REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007791
Arnelio Alfonso, P.E. No. 52566

APCT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-82

malfonso 2/2/2012 2:02:19 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

APCT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-83

malfonso 2/2/2012 2:02:46 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007791
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-84

malfonso 2/2/2012 2:03:34 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-85

malfonso 2/2/2012 2:04:04 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

APCT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-86

malfonso 2/2/2012 2:04:33 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-87

malfonso 2/2/2012 2:05:15 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

APCT ENGINEERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-88

malfonso 2/2/2012 2:05:55 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-89

malfonso 2/2/2012 2:06:36 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

APCT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-90

malfonso 2/2/2012 2:07:30 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-2283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-91

malfonso 2/2/2012 2:08:09 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
7-92

malfonso 2/2/2012 2:08:55 PM P:\249581\5201-Section 5\Segment 7\drainage\DRXSRD01.DGN

FRENCH DRAIN SECTION SUMMARY TABLE

FRENCH DRAIN SECTION	PIPE DIA.	ELEV. 'A'	ELEV. 'B'	ELEV. 'C'	WIDTH
S7-5 TO S7-8	24"	3.50	(-)1.50	(-)11.00	1.00'
S7-22 TO S7-23	24"	3.50	(-)1.50	(-)11.00	1.00'
S7-25 TO S7-31	24"	3.50	(-)1.50	(-)11.00	1.00'

ROUND PIPE SHOWN

STANDARD FRENCH DRAIN CROSS SECTION (ENLARGED)
N.T.S.

NOTE:
THRUST BLOCK IS TO BE CONSTRUCTED OF CLASS I CONCRETE. COST OF THRUST BLOCK AND CAP BENDS IS TO BE INCLUDED IN UNIT PRICE OF PIPE.

THRUST BLOCK DETAIL
N.T.S.

CONC. THRUST BLOCK SUMMARY TABLE

PIPE DIA.	A	B	C
18"	3'-0"	2'-6"	3'-0"

GENERAL NOTES

1. REFER TO FDOT STD. INDEX NO. 280 AND 285 FOR ADDITIONAL DETAILS.

ELEVATION PLAN VIEW

ISOMETRIC VIEW

STR.	X	W. ELEV.
S7-53	26"	4.70

WEIR DETAILS
N.T.S.

NOTE: (1) COST OF WEIR TO BE INCLUDED IN COST OF MANHOLE

PLAN VIEW

ELEVATION

DITCH BOTTOM INLET "TYPE 1"
N.T.S.

CONTROL STRUCTURE: S7-43

ARNELIO ALFONSO LICENSE No. 52566 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
APCT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE DETAILS

SHEET NO. 7-93

malfonso 2/2/2012 2:11:58 PM P:\249581\5201-Section 5\Segment 7\drainage\DRDTR000.dgn

MANATEE GRATE (FRONT VIEW)
N.T.S.

MANATEE GRATE (FRONT VIEW)
N.T.S.

SIDE VIEW
N.T.S.

SIDE VIEW
N.T.S.

SECTION - STEEL PLATE
N.T.S.

BOTTOM CLIP DETAIL
N.T.S.

MANATEE EXCLUSION GRATE DETAIL - 48" PIPE

SECTION - STEEL PLATE
N.T.S.

BOTTOM CLIP DETAIL
N.T.S.

MANATEE EXCLUSION GRATE DETAIL - 54" PIPE

ARNELIO ALFONSO
LICENSE No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
6/12/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007197
Arnelio Alfonso, P.E. No. 52566
ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE DETAILS

SHEET NO.
7-94

malfonso 2/2/2012 2:12:29 PM P:\249581\5201-Section 5\Segment 7\drainage\DRDTRD00.dgn

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, Fl 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTION POND DETAILS
POND 2-14

SHEET NO.
7-95

malfonso 2/15/2012 4:31:22 PM P:\249581\5201-Section 5\Segment 7\drainage\PDPLRD07-01.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007197
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTION POND DETAILS
POND 4-1 & POND 4-2

SHEET NO.
7-96

vmartinez 2/2/2012 2:15:20 PM P:\249581\5201-Section 5\Segment 7\drainage\PDPLRD07-02.dgn

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
2/2/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. 1 EB-0007797
Arnelio Alfonso, P.E. No. 52566
ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTION POND DETAILS
POND 9-1

SHEET NO.
7-97

malfonso 2/2/2012 2:16:08 PM P:\249581\5201-Section 5\Segment 7\drainage\PDPLRD07-03.dgn

SECTION A-A

℄ SR 836 EB
STA. 1172+00.00
(N.T.S.)

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
2/2/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTION POND DETAILS
POND 9-2

SHEET NO.
7-98

malfonso 2/2/2012 2:16:56 PM P:\249581\5201-Section 5\Segment 7\drainage\PDPLRD07-04.dgn

COMPONENTS OF CONTRACT PLANS SET

ROADWAY PLANS
SIGNING & PAVEMENT MARKING PLANS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

FINANCIAL PROJECT ID 249581-1-52-01
(FEDERAL FUNDS)
MIAMI-DADE COUNTY (87260)
SR-826/SR-836 INTERCHANGE
SECTION 5

SEGMENT 8

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
8-1	KEY SHEET
8-2 - 8-6	TYPICAL SECTIONS
8-7	TYPICAL SECTION DETAILS
8-8 - 8-10	SUMMARY OF DRAINAGE STRUCTURES
8-11	OPTIONAL MATERIAL TABULATION
8-12	PROJECT LAYOUT
8-13 - 8-14	CURVE DATA SHEET
8-15 - 8-16	GENERAL NOTES
8-17 - 8-20	ROADWAY PLANS
8-21 - 8-28	ROADWAY PROFILES
8-29 - 8-32	DRAINAGE PLANS
8-33 - 8-36	RAMP TERMINAL DETAILS
8-37 - 8-66	DRAINAGE STRUCTURES
8-67	DRAINAGE DETAILS
8-68 - 8-70	RETENTION POND DETAILS
8-71	MISC. CONSTRUCTION DETAILS
8-72	CROSS SECTION PATTERN
8-73 - 8-108	CROSS SECTIONS
8-109 - 8-112	UTILITY ADJUSTMENTS
CTL8-1	PROJECT NETWORK CONTROL
GR8-1	ROADWAY SOILS SURVEY

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:

JOSE MUNOZ, P.E.
BCC ENGINEERING
7300 N KENDALL DRIVE,
SUITE 400
MIAMI, FL 33156
PH: (305) 670-2350

PLANS PREPARED BY:

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
VENDOR ID NO. 650039493001
CONSULTANT CONTRACT NO. E-6F61

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED 2008,
AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2007,
AS AMENDED BY CONTRACT DOCUMENTS.

