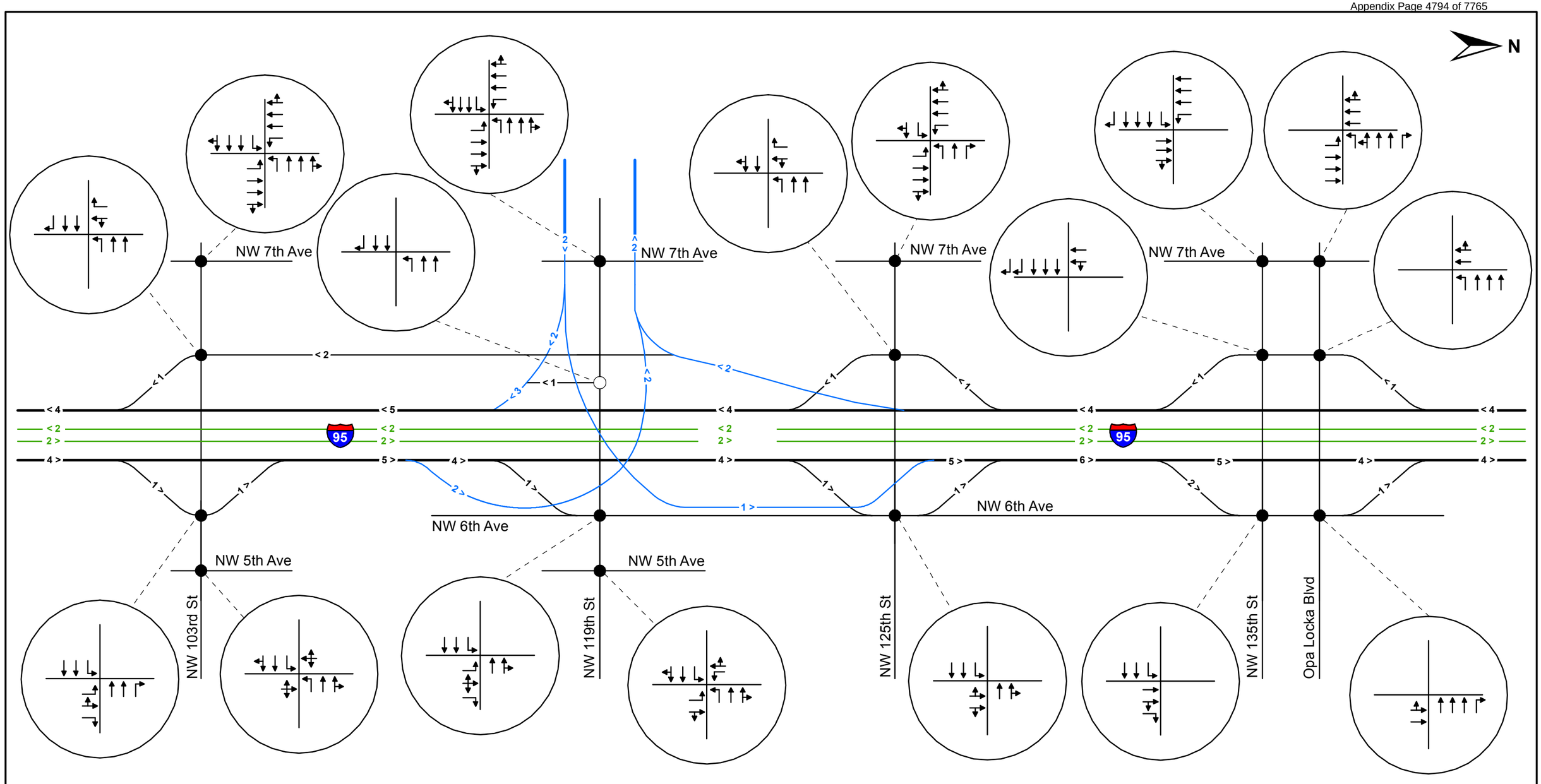
MIAMI-DADE EXPRESSWAY AUTHORITY

DATE: NOVEMBER 2012
MDX WORK PROGRAM NO. 92407

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
INTERCHANGE JUSTIFICATION REPORT

Recommended Alternative
Lane Configuration

FIGURE NO. 5 - 2
SHEET NO. 2 of 3



Legend

- Unsignalized Intersection
- Signalized Intersection
- Gratigny Parkway (Freeway)
- Intersection Lane Configuration
- < 1 Mainline/Ramp Lanes
- I-95 Express Lanes

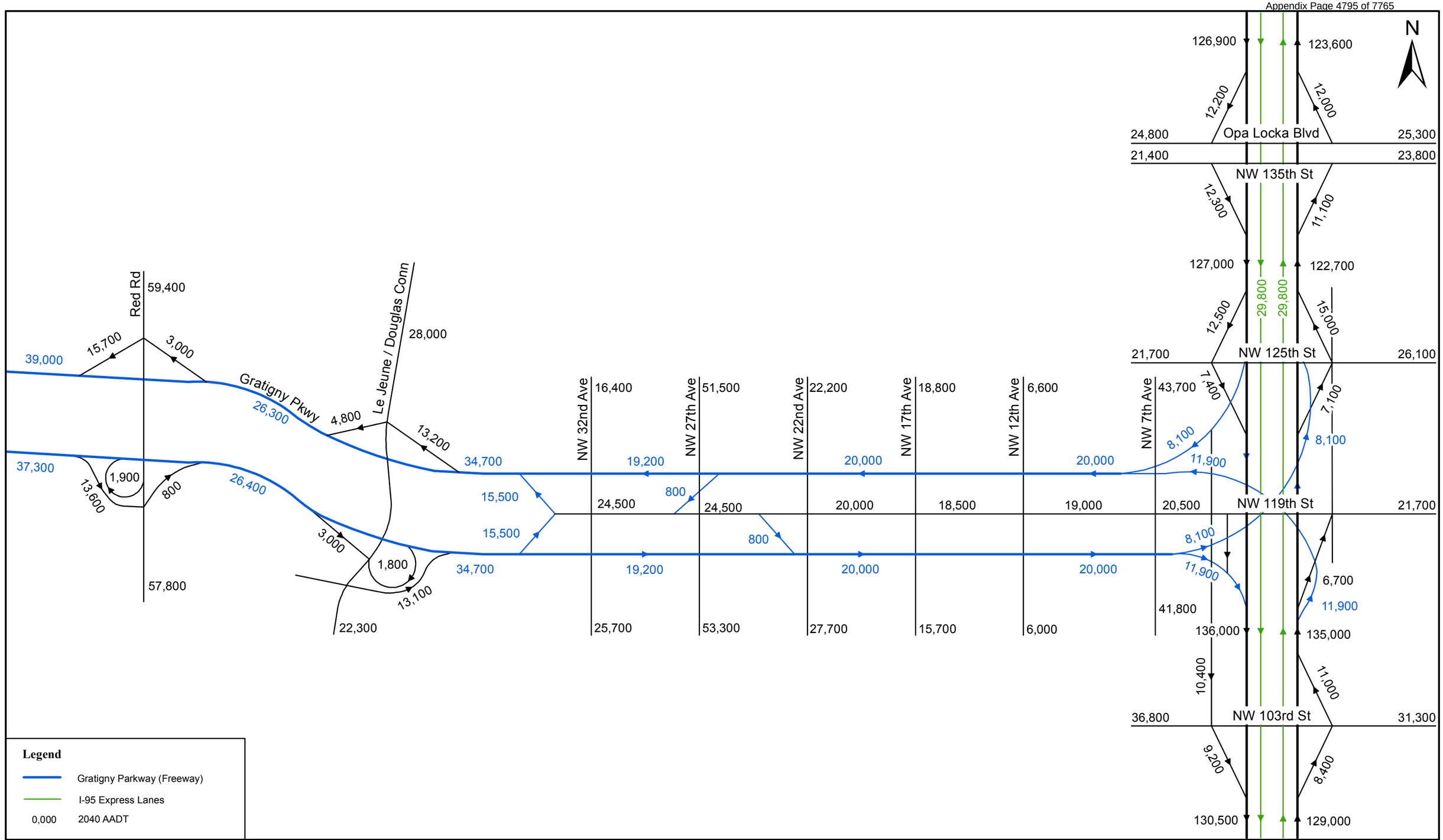
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SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
INTERCHANGE JUSTIFICATION REPORT

Recommended Alternative
Lane Configuration

FIGURE NO. 5 - 2
SHEET NO. 3 of 3



MIAMI-DADE EXPRESSWAY AUTHORITY

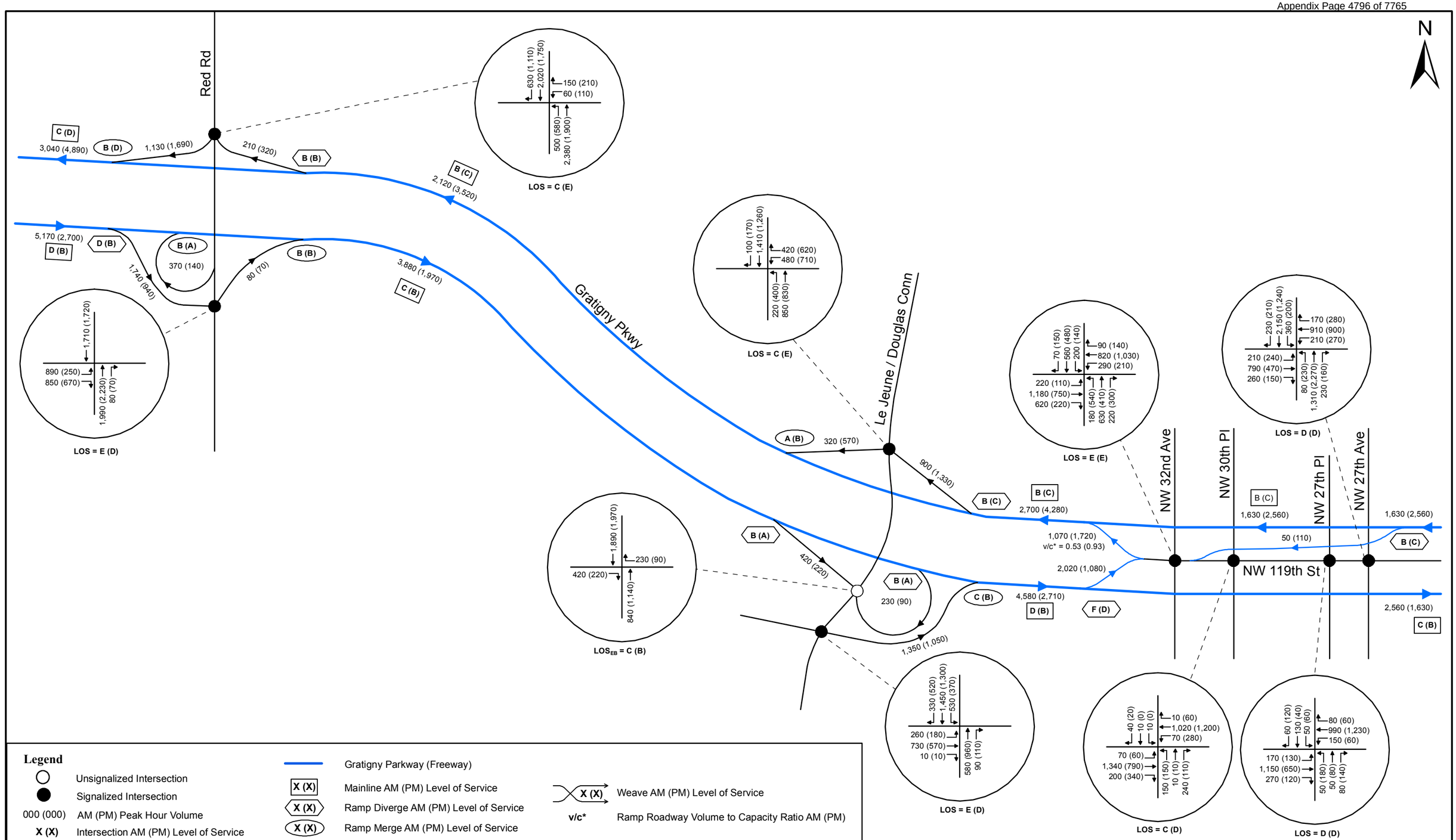
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MDX WORK PROGRAM NO. 92407

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
INTERCHANGE JUSTIFICATION REPORT

2020 Recommended Alternative
Annual Average Daily Traffic (AADT)

FIGURE NO. 5 - 3

SHEET NO. 1 of 1



MIAMI-DADE EXPRESSWAY AUTHORITY

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Peak Hour Traffic
Volumes and Level of Service

FIGURE NO. 5 - 4

SHEET NO. 1 of 3

N

LOS = C (D)

220 (150) 690 (370) 240 (190) — 130 (210) 360 (570) 80 (60)
220 (260) 500 (360) 120 (70) — 80 (150) 350 (760) 60 (50)

LOS = D (C)

200 (140) 270 (150) 110 (40) — 80 (150) 370 (590) 120 (110)
80 (120) 610 (480) 120 (60) — 50 (80) 160 (340) 100 (100)

W Golf Dr
Westview Golf Course
E Golf Dr
NW 22nd Ave
NW 21st Ave
NW 19th Ave
NW 18th Ave
NW 17th Ave
NW 15th Ave
NW 12th Ave
NW 10th Ave
NW 8th Ave

B (C) 1,630 (2,560)
2,560 (1,630) C (B)
110 (50)
C (B)
B (C) 1,680 (2,670)
2,670 (1,680) C (B)
B (C) 1,680 (2,670)
2,670 (1,680) C (B)

NW 22nd Ct
NW 16th Ave
NW 13th Ave
NW 11th Ave

200 (160) 1,180 (450) 100 (80) — 60 (110) 470 (640) 140 (130)
160 (190) 680 (440) 390 (230) — 200 (360) 500 (1,160) 100 (130)

LOS = D (D)

110 (70) 210 (80) 130 (80) — 80 (130) 440 (650) 80 (60)
80 (100) 640 (480) 70 (40) — 50 (70) 60 (220) 70 (80)

LOS = B (C)

Legend

- Unsignalized Intersection
- Signalized Intersection
- 000 (000) AM (PM) Peak Hour Volume
- X (X) Intersection AM (PM) Level of Service
- Gratigny Parkway (Freeway)
- X (X) Mainline AM (PM) Level of Service
- X (X) Ramp Diverge AM (PM) Level of Service
- X (X) Ramp Merge AM (PM) Level of Service
- Closed Median
- X (X) Weave AM (PM) Level of Service
- v/c* Ramp Roadway Volume to Capacity Ratio AM (PM)

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FIGURE NO. 5 - 4
SHEET NO. 2 of 3

N

NW 7th Ave

NW 6th Ave

NW 5th Ave

NW 103rd St

NW 119th St

NW 125th St

NW 135th St

Opa Locka Blvd

95

LOS = C (C)
460 (480) 1,060 (990) 400 (380) 0 (0) 260 (310) 400 (360) 720 (980)

LOS = D (E)
170 (300) 960 (900) 150 (260) 180 (260) 1,500 (970) 390 (270) 170 (290) 660 (1,550) 170 (300) 220 (160) 830 (840) 70 (360)

LOS = E (E)
90 (80) 590 (370) 150 (170) 130 (130) 2,200 (1,120) 340 (220) 100 (170) 1,170 (1,980) 200 (260) 230 (270) 390 (590) 180 (370)

LOS$_{WB}$ = B (A)
340 (300) 780 (550) 210 (200) 810 (1,230)

LOS = C (C)
120 (100) 660 (690) 270 (350) 0 (0) 560 (530) 390 (440) 600 (630)

LOS = F (F)
20 (50) 180 (170) 40 (90) 50 (90) 1,410 (880) 270 (240) 20 (40) 590 (1,440) 330 (380) 400 (400) 250 (300) 220 (280)

LOS = C (E)
240 (330) 1,300 (1,330) 450 (640) 440 (640)

LOS = C (C)
260 (220) 1,060 (1,010) 120 (220) 1,430 (970) 250 (210) 640 (1,310) 230 (440)

LOS = B (B)
190 (280) 1,330 (710) 240 (350) 490 (1,250) 310 (420) 970 (880) 130 (180)

LOS = B (C)
260 (430) 450 (780) 420 (500) 1,150 (1,050)

2,670 (1,680)

1,680 (2,670)

1,440 (880)

660 (680)

v/c^2 upstream = 0.67 (0.68)
v/c^2 merge = 0.33 (0.21)
v/c^2 downstream = 0.73 (0.67)

1,990 (1,380)

1,460 (1,910)

520 (540)

830 (880)

690 (970)

710 (1,210)

D (D) 8,330 (7,590) D (D)

870 (840)

D (D) 7,460 (6,750)

D (D) 5,470 (5,370) C (C)

B (C)

D (E) 7,240 (7,620)

E (E) 7,260 (7,860) D (E)

3,200 (1,980) D (B)
2,070 (2,700) B (C)

7,390 (8,410) D (D) D (D)

790 (810)

800 (720)

7,400 (8,320) D (E)

880 (1,440)

D (D)

420 (550)

6,090 (6,300) D (D)

D (D)

910 (820)

1,230 (800)

v/c^1 = 0.62 (0.41)

1,040 (1,060)

7,450 (7,340) E (D)

860 (580)

1,130 (1,150)

v/c^1 = 0.68 (0.55)

7,720 (7,910) D (D)

LOS = B (C)
930 (880) 390 (420) 370 (400) 0 (0) 420 (410) 750 (940) 410 (300)

LOS = B (C)
100 (90) 1,170 (1,160) 80 (40) 40 (60) 80 (170) 60 (110) 70 (60) 170 (80) 170 (130) 100 (170) 1,050 (1,120) 150 (120)

LOS = B (B)
570 (380) 210 (170) 230 (350) 0 (0) 200 (230) 800 (1,070) 200 (140)

LOS = C (B)
90 (80) 660 (610) 60 (80) 120 (130) 190 (90) 10 (20) 120 (130) 110 (170) 60 (90) 80 (80) 690 (990) 30 (40)

LOS = C (C)
1,010 (990) 210 (230) 110 (160) 330 (320) 470 (340) 880 (910) 500 (510)

LOS = C (C)
1,230 (1,380) 510 (590) 400 (210) 460 (370)

LOS = C (C)
370 (170) 510 (590) 1,200 (1,380) 620 (560)

Legend

- Unsignalized Intersection
- Signalized Intersection
- 000 (000) AM (PM) Peak Hour Volume
- X (X) Intersection AM (PM) Level of Service
- Gratigny Parkway (Freeway)
- I-95 Express Lanes
- X (X) Mainline AM (PM) Level of Service
- X (X) Ramp Diverge AM (PM) Level of Service
- X (X) Ramp Merge AM (PM) Level of Service
- X (X) Weave AM (PM) Level of Service
- v/c^1 Ramp Roadway Volume to Capacity Ratio AM (PM)
- v/c^2 Major Merge Volume to Capacity Ratio AM (PM)

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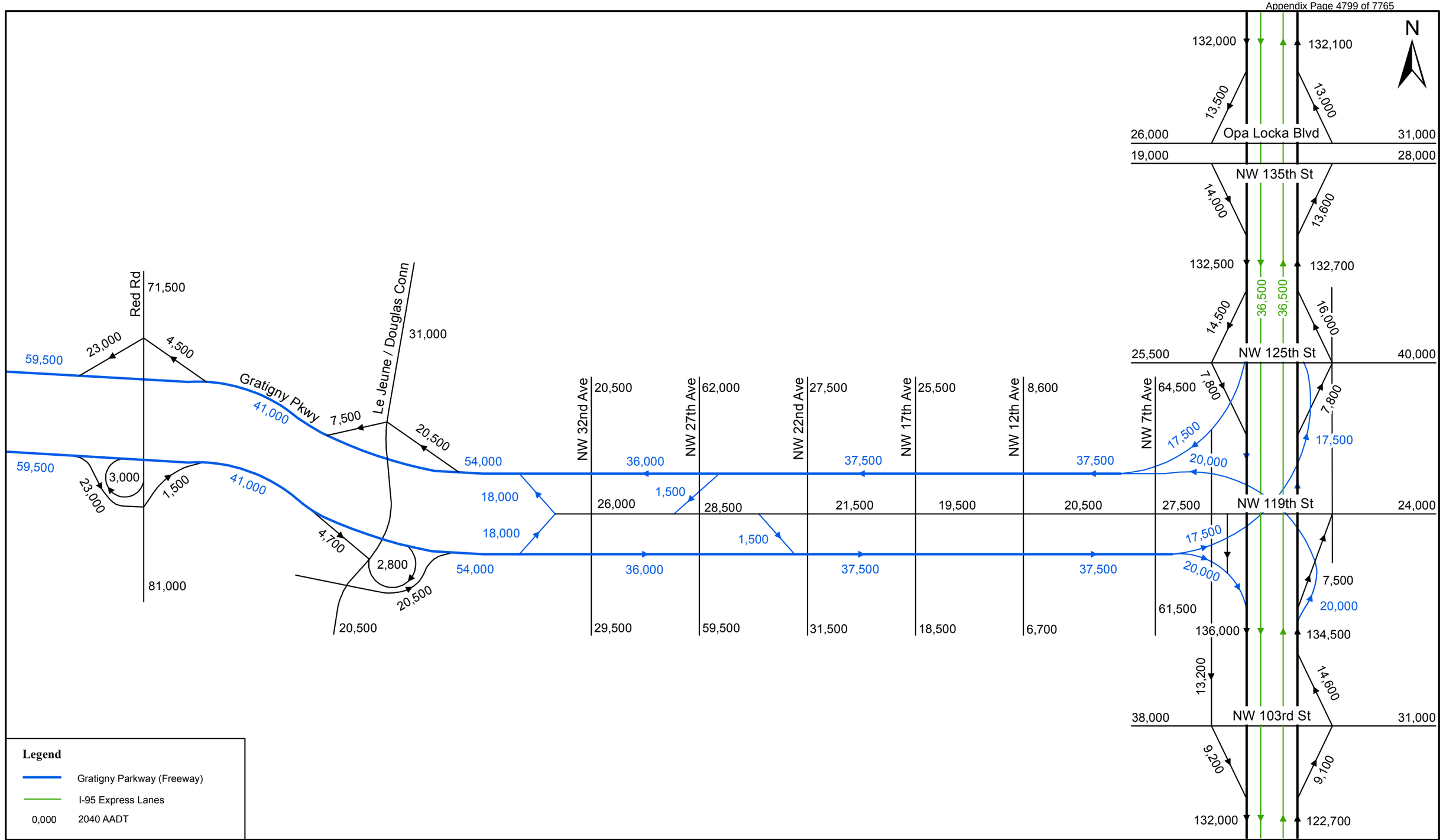
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Peak Hour Traffic
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FIGURE NO. 5 - 4

SHEET NO. 3 of 3



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Annual Average Daily Traffic (AADT)

FIGURE NO. 5 - 5
SHEET NO. 1 of 1

N

Red Rd

D (F)
4,620 (7,280)
C (F)
1,750 (2,750)
330 (520)
B (C)
C (D)
3,200 (5,050)

970 (1,810)
2,140 (2,230)
230 (340)
100 (180)
780 (940)
3,590 (2,560)
LOS = F (F)

7,280 (4,620)
F (D)
F (C)
2,750 (1,750)
C (B)
380 (240)
140 (90)
C (B)
5,050 (3,200)
D (C)

1,860 (2,170)
1,400 (480)
1,350 (1,270)
2,970 (3,020)
140 (90)
LOS = F (F)

Gratigny Pkwy

180 (270)
2,380 (2,080)
740 (1,170)
830 (1,310)
400 (650)
1,100 (1,220)
LOS = F (F)

Le Jeune / Douglas Conn

B (C)
580 (920)
1,570 (2,480)

90 (190)
720 (610)
250 (180)
120 (180)
1,060 (1,320)
370 (270)
240 (140)
1,310 (960)
650 (280)
230 (690)
810 (530)
290 (390)
LOS = F (F)

300 (270)
2,760 (1,590)
460 (250)
220 (360)
1,170 (1,160)
270 (350)
230 (310)
890 (600)
290 (190)
110 (300)
1,680 (2,920)
300 (210)
LOS = F (F)

NW 32nd Ave
NW 30th Pl
NW 27th Pl
NW 27th Ave

C (F)
4,190 (6,610)
1,380 (2,200)
v/c* = 0.70 (1.11)
2,200 (1,380)
6,610 (4,190)
F (C)
F (E)
C (F)
2,810 (4,410)
90 (180)
D (F)
NW 119th St
4,410 (2,810)
F (C)

3,210 (3,390)
340 (220)
580 (360)
1,160 (1,650)
LOS$_{EB}$ = C (B)

C (B)
580 (360)
C (B)
340 (220)
2,480 (1,570)

360 (570)
2,460 (2,630)
970 (550)
280 (200)
1,340 (860)
10 (10)
880 (1,450)
170 (160)
LOS = F (F)

50 (30)
20 (0)
10 (0)
10 (60)
1,310 (1,540)
90 (360)
90 (80)
1,510 (1,020)
250 (430)
190 (200)
10 (10)
310 (140)
LOS = C (C)

80 (150)
170 (50)
60 (80)
110 (80)
1,270 (1,580)
200 (70)
220 (170)
1,260 (840)
350 (150)
60 (230)
60 (100)
90 (180)
LOS = D (D)

Legend

- Unsignalized Intersection
- Signalized Intersection
- 000 (000) AM (PM) Peak Hour Volume
- X (X) Intersection AM (PM) Level of Service
- Gratigny Parkway (Freeway)
- X (X) Mainline AM (PM) Level of Service
- X (X) Ramp Diverge AM (PM) Level of Service
- X (X) Ramp Merge AM (PM) Level of Service
- X (X) Weave AM (PM) Level of Service
- v/c* Ramp Roadway Volume to Capacity Ratio AM (PM)

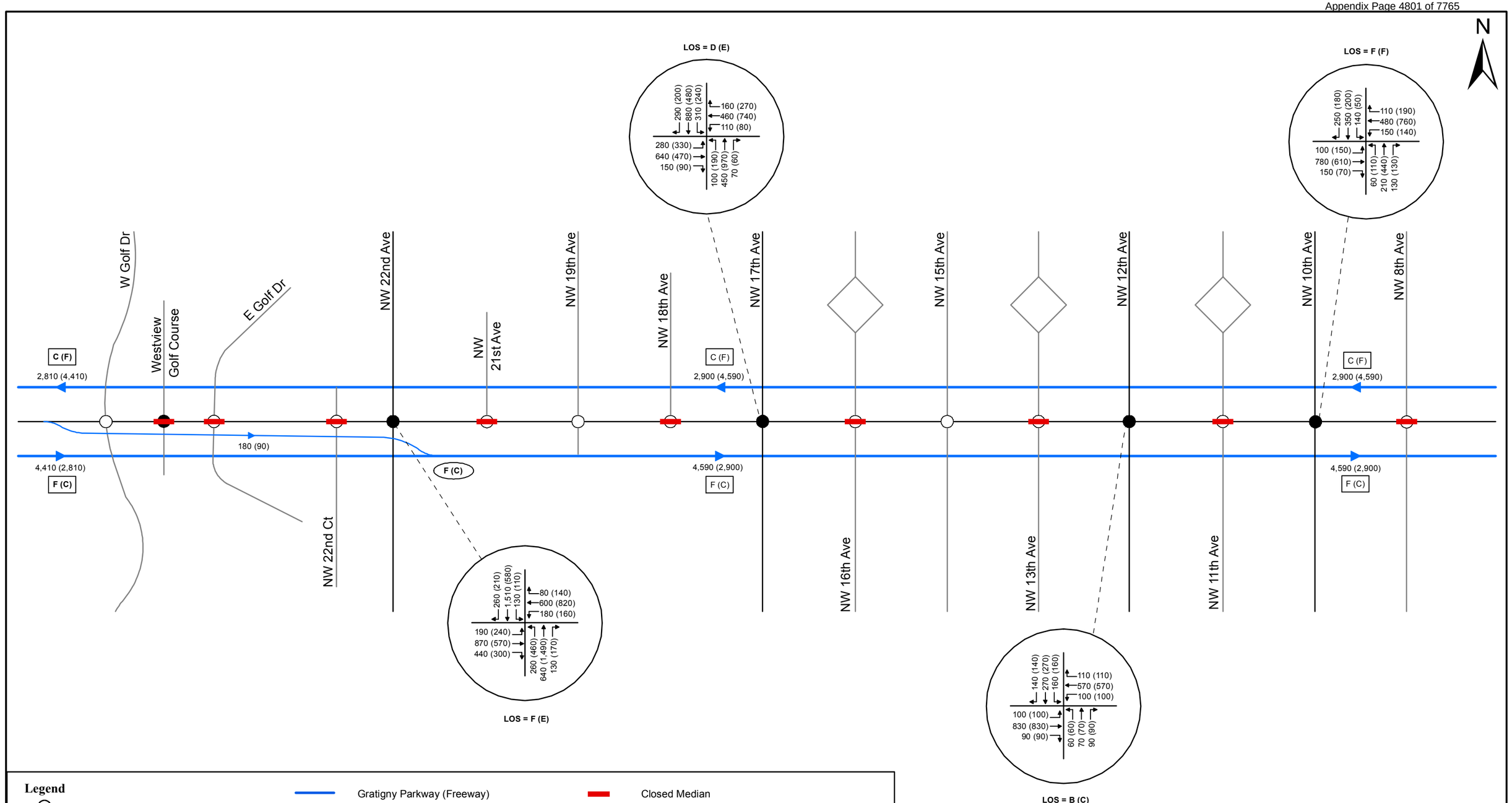
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FIGURE NO. 5 - 6
SHEET NO. 1 of 3



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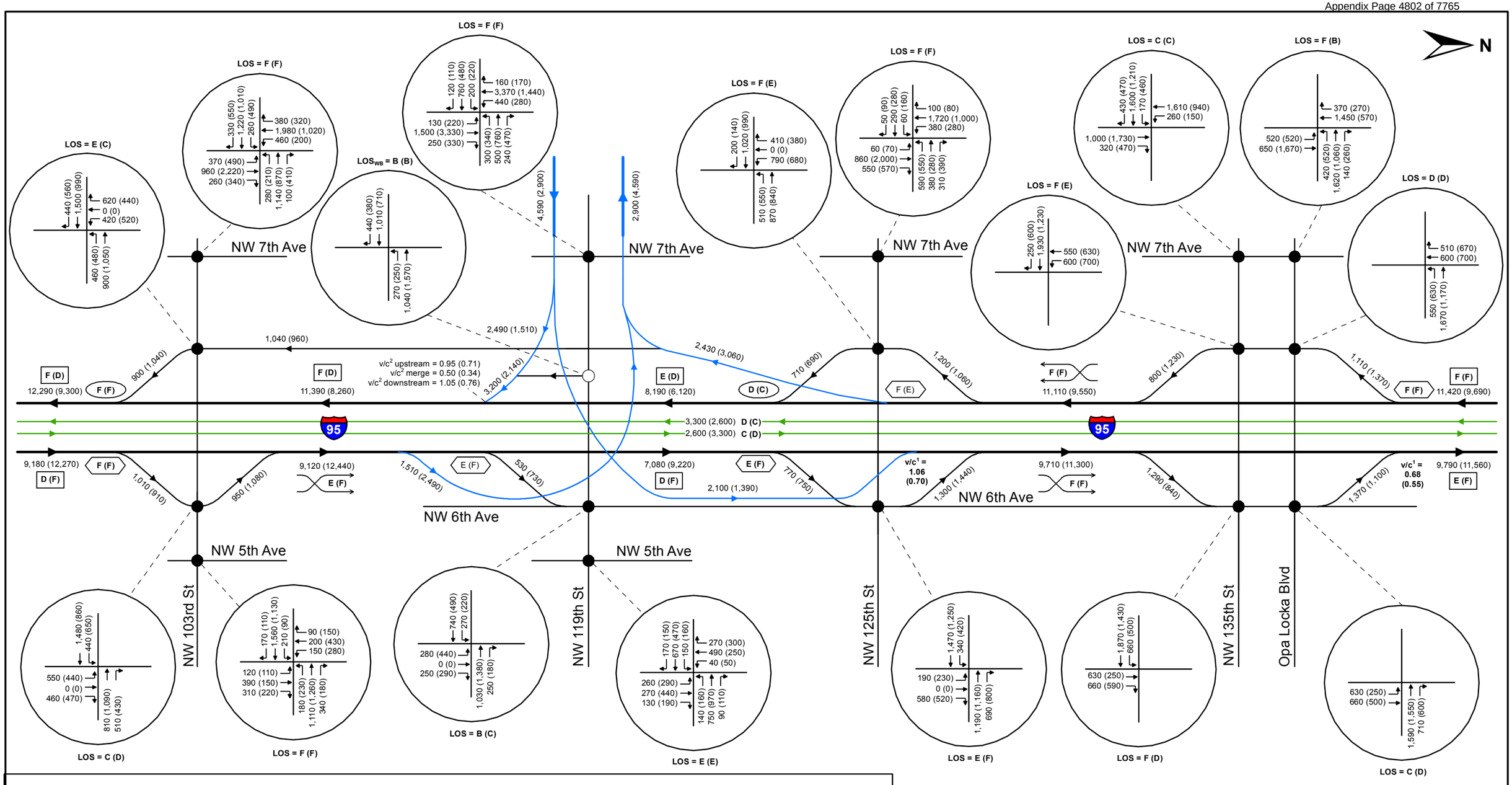
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Peak Hour Traffic
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FIGURE NO. 5 - 6

SHEET NO. 2 of 3



MIAMI-DADE EXPRESSWAY AUTHORITY

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Peak Hour Traffic
Volumes and Level of Service

FIGURE NO. 5 - 6
SHEET NO. 3 of 3

5.4 Right-of-Way Needs and Relocation

The Recommended Alternative will involve some right-of-way acquisitions near the interchanges at Gratigny Parkway/NW 32nd Avenue/NW 27th Avenue and Gratigny Parkway/I-95. The parcel impacts are listed in the table below including the parcel folio number, owner, address, total acreage of the parcel, and the type of acquisition and shown in **Figure 7**. The type of acquisition can be full, partial, or air rights only. For larger parcels, such as the Miami-Dade College, partial acquisitions will be a very small percentage of the total parcel area. A *Conceptual Stage Relocation Plan* will be included with the final environmental document.

Table 5-2 | Parcel Impacts

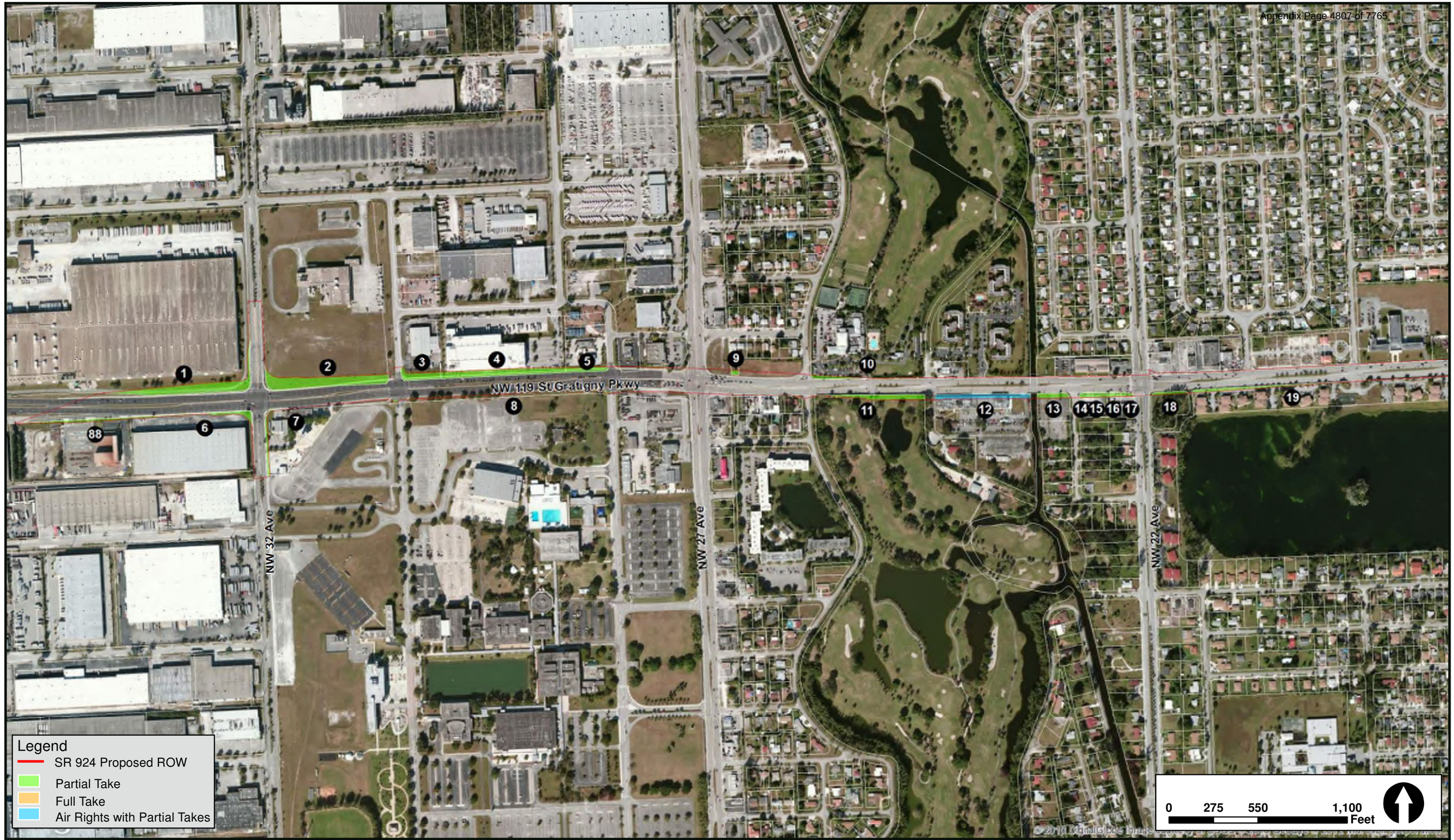
Map ID	Folio Number	Owner	Address	Acreage of Parcel	Type of Acquisition	Parcel Use*
1	3021280270010	FU/WD OPA LOCKA LLC	3300 NW 123 ST	58.04	Partial	C
2	3021280290010	ZSF/WD OPA LOCKA LLC	3000 NW 123 ST	19.01	Partial	C
3	3021280280780	HB 3045 NW 119 ST LLC	3045 NW 119 ST	2.05	Partial	C
4	3021280280820	HENRY LEE PROPERTIES LLC	2850 NW 120 TER	6.41	Partial	C
5	3021280280920	TS 2755 HOLDING COMPANY LLC	2755 NW 119 ST	0.73	Partial	C
6	3021330080310	DMK PROPERTIES LTD.	3202 NW 119 ST	6.35	Partial	C
7	3021330010010	MIAMI-DADE COUNTY	3190 NW 119 ST	2.86	Partial	C
8	3021330010020	MIAMI DADE COLLEGE	11380 NW 27 AVE	233.47	Partial	I
9	3021270110330	DELLA FLYNN & BARBARA F YARNELL		0.09	Partial	O
10	3021340010621	WESTVIEW COUNTRY CLUB MERGER SUB		32.63	Partial	C
11	3021340010620	WESTVIEW COUNTRY CLUB MERGER SUB	11700 E GOLF DR	81.21	Partial	O
12	3021340210010	RODPIN DEVELOPERS AT NB LLC	2398 NW 119 ST	6.06	Air Rights	C
13	3021340030130	RODPIN DEVELOPERS AT NB LLC	2290 NW 119 ST	0.79	Partial	C
14	3021340030040	JAIME GROSS TRS	2240 NW 119 ST	0.30	Partial	C
15	3021340030030	JAIME GROSS TRS		0.31	Partial	C
16	3021340030020	ADVANCE AUTO PARTS	2214 NW 119 ST	0.30	Partial	C
17	3021340030010	ADVANCE AUTO PARTS	2200 NW 119 ST	0.26	Partial	C
18	3021340040140	MICHAEL D KANG		1.04	Partial	R
19	3021340220001	LAKEVIEW ESTATES	1800-2030 NW 119TH ST	6.28	Partial	R
20	3021350360010	11800 NW 10TH AVE LLC	11800 NW 10 AVE	2.91	Partial	C

21	3021350130010	SOUTH MIAMI MEATS INC	990 NW 119 ST	0.20	Partial	C
22	3021350130060	CBS OUTDOOR INC		0.04	Air Rights	V
23	3021350130070	GAINDIA CONCEPCION	920-926 NW 119 ST	0.16	Air Rights	C
24	3021350130110	GAINDIA CONCEPCION	842 NW 119 ST	0.21	Full	C
25	3021350130120	JOSEPH PETIT-JEUNE &W VIOLETTE	816 NW 119 ST	0.21	Full	C
26	3021350130130	JASBIR SINGH &W KAMALJIT KAUR	800 NW 119 ST	0.16	Full	C
27	0621260140011	UNITED STATES OF AMERICA	995 NW 119 ST	1.20	Partial	C
28	0621260290010	119 PLAZA G.P. CORPORATION	805 NW 119 ST	2.12	Air Rights	C
29	3021350140010	GRACE MEMORIAL	770 NW 119 ST	0.43	Full	C
30	3021350140070	WALGREEN CO	750 NW 119 ST	1.96	Air Rights	C
31	0621260144020	Y D B SHOPRITE LC	775 NW 119 ST	3.29	Air Rights	C
32	0621250180530	MML INVESTMENTS LLC	11901 NW 7 AVE	0.50	Air Rights	C
33	0621250180300	EDWIN & MARILYN HOFFMAN CO-TRS	11975 NW 7 AVE	0.27	Air Rights	C
34	0621250180470	GRM PROPERTY MGMT LLC	671 NW 119 ST	0.32	Full	C
35	0621250180440	PHYSICIANS ACCESS GRP INC	655 NW 119 ST	0.19	Full	C
36	0621250180330	GRM PROPERTY MANAGEMENT LLC	660 NW 120 ST	0.31	Air Rights	C
37	0621250180340	MQURICIO LINDO	650 NW 120 ST	0.31	Full	C
38	0621250180700	CRISTINA SANTIAGO	647 NW 120 ST	0.16	Full	R
39	0621250180690	RUDOLPH MOISE	635 NW 120 ST	0.14	Full	R
40	0621250180610	BEVERLY MENESES		0.15	Full	R
41	0621250181190	GERONIMO A SCHMIDT	625 NW 121 ST	0.16	Full	C
42	0621250181110	CASA VIDA APT LLC	650 NW 122 ST	0.77	Partial	C
43	0621250181331	ZARINA RAJA &	651 NW 122 ST	0.14	Partial	C
44	0621250181270	ZARINA RAJA &	650 NW 123 ST	0.77	Partial	C
45	0621250181750	IRVING J DENMARK TR	635 NW 123 ST	0.09	Partial	V
46	3021360320730	SUNSHINE GASOLINE DISTR INC	11899 NW 7 AVE	0.82	Air Rights	C
47	3021360320840	PHYLLIS & CHARLES D PRINCE CO-TRS	662 NW 119 ST	0.10	Air Rights	C
48	3021360320850	STEPHEN W CHASE	660 NW 119 ST	0.11	Air Rights	C
49	3021360320710	LEONARD A SCHWARTZBERG TRS &	661-673 NW 118 ST	0.25	Air Rights	C
50	3021360320540	COMMERCIAL NET LEASE RLTY INC	11705 NW 7 AVE	0.68	Air Rights	C

51	3021360320520	LEONARD A SCHWARTZBERG TRS &	651-667 NW 117 ST	0.55	Air Rights	C
52	3021360320430	HISTORICAL ASSOC OF S FLORIDA INC	651 NW 116 TER	0.47	Full	C
53	3021360320910	MIAMI-DADE COUNTY		0.29	Full	V
54	3021360320250	TRAFALGAR DEVELOPMENT GROUP LLC	11629-11633 NW 7 AVE	0.32	Full	C
55	3021360320280	MARJORIE LAFOREST	668 NW 116 TER	0.12	Full	R
56	3021360320290	MARIA DUENAS &H JUAN	662 NW 116 TER	0.12	Full	R
57	3021360320300	TIMOTHY P MCCARTHY	652 NW 116 TER	0.08	Full	R
58	3021360320350	KETY JEAN JACQUES	600-602 NW 116 TER	0.14	Full	R
59	3021360320240	ECKERT INSURANCE GROUP INC	11611 NW 7 AVE	0.27	Full	C
60	3021360320222	AHM LLC	675 NW 116 ST	0.24	Full	C
61	3021360320221	651 NW 116 ST LLC	651 NW 116 ST	0.06	Full	C
62	3021360320170	WASHINGTON MUTUAL BANK	601 NW 116 ST	0.13	Full	R
63	3021360320050	MICHAEL FINKELSTEIN &W LAURA F	11575 NW 7 AVE	1.01	Full	C
64	3021360320040	BISC AIR CONDITIONING INC	659 NW 115 ST	0.16	Full	C
65	3021360320160	NATHANIEL WILLIAMS	600 NW 116 ST	0.11	Full	R
66	3021360320010	ELSIE D RAY	601 NW 115 ST	0.14	Full	R
67	3021360230020	I 95 FRONTAGE LLC		1.69	Full	V
68	1121360360010	BARRY UNIVERSITY INC	11400 NW 6 AVE	0.64	Partial	C
69	3021360350010	ALAN INVESTMENT PROPERTIES INC	670 NW 114 ST	0.53	Full	C
70	3021360210061	BLACK SHEEP PROPERTIES LLC	659 NW 113 ST	0.17	Full	R
71	1121360360011	BARRY UNIVERSITY		0.59	Partial	I
72	3021360210390	FAVI INC	670 NW 113 ST	0.36	Partial	C
73	3021360210260	FAVI INC		0.16	Partial	C
74	3021360210580	SUPER TILE INC	670-682 NW 112 ST	0.38	Partial	C
75	3021360210450	MICHAEL SEURATTAN	661 NW 111 ST	0.16	Partial	R
76	3021360000011	MOHAMMAD AKHTAR HAROON &W YASMIN	660 NW 111 ST	0.24	Partial	C
77	3021360340010	GALA ENTERPRISES OF CENTRAL FL	11051 NW 7 AVE	0.64	Partial	C
78	3021360340020	GUY JEAN-MARIE &W NANCY	10995 NW 7 AVE	0.50	Partial	C
79	3021360240020	STORAGE TRUST	10855 NW 7 AVE	2.38	Partial	C

		PROPERTIES LP				
80	3021360240031	JULIO FUNDORA	10812 NW 6 CT	0.23	Partial	C
81	3021360182560	WHIP LASH HOLDINGS INC	681 NW 108 ST	0.26	Partial	C
82	3021360182585	ROBERT S LAFFERTY		0.19	Partial	C
83	3021360182590	2107 ASSOCIATES	655 NW 107 ST	0.30	Partial	C
84	3021360190120	CHARLES P COQMARD	682 NW 107 ST	0.16	Partial	R
85	3021360190110	MARTIN MAROTTA	651 NW 106 ST	0.19	Partial	C
86	3021360190040	PROPERTIES EXPO LLC	10501 NW 7 AVE	1.76	Partial	C
87	621250060010	AS BISHOP OF DIOCESE OF MIAMI	565-601 NW 131ST ST	3.20	Partial	C
88	3021330080410	INDUSTRIAL GALVANIZERS-AMERICA	3350 NW 119TH ST	6.29	Partial	C

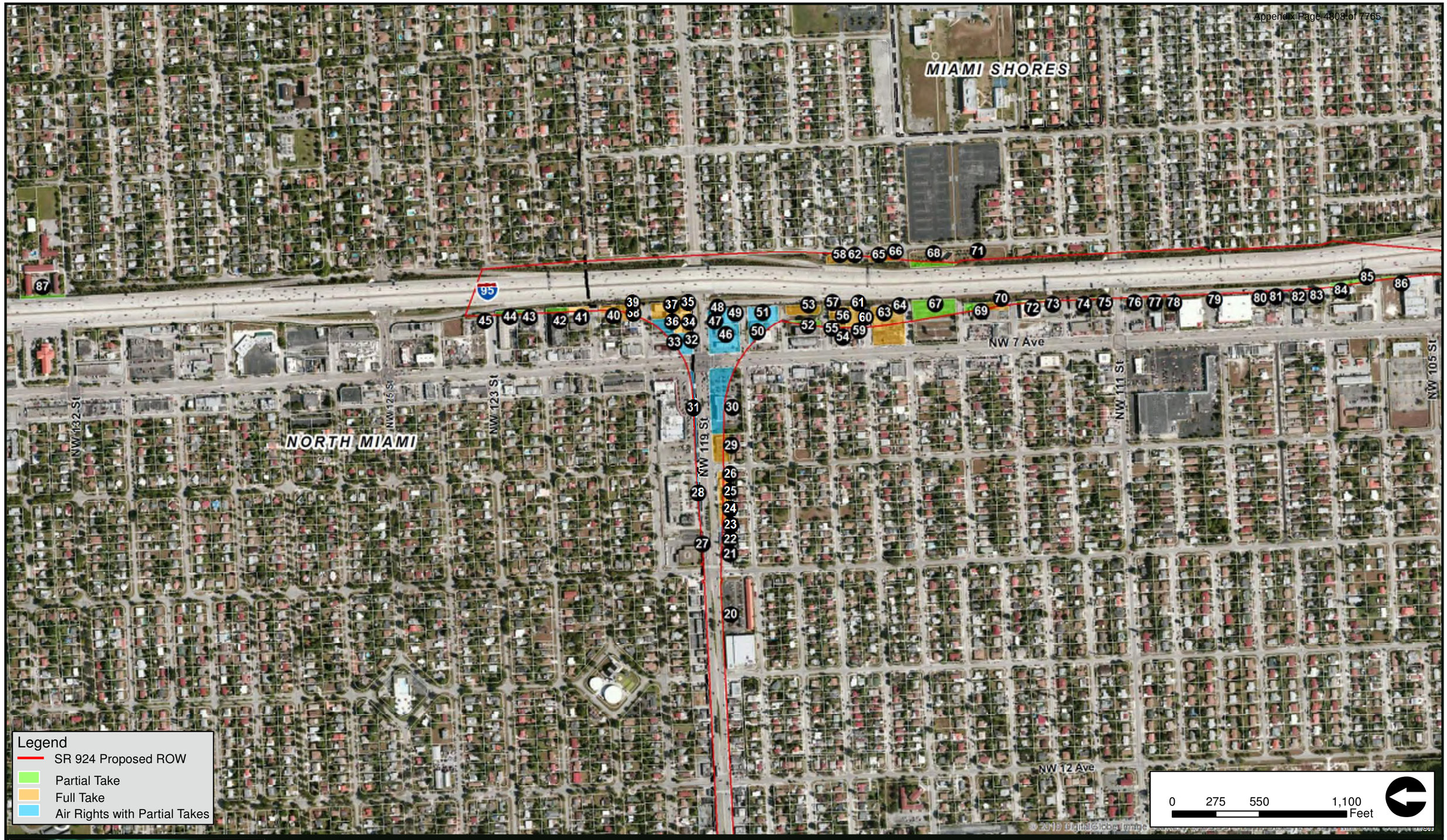
*C = Commercial; R = Residential; V = Special Use; I = Institutional; O = Other



MDX MIAMI-DADE EXPRESSWAY AUTHORITY

Project Development and Environment Study for the
Gratigny Parkway East Extension to I-95

Figure 5-6: Parcel Impacts



MDX MIAMI-DADE EXPRESSWAY AUTHORITY

Project Development and Environment Study for the

Gratigny Parkway East Extension to I-95

Figure 5-6: Parcel Impacts

5.5 Cost Estimates

The construction cost estimates were generated using the FDOT Long Range Estimates (LRE) and include major cost components such as embankment, roadway and bridge construction, maintenance of traffic, mobilization, and signage. Costs for other components such as erosion control, drainage, pavement marking, fencing and landscaping were calculated on a per mile basis. Construction costs do not include costs associated with environmental permits, dump fees, or removal and disposal of contaminated soils or materials.

Mobilization costs are estimated at 8 percent, MOT costs are estimated at 10 percent, and a 10 percent contingency factor (project unknowns) was added to the construction costs. The total preliminary construction costs are summarized in **Table 5-3** and the detailed LRE is included in Appendix G.

Preliminary engineering costs are typically developed as a percentage of the total construction costs. The preliminary engineering design costs have been estimated at eight percent of the total construction costs. This percentage in preliminary engineering costs is based on projects of similar design and construction. Included in this estimated cost are preliminary engineering fees, final design fees, legal fees, and administration fees. Construction management services were estimated at six percent of the total construction costs to cover construction engineering, inspection, and post design services for the project.

Table 5-3 | Cost Estimates

Cost Component	Cost
Construction Cost Estimate (LRE)	$432,171,792
Design Cost (8%)	$34,573,743
Construction, Engineering, Inspection Service Costs (6%)	$25,930,308
Right-of-Way Cost	$52,785,400
Total Project Cost	$545,461,243

5.6 Schedule

The PD&E Study is scheduled for completion by the end of 2013. The design phase is expected to be completed in 36 months. A detailed schedule is not set for design or construction of the proposed improvements as those phases are currently not funded.

5.7 Pedestrian and Bicycle Facilities

The Recommended Alternative incorporates 10-foot sidewalks/pedestrian enhancement areas, including crosswalks and handicap access at intersections, and 4-foot bicycle lanes on both sides of NW 119th Street between NW 27th Avenue and I-95. The sidewalk widens to 10 feet at W Golf Drive along the westbound lanes and at NW 22nd Court along the eastbound lanes. Sidewalks are wider in this area because the abutting land uses are commercial/residential and would benefit from wider sidewalks.

Six-foot sidewalks are provided on both sides of NW 119th Street between NW 32nd Avenue and NW 27th Avenue. Four-foot bicycle lanes are provided on eastbound NW 119th Street from NW 32nd Avenue to NW 27th Avenue and on westbound NW 119th Street from NW 30th Place to NW 27th Avenue. The westbound bicycle lane terminates at NW 30th Place because of safety concerns with the merging of the westbound exit ramp from Gratigny Parkway. Also, NW 30th Place is the western-most entrance into Miami-Dade College North Campus and is therefore a logical terminus. A design variation will be required for the portion of NW 119th Street westbound for the absence of a bicycle lane per PPM requirements.

5.8 Utility Impacts

Although this is only a preliminary analysis and there are potential modifications to components of the project, a comparison of the available records with the proposed alignment suggests that there are portions of the roadway where there will be conflicts with underground pipes and overhead lines that run linearly along the corridor or cross the corridor perpendicularly. At this preliminary stage, it is difficult to identify the exact location of utility conflicts, but the following sections describe the potential impacts.

5.8.1 Water and Sewer Utility Impacts

For the purposes of this planning level document, the inventory of known water and sewer utilities presented in Section 2.15 was compared with the conceptual plan for ramp and upper roadway structural supports associated with the Recommended Alternative. Any water or sewer facilities that were in the vicinity of structural supports (10 feet +/-) were identified for potential relocation. **Tables 5-4** and **5-5** identify the potential conflicts, while **Table 5-6** summarizes the total length of impacted facilities categorized by type and size. Coordination with MD-WASD and the City of North Miami determined that no additional utilities are planned for the corridor.

Table 5-4 | Inventory of Known Water and Sewer Utilities Impacted

Utility	Diameter [IN]	Utility Type	Length [FT]	Location
MD-WASD	8	Sanitary Gravity Main	1,500	West of NW 32nd Avenue
MD-WASD	16	Water Main	2,500	NW 32nd Avenue to NW 27th Avenue
MD-WASD	16	Water Main	500	NW 27th Avenue to W Golf Road
North Miami	2	Sanitary Force Main	500	NW 27th Avenue to W Golf Road
North Miami	6	Sanitary Force Main	500	W Golf Road to NW Golf Road
North Miami	6	Sanitary Force Main	2,500	NW 22nd Avenue to NW 17th Avenue
North Miami	8	Sanitary Gravity Main	500	NW 14th Avenue to NW 13th Avenue
North Miami	8	Sanitary Gravity Main	2,000	NW 12th Avenue to NW 9th Avenue
North Miami	16	Water Main	1,000	NW 8th Avenue to I-95

Table 5-5 | Inventory of Known Water and Sewer Utility Crossings Impacted

Utility	Diameter [IN]	Utility Type	Location
MD-WASD	12	Water Main	NW 32nd Avenue
MD-WASD	12	Sanitary Force Main	NW 32nd Avenue
MD-WASD	4	Sanitary Force Main	NW 7th Avenue
MD-WASD	12	Water Main	NW 7th Avenue

North Miami	8	Water Main	Golf Rd West
North Miami	12	Water Main	Rio Vista Canal
North Miami	6	Water Main	NW 22nd Avenue
North Miami	6	Sanitary Force Main	NW 14th Avenue
North Miami	10	Sanitary Force Main	NW 12th Avenue
North Miami	8	Sanitary Gravity Main	NW 10th Avenue
North Miami	4	Sanitary Force Main	NW 19th Avenue
North Miami	2	Water Main	NW 14th Avenue
North Miami	6	Water Main	NW 19th Avenue

Table 5-6 | Total Length of Known Water and Sewer Facilities Impacted

Utility Type	Diameter [IN]	Length [FT]	Location
Sanitary Force Main	2	1,500	NW 27th Avenue to W Golf Road
Sanitary Force Main	4	3,000	Crossing at NW 7th Avenue, NW 19th Avenue
Sanitary Force Main	6	500	W Golf Road to NW Golf Road, NW 22nd Avenue to NW 17th Avenue; Crossing at NW 14th Avenue
Sanitary Force Main	10	2,000	Crossing at NW 12th Avenue
Sanitary Force Main	12	1,500	Crossing at NW 32nd Avenue
Sanitary Gravity Main	8	100	NW 14th Avenue to NW 13th Avenue; NW 12th Avenue to NW 9th Avenue; Crossing at NW 10th Avenue
Water Main	2	200	Crossing at NW 14th Avenue
Water Main	6	100	Crossings at NW 22nd Avenue, NW 19th Avenue
Water Main	8	100	Crossing at W Golf Road
Water Main	12	300	Crossing at Rio Vista Canal
Water Main	16	300	NW 32nd Avenue to W Golf Road; NW 8th Avenue to I-95

5.8.2 Overhead Utility Impacts

Based on the proposed alignment and the associated ramps and modifications to the existing roadway, **Table 5-7** describes the conflicting overhead lines running along the corridor as well as the crossings.

Table 5-7 | Overhead Utility Lines

Location	Type	Length [FT]
West of NW 32nd Avenue to NW 30th Place	Parallel on North Side	2,150
NW 27th Place to East of NW 27th Avenue	Parallel on North Side	700
East of NW 27th Avenue	Crossing	220
East of 27th Avenue to East of NW 15th Avenue	Parallel on South Side	6,700

W Golf Road	Crossing	220
E Golf Road	Crossing	240
NW 22nd Avenue	Crossing	210
NW 17th Avenue	Crossing	360
NW 14th Avenue	Crossing	230
NW 12th Avenue	Crossing	290
NW 11th Avenue	Crossing	210
NW 8th Avenue	Crossing	150
NW 7th Avenue	Crossing	230

5.8.3 Other Utility Impacts

Coordination with other utilities has determined that there are potential conflicts with the communication providers Level 3 and AT&T, but no conflicts with Verizon/MCI. The potential conflicts are likely capable of being mitigated for in future design and construction efforts considering that the buried fiber optic cabling crosses along major intersections where structural supports will likely not conflict.

Regarding AT&T, there are several locations of conflicts with buried lines, conduit banks, and fiber optic lines. **Tables 5-8** and **5-9** document the location and extent of conflicts with AT&T utilities.

Table 5-8 | Location and Length of AT&T Facilities along the Corridor

Location	Facility Type	Length [FT]
West of NW 32nd Avenue	Buried Copper	1,200
NW 32nd Avenue	(2) 4-in PVC	100
NW 32nd Avenue to NW 27th Place	(6) 4-in PVC	2,200
NW 27th Place to NW 27th Avenue	(9) 4-in PVC	500
NW 27th Avenue to E Golf Drive	(3) 4-in PVC; 9-MTD	1,600
E Golf Drive to NW 23rd Avenue	(3) 4-in PVC; (9) 4-in TR	400
NW 23rd Avenue to NW 22nd Court	(9) 4-in PVC	500
NW 22nd Court to NW 22nd Avenue	(3) 4-in PVC; 9-MTD	100
NW 22nd Avenue to NW 22nd Avenue	(3) 4-in PVC	200
NW 22nd Avenue to NW 17th Avenue	(3) 4-in PVC; 9-MTD	2,700
NW 17th Avenue to NW 16th Avenue	(9) 4-in PVC	600
NW 16th Avenue to NW 8th Avenue	9-MTD	4,100
NW 8th Avenue to I-95	12-MTD	1,300

Table 5-9 | Corridor Crossing of AT&T Facilities

Location	Facility Type
NW 32nd Avenue	(4) 4-inch PVC
NW 32nd Avenue	Buried LNS Fiber
NW 31st Avenue	(2) 4-inch PVC
NW 29th Place	(2) 4-inch PVC
NW 29th Place	(2) 4-inch PVC
NW 27th Place	(2) 4-inch PVC
NW 27th Avenue	(2) 4-inch PVC
NW 27th Avenue	28-MTD
NW 27th Avenue	(2) 3.5-inch TRD
E Golf Drive	(2) 4-inch PVC
E Golf Drive	Buried Fiber
NW 22nd Court	(1) 4-inch BIP
NW 21st Avenue	(1) 4-inch PVC
NW 19th Avenue	(1) 4-inch PVC
NW 18th Avenue	(1) 4-inch PVC
NW 17th Avenue	(2) 4-inch PVC
NW 17th Avenue	(2) 4-inch PVC
NW 17th Avenue	(2) 4-inch PVC
NW 17th Avenue	(6) 4-inch PVC
NW 17th Avenue	(4) 4-inch PVC
NW 16th Avenue	(2) 4-inch BIP
NW 15th Avenue	(1) 4-inch BIP
NW 14th Avenue	Buried Copper
NW 14th Avenue	Buried Copper
NW 11th Avenue	Buried Copper
NW 8th Avenue	(2) 3.5-inch TRD

Exact locations of other utility conflicts will not be known until a more detailed survey and additional utility coordination is completed and the geometry and locations of the roadway structural supports are finalized. Based on initial inquiries as late as October 2012, there is no available utility location data available from Comcast Cable, Florida City Gas, or FPL. Coordination with all known utility companies during the final design phase will assist in minimizing relocation adjustments and disruptions of service to the public. Most utility companies have a mechanism to adjust their services without causing major

inconveniences to their customers. As a result mitigation measures to the maximum extent feasible will include the following:

- Maintaining utility connections in temporary locations;
- Minimizing the time without service;
- Installing alternative or new service before disconnecting the existing service; and
- Allowing service disruption only during periods of non-usage or minimum usage.

5.9 Temporary Traffic Control Plan

A Temporary Traffic Control Plan (TCP) will be developed during the Final Design Phase and implemented in consultation with local jurisdictions. These documents will summarize the considerations and investigations made in the development of a comprehensive plan for maintaining traffic through the work zone. Measures to be considered for implementation will include, but are not limited to:

- Advance public notification to motorists of the nature, extent, and duration of upcoming construction work, including information of lane closures and possible detour routes as required;
- Detour signing placed in advance at strategic locations for proposed detours;
- Work zone signs and other temporary work zone traffic control devices, including regulatory speed limits for each phase;
- Temporary pavement markings;
- Layouts and placement of channelizing devices;
- Lane closures and other restrictions which might apply;
- Construction of temporary pavement for potential temporary shift of lanes, if required; and
- Construction work to be accomplished during each individual phase of construction will be complemented by:
    - Traffic Control General Notes and Phasing Notes;
    - Phased Typical Sections;
    - Phased Detailed Plan Sheets;

- Phased Cross Sections; and
- The TCP will include required special details for temporary drainage, temporary signalization; intersection details; and etc.

5.9.1 SR 924 – Construction Phases

The sequence of construction for the concrete box girder is explained in Section 5.11.1.14 of this document. Two construction phases are used for the Recommended Alternative Preliminary Plans and are depicted on **Figures 5-11** through **Figure 5-18**.

5.9.2 NW 119th Street Mainline – Construction Phases

The TCP for the construction of NW 119th Street will closely follow the construction phases of the Gratigny Parkway concrete box girder. Given the high traffic volume on the corridor and its importance to the surrounding community, every effort should be made during construction to minimize closing of the existing travel lanes. A minimum of two travel lanes in each direction is recommended.

5.9.2.1 Reconfiguration and Partial Reconstruction of NW 119th Street

Phases IA and IB - Phases IA and IB will require closing of the inside lanes in both directions for the construction of the substructure and columns for the elevated Gratigny Parkway. These structures will be constructed within the median of NW 119th Street. During Phases IA and IB, very limited work should be done at-grade. Utility relocations, if required, would be done prior to the construction of substructure. Two travel lanes in each direction will be maintained from NW 27th Avenue to I-95 and three travel lanes in each direction will be maintained from NW 32nd Avenue to NW 27th Avenue, as depicted in **Figures 5-13** through **5-20**.

Phase IIA - During this phase a complete closure of the NW 119th Street westbound traffic lanes will be required for erection of the precast concrete panels and steel struts to be constructed at the north side of the structure. This work is to be done at night only. The roadway work along NW 119th Street westbound will require closing one lane at a time. The roadway work performed during this phase will include utility work, construction of concrete sidewalks, concrete curb and gutters, pavement reconstruction, and pavement markings.

Phase IIB - During this phase a complete closure of the NW 119th Street eastbound traffic lanes will be required for erection of the precast concrete panels and steel struts to be constructed at the south side of the structure. This work is to be done at night only. The roadway work along NW 119th Street

eastbound will require closing one lane at a time. The roadway work performed during this phase will include utility work, construction of concrete sidewalks, concrete curb and gutters, pavement reconstruction, and pavement markings.

5.9.3 Intersection Roadways

Each roadway crossing NW 119th Street, within the limits of the project, would require pavement reconstruction to accommodate the proposed improvements. Since each intersecting roadway has different required improvements, the scheme for each roadway will be specific for each intersection. The required TCP for these intersections would be closely coordinated with Phases IIA and IIB of the NW 119th Street at-grade construction.

5.9.4 New Ramp Connections to and from SR 924

New ramp connections are described in Section 5.1. These ramps will require closing of several intersections during erection of the ramp superstructures. This work will be made during off-peak hours to minimize traffic interruptions. Plans for detour routes for closing each of these intersections will be prepared during the design phase and should include detailed information to move traffic to their intended destination.

5.9.5 Widening of I-95

The MOT during widening of I-95 will require closing of the outside lanes. For preliminary concept plans, refer to Appendix F sheets 14 though 21. Detailed TCPs will be implemented during the design phase. These TCPs would include, work zone signs, speed limit signs, and lane transitions with work zone devices as a minimum. Close coordination with FDOT District 6 will be required during the design and construction phases for the work being done within I-95.

5.9.6 Ramps to and from I-95

New flyover ramps will be constructed along both sides of I-95. Three streets, within the limits of the improvements, have through traffic movements under the I-95 crossings. The TCP will require temporary closure of NW 125th, NW 119th, and NW 111th Streets at these crossings for the construction of the ramp superstructures. This work should be done during off-peak hours to minimize traffic interruptions. Plans for detour routes for closing each of these intersections will be prepared during the design phase. Some sections of NW 6th Avenue will also require to be closed during construction of the ramp superstructures. Construction impacts to other minor streets, between NW 103rd Street and NW

125th Street, will be minimal. However, traffic should be limited to local traffic only at these minor roads.

5.10 Drainage

As described in **Table 3-5**, there are several applicable design criteria for stormwater management systems that must be utilized in meeting the regulatory requirements with respect to water quality, peak discharge and flood protection. For the purposes of this project, the agencies with jurisdiction or regulatory guidance over the design criteria are the SFWMD, MD-RER, and FDOT. As noted in Section 2.9.2, since the proposed project is part of the FHWA system with no encroachment on Miami-Dade County right-of-way, a Class II permit from MD-RER is not required. However, the regulatory rules are still applicable.

The SFWMD and MD-RER have methodologies for determining the volume of water that must be retained to provide water quality treatment. For the purposes of this project, both methodologies were analyzed, and the most stringent requirement was applied. In addition, both the SFWMD and MD-RER require that the proposed improvements do not increase the peak discharge rates to the downstream water bodies. All three regulatory agencies require peak stages to be mitigated in order to prevent unsafe roadway conditions from flooding, or at a minimum, maintain the existing flood protection level of service. A detailed description of the methodology for calculation of each design criteria is provided in the *Preliminary Drainage Report* associated with this project. Based on these criteria, the proposed exfiltration trenches must be designed to accommodate the regulatory water quality treatment requirements, retain all additional runoff to maintain existing peak discharge, and maintain the peak stages below the minimum inlet elevation.

Based on the regulatory design criteria, the SFWMD and MD-RER each provide separate methodologies for determining the length of exfiltration trench required. Each methodology is a function of the geometry of the proposed improvement (contributing area, land-use of contributing area, time of concentration) and a function of the exfiltration capacity of the proposed trench (hydraulic conductivity of the in situ soil, width and depth of the trench, elevation of regional groundwater).

The design team met with regulatory staff from MD-RER (June 19, 2012) and the SFWMD (July 19, 2012) to discuss the project. The minutes of these meetings are included with the *Preliminary Drainage Report*. The regulatory agencies stated that additional water quality treatment did not need to be

required for existing roadway facilities that were untreated; however, water quality treatment must be provided for the new upper roadway surface, any associated ramps, and any additional new impervious pavement. Regarding water quantity regulatory concerns, the SFWMD and MD-RER recommended that the peak discharge from existing facilities must be maintained.

5.10.1 Proposed Stormwater Management Facilities

The functionality of an exfiltration trench is based on the characteristics of the local geology and the geometry of the exfiltration trench. The depth, width, and control elevation of the exfiltration trench in combination with the hydraulic conductivity of the insitu soils define the rate of exfiltration for each foot of installed trench. These characteristics in combination with the length of the exfiltration trench installed define the volume of water retained for the mitigation of water quality and water quantity concerns. Based on the exfiltration trench geometry defined in **Table 5-10,** a determination of required length was calculated for each basin using both the SFWMD and MD-RER methodologies. The largest calculated length was assumed for the design. Notably, the hydraulic conductivity varies significantly across the project limits such that the placement of the exfiltration trench significantly impacts the effectiveness. As detailed in the associated *Preliminary Drainage Report*, in order to avoid the wellfield protection area and optimize hydraulic conductivity, two separate reaches of exfiltration trench were utilized for Basin 5. The western exfiltration trench treats both Basin 4 and the section of Basin 5 west of NW 13th Avenue. The eastern exfiltration trench treats the section of Basin 5 east of NW 13th Avenue. For the purposes of clarification, the delineation of this section of the project is referred to as Basins 4R and 5R.

Table 5-10 | Geometry of Proposed Exfiltration Trench Facilities

Exfiltration Parameter	Value
Diameter of Perforated Pipe (minimum)	24 inches
Width of Gravel Media (minimum)	5 feet
Top Elevation of Gravel Media	5 ft-NGVD
Bottom Elevation of Gravel Media	-5 ft-NGVD
Depth of Gravel Media	10 feet
Control Elevation for Gravity Discharge Basins	5 ft-NGVD (Basins 2 / 3 / 4 / 5)
Control Elevation for Self Contained Basins	6.8 ft-NGVD (Basin 1) / 7.2 ft-NGVD (Basin 6)

As described in the associated *Preliminary Drainage Report*, an ICPR simulation was developed to test if the SFWMD and MD-RER calculated exfiltration trench length was sufficient to retain the runoff from the 25-year, 3-day storm event. The runoff simulated was from the proposed additional impervious

area only, and proficiency was defined as maintaining stages below the control elevation defined in **Table 5-10**. In the first four basins (1, 2, 3 and 4R) the length of trench required for water quality treatment was sufficient to also retain the additional runoff for the 25-year, 3-day event. However, in Basins 5R and 6 the length was sufficient for only the water quality volume but insufficient for the additional runoff quantity. Additional simulations determined the length of trench required to retain the 25-year, 3-day event meeting both the water quality and quantity objectives. The accompanying *Preliminary Drainage Report* documents all of the assumptions and calculations associated, while **Table 5-11** documents the final calculated required lengths for each basin.

Table 5-11 | Length of Exfiltration Trench Required to Meet Regulatory Guidelines per Basin

Basin	Average Hydraulic Conductivity [CFS/FT^2 – FT HEAD]	SFWMD WQ Treatment Volume [AC-FT]	SFWMD Required Exfiltration Trench Length [LF]	MD-RER Water Quality Treatment Volume [AC-FT]	MD-RER Required Exfiltration Trench Length [LF]	Exfiltration Length Required for WQ and Runoff Retention [LF]
1	2.56 x 10-3	2.39	139	1.40	559	560
2	2.87 x 10-2	1.14	12	0.78	266	270
3	6.49 x 10-3	0.43	18	0.25	105	110
4R	2.41 x 10-3	2.18	245	1.38	520	520
5R	1.62 x 10-4	1.98	2,696	1.18	2,585	2,700
6	3.95 x 10-4	2.51	727	1.52	793	1,580

From these analyses, it appears that the required stormwater quality and quantity requirements can be met with exfiltration trenches within the right-of-way, and additional land acquisition for stormwater retention areas will not be required.

As described in **Table 3-4**, in addition to design criteria defining the geometry of a stormwater management facility, there are criteria governing the location of exfiltration trenches. Since exfiltration trenches are underground facilities that promote infiltration of runoff into the surficial aquifer, they cannot be installed in locations where existing contaminant plumes from local environmental hazard sites (such as remnants from an underground storage tank leak) or within the 30-day travel time contour of a wellfield protection area. These concerns are addressed at a planning level within the associated *Preliminary Drainage Report*.

In addition to the proposed exfiltration trench improvements, there are several existing facilities that will be impacted by either realignment of the existing roadway or by the construction of structural supports for the upper roadway or ramps between SR 924 and I-95. Since detailed design information is not presently available, a planning level estimate of the amount of drainage infrastructure that will be needed was developed. Approximately 80 catch basins; 8,420 feet of drainage pipe; and 2,030 feet of exfiltration trench will need to be constructed in order to relocate or re-align existing facilities.

Once the design-level data collection is completed and the final drainage design is being implemented, the aesthetics of connecting the elevated Gratigny Parkway drainage system to the exfiltration systems will be considered. There are several available techniques for conveying runoff from the elevated roadway deck to the NW 119th Street drainage system, and the selected mechanism will be an FDOT approved standard technique that will be subject to review with respect to aesthetic goals and budgetary constraints.

5.11 Structure Analysis

For evaluation of the structure alternatives, the Gratigny Parkway East Extension will be divided into the Elevated Viaduct and the Gratigny Parkway/I-95 Interchange.

5.11.1 Elevated Viaduct

The Recommended Alternative consists of an elevated four-lane concrete box girder Elevated Viaduct. The viaduct is a continuous girder with a main span of 210 feet and a deck width of 85 feet 1 inch. The deck consists of a two cell concrete box girder with a maximum width of 28 feet 6inches. The overhangs are supported at their edges by steel struts connected to the box girders. The maximum girder depth is 9 feet (Span Length/24). These steel struts were evaluated to be placed at approximately 12 feet center to center. In between the steel struts, precast panels are proposed for the overhangs. Both, longitudinal and transverse pre-stressing tendons are required. The concrete box-girder can be built either cast in place or using pre-cast segments.

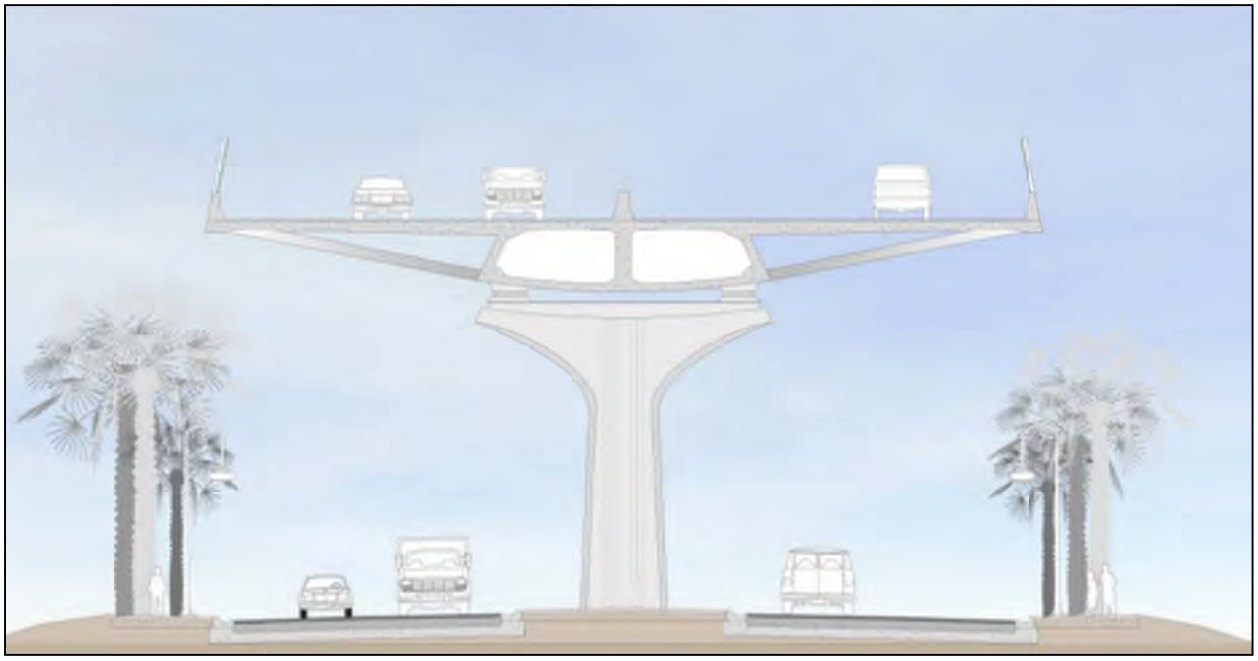
The deck is supported on vertical concrete columns by two POT bearings. The column is a hammerhead pier. The pier columns have a rectangular cross-section, 8 feet by 6 feet, 6 inches (the largest dimension is perpendicular to the axis of the viaduct) founded on footing supported by concrete drilled shafts (redundant foundation) or a concrete prestressed pile foundation.

Both the concrete box girder and the piers are designed with curved and smooth shapes to obtain an attractive appearance (**Figure 5-8**). As the elements have a high degree of repetition, the impact of more complex forms has a minor cost-impact.

The bridge would be erected using the versatile and competitive segmental construction technology taking advantage of cost-effectiveness, MOT, accelerated construction time, aesthetics, use of local labor and materials, high quality control during construction that will ensure excellent structural performance and safety, and durability.

This elevated structure has an estimated cost of $192,514,846.47 ($154.35 per square foot).

Figure 5-8 | Recommended Alternative Typical Cross-Section and Pier Geometry



5.11.1.1 Environmental and Site Considerations

The construction of the elevated structure will cause minor short-term air quality impacts in the form of dust from earthwork and unpaved roads. Other potential environmental impacts are discussed in the *Type II Categorical Exclusion*. Adherence to all applicable state and local regulations will minimize these impacts specifically through the use of the FDOT Standard Specifications for Road and Bridge Construction.

5.11.1.2 Minimum Vertical Clearances

The recommended elevated structure over the existing NW 119th Street is expected to meet and/or exceed the minimum vertical clearance of 16.5 feet as described in the 2013 PPM Volume 1, Table 2.10.1. The minimum vertical clearance along the eastbound and westbound corridor over NW 119Th Street, Crown Point is approximately 25 feet. The minimum height of the proposed elevated structure was evaluated to avoid any tunneling effect on the daily users of NW 119th Street and residents of the existing properties adjacent to the structure. Refer to **Figure 5-9** for minimum vertical clearances.

Figure 5-9 | Recommended Alternative Traffic Arrangement – NW 27th Avenue to I-95

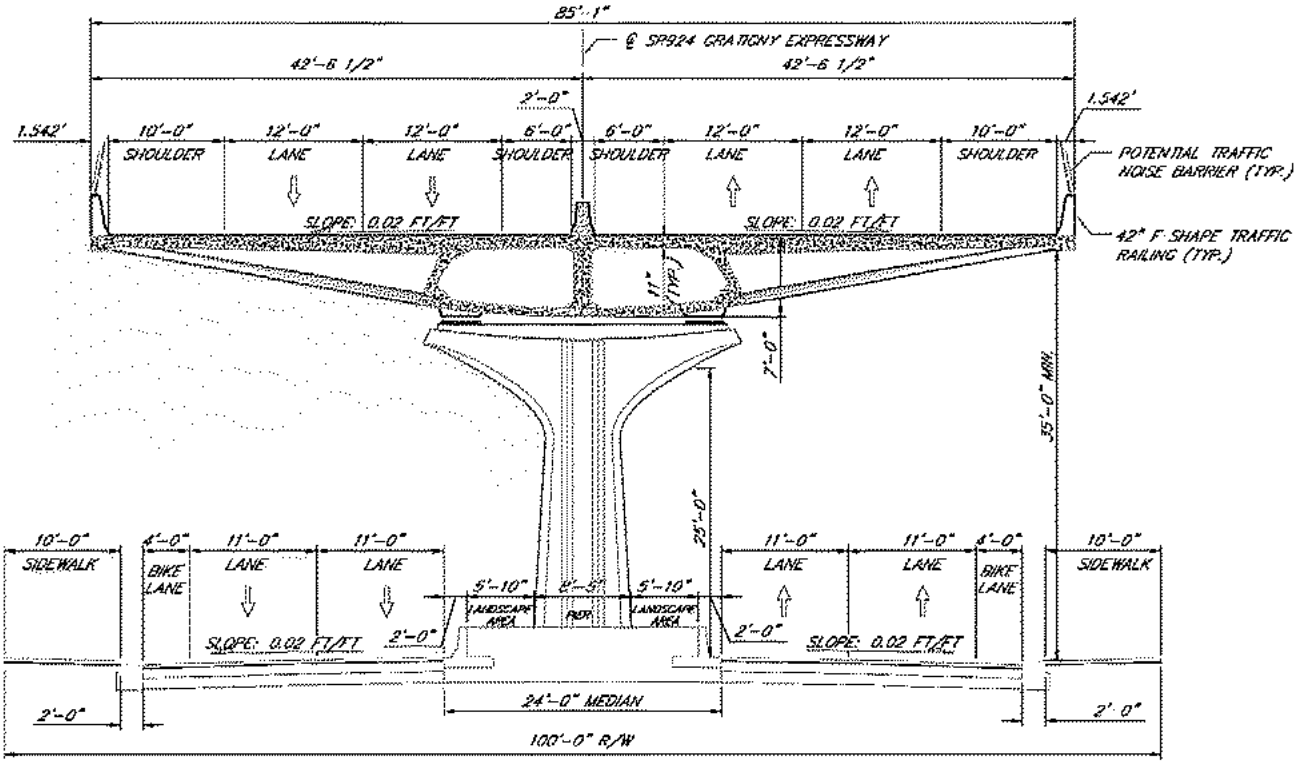
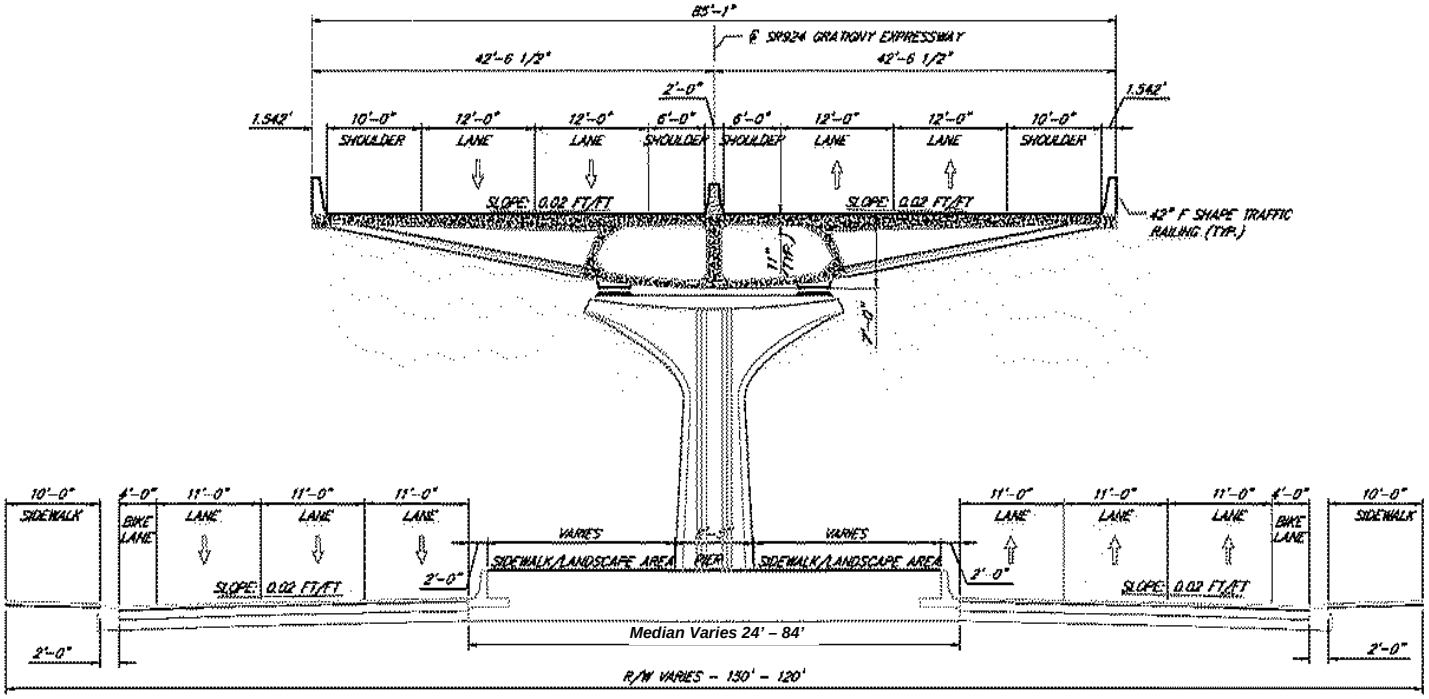


Figure 5-10 | Recommended Alternative Traffic Arrangement – NW 32nd Avenue to NW 27th Avenue



5.11.1.3 Minimum Horizontal Clearances

The recommended horizontal clearance of the proposed elevated structure is expected to meet and/or exceed the minimum horizontal clearance as described in the 2013 PPM Volume 1, Table 2.11.6. From NW 27th Avenue to I-95, the Recommended Alternative provides a horizontal clearance of 7 feet 10 inches on both sides of the elevated structure to the travel lanes, when there is curb and gutter and no turn lane present. When there is a turn lane, the piers are shifted and protect by a barrier wall on the side adjacent to the travel lane. The horizontal clearance increases to 21 feet on both sides of the elevated structure to the existing right-of-way lines between NW 32nd Avenue to NW 27th Avenue.

The median width will range from a minimum of 24 feet to a maximum of 84 feet. In cases where the median is narrowed to accommodate a turn lane, and the 6 feet from inside traffic lane cannot be met, the curb and gutter will transition into a barrier wall to protect the travel lane from the pier.

5.11.1.4 Disposition of Existing Structure

Any land clearing uncovering utility structures (not in service) and/or construction debris while completing structure foundation must be characterized for proper disposal. Potentially hazardous

materials must be properly managed in accordance with chapter 62-730, Florida Administrative Code. In addition, any solid wastes or other non-hazardous debris must be managed in accordance with Chapter 62-701, Florida Administrative Code. Petroleum cleanups must be managed in accordance with Chapter 62-770, Florida Administrative Code.

5.11.1.5 Vertical and Horizontal Geometry

The horizontal geometry of the elevated structure is predominantly straight helping to reduce construction cost. Horizontal curvature of the elevated structure is limited to the alignment of the at-grade NW 119th Street where four horizontal curves are found. However, those curves do not affect the overall straightness of the elevated structure. Except at on and off ramp locations, the horizontal geometry of the elevated structure is defined by a constant 81-foot, 5-inch wide deck spanning along the SR 924 corridor. The cross slopes along the elevated structure were evaluated to have a minimum of 0.02 ft/ft.

The vertical geometry of the elevated structure is also relatively straight with vertical clearance constant along the SR 924 corridor, with the exception of the connection to the existing Gratigny Parkway Extension west of NW 32nd Avenue, where an access ramp would need to be built to match existing road conditions. The minimum vertical clearances over NW 119th Street will exceed 16 feet 6 inches per the FDOT, PPM Table 2.10.1. A minimum vertical clearance of approximately 30 feet will be provided for the viaduct over NW 119th Street.

5.11.1.6 Typical Section

The typical section of the proposed elevated structure over NW 119th Street consists of an 81-foot 5-inch wide slab and 7-foot deep concrete box girder. It is a four-lane divided expressway section, which provides for four 12-foot wide lanes, two outer 10-foot wide shoulders and two inner 6-foot wide shoulders. A 2-foot concrete median barrier is placed in the middle of the cross section. The minimum standard expressway vertical clearance over the NW 119th Street is 30 feet. **Figures 5-11** and **5-12** summarize the typical section of the concrete box girder at different locations.

Figure 5-11 | Typical Section: Concrete Box Girder - NW 27th Avenue to I-95

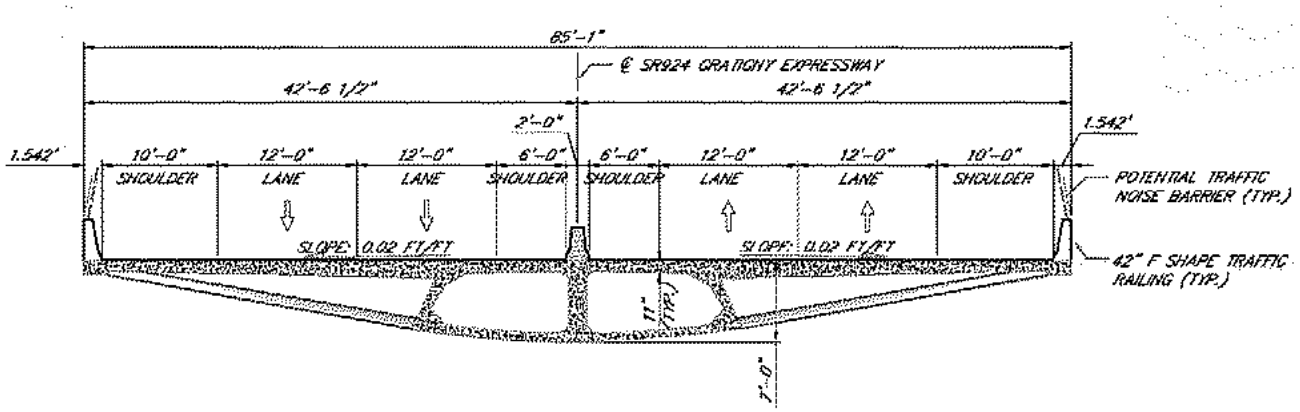
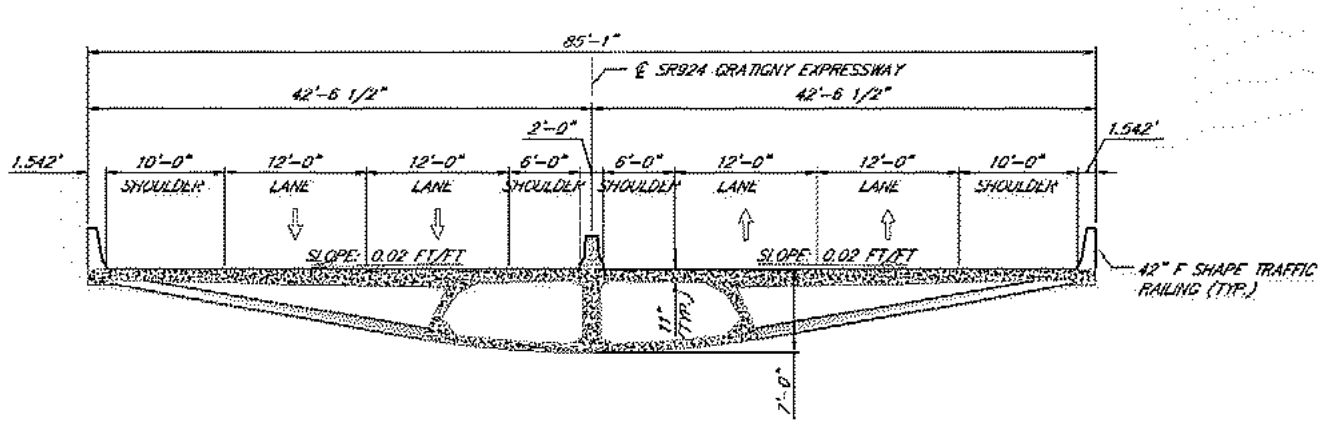


Figure 5-12 | Typical Section: Concrete Box Girder – NW 32nd Avenue to NW 27th Avenue



5.11.1.7 Structures of Historical Significance

None of the existing structures along the SR 924 corridor and/or in the surrounding area of the project are of historical relevance.

5.11.1.8 Aesthetic Level for Bridge and Bridge Approaches

An aesthetic Level Three is recommended due to the emphasis on the overall aesthetics when passing through or under the viaduct in a highly urbanized area. The bridge itself shall comply with Level Two requirements.

This proposed viaduct structure is neither critical, a landmark, nor a signature structure. However, if properly designed and proportioned, this elevated viaduct can become part of the cultural heritage of

the society to which it belongs. As a long-lasting work, it can modify its environment and affect the life of the users and observers. Its appearance depends on its structural elements, its formal relationships, and on the relation between the whole and the place. Enclosed on its urban environment, this structure blends the form and the content focusing on economy and structural efficiency leaving a transparent bridge which avoids the confinement effect of an urban elevated structure.

As a result, piers are designed as an engineering sculpture. The deck is curved to create smooth surfaces and ribs are introduced to create rhythm and create voids, reducing the volume of the deck. The bridge has a clear identity but does not dominate the existing urban environment. **Figure 5-13** shows the negative impact of a standard viaduct inside the urban environment. This type of standard solution should not be used in an urbanscape, even if the cost of construction is less. If properly designed and proportioned, this structure can become in a landmark structure future generations as it integrates within the environment.

Figure 5-13 | Confinement Effect of a Viaduct on Urban Environment



5.11.1.9 Bridge Hydraulic Report

The Rio Vista Canal along the NW 119th Street corridor is deemed to remain with no structural modification. Therefore, a bridge hydraulic report is not required.

5.11.1.10 Bridge Deck Drainage Considerations

The bridge deck was evaluated to minimize maintenance and hazardous operations such as spread of water on top of the traveled way. Transversal and longitudinal drainage of the deck including shoulders is attained by providing cross slope or sufficient superelevation in the longitudinal direction for positive drainage. The minimum cross slope is 0.02 ft/ft. The rain water runoff of the deck is necessary to intercept it at intermediate points along the 170-foot span where it is collected and routed to inlets located near pier supports. No longitudinal piping needs to be attached and/or provided on the superstructure. Final drainage of the deck needs to tie into the overall drainage system of NW 119th Street. The ultimate disposal of deck runoff needs to be consistent with environmental and safety regulations where direct discharge to roadway below is not permitted.

5.11.1.11 Stream Bottom Profile

The Rio Vista canal along the NW 119th Street corridor is deemed to remain with no structural modification. Therefore, a stream bottom profile is not required.

5.11.1.12 Conceptual Geotechnical Data

Limestones normally found in the Miami area are much softer than the hard rock formations found elsewhere in the United States. Approximately at 50 feet below ground level a fined grained limestone layer is usually found in the Miami area. Studies in the United States have demonstrated that high end bearing and side resistance can be achieved from limestone strata. Design guidelines are recommended for this project since it can accommodate different ranges of soil conditions and can provide a more cost effective approach of deep foundations. Two types of deep foundations were evaluated for use in this project, 60-inch diameter drilled concrete shafts and 24-inch prestressed/precast concrete square piles.

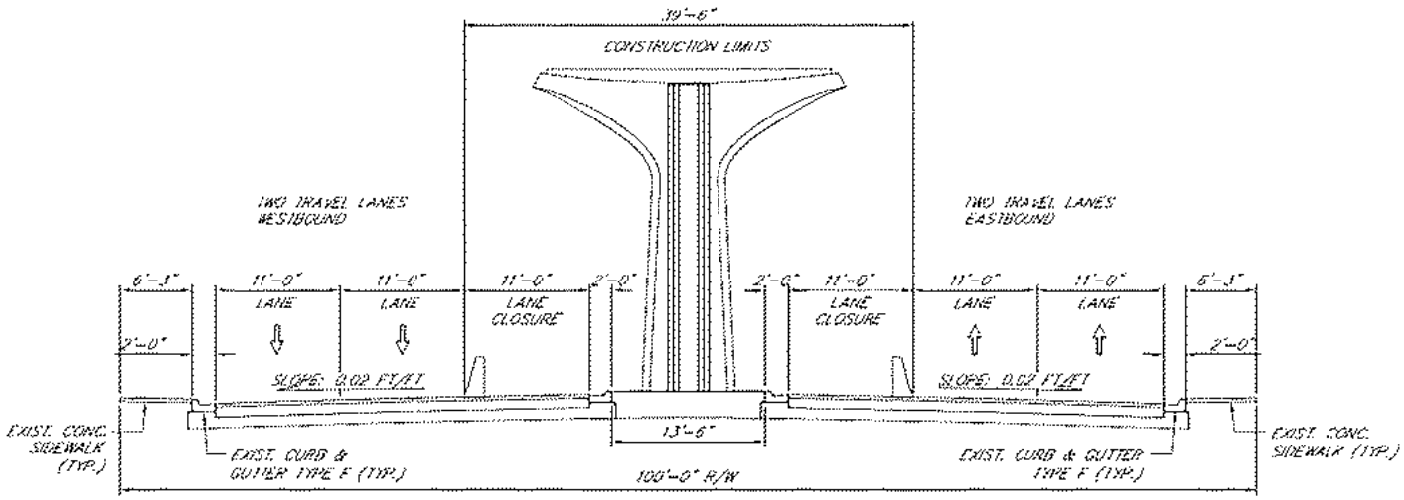
5.11.1.13 Phase Construction Impacts

The typical viaduct span length is 170 feet. For such span, the most economical and recommended method of construction is balance cantilever, but span-by-span construction can be viable. The bridge can be either built cast-in-place or using pre-cast segments. Top down construction is recommended to minimize the disturbances to local traffic during construction such as lane shifts and closures.

5.11.1.14 Sequence of Construction and Maintenance of Traffic

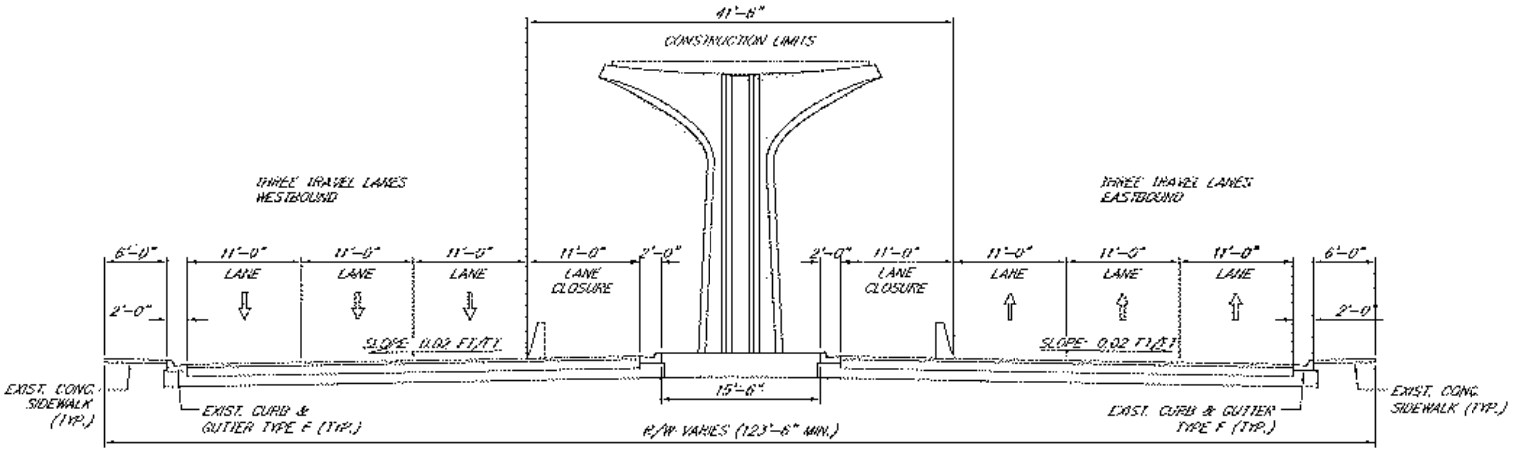
As discussed in Section 4.4.2.3, the concrete box girder can be built in two phases (core and cantilevers) or in a single section with the wings or partial wings attached. The MOT phasing for the construction of the concrete box built in two phases (core and cantilevers) using balanced cantilever method is shown in **Figures 5-14** through **Figure 5-21** below.

Figure 5-14 | Construction and MOT of the Concrete Box Girder – Phase IA – NW 27th Avenue to I-95



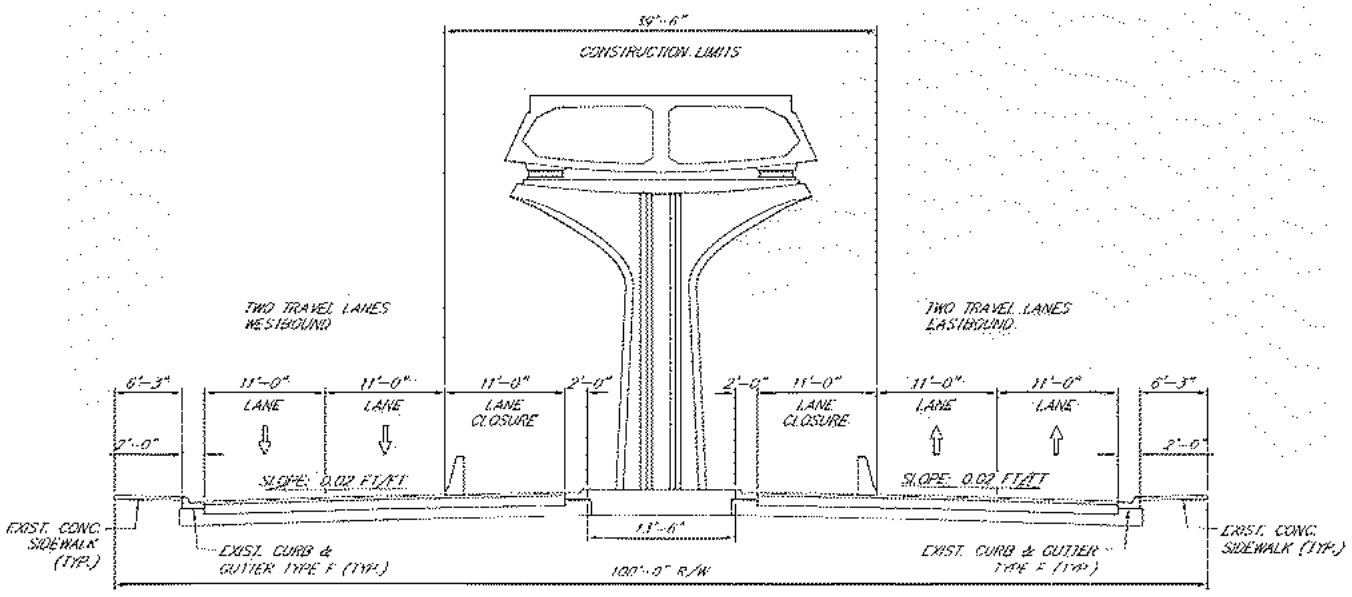
PHASE IA: CONSTRUCTION OF SUBSTRUCTURE
SR-924/NW 119th STREET/GRATIGNY ROAD
SR-9/NW 27th AVENUE/UNITY BLVD TO SR-9A/I-95

Figure 5-15 | Construction and MOT of the Concrete Box Girder – Phase IA – NW 32nd Avenue to NW 27th Avenue



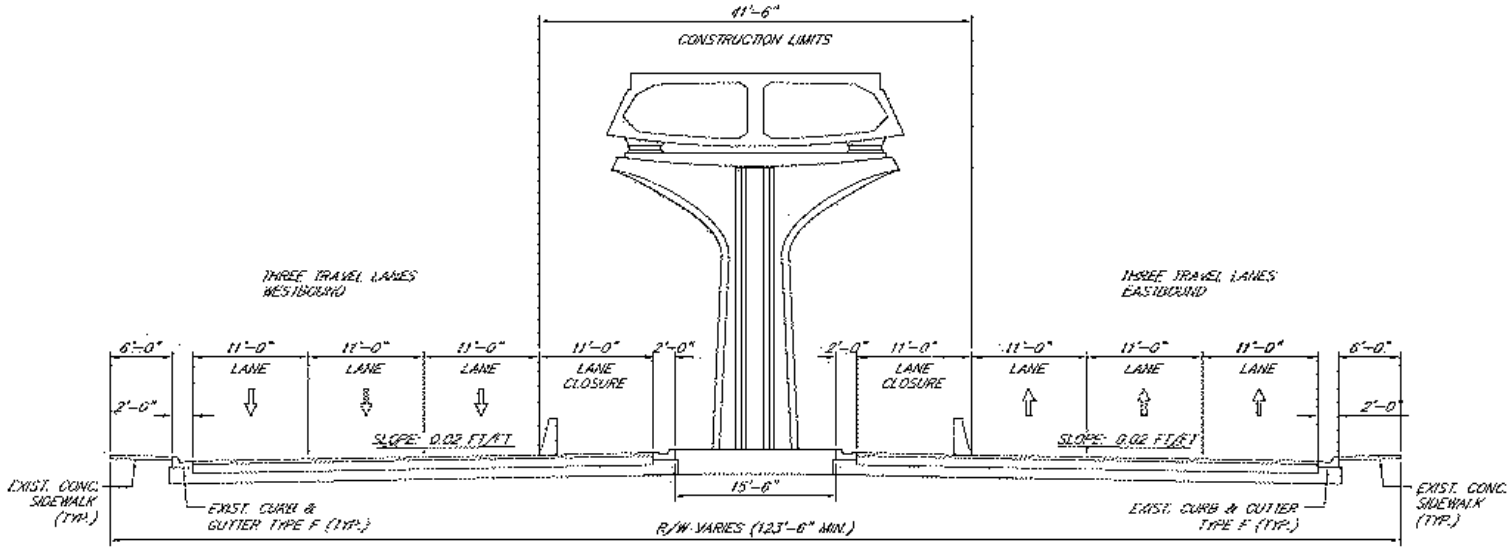
PHASE IA: CONSTRUCTION OF SUBSTRUCTURE
SR-924/NW 119th STREET/GRATIGNY ROAD
NW 32nd AVENUE TO SR-9/NW 27th AVENUE/UNITY BLVD

Figure 5-16 | Construction and MOT of the Concrete Box Girder – Phase IB – NW 27th Avenue to I-95



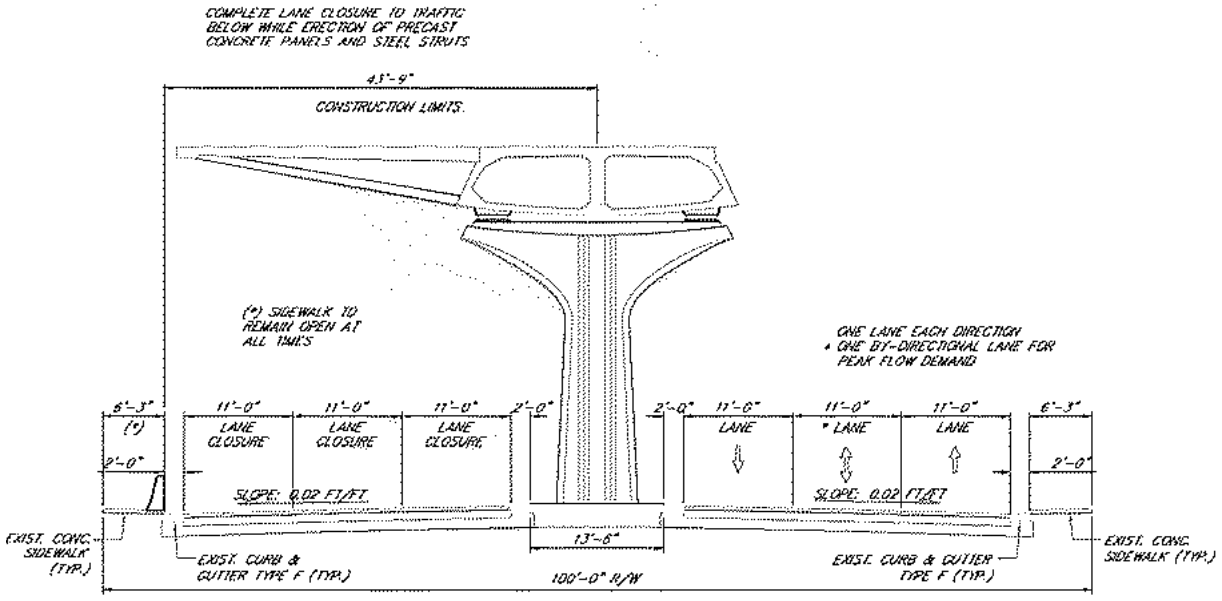
PHASE IB: ERECTION OF CONCRETE BOX GIRDER
SR-924/NW 119th STREET/GRATIGNY ROAD
SR-9/NW 27th AVENUE/UNITY BLVD TO SR-9A/I-95

Figure 5-17 | Construction and MOT of the Concrete Box Girder – Phase IB – NW 32nd Avenue and NW 27th Avenue



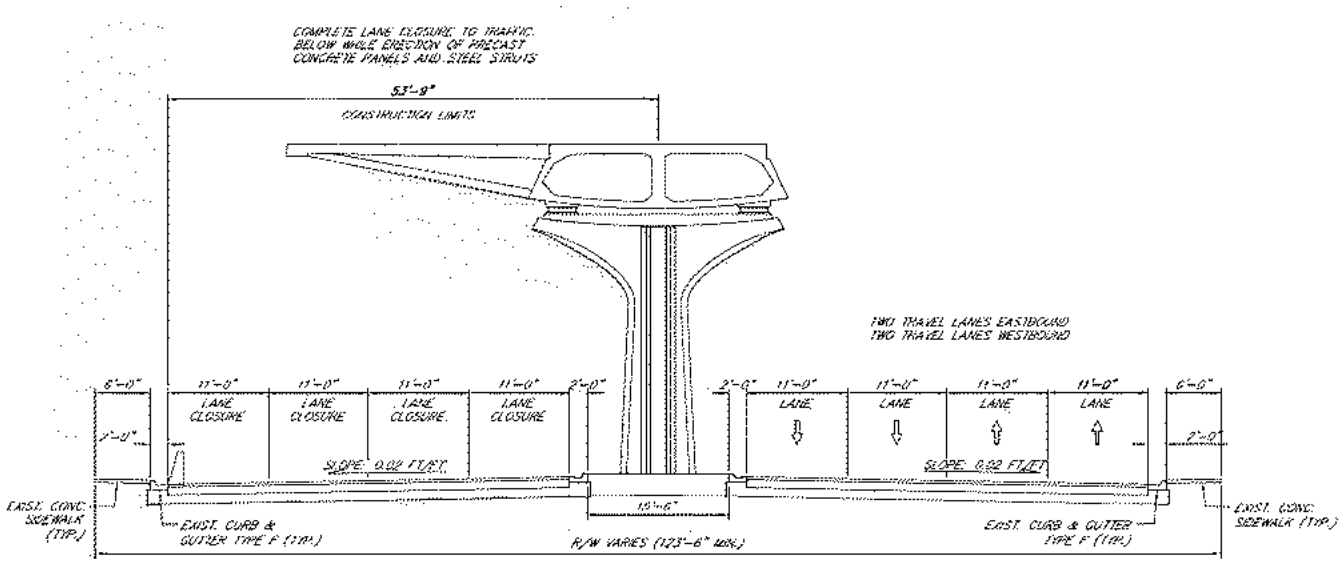
PHASE IB: ERECTION OF CONCRETE BOX GIRDER
SR-924/NW 119th STREET/GRATIGNY ROAD
NW 32nd AVENUE TO SR-9/NW 27th AVENUE/UNITY BLVD

Figure 5-18 | Construction and MOT of the Concrete Box Girder – Phase IIA – NW 27th Avenue to I-95



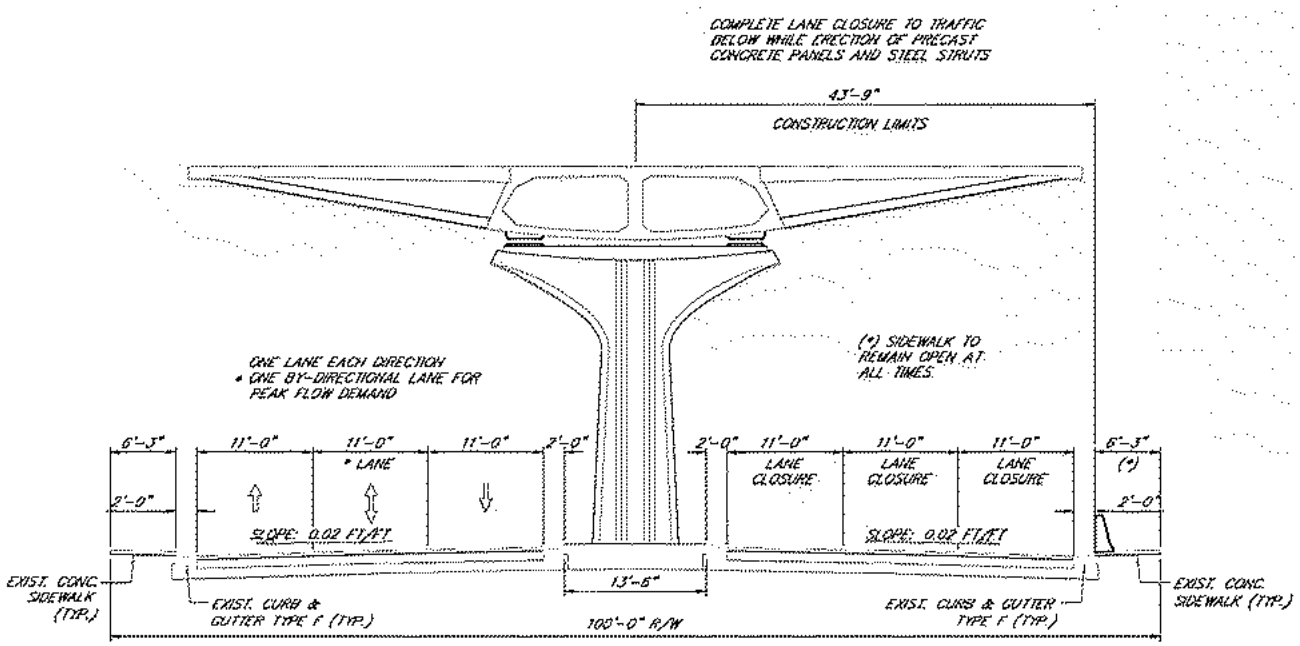
PHASE IIA: ERECTION OF PRECAST PANELS AND STEEL STRUTS (WESTBOUND)
SR-924/NW 119th STREET/GRATIGNY ROAD
SR-9/NW 27th AVENUE/UNITY BLVD TO SR-9A/I-95

Figure 5-19 | Construction and MOT of the Concrete Box Girder – Phase IIA – NW 32nd Avenue to NW 27th Avenue



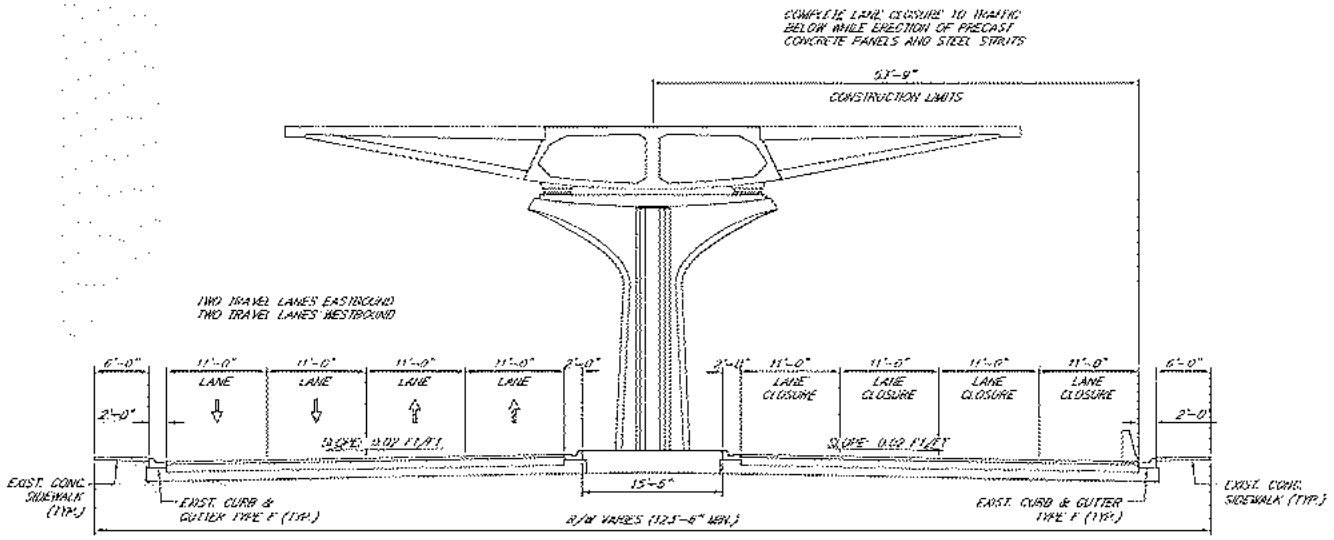
PHASE IIA: ERECTION OF PRECAST PANELS AND STEEL STRUTS (WESTBOUND)
SR-924/NW 119th STREET/GRATIGNY ROAD
NW 32nd AVENUE TO SR-9/NW 27th AVENUE/UNITY BLVD

Figure 5-20 | Construction and MOT of the Concrete Box Girder – Phase IIB – NW 27th Avenue to I-95



PHASE IIB: ERECTION OF PRECAST PANELS AND STEEL STRUTS (EASTBOUND)
SR-924/NW 119th STREET/GRATIGNY ROAD
SR-9/NW 27th AVENUE/UNITY BLVD TO SR-9A/I-95

Figure 5-21 | Construction and MOT of the Concrete Box Girder – Phase IIB – NW 32nd Avenue to NW 27th Avenue



PHASE IIB: ERECTION OF PRECAST PANELS AND STEEL STRUTS (EASTBOUND)
SR-924/NW 119th STREET/GRATIGNY ROAD
NW 32nd AVENUE TO SR-9/NW 27th AVENUE/UNITY BLVD

For final improvements on the Gratigny Parkway east extension, west of NW 32nd Avenue to I-95, please refer to **Figures 5-9** and **5-10.**

As discussed in Section 4.4.2.3, the concrete box girder can also be built in a single section. The MOT phasing for the construction of the concrete box built in one single phase using balanced cantilever method will combine the impacts of **Figures 5-18** and **5-20** for NW27th Avenue to I-95 and **Figures 5-19** and **5-21** for NW 32nd Avenue to NW 27th Avenue. In this scenario, construction can occur by closing a section at a time (for example, one span on either side of the road to be erected to allow for construction equipment and material testing) during the night or off-peak periods that will maximize access to local traffic and pedestrians.

