



City of Doral
ITB No. 2021-10
Citywide Sidewalk Improvements Phase II
Addendum No. 1

Below are questions/ clarifications that were received regarding this project as well as the City's responses. This Addendum is and does become a part of the above-mentioned solicitation. This addendum is issued to modify the subject solicitation as follows:

ATTENTION:

The new bid due date is Friday, July 9th, 2021, at 10:00 A.M.

PLEASE SEE ATTACHED THE FOLLOWING DOCUMENTS:

- Contract Plans
- Specifications Package


COMPONENTS OF CONTRACT PLANS SET

ROADWAY PLANS

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	TABULATION OF QUANTITIES
3	GENERAL NOTES
4-5	TYPICAL SECTIONS
6-18	PLAN SHEETS
19-22	SPECIAL DETAILS
23	ROOT BARRIER DETAILS
24	STORM WATER POLLUTION PREVENTION PLAN
25-31 *	TREE DISPOSITION CHART

* THIS SHEETS ARE INCLUDED IN THE INDEX OF ROADWAY PLANS ONLY TO INDICATE THAT IS PART OF THE ROADWAY PLANS FOR INFORMATION PURPOSE ONLY.

-  PROJECT LOCATION AREA
- ① NW 27th Street - From NW 107th Ave. to NW 109th Ave.
(STA. 101+93.06 - STA. 115+78.85)
SHEETS 6 & 7
- ② NW 102nd Ave. Between NW 15th Terrace to NW 25th ST.
(STA. 200+21.58 - STA. 230+75.32)
SHEETS 8 - 12
- ③ NW 87th Ct/NW 26th Street Between NW 27th Street to NW 89th Ct, and NW 89th Ct Between NW 27th Street to NW 25th Street.
(STA. 300+92.61 - STA. 305+00.00), (STA. 305+00.00 - STA. 316+00.00)
(STA. 316+00.00 - STA. 320+76.73)
SHEETS 13 - 16
- ④ NW 84th Ave. Between the train tracks to NW 13th Street.
(STA. 241+15.23 - STA. 246+36.57)
SHEETS 17 & 18

CITY COUNCIL

MAYOR

JUAN CARLOS BERMUDEZ

VICE MAYOR

CHRISTI FRAGA

COUNCILMAN

PETE CABRERA

COUNCILWOMAN

CLAUDIA MARIACA

COUNCILWOMAN

DIGNA CABRAL

THESE PLANS HAVE BEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE CITY OF DORAL STANDARDS, MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS PART 1, 2 AND 3, THE MANUAL OF MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, THE FLORIDA DEPARTMENT OF TRANSPORTATION FY 2020-2021 STANDARD PLANS AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2020, AS AMENDED BY THE CONTRACT DOCUMENTS.

CONTRACT PLANS

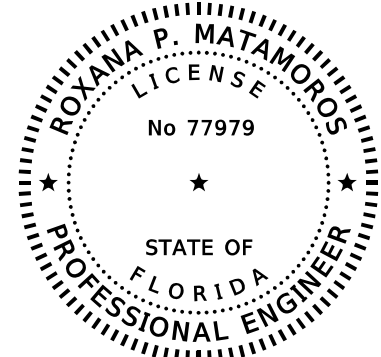
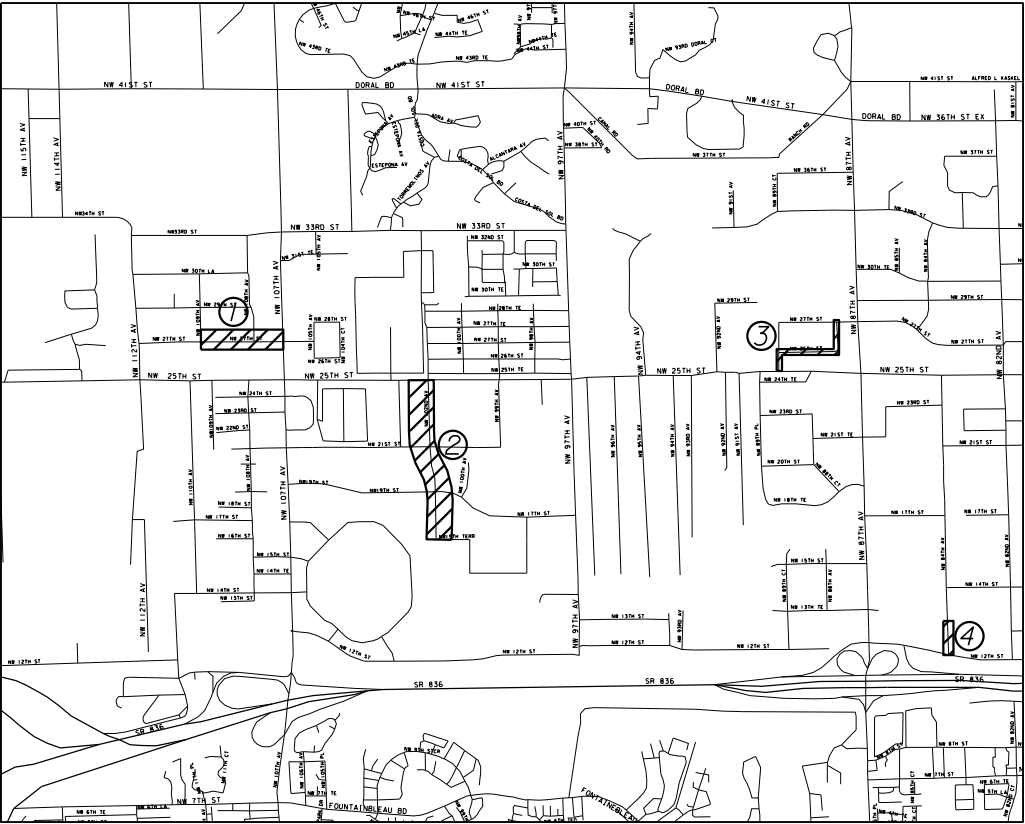