APPLICABLE DESIGN STANDARDS MODIFICATIONS: 07-01-09
For Design Standards Modifications click on "Design Standards" at the following web site:
http://www.dot.state.fl.us/rddesign/

FEC RR CROSSING No. 272789N
CSXT RR CROSSING No. 628534F

PROJECT LENGTH IS BASED ON ℄ CONST. SR 836 EB

LENGTH OF PROJECT

	LINEAR FEET	MILES
ROADWAY	3534.79	0.669
BRIDGES	672.96	0.127
NET LENGTH OF PROJECT	4207.75	0.796
EXCEPTIONS	0.00	0.00
GROSS LENGTH OF PROJECT	4207.75	0.796

FDOT PROJECT MANAGER: ALI TOGHIANI, P.E.

KEY SHEET REVISIONS

DATE	DESCRIPTION

WALFRIDO J. PEVIDA, P.E. LICENSE No. 51472 STATE OF FLORIDA PROFESSIONAL ENGINEER
2/7/13

ROADWAY PLANS ENGINEER OF RECORD: WALFRIDO J. PEVIDA, P.E.

P.E. NO.: 51472

FISCAL YEAR	SHEET NO.
09	8-1

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO.
8-29

malfonso 2/16/2012 4:24:38 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRPLAN08_01.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

AP CT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO.
8-30

malfonso 2/5/2013 11:51:27 AM P:\249581\5201-Section 5\Segment 8\Drainage\DRPLAN08_02.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO.
8-31

malfonso 2/5/2013 11:54:28 AM P:\249581\5201-Section 5\Segment 8\Drainage\DRPLAN08_03.dgn

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 fax: (305) 593-1594
CA No. : EB-0001797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO.
8-32

malfonso 8/31/2012 4:32:06 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRPLAN08_04.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0002797
Arnelio Alfonso, P.E. No. 52566

A&P ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-37

malfonso 2/16/2012 4:27:16 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRX5RD01.DGN

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-38

malfonso 2/16/2012 4:27:46 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

SCALE: 1" = 20 HORIZ.
1" = 10 VERT.

ARNELIO ALFONSO
LICENSED
No. 52566
8/15/13
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-39

malfonso 2/16/2012 4:28:14 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-40

malfonso 2/16/2012 4:28:43 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007791
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-41

malfonso 2/16/2012 4:29:37 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7263 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-42

malfonso 2/16/2012 4:30:31 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001797
Armelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-43

malfonso 2/16/2012 4:30:59 PM P:\249581\52\01-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-44

malfonso 2/16/2012 4:31:27 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-45

malfonso 2/16/2012 4:32:38 PM P:\249581152\01-Section 5\Segment 8\Drainage\DRXSR001.DGN

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-46

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
-5			

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-47

malfonso 2/16/2012 4:33:36 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

ARNELIO ALFONSO LICENSE NO. 52566 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-48

malfonso 2/5/2013 1:48:45 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-49

malfonso 2/16/2012 4:34:22 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007791
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.

8-50

malfonso 2/16/2012 4:34:44 PM P:\249581\5201-Section 5\Segment B\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. - EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-51

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-52

malfonso 2/16/2012 4:35:42 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-53

malfonso 2/16/2012 4:36:15 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, Fl 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-54

malfonso 2/16/2012 4:36:42 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnello Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-55

malfonso 2/16/2012 4:37:12 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-56

malfonso 8/31/2012 4:33:05 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-57

malfonso 2/5/2013 2:20:36 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001791
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-58

malfonso 2/5/2013 2:25:18 PM P:\24958115201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0000797
Arnello Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-59

malfonso 2/16/2012 4:39:02 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7285 , fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-60

malfonso 2/16/2012 4:39:34 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSR001.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0000797
Arnelio Alfonso, P.E. No. 52566

APCT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-61

malfonso 2/16/2012 4:40:02 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
2/15/13

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-62

malfonso 2/16/2012 4:40:36 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0000797
Arnelio Alfonso, P.E. No. 52566

A&P CT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-63

malfonso 2/16/2012 4:41:10 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7693 / fax: (305) 593-1594
CA No.: EB-0007797
Arnelio Alfonso, P.E. No. 52566

A&P CT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-64

malfonso 2/16/2012 4:41:38 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007197
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 8-65

malfonso 2/16/2012 4:42:01 PM P:\249581\5201-Section 5\Segment 8\Drainage\DRX5RD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
8-66

malfonso 8/31/2012 4:33:42 PM P:\249581\5201 Section 5\Segment 8\Drainage\DRXSRD01.DGN

FRENCH DRAIN SECTION SUMMARY TABLE

FRENCH DRAIN SECTION	PIPE DIA.	ELEV. 'A'	ELEV. 'B'	ELEV. 'C'	WIDTH
S8-12 TO S8-19	24"	3.50	(-)1.50	(-)11.00	1.00'
S8-22 TO S8-23	24"	7.50	2.50	(-)7.00	1.00'
S8-58 TO S8-62	24"	3.50	(-)1.50	(-)11.00	1.00'

ROUND PIPE SHOWN

STANDARD FRENCH DRAIN CROSS SECTION (ENLARGED)
N.T.S.

MANATEE GRATE (FRONT VIEW)
N.T.S.

THRUST BLOCK DETAIL
N.T.S.

NOTE:
THRUST BLOCK IS TO BE CONSTRUCTED OF CLASS I CONCRETE. COST OF THRUST BLOCK AND CAP BENDS IS TO BE INCLUDED IN UNIT PRICE OF PIPE.

CONC. THRUST BLOCK SUMMARY TABLE

PIPE DIA.	A	B	C
18"	3'-0"	2'-6"	3'-0"

SIDE VIEW
N.T.S.

SECTION - STEEL PLATE
N.T.S.

BOTTOM CLIP DETAIL
N.T.S.

ARNELIO ALFONSO LICENSED No. 52566 STATE OF FLORIDA PROFESSIONAL ENGINEER
2/15/13

MANATEE EXCLUSION GRATE DETAIL (48" PIPE)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007197
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE DETAILS

SHEET NO. 8-67

SECTION A-A

℄ SR 836 EB
STA. 1094+00.00
(N.T.S.)