5.11.2 Gratigny Parkway / I-95 Interchange

The Recommended Alternative consists of concrete segmental bridges, although steel box girders are viable and cost competitive. For the I-95 Interchange ramp bridges, during final design, a Bridge Development Report will be needed to determine the viability and the cost comparison between both the steel and concrete segmental options. For this PD&E Study, a concrete segmental bridge is preferred since the impacts to existing traffic during construction are minimized over the steel box girder bridge.

5.11.2.1 Environmental and Site Considerations

Potential environmental impacts for the project are discussed in the *Type II Categorical Exclusion*. Adherence to all applicable state and local regulations will minimize these impacts specifically through the use of the FDOT Standard Specifications for Road and Bridge Construction.

5.11.2.2 Minimum Vertical Clearances

The recommended clearances for the 2nd, 3rd, and 4th level ramp bridges are expected to meet and/or exceed the minimum vertical clearance of 16.5 feet as described in the 2013 PPM Volume 1, Table 2.10.1.

For the bridge widening discussed in Section 4.4.3.3, it is anticipated that the existing vertical clearances will be maintained with the proposed southbound widening for the bridges at NW 111th Street and NW 125th Street. To maintain the existing vertical clearances, the depths of the proposed FIB-36 beams will require modification and permission from FDOT Central Office. As another alternative, a special beam design or different beam type may be required to maintain existing vertical clearance and will need

further evaluation during final design. For the northbound widening, the existing vertical clearances are expected to be maintained and even improved due to the proposed FIB-36 beam which is shallower than the existing beams.

While I-95 proper is not being modified there are existing bridges that will need to be widened to accommodate the auxiliary lanes for the exit and entrance ramps. Some of these existing bridges do not have the required vertical clearance today so when they are widened it will be necessary to secure design exceptions for the areas where we will not be providing the proper vertical clearance. Every practicable measure will be taken to provide as much clearance as possible, such as using a shallower structure depth for the bridge widening areas where possible.

5.11.2.3 Minimum Horizontal Clearances

The recommended horizontal clearance of the proposed ramp bridges are expected to meet and/or exceed the minimum horizontal clearance as described in the 2013 PPM Volume 1, Section 2.11.

For the bridge widenings discussed in Section 2.18 and Section 4.4.3.1, the existing minimum horizontal clearances are expected to be maintained.

5.11.2.4 Disposition of Existing Structure

Any land clearing uncovering utility structures (not in service) and/or construction debris while completing structure foundation must be characterized for proper disposal. Potentially hazardous materials must be properly managed in accordance with Chapter 62-730, Florida Administrative Code. In addition, any solid wastes or other non-hazardous debris must be managed in accordance with Chapter 62-701, Florida Administrative Code. Petroleum cleanups must be managed in accordance with Chapter 62-770, Florida Administrative Code.

The widening of existing bridges discussed in Section 4.4.3.3 will require removal of existing structure. For these bridges, an asbestos survey would need to be performed to determine if there are any materials that will require special handling.

5.11.2.5 Vertical and Horizontal Geometry

The I-95 southbound to Gratigny Parkway westbound single lane ramp has a 40 MPH design speed, a 570-foot radius curve with a corresponding superelevation of 9.4 percent. The right shoulder width, in direction of travel, is 12 feet wide to provide the required 305 feet of stopping sight distance (NOTE: The

typical sections are shown in direction of stationing). The ramp lane width and left shoulder width are 15 feet and 6 feet, respectively, which are the standard minimums for single lane interstate ramps.

The Gratigny Parkway eastbound to I-95 southbound dual lane ramp also has a 40 MPH design speed with radius of 700 feet and a corresponding superelevation of 8.5 percent. The right shoulder width, in direction of travel, is 12 feet wide to provide the required 305 feet of stopping sight distance. The ramp lane width and left shoulder width are 24 feet and 6 feet, respectively, which are the standard minimums for dual lane interstate ramps.

The I-95 northbound to Gratigny Parkway westbound dual lane ramp has a design speed of 45 MPH, a 900-foot radius curve with a corresponding superelevation of 8.5 percent. The right shoulder width, in direction of travel, is 12 feet wide to provide the required 360 feet of stopping sight distance. The ramp lane width and left shoulder width are 24 feet and 6 feet, respectively, which are the standard minimums for dual lane interstate ramps.

The Gratigny Parkway eastbound to I-95 northbound single lane ramp has a design speed of 45 MPH, a radius of 800 feet and a corresponding superelevation of 9.0 percent. The right shoulder width, in direction of travel, is 12 feet wide to provide the required 360 feet of stopping sight distance. The ramp lane width and left shoulder width are 15 feet and 6 feet, respectively, which are the standard minimums for single lane interstate ramps.

Lastly, the I-95 southbound to NW 103rd Street ramp is a single lane ramp designed at 45 MPH. The curvature of this ramp varies with a minimum radius of 1910 feet. The maximum superelevation for this ramp is 4.9%. The ramp lane width is the standard 15 feet with 6-foot left and right shoulders.

The I-95 southbound to Gratigny Parkway westbound and Gratigny Parkway eastbound to I-95 southbound ramps have maximum grades of 6 percent with minimum vertical curves lengths of 120 feet. The I-95 northbound to Gratigny Parkway westbound, Gratigny Parkway eastbound to I-95 northbound, and I-95 southbound to NW 103rd Street ramps have maximum grades of 5 percent with minimum vertical curve lengths of 135 feet.

5.11.2.6 Typical Section

The typical sections of the proposed interchange ramps are included in Appendix D.

5.11.2.7 Structures of Historical Significance

None of the existing structures along the SR 924 corridor and/or in the surrounding area of the project are of historical relevance.

5.11.2.8 Aesthetic Level for Bridge and Bridge Approaches

The box girder shape has been selected for its aesthetic value. An aesthetic Level Two is selected due to the emphasis in this level to the overall aesthetics when passing through or under the ramps in a highly urbanized area. Two of the bridges are 3rd level ramp bridges and another bridge is a 4th level ramp bridge. Therefore, traditional bridge types, such as pre-cast concrete I-beams and/or steel I- girders have been ruled out as they provide poor aesthetics in an urban environment and do not satisfy Level Two requirements.

For the bridge widening, aesthetic Level One is used since these are existing 2nd level AASHTO beam bridges.

5.11.2.9 Bridge Hydraulic Report

The proposed ramps do not impact any canal or waterways; therefore, a Bridge Hydraulic Report is not required.

5.11.2.10 Bridge Deck Drainage Considerations

Bridge decks will require inlets and a collection system to carry the runoff to a pier for discharging. The spacing and size of the inlets will need to be determined during the design phase. The ultimate disposal of deck runoff needs to be consistent with environmental and safety regulations where direct discharge to the roadway below is not permitted.

5.11.2.11 Stream Bottom Profile

The proposed ramps do not impact any canal or waterway; therefore, this requirement is not applicable.

5.11.2.12 Conceptual Geotechnical Data

A total of 15 borings along the Elevated Viaduct alignment were taken. Borings were not taken at the interchange ramp locations; however, the existing geology within the I-95 interchange area is expected to be very similar to that identified along the viaduct section along NW 119th Street. The *Geotechnical Report for Bridge Structure* is provided in Appendix C.

5.11.2.13 Phase Construction Impacts

It is anticipated that the Gratigny Parkway/I-95 Interchange flyovers could be constructed as top-down via an elevated gantry, in a scenario where concrete segmental is the chosen structural method. This construction method would minimize impacts to traffic along I-95 below.

For the bridge widening, conventional bridge widening phased construction is expected to be utilized.

5.11.2.14 Sequence of Construction and Maintenance of Traffic

No specific construction sequencing will be specified as all Gratigny Parkway/I-95 flyover ramps are new and all existing ramp movements will remain throughout construction of the new flyovers.

5.12 Special Feature

5.12.1 Noise Barriers

A *Noise Study Report* was prepared for the project which predicted noise impacts and analyzed potential locations for noise barriers. The noise study considered noise barriers at each of the impacted sites along NW 119th Street. For various reasons, noise barriers were only found reasonable or feasible per FDOT's and FHWA's Noise Abatement Criteria at one location along NW 119th Street. A noise barrier at this location is recommended for further consideration during the design phase and public input. The existing noise barriers along I-95 northbound lanes will need to be replaced if impacted by the proposed ramps to and from I-95. The replacement barriers would be designed to match the current noise reduction if possible based on the latest noise barrier design standards. For more information regarding noise impacts and barriers, please see the *Noise Study Report*.

Noise barriers will be constructed following the guidelines of the FDOT Standard Index 5200 series, the MDX enhancements manual, and specification 400 of the Standard Specification for Roadway and Bridge Construction. However, a transparent 4-foot, 6-inches noise barrier was evaluated to be placed on top of the 42-inch F Shape Traffic Railing Barrier, for a total noise barrier height of 8-feet. A special provision from the FDOT would be required to authorize the use of a non-standard noise barrier on top of the traffic railing barrier.

The 4-foot, 6-inches transparent noise barrier option provides the required noise reduction at the least cost per benefited receiver. It also induces lower loads on the superstructure and provides a clean view

to the adjacent areas. **Figure 5-22** shows a transparent noise barrier placed at the Millau Viaduct in France.

Figure 5-22 | Transparent Noise Barrier at Millau Viaduct (France)





5.13 Access Management

The Gratigny Parkway East Extension will have an access management classification of 1 (Freeway). It will be designated as part of the NHS, FIHS, SIS, and State Highway System.

The access management classification on NW 119th Street between NW 32nd Avenue and I-95 is currently class three and is proposed to be class five. The table below demonstrates the Access Management Plan proposed for the reconfigured NW 119th Street (4 to 6-lane roadway) between NW 32nd Avenue and I-95. This table documents the required access management variations that will be further documented during the Final Design Phase.

Table 5-12 | NW 119th Street Recommended Alternative Access Management Plan (Class 5)

Intersection/Median Opening Location	Station	Median Opening Type	Signalized (Y/N?)	Spacing to next Opening Towards the East (FT)	Minimum Median Spacing per PPM Table 1.8.2 (FT)	Minimum Signalized Intersection Spacing per PPM Table 1.8.2 (FT)	Access Mgmt Variations Required for Violation of Corresponding Spacing to Next Location
NW 32nd Avenue	201400	Full	Y	850	1320	1320	Median Opening
NW 30th Place/Lake Road	202250	Full	Y	1330	1320	1320	None
NW 27th Place	203580	Full	Y	520	1320	1320	Median Opening and Signalized Intersection
NW 27th Avenue	204100	Full	Y	675	660	1320	Signalized Intersection
West Golf Drive	204775	Directional	N	325	660	1320	Median Opening
Westview Driveway	205100	Directional	N	400	660	1320	Median Opening
East Golf Drive	205500	Directional	N	1325	660	1320	None
NW 22nd Avenue	206825	Full	Y	1325	660	1320	None
NW 19th Avenue	208150	Full	N	1330	660	1320	None
NW 17th Avenue	209480	Full	Y	1320	660	1320	None
NW 15th/14th Avenue	210800	Full	N	1350	1320	1320	None
NW 12th Avenue	212150	Full	Y	1350	1320	1320	None
NW 10th Avenue	213500	Full	Y	1250	1320	1320	Median Opening and Signalized Intersection
NW 7th Avenue	214750	Full	Y	400	660	1320	Median Opening and Signalized Intersection
I-95 NB Entrance Ramp	215150	Directional	N	250	660	1320	Median Opening and Signalized Intersection
I-95 SB Exit Ramp/NW 6th Ave.	215400	Full	Y	N/A	660	1320	N/A

6.0 List of Technical Reports Completed for the Project

Air Quality Report

Conceptual Stage Relocation Plan

Contamination Level 1 Screening Report

Cultural Resources Assessment Survey

Design Traffic Technical Memorandum

Endangered Species Biological Assessment

Environmental Justice Report

Existing Conditions Traffic Report

Geotechnical Report for Bridge Structure

Interchange Justification Report

Noise Study Report

Preliminary Drainage Report

Report of Borehole Exfiltration and Double Ring Infiltration Testing

Safety Analysis Report

Sociocultural Effects Evaluation

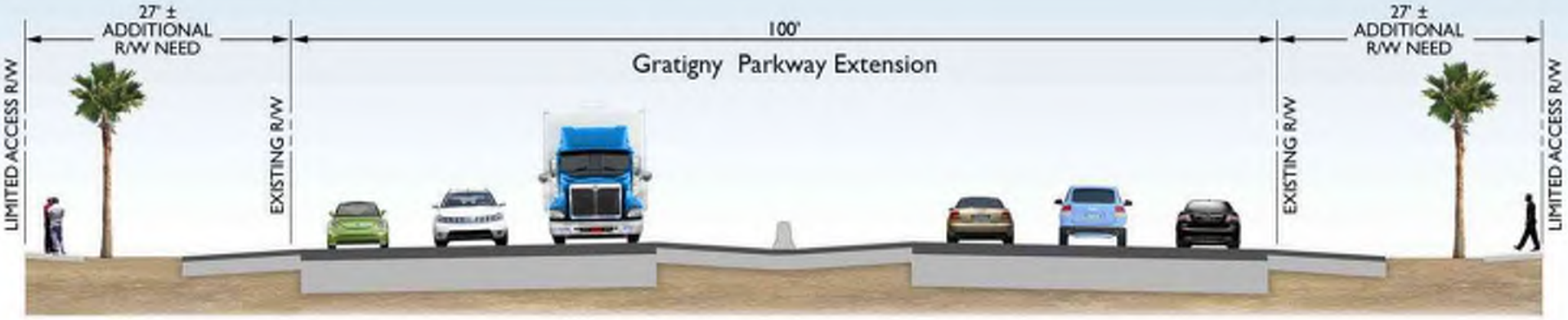
Type II Categorical Exclusion

Visual Quality Report

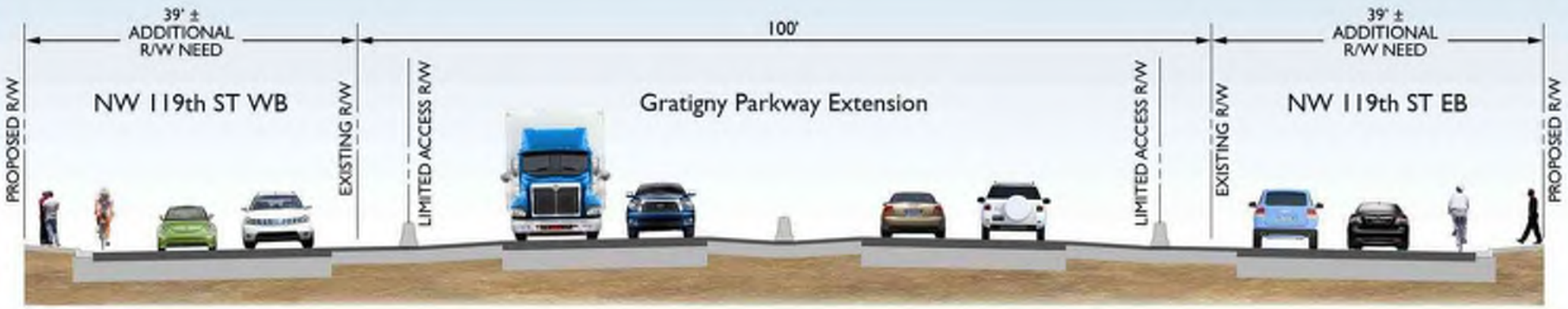
Appendix A: Typical Section Alternatives



TYPICAL SECTION No. 1



TYPICAL SECTION No. 2



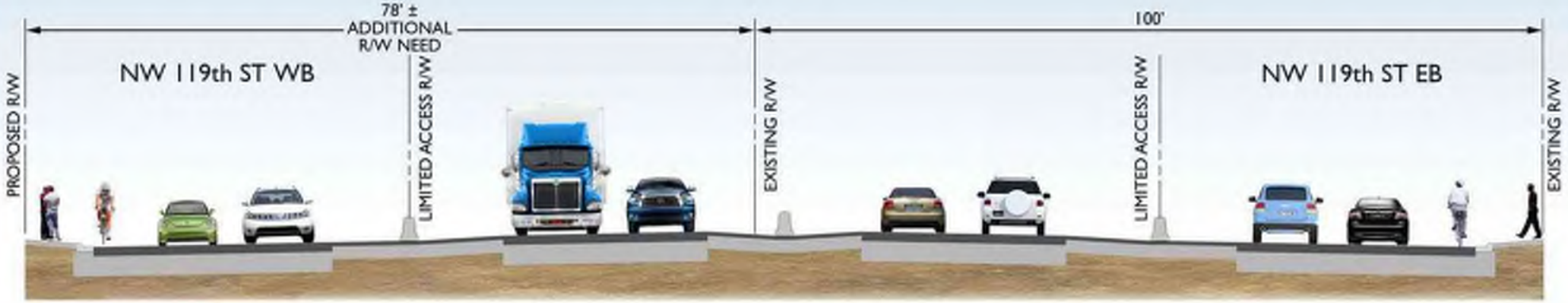
TYPICAL SECTION No. 3

Gratigny Parkway Extension



TYPICAL SECTION No. 4

Gratigny Parkway Extension



TYPICAL SECTION No. 5

Appendix B: Coordination Documents

From: Suero, Will
To: "Winston.Harris@rsandh.com"; Schnell, Steven; "julieta.rivero@rsandh.com"; Williams, Aubyn;
Subject: Fw: 92407 - Preferred Alternative Selection and Analysis - I-95 Interchange
Date: Thursday, May 10, 2012 12:41:22 PM

Good news. Please see below and move forward with the PER and IJR accordingly.

Julieta/Winston, please provide your schedule for submittal of the IJR to fdot. Reminder that we were scheduled to submit by 1st of May. Please push as much as possible.

Thank you!

From: Mayra Diaz [mailto:mdiaz@mdxway.com]
Sent: Thursday, May 10, 2012 11:17 AM
To: Luis Rodriguez <lrodriguez@bcceng.com>; Suero, Will
Cc: Juan Villalba <jvillalba@HNTB.com>; Juan Toledo <jtoledo@mdxway.com>; Odalys Delgado <odelgado@HNTB.com>
Subject: RE: 92407 - Preferred Alternative Selection and Analysis - I-95 Interchange

Team,
Per the discussion with Alfred and Juan this morning, alternative I95-6 should be moved forward as the preferred alternative. HDR needs to review/refine the concept to minimize ROW impacts and construction cost. CORSIM analysis will be performed for this alternative only.

Regarding the 27th avenue, we had decided already to move forward with alternative 27-BA based on forecasted traffic volumes and minimized ROW.

Thank you,

Mayra Diaz
Planning Manager | Miami Dade Expressway Authority
305.637.3277 x2118 | mdiaz@mdxway.com | www.mdxway.com

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Mayra Diaz
Planning Manager
305.637.3277 x2118

From: Mayra Diaz
Sent: Tuesday, May 08, 2012 12:19 PM
To: 'Luis Rodriguez'
Cc: Juan Villalba
Subject: RE: 92407 - Preferred Alternative Selection and Analysis - I-95 Interchange

Thank you, Luis.

As discussed, please send me more detailed plans at I-95, the concepts for 27th avenue and the traffic numbers for my internal meeting. Thanks!

From: Luis Rodriguez [mailto:lrodriguez@bcceng.com]
Sent: Friday, May 04, 2012 2:59 PM
To: Mayra Diaz
Cc: Juan Villalba; Juan Toledo; Odalys Delgado
Subject: 92407 - Preferred Alternative Selection and Analysis - I-95 Interchange

Mayra,

Following yesterday's meeting with Juan Villalba and Juan Toledo, the following is the plan of action of the SR-924 system-to-system interchange at I-95.

1. There are two alternatives under consideration after screening:
   a. Alt 95-3A – Direct connection for SR-924 EB to I-95 SB movement which has expected operational deficiencies due to weaving configuration and traffic volumes
   b. Alt 95-6 – Braided ramp to eliminate weaving movement between SR-924 EB to I-95 SB movement and the SB traffic exiting at NW 103rd Street
2. A phased approach to the project will be used
3. HDR will review the concept for Alt 95-6 to minimize R/W impacts and try to match to the extent possible the R/W impacts of Alt 95-3A on the west side of the I-95 mainline

4. Alt 95-6 will be analyzed using Corsim for year 2040 as the ultimate configuration (already included in the scope)
5. Alt 95-3A will be analyzed as an interim condition as follows (additional scope):
    a. The traffic numbers for year 2030 will be verified to determine if a one-lane ramp for the SR-924 EB to I-95 SB movement is feasible
    b. If a one-lane ramp is feasible for this movement then the Corsim analysis will be conducted for year 2030 using a one-lane ramp
6. Both alternatives will be documents on the IJR
7. After HDR develops alignments, BCC Eng. will refine and value engineer the alignments to ensure the most efficient alternative is developed

Please confirm this is the approach agreed upon and we will start coordinating with HDR to initiate work on this.

Regards,

Luis A. Rodriguez, P.E.
Project Manager
BCC Engineering, Inc.
7300 North Kendall Drive, Suite 400
Miami, Florida 33156
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Appendix C: Geotechnical Report for Bridge Structure

PROJECT DEVELOPMENT AND ENVIRONMENTAL (PD&E) STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95 MIAMI-DADE COUNTY, FLORIDA MDX WORK PROGRAM No. 92407.011

GEOTECHNICAL REPORT FOR BRIDGE STRUCTURE

PREPARED FOR: HDR ENGINEERING, INC.

PREPARED BY: GEOSOL, INC.

AUGUST 16, 2011

GEOSOL, Inc.

August 16, 2011

HDR Engineering, Inc.
15450 New Barn Road, Suite 304
Miami, Florida 33014

Attention: Mr. Will Suero, P.E.
Senior Project Manager

Re: **Geotechnical Report for Bridge Structure**
Project Development and Environment (PD&E) Study Services for the
SR 924 East Extension to I-95
Miami-Dade County, Florida
MDX Work Program No. 92407.011
GEOSOL Project No. 210151

Dear Mr. Suero:

GEOSOL, Inc. (GEOSOL) is pleased to submit the enclosed geotechnical report for the proposed bridge structure associated with the above-referenced project. As we understand it, this geotechnical report will be used as documentation for the Project Development and Environmental (PD&E) studies for this project. These services were provided in accordance with the FDOT's *Soils and Foundation Handbook* (2011) and our proposal dated March 9, 2010. Authorization for our services was provided by means of a Subconsultant Agreement between HDR Engineering, Inc. and Geosol, Inc. dated June 25, 2010.

The results of the field exploration and laboratory testing programs, together with our preliminary geotechnical engineering evaluations and recommendations for the structures portion of the project are presented in the accompanying report. For the final design phase of this project, it is recommended that a final design-level geotechnical exploration program be performed in accordance with the latest version of the FDOT's *Soils and Foundations Handbook*.

GEOSOL appreciates the opportunity to submit this geotechnical report and looks forward to a successful team effort on this and future projects. If you have any questions, please do not hesitate to call our office.

Sincerely,
GEOSOL, INC.

ORACIO RICCOBONO LICENSE No. 49324 STATE OF FLORIDA PROFESSIONAL ENGINEER

Oracio Riccobono, P.E.
Senior Geotechnical Engineer/President
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cc: Addressee (5)
File (1)

GEOSOL, Inc.
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1.0 INTRODUCTION

1.1 Project Information

This study is to support the Project Development and Environmental (PD&E) study for the proposed SR 924 (Gratigny Parkway) east extension to I-95 in Miami-Dade County, Florida. We understand that the PD&E phase of the project includes preliminary engineering design and environmental study for a potential new expressway extension from the current end of the Gratigny Parkway at NW 32nd Avenue to NW 7th Avenue/I-95, generally following along NW 119th Street and potentially including direct connection with I-95.

The PD&E study will investigate two options for the extension of the Gratigny Parkway to I-95. Option 1 includes an elevated highway with single columns in the median. This option will allow through traffic to use the elevated highway in order to ease local traffic. The median could be widened to provide for livable community enhancements. Alternatively, Option 2 will include an at-grade Gratigny Parkway extension to I-95 with grade separation at major intersections. In addition, the proposed structures improvement, we understand that drainage improvements will be required. The drainage improvements will likely consist of French drains and/or ponds.

This report was specifically prepared for the proposed structures portion. This report presents our preliminary field exploration and laboratory testing programs as well as our preliminary geotechnical engineering evaluations and recommendations for the proposed structures. We previously prepared a report titled *Report of Borehole Percolation and Double Ring Infiltration Testing* dated January 18, 2011 which contained the results of percolation and double ring infiltration testing for use in preliminary drainage evaluations.

1.2 Purpose

The purpose of this preliminary study was to evaluate the underground conditions (i.e. subsoil, rock and groundwater conditions) in light of the planned bridge described above. The results of the field and laboratory testing programs together with our preliminary geotechnical engineering recommendations for the proposed bridge foundations are included in this report.

2.0 SCOPE OF STUDY

In preparation of this geotechnical report we have performed the following services:

1. Planned and executed a subsurface investigation consisting of Standard Penetration Test (SPT) borings performed for the proposed bridge structure.

2. Inspected retained soil/rock samples for visual classification and performed laboratory and corrosivity tests on selected representative samples.

3. Reviewed the field and laboratory data, then evaluated the data for various foundation systems.

4. Prepared a preliminary geotechnical engineering report for the bridge structure which summarized the results of the field and laboratory testing programs as well as preliminary foundation evaluations.

2.1 Report Format

This report begins with a discussion of the field exploration and laboratory testing programs followed by a general discussion regarding the subsurface conditions, preliminary geotechnical engineering evaluations and recommendations, construction considerations, and report limitations. The site vicinity and USDA soils survey maps are presented in Appendix "A" of this report. The Boring Location Plan sheets and Report of Core Boring sheets are presented in Appendix "B". The laboratory test results are presented in Appendix "C". The results of the preliminary bridge foundation evaluations are presented in Appendices "D". The FHWA Report Checklist is presented in Appendix "E".

3.0 SITE DESCRIPTION

The site of the study is located along SR 924 from approximately at NW 32nd Avenue to NW 7th Avenue/I-95, generally following along NW 119th Street in Miami-Dade County, Florida. The existing typical roadway section generally consists of an at-grade, divided roadway consisting of three (3) to four (4) lanes in each direction. Commercial and residential areas are generally present along SR 924 (NW 119th Street) within the project limits.

4.0 FIELD EXPLORATION

4.1 General

A field exploration program was conducted consisting of Standard Penetration Test (SPT) borings for the proposed bridge. Specifically, a total of fifteen (15) SPT borings (BR-1 through BR-15) were performed in the median of SR 924 (NW 119th Street) for the proposed bridge to depths of 100 feet below existing grades. At this stage of the project, the foundation locations have not been established yet. Therefore, the SPT borings were performed at intervals of generally 1,000 feet along the median of SR 924 (NW 119th Street) where it is anticipated that the proposed bridge will be located. The SPT borings were performed as close as possible to the expected new foundation locations given the presence of existing utilities, equipment accessibility constraints and Maintenance of Traffic (MOT) issues.

4.2 Field Test Locations

The borings were located in the field by representatives of GEOSOL utilizing standard taping procedures, existing landmarks and the conceptual roadway plans provided by HDR. The test boring locations were surveyed by Manny Vera and Associates, Inc. (MVA) – the project surveyor. MVA provided "as-drilled" northing, easting and ground surface elevations at each drilled test location. At this point the alignment of the proposed Gratigny Parkway extension has not been finalized yet. Therefore, station and offset distances are not available. Table 1 of Appendix "B" presents a summary of the "as-drilled" test boring locations. Additionally, the Boring Location Plans presented on Sheets 3 through 6 in Appendix "B" present the test locations in plan view.

4.3 Standard Penetration Test (SPT)

The SPT borings on land were performed utilizing a Foremost-Mobile model B-53 truck-mounted drill rig. All SPT borings were performed using a recently calibrated automatic hammer. The SPT boring procedure was conducted in general conformance with ASTM D-1586. After seating the sampler six (6) inches, the number of successive blows required to drive the sampler twelve (12) inches into the soil constitutes the test result commonly referred to as the "N" value. The "N" value has been empirically correlated with various soil properties and is considered to be indicative of the relative density of cohensionless soils and the consistency of cohesive soils. The N-value information for each SPT boring is presented in the Report of Core Borings profiles. The recovered split spoon samples were visually classified in the field with representative portions of the samples placed in jars and transported to our office for review by a Geotechnical Engineer and confirmation of the field classification. The Report of Core Borings are shown on Sheets 7 through 11 in Appendix "B". These sheets present the boring location information, ground surface elevation, subsurface conditions and groundwater levels encountered at the time of drilling. In addition, these profiles present the results of the laboratory testing on selected representative soil samples.

4.4 Traffic Control and Signs

Barricades, cones, flagmen, sign devices, and off-duty police officers were continuously used as necessary and in general compliance with FDOT Roadway and Traffic Design Standards.

4.5 Rock Coring

For this phase of the project, rock cores were not obtained from the bridge borings performed. If drilled shafts are ultimately selected as the foundation type for support of any of the proposed bridges, rock coring will be required to perform the foundation design based on the requirements of the latest version of the FDOT's *Soils and Foundations Handbook*.

4.6 Water Level Measurements

Water level depths were obtained during the test boring operations. They are noted on the Report of Core Borings Sheets presented in Appendix "B". In relatively pervious soils/rocks, such as sandy soils and porous limestone, the indicated depths are usually reliable groundwater levels. Seasonal variations, tidal conditions, variations in the water level in nearby canals, temperature, land-use, and recent rainfall conditions may influence the depths of the groundwater.

5.0 LABORATORY TESTING

5.1 General

Representative soil and rock samples collected from the SPT borings were visually reviewed in the laboratory by a Geotechnical Engineer to confirm the field classifications. The soil samples were then classified using the Unified Soil Classification System (USCS) in general accordance with the American Society of Testing and Materials (ASTM) test designation D-2488, titled "Standard Practice for Description and Identification of Soils (Visual-Manual) Procedure" and ASTM D-2487 titled "Standard Test Method for Classification of Soils for Engineering Purposes". The soil classification was based on visual observations with the aids of laboratory testing results, which consist of grain-size analysis, percent passing the No. 200 sieve, and natural moisture content. In addition, environmental classification testing was performed on water samples obtained from SPT borings performed. The tests were performed on selected samples believed to be representative of the materials encountered. Summaries of the laboratory test results are provided in Tables 2 and 3 in Appendix "C" of this report.

5.2 Moisture Content

Laboratory moisture content test consists of the determination of the percentage of moisture contents in selected samples in general accordance with FDOT Test Designation FM1-T265 {ASTM Test Designation D-2216, titled "Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures"}. Briefly, the moisture content is determined by weighing a sample of the selected material and then drying it in a warm oven. Care is taken to use a gentle heat so as not to destroy any organics. The sample is removed from the oven and reweighed. The difference of the two weights is the amount of moisture removed from the sample. The weight of the moisture divided by the weight of the dry soil sample is the percentage by weight of moisture in the sample. The moisture content test results are presented in Table No. 2 attached in Appendix "C".

5.3 Grain-Size Analysis

The grain-size analyses were conducted in general accordance with the FDOT Test Designation FM1-T88 (ASTM Test Designation D-422, titled "Particle-Size Analysis of Soils"). The grain-size analysis test measures the percentage passing the No. 200 Sieve. In this manner, the grain-size distribution of a soil is measured. The percentage by weight passing the No. 200 sieve is the amount of silt and clay sized particles. A summary of these test results are presented on Table 2 in Appendix "C". The grain-size analysis curves are presented in Appendix "C" of this report.

5.4 Environmental Classification

As part of the laboratory testing program, environmental corrosion tests on water samples recovered from boreholes drilled for this project. Environmental corrosion tests include parameters such as pH, resistivity, sulfates content and chlorides content. The environmental corrosion tests were conducted in general accordance with the FDOT Test Designations FM5-550, 5-551, 5-552, and 5-553. Based on the FDOT's *Structures Design Guidelines*, Section 1.3, the environment in the bridge areas has been classified as slightly aggressive for the superstructures and moderately aggressive for the substructures and indicated in the Report of Core Boring Sheets in Appendix "B". The test results obtained are summarized on Table 3 in Appendix "C".

6.0 GENERALIZED SUBSURFACE CONDITIONS

6.1 Regional Geology

The Miami area of southern Florida is underlain by an alternating sequence of cemented and uncemented Pleistocene sedimentary deposits (Pleistocene Epoch, deposited 10,000 to 2 million years before the present). A near surface poorly cemented, oolitic Miami Limestone is underlain by a wide variety of loose to dense quartz sands and coarse to fine-grained limestones (Fort Thompson Formation). However, in many portions of Miami-Dade, surface sand deposits of the Pamlico Formation and man-made fill materials are encountered. The Pamlico Formation is composed of unfossiliferous, unconsolidated quartz fine sand. The man-made fill deposit generally consists of granular fill material. The thickness of these deposits is in the order of three (3) to five (5) feet. Generally, the Pamlico formation overlies the Miami Limestone Formation. In the west part of the county, portions of the Everglades interfingers with the Pamlico Formation sands. The Everglades soils consist of peat, organic silt and calcareous silt marl. Generally, the Everglades soils have a thickness in the order of three (3) to seven (7) feet and overlie the Miami Limestone Formation.

The limestones found in the Miami area are much softer than the hard rock formations found elsewhere in the U.S. Although the limestone in Miami can be very porous and have a sponge-like open interconnected network of vugs and small voids, large cavities prone to sinkhole activity are not generally found in the Miami area because the rock formations of South Florida are relatively young, as compared to those encountered in other parts of Florida.

6.2 Miami-Dade County Soil Survey

The *Soil Survey of Miami-Dade County Area, Florida*, published by the United States Department of Agriculture (USDA), was reviewed for general near-surface soil information within the general project vicinity. The map soil units encountered are described in Table "A" below.

TABLE "A" – SUMMARY OF MAP SOIL UNITS ALONG SR 924 CORRIDOR

Mapping Unit No.	Soil Name	USCS Symbol	Typical Thickness (Inches)
10	Udorthents, Limestone Substratum-Urban Land Complex	SP/SP-SM/SM	55 (Over Limestone)
15	Urban Land	SP/SP-SM/SM	55 (Over Limestone)
35	Margate Fine Sand	SP/SP-SM	36 (Over Limestone)
42	Udorthents, Limestone Substratum, 0 to 5 Percent Slopes	SP/SP-SM/SM	30 (Over Limestone)

A reproduction of the USDA map for the project site is illustrated on Sheet 2 in Appendix "A".

7.0 SITE SUBSURFACE CONDITIONS

7.1 General

The subsurface conditions encountered in the vicinity of the bridge structure locations are generally consistent with the previously described regional geology. Detailed information is presented in the form of Report of Core Borings Sheets in Appendix "B". The stratification of the profile components as shown on the boring logs represents the subsurface conditions at the actual boring locations. Variations may occur within a short distance from the borings. Lines of demarcation represent the approximate boundary between the types of materials encountered, but the transition may be gradual, or not clearly defined. It is to be noted that, whereas the test borings are drilled and sampled by experienced drillers, it is sometimes difficult to record changes in stratification within narrow limits.

7.2 Groundwater Conditions

The groundwater table was measured at each boring location during the performance of the test borings and confirmed immediately following completion of drilling operations between the months of January and February, 2011. The borings were performed during the dry season. The elevations to the "static" groundwater table within the structural borings were measured after a short stabilization period and were measured to range from approximately +1.8 to +2.5 feet (NGVD, 1929), with an average elevation of about +2.2 feet (NGVD, 1929). The Report of Core Boring sheets presented in Appendix "B" show the groundwater table information at each boring location. In relatively pervious soils/rocks, such as sandy soils and porous limestone, the indicated depths are usually reliable groundwater levels. Fluctuation in the observed groundwater levels should be expected due to rainfall variation, construction activity and other factors. We recommend that HDR considers the possibility of such fluctuation.

7.3 Estimated Seasonal High Water Level

The estimated seasonal high water table each year is the level in the August-September period at the end of the rainy season during a year of average (normal) rainfall. The water table elevations associated with a flood would be much higher than the seasonal high water table elevations. The normal high water levels would more approximate the seasonal high water table elevations.

The seasonal high water table is affected by a number of factors. The drainage characteristic of the soils, the land surface elevation, relief points such as lakes, canals, swamp areas, etc., and distance to relief points are some of the more important factors influencing the seasonal high water table elevation.

The borings for this phase of the project were performed during the dry season. Based on our interpretation of the site conditions using the results of our test boring data, Miami-Dade County historical groundwater maps, and United States Geological Survey (USGS) historical groundwater data, we estimate that the normal seasonal high water table to be about elevation +3 feet (NGVD, 1929).

8.0 GEOTECHNICAL DESIGN PARAMETERS FOR FOUNDATION DESIGN

The preliminary geotechnical design parameters for this study were obtained on the basis of empirical relationships between the SPT "N"-values and the shear strength of the soil/rock strata, literature review, our local experience and based on the guidelines presented in the FDOT *Soils and Foundations Handbook (2011)*. The subsequent sections provide derivation of preliminary geotechnical design parameters for use in preliminary foundation design for the proposed bridge. It is to be noted that the SPT borings were performed with the use of an automatic hammer. Thus, the SPT "N"-values were corrected for hammer efficiency in accordance with the recommended correction factor presented in the FDOT *Soils and Foundations Handbook (2011)* ($N_{safety} = 1.24*N_{automatic}$). Hence, any reference to SPT "N"-values have been corrected to safety hammer N-values (N_{safety}) and are referenced as such in the following paragraphs only. The SPT N_{safety}-value was used for preliminary foundation design. The following stratification was encountered below the topsoil or asphalt layers at the borings performed:

- **Granular Fill:**

  The soils from this layer generally consist of clean to silty fine to coarse sand with variable percentages of limerock fragments. The materials from this stratum may classify as SP, SP-SM, or SM in accordance with the USCS. This layer was generally encountered above the natural limestone formation. The relative density of this layer varies between very loose and dense with N_{safety}-values ranging between 3 and 42 blows per foot (bpf), with a statistical average N_{safety}-value of 14 bpf. Based on established empirical relationship between the N-value and the internal friction angle ϕ as well as statistical evaluation of the data, we recommend an internal friction angle (ϕ) and total unit weight (γ_t) of 32 degrees and 110 pounds per cubic foot (pcf), respectively. The active, passive, and at-rest earth pressure of coefficients (i.e. Ka, Kp, and Ko) for this layer are 0.31, 3.25 and 0.47, respectively.

- **Miami Limestone Formation:**

  The upper limestone formation is the Miami Limestone Formation. This limestone is generally weak and very porous. The results of the SPT borings indicated N_{safety}-values ranging between 0 (fell under weight of hammer) and 30 blows per foot (bpf), with a statistical average N_{safety}-value of 12 bpf. Due to the relatively now SPT N-values obtained in this limestone formation, we recommend that this formation be modeled as gravel. Based on established empirical relationship between the N-value and the internal friction angle (ϕ) as well as statistical evaluation of the data, we recommend an internal friction angle (ϕ) and total unit weight (γ_t) of 36 degrees and 120 pounds per cubic foot (pcf), respectively. The active, passive, and at-rest earth pressure of coefficients (i.e. Ka, Kp, and Ko) for this layer are 0.26, 3.85 and 0.41, respectively.

❖ **Fort Thompson Formation Sand:**

The soils from this layer generally consist of clean to slightly silty fine to coarse sand with variable percentages of limerock fragments. The materials from this stratum may classify as SP, SP-SM, or SM in accordance with the USCS. This layer was generally encountered above the natural limestone formation. The relative density of this layer varies between very loose and very dense with N_{safety}-values ranging between 0 (fell under weight of hammer) and 47 blows per foot (bpf), with a statistical average N_{safety}-value of about 18 bpf. Based on established empirical relationship between the N-value and the internal friction angle (ϕ) as well as statistical evaluation of the data, we recommend an internal friction angle (ϕ) and total unit weight (γ_t) of 32 degrees and 110 pounds per cubic foot (pcf), respectively. The active, passive, and at-rest earth pressure of coefficients (i.e. Ka, Kp, and Ko) for this layer are 0.31, 3.25 and 0.47, respectively.

❖ **Fort Thompson Limestone Formation:**

The lower Fort Thompson Limestone Formation is the bearing stratum for deep foundations in Miami-Dade County. The strength of the limestone formation encountered throughout the project alignment was variable. Since rock cores have not been obtained, the shear strength properties of this rock formation were also obtained from established empirical correlations. Based on results of the SPT borings, the N_{safety}-values obtained from the SPT borings ranged from 11 bpf and over 50 blows per 1 inch of penetration (split-spoon sampler refusal conditions). For preliminary design, based on the variable strength properties of the limestone formation, we recommend that the limestone be modeled as a cohesive material with an undrained shear strength (S_u) value of 4.5 tons per square foot (tsf). We recommend a total unit weight (γ_t) of 120 pcf. The shear strength value was derived based on empirical correlations presented in the FDOT's *Soils and Foundations Handbook (2011)*. If drilled shafts are selected for foundation support of the proposed bridge, for final design the recommended shear strength design parameters will need to be confirmed by performance of rock coring and laboratory strength testing programs in accordance with the requirements of the latest version of the FDOT's *Soils and Foundations Handbook*.

Table "B" on the following page presents a summary of geotechnical parameters for use in foundation design.

TABLE "B"- SUMMARY OF PRELIMINARY GEOTECHNICAL DESIGN PARAMETERS

GENERAL MATERIAL DESCRIPTION (USCS SYMBOL)	UNIT WEIGHT (PCF)		FRICTION ANGLE (DEGREES)	COHESION (TSF)	EARTH PRESSURE COEFFICIENTS		
	TOTAL	EFFECTIVE			ACTIVE	PASSIVE	AT-REST
	γ_t	γ_{eff}	ϕ	C	Ka	Kp	Ko
Granular Fill (SP/SP-SM/SM)	110	48	32	0	0.31	3.25	0.47
Miami Limestone Formation	120	58	36	0	0.26	3.85	0.41
Fort Thompson Formation Sand (SP/SP-SM/SM)	110	48	32	0	0.31	3.25	0.47
Fort Thompson Formation Limestone	120	58	0	4.5	-	-	-

9.0 LOADING INFORMATION

9.1 General

For this PD&E phase of the project and for preparation of this preliminary design-level geotechnical report, design loading information is not available.

10.0 BRIDGE FOUNDATION EVALUATION

10.1 General

We understand that be proposed bridge is being considered to be constructed along the median of SR 924 (NW 119th Street). Shallow foundations and deep foundations were considered for support of the proposed bridge. For the most part, the soil borings disclosed loose to very loose sandy soils in the upper part of the subsurface profile. Given the relatively large magnitude of the applied loads, large footings would be required and relatively large settlements would result, making the use of shallow foundations uneconomical and unfeasible. Furthermore, the difficulties associated with spread footing construction (i.e. cofferdams, tremie seal, etc.), presence of underground utilities along SR 924, and potential MOT impacts due to relatively large footing sizes make them an unpractical and not cost effective, in our opinion, foundation alternative. However, when a final-design level geotechnical investigation is performed, a re-evaluation may be performed to determine feasibility of using a shallow foundation system for bridge support. We believe that a deep foundation system would be suitable for support of the proposed bridge. Typically, 18, 24 or 30-inch square precast prestressed concrete piles have been used and may be needed to support the magnitude of the structural loads. Drilled shaft foundations could be used as well to support the proposed bridge.

10.2 Foundation Alternatives for Bridge Structures

Foundation alternatives for the project considered the results of our field study and the proposed bridge. Based on our experience with similar projects, we considered the following foundation alternatives:

- Shallow Foundations
- Steel Piles, Including Pipe and H-Sections
- Straight Sided Drilled Shafts
- Precast Prestressed Concrete Piles

The following paragraphs discuss each of these alternatives:

10.2.1 Shallow Foundations

The results of the test borings performed for the bridge indicate that the near subsurface materials consist primarily of loose to very loose granular fill and sandy soils underlain by a generally weak Miami Limestone Formation. Due to the elevated type of structure being considered, relatively large loads and foundation dimensions are anticipated. These large footing dimensions will encroach to adjacent travel lanes and result in additional Maintenance of Traffic (MOT) for foundation construction. Additionally, if underground utilities are present in areas of expected footings, they will require relocation. Due to the groundwater levels measured during the field exploration program, dewatering may be required to cast spread footings in the dry, which can add a significant cost to the project. Therefore, at this point the use of shallow foundation systems for support of the bridge does not appear to be feasible. The use of a shallow foundation system should be re-evaluated during the final-design phase once the preferred alternative is selected and details of the structural design are developed.

10.2.2 Steel Piles

Steel pile types include pipe piles and H-sections. Previous experience has shown that steel H-piles sections and pipe piles are generally more expensive per linear foot than prestressed concrete piles. Steel piles are well suited to conditions with high variability in anticipated penetration depths where frequent splicing is expected. Typical sizes of pipe piles range from 13 to 16 inches in diameter. The steel piles do not develop as much compression and tension capacities for similar penetration depths as square driven prestressed concrete piles and rough cost data indicates that the steel pipe piles are more expensive than similar sizes of square prestressed concrete piles. Steel H-sections are inappropriate for this project because of inferior capacities compared to pipe piles at similar costs. As a result, we did not consider this alternative any further.

10.2.3 Drilled Shafts

- **General**

Drilled shafts are a feasible foundation alternative. Drilled shafts have the advantage of being able to develop high axial and lateral capacities in a single unit and their use reduces construction vibration concerns and noise in the vicinity of existing structures. However, the quality control of drilled shaft installation requires more engineering judgment and precaution compared to the driven piles to ensure that the specifications are complied. The minimum drilled shaft diameters allowed by the FDOT *Structures Design Guidelines* for redundant and non-redundant foundations are 36 and 48 inches, respectively. At this preliminary stage of the project, loading information is not available in order to be able to develop recommended tip elevations for use as bridge foundations. We have, however, developed preliminary axial compression capacity charts for 36, 48, 60 and 72-inch diameter drilled shafts for evaluation of suitability of drilled shaft foundations for bridge support.

For this preliminary report, drilled shafts were evaluated using the manual entitled *Drilled Shafts: Construction Procedures and LRFD Design Methods* (2010) published by the Federal Highway Administration (FHWA) and the guidelines presented in Appendices A and B of the FDOT *Soils and Foundations Handbook* (2011). The drilled shaft capacities were evaluated by using the appropriate rock parameters previously summarized in Table "B" of this report.

For our preliminary analysis, we assumed that the drilled shafts will be embedded into the Fort Thompson Limestone Formation. We have provided preliminary axial compression capacity charts for 36, 48, 60 and 72-inch diameter drilled shafts with 5 to 15 feet of rock socket into the lower Fort Thompson Formation Limestone. The top of the Fort Thompson Formation Limestone encountered was quite variable and generally ranged from about elevation -20 to -40 feet (NGVD, 1929). Appendix "D" presents our preliminary drilled shaft axial compression capacity evaluations. The factored compression capacities of the drilled shafts were obtained by multiplying the ultimate capacities by a resistance factor (ϕ) for Load and Resistance Factor Design (LRFD). Resistance factors (ϕ) of 0.50 and 0.60 were selected for non-redundant and redundant foundations, respectively, because the drilled shaft design is based on side friction resistance only.

If drilled shafts are to be considered for foundation support, it is recommended that if at all possible, non-redundant drilled shaft foundations not be used as significantly more stringent FDOT design and construction requirements apply (i.e. shaft inspection device at each shaft, cross-hole sonic logging testing at each shaft, SPT boring at each shaft location, etc.). The performance of a load testing program will be required to allow for an opportunity to evaluate end bearing capacity of the drilled shafts and possibly shortening the shaft lengths. If drilled shafts are to be selected for foundation support, requirements for a load testing program, including the recommended type, will be required during the final design phase.

- **Load Testing**

  Load test types include static load tests, dynamic load tests, Osterberg load tests and Statnamic load tests. Factors to be considered when evaluating the benefits and costs of providing loaded tested shafts include: subsurface conditions, design loads, testing equipment and mobilization. Generally, the more variable the subsurface conditions at the site the less cost effective are static load tests. If drilled shafts are selected, we recommend that the load test be of either Statnamic or Oesterberg types. Generally, Statnamic load tests are less expensive and quicker to perform. Performance of Statnamic load testing will require knowledge of exact location of existing utilities to avoid any vibration induced type of damage to these utilities. Furthermore, due to the explosive nature of the Statnamic load test, this type of test will need to be further evaluated during the final design phase.

  The quantity and location of the load tests should be selected during the final design phase considering the subsurface conditions, design loading and diameter of shafts. We recommend that the load test be performed in the vicinity of a test boring at the intended location of the drilled shaft where significant shortening of the shafts could be realized. The test shafts should be instrumented in order to gain information regarding the unit skin friction load carrying characteristics of each subsurface stratum as well as end bearing load carrying characteristics. We recommend that the load test be designed to test the drilled shaft to at least twice the design load or failure, whichever occurs first. The recommended load testing location should be identified in the final geotechnical report.

- **Drilled Shaft Construction**

  The installation of the drilled shafts should be carried out in accordance with Section 455 of the FDOT *Standard Specifications for Road and Bridge Construction*.

- **Settlement**

  At this stage of the project design loading information is not available in order to evaluate settlement of drilled shaft foundations. Typically, settlements of single drilled shafts under service loads are limited to less than 1 inch.

10.2.4 Precast Prestressed Concrete Piles

- **General**

Square precast prestressed concrete driven piles are also considered an appropriate foundation type. They are a widely used and proven foundation system in South Florida. Precast prestressed concrete piles are readily available and generally have a lower cost per ton of capacity than other pile types. The minimum size for prestressed concrete piles should be 18-inch square, as referenced in the FDOT *Structures Design Guidelines*. However, 24 or 30-inch square precast concrete piles may also be utilized based on the requirements of the structural design.

We have prepared curves of axial capacity versus tip elevation for 18, 24 and 30-inch square piles. These curves were prepared using the FDOT computer program for axially loaded driven piles, Static Pile Bearing Capacities "SPT-97", which was developed based on the procedures outlined in FDOT Research Bulletin 121. The computer program "SPT-97" was used to estimate the static capacity of the piles, and to generate curves of ultimate side friction, mobilized end bearing, Davisson capacity, allowable pile capacity and ultimate pile capacity versus elevation. Because the program "SPT-97" was created using empirical correlations between soil/rock shear strength and safety hammer blow counts (N_{safety}), the SPT N-values obtained from the automatic hammer ($N_{automatic}$) were converted to N_{safety}-values using a correction factor of 1.24 following Section 4.1 of the FDOT *Soils and Foundation Handbook (2011)*. The results of the SPT-97 runs are presented in Appendix "D".

From the computer program output, the Davisson capacity curve should be used to estimate the nominal bearing resistance (R_n) required to estimate pile lengths using the Load and Resistance Factor Design (LRFD) methodology. The nominal bearing resistance may be estimated as follows:

$$R_n = \frac{\text{Factored Design Load} + \text{Downdrag} + \text{NetScour}}{\Phi}$$

Where: Φ = Resistance Factor = 0.65 with at least 10% Dynamic Load Testing and
Φ = Resistance Factor = 0.75 with 100% Dynamic Load Testing

- **Pile Driving Installation**

  The installation of the driven piles should be carried out in accordance with Section 455 of the FDOT *Standard Specifications for Road and Bridge Construction.*

- **Pile Driving Construction Considerations**

  The proposed project is located in the vicinity of existing residential and commercial structures as well as several utility lines, including electric, gas, water, sewer and drainage utilities. As such, settlements caused by vibrations from pile driving are a potential concern. However, risks of settlement of the adjacent structures from pile driving operations can be mitigated. Depending on the distance from the vibration source, it may be required to drive concrete piles in preformed holes to a certain depth below the existing grade to minimize vibrations. These holes can be installed using temporary steel casing vibrated or driven to the required elevations and the material within the casing excavated to the required preform elevation. In addition, monitoring the vibrations and movement in the adjacent structures/utilities is recommended. Alternatively, drilled shafts may be used if driven piles are not a feasible foundation alternative. During final design, the geotechnical report should address vibration impacts on adjacent structures and utility lines in more details.

  The project site is located in an urban area as such current ambient noise levels are relatively high. As the site is also located adjacent to residential homes and commercial buildings, consideration should be given to the additional noise generated from the pile driving operations (if selected as the foundation alternative). It should be noted that all construction operations introduce noise. Although pile driving operations introduce greater noise levels than drilled shaft operations, the pile driving can be accomplished in a shorter period of time and thus may actually have less impact over the course of the foundation work. Nonetheless, pile driving operations (if selected as the foundation alternative) should be restricted to the hours of the day to minimize the impacts on the local community.

- **Settlement**

  At this stage of the project design loading information is not available in order to evaluate settlement of driven pile foundations. Typically, settlements of single driven piles under service loads are limited to less than 1 inch.

11.0 EXCAVATION RECOMMENDATIONS

If required temporary excavations of the existing subsurface materials may be accomplished as follows:

- **Granular Soils**: Temporary excavation maximum side slopes of 1V:2H in the granular subsurface materials are stable and have a minimum factor of safety of 1.3.

- **Miami and Fort Thompson Limestone Formations**: Temporary excavation maximum side slopes of 1V:1H in the natural limestone formations are stable and also have a minimum factor of safety of 1.3.

12.0 FHWA REPORT CHECKLIST

As referenced in the Structures Design Guidelines, conformance to the FHWA Report "Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans and Specifications" prepared by the Geotechnical and Materials Branch, FHWA, Washington, D.C., dated October 1985 is required when preparing geotechnical reports. The FHWA checklist for this report is enclosed in Appendix "E".

13.0 RECOMMENDATIONS FOR FURTHER GEOTECHNICAL STUDIES

For this PD&E phase of the project, a limited number of test borings were performed to support the bridge foundation design. Once the preferred alternative and foundation system for the bridges is chosen, a final-design level geotechnical investigation program will be required for the bridge structure. The final-design level geotechnical investigation program should be performed in accordance with the latest version of the FDOT *Soils and Foundations Handbook*. If drilled shafts are chosen as a foundation for support of the proposed bridge, rock coring and laboratory testing on rock core specimens will be required for final design of the drilled shafts in accordance with the latest version of the FDOT *Soils and Foundations Handbook*.

14.0 REPORT LIMITATIONS

Our professional services have been performed, our preliminary findings obtained, and our preliminary recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This company is not responsible for the conclusions, opinions or recommendations made by others based on the data collected. No other warranties are expressed or implied.

The preliminary scope of the investigation was intended to evaluate subsurface conditions within the influence of the expected bridge foundations for the PD&E phase of the project. The preliminary analyses and preliminary recommendations submitted in this report are based upon the preliminary data obtained from the test borings performed at the locations indicated. The applicability of the report should also be reviewed in the event significant changes occur in the design, nature or location of the proposed bridge structure.

The scope of our services does not include any environmental assessment or investigation for the presence or absence of hazardous or toxic materials in the soil, groundwater, or surface water within or beyond the site studied. Any statements in this report regarding odors, staining of soils, or other unusual conditions observed are strictly for the information of our client.

APPENDIX "A"

Sheet 1 – Site Vicinity Map
Sheet 2 – USDA Soil Survey Map



SITE VICINITY MAP

COUNTY: MIAMI-DADE, FLORIDA

REFERENCE: GOOGLE EARTH, 2010

DATE: JANUARY, 2011

SITE VICINITY MAP
PD&E STUDY - SR 924 EAST EXTENSION
FROM NW 32ND AVE TO NW 7TH AVE
MIAMI-DADE COUNTY, FLORIDA

GEOSOL, INC.

DRAWN RV	SCALE N.T.S.	MDX PROJ. No. 92407.011
CHECKED OR	DATE MARCH, 2011	SHEET 1



MAP UNIT	SOIL NAME
10	UDORTHENTS, LIMESTONE SUBSTRATUM-URBAN LAND COMPLEX
15	URBAN LAND
35	MARGATE FINE SAND
42	UDORTHENTS, LIMESTONE SUBSTRATUM, 0 TO 5 PERCENT SLOPES
99	WATER

COUNTY: MIAMI-DADE, FLORIDA

REFERENCE: NRCS WEB SOIL SURVEY (SOIL MAP 2007 & SOIL DATA 2010)

DATE: MARCH, 2011

USDA SOILS SURVEY MAP

PD&E STUDY - SR 924 EAST EXTENSION
FROM NW 32ND AVE TO NW 7TH AVE
MIAMI-DADE COUNTY, FLORIDA

GEOSOL, INC.

DRAWN	SCALE	MDX PROJ. No.
RV	N.T.S.	92407.011
CHECKED	DATE	SHEET
OR	MAR., 2011	2

APPENDIX "B"

Table 1 – Summary of Test Boring Locations
Sheets 3 through 6 – Boring Location Plan
Sheets 7 through 11 – Report of Core Borings



LEGEND

◉ BR-1: "AS-DRILLED" TEST BORING LOCATION

BORING LOCATION PLAN

PD&E STUDY - SR 924 EAST EXTENSION
FROM NW 32ND AVE TO NW 7TH AVE
MIAMI-DADE COUNTY, FLORIDA

DRAWN: RV	SCALE: N.T.S.	MDX PROJ. No.: 92407.011
CHECKED: OR	DATE: MAR., 2011	SHEET 3



LEGEND

◉ BR-4: "AS-DRILLED" TEST BORING LOCATION

BORING LOCATION PLAN

PD&E STUDY - SR 924 EAST EXTENSION
FROM NW 32ND AVE TO NW 7TH AVE
MIAMI-DADE COUNTY, FLORIDA

GEOSOL, INC.

DRAWN: RV	SCALE: N.T.S.	WSI PROJ. No.: 92407.011
CHECKED: OR	DATE: MAR., 2011	SHEET 4



LEGEND

◉ BR-8: "AS-DRILLED" TEST BORING LOCATION

BORING LOCATION PLAN

PD&E STUDY - SR 924 EAST EXTENSION
FROM NW 32ND AVE TO NW 7TH AVE
MIAMI-DADE COUNTY, FLORIDA

GEOSOL, INC.

DRAWN	SCALE	MDX PROJ. No.
RV	N.T.S.	92407.011
CHECKED	DATE	
OR	MAR., 2011	SHEET 5



LEGEND

◉ BR-11: "AS-DRILLED" TEST BORING LOCATION

BORING LOCATION PLAN

PD&E STUDY - SR 924 EAST EXTENSION
FROM NW 32ND AVE TO NW 7TH AVE
MIAMI-DADE COUNTY, FLORIDA

GEOSOL, INC.

DRAWN: RV	SCALE: N.T.S.	MDX PROJ. No.: 92407.011
CHECKED: OR	DATE: MAR., 2011	SHEET 6

SR 924 (GRATIGNY PARKWAY) EAST EXTENSION TO I-95 PD&E STUDY
FROM NW 32ND AVENUE TO NW 7TH AVENUE (I-95 INTERCHANGE)
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM NO. 92407.011

GEOSOL, inc.

TABLE 1 - SUMMARY OF TEST BORING LOCATIONS

BORING No.	"AS-DRILLED" TEST LOCATION (FEET)		GROUND SURFACE ELEVATION (FT; NGVD, 1929) [2]
	NORTHING [1]	EASTING [1]	
BR-1	563763.259	902903.421	9.44
BR-2	563822.368	903866.603	10.54
BR-3	563846.928	904719.980	9.16
BR-4	563796.712	906147.722	7.80
BR-5	563805.290	907163.919	7.81
BR-6	563828.756	908089.557	9.38
BR-7	563875.109	908924.924	13.16
BR-8	563920.448	909822.175	12.40
BR-9	563992.535	911330.091	12.19
BR-10	564056.448	912612.537	13.29
BR-11	564105.922	913597.216	13.01
BR-12	564167.739	914875.040	12.04
BR-13	564200.950	915486.628	12.44
BR-14	564150.608	916057.294	11.35
BR-15	564167.512	916403.091	11.65

Note:
1) Northing and easting coordinates as well as ground surface elevations were surveyed and provided to us by the project surveyor.
2) Ground surface elevations provided by the project surveyor.
3) At this point the alignment along SR 924 (Gratigny Parkway) has not been finalized. Therefore, station and offset distances are not available.

BOR # BR-1
ELEV. +9.44'
DATE 1/4/2011 - 1/5/2011
DRILLER J. GONZALEZ - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563763.259
EASTING 902903.421

N	Description
9	Dark Brown Organic Silty Fine SAND with Grass (TOPSOIL; OL)
12	
7	Brown Slightly Silty Fine to Medium SAND (FILL; SP-SM)
7	
13	Brown Fine to Medium SAND (FILL; SP)
15	
7	Dark Brown Organic Stained Slightly Silty Fine to Medium SAND (FILL; SP)
7	
11	
12	Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND; SP)
14	
10	
9	
10	
9	
8	
61	Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
97/12"	
50/1"	
9	Gray Fine to Medium SAND with Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)
50/4"	
50/1"	Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
19	
25	
13	
36	Gray Fine to Medium SAND with Trace to Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)
12	
23	
19	
38	
16	
16	
3	Gray Silty Fine to Medium SAND (FORT THOMPSON FORMATION SAND ;SM)
14	
19	Light Gray Fine to Medium SAND with Trace to Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)

Boring Terminated at Elev. -90.56ft

Casing Length 98ft

BOR # BR-2
ELEV. +10.54'
DATE 1/5/2011 - 1/6/2011
DRILLER J. GONZALEZ - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563822.368
EASTING 903866.603

N	Description
13	Dark Brown Organic Silty Fine SAND with Grass (TOPSOIL; OL)
16	
12	Brown Slightly Silty Fine to Medium SAND with Trace of Limerock Fragments (FILL; SP-SM)
6	
5	Brown to Light Brown Slightly Silty Fine to Medium SAND (FILL; SP-SM)
8	
7	
9	
12	
10	
8	
10	
13	Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND; SP)
10	
9	
3	
24	
59	Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
50/3"	
23	
19	
10	
7	
15	
12	
17	Gray Fine to Medium SAND with Trace to Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)
26	
16	
15	
17	
21	
19	
28	
35	Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
15	

Boring Terminated at Elev. -89.46ft

Casing Length 98ft

BOR # BR-3
ELEV. +9.16'
DATE 2/15/2011 - 2/16/2011
DRILLER R. Morales - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563846.928
EASTING 904719.980

N	Description
19	Asphalt Pavement
20	Brown Slightly Silty Fine to Medium SAND with Some Limerock Fragments (FILL; SP-SM)
11	
24	
17	Brown Fine to Medium SAND (FILL; SP)
16	
13	Light Brown Sandy LIMESTONE (MIAMI LIMESTONE FORMATION)
11	
9	
14	
13	Brown Slightly Silty Fine to Medium SAND (FORT THOMPSON FORMATION SAND; SP-SM)
11	
9	
12	
11	
11	
15	
10	Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
30	
50/2"	
74/9"	
26	
26	
25	
26	
30	Light Gray Fine to Medium SAND with Little Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)
18	
26	
24	
22	
29	Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
27	
21	
32	Light Gray Fine to Medium SAND with Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)
27	
	Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)

Boring Terminated at Elev. -90.84ft

Casing Length 98ft

NMC = 20%
-200 = 3%

NMC = 28%
-200 = 5%

ELEVATION IN FEET (NGVD, 1929)

+15 +10 +5 0 -5 -10 -15 -20 -25 -30 -35 -40 -45 -50 -55 -60 -65 -70 -75 -80 -85 -90 -95 -100

0 5 20
Feet

LEGEND

- ASPHALT PAVEMENT OR CONCRETE
- TOPSOIL (OL)
- SAND (FILL; SP, SP-SM)
- Silty SAND (FILL; SM)
- LIMESTONE (MIAMI LIMESTONE FORMATION)
- SAND (FORT THOMPSON FORMATION SAND; SP, SP-SM)
- Silty SAND (FORT THOMPSON FORMATION SAND; SM)
- LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)

NOTES:

1) SPT BORINGS PERFORMED PER ASTM D-1586 WITH A HAMMER WEIGHT OF 140 LBS FALLING 30 INCHES.
▽ WATER TABLE AT TIME OF DRILLING
CASING USED
N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12" PENETRATION (UNLESS OTHERWISE NOTED).
NMC NATURAL MOISTURE CONTENT (%)
-200 PERCENT PASSING THE #200 SIEVE (%)
WOH FELL UNDER WEIGHT OF HAMMER

ENVIRONMENTAL CLASSIFICATION:
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
SUBSTRUCTURE: MODERATELY AGGRESSIVE
WATER:
pH: 7.0-10.1
CHLORIDE: 7-46 PPM
SULFATE: 5-25 PPM
RESISTIVITY: 1,860-4,120 OHM-CM

GRANULAR MATERIALS - RELATIVE DENSITY	AUTOMATIC SPT HAMMER (BLOWS PER FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	AUTOMATIC SPT HAMMER (BLOWS PER FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
GEOSOL, INC.
ORACIO RICCOBONO, P.E.
PE LICENSE No. 49324
5795-A NW 151ST STREET
MIAMI LAKES, FL 33014
PHONE: (305) 828-4367
CERTIFICATE OF AUTHORIZATION 8530

DRAWN BY: BK 08-11
CHECKED BY: SV 08-11
DESIGNED BY: BY 08-11
CHECKED BY: DR 08-11

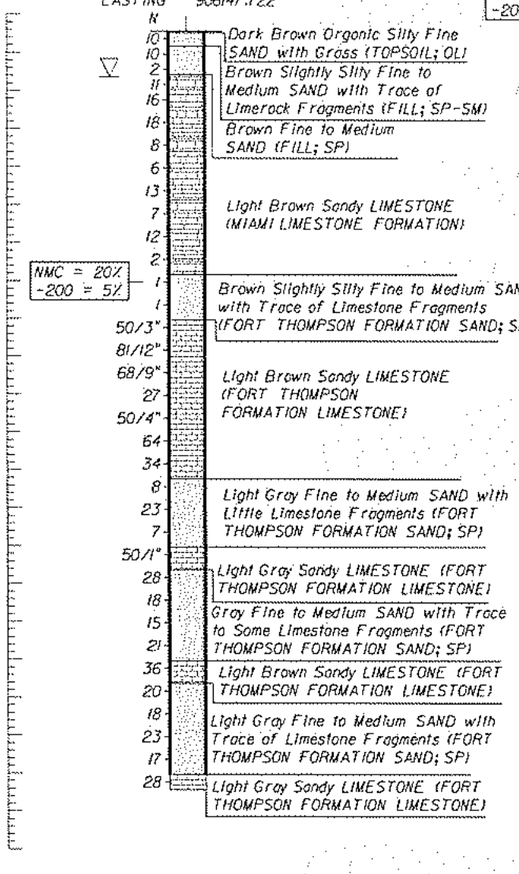
MIAMI-DADE EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	WORK PROGRAM NO.
924	MIAMI-DADE	92407.011

SHEET TITLE: REPORT OF CORE BORINGS
REF. DWG. NO.
PROJECT NAME: SR 924 PD&E STUDY
SHEET NO. 7

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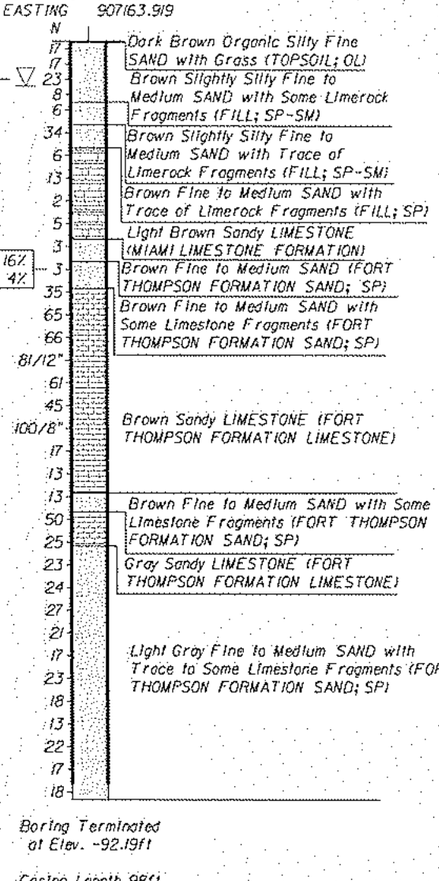
BOR # BR-4
ELEV. +7.80'
DATE 1/7/2011 - 1/10/2011
DRILLER J. Gonzalez - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563796.712
EASTING 906147.722



Boring Terminated at Elev. -92.2ft

Casing Length 98ft

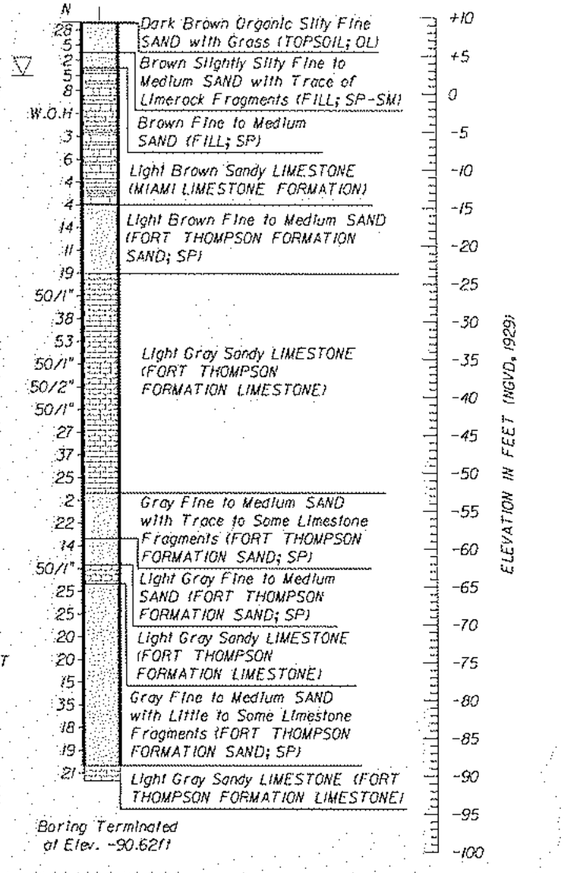
BOR # BR-5
ELEV. +7.81'
DATE 1/10/2011 - 1/11/2011
DRILLER J. Gonzalez - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563805.29
EASTING 907163.919



Boring Terminated at Elev. -92.19ft

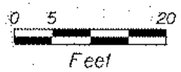
Casing Length 98ft

BOR # BR-6
ELEV. +9.38'
DATE 1/12/2011 - 1/13/2011
DRILLER J. Gonzalez - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563828.756
EASTING 908089.557



Boring Terminated at Elev. -90.62ft

Casing Length 98ft



LEGEND

- ASPHALT PAVEMENT OR CONCRETE
- TOPSOIL (OL)
- SAND (FILL; SP, SP-SM)
- Silty SAND (FILL; SM)
- LIMESTONE (MIAMI LIMESTONE FORMATION)
- SAND (FORT THOMPSON FORMATION SAND; SP, SP-SM)
- Silty SAND (FORT THOMPSON FORMATION SAND; SM)
- LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)

NOTES:

1) SPT BORINGS PERFORMED PER ASTM D-1586 WITH A HAMMER WEIGHT OF 140 LBS FALLING 30 INCHES.

▽ WATER TABLE AT TIME OF DRILLING

CASING USED

N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12" PENETRATION (UNLESS OTHERWISE NOTED).

NMC NATURAL MOISTURE CONTENT (%)

-200 PERCENT PASSING THE #200 SIEVE (%)

WOH FELL UNDER WEIGHT OF HAMMER

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
SUBSTRUCTURE: MODERATELY AGGRESSIVE

WATER:

pH: 7.0-10.1
CHLORIDE: 7-46 PPM
SULFATE: 5-25 PPM
RESISTIVITY: 1,860-4,920 OHM-CM

GRANULAR MATERIALS - RELATIVE DENSITY	AUTOMATIC SPT HAMMER (BLOWS PER FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	**AUTOMATIC SPT HAMMER (BLOWS PER FOOT)**
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
GEOSOL, INC.
GRACIO RICCOBONO, P.E.
PE LICENSE No. 49324
5795-A NW 158ST STREET
MIAMI LAKES, FL 33014
PHONE: (305) 828-4367
CERTIFICATE OF AUTHORIZATION 8530

DRAWN BY: JH 08-11
CHECKED BY: AV 08-11
DESIGNED BY: AV 08-11
CHECKED BY: JH 08-11

MIAMI-DADE EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	WBS, FIN/ITEM NO.
924	MIAMI-DADE	92407.011

SHEET TITLE: REPORT OF CORE BORINGS

PROJECT NAME: SR 924 PD&E STUDY

REF. DWG. NO.

SHEET NO.: 8

INF Dwnr 2/7/2011 3:00:28 PM C:\PROJECTS\2010\2010-26\SR924\BORINGS2.dgn

BOR # BR-7
ELEV. +13.16'
DATE 1/12/2011 - 1/14/2011
DRILLER R. Morales - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563875.109
EASTING 908924.924

Dark Brown Organic Silty Fine SAND with Grass (TOPSOIL; OL)
Brown Slightly Silty Fine to Medium SAND with Trace of Limerock Fragments (FILL; SP-SM)
Brown Fine to Medium SAND (FILL; SP)
Brown Sandy LIMESTONE (MIAMI LIMESTONE FORMATION)
Light Gray Fine to Medium SAND (FORT THOMPSON FORMATION SAND; SP)
Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
Light Gray Fine to Medium SAND with Trace to Little Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)
Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
Light Gray Fine to Medium SAND with Trace to Little Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)

NMC = 3%
-200 = 8%
NMC = 22%
-200 = 1%
NMC = 15%
-200 = 3%

Boring Terminated at Elev. -86.84ft
Casing Length 98ft

BOR # BR-8
ELEV. +12.40'
DATE 1/20/2011 - 1/21/2011
DRILLER R. Morales - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563920.448
EASTING 909822.175

Dark Brown Organic Silty Fine SAND with Grass (TOPSOIL; OL)
Brown Slightly Silty Fine to Medium SAND with Trace of Limerock Fragments (FILL; SP-SM)
Light Brown Slightly Silty Fine to Medium SAND (FILL; SP-SM)
Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND; SP)
Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
Light Gray Fine to Coarse SAND with Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)

Boring Terminated at Elev. -87.60ft
Casing Length 98ft

BOR # BR-9
ELEV. +12.19'
DATE 1/24/2011 - 1/25/2011
DRILLER R. Morales - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 563992.535
EASTING 911330.091

NMC = 7%
-200 = 10%
NMC = 16%
-200 = 2%
NMC = 15%
-200 = 7%

Dark Brown Organic Silty Fine SAND with Grass (TOPSOIL; OL)
Brown Slightly Silty Fine to Medium SAND with Trace of Limerock Fragments (FILL; SP-SM)
Light Brown Fine to Medium SAND (FILL; SP)
Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND; SP)
Light Gray Sandy LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)
Light Gray Slightly Silty Fine to Medium SAND with Little to Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP-SM)

Boring Terminated at Elev. -87.81ft
Casing Length 98ft

ELEVATION IN FEET (NGVD, 1929)

0 5 20
Feet

LEGEND

- ASPHALT PAVEMENT OR CONCRETE
- TOPSOIL (OL)
- SAND (FILL; SP, SP-SM)
- Silty SAND (FILL; SM)
- LIMESTONE (MIAMI LIMESTONE FORMATION)
- SAND (FORT THOMPSON FORMATION SAND; SP, SP-SM)
- Silty SAND (FORT THOMPSON FORMATION SAND; SM)
- LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)

NOTES:

1) SPT BORINGS PERFORMED PER ASTM D-1586 WITH A HAMMER WEIGHT OF 140 LBS FALLING 30 INCHES.

▽ WATER TABLE AT TIME OF DRILLING

CASING USED

N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12" PENETRATION (UNLESS OTHERWISE NOTED).

NMC NATURAL MOISTURE CONTENT (%)

-200 PERCENT PASSING THE #200 SIEVE (%)

WOH FELL UNDER WEIGHT OF HAMMER

ENVIRONMENTAL CLASSIFICATION:
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
SUBSTRUCTURE: MODERATELY AGGRESSIVE
WATER:
pH: 7.0-10.1
CHLORIDE: 7-46 PPM
SULFATE: 5-25 PPM
RESISTIVITY: 1,860-4,120 OHM-CM

GRANULAR MATERIALS - RELATIVE DENSITY	AUTOMATIC SPT HAMMER (BLOWS PER FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	**AUTOMATIC SPT HAMMER (BLOWS PER FOOT)**
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

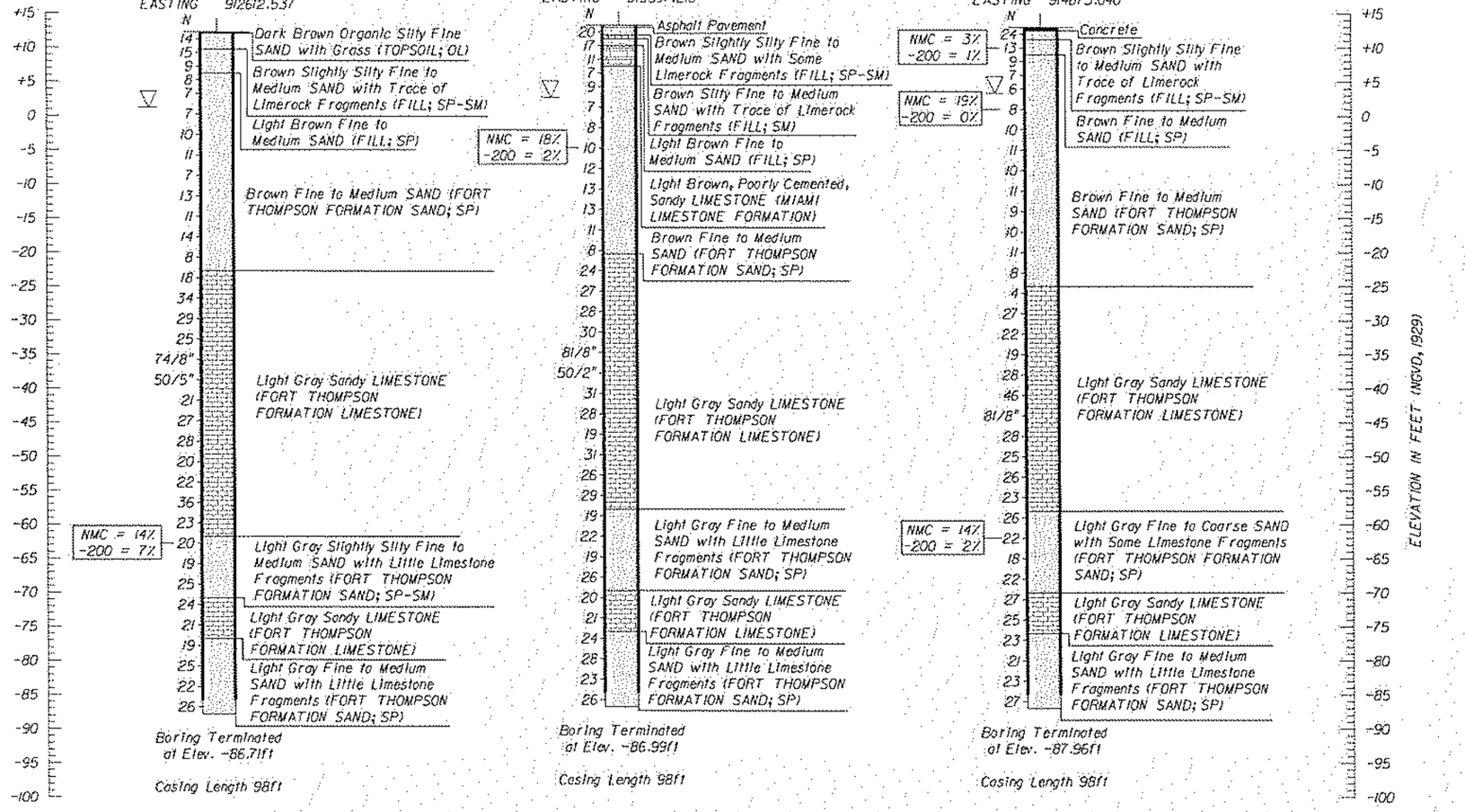
ENGINEER OF RECORD:
GEOSOL, INC.
ORACIO RICCOBONO, P.E.
PE LICENSE No. 49324
5795-A NW 151ST STREET
MIAMI LAKES, FL 33014
PHONE: (305) 828-4367
CERTIFICATE OF AUTHORIZATION 8530

DRAWN BY: BN 04-11
CHECKED BY: PR 04-11
DESIGNED BY: RS 04-11
CHECKED BY: OR 04-11

MIAMI-DADE EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FPN/ PROGRAM NO.
924	MIAMI-DADE	92407.011

SHEET TITLE: REPORT OF CORE BORINGS
PROJECT NAME: SR 924 PD&E STUDY
REF. DWG. NO.
SHEET NO. 9



LEGEND

- ASPHALT PAVEMENT OR CONCRETE
- TOPSOIL (OL)
- SAND (FILL; SP, SP-SM)
- Silty SAND (FILL; SM)
- LIMESTONE (MIAMI LIMESTONE FORMATION)
- SAND (FORT THOMPSON FORMATION SAND; SP, SP-SM)
- Silty SAND (FORT THOMPSON FORMATION SAND; SM)
- LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)

NOTES:

1) SPT BORINGS PERFORMED PER ASTM D-1586 WITH A HAMMER WEIGHT OF 140 LBS FALLING 30 INCHES.

▽ WATER TABLE AT TIME OF DRILLING

CASING USED

N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12" PENETRATION (UNLESS OTHERWISE NOTED).

NMC NATURAL MOISTURE CONTENT (%)

-200 PERCENT PASSING THE #200 SIEVE (%)

WOH FELL UNDER WEIGHT OF HAMMER

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
SUBSTRUCTURE: MODERATELY AGGRESSIVE

WATER:

pH: 7.0-10.1
CHLORIDE: 7-46 PPM
SULFATE: 5-25 PPM
RESISTIVITY: 1,860-4,120 OHM-CM

GRANULAR MATERIALS - RELATIVE DENSITY	AUTOMATIC SPT HAMMER (BLOWS PER FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	**AUTOMATIC SPT HAMMER (BLOWS PER FOOT)**
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
GEOSOL, INC.
ORACIO RICCOBONO, P.E.
PE LICENSE No. 49324
5795-A NW 151ST STREET
MIAMI LAKES, FL 33014
PHONE: (305) 828-4367
CERTIFICATE OF AUTHORIZATION 8530

DRAWN BY: JPS 08-11
CHECKED BY: RS 08-11
DESIGNED BY: JPS 08-11
CHECKED BY: OR 09-11

MIAMI-DADE EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	MPM PROGRAM NO.
924	MIAMI-DADE	92407.011

SHEET TITLE: REPORT OF CORE BORINGS

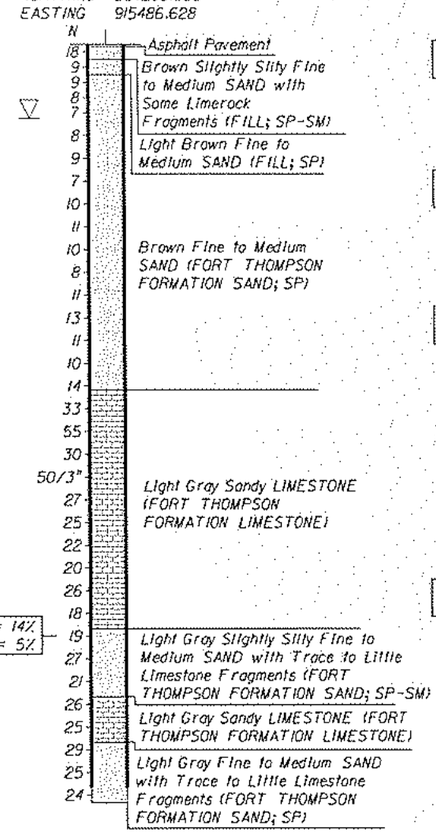
PROJECT NAME: SR 924 PD&E STUDY

REF. DWG. NO.

SHEET NO. 10

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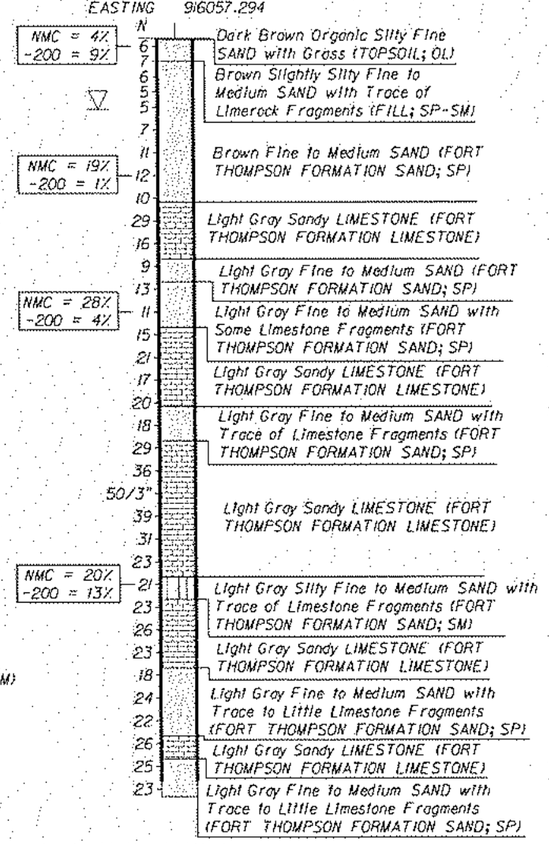
BOR # BR-13
ELEV. +12.44'
DATE 2/11/201 - 2/14/2011
DRILLER R. Morales - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 564200.950
EASTING 915486.628



Boring Terminated at Elev. -87.56ft

Casing Length 98ft

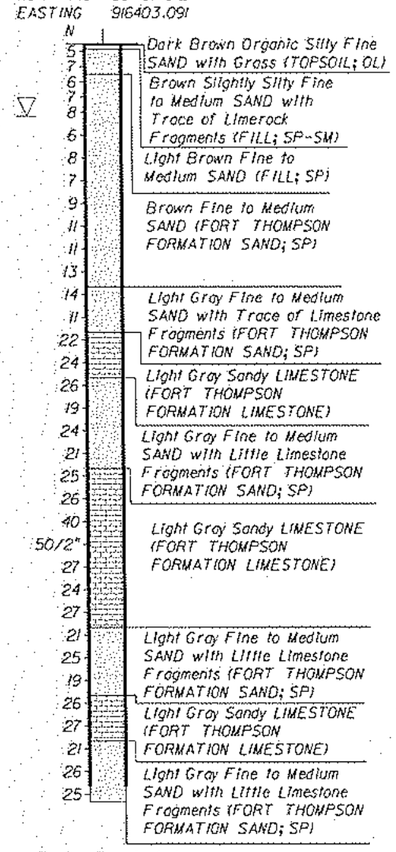
BOR # BR-14
ELEV. +11.35'
DATE 2/8/2011 - 2/9/2011
DRILLER R. Morales - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 564150.608
EASTING 916057.294



Boring Terminated at Elev. -88.65ft

Casing Length 98ft

BOR # BR-15
ELEV. +11.65'
DATE 2/10/2011 - 2/11/2011
DRILLER R. Morales - GEOSOL, Inc.
HAMMER Auto
RIG B-53
NORTHING 564167.512
EASTING 916403.091



Boring Terminated at Elev. -88.35ft

Casing Length 98ft

ELEVATION IN FEET (NGVD, 1929)

+15 +10 +5 0 -5 -10 -15 -20 -25 -30 -35 -40 -45 -50 -55 -60 -65 -70 -75 -80 -85 -90 -95 -100

0 5 20
Feet

LEGEND

- ASPHALT PAVEMENT OR CONCRETE
- TOPSOIL (OL)
- SAND (FILL; SP, SP-SM)
- Silty SAND (FILL; SM)
- LIMESTONE (MIAMI LIMESTONE FORMATION)
- SAND (FORT THOMPSON FORMATION SAND; SP, SP-SM)
- Silty SAND (FORT THOMPSON FORMATION SAND; SM)
- LIMESTONE (FORT THOMPSON FORMATION LIMESTONE)

NOTES:

1) SPT BORINGS PERFORMED PER ASTM D-1586 WITH A HAMMER WEIGHT OF 140 LBS FALLING 30 INCHES.
- ▽ WATER TABLE AT TIME OF DRILLING
- [ ] CASING USED
- N NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12" PENETRATION (UNLESS OTHERWISE NOTED).
- NMC NATURAL MOISTURE CONTENT (%)
- -200 PERCENT PASSING THE #200 SIEVE (%)
- WOH FELL UNDER WEIGHT OF HAMMER

ENVIRONMENTAL CLASSIFICATION:
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
SUBSTRUCTURE: MODERATELY AGGRESSIVE
WATER:
pH: 7.0-10.1
CHLORIDE: 7-46 PPM
SULFATE: 5-25 PPM
RESISTIVITY: 1,860-4,420 OHM-CM

GRANULAR MATERIALS - RELATIVE DENSITY	AUTOMATIC SPT HAMMER (BLOWS PER FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	**AUTOMATIC SPT HAMMER (BLOWS PER FOOT)**
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
GEOSOL, INC.
ORACIO RICCOBONO, P.E.
PE LICENSE No. 49324
5795-A NW 151ST STREET
MIAMI LAKES, FL 33014
PHONE: (305) 828-4367
CERTIFICATE OF AUTHORIZATION 8530

DRAWN BY: BN 05-11
CHECKED BY: RV 05-11
DESIGNED BY: RV 05-11
CHECKED BY: OR 05-11

MIAMI-DADE EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FPID PROJECT NO.
924	MIAMI-DADE	92407.011

SHEET TITLE: REPORT OF CORE BORINGS

PROJECT NAME: SR 924 PD&E STUDY

REF. DWG. NO.

SHEET NO. 11

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APPENDIX "C"

Table 2 – Summary of Laboratory Test Results
Table 3 – Summary of Environmental Classification Test Results
Moisture Content Test Results
Material Passing the #200 Sieve Test Results
Grain Size Analysis Test Results and Curves
Environmental Classification Test Results

TABLE 2 - SUMMARY OF LABORATORY TEST RESULTS
SR 924 (GRATIGNY PARKWAY) EAST EXTENSION PD&E STUDY
MIAMI-DADE COUNTY, FLORIDA
GEOSOL PROJECT No.: 210151

BORING NUMBER	SAMPLE NUMBER	USCS SYMBOL	Sample Depth (FEET)	Sieve Analysis (Percent Passing)									Atterberg Limits (%)			Organic Content (%)	Natural Moisture Content (%)
				1"	3/4"	3/8"	#4	#10	#40	#60	#100	#200	Liquid Limit	Plastic Limit	Plasticity Index		
BR-12	2	SP	2.0 - 4.0	100	100	100	100	100	80	31	5	1	-	-	-	-	3
BR-14	1	SP-SM	0.2 - 2.0	100	100	93	91	89	69	34	13	9	-	-	-	-	4
BR-5	3	SP-SM	4.0 - 6.0	100	100	88	80	73	59	34	13	6	-	-	-	-	11
BR-8	2	SP-SM	2.0 - 4.0	-	-	-	-	-	-	-	-	8	-	-	-	-	3
BR-9	1	SP-SM	0.2 - 2.0	-	-	-	-	-	-	-	-	10	-	-	-	-	7
BR-11	8	SP	17.0 - 19.0	-	-	-	-	-	-	-	-	2	-	-	-	-	18
BR-12	6	SP	11.0 - 13.0	100	100	100	100	100	77	34	5	0	-	-	-	-	19
BR-12	27	SP	74.0 - 76.0	100	100	93	79	66	40	21	6	2	-	-	-	-	14
BR-14	14	SP	35.0 - 37.0	100	94	83	78	73	69	68	35	4	-	-	-	-	28
BR-14	8	SP	17.0 - 19.0	100	100	100	100	100	64	20	4	1	-	-	-	-	19
BR-2	7	SP	14.0 - 16.0	100	100	100	100	100	89	60	15	3	-	-	-	-	20
BR-5	12	SP	29.0 - 31.0	100	94	84	79	74	64	40	15	4	-	-	-	-	16
BR-8	6	SP	11.0 - 13.0	100	100	100	100	100	90	53	7	1	-	-	-	-	22
BR-8	29	SP	80.0 - 82.0	100	95	86	75	67	56	34	10	3	-	-	-	-	15
BR-9	5	SP	8.0 - 10.0	-	-	-	-	-	-	-	-	2	-	-	-	-	16
BR-3	9	SP-SM	20.0 - 22.0	-	-	-	-	-	-	-	-	5	-	-	-	-	28
BR-4	13	SP-SM	32.0 - 34.0	100	100	100	97	95	64	30	11	5	-	-	-	-	20
BR-13	28	SP-SM	77.0 - 79.0	-	-	-	-	-	-	-	-	5	-	-	-	-	14
BR-10	27	SP-SM	74.0 - 76.0	-	-	-	-	-	-	-	-	7	-	-	-	-	14
BR-9	27	SP-SM	74.0 - 76.0	-	-	-	-	-	-	-	-	7	-	-	-	-	15
BR-14	26	SM	71.0 - 73.0	-	-	-	-	-	-	-	-	13	-	-	-	-	20

GEOSOL, inc.

TABLE 3 - SUMMARY OF ENVIRONMENTAL CLASSIFICATION TEST RESULTS
SR 924 (GRATIGNY PARKWAY) EAST EXTENSION TO I-95
MIAMI-DADE COUNTY, FLORIDA
GEOSOL PROJECT No.: 210151

SAMPLE LOCATION	SAMPLE TYPE	Depth (ft)	pH	Resistivity (ohm-cm)	Chloride (ppm)	Sulfate (ppm)	FDOT ENVIRONMENTAL CLASSIFICATION	
							Steel	Concrete
P-1	WATER	7.2	7.2	2,080	46	5	MA	MA
P-2	WATER	7.7	7.3	1,860	10	16	MA	MA
P-3	WATER	4	7.1	4,120	7	25	MA	SA
BR-1	WATER	8	7.0	2,480	19	8	MA	MA
BR-13	WATER	9.7	10.1	1,910	46	10	MA	MA
BR-3	WATER	7.9	7.0	2,120	18	8	MA	MA

NOTES: (1) The following FDOT laboratory test methods were utilized:

FM5-550: pH FM5-552: Chlorides

FM5-551: Resistivity FM5-553: Sulfates

(2) SA: SLIGHTLY AGGRESSIVE

(3) MA: MODERATELY AGGRESSIVE

(4) EA: EXTREMELY AGGRESSIVE

(5) P-1, P-2 AND P-3 are percolation test locations submitted in our report dated January 18, 2011.

FDOT Criteria for Substructure Environmental Classification (FDOT *Structures Design Guidelines* 2011)

Classification	Environmental Condition	Units	Steel		Concrete	
			Water	Soil	Water	Soil
Extremely Aggressive (If any of these conditions exist)	pH		< 6.0		< 5.0	
	Cl	ppm	> 2000		> 2000	
	SO_4	ppm	N.A.		> 1500	> 2000
	Resistivity	Ohm-cm	< 1000		< 500	
Slightly Aggressive (If all of these conditions exist)	pH		> 7.0		> 6.0	
	Cl	ppm	< 500		< 500	
	SO_4	ppm	N.A.		< 150	< 1000
	Resistivity	Ohm-cm	> 5000		> 3000	
Moderately Aggressive	This classification must be used at all sites not meeting requirements for either slightly aggressive or extremely aggressive environments.					

pH = acidity ($-\log_{10}H^+$; potential of Hydrogen), Cl = chloride content, SO_4 = Sulfate content.

MOISTURE CONTENT TEST RESULTS (ASTM D-2216)

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
LOCATION: MIAMI-DADE COUNTY, FLORIDA
PROJECT No.: 210151
DATE: 03/23/2011

Boring No.	BR-9	BR-9	BR-9	BR-10	BR-11	BR-14	BR-14
Sample No.	1	27	5	27	8	26	14
Sample Depth (Feet)	0.2-2	74-76	8-10	74-76	17-19	71-73	35-37
Tare No.	19	202	B	1A	203	14	19
Tare plus wet soil (grams)	384.0	368.0	435.5	423.0	504.0	295.5	411.0
Tare plus dry soil (grams)	361.0	321.0	377.5	371.0	428.0	248.5	323.0
Water W_w (grams)	23.0	47.0	58.0	52.0	76.0	47.0	88.0
Tare (grams)	9.0	9.0	9.0	9.5	9.0	9.0	9.0
Dry soil W_s (grams)	352.0	312.0	368.5	361.5	419.0	239.5	314.0
Water Content w (%)	6.5	15.1	15.7	14.4	18.1	19.6	28.0

Boring No.	BR-14	BR-14	BR-13	BR-3	BR-12	BR-12	BR-12
Sample No.	8	1	28	9	2	6	27
Sample Depth (Feet)	17-19	0.2-2	77-79	20-22	2-4	11-13	74-76
Tare No.	202	25	22	3	508	14	B
Tare plus wet soil (grams)	421.0	253.0	360.5	310.5	435.0	441.0	341.5
Tare plus dry soil (grams)	354.5	243.5	318.0	244.5	422.5	371.0	300.5
Water W_w (grams)	66.5	9.5	42.5	66.0	12.5	70.0	41.0
Tare (grams)	9.5	9.5	9.0	9.0	9.0	9.5	9.0
Dry soil W_s (grams)	345.0	234.0	309.0	235.5	413.5	361.5	291.5
Water Content w (%)	19.3	4.1	13.8	28.0	3.0	19.4	14.1

Boring No.	BR-2	BR-4	BR-5	BR-5	BR-8	BR-8	BR-8
Sample No.	7	13	3	12	6	2	29
Sample Depth (Feet)	14-16	32-34	4-6	29-31	11-13	2-4	80-82
Tare No.	28	3	19	22	500	18	28
Tare plus wet soil (grams)	457.5	261.5	514.5	484.0	337.0	338.5	325.5
Tare plus dry soil (grams)	381.5	220.0	463.0	419.5	277.5	330.0	283.5
Water W_w (grams)	76.0	41.5	51.5	64.5	59.5	8.5	42.0
Tare (grams)	9.0	9.0	9.0	10.0	9.0	9.0	9.0
Dry soil W_s (grams)	372.5	211.0	454.0	409.5	268.5	321.0	274.5
Water Content w (%)	20.4	19.7	11.3	15.8	22.2	2.6	15.3

MATERIAL PASSING THE # 200 SIEVE TEST RESULTS (AASHTO T-11)

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
LOCATION: MIAMI-DADE COUNTY, FLORIDA
PROJECT No.: 210151
DATE: 03/23/2011

Boring No.	BR-9	BR-9	BR-9	BR-10	BR-11
Sample No.	1	27	5	27	8
Sample Depth (Feet)	0.2-2	74-76	8-10	74-76	17-19
Original Dry Weight of Soil (grams)	352	312	368.5	361.5	419.5
Weight of Soil After Washing (grams)	317.5	290.5	360.0	338.0	413.0
Weight of Soil Passing 200 Sieve (grams)	34.5	21.5	8.5	23.5	6.5
Percent of Soil Passing 200 Sieve (%)	9.8	6.9	2.3	6.5	1.5

Boring No.	BR-14	BR-14	BR-13	BR-3	BR-8
Sample No.	26	1	28	9	2
Sample Depth (Feet)	71-73	0.2-2	77-79	20-22	2-4
Original Dry Weight of Soil (grams)	239.5	234	309	235.5	321
Weight of Soil After Washing (grams)	208.0	214.0	295.0	224.0	296.0
Weight of Soil Passing 200 Sieve (grams)	31.5	20.0	14.0	11.5	25.0
Percent of Soil Passing 200 Sieve (%)	13.2	8.5	4.5	4.9	7.8

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-14
Sample No. 14
Depth (feet) 35-37

SOIL DESCRIPTION: Light Gray Fine to Medium SAND with Some Limestone Fragments
(FORT THOMPSON FORMATION SAND; SP)

Tare #	Dry Wt. - Tare Wt.
B	314.0

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	20.5	6.5	93.5	93.5	20.5
9.5	9.5mm 3/8"	52.0	16.6	83.4	83.4	31.5
4.75	4.75mm #4	70.0	22.3	77.7	77.7	18.0
2.36	2 mm #10	84.5	26.9	73.1	73.1	14.5
0.6	425um #40	96.5	30.7	69.3	69.3	12.0
0.3	250um #60	101.5	32.3	67.7	67.7	5.0
0.15	150um #100	203.0	64.6	35.4	35.4	101.5
0.075	75um #200	301.0	95.9	4.1	4.1	98.0
PAN	-	314.0	100.0	0.0	0.0	13.0

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4
Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

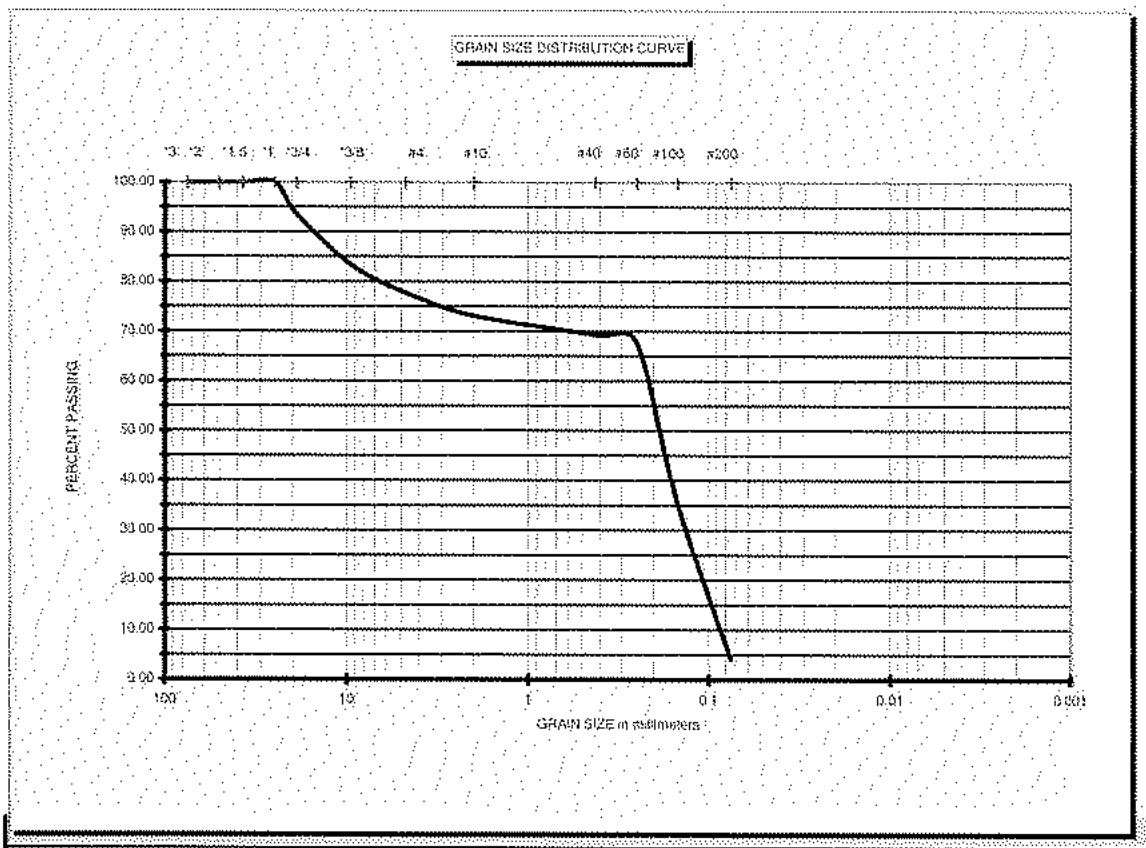
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-14 SAMPLE # 14 Depth (feet) 35-37

SOIL DESCRIPTION: Light Gray Fine to Medium SAND with Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)

Natural Moisture Content: 28.0%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-14
Sample No. 8
Depth (feet) 17-19

SOIL DESCRIPTION: Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND ;SP)

Tare #	Dry Wt. - Tare Wt.
B	345.0

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	0.0	0.0	100.0	100.0	0.0
4.75	4.75mm #4	0.0	0.0	100.0	100.0	0.0
2.36	2 mm #10	1.0	0.3	99.7	99.7	1.0
0.6	425um #40	126.0	36.5	63.5	63.5	125.0
0.3	250um #60	277.5	80.4	19.6	19.6	151.5
0.15	150um #100	331.0	95.9	4.1	4.1	53.5
0.075	75um #200	342.5	99.3	0.7	0.7	11.5
PAN	-	345.0	100.0	0.0	0.0	2.5

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

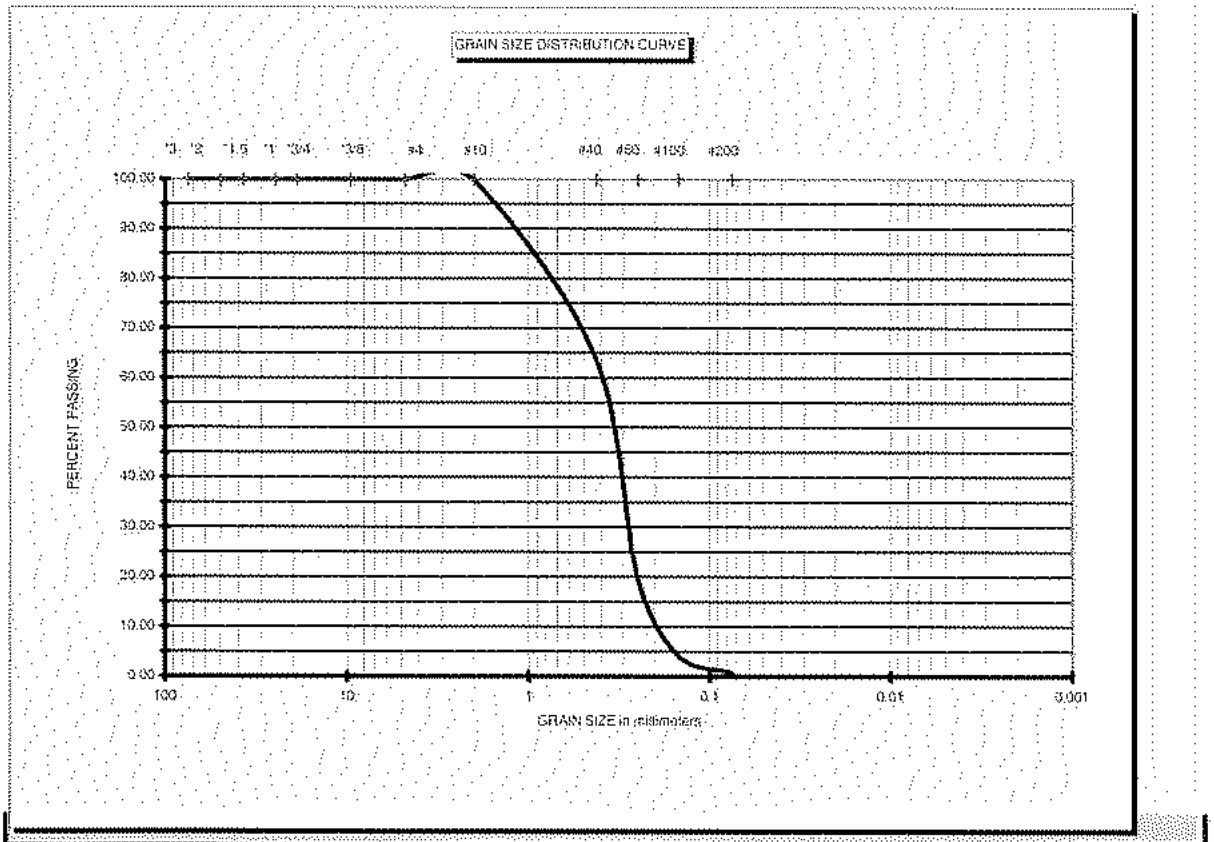
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-14 SAMPLE # 8 Depth (feet) 17-19

SOIL DESCRIPTION: Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND ;SP)

Natural Moisture Content: 19.3%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-14
Sample No. 1
Depth (feet) 0.2-2

SOIL DESCRIPTION: Brown Slightly Silty Fine to Medium SAND with Trace of Limerock Fragments (FILL; SP-SM)

Tare #	Dry Wt. - Tare Wt.
B	234.0

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	15.5	6.6	93.4	93.4	15.5
4.75	4.75mm #4	22.0	9.4	90.6	90.6	6.5
2.36	2 mm #10	25.5	10.9	89.1	89.1	3.5
0.6	425um #40	72.0	30.8	69.2	69.2	46.5
0.3	250um #60	154.5	66.0	34.0	34.0	82.5
0.15	150um #100	203.0	86.8	13.2	13.2	48.5
0.075	75um #200	213.5	91.2	8.8	8.8	10.5
PAN	-	234.0	100.0	0.0	0.0	20.5

NOTES: The percent of soil passing the -200 sieve was determined by wash method

ASTM D 2487 Classification of Soil for Engineering Purposes	
Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

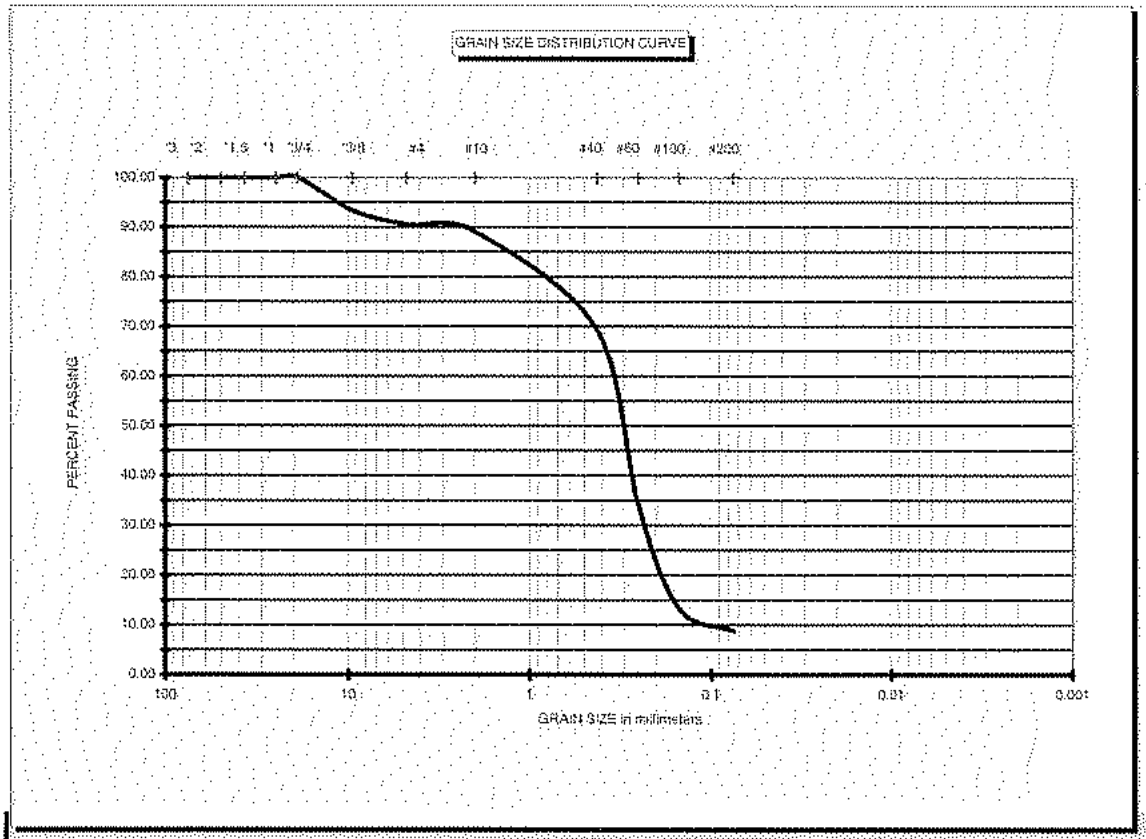
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-14 **SAMPLE #** 1 **Depth (feet)** 0.2-2

SOIL DESCRIPTION: Brown Slightly Silty Fine to Medium SAND with Trace of Limerock Fragments (FILL; SP-SM)

Natural Moisture Content: 4.1%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-12
Sample No. 2
Depth (feet) 2-4

SOIL DESCRIPTION: Brown Fine to Medium SAND (FILL; SP)

Tare #	Dry Wt. - Tare Wt.
B	413.5

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	0.0	0.0	100.0	100.0	0.0
4.75	4.75mm #4	0.0	0.0	100.0	100.0	0.0
2.36	2 mm #10	0.0	0.0	100.0	100.0	0.0
0.6	425um #40	83.5	20.2	79.8	79.8	83.5
0.3	250um #60	284.0	68.7	31.3	31.3	200.5
0.15	150um #100	394.5	95.4	4.6	4.6	110.5
0.075	75um #200	410.0	99.2	0.8	0.8	15.5
PAN	-	413.5	100.0	0.0	0.0	3.5

NOTES: The percent of soil passing the -200 sieve was determined by wash method

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

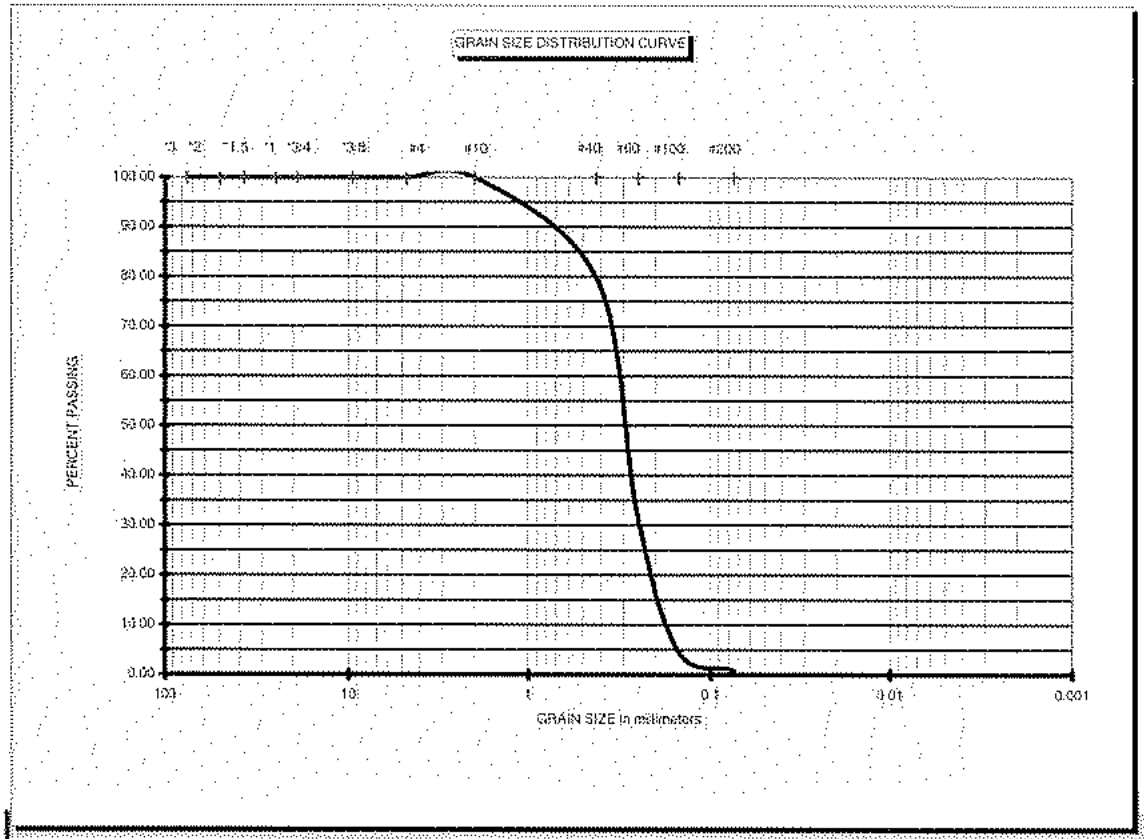
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-12 SAMPLE # 2 Depth (feet) 2-4

SOIL DESCRIPTION: Brown Fine to Medium SAND (FILL; SP)

Natural Moisture Content: 3.0%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-12
Sample No. 6
Depth (feet) 11-13

SOIL DESCRIPTION: Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND ,SP)

Tare #	Dry Wt. - Tare Wt.
B	361.5

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	0.0	0.0	100.0	100.0	0.0
4.75	4.75mm #4	0.0	0.0	100.0	100.0	0.0
2.36	2 mm #10	0.0	0.0	100.0	100.0	0.0
0.6	425um #40	84.5	23.4	76.6	76.6	84.5
0.3	250um #60	239.0	66.1	33.9	33.9	154.5
0.15	150um #100	342.0	94.6	5.4	5.4	103.0
0.075	75um #200	360.5	99.7	0.3	0.3	18.5
PAN	-	361.5	100.0	0.0	0.0	1.0