CITYWIDE SIDEWALK IMPROVEMENTS
CITY OF DORAL
MIAMI-DADE COUNTY

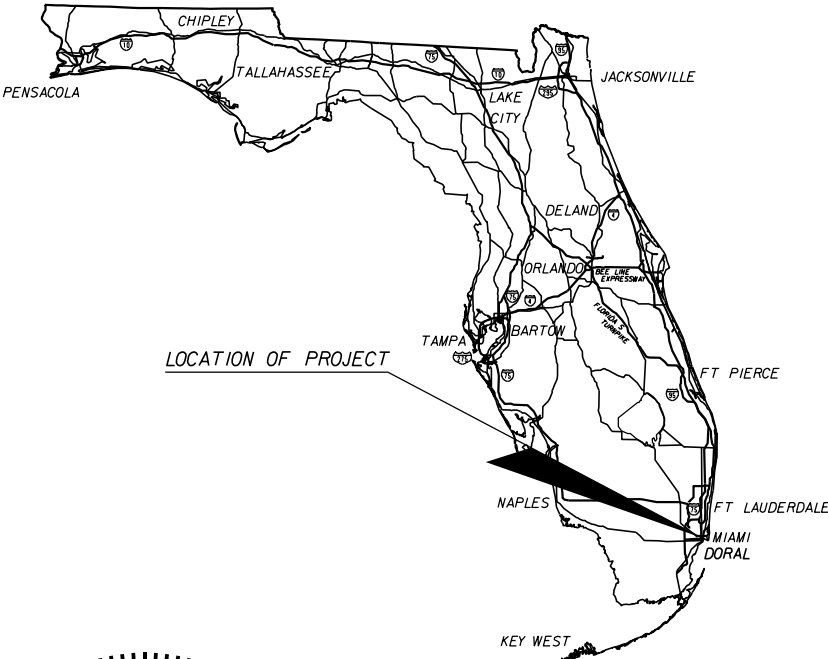
FINANCIAL PROJECT ID 446064-I-58-01



T-53-S
T-54-S



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THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.

PREPARED FOR
CITY OF DORAL
PUBLIC WORKS DEPARTMENT
8401 NW 53RD TERRACE, 2ND FLOOR
DORAL, FLORIDA 33166

ROADWAY SHOP DRAWINGS
TO BE SUBMITTED TO:
ROXANA MATAMOROS, P.E.
MARLIN ENGINEERING, INC.
1700 NW 66 AVENUE - SUITE 106
PLANTATION, FLORIDA 33313

PLANS PREPARED BY:

MARLIN
ENGINEERING

1700 NW 66 Avenue - Suite 106
Plantation, Florida 33313
(954) 870-5070

Roxana Matamoros, P.E. No. 77979

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

ROADWAY PLANS
ENGINEER OF RECORD: ROXANA MATAMOROS, P.E.

P.E. NO.: 77979

LENGTH OF PROJECT		
	LINEAR FEET	MILES
ROADWAY	6944.99	1.315
BRIDGES	0.00	0.000
NET LENGTH OF PROJECT	6944.99	1.315
EXCEPTIONS	0.00	0.000
GROSS LENGTH OF PROJECT	6944.99	1.315

SHEET
NO.

1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SUMMARY OF QUANTITIES							
PAY ITEM NO.	DESCRIPTION	UNIT	COMPONENT				
			ROADWAY		SPM		
			PLAN	FINAL	PLAN	FINAL	
0101 1	MOBILIZATION	LS	1				
0102 1	MAINTENANCE OF TRAFFIC	LS	1				
0104 10 3	SEDIMENT BARRIER	LF	10208				
0104 18	INLET PROTECTION SYSTEM	EA	29				
0107 1	LITTER REMOVAL	AC	24.36				
0107 2	MOWING	AC	13.74				
0110 1 1	CLEARING & GRUBBING	AC	1.72				
0110 2 2	SELECTIVE CLEARING AND GRUBBING	AC	0.59				
0110 4 10	REMOVAL OF EXISTING CONCRETE	SY	349.10				
0110 21	TREE PROTECTION BARRIER	LF	1020				
0120 2 2	BORROW EXCAVATION, TRUCK MEASURE	CY	1123				
0120 71	REGULAR EXCAVATION (3-R PROJECTS ONLY)	LS/LS	1				
0160 4	TYPE B STABILIZATION	SY	153				
0285 706	OPTIONAL BASE, BASE GROUP 06	SY	90				
0286 1	TURNOUT CONSTRUCTION	SY	696				
0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	1544.0				
0334 1 53	SUPERPAVE ASPHALTIC CONCRETE, TRAFFIC C, PG76-22, SP-12.5 (2")	TN	180.0				
0337 7 82	ASPHALT CONCRETE FRICTION COURSE,TRAFFIC C, FC-9.5, PG 76-22	TN	90				
0425 1451	INLETS, CURB, TYPE J-5, <10'	EA	3				
0425 1461	INLETS, CURB, J-6, <10'	EA	2				
	INLETS, CURB, J-11, <10' (DTPW INLET)	EA	1				
0430 175 115	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 15"S/CD	LF	8				
0430 175 124	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 24"S/CD	LF	8				
0443 70 4	FRENCH DRAIN, 24"	LF	350				
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	1840				
0520 2 4	CONCRETE CURB, TYPE D	LF	453				
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	6376				
0522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	93				
0527 2	DETECTABLE WARNINGS	SF	1035				
0570 1 2	PERFORMANCE TURF, SOD	SY	1386				
580-322-2A	TREE REMOVAL AND DISPOSAL (6" to 12" Dia) (Miami Dade County Pay Item)	EA	14				
580-322-5A	TREE REMOVAL AND DISPOSAL (12" to 36" Dia) (Miami Dade County Pay Item)	EA	53				
0700 1 11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS			3		
0700 1 50	SINGLE POST SIGN, RELOCATE	AS			18		
0700 1 60	SINGLE POST SIGN, REMOVE	AS			3		
0706 3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	EA			25		
0710 90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS/LS			1		
0711 11 123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF			1124		
0711 11 125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF			43		
0711 11 131	THERMOPLASTIC, STANDARD, WHITE, SKIP,10-30 SKIP OR 3-9 , 6"	GM			0.100		
0711 11 160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	EA			2		
0711 11 170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA			1		
0711 16 101	THERMOPLASTIC, STANDARD - OTHER SURFACES, WHITE, SOLID, 6"	GM			0.160		
0711 16 201	THERMOPLASTIC, STANDARD - OTHER SURFACES, YELLOW, SOLID, 6"	GM			0.080		

NOTES:

0110-1-1 INCLUDES THE COST OF RELOCATING MAILBOXES AS SHOWN IN THE PLANS.