ARNELIO ALFONSO
LICENSE
NO. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
2/5/13

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTION POND DETAILS
PONDS 2-12 & 2-13

SHEET NO.
8-68

malfonso 2/5/2013 1:38:27 PM P:\249581\5201-Section 5\Segment 8\Drainage\PDPLRD08-01.dgn

ARNELIO ALFONSO
LICENSE
No. 52566
2/15/13
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTION POND DETAILS
POND 4-3

SHEET NO.
8-69

malfonso 2/16/2012 4:44:26 PM P:\249581\5201-Section 5\Segment 8\Drainage\PDPLR000-02.dgn

SECTION A-A
℄ CONST. WBCD
STA. 4325+55.00
(N.T.S.)

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
2/15/13

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0000759
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTION POND DETAILS
POND 4-5

SHEET NO.
8-70

malfonso 2/16/2012 4:45:04 PM P:\249581\5201-Section 5\Segment 8\Drainage\PDPLR008-03.dgn

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

FINANCIAL PROJECT ID 249581-1-52-01
(FEDERAL FUNDS)
MIAMI-DADE COUNTY (87260)
SR-826/SR-836 INTERCHANGE
SECTION 5

SEGMENT 12

COMPONENTS OF CONTRACT PLANS SET

ROADWAY PLANS
SIGNING & PAVEMENT MARKING PLANS
SIGNALIZATION PLANS
LIGHTING PLANS

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
12-1	KEY SHEET
12-2 - 12-5	TYPICAL SECTIONS
12-6 - 12-8	SUMMARY OF DRAINAGE STRUCTURES
12-9	OPTIONAL MATERIALS TABULATION
12-10	PROJECT LAYOUT
12-11 - 12-12	CURVE DATA SHEET
12-13	GENERAL NOTES
12-14 - 12-25	ROADWAY PLANS
12-26 - 12-29	DRIVEWAY PROFILES
12-30	DRIVEWAY DETAILS (1 OF 2)
12-31	DRIVEWAY DETAILS (2 OF 2)
12-32 - 12-45	ROADWAY PROFILES
12-46 - 12-56	DRAINAGE PLANS
12-57 - 12-63	INTERSECTION DETAILS
12-64 - 12-104	DRAINAGE STRUCTURES
12-105 - 12-106	DRAINAGE DETAILS
12-107 - 12-108	RETENTION POND DETAILS
12-109	CROSS SECTION PATTERN
12-110 - 12-146	CROSS SECTIONS
12-147 - 12-158	UTILITY ADJUSTMENTS
GR12-1	ROADWAY SOILS SURVEY

PROJECT LOCATION

END CONSTRUCTION
SEGMENT 12
STA. 134+06.99
℄ CONST. MILAM DAIRY RD. SB

BEGIN CONSTRUCTION
SEGMENT 12
STA. 98+42.91
℄ CONST. MILAM DAIRY RD. SB

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:

JOSE MUNOZ, P.E.
BCC ENGINEERING
7300 N KENDALL DRIVE,
SUITE 400
MIAMI, FL 33156
PH: (305) 670-2350

PLANS PREPARED BY:

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
VENDOR ID NO. 650039493001
CONSULTANT CONTRACT NO. E-6F61

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED 2008,
AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2007,
AS AMENDED BY CONTRACT DOCUMENTS.

APPLICABLE DESIGN STANDARDS MODIFICATIONS: 07-01-09
For Design Standards Modifications click on "Design Standards" at the following web site:
http://www.dot.state.fl.us/rddesign/

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

LUIS EDUARDO LAZO
LICENSE No. 57518
STATE OF FLORIDA
PROFESSIONAL ENGINEER
11/20/12

ROADWAY PLANS
ENGINEER OF RECORD: LUIS E. LAZO, P.E.

P.E. NO.: 57518

FEC RR CROSSING No. 272789N
CSXT RR CROSSING No. 628534F

PROJECT LENGTH IS BASED ON ℄ CONST. MILAM DAIRY RD. SB

LENGTH OF PROJECT	LINEAR FEET	MILES
ROADWAY	3564.08	0.675
BRIDGES	0.00	0.00
NET LENGTH OF PROJECT	3564.08	0.675
EXCEPTIONS	0.00	0.00
GROSS LENGTH OF PROJECT	3564.08	0.675

KEY SHEET REVISIONS	
DATE	DESCRIPTION

FDOT PROJECT MANAGER: ALI TOGHIANI, P.E.

FISCAL YEAR	SHEET NO.
09	12-1

END MILLING & RESURFACING
BEGIN RECONSTRUCTION
STA. 201+13.65
℄ CONST. NW 7

BEGIN TRENCH TYPE II
STA. 200+26.87 (27.61' RT)
℄ NW 7th ST

CONST. 30' OF
6" TRENCH DRAIN
TYPE II

END TRENCH DRAIN CONST. 6"
90° BOTTOM OUTLET CONNECT 6"
TRENCH DRAIN TO PROP. STRUCTURE
STA. 200+50.60 (28.45' RT)
℄ NW 7th ST

END TRENCH DRAIN CONST. 6"
90° BOTTOM OUTLET CONNECT 6"
TRENCH DRAIN TO PROP. STRUCTURE
STA. 200+66.59 (29.11' RT)
℄ NW 7th ST

CONST. 14' OF
6" TRENCH DRAIN
TYPE II

BEGIN TRENCH TYPE II
STA. 200+74.34 (29.35' RT)
℄ NW 7th ST

EXIST. INLET
(TO BE REMOVED)

EXIST. 15" PIPE
(TO BE PLACED
OUT OF SERVICE)

43' OF 18" PIPE

S12-6

S12-4

S12-5

S12-2

26' OF
24" PIPE

60' OF 18" PIPE

R/W LINE

EXIST. INLET
(TO REMAIN)

EXIST. 15" PIPE
(TO REMAIN AND
DESILT)

EXIST. MANHOLE
(TO REMAIN)

℄ NW 7th ST

NW 7th ST.

EXIST. INLET
(TO BE REMOVED)

EXIST. 15" PIPE
(TO BE PLACED
OUT OF SERVICE)

PROP. 16"
D.I. W.M.

S12-8

C.O.
STA. 206+28.40
℄ MDR NB

12' OF
18" PIPE

S12-9

MATCH LINE
℄ CONST. MILAM DAIRY RD. SB
STA. 100+80.00

CONST. 90' OF
12" TRENCH DRAIN
TYPE I

BEGIN OVERBUILD
STA. 102+25.25
℄ CONST. MILAM
DAIRY RD. SB

NW 6TH ST.