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

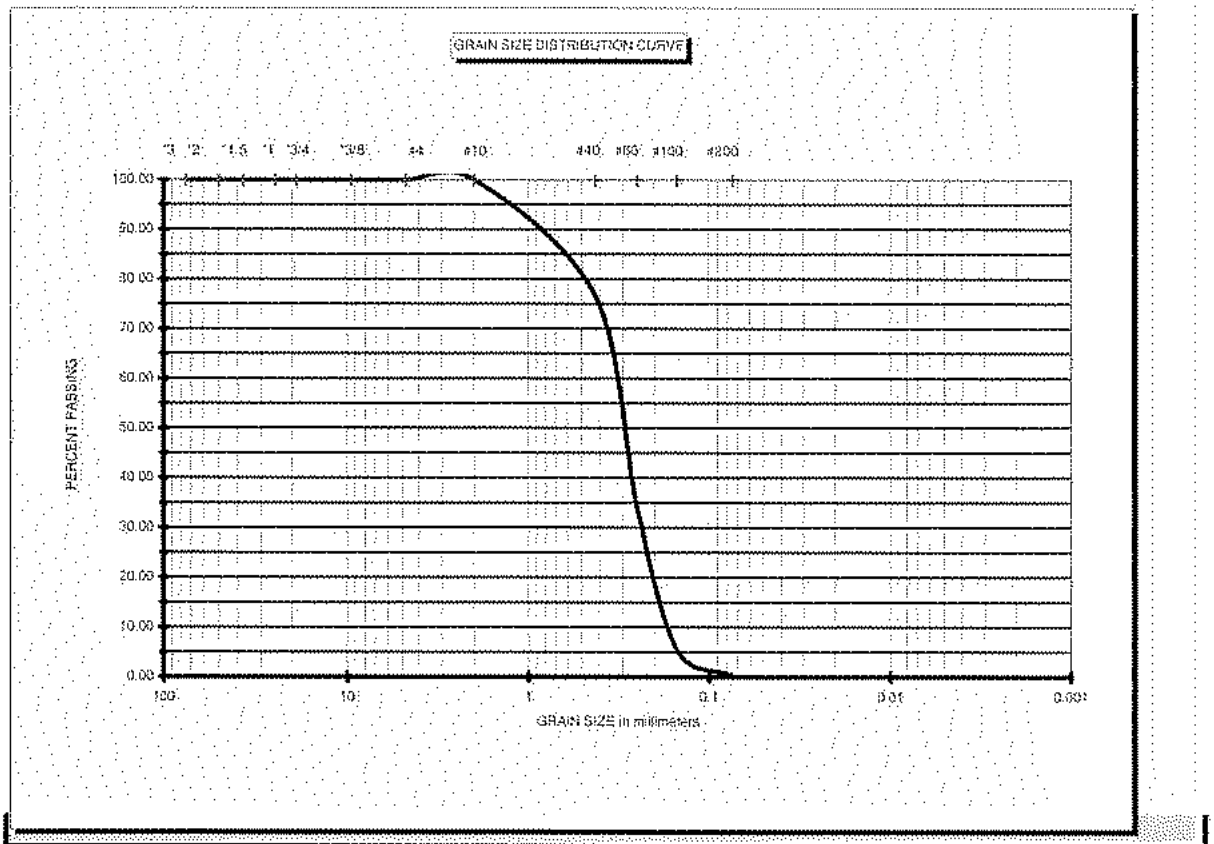
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-12 SAMPLE # 6 Depth (feet) 11-13

SOIL DESCRIPTION: Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND ;SP)

Natural Moisture Content: 19.4%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-12
Sample No. 27
Depth (feet) 74-76

SOIL DESCRIPTION: Light Gray Fine to Coarse SAND with Some Limestone Fragments
(FORT THOMPSON FORMATION SAND; SP)

Tare #	Dry Wt. - Tare Wt.
B	291.5

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	19.5	6.7	93.3	93.3	19.5
4.75	4.75mm #4	62.0	21.3	78.7	78.7	42.5
2.36	2 mm #10	100.5	34.5	65.5	65.5	38.5
0.6	425um #40	174.0	59.7	40.3	40.3	73.5
0.3	250um #60	230.5	79.1	20.9	20.9	56.5
0.15	150um #100	274.0	94.0	6.0	6.0	43.5
0.075	75um #200	286.5	98.3	1.7	1.7	12.5
PAN	-	291.5	100.0	0.0	0.0	5.0

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

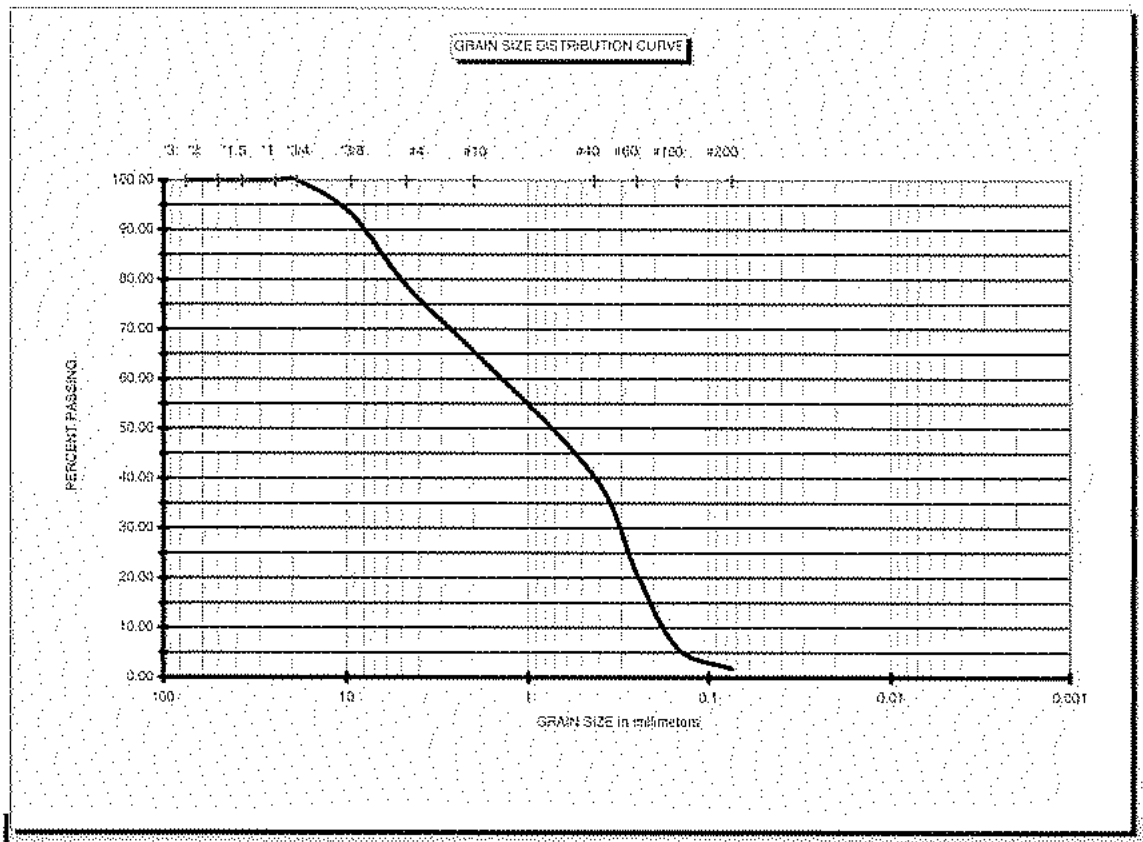
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-12 SAMPLE # 27 Depth (feet) 74-76

SOIL DESCRIPTION: Light Gray Fine to Coarse SAND with Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)

Natural Moisture Content: 14.1%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-2
Sample No. 7
Depth (feet) 14-16

SOIL DESCRIPTION: Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND (SP)

Tare #	Dry Wt. - Tare Wt.
B	372.5

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	0.0	0.0	100.0	100.0	0.0
4.75	4.75mm #4	0.0	0.0	100.0	100.0	0.0
2.36	2 mm #10	0.0	0.0	100.0	100.0	0.0
0.6	425um #40	40.0	10.7	89.3	89.3	40.0
0.3	250um #60	148.0	39.7	60.3	60.3	108.0
0.15	150um #100	316.0	84.8	15.2	15.2	168.0
0.075	75um #200	360.5	96.8	3.2	3.2	44.5
PAN	-	372.5	100.0	0.0	0.0	12.0

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

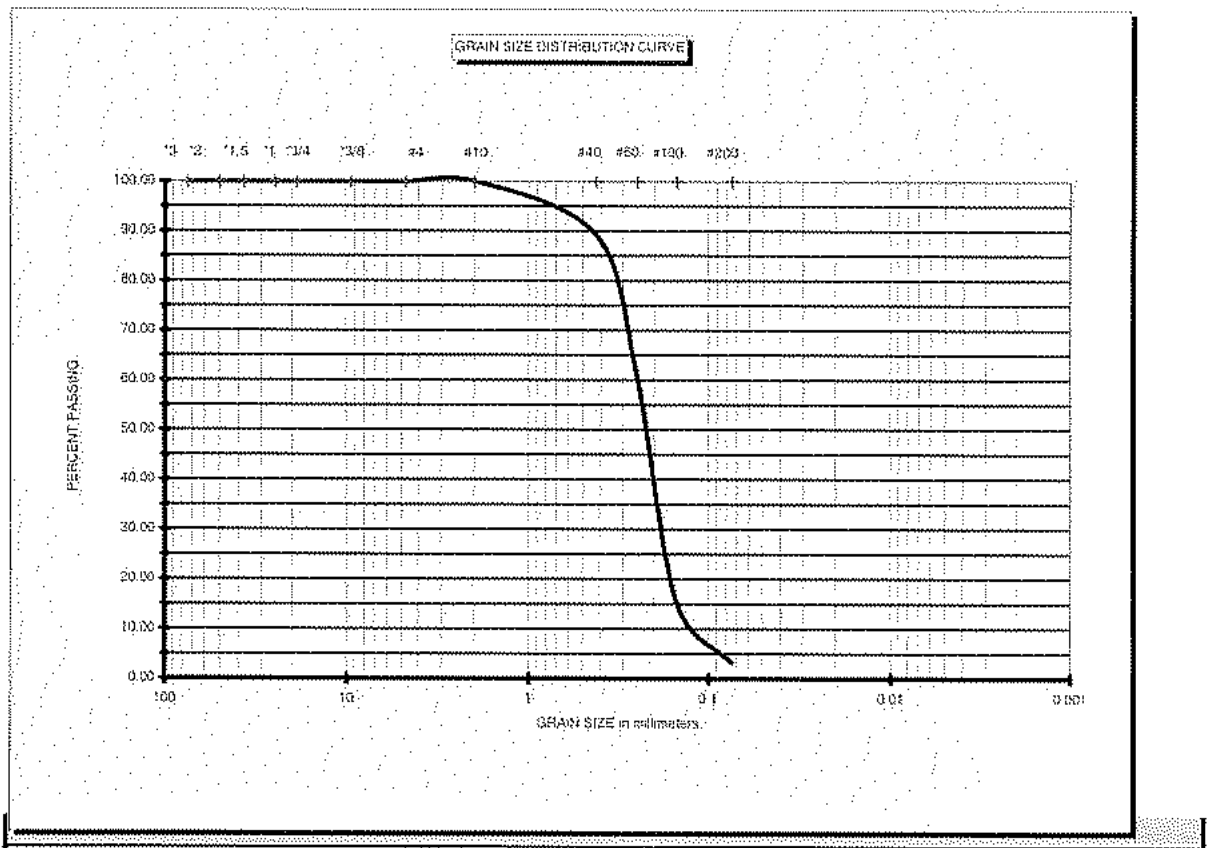
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-2 SAMPLE # 7 Depth (feet) 14-16

SOIL DESCRIPTION: Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND ;SP)

Natural Moisture Content: 20.4%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-4
Sample No. 13
Depth (feet) 32-34

SOIL DESCRIPTION: Brown Slightly Silty Fine to Medium SAND with Trace of Limestone Fragments
(FORT THOMPSON FORMATION SAND ,SP-SM)

Tare #	Dry Wt. - Tare Wt.
B	211.0

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	1.0	0.5	99.5	99.5	1.0
4.75	4.75mm #4	6.5	3.1	96.9	96.9	5.5
2.36	2 mm #10	11.0	5.2	94.8	94.8	4.5
0.6	425um #40	76.0	36.0	64.0	64.0	65.0
0.3	250um #60	147.5	69.9	30.1	30.1	71.5
0.15	150um #100	188.5	89.3	10.7	10.7	41.0
0.075	75um #200	201.5	95.5	4.5	4.5	13.0
PAN	-	211.0	100.0	0.0	0.0	9.5

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4
Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

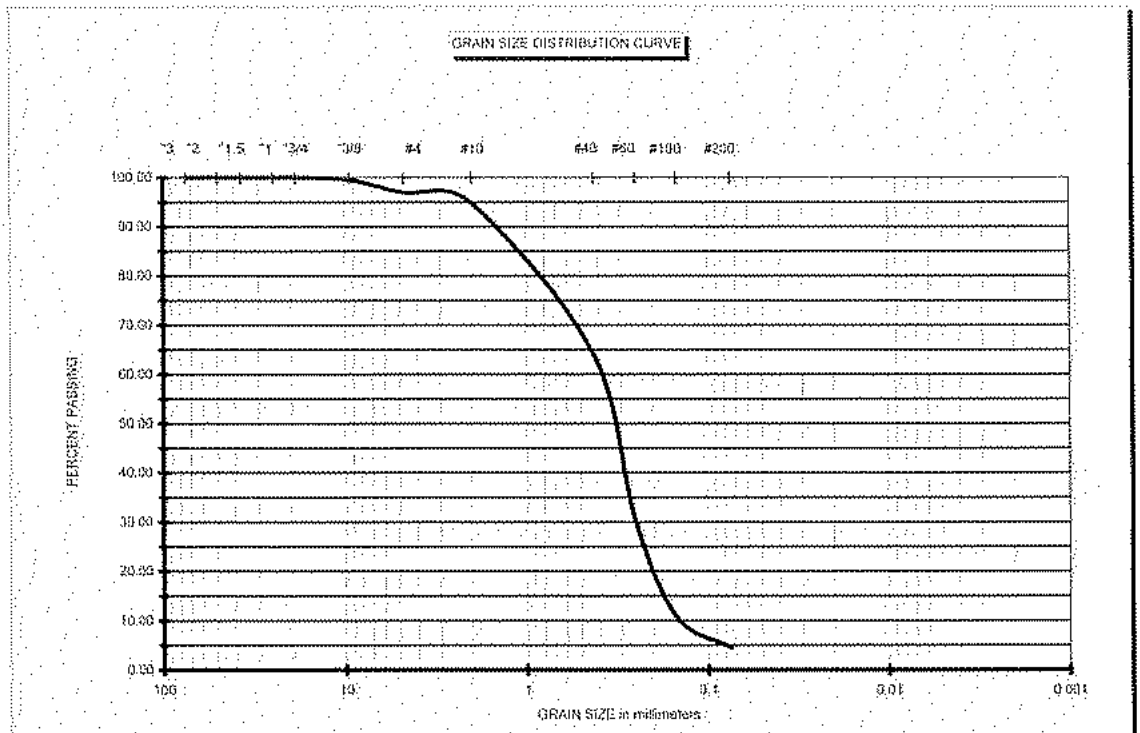
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-4 **SAMPLE #** 13 **Depth (feet)** 32-34

SOIL DESCRIPTION: Brown Slightly Silty Fine to Medium SAND with Trace of Limestone Fragments (FORT THOMPSON FORMATION SAND ;SP-SM)

Natural Moisture Content: 19.7%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-5
Sample No. 3
Depth (feet) 4-6

SOIL DESCRIPTION: Brown Slightly Silty Fine to Medium SAND with Some Limerock Fragments (FILL; SP-SM)

Tare #	Dry Wt. - Tare Wt.
B	454.0

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	55.0	12.1	87.9	87.9	55.0
4.75	4.75mm #4	92.5	20.4	79.6	79.6	37.5
2.36	2 mm #10	123.5	27.2	72.8	72.8	31.0
0.6	425um #40	186.0	41.0	59.0	59.0	62.5
0.3	250um #60	301.5	66.4	33.6	33.6	115.5
0.15	150um #100	396.5	87.3	12.7	12.7	95.0
0.075	75um #200	425.0	93.6	6.4	6.4	28.5
PAN	-	454.0	100.0	0.0	0.0	29.0

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

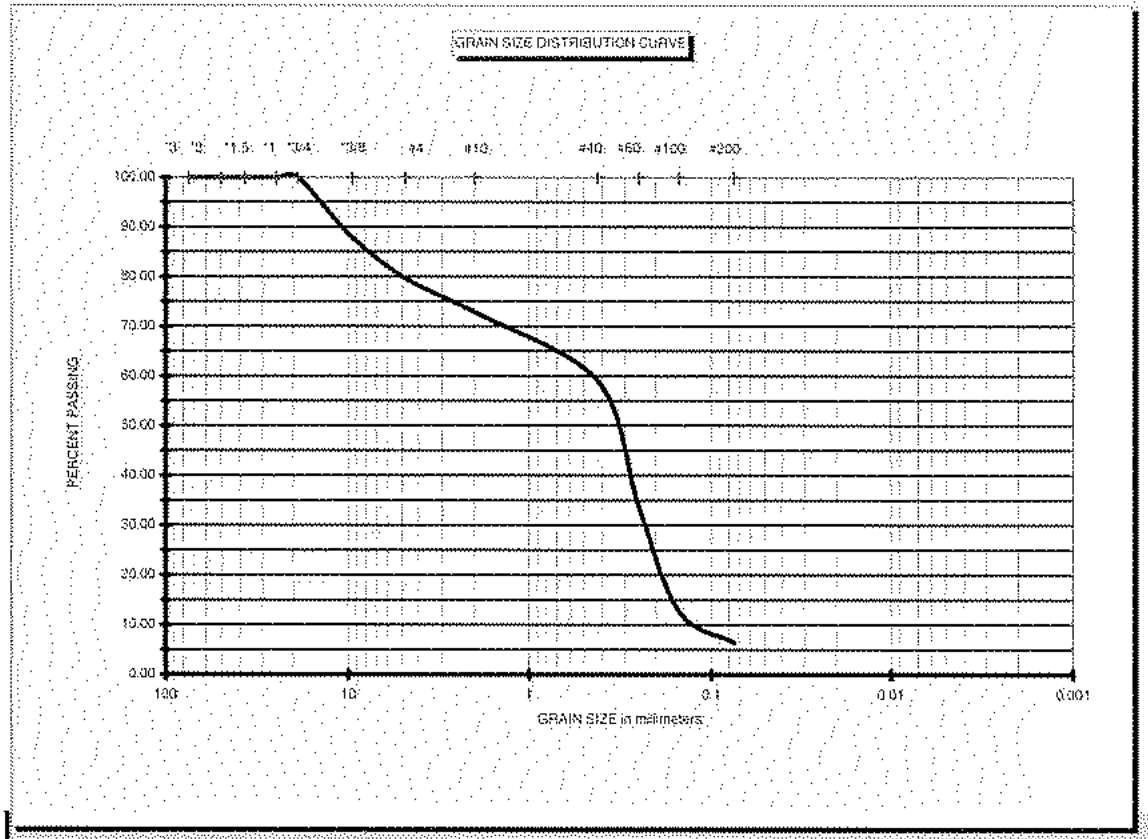
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-5 **SAMPLE #** 3 **Depth (feet)** 4-6

SOIL DESCRIPTION: Brown Slightly Silty Fine to Medium SAND with Some Limerock Fragments (FILL; SP-SM)

Natural Moisture Content: 11.3%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-5
Sample No. 12
Depth (feet) 29-31

SOIL DESCRIPTION: Brown Fine to Medium SAND with Some Limestone Fragments (FORT THOMPSON FORMATION SAND ;SP)

Tare #	Dry Wt. - Tare Wt.
B	409.5

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	24.0	5.9	94.1	94.1	24.0
9.5	9.5mm 3/8"	64.5	15.8	84.2	84.2	40.5
4.75	4.75mm #4	87.0	21.2	78.8	78.8	22.5
2.36	2 mm #10	106.5	26.0	74.0	74.0	19.5
0.6	425um #40	148.5	36.3	63.7	63.7	42.0
0.3	250um #60	245.5	60.0	40.0	40.0	97.0
0.15	150um #100	347.5	84.9	15.1	15.1	102.0
0.075	75um #200	394.5	96.3	3.7	3.7	47.0
PAN	-	409.5	100.0	0.0	0.0	15.0

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

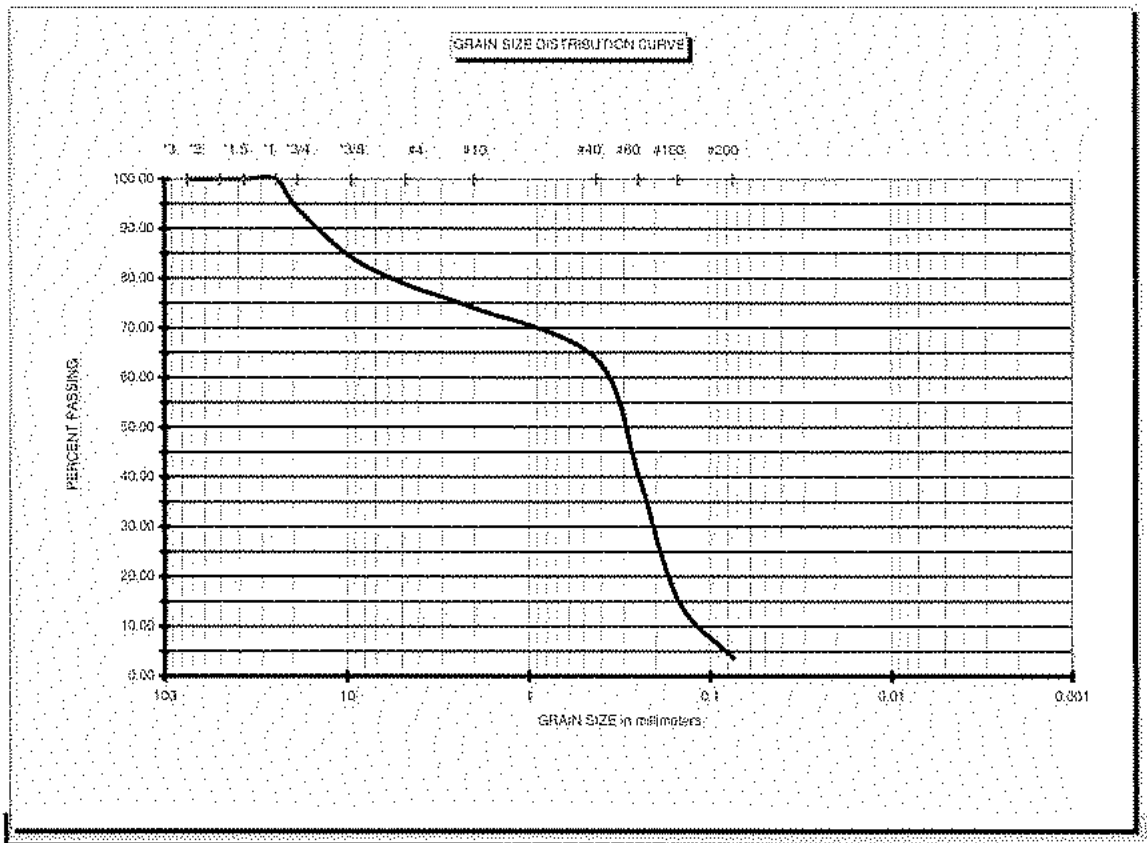
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-5 SAMPLE # 12 Depth (feet) 29-31

SOIL DESCRIPTION: Brown Fine to Medium SAND with Some Limestone Fragments
(FORT THOMPSON FORMATION SAND ;SP)

Natural Moisture Content: 15.8%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-6
Sample No. 6
Depth (feet) 11-13

SOIL DESCRIPTION: Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND ;SP)

Tare #	Dry Wt. - Tare Wt.
B	268.5

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	0.0	0.0	100.0	100.0	0.0
9.5	9.5mm 3/8"	0.0	0.0	100.0	100.0	0.0
4.75	4.75mm #4	0.0	0.0	100.0	100.0	0.0
2.36	2 mm #10	0.0	0.0	100.0	100.0	0.0
0.6	425um #40	27.0	10.1	89.9	89.9	27.0
0.3	250um #60	126.0	46.9	53.1	53.1	99.0
0.15	150um #100	249.0	92.7	7.3	7.3	123.0
0.075	75um #200	266.5	99.3	0.7	0.7	17.5
PAN	-	268.5	100.0	0.0	0.0	2.0

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

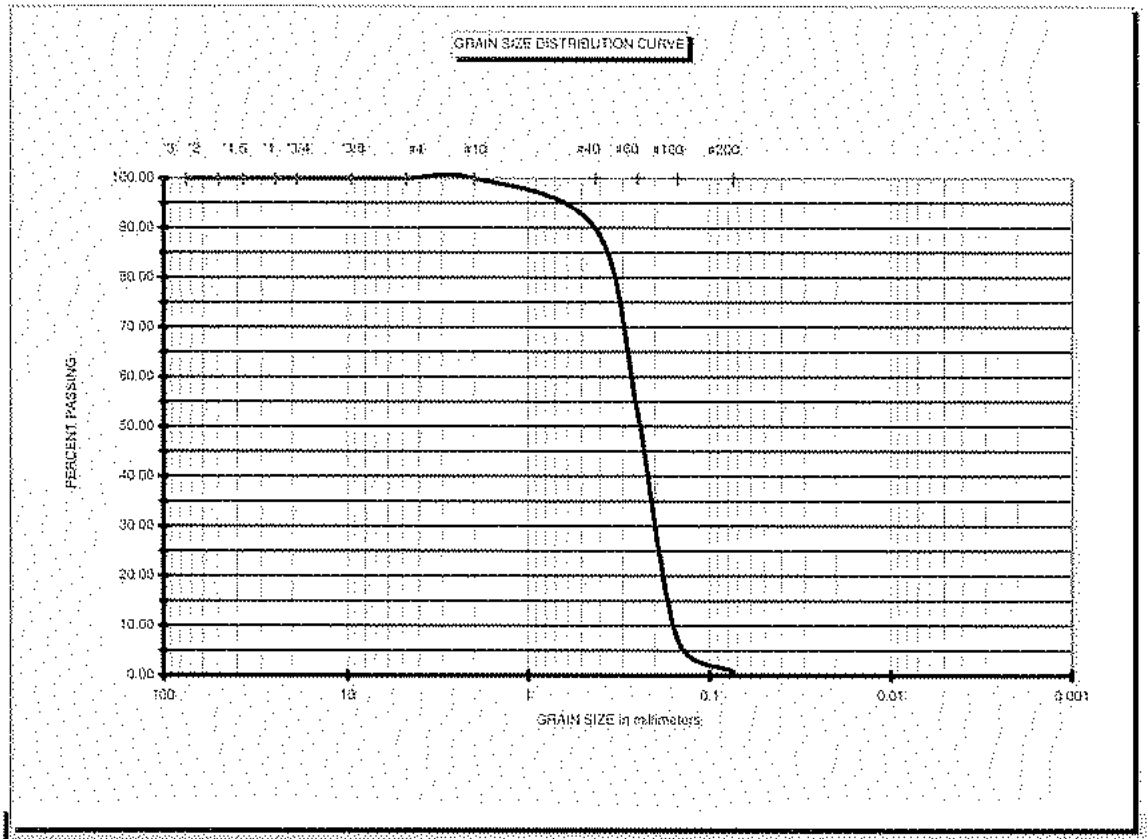
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-8 SAMPLE # 6 Depth (feet) 11-13

SOIL DESCRIPTION: Brown Fine to Medium SAND (FORT THOMPSON FORMATION SAND ;SP)

Natural Moisture Content: 22.2%

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY

Boring No. BR-8
Sample No. 29
Depth (feet) 80-82

SOIL DESCRIPTION: Light Gray Fine to Coarse SAND with Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)

Tare #	Dry Wt. - Tare Wt.
B	274.5

Sieve Size	Sieve Sizes	Cumulative Wt. Retained	% RETAINED	% PASSING	% PASSING TOTAL SAMPLE	WEIGHT RETAINED (Grams)
75	75mm 3"	0.0	0.0	100	100	0.0
50	50mm 2"	0.0	0.0	100	100	0.0
37.5	37.5mm 1.5"	0.0	0.0	100.0	100.0	0.0
25	25mm 1"	0.0	0.0	100.0	100.0	0.0
19	19mm 3/4"	15.0	5.5	94.5	94.5	15.0
9.5	9.5mm 3/8"	37.5	13.7	86.3	86.3	22.5
4.75	4.75mm #4	67.5	24.6	75.4	75.4	30.0
2.36	2 mm #10	91.0	33.2	66.8	66.8	23.5
0.6	425um #40	121.0	44.1	55.9	55.9	30.0
0.3	250um #60	181.0	65.9	34.1	34.1	60.0
0.15	150um #100	246.0	89.6	10.4	10.4	65.0
0.075	75um #200	267.5	97.4	2.6	2.6	21.5
PAN	-	274.5	100.0	0.0	0.0	7.0

NOTES:

ASTM D 2487 Classification of Soil for Engineering Purposes

Coarse Gravel	< 3" and > 3/4"
Fine Gravel	< 3/4" and > #4

Coarse Sand	< #4 and > #10
Medium Sand	< #10 and > #40
Fine Sand	< #40 and > #200

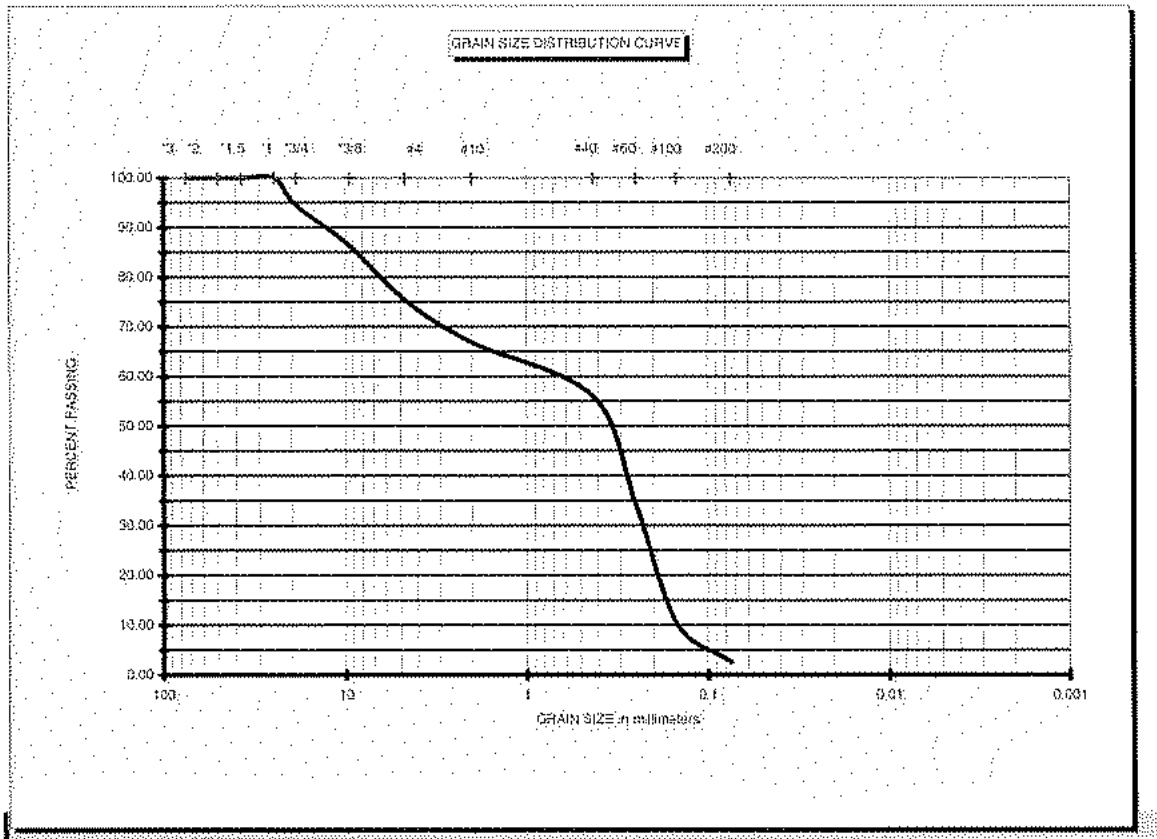
Cu = D60 / D10
Cc = (D30)^2 / (D10 x D60)
1000 um = 1 mm

tested by: O. Riccobono computed by: O. Riccobono checked by: D.R.

GRAIN SIZE DATA SHEET

DATE: 3/23/2011

PROJECT NAME: PD&E STUDY SR 924 EAST EXTENSION TO I-95
GEOSOL PROJECT No. 210151
GENERAL LOCATION: MIAMI-DADE COUNTY



ASTM D 2487 Classification of Soil for Engineering Purposes			Coarse Sand	< #4 and > #10	Cu = D60 / D10
Coarse Gravel	< 3" and > 3/4"		Medium Sand	< #10 and > #40	Cc = (D30)^2 / (D10 x D60)
Fine Gravel	< 3/4" and > #4		Fine Sand	< #40 and > #200	

BORING # BR-8 SAMPLE # 29 Depth (feet) 80-82

SOIL DESCRIPTION: Light Gray Fine to Coarse SAND with Some Limestone Fragments (FORT THOMPSON FORMATION SAND; SP)

Natural Moisture Content: 15.3%

XENCO Laboratories
Florida Testing Services, LLC

Certificate of Analytical Results 399212

nelac

Geosol Inc., Miami Lakes, FL

MDX 924 EAST EXTENTION TO I-95

Sample Id: **P-1**	Matrix: **Water**	% Moisture:
Lab Sample Id: **399212-001**	Date Collected: **Dec-01-10 14:00**	
	Date Received: **Dec-03-10 12:35**	

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: DAH Date Prep: Dec-08-10 04:46 Tech: DAH

Seq Number: 835123

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.6	0.500	0.066	mg/L	12/08/10 04:46		1
Sulfate	14808-79-8	5.37	0.500	0.076	mg/L	12/08/10 04:46		1

Analytical Method: Resistivity by ASTM D1125

Analyst: KLH Tech: KLH

Seq Number: 834777

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
Resistivity (as received)	RESISTIVIT	2080	10.0	10.0	Ohm-c	12/07/10 14:00		1

Analytical Method: pH by SM4500-H

Analyst: DAH Tech: DAH

Seq Number: 834502

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	7.20	1.00	1.00	SU	12/04/10 19:30	Q	1

Project: I-595 (ITS Project)

Final 1.000

XENCO Laboratories
Florida Testing Services, LLC

Certificate of Analytical Results 399212

nelac

Geosol Inc., Miami Lakes, FL

MDX 924 EAST EXTENTION TO I-95

Sample Id: **P-2**	Matrix: **Water**	% Moisture:
Lab Sample Id: **399212-002**	Date Collected: **Dec-01-10 14:00**	
	Date Received: **Dec-03-10 12:35**	

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: DAH Date Prep: Dec-08-10 05:32 Tech: DAH

Seq Number: 835123

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.0	0.500	0.066	mg/L	12/08/10 05:32		1
Sulfate	14808-79-8	15.5	0.500	0.076	mg/L	12/08/10 05:32		1

Analytical Method: Resistivity by ASTM D1125

Analyst: KLH Tech: KLH

Seq Number: 834777

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
Resistivity (as received)	RESISTIVIT	1860	10.0	10.0	Ohm-c	12/07/10 14:00		1

Analytical Method: pH by SM4500-H

Analyst: DAH Tech: DAH

Seq Number: 834502

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	7.30	1.00	1.00	SU	12/04/10 19:30	Q	1

Project: I-595 (ITS Project)

Final 1.000

XENCO Laboratories
Florida Testing Services, LLC

Certificate of Analytical Results 399212

nelac

Geosol Inc., Miami Lakes, FL

MDX 924 EAST EXTENTION TO I-95

Sample Id: **P-3**	Matrix: **Water**	% Moisture:
Lab Sample Id: **399212-003**	Date Collected: **Dec-01-10 14:00**	
	Date Received: **Dec-03-10 12:35**	

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: DAH Date Prep: Dec-08-10 05:48 Tech: DAH
Seq Number: 835123

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.10	0.500	0.066	mg/L	12/08/10 05:48		1
Sulfate	14808-79-8	24.9	0.500	0.076	mg/L	12/08/10 05:48		1

Analytical Method: Resistivity by ASTM D1125

Analyst: KLH Tech: KLH
Seq Number: 834777

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
Resistivity (as received)	RESISTIVIT	4120	10.0	10.0	Ohm-c	12/07/10 14:00		1

Analytical Method: pH by SM4500-H

Analyst: DAH Tech: DAH
Seq Number: 834502

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	7.14	1.00	1.00	SU	12/04/10 19:30	Q	1

Project: I-395 (ITS Project)

Final 1.000

XENCO Laboratories
Florida Testing Services, LLC

Certificate of Analytical Results 402953

Geosol Inc., Miami Lakes, FL

SR924 PD & E Study

Sample Id: BR-1	Matrix: **Ground Water**	% Moisture:
Lab Sample Id: **402953-001**	Date Collected: **Jan-05-11 14:00**	
	Date Received: **Jan-07-11 13:05**	

Analytical Method: pH by SM4500-H

Analyst: KLH — Tech: KLH
Seq Number: 839012

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	7.71	1.00	1.00	SU	01/10/11 09:15	Q	1

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P

Analyst: DAH — Date Prep: Jan-15-11 03:51 — Tech: DAH
Seq Number: 840007

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.5**	0.500	0.066	mg/L	01/15/11 03:51		1
Sulfate	14808-79-8	**8.31**	0.500	0.076	mg/L	01/15/11 03:51		1

Analytical Method: Resistivity by ASTM D1125

Analyst: KLH — Tech: KLH
Seq Number: 839019

Parameter	Cas Number	Result	PQL	MDL	Units	Analysis Date	Flag	Dil
Resistivity (as received)	RESISTIVIT	**2480**	10.0	10.0	Ohm-c	01/10/11 14:25		1

Project: Florida Standard List of Methods

XENCO Laboratories
Florida Testing Services, LLC

Certificate of Analytical Results 406999

Geosol Inc., Miami Lakes, FL

SR 924 PDEE STUDY

Sample Id: BR-13	**Matrix:** Water	**% Moisture:**
Lab Sample Id: 406999-001	**Date Collected:** Feb-11-11 14:00	
	Date Received: Feb-16-11 14:50	

Analytical Method: pH by SM4500-H
Analyst: KLH **Tech:** KLH
Seq Number: 844130

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	7.42	0.100	0.100	SU	02/17/11 14:20	Q	1

Analytical Method: Inorganic Anions by EPA 300 **Prep Method:** E300P
Analyst: DAH **Date Prep:** Feb-19-11 00:28 **Tech:** DAH
Seq Number: 844710

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.7	0.500	0.0664	mg/L	02/19/11 00:28		1
Sulfate	14808-79-8	9.72	0.500	0.0755	mg/L	02/19/11 00:28		1

Analytical Method: Resistivity by ASTM D1125
Analyst: KLH **Tech:** KLH
Seq Number: 844284

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Resistivity (as received)	RESISTIVITY	1910	10.0	10.0	Ohm-c	02/18/11 12:30		1

Project: Florida Standard List of Methods

XENCO Laboratories
Florida Testing Services, LLC

Certificate of Analytical Results 407324

Geosol Inc., Miami Lakes, FL

SR 9245 PD & E Study

Sample Id: BR-3	**Matrix:** Water	**% Moisture:**
Lab Sample Id: 407324-001	**Date Collected:** Feb-16-11 14:00	
	Date Received: Feb-18-11 18:00	

Analytical Method: pH by SM4500-H
Analyst: RGF **Tech:** RPO
Seq Number: 844408

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	7.57	0.100	0.100	SU	02/19/11 13:30	Q	1

Analytical Method: Inorganic Anions by EPA 300 **Prep Method:** E300P
Analyst: DAH **Date Prep:** Feb-23-11 02:33 **Tech:** DAH
Seq Number: 844883

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.0	0.500	0.0664	mg/L	02/23/11 02:33		1
Sulfate	14808-79-8	8.39	0.500	0.0755	mg/L	02/23/11 02:33		1

Analytical Method: Resistivity by ASTM D1125
Analyst: KLH **Tech:** KLH
Seq Number: 844707

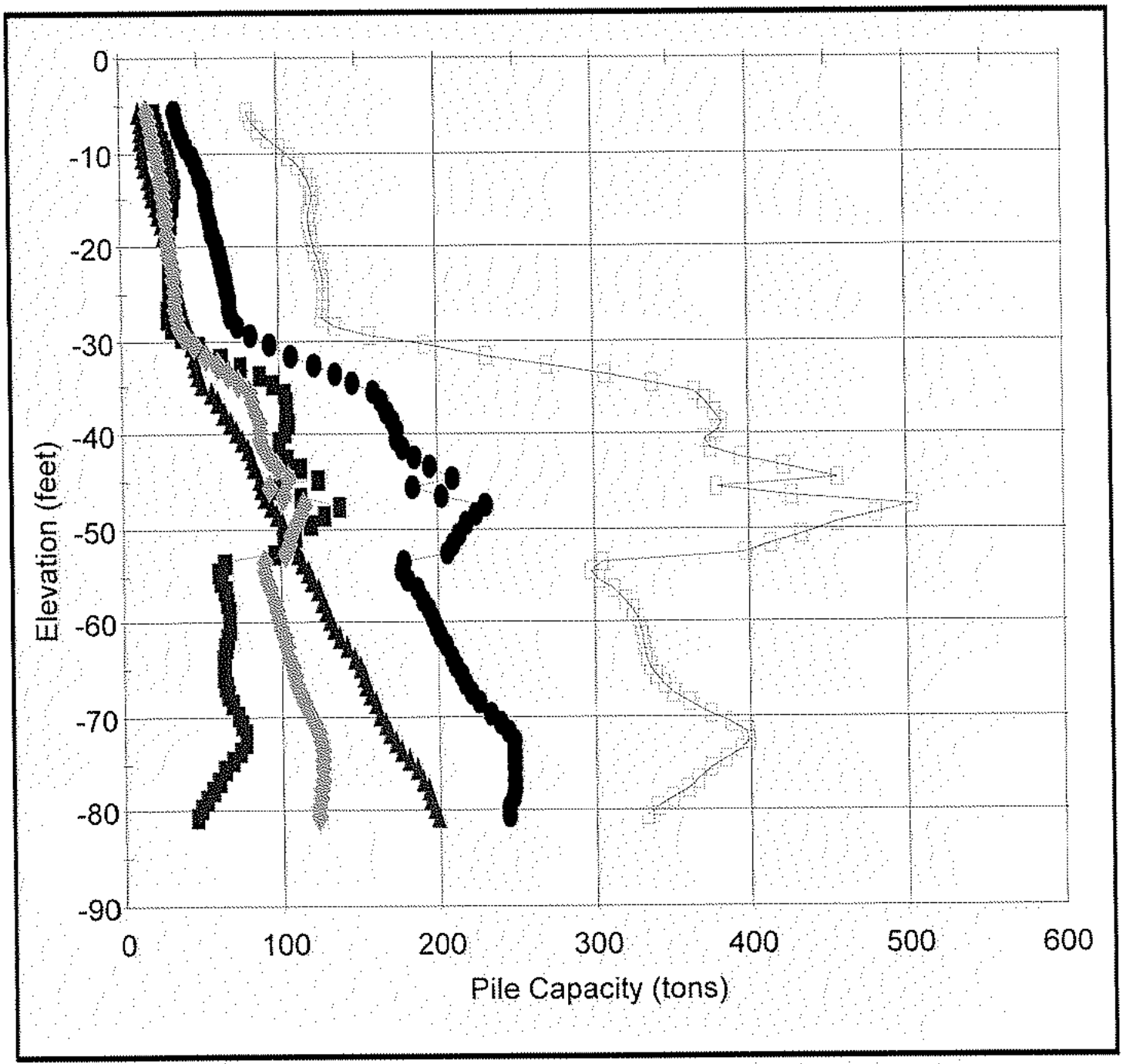
Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Resistivity (as received)	RESISTIVITY	2120	10.0	10.0	Ohm-c	02/22/11 14:25		1

Project: Florida Standard List of Methods

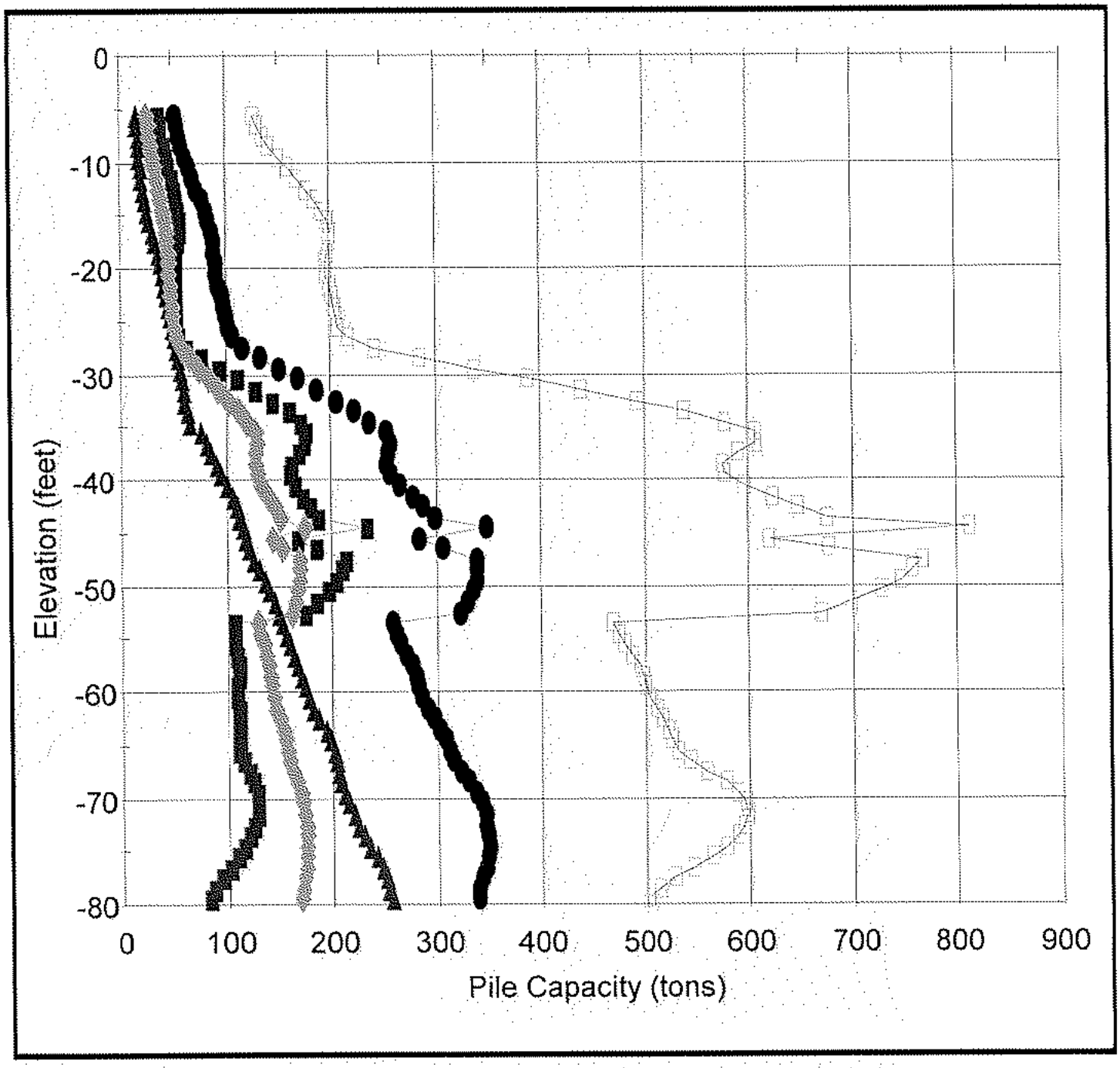
APPENDIX "D"

Driven Piles: "SPT97" Compression Pile Capacity Graphs & Output Printouts
SPT Automatic Hammer vs. Safety Hammer N-Values
Drilled Shafts: Preliminary Axial Compression Calculations
Derivation of Design Geotechnical Parameters

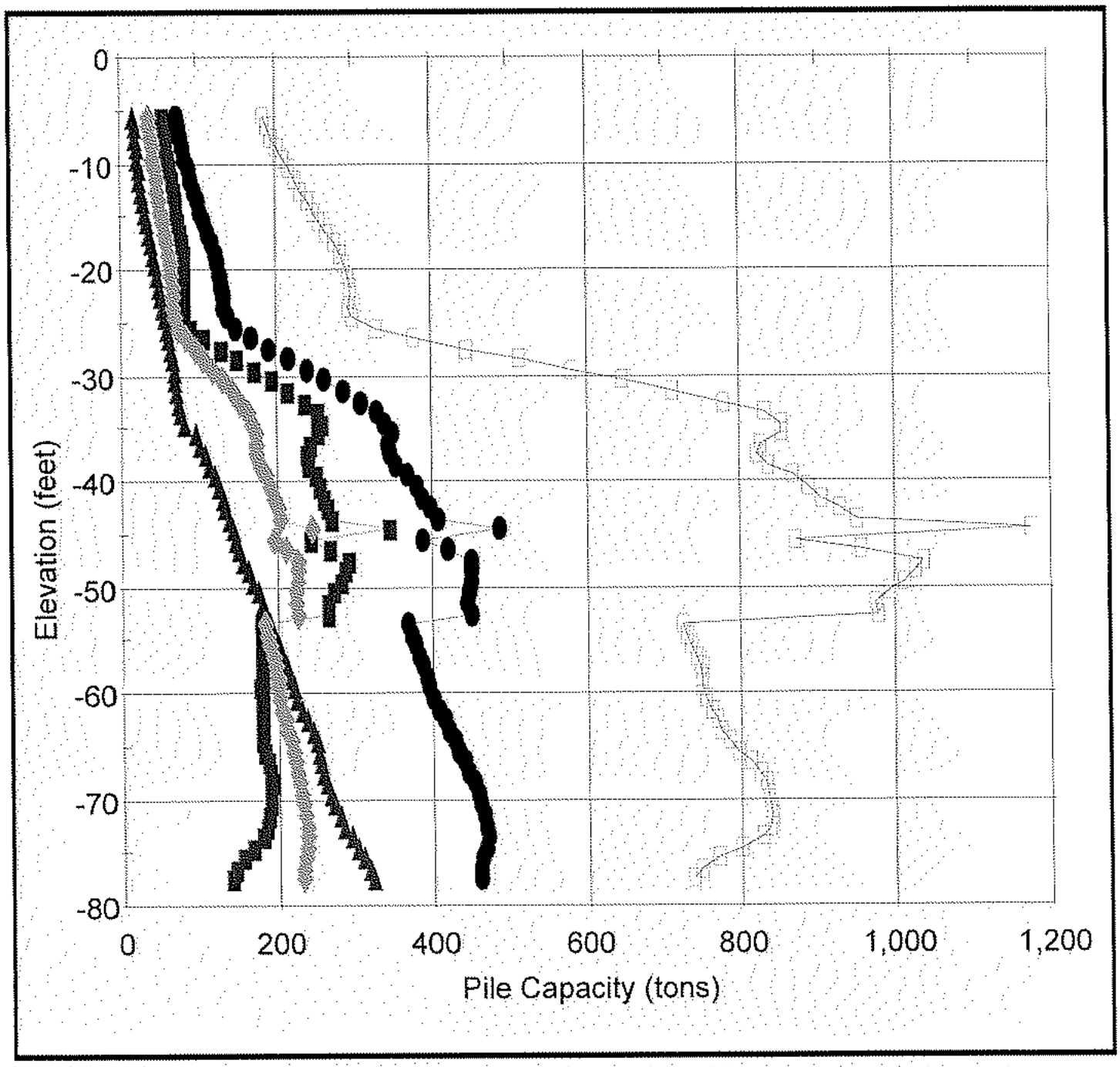
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-1
Pile Capacities for Pile Width of: 18.00 in



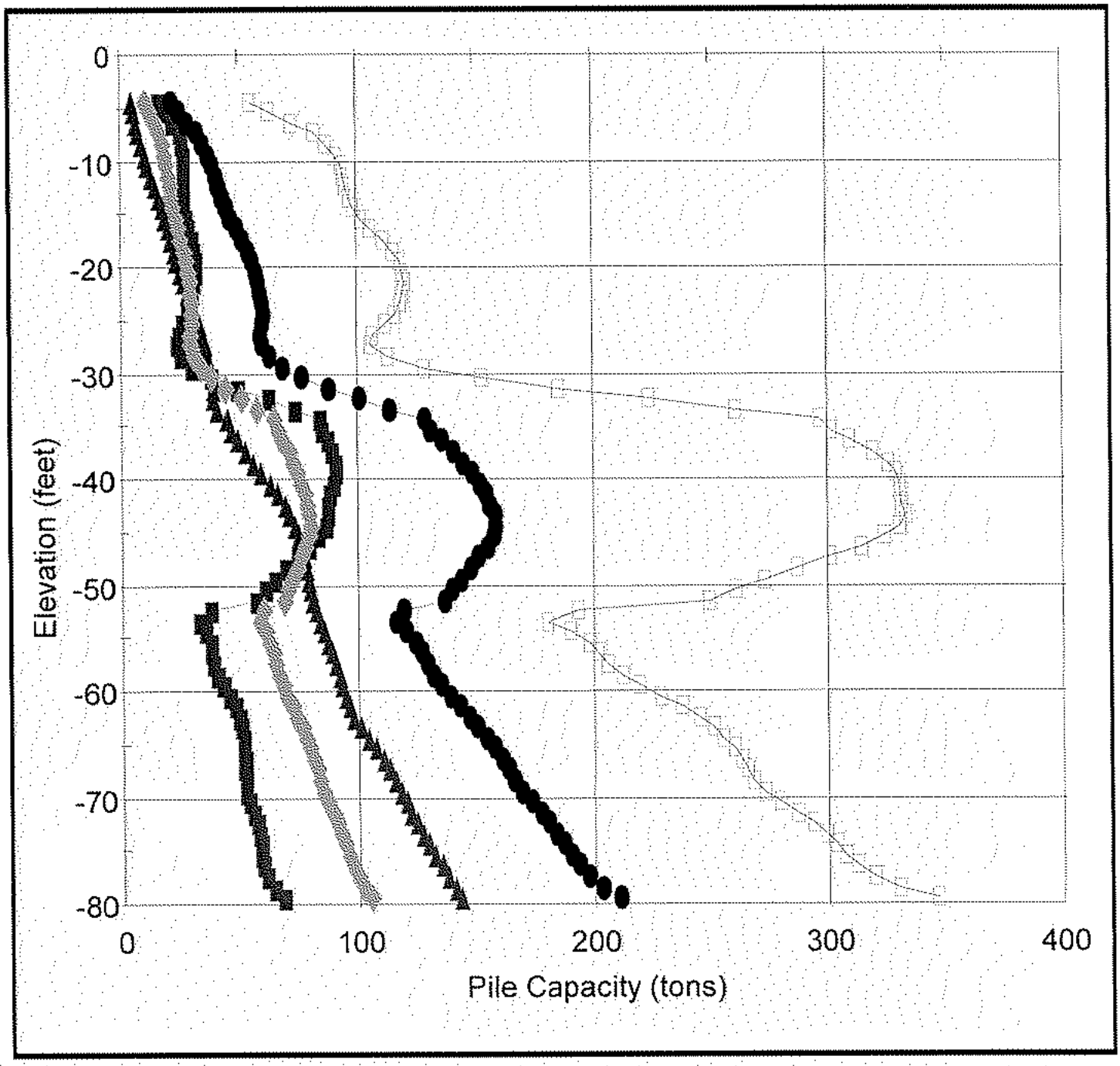
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-1
Pile Capacities for Pile Width of: 24.00 in



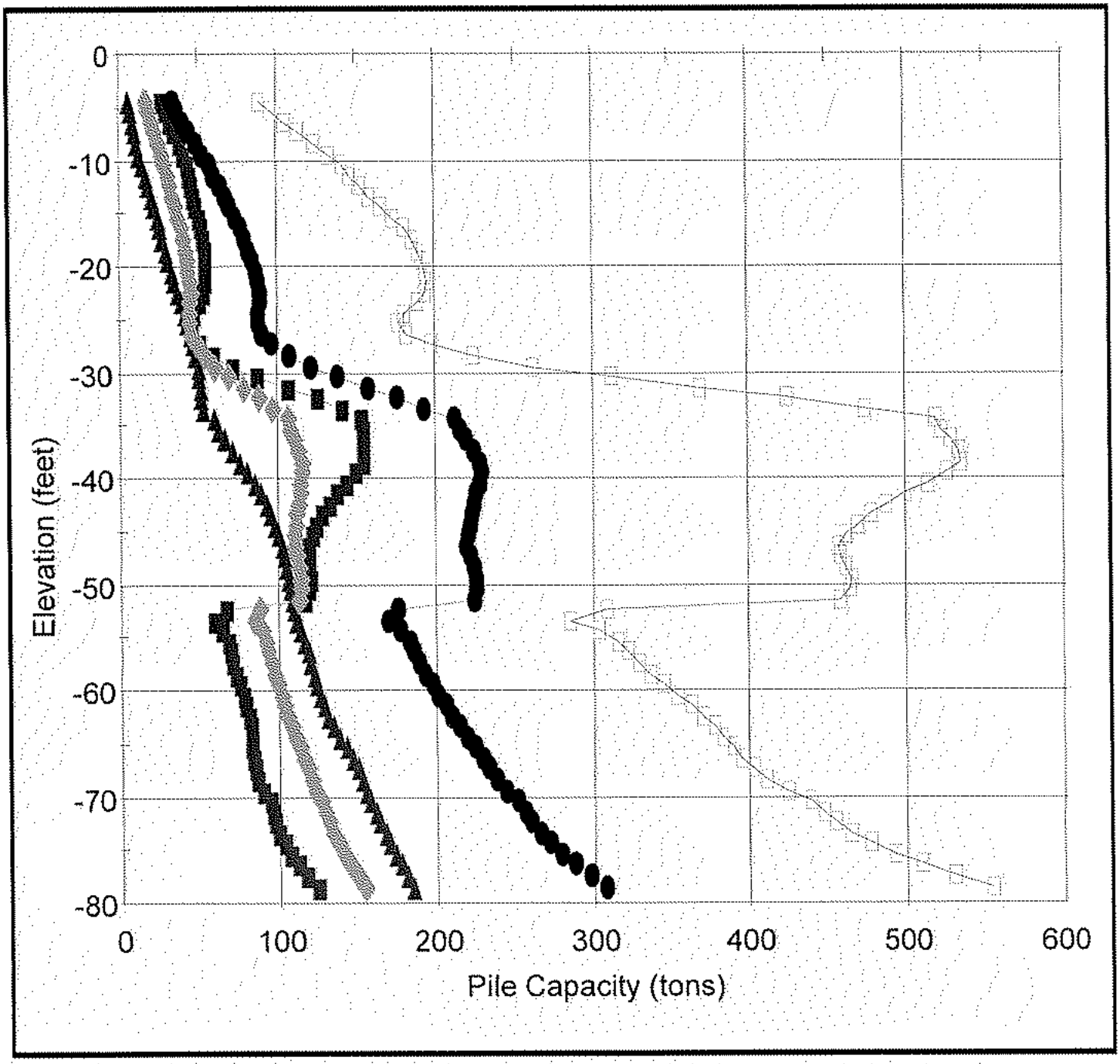
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-1
Pile Capacities for Pile Width of: 30.00 in



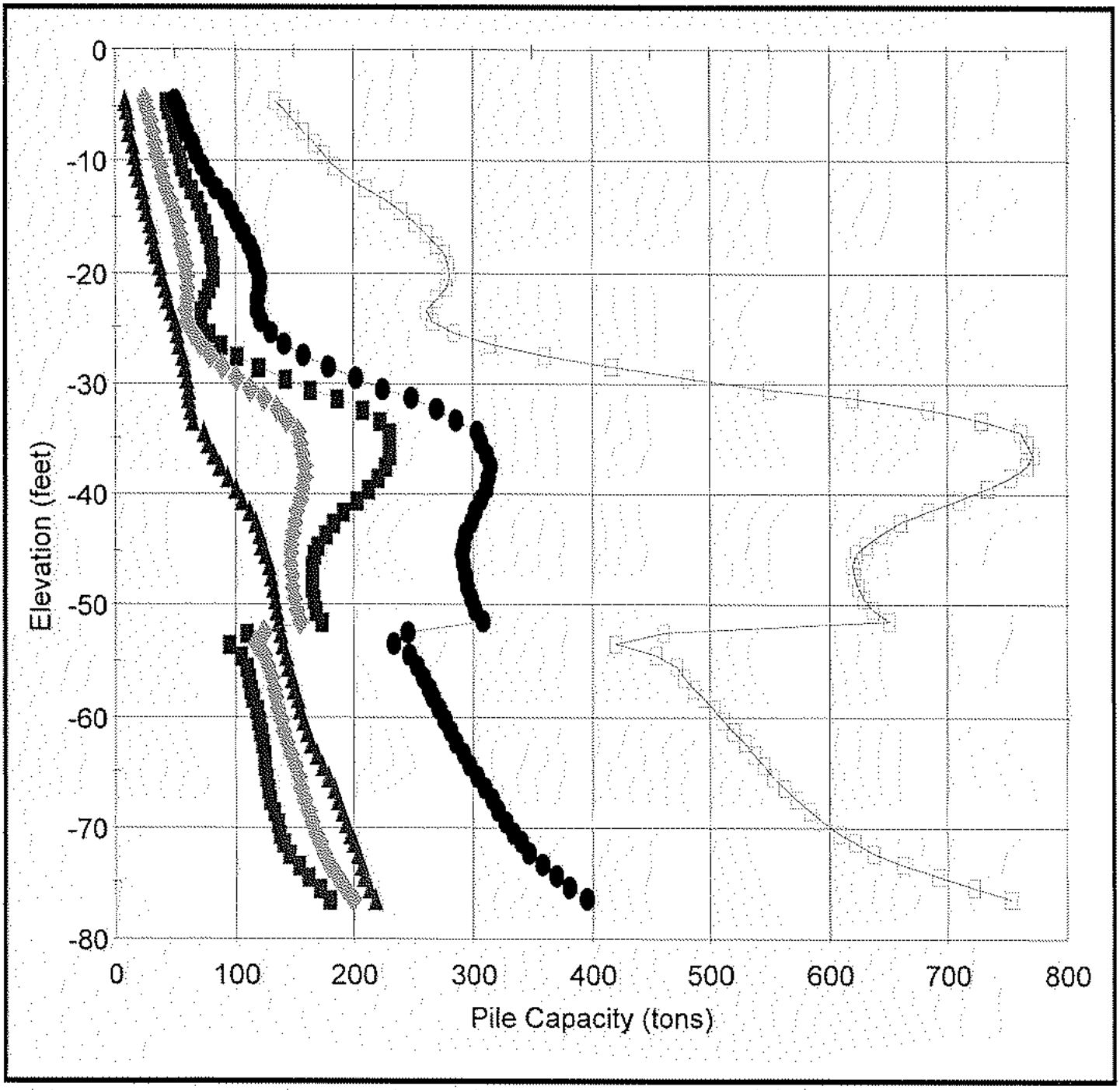
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FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-2
Pile Capacities for Pile Width of: 18.00 in



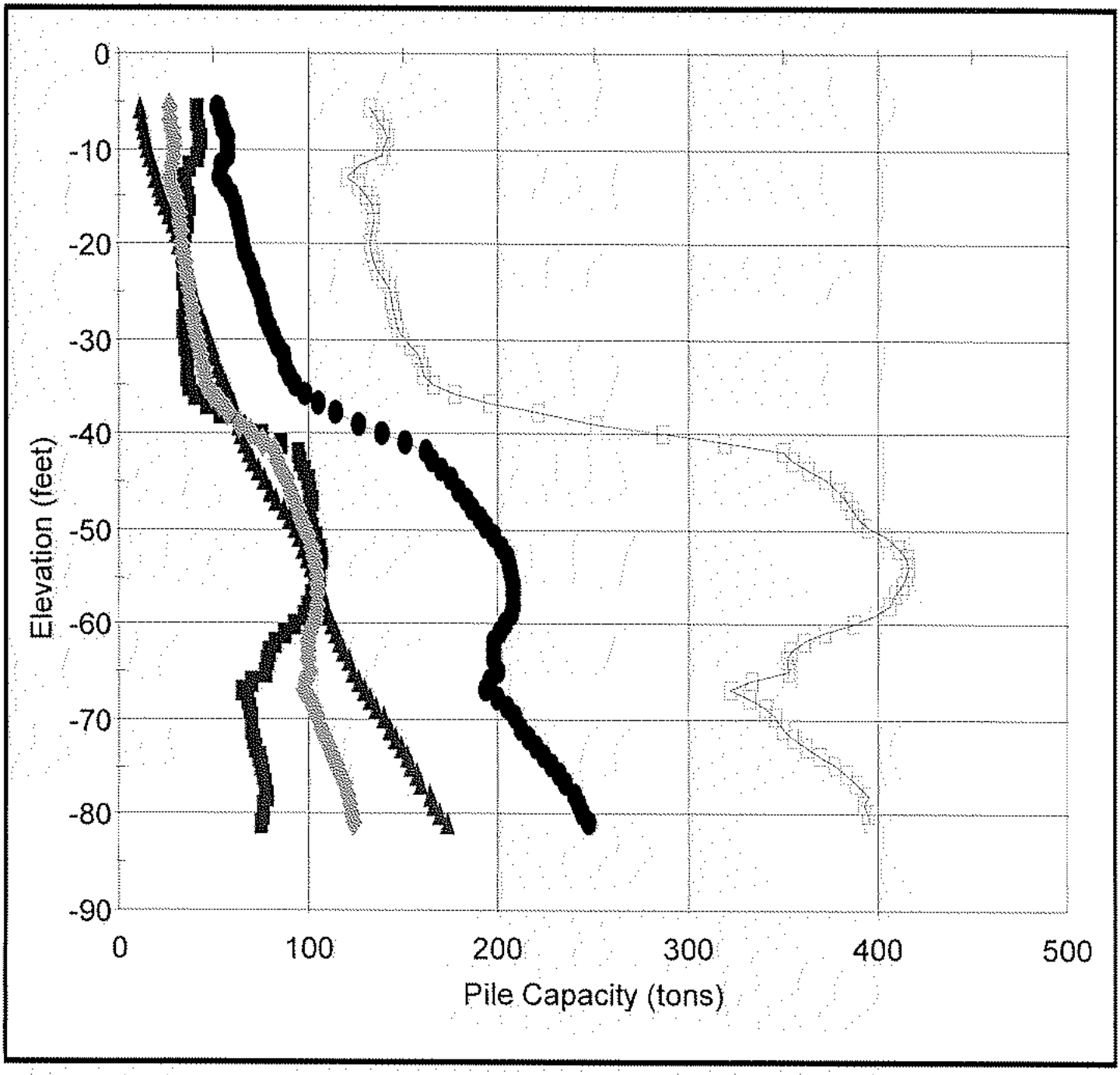
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-2
Pile Capacities for Pile Width of: 24.00 in



PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-2
Pile Capacities for Pile Width of: 30.00 in

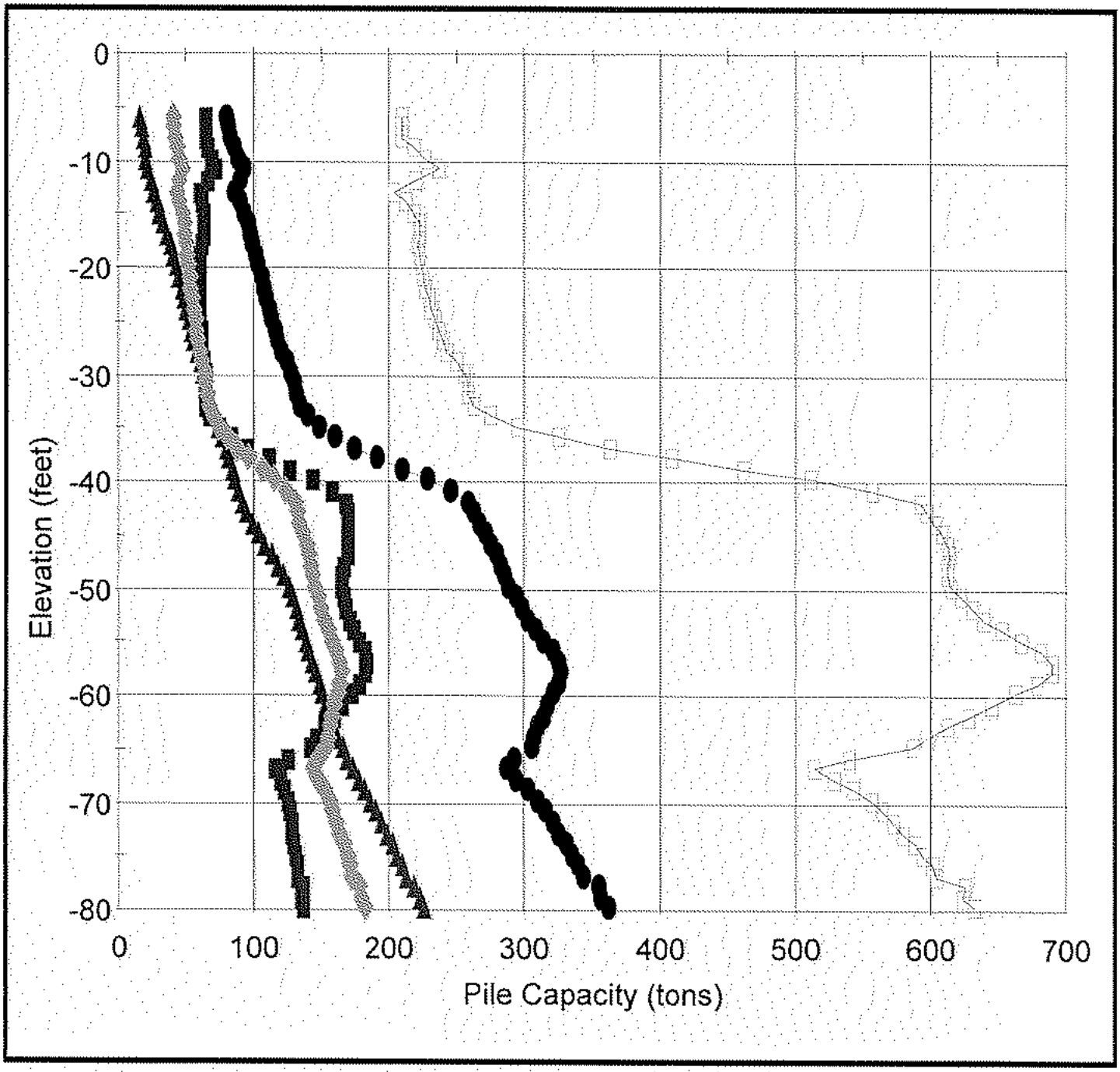


PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-3
Pile Capacities for Pile Width of: 18.00 in

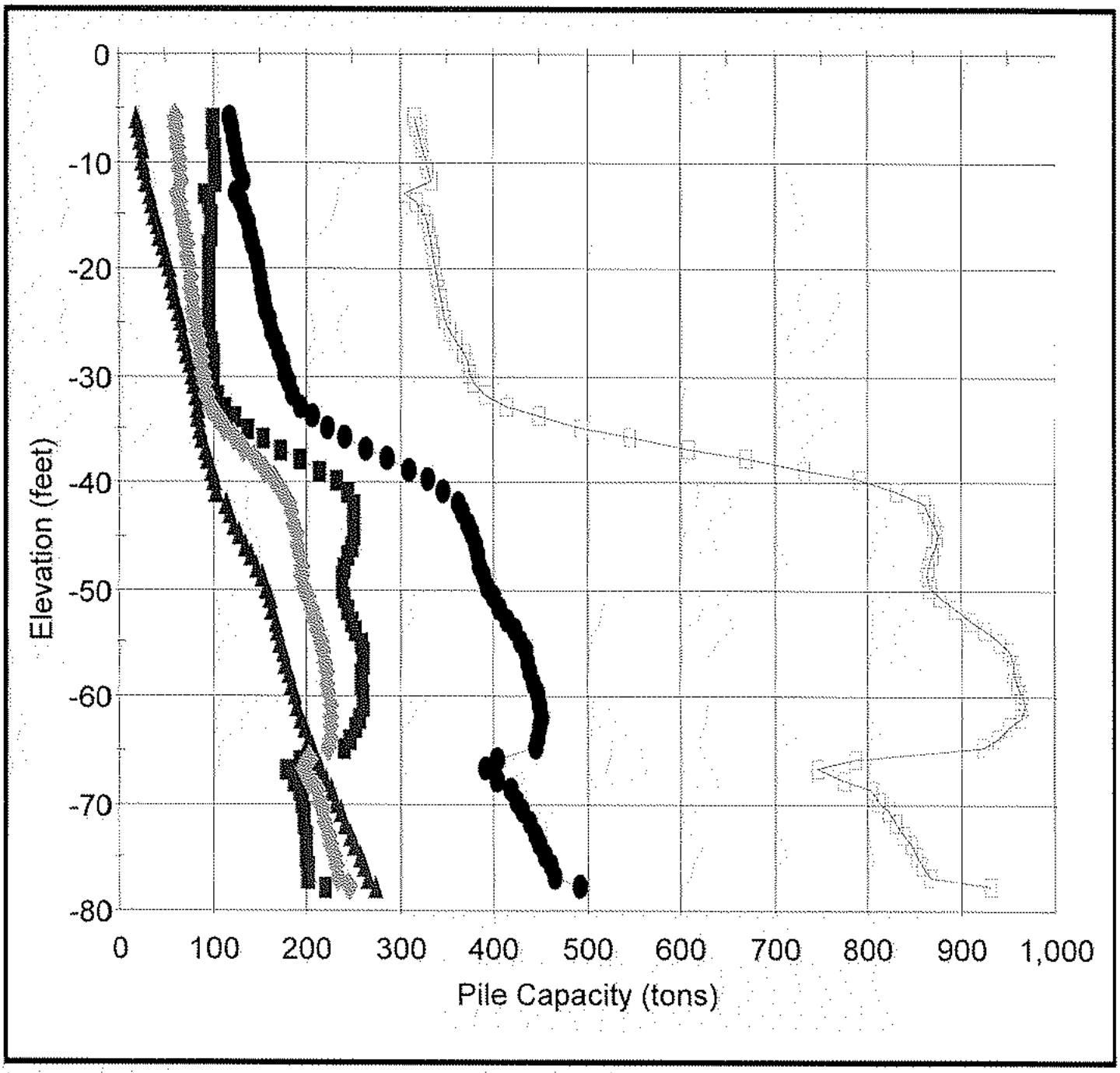


Ultimate Side Friction
Mobilized End Bearing
Estimated Davisson Capacity
Allowable Pile Capacity
Ultimate Pile Capacity

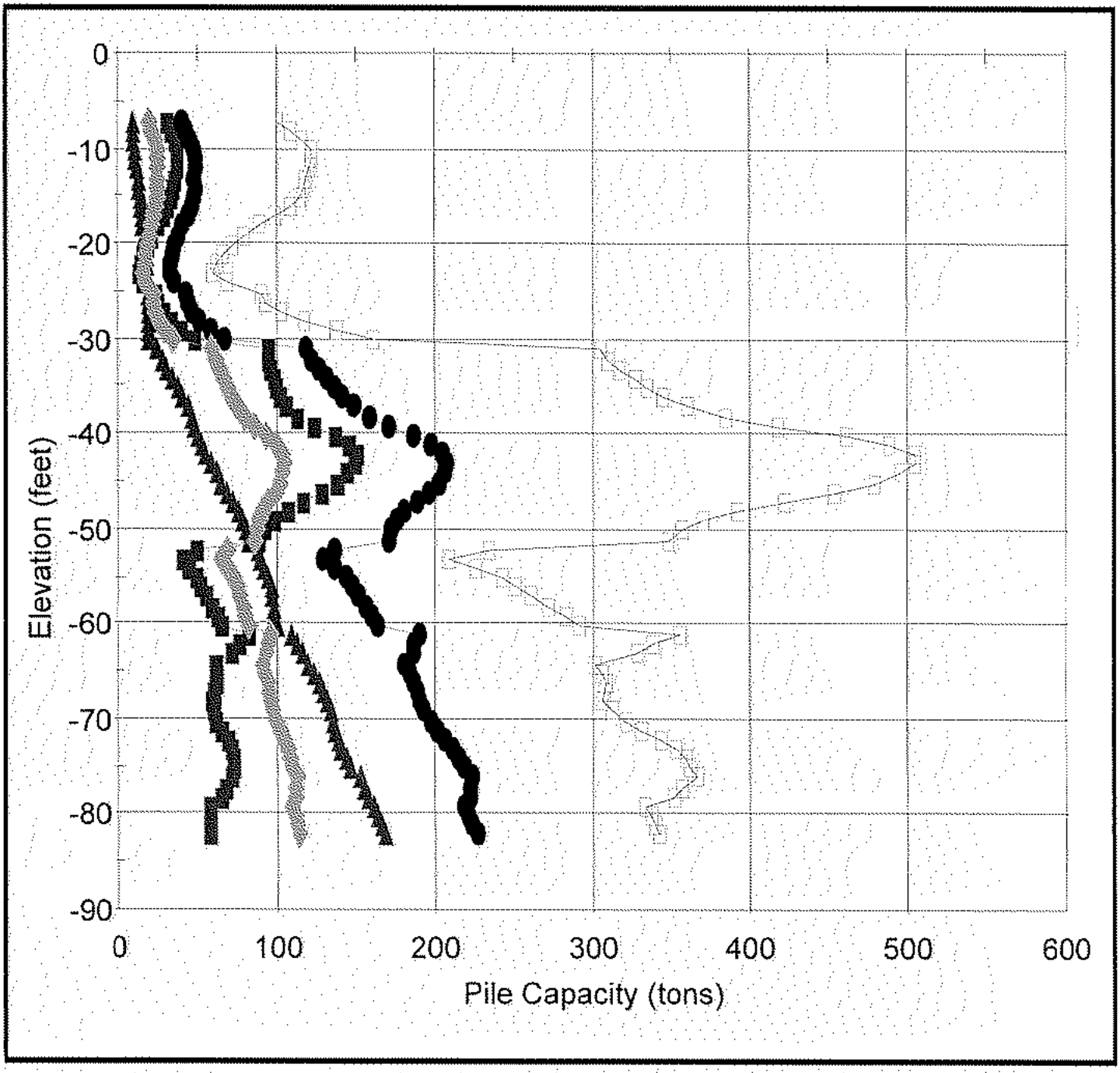
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FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-3
Pile Capacities for Pile Width of: 24.00 in



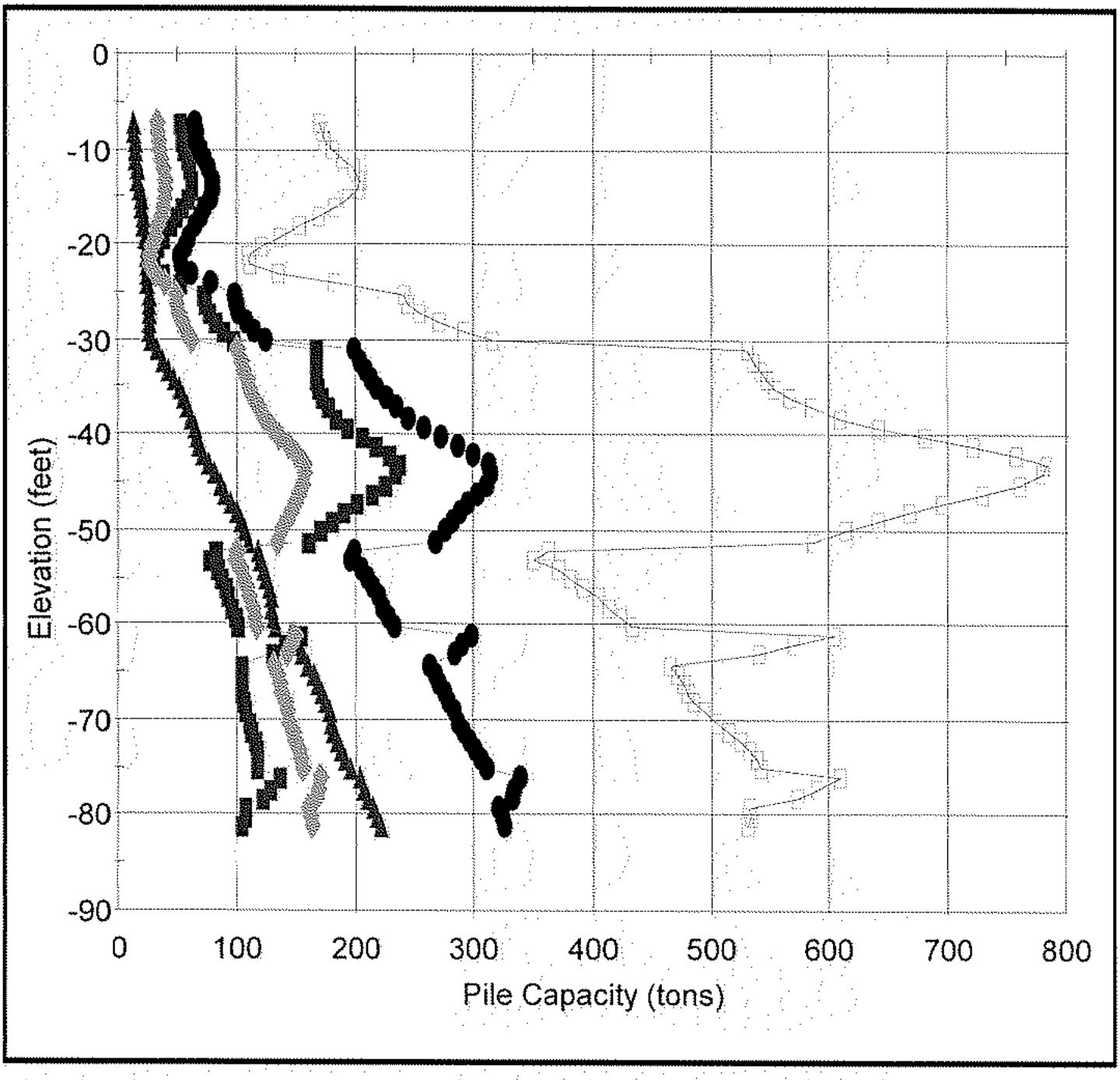
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FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-3
Pile Capacities for Pile Width of: 30.00 in



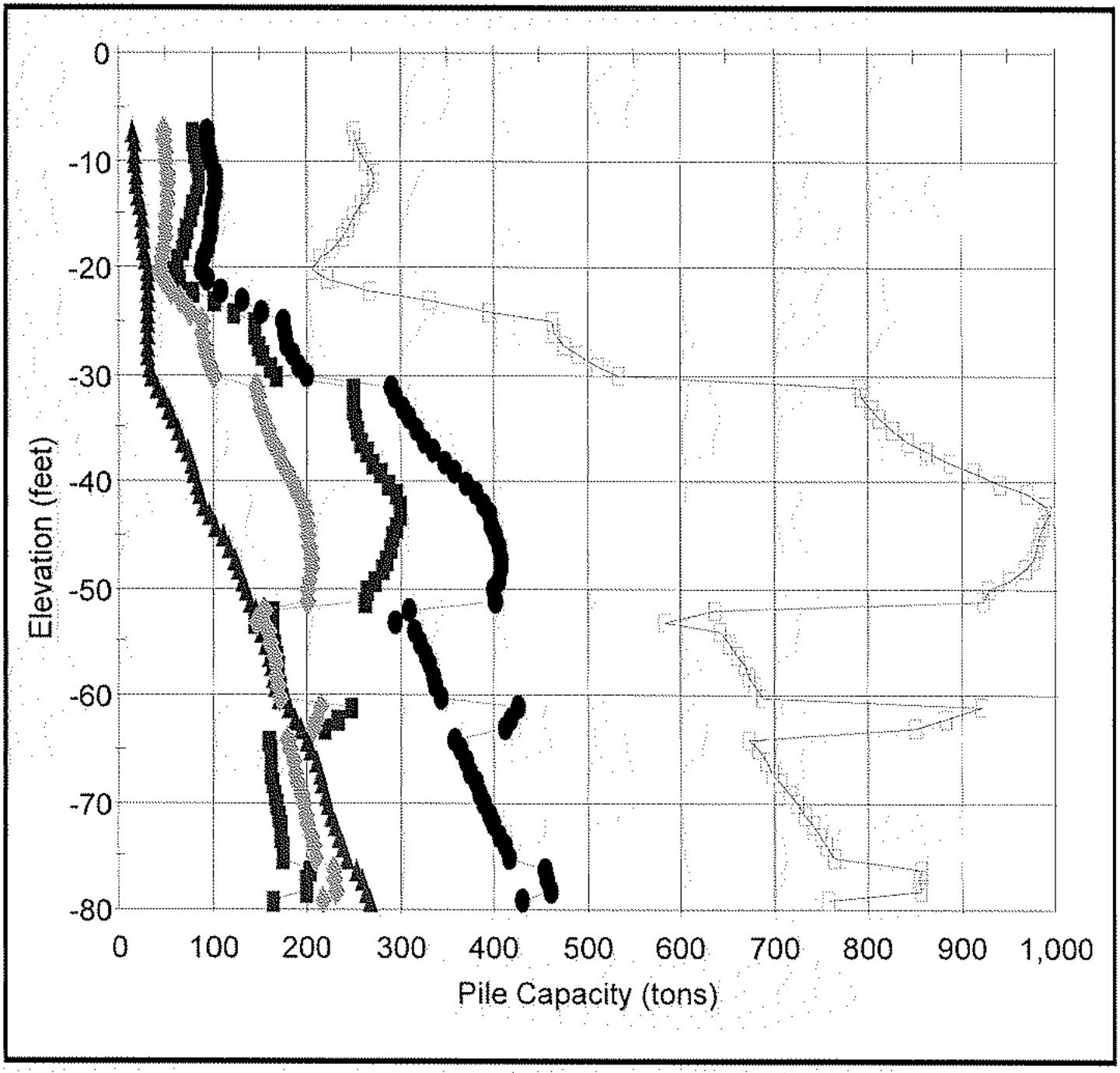
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-4
Pile Capacities for Pile Width of: 18.00 in



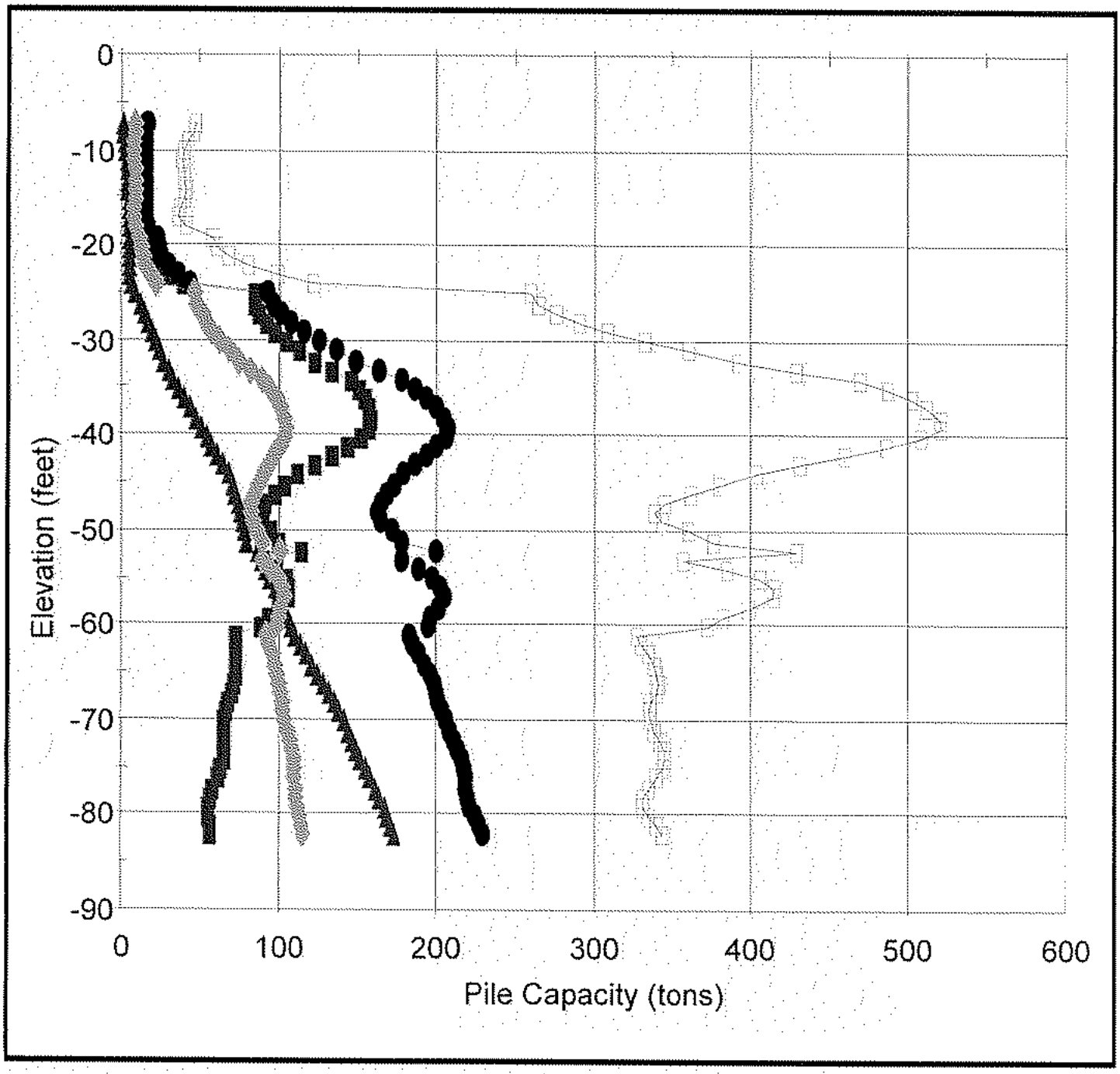
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FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-4
Pile Capacities for Pile Width of: 24.00 in



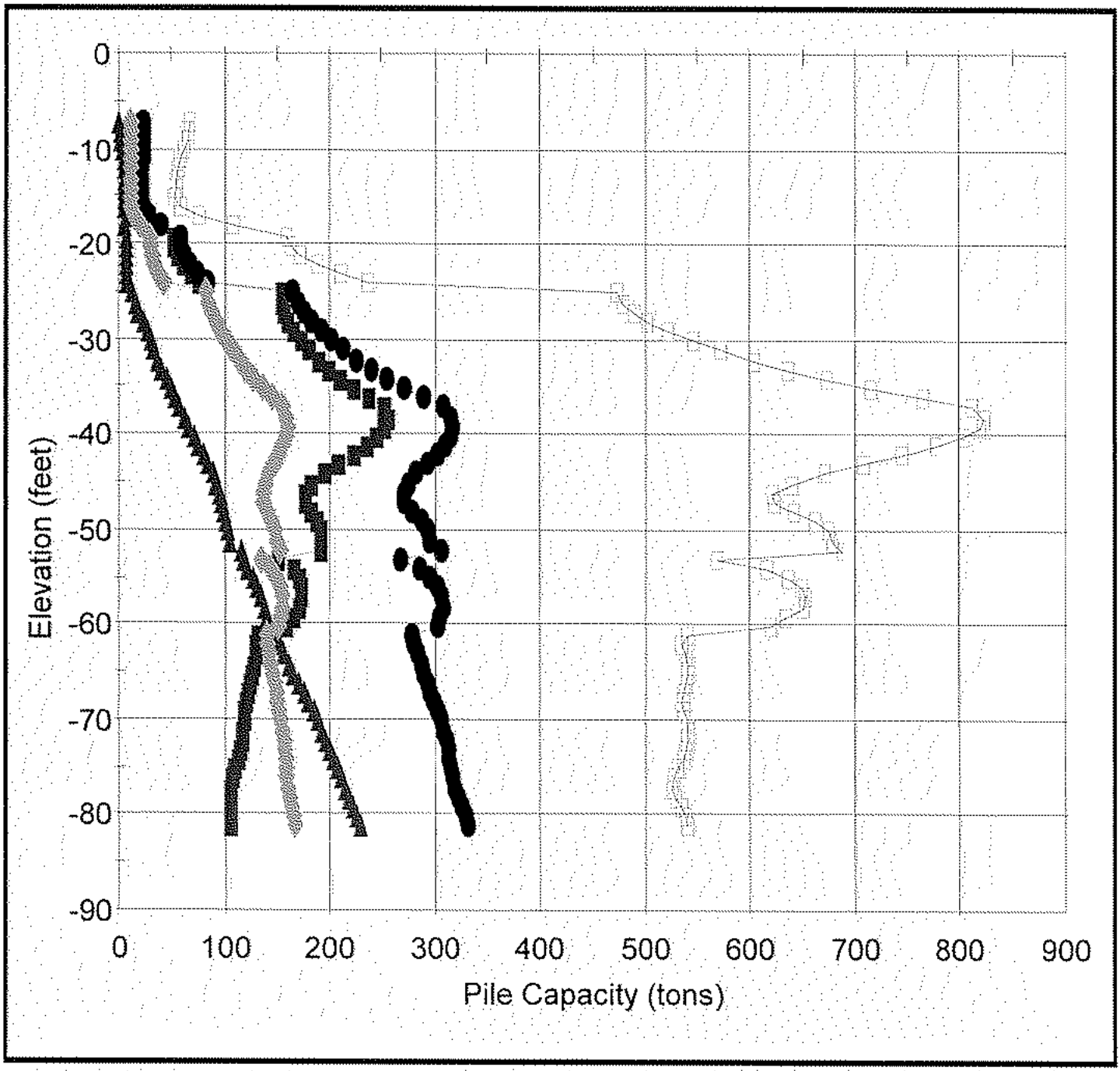
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-4
Pile Capacities for Pile Width of: 30.00 in



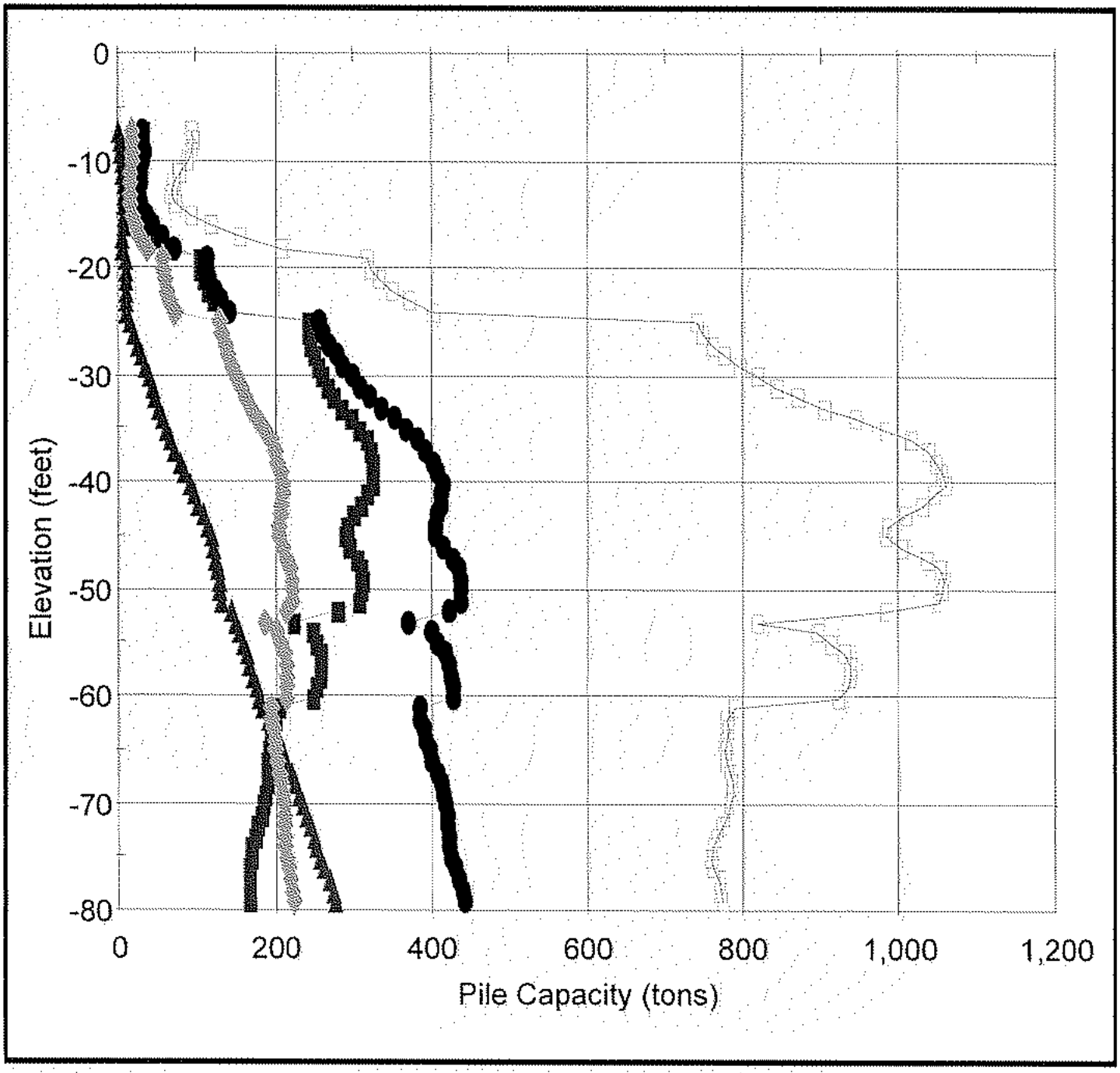
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-5
Pile Capacities for Pile Width of: 18.00 in



PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-5
Pile Capacities for Pile Width of: 24.00 in

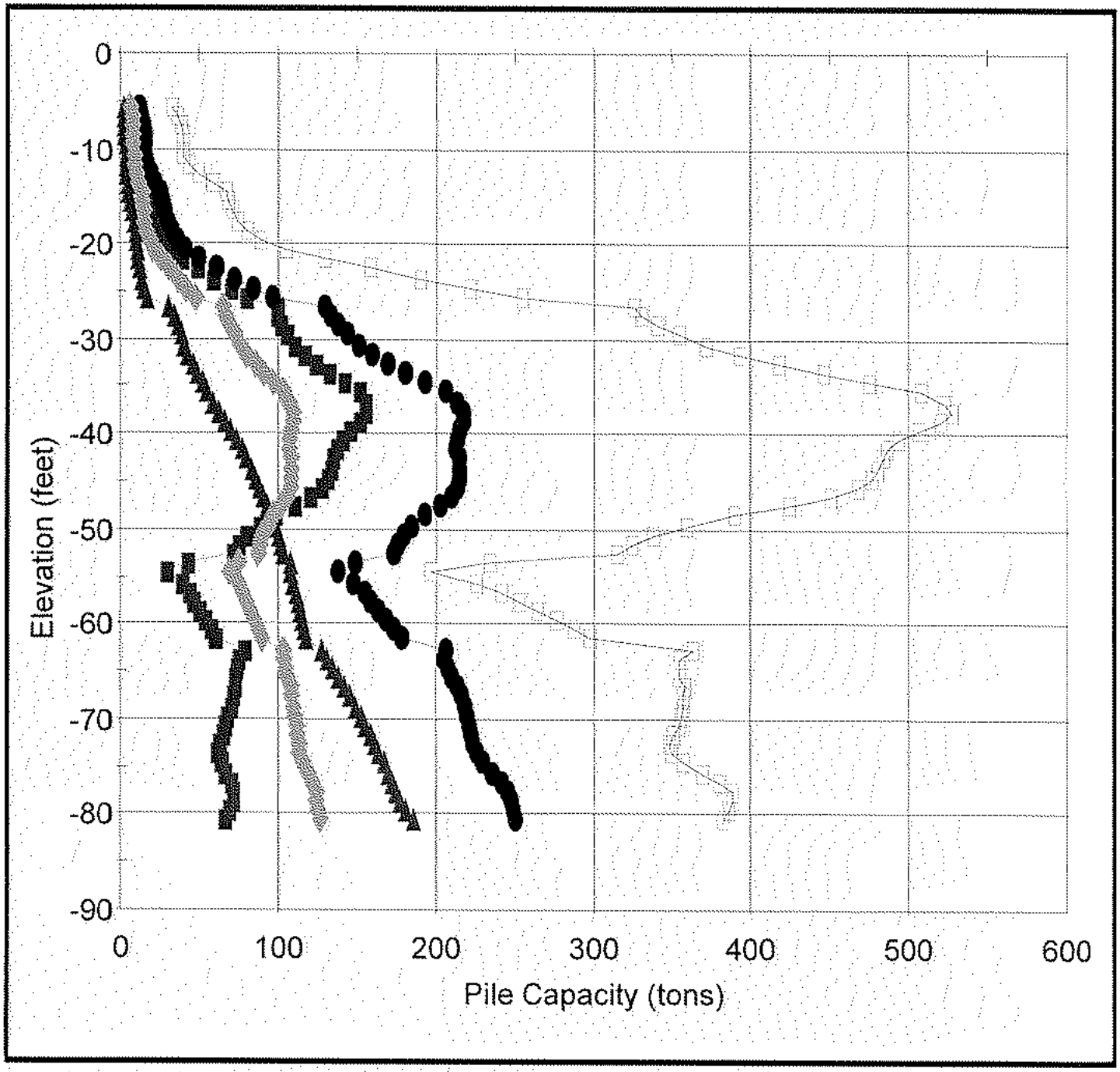


PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-5
Pile Capacities for Pile Width of: 30.00 in

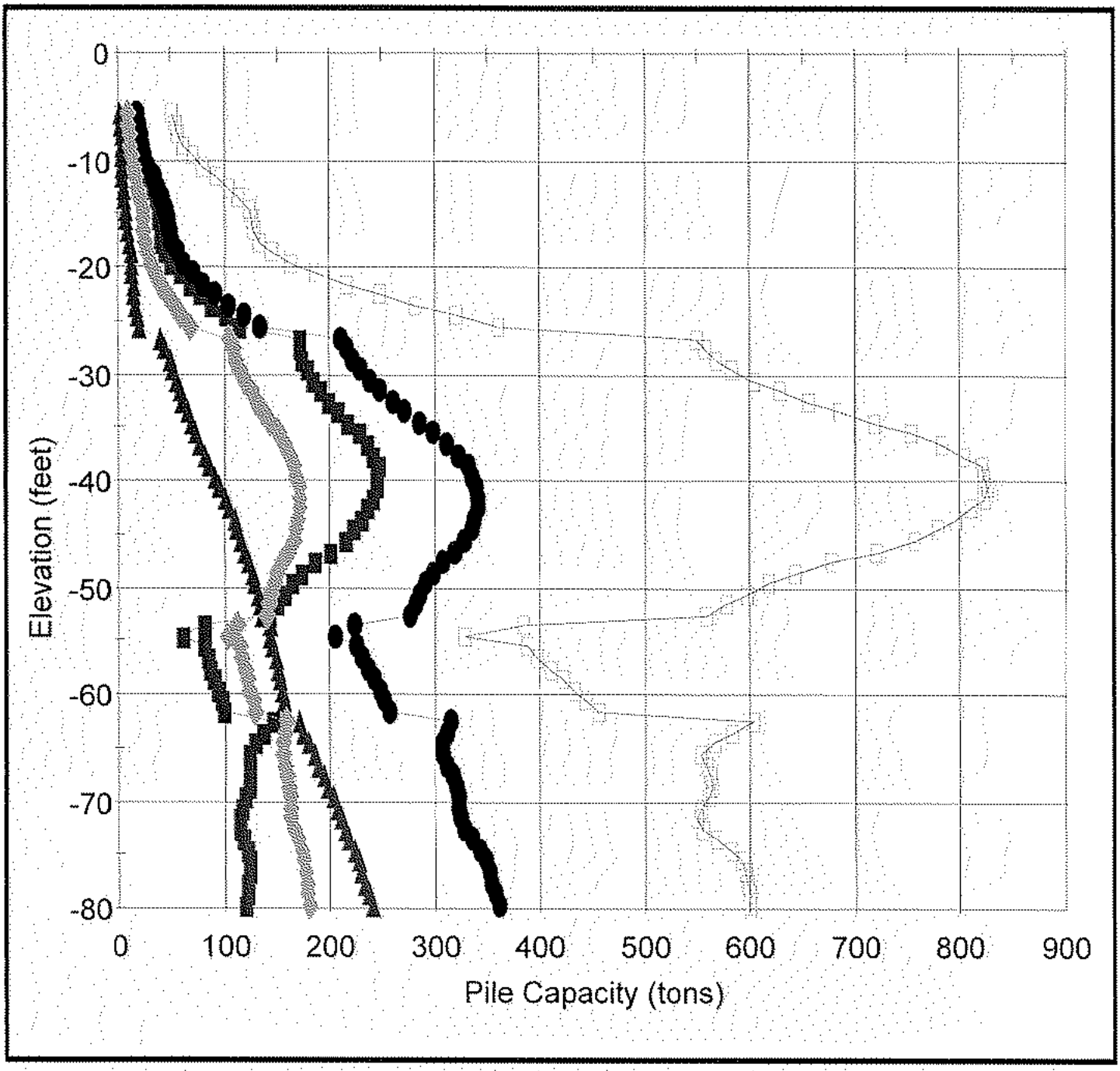


Ultimate Side Friction
Mobilized End Bearing
Estimated Davisson Capacity
Allowable Pile Capacity
Ultimate Pile Capacity

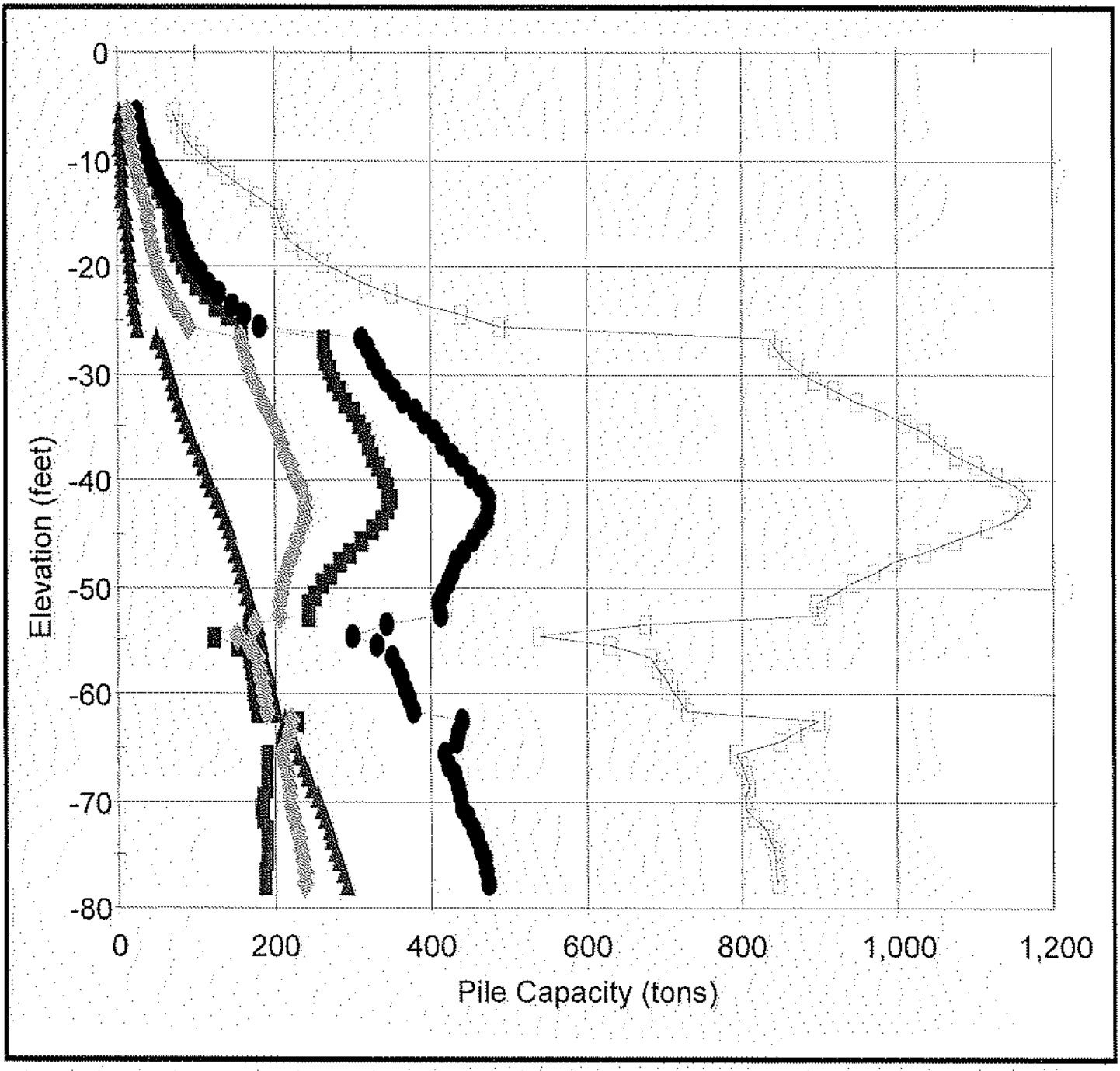
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-6
Pile Capacities for Pile Width of: 18.00 in



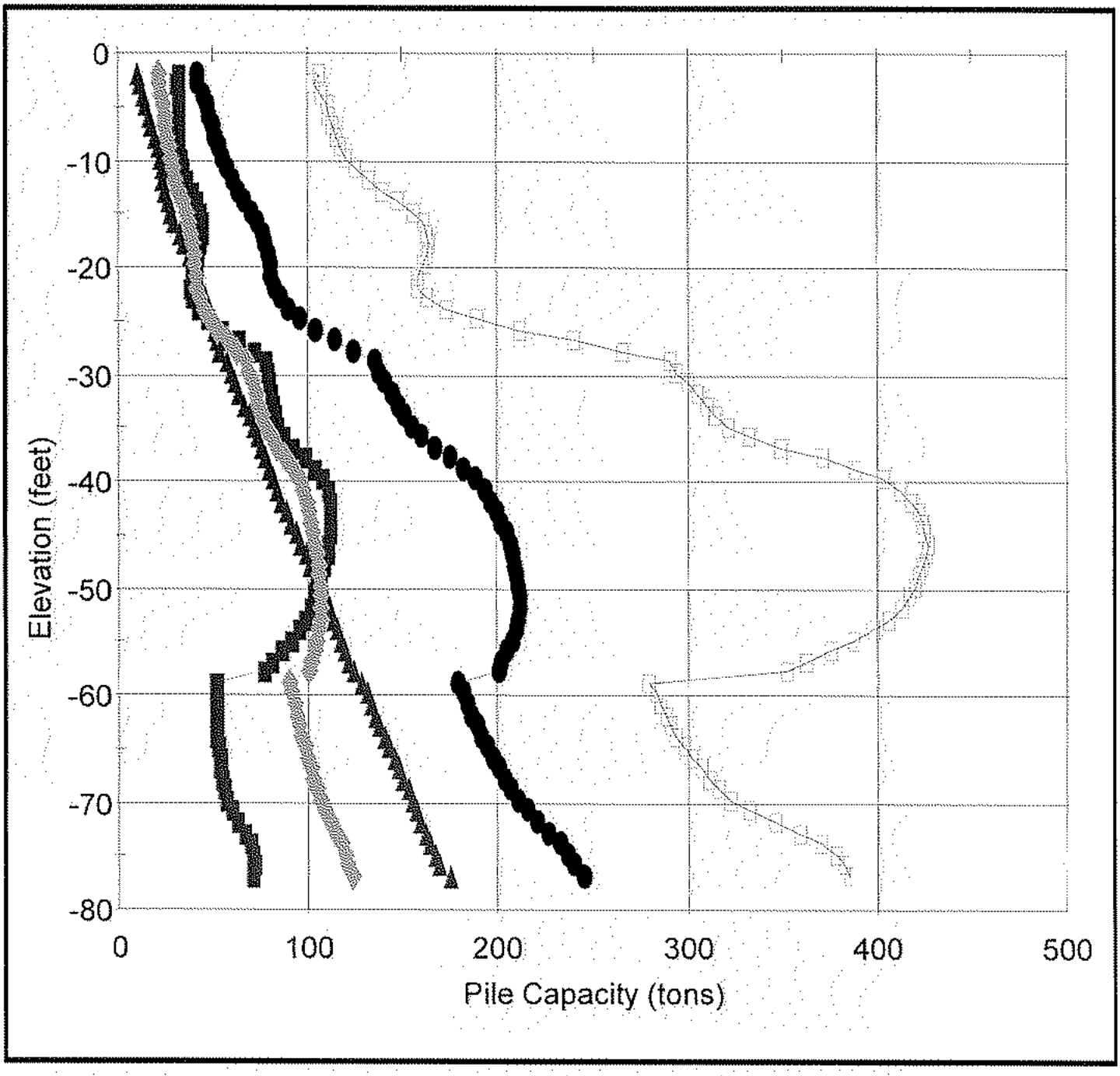
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-6
Pile Capacities for Pile Width of: 24.00 in



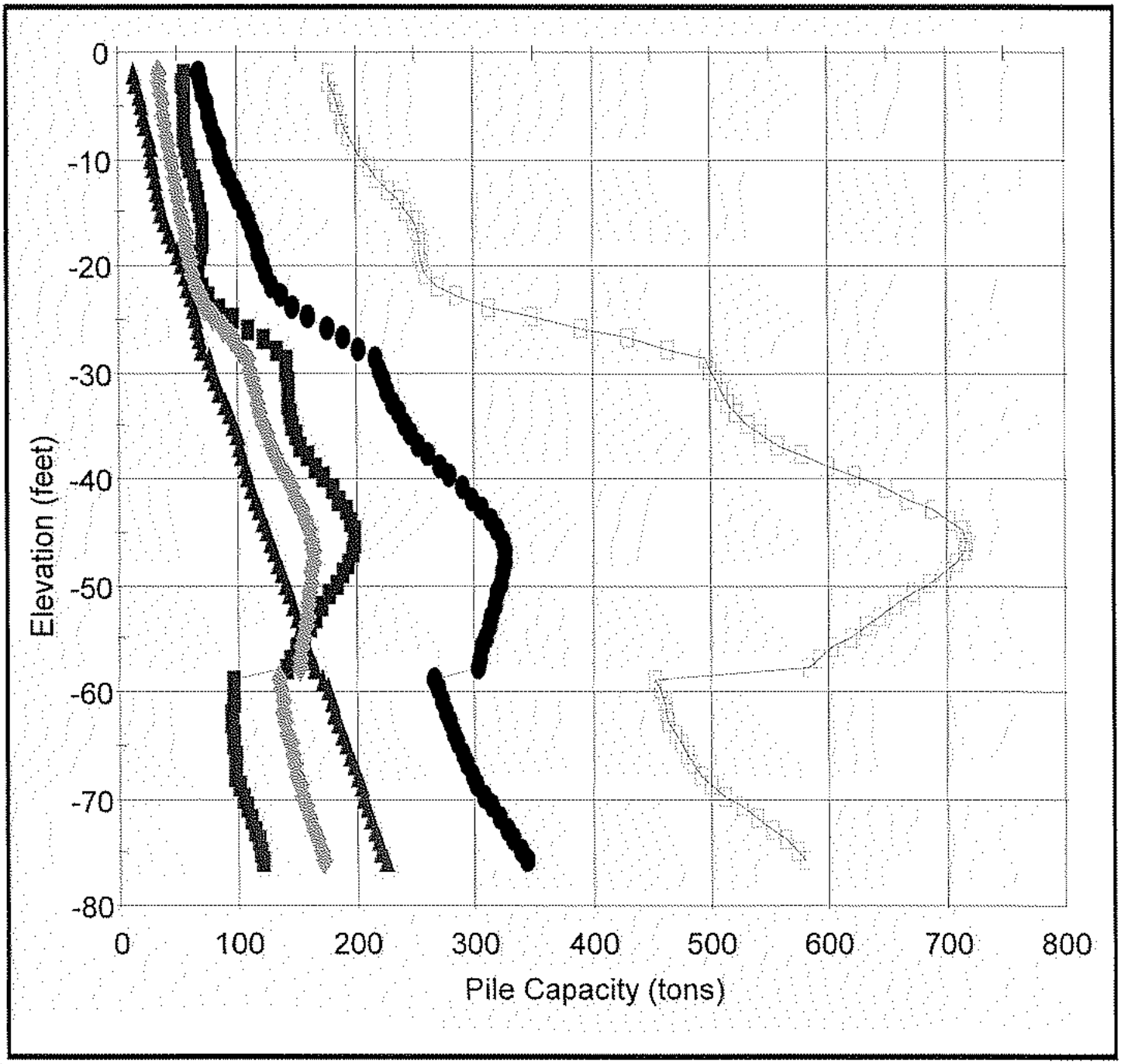
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FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-6
Pile Capacities for Pile Width of: 30.00 in