0110-1-1 INCLUDES THE COST TO REMOVE EXISTING BOLLARDS WHERE SIDEWALK IS TO BE CONSTRUCTED AS SHOWN IN THE PLANS.

0110-21 INCLUDES THE COST TO PROTECT, PRUNE AND ALL INCIDENTAL WORK OF ANY TREE WITHIN 5' FROM BACK/FRONT OF SIDEWALK AS PER FDOT STANDARD PLAN 110-100.

0120 71 REGULAR EXCAVATION WITH QTY OF 1 LS HAS AND ACTUAL QTY OF 1345.29 CY.

REVISIONS				<div><div>MARLIN</div><div>ENGINEERING</div><div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div></div>	<div><div>CITY OF DORAL</div><div>FLORIDA</div></div>	CITY OF DORAL		TABULATION OF QUANTITIES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		2
						MIAMI-DADE	446064-1-58-01		

SUSERS

SDATES

STIMES

SFILES

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PROJECT GENERAL NOTES:

1. BENCHMARK ELEVATIONS SHOWN ON THE PLANS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED Vv, Vh, AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
3. UTILITY/AGENCY OWNERS: COMPANY

AT&T DISTRIBUTION
CENTURYLINK
COMCAST CABLE
ATLANTIC BROADBAND
CROWNCastle NG
FLORIDA CITY GAS
FLORIDA GAS TRANSMISSION
FLORIDA POWER AND LIGHT
HIGH TECH ENGINEERING
HOTWIRE COMMUNICATIONS
MCI
MIAMI-DADE I.T. DEPARTMENT
MIAMI-DADE WATER AND SEWER (WASD)
UNIVISION NETWORK

CONTACT

HUGO URENA
XAN RYPKEMA
LEONARD MAXWELL-NEWBOLD
TROY GAETA
FIBERDIG TEAM
ELIO BUSTOS
JOSEPH E. SANCHEZ
EDGAR AGUILAR
LISA PRIDEMORE
WALTER SANCHE-DAVILA
ANTHONY KOWALESKI
FRANK DOPICO
LAZARO GUERRA
WILLIAM ZOFFINGER

TELEPHONE NUMBERS

561-997-0240
720-888-1089
954-447-8405
954-213-9967
888-632-0931
305-835-3618
407-838-7171
305-378-2634
305-412-0891
954-699-0900
469-886-4091
305-275-7813
786-268-5273
305-725-6823
4. DELIVER AND UNLOAD REMOVED STREET SIGNS TO:
MIAMI-DADE COUNTY DEPT. OF TRANSPORTATION AND PUBLIC WORKS, TRAFFIC SIGNALS & SIGNS DIVISION
7100 NW 36TH ST, MIAMI, FL- 33166
5. CONTRACTOR SHALL REQUEST WRITTEN APPROVAL FROM ADJACENT PROPERTY OWNERS FOR HARMONIZATION INTO PRIVATE PROPERTY WHERE APPLICABLE. CONTRACTOR SHALL COORDINATE CONSTRUCTION SCHEDULE WITH PROPERTY OWNERS.
6. CONTRACTOR SHALL REMOVE BOLLARDS PROTECTING FIRE HYDRANTS LOCATED BEHIND CURB AND GUTTER AFTER COORDINATION WITH WASD.
7. DAMAGED CURB AND GUTTER SHALL BE REPLACED FROM JOINT TO JOINT.
8. ALL CURB RAMPS AFFECTED BY THE PROJECT SHALL BE REPLACED AS PER FDOT STANDARD PLANS FOR ROAD CONSTRUCTION INDEX NO. 522-002 AND SPECIFICATIONS.
9. WORK NECESSARY FOR HARMONIZATION OUTSIDE R/W SHALL BE INCLUDED IN RELATED BID ITEMS (STRUCTURAL ASPHALT, SOD, CONCRETE, BRICKS, ETC). CLEARING AND GRUBBING, EARTHWORK AND GRADING ARE INCIDENTAL TO THESE ITEMS.
10. CONSTRUCT SIDEWALKS AND DRIVEWAYS AS PER FDOT STANDARD PLANS FOR ROAD CONSTRUCTION INDEX NO. 522-001, 522-003 AND SPECIFICATIONS.

TRAFFIC CONTROL PLANS NOTES:

- LANE CLOSURE:
PERFORM LANE CLOSURES ONLY DURING NON-PEAK HOURS OR NON-EVENT DAYS/NIGHTS/WEEKENDS. NON-PEAK HOURS ARE FROM 9:00 AM TO 4:00 PM WEEKDAYS AND WEEKENDS.
- ADVANCE CONSTRUCTION NOTICE:
THE CONTRACTOR SHALL FURNISH AND MAINTAIN PORTABLE CHANGING MESSAGE SIGNS (PCMS) AT EACH APPROACH TO THE WORK ZONE OUTSIDE THE CLEAR ZONE.
- MESSAGES FOR THE PCMS SHALL BE AS INDICATED BELOW OR AS DIRECTED BY THE ENGINEER:
THE CONTRACTOR SHALL PROVIDE GENERAL INFORMATION SIGNS FOR THIS PROJECT AND LOCATE THEM APPROXIMATELY 500' IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN OR AS CLOSE TO THE BEGINNING AND END OF THE CONSTRUCTION AND ON SIDE STREETS APPROACHING THE WORKZONE AS PRACTICAL IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX 102-600, SHEET 5 OF 11.