30" SS

MILAM DAIRY ROAD 105

6' OF
30" PIPE

102

103

104

204

205

201

202

106

100

101

℄ MDR SB

℄ MDR NB

52' OF 18" PIPE

EXIST. PIPE
(TO REMAIN
AND DESILT)

S12-3

S12-1

3' OF 15" PIPE

PROP. 48"
P.C.C.P. F.M.

END TRENCH DRAIN
CONST. 12" 90° BOTTOM
OUTLET CONNECT 12"
TRENCH DRAIN TO
PROP. STRUCTURE
STA. 206+77.80
(12.07' RT)
℄ MDR NB

END TRENCH DRAIN
CONST. 12" 90° BOTTOM
OUTLET CONNECT 12"
TRENCH DRAIN TO
PROP. STRUCTURE
STA. 206+86.20
(12.07' RT)
℄ MDR NB

END TRENCH
DRAIN TYPE II
CONST.
STA. 100+94.58
(38.88' LT)
℄ NW 7th ST

BEGIN TRENCH
DRAIN TYPE II
CONST.
STA. 101+32.30
(39.12' LT)
℄ NW 7th ST

NW 7TH ST.

NW 7 ALLEY

S12-7

6' OF 36" PIPE

END TRENCH DRAIN CONST. 6"
90° BOTTOM OUTLET CONNECT 6"
TRENCH DRAIN TO PROP. STRUCTURE
STA. 205+36.15 (40.08' RT)
℄ MDR NB

CONST. 25' OF
6" TRENCH DRAIN
TYPE II

BEGIN TRENCH TYPE II
STA. 205+54.19 (40.66' RT)
℄ MDR NB

BEGIN TRENCH TYPE I
STA. 205+91.32 (12.07' RT)
℄ MDR NB

R/W LINE

R/W LINE

EXIST.
TRENCH DRAIN
(TO BE REMOVE)

CONST. 12" 90° BOTTOM OUTLET
CONNECT 12" TRENCH DRAIN
TO EXIST. STRUCTURE
STA. 100+99.48 (37.91' LT)
℄ NW 7th ST

CONST.
38' OF
12" TRENCH
DRAIN
TYPE II

EXIST. 30" PIPE
(TO REMAIN AND DESILT)

0 10 40
Feet

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
10/16/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007791
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO.
12-46

malfonso 10/15/2012 4:34:30 PM P:\249581\5201-Section 5\Segment 12\Drainage\DRPLAN12-01.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0001791
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO. 12-47

malfonso 2/13/2012 9:24:51 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRPLAN12-02.dgn

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/20/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO. 12-48

malfonso 2/13/2012 9:25:27 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRPLAN12-03.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO. 12-49

malfonso 2/13/2012 2:53:31 PM P:\249581\52\01-Section 5\Segment 12\Drainage\DRPLAN12-04.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO. 12-50

malfonso 7/20/2012 10:27:35 AM P:\249581\52-01-Section 5\Segment 12-Drainage\DRPLAN12-05.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7985 fax: (305) 593-1594
CA No.: EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO. 12-51

malfonso 2/13/2012 3:31:38 PM P:\249581\201-Section 5\Segment 12 Drainage\DRPLAN12-06.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7583 / fax: (305) 593-1594
CA No. : EB-0001791
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO. 12-52

aalfonso 2/13/2012 3:46:31 PM P:\249581\520-Section 5\Segment 12\Drainage\DRPLAN12-07.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO. 12-53

malfonso 7/23/2012 12:31:35 PM P:\249581\5201-Section 5\Segment 12\Drainage\DRPLAN12-08.dgn

MATCH LINE STA. 41+80.00

N

0 10 40
Feet

NW 72nd AVE

160' OF 24" FD

POND 4-4

300' OF 24" FD

S12-81

S12-83

S12-82

43' OF 18" PIPE

S12-80

76' OF 30" PIPE

S12-79

30

31

MATCH LINE STA. 17+00.00

S12-72

R/W LINE

S12-75

15' OF 18" PIPE

136' OF 30" FD

18

S12-74

18' OF 14"x23" ELLIP. PIPE

111' OF 30" FD

19

S12-77

161' OF 30" PIPE

20

19' OF 30" PIPE

13' OF 30" PIPE

℄ RAMP 72D

S12-78

MATCH LINE SEGMENT 8 STA. 31+15.39

℄ NW 11 ST.

29' OF 14"x23" ELLIP. PIPE

NW 11th ST.

29' OF 18" PIPE

S12-73

S12-76

R/W LINE

42' OF 15" PVC.

YARD DRAIN
STA. 19+04.77 (46.87' LT)
℄ NW 11TH ST
INDEX No. 282

R/W LINE

POND 4-3

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER

7/20/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
ACT ENGINEERS
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, Suite 115
Miami, FL 33178
(305) 592-7283 / Fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO.
12-54

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7263 / fax: (305) 593-1594
CA No.: EB-0001737
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO. 12-55

malfonso 2/13/2012 9:32:34 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRPLAN12-10.dgn

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
3/20/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE PLANS

SHEET NO.
12-56

malfonso 2/13/2012 9:33:47 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRPLAN12-11.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007787
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-64

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007759
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-65

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-6594
CA No.: EB-0007791
Arnaldo Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-66

malfonso 2/13/2012 9:40:44 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

ARNALDO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/20/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnaldo Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-67

aalfonso 2/13/2012 9:58:07 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnaldo Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-68

malfonso 2/13/2012 9:58:50 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0037797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-69

m:\fonsi 2/13/2012 9:59:14 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSR001.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-70

malfonso 2/13/2012 9:59:36 AM P:\249581\5201-Section 5\Segment 1\Drainage\DRXSR001.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007791
Arnello Alfonso, P.E. No. 52566
ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-71

malfonso 2/13/2012 10:00:01 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRX5RD01.DGN

ARMELIO ALFONSO
LICENSED
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
5/13/12

SCALE: 1" = 20' HORIZ.
1" = 10 VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007197
Arnelio Alfonso, P.E. No. 52566
A&P CT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-72

malfonso 2/13/2012 10:00:25 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRX5R201.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, Fl. 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0002797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-73

malfonso 2/13/2012 10:00:50 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. 7 EB-0001797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-74

malfonso 2/13/2012 10:01:16 AM P:\249581\5201-Section 5\Segment 12 Drainage\DRX5RD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007791
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-75

malfonso 2/13/2012 10:04:39 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001797
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-76

aalfonso 2/13/2012 10:02:02 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRX5RD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
6305 N.W. 41 Street, suite 115
Miami, FL 33166
(305) 592-7283 / fax: (305) 593-1594
CA No. - EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-77

malfonso 2/13/2012 10:02:22 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSR001.DGN