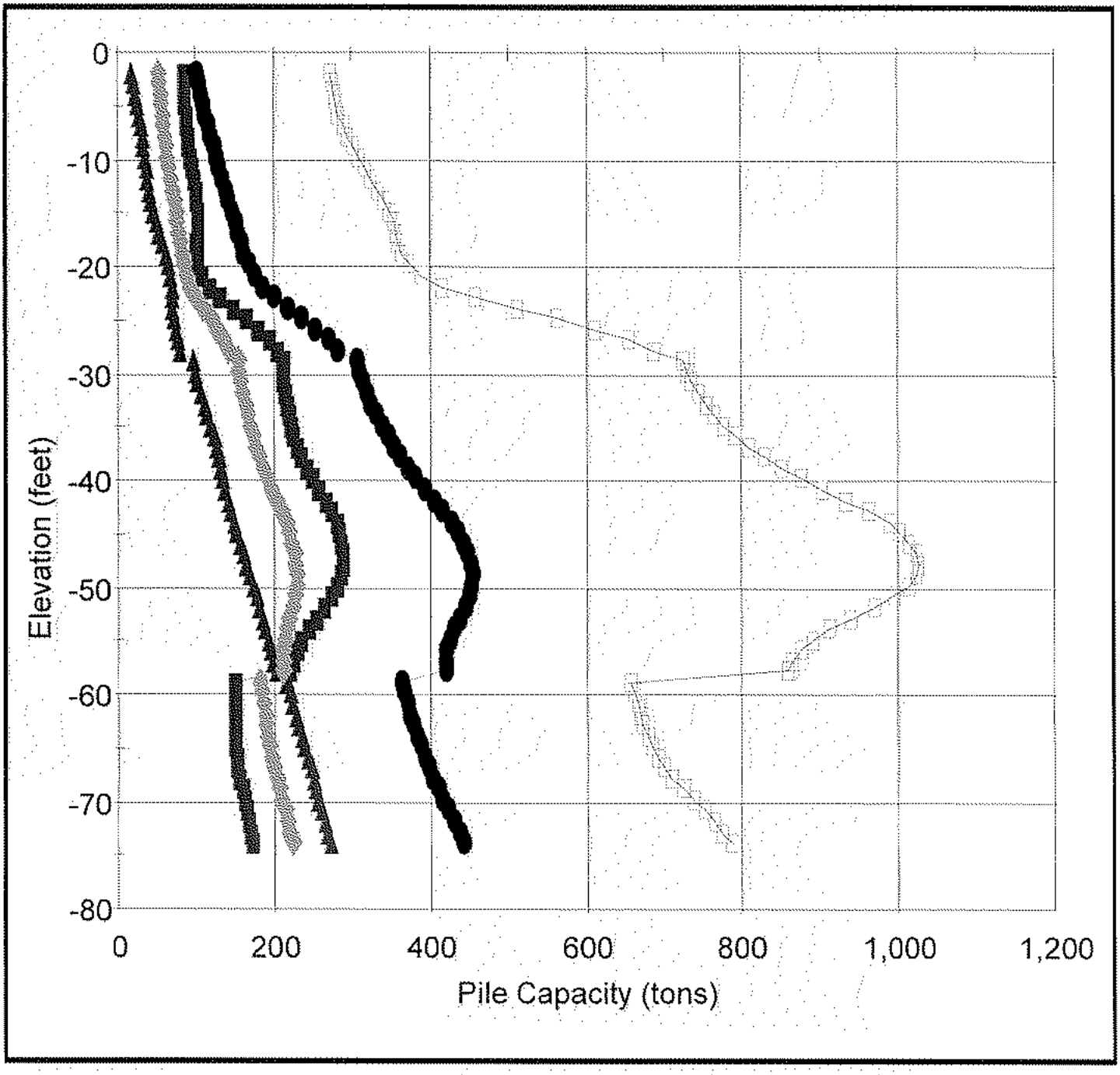
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-7
Pile Capacities for Pile Width of: 18.00 in



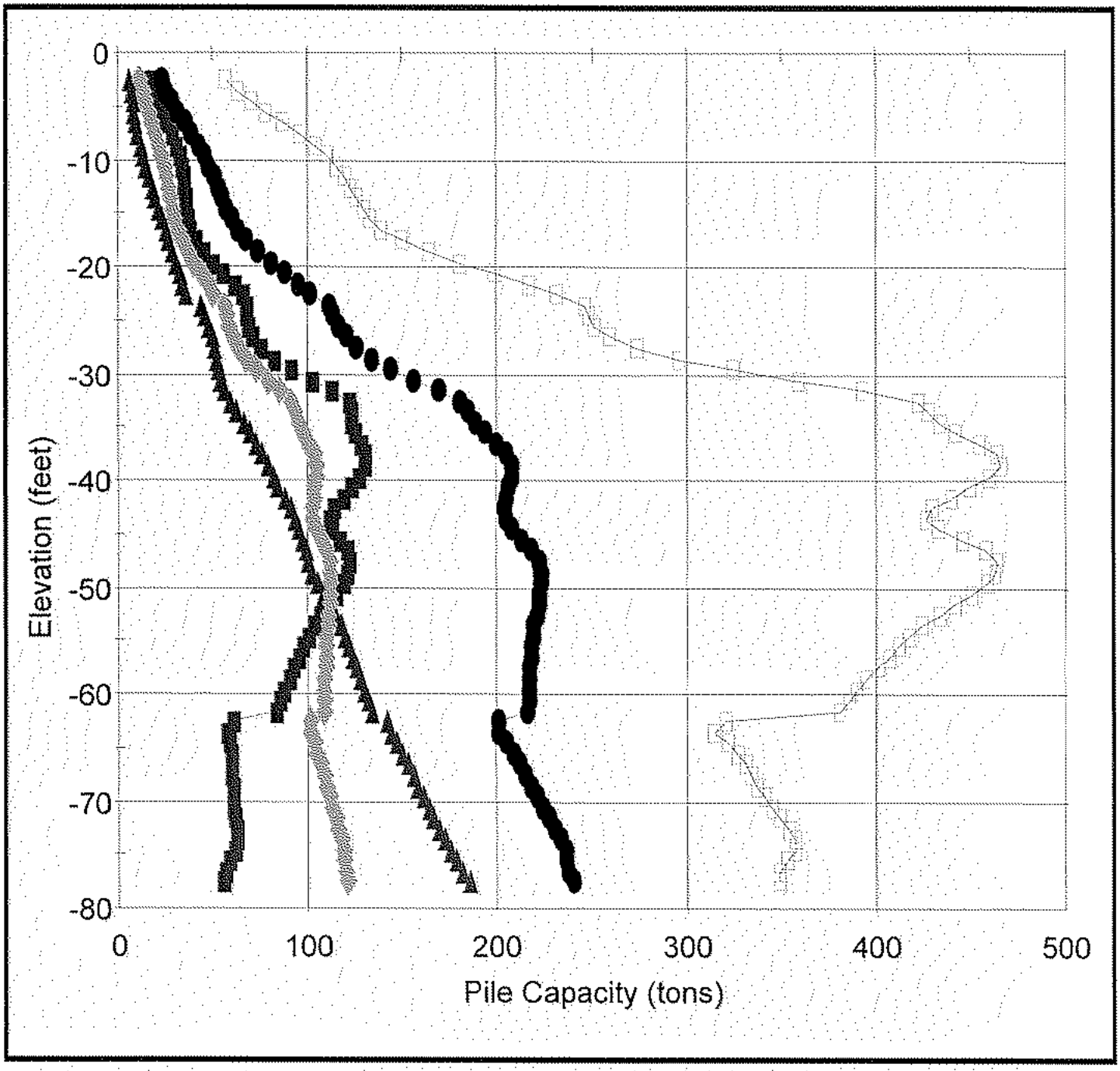
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-7
Pile Capacities for Pile Width of: 24.00 in



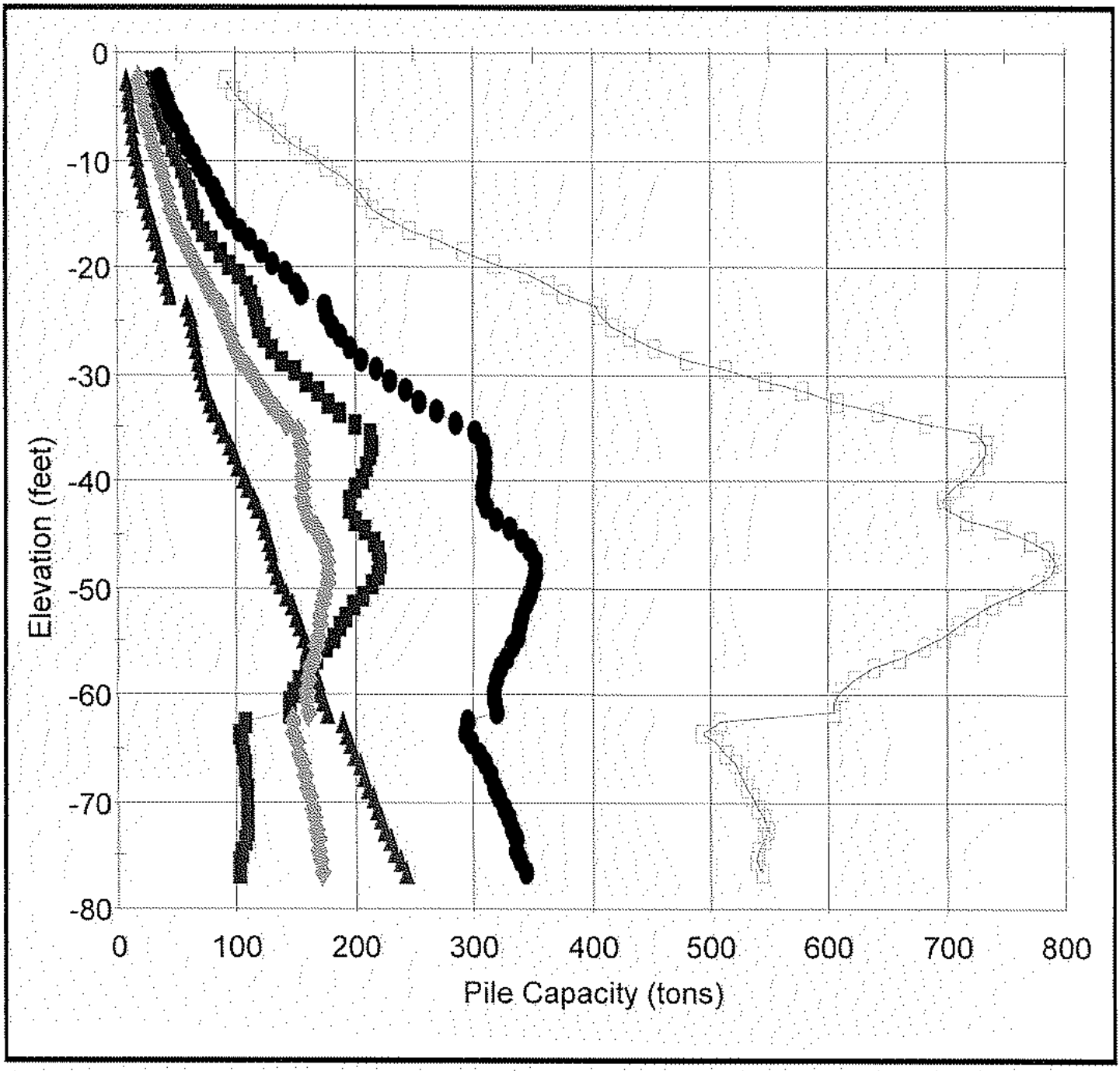
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-7
Pile Capacities for Pile Width of: 30.00 in



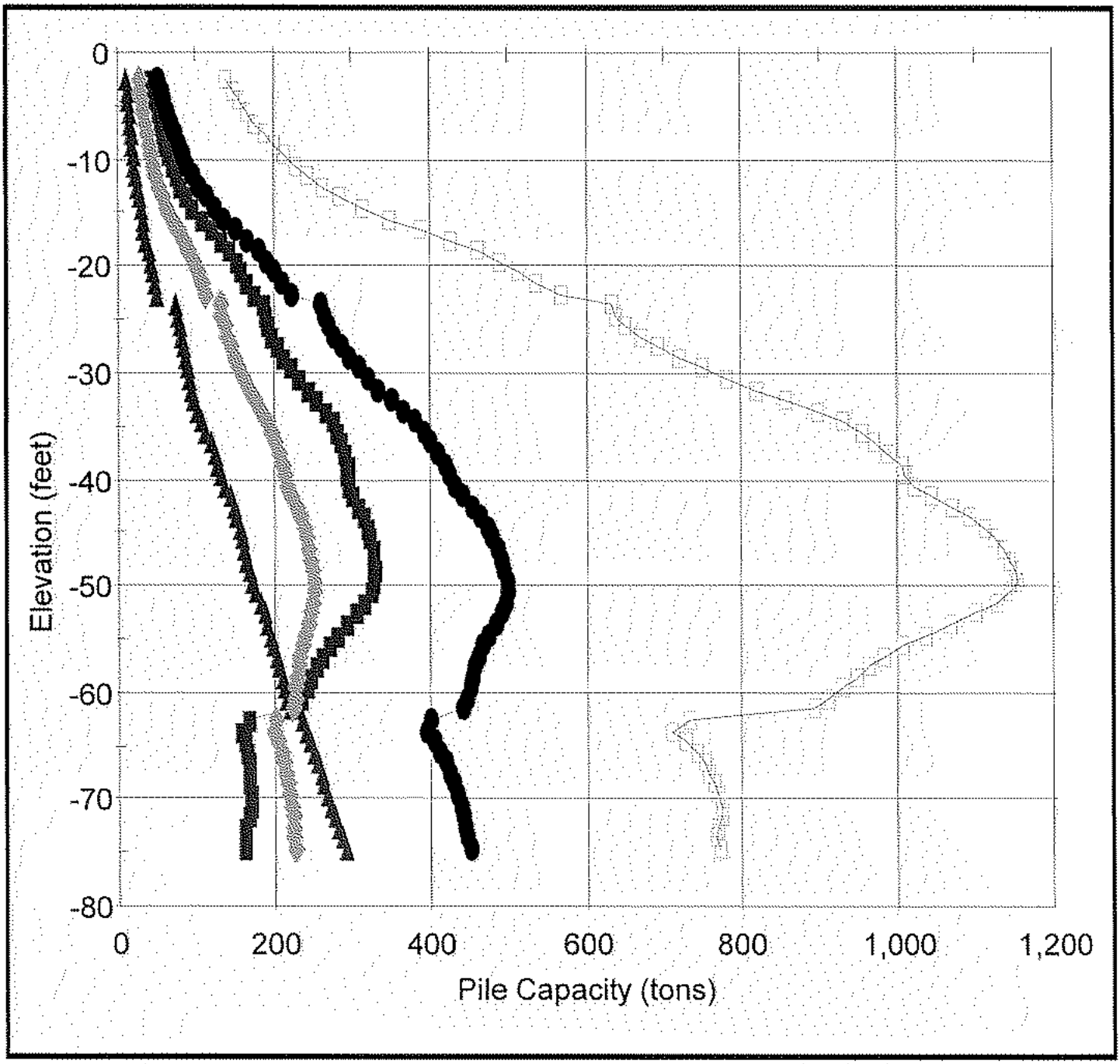
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-8
Pile Capacities for Pile Width of: 18.00 in



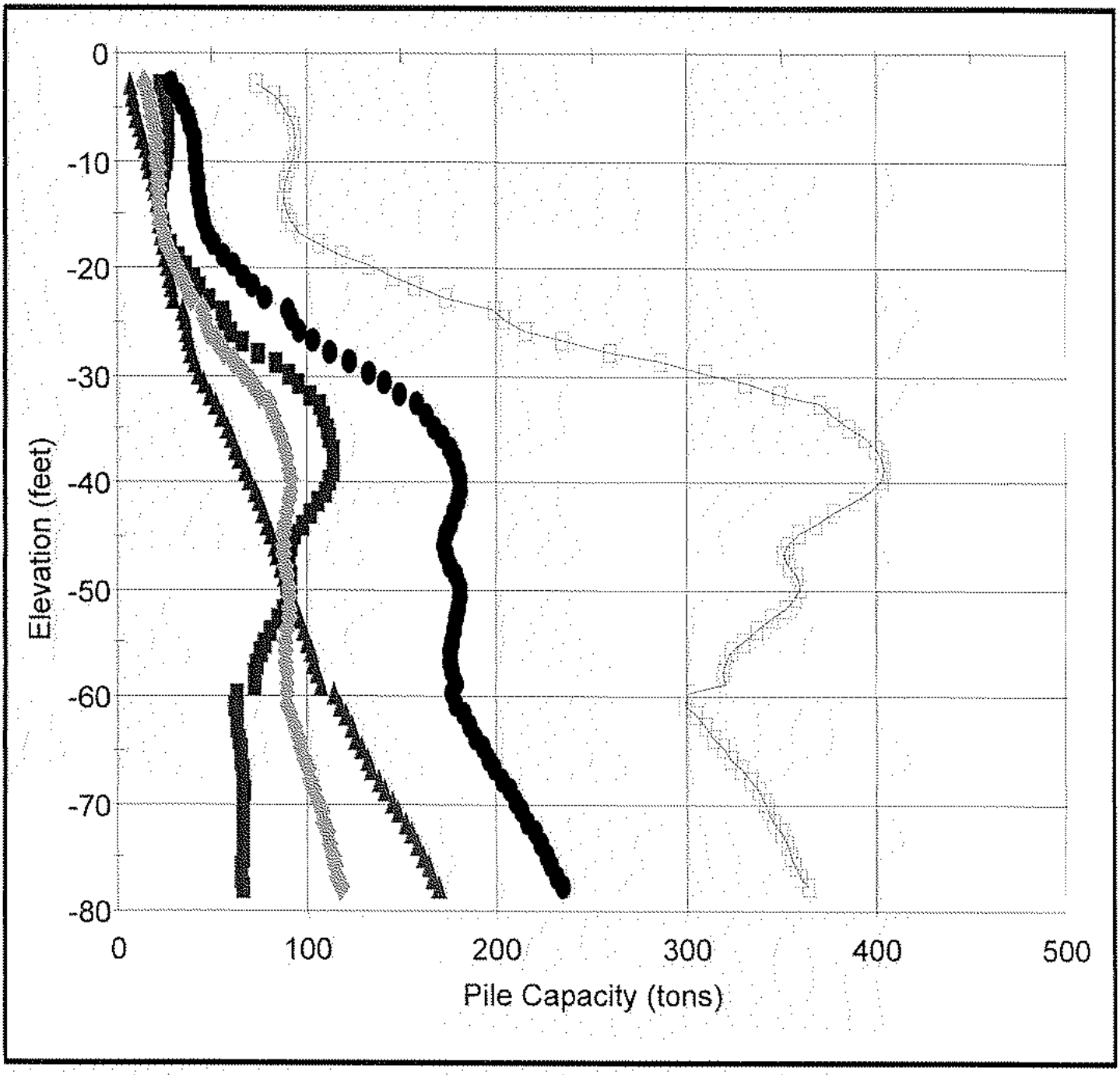
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FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-8
Pile Capacities for Pile Width of: 24.00 in



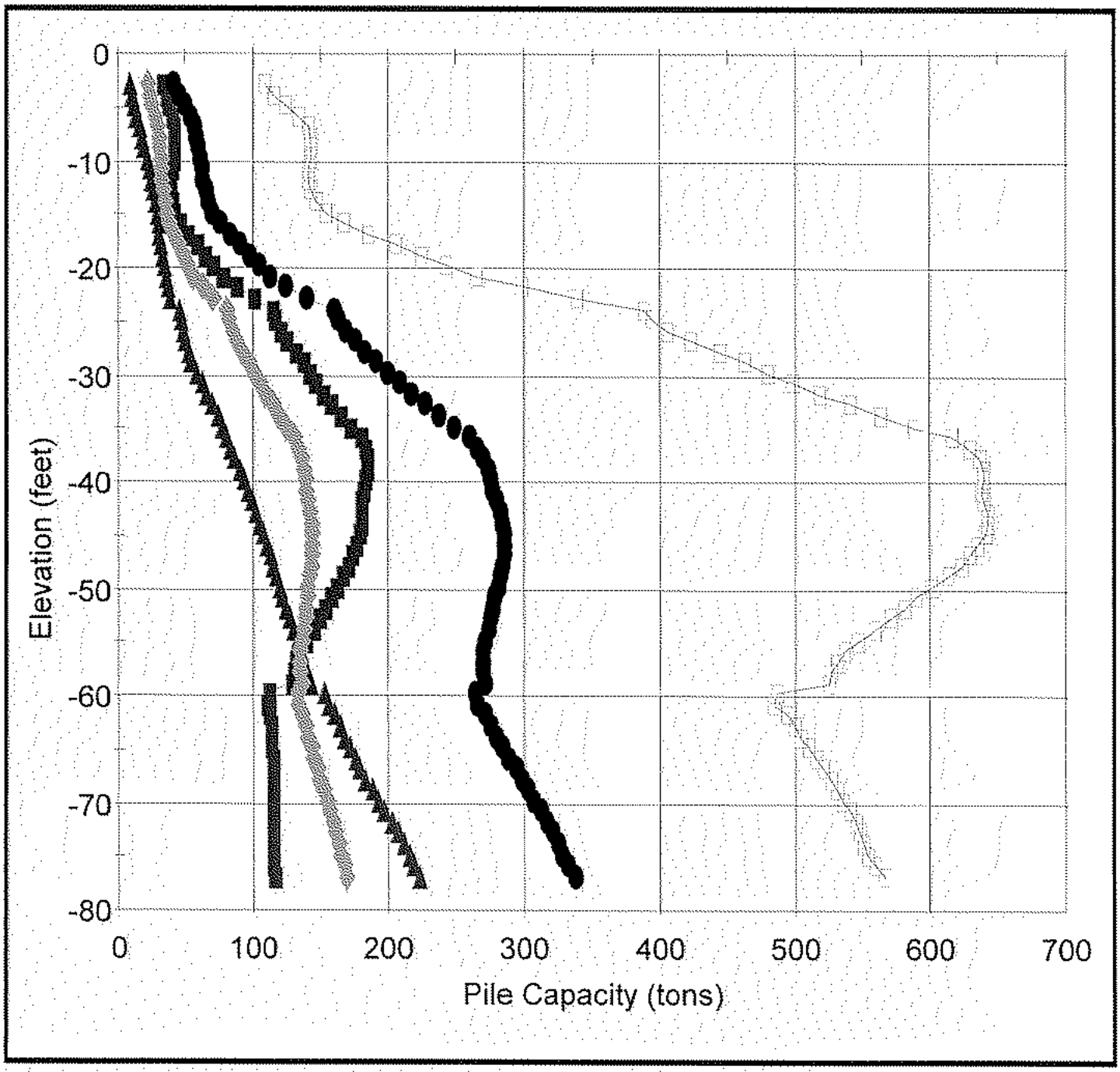
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-8
Pile Capacities for Pile Width of: 30.00 in



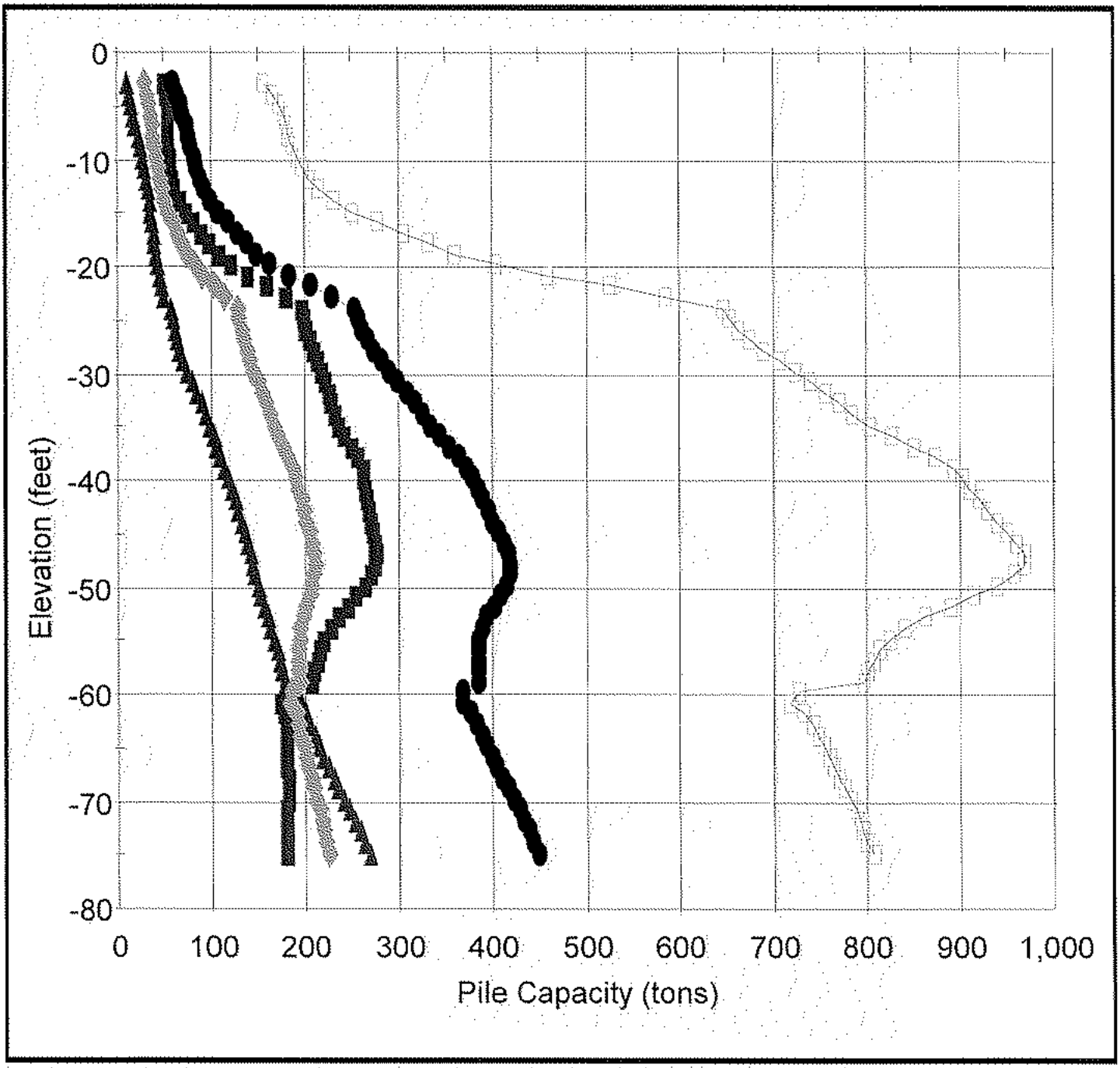
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-9
Pile Capacities for Pile Width of: 18.00 in



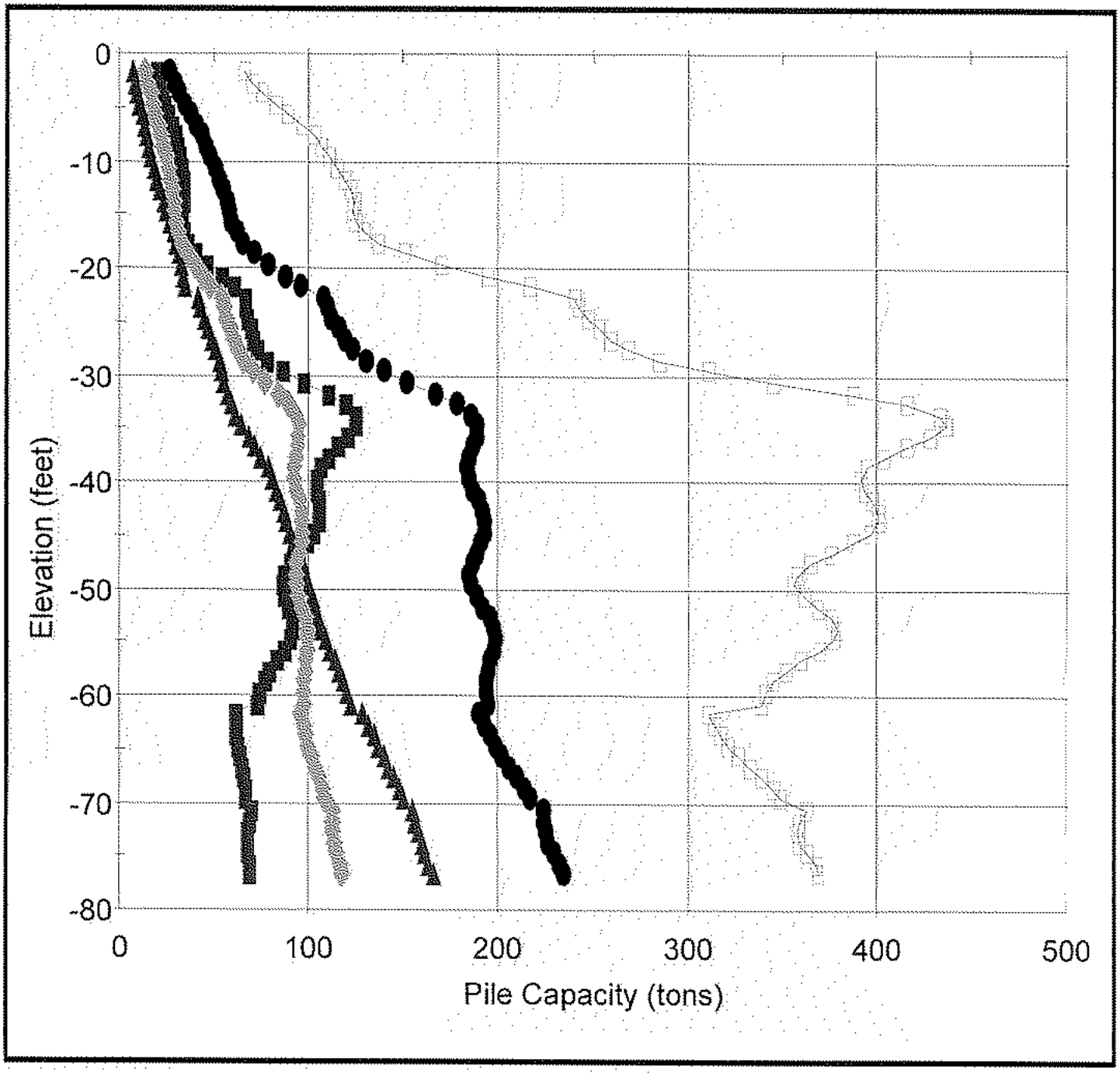
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-9
Pile Capacities for Pile Width of: 24.00 in



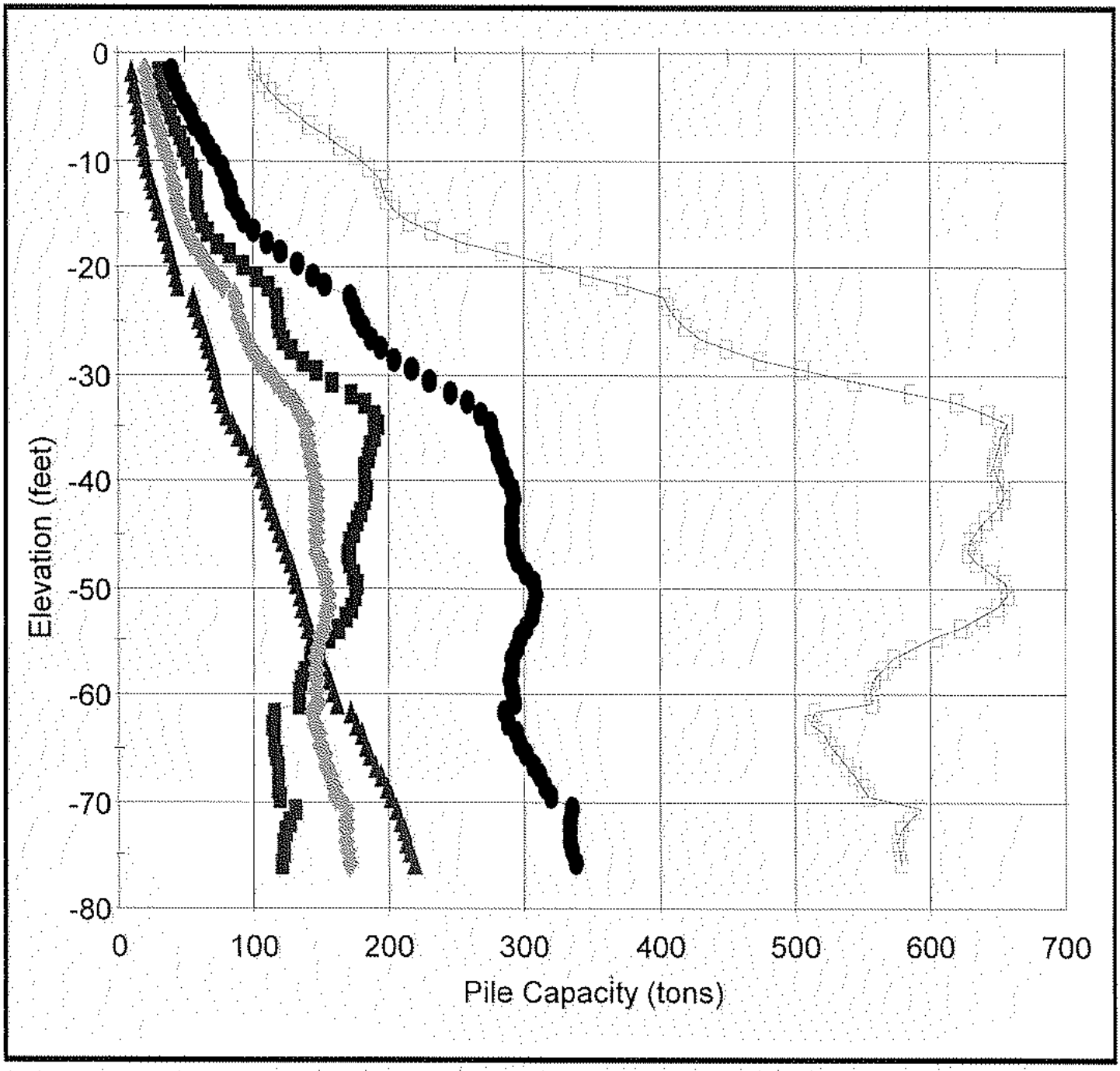
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-9
Pile Capacities for Pile Width of: 30.00 in



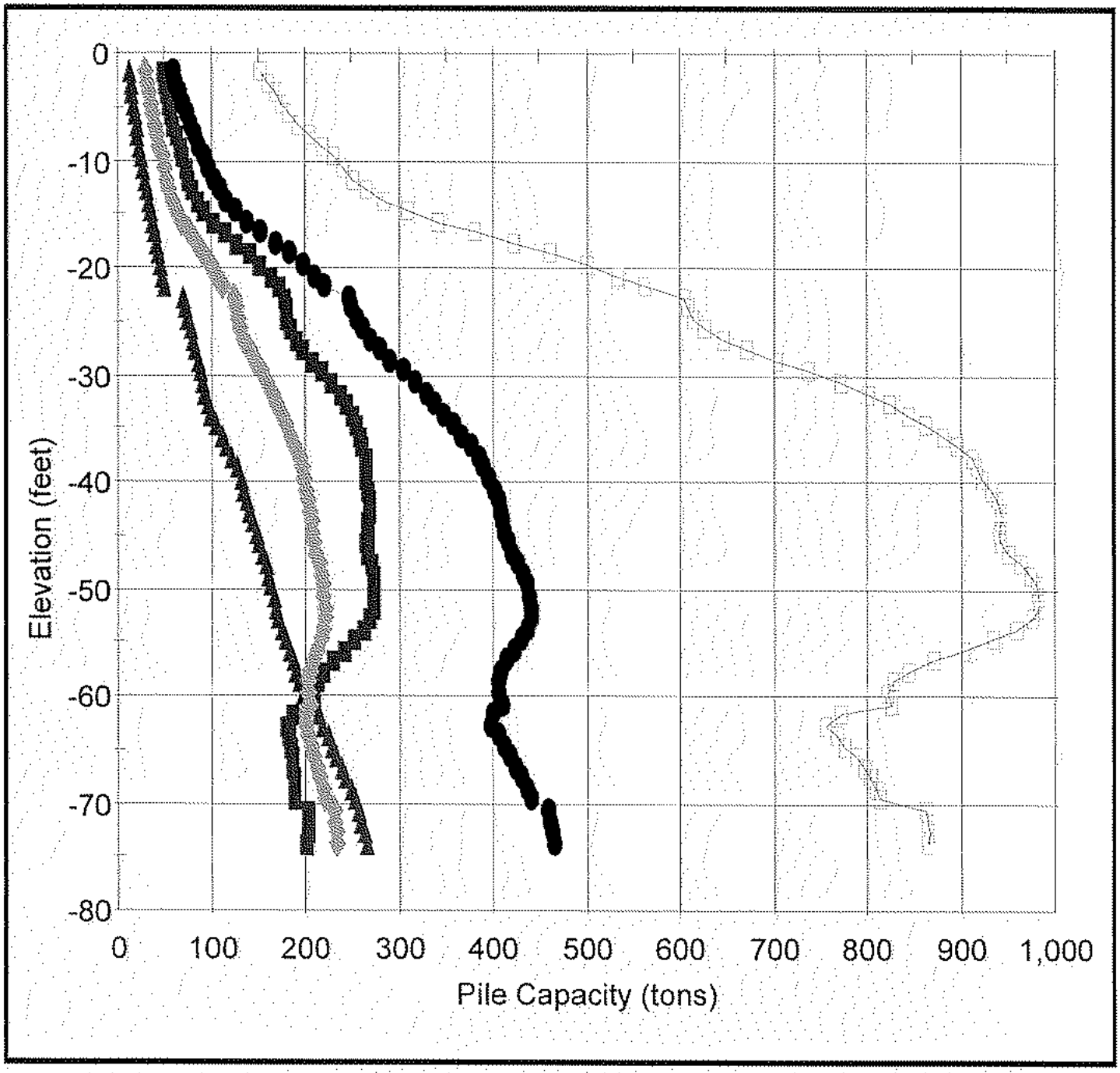
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-10
Pile Capacities for Pile Width of: 18.00 in



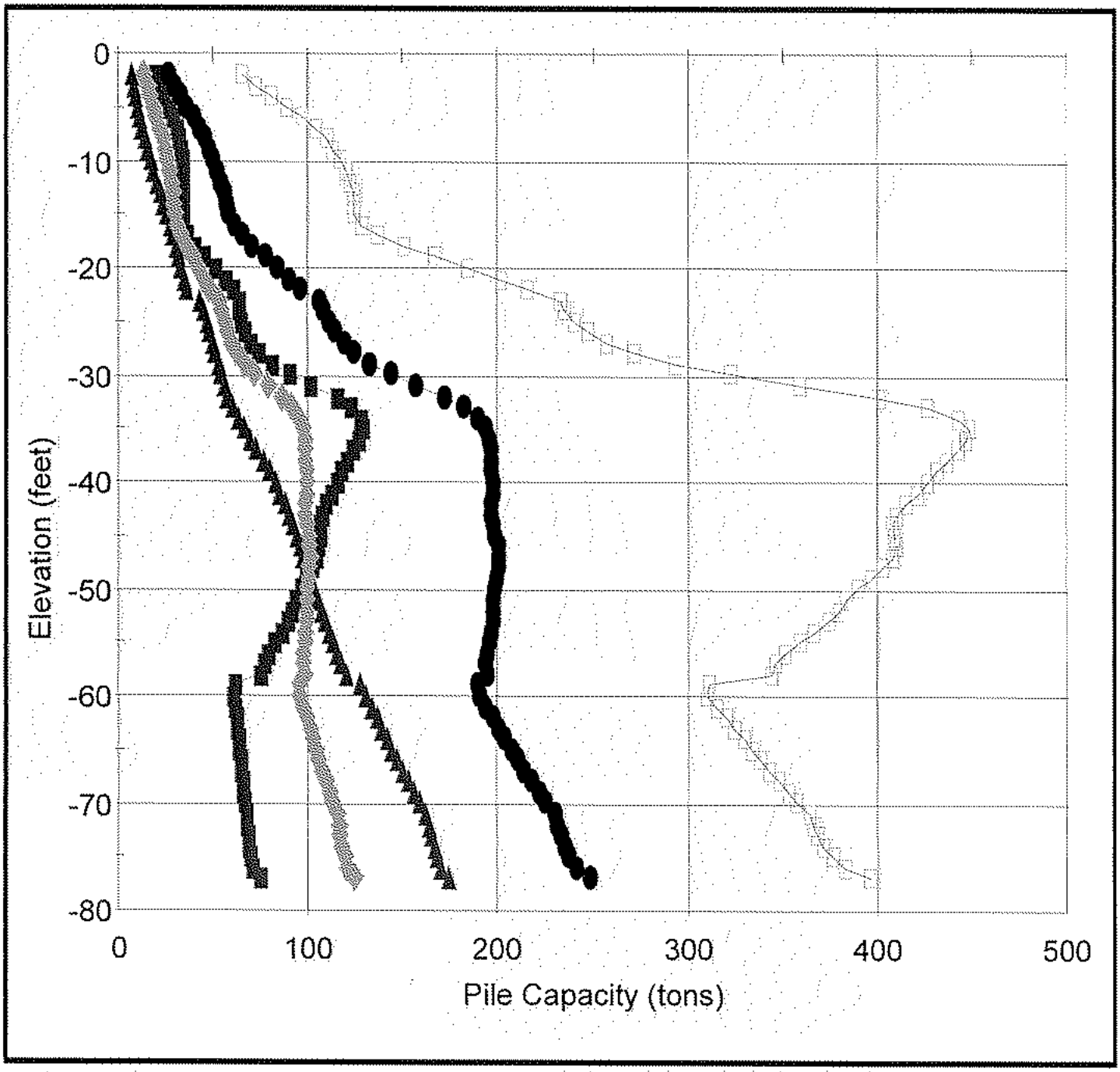
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FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-10
Pile Capacities for Pile Width of: 24.00 in



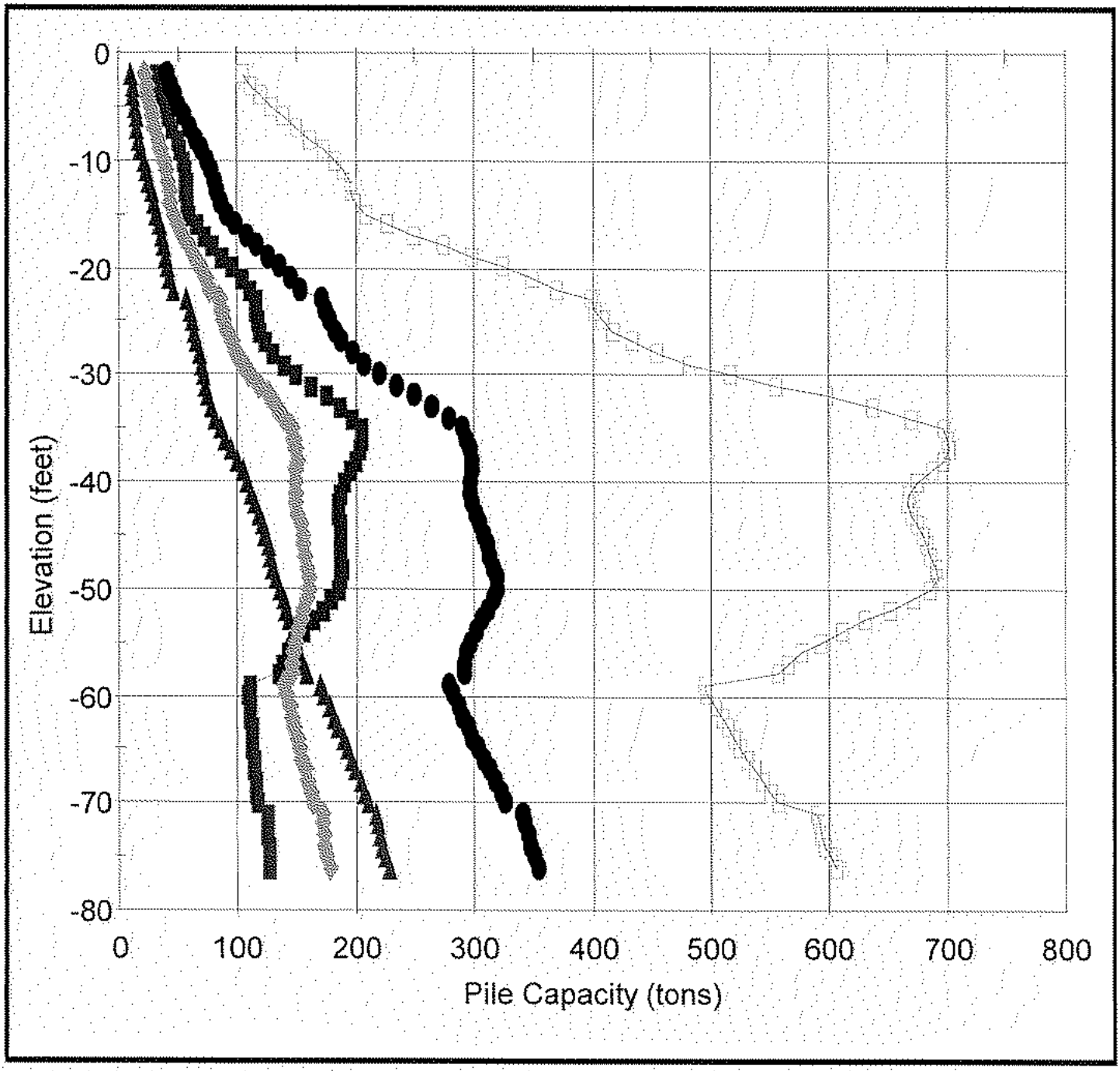
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
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MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-10
Pile Capacities for Pile Width of: 30.00 in



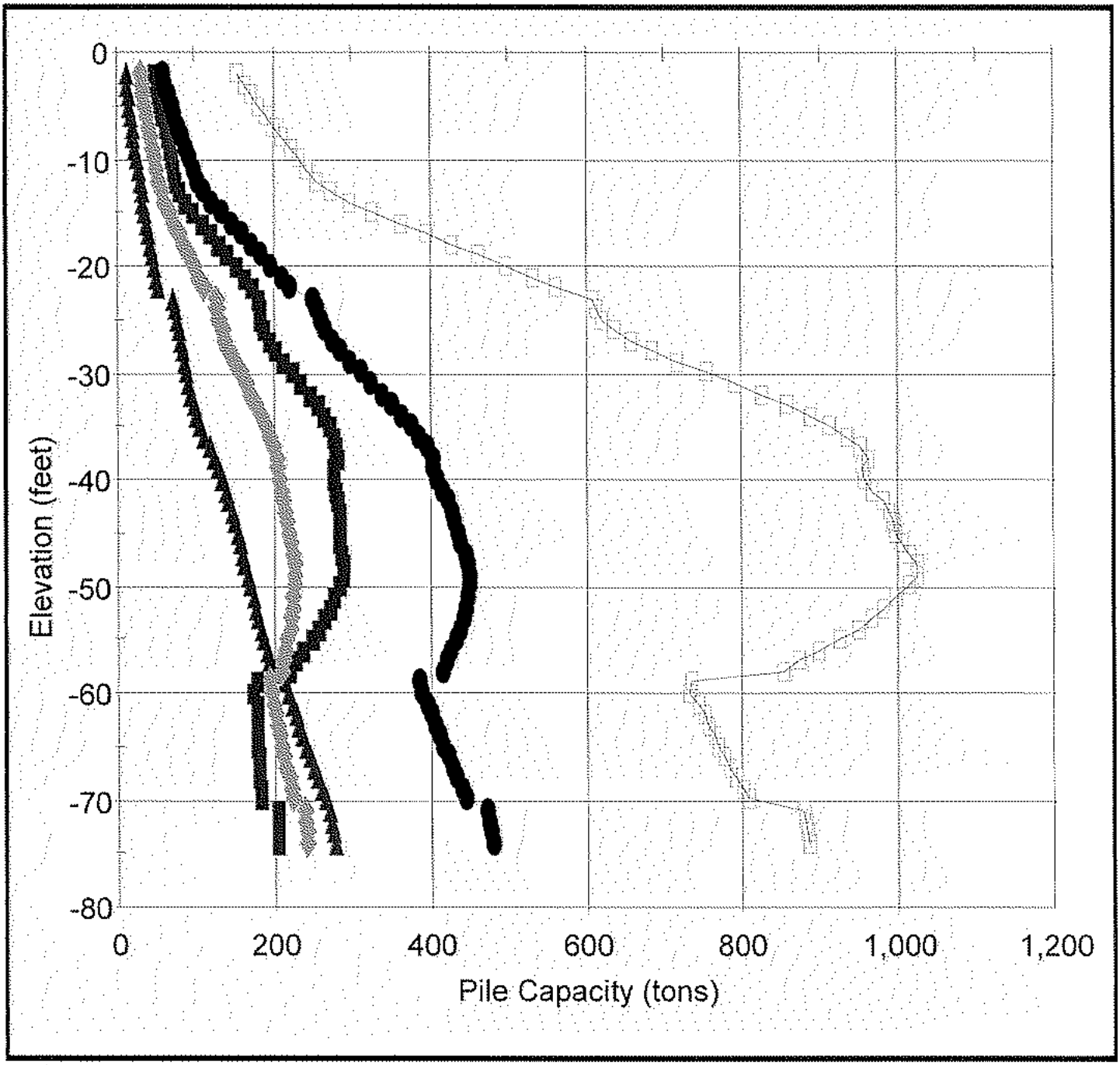
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-11
Pile Capacities for Pile Width of: 18.00 in



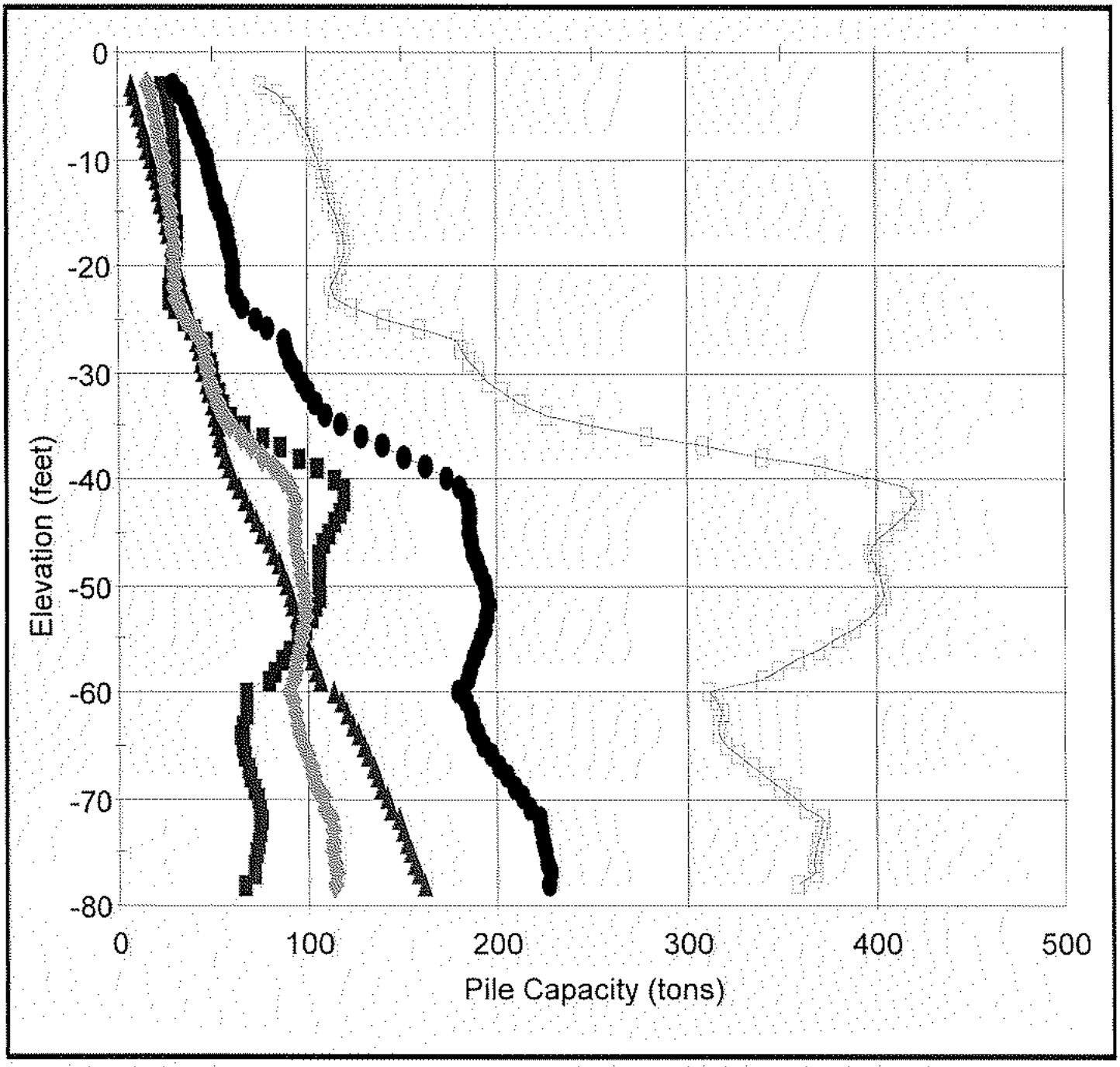
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
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MIAMI-DADE COUNTY, FLORIDA
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BORING No.: BR-11
Pile Capacities for Pile Width of: 24.00 in



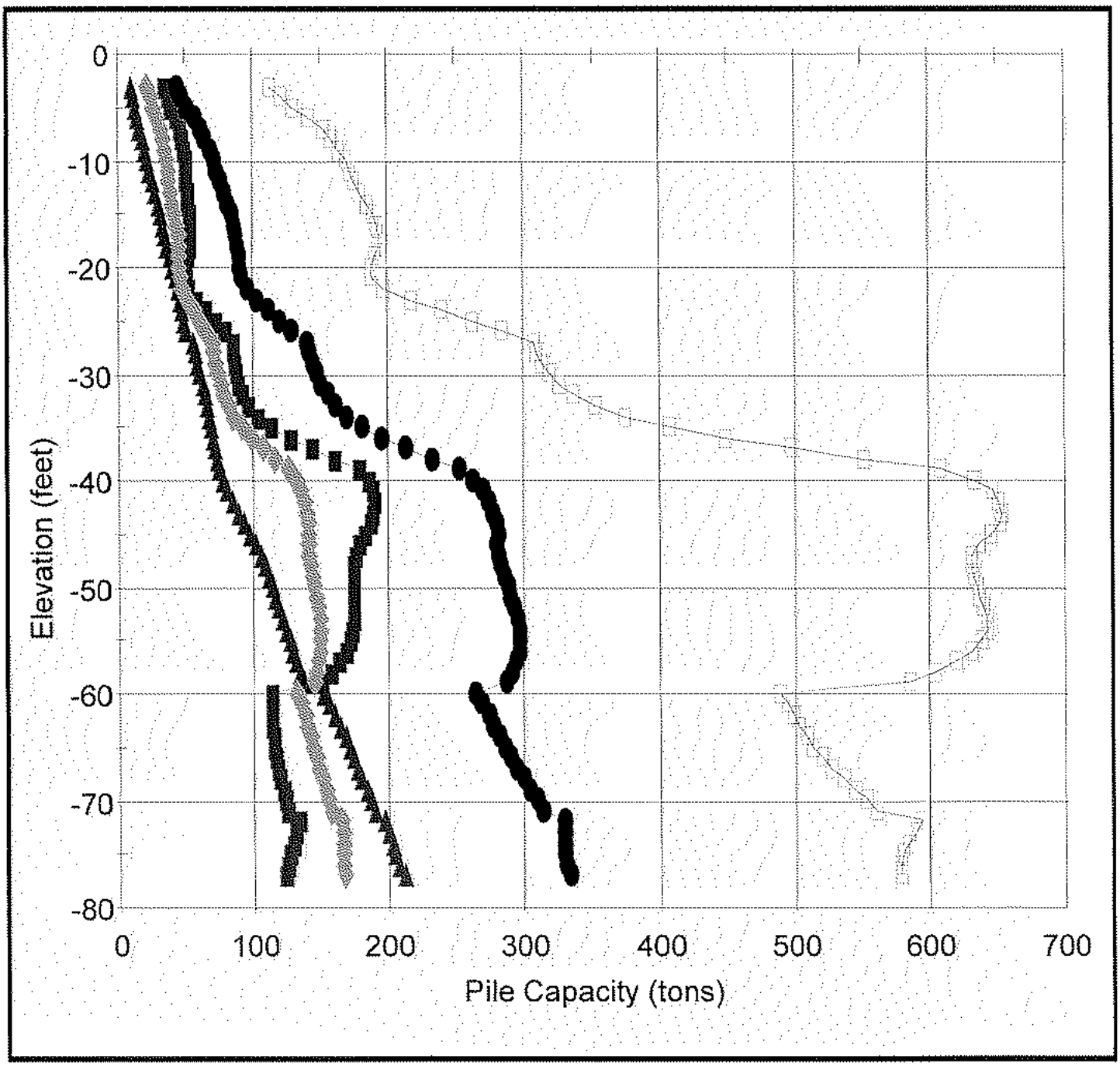
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BORING No.: BR-11
Pile Capacities for Pile Width of: 30.00 in



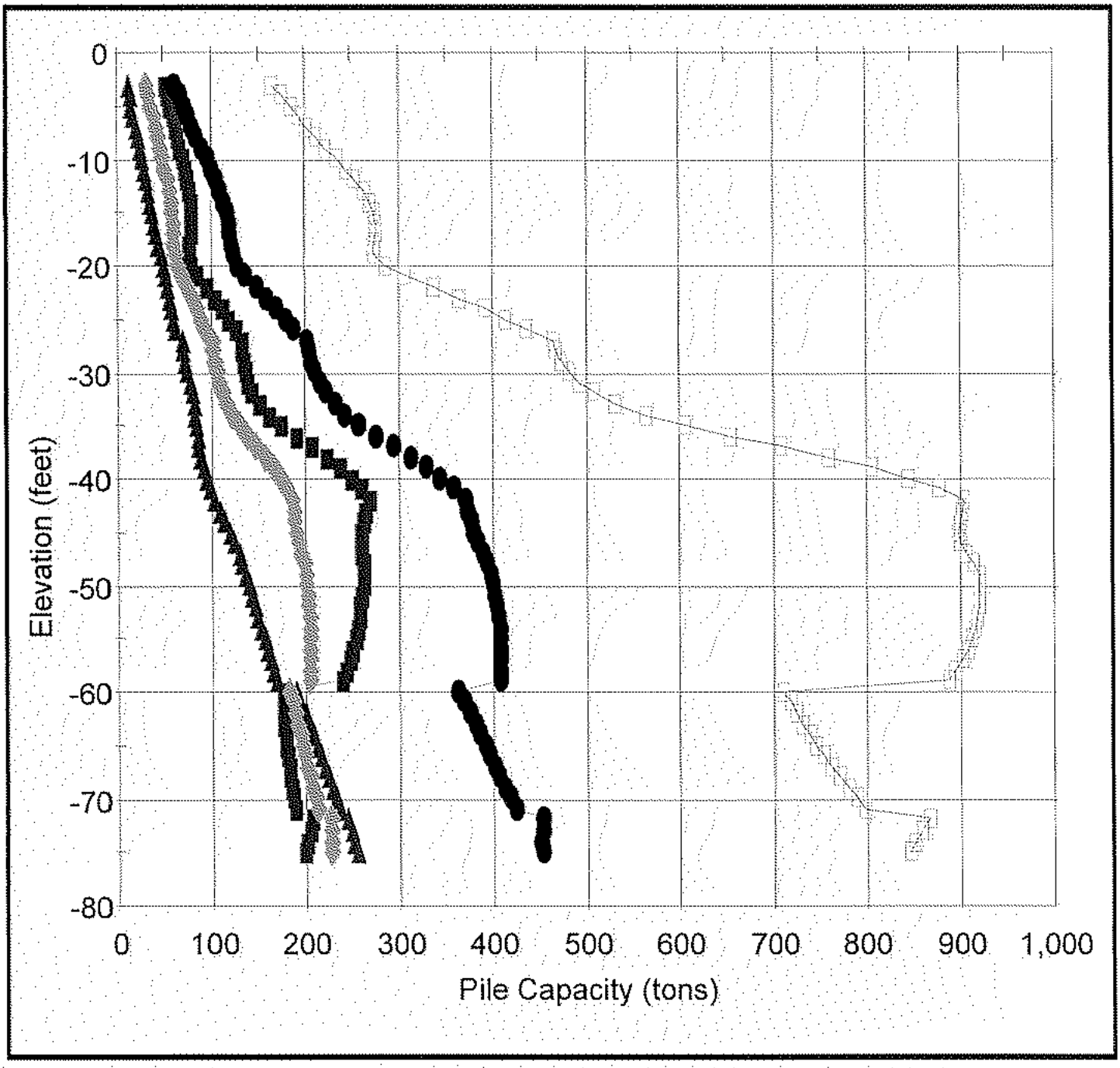
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-12
Pile Capacities for Pile Width of: 18.00 in



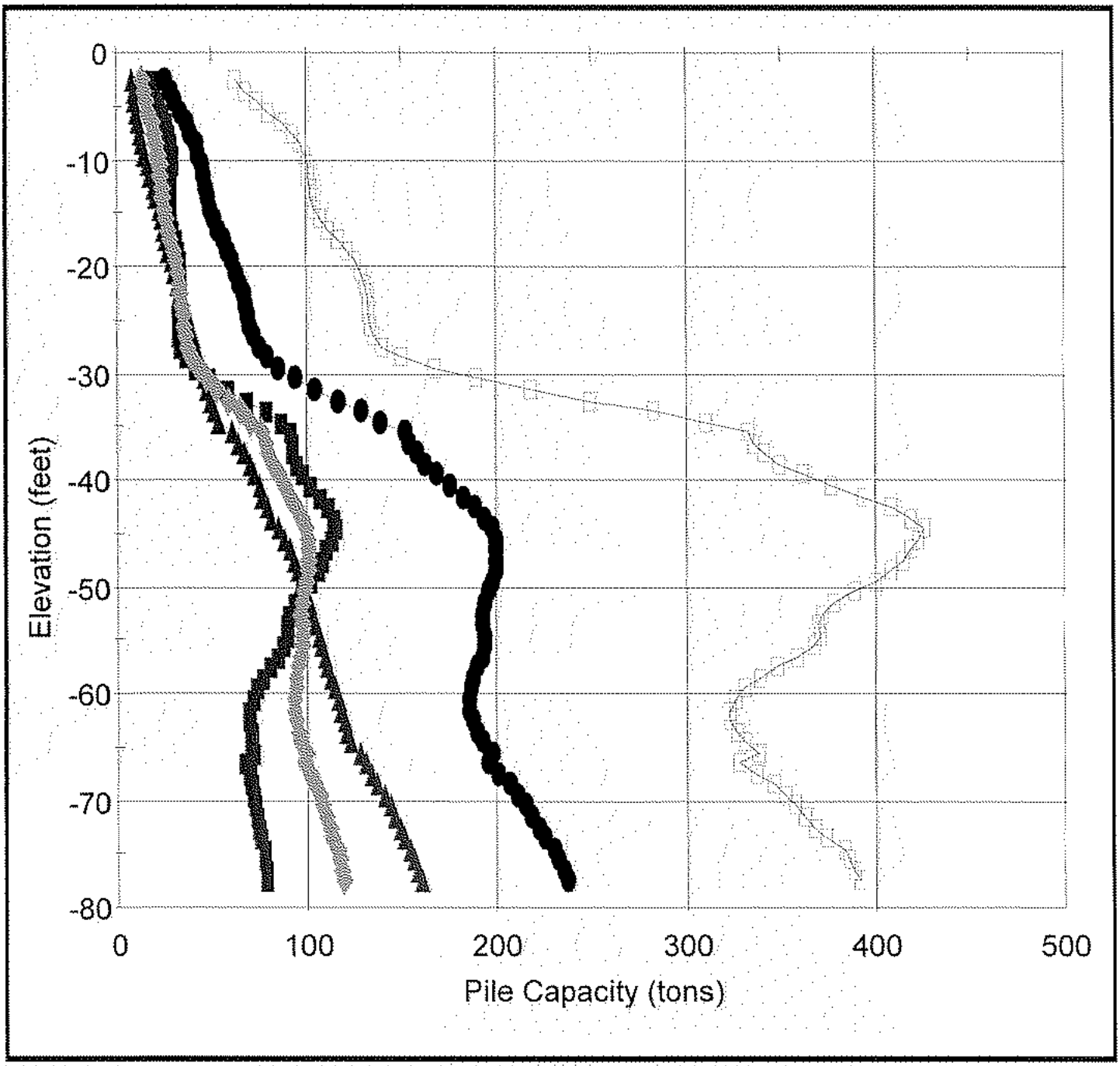
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-12
Pile Capacities for Pile Width of: 24.00 in



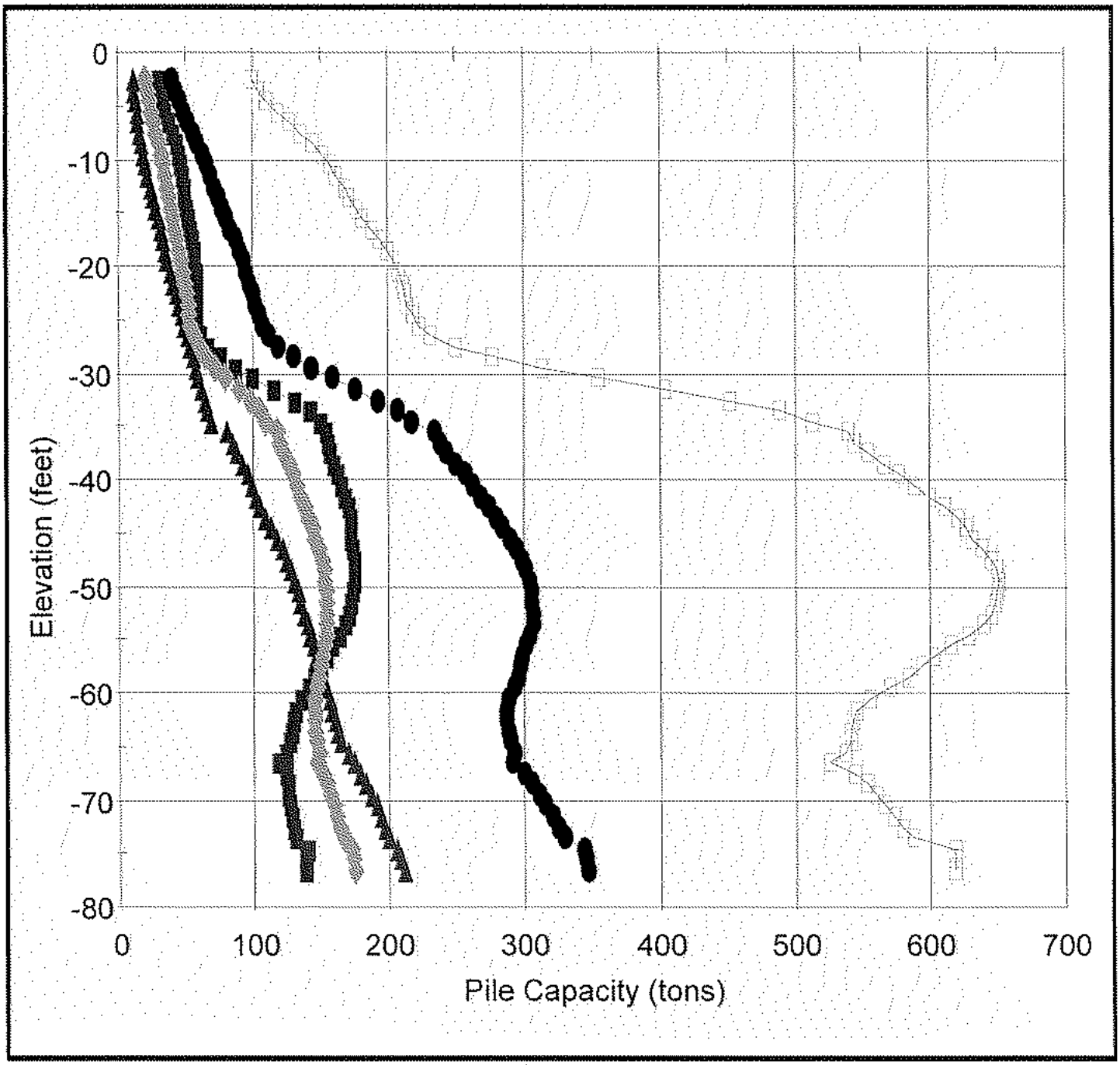
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-12
Pile Capacities for Pile Width of: 30.00 in



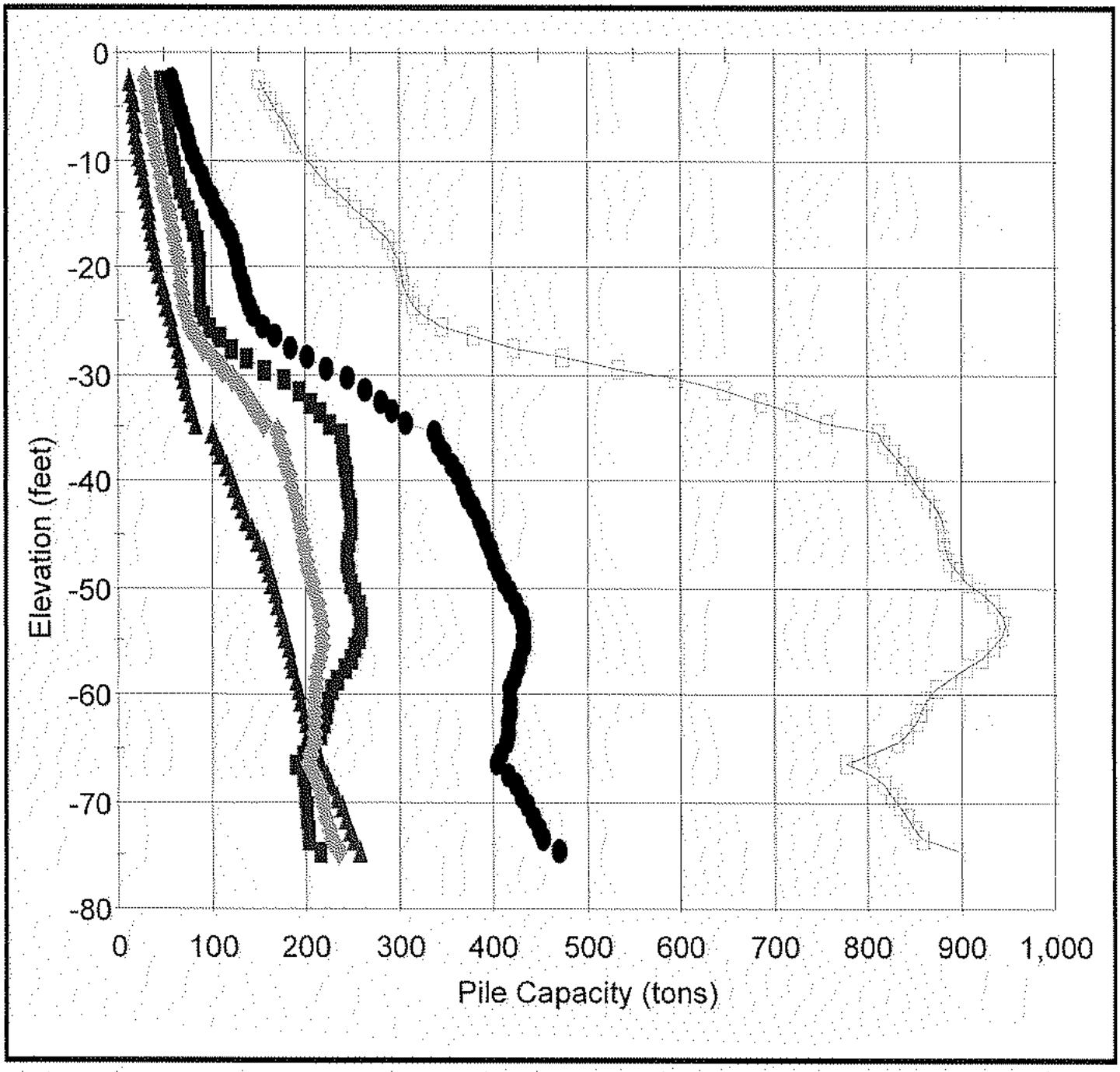
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-13
Pile Capacities for Pile Width of: 18.00 in



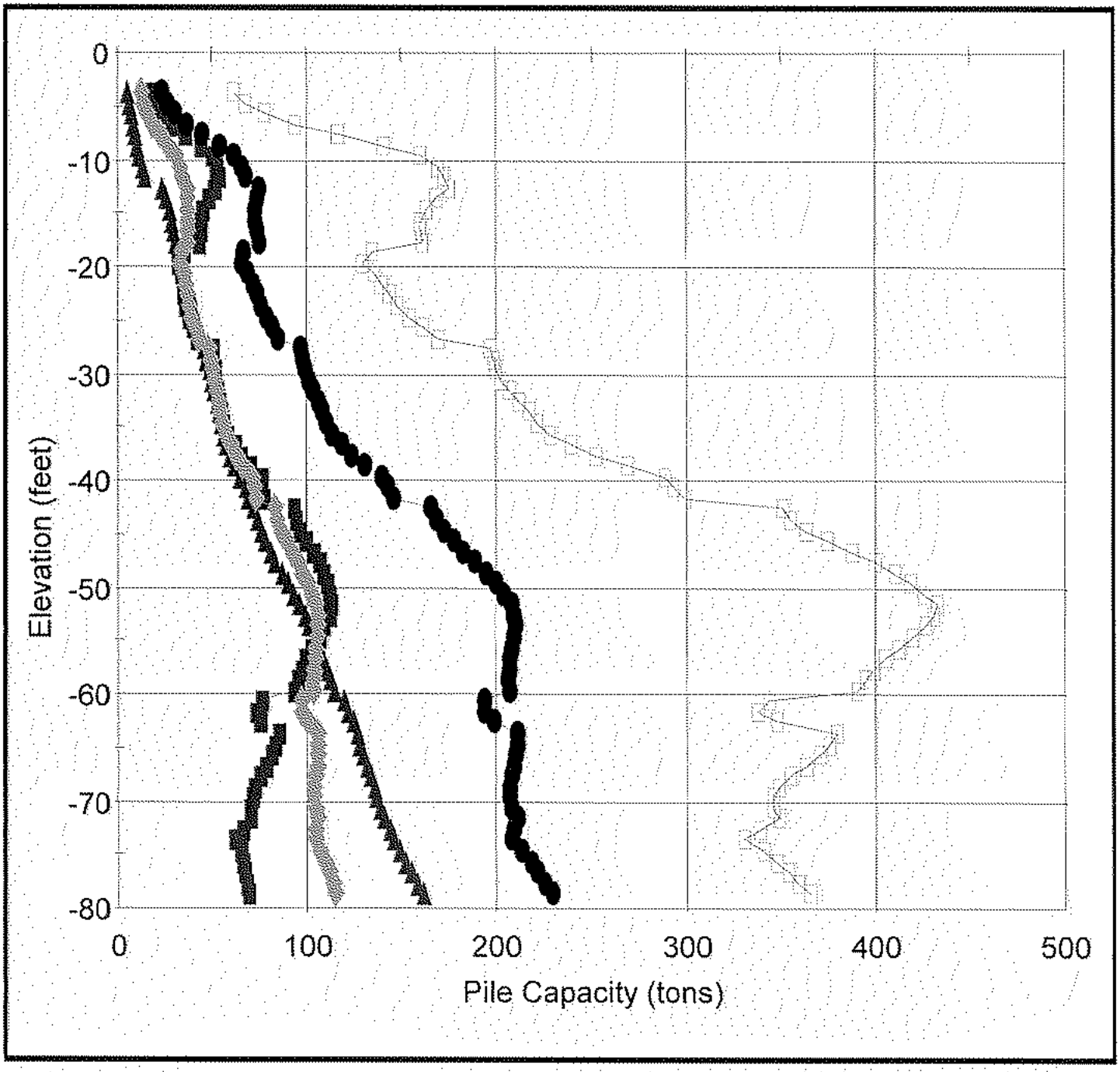
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-13
Pile Capacities for Pile Width of: 24.00 in



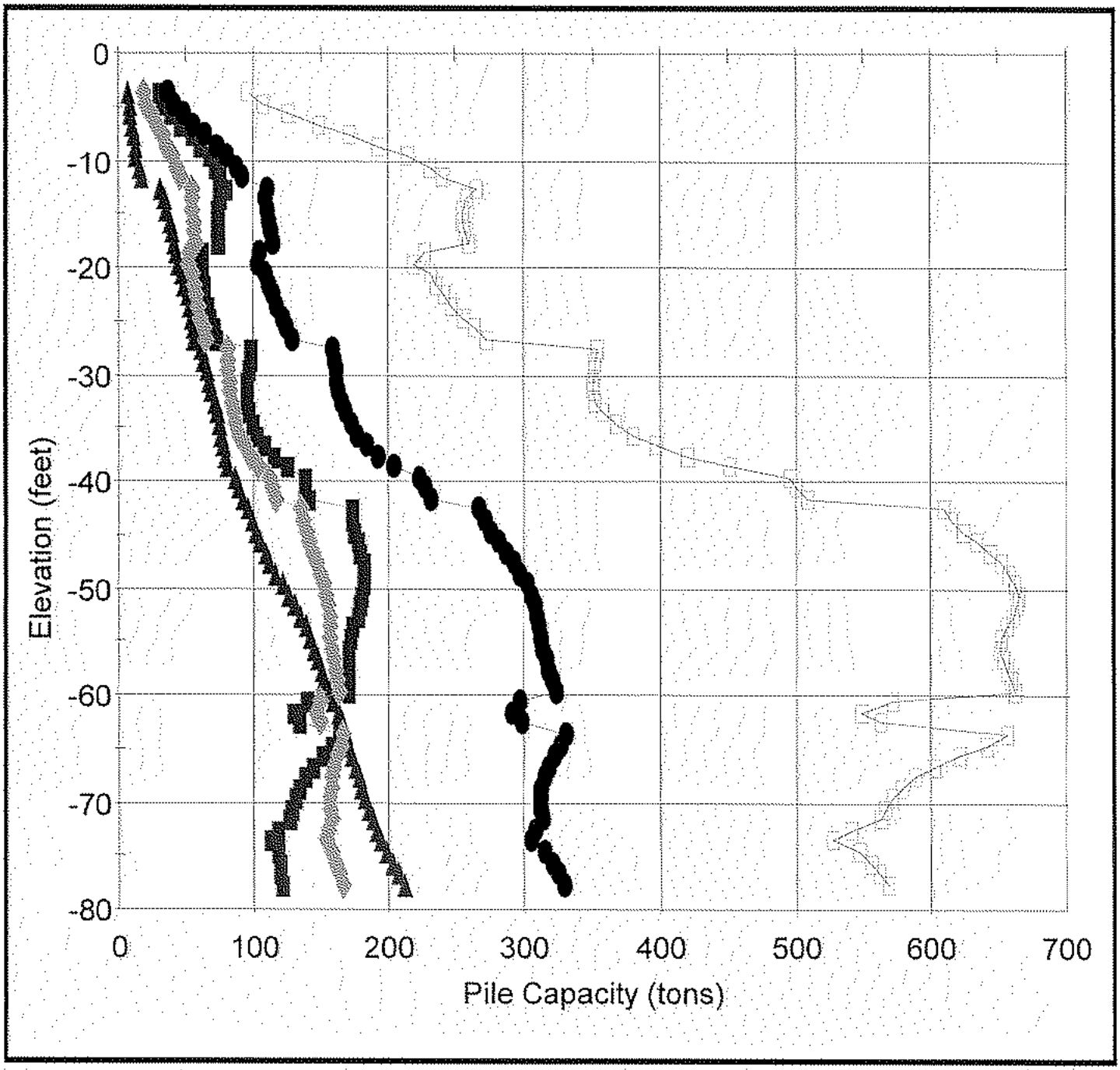
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-13
Pile Capacities for Pile Width of: 30.00 in



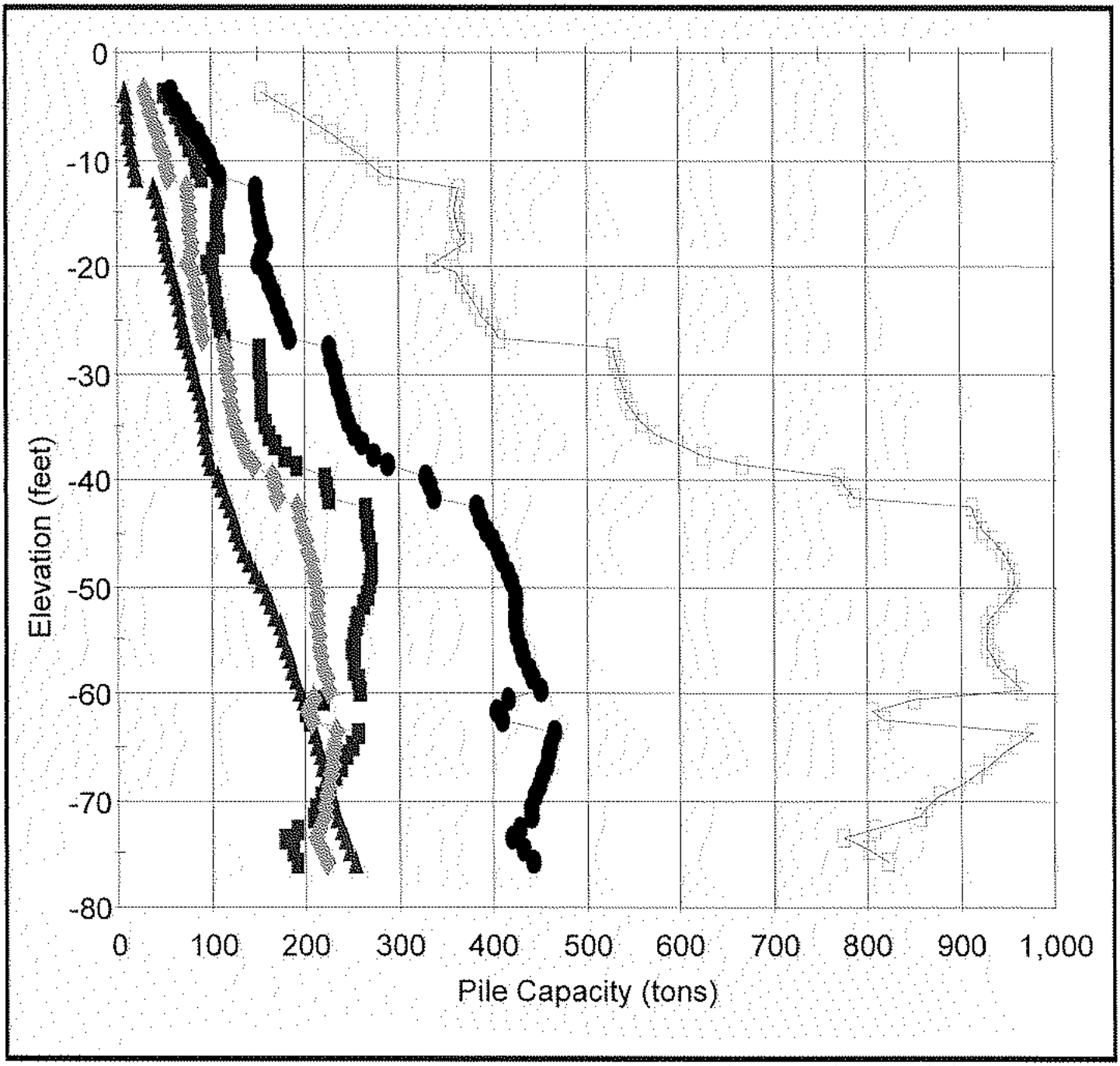
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-14
Pile Capacities for Pile Width of: 18.00 in



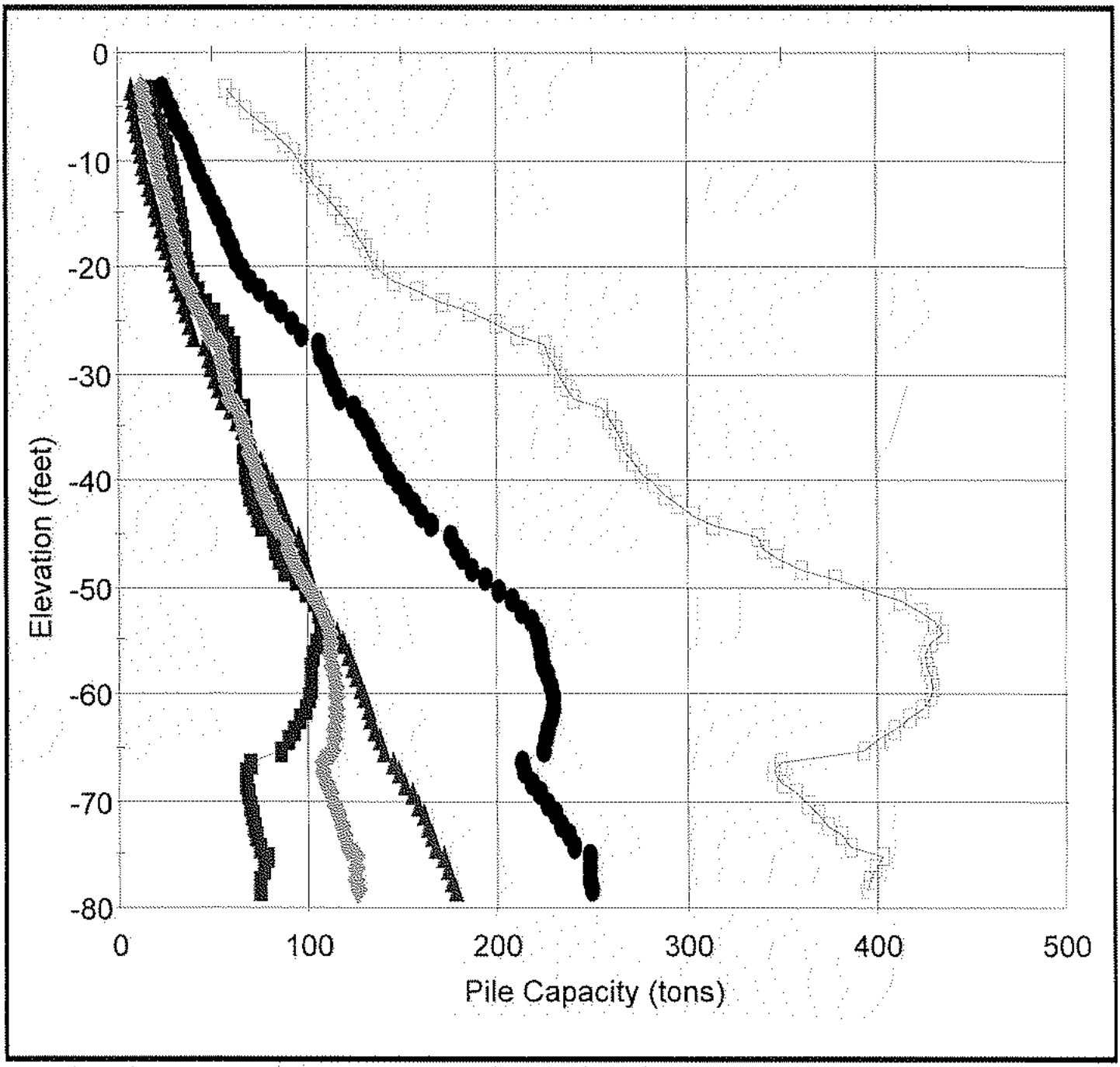
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-14
Pile Capacities for Pile Width of: 24.00 in



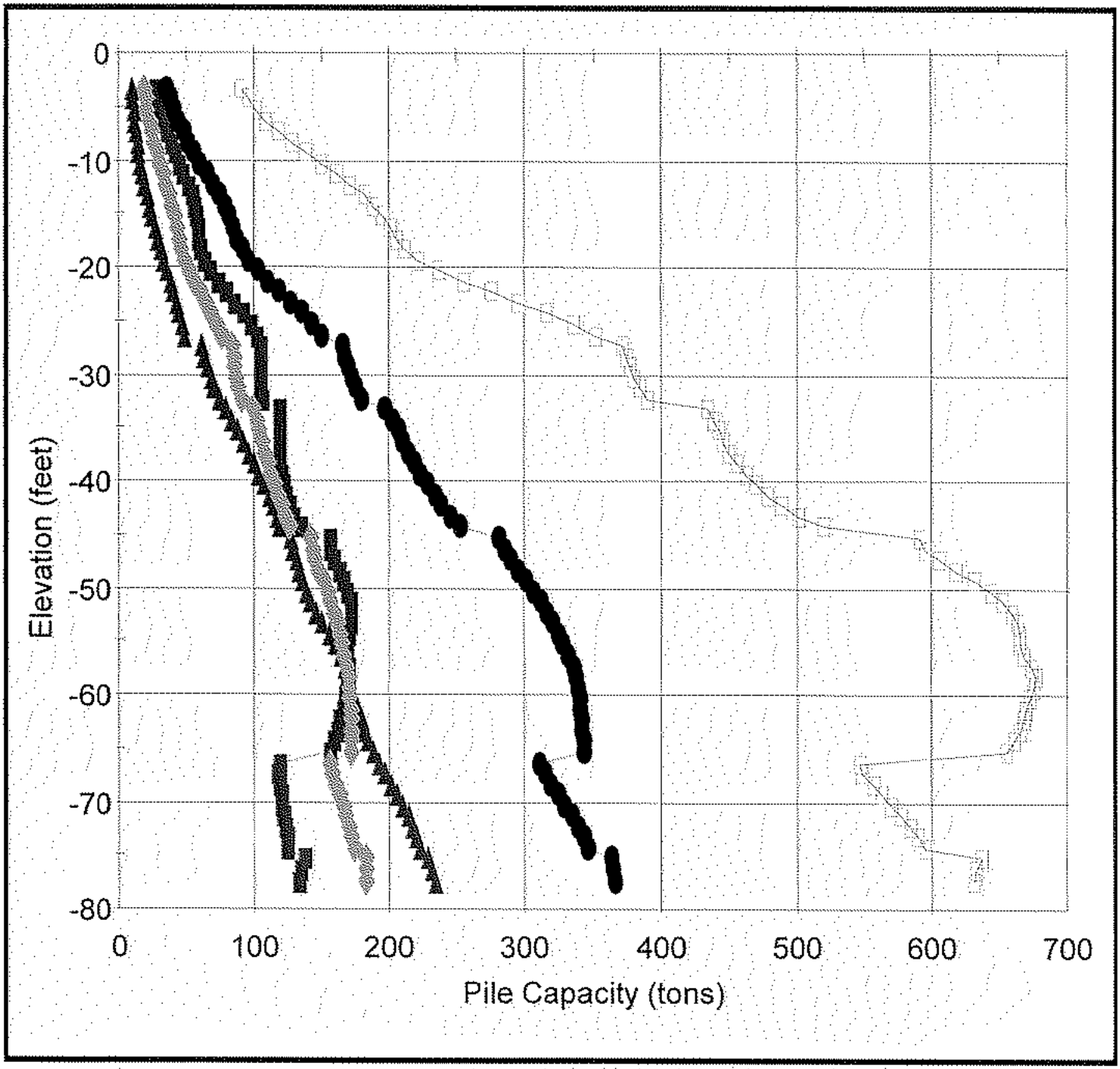
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
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MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-14
Pile Capacities for Pile Width of: 30.00 in



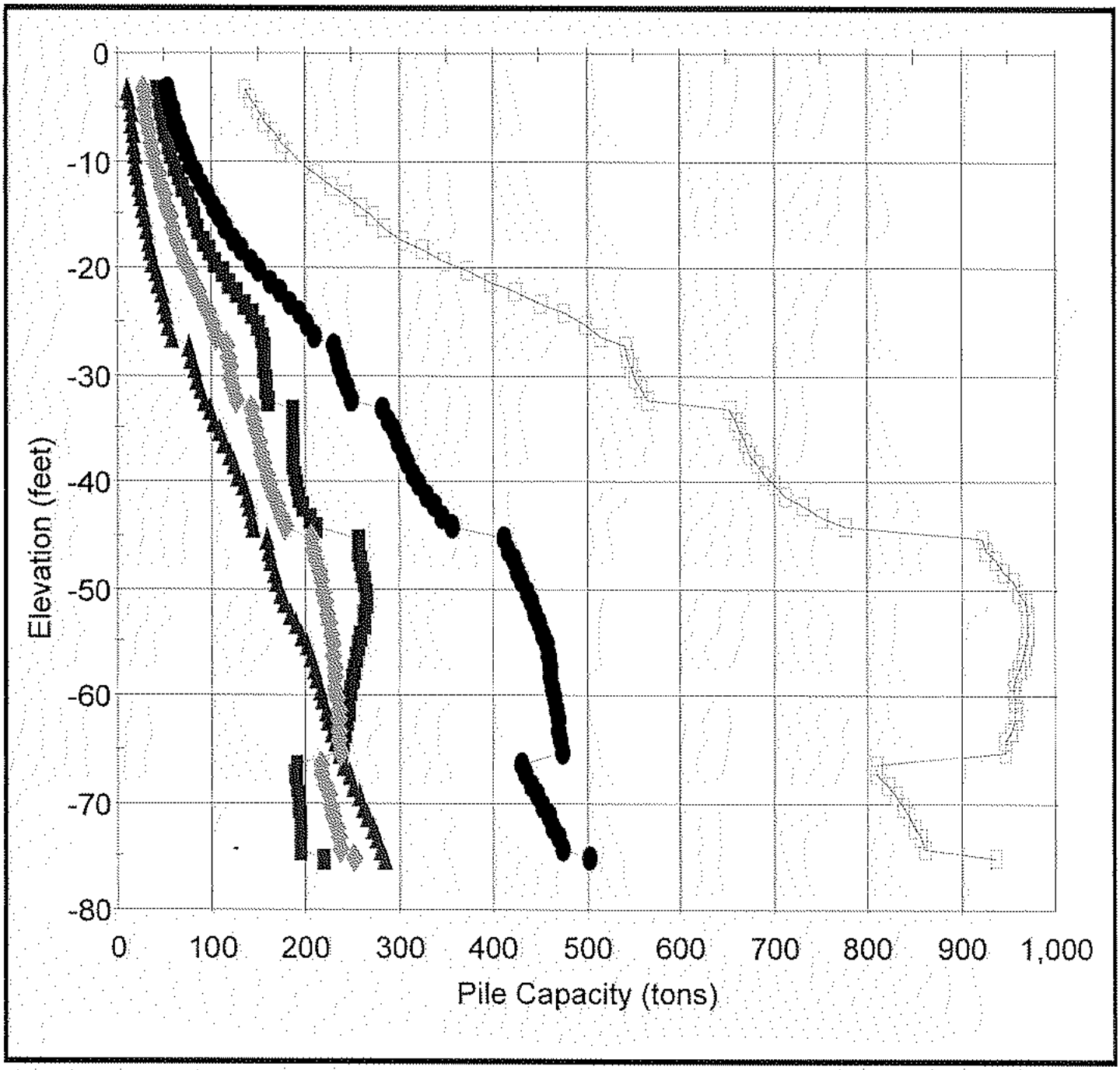
PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-15
Pile Capacities for Pile Width of: 18.00 in



PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-15
Pile Capacities for Pile Width of: 24.00 in



PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVE. TO NW 7TH AVE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
BORING No.: BR-15
Pile Capacities for Pile Width of: 30.00 in



FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-1.in
RUN DATE	03/24/11
RUN TIME	12:29:15
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-1
DRILLING DATE	1/4/2011 - 1/5/2011
STATION NO.	N/A
GROUND SURFACE ELEVATION	9.44 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	8.4	11.0	5
2	3.0	6.4	15.0	5
3	5.0	4.4	9.0	5
4	7.0	2.4	9.0	5
5	9.0	0.4	16.0	3
6	12.0	-2.6	19.0	3
7	15.0	-5.6	9.0	3
8	18.0	-8.6	9.0	3
9	21.0	-11.6	14.0	3
10	24.0	-14.6	15.0	3
11	27.0	-17.6	17.0	3
12	30.0	-20.6	12.0	3
13	33.0	-23.6	11.0	3
14	36.0	-26.6	12.0	3
15	39.0	-29.6	11.0	3
16	42.0	-32.6	10.0	3
17	45.0	-35.6	76.0	4
18	48.0	-38.6	100.0	4
19	51.0	-41.6	100.0	4
20	54.0	-44.6	11.0	3
21	57.0	-47.6	100.0	4
22	60.0	-50.6	100.0	4
23	63.0	-53.6	24.0	3
24	66.0	-56.6	31.0	3
25	69.0	-59.6	16.0	3
26	72.0	-62.6	45.0	3
27	75.0	-65.6	15.0	3
28	78.0	-68.6	29.0	3
29	81.0	-71.6	24.0	3
30	84.0	-74.6	47.0	3
31	87.0	-77.6	20.0	3
32	90.0	-80.6	20.0	3
33	93.0	-83.6	4.0	3
34	96.0	-86.6	17.0	3
35	99.0	-89.6	24.0	3

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.6	12.62	22.50	35.11	17.56	80.11
16.0	-6.6	12.96	23.54	36.51	18.25	83.60
17.0	-7.6	13.33	24.97	38.30	19.15	88.25
18.0	-8.6	13.74	26.77	40.51	20.26	94.04
19.0	-9.6	14.32	28.86	43.18	21.59	100.90
20.0	-10.6	15.22	30.88	46.10	23.05	107.86
21.0	-11.6	16.49	32.38	48.86	24.43	113.62
22.0	-12.6	17.97	33.57	51.54	25.77	118.67
23.0	-13.6	19.58	33.99	53.57	26.79	121.55
24.0	-14.6	21.24	33.45	54.69	27.35	121.59
25.0	-15.6	22.96	32.59	55.55	27.78	120.74
26.0	-16.6	24.74	31.82	56.56	28.28	120.21
27.0	-17.6	26.60	31.22	57.82	28.91	120.26
28.0	-18.6	28.40	30.78	59.19	29.59	120.75
29.0	-19.6	30.05	30.59	60.64	30.32	121.81
30.0	-20.6	31.53	30.69	62.21	31.11	123.58
31.0	-21.6	32.90	30.90	63.80	31.90	125.60
32.0	-22.6	34.24	30.96	65.19	32.60	127.11
33.0	-23.6	35.54	30.81	66.35	33.18	127.98
34.0	-24.6	36.84	30.50	67.33	33.67	128.32
35.0	-25.6	38.17	30.02	68.19	34.10	128.24
36.0	-26.6	39.53	29.40	68.93	34.47	127.73
37.0	-27.6	40.90	28.79	69.68	34.84	127.26
38.0	-28.6	42.22	31.28	73.50	36.75	136.07
39.0	-29.6	43.51	38.13	81.65	40.82	157.91
40.0	-30.6	44.77	49.32	94.09	47.04	192.73
41.0	-31.6	45.99	61.95	107.94	53.97	231.83
42.0	-32.6	47.17	74.79	121.96	60.98	271.53
43.0	-33.6	48.71	86.51	135.23	67.61	308.25
44.0	-34.6	51.02	95.81	146.83	73.42	338.45
45.0	-35.6	57.73	102.67	160.40	80.20	365.75
46.0	-36.6	61.15	103.29	164.44	82.22	371.01
47.0	-37.6	64.47	104.42	168.89	84.45	377.74
48.0	-38.6	68.04	104.64	172.68	86.34	381.97

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-39.6	72.13	102.58	174.70	87.35	379.85
50.0	-40.6	75.73	98.49	174.22	87.11	371.20
51.0	-41.6	79.33	98.74	178.07	89.03	375.55
52.0	-42.6	82.28	104.02	186.31	93.15	394.36
53.0	-43.6	83.49	112.51	196.00	98.00	421.03
54.0	-44.6	86.61	123.26	209.86	104.93	456.38
55.0	-45.6	88.25	96.79	185.04	92.52	378.61
56.0	-46.6	90.68	112.06	202.74	101.37	426.85
57.0	-47.6	93.89	136.66	230.55	115.27	503.87
58.0	-48.6	97.49	127.67	225.15	112.58	480.49
59.0	-49.6	101.09	118.12	219.21	109.61	455.46
60.0	-50.6	104.69	109.11	213.80	106.90	432.03
61.0	-51.6	108.14	101.52	209.66	104.83	412.70
62.0	-52.6	111.31	95.11	206.43	103.21	396.65
63.0	-53.6	114.19	63.81	178.01	89.00	305.63
64.0	-54.6	117.06	60.40	177.46	88.73	298.27
65.0	-55.6	120.20	60.83	181.03	90.51	302.69
66.0	-56.6	123.60	62.94	186.53	93.27	312.40
67.0	-57.6	126.44	64.56	190.99	95.50	320.10
68.0	-58.6	128.67	65.55	194.22	97.11	325.31
69.0	-59.6	130.64	66.06	196.70	98.35	328.82
70.0	-60.6	133.23	65.68	198.91	99.45	330.27
71.0	-61.6	137.06	64.83	201.88	100.94	331.54
72.0	-62.6	142.06	63.59	205.65	102.83	332.82
73.0	-63.6	146.63	62.30	208.92	104.46	333.52
74.0	-64.6	150.65	61.95	212.00	106.00	335.91
75.0	-65.6	152.33	62.49	214.81	107.41	339.78
76.0	-66.6	154.30	63.39	217.69	108.84	344.47
77.0	-67.6	156.79	64.61	221.40	110.70	350.62
78.0	-68.6	159.83	66.75	226.58	113.29	360.08
79.0	-69.6	163.04	70.46	233.50	116.75	374.43
80.0	-70.6	166.06	73.91	239.97	119.98	387.78
81.0	-71.6	168.89	76.01	244.90	122.45	396.91
82.0	-72.6	172.06	75.50	247.56	123.78	398.55
83.0	-73.6	176.11	72.45	248.56	124.28	393.47
84.0	-74.6	181.03	67.46	248.49	124.24	383.40
85.0	-75.6	185.87	62.52	248.39	124.20	373.42
86.0	-76.6	189.69	58.64	248.33	124.17	365.61
87.0	-77.6	192.49	55.39	247.88	123.94	358.66
88.0	-78.6	194.77	51.56	246.32	123.16	349.44
89.0	-79.6	197.05	47.76	244.80	122.40	340.32
90.0	-80.6	199.33	44.79	244.11	122.06	333.68

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 7

STATIC PILE BEARING CAPACITY ANALYSIS - SPT97 Page 7

Project No: 92407.011 SR 924 PD&E Study - East Extension
Boring No: BR-1

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}

WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.6	15.87	37.17	53.05	26.52	127.39
16.0	-6.6	16.67	38.11	54.78	27.39	131.01
17.0	-7.6	17.45	39.29	56.74	28.37	135.33
18.0	-8.6	17.96	41.29	59.25	29.62	141.84
19.0	-9.6	18.61	43.68	62.29	31.14	149.64
20.0	-10.6	19.54	46.36	65.90	32.95	158.63
21.0	-11.6	20.79	49.10	69.90	34.95	168.10
22.0	-12.6	22.33	51.65	73.97	36.99	177.26
23.0	-13.6	24.03	53.97	78.01	39.00	185.95
24.0	-14.6	25.98	55.71	81.69	40.85	193.12
25.0	-15.6	28.27	56.40	84.66	42.33	197.45
26.0	-16.6	30.85	56.23	87.08	43.54	199.53
27.0	-17.6	33.65	55.64	89.29	44.65	200.58
28.0	-18.6	36.05	53.91	89.95	44.98	197.77
29.0	-19.6	38.24	52.72	90.95	45.48	196.39
30.0	-20.6	40.21	52.26	92.47	46.23	196.98
31.0	-21.6	42.05	52.31	94.37	47.18	198.99
32.0	-22.6	43.85	52.54	96.39	48.20	201.48
33.0	-23.6	45.60	52.73	98.33	49.16	203.79
34.0	-24.6	47.34	52.82	100.16	50.08	205.79
35.0	-25.6	49.13	52.63	101.76	50.88	207.02
36.0	-26.6	50.95	55.04	105.99	53.00	216.07
37.0	-27.6	52.78	63.06	115.84	57.92	241.97
38.0	-28.6	54.56	76.85	131.41	65.71	285.12
39.0	-29.6	56.29	93.58	149.87	74.93	337.02
40.0	-30.6	57.97	110.31	168.29	84.14	388.91
41.0	-31.6	59.61	127.04	186.65	93.32	440.73
42.0	-32.6	61.19	143.74	204.93	102.47	492.40
43.0	-33.6	63.75	158.73	221.98	110.99	539.44
44.0	-34.6	66.30	170.50	236.80	118.40	577.81
45.0	-35.6	76.97	176.34	253.31	126.65	605.99
46.0	-36.6	81.77	175.02	256.79	128.39	606.83
47.0	-37.6	86.57	168.09	254.66	127.33	590.85
48.0	-38.6	91.37	161.21	252.58	126.29	575.00

STATIC PILE BEARING CAPACITY ANALYSIS - SPT97 Page 8

Project No: 92407.011 SR 924 PD&E Study - East Extension
Boring No: BR-1

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-39.6	96.17	160.11	256.28	128.14	576.51
50.0	-40.6	100.97	164.75	265.72	132.86	595.23
51.0	-41.6	105.77	172.22	277.99	138.99	622.43
52.0	-42.6	109.41	179.21	288.62	144.31	647.04
53.0	-43.6	111.13	187.80	298.93	149.46	674.52
54.0	-44.6	115.48	231.92	347.40	173.70	811.25
55.0	-45.6	117.67	167.24	284.91	142.45	619.38
56.0	-46.6	120.91	184.89	305.79	152.90	675.57
57.0	-47.6	125.18	213.47	338.65	169.33	765.59
58.0	-48.6	129.98	208.92	338.91	169.45	756.75
59.0	-49.6	134.78	203.83	338.62	169.31	746.28
60.0	-50.6	139.58	195.78	335.36	167.68	726.92
61.0	-51.6	144.19	184.89	329.08	164.54	698.86
62.0	-52.6	148.42	173.69	322.10	161.05	669.47
63.0	-53.6	152.26	105.96	258.21	129.11	470.12
64.0	-54.6	156.00	106.09	262.09	131.04	474.26
65.0	-55.6	159.69	106.92	266.61	133.30	480.45
66.0	-56.6	163.43	108.33	271.77	135.88	488.43
67.0	-57.6	167.24	109.35	276.59	138.29	495.28
68.0	-58.6	170.86	109.40	280.25	140.13	499.04
69.0	-59.6	173.99	108.97	282.96	141.48	500.90
70.0	-60.6	177.19	109.06	286.25	143.12	504.36
71.0	-61.6	181.56	109.65	291.21	145.60	510.51
72.0	-62.6	187.43	110.02	297.45	148.73	517.49
73.0	-63.6	193.63	109.71	303.34	151.67	522.75
74.0	-64.6	198.43	109.30	307.73	153.87	526.34
75.0	-65.6	201.19	110.18	311.37	155.68	531.73
76.0	-66.6	202.75	113.28	316.03	158.02	542.59
77.0	-67.6	204.57	118.26	322.83	161.41	559.35
78.0	-68.6	207.34	123.16	330.50	165.25	576.81
79.0	-69.6	211.08	125.92	337.00	168.50	588.85
80.0	-70.6	215.16	126.76	341.92	170.96	595.45
81.0	-71.6	219.37	126.16	345.53	172.77	597.85
82.0	-72.6	223.59	123.50	347.10	173.55	594.11
83.0	-73.6	228.89	119.71	348.61	174.30	588.03
84.0	-74.6	235.29	114.26	349.55	174.77	578.07
85.0	-75.6	241.60	107.56	349.16	174.58	564.27
86.0	-76.6	246.65	100.05	346.70	173.35	546.80
87.0	-77.6	250.41	92.65	343.06	171.53	528.35
88.0	-78.6	253.52	86.45	339.98	169.99	512.89
89.0	-79.6	256.63	82.01	338.64	169.32	502.66

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 8

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.6	18.31	55.51	73.81	36.91	184.83
16.0	-6.6	19.30	56.88	76.18	38.09	189.95
17.0	-7.6	20.24	58.57	78.81	39.41	195.95
18.0	-8.6	21.15	60.60	81.75	40.88	202.94
19.0	-9.6	22.23	62.82	85.05	42.52	210.68
20.0	-10.6	23.73	64.81	88.54	44.27	218.16
21.0	-11.6	25.67	66.41	92.08	46.04	224.90
22.0	-12.6	27.65	68.48	96.13	48.06	233.09
23.0	-13.6	29.74	70.55	100.29	50.14	241.39
24.0	-14.6	31.94	72.61	104.55	52.28	249.77
25.0	-15.6	34.28	74.65	108.93	54.47	258.23
26.0	-16.6	36.77	76.75	113.52	56.76	267.03
27.0	-17.6	39.39	78.93	118.32	59.16	276.18
28.0	-18.6	42.10	80.76	122.85	61.43	284.37
29.0	-19.6	44.83	81.65	126.48	63.24	289.78
30.0	-20.6	47.48	81.99	129.47	64.74	293.46
31.0	-21.6	50.05	82.15	132.20	66.10	296.50
32.0	-22.6	52.47	81.32	133.78	66.89	296.42
33.0	-23.6	54.67	79.94	134.61	67.30	294.49
34.0	-24.6	56.87	81.08	137.95	68.97	300.11
35.0	-25.6	59.11	89.78	148.89	74.44	328.44
36.0	-26.6	61.40	105.98	167.38	83.69	379.34
37.0	-27.6	63.69	127.43	191.12	95.56	445.98
38.0	-28.6	65.93	149.18	215.11	107.55	513.46
39.0	-29.6	68.10	170.86	238.96	119.48	580.69
40.0	-30.6	70.22	192.34	262.56	131.28	647.23
41.0	-31.6	72.28	213.61	285.88	142.94	713.10
42.0	-32.6	74.27	234.78	309.06	154.53	778.62
43.0	-33.6	76.84	251.87	328.71	164.35	832.44
44.0	-34.6	80.62	257.84	338.45	169.23	854.12
45.0	-35.6	96.21	252.44	348.65	174.33	853.53
46.0	-36.6	102.21	241.74	343.95	171.98	827.44
47.0	-37.6	108.21	237.66	345.87	172.93	821.19
48.0	-38.6	114.21	240.83	355.04	177.52	836.71

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-39.6	120.21	249.44	369.65	184.83	868.54
50.0	-40.6	125.62	254.48	380.10	190.05	889.05
51.0	-41.6	130.56	258.60	389.15	194.58	906.35
52.0	-42.6	134.68	264.20	398.88	199.44	927.27
53.0	-43.6	137.68	270.43	408.11	204.05	948.96
54.0	-44.6	144.34	343.65	488.00	244.00	1175.31
55.0	-45.6	147.09	241.67	388.76	194.38	872.10
56.0	-46.6	151.13	268.36	419.49	209.75	956.22
57.0	-47.6	156.48	293.09	449.57	224.78	1035.74
58.0	-48.6	162.48	287.95	450.43	225.22	1026.33
59.0	-49.6	168.48	281.05	449.53	224.77	1011.64
60.0	-50.6	174.48	272.31	446.79	223.39	991.40
61.0	-51.6	180.24	264.84	445.08	222.54	974.75
62.0	-52.6	185.52	264.04	449.56	224.78	977.63
63.0	-53.6	190.32	177.94	368.26	184.13	724.15
64.0	-54.6	195.07	178.00	373.07	186.53	729.07
65.0	-55.6	199.96	178.57	378.53	189.27	735.68
66.0	-56.6	205.35	179.03	384.39	192.19	742.46
67.0	-57.6	210.94	178.74	389.68	194.84	747.16
68.0	-58.6	215.79	178.09	393.88	196.94	750.05
69.0	-59.6	219.39	176.58	395.97	197.98	749.13
70.0	-60.6	223.35	177.23	400.58	200.29	755.05
71.0	-61.6	229.09	178.05	407.14	203.57	763.23
72.0	-62.6	236.77	177.95	414.72	207.36	770.63
73.0	-63.6	244.38	176.99	421.36	210.68	775.34
74.0	-64.6	249.85	178.37	428.23	214.11	784.97
75.0	-65.6	252.21	181.46	433.67	216.83	796.58
76.0	-66.6	253.67	186.11	439.78	219.89	812.00
77.0	-67.6	256.82	189.25	446.06	223.03	824.55
78.0	-68.6	261.71	190.07	451.78	225.89	831.92
79.0	-69.6	267.56	188.96	456.52	228.26	834.44
80.0	-70.6	273.15	187.73	460.88	230.44	836.35
81.0	-71.6	278.40	186.55	464.95	232.47	838.04
82.0	-72.6	284.62	184.08	468.70	234.35	836.85
83.0	-73.6	293.55	177.59	471.14	235.57	826.32
84.0	-74.6	301.75	166.05	467.80	233.90	799.90
85.0	-75.6	309.83	153.04	462.87	231.44	768.96
86.0	-76.6	316.19	143.59	459.79	229.89	746.97
87.0	-77.6	320.85	138.45	459.30	229.65	736.20

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 9

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-2.in
RUN DATE	03/24/11
RUN TIME	12:35:58
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-2
DRILLING DATE	1/5/2011 - 1/6/2011
STATION NO.	N/A
GROUND SURFACE ELEVATION	10.54 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	9.5	16.0	5
2	3.0	7.5	20.0	5
3	5.0	5.5	15.0	5
4	7.0	3.5	7.0	5
5	9.0	1.5	6.0	3
6	12.0	-1.5	10.0	3
7	15.0	-4.5	9.0	3
8	18.0	-7.5	11.0	3
9	21.0	-10.5	15.0	3
10	24.0	-13.5	12.0	3
11	27.0	-16.5	10.0	3
12	30.0	-19.5	12.0	3
13	33.0	-22.5	16.0	3
14	36.0	-25.5	12.0	3
15	39.0	-28.5	11.0	3
16	42.0	-31.5	4.0	3
17	45.0	-34.5	30.0	4
18	48.0	-37.5	73.0	4
19	51.0	-40.5	100.0	4
20	54.0	-43.5	29.0	4
21	57.0	-46.5	24.0	4
22	60.0	-49.5	12.0	4
23	63.0	-52.5	9.0	3
24	66.0	-55.5	19.0	3
25	69.0	-58.5	15.0	3
26	72.0	-61.5	21.0	3
27	75.0	-64.5	32.0	3
28	78.0	-67.5	22.0	3
29	81.0	-70.5	19.0	3
30	84.0	-73.5	21.0	3
31	87.0	-76.5	26.0	3
32	90.0	-79.5	24.0	3
33	93.0	-82.5	35.0	3
34	96.0	-85.5	43.0	4
35	99.0	-88.5	19.0	4

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-4.5	5.13	16.54	21.66	10.83	54.74
16.0	-5.5	5.81	19.06	24.87	12.43	63.00
17.0	-6.5	6.63	21.92	28.55	14.27	72.39
18.0	-7.5	7.61	24.90	32.51	16.26	82.31
19.0	-8.5	8.87	26.20	35.08	17.54	87.48
20.0	-9.5	10.26	27.01	37.27	18.64	91.29
21.0	-10.5	11.79	27.19	38.98	19.49	93.37
22.0	-11.5	13.35	27.00	40.35	20.17	94.34
23.0	-12.5	14.83	26.86	41.69	20.84	95.41
24.0	-13.5	16.22	26.87	43.09	21.55	96.83
25.0	-14.5	17.53	27.10	44.63	22.32	98.83
26.0	-15.5	18.79	27.70	46.49	23.25	101.90
27.0	-16.5	19.97	28.74	48.71	24.35	106.18
28.0	-17.5	21.16	30.04	51.19	25.60	111.26
29.0	-18.5	22.41	31.05	53.46	26.73	115.56
30.0	-19.5	23.73	31.61	55.33	27.67	118.55
31.0	-20.5	25.15	31.64	56.79	28.39	120.06
32.0	-21.5	26.71	31.22	57.93	28.97	120.38
33.0	-22.5	28.41	30.43	58.83	29.42	119.69
34.0	-23.5	30.11	29.52	59.62	29.81	118.66
35.0	-24.5	31.68	28.25	59.93	29.96	116.43
36.0	-25.5	33.11	26.42	59.53	29.76	112.37
37.0	-26.5	34.45	24.05	58.50	29.25	106.60
38.0	-27.5	35.77	23.40	59.17	29.58	105.96
39.0	-28.5	37.04	25.43	62.47	31.24	113.33
40.0	-29.5	38.31	30.29	68.40	34.20	128.98
41.0	-30.5	38.79	38.13	76.91	38.46	153.17
42.0	-31.5	39.08	48.94	88.01	44.01	185.89
43.0	-32.5	39.45	61.65	101.10	50.55	224.41
44.0	-33.5	40.37	73.51	113.88	56.94	260.90
45.0	-34.5	44.85	83.79	128.64	64.32	296.22
46.0	-35.5	46.76	84.76	131.53	65.76	301.05
47.0	-36.5	49.03	86.96	135.99	68.00	309.92
48.0	-37.5	51.88	89.07	140.95	70.47	319.08

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-38.5	55.24	90.09	145.32	72.66	325.49
50.0	-39.5	58.82	90.16	148.98	74.49	329.31
51.0	-40.5	62.61	89.38	151.98	75.99	330.74
52.0	-41.5	66.16	88.30	154.46	77.23	331.06
53.0	-42.5	69.05	87.53	156.58	78.29	331.64
54.0	-43.5	71.23	87.24	158.47	79.24	332.96
55.0	-44.5	72.94	85.97	158.91	79.46	330.86
56.0	-45.5	74.55	83.28	157.83	78.92	324.39
57.0	-46.5	76.06	79.36	155.42	77.71	314.14
58.0	-47.5	77.40	74.42	151.82	75.91	300.65
59.0	-48.5	78.50	69.38	147.88	73.94	286.64
60.0	-49.5	79.36	64.56	143.92	71.96	273.03
61.0	-50.5	80.15	60.29	140.43	70.22	261.01
62.0	-51.5	81.03	56.21	137.24	68.62	249.65
63.0	-52.5	82.39	37.20	119.59	59.80	193.99
64.0	-53.5	83.61	32.49	116.10	58.05	181.08
65.0	-54.5	85.20	35.06	120.26	60.13	190.39
66.0	-55.5	87.16	37.23	124.39	62.20	198.85
67.0	-56.5	88.98	37.77	126.75	63.38	202.30
68.0	-57.5	90.52	38.66	129.18	64.59	206.49
69.0	-58.5	91.74	40.16	131.90	65.95	212.23
70.0	-59.5	92.84	42.46	135.31	67.65	220.23
71.0	-60.5	94.21	44.99	139.20	69.60	229.17
72.0	-61.5	95.92	47.27	143.19	71.59	237.72
73.0	-62.5	98.10	48.98	147.08	73.54	245.03
74.0	-63.5	100.83	50.02	150.85	75.43	250.89
75.0	-64.5	104.15	50.27	154.42	77.21	254.95
76.0	-65.5	107.49	50.82	158.31	79.15	259.95
77.0	-66.5	110.50	50.93	161.43	80.72	263.30
78.0	-67.5	113.15	50.76	163.92	81.96	265.45
79.0	-68.5	115.59	50.94	166.53	83.26	268.40
80.0	-69.5	117.93	51.69	169.61	84.81	272.99
81.0	-70.5	120.16	53.08	173.24	86.62	279.40
82.0	-71.5	122.38	54.82	177.20	88.60	286.85
83.0	-72.5	124.67	56.28	180.95	90.47	293.51
84.0	-73.5	127.02	57.30	184.32	92.16	298.92
85.0	-74.5	129.49	57.76	187.26	93.63	302.79
86.0	-75.5	132.15	58.21	190.35	95.18	306.77
87.0	-76.5	134.98	58.91	193.88	96.94	311.70
88.0	-77.5	137.86	60.37	198.23	99.12	318.97
89.0	-78.5	140.68	63.22	203.90	101.95	330.34
90.0	-79.5	143.43	67.51	210.94	105.47	345.95