TRAFFIC CONTROL PROJECT PHASE NOTES:

- PHASE 1 - FOR 4 LANE DIVIDED ROADWAY:
PLACE ALL TRAFFIC CONTROL DEVICES, TEMPORARY SIGNING AND PCMS NECESSARY TO CLOSE THE OUTSIDE LANE IN ACCORDANCE TO FDOT STANDARD PLANS, INDEXES NO. 102-613, 102-616. PLACE PCMS AS INDICATED ABOVE.
MAINTAIN PEDESTRIAN TRAFFIC DURING SIDEWALK CONSTRUCTION IN ACCORDANCE TO FDOT STANDARD PLANS, INDEX 102-660.
CONSTRUCT CONCRETE SIDEWALK, CONCRETE CURB & GUTTER, CONCRETE CURB RAMPS, PLACE DETECTABLE WARNING SURFACES, CONSTRUCT DRAINAGE STRUCTURES, MILLING AND RESURFACING, PLACE PAVEMENT MARKINGS AND ALL PROPOSED SIGNS.
- PHASE 2 - FOR 3 LANE UNDIVIDED ROADWAY:
PLACE ALL TRAFFIC CONTROL DEVICES, TEMPORARY SIGNING AND PCMS NECESSARY TO CLOSE THE OUTSIDE LANE IN ACCORDANCE TO FDOT STANDARD PLANS, INDEXES NO. 102-602, 102-605, 102-613, 102-616, 102-622. PLACE PCMS AS INDICATED ABOVE. MAINTAIN PEDESTRIAN TRAFFIC DURING SIDEWALK CONSTRUCTION IN ACCORDANCE TO FDOT STANDARD PLANS, INDEX 102-660. CONSTRUCT CONCRETE SIDEWALK, CONCRETE CURB & GUTTER, CONCRETE CURB RAMPS, PLACE DETECTABLE WARNING SURFACES, CONSTRUCT DRAINAGE STRUCTURES, WIDENING, PLACE PAVEMENT MARKINGS AND ALL PROPOSED SIGNS.

ADVANCE CONSTRUCTION NOTICE:

1. FURNISH AND MAINTAIN PORTABLE CHANGING MESSAGE SIGNS (PCMS) AT EACH APPROACH TO THE WORKZONE AND OUTSIDE THE CLEAR ZONE.

MESSAGES FOR THE PCMS SHALL AS INDICATED BELOW OR AS DIRECTED BY THE ENGINEER.

STARING 2 WEEK PRIOR TO
COMMENCEMENT OF CONSTRUCTION.

DURING CONSTRUCTION.

"ROAD NAME"
CONST
BEGIN
"BEGIN DATE"
"WORKING HOURS"

"ROAD NAME"
CONST
BEGIN
"BEGIN DATE"
"WORKING HOURS"

"ROAD NAME"
CONST
AHEAD
EXPECT
DELAYS
"WORKING HOURS"

"ROAD NAME"
CONST
AHEAD
EXPECT
DELAYS
"WORKING HOURS"

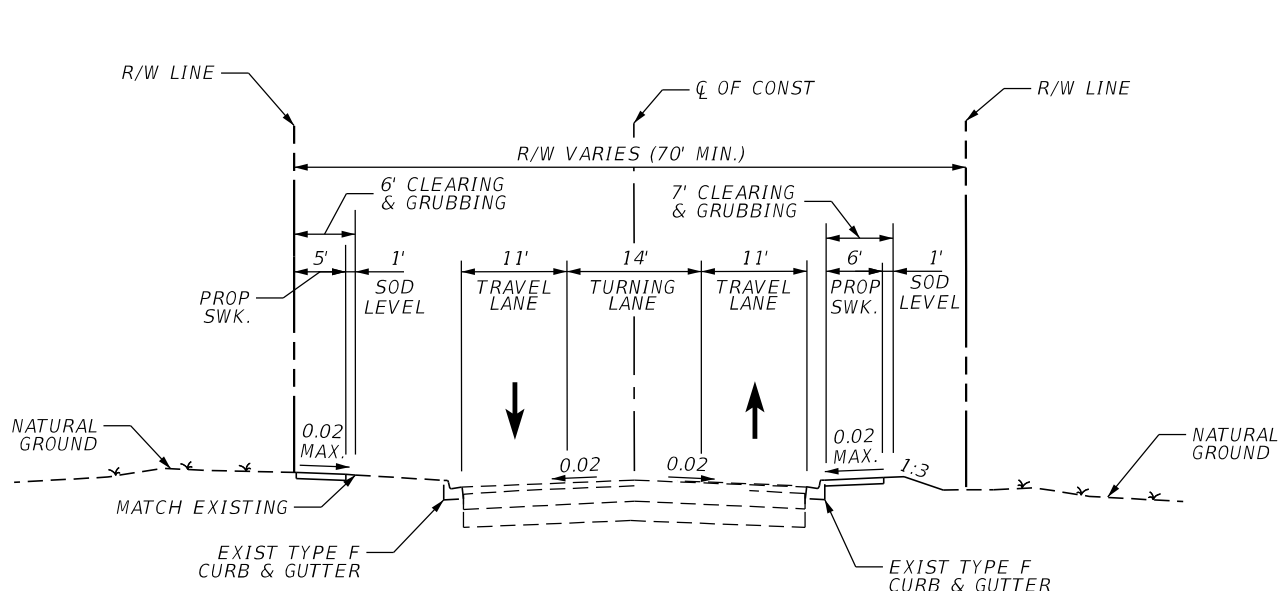
ENVIRONMENTAL NOTES:

1. NO STAGING OR OTHER ACTIVITIES FOR THIS PROJECT WILL BE ALLOWED WITHIN AND ADJACENT TO: DORAL ACADEMY PREPARATORY SCHOOL LOCATED AT 11100 NW 27TH ST DORAL, FL 33172.
2. NO STAGING OR OTHER ACTIVITIES FOR THIS PROJECT NOT ICLUDED ON THE CURRENT PLANS SUBMITTAL WILL BE ALLOWED WITHIN OR ADJACENT TO THE NATIONAL REGISTER ELIGIBLE SPUR OF THE SEABOARD AIR LINE RAILROAD THAT CROSSES NW 84 TH AVENUE.
3. WHEN ENCOUNTERING OR EXPOSING ANY ABNORMAL CONDITION INDICATING THE PRESENCE OF A HAZARDOUS OR TOXIC WASTE, OR CONTAMINANTS, CEASE OPERATIONS IMMEDIATELY IN THE VICINITY AND NOTIFY THE LAP CITY OF DORAL ENGINEER. THE PRESENCE OF TANKS OR BARRELS; DISCOLORED EARTH, METAL, WOOD, GROUND WATER, ETC.; VISIBLE FUMES; ABNORMAL ODORS; EXCESSIVELY HOT EARTH; SMOKE; OR OTHER CONDITIONS THAT APPEAR ABNORMAL MAY INDICATE HAZARDOUS OR TOXIC WASTES OR CONTAMINANTS AND MUST BE TREATED WITH EXTREME CAUTION.
MAKE EVERY EFFORT TO MINIMIZE THE SPREAD OF CONTAMINATION INTO UNCONTAMINATED AREAS. IMMEDIATELY PROVIDE FOR THE HEALTH AND SAFETY OF ALL WORKERS AT THE JOB SITE AND MAKE PROVISIONS NECESSARY FOR THE HEALTH AND SAFETY OF THE PUBLIC THAT MAY BE EXPOSED TO ANY POTENTIALLY HAZARDOUS CONDITIONS. PROVISIONS SHALL MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS OR CODES COVERING HAZARDOUS CONDITIONS AND WILL BE IN A MANNER COMMENSURATE WITH THE GRAVITY OF THE CONDITIONS.
THE LAP CITY OF DORAL ENGINEER AND/OR CONTRACTOR WILL COORDINATE AND MOBILIZE A QUALIFIED CONTAMINATION ASSESSMENT/REMEDATION (CAR) CONTRACTOR. QUALIFICATIONS OF SUCH CAR CONTRACTOR SHALL INCLUDE, BUT NOT BE LIMITED TO: EXPERIENCE AND PERSONNEL TO PREPARE CONTAMINATION ASSESSMENT PLANS, CONDUCT CONTAMINATION ASSESSMENTS, PREPARE SITE ASSESSMENT REPORTS, REMEDIATION PLANS, IMPLEMENT REMEDIAL ACTION PLANS, RISK BASED CORRECTIVE ACTIONS, STORAGE TANKS SYSTEM REMOVAL, HIGHWAY SPILL RESPONSE AS WELL AS EXPERIENCE WITH INFRASTRUCTURE/CONSTRUCTION ACTIVITIES WITHIN (POTENTIALLY) CONTAMINATED AREAS SPECIFIC TO TRANSPORTATION SYSTEMS.
ALL THE WORK PERFORMED BY THE CAR CONTRACTOR SHALL BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS GOVERNING WORKER SAFETY AND ENVIRONMENTAL REGULATIONS. THIS IS TO INCLUDE OCCUPATIONAL EXPOSURE TO CONTAMINATED SOILS, GROUNDWATER, WASTES AND ATMOSPHERE DURING THE CONSTRUCTION OF ALL FEATURES INCLUDED IN THE CONSTRUCTION PLANS. IN ADDITION, THE CAR CONTRACTOR MUST BE STAFFED WITH FLORIDA LICENSED TECHNICAL PROFESSIONALS (GEOLOGISTS AND ENGINEERS) WHO WILL BE INVOLVED WITH THE PROJECT AND KNOWLEDGEABLE OF THE WORK ACTIVITIES CONDUCTED WITHIN THE IDENTIFIED CONTAMINATED AREAS AND WHO WOULD SIGN AND SEAL PROJECT REPORTS AS REQUIRED FOR SUBMITTAL TO THE APPROPRIATE ENVIRONMENTAL REGULATORY AGENCIES. THE LAP CITY OF DORAL ENGINEER WILL IMMEDIATELY NOTIFY THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) DISTRICT VI CONTAMINATION IMPACT COORDINATOR (DCIC) AT (305) 470-5228 AFTER ENCOUNTERING THE UNIDENTIFIED AREAS OF CONTAMINATION. PRELIMINARY INVESTIGATION BY THE CAR CONTRACTOR WILL DETERMINE THE COURSE OF ACTION NECESSARY FOR SITE SECURITY AND THE STEPS NECESSARY UNDER APPLICABLE LAWS, RULES, AND REGULATIONS FOR ADDITIONAL ASSESSMENT AND/OR REMEDIATION WORK TO RESOLVE THE CONTAMINATION ISSUE.
FOLLOWING COMPLETION OF THE PROJECT, THE CAR CONTRACTOR SHALL BE REQUIRED TO PROVIDE COPIES OF ALL REPORTS SUBMITTED TO REGULATORY AGENCIES, WASTE MATERIAL PROFILES, MANIFESTS AND/OR DISPOSAL RECEIPTS FOR THE HANDLING OF ALL CONTAMINATED MEDIA INCLUDING BUT NOT LIMITED TO GROUND WATER, WASTE WATER, SOILS, SOLID WASTES, SLUDGE, HAZARDOUS WASTES, AIR MONITORING RECORDS AND SAMPLE RESULTS FOR ALL MATERIALS TESTED AND ANALYZED TO THE LAP CITY OF DORAL ENGINEER, EUGENE COLLINGS-BONFILL, P.E. 305-593-0740 EXT. 6017 AND THE FDOT DCIC.

R/W NOTE:

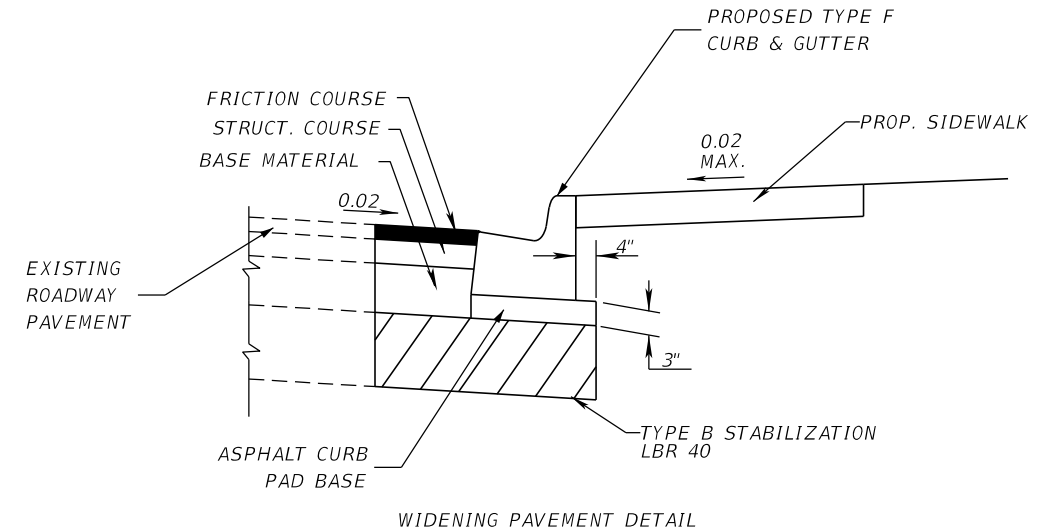
ALL IMPROVEMENTS ARE TO BE CONSTRUCTED AND/OR INSTALLED WITHIN THE EXISTING STATE AND/OR LOCAL RIGHT OF WAY.