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
2/04/12

SCALE: 1" = 20 HORIZ.
1" = 10 VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7183 / Fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-78

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0001797
Arnelio Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-79

malfonso 2/13/2012 10:03:10 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
03305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 593-7283 / fax: (305) 593-1594
CA No. : EB-0000139
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-80

aalfonso 2/13/2012 10:03:37 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRX5RD01.DGN

ARNELIO ALFONSO LICENSED PROFESSIONAL ENGINEER No. 52566 STATE OF FLORIDA

3/26/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
6305 N.W. 4th Street, suite 115
Miami, FL 33126
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0027797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-81

malfonso 2/13/2012 10:03:59 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

ARNELIO ALFONSO LICENSE No. 52566 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/20/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
6305 N.W. 4th Street, suite 115
Miami, FL 33126
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007797
Arnelio Alfonso, P.E. No. 52566

A&P CT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-82

aalfonso 2/13/2012 10:04:38 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
6305 N.W. 41 Street, suite 15
Miami, FL 33166
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0002797
Arnello Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-83

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007197
Arnello Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-84

malfonso 2/13/2012 10:40:09 AM P:\249581\5201-Section 5\Segment 12 Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007755
Arnello Alfonso, P.E. No. 52566
A&P CT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-85

malfonso 2/13/2012 10:10:41 AM P:\249581\5201-Section 5\Segment 12 Drainage\DRXSR001.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10302 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007797
Arnello Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-86

malfonso 2/13/2012 10:11:04 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSR001.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007791
Arnaldo Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-87

malfonso 7/13/2012 10:11:27 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
6303 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-88

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007759
Arnello Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-89

malfonso 2/13/2012 10:12:19 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSR001.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1694
CA No. : EB-0007797
Arnello Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-90

malfonso 2/13/2012 10:23:46 AM P:\249581\5201-Section 5\Segment 12 Drainage\DRX5RD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
11305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7281 / fax: (305) 593-1594
CA No. : EB-0007791
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-91

aalfonso 2/13/2012 10:14:08 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRX5RD01.DGN

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
6305 N.W. 41 Street, suite 115
Miami, FL 33166
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnaldo Alfonso, P.E. No. 52566

ACT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-92

malfonso 2/13/2012 10:14:30 AM P:\249581\201-Section 5\Segment 12\Drainage\DRXSR001.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0007791
Arnaldo Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-93

malfonso 2/13/2012 10:14:54 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-1283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-94

malfonso 7/20/2012 10:30:24 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRYSRDJI.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-1283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-95

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 593-7285 / fax: (305) 593-1594
CA No. : EB-0001191
Arnelio Alfonso, P.E. No. 52566

A&P CT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-96

malfonso 7/20/2012 10:31:25 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRDC1.DGN

ARNELIO ALFONSO
LICENSED
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
2/20/12

SCALE: 1" = 20 HORIZ.
1" = 10 VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1584
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-97

aalfonso 2/13/2012 4:06:31 PM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSA001.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnaldo Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-98

No. 52566
7/20/12

alfonso 2/13/2012 4:07:37 PM P:\249581\5201-Section 5\Segment 12-Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1524
CA No. : EB-0007597
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-99

malfonso 7/20/2012 10:31:55 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRY5RD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnaldo Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-100

malfonso 2/13/2012 4:08:54 PM P:\249581\5201-Section 5\Segment 12\Drainage\DRX5RD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
6305 N.W. 4th Street, suite 115
Miami, FL 33126
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-101

STATE OF FLORIDA PROFESSIONAL ENGINEER ARNELIO ALFONSO No. 52566 7/20/12

malfonso 2/13/2012 10:17:51 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007292
Arnello Alfonso, P.E. No. 52566

A&P CT ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-102

malfonso 2/13/2012 10:18:27 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnaldo Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO. 12-103

malfonso 2/13/2012 10:19:02 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRXSRD01.DGN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0003799
Arsenio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE STRUCTURES

SHEET NO.
12-104

ROUND PIPE SHOWN

STANDARD FRENCH DRAIN CROSS SECTION (ENLARGED)

N.T.S.

FRENCH DRAIN SECTION SUMMARY TABLE

FRENCH DRAIN SECTION	PIPE DIA.	ELEV. 'A'	ELEV. 'B'	ELEV. 'C'	WIDTH
S12-32 TO S12-59	24"	3.50	(-)1.50	(-)11.00	1.00'
S12-43 TO S12-38	24"	5.00	2.00	(-)8.35	1.00'
S12-47 TO S12-43	24"	5.00	2.00	(-)8.35	1.00'
S12-50 TO S12-47	24"	5.00	2.00	(-)8.35	1.00'
S12-52 TO S12-50	24"	5.00	2.00	(-)8.35	1.00'
S12-56 TO S12-52	24"	5.00	2.00	(-)8.35	1.00'
S12-81 TO S12-86	24"	3.50	(-)1.50	(-)11.00	1.00'
S12-65 TO S12-68	30"	4.60	(-)1.00	(-)8.83	1.00'
S12-68 TO S12-71	30"	4.60	(-)1.00	(-)8.83	1.00'
S12-71 TO S12-74	30"	4.60	(-)1.00	(-)8.83	1.00'
S12-74 TO S12-77	30"	4.60	(-)1.00	(-)8.83	1.00'

ARNELIO ALFONSO
LICENSE
No. 52566
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/20/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10303 N.W. 41 Street, Suite 115
Miami, FL 33178
(305) 592-2283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE DETAILS

SHEET NO. 12-105

PLAN

HALF SECTION D-D

SECTION A-A

SECTION E-E

SECTION B-B

5" IRVING DECKING

NOTES:

1. * = 5" IRVING DECKING (OR EQUAL). COST TO BE INCLUDED IN COST OF DRAINAGE STRUCTURES.
2. THIS TYPE OF INLET TOP TO BE USED WHENEVER PROPOSED INLET FALLS WITHIN A DRIVEWAY LOCATION OF CURB AND GUTTER SECTION.
3. THE CORNER FILLETS ARE NECESSARY ONLY WHEN TOPS ARE USED IN CONJUNCTION WITH CIRCULAR INLET BOXES OR WHEN USED ON A SKEW WITH RECTANGULAR BOXES.
4. ANY GRATING OR DECKING TAHT IS CAPABLE OF SUPPORTING H-20 LOADS MAY BE SUBTITUTED FOR 5" IRVING DECKING, AS LONG AS THE NET AREA OPENING IS NOT REDUCED, AND THE MAXIMUM DISTANCE (MEASURED PERPENDICULAR) BETWEEN BARS DOES NOT EXCEED 3".
5. USED BOTTOM TYPE "P" OR TYPE "J" (ALT.B) WHEN BAFFLE IS REQUIRED AS PER STANDARD INDEX 200 & 201.