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 16

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-4.5	6.58	27.40	33.99	16.99	88.79
16.0	-5.5	7.51	29.73	37.24	18.62	96.70
17.0	-6.5	8.60	32.05	40.65	20.32	104.76
18.0	-7.5	9.78	34.80	44.58	22.29	114.17
19.0	-8.5	11.16	37.52	48.68	24.34	123.72
20.0	-9.5	12.80	40.07	52.87	26.44	133.02
21.0	-10.5	14.70	42.55	57.25	28.62	142.34
22.0	-11.5	16.74	43.42	60.16	30.08	146.99
23.0	-12.5	18.69	44.66	63.35	31.67	152.66
24.0	-13.5	20.53	46.17	66.71	33.35	159.06
25.0	-14.5	22.28	47.84	70.12	35.06	165.80
26.0	-15.5	23.95	49.74	73.69	36.84	173.17
27.0	-16.5	25.53	51.57	77.11	38.55	180.26
28.0	-17.5	27.12	52.83	79.94	39.97	185.59
29.0	-18.5	28.78	53.49	82.27	41.14	189.25
30.0	-19.5	30.54	53.83	84.37	42.18	192.02
31.0	-20.5	32.42	53.94	86.36	43.18	194.24
32.0	-21.5	34.49	53.70	88.19	44.09	195.58
33.0	-22.5	36.74	52.53	89.27	44.63	194.33
34.0	-23.5	38.99	50.16	89.14	44.57	189.46
35.0	-24.5	41.07	46.76	87.83	43.91	181.35
36.0	-25.5	42.98	44.57	87.54	43.77	176.68
37.0	-26.5	44.77	45.77	90.54	45.27	182.08
38.0	-27.5	46.52	50.44	96.96	48.48	197.83
39.0	-28.5	48.22	58.72	106.95	53.47	224.39
40.0	-29.5	49.65	70.91	120.57	60.28	262.39
41.0	-30.5	50.58	87.27	137.85	68.92	312.39
42.0	-31.5	50.99	106.06	157.05	78.53	369.18
43.0	-32.5	51.51	124.29	175.80	87.90	424.39
44.0	-33.5	52.75	140.59	193.34	96.67	474.53
45.0	-34.5	59.80	153.11	212.91	106.45	519.12
46.0	-35.5	62.49	153.68	216.17	108.09	523.54
47.0	-36.5	65.90	154.49	220.39	110.19	529.37
48.0	-37.5	70.28	154.48	224.75	112.38	533.70

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-38.5	75.32	153.42	228.74	114.37	535.59
50.0	-39.5	80.20	148.96	229.16	114.58	527.07
51.0	-40.5	85.00	143.06	228.06	114.03	514.18
52.0	-41.5	89.39	136.97	226.36	113.18	500.29
53.0	-42.5	92.95	131.61	224.56	112.28	487.77
54.0	-43.5	95.68	127.37	223.05	111.53	477.80
55.0	-44.5	97.94	123.88	221.81	110.91	469.57
56.0	-45.5	100.06	120.52	220.57	110.29	461.61
57.0	-46.5	102.04	118.25	220.29	110.14	456.78
58.0	-47.5	103.80	118.02	221.83	110.91	457.88
59.0	-48.5	105.24	119.09	224.33	112.16	462.50
60.0	-49.5	106.36	119.72	226.09	113.04	465.53
61.0	-50.5	107.39	118.97	226.36	113.18	464.29
62.0	-51.5	108.55	116.56	225.12	112.56	458.25
63.0	-52.5	109.85	66.44	176.29	88.15	309.17
64.0	-53.5	111.48	58.21	169.68	84.84	286.10
65.0	-54.5	113.60	63.59	177.20	88.60	304.38
66.0	-55.5	116.04	66.84	182.87	91.44	316.54
67.0	-56.5	118.23	68.04	186.26	93.13	322.33
68.0	-57.5	120.06	69.78	189.83	94.92	329.39
69.0	-58.5	121.64	71.96	193.60	96.80	337.51
70.0	-59.5	123.33	74.24	197.57	98.78	346.05
71.0	-60.5	125.37	76.41	201.78	100.89	354.60
72.0	-61.5	127.77	78.37	206.14	103.07	362.89
73.0	-62.5	130.64	80.08	210.71	105.36	370.87
74.0	-63.5	134.15	81.26	215.42	107.71	377.95
75.0	-64.5	138.35	81.87	220.22	110.11	383.96
76.0	-65.5	142.71	82.24	224.95	112.48	389.44
77.0	-66.5	146.65	82.81	229.47	114.73	395.09
78.0	-67.5	150.05	83.92	233.97	116.99	401.81
79.0	-68.5	153.02	85.75	238.76	119.38	410.25
80.0	-69.5	155.43	89.53	244.97	122.48	424.04
81.0	-70.5	157.82	93.50	251.33	125.66	438.34
82.0	-71.5	160.79	95.50	256.29	128.14	447.28
83.0	-72.5	163.84	97.04	260.88	130.44	454.96
84.0	-73.5	166.97	99.10	266.08	133.04	464.29
85.0	-74.5	170.27	102.26	272.53	136.26	477.06
86.0	-75.5	173.79	106.21	280.00	140.00	492.41
87.0	-76.5	177.54	110.84	288.38	144.19	510.06
88.0	-77.5	181.36	116.48	297.84	148.92	530.80
89.0	-78.5	185.10	123.21	308.31	154.16	554.74

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 17

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-4.5	8.09	41.53	49.62	24.81	132.68
16.0	-5.5	9.26	43.95	53.21	26.60	141.11
17.0	-6.5	10.58	46.38	56.96	28.48	149.71
18.0	-7.5	12.08	48.71	60.78	30.39	158.19
19.0	-8.5	13.80	50.89	64.69	32.34	166.47
20.0	-9.5	15.77	53.04	68.82	34.41	174.90
21.0	-10.5	18.02	55.13	73.15	36.57	183.40
22.0	-11.5	20.21	58.37	78.58	39.29	195.31
23.0	-12.5	22.25	62.49	84.74	42.37	209.71
24.0	-13.5	24.16	67.63	91.79	45.90	227.06
25.0	-14.5	26.33	71.07	97.40	48.70	239.55
26.0	-15.5	28.42	74.17	102.59	51.30	250.94
27.0	-16.5	30.40	76.91	107.31	53.66	261.14
28.0	-17.5	32.38	79.00	111.38	55.69	269.38
29.0	-18.5	34.47	80.31	114.77	57.39	275.38
30.0	-19.5	36.65	80.98	117.63	58.82	279.59
31.0	-20.5	39.00	80.73	119.73	59.87	281.20
32.0	-21.5	41.56	78.62	120.19	60.09	277.43
33.0	-22.5	44.35	74.75	119.09	59.55	268.58
34.0	-23.5	47.14	71.13	118.27	59.13	260.52
35.0	-24.5	49.73	71.96	121.68	60.84	265.59
36.0	-25.5	52.10	77.33	129.43	64.72	284.09
37.0	-26.5	54.34	87.05	141.40	70.70	315.51
38.0	-27.5	56.53	101.03	157.56	78.78	359.61
39.0	-28.5	58.66	119.19	177.85	88.93	416.23
40.0	-29.5	60.46	140.64	201.10	100.55	482.38
41.0	-30.5	61.64	162.79	224.43	112.21	550.00
42.0	-31.5	62.20	185.69	247.89	123.95	619.27
43.0	-32.5	62.88	206.70	269.58	134.79	682.99
44.0	-33.5	64.44	221.18	285.62	142.81	727.99
45.0	-34.5	74.75	228.96	303.71	151.86	761.64
46.0	-35.5	78.22	229.10	307.32	153.66	765.53
47.0	-36.5	82.72	229.10	311.82	155.91	770.03
48.0	-37.5	88.25	225.86	314.12	157.06	765.84

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-38.5	94.25	219.39	313.64	156.82	752.43
50.0	-39.5	100.25	211.13	311.38	155.69	733.63
51.0	-40.5	106.25	200.98	307.23	153.62	709.19
52.0	-41.5	111.74	190.46	302.20	151.10	683.12
53.0	-42.5	116.19	181.61	297.79	148.90	661.01
54.0	-43.5	119.60	174.67	294.27	147.14	643.62
55.0	-44.5	122.42	169.35	291.77	145.89	630.48
56.0	-45.5	125.07	165.87	290.94	145.47	622.67
57.0	-46.5	127.55	164.20	291.75	145.87	620.14
58.0	-47.5	129.75	164.03	293.78	146.89	621.84
59.0	-48.5	131.55	164.43	295.99	147.99	624.85
60.0	-49.5	132.95	165.63	298.58	149.29	629.83
61.0	-50.5	134.24	167.92	302.16	151.08	638.00
62.0	-51.5	135.69	171.87	307.56	153.78	651.31
63.0	-52.5	137.32	108.05	245.37	122.68	461.46
64.0	-53.5	139.34	93.88	233.23	116.61	421.00
65.0	-54.5	142.00	103.85	245.86	122.93	453.56
66.0	-55.5	144.91	108.83	253.75	126.87	471.41
67.0	-56.5	147.56	110.59	258.15	129.08	479.34
68.0	-57.5	149.99	112.43	262.43	131.21	487.29
69.0	-58.5	152.28	114.23	266.51	133.26	494.98
70.0	-59.5	154.67	116.03	270.70	135.35	502.76
71.0	-60.5	157.40	117.90	275.30	137.65	511.10
72.0	-61.5	160.50	119.71	280.21	140.10	519.62
73.0	-62.5	164.14	121.35	285.49	142.75	528.20
74.0	-63.5	168.45	122.85	291.30	145.65	537.01
75.0	-64.5	173.49	124.06	297.55	148.77	545.67
76.0	-65.5	178.66	125.13	303.79	151.90	554.06
77.0	-66.5	183.21	126.59	309.81	154.90	562.99
78.0	-67.5	187.06	128.70	315.76	157.88	573.15
79.0	-68.5	190.45	131.37	321.82	160.91	584.57
80.0	-69.5	193.71	134.17	327.87	163.94	596.21
81.0	-70.5	196.85	137.07	333.92	166.96	608.06
82.0	-71.5	199.95	140.35	340.30	170.15	621.00
83.0	-72.5	202.95	144.89	347.84	173.92	637.62
84.0	-73.5	205.55	152.41	357.95	178.98	662.77
85.0	-74.5	208.34	161.12	369.46	184.73	691.71
86.0	-75.5	212.05	169.86	381.91	190.96	721.64
87.0	-76.5	216.69	178.57	395.26	197.63	752.40

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 18

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-3.in
RUN DATE	03/24/11
RUN TIME	12:39:59
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-3
DRILLING DATE	2/15/2011 - 2/16/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	9.16 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	8.2	24.0	5
2	3.0	6.2	25.0	5
3	5.0	4.2	14.0	5
4	7.0	2.2	30.0	4
5	9.0	0.2	21.0	4
6	12.0	-2.8	20.0	4
7	15.0	-5.8	16.0	4
8	18.0	-8.8	14.0	4
9	21.0	-11.8	11.0	3
10	24.0	-14.8	17.0	3
11	27.0	-17.8	16.0	3
12	30.0	-20.8	14.0	3
13	33.0	-23.8	11.0	3
14	36.0	-26.8	15.0	3
15	39.0	-29.8	14.0	3
16	42.0	-32.8	14.0	3
17	45.0	-35.8	19.0	3
18	48.0	-38.8	12.0	3
19	51.0	-41.8	37.0	4
20	54.0	-44.8	100.0	4
21	57.0	-47.8	100.0	4
22	60.0	-50.8	32.0	4
23	63.0	-53.8	32.0	4
24	66.0	-56.8	31.0	4
25	69.0	-59.8	32.0	4
26	72.0	-62.8	37.0	4
27	75.0	-65.8	22.0	3
28	78.0	-68.8	32.0	3
29	81.0	-71.8	30.0	3
30	84.0	-74.8	27.0	3
31	87.0	-77.8	36.0	4
32	90.0	-80.8	33.0	3
33	93.0	-83.8	26.0	3
34	96.0	-86.8	40.0	4
35	99.0	-89.8	33.0	4

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.8	11.56	40.43	51.99	25.99	132.84
16.0	-6.8	12.46	41.23	53.69	26.84	136.14
17.0	-7.8	13.38	41.91	55.29	27.65	139.12
18.0	-8.8	14.25	42.31	56.56	28.28	141.18
19.0	-9.8	15.17	41.61	56.78	28.39	140.00
20.0	-10.8	16.22	40.60	56.82	28.41	138.01
21.0	-11.8	17.93	36.30	54.23	27.12	126.83
22.0	-12.8	19.30	33.48	52.78	26.39	119.74
23.0	-13.8	20.89	35.02	55.92	27.96	125.97
24.0	-14.8	22.72	35.96	58.68	29.34	130.59
25.0	-15.8	24.64	36.20	60.83	30.42	133.22
26.0	-16.8	26.52	35.88	62.40	31.20	134.17
27.0	-17.8	28.36	35.21	63.57	31.78	133.98
28.0	-18.8	30.15	34.29	64.43	32.22	133.01
29.0	-19.8	31.86	33.55	65.41	32.71	132.52
30.0	-20.8	33.49	33.20	66.69	33.35	133.09
31.0	-21.8	35.03	33.25	68.29	34.14	134.80
32.0	-22.8	36.46	33.50	69.95	34.98	136.94
33.0	-23.8	37.77	33.84	71.60	35.80	139.27
34.0	-24.8	39.10	34.36	73.45	36.73	142.17
35.0	-25.8	40.58	34.49	75.06	37.53	144.04
36.0	-26.8	42.21	34.24	76.46	38.23	144.94
37.0	-27.8	43.90	33.86	77.77	38.88	145.50
38.0	-28.8	45.56	33.84	79.39	39.70	147.06
39.0	-29.8	47.17	34.26	81.44	40.72	149.96
40.0	-30.8	48.77	35.12	83.88	41.94	154.12
41.0	-31.8	50.36	35.76	86.12	43.06	157.64
42.0	-32.8	51.96	35.94	87.90	43.95	159.77
43.0	-33.8	53.65	35.64	89.29	44.65	160.58
44.0	-34.8	55.53	36.71	92.24	46.12	165.65
45.0	-35.8	57.60	39.91	97.52	48.76	177.34
46.0	-36.8	59.64	45.39	105.03	52.52	195.82
47.0	-37.8	61.40	53.09	114.50	57.25	220.69
48.0	-38.8	62.90	62.93	125.84	62.92	251.70

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-39.8	64.41	74.15	138.56	69.28	286.85
50.0	-40.8	66.21	84.68	150.89	75.44	320.24
51.0	-41.8	68.29	93.97	162.26	81.13	350.20
52.0	-42.8	70.55	94.87	165.42	82.71	355.15
53.0	-43.8	73.06	96.92	169.98	84.99	363.81
54.0	-44.8	76.02	98.96	174.98	87.49	372.90
55.0	-45.8	79.40	100.06	179.46	89.73	379.59
56.0	-46.8	82.95	100.42	183.37	91.69	384.21
57.0	-47.8	86.64	100.20	186.84	93.42	387.24
58.0	-48.8	90.07	100.02	190.09	95.05	390.14
59.0	-49.8	92.81	100.85	193.67	96.83	395.37
60.0	-50.8	94.86	103.17	198.03	99.01	404.37
61.0	-51.8	96.82	104.85	201.67	100.83	411.36
62.0	-52.8	98.78	105.57	204.35	102.18	415.50
63.0	-53.8	100.73	105.40	206.13	103.07	416.92
64.0	-54.8	102.67	104.42	207.09	103.54	415.92
65.0	-55.8	104.59	102.95	207.54	103.77	413.45
66.0	-56.8	106.48	101.31	207.58	103.79	409.79
67.0	-57.8	108.37	99.19	207.56	103.78	405.95
68.0	-58.8	110.27	96.28	206.55	103.28	399.11
69.0	-59.8	112.20	91.82	204.02	102.01	387.67
70.0	-60.8	114.18	86.32	200.50	100.25	373.14
71.0	-61.8	116.25	81.76	198.01	99.01	361.53
72.0	-62.8	118.43	78.76	197.19	98.60	354.72
73.0	-63.8	120.70	77.33	198.03	99.01	352.68
74.0	-64.8	123.07	76.84	199.90	99.95	353.58
75.0	-65.8	126.50	69.17	195.67	97.83	334.01
76.0	-66.8	129.20	64.47	193.67	96.83	322.60
77.0	-67.8	132.27	66.98	199.26	99.63	333.22
78.0	-68.8	135.73	68.51	204.24	102.12	341.25
79.0	-69.8	139.34	68.94	208.28	104.14	346.15
80.0	-70.8	142.82	69.28	212.10	106.05	350.67
81.0	-71.8	145.97	69.91	215.88	107.94	355.70
82.0	-72.8	148.77	71.22	219.99	109.99	362.43
83.0	-73.8	151.42	72.83	224.25	112.13	369.92
84.0	-74.8	154.05	74.47	228.52	114.26	377.47
85.0	-75.8	156.65	75.84	232.49	116.25	384.17
86.0	-76.8	159.24	76.48	235.71	117.86	388.67
87.0	-77.8	161.94	76.90	240.83	120.42	394.63
88.0	-78.8	166.36	75.62	241.99	120.99	393.23
89.0	-79.8	169.33	75.23	244.55	122.28	395.00
90.0	-80.8	172.82	74.53	247.35	123.67	396.41

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 22

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}

WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.8	15.90	64.46	80.35	40.18	209.27
16.0	-6.8	17.26	63.96	81.22	40.61	209.14
17.0	-7.8	18.48	63.91	82.39	41.20	210.21
18.0	-8.8	19.30	66.13	85.44	42.72	217.70
19.0	-9.8	20.21	68.85	89.06	44.53	226.75
20.0	-10.8	21.61	71.48	93.09	46.55	236.06
21.0	-11.8	23.91	65.32	89.23	44.61	219.87
22.0	-12.8	25.73	59.17	84.91	42.45	203.26
23.0	-13.8	27.86	61.41	89.27	44.63	212.09
24.0	-14.8	30.29	62.78	93.07	46.54	218.63
25.0	-15.8	32.85	62.97	95.82	47.91	221.76
26.0	-16.8	35.36	62.21	97.57	48.79	221.99
27.0	-17.8	37.82	61.23	99.05	49.52	221.51
28.0	-18.8	40.20	60.55	100.74	50.37	221.84
29.0	-19.8	42.48	60.26	102.74	51.37	223.26
30.0	-20.8	44.66	60.19	104.85	52.42	225.23
31.0	-21.8	46.71	60.14	106.85	53.42	227.13
32.0	-22.8	48.61	60.16	108.77	54.39	229.10
33.0	-23.8	50.36	60.34	110.70	55.35	231.38
34.0	-24.8	52.13	60.59	112.72	56.36	233.90
35.0	-25.8	54.11	60.70	114.80	57.40	236.20
36.0	-26.8	56.28	60.87	117.16	58.58	238.90
37.0	-27.8	58.54	61.46	120.00	60.00	242.93
38.0	-28.8	60.74	62.91	123.66	61.83	249.49
39.0	-29.8	62.90	64.05	126.95	63.47	255.06
40.0	-30.8	65.02	64.24	129.27	64.63	257.76
41.0	-31.8	67.15	63.61	130.76	65.38	257.99
42.0	-32.8	69.28	64.17	133.45	66.73	261.80
43.0	-33.8	71.53	67.65	139.18	69.59	274.48
44.0	-34.8	74.04	73.91	147.95	73.98	295.78
45.0	-35.8	76.80	82.80	159.60	79.80	325.19
46.0	-36.8	79.51	94.46	173.97	86.99	362.89
47.0	-37.8	81.87	109.26	191.13	95.56	409.64
48.0	-38.8	83.87	125.90	209.78	104.89	461.59

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-39.8	85.89	142.04	227.92	113.96	512.00
50.0	-40.8	88.28	156.46	244.74	122.37	557.65
51.0	-41.8	91.05	167.41	258.46	129.23	593.27
52.0	-42.8	94.21	167.91	262.11	131.06	597.93
53.0	-43.8	97.92	168.61	266.54	133.27	603.76
54.0	-44.8	102.37	168.77	271.13	135.57	608.66
55.0	-45.8	107.25	168.39	275.64	137.82	612.42
56.0	-46.8	112.24	167.61	279.85	139.92	615.06
57.0	-47.8	117.09	165.36	282.45	141.22	613.17
58.0	-48.8	121.51	163.62	285.14	142.57	612.38
59.0	-49.8	125.19	163.46	288.65	144.33	615.57
60.0	-50.8	128.13	164.87	293.00	146.50	622.74
61.0	-51.8	130.69	167.08	297.77	148.88	631.92
62.0	-52.8	132.97	169.27	302.25	151.12	640.80
63.0	-53.8	135.15	172.46	307.61	153.81	652.54
64.0	-54.8	137.71	176.40	314.11	157.06	666.90
65.0	-55.8	140.25	180.46	320.71	160.36	681.64
66.0	-56.8	142.75	182.57	325.32	162.66	690.45
67.0	-57.8	145.26	181.36	326.62	163.31	689.34
68.0	-58.8	147.79	176.86	324.65	162.32	678.37
69.0	-59.8	150.34	170.66	321.00	160.50	662.32
70.0	-60.8	152.98	164.13	317.11	158.55	645.37
71.0	-61.8	155.74	157.72	313.46	156.73	628.91
72.0	-62.8	158.64	151.40	310.03	155.02	612.83
73.0	-63.8	161.66	145.27	306.93	153.47	597.47
74.0	-64.8	164.82	140.76	305.58	152.79	587.10
75.0	-65.8	168.66	124.04	292.70	146.35	540.78
76.0	-66.8	172.26	113.98	286.24	143.12	514.20
77.0	-67.8	176.37	117.69	294.05	147.03	529.43
78.0	-68.8	180.98	120.91	301.89	150.95	543.72
79.0	-69.8	185.79	124.04	309.83	154.91	557.90
80.0	-70.8	190.00	124.99	314.98	157.49	564.96
81.0	-71.8	193.98	126.27	320.25	160.13	572.80
82.0	-72.8	197.90	127.56	325.46	162.73	580.59
83.0	-73.8	201.76	128.78	330.53	165.27	588.09
84.0	-74.8	205.57	129.85	335.43	167.71	595.13
85.0	-75.8	209.29	130.59	339.88	169.94	601.07
86.0	-76.8	212.91	130.60	343.51	171.75	604.71
87.0	-77.8	218.58	135.71	354.29	177.15	625.71
88.0	-78.8	221.82	134.38	356.20	178.10	624.95
89.0	-79.8	225.77	135.71	361.48	180.74	632.90

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 23

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.8	19.38	98.60	117.98	58.99	315.19
16.0	-6.8	20.90	99.10	120.00	60.00	318.20
17.0	-7.8	22.36	99.60	121.96	60.98	321.15
18.0	-8.8	23.77	100.10	123.86	61.93	324.05
19.0	-9.8	25.25	100.66	125.91	62.95	327.22
20.0	-10.8	26.95	101.32	128.27	64.13	330.90
21.0	-11.8	29.89	101.32	131.20	65.60	333.84
22.0	-12.8	32.16	91.32	123.49	61.74	306.13
23.0	-13.8	34.82	94.18	129.00	64.50	317.36
24.0	-14.8	37.86	95.89	133.76	66.88	325.54
25.0	-15.8	41.06	96.19	137.25	68.62	329.62
26.0	-16.8	44.20	95.92	140.12	70.06	331.96
27.0	-17.8	47.27	95.71	142.98	71.49	334.39
28.0	-18.8	50.25	95.60	145.85	72.92	337.04
29.0	-19.8	53.10	95.31	148.41	74.20	339.03
30.0	-20.8	55.82	94.93	150.75	75.38	340.62
31.0	-21.8	58.38	94.57	152.96	76.48	342.10
32.0	-22.8	60.76	94.39	155.15	77.57	343.92
33.0	-23.8	62.94	94.43	157.37	78.69	346.23
34.0	-24.8	65.16	94.77	159.93	79.97	349.47
35.0	-25.8	67.63	95.64	163.27	81.64	354.55
36.0	-26.8	70.35	96.97	167.33	83.66	361.27
37.0	-27.8	73.17	98.42	171.59	85.80	368.44
38.0	-28.8	75.93	99.08	175.00	87.50	373.16
39.0	-29.8	78.62	98.90	177.52	88.76	375.32
40.0	-30.8	81.28	99.18	180.46	90.23	378.82
41.0	-31.8	83.43	102.89	186.31	93.16	392.08
42.0	-32.8	83.93	110.46	194.40	97.20	415.32
43.0	-33.8	84.20	121.80	206.01	103.00	449.62
44.0	-34.8	86.01	136.03	222.04	111.02	494.10
45.0	-35.8	89.39	152.58	241.97	120.98	547.14
46.0	-36.8	92.71	171.62	264.34	132.17	607.58
47.0	-37.8	95.64	191.32	286.97	143.48	669.61
48.0	-38.8	98.17	211.60	309.77	154.89	732.98

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-4.in
RUN DATE	03/24/11
RUN TIME	13:01:18
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-4
DRILLING DATE	1/7/2011 - 1/10/2011
STATION NO.	N/A
GROUND SURFACE ELEVATION	7.80 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	6.8	12.0	5
2	3.0	4.8	12.0	5
3	5.0	2.8	2.0	5
4	7.0	0.8	14.0	4
5	9.0	-1.2	20.0	4
6	12.0	-4.2	22.0	4
7	15.0	-7.2	10.0	4
8	18.0	-10.2	7.0	4
9	21.0	-13.2	16.0	4
10	24.0	-16.2	9.0	4
11	27.0	-19.2	15.0	4
12	30.0	-22.2	2.0	4
13	33.0	-25.2	0.0	3
14	36.0	-28.2	0.0	3
15	39.0	-31.2	100.0	4
16	42.0	-34.2	100.0	4
17	45.0	-37.2	100.0	4
18	48.0	-40.2	33.0	4
19	51.0	-43.2	100.0	4
20	54.0	-46.2	79.0	4
21	57.0	-49.2	42.0	4
22	60.0	-52.2	10.0	3
23	63.0	-55.2	29.0	3
24	66.0	-58.2	9.0	3
25	69.0	-61.2	100.0	4
26	72.0	-64.2	35.0	3
27	75.0	-67.2	22.0	3
28	78.0	-70.2	19.0	3
29	81.0	-73.2	26.0	3
30	84.0	-76.2	45.0	4
31	87.0	-79.2	25.0	3
32	90.0	-82.2	22.0	3
33	93.0	-85.2	29.0	3
34	96.0	-88.2	19.0	3
35	99.0	-91.2	35.0	4

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-41.2	52.08	145.74	197.82	98.91	489.29
50.0	-42.2	54.93	149.91	204.83	102.42	504.64
51.0	-43.2	58.24	148.98	207.22	103.61	505.18
52.0	-44.2	61.79	144.70	206.49	103.25	495.89
53.0	-45.2	65.36	137.94	203.30	101.65	479.18
54.0	-46.2	68.92	128.35	197.27	98.63	453.96
55.0	-47.2	72.33	116.48	188.81	94.41	421.77
56.0	-48.2	75.41	105.73	181.13	90.57	392.59
57.0	-49.2	78.15	97.29	175.44	87.72	370.01
58.0	-50.2	80.52	91.94	172.45	86.23	356.33
59.0	-51.2	82.44	88.51	170.96	85.48	347.98
60.0	-52.2	88.25	48.86	137.11	68.55	234.82
61.0	-53.2	89.75	39.84	129.60	64.80	209.28
62.0	-54.2	91.97	44.59	136.56	68.28	225.73
63.0	-55.2	94.51	49.44	143.95	71.97	242.82
64.0	-56.2	95.99	51.87	147.86	73.93	251.61
65.0	-57.2	96.84	55.05	151.89	75.94	261.99
66.0	-58.2	97.34	58.50	155.83	77.92	272.83
67.0	-59.2	98.11	61.77	159.88	79.94	283.42
68.0	-60.2	99.73	64.23	163.95	81.98	292.41
69.0	-61.2	108.36	82.25	190.60	95.30	355.10
70.0	-62.2	112.02	75.46	187.48	93.74	338.41
71.0	-63.2	115.82	70.87	186.68	93.34	328.42
72.0	-64.2	119.74	60.56	180.30	90.15	301.41
73.0	-65.2	123.16	61.00	184.16	92.08	306.17
74.0	-66.2	126.56	60.80	187.36	93.68	308.97
75.0	-67.2	129.49	59.38	188.87	94.43	307.62
76.0	-68.2	131.94	58.22	190.15	95.08	306.59
77.0	-69.2	134.28	59.38	193.66	96.83	312.42
78.0	-70.2	136.00	61.62	197.62	98.81	320.86
79.0	-71.2	137.15	64.72	201.86	100.93	331.30
80.0	-72.2	138.71	68.13	206.84	103.42	343.10
81.0	-73.2	140.89	70.83	211.72	105.86	353.37
82.0	-74.2	143.60	72.07	215.66	107.83	359.79
83.0	-75.2	146.62	71.83	218.45	109.22	362.10
84.0	-76.2	152.69	71.15	223.84	111.92	366.14
85.0	-77.2	155.41	67.02	222.43	111.22	356.47
86.0	-78.2	158.19	64.73	222.92	111.46	352.39
87.0	-79.2	161.01	57.56	218.57	109.29	333.69
88.0	-80.2	163.74	57.67	221.41	110.70	336.74
89.0	-81.2	166.35	57.79	224.14	112.07	339.72
90.0	-82.2	168.92	57.80	226.72	113.36	342.33

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 31

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-7.2	12.66	52.34	65.00	32.50	169.68
16.0	-8.2	13.31	53.03	66.35	33.17	172.42
17.0	-9.2	13.98	53.37	67.35	33.68	174.10
18.0	-10.2	14.34	55.41	69.75	34.87	180.56
19.0	-11.2	14.76	58.26	73.02	36.51	189.55
20.0	-12.2	15.69	60.85	76.54	38.27	198.23
21.0	-13.2	16.85	62.34	79.19	39.60	203.86
22.0	-14.2	18.04	61.52	79.56	39.78	202.60
23.0	-15.2	19.05	58.39	77.44	38.72	194.23
24.0	-16.2	19.88	54.11	73.98	36.99	182.20
25.0	-17.2	20.69	49.40	70.09	35.05	168.90
26.0	-18.2	21.66	44.04	65.70	32.85	153.77
27.0	-19.2	22.78	38.19	60.97	30.48	137.34
28.0	-20.2	23.78	32.53	56.31	28.15	121.37
29.0	-21.2	24.40	28.08	52.48	26.24	108.64
30.0	-22.2	24.63	28.63	53.25	26.63	110.51
31.0	-23.2	24.66	37.11	61.77	30.89	136.00
32.0	-24.2	24.69	52.83	77.52	38.76	183.18
33.0	-25.2	25.39	72.13	97.52	48.76	241.77
34.0	-26.2	25.39	73.21	98.60	49.30	245.01
35.0	-27.2	25.39	76.43	101.82	50.91	254.69
36.0	-28.2	25.39	81.73	107.11	53.56	270.57
37.0	-29.2	25.83	88.59	114.41	57.21	291.58
38.0	-30.2	27.08	96.19	123.27	61.64	315.65
39.0	-31.2	32.59	166.26	198.84	99.42	531.36
40.0	-32.2	37.31	166.49	203.80	101.90	536.79
41.0	-33.2	42.05	166.70	208.75	104.37	542.14
42.0	-34.2	46.83	166.79	213.61	106.81	547.19
43.0	-35.2	51.38	167.72	219.10	109.55	554.54
44.0	-36.2	55.51	170.41	225.92	112.96	566.75
45.0	-37.2	59.29	175.18	234.47	117.24	584.83
46.0	-38.2	62.50	182.21	244.71	122.35	609.12
47.0	-39.2	64.87	192.22	257.09	128.54	641.53
48.0	-40.2	66.66	204.70	271.36	135.68	680.75

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-41.2	68.78	217.51	286.29	143.15	721.32
50.0	-42.2	71.93	228.56	300.49	150.25	757.61
51.0	-43.2	76.15	236.03	312.18	156.09	784.24
52.0	-44.2	80.88	233.18	314.06	157.03	780.42
53.0	-45.2	85.61	225.05	310.66	155.33	760.76
54.0	-46.2	90.36	212.99	303.35	151.68	729.33
55.0	-47.2	94.90	200.44	295.34	147.67	696.22
56.0	-48.2	99.01	189.48	288.49	144.24	667.45
57.0	-49.2	102.68	179.62	282.31	141.15	641.55
58.0	-50.2	105.86	169.38	275.23	137.62	613.99
59.0	-51.2	108.46	159.23	267.69	133.84	586.14
60.0	-52.2	117.67	81.83	199.50	99.75	363.15
61.0	-53.2	119.67	76.65	196.32	98.16	349.61
62.0	-54.2	121.97	82.93	204.90	102.45	370.76
63.0	-55.2	124.27	85.71	209.97	104.99	381.39
64.0	-56.2	126.47	88.85	215.32	107.66	393.02
65.0	-57.2	128.17	91.78	219.95	109.98	403.52
66.0	-58.2	129.32	94.60	223.92	111.96	413.11
67.0	-59.2	130.55	97.55	228.10	114.05	423.19
68.0	-60.2	132.71	100.06	232.77	116.38	432.88
69.0	-61.2	144.47	153.57	298.04	149.02	605.17
70.0	-62.2	149.36	140.17	289.53	144.77	569.88
71.0	-63.2	154.42	128.78	283.20	141.60	540.76
72.0	-64.2	159.65	101.89	261.55	130.77	465.33
73.0	-65.2	163.99	102.78	266.77	133.38	472.32
74.0	-66.2	168.18	103.03	271.20	135.60	477.25
75.0	-67.2	171.84	103.12	274.97	137.48	481.22
76.0	-68.2	174.77	103.84	278.62	139.31	486.31
77.0	-69.2	177.01	105.80	282.81	141.40	494.40
78.0	-70.2	178.93	108.59	287.52	143.76	504.71
79.0	-71.2	181.14	111.29	292.43	146.21	515.00
80.0	-72.2	183.95	113.38	297.33	148.66	524.09
81.0	-73.2	187.28	114.90	302.19	151.09	531.99
82.0	-74.2	190.90	115.97	306.87	153.44	538.82
83.0	-75.2	194.74	116.08	310.82	155.41	542.97
84.0	-76.2	203.59	135.24	338.83	169.41	609.31
85.0	-77.2	207.22	127.37	334.59	167.29	589.32
86.0	-78.2	210.92	121.09	332.01	166.01	574.19
87.0	-79.2	214.69	106.26	320.95	160.47	533.47
88.0	-80.2	218.41	105.24	323.66	161.83	534.14
89.0	-81.2	221.98	103.31	325.30	162.65	531.93

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 32

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-7.2	14.94	79.00	93.93	46.97	251.92
16.0	-8.2	15.91	79.38	95.29	47.65	254.05
17.0	-9.2	16.68	80.41	97.09	48.54	257.90
18.0	-10.2	17.24	82.36	99.60	49.80	264.32
19.0	-11.2	17.92	84.45	102.37	51.19	271.28
20.0	-12.2	19.17	84.44	103.61	51.80	272.48
21.0	-13.2	21.05	81.59	102.64	51.32	265.83
22.0	-14.2	22.97	78.63	101.60	50.80	258.86
23.0	-15.2	24.22	75.62	99.84	49.92	251.07
24.0	-16.2	25.25	73.17	98.42	49.21	244.75
25.0	-17.2	26.26	70.75	97.02	48.51	238.53
26.0	-18.2	27.47	67.21	94.67	47.34	229.08
27.0	-19.2	28.87	61.86	90.73	45.36	214.45
28.0	-20.2	30.12	58.35	88.47	44.24	205.18
29.0	-21.2	30.88	63.79	94.67	47.34	222.25
30.0	-22.2	31.15	78.66	109.81	54.91	267.14
31.0	-23.2	31.18	100.17	131.35	65.67	331.69
32.0	-24.2	31.20	121.82	153.02	76.51	396.66
33.0	-25.2	31.73	143.79	175.52	87.76	463.09
34.0	-26.2	31.73	144.80	176.53	88.26	466.12
35.0	-27.2	31.73	147.89	179.62	89.81	475.40
36.0	-28.2	31.73	153.13	184.87	92.43	491.14
37.0	-29.2	32.38	159.92	192.30	96.15	512.13
38.0	-30.2	34.25	166.67	200.92	100.46	534.27
39.0	-31.2	40.73	250.17	290.90	145.45	791.23
40.0	-32.2	46.73	248.89	295.63	147.81	793.41
41.0	-33.2	52.71	250.23	302.94	151.47	803.41
42.0	-34.2	58.35	251.38	309.73	154.87	812.50
43.0	-35.2	63.57	254.13	317.70	158.85	825.96
44.0	-36.2	68.53	258.24	326.76	163.38	843.24
45.0	-37.2	73.32	263.60	336.93	168.46	864.13
46.0	-38.2	77.62	270.21	347.82	173.91	888.24
47.0	-39.2	81.14	277.69	358.83	179.42	914.22
48.0	-40.2	83.90	286.26	370.17	185.08	942.69

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-41.2	86.92	294.47	381.39	190.70	970.34
50.0	-42.2	91.29	299.21	390.49	195.25	988.90
51.0	-43.2	97.13	298.85	395.98	197.99	993.67
52.0	-44.2	103.92	294.38	398.31	199.15	987.08
53.0	-45.2	110.65	290.66	401.31	200.65	982.62
54.0	-46.2	117.21	288.32	405.54	202.77	982.18
55.0	-47.2	122.90	284.84	407.74	203.87	977.42
56.0	-48.2	128.02	280.42	408.44	204.22	969.27
57.0	-49.2	132.57	273.03	405.60	202.80	951.66
58.0	-50.2	136.47	264.21	400.68	200.34	929.09
59.0	-51.2	139.64	261.41	401.05	200.52	923.87
60.0	-52.2	147.08	163.04	310.12	155.06	636.19
61.0	-53.2	149.59	144.71	294.30	147.15	583.72
62.0	-54.2	153.10	163.39	316.49	158.25	643.28
63.0	-55.2	156.92	165.29	322.20	161.10	652.78
64.0	-56.2	160.70	167.15	327.85	163.92	662.15
65.0	-57.2	163.62	168.62	332.24	166.12	669.49
66.0	-58.2	165.63	169.80	335.44	167.72	675.05
67.0	-59.2	167.67	171.15	338.82	169.41	681.13
68.0	-60.2	170.88	172.65	343.53	171.77	688.84
69.0	-61.2	180.59	247.00	427.59	213.80	921.59
70.0	-62.2	186.70	232.48	419.18	209.59	884.13
71.0	-63.2	193.03	219.44	412.47	206.23	851.34
72.0	-64.2	199.57	158.53	358.10	179.05	675.16
73.0	-65.2	204.88	159.80	364.67	182.34	684.26
74.0	-66.2	209.75	160.68	370.43	185.21	691.79
75.0	-67.2	213.77	161.82	375.59	187.80	699.24
76.0	-68.2	217.04	163.67	380.71	190.36	708.06
77.0	-69.2	220.16	165.68	385.84	192.92	717.20
78.0	-70.2	223.29	167.43	390.72	195.36	725.58
79.0	-71.2	226.69	168.84	395.53	197.77	733.22
80.0	-72.2	230.49	170.28	400.77	200.39	741.33
81.0	-73.2	234.75	171.60	406.35	203.18	749.54
82.0	-74.2	239.24	172.72	411.96	205.98	757.41
83.0	-75.2	243.69	173.70	417.38	208.69	764.78
84.0	-76.2	254.48	201.36	455.84	227.92	858.56
85.0	-77.2	259.02	198.92	457.95	228.97	855.79
86.0	-78.2	263.65	198.22	461.87	230.94	858.32
87.0	-79.2	268.36	163.16	431.52	215.76	757.83

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 33

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-5.in
RUN DATE	03/25/11
RUN TIME	08:33:11
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-5
DRILLING DATE	1/10/2011 - 1/11/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	7.81 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	6.8	21.0	5
2	3.0	4.8	21.0	5
3	5.0	2.8	29.0	5
4	7.0	0.8	10.0	5
5	9.0	-1.2	7.0	5
6	12.0	-4.2	42.0	5
7	15.0	-7.2	7.0	4
8	18.0	-10.2	16.0	4
9	21.0	-13.2	2.0	4
10	24.0	-16.2	6.0	4
11	27.0	-19.2	4.0	3
12	30.0	-22.2	4.0	3
13	33.0	-25.2	43.0	4
14	36.0	-28.2	81.0	4
15	39.0	-31.2	82.0	4
16	42.0	-34.2	100.0	4
17	45.0	-37.2	76.0	4
18	48.0	-40.2	56.0	4
19	51.0	-43.2	100.0	4
20	54.0	-46.2	21.0	4
21	57.0	-49.2	16.0	4
22	60.0	-52.2	16.0	3
23	63.0	-55.2	62.0	4
24	66.0	-58.2	31.0	4
25	69.0	-61.2	29.0	3
26	72.0	-64.2	30.0	3
27	75.0	-67.2	33.0	3
28	78.0	-70.2	26.0	3
29	81.0	-73.2	21.0	3
30	84.0	-76.2	29.0	3
31	87.0	-79.2	22.0	3
32	90.0	-82.2	16.0	3
33	93.0	-85.2	29.0	3
34	96.0	-88.2	21.0	3
35	99.0	-91.2	22.0	3

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-7.2	0.68	15.84	16.51	8.26	48.19
16.0	-8.2	1.19	15.01	16.20	8.10	46.22
17.0	-9.2	1.88	13.73	15.61	7.80	43.07
18.0	-10.2	2.75	12.54	15.28	7.64	40.35
19.0	-11.2	3.55	11.99	15.53	7.77	39.51
20.0	-12.2	4.03	11.99	16.01	8.01	39.99
21.0	-13.2	4.19	12.25	16.43	8.22	40.92
22.0	-14.2	4.25	12.25	16.49	8.25	40.98
23.0	-15.2	4.43	11.81	16.24	8.12	39.86
24.0	-16.2	4.73	11.09	15.81	7.91	37.99
25.0	-17.2	5.03	10.35	15.38	7.69	36.08
26.0	-18.2	5.21	12.29	17.49	8.75	42.06
27.0	-19.2	5.27	17.94	23.20	11.60	59.07
28.0	-20.2	5.27	18.61	23.88	11.94	61.10
29.0	-21.2	5.27	20.89	26.16	13.08	67.95
30.0	-22.2	5.27	25.03	30.30	15.15	80.37
31.0	-23.2	5.43	31.10	36.53	18.27	98.73
32.0	-24.2	5.92	38.62	44.54	22.27	121.78
33.0	-25.2	9.14	83.72	92.86	46.43	260.31
34.0	-26.2	11.64	84.69	96.33	48.17	265.71
35.0	-27.2	14.13	87.35	101.48	50.74	276.19
36.0	-28.2	16.74	91.37	108.11	54.06	290.84
37.0	-29.2	19.42	96.66	116.09	58.04	309.41
38.0	-30.2	22.06	103.46	125.52	62.76	332.44
39.0	-31.2	24.72	111.83	136.56	68.28	360.22
40.0	-32.2	27.47	121.76	149.23	74.62	392.75
41.0	-33.2	30.37	132.96	163.34	81.67	429.27
42.0	-34.2	33.47	145.27	178.74	89.37	469.27
43.0	-35.2	37.03	150.29	187.33	93.66	487.91
44.0	-36.2	40.61	153.85	194.46	97.23	502.16
45.0	-37.2	44.18	156.14	200.33	100.16	512.61
46.0	-38.2	47.73	157.63	205.36	102.68	520.63
47.0	-39.2	51.21	156.37	207.58	103.79	520.32
48.0	-40.2	54.62	151.32	205.94	102.97	508.58

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-41.2	58.03	142.70	200.73	100.37	486.13
50.0	-42.2	61.51	132.64	194.15	97.07	459.43
51.0	-43.2	65.06	121.96	187.02	93.51	430.93
52.0	-44.2	68.30	111.70	180.00	90.00	403.40
53.0	-45.2	70.82	103.09	173.92	86.96	380.10
54.0	-46.2	72.63	96.21	168.85	84.42	361.27
55.0	-47.2	74.03	90.37	164.40	82.20	345.13
56.0	-48.2	75.31	87.54	162.85	81.43	337.94
57.0	-49.2	76.49	88.88	165.37	82.69	343.13
58.0	-50.2	77.74	94.18	171.93	85.96	360.29
59.0	-51.2	79.25	99.03	178.29	89.14	376.36
60.0	-52.2	86.48	114.10	200.58	100.29	428.79
61.0	-53.2	88.60	89.59	178.19	89.09	357.37
62.0	-54.2	91.31	97.98	189.29	94.65	385.26
63.0	-55.2	94.62	103.81	198.42	99.21	406.03
64.0	-56.2	97.53	105.49	203.02	101.51	413.99
65.0	-57.2	100.48	104.61	205.08	102.54	414.30
66.0	-58.2	102.81	98.43	201.24	100.62	398.10
67.0	-59.2	104.91	92.34	197.25	98.62	381.93
68.0	-60.2	107.49	88.49	195.98	97.99	372.95
69.0	-61.2	110.56	72.47	183.03	91.51	327.97
70.0	-62.2	113.88	72.03	185.91	92.96	329.97
71.0	-63.2	117.23	72.50	189.73	94.86	334.72
72.0	-64.2	120.63	72.50	193.13	96.57	338.14
73.0	-65.2	124.12	72.03	196.15	98.08	340.21
74.0	-66.2	127.71	70.91	198.62	99.31	340.44
75.0	-67.2	131.42	69.24	200.65	100.33	339.13
76.0	-68.2	135.05	67.11	202.16	101.08	336.39
77.0	-69.2	138.41	65.45	203.86	101.93	334.76
78.0	-70.2	141.51	64.66	206.16	103.08	335.48
79.0	-71.2	144.38	64.75	209.12	104.56	338.61
80.0	-72.2	147.05	64.93	211.98	105.99	341.84
81.0	-73.2	149.54	64.91	214.45	107.23	344.27
82.0	-74.2	152.09	64.28	216.37	108.19	344.94
83.0	-75.2	154.94	62.80	217.74	108.87	343.35
84.0	-76.2	158.09	60.49	218.59	109.29	339.57
85.0	-77.2	161.27	57.68	218.95	109.47	334.31
86.0	-78.2	164.17	55.65	219.83	109.91	331.13
87.0	-79.2	166.81	54.81	221.63	110.81	331.26
88.0	-80.2	169.21	55.26	224.47	112.24	334.99
89.0	-81.2	171.37	56.04	227.42	113.71	339.50
90.0	-82.2	173.31	56.70	230.01	115.01	343.41

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 4

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-7.2	0.90	22.20	23.10	11.55	67.50
16.0	-8.2	1.58	21.55	23.13	11.57	66.24
17.0	-9.2	2.50	20.86	23.36	11.68	65.08
18.0	-10.2	3.66	19.78	23.44	11.72	63.00
19.0	-11.2	4.73	18.24	22.96	11.48	59.43
20.0	-12.2	5.37	17.04	22.40	11.20	56.47
21.0	-13.2	5.58	16.52	22.10	11.05	55.14
22.0	-14.2	5.66	16.33	21.99	10.99	54.65
23.0	-15.2	5.90	15.75	21.65	10.83	53.15
24.0	-16.2	6.30	17.24	23.54	11.77	58.03
25.0	-17.2	6.49	23.41	29.90	14.95	76.72
26.0	-18.2	5.72	34.26	39.98	19.99	108.50
27.0	-19.2	7.02	50.88	57.90	28.95	159.66
28.0	-20.2	7.02	51.86	58.88	29.44	162.60
29.0	-21.2	7.02	55.60	62.02	31.01	172.02
30.0	-22.2	7.02	60.40	67.42	33.71	188.22
31.0	-23.2	7.29	67.64	74.93	37.47	210.22
32.0	-24.2	8.05	76.04	84.09	42.05	236.18
33.0	-25.2	12.18	153.41	165.59	82.79	472.40
34.0	-26.2	15.64	154.20	169.84	84.92	478.25
35.0	-27.2	19.21	156.44	175.65	87.82	488.53
36.0	-28.2	22.94	160.04	182.99	91.49	503.07
37.0	-29.2	26.67	165.12	191.80	95.90	522.04
38.0	-30.2	30.27	171.74	202.00	101.00	545.48
39.0	-31.2	33.84	179.56	213.40	106.70	572.53
40.0	-32.2	37.46	188.34	225.80	112.90	602.47
41.0	-33.2	41.17	198.06	239.24	119.62	635.37
42.0	-34.2	44.94	209.20	254.14	127.07	672.54
43.0	-35.2	48.76	222.20	270.96	135.48	715.37
44.0	-36.2	52.68	237.12	289.80	144.90	764.05
45.0	-37.2	56.90	251.51	308.41	154.21	811.43
46.0	-38.2	61.63	253.95	315.58	157.79	823.48
47.0	-39.2	66.27	251.12	317.39	158.69	819.62
48.0	-40.2	70.82	243.88	314.70	157.35	802.46

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-41.2	75.37	233.92	309.29	154.64	777.12
50.0	-42.2	80.01	221.63	301.63	150.82	744.89
51.0	-43.2	84.74	207.84	292.58	146.29	708.27
52.0	-44.2	89.06	194.13	283.19	141.60	671.46
53.0	-45.2	92.46	182.30	274.76	137.38	639.36
54.0	-46.2	94.92	175.49	270.41	135.21	621.39
55.0	-47.2	96.84	175.32	272.16	136.08	622.80
56.0	-48.2	98.60	180.71	279.31	139.66	640.74
57.0	-49.2	100.23	187.38	287.61	143.80	662.36
58.0	-50.2	101.94	190.95	292.89	146.45	674.79
59.0	-51.2	103.99	191.32	295.31	147.65	677.95
60.0	-52.2	115.31	190.60	305.91	152.96	687.12
61.0	-53.2	118.13	149.99	268.12	134.06	568.10
62.0	-54.2	121.75	164.71	286.46	143.23	615.88
63.0	-55.2	126.16	169.78	295.93	147.97	635.49
64.0	-56.2	129.80	172.91	302.71	151.36	648.53
65.0	-57.2	133.45	173.02	306.47	153.24	652.52
66.0	-58.2	136.81	171.00	307.81	153.90	649.81
67.0	-59.2	139.88	164.71	304.59	152.30	634.02
68.0	-60.2	143.32	158.52	301.84	150.92	618.87
69.0	-61.2	147.41	130.95	278.35	139.18	540.25
70.0	-62.2	151.84	127.80	279.64	139.82	535.23
71.0	-63.2	156.33	127.44	283.77	141.88	538.65
72.0	-64.2	160.86	126.37	287.23	143.62	539.98
73.0	-65.2	165.50	124.77	290.27	145.14	539.82
74.0	-66.2	170.28	122.58	292.86	146.43	538.01
75.0	-67.2	175.22	120.33	295.55	147.78	536.21
76.0	-68.2	180.06	118.65	298.72	149.36	536.02
77.0	-69.2	184.55	117.78	302.32	151.16	537.88
78.0	-70.2	188.68	117.18	305.86	152.93	540.22
79.0	-71.2	192.50	116.22	308.72	154.36	541.15
80.0	-72.2	196.07	114.92	310.99	155.50	540.83
81.0	-73.2	199.39	113.37	312.76	156.38	539.51
82.0	-74.2	202.79	111.34	314.13	157.07	536.82
83.0	-75.2	206.59	108.44	315.03	157.52	531.92
84.0	-76.2	210.79	105.53	316.32	158.16	527.38
85.0	-77.2	215.02	103.91	318.93	159.47	526.75
86.0	-78.2	218.90	103.83	322.72	161.36	530.37
87.0	-79.2	222.42	104.35	326.77	163.39	535.48
88.0	-80.2	225.61	104.39	330.01	165.00	538.79
89.0	-81.2	228.50	103.88	332.38	166.19	540.13

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 5

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-7.2	1.13	31.13	32.25	16.13	94.50
16.0	-8.2	1.96	31.16	33.12	16.56	95.45
17.0	-9.2	3.13	30.69	33.82	16.91	95.20
18.0	-10.2	4.58	27.90	32.47	16.24	88.27
19.0	-11.2	5.91	24.44	30.35	15.17	79.22
20.0	-12.2	6.71	21.95	28.66	14.33	72.56
21.0	-13.2	6.98	20.65	27.63	13.81	68.93
22.0	-14.2	7.08	22.14	29.21	14.61	73.49
23.0	-15.2	7.38	29.09	36.47	18.23	94.66
24.0	-16.2	6.68	37.48	44.15	22.08	119.10
25.0	-17.2	6.07	49.99	56.06	28.03	156.05
26.0	-18.2	5.75	67.09	72.84	36.42	207.01
27.0	-19.2	8.78	103.82	112.59	56.30	320.23
28.0	-20.2	8.78	104.96	113.73	56.87	323.64
29.0	-21.2	8.78	108.38	117.16	58.58	333.92
30.0	-22.2	8.78	114.09	122.87	61.43	351.05
31.0	-23.2	9.17	121.78	130.95	65.48	374.52
32.0	-24.2	10.27	130.84	141.10	70.55	402.77
33.0	-25.2	15.23	242.26	257.48	128.74	742.00
34.0	-26.2	19.57	243.19	262.76	131.38	749.14
35.0	-27.2	24.07	245.75	269.83	134.91	761.33
36.0	-28.2	28.85	249.57	278.42	139.21	777.56
37.0	-29.2	33.74	254.39	288.12	144.06	796.90
38.0	-30.2	38.55	260.03	298.58	149.29	818.63
39.0	-31.2	43.31	266.57	309.87	154.94	843.01
40.0	-32.2	47.97	274.45	322.42	161.21	871.32
41.0	-33.2	52.50	284.25	336.75	168.37	905.25
42.0	-34.2	56.97	295.88	352.85	176.42	944.61
43.0	-35.2	61.61	307.90	369.51	184.76	985.32
44.0	-36.2	66.78	316.92	383.71	191.85	1017.56
45.0	-37.2	72.54	321.93	394.47	197.23	1038.34
46.0	-38.2	78.69	323.47	402.16	201.08	1049.09
47.0	-39.2	84.91	324.05	408.96	204.48	1057.07
48.0	-40.2	91.16	323.63	414.79	207.39	1062.04

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-41.2	96.84	316.78	413.61	206.81	1047.17
50.0	-42.2	102.64	309.33	411.97	205.99	1030.64
51.0	-43.2	108.55	299.97	408.53	204.26	1008.47
52.0	-44.2	113.95	290.99	404.93	202.47	986.91
53.0	-45.2	118.16	288.77	406.93	203.47	984.48
54.0	-46.2	121.17	294.36	415.53	207.77	1004.25
55.0	-47.2	123.49	304.19	427.68	213.84	1036.05
56.0	-48.2	125.63	309.54	435.18	217.59	1054.27
57.0	-49.2	127.59	310.63	438.22	219.11	1059.48
58.0	-50.2	129.68	308.80	438.48	219.24	1056.07
59.0	-51.2	132.19	306.26	438.45	219.22	1050.97
60.0	-52.2	144.13	279.86	423.99	212.00	983.71
61.0	-53.2	147.67	223.62	371.28	185.64	818.51
62.0	-54.2	152.19	247.53	399.72	199.86	894.77
63.0	-55.2	157.69	251.72	409.42	204.71	912.86
64.0	-56.2	162.07	256.32	418.38	209.19	931.01
65.0	-57.2	166.39	257.48	423.87	211.93	938.83
66.0	-58.2	170.36	256.12	426.48	213.24	938.72
67.0	-59.2	174.45	253.58	428.03	214.01	935.19
68.0	-60.2	179.15	248.04	427.19	213.59	923.26
69.0	-61.2	184.26	201.85	386.11	193.05	789.81
70.0	-62.2	189.80	196.79	386.59	193.30	780.17
71.0	-63.2	195.41	195.22	390.62	195.31	781.06
72.0	-64.2	201.07	192.88	393.96	196.98	779.73
73.0	-65.2	206.87	190.40	397.27	198.64	778.08
74.0	-66.2	212.85	188.84	401.70	200.85	779.38
75.0	-67.2	219.03	188.08	407.11	203.55	783.27
76.0	-68.2	225.08	187.35	412.43	206.22	787.14
77.0	-69.2	230.68	185.56	416.24	208.12	787.35
78.0	-70.2	235.84	183.00	418.85	209.42	784.86
79.0	-71.2	240.63	179.94	420.57	210.29	780.46
80.0	-72.2	245.09	176.55	421.64	210.82	774.75
81.0	-73.2	249.24	172.88	422.12	211.06	767.88
82.0	-74.2	253.48	169.38	422.86	211.43	761.61
83.0	-75.2	258.23	167.29	425.52	212.76	760.10
84.0	-76.2	263.49	166.53	430.02	215.01	763.07
85.0	-77.2	268.78	166.64	435.42	217.71	768.70
86.0	-78.2	273.62	166.25	439.88	219.94	772.39
87.0	-79.2	278.02	165.36	443.38	221.69	774.10

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 6

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-6.in
RUN DATE	03/25/11
RUN TIME	09:07:09
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-6
DRILLING DATE	1/12/2011 - 1/13/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	9.38 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	8.4	35.0	5
2	3.0	6.4	6.0	5
3	5.0	4.4	2.0	5
4	7.0	2.4	6.0	4
5	9.0	0.4	10.0	4
6	12.0	-2.6	0.0	4
7	15.0	-5.6	4.0	4
8	18.0	-8.6	7.0	4
9	21.0	-11.6	5.0	4
10	24.0	-14.6	5.0	3
11	27.0	-17.6	17.0	3
12	30.0	-20.6	14.0	3
13	33.0	-23.6	24.0	3
14	36.0	-26.6	100.0	4
15	39.0	-29.6	47.0	4
16	42.0	-32.6	66.0	4
17	45.0	-35.6	100.0	4
18	48.0	-38.6	100.0	4
19	51.0	-41.6	100.0	4
20	54.0	-44.6	33.0	4
21	57.0	-47.6	46.0	4
22	60.0	-50.6	31.0	4
23	63.0	-53.6	2.0	3
24	66.0	-56.6	27.0	3
25	69.0	-59.6	17.0	3
26	72.0	-62.6	100.0	4
27	75.0	-65.6	31.0	3
28	78.0	-68.6	31.0	3
29	81.0	-71.6	25.0	3
30	84.0	-74.6	25.0	3
31	87.0	-77.6	19.0	3
32	90.0	-80.6	43.0	3
33	93.0	-83.6	22.0	3
34	96.0	-86.6	24.0	3
35	99.0	-89.6	26.0	4

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.6	2.17	10.35	12.52	6.26	33.22
16.0	-6.6	2.16	11.64	13.80	6.90	37.08
17.0	-7.6	2.37	12.39	14.75	7.38	39.53
18.0	-8.6	2.71	12.58	15.28	7.64	40.43
19.0	-9.6	3.09	12.29	15.38	7.69	39.96
20.0	-10.6	3.45	12.46	15.91	7.95	40.84
21.0	-11.6	3.76	13.42	17.18	8.59	44.03
22.0	-12.6	4.10	15.40	19.50	9.75	50.29
23.0	-13.6	4.53	17.87	22.39	11.20	58.12
24.0	-14.6	5.29	20.51	25.80	12.90	66.82
25.0	-15.6	6.01	20.68	26.70	13.35	68.06
26.0	-16.6	6.99	21.21	28.20	14.10	70.62
27.0	-17.6	8.17	22.14	30.32	15.16	74.60
28.0	-18.6	9.31	23.61	32.92	16.46	80.14
29.0	-19.6	10.05	26.45	36.51	18.25	89.42
30.0	-20.6	10.50	31.54	42.04	21.02	105.12
31.0	-21.6	11.00	39.44	50.44	25.22	129.33
32.0	-22.6	11.89	48.95	60.84	30.42	158.74
33.0	-23.6	13.19	59.17	72.37	36.18	190.72
34.0	-24.6	14.88	69.30	84.18	42.09	222.77
35.0	-25.6	16.93	79.48	96.40	48.20	255.36
36.0	-26.6	30.36	98.66	129.02	64.51	326.34
37.0	-27.6	33.64	99.33	132.97	66.49	331.64
38.0	-28.6	36.37	101.47	137.83	68.92	340.77
39.0	-29.6	38.67	105.15	143.81	71.91	354.10
40.0	-30.6	40.89	110.27	151.16	75.58	371.70
41.0	-31.6	43.34	116.58	159.92	79.96	393.09
42.0	-32.6	46.06	123.91	169.97	84.98	417.79
43.0	-33.6	48.98	132.15	181.13	90.56	445.43
44.0	-34.6	52.01	141.25	193.26	96.63	475.76
45.0	-35.6	55.20	151.09	206.29	103.15	508.47
46.0	-36.6	58.76	154.64	213.40	106.70	522.68
47.0	-37.6	62.33	155.08	217.41	108.71	527.57
48.0	-38.6	65.90	151.75	217.66	108.83	521.17

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-39.6	69.48	145.74	215.22	107.61	506.70
50.0	-40.6	73.06	140.37	213.42	106.71	494.16
51.0	-41.6	76.64	136.59	213.23	106.62	486.42
52.0	-42.6	79.98	134.51	214.49	107.25	483.50
53.0	-43.6	82.83	132.63	215.46	107.73	480.71
54.0	-44.6	85.18	130.28	215.46	107.73	476.01
55.0	-45.6	87.39	126.69	214.08	107.04	467.46
56.0	-46.6	89.83	120.20	210.04	105.02	450.44
57.0	-47.6	92.51	110.43	202.94	101.47	423.81
58.0	-48.6	95.16	98.20	193.36	96.68	389.77
59.0	-49.6	97.53	87.43	184.96	92.48	359.81
60.0	-50.6	99.61	79.43	179.04	89.52	337.91
61.0	-51.6	101.26	74.52	175.77	87.89	324.80
62.0	-52.6	102.31	71.12	173.44	86.72	315.68
63.0	-53.6	107.22	42.43	149.65	74.82	234.51
64.0	-54.6	107.73	29.81	137.54	68.77	197.15
65.0	-55.6	109.27	38.89	148.16	74.08	225.95
66.0	-56.6	111.21	43.65	154.86	77.43	242.17
67.0	-57.6	112.63	46.73	159.37	79.68	252.83
68.0	-58.6	113.73	50.48	164.22	82.11	265.19
69.0	-59.6	114.75	54.27	169.02	84.51	277.55
70.0	-60.6	116.05	57.55	173.60	86.80	288.70
71.0	-61.6	117.90	60.33	178.03	89.01	298.29
72.0	-62.6	127.67	78.27	205.94	102.97	362.48
73.0	-63.6	131.26	74.54	205.80	102.90	354.87
74.0	-64.6	134.82	73.21	208.03	104.02	354.44
75.0	-65.6	138.37	72.09	210.45	105.23	354.63
76.0	-66.6	141.90	72.00	213.90	106.95	357.90
77.0	-67.6	145.44	70.63	216.07	108.03	357.32
78.0	-68.6	148.97	69.26	218.23	109.11	356.74
79.0	-69.6	152.39	67.80	220.19	110.10	355.79
80.0	-70.6	155.58	66.11	221.69	110.85	353.92
81.0	-71.6	158.55	64.24	222.79	111.39	351.28
82.0	-72.6	161.40	62.29	223.68	111.84	348.25
83.0	-73.6	164.25	61.71	225.95	112.98	349.37
84.0	-74.6	167.10	63.09	230.18	115.09	356.35
85.0	-75.6	169.83	66.38	236.22	118.11	368.99
86.0	-76.6	172.34	69.37	241.71	120.86	380.46
87.0	-77.6	174.62	71.12	245.74	122.87	387.99
88.0	-78.6	177.24	70.55	247.79	123.90	388.89
89.0	-79.6	180.78	68.60	249.38	124.69	386.59
90.0	-80.6	185.22	65.79	251.01	125.50	382.58

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 1

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.6	2.60	16.21	18.80	9.40	51.22
16.0	-6.6	2.64	17.34	19.98	9.99	54.67
17.0	-7.6	2.87	18.24	21.11	10.56	57.58
18.0	-8.6	3.24	19.68	22.92	11.46	62.28
19.0	-9.6	3.61	22.35	25.96	12.98	70.67
20.0	-10.6	4.06	25.77	29.83	14.91	81.36
21.0	-11.6	4.47	29.77	34.24	17.12	93.77
22.0	-12.6	4.91	33.32	38.23	19.11	104.87
23.0	-13.6	5.45	36.15	41.61	20.80	113.91
24.0	-14.6	7.06	39.00	46.06	23.03	124.07
25.0	-15.6	8.04	39.18	47.23	23.61	125.59
26.0	-16.6	9.41	39.77	49.18	24.59	128.72
27.0	-17.6	10.92	41.19	52.11	26.05	134.49
28.0	-18.6	12.04	44.33	56.37	28.18	145.03
29.0	-19.6	12.65	50.03	62.68	31.34	162.73
30.0	-20.6	13.16	58.01	71.18	35.59	187.20
31.0	-21.6	13.94	67.27	81.21	40.61	215.75
32.0	-22.6	15.12	77.27	92.40	46.20	246.94
33.0	-23.6	16.66	88.31	104.97	52.48	281.58
34.0	-24.6	18.52	100.52	119.03	59.52	320.06
35.0	-25.6	20.72	113.38	134.10	67.05	360.86
36.0	-26.6	40.48	170.05	210.53	105.27	550.64
37.0	-27.6	44.89	170.77	215.66	107.83	557.21
38.0	-28.6	48.60	173.08	221.68	110.84	567.83
39.0	-29.6	51.71	177.18	228.89	114.44	583.25
40.0	-30.6	54.65	183.03	237.68	118.84	603.74
41.0	-31.6	57.85	190.16	248.01	124.00	628.32
42.0	-32.6	61.38	198.15	259.53	129.76	655.83
43.0	-33.6	65.11	206.92	272.03	136.01	685.86
44.0	-34.6	68.90	216.72	285.62	142.81	719.06
45.0	-35.6	72.87	226.59	299.46	149.73	752.65
46.0	-36.6	77.14	234.91	312.05	156.02	781.86
47.0	-37.6	81.77	240.66	322.43	161.21	803.74
48.0	-38.6	86.63	245.03	331.65	165.83	821.71

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-39.6	91.39	244.02	335.41	167.70	823.45
50.0	-40.6	96.16	243.31	339.47	169.73	826.09
51.0	-41.6	100.93	240.55	341.48	170.74	822.59
52.0	-42.6	105.39	235.02	340.40	170.20	810.44
53.0	-43.6	109.20	228.86	338.06	169.03	795.78
54.0	-44.6	112.36	222.46	334.82	167.41	779.74
55.0	-45.6	115.33	213.62	328.95	164.47	756.18
56.0	-46.6	118.60	200.40	318.99	159.50	719.79
57.0	-47.6	122.17	185.29	307.46	153.73	678.04
58.0	-48.6	125.72	172.34	298.06	149.03	642.74
59.0	-49.6	128.89	162.77	291.66	145.83	617.21
60.0	-50.6	131.69	155.03	286.72	143.36	598.78
61.0	-51.6	133.90	147.75	281.66	140.83	577.16
62.0	-52.6	135.34	141.45	276.79	138.40	559.70
63.0	-53.6	142.96	80.41	223.37	111.68	384.18
64.0	-54.6	143.64	61.31	204.95	102.48	327.57
65.0	-55.6	145.56	80.77	226.33	113.17	387.88
66.0	-56.6	147.71	83.64	231.35	115.67	398.63
67.0	-57.6	149.95	86.98	236.93	118.46	410.89
68.0	-58.6	151.93	90.08	242.01	121.00	422.16
69.0	-59.6	153.68	93.05	246.73	123.36	432.82
70.0	-60.6	155.49	96.33	251.82	125.91	444.49
71.0	-61.6	157.87	99.54	257.41	128.71	456.50
72.0	-62.6	170.22	144.49	314.71	157.36	603.69
73.0	-63.6	175.01	135.92	310.93	155.46	582.77
74.0	-64.6	179.77	128.88	308.64	154.32	566.39
75.0	-65.6	184.49	123.12	307.62	153.81	553.86
76.0	-66.6	189.10	123.28	312.38	156.19	558.93
77.0	-67.6	193.85	123.23	317.08	158.54	563.53
78.0	-68.6	198.63	121.90	320.53	160.27	564.34
79.0	-69.6	203.19	118.93	322.12	161.06	559.99
80.0	-70.6	207.44	115.32	322.77	161.38	553.41
81.0	-71.6	211.40	112.91	324.31	162.16	550.14
82.0	-72.6	215.20	113.37	328.57	164.28	555.31
83.0	-73.6	219.00	116.61	335.61	167.80	568.82
84.0	-74.6	222.80	120.23	343.02	171.51	583.48
85.0	-75.6	226.44	121.97	348.41	174.20	592.34
86.0	-76.6	229.79	121.95	351.73	175.87	595.63
87.0	-77.6	232.83	121.40	354.22	177.11	597.02
88.0	-78.6	236.32	120.82	357.15	178.57	598.79
89.0	-79.6	241.04	119.31	360.35	180.18	598.98

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 2

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-5.6	2.95	22.86	25.81	12.91	71.54
16.0	-6.6	3.00	24.44	27.44	13.72	76.31
17.0	-7.6	3.19	26.92	30.10	15.05	83.94
18.0	-8.6	3.51	30.48	33.99	17.00	94.95
19.0	-9.6	3.89	35.09	38.98	19.49	109.17
20.0	-10.6	4.27	40.06	44.32	22.16	124.43
21.0	-11.6	4.64	45.29	49.93	24.97	140.52
22.0	-12.6	5.05	51.81	56.87	28.43	160.49
23.0	-13.6	5.69	57.59	63.28	31.64	178.47
24.0	-14.6	8.82	64.69	73.52	36.76	202.90
25.0	-15.6	9.99	65.10	75.09	37.55	205.29
26.0	-16.6	11.40	66.70	78.10	39.05	211.49
27.0	-17.6	12.86	70.04	82.89	41.45	222.96
28.0	-18.6	14.10	75.40	89.50	44.75	240.31
29.0	-19.6	15.15	82.17	97.32	48.66	261.65
30.0	-20.6	16.13	90.16	106.28	53.14	286.60
31.0	-21.6	17.23	99.51	116.74	58.37	315.77
32.0	-22.6	18.61	110.92	129.52	64.76	351.36
33.0	-23.6	20.28	124.51	144.79	72.39	393.81
34.0	-24.6	22.29	139.58	161.87	80.93	441.03
35.0	-25.6	24.70	154.85	179.55	89.77	489.25
36.0	-26.6	50.60	261.69	312.29	156.15	835.68
37.0	-27.6	56.16	262.43	318.59	159.29	843.45
38.0	-28.6	60.90	264.74	325.64	162.82	855.11
39.0	-29.6	64.93	268.78	333.71	166.85	871.27
40.0	-30.6	68.74	274.54	343.28	171.64	892.37
41.0	-31.6	72.83	281.69	354.52	177.26	917.91
42.0	-32.6	77.23	290.03	367.26	183.63	947.33
43.0	-33.6	81.85	299.09	380.94	190.47	979.12
44.0	-34.6	86.72	307.41	394.13	197.06	1008.94
45.0	-35.6	91.94	313.96	405.90	202.95	1033.83
46.0	-36.6	97.48	318.76	416.24	208.12	1053.77
47.0	-37.6	103.05	324.10	427.15	213.58	1075.36
48.0	-38.6	108.57	330.66	439.24	219.62	1100.56

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-39.6	114.11	338.15	452.26	226.13	1128.56
50.0	-40.6	119.92	344.18	464.09	232.05	1152.44
51.0	-41.6	126.03	347.88	473.92	236.96	1169.69
52.0	-42.6	131.61	343.45	475.05	237.53	1161.94
53.0	-43.6	136.37	336.26	472.64	236.32	1145.16
54.0	-44.6	140.32	325.34	465.66	232.83	1116.33
55.0	-45.6	144.04	310.34	454.37	227.19	1075.05
56.0	-46.6	148.13	295.06	443.19	221.59	1033.30
57.0	-47.6	152.60	281.36	433.96	216.98	996.68
58.0	-48.6	157.03	270.67	427.70	213.85	969.03
59.0	-49.6	161.00	260.86	421.86	210.93	943.59
60.0	-50.6	164.49	251.00	415.49	207.74	917.48
61.0	-51.6	167.27	243.06	410.32	205.16	896.44
62.0	-52.6	169.06	242.97	412.03	206.02	897.97
63.0	-53.6	178.70	165.26	343.96	171.98	674.47
64.0	-54.6	179.55	120.13	299.68	149.84	539.93
65.0	-55.6	182.12	149.90	332.02	166.01	631.83
66.0	-56.6	186.12	165.89	352.02	176.01	683.81
67.0	-57.6	190.03	167.73	357.76	178.88	693.21
68.0	-58.6	193.33	169.53	362.87	181.43	701.93
69.0	-59.6	196.06	171.45	367.51	183.76	710.41
70.0	-60.6	198.80	173.78	372.58	186.29	720.14
71.0	-61.6	202.32	176.20	378.52	189.26	730.92
72.0	-62.6	212.78	228.53	441.31	220.65	898.36
73.0	-63.6	218.76	216.20	434.96	217.48	867.35
74.0	-64.6	224.71	208.14	432.84	216.42	849.11
75.0	-65.6	230.62	187.24	417.85	208.93	792.33
76.0	-66.6	236.29	187.56	423.85	211.93	798.97
77.0	-67.6	242.16	187.59	429.75	214.88	804.94
78.0	-68.6	248.29	187.21	435.50	217.75	809.93
79.0	-69.6	253.99	183.07	437.06	218.53	803.20
80.0	-70.6	259.31	181.62	440.92	220.46	804.16
81.0	-71.6	264.25	183.48	447.72	223.86	814.67
82.0	-72.6	268.98	187.27	456.25	228.12	830.79
83.0	-73.6	273.37	187.96	461.32	230.66	837.24
84.0	-74.6	278.16	187.89	466.05	233.03	841.84
85.0	-75.6	283.06	186.93	469.98	234.99	843.84
86.0	-76.6	287.24	185.55	472.78	236.39	843.88
87.0	-77.6	291.04	184.91	475.95	237.97	845.77

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 3

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-7.in
RUN DATE	03/25/11
RUN TIME	09:09:22
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-7
DRILLING DATE	1/12/2011 - 1/14/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	13.16 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	12.2	14.0	5
2	3.0	10.2	15.0	5
3	5.0	8.2	9.0	5
4	7.0	6.2	19.0	4
5	9.0	4.2	14.0	4
6	12.0	1.2	21.0	4
7	15.0	-1.8	11.0	3
8	18.0	-4.8	14.0	3
9	21.0	-7.8	15.0	3
10	24.0	-10.8	11.0	3
11	27.0	-13.8	16.0	3
12	30.0	-16.8	24.0	3
13	33.0	-19.8	21.0	3
14	36.0	-22.8	16.0	3
15	39.0	-25.8	9.0	3
16	42.0	-28.8	24.0	4
17	45.0	-31.8	50.0	4
18	48.0	-34.8	45.0	4
19	51.0	-37.8	30.0	4
20	54.0	-40.8	41.0	4
21	57.0	-43.8	43.0	4
22	60.0	-46.8	40.0	4
23	63.0	-49.8	45.0	4
24	66.0	-52.8	35.0	4
25	69.0	-55.8	31.0	4
26	72.0	-58.8	26.0	3
27	75.0	-61.8	17.0	3
28	78.0	-64.8	26.0	3
29	81.0	-67.8	21.0	3
30	84.0	-70.8	26.0	3
31	87.0	-73.8	24.0	3
32	90.0	-76.8	36.0	4
33	93.0	-79.8	30.0	3
34	96.0	-82.8	27.0	3
35	99.0	-85.8	21.0	3

STATIC PILE BEARING CAPACITY ANALYSIS - SPT97 Page 3

Project No: 92407.011 SR 924 PD&E Study - East Extension
Boring No: BR-7

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT97 Page 4

Project No: 92407.011 SR 924 PD&E Study - East Extension
Boring No: BR-7

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-1.8	10.23	31.93	42.16	21.08	106.02
16.0	-2.8	11.54	30.53	42.08	21.04	103.14
17.0	-3.8	12.97	31.48	44.44	22.22	107.40
18.0	-4.8	14.51	31.89	46.39	23.20	110.16
19.0	-5.8	16.12	31.76	47.88	23.94	111.40
20.0	-6.8	17.77	31.63	49.40	24.70	112.65
21.0	-7.8	19.46	31.74	51.20	25.60	114.67
22.0	-8.8	21.04	32.05	53.09	26.55	117.20
23.0	-9.8	22.24	32.69	54.94	27.47	120.33
24.0	-10.8	23.10	34.00	57.10	28.55	125.09
25.0	-11.8	23.86	36.02	59.88	29.94	131.92
26.0	-12.8	24.87	38.27	63.15	31.57	139.69
27.0	-13.8	26.18	40.46	66.64	33.32	147.56
28.0	-14.8	27.80	42.59	70.39	35.19	155.57
29.0	-15.8	29.90	43.70	73.60	36.80	160.99
30.0	-16.8	32.37	43.56	75.93	37.97	163.06
31.0	-17.8	34.93	42.87	77.81	38.90	163.56
32.0	-18.8	37.41	41.79	79.20	39.60	162.78
33.0	-19.8	39.80	40.26	80.06	40.03	160.59
34.0	-20.8	42.05	38.49	80.54	40.27	157.52
35.0	-21.8	44.14	37.90	82.03	41.02	157.82
36.0	-22.8	46.05	39.02	85.07	42.54	163.12
37.0	-23.8	47.76	41.79	89.54	44.77	173.12
38.0	-24.8	49.22	46.67	95.89	47.94	189.23
39.0	-25.8	50.43	53.92	104.35	52.17	212.18
40.0	-26.8	51.57	62.86	114.43	57.22	240.15
41.0	-27.8	52.84	71.08	123.92	61.96	266.09
42.0	-28.8	57.36	77.84	135.20	67.60	290.87
43.0	-29.8	58.96	78.41	137.38	68.69	294.21
44.0	-30.8	60.95	79.66	140.61	70.31	299.93
45.0	-31.8	63.46	80.76	144.22	72.11	305.75
46.0	-32.8	66.30	81.28	147.58	73.79	310.14
47.0	-33.8	69.04	81.98	151.01	75.51	314.97
48.0	-34.8	71.56	83.51	155.08	77.54	322.09

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-35.8	73.76	86.51	160.28	80.14	333.31
50.0	-36.8	75.56	91.31	166.87	83.43	349.48
51.0	-37.8	77.05	98.12	175.17	87.59	371.40
52.0	-38.8	79.01	103.31	182.33	91.16	388.95
53.0	-39.8	81.17	107.24	188.41	94.20	402.89
54.0	-40.8	83.52	109.78	193.30	96.65	412.87
55.0	-41.8	85.99	110.99	196.98	98.49	418.96
56.0	-42.8	88.50	111.36	199.86	99.93	422.58
57.0	-43.8	91.09	111.09	202.13	101.07	424.30
58.0	-44.8	93.59	110.83	204.42	102.21	426.08
59.0	-45.8	96.07	110.41	206.49	103.24	427.31
60.0	-46.8	98.50	109.47	207.97	103.99	426.91
61.0	-47.8	100.95	108.01	208.96	104.48	424.99
62.0	-48.8	103.49	106.39	209.88	104.94	422.66
63.0	-49.8	106.13	104.75	210.88	105.44	420.37
64.0	-50.8	108.73	102.94	211.67	105.83	417.56
65.0	-51.8	111.13	100.63	211.76	105.88	413.01
66.0	-52.8	113.34	97.71	211.04	105.52	406.46
67.0	-53.8	115.41	94.20	209.61	104.81	398.02
68.0	-54.8	117.41	90.13	207.54	103.77	387.80
69.0	-55.8	119.32	85.49	204.82	102.41	375.81
70.0	-56.8	121.38	80.52	201.90	100.95	362.94
71.0	-57.8	123.79	76.34	200.13	100.06	352.80
72.0	-58.8	128.77	50.44	179.21	89.61	280.10
73.0	-59.8	131.35	50.76	182.11	91.06	283.64
74.0	-60.8	133.72	50.93	184.65	92.32	286.50
75.0	-61.8	135.81	51.00	186.81	93.41	288.81
76.0	-62.8	137.88	51.12	189.00	94.50	291.25
77.0	-63.8	140.20	51.42	191.62	95.81	294.47
78.0	-64.8	142.79	51.88	194.67	97.33	298.43
79.0	-65.8	145.40	52.49	197.89	98.94	302.86
80.0	-66.8	147.83	53.18	201.01	100.50	307.37
81.0	-67.8	150.08	53.95	204.03	102.01	311.92
82.0	-68.8	152.37	54.74	207.10	103.55	316.57
83.0	-69.8	154.67	56.15	210.81	105.41	323.11
84.0	-70.8	156.91	58.64	215.55	107.77	332.83
85.0	-71.8	159.04	62.34	221.38	110.69	346.05
86.0	-72.8	161.49	66.09	227.58	113.79	359.75
87.0	-73.8	164.24	68.97	233.21	116.61	371.15
88.0	-74.8	166.88	70.75	237.64	118.82	379.14
89.0	-75.8	169.35	71.14	240.49	120.24	382.77
90.0	-76.8	175.44	70.30	245.74	122.87	386.33

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 7

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-1.8	13.64	54.88	68.52	34.26	178.29
16.0	-2.8	15.39	54.04	69.43	34.72	177.52
17.0	-3.8	17.29	54.86	72.15	36.07	181.86
18.0	-4.8	19.29	54.97	74.26	37.13	184.21
19.0	-5.8	21.34	55.15	76.50	38.25	186.80
20.0	-6.8	23.38	55.47	78.85	39.42	189.78
21.0	-7.8	25.35	56.03	81.38	40.69	193.43
22.0	-8.8	27.08	56.99	84.07	42.04	198.04
23.0	-9.8	28.44	58.52	86.97	43.48	204.01
24.0	-10.8	29.54	60.56	90.10	45.05	211.21
25.0	-11.8	30.69	62.82	93.51	46.75	219.14
26.0	-12.8	32.14	65.14	97.28	48.64	227.56
27.0	-13.8	33.91	67.32	101.23	50.62	235.87
28.0	-14.8	36.12	69.08	105.20	52.60	243.36
29.0	-15.8	38.87	70.17	109.04	54.52	249.38
30.0	-16.8	42.23	70.29	112.52	56.26	253.09
31.0	-17.8	46.01	69.38	115.39	57.69	254.14
32.0	-18.8	49.80	68.12	117.92	58.96	254.15
33.0	-19.8	53.41	67.20	120.61	60.30	255.01
34.0	-20.8	56.42	67.43	123.84	61.92	258.70
35.0	-21.8	59.20	69.68	128.88	64.44	268.25
36.0	-22.8	61.75	74.58	136.33	68.16	285.49
37.0	-23.8	64.02	82.74	146.77	73.38	312.25
38.0	-24.8	65.97	94.35	160.31	80.16	349.00
39.0	-25.8	67.57	107.73	175.30	87.65	390.75
40.0	-26.8	69.10	120.40	189.50	94.75	430.30
41.0	-27.8	70.79	131.45	202.24	101.12	465.14
42.0	-28.8	76.49	140.11	216.59	108.30	496.81
43.0	-29.8	78.67	140.56	219.23	109.61	500.34
44.0	-30.8	81.48	141.29	222.77	111.38	505.34
45.0	-31.8	85.02	141.73	226.76	113.38	510.22
46.0	-32.8	88.85	142.17	231.01	115.51	515.35
47.0	-33.8	92.45	143.15	235.60	117.80	521.91
48.0	-34.8	95.79	144.93	240.71	120.36	530.57

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-35.8	98.74	147.68	246.42	123.21	541.78
50.0	-36.8	101.17	151.90	253.07	126.53	556.87
51.0	-37.8	103.13	157.75	260.88	130.44	576.38
52.0	-38.8	105.09	164.58	269.68	134.84	598.84
53.0	-39.8	107.45	171.67	279.12	139.56	622.45
54.0	-40.8	110.15	179.32	289.47	144.73	648.10
55.0	-41.8	113.44	184.56	298.00	149.00	667.13
56.0	-42.8	116.79	190.00	306.79	153.39	686.80
57.0	-43.8	120.18	194.23	314.41	157.20	702.87
58.0	-44.8	123.56	196.55	320.11	160.06	713.21
59.0	-45.8	126.87	196.87	323.74	161.87	717.48
60.0	-46.8	130.11	195.28	325.39	162.69	715.95
61.0	-47.8	133.37	191.87	325.24	162.62	708.98
62.0	-48.8	136.76	187.15	323.91	161.96	698.22
63.0	-49.8	140.27	181.69	321.96	160.98	685.34
64.0	-50.8	143.73	175.73	319.46	159.73	670.93
65.0	-51.8	146.93	170.02	316.95	158.47	656.98
66.0	-52.8	149.88	164.79	314.67	157.33	644.25
67.0	-53.8	152.65	159.84	312.50	156.25	632.19
68.0	-54.8	155.32	154.34	309.67	154.83	618.35
69.0	-55.8	157.89	148.55	306.44	153.22	603.53
70.0	-56.8	160.63	143.50	304.14	152.07	591.14
71.0	-57.8	163.85	139.55	303.40	151.70	582.50
72.0	-58.8	171.69	93.97	265.66	132.83	453.60
73.0	-59.8	175.24	94.24	269.48	134.74	457.97
74.0	-60.8	178.56	94.18	272.73	136.37	461.09
75.0	-61.8	181.50	93.66	275.16	137.58	462.49
76.0	-62.8	184.31	93.59	277.90	138.95	465.07
77.0	-63.8	187.43	94.26	281.69	140.84	470.21
78.0	-64.8	190.85	94.87	285.71	142.86	475.44
79.0	-65.8	194.40	95.43	289.83	144.92	480.69
80.0	-66.8	197.76	95.93	293.68	146.84	485.54
81.0	-67.8	200.69	96.88	297.57	148.78	491.32
82.0	-68.8	203.23	98.92	302.15	151.08	500.00
83.0	-69.8	205.66	102.23	307.89	153.95	512.36
84.0	-70.8	208.30	106.09	314.39	157.19	526.57
85.0	-71.8	211.26	109.59	320.85	160.42	540.02
86.0	-72.8	214.37	112.65	327.02	163.51	552.33
87.0	-73.8	217.54	115.47	333.01	166.51	563.96
88.0	-74.8	220.75	117.82	338.57	169.28	574.22
89.0	-75.8	224.06	118.92	342.98	171.49	580.83

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 8

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-1.8	17.05	85.01	102.06	51.03	272.08
16.0	-2.8	19.24	84.88	104.11	52.06	273.87
17.0	-3.8	21.60	85.02	106.63	53.31	276.67
18.0	-4.8	24.10	85.13	109.24	54.62	279.50
19.0	-5.8	26.64	85.41	112.05	56.02	282.87
20.0	-6.8	28.74	86.62	115.37	57.68	288.61
21.0	-7.8	30.93	87.91	118.84	59.42	294.66
22.0	-8.8	32.89	89.62	122.51	61.26	301.75
23.0	-9.8	34.64	91.51	126.15	63.07	309.16
24.0	-10.8	36.18	93.58	129.76	64.88	316.91
25.0	-11.8	37.78	95.79	133.56	66.78	325.13
26.0	-12.8	39.72	97.92	137.64	68.82	333.48
27.0	-13.8	42.04	99.81	141.85	70.92	341.46
28.0	-14.8	44.88	101.20	146.08	73.04	348.48
29.0	-15.8	48.42	101.74	150.16	75.08	353.64
30.0	-16.8	52.75	101.17	153.92	76.96	356.27
31.0	-17.8	57.44	100.10	157.55	78.77	357.76
32.0	-18.8	61.60	100.40	161.99	81.00	362.78
33.0	-19.8	65.06	102.47	167.53	83.77	372.47
34.0	-20.8	67.65	107.08	174.72	87.36	388.88
35.0	-21.8	69.19	115.58	184.77	92.38	415.93
36.0	-22.8	69.84	129.35	199.19	99.60	457.90
37.0	-23.8	70.27	146.96	217.24	108.62	511.16
38.0	-24.8	71.80	163.98	235.78	117.89	563.73
39.0	-25.8	73.97	179.26	253.23	126.62	611.75
40.0	-26.8	76.04	192.98	269.02	134.51	654.97
41.0	-27.8	78.28	203.25	281.53	140.77	688.04
42.0	-28.8	95.61	210.19	305.79	152.90	726.17
43.0	-29.8	98.38	210.48	308.86	154.43	729.82
44.0	-30.8	101.91	211.30	313.20	156.60	735.80
45.0	-31.8	106.18	212.53	318.71	159.36	743.78
46.0	-32.8	110.69	214.25	324.94	162.47	753.44
47.0	-33.8	114.93	216.58	331.51	165.75	764.67
48.0	-34.8	118.92	219.57	338.49	169.25	777.64

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-35.8	122.52	223.34	345.86	172.93	792.54
50.0	-36.8	125.62	227.93	353.54	176.77	809.39
51.0	-37.8	128.20	233.57	361.77	180.88	828.91
52.0	-38.8	130.72	240.12	370.84	185.42	851.09
53.0	-39.8	133.60	247.44	381.04	190.52	875.92
54.0	-40.8	136.83	255.58	392.41	196.21	903.58
55.0	-41.8	140.31	264.41	404.72	202.36	933.53
56.0	-42.8	144.01	272.84	416.86	208.43	962.54
57.0	-43.8	147.94	280.63	428.58	214.29	989.84
58.0	-44.8	152.16	283.19	435.35	217.67	1001.72
59.0	-45.8	156.30	285.77	442.07	221.04	1013.62
60.0	-46.8	160.34	287.72	448.07	224.03	1023.51
61.0	-47.8	164.42	287.87	452.29	226.14	1028.02
62.0	-48.8	168.65	285.50	454.15	227.07	1025.14
63.0	-49.8	173.03	280.29	453.32	226.66	1013.90
64.0	-50.8	177.34	272.52	449.86	224.93	994.91
65.0	-51.8	181.35	262.79	444.14	222.07	969.73
66.0	-52.8	185.04	252.07	437.11	218.56	941.25
67.0	-53.8	188.52	241.72	430.24	215.12	913.68
68.0	-54.8	191.88	233.07	424.95	212.47	891.10
69.0	-55.8	195.10	226.52	421.62	210.81	874.66
70.0	-56.8	198.54	222.02	420.57	210.28	864.61
71.0	-57.8	202.56	218.52	421.08	210.54	858.11
72.0	-58.8	214.62	147.96	362.58	181.29	658.50
73.0	-59.8	219.08	148.25	367.33	183.67	663.83
74.0	-60.8	223.24	148.15	371.39	185.69	667.69
75.0	-61.8	226.87	147.50	374.37	187.18	669.36
76.0	-62.8	230.39	147.76	378.15	189.07	673.67
77.0	-63.8	234.27	148.34	382.61	191.30	679.28
78.0	-64.8	238.61	148.95	387.56	193.78	685.45
79.0	-65.8	243.01	149.70	392.71	196.35	692.11
80.0	-66.8	246.78	151.17	397.95	198.97	700.28
81.0	-67.8	249.83	153.73	403.56	201.78	711.02
82.0	-68.8	252.61	157.29	409.89	204.95	724.46
83.0	-69.8	255.85	160.77	416.62	208.31	738.16
84.0	-70.8	259.60	163.88	423.48	211.74	751.25
85.0	-71.8	263.64	166.60	430.24	215.12	763.43
86.0	-72.8	267.66	169.25	436.91	218.46	775.41
87.0	-73.8	271.65	171.85	443.50	221.75	787.20

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 9

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-8.in
RUN DATE	03/25/11
RUN TIME	09:14:54
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	D. Riccobono
BORING NO.	BR-8
DRILLING DATE	1/20/2011 - 1/21/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	12.40 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	11.4	19.0	5
2	3.0	9.4	11.0	5
3	5.0	7.4	5.0	5
4	7.0	5.4	6.0	3
5	9.0	3.4	7.0	3
6	12.0	0.4	10.0	3
7	15.0	-2.6	12.0	3
8	18.0	-5.6	11.0	3
9	21.0	-8.6	12.0	5
10	24.0	-11.6	16.0	3
11	27.0	-14.6	17.0	3
12	30.0	-17.6	16.0	3
13	33.0	-20.6	17.0	3
14	36.0	-23.6	30.0	4
15	39.0	-26.6	37.0	4
16	42.0	-29.6	26.0	4
17	45.0	-32.6	71.0	4
18	48.0	-35.6	100.0	4
19	51.0	-38.6	42.0	4
20	54.0	-41.6	68.0	4
21	57.0	-44.6	26.0	4
22	60.0	-47.6	27.0	4
23	63.0	-50.6	100.0	4
24	66.0	-53.6	38.0	4
25	69.0	-56.6	35.0	4
26	72.0	-59.6	35.0	4
27	75.0	-62.6	21.0	3
28	78.0	-65.6	27.0	3
29	81.0	-68.6	25.0	3
30	84.0	-71.6	24.0	3
31	87.0	-74.6	27.0	3
32	90.0	-77.6	29.0	3
33	93.0	-80.6	12.0	3
34	96.0	-83.6	30.0	3
35	99.0	-86.6	24.0	3

STATIC PILE BEARING CAPACITY ANALYSIS - SPT97 Page 3

Project No: 92407.011 SR 924 PD&E Study - East Extension
Boring No: BR-8

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT97 Page 4

Project No: 92407.011 SR 924 PD&E Study - East Extension
Boring No: BR-8

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.6	6.04	17.04	23.08	11.54	57.16
16.0	-3.6	6.92	18.66	25.57	12.79	62.88
17.0	-4.6	7.78	20.66	28.44	14.22	69.76
18.0	-5.6	8.65	23.04	31.69	15.85	77.78
19.0	-6.6	9.58	25.68	35.26	17.63	86.62
20.0	-7.6	10.62	28.49	39.11	19.55	96.08
21.0	-8.6	11.82	30.77	42.59	21.29	104.13
22.0	-9.6	13.17	32.25	45.43	22.71	109.94
23.0	-10.6	14.65	33.43	48.09	24.04	114.95
24.0	-11.6	16.26	34.26	50.52	25.26	119.05
25.0	-12.6	17.95	34.83	52.78	26.39	122.45
26.0	-13.6	19.69	35.33	55.01	27.51	125.67
27.0	-14.6	21.47	35.79	57.25	28.63	128.83
28.0	-15.6	23.26	36.34	59.61	29.80	132.29
29.0	-16.6	25.04	37.91	62.95	31.48	138.78
30.0	-17.6	26.79	40.84	67.63	33.82	149.31
31.0	-18.6	28.56	45.02	73.57	36.79	163.60
32.0	-19.6	30.35	49.91	80.26	40.13	180.08
33.0	-20.6	32.19	55.33	87.52	43.76	198.17
34.0	-21.6	34.03	60.83	94.86	47.43	216.52
35.0	-22.6	35.84	64.98	100.81	50.41	230.76
36.0	-23.6	44.14	67.33	111.46	55.73	246.12
37.0	-24.6	45.99	67.43	113.41	56.71	248.27
38.0	-25.6	47.86	68.06	115.92	57.96	252.03
39.0	-26.6	49.62	70.06	119.69	59.84	259.81
40.0	-27.6	51.06	74.46	125.52	62.76	274.44
41.0	-28.6	52.19	81.37	133.56	66.78	296.29
42.0	-29.6	53.17	90.70	143.87	71.93	325.27
43.0	-30.6	54.44	101.74	156.18	78.09	359.65
44.0	-31.6	56.46	112.34	168.80	84.40	393.49
45.0	-32.6	59.26	121.16	180.42	90.21	422.73
46.0	-33.6	62.57	121.78	184.35	92.18	427.92
47.0	-34.6	65.94	122.52	188.46	94.23	433.50
48.0	-35.6	69.34	124.25	193.59	96.79	442.09

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.6	72.62	127.40	200.02	100.01	454.82
50.0	-37.6	75.61	129.50	205.11	102.56	464.11
51.0	-38.6	78.30	129.29	207.59	103.80	466.16
52.0	-39.6	81.00	126.33	207.33	103.66	459.98
53.0	-40.6	84.01	122.16	206.16	103.08	450.48
54.0	-41.6	87.34	117.62	204.96	102.48	440.20
55.0	-42.6	90.54	113.20	203.75	101.87	430.16
56.0	-43.6	93.14	111.21	204.35	102.17	426.77
57.0	-44.6	95.11	112.41	207.53	103.76	432.35
58.0	-45.6	96.79	116.45	213.24	106.62	446.14
59.0	-46.6	98.47	119.88	218.35	109.17	458.11
60.0	-47.6	100.16	121.38	221.54	110.77	464.30
61.0	-48.6	102.16	120.56	222.72	111.36	463.84
62.0	-49.6	104.76	118.11	222.87	111.43	459.09
63.0	-50.6	107.97	114.48	222.46	111.23	451.43
64.0	-51.6	111.29	110.34	221.64	110.82	442.32
65.0	-52.6	114.21	106.39	220.60	110.30	433.37
66.0	-53.6	116.72	102.65	219.36	109.68	424.66
67.0	-54.6	118.99	99.61	218.60	109.30	417.81
68.0	-55.6	121.20	97.05	218.26	109.13	412.37
69.0	-56.6	123.36	94.69	218.05	109.03	407.44
70.0	-57.6	125.47	91.89	217.36	108.68	401.15
71.0	-58.6	127.54	89.14	216.67	108.34	394.95
72.0	-59.6	129.57	86.90	216.46	108.23	390.26
73.0	-60.6	131.64	84.85	216.49	108.25	386.20
74.0	-61.6	133.84	82.28	216.12	108.06	380.68
75.0	-62.6	141.15	59.91	201.06	100.53	320.89
76.0	-63.6	143.66	57.08	200.74	100.37	314.91
77.0	-64.6	146.39	58.45	204.85	102.42	321.76
78.0	-65.6	149.36	59.29	208.65	104.33	327.24
79.0	-66.6	152.40	59.51	211.91	105.95	330.93
80.0	-67.6	155.36	59.55	214.91	107.45	334.00
81.0	-68.6	158.25	59.72	217.97	108.99	337.41
82.0	-69.6	161.03	60.03	221.05	110.53	341.10
83.0	-70.6	163.66	60.41	224.06	112.03	344.87
84.0	-71.6	166.18	61.01	227.19	113.59	349.20
85.0	-72.6	168.70	61.80	230.50	115.25	354.10
86.0	-73.6	171.60	61.91	233.52	116.76	357.34
87.0	-74.6	175.06	60.73	235.80	117.90	357.26
88.0	-75.6	178.47	58.27	236.74	118.37	353.28
89.0	-76.6	181.66	56.04	237.70	118.85	349.79
90.0	-77.6	184.93	54.90	239.83	119.91	349.63

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 19

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.6	8.17	27.63	35.80	17.90	91.05
16.0	-3.6	9.29	29.31	38.60	19.30	97.22
17.0	-4.6	10.35	31.36	41.71	20.86	104.44
18.0	-5.6	11.27	34.31	45.57	22.79	114.18
19.0	-6.6	12.22	37.65	49.87	24.94	125.17
20.0	-7.6	13.27	41.37	54.64	27.32	137.38
21.0	-8.6	14.43	45.40	59.83	29.91	150.62
22.0	-9.6	15.78	49.40	65.18	32.59	163.98
23.0	-10.6	17.39	53.05	70.44	35.22	176.53
24.0	-11.6	19.25	56.47	75.73	37.86	188.68
25.0	-12.6	21.29	59.96	81.25	40.62	201.16
26.0	-13.6	23.54	61.26	84.80	42.40	207.31
27.0	-14.6	25.85	63.27	89.12	44.56	215.66
28.0	-15.6	28.18	66.85	95.03	47.52	228.74
29.0	-16.6	30.50	72.08	102.58	51.29	246.74
30.0	-17.6	32.80	78.53	111.32	55.66	268.38
31.0	-18.6	35.11	85.69	120.79	60.40	292.16
32.0	-19.6	37.47	93.57	131.03	65.52	318.16
33.0	-20.6	39.88	101.20	141.08	70.54	343.49
34.0	-21.6	42.29	107.12	149.42	74.71	363.66
35.0	-22.6	44.67	110.83	155.50	77.75	377.15
36.0	-23.6	58.85	114.84	173.69	86.85	403.38
37.0	-24.6	61.21	115.44	176.64	88.32	407.52
38.0	-25.6	63.39	117.78	181.18	90.59	416.74
39.0	-26.6	65.46	122.20	187.66	93.83	432.05
40.0	-27.6	67.32	128.57	195.88	97.94	453.02
41.0	-28.6	68.86	137.14	206.00	103.00	480.28
42.0	-29.6	70.20	147.59	217.79	108.89	512.96
43.0	-30.6	71.93	158.37	230.30	115.15	547.04
44.0	-31.6	74.54	167.85	242.39	121.20	578.09
45.0	-32.6	78.01	176.54	254.55	127.28	607.63
46.0	-33.6	81.90	186.53	268.42	134.21	641.48
47.0	-34.6	85.82	199.03	284.85	142.42	682.90
48.0	-35.6	89.96	211.54	301.49	150.75	724.57

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.6	94.26	213.04	307.31	153.65	733.39
50.0	-37.6	98.22	211.43	309.65	154.82	732.50
51.0	-38.6	101.80	208.33	310.14	155.07	726.81
52.0	-39.6	105.39	204.61	310.00	155.00	719.23
53.0	-40.6	109.37	199.30	308.68	154.34	707.28
54.0	-41.6	113.78	194.43	308.21	154.10	697.06
55.0	-42.6	118.02	193.49	311.51	155.75	698.49
56.0	-43.6	121.48	198.61	320.09	160.05	717.31
57.0	-44.6	124.16	207.09	331.25	165.63	745.43
58.0	-45.6	126.44	214.67	341.11	170.55	770.44
59.0	-46.6	128.73	219.09	347.82	173.91	786.00
60.0	-47.6	131.02	220.32	351.35	175.67	792.00
61.0	-48.6	133.71	218.42	352.13	176.06	788.97
62.0	-49.6	137.18	213.20	350.38	175.19	776.79
63.0	-50.6	141.43	205.58	347.01	173.51	758.17
64.0	-51.6	145.83	197.37	343.20	171.60	737.95
65.0	-52.6	149.71	190.80	340.51	170.25	722.11
66.0	-53.6	153.05	185.61	338.66	169.33	709.88
67.0	-54.6	156.09	180.48	336.58	168.29	697.55
68.0	-55.6	159.06	173.91	332.97	166.49	680.80
69.0	-56.6	161.95	166.12	328.07	164.03	660.31
70.0	-57.6	164.77	158.20	322.97	161.49	639.38
71.0	-58.6	167.54	151.42	318.96	159.48	621.80
72.0	-59.6	170.26	146.67	316.93	158.47	610.26
73.0	-60.6	173.04	143.94	316.98	158.49	604.85
74.0	-61.6	175.99	142.75	318.74	159.37	604.24
75.0	-62.6	188.20	106.57	294.77	147.38	507.90
76.0	-63.6	191.54	100.98	292.52	146.26	494.48
77.0	-64.6	195.19	103.16	298.35	149.18	504.68
78.0	-65.6	199.14	104.84	303.98	151.99	513.66
79.0	-66.6	203.20	105.90	309.10	154.55	520.91
80.0	-67.6	207.14	106.58	313.72	156.86	526.89
81.0	-68.6	210.86	106.84	317.69	158.85	531.36
82.0	-69.6	214.43	107.24	321.67	160.83	536.14
83.0	-70.6	217.88	107.84	325.72	162.86	541.40
84.0	-71.6	221.41	108.22	329.62	164.81	546.05
85.0	-72.6	225.39	107.68	333.07	166.54	548.44
86.0	-73.6	229.77	105.46	335.23	167.62	546.16
87.0	-74.6	233.80	102.25	336.05	168.02	540.54
88.0	-75.6	237.95	100.70	338.66	169.33	540.06
89.0	-76.6	242.21	100.83	343.04	171.52	544.69

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

B. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 20

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.6	10.15	42.95	53.10	26.55	138.99
16.0	-3.6	11.41	45.27	56.68	28.34	147.23
17.0	-4.6	12.63	47.88	60.50	30.25	156.25
18.0	-5.6	13.82	50.77	64.59	32.29	166.13
19.0	-6.6	15.03	53.92	68.95	34.48	176.79
20.0	-7.6	16.36	57.17	73.53	36.76	187.87
21.0	-8.6	17.79	60.50	78.28	39.14	199.27
22.0	-9.6	19.26	64.67	83.94	41.97	213.28
23.0	-10.6	20.97	69.03	90.00	45.00	228.07
24.0	-11.6	22.91	73.56	96.48	48.24	243.60
25.0	-12.6	24.98	78.78	103.75	51.88	261.31
26.0	-13.6	27.01	85.78	112.79	56.39	284.36
27.0	-14.6	29.06	94.65	123.70	61.85	313.00
28.0	-15.6	31.13	105.54	136.68	68.34	347.76
29.0	-16.6	33.26	118.19	151.45	75.73	387.83
30.0	-17.6	35.75	130.50	166.25	83.12	427.24
31.0	-18.6	38.57	141.00	179.57	89.78	461.56
32.0	-19.6	41.45	149.77	191.22	95.61	490.77
33.0	-20.6	44.39	156.76	201.16	100.58	514.68
34.0	-21.6	47.35	163.25	210.60	105.30	537.09
35.0	-22.6	50.27	173.08	223.35	111.67	569.51
36.0	-23.6	73.57	186.55	260.11	130.06	633.20
37.0	-24.6	76.44	187.62	264.06	132.03	639.31
38.0	-25.6	79.15	190.80	269.95	134.98	651.55
39.0	-26.6	81.79	195.97	277.76	138.88	669.70
40.0	-27.6	84.21	203.00	287.21	143.61	693.22
41.0	-28.6	86.30	211.43	297.73	148.87	720.59
42.0	-29.6	88.15	220.85	309.00	154.50	750.70
43.0	-30.6	90.38	230.69	321.08	160.54	782.46
44.0	-31.6	93.50	241.42	334.92	167.46	817.77
45.0	-32.6	97.51	253.08	350.59	175.29	856.74
46.0	-33.6	102.05	265.17	367.22	183.61	897.56
47.0	-34.6	106.94	274.77	381.71	190.86	931.26
48.0	-35.6	112.26	280.81	393.07	196.53	954.68

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.6	117.69	284.19	401.89	200.94	970.28
50.0	-37.6	122.73	288.28	411.01	205.50	987.57
51.0	-38.6	127.30	293.47	420.77	210.38	1007.71
52.0	-39.6	131.78	292.77	424.54	212.27	1010.07
53.0	-40.6	136.76	295.13	431.89	215.95	1022.15
54.0	-41.6	142.27	300.27	442.54	221.27	1043.07
55.0	-42.6	147.57	307.62	455.19	227.60	1070.44
56.0	-43.6	151.90	313.68	465.79	232.89	1093.55
57.0	-44.6	155.25	319.05	474.30	237.15	1112.39
58.0	-45.6	158.09	322.72	480.82	240.41	1126.26
59.0	-46.6	160.95	325.37	486.32	243.16	1137.05
60.0	-47.6	163.82	327.63	491.44	245.72	1146.69
61.0	-48.6	167.18	328.82	495.99	248.00	1153.63
62.0	-49.6	171.51	327.75	499.27	249.63	1154.78
63.0	-50.6	176.84	323.04	499.87	249.94	1145.94
64.0	-51.6	182.34	314.97	497.30	248.65	1127.24
65.0	-52.6	187.18	304.55	491.73	245.87	1100.84
66.0	-53.6	191.36	292.79	484.15	242.08	1069.74
67.0	-54.6	195.16	280.78	475.94	237.97	1037.50
68.0	-55.6	198.87	269.68	468.55	234.28	1007.92
69.0	-56.6	202.48	260.15	462.63	231.31	982.94
70.0	-57.6	206.01	252.42	458.43	229.22	963.28
71.0	-58.6	209.47	245.76	455.23	227.62	946.75
72.0	-59.6	212.87	239.00	451.87	225.94	929.87
73.0	-60.6	216.34	231.55	447.90	223.95	911.01
74.0	-61.6	220.03	224.00	444.03	222.02	892.04
75.0	-62.6	235.25	165.71	400.96	200.48	732.37
76.0	-63.6	239.43	157.06	396.49	198.24	710.61
77.0	-64.6	243.99	160.87	404.86	202.43	726.60
78.0	-65.6	248.93	164.30	413.23	206.61	741.82
79.0	-66.6	253.89	165.88	419.78	209.89	751.55
80.0	-67.6	258.61	166.28	424.89	212.45	757.46
81.0	-68.6	263.17	166.78	429.94	214.97	763.50
82.0	-69.6	267.66	167.23	434.89	217.45	769.36
83.0	-70.6	272.44	167.03	439.47	219.73	773.53
84.0	-71.6	277.63	165.88	443.51	221.75	775.26
85.0	-72.6	282.37	161.98	444.35	222.17	768.30
86.0	-73.6	287.22	159.90	447.12	223.56	766.92
87.0	-74.6	292.25	159.98	452.23	226.11	772.18

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 21

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-9.in
RUN DATE	03/25/11
RUN TIME	09:20:48
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-9
DRILLING DATE	1/24/2011 - 1/25/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	12.19 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE SI(I)
1	1.0	11.2	14.0	5
2	3.0	9.2	6.0	5
3	5.0	7.2	6.0	5
4	7.0	5.2	9.0	3
5	9.0	3.2	6.0	3
6	12.0	0.2	9.0	3
7	15.0	-2.8	12.0	3
8	18.0	-5.8	14.0	3
9	21.0	-8.8	12.0	3
10	24.0	-11.8	12.0	3
11	27.0	-14.8	5.0	3
12	30.0	-17.8	7.0	3
13	33.0	-20.8	11.0	3
14	36.0	-23.8	26.0	4
15	39.0	-26.8	25.0	4
16	42.0	-29.8	100.0	4
17	45.0	-32.8	100.0	4
18	48.0	-35.8	33.0	4
19	51.0	-38.8	43.0	4
20	54.0	-41.8	35.0	4
21	57.0	-44.8	31.0	4
22	60.0	-47.8	29.0	4
23	63.0	-50.8	31.0	4
24	66.0	-53.8	36.0	4
25	69.0	-56.8	75.0	4
26	72.0	-59.8	24.0	3
27	75.0	-62.8	27.0	3
28	78.0	-65.8	26.0	3
29	81.0	-68.8	32.0	3
30	84.0	-71.8	29.0	3
31	87.0	-74.8	25.0	3
32	90.0	-77.8	27.0	3
33	93.0	-80.8	24.0	3
34	96.0	-83.8	31.0	3
35	99.0	-86.8	29.0	3

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.8	6.72	22.12	28.84	14.42	73.09
16.0	-3.8	7.88	24.73	32.60	16.30	82.06
17.0	-4.8	9.24	25.80	35.04	17.52	86.64
18.0	-5.8	10.69	26.56	37.25	18.63	90.37
19.0	-6.8	12.16	26.85	39.01	19.51	92.72
20.0	-7.8	13.58	26.70	40.28	20.14	93.68
21.0	-8.8	14.94	26.25	41.19	20.60	93.69
22.0	-9.8	16.26	25.35	41.64	20.82	92.34
23.0	-10.8	17.62	24.32	41.94	20.97	90.58
24.0	-11.8	18.97	23.34	42.30	21.15	88.98
25.0	-12.8	20.20	22.56	42.76	21.38	87.88
26.0	-13.8	21.21	22.25	43.45	21.73	87.94
27.0	-14.8	21.97	22.44	44.41	22.20	89.28
28.0	-15.8	22.65	22.99	45.64	22.82	91.62
29.0	-16.8	23.39	24.47	47.86	23.93	96.81
30.0	-17.8	24.19	27.20	51.39	25.69	105.79
31.0	-18.8	25.09	31.14	56.23	28.11	118.50
32.0	-19.8	26.13	35.30	61.43	30.71	132.03
33.0	-20.8	27.30	39.28	66.57	33.29	145.13
34.0	-21.8	28.58	42.82	71.40	35.70	157.04
35.0	-22.8	29.97	47.71	77.67	38.84	173.09
36.0	-23.8	34.32	54.82	89.13	44.57	198.77
37.0	-24.8	55.65	55.90	91.55	45.77	203.35
38.0	-25.8	36.65	59.41	96.05	48.03	214.87
39.0	-26.8	37.50	65.43	102.93	51.46	233.78
40.0	-27.8	38.58	73.57	112.15	56.07	259.28
41.0	-28.8	40.24	82.11	122.35	61.18	286.58
42.0	-29.8	42.58	89.49	132.08	66.04	311.06
43.0	-30.8	45.46	95.05	140.51	70.25	330.63
44.0	-31.8	48.54	100.40	148.94	74.47	349.74
45.0	-32.8	51.77	106.37	158.15	79.07	370.89
46.0	-33.8	54.94	107.73	162.67	81.33	378.14
47.0	-34.8	57.70	109.54	167.23	83.62	386.31
48.0	-35.8	60.02	111.35	171.37	85.68	394.07

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.8	62.19	112.61	174.80	87.40	400.03
50.0	-37.8	64.51	112.99	177.50	88.75	403.49
51.0	-38.8	67.01	112.58	179.59	89.79	404.75
52.0	-39.8	69.51	111.15	180.66	90.33	402.95
53.0	-40.8	71.88	108.57	180.45	90.22	397.58
54.0	-41.8	74.10	104.89	178.99	89.50	388.77
55.0	-42.8	76.21	100.68	176.90	88.45	378.27
56.0	-43.8	78.25	96.75	175.00	87.50	368.49
57.0	-44.8	80.21	93.17	173.38	86.69	359.73
58.0	-45.8	82.11	90.43	172.54	86.27	353.40
59.0	-46.8	83.97	89.15	173.12	86.56	351.43
60.0	-47.8	85.78	89.41	175.20	87.60	354.02
61.0	-48.8	87.59	90.38	177.97	88.99	358.73
62.0	-49.8	89.44	90.31	179.75	89.88	360.38
63.0	-50.8	91.32	88.83	180.15	90.08	357.82
64.0	-51.8	93.26	86.23	179.48	89.74	351.94
65.0	-52.8	95.29	83.19	178.48	89.24	344.85
66.0	-53.8	97.41	79.89	177.30	88.65	337.08
67.0	-54.8	99.48	76.67	176.14	88.07	329.48
68.0	-55.8	101.34	74.20	175.54	87.77	323.94
69.0	-56.8	102.99	72.64	175.63	87.82	320.92
70.0	-57.8	104.73	71.77	176.50	88.25	320.04
71.0	-58.8	106.85	71.16	178.01	89.00	320.33
72.0	-59.8	114.20	62.36	176.56	88.28	301.27
73.0	-60.8	116.99	60.96	177.95	88.98	299.87
74.0	-61.8	119.90	62.01	181.92	90.96	305.94
75.0	-62.8	122.81	62.57	185.37	92.69	310.51
76.0	-63.8	125.61	63.06	188.68	94.34	314.81
77.0	-64.8	128.34	63.70	192.04	96.02	319.45
78.0	-65.8	131.03	64.40	195.44	97.72	324.25
79.0	-66.8	133.85	65.10	198.95	99.48	329.16
80.0	-67.8	136.99	65.61	202.60	101.30	333.82
81.0	-68.8	140.51	65.76	206.26	103.13	337.78
82.0	-69.8	144.24	65.50	209.74	104.87	340.74
83.0	-70.8	147.90	65.16	213.05	106.53	343.36
84.0	-71.8	151.41	64.89	216.30	108.15	346.08
85.0	-72.8	154.62	65.13	219.75	109.87	350.00
86.0	-73.8	157.69	65.21	222.91	111.45	353.34
87.0	-74.8	160.62	65.04	225.66	112.83	355.73
88.0	-75.8	163.52	64.66	228.18	114.09	357.50
89.0	-76.8	166.48	64.55	231.04	115.52	360.15
90.0	-77.8	169.53	64.93	234.45	117.23	364.31

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 25

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.8	8.78	33.12	41.90	20.95	108.13
16.0	-3.8	10.22	35.31	45.53	22.76	116.15
17.0	-4.8	11.82	37.45	49.27	24.64	124.18
18.0	-5.8	13.53	40.01	53.54	26.77	133.55
19.0	-6.8	15.40	42.01	57.41	28.71	141.42
20.0	-7.8	17.28	41.66	58.94	29.47	142.25
21.0	-8.8	19.09	41.17	60.26	30.13	142.59
22.0	-9.8	20.87	40.64	61.51	30.75	142.79
23.0	-10.8	22.65	39.71	62.36	31.18	141.79
24.0	-11.8	24.44	38.89	63.33	31.67	141.12
25.0	-12.8	26.08	38.88	64.96	32.48	142.72
26.0	-13.8	27.43	39.70	67.13	33.57	146.54
27.0	-14.8	28.47	41.93	70.40	35.20	154.25
28.0	-15.8	29.39	46.01	75.41	37.70	167.43
29.0	-16.8	30.39	51.70	82.10	41.05	185.51
30.0	-17.8	31.47	58.02	89.49	44.75	205.53
31.0	-18.8	32.68	63.91	96.60	48.30	224.42
32.0	-19.8	34.06	69.36	103.42	51.71	242.13
33.0	-20.8	35.62	76.42	112.05	56.02	264.89
34.0	-21.8	37.33	86.76	124.10	62.05	297.63
35.0	-22.8	39.17	100.06	139.23	69.62	339.36
36.0	-23.8	45.76	114.41	160.16	80.08	388.98
37.0	-24.8	47.61	115.57	163.18	81.59	394.32
38.0	-25.8	49.12	119.08	168.20	84.10	406.35
39.0	-26.8	50.47	124.55	175.03	87.51	424.13
40.0	-27.8	52.20	130.73	182.93	91.46	444.39
41.0	-28.8	54.77	136.15	190.92	95.46	463.23
42.0	-29.8	58.23	140.65	198.88	99.44	480.19
43.0	-30.8	62.13	145.40	207.53	103.77	498.33
44.0	-31.8	66.06	151.09	217.15	108.58	519.32
45.0	-32.8	70.10	157.11	227.20	113.60	541.42
46.0	-33.8	73.96	163.33	237.29	118.65	563.96
47.0	-34.8	77.30	170.49	247.79	123.89	588.76
48.0	-35.8	80.09	178.92	259.01	129.50	616.86