REVISIONS				<div>MARLIN ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>		CITY OF DORAL		GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		3
						MIAMI-DADE	446064-1-58-01		

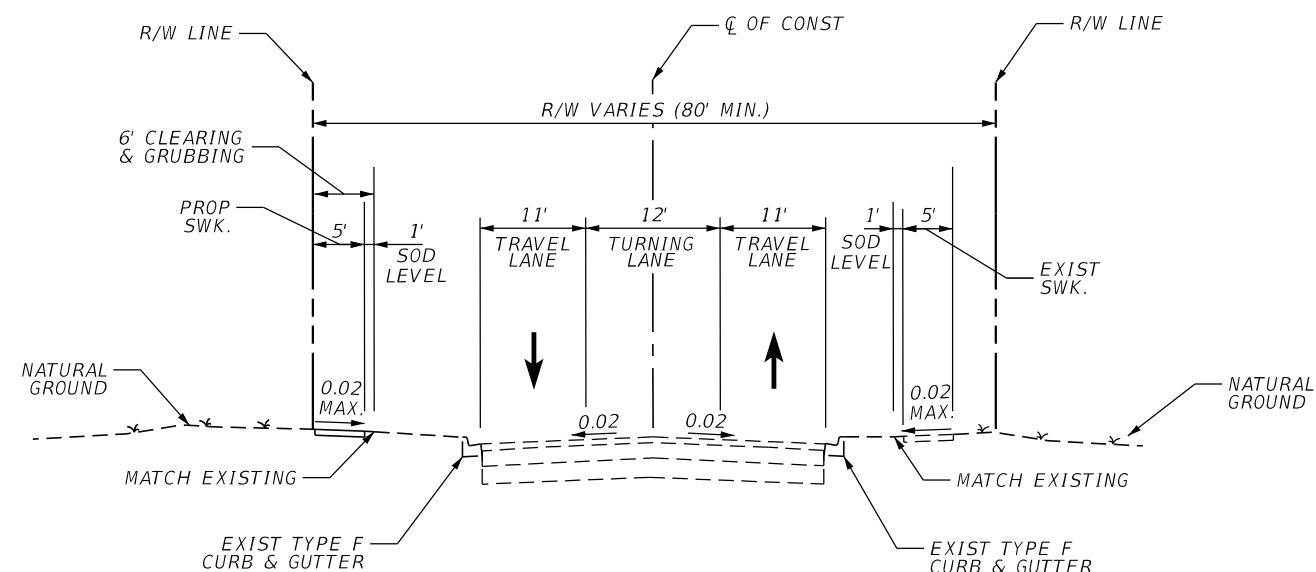


TYPICAL SECTION
NW 102nd AVENUE
STA. 200+21.58 TO STA. 230+75.32
DESIGN SPEED = 35 MPH

LOCATION #2

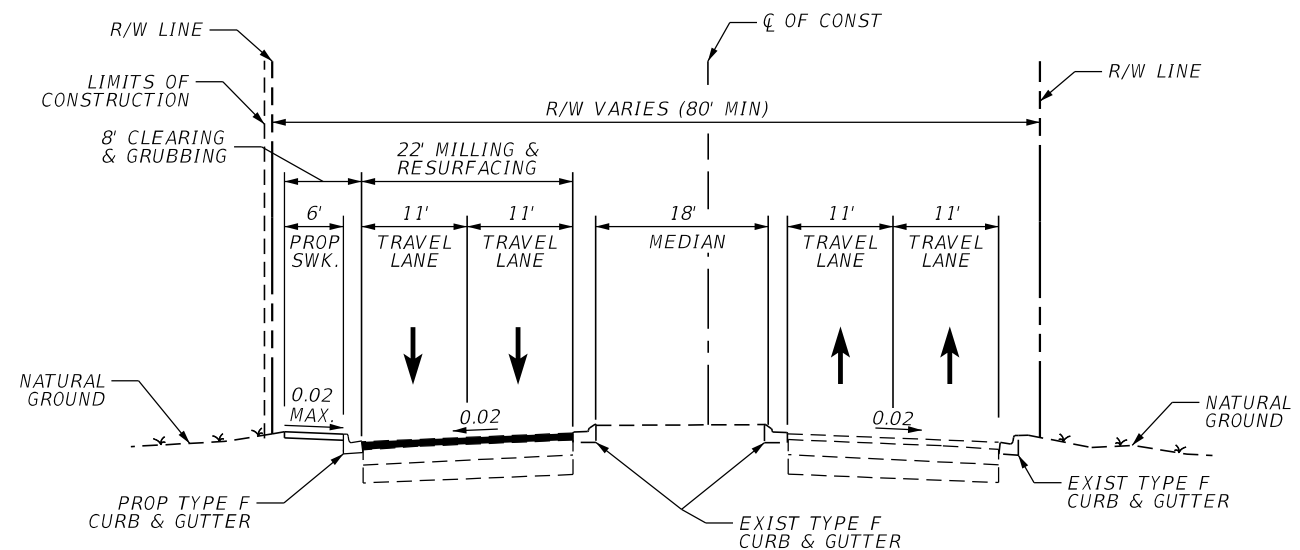


WIDENING PAVEMENT DETAIL
NW 102nd AVENUE
STA. 228+21.61 TO STA. 230+47.74
TYPE B STABILIZATION LBR 40,
O.B.G 6 (LIMEROCK BASE (8") PRIMED) WITH
HMA, TRAFFIC C, SP-12.5 (2")
HMA, FRICTION COURSE, TRAFFIC C, PG 76-22, FC-9.5 (1")