BEARING BARS -------- 5" x¼", 5⅛" C-C
RETICULINE BARS------ 1¼" x3/16", 5 RIVET CENTERS (FLUSH TOPS)
END BANDS---------- 4½" x¼"
INTERMEDIATE BARS---1½" x¼", 5⅛" C-C

DRIVEWAY INLET TOP DETAIL

N.T.S.

ARNELIO ALFONSO LICENSE No. 52566 STATE OF FLORIDA PROFESSIONAL ENGINEER
2/20/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P CONSULTING ENGINEERS
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No.: EB-0000757
Arnelio Alfonso, P.E. No. 52566

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

DRAINAGE DETAILS

SHEET NO. 12-106

alfonso 2/13/2012 10:20:49 AM P:\249581\5201-Section 5\Segment 12\Drainage\DRDTRD00.dgn

SECTION A-A

℄ MDR NB
STA. 221+23.00
(N.T.S.)

ARNELIO ALFONSO LICENSE No. 52566 STATE OF FLORIDA PROFESSIONAL ENGINEER
2/20/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:
A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, Fl. 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnelio Alfonso, P.E. No. 52566
ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTEION POND DETAILS
POND 4-6

SHEET NO. 12-107

malfonso 2/13/2012 4:10:50 PM P:\249581\5201-Section 5\Segment 12\Drainage\PDPLRD12-01.dgn

SECTION A-A

℄ CONST. NW 72 AVE
STA. 42+47.37
(N.T.S.)

SECTION B-B

℄ CONST. 72D
STA. 32+00.00
(N.T.S.)

ARNELL ALFONSO
LICENSE
No. 52556
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/24/12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD:

A&P Consulting Transportation Engineers Corporation
10305 N.W. 41 Street, suite 115
Miami, FL 33178
(305) 592-7283 / fax: (305) 593-1594
CA No. : EB-0007797
Arnell's Alfonso, P.E. No. 52556

ENGINEERS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
826/836	MIAMI-DADE	249581-1-52-01

RETENTION POND DETAILS
POND 4-4

SHEET NO.
12-108

APPENDIX F

Correspondence

Meeting Notes

To: Attendees
File
From: Keith Stannard, AECOM
Date: January 11, 2019
Subject: SR 826 Express Lanes PD&E Study – Miami-Dade County DRER/DERM Water Control Meeting

Meeting Attendees

Name	Company	Phone	E-mail	Attended Y/N
Maria Molina	DERM	305-372-6769	Molinm@miamidade.gov	Y
Jaime Lopez	RS&H	305-388-0234	Jamie.lopez@rsandh.com	Y
Maria Perdomo	FDOT	305-640-7186	Maria.perdomo@dot.state.fl.us	Y
Rosario Cardenas	RS&H	305-428-3223	Rosario.cardenas@rsandh.com	Y
Isaiah Mosley	AECOM	305-514-2468	Isaiah.mosley@aecom.com	Y
Keith Stannard	AECOM	305-514-2464	Keith.stannard@aecom.com	Y
Jeff Coffin	TCG	954-777-0044	Jcoffin@corradino.com	Y
Mike Ciscar	TCG	305-594-0735	MCiscar@corradino.com	Call In
Ryan Solis-Rios	TCG	954-777-0044	Rsolis-rios@corradino.com	Call In

Meeting Purpose

The purpose of this meeting was to discuss the proposed project design alternative improvements within the rights-of-way of the Coral Gables Canal and the North Line Canal owned and maintained by the Miami-Dade County Department of Regulatory and Economic Resources / Department of Environmental Resources Management (DERM). Maria Molina represented the DERM Water Control Dept. at the meeting.

Items Discussed

- The project design alternatives were introduced to DERM by TCG, RS&H and AECOM.
- It was discussed that the project is not expected to interfere with existing wellfields.
- TCG explained that sections of the Coral Gables Canal will need to be culverted as a part of the project to accommodate the roadway improvements:

- SB off ramp from SR 826 to SW 24th Street/Coral Way: A portion of the SB off-ramp will be widened over the existing Coral Gables Canal by approximately 200-250 feet. This portion will be culverted to accommodate the widened roadway.
- East side of SR 826 from the hypothetical SW 23rd Street to 16th Terrace: This area will be culverted for a distance of approximately 1,500-1,600 feet.
- NB off-ramp from SR 826 to SW 8th Street (Tamiami Trail): This area will be culverted for a distance of approximately 700 feet.

- In addition, a new NB off-ramp is proposed to cross the North Line Canal.
- Maria Molina advised that DERM will need as-builts for the North Line Canal from the FDOT since the FDOT recently modified the canal alignment as part of the SR 826/SR 836 Interchange Improvements project. The as-builts are needed so DERM can assess how the canal will be affected by the proposed improvements (culverting).
- Maria Molina also stated that she is waiting on the canal easement to be deeded back to the County from the FDOT (North Line Canal). Water Control would like this to occur prior to application submittal for any modifications to the canal. The County legally does not have flow rights in the canal until the deed is transferred back to the County. However, the County is currently maintaining the waterway.
- Maria Molina sked if any new pilings will be placed within the County waterways. TCG responded no.
- Maria Molina advised a Class III Permit will be needed for each encroachment within County Canal right-of-way. She also stated that the County Modeling Dept. will need to review and approve the proposals prior to the Water Control Department approval (flow hydraulics report will need to be prepared and submitted to the county as part of the class III application process for each culvert). A separate Class III application will be needed for each culverted section.
- The project includes new impervious surface due to the widening. ICPR Modeling will be used to determine the drainage requirements.
- Maria Molina requested that the drainage report be submitted with the Class III Permit applications, so the County Modeling folks can review the calculations. County Modeling will determine if Water Control can approve culverting the sections of the canal.
- Maria Molina advised that she can not review any preliminary information without submittal of a Class III application package. She also asked TCG if they can shorten the culverts as much as possible within the Coral Gables Canal.
- TCG advised that the culvert size may be approximately 10’ X 6’
- Keith Stannard added that we will try to submit the applications as soon as possible.
- Maria Molina asked about the disposition of the docks located on the canal for homeowners. She added that they were not installed legally. Jaime advised that the docks will need to be removed.
- Rosario added that the project includes a discharge to Miller Lake, outfalls to Tropical Park and a private lake/borrow pit but the flow volumes will not increase.