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.8	82.98	182.18	265.15	132.58	629.50
50.0	-37.8	86.08	183.83	269.91	134.96	637.57
51.0	-38.8	89.40	183.69	273.09	136.55	640.47
52.0	-39.8	92.74	182.45	275.19	137.59	640.08
53.0	-40.8	95.90	181.11	277.00	138.50	639.22
54.0	-41.8	98.86	180.33	279.19	139.60	639.86
55.0	-42.8	101.68	180.22	281.90	140.95	642.34
56.0	-43.8	104.39	179.75	284.14	142.07	643.63
57.0	-44.8	107.00	178.18	285.18	142.59	641.54
58.0	-45.8	109.53	175.63	285.16	142.58	636.41
59.0	-46.8	112.01	172.90	284.91	142.45	630.70
60.0	-47.8	114.43	169.95	284.39	142.19	624.29
61.0	-48.8	116.85	165.75	282.60	141.30	614.11
62.0	-49.8	119.31	160.84	280.15	140.07	601.84
63.0	-50.8	121.81	156.32	278.13	139.06	590.76
64.0	-51.8	124.40	152.49	276.89	138.45	581.88
65.0	-52.8	127.10	148.36	275.46	137.73	572.18
66.0	-53.8	129.93	143.34	273.28	136.64	559.96
67.0	-54.8	132.69	138.32	271.01	135.51	547.66
68.0	-55.8	135.17	134.27	269.43	134.72	537.97
69.0	-56.8	137.37	131.42	268.79	134.39	531.63
70.0	-57.8	139.69	129.34	269.03	134.52	527.72
71.0	-58.8	142.52	127.70	270.22	135.11	525.62
72.0	-59.8	152.27	111.54	263.81	131.91	486.90
73.0	-60.8	155.99	109.41	265.40	132.70	484.22
74.0	-61.8	159.83	111.61	271.44	135.72	494.66
75.0	-62.8	163.60	112.08	275.67	137.84	499.83
76.0	-63.8	167.37	112.66	280.03	140.02	505.35
77.0	-64.8	171.10	113.27	284.38	142.19	510.92
78.0	-65.8	174.82	113.86	288.68	144.34	516.41
79.0	-66.8	178.71	114.37	293.08	146.54	521.82
80.0	-67.8	183.01	114.66	297.67	148.83	526.98
81.0	-68.8	187.71	114.72	302.43	151.21	531.86
82.0	-69.8	192.54	114.67	307.22	153.61	536.56
83.0	-70.8	197.23	114.63	311.86	155.93	541.13
84.0	-71.8	201.81	114.51	316.32	158.16	545.35
85.0	-72.8	206.30	114.19	320.49	160.24	548.87
86.0	-73.8	210.65	113.70	324.34	162.17	551.73
87.0	-74.8	214.68	113.46	328.14	164.07	555.07
88.0	-75.8	218.41	113.90	332.31	166.15	560.11
89.0	-76.8	221.92	115.34	337.26	168.63	567.94

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 26

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.8	10.99	48.69	59.68	29.84	157.06
16.0	-3.8	12.70	51.10	63.81	31.90	166.01
17.0	-4.8	14.68	52.89	67.57	33.79	173.35
18.0	-5.8	16.96	53.81	70.77	35.39	178.38
19.0	-6.8	19.45	53.98	73.43	36.71	181.39
20.0	-7.8	21.92	54.08	76.01	38.00	184.18
21.0	-8.8	24.34	54.24	78.58	39.29	187.06
22.0	-9.8	26.51	55.86	82.36	41.18	194.08
23.0	-10.8	28.74	56.59	85.33	42.66	198.50
24.0	-11.8	30.98	57.83	88.80	44.40	204.45
25.0	-12.8	33.03	60.33	93.36	46.68	214.03
26.0	-13.8	34.71	65.22	99.93	49.97	230.38
27.0	-14.8	36.01	72.18	108.19	54.09	252.54
28.0	-15.8	37.15	80.69	117.84	58.92	279.23
29.0	-16.8	38.39	89.25	127.64	63.82	306.13
30.0	-17.8	39.74	97.56	137.29	68.65	332.40
31.0	-18.8	41.24	106.79	148.03	74.01	361.60
32.0	-19.8	42.97	120.41	163.37	81.69	404.19
33.0	-20.8	44.92	138.57	183.49	91.75	460.64
34.0	-21.8	47.06	159.37	206.43	103.22	525.18
35.0	-22.8	49.36	178.86	228.21	114.11	585.93
36.0	-23.8	57.20	196.90	254.09	127.05	647.89
37.0	-24.8	59.59	197.98	257.57	128.79	653.53
38.0	-25.8	61.72	200.73	262.45	131.22	663.90
39.0	-26.8	63.75	204.38	268.12	134.06	676.88
40.0	-27.8	66.28	208.22	274.50	137.25	690.95
41.0	-28.8	69.81	212.26	282.07	141.04	706.60
42.0	-29.8	74.38	216.25	290.63	145.31	723.14
43.0	-30.8	79.50	220.23	299.72	149.86	740.17
44.0	-31.8	84.74	223.84	308.59	154.29	756.27
45.0	-32.8	90.14	226.96	317.11	158.55	771.03
46.0	-33.8	95.19	230.36	325.55	162.78	786.27
47.0	-34.8	99.34	235.20	334.55	167.27	804.96
48.0	-35.8	102.59	241.72	344.30	172.15	827.73

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.8	105.64	248.80	354.44	177.22	852.04
50.0	-37.8	109.15	255.27	364.42	182.21	874.96
51.0	-38.8	113.13	260.84	373.97	186.99	895.66
52.0	-39.8	117.31	261.82	379.12	189.56	902.76
53.0	-40.8	121.24	263.48	384.72	192.36	911.68
54.0	-41.8	124.94	265.45	390.39	195.19	921.29
55.0	-42.8	128.45	267.30	395.74	197.87	930.34
56.0	-43.8	131.82	269.15	400.98	200.49	939.28
57.0	-44.8	135.07	271.57	406.64	203.32	949.77
58.0	-45.8	138.22	274.36	412.58	206.29	961.29
59.0	-46.8	141.30	275.87	417.17	208.59	968.92
60.0	-47.8	144.32	274.91	419.23	209.61	969.05
61.0	-48.8	147.32	270.49	417.81	208.91	958.78
62.0	-49.8	150.39	263.16	413.54	206.77	939.86
63.0	-50.8	153.51	254.05	407.56	203.78	915.66
64.0	-51.8	156.73	244.39	401.13	200.56	889.91
65.0	-52.8	160.11	234.69	394.80	197.40	864.17
66.0	-53.8	163.65	225.80	389.45	194.72	841.05
67.0	-54.8	167.08	219.08	386.17	193.08	824.34
68.0	-55.8	170.17	214.83	385.00	192.50	814.66
69.0	-56.8	172.92	211.86	384.78	192.39	808.49
70.0	-57.8	175.81	208.98	384.79	192.39	802.74
71.0	-58.8	179.35	206.50	385.85	192.92	798.85
72.0	-59.8	190.33	179.10	369.43	184.72	727.62
73.0	-60.8	194.99	173.94	368.93	184.47	716.81
74.0	-61.8	199.83	177.61	377.44	188.72	732.66
75.0	-62.8	204.76	179.28	384.05	192.02	742.62
76.0	-63.8	209.65	179.67	389.32	194.66	748.66
77.0	-64.8	214.53	179.98	394.51	197.25	754.47
78.0	-65.8	219.41	180.17	399.58	199.79	759.92
79.0	-66.8	224.49	180.29	404.78	202.39	765.35
80.0	-67.8	229.92	180.45	410.38	205.19	771.28
81.0	-68.8	235.74	180.60	416.35	208.17	777.55
82.0	-69.8	241.73	180.62	422.35	211.17	783.60
83.0	-70.8	247.67	180.34	428.01	214.01	788.70
84.0	-71.8	253.57	179.76	433.33	216.66	792.84
85.0	-72.8	259.27	179.06	438.34	219.17	796.46
86.0	-73.8	264.40	178.81	443.22	221.61	800.84
87.0	-74.8	269.10	179.49	448.60	224.30	807.59

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 27

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-10.in
RUN DATE	03/25/11
RUN TIME	09:34:00
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-10
DRILLING DATE	1/25/2011 - 1/26/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	13.29 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	12.3	17.0	5
2	3.0	10.3	19.0	5
3	5.0	8.3	11.0	5
4	7.0	6.3	10.0	3
5	9.0	4.3	9.0	3
6	12.0	1.3	9.0	3
7	15.0	-1.7	12.0	3
8	18.0	-4.7	14.0	3
9	21.0	-7.7	9.0	3
10	24.0	-10.7	16.0	3
11	27.0	-13.7	14.0	3
12	30.0	-16.7	17.0	3
13	33.0	-19.7	10.0	3
14	36.0	-22.7	22.0	4
15	39.0	-25.7	42.0	4
16	42.0	-28.7	36.0	4
17	45.0	-31.7	31.0	4
18	48.0	-34.7	100.0	4
19	51.0	-37.7	100.0	4
20	54.0	-40.7	26.0	4
21	57.0	-43.7	33.0	4
22	60.0	-46.7	35.0	4
23	63.0	-49.7	25.0	4
24	66.0	-52.7	27.0	4
25	69.0	-55.7	45.0	4
26	72.0	-58.7	29.0	4
27	75.0	-61.7	25.0	3
28	78.0	-64.7	24.0	3
29	81.0	-67.7	31.0	3
30	84.0	-70.7	30.0	4
31	87.0	-73.7	26.0	4
32	90.0	-76.7	24.0	3
33	93.0	-79.7	31.0	3
34	96.0	-82.7	27.0	3
35	99.0	-85.7	32.0	3

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-1.7	7.34	19.47	26.81	13.41	65.76
16.0	-2.7	8.38	20.68	29.05	14.53	70.40
17.0	-3.7	9.48	22.11	31.58	15.79	75.80
18.0	-4.7	10.65	23.81	34.46	17.23	82.09
19.0	-5.7	11.82	25.74	37.55	18.78	89.03
20.0	-6.7	12.91	27.84	40.75	20.38	96.44
21.0	-7.7	13.98	29.61	43.59	21.79	102.82
22.0	-8.7	15.15	30.66	45.81	22.90	107.12
23.0	-9.7	16.53	31.52	48.05	24.03	111.09
24.0	-10.7	18.12	32.31	50.44	25.22	115.06
25.0	-11.7	19.80	33.15	52.96	26.48	119.26
26.0	-12.7	21.43	33.66	55.09	27.55	122.41
27.0	-13.7	23.00	33.62	56.62	28.31	123.87
28.0	-14.7	24.60	32.99	57.59	28.80	123.56
29.0	-15.7	26.30	32.83	59.13	29.56	124.79
30.0	-16.7	28.09	33.59	61.69	30.84	128.88
31.0	-17.7	29.83	35.64	65.47	32.74	136.74
32.0	-18.7	31.35	39.69	71.05	35.52	150.43
33.0	-19.7	32.65	45.93	78.58	39.29	170.44
34.0	-20.7	33.85	53.62	87.46	43.73	194.69
35.0	-21.7	35.10	60.55	95.65	47.82	216.74
36.0	-22.7	41.56	66.10	107.65	53.83	239.85
37.0	-23.7	42.99	66.56	109.55	54.78	242.67
38.0	-24.7	44.71	67.64	112.35	56.17	247.64
39.0	-25.7	46.77	68.91	115.68	57.84	253.51
40.0	-26.7	48.99	70.20	119.19	59.60	259.60
41.0	-27.7	50.96	72.70	123.65	61.83	269.04
42.0	-28.7	52.58	77.36	130.14	65.07	285.27
43.0	-29.7	53.93	85.74	139.67	69.84	311.16
44.0	-30.7	55.24	96.76	151.99	76.00	345.50
45.0	-31.7	56.60	110.30	166.89	83.45	387.48
46.0	-32.7	58.74	119.20	177.94	88.97	416.35
47.0	-33.7	61.36	124.13	185.49	92.75	433.75
48.0	-34.7	64.50	124.25	188.75	94.37	437.24

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-1.7	9.98	30.41	40.38	20.19	101.20
16.0	-2.7	11.29	31.71	42.99	21.50	106.41
17.0	-3.7	12.61	33.38	45.99	23.00	112.76
18.0	-4.7	13.86	35.84	49.70	24.85	121.38
19.0	-5.7	15.12	38.49	53.61	26.80	130.59
20.0	-6.7	16.24	41.45	57.70	28.85	140.61
21.0	-7.7	17.21	44.95	62.15	31.08	152.05
22.0	-8.7	18.28	48.68	66.96	33.48	164.31
23.0	-9.7	19.75	52.02	71.77	35.89	175.81
24.0	-10.7	21.63	54.72	76.35	38.18	185.79
25.0	-11.7	23.76	56.74	80.50	40.25	193.98
26.0	-12.7	25.89	56.37	82.26	41.13	195.00
27.0	-13.7	27.96	56.51	84.47	42.23	197.49
28.0	-14.7	30.05	58.12	88.17	44.09	204.42
29.0	-15.7	32.28	60.99	93.27	46.63	215.25
30.0	-16.7	34.63	65.45	100.07	50.04	230.97
31.0	-17.7	36.91	72.17	109.08	54.54	253.43
32.0	-18.7	38.93	81.47	120.40	60.20	283.34
33.0	-19.7	40.66	91.88	132.54	66.27	316.30
34.0	-20.7	42.28	101.29	143.57	71.79	346.16
35.0	-21.7	43.96	109.24	153.21	76.60	371.70
36.0	-22.7	55.41	115.95	171.36	85.68	403.25
37.0	-23.7	57.35	116.39	173.74	86.87	406.51
38.0	-24.7	59.70	117.39	177.10	88.55	411.88
39.0	-25.7	62.47	118.91	181.37	90.69	419.19
40.0	-26.7	65.17	121.80	186.97	93.48	430.56
41.0	-27.7	67.39	127.14	194.53	97.27	448.80
42.0	-28.7	69.28	135.09	204.37	102.18	474.56
43.0	-29.7	71.02	145.21	216.23	108.11	506.66
44.0	-30.7	72.69	157.51	230.20	115.10	545.23
45.0	-31.7	74.44	170.53	244.97	122.49	586.02
46.0	-32.7	76.78	181.28	258.06	129.03	620.63
47.0	-33.7	80.10	187.79	267.89	133.94	643.46
48.0	-34.7	84.33	191.20	275.52	137.76	657.91

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-35.7	88.80	188.25	277.05	138.52	653.55
50.0	-36.7	93.32	185.93	279.25	139.62	651.11
51.0	-37.7	97.87	183.47	281.35	140.67	648.29
52.0	-38.7	102.08	181.68	283.75	141.88	647.11
53.0	-39.7	105.51	181.47	286.98	143.49	649.93
54.0	-40.7	108.16	181.99	290.16	145.08	654.14
55.0	-41.7	110.49	181.24	291.73	145.86	654.20
56.0	-42.7	112.96	178.54	291.50	145.75	648.59
57.0	-43.7	115.59	175.24	290.82	145.41	641.30
58.0	-44.7	118.31	172.18	290.49	145.24	634.84
59.0	-45.7	121.08	169.49	290.57	145.28	629.54
60.0	-46.7	123.90	168.06	291.96	145.98	628.08
61.0	-47.7	126.61	169.20	295.81	147.90	634.21
62.0	-48.7	129.08	172.44	301.52	150.76	646.39
63.0	-49.7	131.30	174.99	306.28	153.14	656.25
64.0	-50.7	133.41	174.51	307.92	153.96	656.94
65.0	-51.7	135.57	171.35	306.92	153.46	649.63
66.0	-52.7	137.77	166.77	304.54	152.27	638.07
67.0	-53.7	140.22	160.76	300.98	150.49	622.50
68.0	-54.7	143.10	153.68	296.78	148.39	604.13
69.0	-55.7	146.43	146.69	293.13	146.56	586.51
70.0	-56.7	149.79	141.25	291.04	145.52	573.53
71.0	-57.7	152.75	137.40	290.15	145.08	564.95
72.0	-58.7	155.32	134.54	289.85	144.93	558.93
73.0	-59.7	157.91	132.77	290.68	145.34	556.21
74.0	-60.7	160.96	131.92	292.88	146.44	556.73
75.0	-61.7	171.51	114.26	285.77	142.88	514.29
76.0	-62.7	175.28	112.41	287.69	143.85	512.50
77.0	-63.7	178.98	114.31	293.29	146.65	521.92
78.0	-64.7	182.44	114.73	297.16	148.58	526.62
79.0	-65.7	185.94	115.39	301.33	150.66	532.11
80.0	-66.7	189.73	116.22	305.95	152.97	538.39
81.0	-67.7	193.89	117.01	310.90	155.45	544.92
82.0	-68.7	197.99	117.54	315.54	157.77	550.63
83.0	-69.7	201.56	117.66	319.22	159.61	554.54
84.0	-70.7	205.89	129.04	334.93	167.46	593.00
85.0	-71.7	208.24	125.46	333.70	166.85	584.62
86.0	-72.7	210.48	122.80	333.28	166.64	578.89
87.0	-73.7	212.61	121.36	333.96	166.98	576.67
88.0	-74.7	214.95	120.58	335.53	167.76	576.69
89.0	-75.7	217.81	120.27	338.08	169.04	578.61

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-35.7	110.49	257.01	367.50	183.75	881.52
50.0	-36.7	116.19	260.54	376.73	188.37	897.82
51.0	-37.7	122.01	264.11	386.12	193.06	914.34
52.0	-38.7	127.25	263.35	390.61	195.30	917.31
53.0	-39.7	131.55	264.34	395.89	197.94	924.57
54.0	-40.7	134.87	266.41	401.28	200.64	934.11
55.0	-41.7	137.78	267.81	405.59	202.79	941.20
56.0	-42.7	140.87	268.05	408.93	204.46	945.03
57.0	-43.7	144.16	266.99	411.15	205.57	945.12
58.0	-44.7	147.57	265.24	412.81	206.40	943.28
59.0	-45.7	151.04	264.58	415.61	207.81	944.76
60.0	-46.7	154.55	265.89	420.44	210.22	952.22
61.0	-47.7	157.95	269.10	427.05	213.53	965.26
62.0	-48.7	161.04	271.36	432.40	216.20	975.12
63.0	-49.7	163.81	272.48	436.30	218.15	981.26
64.0	-50.7	166.46	272.32	438.78	219.39	983.43
65.0	-51.7	169.16	271.30	440.47	220.23	983.07
66.0	-52.7	171.92	268.41	440.32	220.16	977.14
67.0	-53.7	174.98	262.16	437.14	218.57	961.46
68.0	-54.7	178.58	252.50	431.09	215.54	936.09
69.0	-55.7	182.75	240.37	423.11	211.56	903.85
70.0	-56.7	186.94	228.31	415.25	207.63	871.87
71.0	-57.7	190.64	218.39	409.04	204.52	845.82
72.0	-58.7	193.85	211.71	405.56	202.78	828.99
73.0	-59.7	197.09	208.81	405.90	202.95	823.53
74.0	-60.7	200.91	208.95	409.85	204.93	827.75
75.0	-61.7	214.39	186.45	400.84	200.42	773.74
76.0	-62.7	219.10	179.23	398.33	199.17	756.79
77.0	-63.7	223.76	181.48	405.24	202.62	768.21
78.0	-64.7	228.35	183.29	411.64	205.82	778.23
79.0	-65.7	233.13	185.23	418.37	209.18	788.83
80.0	-66.7	238.30	186.56	424.86	212.43	797.99
81.0	-67.7	243.84	186.81	430.65	215.33	804.27
82.0	-68.7	249.22	186.88	436.10	218.05	809.85
83.0	-69.7	253.60	187.03	440.63	220.31	814.68
84.0	-70.7	257.36	202.46	459.83	229.91	864.75
85.0	-71.7	260.30	202.16	462.45	231.23	866.76
86.0	-72.7	263.10	201.58	464.68	232.34	867.84
87.0	-73.7	265.76	200.19	465.96	232.98	866.34

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 36

Project No: 92407.011 SR 924 PD&E Study - East Extension
Boring No: BR-11

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.0	69.26	126.05	195.30	97.65	447.40
50.0	-37.0	72.68	123.40	196.09	98.04	442.90
51.0	-38.0	76.13	120.39	196.52	98.26	437.30
52.0	-39.0	79.41	117.54	196.94	98.47	432.01
53.0	-40.0	82.31	114.92	197.22	98.61	427.06
54.0	-41.0	84.82	112.34	197.16	98.58	421.84
55.0	-42.0	87.11	109.36	196.47	98.23	415.19
56.0	-43.0	89.34	106.93	196.27	98.14	410.14
57.0	-44.0	91.52	105.66	197.18	98.59	408.50
58.0	-45.0	93.56	105.41	198.97	99.48	409.78
59.0	-46.0	95.40	104.90	200.30	100.15	410.10
60.0	-47.0	97.02	103.66	200.69	100.34	408.01
61.0	-48.0	98.68	101.49	200.16	100.08	403.13
62.0	-49.0	100.58	98.74	199.32	99.66	396.79
63.0	-50.0	102.74	95.66	198.40	99.20	389.71
64.0	-51.0	104.97	93.09	198.06	99.03	384.24
65.0	-52.0	107.09	90.83	197.92	98.96	379.58
66.0	-53.0	109.10	88.42	197.52	98.76	374.37
67.0	-54.0	111.08	85.33	196.41	98.21	367.07
68.0	-55.0	113.14	81.96	195.10	97.55	359.03
69.0	-56.0	115.28	78.74	194.02	97.01	351.50
70.0	-57.0	117.54	76.26	193.80	96.90	346.31
71.0	-58.0	119.98	74.79	194.77	97.39	344.36
72.0	-59.0	127.33	61.59	188.91	94.46	312.08
73.0	-60.0	130.12	60.16	190.28	95.14	310.60
74.0	-61.0	133.03	60.88	193.90	96.95	315.65
75.0	-62.0	136.00	61.67	197.67	98.84	321.01
76.0	-63.0	138.79	62.11	200.90	100.45	325.11
77.0	-64.0	141.43	62.68	204.11	102.06	329.48
78.0	-65.0	143.96	63.33	207.29	103.64	333.94
79.0	-66.0	146.61	63.98	210.59	105.29	338.55
80.0	-67.0	149.58	64.60	214.19	107.09	343.39
81.0	-68.0	152.91	65.13	218.04	109.02	348.29
82.0	-69.0	156.09	65.59	221.69	110.84	352.87
83.0	-70.0	158.58	66.16	224.74	112.37	357.07
84.0	-71.0	162.07	67.58	229.64	114.82	364.80
85.0	-72.0	163.56	67.66	231.22	115.61	366.55
86.0	-73.0	165.04	67.95	232.99	116.49	368.89
87.0	-74.0	166.50	68.51	235.02	117.51	372.04
88.0	-75.0	168.23	69.47	237.70	118.85	376.64
89.0	-76.0	170.53	70.66	241.19	120.59	382.52
90.0	-77.0	174.13	74.04	248.17	124.08	396.25

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

Project No: 92407.011 SR 924 PD&E Study - East Extension
Boring No: BR-11

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 4

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.0	9.80	31.34	41.14	20.57	103.82
16.0	-3.0	10.72	33.32	44.04	22.02	110.68
17.0	-4.0	11.74	35.49	47.23	23.62	118.21
18.0	-5.0	12.76	38.38	51.14	25.57	127.91
19.0	-6.0	13.92	41.50	55.42	27.71	138.43
20.0	-7.0	15.25	44.80	60.05	30.03	149.65
21.0	-8.0	16.77	48.17	64.94	32.47	161.28
22.0	-9.0	18.49	51.28	69.77	34.89	172.33
23.0	-10.0	20.41	53.81	74.22	37.11	181.85
24.0	-11.0	22.51	55.75	78.26	39.13	189.75
25.0	-12.0	24.78	57.12	81.90	40.95	196.15
26.0	-13.0	27.05	56.21	83.25	41.63	195.66
27.0	-14.0	29.33	56.38	85.71	42.85	198.48
28.0	-15.0	31.58	59.12	90.70	45.35	208.94
29.0	-16.0	33.77	64.41	98.18	49.09	226.99
30.0	-17.0	35.89	71.14	107.03	53.51	249.31
31.0	-18.0	37.89	78.34	116.24	58.12	272.92
32.0	-19.0	39.74	86.05	125.79	62.90	297.89
33.0	-20.0	41.42	94.18	135.61	67.80	323.98
34.0	-21.0	43.14	101.89	145.03	72.52	348.82
35.0	-22.0	45.09	108.36	153.45	76.72	370.17
36.0	-23.0	47.26	113.74	171.00	85.50	398.48
37.0	-24.0	59.60	114.16	173.76	86.88	402.08
38.0	-25.0	61.84	115.47	177.31	88.65	408.24
39.0	-26.0	63.96	117.96	181.92	90.96	417.85
40.0	-27.0	65.92	122.24	188.16	94.08	432.64
41.0	-28.0	67.73	128.84	196.57	98.28	454.24
42.0	-29.0	69.48	137.74	207.21	103.61	482.68
43.0	-30.0	71.32	148.46	219.78	109.89	516.70
44.0	-31.0	73.32	160.92	234.24	117.12	556.08
45.0	-32.0	75.57	174.14	249.71	124.85	597.98
46.0	-33.0	78.31	186.29	264.60	132.30	637.18
47.0	-34.0	81.74	196.17	277.92	138.96	670.26
48.0	-35.0	85.85	203.99	289.85	144.92	697.83

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.0	90.30	203.51	293.81	146.91	700.84
50.0	-37.0	94.79	202.25	297.05	148.52	701.55
51.0	-38.0	99.33	199.14	298.47	149.23	696.74
52.0	-39.0	103.65	194.41	298.07	149.03	686.90
53.0	-40.0	107.50	189.25	296.75	148.38	675.24
54.0	-41.0	110.86	185.51	296.38	148.19	667.41
55.0	-42.0	113.93	184.04	297.97	148.98	666.04
56.0	-43.0	116.92	184.22	301.15	150.57	669.60
57.0	-44.0	119.84	184.96	304.80	152.40	674.73
58.0	-45.0	122.58	185.37	307.95	153.98	678.69
59.0	-46.0	125.06	185.62	310.68	155.34	681.92
60.0	-47.0	127.27	186.21	313.48	156.74	685.90
61.0	-48.0	129.50	186.91	316.41	158.21	690.24
62.0	-49.0	132.06	186.55	318.61	159.30	691.71
63.0	-50.0	134.94	183.68	318.62	159.31	685.97
64.0	-51.0	137.93	177.87	315.80	157.90	671.53
65.0	-52.0	140.76	170.27	311.03	155.52	651.58
66.0	-53.0	143.45	162.37	305.82	152.91	630.57
67.0	-54.0	146.11	154.85	300.95	150.48	610.64
68.0	-55.0	148.86	147.91	296.78	148.39	592.61
69.0	-56.0	151.71	141.83	293.54	146.77	577.19
70.0	-57.0	154.73	136.88	291.61	145.80	565.36
71.0	-58.0	157.98	133.19	291.17	145.59	557.55
72.0	-59.0	169.77	108.70	278.47	139.23	495.86
73.0	-60.0	173.49	107.68	281.17	140.59	496.54
74.0	-61.0	177.26	108.88	286.14	143.07	503.90
75.0	-62.0	181.00	109.39	290.40	145.20	509.18
76.0	-63.0	184.72	109.99	294.71	147.35	514.68
77.0	-64.0	188.33	110.55	298.88	149.44	519.99
78.0	-65.0	191.79	111.17	302.96	151.48	525.30
79.0	-66.0	195.31	111.96	307.27	153.64	531.19
80.0	-67.0	199.19	112.87	312.06	156.03	537.80
81.0	-68.0	203.49	113.77	317.26	158.63	544.80
82.0	-69.0	207.57	114.64	322.20	161.10	551.48
83.0	-70.0	210.75	115.58	326.33	163.17	557.49
84.0	-71.0	216.09	124.54	340.62	170.31	589.70
85.0	-72.0	218.10	124.29	342.39	171.19	590.96
86.0	-73.0	220.13	124.57	344.71	172.35	593.85
87.0	-74.0	222.15	124.86	347.01	173.51	596.73
88.0	-75.0	224.56	125.35	349.91	174.96	600.61
89.0	-76.0	227.78	125.89	353.67	176.83	605.44

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 5

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.0	11.78	47.50	59.28	29.64	154.29
16.0	-3.0	12.87	49.94	62.81	31.40	162.68
17.0	-4.0	14.08	52.54	66.62	33.31	171.71
18.0	-5.0	15.41	55.29	70.70	35.35	181.27
19.0	-6.0	16.90	58.08	74.98	37.49	191.14
20.0	-7.0	18.61	60.75	79.36	39.68	200.87
21.0	-8.0	20.55	63.22	83.77	41.89	210.21
22.0	-9.0	22.52	66.33	88.86	44.43	221.52
23.0	-10.0	24.66	69.21	93.87	46.94	232.30
24.0	-11.0	26.97	71.78	98.75	49.37	242.30
25.0	-12.0	29.31	74.77	104.08	52.04	253.62
26.0	-13.0	31.39	80.01	111.40	55.70	271.42
27.0	-14.0	33.30	87.60	120.90	60.45	296.10
28.0	-15.0	35.12	97.50	132.62	66.31	327.62
29.0	-16.0	36.98	108.58	145.57	72.78	362.73
30.0	-17.0	39.23	119.16	158.40	79.20	396.73
31.0	-18.0	41.73	128.85	170.58	85.29	428.28
32.0	-19.0	44.05	139.22	183.27	91.64	461.72
33.0	-20.0	46.18	150.20	196.38	98.19	496.77
34.0	-21.0	48.35	160.81	209.17	104.58	530.79
35.0	-22.0	50.79	170.38	221.17	110.58	561.92
36.0	-23.0	71.57	178.88	250.45	125.23	608.21
37.0	-24.0	74.48	179.46	253.95	126.97	612.87
38.0	-25.0	77.39	181.54	258.73	129.36	621.80
39.0	-26.0	79.68	185.59	265.27	132.64	636.46
40.0	-27.0	81.97	191.92	273.90	136.95	657.74
41.0	-28.0	84.20	200.22	284.42	142.21	684.85
42.0	-29.0	86.41	210.42	296.83	148.41	717.66
43.0	-30.0	88.73	222.02	310.76	155.38	754.80
44.0	-31.0	91.34	233.58	324.92	162.46	792.07
45.0	-32.0	94.28	244.33	338.61	169.30	827.27
46.0	-33.0	97.75	253.71	351.45	175.73	858.86
47.0	-34.0	101.92	261.94	363.87	181.93	887.75
48.0	-35.0	106.85	268.73	375.58	187.79	913.05

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.0	117.28	274.15	386.42	193.21	934.72
50.0	-37.0	117.97	277.91	395.89	197.94	951.71
51.0	-38.0	123.95	279.76	403.71	201.86	963.24
52.0	-39.0	129.35	275.08	404.43	202.22	954.59
53.0	-40.0	134.16	274.28	408.44	204.22	956.99
54.0	-41.0	138.36	276.69	415.05	207.53	968.43
55.0	-42.0	142.20	279.99	422.19	211.09	982.16
56.0	-43.0	145.94	281.44	427.38	213.69	990.25
57.0	-44.0	149.59	281.52	431.10	215.55	994.14
58.0	-45.0	153.02	281.52	434.54	217.27	997.57
59.0	-46.0	156.12	282.74	438.86	219.43	1004.34
60.0	-47.0	158.88	285.26	444.14	222.07	1014.67
61.0	-48.0	161.67	287.36	449.04	224.52	1023.76
62.0	-49.0	164.87	286.20	451.07	225.53	1023.47
63.0	-50.0	168.48	281.60	450.08	225.04	1013.27
64.0	-51.0	172.21	274.96	447.17	223.58	997.09
65.0	-52.0	175.75	268.80	444.55	222.28	982.15
66.0	-53.0	179.11	262.72	441.83	220.92	967.27
67.0	-54.0	182.44	255.63	438.07	219.04	949.34
68.0	-55.0	185.88	246.62	432.51	216.25	925.75
69.0	-56.0	189.45	236.28	425.73	212.86	898.30
70.0	-57.0	193.22	226.38	419.60	209.80	872.37
71.0	-58.0	197.28	218.64	415.92	207.96	853.19
72.0	-59.0	212.21	174.54	386.75	193.37	735.83
73.0	-60.0	216.87	171.62	388.49	194.24	731.74
74.0	-61.0	221.68	174.59	396.27	198.14	745.46
75.0	-62.0	226.50	174.98	401.47	200.74	751.42
76.0	-63.0	231.31	175.39	406.69	203.35	757.47
77.0	-64.0	235.93	175.83	411.75	205.88	763.41
78.0	-65.0	240.33	176.36	416.69	208.35	769.41
79.0	-66.0	244.80	177.11	421.91	210.95	776.13
80.0	-67.0	249.68	178.06	427.74	213.87	783.87
81.0	-68.0	255.03	179.09	434.13	217.06	792.31
82.0	-69.0	260.06	180.19	440.25	220.12	800.63
83.0	-70.0	263.84	181.61	445.46	222.73	808.68
84.0	-71.0	270.11	203.00	473.11	236.56	879.12
85.0	-72.0	272.62	203.03	475.66	237.83	881.73
86.0	-73.0	275.16	203.07	478.24	239.12	884.38
87.0	-74.0	277.76	202.79	480.55	240.27	886.12

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 6

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-12.in
RUN DATE	03/28/11
RUN TIME	11:58:29
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-12
DRILLING DATE	2/16/2011 - 2/17/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	12.04 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	11.0	31.0	5
2	3.0	9.0	16.0	5
3	5.0	7.0	11.0	5
4	7.0	5.0	9.0	3
5	9.0	3.0	7.0	3
6	12.0	0.0	10.0	3
7	15.0	-3.0	12.0	3
8	18.0	-6.0	14.0	3
9	21.0	-9.0	12.0	3
10	24.0	-12.0	14.0	3
11	27.0	-15.0	11.0	3
12	30.0	-18.0	12.0	3
13	33.0	-21.0	14.0	3
14	36.0	-24.0	10.0	3
15	39.0	-27.0	5.0	4
16	42.0	-30.0	33.0	4
17	45.0	-33.0	27.0	4
18	48.0	-36.0	24.0	4
19	51.0	-39.0	35.0	4
20	54.0	-42.0	57.0	4
21	57.0	-45.0	100.0	4
22	60.0	-48.0	35.0	4
23	63.0	-51.0	31.0	4
24	66.0	-54.0	32.0	4
25	69.0	-57.0	29.0	4
26	72.0	-60.0	32.0	3
27	75.0	-63.0	27.0	3
28	78.0	-66.0	22.0	3
29	81.0	-69.0	27.0	3
30	84.0	-72.0	33.0	4
31	87.0	-75.0	31.0	4
32	90.0	-78.0	29.0	3
33	93.0	-81.0	26.0	3
34	96.0	-84.0	29.0	3
35	99.0	-87.0	33.0	3

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.0	7.30	22.72	30.02	15.01	75.46
16.0	-4.0	8.47	25.28	33.75	16.88	84.32
17.0	-5.0	9.86	26.47	36.33	18.16	89.27
18.0	-6.0	11.33	27.50	38.82	19.41	93.82
19.0	-7.0	12.81	28.21	41.02	20.51	97.45
20.0	-8.0	14.24	28.72	42.96	21.48	100.40
21.0	-9.0	15.62	29.19	44.80	22.40	103.17
22.0	-10.0	17.00	29.43	46.43	23.21	105.29
23.0	-11.0	18.44	29.48	47.92	23.96	106.89
24.0	-12.0	19.96	29.42	49.38	24.69	108.22
25.0	-13.0	21.47	29.38	50.84	25.42	109.60
26.0	-14.0	22.87	29.53	52.40	26.20	111.46
27.0	-15.0	24.18	29.89	54.08	27.04	113.86
28.0	-16.0	25.46	30.37	55.83	27.92	116.58
29.0	-17.0	26.77	30.56	57.34	28.67	118.46
30.0	-18.0	28.12	30.34	58.46	29.23	119.14
31.0	-19.0	29.51	29.75	59.26	29.63	118.77
32.0	-20.0	30.98	28.82	59.79	29.90	117.43
33.0	-21.0	32.51	27.53	60.04	30.02	115.10
34.0	-22.0	34.02	26.03	60.05	30.03	112.12
35.0	-23.0	35.38	26.28	61.66	30.83	114.21
36.0	-24.0	36.61	29.03	65.63	32.82	123.68
37.0	-25.0	37.63	34.28	71.91	35.96	140.47
38.0	-26.0	38.40	40.12	78.52	39.26	158.77
39.0	-27.0	41.95	45.74	87.69	43.84	179.17
40.0	-28.0	42.48	46.25	88.73	44.36	181.22
41.0	-29.0	43.45	47.39	90.84	45.42	185.62
42.0	-30.0	44.91	48.62	93.53	46.77	190.77
43.0	-31.0	46.60	49.76	96.36	48.18	195.88
44.0	-32.0	48.14	51.45	99.59	49.80	202.50
45.0	-33.0	49.49	54.20	103.69	51.84	212.08
46.0	-34.0	50.68	58.43	109.11	54.56	225.97
47.0	-35.0	51.74	65.15	116.89	58.45	247.20
48.0	-36.0	52.73	75.27	127.99	64.00	278.53

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.0	54.27	84.74	139.00	69.50	308.48
50.0	-38.0	55.99	94.54	150.53	75.27	339.61
51.0	-39.0	57.91	104.22	162.13	81.06	370.56
52.0	-40.0	60.13	112.82	172.95	86.48	398.60
53.0	-41.0	62.75	117.85	180.60	90.30	416.31
54.0	-42.0	65.77	118.63	184.40	92.20	421.66
55.0	-43.0	69.04	116.31	185.34	92.67	417.96
56.0	-44.0	72.38	113.21	185.59	92.80	412.02
57.0	-45.0	75.80	109.86	185.65	92.83	405.36
58.0	-46.0	79.03	106.87	185.90	92.95	399.64
59.0	-47.0	81.82	105.17	186.98	93.49	397.31
60.0	-48.0	84.15	104.87	189.02	94.51	398.75
61.0	-49.0	86.22	105.19	191.41	95.71	401.79
62.0	-50.0	88.22	105.13	193.35	96.68	403.62
63.0	-51.0	90.14	104.60	194.74	97.37	403.94
64.0	-52.0	92.03	103.27	195.30	97.65	401.84
65.0	-53.0	93.94	100.96	194.90	97.45	396.82
66.0	-54.0	95.86	97.73	193.59	96.80	389.06
67.0	-55.0	97.77	94.02	191.79	95.90	379.83
68.0	-56.0	99.62	90.06	189.67	94.84	369.79
69.0	-57.0	101.41	85.74	187.15	93.58	358.64
70.0	-58.0	103.47	81.55	185.02	92.51	348.11
71.0	-59.0	106.13	77.94	184.07	92.03	339.94
72.0	-60.0	113.21	66.30	179.51	89.75	312.11
73.0	-61.0	116.65	66.47	183.12	91.56	316.05
74.0	-62.0	120.12	66.15	186.27	93.13	318.56
75.0	-63.0	123.30	64.48	187.78	93.89	316.73
76.0	-64.0	126.28	63.59	189.87	94.93	317.04
77.0	-65.0	129.07	63.74	192.81	96.40	320.28
78.0	-66.0	131.68	65.04	196.71	98.36	326.79
79.0	-67.0	134.03	66.85	200.89	100.44	334.59
80.0	-68.0	136.22	68.40	204.62	102.31	341.41
81.0	-69.0	138.63	70.13	208.76	104.38	349.02
82.0	-70.0	141.05	71.85	212.90	106.45	356.60
83.0	-71.0	143.32	73.16	216.48	108.24	362.80
84.0	-72.0	147.64	74.66	222.30	111.15	371.61
85.0	-73.0	149.60	73.56	223.16	111.58	370.29
86.0	-74.0	151.52	72.44	223.96	111.98	368.85
87.0	-75.0	153.40	71.35	224.76	112.38	367.47
88.0	-76.0	155.50	70.39	225.90	112.95	366.69
89.0	-77.0	158.09	69.95	228.04	114.02	367.94
90.0	-78.0	161.15	69.61	226.77	113.38	367.99

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 13

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.0	9.56	34.29	43.85	21.92	112.42
16.0	-4.0	11.00	36.61	47.61	23.81	120.83
17.0	-5.0	12.58	39.10	51.68	25.84	129.87
18.0	-6.0	14.23	42.40	56.62	28.31	141.42
19.0	-7.0	15.99	45.69	61.67	30.84	153.05
20.0	-8.0	17.88	46.96	64.84	32.42	158.76
21.0	-9.0	19.70	48.25	67.95	33.98	164.45
22.0	-10.0	21.53	49.34	70.87	35.44	169.56
23.0	-11.0	23.45	49.82	73.27	36.63	172.91
24.0	-12.0	25.46	50.10	75.56	37.78	175.76
25.0	-13.0	27.45	50.75	78.20	39.10	179.70
26.0	-14.0	29.32	51.77	81.09	40.55	184.64
27.0	-15.0	31.07	52.73	83.80	41.90	189.26
28.0	-16.0	32.77	53.21	85.98	42.99	192.39
29.0	-17.0	34.52	53.11	87.63	43.81	193.84
30.0	-18.0	36.31	52.44	88.75	44.37	193.63
31.0	-19.0	38.17	51.15	89.32	44.66	191.62
32.0	-20.0	40.12	49.21	89.33	44.66	187.75
33.0	-21.0	42.16	48.45	90.61	45.30	187.51
34.0	-22.0	44.15	50.86	95.01	47.51	196.72
35.0	-23.0	45.97	56.69	102.66	51.33	216.05
36.0	-24.0	47.61	64.10	111.71	55.86	239.92
37.0	-25.0	48.99	71.15	120.14	60.07	262.45
38.0	-26.0	50.03	77.77	127.80	63.90	283.34
39.0	-27.0	55.93	84.03	139.96	69.98	308.03
40.0	-28.0	56.66	84.45	141.11	70.56	310.02
41.0	-29.0	58.04	85.36	143.40	71.70	314.13
42.0	-30.0	60.07	86.46	146.54	73.27	319.46
43.0	-31.0	62.30	88.08	150.38	75.19	326.53
44.0	-32.0	64.23	90.79	155.02	77.51	336.61
45.0	-33.0	65.82	95.31	161.13	80.56	351.74
46.0	-34.0	67.12	102.48	169.60	84.80	374.57
47.0	-35.0	68.24	112.94	181.17	90.59	407.04
48.0	-36.0	69.31	126.49	195.80	97.90	448.78

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.0	70.59	142.25	212.85	106.42	497.35
50.0	-38.0	72.24	159.93	232.17	116.08	552.03
51.0	-39.0	74.30	177.98	252.28	126.14	608.23
52.0	-40.0	77.15	185.38	262.53	131.26	633.29
53.0	-41.0	80.48	188.70	269.19	134.59	646.59
54.0	-42.0	84.33	189.15	273.47	136.74	651.77
55.0	-43.0	88.49	188.53	277.02	138.51	654.07
56.0	-44.0	92.77	186.65	279.42	139.71	652.72
57.0	-45.0	97.16	183.01	280.17	140.09	646.20
58.0	-46.0	101.35	178.79	280.14	140.07	637.73
59.0	-47.0	105.00	175.75	280.75	140.37	632.24
60.0	-48.0	108.10	174.49	282.59	141.30	631.58
61.0	-49.0	110.87	174.13	285.00	142.50	633.26
62.0	-50.0	113.55	173.90	287.46	143.73	635.26
63.0	-51.0	116.14	173.88	290.02	145.01	637.78
64.0	-52.0	118.68	174.04	292.72	146.36	640.81
65.0	-53.0	121.24	173.88	295.12	147.56	642.88
66.0	-54.0	123.83	172.81	296.64	148.32	642.26
67.0	-55.0	126.38	170.75	297.14	148.57	638.64
68.0	-56.0	128.87	167.55	296.42	148.21	631.53
69.0	-57.0	131.27	162.94	294.21	147.11	620.09
70.0	-58.0	134.03	156.83	290.86	145.43	604.52
71.0	-59.0	137.54	149.63	287.16	143.58	586.41
72.0	-60.0	150.94	112.66	263.60	131.80	488.92
73.0	-61.0	155.37	113.11	268.48	134.24	494.71
74.0	-62.0	159.77	113.25	273.02	136.51	499.53
75.0	-63.0	163.99	113.30	277.29	138.64	503.88
76.0	-64.0	167.86	113.51	281.38	140.69	508.40
77.0	-65.0	171.27	114.16	285.42	142.71	513.74
78.0	-66.0	174.23	115.28	289.51	144.75	520.07
79.0	-67.0	177.09	116.78	293.87	146.94	527.44
80.0	-68.0	180.14	118.60	298.74	149.37	535.94
81.0	-69.0	183.45	120.52	303.97	151.99	545.01
82.0	-70.0	186.80	122.24	309.04	154.52	553.53
83.0	-71.0	189.91	123.48	313.40	156.70	560.36
84.0	-72.0	196.86	132.38	329.23	164.62	593.98
85.0	-73.0	199.47	130.03	329.50	164.75	589.56
86.0	-74.0	202.03	127.60	329.63	164.81	584.83
87.0	-75.0	204.54	125.32	329.86	164.93	580.51
88.0	-76.0	207.34	123.61	330.95	165.48	578.18
89.0	-77.0	210.78	122.67	333.45	166.73	578.79

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 14

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.0	11.83	50.88	62.71	31.36	164.47
16.0	-4.0	13.49	53.79	67.28	33.64	174.86
17.0	-5.0	15.35	56.52	71.87	35.94	184.92
18.0	-6.0	17.42	58.94	76.36	38.18	194.24
19.0	-7.0	19.62	61.13	80.74	40.37	203.00
20.0	-8.0	21.78	63.45	85.23	42.61	212.13
21.0	-9.0	23.89	65.98	89.87	44.94	221.84
22.0	-10.0	25.90	70.06	95.96	47.98	236.08
23.0	-11.0	28.28	72.16	100.45	50.22	244.77
24.0	-12.0	30.78	74.38	105.16	52.58	253.91
25.0	-13.0	33.26	76.67	109.93	54.96	263.26
26.0	-14.0	35.59	78.31	113.91	56.95	270.53
27.0	-15.0	37.78	78.91	116.69	58.35	274.52
28.0	-16.0	39.91	78.77	118.68	59.34	276.23
29.0	-17.0	42.09	78.17	120.26	60.13	276.61
30.0	-18.0	44.33	76.95	121.28	60.64	275.17
31.0	-19.0	46.65	76.17	122.82	61.41	275.17
32.0	-20.0	49.08	78.95	128.02	64.01	285.92
33.0	-21.0	51.62	85.44	137.06	68.53	307.93
34.0	-22.0	54.11	94.52	148.63	74.32	337.68
35.0	-23.0	56.38	103.08	159.46	79.73	365.62
36.0	-24.0	58.43	110.95	169.39	84.69	391.29
37.0	-25.0	60.16	118.28	178.44	89.22	415.00
38.0	-26.0	61.48	125.36	186.84	93.42	437.56
39.0	-27.0	69.91	132.33	202.24	101.12	466.90
40.0	-28.0	70.83	132.75	203.58	101.79	469.07
41.0	-29.0	72.56	133.91	206.47	103.23	474.29
42.0	-30.0	75.03	135.69	210.72	105.36	482.10
43.0	-31.0	77.68	138.40	216.07	108.04	492.86
44.0	-32.0	79.87	143.05	222.92	111.46	509.03
45.0	-33.0	81.61	150.42	232.04	116.02	532.89
46.0	-34.0	83.05	160.90	243.95	121.98	565.74
47.0	-35.0	84.39	173.99	258.38	129.19	606.37
48.0	-36.0	85.69	189.77	275.47	137.73	655.02

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.0	87.21	207.19	294.41	147.20	708.79
50.0	-38.0	89.23	223.60	312.83	156.42	760.04
51.0	-39.0	91.76	238.00	329.76	164.88	805.76
52.0	-40.0	94.92	249.81	344.73	172.36	844.34
53.0	-41.0	98.84	259.70	358.54	179.27	877.94
54.0	-42.0	103.54	267.43	370.98	185.49	905.85
55.0	-43.0	108.64	264.92	373.56	186.78	903.39
56.0	-44.0	113.90	262.50	376.40	188.20	901.40
57.0	-45.0	119.29	260.22	379.51	189.76	899.95
58.0	-46.0	124.46	259.05	383.50	191.75	901.59
59.0	-47.0	128.99	259.71	388.70	194.35	908.13
60.0	-48.0	132.85	261.21	394.06	197.03	916.48
61.0	-49.0	136.33	261.79	398.12	199.06	921.70
62.0	-50.0	139.68	260.85	400.53	200.27	922.24
63.0	-51.0	142.92	259.47	402.39	201.20	921.33
64.0	-52.0	146.11	258.34	404.46	202.23	921.15
65.0	-53.0	149.33	256.90	406.23	203.11	920.02
66.0	-54.0	152.57	255.02	407.58	203.79	917.61
67.0	-55.0	155.77	252.77	408.54	204.27	914.08
68.0	-56.0	158.89	250.31	409.20	204.60	909.83
69.0	-57.0	161.91	247.22	409.13	204.56	903.56
70.0	-58.0	165.35	243.29	408.65	204.32	895.23
71.0	-59.0	169.72	239.33	409.05	204.53	887.70
72.0	-60.0	188.68	174.33	363.01	181.50	711.66
73.0	-61.0	194.13	175.01	369.14	184.57	719.17
74.0	-62.0	199.42	175.51	374.94	187.47	725.96
75.0	-63.0	204.39	176.08	380.47	190.24	732.63
76.0	-64.0	208.95	176.89	385.84	192.92	739.62
77.0	-65.0	213.13	177.90	391.04	195.52	746.85
78.0	-66.0	216.95	179.16	396.11	198.05	754.43
79.0	-67.0	220.67	180.71	401.39	200.69	762.81
80.0	-68.0	224.68	182.42	407.09	203.55	771.93
81.0	-69.0	229.03	184.08	413.11	206.56	781.28
82.0	-70.0	233.37	185.56	418.93	209.46	790.04
83.0	-71.0	237.31	186.71	424.02	212.01	797.45
84.0	-72.0	246.07	207.05	453.12	226.56	867.23
85.0	-73.0	249.34	203.29	452.63	226.32	859.22
86.0	-74.0	252.54	199.99	452.53	226.26	852.51
87.0	-75.0	255.67	197.29	452.96	226.48	847.55

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 15

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-13.in
RUN DATE	03/28/11
RUN TIME	12:02:40
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-13
DRILLING DATE	2/11/2011 - 2/14/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	12.44 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	11.4	22.0	5
2	3.0	9.4	11.0	5
3	5.0	7.4	11.0	5
4	7.0	5.4	10.0	3
5	9.0	3.4	9.0	3
6	12.0	0.4	10.0	3
7	15.0	-2.6	11.0	3
8	18.0	-5.6	9.0	3
9	21.0	-8.6	12.0	3
10	24.0	-11.6	14.0	3
11	27.0	-14.6	12.0	3
12	30.0	-17.6	10.0	3
13	33.0	-20.6	14.0	3
14	36.0	-23.6	16.0	3
15	39.0	-26.6	14.0	3
16	42.0	-29.6	12.0	3
17	45.0	-32.6	17.0	3
18	48.0	-35.6	41.0	4
19	51.0	-38.6	68.0	4
20	54.0	-41.6	37.0	4
21	57.0	-44.6	100.0	4
22	60.0	-47.6	33.0	4
23	63.0	-50.6	31.0	4
24	66.0	-53.6	27.0	4
25	69.0	-56.6	25.0	4
26	72.0	-59.6	32.0	4
27	75.0	-62.6	22.0	4
28	78.0	-65.6	24.0	3
29	81.0	-68.6	33.0	3
30	84.0	-71.6	26.0	3
31	87.0	-74.6	32.0	4
32	90.0	-77.6	31.0	4
33	93.0	-80.6	36.0	3
34	96.0	-83.6	31.0	3
35	99.0	-86.6	30.0	3

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.6	8.06	17.90	25.95	12.98	61.74
16.0	-3.6	8.85	19.33	28.17	14.09	66.83
17.0	-4.6	9.57	21.15	30.71	15.36	73.01
18.0	-5.6	10.29	23.19	33.47	16.74	79.85
19.0	-6.6	11.13	25.13	36.25	18.13	86.50
20.0	-7.6	12.16	26.83	38.99	19.49	92.66
21.0	-8.6	13.38	27.88	41.26	20.63	97.01
22.0	-9.6	14.72	28.16	42.88	21.44	99.19
23.0	-10.6	16.13	28.16	44.30	22.15	100.63
24.0	-11.6	17.62	27.90	45.52	22.76	101.32
25.0	-12.6	19.11	27.46	46.57	23.28	101.50
26.0	-13.6	20.54	27.26	47.80	23.90	102.31
27.0	-14.6	21.92	27.41	49.32	24.66	104.14
28.0	-15.6	23.23	27.96	51.19	25.60	107.11
29.0	-16.6	24.49	28.86	53.35	26.67	111.06
30.0	-17.6	25.68	30.06	55.74	27.87	115.87
31.0	-18.6	26.90	31.35	58.25	29.12	120.95
32.0	-19.6	28.25	32.30	60.55	30.27	125.15
33.0	-20.6	29.73	32.83	62.56	31.28	128.22
34.0	-21.6	31.32	32.99	64.31	32.15	130.29
35.0	-22.6	32.97	32.85	65.82	32.91	131.52
36.0	-23.6	34.70	32.40	67.10	33.55	131.90
37.0	-24.6	36.43	31.82	68.25	34.12	131.88
38.0	-25.6	38.10	31.62	69.71	34.86	132.95
39.0	-26.6	39.70	31.95	71.65	35.82	135.55
40.0	-27.6	41.23	32.87	74.11	37.05	139.86
41.0	-28.6	42.70	35.65	78.35	39.18	149.66
42.0	-29.6	44.10	40.80	84.91	42.45	166.51
43.0	-30.6	45.56	48.06	93.61	46.81	189.72
44.0	-31.6	47.18	56.76	103.94	51.97	217.45
45.0	-32.6	48.98	66.74	115.72	57.86	249.19
46.0	-33.6	50.95	77.40	128.35	64.18	283.16
47.0	-34.6	53.08	85.79	138.87	69.44	310.46
48.0	-35.6	60.37	90.90	151.27	75.63	333.07

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.6	62.96	91.14	154.10	77.05	336.38
50.0	-37.6	65.82	91.87	157.69	78.84	341.42
51.0	-38.6	68.87	93.46	162.33	81.16	349.24
52.0	-39.6	71.62	96.67	168.29	84.14	361.63
53.0	-40.6	73.87	101.10	174.97	87.49	377.18
54.0	-41.6	75.82	105.97	181.79	90.89	393.72
55.0	-42.6	78.00	109.99	187.99	94.00	407.97
56.0	-43.6	80.82	112.62	193.44	96.72	418.68
57.0	-44.6	84.25	113.78	198.03	99.01	425.59
58.0	-45.6	87.54	111.58	199.12	99.56	422.27
59.0	-46.6	90.35	109.41	199.76	99.88	418.57
60.0	-47.6	92.65	107.23	199.88	99.94	414.34
61.0	-48.6	94.68	104.57	199.25	99.62	408.39
62.0	-49.6	96.66	101.07	197.73	98.87	399.88
63.0	-50.6	98.59	96.79	195.38	97.69	388.96
64.0	-51.6	100.46	92.58	193.04	96.52	378.20
65.0	-52.6	102.25	89.81	192.06	96.03	371.67
66.0	-53.6	103.96	88.69	192.65	96.32	370.03
67.0	-54.6	105.60	88.27	193.88	96.94	370.42
68.0	-55.6	107.21	86.64	193.85	96.92	367.13
69.0	-56.6	108.77	83.39	192.15	96.08	358.93
70.0	-57.6	110.37	79.25	189.63	94.81	348.14
71.0	-58.6	112.11	75.52	187.62	93.81	338.65
72.0	-59.6	113.98	72.39	186.37	93.19	331.16
73.0	-60.6	115.81	69.85	185.67	92.83	325.38
74.0	-61.6	117.46	68.35	185.81	92.90	322.51
75.0	-62.6	118.91	68.09	186.99	93.50	323.17
76.0	-63.6	120.49	68.84	189.33	94.66	327.01
77.0	-64.6	122.52	69.59	192.11	96.05	331.28
78.0	-65.6	127.02	70.33	197.35	98.67	338.01
79.0	-66.6	129.93	66.05	195.98	97.99	328.09
80.0	-67.6	133.18	67.85	201.03	100.51	336.73
81.0	-68.6	136.77	69.73	206.50	103.25	345.95
82.0	-69.6	140.22	70.66	210.88	105.44	352.21
83.0	-70.6	143.27	71.29	214.56	107.28	357.15
84.0	-71.6	146.02	72.12	218.14	109.07	362.38
85.0	-72.6	148.44	73.17	221.60	110.80	367.93
86.0	-73.6	150.54	74.33	224.87	112.44	373.53
87.0	-74.6	154.18	76.47	230.65	115.32	383.58
88.0	-75.6	156.07	76.59	232.66	116.33	385.84
89.0	-76.6	157.89	76.93	234.82	117.41	388.67
90.0	-77.6	159.69	77.37	237.06	118.53	391.80

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 19

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.6	10.74	29.54	40.29	20.14	99.38
16.0	-3.6	11.83	30.86	42.69	21.35	104.41
17.0	-4.6	12.82	32.45	45.27	22.63	110.18
18.0	-5.6	13.58	34.83	48.41	24.21	118.08
19.0	-6.6	14.44	37.34	51.78	25.89	126.47
20.0	-7.6	15.51	39.84	55.35	27.68	135.04
21.0	-8.6	16.78	42.27	59.05	29.52	143.58
22.0	-9.6	18.28	44.30	62.58	31.29	151.19
23.0	-10.6	20.04	45.56	65.61	32.80	156.74
24.0	-11.6	21.98	46.52	68.50	34.25	161.55
25.0	-12.6	23.91	47.91	71.82	35.91	167.63
26.0	-13.6	25.81	48.52	74.33	37.16	171.37
27.0	-14.6	27.63	49.51	77.14	38.57	176.15
28.0	-15.6	29.38	50.77	80.15	40.07	181.68
29.0	-16.6	31.05	52.30	83.35	41.68	187.96
30.0	-17.6	32.64	53.90	86.54	43.27	194.35
31.0	-18.6	34.27	55.20	89.47	44.74	199.88
32.0	-19.6	36.06	56.09	92.16	46.08	204.34
33.0	-20.6	38.03	56.64	94.67	47.33	207.94
34.0	-21.6	40.13	56.90	97.02	48.51	210.82
35.0	-22.6	42.31	56.82	99.13	49.57	212.77
36.0	-23.6	44.59	56.64	101.24	50.62	214.53
37.0	-24.6	46.88	56.84	103.73	51.86	217.41
38.0	-25.6	49.09	57.56	106.64	53.32	221.75
39.0	-26.6	51.21	60.03	111.24	55.62	231.29
40.0	-27.6	53.25	65.48	118.73	59.36	249.69
41.0	-28.6	55.20	74.01	129.21	64.60	277.22
42.0	-29.6	57.07	85.30	142.37	71.19	312.97
43.0	-30.6	59.00	98.77	157.77	78.89	355.32
44.0	-31.6	61.16	114.22	175.38	87.69	403.81
45.0	-32.6	63.54	129.23	192.78	96.39	451.25
46.0	-33.6	66.15	140.74	206.88	103.44	488.36
47.0	-34.6	68.96	147.91	216.87	108.43	512.68
48.0	-35.6	80.49	153.23	233.72	116.86	540.18

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.6	83.89	153.76	237.65	118.82	545.17
50.0	-37.6	87.48	155.55	243.04	121.52	554.15
51.0	-38.6	91.38	158.23	249.62	124.81	566.08
52.0	-39.6	95.29	160.91	256.20	128.10	578.02
53.0	-40.6	98.75	163.42	262.17	131.08	589.00
54.0	-41.6	101.68	166.12	267.80	133.90	600.03
55.0	-42.6	104.65	168.95	273.61	136.80	611.52
56.0	-43.6	108.36	170.91	279.27	139.63	621.09
57.0	-44.6	112.85	171.50	284.35	142.18	627.35
58.0	-45.6	117.42	171.52	288.94	144.47	631.99
59.0	-46.6	121.23	172.26	293.49	146.75	638.01
60.0	-47.6	124.27	173.97	298.24	149.12	646.17
61.0	-48.6	126.96	174.43	301.38	150.69	650.23
62.0	-49.6	129.58	174.03	303.61	151.80	651.66
63.0	-50.6	132.14	172.75	304.89	152.44	650.38
64.0	-51.6	134.62	171.16	305.79	152.89	648.32
65.0	-52.6	136.99	169.52	306.51	153.26	645.55
66.0	-53.6	139.26	167.01	306.27	153.13	640.28
67.0	-54.6	141.44	162.60	304.04	152.02	629.23
68.0	-55.6	143.56	157.27	300.84	150.42	615.38
69.0	-56.6	145.63	152.62	298.25	149.12	603.48
70.0	-57.6	147.76	148.87	296.64	148.32	594.38
71.0	-58.6	150.07	144.60	294.67	147.34	583.88
72.0	-59.6	152.56	139.15	291.71	145.85	570.02
73.0	-60.6	155.00	133.56	288.57	144.28	555.69
74.0	-61.6	157.19	129.63	286.82	143.41	546.08
75.0	-62.6	159.11	127.79	286.90	143.45	542.49
76.0	-63.6	161.21	126.94	288.15	144.07	542.02
77.0	-64.6	163.92	126.14	290.06	145.03	542.34
78.0	-65.6	169.36	122.92	292.28	146.14	538.12
79.0	-66.6	173.24	117.54	290.77	145.39	525.85
80.0	-67.6	177.57	122.51	300.08	150.04	545.11
81.0	-68.6	181.97	123.61	305.58	152.79	552.79
82.0	-69.6	186.34	124.47	310.82	155.41	559.76
83.0	-70.6	190.40	125.35	315.75	157.88	566.46
84.0	-71.6	194.09	126.38	320.47	160.24	573.23
85.0	-72.6	197.31	127.72	325.03	162.52	580.47
86.0	-73.6	200.06	129.31	329.38	164.69	588.01
87.0	-74.6	205.58	137.64	343.22	171.61	618.50
88.0	-75.6	208.12	137.09	345.21	172.61	619.39
89.0	-76.6	210.64	136.16	346.81	173.40	619.14

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 20

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-2.6	13.10	45.63	58.73	29.37	149.99
16.0	-3.6	14.38	47.35	61.73	30.86	156.44
17.0	-4.6	15.59	49.16	64.75	32.38	163.07
18.0	-5.6	16.76	51.03	67.79	33.90	169.85
19.0	-6.6	18.02	52.87	70.89	35.44	176.63
20.0	-7.6	19.51	54.54	74.04	37.02	183.12
21.0	-8.6	21.24	55.95	77.19	38.60	189.09
22.0	-9.6	22.96	58.06	81.02	40.51	197.14
23.0	-10.6	24.75	60.53	85.28	42.64	206.33
24.0	-11.6	26.61	63.42	90.03	45.01	216.86
25.0	-12.6	28.44	66.84	95.28	47.64	228.96
26.0	-13.6	30.24	70.47	100.71	50.35	241.65
27.0	-14.6	32.07	73.93	106.00	53.00	253.86
28.0	-15.6	33.88	77.45	111.34	55.67	266.24
29.0	-16.6	35.66	81.14	116.80	58.40	279.07
30.0	-17.6	37.53	83.88	121.41	60.71	289.17
31.0	-18.6	39.57	85.28	124.85	62.43	295.42
32.0	-19.6	41.80	86.09	127.89	63.94	300.06
33.0	-20.6	44.23	86.30	130.53	65.26	303.12
34.0	-21.6	46.82	86.23	133.05	66.53	305.52
35.0	-22.6	49.51	86.58	136.09	68.05	309.25
36.0	-23.6	52.32	87.44	139.76	69.88	314.65
37.0	-24.6	55.13	89.92	145.05	72.53	324.88
38.0	-25.6	57.86	96.25	154.10	77.05	346.60
39.0	-26.6	60.49	106.39	166.88	83.44	379.66
40.0	-27.6	63.02	119.93	182.95	91.48	422.81
41.0	-28.6	65.45	136.19	201.64	100.82	474.03
42.0	-29.6	67.78	155.17	222.95	111.48	533.30
43.0	-30.6	70.19	174.96	245.15	122.58	595.07
44.0	-31.6	72.87	191.18	264.05	132.02	646.41
45.0	-32.6	75.81	203.76	279.57	139.79	687.10
46.0	-33.6	79.02	213.80	292.82	146.41	720.41
47.0	-34.6	82.49	224.94	307.43	153.71	757.31
48.0	-35.6	100.61	237.40	338.02	169.01	812.82

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-36.6	104.82	238.21	343.03	171.51	819.44
50.0	-37.6	109.42	239.94	349.37	174.68	829.25
51.0	-38.6	114.67	241.52	356.20	178.10	839.24
52.0	-39.6	120.03	242.54	362.56	181.28	847.63
53.0	-40.6	124.64	243.78	368.41	184.21	855.96
54.0	-41.6	128.43	245.56	373.99	186.99	865.10
55.0	-42.6	132.27	247.28	379.56	189.78	874.13
56.0	-43.6	137.10	247.77	384.87	192.44	880.42
57.0	-44.6	142.99	246.58	389.56	194.78	882.72
58.0	-45.6	148.95	244.68	393.63	196.82	883.00
59.0	-46.6	153.87	243.66	397.53	198.76	884.85
60.0	-47.6	157.65	243.92	401.57	200.79	889.41
61.0	-48.6	160.79	245.30	406.09	203.04	896.68
62.0	-49.6	163.71	247.95	411.66	205.83	907.57
63.0	-50.6	166.45	251.98	418.43	209.21	922.38
64.0	-51.6	169.52	255.53	425.05	212.53	936.11
65.0	-52.6	172.46	257.77	430.24	215.12	945.78
66.0	-53.6	175.27	257.86	433.23	216.61	949.15
67.0	-54.6	177.97	255.72	433.69	216.84	945.12
68.0	-55.6	180.60	251.88	432.49	216.24	936.25
69.0	-56.6	183.17	246.71	429.88	214.94	923.29
70.0	-57.6	185.81	240.40	426.21	213.11	907.01
71.0	-58.6	188.69	233.44	422.13	211.06	889.01
72.0	-59.6	191.78	227.19	418.98	209.49	873.36
73.0	-60.6	194.83	223.07	417.90	208.95	864.05
74.0	-61.6	197.55	220.37	417.92	208.96	858.65
75.0	-62.6	199.94	217.58	417.52	208.76	852.67
76.0	-63.6	202.55	213.50	416.05	208.02	843.04
77.0	-64.6	205.94	209.23	415.17	207.58	833.64
78.0	-65.6	211.70	196.65	408.35	204.18	801.65
79.0	-66.6	216.55	187.25	403.79	201.90	778.28
80.0	-67.6	221.96	194.92	416.89	208.44	806.73
81.0	-68.6	227.60	197.27	424.87	212.43	819.41
82.0	-69.6	233.14	198.19	431.33	215.66	827.70
83.0	-70.6	238.29	199.09	437.38	218.69	835.56
84.0	-71.6	242.98	200.12	443.11	221.55	843.35
85.0	-72.6	247.10	201.43	448.54	224.27	851.41
86.0	-73.6	250.69	202.84	453.53	226.76	859.20
87.0	-74.6	256.97	213.84	470.82	235.41	898.51

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 21

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-14.in
RUN DATE	03/28/11
RUN TIME	13:33:50
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-14
DRILLING DATE	2/8/2011-2/9/2011
STATION NO.	NA
GROUND SURFACE ELEVATION	11.35 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	10.3	7.0	5
2	3.0	8.3	9.0	5
3	5.0	6.3	7.0	5
4	7.0	4.3	6.0	3
5	9.0	2.3	6.0	3
6	12.0	-0.7	9.0	3
7	15.0	-3.7	14.0	3
8	18.0	-6.7	15.0	3
9	21.0	-9.7	12.0	3
10	24.0	-12.7	36.0	4
11	27.0	-15.7	20.0	4
12	30.0	-18.6	11.0	3
13	33.0	-21.6	16.0	3
14	36.0	-24.6	14.0	3
15	39.0	-27.6	19.0	4
16	42.0	-30.6	26.0	4
17	45.0	-33.6	21.0	4
18	48.0	-36.6	25.0	4
19	51.0	-39.6	22.0	3
20	54.0	-42.6	36.0	4
21	57.0	-45.6	45.0	4
22	60.0	-48.6	100.0	4
23	63.0	-51.6	48.0	4
24	66.0	-54.6	38.0	4
25	69.0	-57.6	29.0	4
26	72.0	-60.6	26.0	3
27	75.0	-63.6	29.0	4
28	78.0	-66.7	32.0	4
29	81.0	-69.7	29.0	4
30	84.0	-72.7	22.0	3
31	87.0	-75.7	30.0	3
32	90.0	-78.7	27.0	3
33	93.0	-81.7	32.0	4
34	96.0	-84.7	31.0	3
35	99.0	-87.7	29.0	3

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.7	5.29	18.48	23.77	11.89	60.74
16.0	-4.7	6.33	20.29	26.62	13.31	67.20
17.0	-5.7	7.32	23.34	30.65	15.33	77.32
18.0	-6.7	8.26	28.36	36.63	18.31	93.35
19.0	-7.7	9.22	35.66	44.88	22.44	116.19
20.0	-8.7	10.29	43.50	53.80	26.90	140.80
21.0	-9.7	11.54	49.46	61.00	30.50	159.91
22.0	-10.7	12.95	52.15	65.10	32.55	169.41
23.0	-11.7	14.54	52.52	67.06	33.53	172.09
24.0	-12.7	23.53	50.68	74.21	37.11	175.57
25.0	-13.7	25.53	47.65	73.18	36.59	168.47
26.0	-14.7	27.21	45.25	72.46	36.23	162.95
27.0	-15.7	28.57	43.83	72.40	36.20	160.07
28.0	-16.6	29.78	43.31	73.10	36.55	159.72
29.0	-17.6	31.01	43.25	74.26	37.13	160.77
30.0	-18.6	32.25	34.20	66.45	33.23	134.85
31.0	-19.6	33.60	31.86	65.46	32.73	129.17
32.0	-20.6	35.14	33.39	68.53	34.27	135.32
33.0	-21.6	36.76	34.40	71.17	35.58	139.97
34.0	-22.6	38.25	35.01	73.26	36.63	143.27
35.0	-23.6	39.54	36.00	75.54	37.77	147.54
36.0	-24.6	40.63	37.55	78.18	39.09	153.28
37.0	-25.6	41.53	39.76	81.29	40.65	160.82
38.0	-26.6	42.37	42.23	84.59	42.30	169.05
39.0	-27.6	46.10	50.20	96.30	48.15	196.69
40.0	-28.6	47.30	50.26	97.56	48.78	198.08
41.0	-29.6	48.61	50.48	99.09	49.54	200.05
42.0	-30.6	50.00	51.00	101.00	50.50	202.99
43.0	-31.6	51.35	51.93	103.28	51.64	207.13
44.0	-32.6	52.60	53.10	105.70	52.85	211.89
45.0	-33.6	53.78	54.30	108.08	54.04	216.69
46.0	-34.6	55.00	55.38	110.38	55.19	221.14
47.0	-35.6	56.23	57.24	113.47	56.74	227.95
48.0	-36.6	57.45	60.66	118.11	59.06	239.44

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.6	59.10	64.54	123.64	61.82	252.71
50.0	-38.6	61.06	69.38	130.44	65.22	269.21
51.0	-39.6	64.54	75.02	139.55	69.78	289.58
52.0	-40.6	66.81	75.45	142.27	71.13	293.17
53.0	-41.6	68.71	76.78	145.49	72.75	299.05
54.0	-42.6	71.54	93.12	164.66	82.33	350.90
55.0	-43.6	73.64	93.87	167.52	83.76	355.27
56.0	-44.6	75.71	95.99	171.71	85.85	363.70
57.0	-45.6	77.85	99.06	176.91	88.46	375.03
58.0	-46.6	80.22	102.50	182.72	91.36	387.73
59.0	-47.6	82.95	105.69	188.64	94.32	400.03
60.0	-48.6	86.11	108.07	194.18	97.09	410.31
61.0	-49.6	89.46	109.69	199.15	99.58	418.54
62.0	-50.6	92.68	111.06	203.74	101.87	425.86
63.0	-51.6	95.75	112.19	207.94	103.97	432.32
64.0	-52.6	98.54	110.64	209.18	104.59	430.46
65.0	-53.6	101.15	108.37	209.52	104.76	426.27
66.0	-54.6	103.56	105.47	209.03	104.51	419.96
67.0	-55.6	105.79	102.07	207.86	103.93	412.00
68.0	-56.6	107.84	98.99	206.83	103.42	404.81
69.0	-57.6	109.72	96.51	206.23	103.11	399.25
70.0	-58.6	111.70	94.44	206.13	103.07	395.01
71.0	-59.6	114.06	92.41	206.47	103.24	391.30
72.0	-60.6	118.82	75.06	193.88	96.94	344.00
73.0	-61.6	121.58	72.01	193.59	96.80	337.61
74.0	-62.6	123.94	74.67	198.60	99.30	347.94
75.0	-63.6	125.88	84.80	210.68	105.34	380.27
76.0	-64.7	127.65	82.82	210.47	105.24	376.12
77.0	-65.7	129.48	80.42	209.90	104.95	370.75
78.0	-66.7	131.37	77.45	208.82	104.41	363.71
79.0	-67.7	133.26	74.06	207.32	103.66	355.44
80.0	-68.7	135.09	71.36	206.45	103.23	349.18
81.0	-69.7	136.86	69.76	206.62	103.31	346.14
82.0	-70.7	138.73	69.32	208.05	104.02	346.69
83.0	-71.7	140.85	69.56	210.42	105.21	349.54
84.0	-72.7	143.23	65.36	208.59	104.29	339.30
85.0	-73.7	145.89	61.60	207.49	103.75	330.70
86.0	-74.7	148.86	63.95	212.80	106.40	340.69
87.0	-75.7	152.00	65.58	217.59	108.79	348.75
88.0	-76.7	154.98	66.35	221.33	110.66	354.02
89.0	-77.7	157.81	67.27	225.08	112.54	359.61
90.0	-78.7	160.56	68.24	228.80	114.40	365.29

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 4

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.7	7.10	29.36	36.47	18.23	95.20
16.0	-4.7	8.08	33.11	41.19	20.60	107.41
17.0	-5.7	8.94	38.89	47.83	23.92	125.62
18.0	-6.7	9.87	46.30	56.16	28.08	148.75
19.0	-7.7	10.99	53.51	64.49	32.25	171.51
20.0	-8.7	12.21	60.31	72.52	36.26	193.14
21.0	-9.7	13.50	66.69	80.19	40.09	213.57
22.0	-10.7	15.02	71.78	86.80	43.40	230.36
23.0	-11.7	16.95	74.25	91.21	45.60	239.72
24.0	-12.7	31.38	77.82	109.20	54.60	264.84
25.0	-13.7	34.04	74.71	108.75	54.37	258.16
26.0	-14.7	36.28	73.06	109.34	54.67	255.47
27.0	-15.7	38.10	72.47	110.56	55.28	255.49
28.0	-16.6	39.71	72.37	112.08	56.04	256.83
29.0	-17.6	41.34	72.56	113.90	56.95	259.02
30.0	-18.6	43.00	61.40	104.40	52.20	227.19
31.0	-19.6	44.80	57.73	102.53	51.26	217.98
32.0	-20.6	46.85	61.41	108.26	54.13	231.08
33.0	-21.6	48.80	62.10	110.90	55.45	235.09
34.0	-22.6	50.64	63.24	113.88	56.94	240.36
35.0	-23.6	52.23	64.91	117.14	58.57	246.96
36.0	-24.6	53.66	67.05	120.70	60.35	254.79
37.0	-25.6	54.98	69.43	124.41	62.21	263.27
38.0	-26.6	56.21	71.90	128.11	64.05	271.91
39.0	-27.6	61.47	97.28	158.76	79.38	353.33
40.0	-28.6	63.09	96.51	159.60	79.80	352.63
41.0	-29.6	64.89	95.52	160.40	80.20	351.44
42.0	-30.6	66.87	94.79	161.66	80.83	351.24
43.0	-31.6	68.89	94.17	163.06	81.53	351.41
44.0	-32.6	70.77	93.91	164.68	82.34	352.50
45.0	-33.6	72.51	95.11	167.63	83.81	357.85
46.0	-34.6	74.11	98.13	172.24	86.12	368.51
47.0	-35.6	75.45	101.85	177.29	88.65	380.98
48.0	-36.6	76.79	107.19	183.98	91.99	398.36

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.6	78.35	114.30	192.66	96.33	421.26
50.0	-38.6	80.26	123.82	204.09	102.04	451.73
51.0	-39.6	86.05	136.58	222.62	111.31	495.77
52.0	-40.6	89.06	137.23	226.29	113.15	500.75
53.0	-41.6	91.52	139.25	230.78	115.39	509.29
54.0	-42.6	95.38	171.80	267.19	133.59	610.80
55.0	-43.6	98.25	172.52	270.77	135.38	615.81
56.0	-44.6	101.17	174.29	275.46	137.73	624.03
57.0	-45.6	104.26	176.56	280.82	140.41	633.94
58.0	-46.6	107.68	178.76	286.45	143.22	643.98
59.0	-47.6	111.60	180.38	291.98	145.99	652.74
60.0	-48.6	116.08	181.04	297.12	148.56	659.21
61.0	-49.6	120.76	180.85	301.61	150.81	663.31
62.0	-50.6	125.27	180.00	305.27	152.64	665.28
63.0	-51.6	129.59	178.41	308.00	154.00	664.83
64.0	-52.6	133.71	176.10	309.81	154.91	662.02
65.0	-53.6	137.61	173.19	310.80	155.40	657.19
66.0	-54.6	140.98	170.59	311.57	155.79	652.74
67.0	-55.6	143.90	169.41	313.32	156.66	652.14
68.0	-56.6	146.58	169.21	315.80	157.90	654.22
69.0	-57.6	149.02	169.28	318.30	159.15	656.86
70.0	-58.6	151.62	169.34	320.96	160.48	659.64
71.0	-59.6	154.75	169.49	324.24	162.12	663.23
72.0	-60.6	158.43	137.94	296.37	148.19	572.26
73.0	-61.6	162.11	128.99	291.10	145.55	549.08
74.0	-62.6	165.25	132.53	297.77	148.89	562.83
75.0	-63.6	167.84	162.95	330.79	165.39	656.68
76.0	-64.7	170.20	156.96	327.16	163.58	641.07
77.0	-65.7	172.64	149.62	322.26	161.13	621.49
78.0	-66.7	175.16	142.55	317.71	158.86	602.82
79.0	-67.7	177.68	136.90	314.58	157.29	588.39
80.0	-68.7	180.12	132.81	312.93	156.46	578.54
81.0	-69.7	182.48	129.66	312.14	156.07	571.46
82.0	-70.7	184.97	127.10	312.08	156.04	566.28
83.0	-71.7	187.80	125.33	313.13	156.57	563.79
84.0	-72.7	190.98	117.03	308.00	154.00	542.06
85.0	-73.7	194.52	110.78	305.30	152.65	526.87
86.0	-74.7	198.47	116.22	314.69	157.35	547.12
87.0	-75.7	202.47	117.70	320.17	160.08	555.56
88.0	-76.7	206.49	118.61	325.09	162.55	562.30
89.0	-77.7	210.40	119.48	329.88	164.94	568.83

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 5

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.7	8.43	48.75	57.18	28.59	154.68
16.0	-4.7	9.36	55.13	64.49	32.25	174.76
17.0	-5.7	10.50	61.44	71.95	35.97	194.83
18.0	-6.7	11.86	67.29	79.15	39.57	213.72
19.0	-7.7	13.35	72.53	85.89	42.94	230.95
20.0	-8.7	14.89	77.32	92.21	46.10	246.85
21.0	-9.7	16.47	81.50	97.97	48.99	260.97
22.0	-10.7	18.21	85.47	103.68	51.84	274.62
23.0	-11.7	20.36	88.47	108.83	54.41	285.76
24.0	-12.7	39.22	108.69	147.91	73.96	365.30
25.0	-13.7	42.55	106.66	149.21	74.61	362.54
26.0	-14.7	45.35	105.44	150.79	75.40	361.67
27.0	-15.7	47.62	104.75	152.37	76.18	361.86
28.0	-16.6	49.63	104.94	154.58	77.29	364.46
29.0	-17.6	51.68	106.86	158.54	79.27	372.25
30.0	-18.6	53.75	101.56	155.31	77.66	358.43
31.0	-19.6	56.00	94.11	150.11	75.06	338.34
32.0	-20.6	58.57	101.14	159.71	79.85	361.98
33.0	-21.6	60.99	102.49	163.48	81.74	368.45
34.0	-22.6	63.27	104.00	167.27	83.63	375.26
35.0	-23.6	65.39	105.76	171.15	85.57	382.66
36.0	-24.6	67.40	107.70	175.10	87.55	390.49
37.0	-25.6	69.22	109.92	179.13	89.57	398.97
38.0	-26.6	70.74	112.66	183.40	91.70	408.72
39.0	-27.6	76.84	150.73	227.57	113.79	529.03
40.0	-28.6	78.81	150.96	229.77	114.88	531.68
41.0	-29.6	80.96	151.48	232.44	116.22	535.40
42.0	-30.6	83.37	151.89	235.25	117.63	539.03
43.0	-31.6	85.88	151.91	237.79	118.89	541.60
44.0	-32.6	88.20	152.10	240.30	120.15	544.50
45.0	-33.6	90.20	153.23	243.43	121.72	549.90
46.0	-34.6	91.94	156.10	248.04	124.02	560.23
47.0	-35.6	93.63	160.73	254.35	127.18	575.81
48.0	-36.6	95.29	167.39	262.68	131.34	597.46

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.6	97.10	176.74	273.84	136.92	627.33
50.0	-38.6	99.21	189.93	289.15	144.57	669.01
51.0	-39.6	107.56	221.39	328.95	164.47	771.73
52.0	-40.6	111.35	222.17	333.52	166.76	777.86
53.0	-41.6	114.57	224.22	338.80	169.40	787.25
54.0	-42.6	119.23	264.50	383.73	191.87	912.74
55.0	-43.6	122.86	265.08	387.95	193.97	918.12
56.0	-44.6	126.63	266.55	393.18	196.59	926.27
57.0	-45.6	130.62	268.43	399.06	199.53	935.93
58.0	-46.6	135.04	270.16	405.21	202.60	945.53
59.0	-47.6	140.09	271.13	411.22	205.61	953.49
60.0	-48.6	145.88	270.76	416.64	208.32	958.16
61.0	-49.6	152.02	269.02	421.05	210.52	959.06
62.0	-50.6	157.97	266.30	424.27	212.14	956.87
63.0	-51.6	163.33	261.64	424.97	212.48	948.24
64.0	-52.6	167.96	256.23	424.19	212.10	936.65
65.0	-53.6	172.26	252.72	424.99	212.49	930.44
66.0	-54.6	176.23	250.90	427.13	213.56	928.92
67.0	-55.6	179.88	250.31	430.19	215.09	930.80
68.0	-56.6	183.23	250.63	433.86	216.93	935.13
69.0	-57.6	186.28	252.16	438.44	219.22	942.75
70.0	-58.6	189.52	254.81	444.33	222.16	953.94
71.0	-59.6	193.44	257.87	451.31	225.65	967.04
72.0	-60.6	198.04	217.62	415.66	207.83	850.89
73.0	-61.6	202.64	200.89	403.53	201.77	805.32
74.0	-62.6	206.56	204.15	410.71	205.35	819.00
75.0	-63.6	209.80	255.51	465.31	232.65	976.32
76.0	-64.7	212.75	249.51	462.26	231.13	961.28
77.0	-65.7	215.80	243.65	459.45	229.73	946.75
78.0	-66.7	218.95	237.82	456.77	228.38	932.40
79.0	-67.7	222.10	231.67	453.77	226.88	917.11
80.0	-68.7	225.15	224.49	449.64	224.82	898.61
81.0	-69.7	228.10	217.07	445.17	222.59	879.32
82.0	-70.7	231.21	210.96	442.17	221.08	864.08
83.0	-71.7	234.75	207.44	442.20	221.10	857.08
84.0	-72.7	238.72	189.79	428.51	214.25	808.08
85.0	-73.7	243.15	177.28	420.44	210.22	775.00
86.0	-74.7	248.09	184.74	432.84	216.42	802.32
87.0	-75.7	253.48	189.89	443.37	221.69	823.15

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 6

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE
STATIC PILE BEARING CAPACITY ANALYSIS PROGRAM
SPT97 - VERSION 1.2 FEBRUARY, 1997
BASED ON RESEARCH BULLETIN RB-121
"GUIDELINES FOR USE IN THE SOILS INVESTIGATION
AND DESIGN OF FOUNDATIONS FOR
BRIDGE STRUCTURES IN THE STATE OF FLORIDA" AND
RESEARCH STUDY REPORT BY UNIVERSITY OF FLORIDA
"DESIGN OF STEEL PIPE AND H PILES"

NOTE - THIS PROGRAM IS EXPANDED FROM SPT91
IS ALSO KNOWN AS SPT94
TO INCLUDE STEEL H AND PIPE PILES

A. GENERAL INFORMATION

INPUT FILE NAME	BR-15.in
RUN DATE	03/28/11
RUN TIME	13:37:15
PROJECT NUMBER	92407.011
JOB NAME	SR 924 PD&E Study - East Extension
SUBMITTING ENGINEER	O. Riccobono
BORING NO.	BR-15
DRILLING DATE	2/10/2011 - 2/11/201
STATION NO.	N/A
GROUND SURFACE ELEVATION	11.65 FEET
TYPE OF ANALYSIS	2 - DETERMINATION OF STATIC PILE BEARING CAPACITIES FOR A RANGE OF PILE LENGTHS (CAPACITY VS. TIP ELEVATION)

B. BORING LOG

ENTRY NO.	DEPTH (FT) D(I)	ELEVATION (FT)	SPT BLOWS/FT N(I)	SOIL TYPE ST(I)
1	1.0	10.7	6.0	5
2	3.0	8.7	9.0	5
3	5.0	6.7	7.0	5
4	7.0	4.7	9.0	5
5	9.0	2.7	10.0	3
6	12.0	-0.3	7.0	3
7	15.0	-3.3	10.0	3
8	18.0	-6.3	9.0	3
9	21.0	-9.3	11.0	3
10	24.0	-12.3	14.0	3
11	27.0	-15.3	14.0	3
12	30.0	-18.4	16.0	3
13	33.0	-21.4	17.0	3
14	36.0	-24.4	14.0	3
15	39.0	-27.4	27.0	4
16	42.0	-30.4	30.0	4
17	45.0	-33.4	32.0	3
18	48.0	-36.4	24.0	3
19	51.0	-39.4	30.0	5
20	54.0	-42.4	26.0	3
21	57.0	-45.4	31.0	4
22	60.0	-48.4	32.0	4
23	63.0	-51.4	50.0	4
24	66.0	-54.4	100.0	4
25	69.0	-57.4	33.0	4
26	72.0	-60.4	30.0	4
27	75.0	-63.4	33.0	4
28	78.0	-66.3	26.0	3
29	81.0	-69.3	31.0	3
30	84.0	-72.3	24.0	3
31	87.0	-75.3	32.0	4
32	90.0	-78.3	33.0	4
33	93.0	-81.3	26.0	3
34	96.0	-84.3	32.0	3
35	99.0	-87.3	31.0	3

STATIC PILE BEARING CAPACITY ANALYSIS - SPT97	Page 3
Project No: 92407.011	SR 924 PD&E Study - East Extension
Boring No: BR-15	

SOIL TYPE LEGEND

0 - BOTTOM OF BORING
1 - PLASTIC CLAYS
2 - CLAY/SILT SAND MIXTURES, SILTS & MARLS
3 - CLEAN SAND
4 - SOFT LIMESTONE, VERY SHELLY SANDS
5 - VOID (NO CAPACITY)

STATIC PILE BEARING CAPACITY ANALYSIS - SPT97	Page 4
Project No: 92407.011	SR 924 PD&E Study - East Extension
Boring No: BR-15	

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 18.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.3	7.14	16.56	23.70	11.85	56.81
16.0	-4.3	7.87	17.89	25.76	12.88	61.53
17.0	-5.3	8.56	19.58	28.14	14.07	67.31
18.0	-6.3	9.26	21.54	30.80	15.40	73.87
19.0	-7.3	10.06	23.49	33.55	16.77	80.53
20.0	-8.3	11.00	25.37	36.37	18.18	87.10
21.0	-9.3	12.11	26.72	38.83	19.41	92.27
22.0	-10.3	13.35	27.50	40.85	20.43	95.85
23.0	-11.3	14.70	28.35	43.05	21.53	99.76
24.0	-12.3	16.14	29.34	45.48	22.74	104.15
25.0	-13.3	17.64	30.40	48.04	24.02	108.85
26.0	-14.3	19.15	31.47	50.62	25.31	113.55
27.0	-15.3	20.67	32.51	53.18	26.59	118.19
28.0	-16.4	22.23	33.54	55.77	27.88	122.84
29.0	-17.4	23.86	34.37	58.23	29.12	126.98
30.0	-18.4	25.56	34.93	60.49	30.24	130.34
31.0	-19.4	27.31	35.22	62.53	31.27	132.97
32.0	-20.4	29.11	36.23	65.34	32.67	137.81
33.0	-21.4	30.94	38.39	69.33	34.66	146.10
34.0	-22.4	32.75	41.72	74.46	37.23	157.89
35.0	-23.4	34.46	45.61	80.07	40.04	171.29
36.0	-24.4	36.08	49.79	85.87	42.93	185.44
37.0	-25.4	37.65	53.87	91.53	45.76	199.27
38.0	-26.4	39.23	57.24	96.47	48.23	210.94
39.0	-27.4	45.81	59.76	105.57	52.78	225.09
40.0	-28.4	47.41	59.98	107.38	53.69	227.33
41.0	-29.4	49.02	60.46	109.48	54.74	230.41
42.0	-30.4	50.70	60.95	111.65	55.82	233.55
43.0	-31.4	52.75	61.24	113.99	56.99	236.46
44.0	-32.4	55.40	61.58	116.98	58.49	240.14
45.0	-33.4	59.11	65.40	124.51	62.25	255.31
46.0	-34.4	62.42	65.68	128.10	64.05	259.47
47.0	-35.4	65.57	65.76	131.34	65.67	262.86
48.0	-36.4	68.51	65.70	134.21	67.11	265.62

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.4	71.41	65.64	137.05	68.52	268.32
50.0	-38.4	74.42	65.78	140.20	70.10	271.76
51.0	-39.4	77.51	66.24	143.75	71.87	276.22
52.0	-40.4	80.48	67.10	147.58	73.79	281.78
53.0	-41.4	83.20	68.33	151.53	75.77	288.20
54.0	-42.4	85.71	69.95	155.66	77.83	295.56
55.0	-43.4	87.95	71.90	159.85	79.93	303.65
56.0	-44.4	89.71	74.78	164.49	82.24	314.04
57.0	-45.4	94.73	80.75	175.48	87.74	336.98
58.0	-46.4	96.50	81.29	177.79	88.90	340.38
59.0	-47.4	98.09	83.20	181.29	90.64	347.69
60.0	-48.4	99.53	86.83	186.36	93.18	360.02
61.0	-49.4	101.04	92.21	193.25	96.63	377.68
62.0	-50.4	102.92	97.89	200.81	100.41	396.59
63.0	-51.4	105.28	102.44	207.72	103.86	412.60
64.0	-52.4	108.13	105.06	213.19	106.59	423.31
65.0	-53.4	111.34	106.35	217.69	108.84	430.38
66.0	-54.4	114.91	106.48	221.38	110.69	434.34
67.0	-55.4	118.15	103.49	221.65	110.82	428.64
68.0	-56.4	120.93	101.63	222.56	111.28	425.83
69.0	-57.4	123.21	101.03	224.25	112.12	426.31
70.0	-58.4	125.22	101.21	226.43	113.22	428.86
71.0	-59.4	127.16	100.96	228.12	114.06	430.05
72.0	-60.4	129.04	99.97	229.01	114.51	428.96
73.0	-61.4	130.91	97.82	228.73	114.36	424.36
74.0	-62.4	132.84	94.88	227.71	113.86	417.47
75.0	-63.4	134.81	91.50	226.31	113.16	409.31
76.0	-64.3	136.97	88.11	225.08	112.54	401.31
77.0	-65.3	139.44	84.55	223.99	111.99	393.09
78.0	-66.3	144.81	68.27	213.08	106.54	349.62
79.0	-67.3	147.87	65.87	213.73	106.87	345.47
80.0	-68.3	151.12	66.52	217.64	108.82	350.69
81.0	-69.3	154.55	67.71	222.27	111.13	357.70
82.0	-70.3	157.79	68.57	226.36	113.18	363.49
83.0	-71.3	160.59	69.27	229.85	114.93	368.39
84.0	-72.3	163.01	70.33	233.34	116.67	374.00
85.0	-73.3	165.10	71.79	236.89	118.45	380.47
86.0	-74.3	167.09	73.08	240.17	120.08	386.33
87.0	-75.3	170.94	77.29	248.23	124.12	402.81
88.0	-76.3	172.87	75.30	248.18	124.09	398.78
89.0	-77.3	174.82	73.73	248.55	124.28	396.02
90.0	-78.3	176.79	72.94	249.73	124.87	395.61

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 91.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB=121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 10

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
{concrete pile, square section}
WIDTH OF PILE WP = 24.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.3	9.33	26.85	36.18	18.09	89.89
16.0	-4.3	10.29	28.21	38.50	19.25	94.92
17.0	-5.3	11.19	29.88	41.07	20.53	100.83
18.0	-6.3	11.91	32.35	44.27	22.13	108.97
19.0	-7.3	12.71	35.10	47.82	23.91	118.03
20.0	-8.3	13.64	38.07	51.71	25.86	127.85
21.0	-9.3	14.70	41.31	56.00	28.00	138.62
22.0	-10.3	15.92	44.63	60.55	30.28	149.81
23.0	-11.3	17.37	47.70	65.07	32.53	160.48
24.0	-12.3	19.02	50.64	69.65	34.83	170.92
25.0	-13.3	20.79	53.67	74.46	37.23	181.80
26.0	-14.3	22.75	55.13	77.88	38.94	188.15
27.0	-15.3	24.72	56.63	81.35	40.67	194.61
28.0	-16.4	26.75	57.90	84.64	42.32	200.43
29.0	-17.4	28.86	58.74	87.61	43.80	205.09
30.0	-18.4	31.07	60.02	91.09	45.55	211.14
31.0	-19.4	33.35	62.75	96.10	48.05	221.59
32.0	-20.4	35.69	67.03	102.72	51.36	236.78
33.0	-21.4	38.08	72.31	110.38	55.19	255.00
34.0	-22.4	40.44	78.03	118.47	59.23	274.52
35.0	-23.4	42.69	84.24	126.93	63.46	295.41
36.0	-24.4	44.82	90.62	135.44	67.72	316.68
37.0	-25.4	46.90	96.35	143.25	71.62	335.94
38.0	-26.4	48.99	100.85	149.84	74.92	351.55
39.0	-27.4	51.08	103.79	154.87	82.43	372.45
40.0	-28.4	53.25	103.91	157.16	83.58	374.98
41.0	-29.4	55.49	104.09	159.58	84.79	377.76
42.0	-30.4	57.81	104.20	172.07	86.03	380.58
43.0	-31.4	70.54	104.62	175.16	87.58	384.39
44.0	-32.4	73.99	105.36	179.35	89.68	390.08
45.0	-33.4	78.81	118.45	197.26	98.63	434.16
46.0	-34.4	83.28	118.75	202.03	101.01	439.53
47.0	-35.4	87.58	118.69	206.27	103.13	443.64
48.0	-36.4	91.58	118.39	209.97	104.99	446.76

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.4	95.38	118.45	213.83	106.92	450.73
50.0	-38.4	99.21	118.96	218.17	109.09	456.10
51.0	-39.4	103.15	119.89	223.05	111.52	462.84
52.0	-40.4	107.07	121.08	228.14	114.07	470.29
53.0	-41.4	110.71	122.54	233.25	116.63	478.32
54.0	-42.4	113.89	124.85	238.74	119.37	488.44
55.0	-43.4	116.32	128.70	245.02	122.51	502.41
56.0	-44.4	118.02	134.23	252.25	126.12	520.71
57.0	-45.4	126.31	155.24	281.54	140.77	592.02
58.0	-46.4	128.68	155.94	284.62	142.31	596.49
59.0	-47.4	130.85	158.22	289.06	144.53	605.50
60.0	-48.4	132.91	161.83	294.74	147.37	618.41
61.0	-49.4	135.22	165.66	300.88	150.44	632.21
62.0	-50.4	138.10	168.63	306.72	153.36	643.98
63.0	-51.4	141.57	170.48	312.04	156.02	653.00
64.0	-52.4	145.51	171.54	317.05	158.53	660.12
65.0	-53.4	149.89	171.54	321.43	160.72	664.51
66.0	-54.4	154.72	170.29	325.00	162.50	665.58
67.0	-55.4	159.41	168.82	328.22	164.11	665.85
68.0	-56.4	163.27	168.58	331.85	165.93	669.02
69.0	-57.4	166.30	169.58	335.88	167.94	675.04
70.0	-58.4	168.94	169.38	338.31	169.16	677.06
71.0	-59.4	171.49	168.13	339.61	169.81	675.86
72.0	-60.4	173.96	166.36	340.32	170.16	673.05
73.0	-61.4	176.43	164.71	341.14	170.57	670.57
74.0	-62.4	178.97	163.16	342.12	171.06	668.44
75.0	-63.4	181.58	161.26	342.84	171.42	665.35
76.0	-64.3	184.45	158.82	343.27	171.63	660.90
77.0	-65.3	187.74	155.82	343.57	171.78	655.22
78.0	-66.3	193.08	118.25	311.32	155.66	547.82
79.0	-67.3	197.15	117.33	314.49	157.24	549.15
80.0	-68.3	201.32	118.53	319.85	159.92	556.91
81.0	-69.3	205.48	119.27	324.76	162.38	563.30
82.0	-70.3	209.51	120.23	329.74	164.87	570.20
83.0	-71.3	213.17	121.36	334.53	167.27	577.26
84.0	-72.3	216.49	122.61	339.10	169.55	584.33
85.0	-73.3	219.58	123.76	343.34	171.67	590.86
86.0	-74.3	222.52	124.53	347.05	173.52	596.10
87.0	-75.3	227.92	136.29	364.21	182.11	636.79
88.0	-76.3	230.50	134.35	364.85	182.42	633.54
89.0	-77.3	233.10	132.95	366.05	183.03	631.96

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 90.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 11

C. PILE INFORMATION

TEST PILE SECTION ISECT = 1
(concrete pile, square section)
WIDTH OF PILE WP = 30.00 INCHES

D. PILE CAPACITY VS. PENETRATION

TEST PILE LENGTH (FT)	PILE TIP ELEV (FT)	ULTIMATE SIDE FRICTION (TONS)	MOBILIZED END BEARING (TONS)	ESTIMATED DAVISSON CAPACITY (TONS)	ALLOWABLE PILE CAPACITY (TONS)	ULTIMATE PILE CAPACITY (TONS)
15.0	-3.3	11.34	41.45	52.78	26.39	135.68
16.0	-4.3	12.43	43.32	55.75	27.87	142.39
17.0	-5.3	13.48	45.39	58.87	29.44	149.66
18.0	-6.3	14.50	47.67	62.18	31.09	157.53
19.0	-7.3	15.57	50.16	65.73	32.86	166.04
20.0	-8.3	16.74	52.88	69.62	34.81	175.39
21.0	-9.3	18.02	55.86	73.87	36.94	185.59
22.0	-10.3	19.30	59.82	79.12	39.56	198.76
23.0	-11.3	20.76	64.05	84.82	42.41	212.92
24.0	-12.3	22.42	68.54	90.95	45.48	228.03
25.0	-13.3	24.21	73.23	97.44	48.72	243.90
26.0	-14.3	26.14	77.60	103.74	51.87	258.94
27.0	-15.3	28.26	81.20	109.46	54.73	271.85
28.0	-16.4	30.50	84.76	115.26	57.63	284.79
29.0	-17.4	32.73	90.18	122.91	61.46	303.27
30.0	-18.4	35.20	96.52	131.72	65.86	324.76
31.0	-19.4	37.99	103.26	141.25	70.62	347.78
32.0	-20.4	40.84	110.58	151.42	75.71	372.59
33.0	-21.4	43.75	118.26	162.02	81.01	398.54
34.0	-22.4	46.64	126.09	172.74	86.37	424.92
35.0	-23.4	49.41	133.77	183.18	91.59	450.71
36.0	-24.4	52.05	141.38	193.43	96.71	476.18
37.0	-25.4	54.62	148.12	202.75	101.37	498.99
38.0	-26.4	57.22	152.76	209.98	104.99	515.50
39.0	-27.4	76.35	155.19	231.53	115.77	541.90
40.0	-28.4	79.08	155.26	234.33	117.17	544.85
41.0	-29.4	81.86	155.52	237.38	118.69	548.43
42.0	-30.4	84.68	156.06	240.74	120.37	552.86
43.0	-31.4	88.00	156.89	244.88	122.44	558.65
44.0	-32.4	92.28	157.81	250.09	125.05	565.71
45.0	-33.4	98.52	184.73	283.25	141.62	652.71
46.0	-34.4	104.09	185.10	289.20	144.60	659.41
47.0	-35.4	109.40	185.14	294.54	147.27	664.82
48.0	-36.4	114.24	185.12	299.36	149.68	669.61

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

(FT)	(FT)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)	(TONS)
49.0	-37.4	118.80	185.48	304.28	152.14	675.25
50.0	-38.4	123.49	186.34	309.83	154.91	682.51
51.0	-39.4	128.36	187.61	315.97	157.99	691.19
52.0	-40.4	133.11	189.37	322.48	161.24	701.23
53.0	-41.4	137.17	192.30	329.47	164.73	714.07
54.0	-42.4	140.50	196.82	337.32	168.66	730.95
55.0	-43.4	143.06	203.15	346.20	173.10	752.49
56.0	-44.4	144.93	211.08	356.01	178.00	778.17
57.0	-45.4	157.89	255.04	412.92	206.46	923.00
58.0	-46.4	160.85	255.93	416.78	208.39	928.64
59.0	-47.4	163.69	257.98	421.67	210.83	937.63
60.0	-48.4	166.54	260.29	426.83	213.42	947.42
61.0	-49.4	169.77	262.14	431.91	215.96	956.19
62.0	-50.4	173.67	263.31	436.99	218.49	963.61
63.0	-51.4	178.31	263.48	441.78	220.89	968.73
64.0	-52.4	183.57	262.58	446.15	223.07	971.30
65.0	-53.4	189.33	260.85	450.18	225.09	971.89
66.0	-54.4	195.56	258.37	453.93	226.97	970.67
67.0	-55.4	201.54	255.86	457.41	228.70	969.13
68.0	-56.4	206.34	253.22	459.56	229.78	966.00
69.0	-57.4	210.09	250.98	461.06	230.53	963.02
70.0	-58.4	213.34	248.77	462.11	231.05	959.65
71.0	-59.4	216.49	247.04	463.53	231.76	957.61
72.0	-60.4	219.54	246.13	465.67	232.83	957.94
73.0	-61.4	222.59	245.65	468.24	234.12	959.55
74.0	-62.4	225.74	244.31	470.05	235.02	958.68
75.0	-63.4	228.99	241.71	470.69	235.35	954.11
76.0	-64.3	232.56	238.68	471.24	235.62	948.59
77.0	-65.3	236.68	237.40	474.07	237.04	948.87
78.0	-66.3	241.34	189.81	431.15	215.58	810.77
79.0	-67.3	246.44	187.83	434.28	217.14	809.94
80.0	-68.3	251.66	190.15	441.81	220.90	822.11
81.0	-69.3	256.89	191.03	447.92	223.96	829.98
82.0	-70.3	262.01	192.06	454.07	227.03	838.18
83.0	-71.3	266.86	192.84	459.71	229.85	845.40
84.0	-72.3	271.47	193.32	464.79	232.39	851.42
85.0	-73.3	275.71	193.68	469.40	234.70	856.76
86.0	-74.3	279.39	194.37	473.76	236.88	862.51
87.0	-75.3	284.90	217.94	502.85	251.42	938.74

*** ERROR *** PILE TIP TOO NEAR END OF BORING LOG FOR LENGTH = 88.00 FT

D. PILE CAPACITY VS. PENETRATION (CONTINUED)

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.

PROBLEM COMPLETED ANALYSIS NO. 12

SR 924 (GRATIGNY PARKWAY) EAST EXTENSION
GEOSOL PROJECT No. 210151
MIAMI-DADE COUNTY, FLORIDA

Nsafety = 1.24 * Nautomatic (PER FDOT SFH, 2011)

$N_{automatic}$	N_{safety}
1	1.24
2	2
3	4
4	5
5	6
6	7
7	9
8	10
9	11
10	12
11	14
12	15
13	16
14	17
15	19
16	20
17	21
18	22
19	24
20	25
21	26
22	27
23	29
24	30
25	31
26	32
27	33
28	35
29	36
30	37
31	38
32	40
33	41
34	42
35	43
36	45
37	46
38	47
39	48
40	50
41	51
42	52
43	53
44	55
45	56
46	57
47	58
48	60
49	61
50	62

$N_{automatic}$	N_{safety}
51	63
52	64
53	66
54	67
55	68
56	69
57	71
58	72
59	73
60	74
61	76
62	77
63	78
64	79
65	81
66	82
67	83
68	84
69	86
70	87
71	88
72	89
73	91
74	92
75	93
76	94
77	95
78	97
79	98
80	99
81	100
82	102
83	103
84	104
85	105
86	107
87	108
88	109
89	110
90	112
91	113
92	114
93	115
94	117
95	118
96	119
97	120
98	122
99	123
100	124

PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011

GEOSOL, Inc.

PRELIMINARY COMPRESSION CAPACITIES FOR DRILLED SHAFT FOUNDATIONS

Assumptions:

1) Ignore end bearing contribution.
2) Compression capacity derived only from the natural Fort Thompson Limestone Formation.
3) Ultimate compression pile capacity (Q_{ult}) is determined as follows:

$$Q_{ult} = \Sigma [\pi * D * L * f_{(su)design}]$$

4) Factored compression capacity ($Q_{factored}$) is estimated as follows:

$$Q_{factored} = \phi * Q_{ult}$$

5) Based on the FDOT *Structures Design Guidelines*, the resistance factor (ϕ) = 0.60 for redundant foundations and ϕ = 0.50 for non-redundant foundations.

6) Based on results of the SPT borings, the bearing layer for the drilled shaft foundations that is part of the Fort Thompson Limestone Formation is variable in thickness and ranges from about elevation -25 to about elevation -65 feet (NGVD, 1929). For final design, a pier by pier evaluation of the bearing layer will be required if drilled shafts are selected for foundation support.

7) For preliminary design purposes, provide rock socket lengths ranging from 5 to 15 feet for evaluation of drilled shaft foundations. During final design if drilled shaft foundations are selcted for bridge support, design shall be carried out in accordance with the guidelines presented in the latest version of the FDOT *Soils and Foundations Handbook*.

SHAFT GEOMETRY

Shaft Diameter (in) **36**

CONTRIBUTION OF SKIN FRICTION FROM FT. THOMPSON LIMESTONE FORMATION

Average SPT N_{safety} Value =	45	BPF	Average value for Fort Thompson Limestone For.
Unit Skin Friction =	4.5	TSF	Based on $f_{(su)design} = 0.1N_{safety}$
Design Skin Friction $f_{(su)design}$ =	4.5	TSF	For preliminary design without rock coring data
Q_{ult} =	42.4	* L	TONS

Rock Socket Length, L (FEET)	Q_{ult} (TONS)	Redundant Foundation		Non-Redundant Foundation	
		Resistance Factor, ϕ	$Q_{factored}$ (TONS)	Resistance Factor, ϕ	$Q_{factored}$ (TONS)
5	212	0.6	127	0.5	106
6	254	0.6	153	0.5	127
7	297	0.6	178	0.5	148
8	339	0.6	204	0.5	170
9	382	0.6	229	0.5	191
10	424	0.6	254	0.5	212
11	466	0.6	280	0.5	233
12	509	0.6	305	0.5	254
13	551	0.6	331	0.5	276
14	594	0.6	356	0.5	297
15	636	0.6	382	0.5	318

CONCLUSIONS AND RECOMMENDATIONS:

1) PREFERRED DRILLED SHAFT DIAMETER OR LOADING INFORMATION HAVE **NOT** BEEN PROVIDED TO US AT THIS POINT. PROVIDE RECOMMENDED DRILLED SHAFT CAPACITIES FOR 5 TO 15-FOOT LONG ROCK SOCKETS INTO THE BEARING LAYER IN THE FORT THOMPSON LIMESTONE FORMATION.

PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011

GEOSOL, inc.

PRELIMINARY COMPRESSION CAPACITIES FOR DRILLED SHAFT FOUNDATIONS

Assumptions:

1) Ignore end bearing contribution.
2) Compression capacity derived only from the natural Fort Thompson Limestone Formation.
3) Ultimate compression pile capacity (Q_{ult}) is determined as follows:

$$Q_{ult} = \Sigma [\pi * D * L * f_{(su)design}]$$

4) Factored compression capacity ($Q_{factored}$) is estimated as follows:

$$Q_{factored} = \phi * Q_{ult}$$

5) Based on the FDOT *Structures Design Guidelines*, the resistance factor (ϕ) = 0.60 for redundant foundations and ϕ = 0.50 for non-redundant foundations.

6) Based on results of the SPT borings, the bearing layer for the drilled shaft foundations that is part of the Fort Thompson Limestone Formation is variable in thickness and ranges from about elevation -25 to about elevation -65 feet (NGVD, 1929). For final design, a pier by pier evaluation of the bearing layer will be required if drilled shafts are selected for foundation support.

7) For preliminary design purposes, provide rock socket lengths ranging from 5 to 15 feet for evaluation of drilled shaft foundations. During final design if drilled shaft foundations are selcted for bridge support, design shall be carried out in accordance with the guidelines presented in the latest version of the FDOT *Soils and Foundations Handbook*.

SHAFT GEOMETRY

Shaft Diameter (in) **48**

CONTRIBUTION OF SKIN FRICTION FROM FT. THOMPSON LIMESTONE FORMATION

Average SPT N_{safety} Value =	45	BPF	Average value for Fort Thompson Limestone For.
Unit Skin Friction =	4.5	TSF	Based on $f_{(su)design} = 0.1N_{safety}$
Design Skin Friction $f_{(su)design}$ =	4.5	TSF	For preliminary design without rock coring data
Q_{ult} =	56.5	* L	TONS

Rock Socket Length, L (FEET)	Q_{ult} (TONS)	Redundant Foundation		Non-Redundant Foundation	
		Resistance Factor, ϕ	$Q_{factored}$ (TONS)	Resistance Factor, ϕ	$Q_{factored}$ (TONS)
5	283	0.6	170	0.5	141
6	339	0.6	203	0.5	170
7	396	0.6	237	0.5	198
8	452	0.6	271	0.5	226
9	509	0.6	305	0.5	254
10	565	0.6	339	0.5	283
11	622	0.6	373	0.5	311
12	678	0.6	407	0.5	339
13	735	0.6	441	0.5	367
14	791	0.6	475	0.5	396
15	848	0.6	509	0.5	424

CONCLUSIONS AND RECOMMENDATIONS:

1) PREFERRED DRILLED SHAFT DIAMETER OR LOADING INFORMATION HAVE **NOT** BEEN PROVIDED TO US AT THIS POINT. PROVIDE RECOMMENDED DRILLED SHAFT CAPACITIES FOR 5 TO 15-FOOT LONG ROCK SOCKETS INTO THE BEARING LAYER IN THE FORT THOMPSON LIMESTONE FORMATION.

PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011

GEOSOL, inc.

PRELIMINARY COMPRESSION CAPACITIES FOR DRILLED SHAFT FOUNDATIONS

Assumptions:

1) Ignore end bearing contribution.
2) Compression capacity derived only from the natural Fort Thompson Limestone Formation.
3) Ultimate compression pile capacity (Q_{ult}) is determined as follows:

$$Q_{ult} = \Sigma [\pi * D * L * f_{(su)design}]$$

4) Factored compression capacity ($Q_{factored}$) is estimated as follows:

$$Q_{factored} = \phi * Q_{ult}$$

5) Based on the FDOT *Structures Design Guidelines*, the resistance factor (ϕ) = 0.60 for redundant foundations and ϕ = 0.50 for non-redundant foundations.

6) Based on results of the SPT borings, the bearing layer for the drilled shaft foundations that is part of the Fort Thompson Limestone Formation is variable in thickness and ranges from about elevation -25 to about elevation -65 feet (NGVD, 1929). For final design, a pier by pier evaluation of the bearing layer will be required if drilled shafts are selected for foundation support.

7) For preliminary design purposes, provide rock socket lengths ranging from 5 to 15 feet for evaluation of drilled shaft foundations. During final design if drilled shaft foundations are selcted for bridge support, design shall be carried out in accordance with the guidelines presented in the latest version of the FDOT *Soils and Foundations Handbook*.

SHAFT GEOMETRY

Shaft Diameter (in) **60**

CONTRIBUTION OF SKIN FRICTION FROM FT. THOMPSON LIMESTONE FORMATION

Average SPT N_{safety} Value =	45	BPF	Average value for Fort Thompson Limestone For.
Unit Skin Friction =	4.5	TSF	Based on $f_{(su)design} = 0.1N_{safety}$
Design Skin Friction $f_{(su)design}$ =	4.5	TSF	For preliminary design without rock coring data
Q_{ult} =	70.7	* L	TONS

Rock Socket Length, L (FEET)	Q_{ult} (TONS)	Redundant Foundation		Non-Redundant Foundation	
		Resistance Factor, ϕ	$Q_{factored}$ (TONS)	Resistance Factor, ϕ	$Q_{factored}$ (TONS)
5	354	0.6	212	0.5	177
6	424	0.6	255	0.5	212
7	495	0.6	297	0.5	247
8	566	0.6	339	0.5	283
9	636	0.6	382	0.5	318
10	707	0.6	424	0.5	354
11	778	0.6	467	0.5	389
12	848	0.6	509	0.5	424
13	919	0.6	551	0.5	460
14	990	0.6	594	0.5	495
15	1061	0.6	636	0.5	530

CONCLUSIONS AND RECOMMENDATIONS:

1) PREFERRED DRILLED SHAFT DIAMETER OR LOADING INFORMATION HAVE **NOT** BEEN PROVIDED TO US AT THIS POINT. PROVIDE RECOMMENDED DRILLED SHAFT CAPACITIES FOR 5 TO 15-FOOT LONG ROCK SOCKETS INTO THE BEARING LAYER IN THE FORT THOMPSON LIMESTONE FORMATION.

PD&E STUDY SERVICES FOR SR 924 EAST EXTENSION
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011

GEOSOL, inc.

PRELIMINARY COMPRESSION CAPACITIES FOR DRILLED SHAFT FOUNDATIONS

Assumptions:

1) Ignore end bearing contribution.
2) Compression capacity derived only from the natural Fort Thompson Limestone Formation.
3) Ultimate compression pile capacity (Q_{ult}) is determined as follows:

$$Q_{ult} = \Sigma [\pi * D * L * f_{(su)design}]$$

4) Factored compression capacity ($Q_{factored}$) is estimated as follows:

$$Q_{factored} = \phi * Q_{ult}$$

5) Based on the FDOT *Structures Design Guidelines*, the resistance factor (ϕ) = 0.60 for redundant foundations and ϕ = 0.50 for non-redundant foundations.

6) Based on results of the SPT borings, the bearing layer for the drilled shaft foundations that is part of the Fort Thompson Limestone Formation is variable in thickness and ranges from about elevation -25 to about elevation -65 feet (NGVD, 1929). For final design, a pier by pier evaluation of the bearing layer will be required if drilled shafts are selected for foundation support.

7) For preliminary design purposes, provide rock socket lengths ranging from 5 to 15 feet for evaluation of drilled shaft foundations. During final design if drilled shaft foundations are selcted for bridge support, design shall be carried out in accordance with the guidelines presented in the latest version of the FDOT *Soils and Foundations Handbook*.