TYPICAL SECTION
NW 27th STREET
STA. 101+93.06 TO STA. 115+78.85
DESIGN SPEED = 30 MPH

LOCATION #1



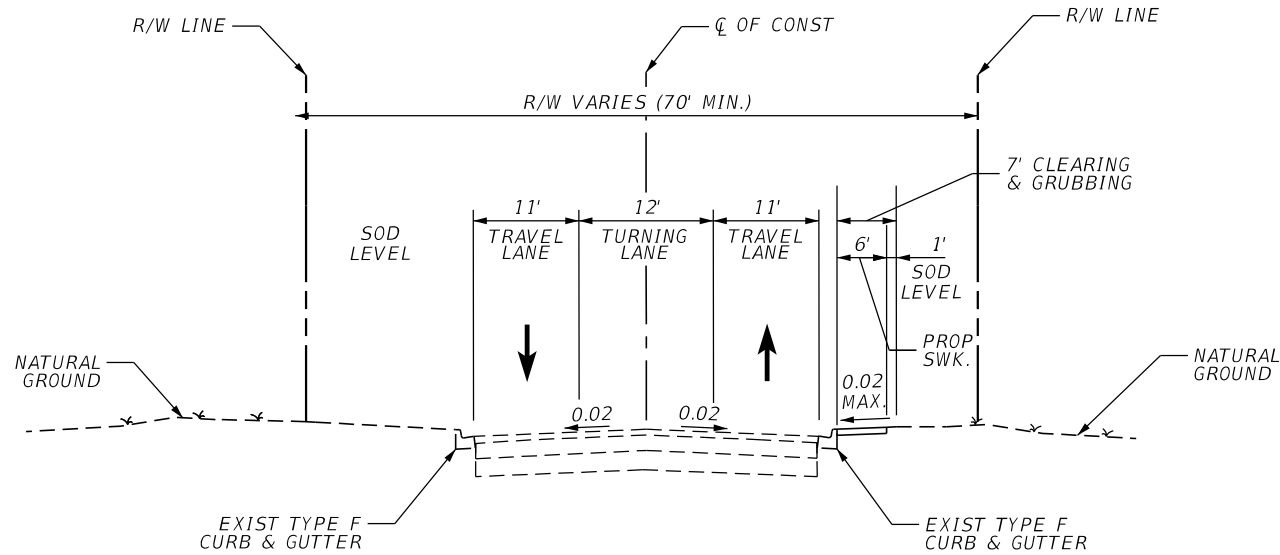
TYPICAL SECTION
NW 84th AVENUE
STA. 241+15.23 TO STA. 246+36.57
DESIGN SPEED = 35 MPH

LOCATION #4

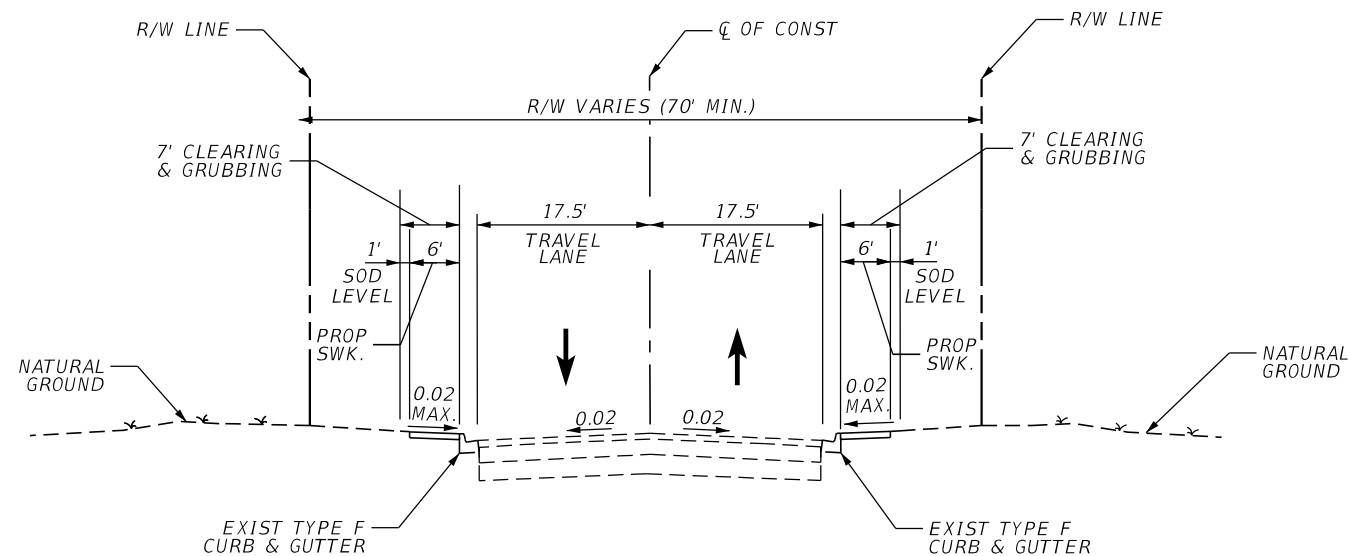
MILLING AND RESURFACING
NW 84th AVENUE
STA. 241+15.23 TO STA. 246+36.57
MILL EXISTING ASPHALT PAVEMENT FOR DEPTH (1.25")
RESURFACE WITH HMA, FRICTION COURSE,
TRAFFIC C, FC-9.5 (1.25")

REVISIONS				 ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104	 CITY OF DORAL COUNTY: MIAMI-DADE FINANCIAL PROJECT ID: 446064-1-58-01	TYPICAL SECTIONS		SHEET NO. 4
DATE	DESCRIPTION	DATE	DESCRIPTION					