- Maria Molina reiterated for FDOT to submit separate applications for each canal impact as best as possible since permit issuance can be faster this way. Also, as part of the packages, ask to waive the application fee on behalf of FDOT.

Minutes

Meeting name
FDOT/SFWMD/USACE Interagency Meeting

Meeting date
July 25, 2019

Project number
FM 432639-1-22-01

Subject
SR 826/Palmetto Expressway Express Lanes PD&E Study from US 1 to SR 836/Dolphin Expressway

Location
SFWMD West Palm Beach Offices

Prepared by
Keith Stannard, AECOM

Attendees
Huy Tran, SFWMD; Portia Caldwell, SFWMD; Mark Tamblyn, USACE; Joe Marquez, SFWMD; Vladimir Jeune, SFWMD; Jacquelyn DeAngelo, FDOT; Ryan Solis-Rios, TCG; Aylin Costa, RS&H; Zack Gross, RS&H; Chris Jackson, RS&H; Pedro Pelegrin, RS&H; Juan Garcia, AECOM; Keith Stannard, AECOM; Daniel Chomin-Virden, AECOM

The purpose of the meeting was to initiate early coordination with the South Florida Water Management District Surface Water Management and Natural Resources Departments to receive preliminary feedback on the proposed viable build alternatives developed as part of the PD&E Study.

The project was introduced by the PD&E Consultant Project Manager, Ryan Soils-Rios. Ryan explained the purpose and need of the project (improving the highway and interchanges capacity, operations, and safety) and how it ties in to the previously approved and/or constructed Express Lanes projects throughout the County. He mentioned that the project extends approximately seven miles along SR 826 from US-1 to SR 836 and that the project includes ten interchanges, which eight of them provide connection to major arterial/collector facilities (roadways). The other two are major system-to-system interchanges with SR 874 and SR 836.

The remainder of the meeting focused on a discussion of the existing and proposed conceptual drainage plan and the environmental impacts.

<u>Drainage</u>

Aylin Costa discussed the following information related to drainage:

- Existing Roadway and Drainage Conditions
  - SR 826, between US-1 and SR 874, consists primarily of six travel lanes (three lanes in each direction). Between SR 874 and SR 836, the corridor consists primarily of ten travel lanes (five lanes in each direction) and two undesignated High Occupancy Vehicle (HOV) lanes (one in each direction).
  - Existing stormwater management facilities (SMFs) consists of dry and wet detention and retention ponds/linear swales, French Drains, and Slab Covered Trenches.
  - Water quality treatment and runoff attenuated is provided for the existing built condition and was previously authorized under ERP #s: 13-00791-S, 13-02686-P, 13-02434-P, 13-01782-P, 13-02339-P, 13-01378-P, and 13-04284-P.

- Proposed Roadway and Drainage Conditions

- The PD&E study is proposing to add one express lane in each direction with a direct busway connection along SR 826, from US-1 to SR 874. Between SR 874 and SR 836, there are two proposed express lanes (with direct connections from/to SR 874 and SR 836).
- The proposed stormwater management facilities are being designed to conform to SFWMD water quality treatment volume criteria and water quantity attenuation criteria, while maintaining pre-development peak stages at critical nodes with offsite connections.
- Proposed stormwater management facilities for this project include dry and wet detention and retention ponds/linear swales, French Drains, and previously authorized Slab Covered Trenches to remain, all contained within existing and proposed right-of-way.
- Mainline widening, perimeter road, and ramp bridges are proposed over canal rights-of-way for the C-100A, C-2, and C-4 canals, which are owned/maintained by the SFWMD, as well as the Coral Gables Canal (C-3) and the North Line Canal, which are owned/maintained by Miami-Dade County.

  C-100A Canal

  - US-1 southbound and northbound lanes cross the canal over an existing 9 feet by 9 feet box culvert with 6 feet by 6 feet gate (i.e., S-120), with invert elevation of 3.0 feet NGVD.
  - Busway bridge crossing is immediately upstream of S-120.
  - Proposed improvements require widening of US-1 towards the median separating US-1 and the busway and relocation of the S-120 structure designed for 1-10 year flood protection.

  C-2 Canal (Snapper Creek)

  - Existing bridges for SR 826 Mainline/Ramps and SW 77th Ave over Snapper Creek Canal will be widening/reconstructed.

  C-3 Canal (Coral Gables Canal)

  - Existing northbound off-ramp bridge at SW 24th Street/ Coral Way will be widened.
  - Existing culvert along southbound off-ramp at SW 24th Street/Coral Way will be extended south and west along the Coral Gables Ditch.
  - Proposed SR-826 northbound lanes encroach C-3 Canal R/W and will require sheet pile bulkhead walls and culvert/bridge culverts from south of SW 22nd Street to SW 16th Street and from south of SW 10th Street to the confluence point with the C-4 Canal including replacement of the SW 8th Street/Tamiami Trail Bridge over C-3.

  C-4 Canal (Tamiami)

  - Existing bridges for SR 826 mainline will be widened.
  - Existing bridges for southbound off-ramps will be relocated/reconstructed.
  - Proposed SW 8th Street Tamiami Trail westbound lanes re-alignment may require sheet pile bulkhead walls.

  North Line Canal

  - Proposed third level flyover ramps.

- BHRs with 2D HEC-RAS Models for Pre, Post, and Temporary conditions for each the referenced encroachments using flows and headwater/tailwater conditions from the C-4 Flood Control Operations Modeling Project, developed for SFWMD by Intera (2011) will be prepared. The C-4 Flood Control Model includes latest available flow data and surface water profiles for the C-2 Canal, C-3 Canal, C-4 Canal and Northline Canal for the 10 year, 25 year, and 100 year storm events and supersede the SFMWD/USACE Historic Conditions and General Design Memorandums.

No adverse comments were received from the regulatory agencies.