SHAFT GEOMETRY

Shaft Diameter (in) **72**

CONTRIBUTION OF SKIN FRICTION FROM FT. THOMPSON LIMESTONE FORMATION

Average SPT N_{safety} Value =	45	BPF	Average value for Fort Thompson Limestone For.
Unit Skin Friction =	4.5	TSF	Based on $f_{(su)design} = 0.1N_{safety}$
Design Skin Friction $f_{(su)design}$ =	4.5	TSF	For preliminary design without rock coring data
Q_{ult} =	84.8	* L	TONS

Rock Socket Length, L (FEET)	Q_{ult} (TONS)	Redundant Foundation		Non-Redundant Foundation	
		Resistance Factor, ϕ	$Q_{factored}$ (TONS)	Resistance Factor, ϕ	$Q_{factored}$ (TONS)
5	424	0.6	254	0.5	212
6	509	0.6	305	0.5	254
7	594	0.6	356	0.5	297
8	678	0.6	407	0.5	339
9	763	0.6	458	0.5	382
10	848	0.6	509	0.5	424
11	933	0.6	560	0.5	466
12	1018	0.6	611	0.5	509
13	1102	0.6	661	0.5	551
14	1187	0.6	712	0.5	594
15	1272	0.6	763	0.5	636

CONCLUSIONS AND RECOMMENDATIONS:

1) PREFERRED DRILLED SHAFT DIAMETER OR LOADING INFORMATION HAVE **NOT** BEEN PROVIDED TO US AT THIS POINT. PROVIDE RECOMMENDED DRILLED SHAFT CAPACITIES FOR 5 TO 15-FOOT LONG ROCK SOCKETS INTO THE BEARING LAYER IN THE FORT THOMPSON LIMESTONE FORMATION.

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{AUTO} = 1.24*N_{SAFETY}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT "N" VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION

2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS

STATISTICS OF VALUES

BORING No.	STRATA	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF	PHI (DEGREES) PHI = 28+N/4	N VALUE SAFETY (BPF)	PHI (DEGREES) PHI = 28+N/4
BR-1	Granular Fill	9	11.2	30.8		
	Granular Fill	12	14.9	31.7		
	Granular Fill	7	8.7	30.2		
	Granular Fill	7	8.7	30.2		
BR-2	Granular Fill	13	16.1	32.0		
	Granular Fill	16	19.8	33.0		
	Granular Fill	12	14.9	31.7	7.4	29.9
	Granular Fill	6	7.4	29.9	7.4	29.9
BR-3	Granular Fill	19	23.6	33.9	7.4	29.9
	Granular Fill	20	24.8	34.2	8.7	30.2
BR-4	Granular Fill	10	12.4	31.1	8.7	30.2
	Granular Fill	10	12.4	31.1	8.7	30.2
	Granular Fill	2	2.5	28.6	8.7	30.2
BR-5	Granular Fill	17	21.1	33.3	9.9	30.5
	Granular Fill	17	21.1	33.3	11.2	30.8
	Granular Fill	23	28.5	35.1	11.2	30.8
	Granular Fill	8	9.9	30.5	11.2	30.8
	Granular Fill	6	7.4	29.9	11.2	30.8
	Granular Fill	34	42.2	38.6	12.4	31.1
BR-6	Granular Fill	28	34.7	36.7	12.4	31.1
	Granular Fill	5	6.2	29.6	13.6	31.4
	Granular Fill	2	2.5	28.6	13.6	31.4
BR-7	Granular Fill	11	13.6	31.4	14.9	31.7
	Granular Fill	12	14.9	31.7	14.9	31.7
	Granular Fill	7	8.7	30.2	14.9	31.7
BR-8	Granular Fill	15	18.6	32.7	16.1	32.0
	Granular Fill	9	11.2	30.8	16.1	32.0
BR-9	Granular Fill	11	13.6	31.4	17.4	32.4
	Granular Fill	5	6.2	29.6	18.6	32.7
	Granular Fill	5	6.2	29.6	18.6	32.7
BR-10	Granular Fill	14	17.4	32.4	19.8	33.0
	Granular Fill	15	18.6	32.7	21.1	33.3
	Granular Fill	9	11.2	30.8	21.1	33.3
BR-11	Granular Fill	25	31.0	35.8	21.1	33.3
	Granular Fill	17	21.1	33.3	22.3	33.6
BR-12	Granular Fill	25	31.0	35.8	23.6	33.9
	Granular Fill	13	16.1	32.0		
BR-13	Granular Fill	18	22.3	33.6		
	Granular Fill	9	11.2	30.8		
BR-14	Granular Fill	6	7.4	29.9		
BR-15	Granular Fill	5	6.2	29.6		
	Granular Fill	7	8.7	30.2		

MINIMUM	2.0	2.5	28.6	MINIMUM	7.4	29.9
MAXIMUM	34.0	42.2	38.6	MAXIMUM	23.6	33.9
AVERAGE	12.4	15.4	31.8	**AVERAGE**	**14.1**	**31.5**
STA. DEV.	7.1	8.8	2.2	STA. DEV.	4.9	1.2
AVE-STA. DEV.	5.3	6.6	29.6	AVE-STA. DEV.	9.3	30.3
AVE+STA. DEV.	19.5	24.2	34.1	AVE+STA. DEV.	19.0	33

FOR DESIGN USE PHI = 32 DEGREES FOR LIMEROCK FILL.

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE. $N_{AUTO.} = 1.24*N_{SAFETY}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT "N" VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION
2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).
3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	PHI (DEGREES) PHI = 33+N/4
BR-1	MIA. LIMESTONE	11	13.6	36.4
	MIA. LIMESTONE	24	29.8	40.5
	MIA. LIMESTONE	17	21.1	38.3
	MIA. LIMESTONE	16	19.8	38.0
	MIA. LIMESTONE	13	16.1	37.0
BR-4	MIA. LIMESTONE	11	13.6	36.4
	MIA. LIMESTONE	16	19.8	38.0
	MIA. LIMESTONE	18	22.3	38.6
	MIA. LIMESTONE	8	9.9	35.5
	MIA. LIMESTONE	6	7.4	34.9
	MIA. LIMESTONE	13	16.1	37.0
	MIA. LIMESTONE	7	8.7	35.2
	MIA. LIMESTONE	12	14.9	36.7
	MIA. LIMESTONE	2	2.5	33.6
BR-5	MIA. LIMESTONE	6	7.4	34.9
	MIA. LIMESTONE	13	16.1	37.0
	MIA. LIMESTONE	2	2.5	33.6
	MIA. LIMESTONE	5	6.2	34.6
BR-6	MIA. LIMESTONE	5	6.2	34.6
	MIA. LIMESTONE	8	9.9	35.5
	MIA. LIMESTONE	0	0.0	33.0
	MIA. LIMESTONE	3	3.7	33.9
	MIA. LIMESTONE	6	7.4	34.9
	MIA. LIMESTONE	4	5.0	34.3
BR-7	MIA. LIMESTONE	15	18.6	37.7
	MIA. LIMESTONE	11	13.6	36.4
	MIA. LIMESTONE	17	21.1	38.3
BR-11	MIA. LIMESTONE	11	13.6	36.4

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	PHI (DEGREES) PHI = 28+N/4
6.2	34.6
6.2	34.6
7.4	34.9
7.4	34.9
7.4	34.9
8.7	35.2
9.9	35.5
9.9	35.5
13.6	36.4
13.6	36.4
13.6	36.4
13.6	36.4
14.9	36.7
16.1	37.0
16.1	37.0
16.1	37.0
18.6	37.7

MINIMUM	0.0	0.0	33.0	MINIMUM	6.2	34.6
MAXIMUM	24.0	29.8	40.5	MAXIMUM	18.6	37.7
AVERAGE	10.0	12.4	36.1	**AVERAGE**	**11.7**	**35.9**
STA. DEV.	5.7	7.1	1.8	STA. DEV.	3.9	1.0
AVE-STA. DEV.	4.3	5.3	34.3	AVE-STA. DEV.	7.8	34.9
AVE+STA. DEV.	15.7	19.5	37.9	AVE+STA. DEV.	15.6	36.9

FOR PRELIMINARY DESIGN USE ϕ = 36 DEGREES FOR MIAMI LIMESTONE SINCE 10 BPF < N < 25 BPF PER REQUIREMENTS OF THE FDOT's SFH (2011)

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{AUTO} = 1.24*N_{SAFETY}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT "N" VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION

2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
BR-1	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	15	18.6	32.7
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	12	14.9	31.7
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	36	44.6	39.2
	Ft. Thompson Sand	12	14.9	31.7
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	38	47.1	39.8
	Ft. Thompson Sand	16	19.8	33.0
	Ft. Thompson Sand	16	19.8	33.0
	Ft. Thompson Sand	3	3.7	28.9
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	19	23.6	33.9
BR-2	Ft. Thompson Sand	5	6.2	29.6
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	12	14.9	31.7
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	3	3.7	28.9
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	15	18.6	32.7
	Ft. Thompson Sand	12	14.9	31.7
	Ft. Thompson Sand	17	21.1	33.3
	Ft. Thompson Sand	26	32.2	36.1
	Ft. Thompson Sand	18	22.3	33.6
	Ft. Thompson Sand	15	18.6	32.7
	Ft. Thompson Sand	17	21.1	33.3
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	28	34.7	36.7
BR-3	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	13	16.1	32.0

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{AUTO} = 1.24*N_{SAFETY}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT "N" VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION.

2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	12	14.9	31.7
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	15	18.6	32.7
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	18	22.3	33.6
	Ft. Thompson Sand	26	32.2	36.1
	Ft. Thompson Sand	24	29.8	35.5
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	27	33.5	36.4
	Ft. Thompson Sand	21	26.0	34.5
BR-4	Ft. Thompson Sand	0	0.0	28.0
	Ft. Thompson Sand	0	0.0	28.0
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	28	34.7	36.7
	Ft. Thompson Sand	18	22.3	33.6
BR-5	Ft. Thompson Sand	3	3.7	28.9
	Ft. Thompson Sand	3	3.7	28.9
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	24	29.8	35.5
	Ft. Thompson Sand	27	33.5	36.4
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	17	21.1	33.3
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	18	22.3	33.6
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	17	21.1	33.3
	Ft. Thompson Sand	18	22.3	33.6
BR-6	Ft. Thompson Sand	4	5.0	29.3
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	2	2.5	28.6
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	20	24.8	34.2
	Ft. Thompson Sand	20	24.8	34.2
	Ft. Thompson Sand	15	18.6	32.7
	Ft. Thompson Sand	35	43.4	38.9
	Ft. Thompson Sand	18	22.3	33.6
	Ft. Thompson Sand	19	23.6	33.9
BR-7	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	11	13.6	31.4

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
9.9	30.5
9.9	30.5
9.9	30.5
9.9	30.5
9.9	30.5
9.9	30.5
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
11.2	30.8
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
12.4	31.1
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{AUTO} = 1.24*N_{SAFETY}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT "N" VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION

2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
	Ft. Thompson Sand	12	14.9	31.7
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	17	21.1	33.3
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	17	21.1	33.3
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	19	23.8	33.9
	Ft. Thompson Sand	24	29.8	35.5
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	17	21.1	33.3
BR-8	Ft. Thompson Sand	4	5.0	29.3
	Ft. Thompson Sand	5	6.2	29.6
	Ft. Thompson Sand	6	7.4	29.9
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	17	21.1	33.3
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	20	24.8	34.2
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	20	24.8	34.2
	Ft. Thompson Sand	24	29.8	35.5
	Ft. Thompson Sand	19	23.6	33.9
BR-9	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	5	6.2	29.6
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	4	5.0	29.3
	Ft. Thompson Sand	6	7.4	29.9
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	26	32.2	36.1
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	20	24.8	34.2

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
13.6	31.4
14.9	31.7
14.9	31.7
14.9	31.7
14.9	31.7
14.9	31.7
14.9	31.7
14.9	31.7
14.9	31.7
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
16.1	32.0
17.4	32.4
17.4	32.4
17.4	32.4
17.4	32.4
17.4	32.4
17.4	32.4
17.4	32.4
17.4	32.4
17.4	32.4
17.4	32.4
17.4	32.4
18.6	32.7
18.6	32.7
18.6	32.7
18.6	32.7

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95 FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95 MIAMI-DADE COUNTY, FLORIDA MDX WORK PROGRAM No. 92407.011 *GEOSOL PROJECT No. 210151*

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{AUTO} = 1.24*N_{SAFETY}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT "N" VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION.

2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	23	28.5	35.1
BR-10	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	20	24.8	34.2
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	26	32.2	36.1
BR-11	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	12	14.9	31.7
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	26	32.2	36.1
	Ft. Thompson Sand	24	29.8	35.5
	Ft. Thompson Sand	28	34.7	36.7
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	26	32.2	36.1
BR-12	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	6	7.4	29.9
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	4	5.0	29.3

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
18.6	32.7
19.8	33.0
19.8	33.0
21.1	33.3
21.1	33.3
21.1	33.3
21.1	33.3
21.1	33.3
21.1	33.3
21.1	33.3
21.1	33.3
22.3	33.6
22.3	33.6
22.3	33.6
22.3	33.6
22.3	33.6
22.3	33.6
22.3	33.6
22.3	33.6
22.3	33.6
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
23.6	33.9
24.8	34.2
24.8	34.2
24.8	34.2
24.8	34.2
24.8	34.2
24.8	34.2
26.0	34.5
26.0	34.5
26.0	34.5
26.0	34.5
26.0	34.5
26.0	34.5
26.0	34.5

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{AUTO} = 1.24*N_{SAFETY}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

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2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
	Ft. Thompson Sand	26	32.2	36.1
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	18	22.3	33.6
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	23	28.5	35.1
	Ft. Thompson Sand	27	33.5	36.4
BR-13	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	27	33.5	36.4
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	29	36.0	37.0
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	24	29.8	35.5
BR-14	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	6	7.4	29.9
	Ft. Thompson Sand	5	6.2	29.6
	Ft. Thompson Sand	5	6.2	29.6
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	12	14.9	31.7
	Ft. Thompson Sand	10	12.4	31.1
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	18	22.3	33.6
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	18	22.3	33.6
	Ft. Thompson Sand	24	29.8	35.5
	Ft. Thompson Sand	22	27.3	34.8
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	23	28.5	35.1
BR-15	Ft. Thompson Sand	6	7.4	29.9
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	8	9.9	30.5
	Ft. Thompson Sand	6	7.4	29.9
	Ft. Thompson Sand	8	9.9	30.5

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
26.0	34.5
26.0	34.5
26.0	34.5
26.0	34.5
26.0	34.5
26.0	34.5
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8
27.3	34.8

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{AUTO} = 1.24*N_{SAFETY}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT "N" VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION.

2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4
	Ft. Thompson Sand	7	8.7	30.2
	Ft. Thompson Sand	9	11.2	30.8
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	13	16.1	32.0
	Ft. Thompson Sand	14	17.4	32.4
	Ft. Thompson Sand	11	13.6	31.4
	Ft. Thompson Sand	26	32.2	36.1
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	24	29.8	35.5
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	25	31.0	35.8
	Ft. Thompson Sand	19	23.6	33.9
	Ft. Thompson Sand	21	26.0	34.5
	Ft. Thompson Sand	26	32.2	36.1
	Ft. Thompson Sand	25	31.0	35.8

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	PHI(DEGREES) PHI = 28+N/4

MINIMUM	0.0	0.0	28.0	MINIMUM	9.9	30.5
MAXIMUM	38.0	47.1	39.8	MAXIMUM	27.3	34.8
AVERAGE	15.0	18.5	32.6	**AVERAGE**	**17.5**	**32.4**
STA. DEV.	7.2	8.9	2.2	STA. DEV.	5.7	1.4
AVE-STA. DEV.	7.8	9.7	30.4	AVE-STA. DEV.	11.8	31.0
AVE+STA. DEV.	22.1	27.4	34.9	AVE+STA. DEV.	23.3	34

FOR DESIGN USE PHI = 32 DEGREES.

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{60/70} = 1.24^{*}N_{Safety}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT 'N' VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION.

2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	Su = 0.1N (TSF)
BR-1	FT. THOMPSON L/S	61	75.6	7.6
	FT. THOMPSON L/S	97	120.3	12.0
	FT. THOMPSON L/S	600	744.0	74.4
	FT. THOMPSON L/S	9	11.2	1.1
	FT. THOMPSON L/S	150	186.0	18.6
	FT. THOMPSON L/S	600	744.0	74.4
BR-2	FT. THOMPSON L/S	24	29.8	3.0
	FT. THOMPSON L/S	59	73.2	7.3
	FT. THOMPSON L/S	200	248.0	24.8
	FT. THOMPSON L/S	23	28.5	2.9
	FT. THOMPSON L/S	19	23.6	2.4
	FT. THOMPSON L/S	10	12.4	1.2
	FT. THOMPSON L/S	35	43.4	4.3
	FT. THOMPSON L/S	15	18.6	1.9
BR-3	FT. THOMPSON L/S	30	37.2	3.7
	FT. THOMPSON L/S	300	372.0	37.2
	FT. THOMPSON L/S	99	122.8	12.3
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	30	37.2	3.7
	FT. THOMPSON L/S	29	36.0	3.6
	FT. THOMPSON L/S	32	39.7	4.0
	FT. THOMPSON L/S	27	33.5	3.4
BR-4	FT. THOMPSON L/S	200	248.0	24.8
	FT. THOMPSON L/S	81	100.4	10.0
	FT. THOMPSON L/S	91	112.8	11.3
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	150	186.0	18.6
	FT. THOMPSON L/S	64	79.4	7.9
	FT. THOMPSON L/S	34	42.2	4.2
	FT. THOMPSON L/S	600	744.0	74.4
BR-5	FT. THOMPSON L/S	35	43.4	4.3
	FT. THOMPSON L/S	65	80.6	8.1
	FT. THOMPSON L/S	66	81.8	8.2
	FT. THOMPSON L/S	95	119.0	11.9
	FT. THOMPSON L/S	61	75.6	7.6
	FT. THOMPSON L/S	45	55.8	5.6
	FT. THOMPSON L/S	150	186.0	18.6
	FT. THOMPSON L/S	17	21.1	2.1
	FT. THOMPSON L/S	13	16.1	1.6
	FT. THOMPSON L/S	50	62.0	6.2
BR-6	FT. THOMPSON L/S	600	744.0	74.4
	FT. THOMPSON L/S	38	47.1	4.7
	FT. THOMPSON L/S	53	65.7	6.6
	FT. THOMPSON L/S	600	744.0	74.4
	FT. THOMPSON L/S	300	372.0	37.2
	FT. THOMPSON L/S	600	744.0	74.4
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	37	45.9	4.6
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	600	744.0	74.4
	FT. THOMPSON L/S	21	26.0	2.6
BR-7	FT. THOMPSON L/S	19	23.6	2.4
	FT. THOMPSON L/S	40	49.6	5.0
	FT. THOMPSON L/S	36	44.6	4.5
	FT. THOMPSON L/S	24	29.8	3.0
	FT. THOMPSON L/S	33	40.9	4.1
	FT. THOMPSON L/S	35	43.4	4.3
	FT. THOMPSON L/S	32	39.7	4.0
	FT. THOMPSON L/S	36	44.6	4.5
	FT. THOMPSON L/S	28	34.7	3.5
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	29	36.0	3.6
BR-8	FT. THOMPSON L/S	24	29.8	3.0
	FT. THOMPSON L/S	30	37.2	3.7
	FT. THOMPSON L/S	21	26.0	2.6
	FT. THOMPSON L/S	57	70.7	7.1

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	Su = 0.1N (TSF)
11.2	1.1
12.4	1.2
16.1	1.6
18.6	1.9
18.6	1.9
19.8	2.0
21.1	2.1
21.1	2.1
22.3	2.2
22.3	2.2
23.6	2.4
23.6	2.4
23.6	2.4
23.6	2.4
24.8	2.5
24.8	2.5
24.8	2.5
24.8	2.5
24.8	2.5
24.8	2.5
26.0	2.6
26.0	2.6
26.0	2.6
26.0	2.6
26.0	2.6
26.0	2.6
26.0	2.6
26.0	2.6
27.3	2.7
27.3	2.7
27.3	2.7
27.3	2.7
27.3	2.7
28.5	2.9
28.5	2.9
28.5	2.9
28.5	2.9
28.5	2.9
28.5	2.9
28.5	2.9
28.5	2.9
29.8	3.0
29.8	3.0
29.8	3.0
29.8	3.0
29.8	3.0
29.8	3.0
29.8	3.0
31.0	3.1
31.0	3.1
31.0	3.1
31.0	3.1
31.0	3.1
31.0	3.1
31.0	3.1
31.0	3.1
31.0	3.1
31.0	3.1
31.0	3.1
32.2	3.2
32.2	3.2
32.2	3.2
32.2	3.2
32.2	3.2
32.2	3.2
32.2	3.2
32.2	3.2
32.2	3.2
32.2	3.2

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{60/70} = 1.24\%_{Energy}$ (FDOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT 'N' VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION

2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - 0 (STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).

3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS.

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	Su = 0.1N (TSF)
	FT. THOMPSON L/S	200	248.0	24.8
	FT. THOMPSON L/S	34	42.2	4.2
	FT. THOMPSON L/S	55	68.2	6.8
	FT. THOMPSON L/S	21	26.0	2.6
	FT. THOMPSON L/S	22	27.3	2.7
	FT. THOMPSON L/S	300	372.0	37.2
	FT. THOMPSON L/S	31	38.4	3.8
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	27	33.5	3.4
BR-9	FT. THOMPSON L/S	21	26.0	2.6
	FT. THOMPSON L/S	20	24.8	2.5
	FT. THOMPSON L/S	111	137.6	13.8
	FT. THOMPSON L/S	200	248.0	24.8
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	35	43.4	4.3
	FT. THOMPSON L/S	28	34.7	3.5
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	23	28.5	2.9
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	29	36.0	3.6
	FT. THOMPSON L/S	20	24.8	2.5
BR-10	FT. THOMPSON L/S	18	22.3	2.2
	FT. THOMPSON L/S	34	42.2	4.2
	FT. THOMPSON L/S	29	36.0	3.6
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	111	137.6	13.8
	FT. THOMPSON L/S	120	148.8	14.9
	FT. THOMPSON L/S	21	26.0	2.6
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	28	34.7	3.5
	FT. THOMPSON L/S	20	24.8	2.5
	FT. THOMPSON L/S	22	27.3	2.7
	FT. THOMPSON L/S	36	44.6	4.5
	FT. THOMPSON L/S	23	28.5	2.9
	FT. THOMPSON L/S	24	29.8	3.0
	FT. THOMPSON L/S	21	26.0	2.6
BR-11	FT. THOMPSON L/S	24	29.8	3.0
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	28	34.7	3.5
	FT. THOMPSON L/S	32	39.7	4.0
	FT. THOMPSON L/S	122	151.3	15.1
	FT. THOMPSON L/S	300	372.0	37.2
	FT. THOMPSON L/S	31	38.4	3.8
	FT. THOMPSON L/S	28	34.7	3.5
	FT. THOMPSON L/S	19	23.6	2.4
	FT. THOMPSON L/S	31	38.4	3.8
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	29	36.0	3.6
	FT. THOMPSON L/S	20	24.8	2.5
	FT. THOMPSON L/S	21	26.0	2.6
BR-12	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	22	27.3	2.7
	FT. THOMPSON L/S	19	23.6	2.4
	FT. THOMPSON L/S	28	34.7	3.5
	FT. THOMPSON L/S	46	57.0	5.7
	FT. THOMPSON L/S	122	151.3	15.1
	FT. THOMPSON L/S	28	34.7	3.5
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	23	28.5	2.9
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	25	31.0	3.1
BR-13	FT. THOMPSON L/S	33	40.9	4.1
	FT. THOMPSON L/S	55	68.2	6.8
	FT. THOMPSON L/S	30	37.2	3.7
	FT. THOMPSON L/S	200	248.0	24.8
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	25	31.0	3.1

STATISTICS OF VALUES

N VALUE SAFETY (BPF)	Su = 0.1N (TSF)
32.2	3.2
33.5	3.4
33.5	3.4
33.5	3.4
33.5	3.4
33.5	3.4
33.5	3.4
33.5	3.4
33.5	3.4
33.5	3.4
33.5	3.4
33.5	3.4
34.7	3.5
34.7	3.5
34.7	3.5
34.7	3.5
34.7	3.5
34.7	3.5
34.7	3.5
36.0	3.6
36.0	3.6
36.0	3.6
36.0	3.6
36.0	3.6
36.0	3.6
36.0	3.6
37.2	3.7
37.2	3.7
37.2	3.7
37.2	3.7
38.4	3.8
38.4	3.8
38.4	3.8
38.4	3.8
39.7	4.0
39.7	4.0
39.7	4.0
40.9	4.1
40.9	4.1
42.2	4.2
42.2	4.2
42.2	4.2
43.4	4.3
43.4	4.3
43.4	4.3
43.4	4.3
44.6	4.5
44.6	4.5
44.6	4.5
44.6	4.5
45.9	4.6
47.1	4.7
48.4	4.8
49.6	5.0
49.6	5.0
55.8	5.6
57.0	5.7
62.0	6.2
65.7	6.6
68.2	6.8
68.2	6.8
70.7	7.1
73.2	7.3
75.6	7.6
75.6	7.6
79.4	7.9

PD&E STUDY SERVICES FOR THE SR 924 EAST EXTENSION TO I-95
FROM NW 32ND AVENUE TO NW 7TH AVENUE/I-95
MIAMI-DADE COUNTY, FLORIDA
MDX WORK PROGRAM No. 92407.011
GEOSOL PROJECT No. 210151

SUMMARY OF N-VALUES AND REDUCTION OF SHEAR STRENGTH VALUES

GRANULAR FILL
MIAMI LIMESTONE FORMATION
FT. THOMPSON FORMATION LIMESTONE
FT. THOMPSON FORMATION SAND

NOTE: $N_{60/12} = 1.24 N_{SAFETY}$ (FOOT "SOILS AND FOUNDATIONS HANDBOOK" 2011)

STATISTICAL ANALYSES OF DATA

1. FOR SPT "N" VALUE DATA, CALCULATE MEAN AND STANDARD DEVIATION
2. NORMALIZE DATA BY EXCLUDING ALL TEST RESULTS WHICH ARE LESS THAN (MEAN - STANDARD DEVIATION) AND WHICH ARE GREATER THAN (MEAN + STANDARD DEVIATION).
3. RECALCULATE THE MEAN OF THE DATA WHICH REMAINS

STATISTICS OF VALUES

BORING No.	STRATUM	N VALUE AUTO. (BPF)	N VALUE SAFETY (BPF)	Su = 0.1N (TSF)
	FT. THOMPSON L/S	22	27.3	2.7
	FT. THOMPSON L/S	20	24.8	2.5
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	18	22.3	2.2
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	25	31.0	3.1
BR-14	FT. THOMPSON L/S	29	36.0	3.6
	FT. THOMPSON L/S	16	19.8	2.0
	FT. THOMPSON L/S	15	18.6	1.9
	FT. THOMPSON L/S	21	26.0	2.6
	FT. THOMPSON L/S	17	21.1	2.1
	FT. THOMPSON L/S	20	24.8	2.5
	FT. THOMPSON L/S	29	36.0	3.6
	FT. THOMPSON L/S	36	44.6	4.5
	FT. THOMPSON L/S	200	248.0	24.8
	FT. THOMPSON L/S	39	48.4	4.8
	FT. THOMPSON L/S	31	38.4	3.8
	FT. THOMPSON L/S	23	28.5	2.9
	FT. THOMPSON L/S	23	28.5	2.9
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	23	28.5	2.9
	FT. THOMPSON L/S	26	32.2	3.2
BR-15	FT. THOMPSON L/S	22	27.3	2.7
	FT. THOMPSON L/S	24	29.8	3.0
	FT. THOMPSON L/S	25	31.0	3.1
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	40	49.6	5.0
	FT. THOMPSON L/S	300	372.0	37.2
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	24	29.8	3.0
	FT. THOMPSON L/S	27	33.5	3.4
	FT. THOMPSON L/S	26	32.2	3.2
	FT. THOMPSON L/S	27	33.5	3.4

N VALUE SAFETY (BPF)	Su = 0.1N (TSF)
80.6	8.1
81.8	8.2
100.4	10.0
112.8	11.3
119.0	11.9
120.3	12.0
122.8	12.3
137.6	13.8
137.6	13.8
148.8	14.9
151.3	15.1
151.3	15.1
186.0	18.6
186.0	18.6
186.0	18.6

MINIMUM	9.0	11.2	1.1	MINIMUM	11.2	1.1
MAXIMUM	600.0	744.0	74.4	MAXIMUM	186.0	18.6
AVERAGE	73.0	90.5	9.1	**AVERAGE**	**44.9**	**4.5**
STA. DEV.	124.0	153.8	15.4	STA. DEV.	33.6	3.4
AVE-STA. DEV.	-51.0	-63.3	-6.3	AVE-STA. DEV.	11.4	1.1
AVE+STA. DEV.	197.0	244.3	24.4	AVE+STA. DEV.	78.5	7.9

OR PRELIMINARY DESIGN USE $f_{(SU)\ DESIGN}$ = 4.5 TSF

APPENDIX "E"

FHWA Geotechnical Report Checklist

GEOTECHNICAL REPORT REVIEW CHECKLISTS

The following checklists cover the major information and recommendations which should be addressed in project geotechnical reports.

Section A covers site investigation information which will be common to all geotechnical reports for any type of geotechnical feature.

Sections B through I cover the basic information and recommendations which should be presented in geotechnical reports for specific geotechnical features: centerline cuts and embankments, embankments over soft ground, landslides, retaining walls, structure foundations and material sites.

Subject — Page

SECTION A, Site Investigation Information 2
SECTION B, Centerline Cuts and Embankments 4
SECTION C, Embankments Over Soft Ground 6
SECTION D, Landslide Corrections 8
SECTION E, Retaining Walls 10
SECTION F, Structure Foundations - Spread Footings 11
SECTION G, Structure Foundations - Piles 12
SECTION H, Structure Foundations - Drilled Shafts 15
SECTION I, Materials Sites 16

In most sections and subsections, the user has been provided supplemental page references to the Soils and Foundations Workshop Manual. These page numbers appear in parentheses ( ) immediately adjacent to the section or subsection topic. Generalist engineers are particularly encouraged to read these references. Additional reference information on these topics is available in the Geotechnical Notebook, a copy of which is kept in all Division Offices by either the Bridge Engineer or the engineer with the soils responsibility.

Certain checklist items are of vital importance to have been included in the geotechnical report. These checklist items have been marked with an asterisk (*). A negative response to any of these asterisked items is cause to contact the geotechnical engineer for clarification of this omission.

"GTR REVIEW CHECKLIST" (SITE INVESTIGATION)

A. Site Investigation Information

Since the most important step in the geotechnical design process is the conduct of an adequate site investigation, presentation of the subsurface information in the geotechnical report and on the plans deserves careful attention.

Geotechnical Report Text (Introduction) (Pages 322-325)	Yes	No	Unknown or N/A
1. Is the general location of the investigation described and/or vicinity map included?	X		
2. Is scope and purpose of the investigation summarized?	X		
3. Is concise description given of geologic setting and topography of area?	X		
4. Are the field explorations and laboratory tests on which the report is based listed?	X		
5. Is general description of subsurface soil, rock, and groundwater conditions given?	X		
*6. Is the following information included with the geotechnical report (typically included in report appendices):			
a. Test hole logs? (Pages 25-33)	X		
b. Field test data?	X		
c. Laboratory test data? (Pages 74-75)	X		
d. Photographs (if pertinent)?			X
Plan and Subsurface Profile (Pages 24, 47-49, 335)			
*7. Is a plan and subsurface profile of the investigation site provided?	X		

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

A. Site Investigation Information (Cont.)	Yes	No	Unknown or N/A
8. Are the field explorations located on the plan view?	X		
*9. Does the conducted site investigation meet minimum criteria outlined in Table 2?	X		
10. Are the explorations plotted and correctly numbered on the profile at their true elevation and location?	X		
11. Does the subsurface profile contain a word description and/or graphic depiction of soil and rock types?	X		
12. Are groundwater levels and data measured shown on the subsurface profile?	X		
Subsurface Profile or Field Boring Log (Pages 16-17, 25-29)			
13. Are sample types and depths noted?	X		
*14. Are SPT blow counts, percent core recovery, and RQD values shown?	X		
15. If cone penetration tests were made, are plots of cone resistance and friction ratio shown with depth?			X
Laboratory Test Data (Pages 60, 74-75)			
*16. Were lab soil classification tests such as natural moisture content, gradation, Atterberg limits, performed on selected representative samples to verify field visual soil identifications?	X		
17. Are laboratory test results such as shear strength (Page 62), consolidation (Page 68), etc., included and/or summarized?			X

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

"GTR REVIEW CHECKLIST" (CENTERLINE CUTS AND EMBANKMENTS)

B. Centerline Cuts and Embankments (Pages 6-9)

In addition to the basic information listed in Section A, is the following information provided in the project geotechnical report?

Are station to station descriptions included for:	Yes	No	Unknown or N/A
1. Existing surface and subsurface drainage?			X
2. Evidence of springs and excessively wet areas?			X
3. Slides, slumps, and faults noted along the alignment?			X
Are station to station recommendations included for the following:			
General Soil Cut or Fill			
4. Specific surface/subsurface drainage recommendations.			X
5. Excavation limits of unsuitable materials?			X
*6. Erosion protection measures for backslopes, side slopes, and ditches, including riprap recommendations or special slope treatments?			X
Soil Cuts (Pages 101-102)			
*7. Recommended cut slope design?	X		
8. Are clay cut slopes designed for minimum F.S. = 1.50?			X
9. Special usage of excavated soils?			X
10. Estimated shrink-swell factors for excavated materials?			X
11. If answer to 3 is yes, are recommendations			X

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

B. Centerline Cuts and Embankments (Cont.)	Yes	No	Unknown or N/A
Fills (Pages 77-79)			
11. Recommended fill slope design?	____	____	X
12. Will fill slope design provide minimum F.S. = 1.25?	____	____	X
Rock Slopes			
*13. Are recommended slope designs and blasting specifications provided?	____	____	X
*14. Is the need for special rock slope stabilization measures, e.g., rockfall catch ditch, wire mesh slope protection, shotcrete, rock bolts, addressed?	____	____	X
15. Has the use of "template" designs been avoided (such as designing all rock slopes on 1/4 to 1 rather than designing based on orientation of major rock jointing)?	____	____	X
*16. Have effects of blast induced vibrations on adjacent structures been evaluated?	____	____	X

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

THIS SECTION IS NOT APPLICABLE TO THE PROJECT
"GTR REVIEW CHECKLIST" (EMBANKMENTS OVER SOFT GROUND)

C. Embankments over Soft Ground

Where embankments must be built over soft ground (such as soft clays, organic silts, or peat), stability and settlement of the fill should be carefully evaluated. In addition to the basic information listed in Section A, is the following information provided in the project geotechnical report?

Embankment Stability (Pages 77-79, 95-97)	Yes	No	Unknown or N/A
*1. Has the stability of the embankment been evaluated for minimum safety factors of 1.25 for side slope stability and 1.30 for end slope stability of bridge approach embankments?			
*2. Has the shear strength of the foundation soil been determined from lab testing and/or field vane shear or static cone penetrometer tests?			
*3. If the proposed embankment does not provide minimum factors of safety given above, are recommendations given for feasible treatment alternates which will increase factor of safety to minimum acceptable (such as change alignment, lower grade, use stabilizing counterberms, excavate and replace weak subsoil, fill stage construction, lightweight fill, geotextile fabric reinforcement, etc.)?			
*4. Are cost comparisons of treatment alternates given and a specific alternate recommended?			
Settlement of Subsoil (Pages 146-160)			
5. Have consolidation properties of fine grained soils been determined from laboratory consolidation tests?			
*6. Have settlement amount and settlement time been estimated?			
7. For bridge approach embankments, are recommendations made to get the settlement out before the bridge abutment is constructed (waiting period, surcharge, or wick drains)?			

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

THIS SECTION IS NOT APPLICABLE TO THE PROJECT

C. Embankments Over Soft Ground (Cont.)	Yes	No	Unknown or N/A
8. If geotechnical instrumentation is proposed to monitor fill stability and settlement, are detailed recommendations provided on the number, type, and specific locations of the proposed instruments?			
9. Construction Considerations (Pages 183, 331-334)			
a. If excavation and replacement of unsuitable shallow surface deposits (peat, muck, topsoil) is recommended. Are vertical and lateral limits of recommended excavation provided?			
b. Where a surcharge treatment is recommended, are plan and cross-section of surcharge treatment provided in geotechnical report for benefit of the roadway designer?			
c. Are instructions or specifications providing concerning instrumentation, fill placement rates and estimated delay times for the contractor?			
d. Are recommendations provided for disposal of surcharge material after the settlement period is complete?			

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

THIS SECTION IS NOT APPLICABLE TO THE PROJECT
GTR REVIEW CHECKLIST" (LANDSLIDE CORRECTIONS)

D. Landslide Corrections (Pages 77-80, 103-105)

In addition to the basic information listed in Section A, is the following information provided in the landslide study geotechnical report? (Refer to Table 4 for guidance on the necessary technical support data for correction of slope instabilities)

	Yes	No	Unknown or N/A
*1. Is a site plan and scaled cross-section provided showing ground surface conditions both before and after failure?			
*2. Is the past history of the slide area summarized - including movement history, summary of maintenance work and costs, and previous corrective measures taken (if any)?			
*3. Is a summary given of results of site investigation, field and lab testing, and stability analysis, including cause(s) of the slide?			
Plan			
4. Are detailed slide features - including locations of ground surface cracks, head scarp, and toe bulge - shown on the site plan?			
Cross Section			
*5. Are the cross sections used for stability analysis included with the soil profile, water table, soil unit weights, soil shear strengths, and failure plane shown as it exists?			
6. Is slide failure plane location determined from slope indicators?			
*7. For an active slide, was soil strength along the slide failure plane backfigured using a safety factor equal to 1.0 at the time of failure?			

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

D. Landslide Corrections (Cont.)	Yes	No	Unknown or N/A

Text

*8. Is the following information presented for each proposed correction alternate: (typical correction methods include buttress, shear key, rebuild slope, surface drainage, subsurface drainage-interceptor, drain trenches or horizontal drains and retaining structures)?

a. Cross-section of proposed alternate?

b. Estimated safety factor?

c. Estimated cost?

d. Advantages and disadvantages?

9. Is a recommended correction alternate(s) given which provide a minimum F.S. = 1.25?

10. If horizontal drains are proposed as part of slide correction, has subsurface investigation located definite water bearing strata that can be tapped with horizontal drains?

11. If a toe counterberm is proposed to stabilize an active slide, has field investigation confirmed that the toe of the existing slide does not extend beyond the toe of the proposed counterberm?

12. Construction Considerations

a. Where proposed correction will require excavation into the toe of an active slide (such as for buttress or shear key), has the "during construction backslope F.S." with open excavation been determined?
b. If open excavation F.S. is near 1.0, has excavation stage construction been proposed?
c. Has seasonal fluctuation of groundwater table been considered?
d. Are special construction features, techniques and materials described and specified?

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

THIS SECTION IS NOT APPLICABLE TO THE PROJECT

E. Retaining Walls (See Section 5 of "Geotechnical Engineering Notebook")

In addition to the basic information listed in Section A, is the following information provided in the project geotechnical report?

	Yes	No	Unknown or N/A
*1. Does the geotechnical report include recommended soil strength parameters and groundwater elevation for use in computing wall design lateral earth pressures and factor of safety for overturning, sliding, and external slope stability?			
2. Is it proposed to bid alternate wall designs?			
*3. Are acceptable reasons given for the choice and/or exclusion of certain wall types (gravity, reinforced soil, tieback, cantilever, etc.)?			
*4. Is an analysis of the wall stability included with minimum acceptable factors of safety against overturning (F.S. = 2.0), sliding (F.S. = 1.5), and external slope stability (F.S. = 1.5)?			
5. If wall will be placed on compressible foundation soils, is estimated total settlement, differential settlement, and time rate of settlement given?			
6. Will wall types selected for compressible foundation soils allow differential movement without distress?			
7. Are wall drainage details including materials and compaction provided?			
8. Construction Considerations:			
a. Are excavation requirements covered - safe slopes for open excavations, need for sheeting or shoring?			
b. Fluctuation of groundwater table?			

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

"THIS SECTION IS NOT APPLICABLE TO THE PROJECT"

THIS SECTION IS NOT APPLICABLE TO THE PROJECT

"GTR REVIEW CHECKLIST" (SPREAD FOOTINGS)

F. Structure Foundations - Spread Footings (Pages 191-205)

In addition to the basic information listed in Section A, is the following information provided in the project foundation report?

	Yes	No	Unknown or N/A
*1. Are spread footings recommended for foundation support? If not, are reasons for not using them discussed.			
*2. Is recommended bottom of footing elevation and reason for recommendation (e.g., based on frost depth, estimated scour depth, or depth to competent bearing material) given?			
*3. Is recommended allowable soil or rock bearing pressure given?			
*4. Is estimated footing settlement and time given?			
*5. Where spread footings are recommended to support abutments placed in the bridge end fills, are special gradation and compaction requirements provided for select end fill and backwall drainage material? (Pages 137-141)			
6. Construction Considerations:			
a. Have the materials been adequately described on which the footing is to be placed so the project inspector can verify that material is as expected?			
b. Have excavation requirements been included for safe slopes in open excavations, need for sheeting or shoring, etc.?			
c. Has fluctuations of the groundwater table been addressed?			

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

THIS SECTION IS NOT APPLICABLE FOR THE PD&E PHASE OF THE PROJECT

"GTR REVIEW CHECKLIST" (PILE FOUNDATIONS)

G. Structure Foundations - Piles (Pages 224-311)

In addition to the basic information listed in Section A, if pile support is recommended or given as an alternate, conclusions/recommendations should be provided in the project geotechnical report for the following:

	Yes	No	Unknown or N/A
*1. Is the recommended pile type given (displacement, nondisplacement, pipe pile, concrete pile, H-pile, etc.) with valid reasons given for choice and/or exclusion? (Pages 224-226)			
2. Do you consider the recommended pile type(s) to be the most suitable and economical?			
*3. Are estimated pile lengths and estimated tip elevations given for the recommended allowable pile design loads?			
4. Do you consider the recommended design loads to be reasonable?			
5. Has pile group settlement been estimated (only of practical significance for friction pile groups ending in cohesive soil)? (Pages 245-247)			
6. If a specified or minimum pile tip elevation is recommended, is a clear reason given for the required tip elevation, such as underlying soft layers, scour, downdrag, piles uneconomically long, etc.?			
*7. Has design analysis (wave equation analysis) verified that the recommended pile section can be driven to the estimated or specified tip elevation without damage (especially applicable where dense gravel-cobble-boulder layers or other obstructions have to be penetrated?			
8. Where scour piles are required, have pile design and driving criteria been established based on mobilizing the full pile design capacity below the scour zone?			

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

G. Pile Foundations (Cont.)	Yes	No	Unknown or N/A
9. Where lateral load capacity of large diameter piles is an important design consideration, are p-y curves (load vs. deflection) or soil parameters given in the geotechnical report to allow the structural engineer to evaluate lateral load capacity of all piles?			
*10. For pile supported bridge abutments over soft ground:			
a. Has abutment pile downdrag load been estimated and solutions such as bitumen coating considered in design? Not generally required if surcharging of the fill is being performed. (Pages 248-251)			
b. Is bridge approach slab recommended to moderate differential settlement between bridge ends and fill?			
c. If the majority of subsoil settlement will not be removed prior to abutment construction (by surcharging), has estimate been made of the amount of abutment rotation that can occur due to lateral squeeze of soft subsoil? (Pages 114-115)			
d. Does the geotechnical report specifically alert the structural designer to the estimated horizontal abutment movement?			
11. If bridge project is large, has pile load test program been recommended? (Pages 229-302)			
12. For a major structure in high seismic risk area, has assessment been made of liquefaction potential of foundation soil during design earthquake (note: only loose saturated sands and silts are "susceptible" to liquefaction)?			

*A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for clarification and/or to discuss the project.

G. Pile Foundations (Cont.)

	Yes	No	Unknown or N/A
13. Construction Considerations: (Pages 279-311) Have the following important construction considerations been adequately addressed?			
a. Pile driving details such as: boulders, or obstructions which may be encountered during driving - need for preaugering, jetting, spudding, need for pile tip reinforcement, driving shoes, etc.?			
b. Excavation requirements - safe slope for open excavations, need for sheeting or shoring? Fluctuation of groundwater table?			
c. Have effects of pile driving operation on adjacent structures been evaluated such as protection against damage caused by footing excavations or pile driving vibrations?			
d. Is preconstruction condition survey to be made of adjacent structures to prevent unwarranted damage claims?			
e. On large pile driving projects have other methods of pile driving control been considered such as dynamic testing or wave equation analysis?			

THIS SECTION IS NOT APPLICABLE FOR THE PD&E PHASE OF THE PROJECT

"GTR REVIEW CHECKLIST" (DRILLED SHAFTS)

H. Structure Foundations - Drilled Shafts (Pages 252-260)

In addition to the basic information listed in Section A, if drilled shaft support is recommended or given as an alternate, are conclusions/recommendations provided in the project foundation report for the following:

	Yes	No	Unknown or N/A
*1. Are recommended shaft diameter(s) and length(s) for allowable design loads based on an analysis using soil parameters for side friction and end bearing?			
*2. Settlement estimated for recommended design load?			
*3. Where lateral load capacity of shaft is an important design consideration, are P-Y (load vs. deflection) curves or soils data provided in geotechnical report which will allow structural engineer to evaluate lateral load capacity of shaft?			
4. Is static load test (to plunging failure) recommended?			
5. Construction Considerations:			
a. Have construction methods been evaluated, i.e., can less expensive dry method or slurry method be used or will casing be required?			
b. If casing will be required, can casing be pulled as shaft is concreted (this can result in significant cost savings or very large diameter shafts)?			
c. If artesian water was encountered in explorations, have design provisions been included to handle it (such as by requiring casing and tremie seal)?			
d. Will boulders be encountered? (Note: If boulders will be encountered, then the use of shafts should be seriously questioned due to construction installation difficulties and resultant higher cost the boulders can cause.)			

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

THIS SECTION IS NOT APPLICABLE TO THE PROJECT "GTR REVIEW CHECKLIST" (MATERIAL SITES)

I. Material Sites

In addition to the basic information listed in Section A, is the following information provided in the project Material Site Report?:

	Yes	No	Unknown or N/A
1. Material site location, including description of existing or proposed access routes and bridge load limits (if any)?			
*2. Have soil samples representative of all materials encountered during the pit investigation been submitted and tested?			
*3. Are laboratory quality test results included in the report?			
4. For aggregate sources, do the laboratory quality test results (such as L.A. abrasion, sodium sulfate, degradation, absorption, reactive aggregate, etc.) indicate if specification materials can be obtained from the deposit using normal processing methods?			
5. If the lab quality test results indicate that specification material cannot be obtained from the pit materials as they exist naturally - has the source been rejected or are detailed recommendations provided for processing or controlling production so as to ensure a satisfactory product.			
*6. For soil borrow sources, have possible difficulties been noted - such as above optimum moisture content clay-silt soils, waste due to high PI, boulders, etc?			
*7. Where high moisture content clay-silt soils must be used, are recommendations provided on the need for aeration to allow the materials to dry out sufficiently to meet compaction requirements?			
8. Are estimated shrink-swell factors provided?			

* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

I. Material Sites (Cont.)	Yes	No	Unknown or N/A
*9. Do the proven material site quantities satisfy the estimated project quantity needs?			
10. Where materials will be excavated from below the water table, has seasonal fluctuation of the water table been determined?			
11. Are special permit requirements covered?			
12. Have pit reclamation requirements been covered adequately?			
13. Has a material site sketch (plan and profile) been provided for inclusion in the plans, which contains:			
➢ Material site number?			
➢ North arrow and legal subdivision?			
➢ Test hole or test pit logs, location, number and date?			
➢ Water table elevation and date?			
➢ Depth of unsuitable overburden which will have to be stripped?			
➢ Suggested overburden disposal area?			
➢ Proposed mining area and previously mined areas?			
➢ Existing stockpile locations?			
➢ Existing or suggested access roads?			
➢ Bridge load limits?			
➢ Reclamation details?			
14. Are recommended special provisions provided?			

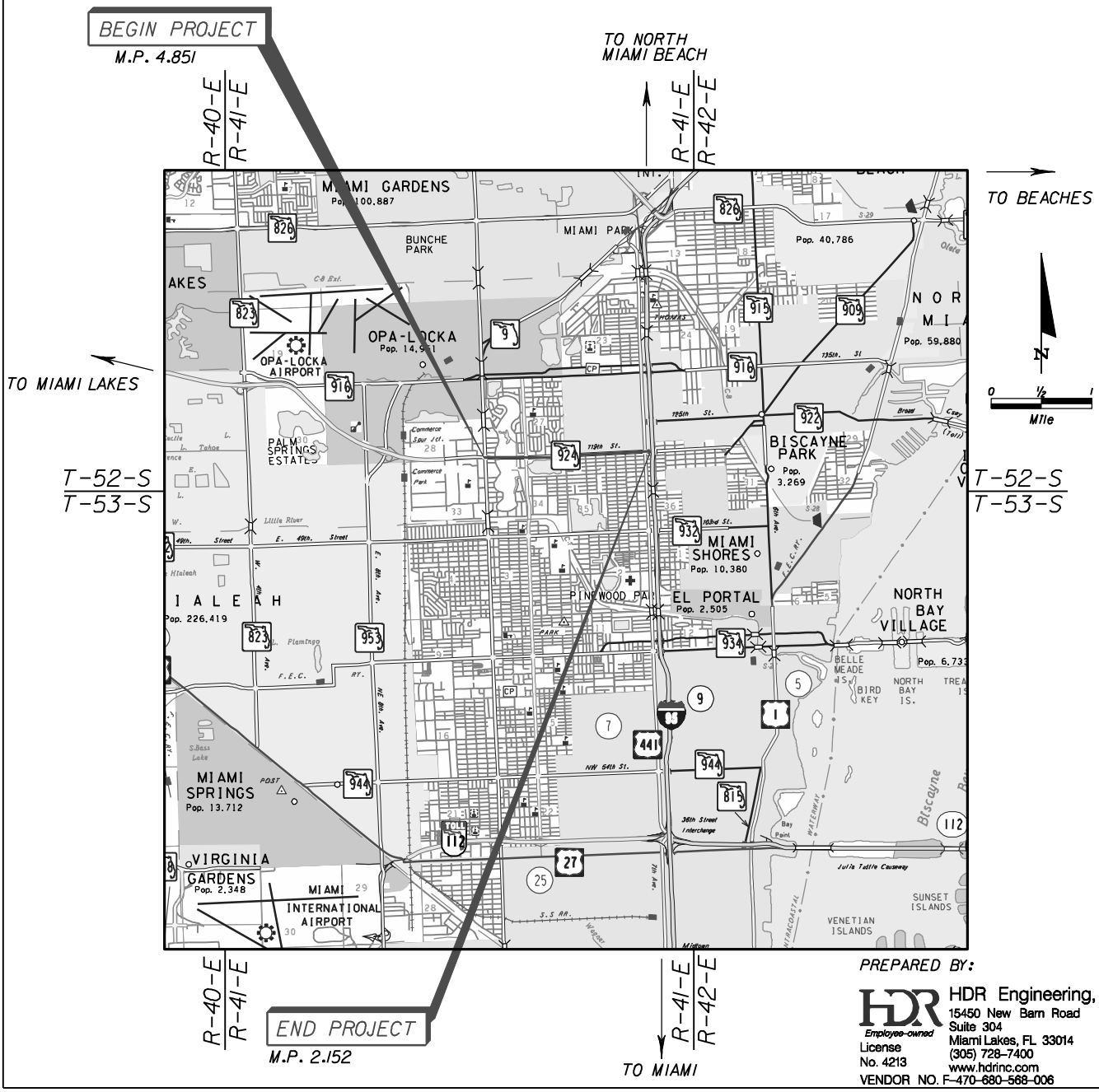
* A response other than (yes) or (N/A) for any of these checklist questions is cause to contact the appropriate geotechnical engineer for a clarification and/or to discuss the project.

Appendix D: Typical Section Package

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID.	N/A
FEDERAL AID PROJECT NO.	N/A
ROAD DESIGNATION	SR 924 AND SR 9A
COUNTY (SECTION)	MIAMI-DADE (87052)
PROJECT DESCRIPTION	SR 924/GRATIGNY PARKWAY EAST EXTENSIONTO I-95



PREPARED BY:

HDR Engineering, Inc.
15450 New Barn Road
Suite 304
Miami Lakes, FL 33014
(305) 728-7400
www.hdrinc.com
Employee-owned
License No. 4213
VENDOR NO. F-470-680-568-006

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A* COUNTY (SECTION) MIAMI-DADE (87052)

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95 (SR 9A)

PROJECT CONTROLS

FUNCTIONAL CLASSIFICATION SR 924 & SR 9A RAMPS

( ) RURAL

(X) URBAN

(X)	FREEWAY/EXPWY.	( )	MAJOR COLL.
( )	PRINCIPAL ART.	( )	MINOR COLL.
( )	MINOR ART.	( )	LOCAL

HIGHWAY SYSTEM

Yes	No	
(X)	( )	NATIONAL HIGHWAY SYSTEM (SR 9A ONLY)
(X)	( )	FLORIDA INTRASTATE HIGHWAY SYSTEM
(X)	( )	STRATEGIC INTERMODIAL SYSTEM
(X)	( )	STATE HIGHWAY SYSTEM
( )	(X)	OFF STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

(X) 1 - FREEWAY

( ) 2 - RESTRICTIVE w/Service Roads

( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing

( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing

( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing

( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing

( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION

( ) RRR INTERSTATE / FREEWAY

( ) RRR NON-INTERSTATE / FREEWAY

( ) TDLC / NEW CONSTRUCTION / RECONSTRUCTION

( ) TDLC / RRR

( ) MANUAL OF UNIFORM MINIMUM STANDARDS (FLORIDA GREENBOOK)(OFF-STATE HIGHWAY SYSTEM ONLY)

TRAFFIC

	SR 924		SR 9A RAMPS	
	YEAR	AADT	YEAR	AADT
CURRENT	2010	N/A	2010	N/A
OPENING	2020	40,000	2020	8,000-12,000
DESIGN	2040	75,000	2040	17,500-20,000
DESIGN SPEED	60		45*	
POSTED SPEED	55		-	
DISTRIBUTION	K	9.2%	K	8.0%
	D	57.2%	D	56.0%
	T_{24}	5.5%	T_{24}	4.0%

*THE DESIGN SPEED FOR THE SB TO WB AND EB TO SB RAMPS IS 40 MPH)

DESIGN SPEED APPROVALS

Alfred Lurigados, PE
MDX Chief Engineer

DATE

LIST ANY POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION ELEMENTS:

DESIGN VARIATIONS - MEDIAN WIDTH AND INSIDE SHOULDER WIDTH

LIST MAJOR STRUCTURES LOCATION/DESCRIPTION - REQUIRING INDEPENDENT STRUCTURE DESIGN:

GRATIGNY PARKWAY EXTENSION FROM NW 32ND AVENUE TO I-95/ELEVATED EXPRESSWAY
I-95 SOUTHBOUND TO GRATIGNY PARKWAY WESTBOUND/FLYOVER RAMP
I-95 NORTHBOUND TO GRATIGNY PARKWAY WESTBOUND/FLYOVER RAMP
GRATIGNY PARKWAY EASTBOUND TO I-95 SOUTHBOUND/FLYOVER RAMP
GRATIGNY PARKWAY EASTBOUND TO I-95 NORTHBOUND/FLYOVER RAMP
SB I-95 TO NW 103rd STREET OVER NW 119TH STREET

LIST MAJOR UTILITIES WITHIN PROJECT CORRIDOR:

AT&T
COMCAST CABLE
CONNEXION TECHNOLOGIES FKA CAPITAL INFRASTRUCTURE
FLORIDA CITY GAS
CITY OF NORTH MIAMI
CITY OF HIALEAH
MIAMI-DADE COUNTY PUBLIC WORKS AND TRAFFIC
FDOT DISTRICT 6 ITS
FPL - DADE
FPL FIBERNET, LLC
LEVEL 3 COMMUNICATIONS
MCI
CITY OF MIAMI GARDENS
AT&T DISTRIBUTION

LIST OTHER INFORMATION PERTINENT TO DESIGN OF PROJECT:

*MIAMI-DADE EXPRESSWAY AUTHORITY WORK PROGRAM NUMBER 92407

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A* COUNTY (SECTION) MIAMI-DADE (87052)

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95 (SR 9A)

PROJECT CONTROLS

FUNCTIONAL CLASSIFICATION NW 119TH STREET

( ) RURAL

(X) URBAN

( )	FREEWAY/EXPWY. (SR 9A)	(X)	MAJOR COLL.
( )	PRINCIPAL ART. (SR 924)	( )	MINOR COLL.
( )	MINOR ART.	( )	LOCAL

HIGHWAY SYSTEM

Yes	No	
( )	(X)	NATIONAL HIGHWAY SYSTEM
( )	(X)	FLORIDA INTRASTATE HIGHWAY SYSTEM
( )	(X)	STRATEGIC INTERMODIAL SYSTEM
(X)	( )	STATE HIGHWAY SYSTEM
( )	(X)	OFF STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

( ) 1 - FREEWAY

( ) 2 - RESTRICTIVE w/Service Roads

(X) 3 - RESTRICTIVE w/660 ft. Connection Spacing

( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing

( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing

( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing

( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION

( ) RRR INTERSTATE / FREEWAY

( ) RRR NON-INTERSTATE / FREEWAY

( ) TDLC / NEW CONSTRUCTION / RECONSTRUCTION

( ) TDLC / RRR

( ) MANUAL OF UNIFORM MINIMUM STANDARDS (FLORIDA GREENBOOK) (OFF-STATE HIGHWAY SYSTEM ONLY)

TRAFFIC

NW 119TH STREET

	YEAR	AADT
CURRENT	2010	30,500-45,500
OPENING	2020	19,000-24,500
DESIGN	2040	20,500-28,500
DESIGN SPEED		40
POSTED SPEED		35
DISTRIBUTION	K	9.2%
	D	57.2%
	T_{24}	5.5%

DESIGN SPEED APPROVALS

Chris Tavella, PE
FDOT D6 DIST. DES. ENG.

DATE

LIST ANY POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION ELEMENTS:

LIST MAJOR STRUCTURES LOCATION/DESCRIPTION - REQUIRING INDEPENDENT STRUCTURE DESIGN:

N/A (FOR ELEVATED EXPRESSWAY AND I-95 FLOYOVER RAMPS, SEE PREVIOUS DATA SHEET)

LIST MAJOR UTILITIES WITHIN PROJECT CORRIDOR:

AT&T
COMCAST CABLE
CONNEXION TECHNOLOGIES FKA CAPITAL INFRASTRUCTURE
FLORIDA CITY GAS
CITY OF NORTH MIAMI
CITY OF HIALEAH
MIAMI-DADE COUNTY PUBLIC WORKS AND TRAFFIC
FDOT DISTRICT 6 ITS
FPL - DADE
FPL FIBERNET, LLC
LEVEL 3 COMMUNICATIONS
MCI
CITY OF MIAMI GARDENS
AT&T DISTRIBUTION

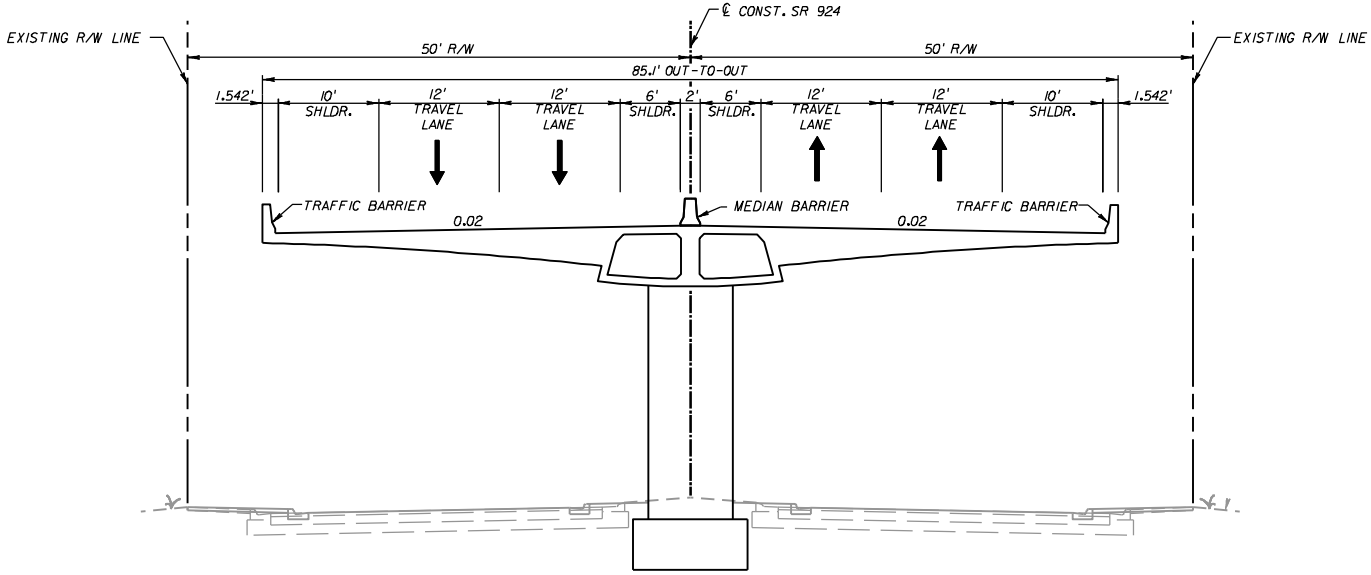
LIST OTHER INFORMATION PERTINENT TO DESIGN OF PROJECT:

*MIAMI-DADE EXPRESSWAY AUTHORITY WORK PROGRAM NUMBER 92407

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID: N/A
FEDERAL AID PROJECT NO.: N/A
COUNTY NAME: MIAMI-DADE
SECTION NO.: 87052
ROAD DESIGNATION: SR 924
LIMITS/MILEPOST: 2.667 TO 4.851
PROJECT DESCRIPTION: SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED ROADWAY TYPICAL SECTION



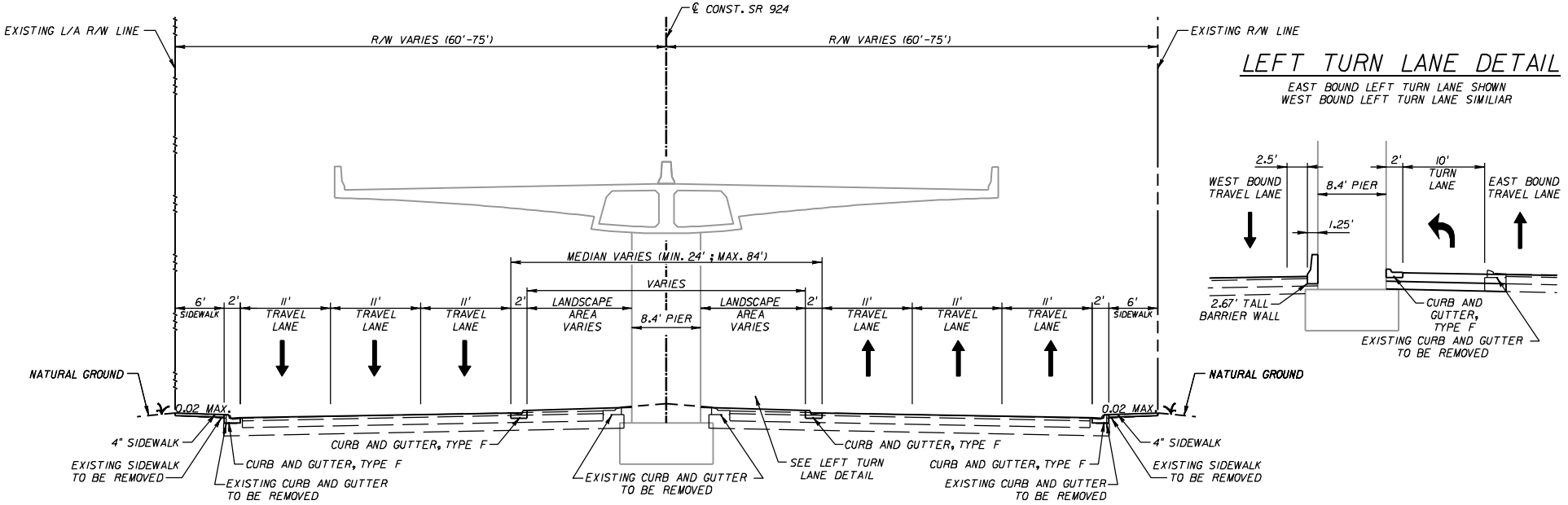
SR 924 FROM NW 32ND AVENUE TO I-95
ELEVATED GRATIGNY PARKWAY
DESIGN SPEED = 60 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID: N/A
FEDERAL AID PROJECT NO.: N/A
COUNTY NAME: MIAMI-DADE
SECTION NO.: 87052
ROAD DESIGNATION: NW 119TH STREET
LIMITS/MILEPOST: 2.152 TO 2.667
PROJECT DESCRIPTION: SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED ROADWAY TYPICAL SECTION



LEFT TURN LANE DETAIL

EAST BOUND LEFT TURN LANE SHOWN
WEST BOUND LEFT TURN LANE SIMILIAR

SR 924 FROM NW 32ND AVENUE TO 27TH AVENUE
NW 119TH STREET
DESIGN SPEED = 40 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

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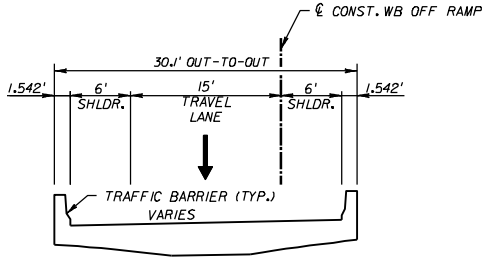
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION SR 9A RAMP LIMITS/MILEPOST 9.100-9.200

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED STRUCTURE TYPICAL SECTION



NOTE: LANE ARROWS AND RAMP DIMENSIONS ARE DRAWN IN THE DIRECTION OF STATIONING WHICH RUNS FROM WEST TO EAST.

GRATIGNY WESTBOUND TO NW 119TH STREET WESTBOUND RAMP
DESIGN SPEED = 45 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

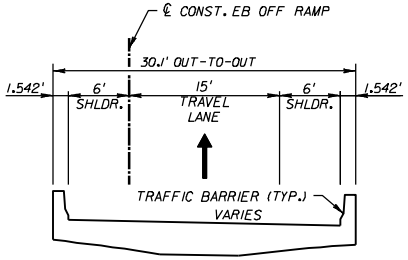
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION SR 9A RAMP LIMITS/MILEPOST 9.100-9.200

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED STRUCTURE TYPICAL SECTION



NOTE: LANE ARROWS AND RAMP DIMENSIONS ARE DRAWN IN THE DIRECTION OF STATIONING WHICH RUNS FROM WEST TO EAST.

NW 119TH STREET EASTBOUND TO GRATIGNY EASTBOUND RAMP
DESIGN SPEED = 45 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

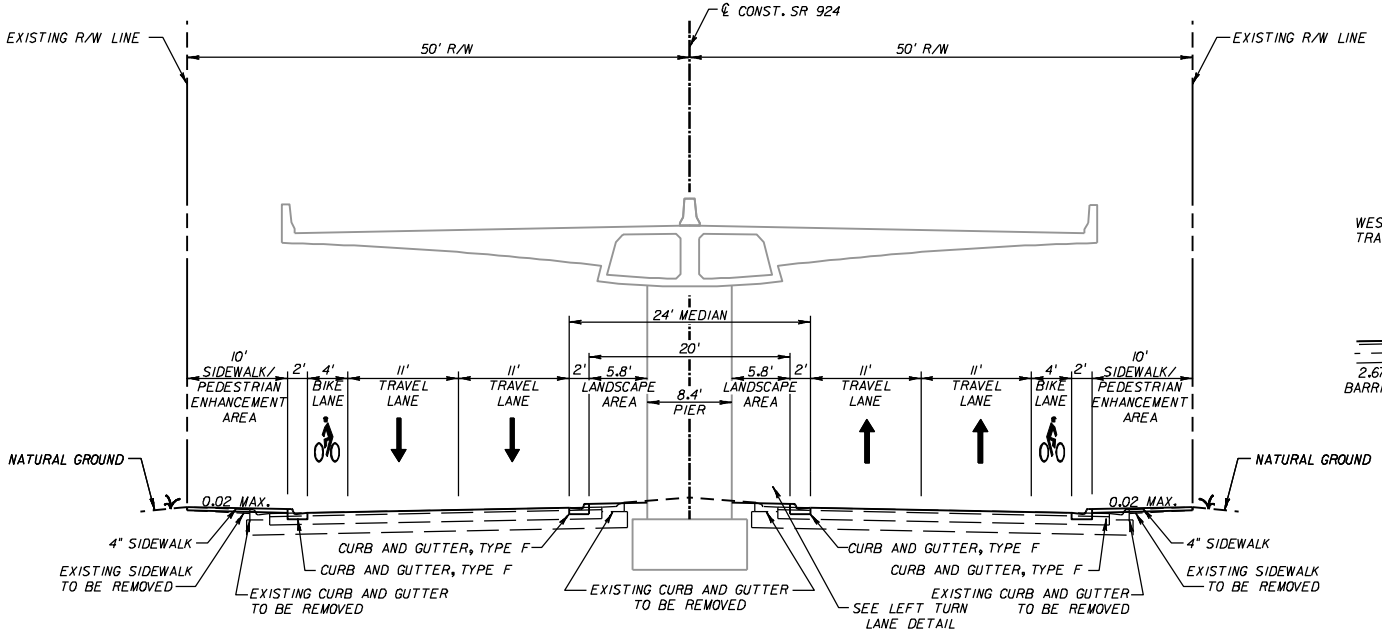
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION NW 119TH STREET LIMITS/MILEPOST 2.152 TO 4.851

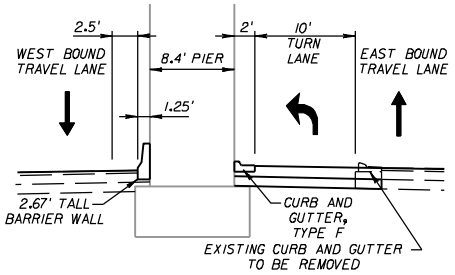
PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED ROADWAY TYPICAL SECTION



LEFT TURN LANE DETAIL

EAST BOUND LEFT TURN LANE SHOWN
WEST BOUND LEFT TURN LANE SIMILIAR



SR 924 FROM NW 27TH AVENUE TO I-95
NW 119TH STREET
DESIGN SPEED = 40 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

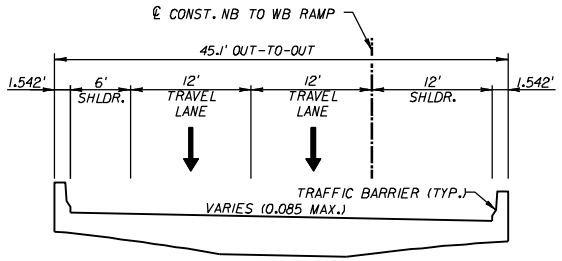
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION SR 9A RAMP LIMITS/MILEPOST 9.000-9.100

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED STRUCTURE TYPICAL SECTION



NOTE: LANE ARROWS AND RAMP DIMENSIONS ARE DRAWN IN THE DIRECTION OF STATIONING WHICH RUNS FROM WEST TO EAST.

I-95 NORTHBOUND TO GRATIGNY WESTBOUND FLYOVER RAMP
DESIGN SPEED = 45 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

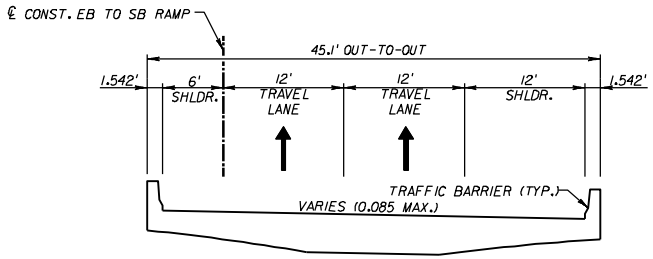
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION SR 9A RAMP LIMITS/MILEPOST 9.000-9.100

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED STRUCTURE TYPICAL SECTION



NOTE: LANE ARROWS AND RAMP DIMENSIONS ARE DRAWN IN THE DIRECTION OF STATIONING WHICH RUNS FROM WEST TO EAST.

GRATIGNY EASTBOUND TO I-95 SOUTHBOUND FLYOVER RAMP
DESIGN SPEED = 40 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

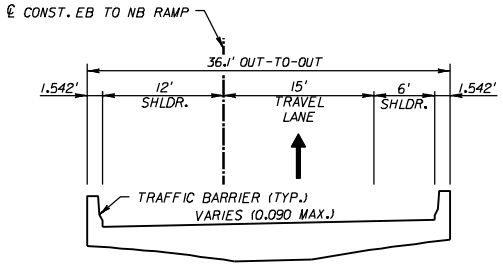
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION SR 9A RAMP LIMITS/MILEPOST 9.100-9.200

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED STRUCTURE TYPICAL SECTION



NOTE: LANE ARROWS AND RAMP DIMENSIONS ARE DRAWN IN THE DIRECTION OF STATIONING WHICH RUNS FROM WEST TO EAST.

GRATIGNY EASTBOUND TO I-95 NORTHBOUND FLYOVER RAMP
DESIGN SPEED = 45 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

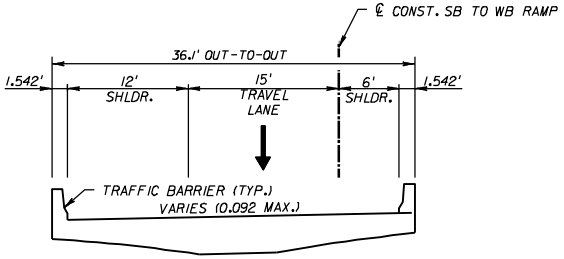
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FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION SR 9A RAMP LIMITS/MILEPOST 9.100-9.200

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED STRUCTURE TYPICAL SECTION



NOTE: LANE ARROWS AND RAMP DIMENSIONS ARE DRAWN IN THE DIRECTION OF STATIONING WHICH RUNS FROM WEST TO EAST.

I-95 SOUTHBOUND TO GRATIGNY WESTBOUND FLYOVER RAMP
DESIGN SPEED = 40 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

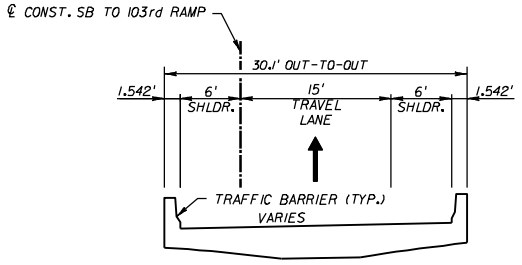
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION SR 9A RAMP LIMITS/MILEPOST 9.100-9.200

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED STRUCTURE TYPICAL SECTION



NOTE: LANE ARROWS AND RAMP DIMENSIONS ARE DRAWN IN THE DIRECTION OF STATIONING WHICH RUNS FROM NORTH TO SOUTH.

SB I-95 TO CD ROAD FROM NW 119th STREET TO NW 103rd STREET
DESIGN SPEED = 45 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

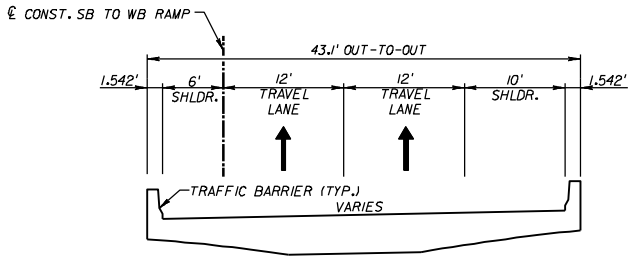
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID N/A FEDERAL AID PROJECT NO. N/A COUNTY NAME MIAMI-DADE

SECTION NO. 87052 ROAD DESIGNATION SR 9A RAMP LIMITS/MILEPOST 9.000-9.100

PROJECT DESCRIPTION SR 924/GRATIGNY PARKWAY EAST EXTENSION TO I-95

PROPOSED STRUCTURE TYPICAL SECTION

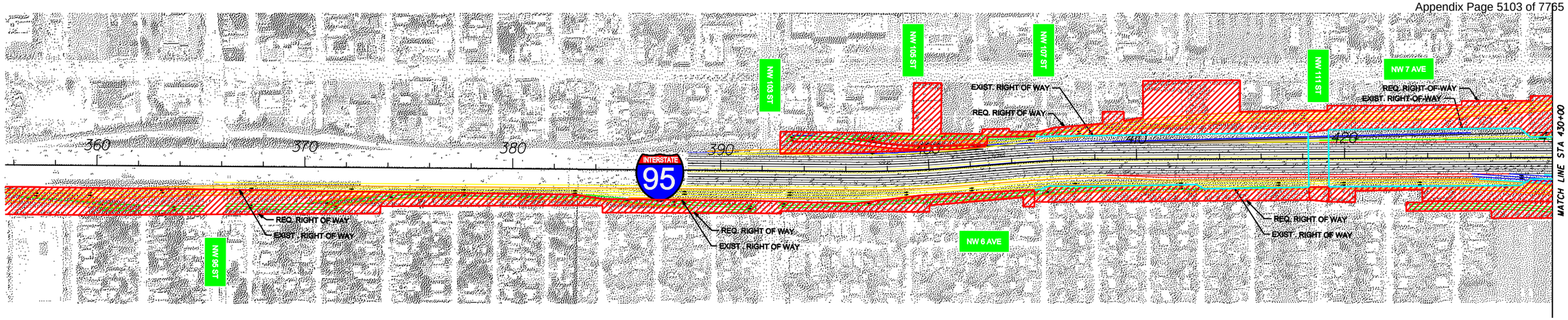


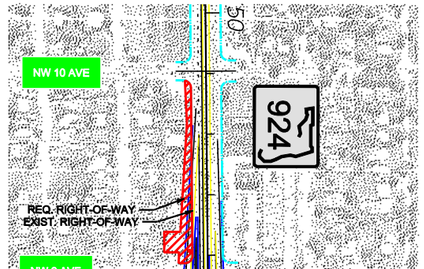
NOTE: LANE ARROWS AND RAMP DIMENSIONS ARE DRAWN IN THE DIRECTION OF STATIONING WHICH RUNS FROM NORTH TO SOUTH.

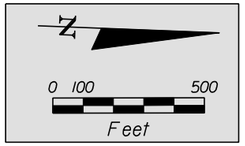
SB I-95 CD ROAD FROM NW 125th STREET
TO NW 119th STREET
DESIGN SPEED = 45 MPH

ENGINEER OF RECORD APPROVAL	GEC CONCURRENCE	MDX CONCURRENCE	FDOT CONCURRENCE
Guillermo J. Suero, PE Engineer of Record — Date	Gil Portella, PE MDX GEC — Date	Alfred Lurigados, PE MDX Chief Engineer — Date	Chris Tavella, PE FDOT D6 DIST. DES. ENG. — Date

Appendix E: Conceptual Alternative Plans

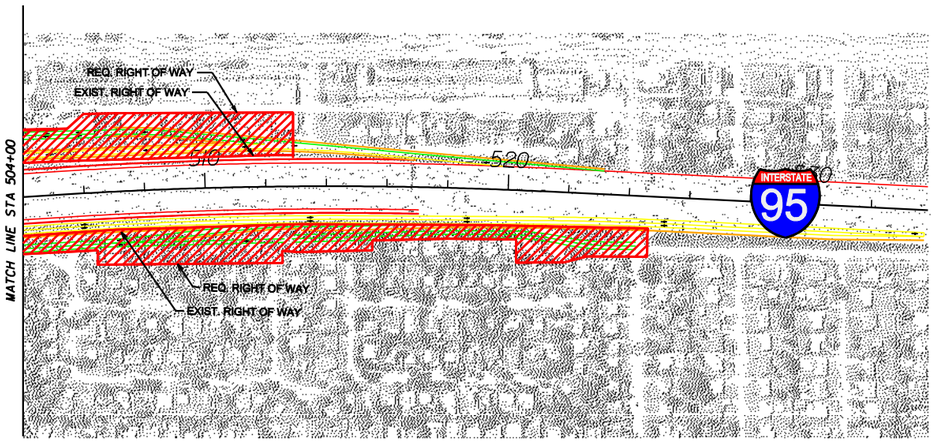


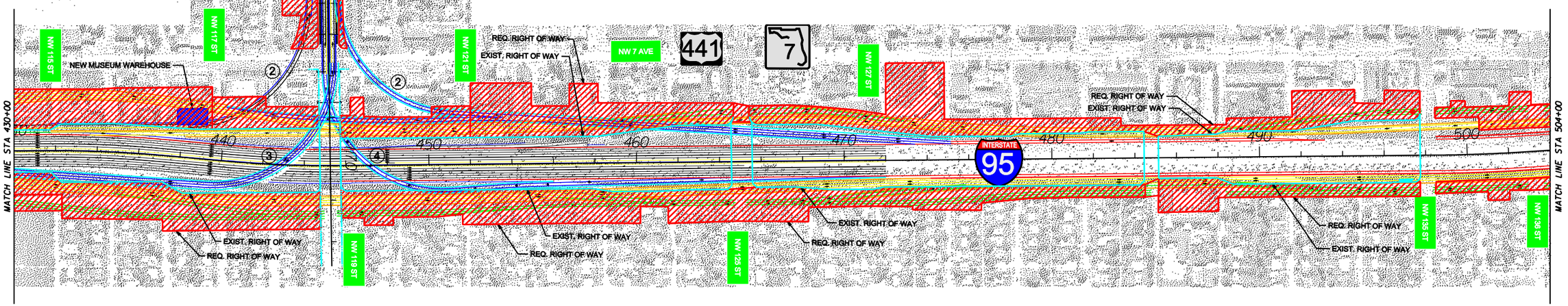




LEGEND:

- EXIST. RIGHT-OF-WAY
- REQ. RIGHT-OF-WAY (EXCLUDING AIR RIGHTS)
- INTERCHANGE RAMP LEVEL ①





MDX® MIAMI-DADE EXPRESSWAY AUTHORITY

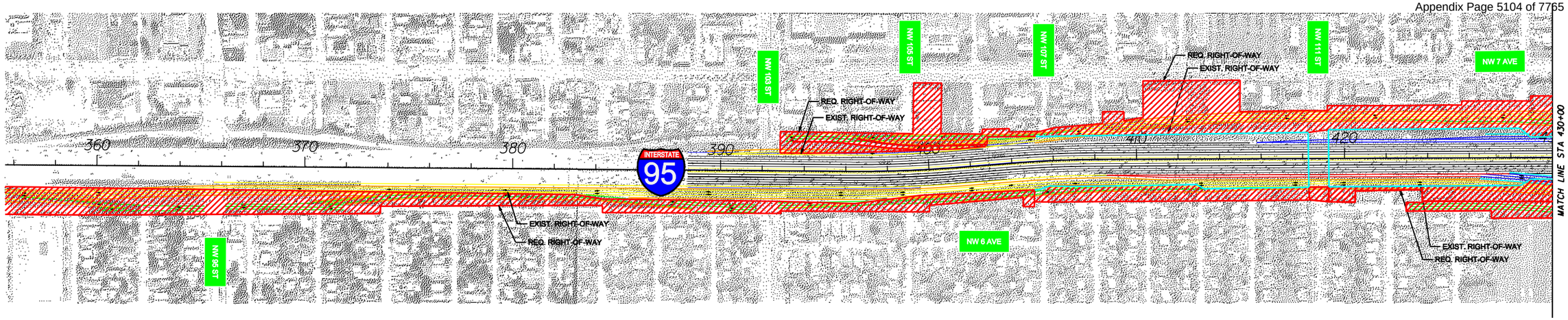
DATE: MARCH 2012
MDX WORK PROGRAM NO. 92407

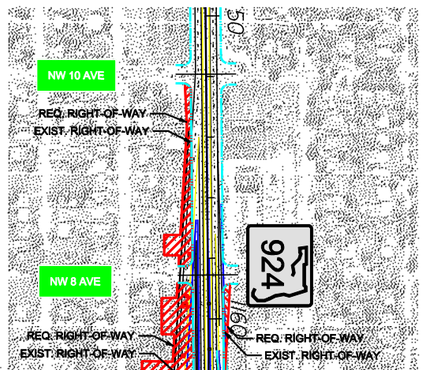
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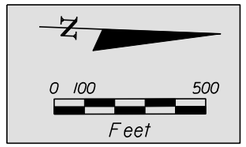
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

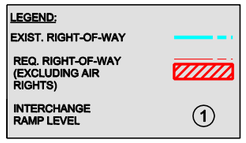
ALTERNATIVE NO. 95-1

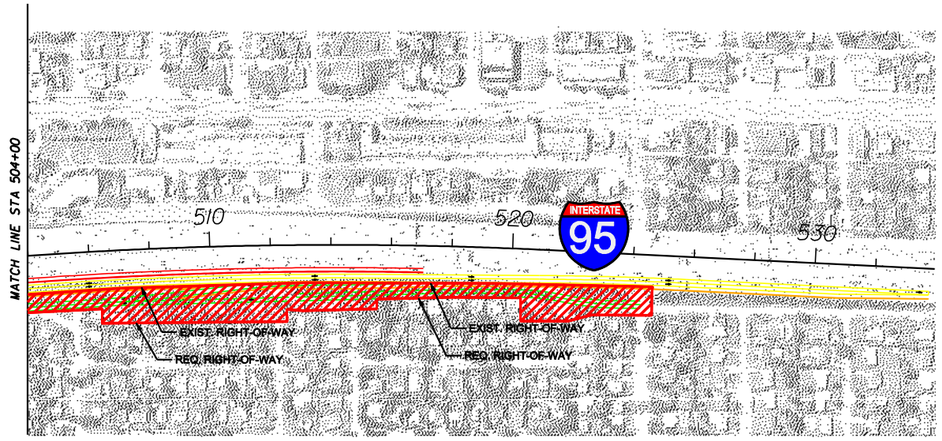
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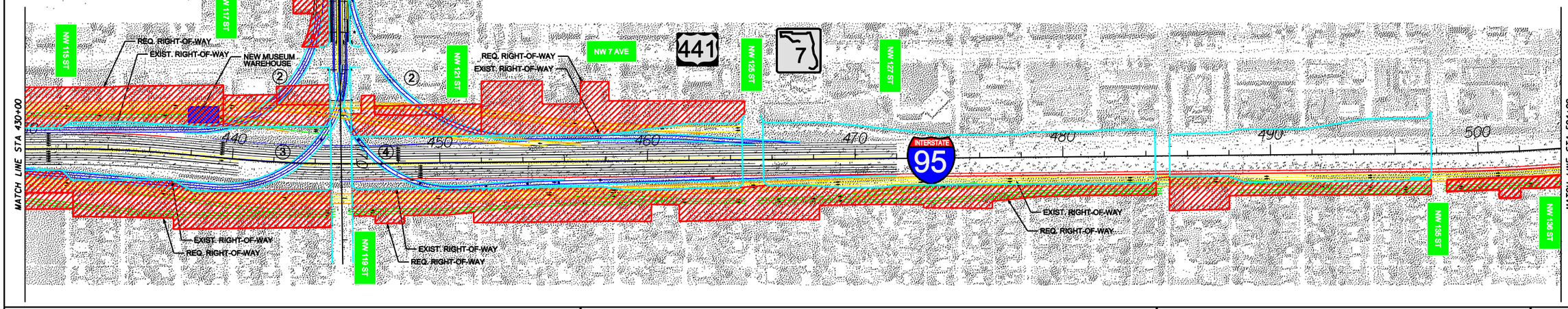












MIAMI-DADE EXPRESSWAY AUTHORITY

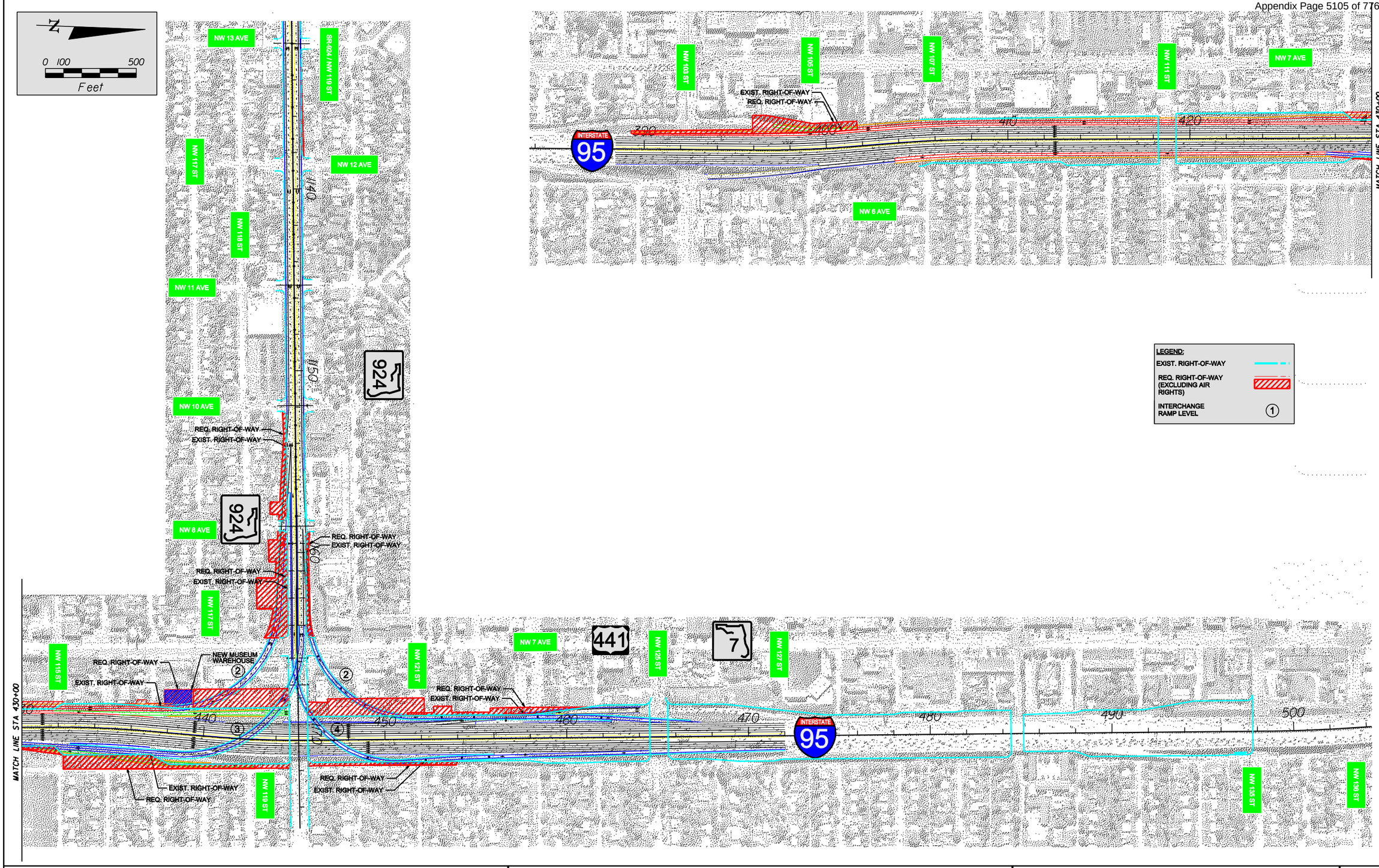
DATE: MARCH 2012
MDX WORK PROGRAM NO. 92407

HDR

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

ALTERNATIVE NO. 95-2

SHEET NO.
2



MIAMI-DADE EXPRESSWAY AUTHORITY

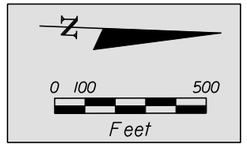
DATE: MARCH 2012
MDX WORK PROGRAM NO. 92407

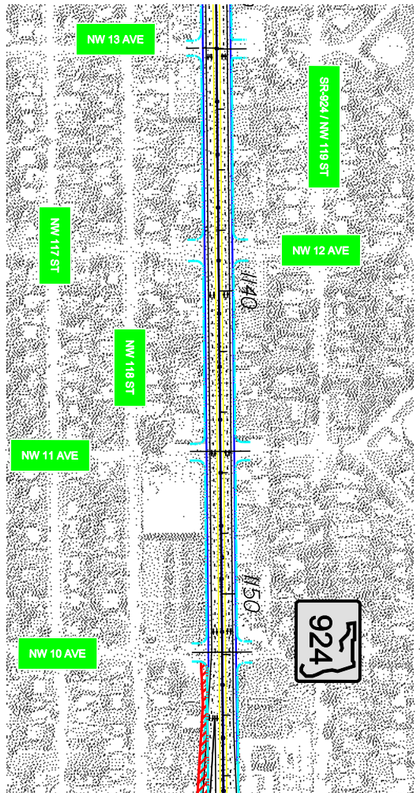
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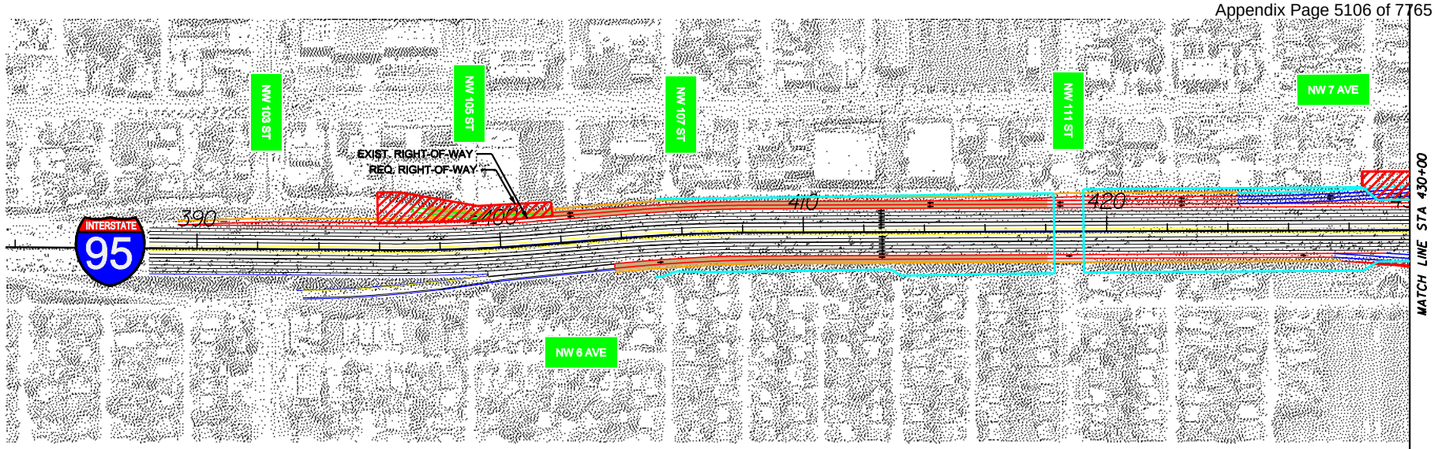
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

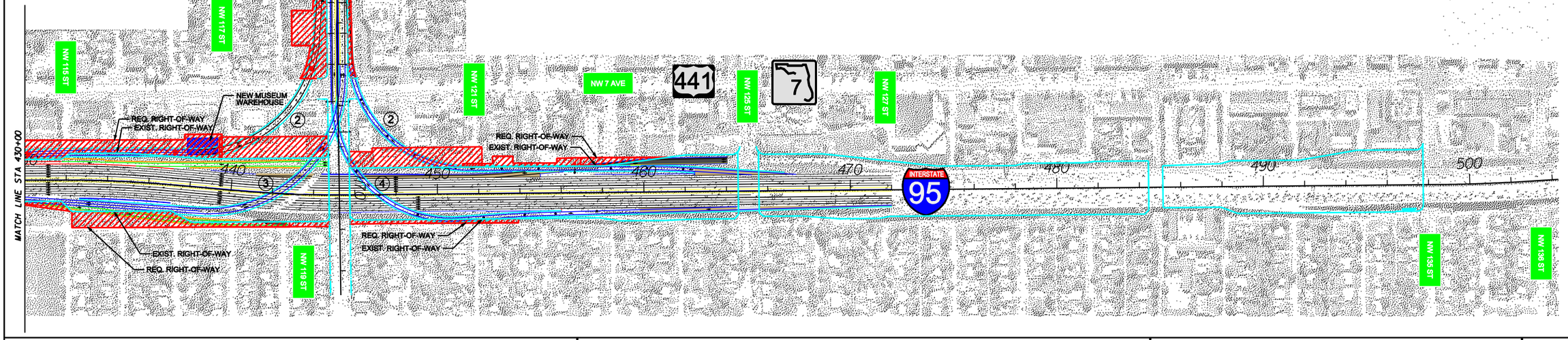
ALTERNATIVE NO. 95-3A
(W/O NW 7 AVE RAMPS)

SHEET NO.
3A-1









LEGEND:

- EXIST. RIGHT-OF-WAY
- REQ. RIGHT-OF-WAY (EXCLUDING AIR RIGHTS)
- INTERCHANGE RAMP LEVEL ①

MIAMI-DADE EXPRESSWAY AUTHORITY

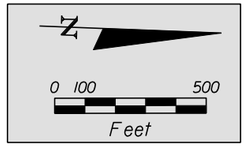
DATE: MARCH 2012
MDX WORK PROGRAM NO. 92407

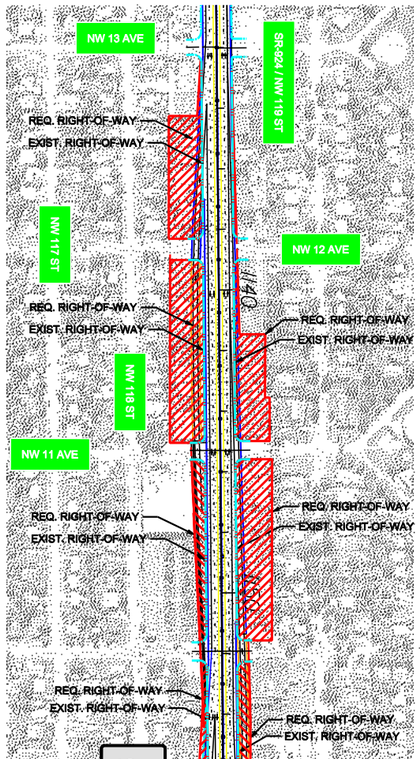
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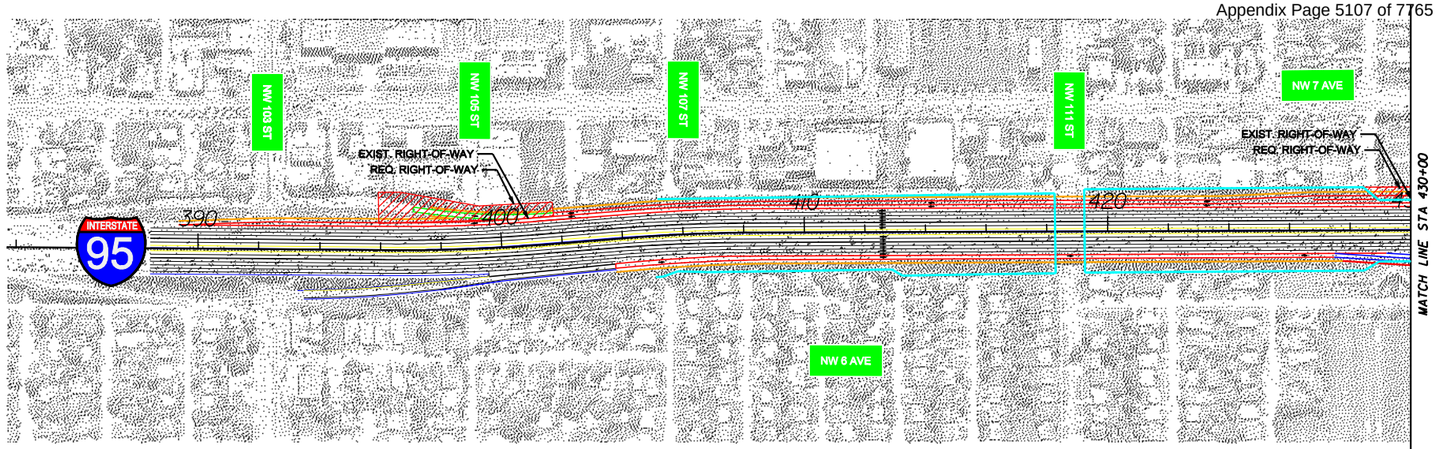
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

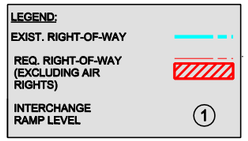
ALTERNATIVE NO. 95-3B

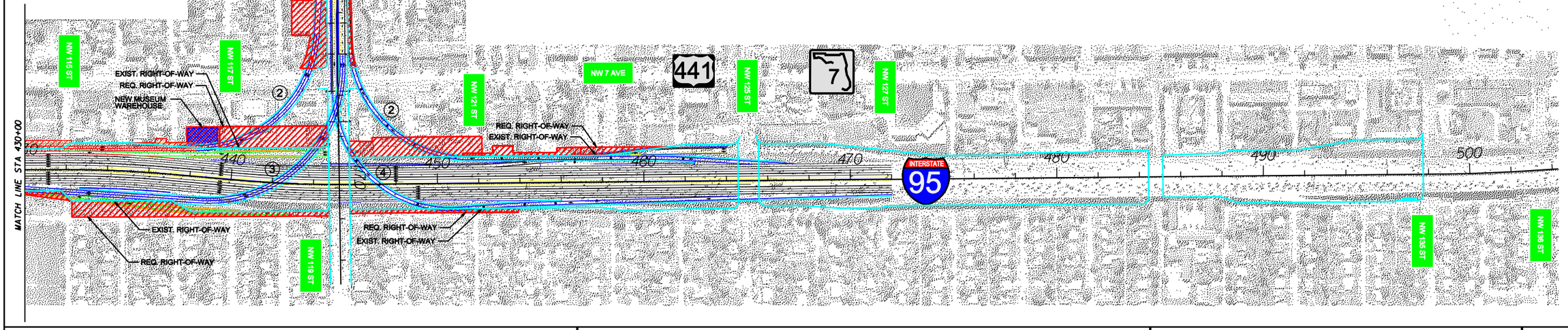
SHEET NO. 3B











MDX® MIAMI-DADE EXPRESSWAY AUTHORITY

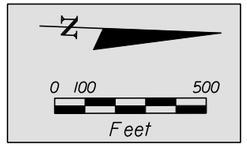
DATE: MARCH 2012
MDX WORK PROGRAM NO. 92407

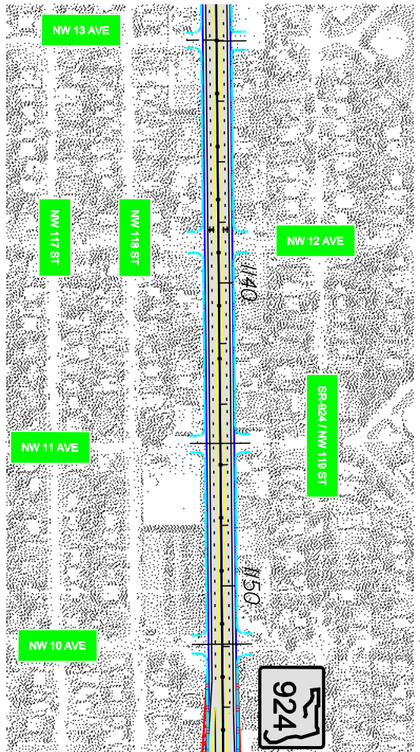
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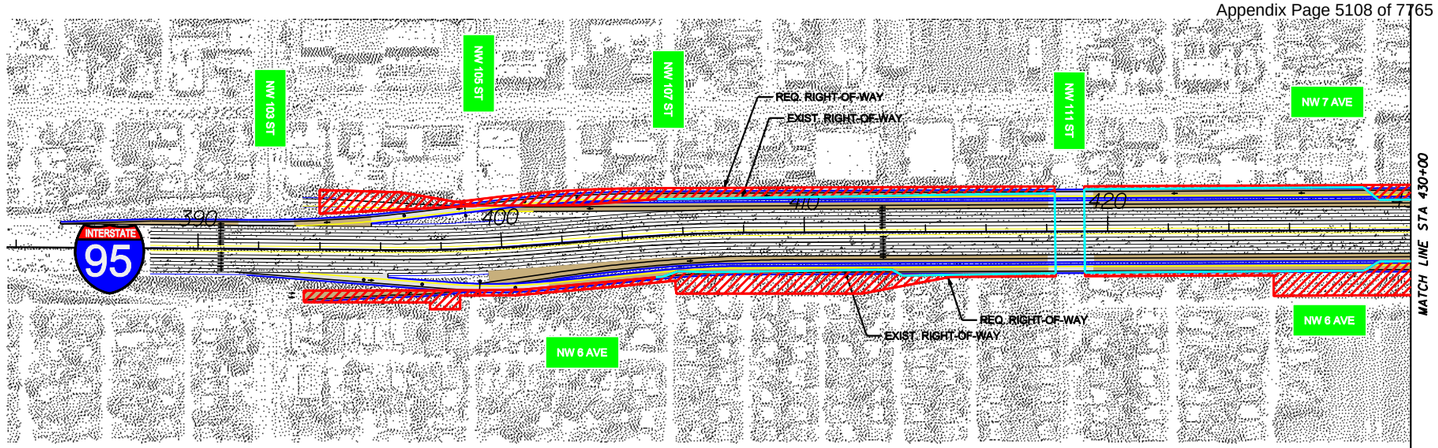
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

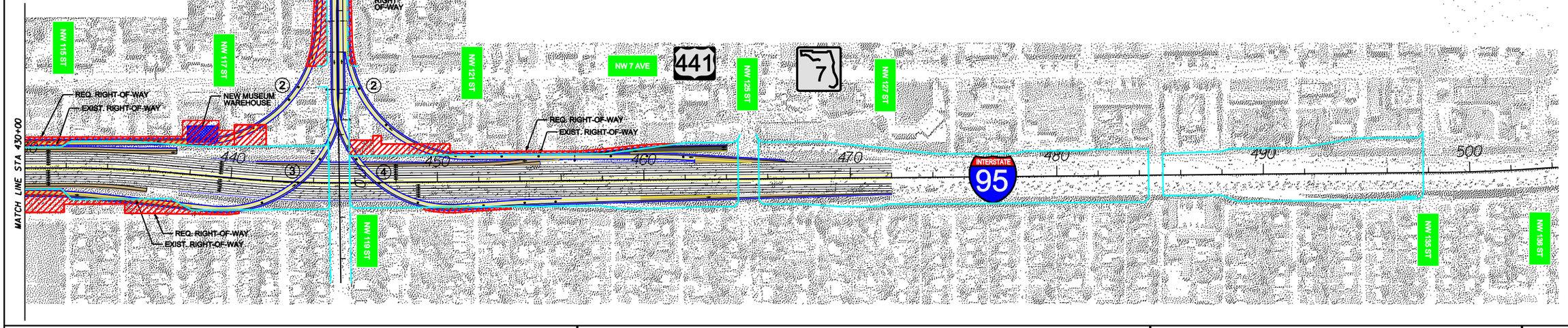
ALTERNATIVE NO. 95-3A
(WITH NW 7 AVE RAMPS)

SHEET NO.
3A-2









LEGEND:

EXIST. RIGHT-OF-WAY

REQ. RIGHT-OF-WAY (EXCLUDING AIR RIGHTS)

INTERCHANGE RAMP LEVEL ①

MDX® MIAMI-DADE EXPRESSWAY AUTHORITY

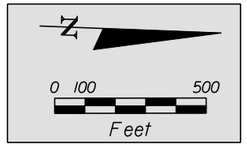
DATE: MARCH 2012
MDX WORK PROGRAM NO. 92407

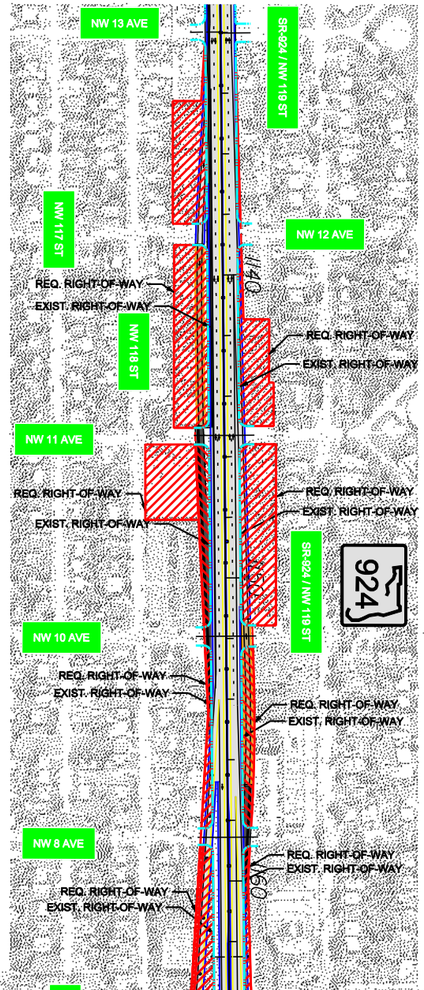
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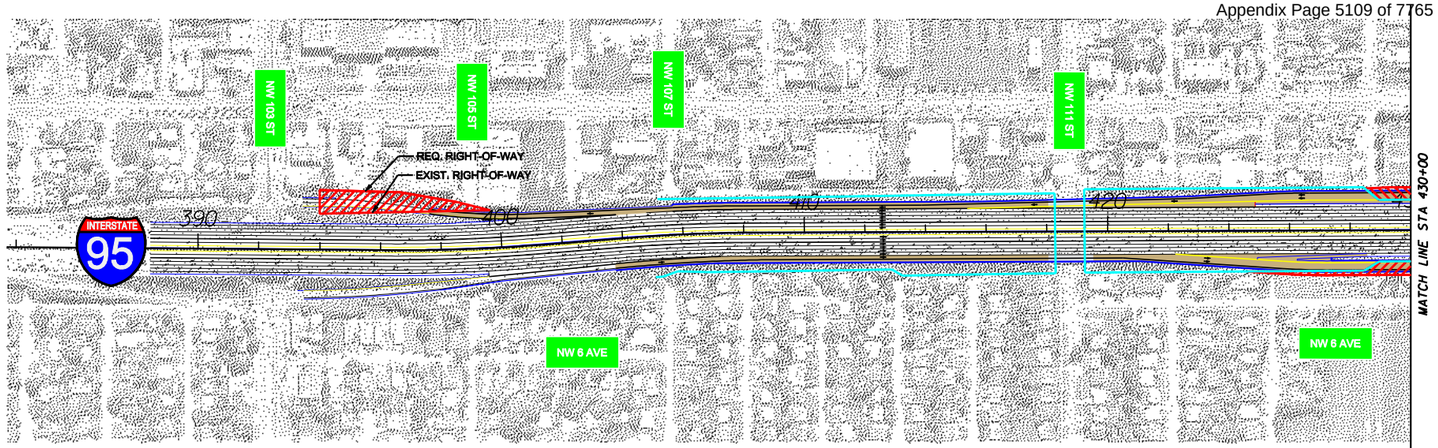
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

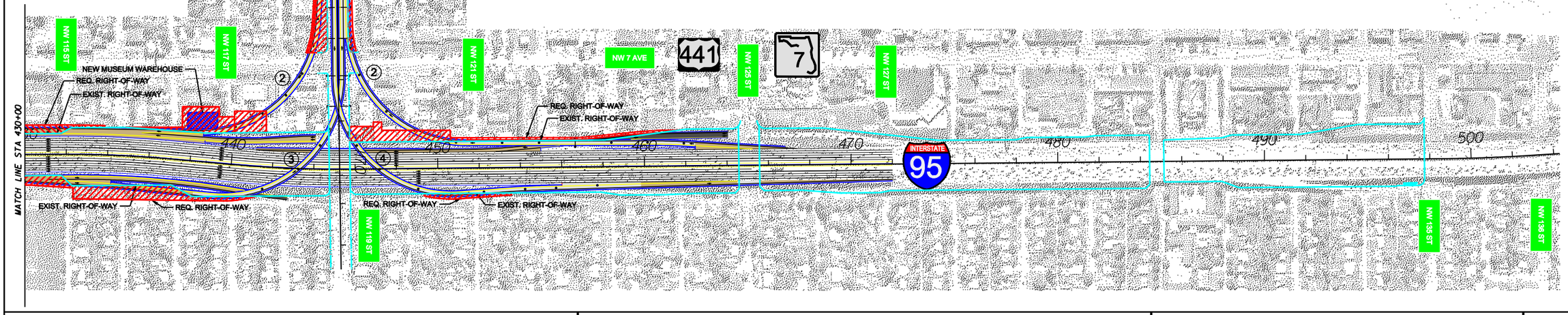
ALTERNATIVE NO. 95-4

SHEET NO. 4









LEGEND:
- EXIST. RIGHT-OF-WAY
- REQ. RIGHT-OF-WAY (EXCLUDING AIR RIGHTS)
- INTERCHANGE RAMP LEVEL ①

MIAMI-DADE EXPRESSWAY AUTHORITY

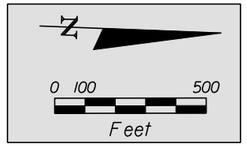
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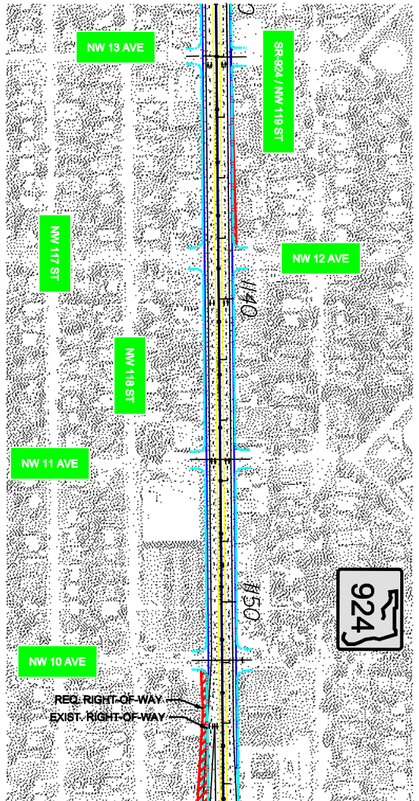
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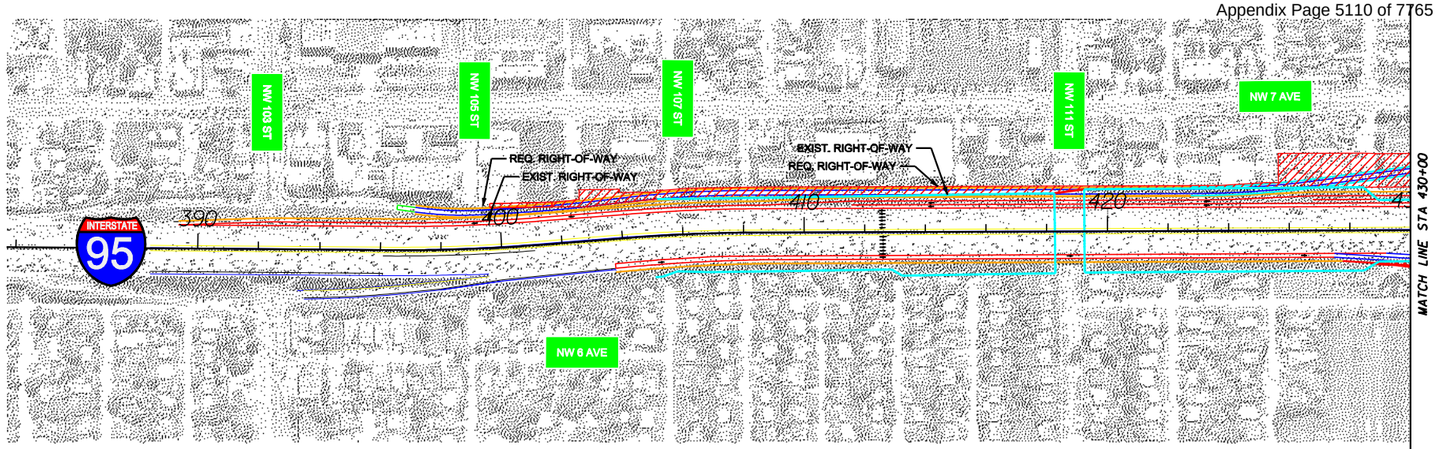
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