Natural Resources

Keith Stannard discussed the following information related to impacts to natural resources:

- No impacts to vegetated wetlands will occur as a result of the proposed project as vegetated wetland habitat does not exist within the project limits.
- 34 surface water features will be impacted by the proposed improvements. These features consist of stormwater swales, dry and wet retention areas, ditches, and canals. The preliminary impact quantities per each alternative were discussed and handed out in the meeting along with a series of maps showing the locations of these features along the project corridor.
- The project lies within the core foraging area (CFA) of active wood stork nests. Any lost CFA within the project limits is anticipated to be compensated in full with the construction of the new stormwater facilities. The quantities/calculations and discussion related to wood stork CFA will be submitted to the agencies as part of the permitting process.
- No adverse impacts to threatened and endangered species (MANLAA finding for wood stork, West Indian manatee, Florida bonneted bat) are anticipated to occur as a result of the project.
- A bald eagle nest is located in close proximity to the project corridor (near SR 874/SR 826 Interchange); however, no impacts to the eagle's next are anticipated to occur.

No adverse comments were received from the regulatory agencies.

Discussion of Permitting Approach

- The project team also discussed the permitting approach for the project and mentioned that the project is likely to proceed as Deign-Build:
    - The project will require the following permits:
        - SFWMD Conceptual Environmental Resource Permit for entire corridor to supersede existing historic permits (SFWMD and USACE agreed to this approach). The Conceptual ERP will be modified by the Design-Build team during the final design process.
        - SFWMD Right of Way Occupancy Permits/Modifications will be applied for.
            - C-100A, C-2 (Snapper Creek Canal), C-3 (Coral Gables Canal) and C-4 (Tamiami Canal),
        - USACE Section 404 Individual Permit will be applied for.
            - USACE Section 408 Approval will be applied for the C-2 (Snapper Creek Canal), C-3 (Coral Gables Canal) and C-4 (Tamiami Canal).
        - Miami-Dade County DRER Class III Right of Way Permits will be applied for work within the rights-of-way of the Coral Gables Canal and North Line Canal.
    - In addition, permits for geotechnical work within the canals will need to be applied for early in the design process.

The USACE advised to submit for the Section 408 approvals as early in the process as possible.

No follow-up action items were identified from the meeting.

MEETING MINUTES

Project:	Palmetto PD&E	**FPID No:**	432639-1-22-01
Meeting Place:	DRER - DERM Water Control Section Overtown Transit Village 701 NW 1st Court, Suite 600 Miami, Florida 33136	**Meeting Date and Time:**	August 1, 2019 2:30 pm
Purpose:	Permitting Agency Coordination Meeting		

II. Project Description/Issues

a) Consultant deputy project manager Jaime Lopez explained the purpose and need of the project (improving the highway and interchanges capacity, operations, and safety) and how it ties in to the previously approved and/or constructed Express Lanes projects throughout the County. He mentioned that the project extends approximately seven miles along SR 826 from US-1 to SR 836 and that the project includes ten interchanges, which eight of them provide connection to major arterial/collector facilities (roadways). The other two are major system-to-system interchanges with SR 874 and SR 836.

b) Aylin Costa, the project drainage engineer provided an overview of the existing drainage features as follows:

Existing Roadway and Drainage Conditions

- SR 826, between US-1 and SR 874, consists primarily of six travel lanes (three lanes in each direction). Between SR 874 and SR 836, the corridor consists primarily of ten travel lanes (five lanes in each direction) and two undesignated High Occupancy Vehicle (HOV) lanes (one in each direction).

- Existing stormwater management facilities (SMFs) consists of dry and wet detention and retention ponds/linear swales, French Drains, and Slab Covered Trenches.

- Water quality treatment and runoff attenuated is provided for the existing built condition and was previously authorized under ERP #s: 13-00791-S, 13-02686-P, 13-02434-P, 13-01782-P, 13-02339-P, 13-01378-P, and 13-04284-P.

Proposed Roadway and Drainage Conditions

- The PD&E study is proposing to add one express lane in each direction with a direct busway connection along SR 826, from US-1 to SR 874.

Between SR 874 and SR 836, there are two proposed express lanes (with direct connections from/to SR 874 and SR 836).

- The proposed stormwater management facilities are being designed to conform to SFWMD water quality treatment volume criteria and water quantity attenuation criteria, while maintaining pre-development peak stages at critical nodes with offsite connections. Maria Molina said this would be acceptable unless there is extensive proposed work on off-system roadways, then DRER Criteria would apply for water quality treatment. For water quantity pre vs. post comparison is acceptable.

- Proposed stormwater management facilities for this project include dry and wet detention and retention ponds/linear swales, French Drains, and previously authorized Slab Covered Trenches to remain, all contained within existing and proposed right-of-way.

- Mainline widening, perimeter road, and ramp bridges are proposed over canal rights-of-way for the C-100A, C-2, and C-4 canals, which are owned/maintained by the SFWMD, as well as the Coral Gables Canal (C-3) and the North Line Canal, which are owned/maintained by Miami-Dade County.

- Existing northbound off-ramp bridge at SW 24th Street/ Coral Way will be widened.

- Existing culvert along southbound off-ramp at SW 24th Street/Coral Way will be extended south and west along the Coral Gables Ditch.

- Proposed SR-826 northbound lanes encroach C-3 Canal R/W and will require sheet pile bulkhead walls and culvert/bridge culverts from south of SW 22nd Street to SW 16th Street and from south of SW 10th Street to the confluence point with the C-4 Canal including replacement of the SW 8th Street/Tamiami Trail Bridge over C-3.

- North Line Canal: Proposed third level flyover ramps.

- BHRs with 2D HEC-RAS Models for Pre, Post, and Temporary conditions for each the referenced encroachments using flows and headwater/tailwater conditions from the C-4 Flood Control Operations Modeling Project, developed for SFWMD by Intera (2011) will be prepared. The C-4 Flood Control Model includes latest available flow data and surface water profiles for the C-2 Canal, C-3 Canal, C-4 Canal and Northline Canal for the 10 year, 25 year, and 100 year storm events and supersede the SFMWD/USACE Historic Conditions and General Design Memorandums.

- Maria Molina recommended we reach out to Ricardo Ayala to obtain the latest HEC-RAS models prepared by DRER.

c) Maria Molina asked about how contamination would be handled. Jaime explained FDOT is preparing a CSER and will be conducting Level 2 testing within areas of concern. Aylin explained that in final design solid pipe will be proposed adjacent to contaminated areas if any are found based on the Level 2 recommendations.

III. Permit Requirements

a) Maria explained that FDOT is not required to obtain permits from DRER for stormwater management systems or dewatering, therefore Class II and Class V permit applications would not be required unless the proposed work extends outside FDOT right-of-way.

b) Maria confirmed a Class III Permit (ROW) occupancy would be required for outfalls and fill impacts within DRER canal right-of-way.