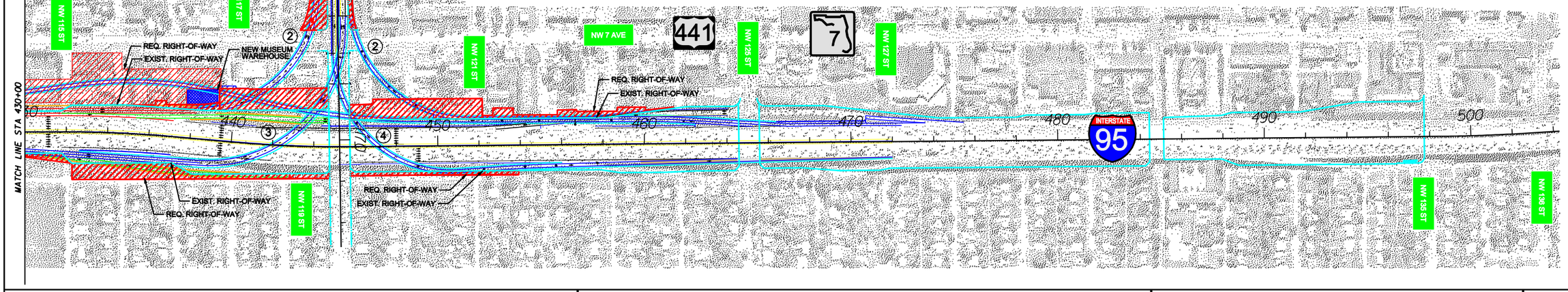
ALTERNATIVE NO. 95-5

SHEET NO. 5









LEGEND:
- EXIST. RIGHT-OF-WAY
- REQ. RIGHT-OF-WAY (EXCLUDING AIR RIGHTS)
- INTERCHANGE RAMP LEVEL ①

PRELIMINARY

MDX® MIAMI-DADE EXPRESSWAY AUTHORITY

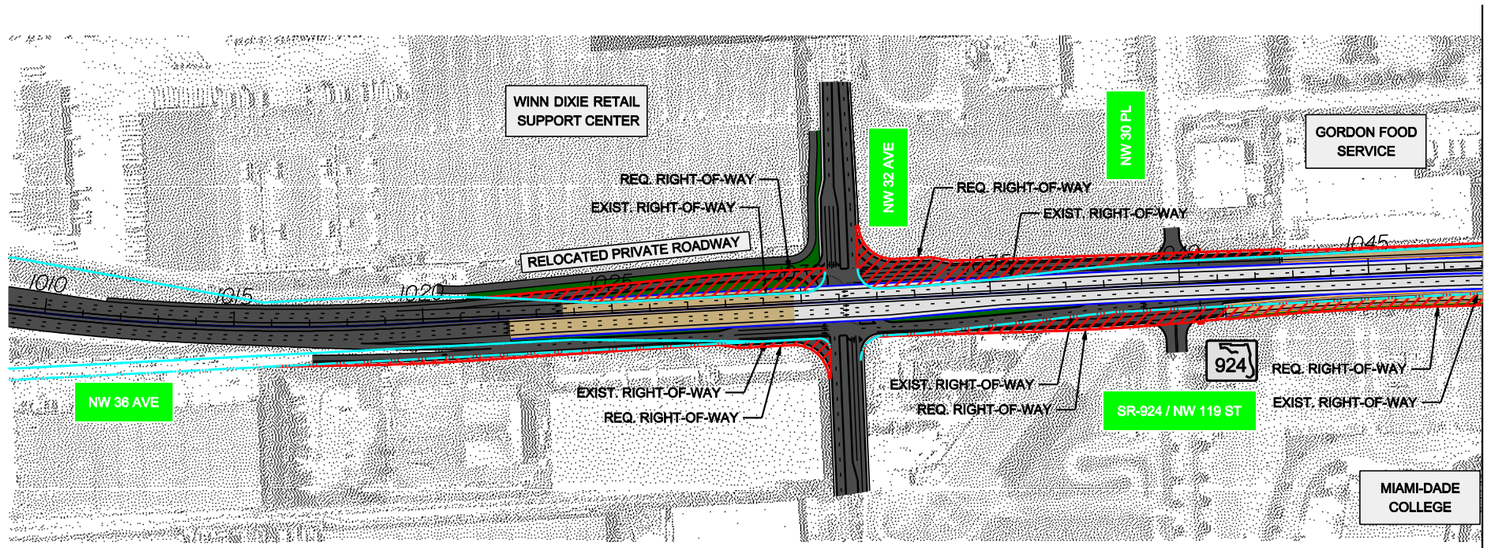
DATE: JUNE 2012
MDX WORK PROGRAM NO. 92407

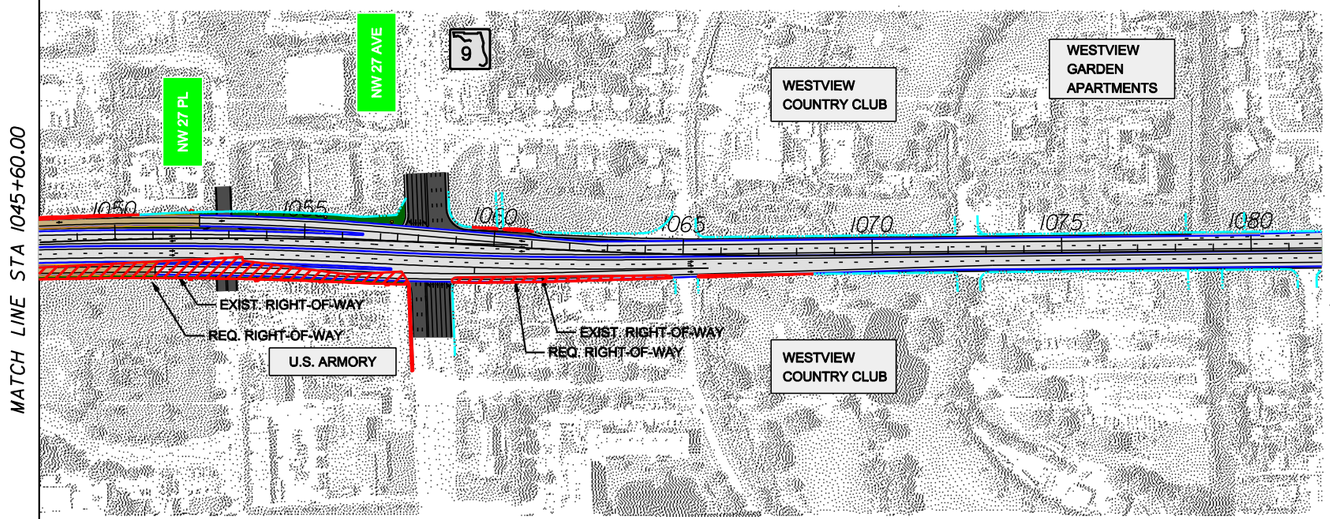
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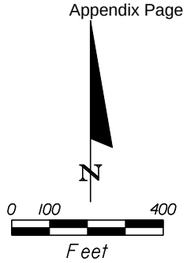
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

ALTERNATIVE NO. 95-6

SHEET NO. 6







LEGEND:
- EXIST. RIGHT-OF-WAY
- REQ. RIGHT-OF-WAY
- PROP. LANDSCAPE AREAS

SR-924/GRATIGNY PKWY EXTENSION ELEVATED STRUCTURE (2ND LEVEL)

MIAMI-DADE EXPRESSWAY AUTHORITY

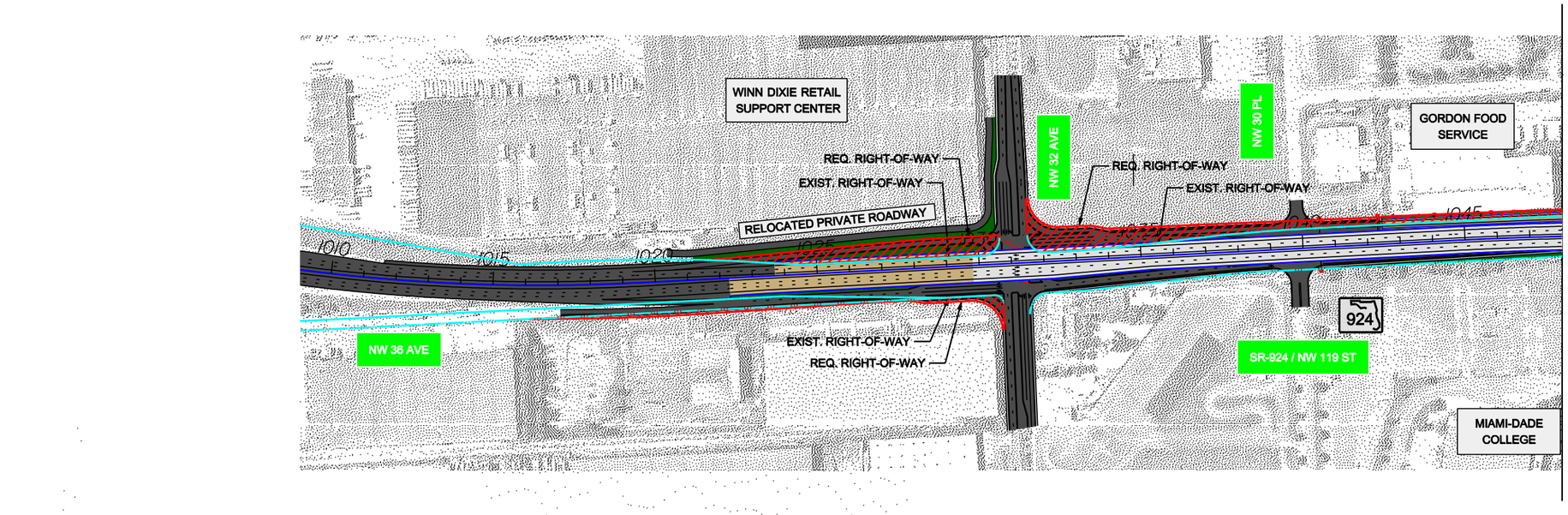
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MDX WORK PROGRAM NO. 92407

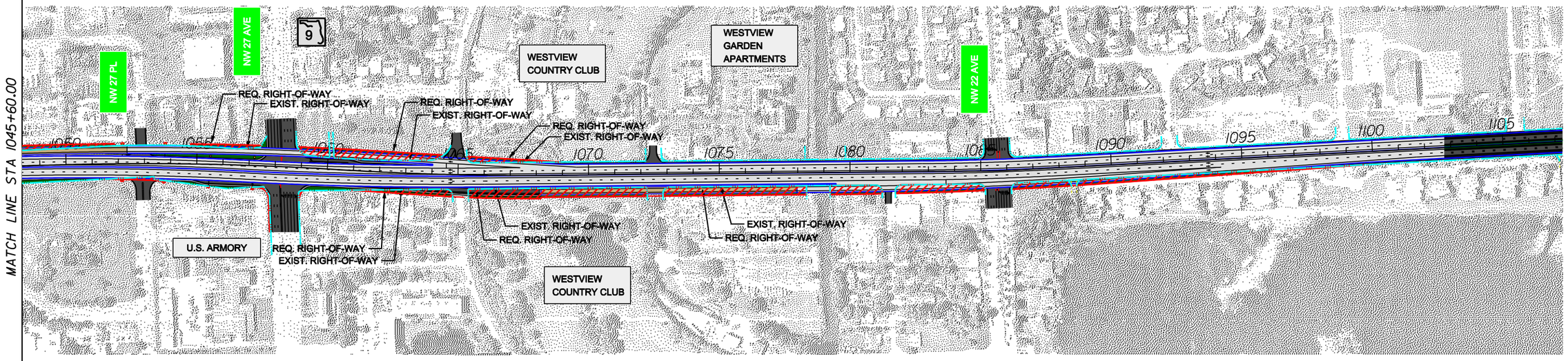
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SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

NW 27 AVE ALTERNATIVE A-EB/A-WB

SHEET NO.
27-AA





N

0 100 400

Feet

LEGEND:

- EXIST. RIGHT-OF-WAY
- REQ. RIGHT-OF-WAY
- PROP. LANDSCAPE AREAS

SR-924/GRATIGNY PKWY EXTENSION ELEVATED STRUCTURE (2ND LEVEL)

MIAMI-DADE EXPRESSWAY AUTHORITY

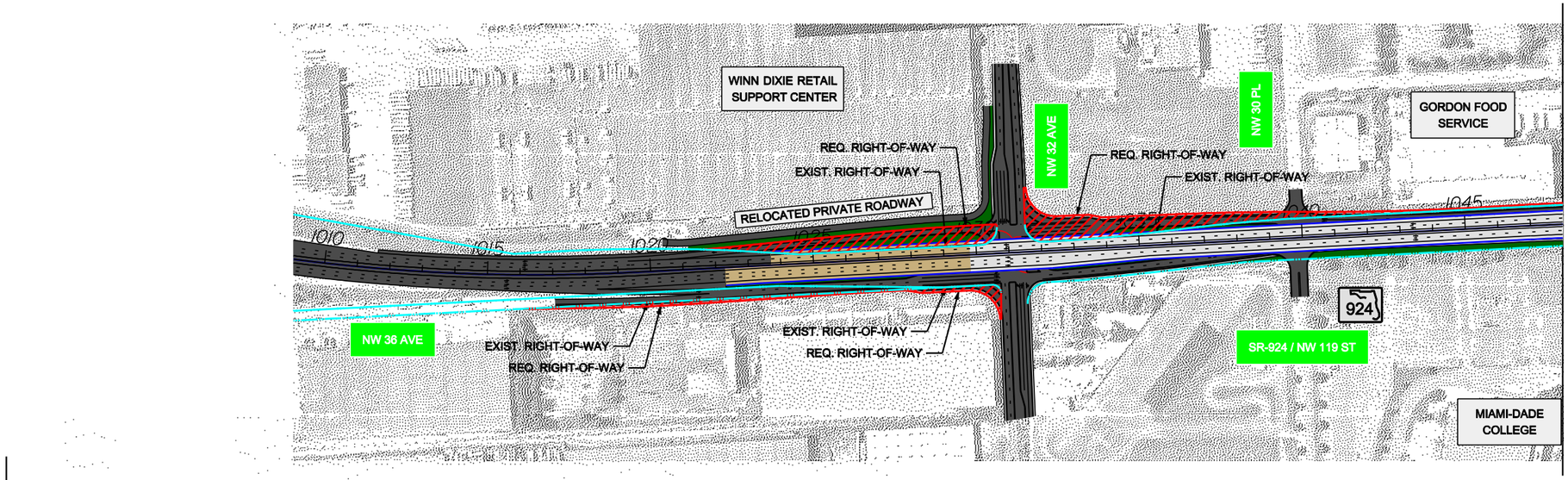
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MDX WORK PROGRAM NO. 92407

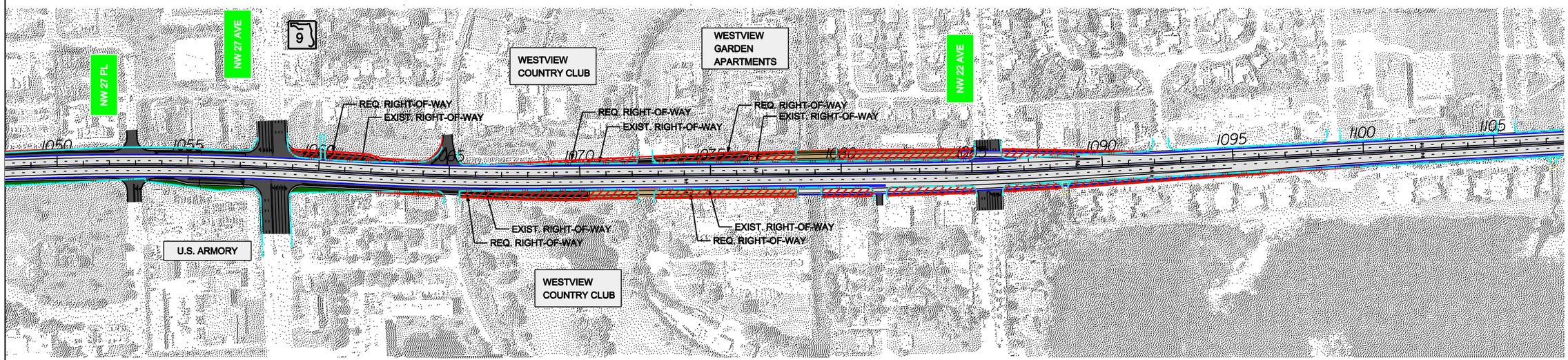
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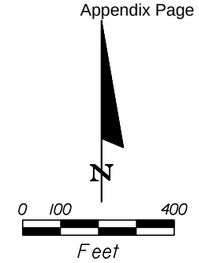
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

NW 27 AVE ALTERNATIVE B-EB/A-WB

SHEET NO.
27-BA







LEGEND:
- EXIST. RIGHT-OF-WAY
- REQ. RIGHT-OF-WAY
- PROP. LANDSCAPE AREAS

SR-924/GRATIGNY PKWY EXTENSION ELEVATED STRUCTURE (2ND LEVEL)

MIAMI-DADE EXPRESSWAY AUTHORITY

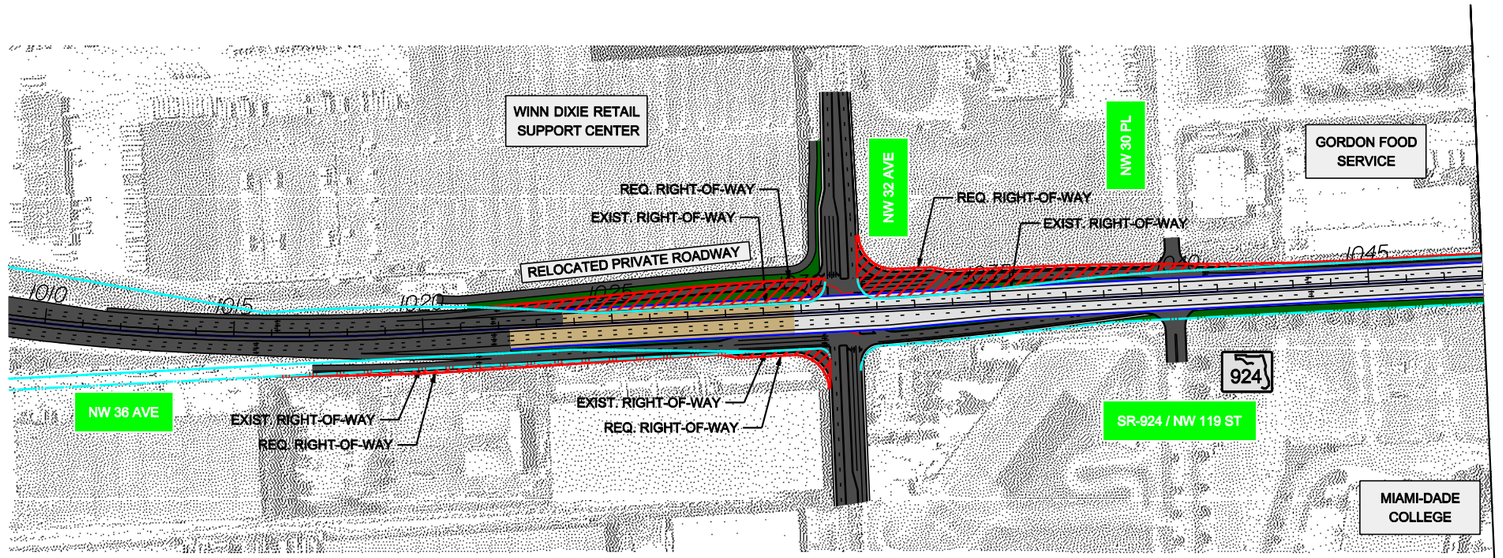
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MDX WORK PROGRAM NO. 92407

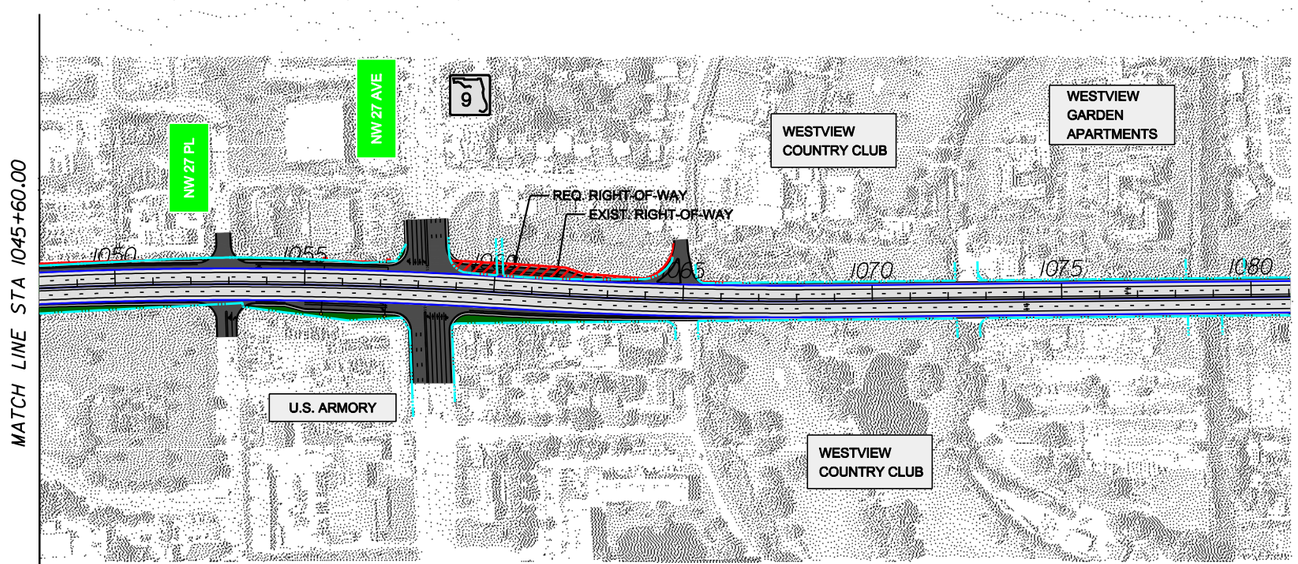
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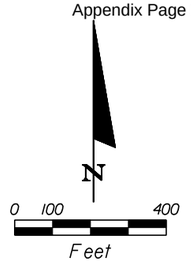
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

NW 27 AVE ALTERNATIVE B-EB/B-WB

SHEET NO.
27-BB







LEGEND:
- EXIST. RIGHT-OF-WAY
- REQ. RIGHT-OF-WAY
- PROP. LANDSCAPE AREAS

SR-924/GRATIGNY PKWY EXTENSION ELEVATED STRUCTURE (2ND LEVEL)

MIAMI-DADE EXPRESSWAY AUTHORITY

DATE: MARCH 2012
MDX WORK PROGRAM NO. 92407

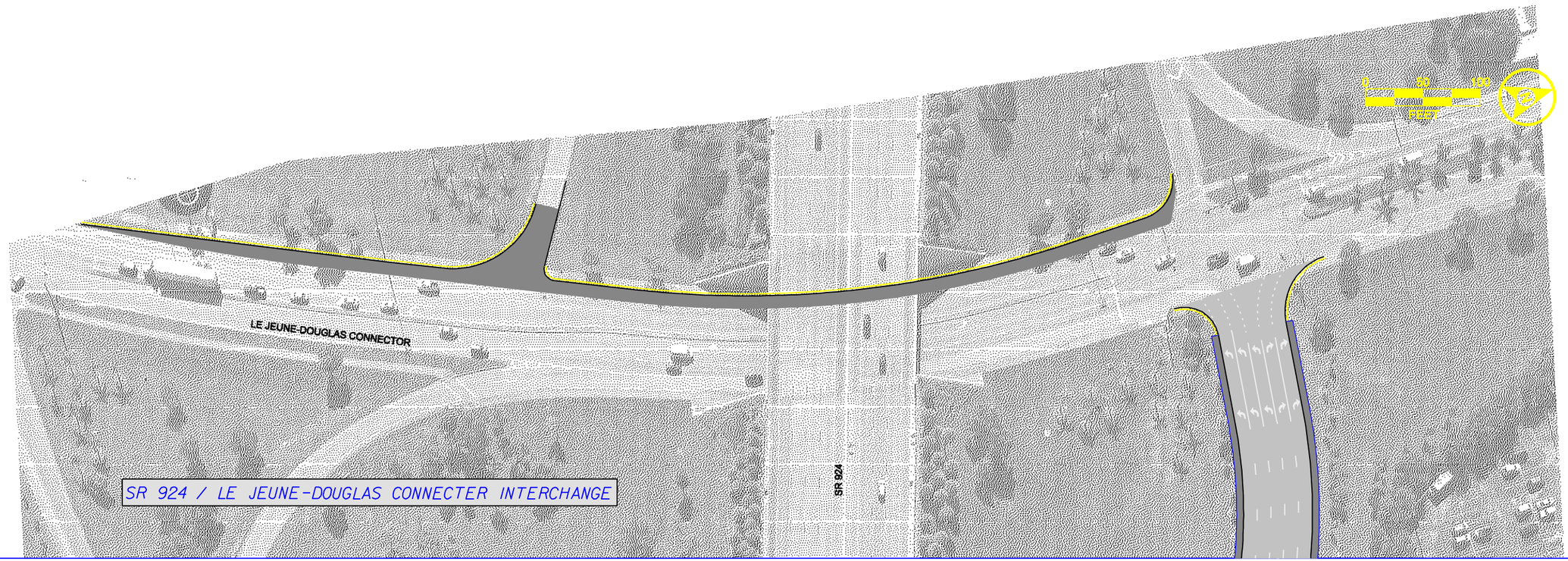
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SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

NW 27 AVE ALTERNATIVE
EXISTING RAMPS ONLY

SHEET NO.
27-EX

Appendix F: Recommended Alternative Preliminary Plans



MATCHLINE - SEE SHEET NO. 2

MDX® MIAMI-DADE EXPRESSWAY AUTHORITY

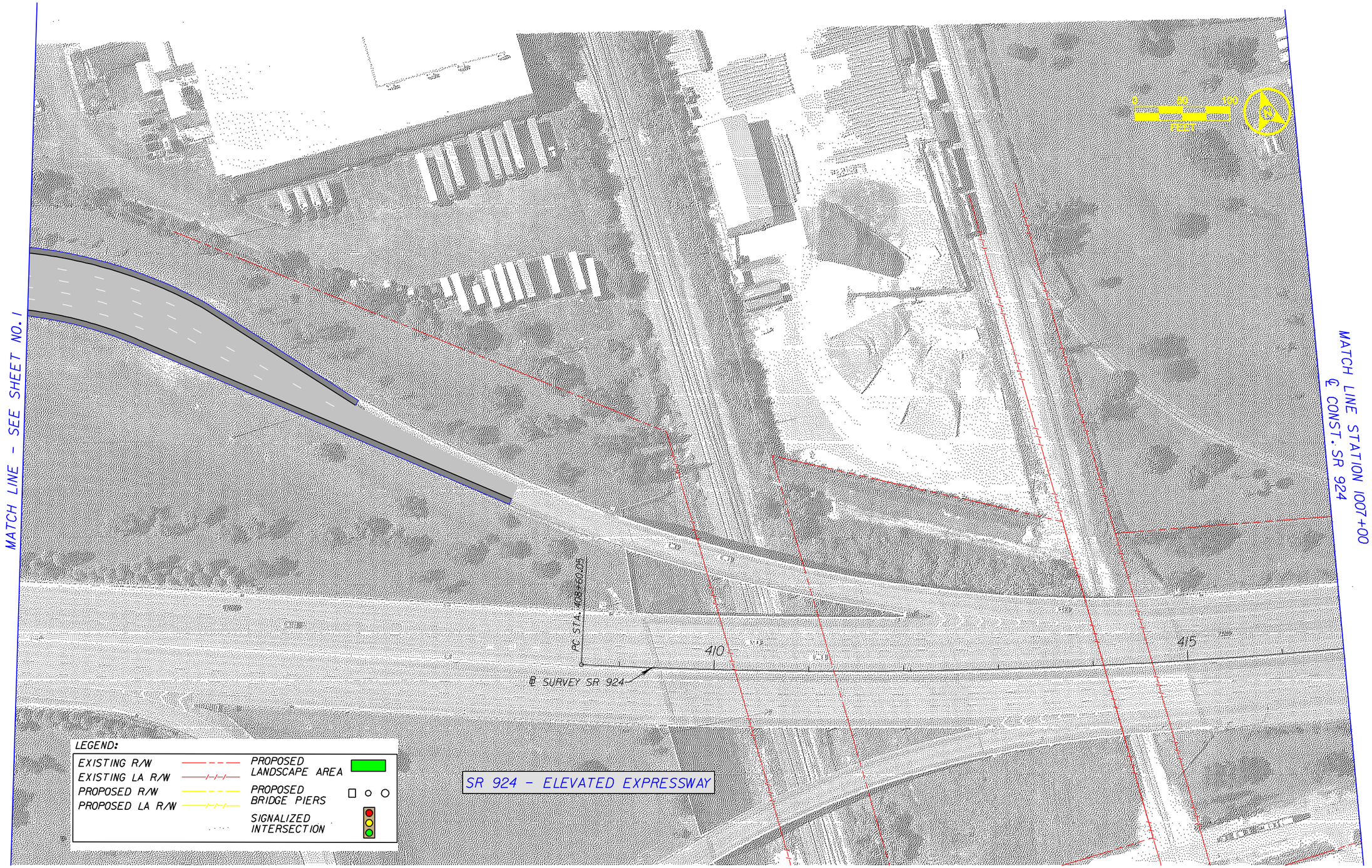
DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

HDR

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE
PRELIMINARY PLANS

SHEET NO.
1



MIAMI-DADE EXPRESSWAY AUTHORITY

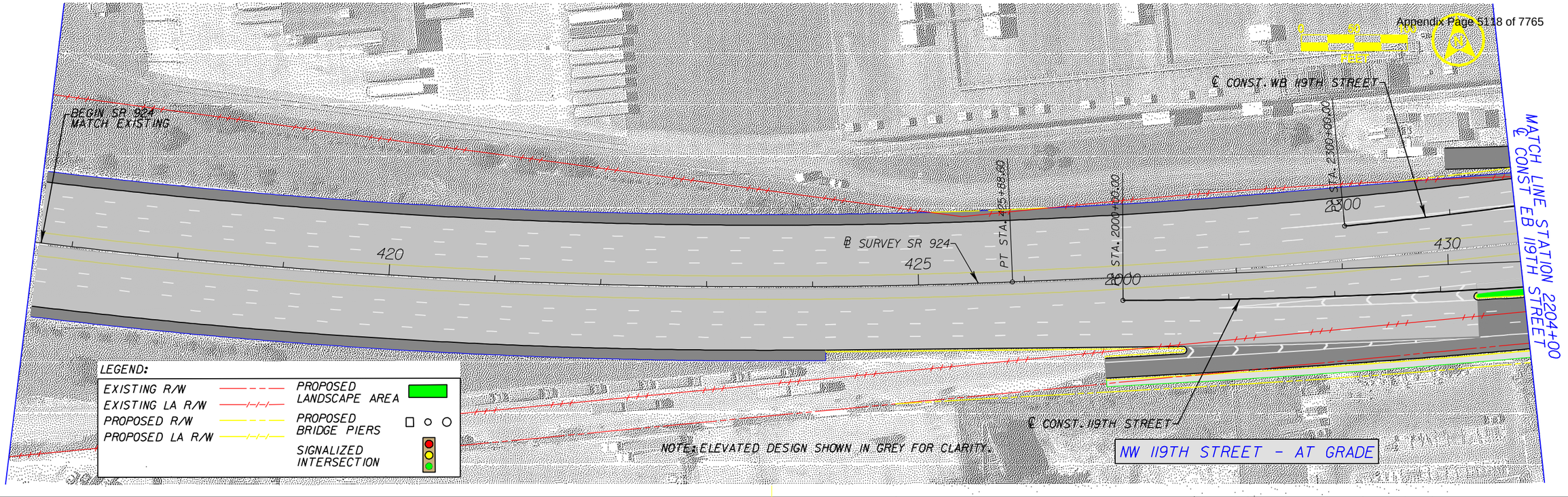
DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

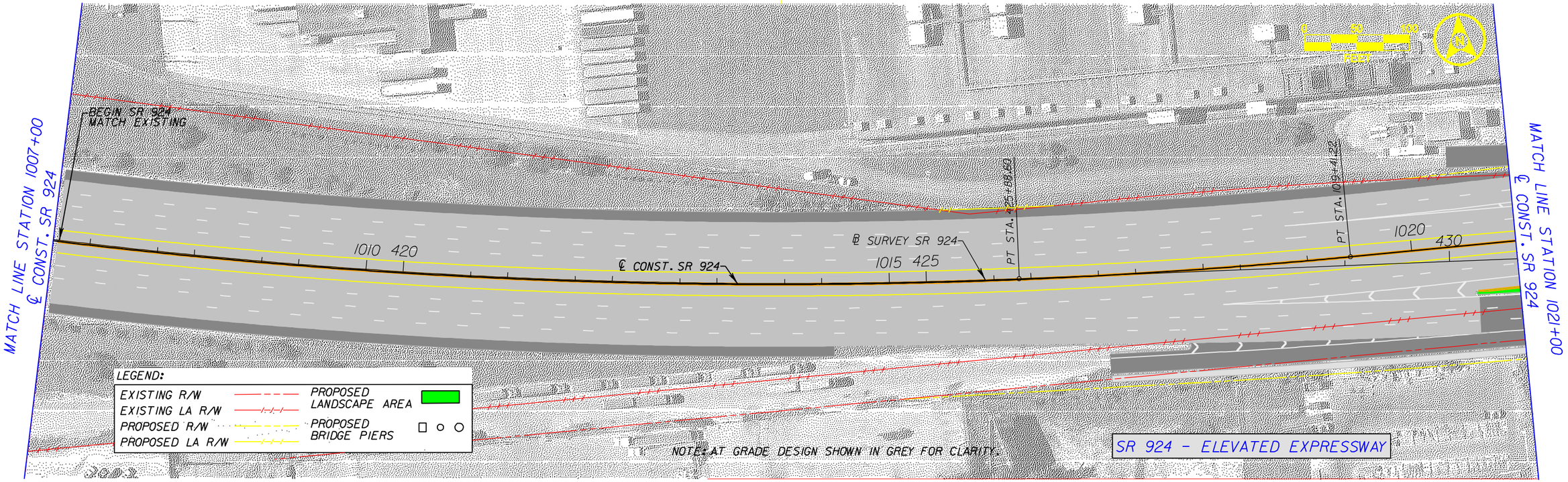
HDR

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

SHEET NO.
2





MIAMI-DADE EXPRESSWAY AUTHORITY

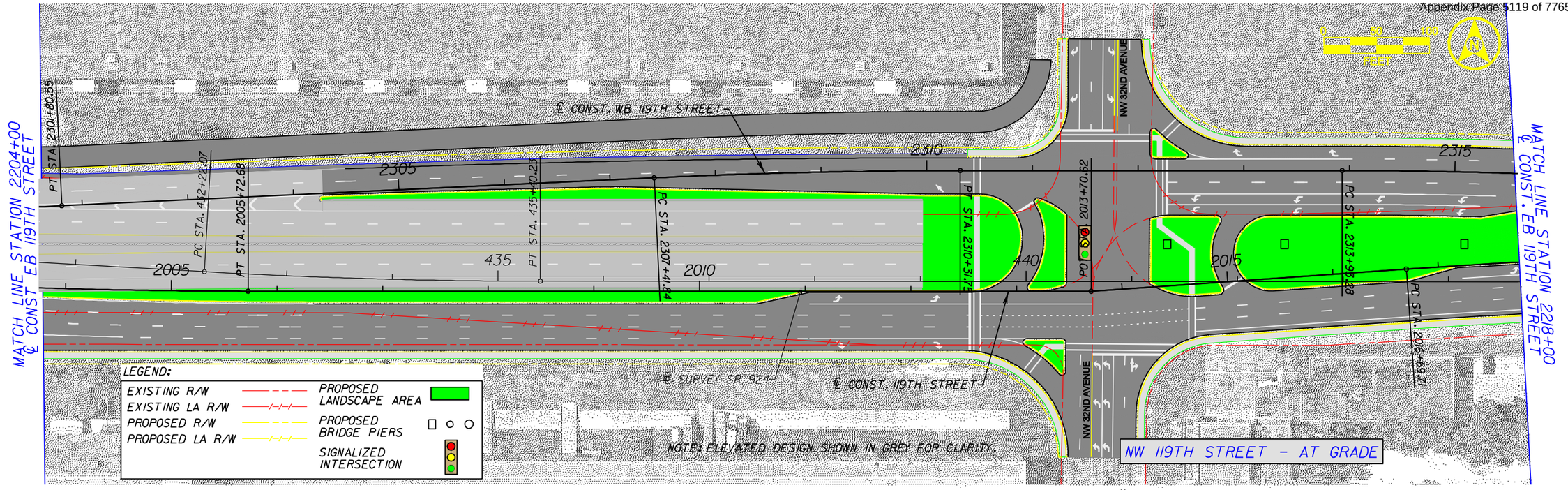
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MDX WORK PROGRAM NO. 92407

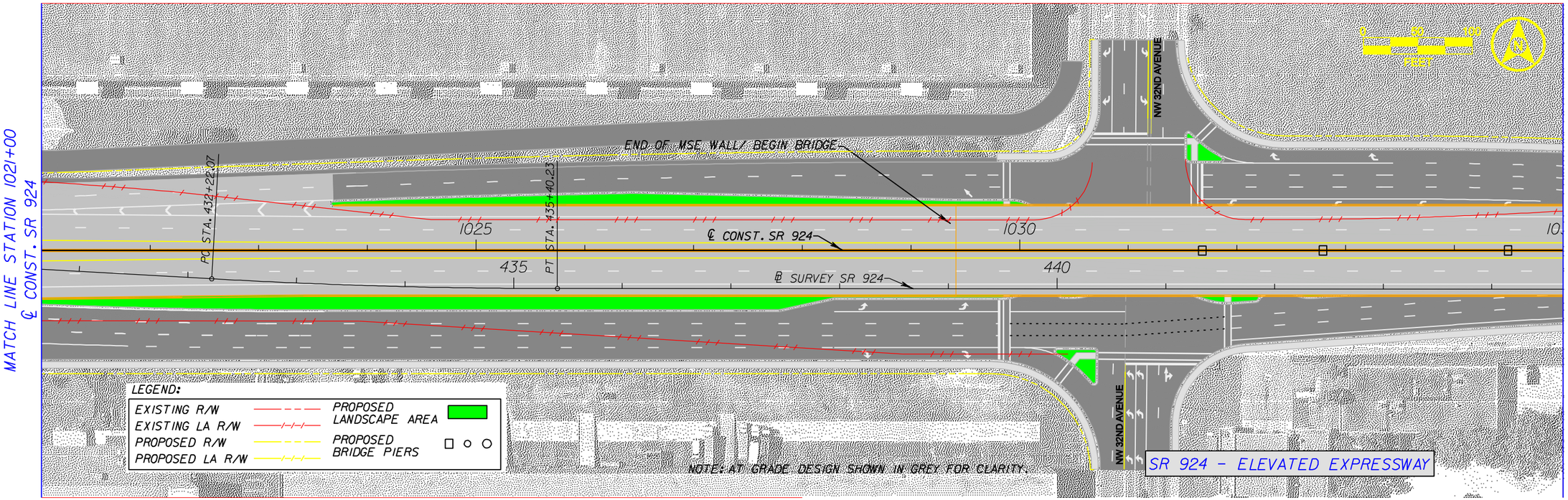
HDR

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

SHEET NO. 3





MIAMI-DADE EXPRESSWAY AUTHORITY

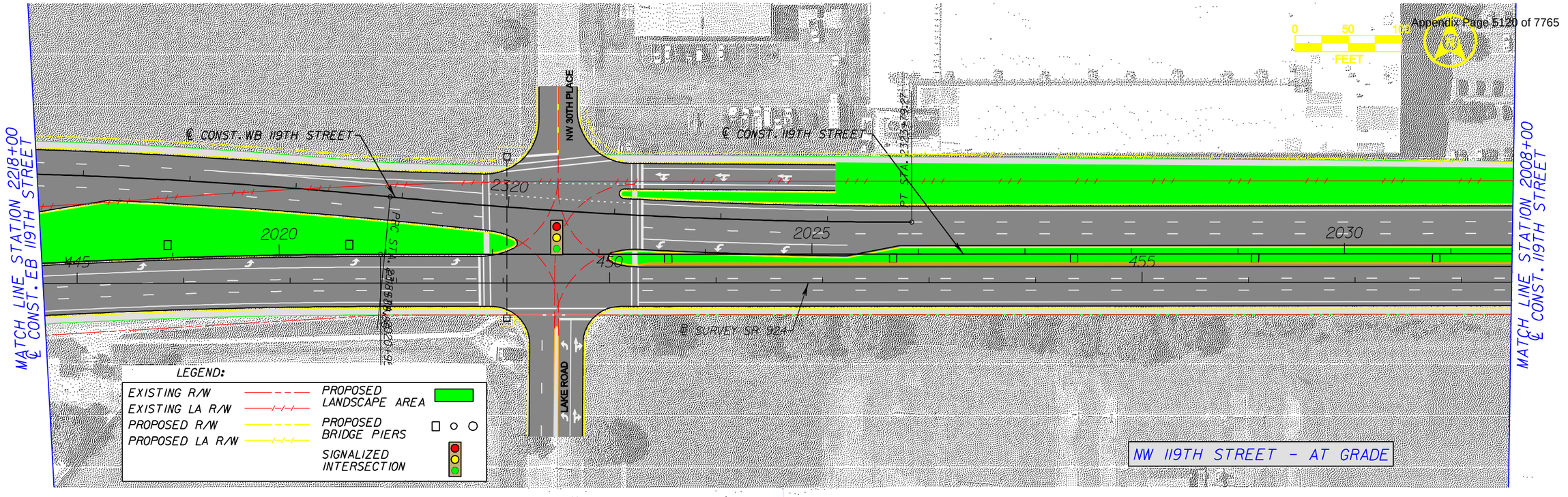
DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

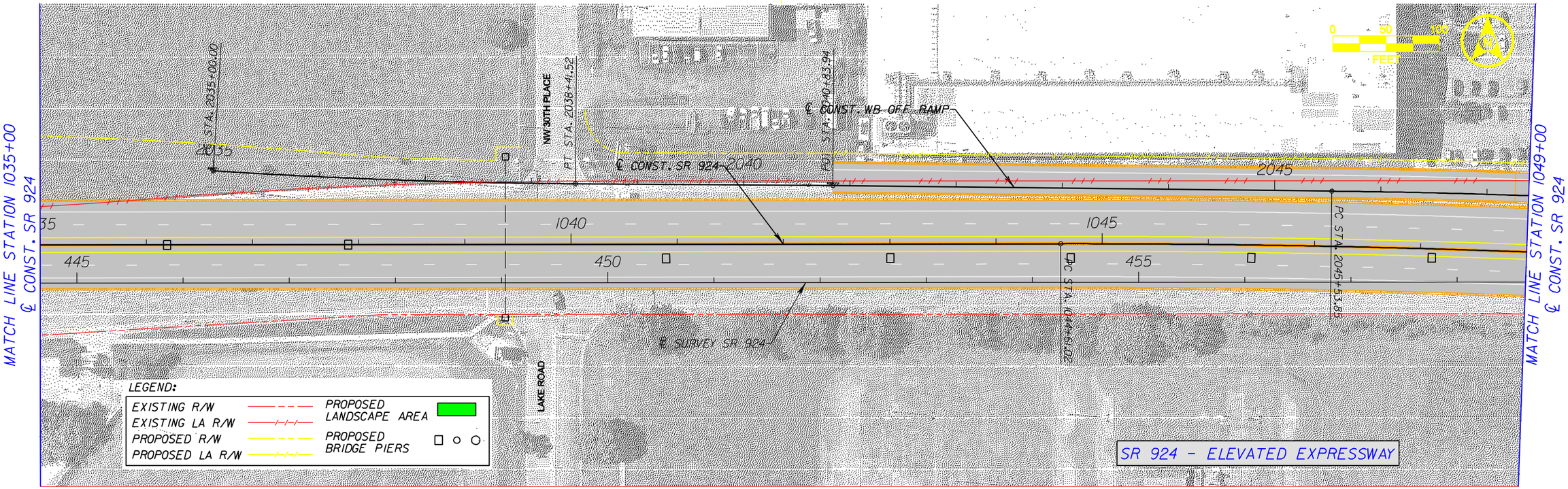
HDR

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

SHEET NO. 4





MIAMI-DADE EXPRESSWAY AUTHORITY

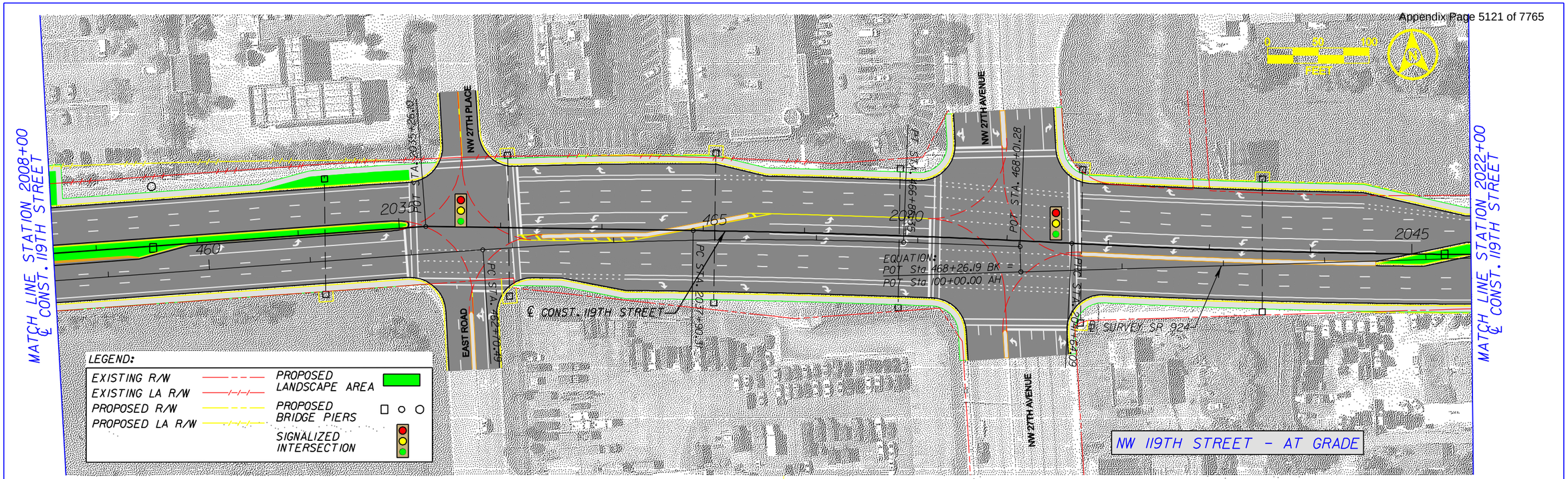
DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

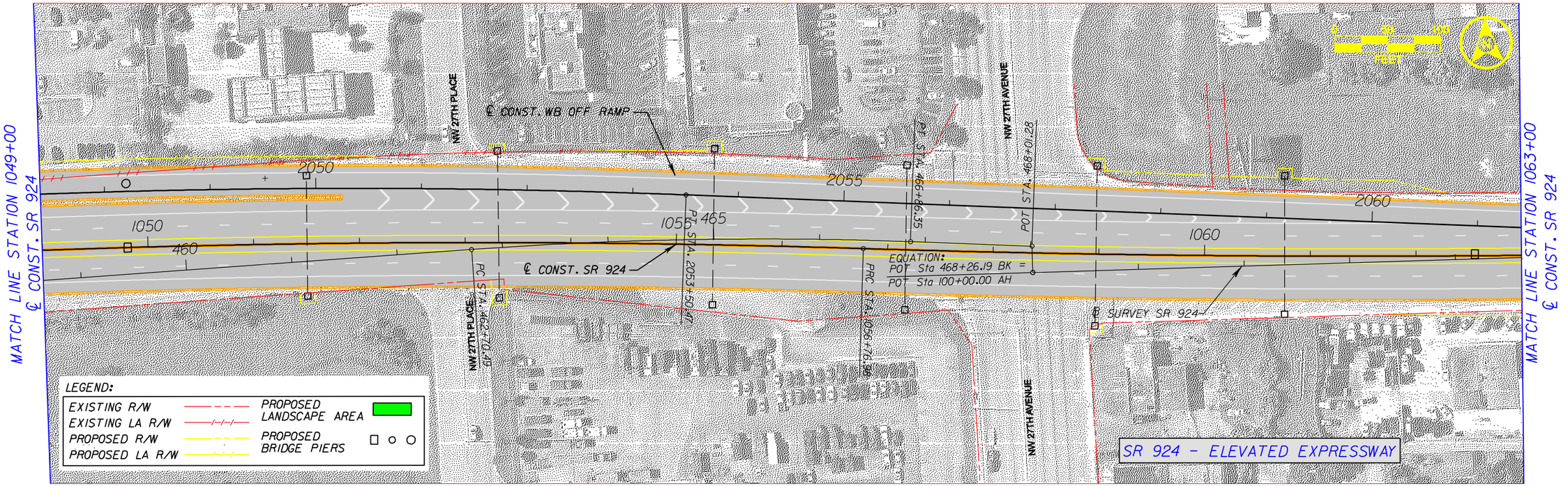
HDR

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

SHEET NO. 5





MIAMI-DADE EXPRESSWAY AUTHORITY

DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

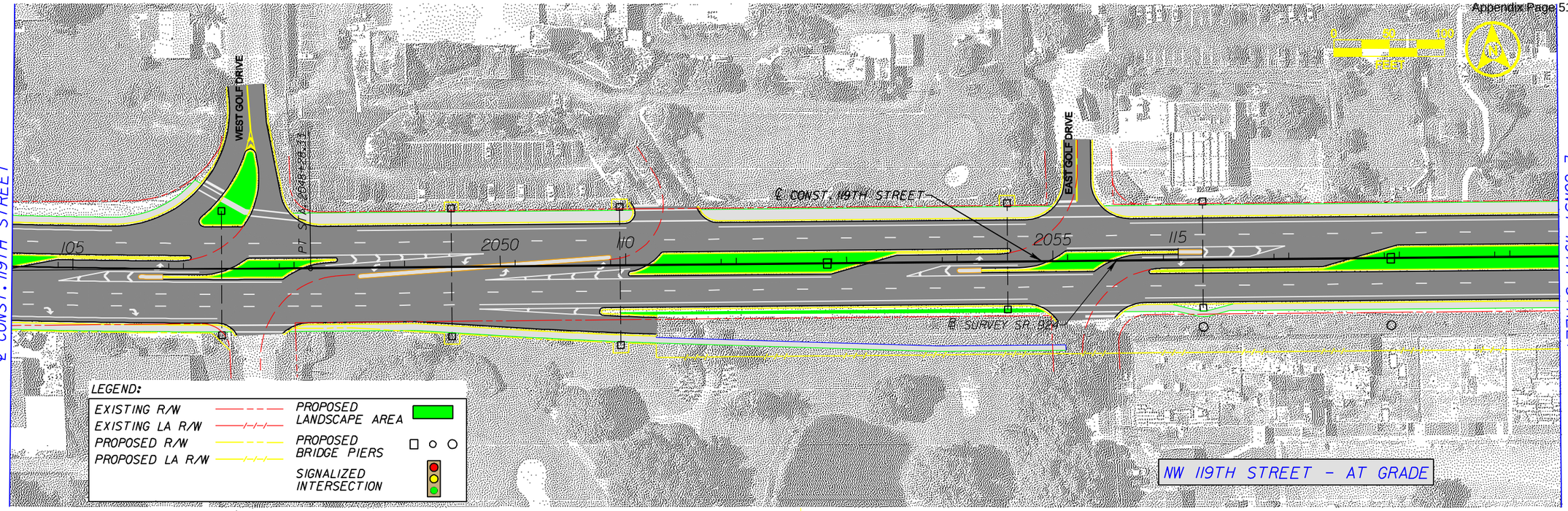
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SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

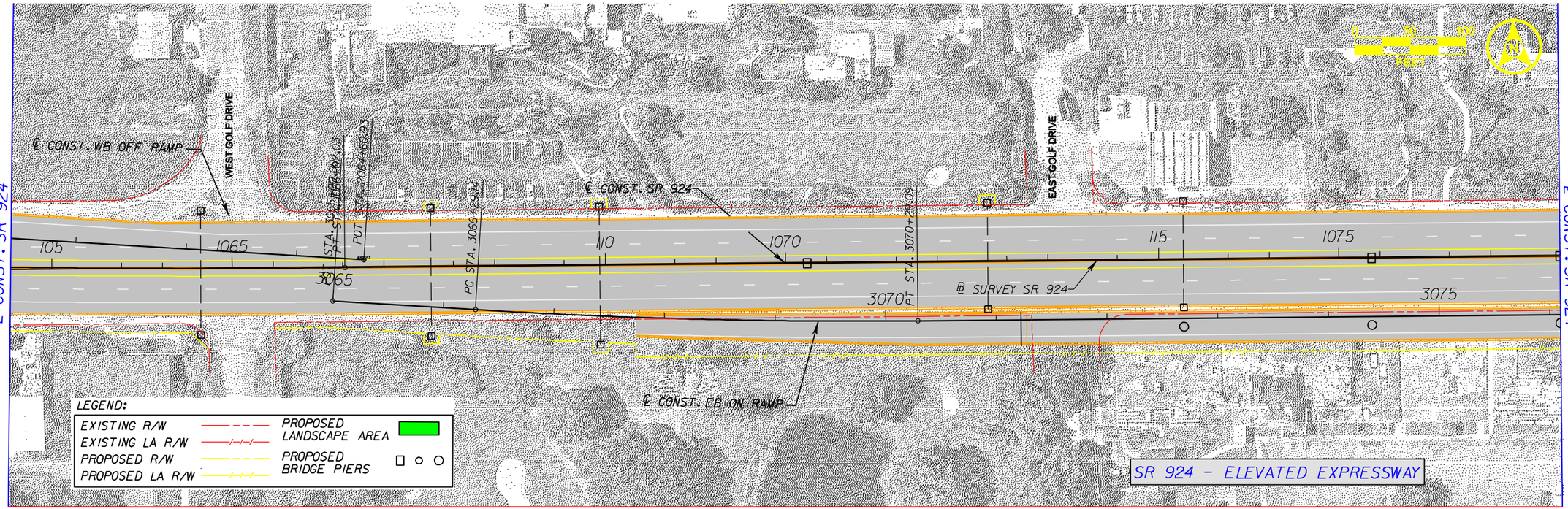
SHEET NO. 6

MATCH LINE STATION 2022+00
℄ CONST. 119TH STREET



MATCH LINE STATION 2036+00
℄ CONST 119TH STREET

MATCH LINE STATION 1063+00
℄ CONST. SR 924



MATCH LINE STATION 1077+00
℄ CONST. SR 924

MDX® MIAMI-DADE EXPRESSWAY AUTHORITY

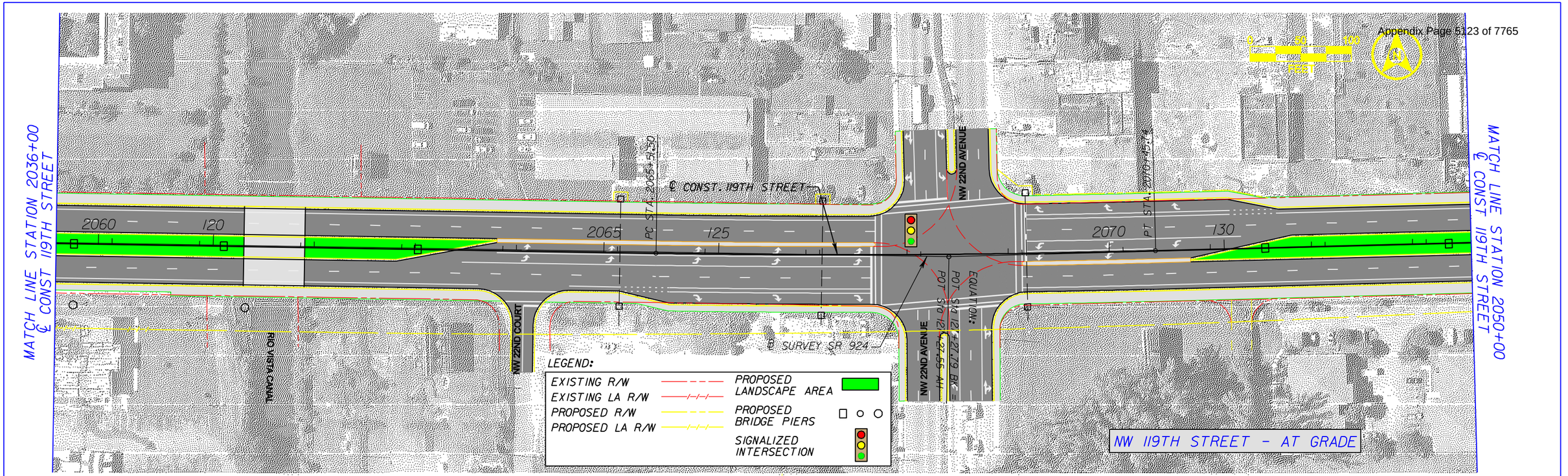
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MDX WORK PROGRAM NO. 92407

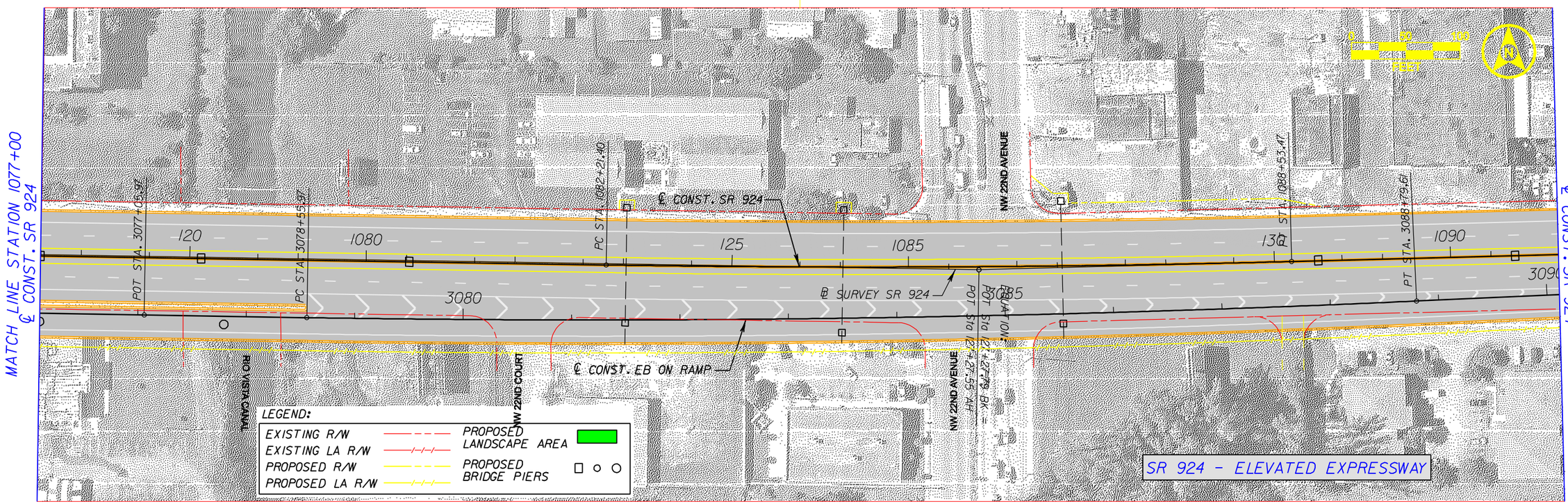
HDR

SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

SHEET NO. 7





MIAMI-DADE EXPRESSWAY AUTHORITY

DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

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SR 924 / GRATIGNY PARKWAY EAST EXTENSION
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SHEET NO. 8

MATCH LINE STATION 2050+00
℄ CONST. 119TH STREET

MATCH LINE STATION 2064+00
℄ CONST. 119TH STREET

NW 21ST AVENUE

NW 19TH AVENUE

℄ CONST. 119TH STREET

2075 135 2080 140 2085 145

℄ SURVEY SR 924

0 50 100 FEET

N

LEGEND:

EXISTING R/W
EXISTING LA R/W
PROPOSED R/W
PROPOSED LA R/W
PROPOSED LANDSCAPE AREA
PROPOSED BRIDGE PIERS
SIGNALIZED INTERSECTION

NW 119TH STREET - AT GRADE

MATCH LINE STATION 1091+00
℄ CONST. SR 924

MATCH LINE STATION 1105+00
℄ CONST. SR 924

NW 21ST AVENUE

NW 19TH AVENUE

135 1095 140 1100 145

℄ CONST. SR 924

3095

℄ SURVEY SR 924

POT STA. 3100+48.33

3100

℄ CONST. EB ON RAMP

0 50 100 FEET

N

LEGEND:

EXISTING R/W
EXISTING LA R/W
PROPOSED R/W
PROPOSED LA R/W
PROPOSED LANDSCAPE AREA
PROPOSED BRIDGE PIERS

SR 924 - ELEVATED EXPRESSWAY

MDX®
MIAMI-DADE EXPRESSWAY AUTHORITY

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SHEET NO.
9

MATCH LINE STATION 2064+00
℄ CONST. 119TH STREET

MATCH LINE STATION 2078+00
℄ CONST. 119TH STREET

NW 18TH AVENUE
NW 17TH AVENUE
NW 16TH AVENUE

POT STA. 209+85.56
POT STA. 210+73.82

℄ CONST. 119TH STREET
℄ SURVEY SR 924

2090 150 2095 155 2100 160

LEGEND:
EXISTING R/W
EXISTING LA R/W
PROPOSED R/W
PROPOSED LA R/W
PROPOSED LANDSCAPE AREA
PROPOSED BRIDGE PIERS
SIGNALIZED INTERSECTION

NW 119TH STREET - AT GRADE

MATCH LINE STATION 1105+00
℄ CONST. SR 924

MATCH LINE STATION 1119+00
℄ CONST. SR 924

NW 18TH AVENUE
NW 17TH AVENUE
NW 16TH AVENUE

POT STA. 1103+11.82

℄ CONST. SR 924
℄ SURVEY SR 924

150 1110 155 1115 160

LEGEND:
EXISTING R/W
EXISTING LA R/W
PROPOSED R/W
PROPOSED LA R/W
PROPOSED LANDSCAPE AREA
PROPOSED BRIDGE PIERS

SR 924 - ELEVATED EXPRESSWAY

MIAMI-DADE EXPRESSWAY AUTHORITY

DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

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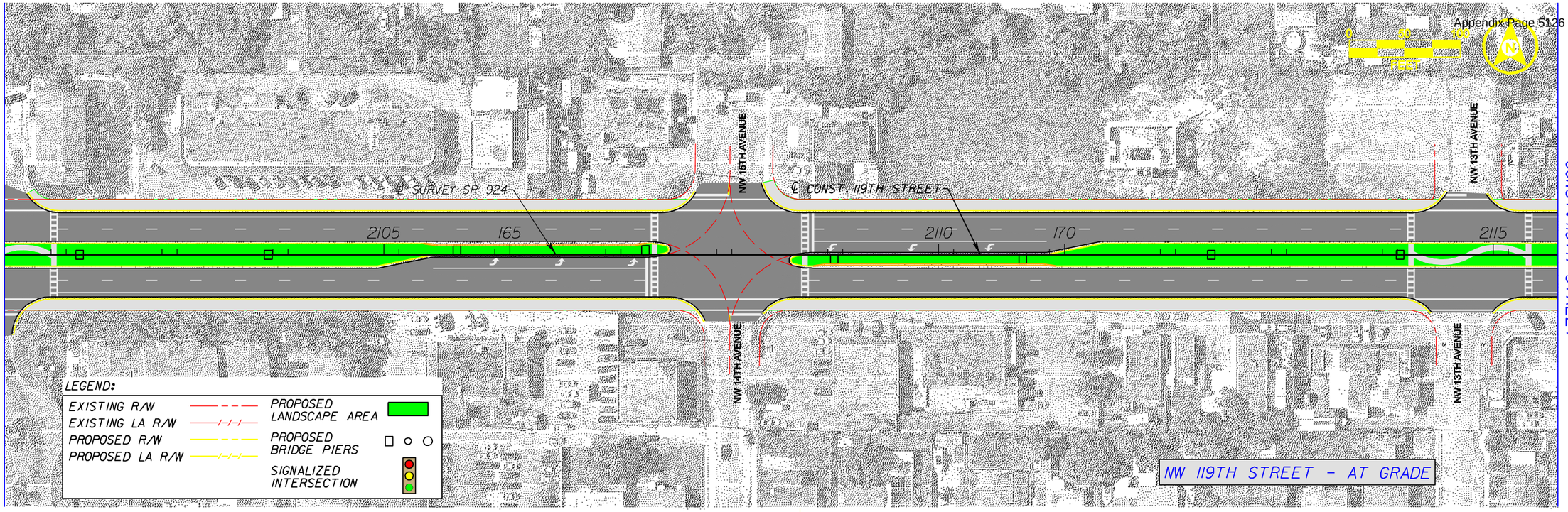
SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

SHEET NO.
10

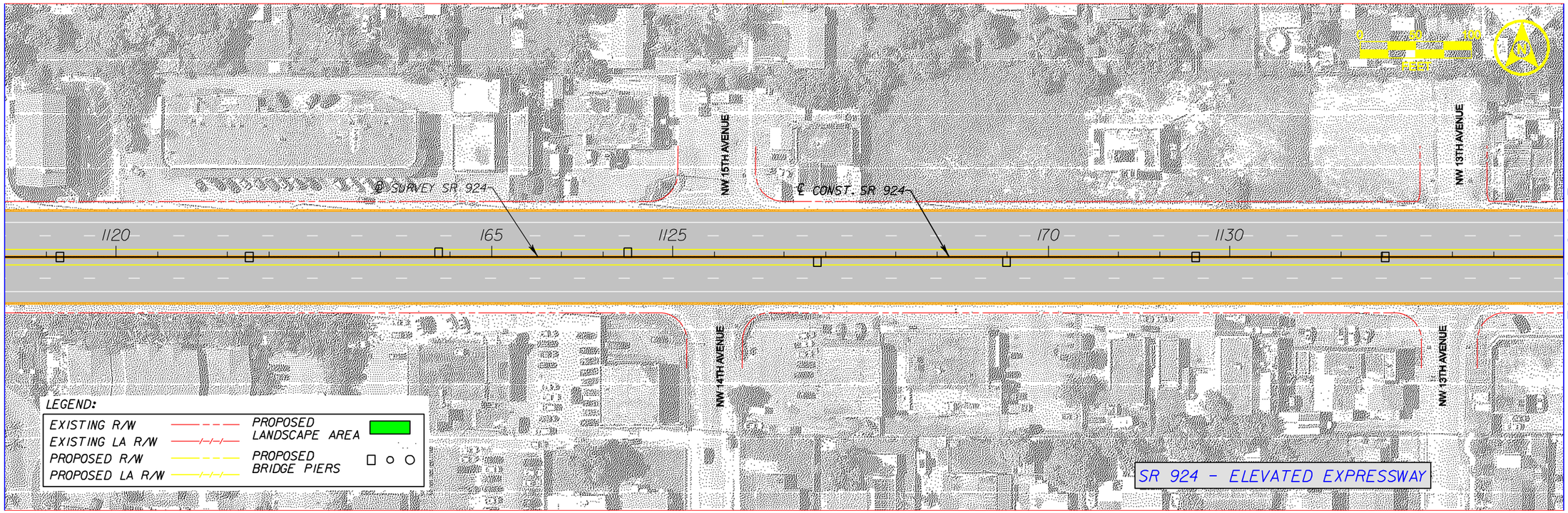
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℄ CONST. 119TH STREET

MATCH LINE STATION 2092+00
℄ CONST. 119TH STREET



MATCH LINE STATION 1119+00
℄ CONST. SR 924

MATCH LINE STATION 1133+00
℄ CONST. SR 924



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SR 924 / GRATIGNY PARKWAY EAST EXTENSION
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SHEET NO.
11

MATCH LINE STATION 2092+00
℄ CONST. 119TH STREET

℄ SURVEY SR 924

NW 12TH AVENUE

POT STA. 2121+41.15

NW 11TH AVENUE

175 2120 180 185 2125

POT STA. 180+26.34 AH
POT STA. 180+22.50 BK
EQUATION

℄ CONST. 119TH STREET

NW 12TH AVENUE

NW 11TH AVENUE

LEGEND:

EXISTING R/W
EXISTING LA R/W
PROPOSED R/W
PROPOSED LA R/W
PROPOSED LANDSCAPE AREA
PROPOSED BRIDGE PIERS
SIGNALIZED INTERSECTION

NW 119TH STREET - AT GRADE

MATCH LINE STATION 2106+00
℄ CONST. 119TH STREET

MATCH LINE STATION 1133+00
℄ CONST. SR 924

℄ SURVEY SR 924

NW 12TH AVENUE

POT STA. 1138+64.93

NW 11TH AVENUE

175 1135 180 1140 185 1145

POT STA. 180+26.34 AH
POT STA. 180+22.50 BK
EQUATION

℄ CONST. SR 924

NW 12TH AVENUE

NW 11TH AVENUE

LEGEND:

EXISTING R/W
EXISTING LA R/W
PROPOSED R/W
PROPOSED LA R/W
PROPOSED LANDSCAPE AREA
PROPOSED BRIDGE PIERS

SR 924 - ELEVATED EXPRESSWAY

MATCH LINE STATION 1147+00
℄ CONST. SR 924

MIAMI-DADE EXPRESSWAY AUTHORITY

DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

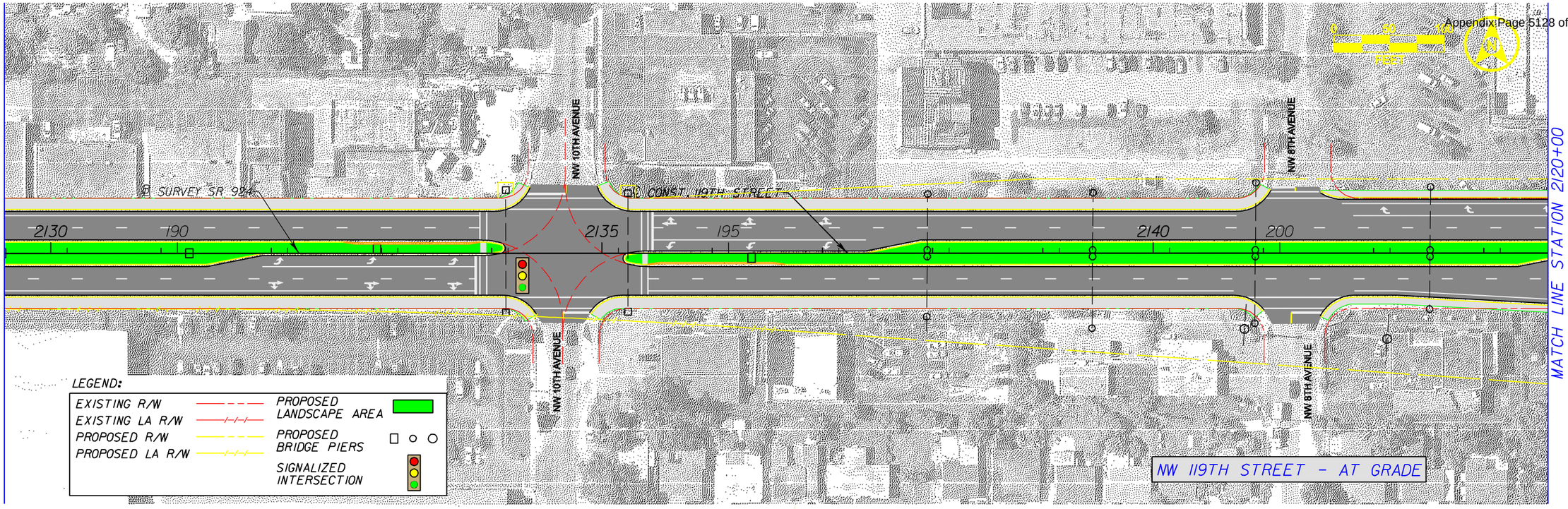
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SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

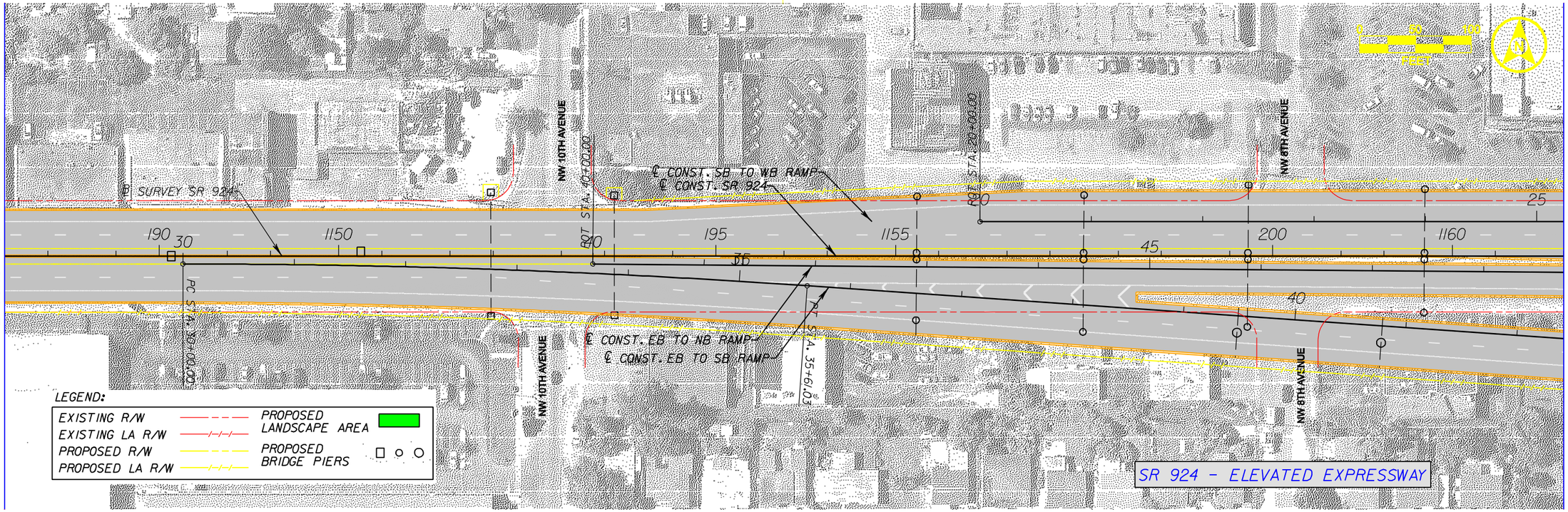
SHEET NO.
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MATCH LINE STATION 2106+00
℄ CONST. 119TH STREET



MATCH LINE STATION 2120+00
℄ CONST. 119TH STREET

MATCH LINE STATION 1147+00
℄ CONST. SR 924



MATCH LINE STATION 1161+00
℄ CONST. SR 924

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DATE: APRIL 2013
MDX WORK PROGRAM NO. 92407

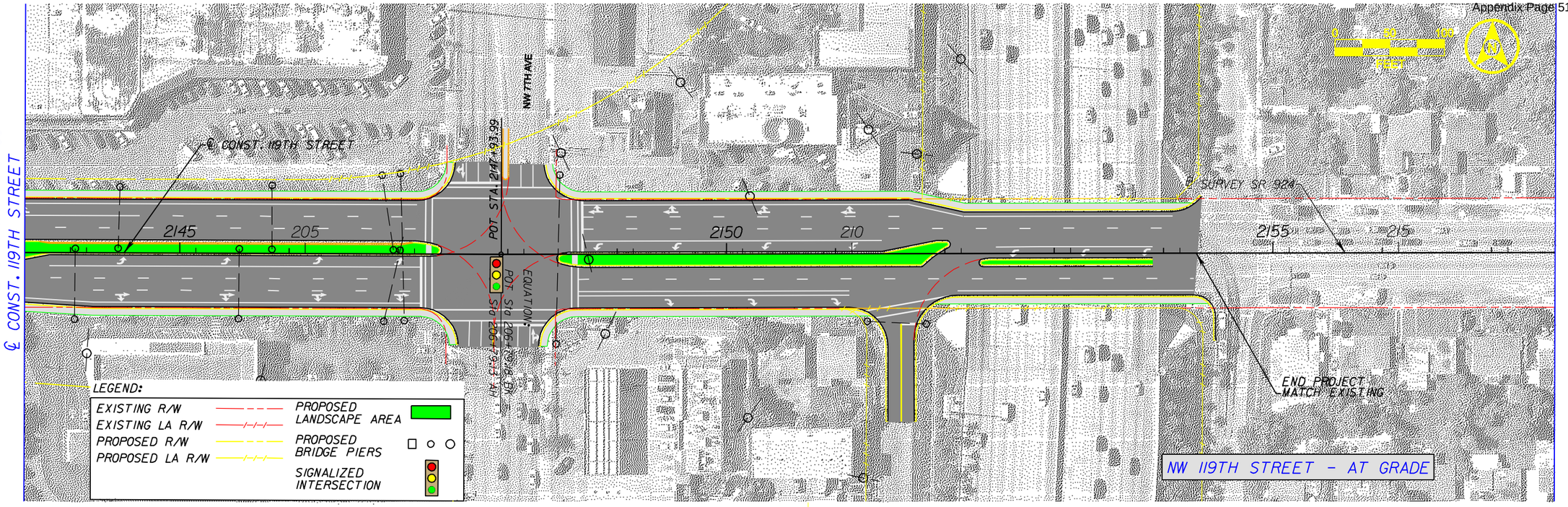
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SR 924 / GRATIGNY PARKWAY EAST EXTENSION
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

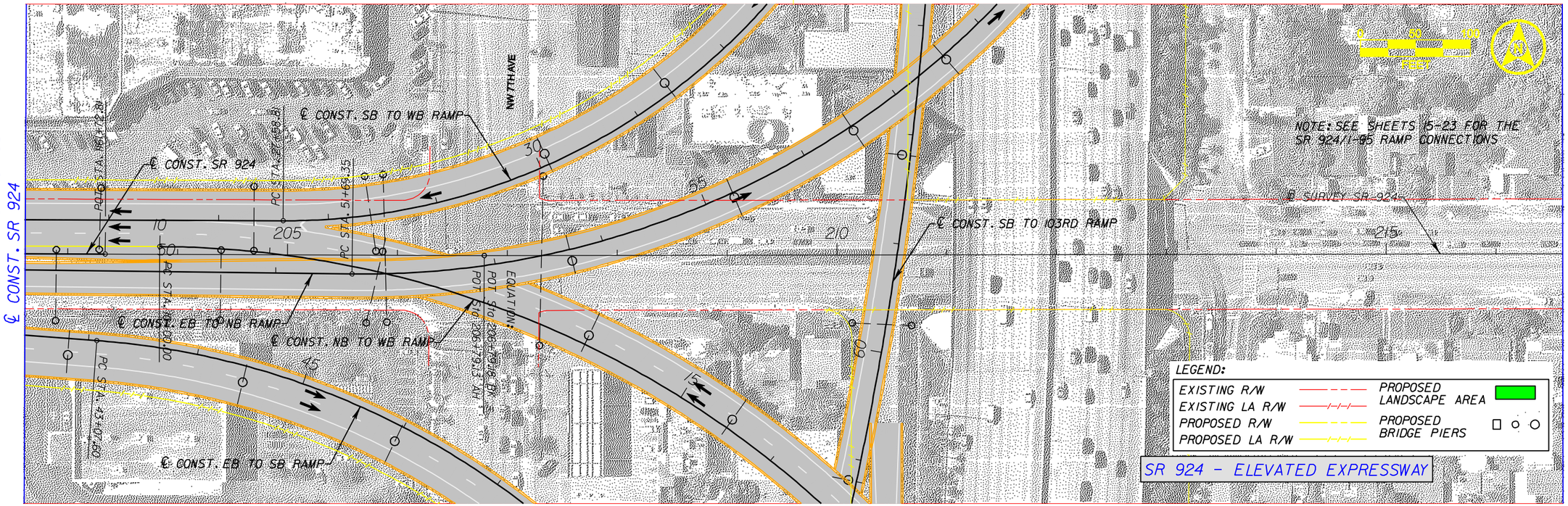
RECOMMENDED ALTERNATIVE PRELIMINARY PLANS

SHEET NO. 13

MATCH LINE STATION 2120+00
℄ CONST. 119TH STREET



MATCH LINE STATION 1161+00
℄ CONST. SR 924



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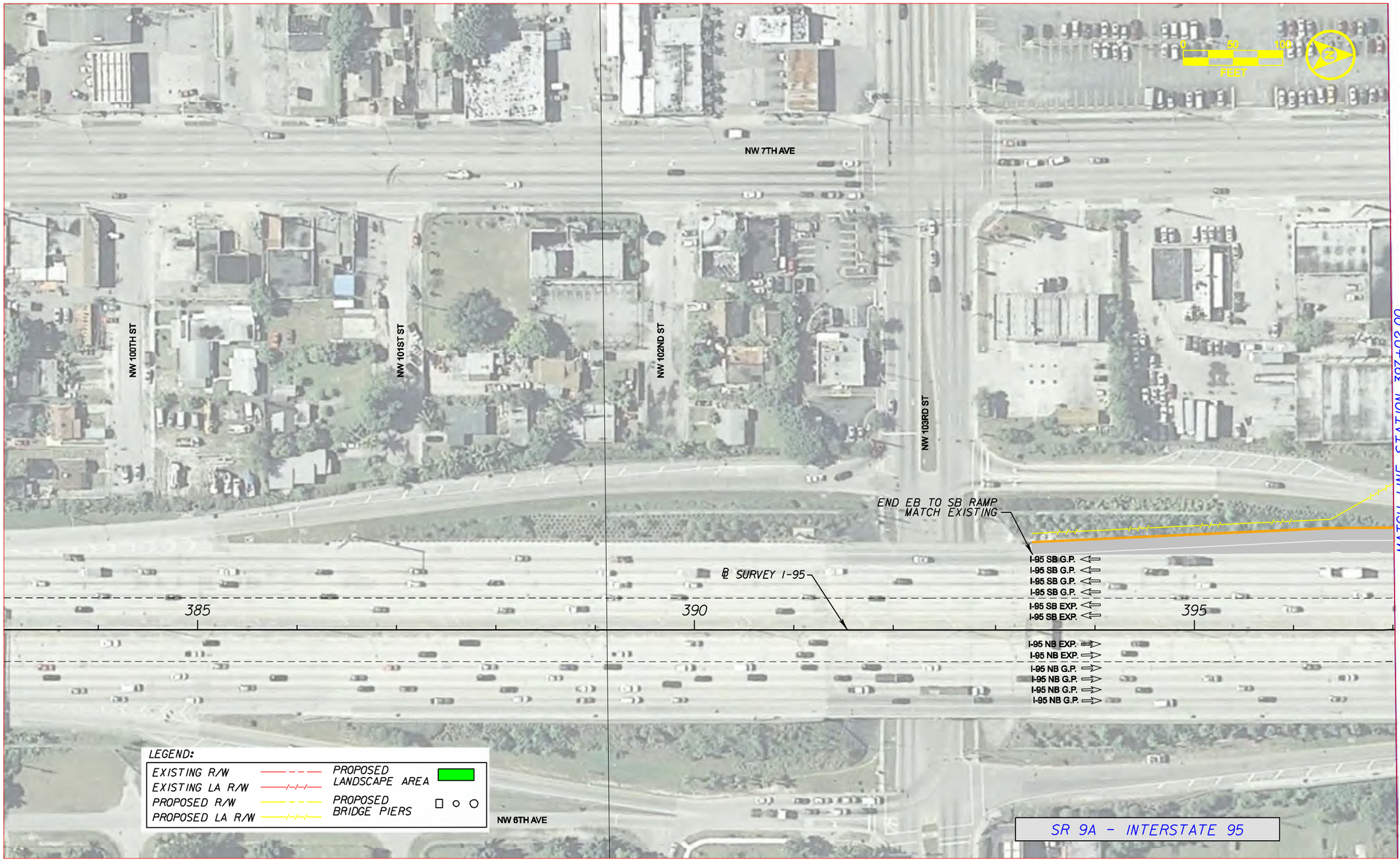
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RECOMMENDED ALTERNATIVE
PRELIMINARY PLANS

SHEET NO.
14



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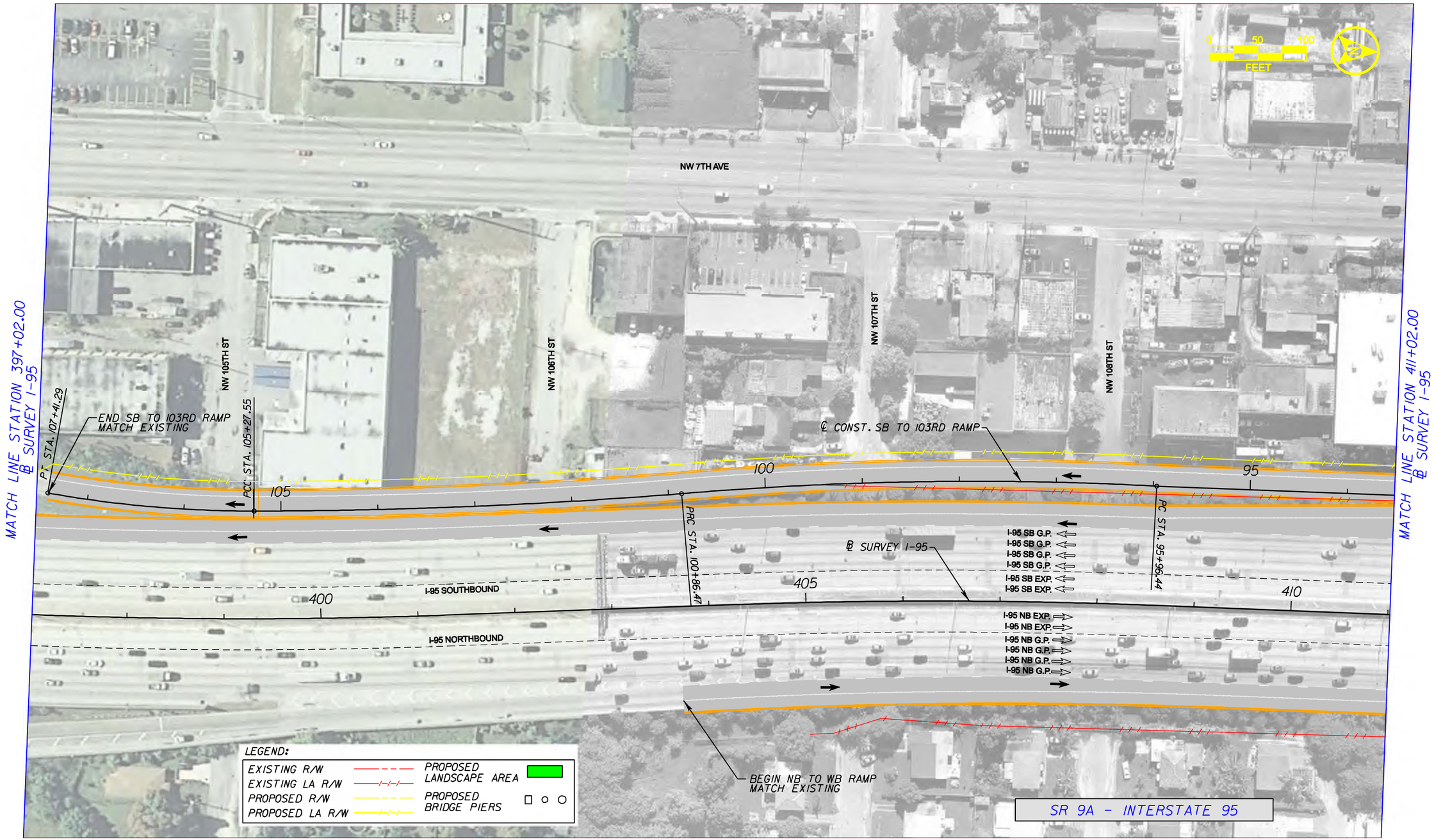
DATE: APRIL 2013
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PRELIMINARY PLANS

SHEET NO.
15



MIAMI-DADE EXPRESSWAY AUTHORITY

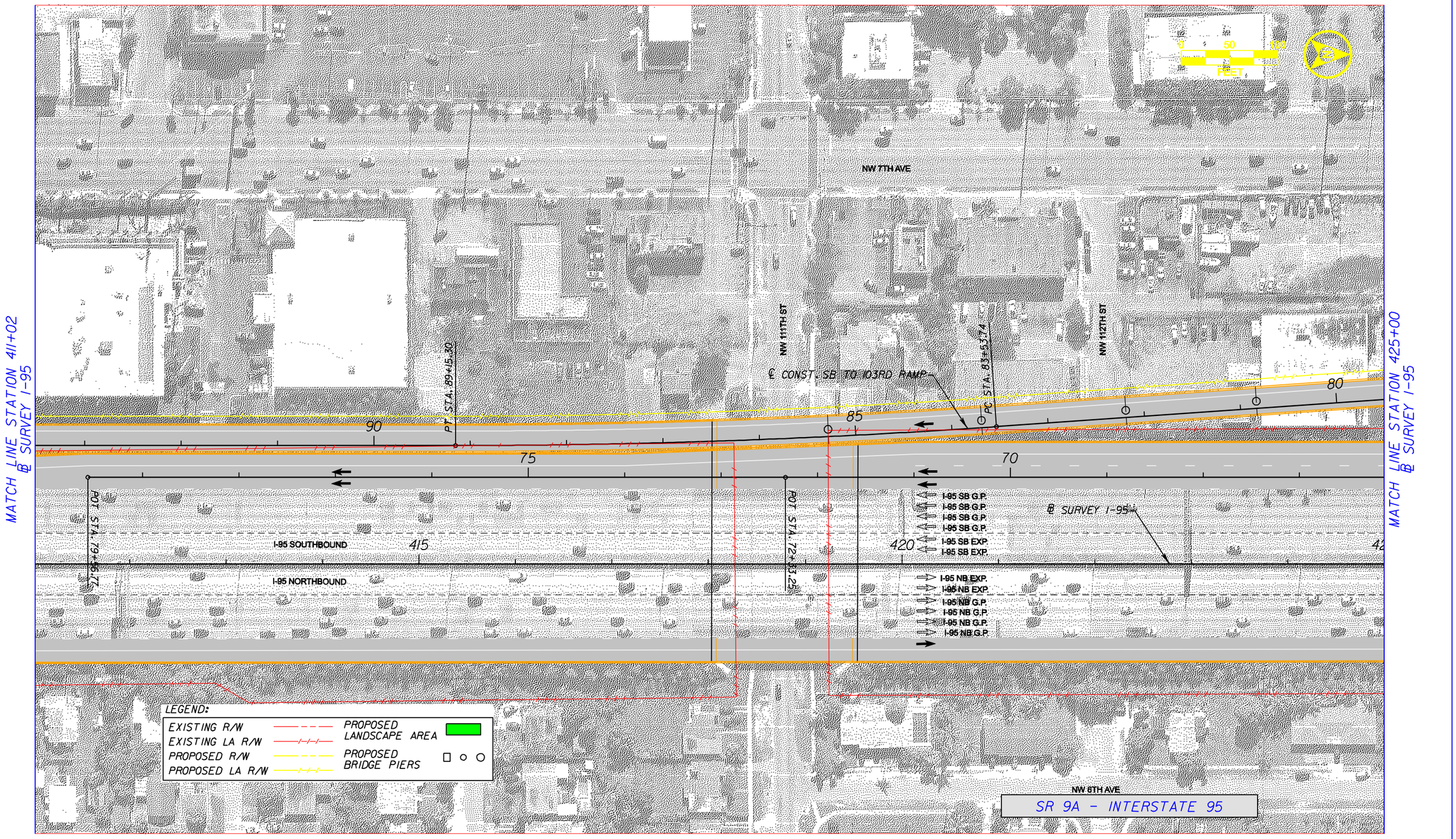
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SHEET NO.
16



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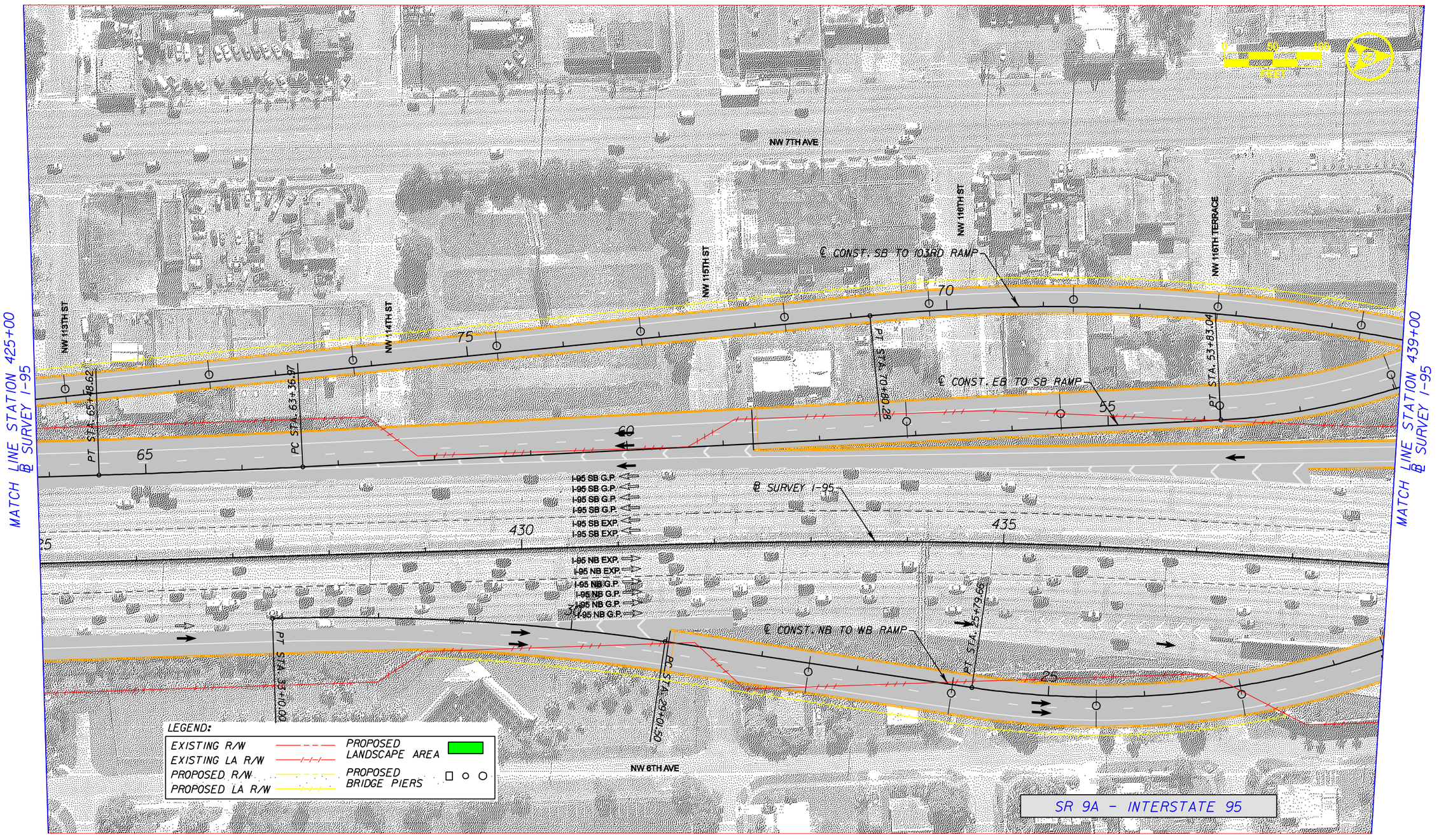
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17



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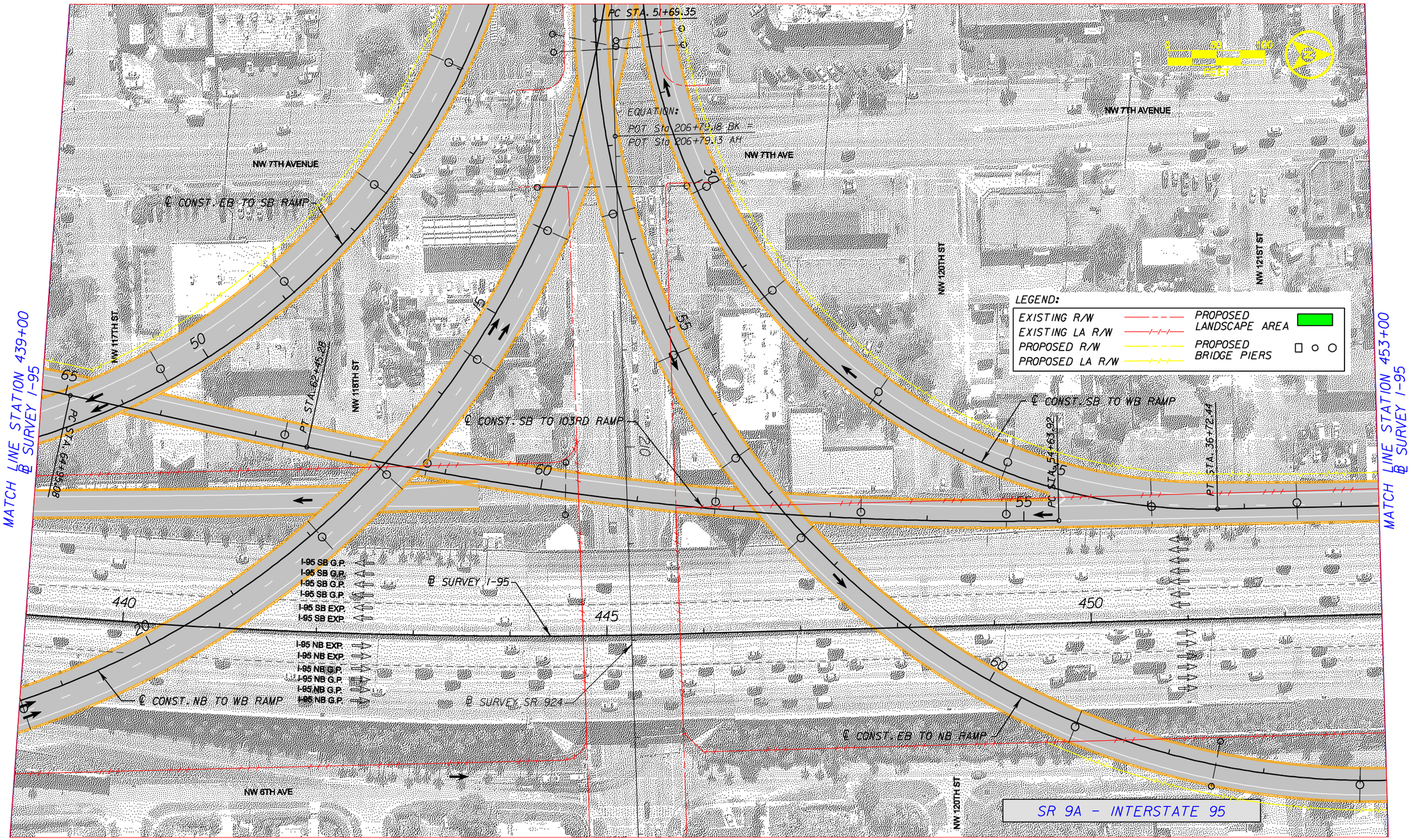
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18



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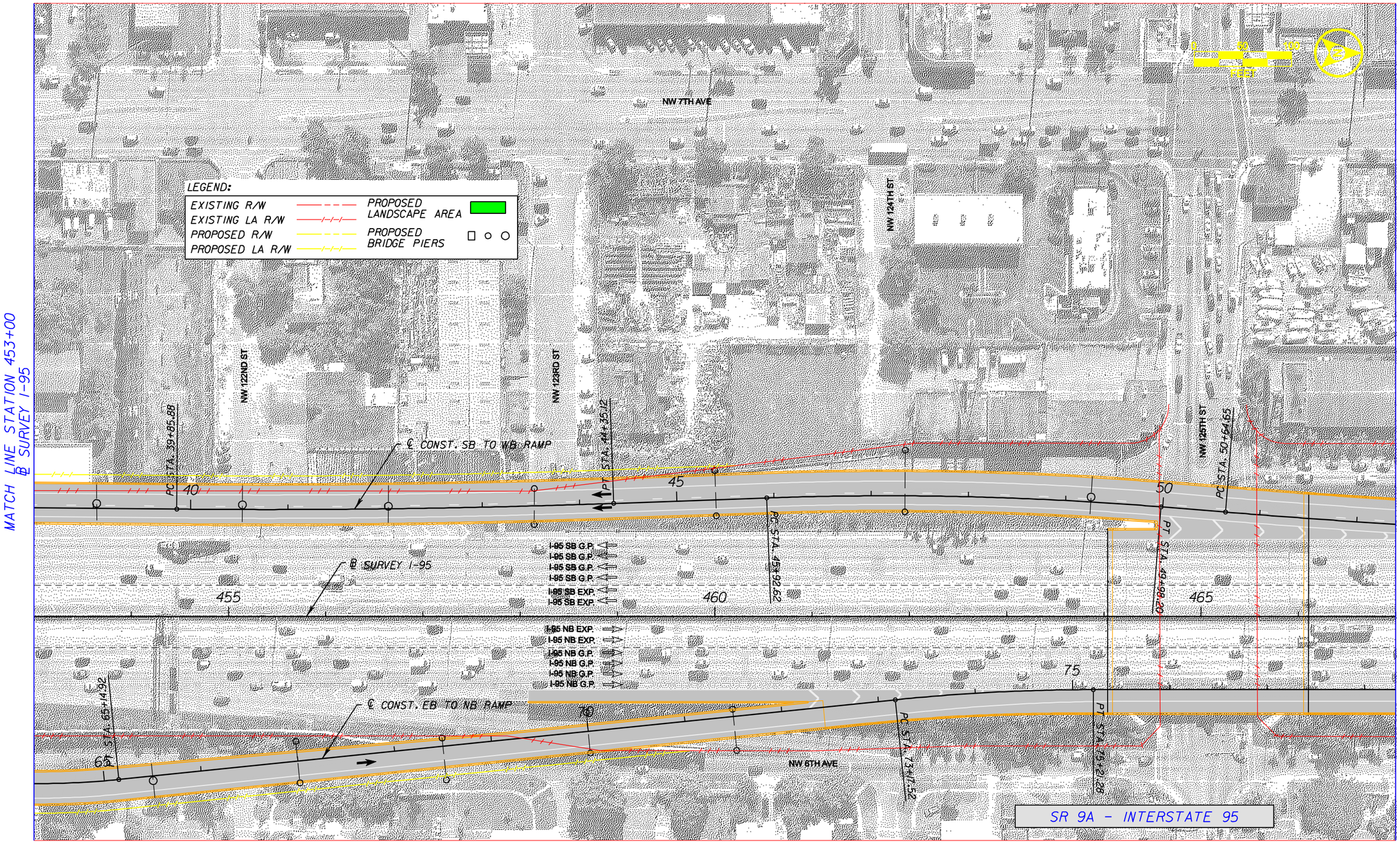
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19



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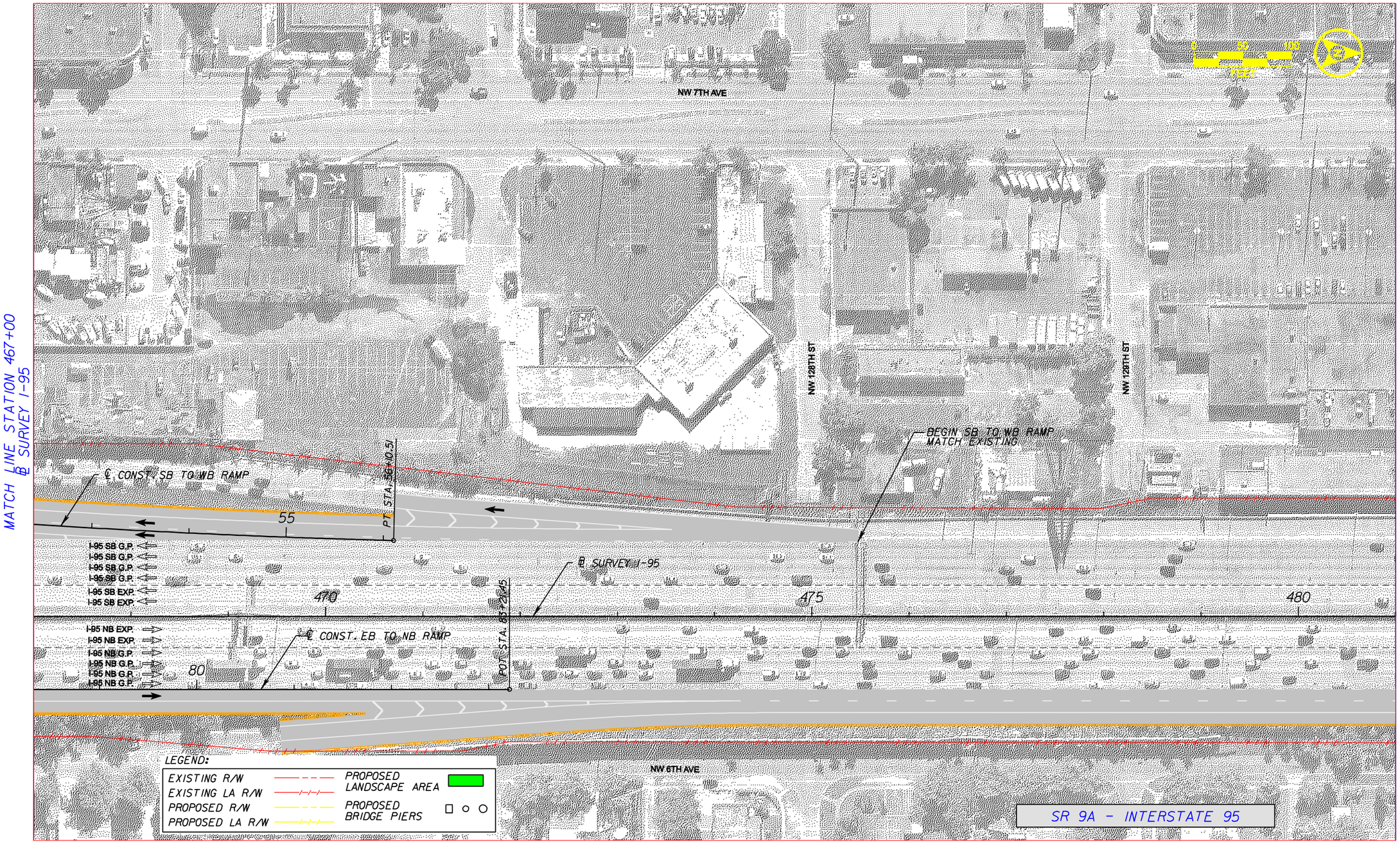
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20



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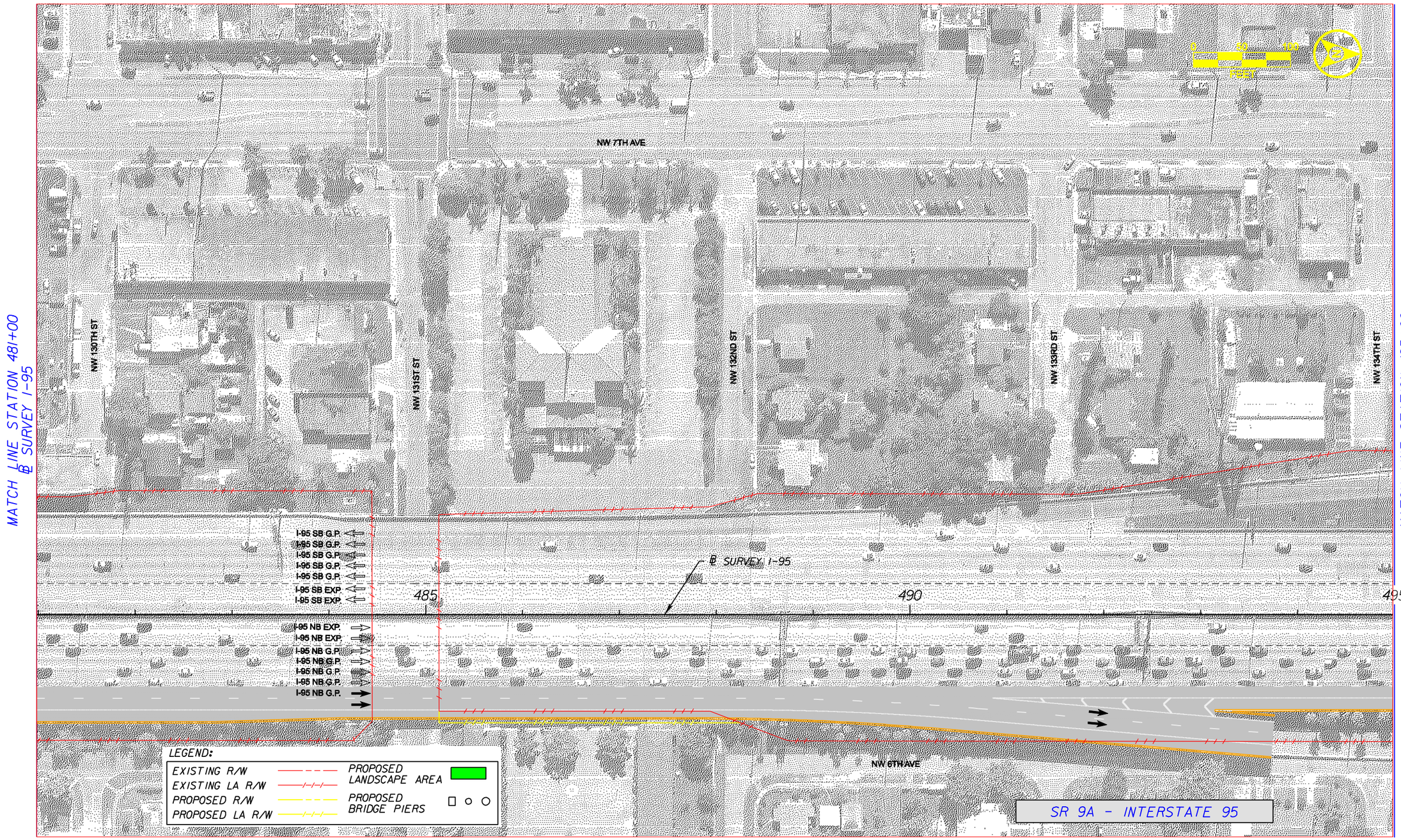
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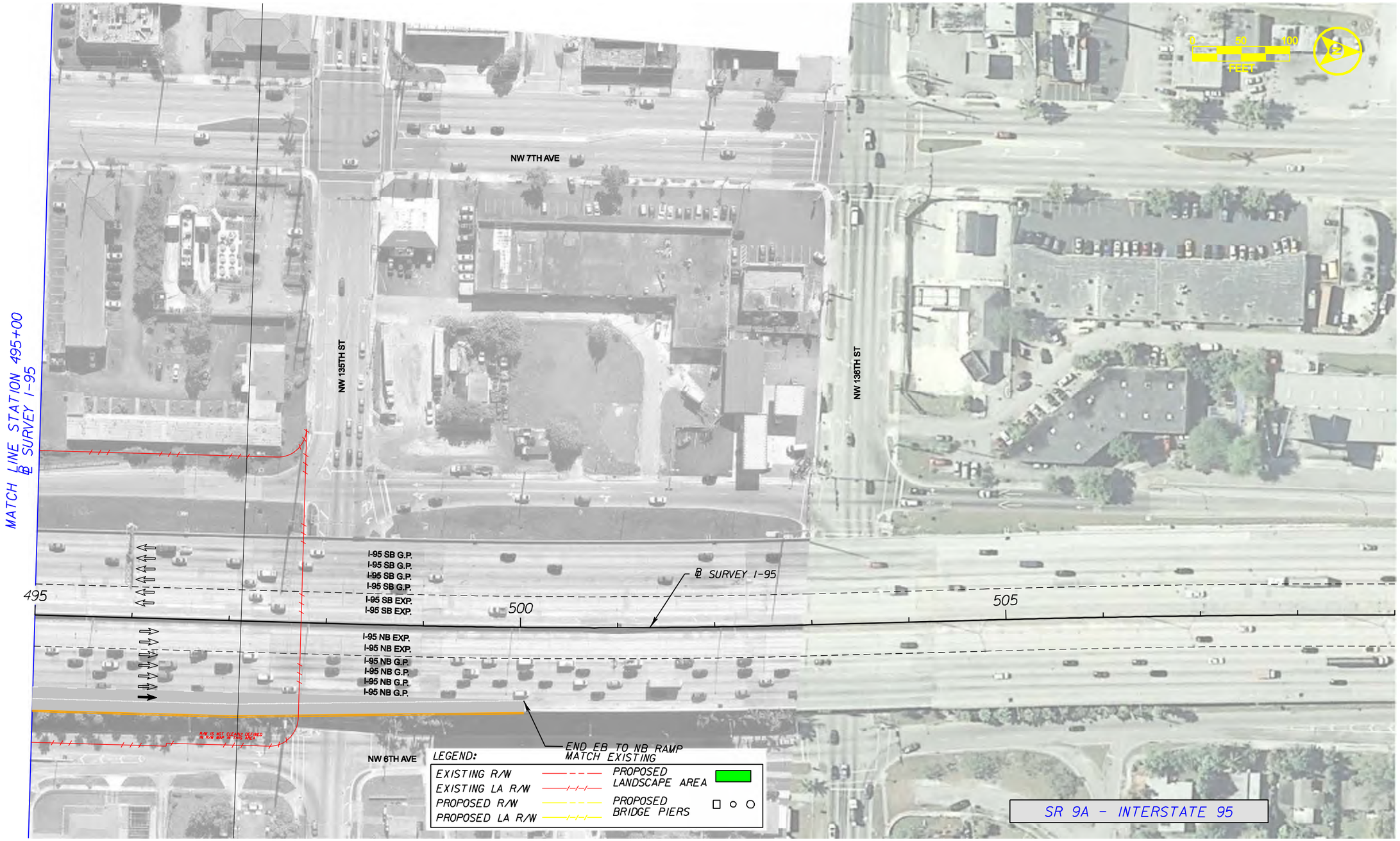
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22



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SHEET NO.
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Appendix G: Long Range Estimate Report

Date: 4/1/2013 3:49:59 PM

FDOT Long Range Estimating System - Production

R1: Project Summary without Components Report

Project: 000MDX-9-24-07 **Letting Date:** 01/2099

Description: SR 924 FROM NW 32ND AVENUE TO I-95

District: 02 **County:** 99 DISTRICT/STATE WIDE

Project Manager:

Version 1-P Project Grand Total **$392,883,447.67**

Description: SR 924 FROM NW 32ND AVENUE TO I-95. 10% ADDED TO TOTAL COST FOR PROJECT UNKNOWNS MAKING THE GRAND TOTAL $432,171,792.40

Sequence 1 NUU Total $192,514,846.47

Description: SEQUENCE 1 IS FOR THE BRIDGE PORTION OF SR 924 ELEVATED EXPRESSWAY. THIS DOES NOT INCLUDE THE RAMPS OR THE WEST PORTION OF SR 924 ON FILL.

Sequence 2 NUR Total $2,675,842.89

Description: SEQUENCE 2 IS FOR THE RURAL ROADWAY SECTION ON THE WEST END OF THE PROJECT WITH RETAINING WALLS AND FILL TO TIE INTO THE EXISTING GRATIGNY EXPRESSWAY.

Sequence 3 WDU Total $7,047,413.80

Description: SEQUENCE 3 IS FOR THE 6 LANE URBAN SECTION AT GRADE ON THE WEST END OF NW 119TH STREET. ASSUME 1 LANE OF WIDENING IN & OUT FOR BOTH DIRECTIONS TO ACCOUNT FOR THE TURN LANE AND MEDIAN MODIFICATIONS

Sequence 4 WDU Total $10,609,729.24

Description: SEQUENCE 4 IS FOR THE 4 LANE URBAN SECTION AT GRADE ON NW 119TH STREET. ASSUME 1 LANE OF WIDENING IN AND OUT FOR BOTH DIRECTIONS TO ACCOUNT FOR THE TURN LANE AND MEDIAN MODIFICATIONS.

Sequence 5 NUU Total $4,434,203.09

Description: SEQUENCE 5 IS FOR THE EB ON RAMP TO THE EXPRESSWAY FROM NW 119TH STREET. THE SEQUENCE LENGTH IS THE LENGTH OF THE ROADWAY SEGMENT. THE RAMP BRIDGE IS ACCOUNTED FOR BUT IS NOT INCLUDED IN THE LENGTH.

Sequence 6 NUU Total $12,414,745.28

Description: SEQUENCE 6 IS FOR THE NB TO WB RAMP BRIDGE

Sequence 7 NUU Total $16,760,047.06

Description: SEQUENCE 7 IS FOR THE EB TO NB RAMP BRIDGE

Sequence 8 NUU Total		$15,865,442.72
Description: SEQUENCE 8 IS FOR THE EB TO SB RAMP BRIDGE		
Sequence 9 NUU Total		$15,347,866.69
Description: SEQUENCE 9 IS FOR THE SB TO WB RAMP BRIDGE		
Sequence 10 NUU Total		$18,058,537.05
Description: SEQUENCE 10 IS FOR THE SB TO NW 103RD STREET RAMP BRIDGE AND RETAINING WALL SECTION. THE SEQUENCE LENGTH IS THE LENGTH OF ROADWAY ON RETAINING WALL.		
Sequence 11 WUU Total		$9,488,666.52
Description: SEQUENCE 11 IS FOR THE WIDENING ALONG I-95 SB FOR THE AUXILIARY LANES LEADING TO AND FROM THE SR 924 INTERCHANGES RAMPS (NW 128 ST TO NW 103 ST). THIS ALSO INCLUDES ALL NEW OH SIGNS ALONG I-95 SB.		
Sequence 12 WUU Total		$15,114,871.82
Description: SEQ. 12 IS FOR THE WIDENING ALONG I-95 NB FOR THE AUX LANES LEADING TO AND FROM THE SR 924 INTERCHANGE RAMPS. ALSO INCLUDES ALL NEW OH SIGNS, SOUND WALL REMOVAL AND REPLACEMENT ALONG I-95 NB		
Sequence 13 NUU Total		$3,511,695.26
Description: SEQUENCE 13 IS FOR THE WB OFF RAMP FROM SR 924 TO NW 119TH STREET. THE SEQUENCE LENGTH IS THE LENGTH OF THE ROADWAY SEGMENT. THE RAMP BRIDGE IS ACCOUNTED FOR BUT IS NOT INCLUDED IN THE LENGTH.		
Sequence 14 WUR Total		$729,189.36
Description: SEQUENCE 14 IS FOR THE WIDENING ON THE LE JUENE PARKWAY OFF RAMP AND ROADWAY. THE SEQUENCE LENGTH IS THE LENGTH OF 6' PAVED SHOULDER NEEDED ON THE RAMP. WIDENING WIDTH = TOTAL WIDENED AREA/LENGTH.		
Project Sequences Subtotal		**$324,573,097.25**
Maintenance of Traffic	10.00 %	$32,457,309.72
Mobilization	10.00 %	$35,703,040.70
Project Sequences Total		**$392,733,447.67**
Project Unknowns	0.00 %	$0.00
Design/Build	0.00 %	$0.00
Project Non-Bid Subtotal		$150,000.00
Version 1-P Project Grand Total		**$392,883,447.67**