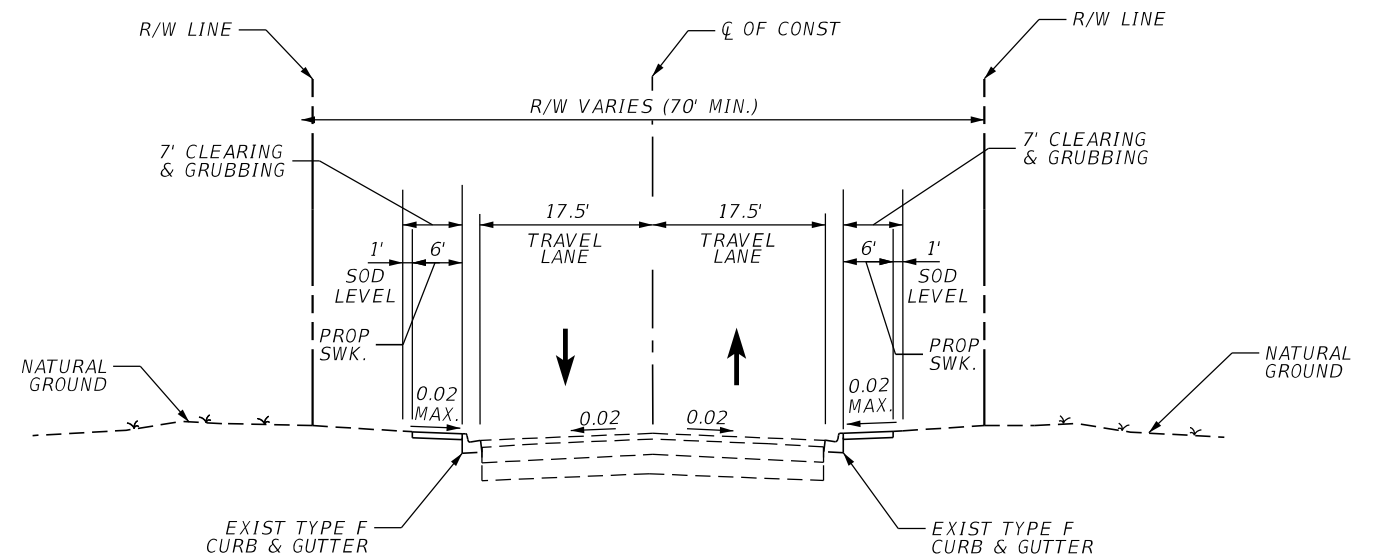
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TYPICAL SECTION
NW 89th COURT
STA. 300+92.61 TO STA. 305+00.00
DESIGN SPEED = 30 MPH
LOCATION #3



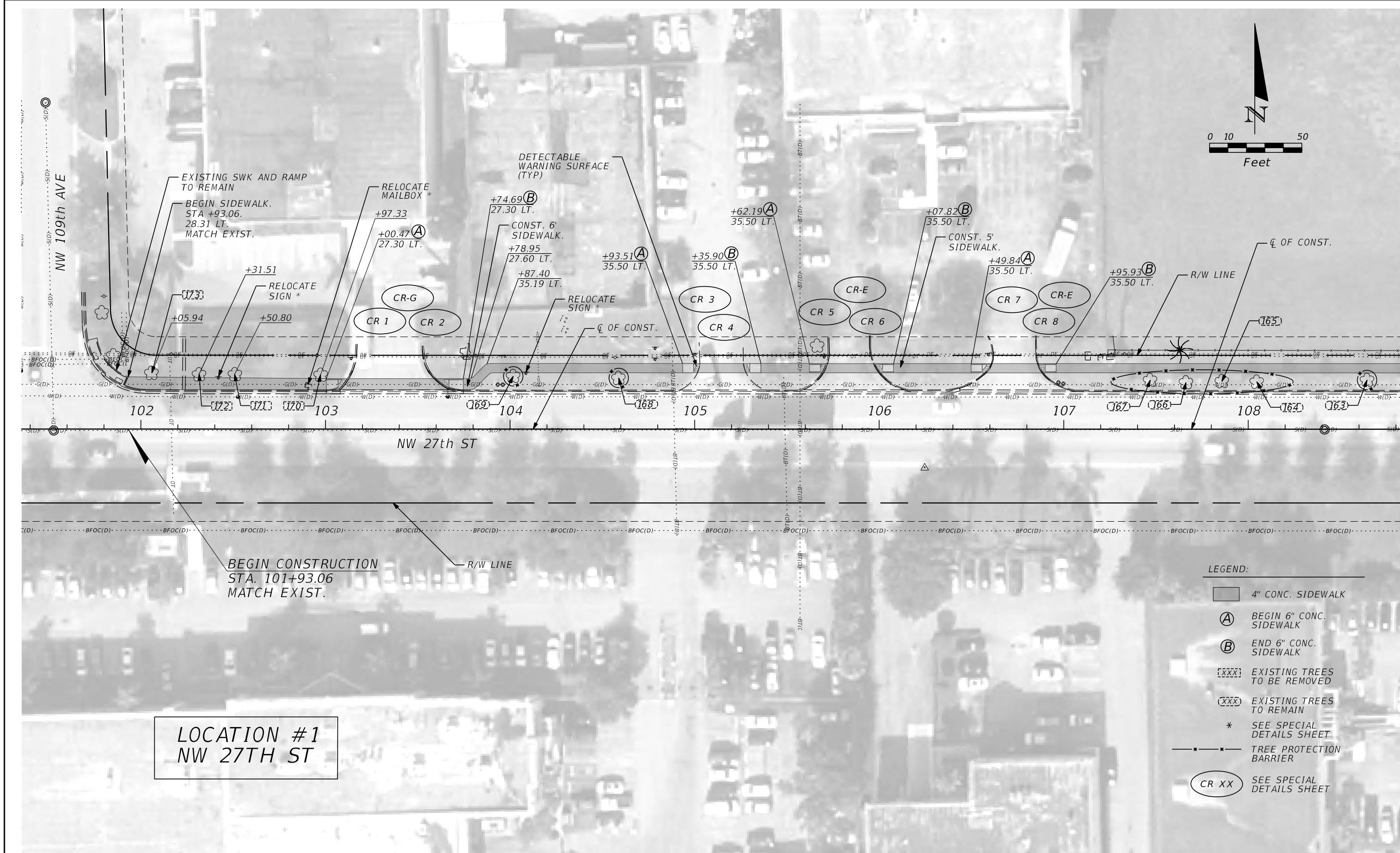
TYPICAL SECTION
NW 87th COURT
STA. 316+00.00 TO STA. 320+76.73
DESIGN SPEED = 30 MPH
LOCATION #3



TYPICAL SECTION
NW 26th STREET
STA. 305+00.00 TO STA. 316+00.00
DESIGN SPEED = 30 MPH
LOCATION #3

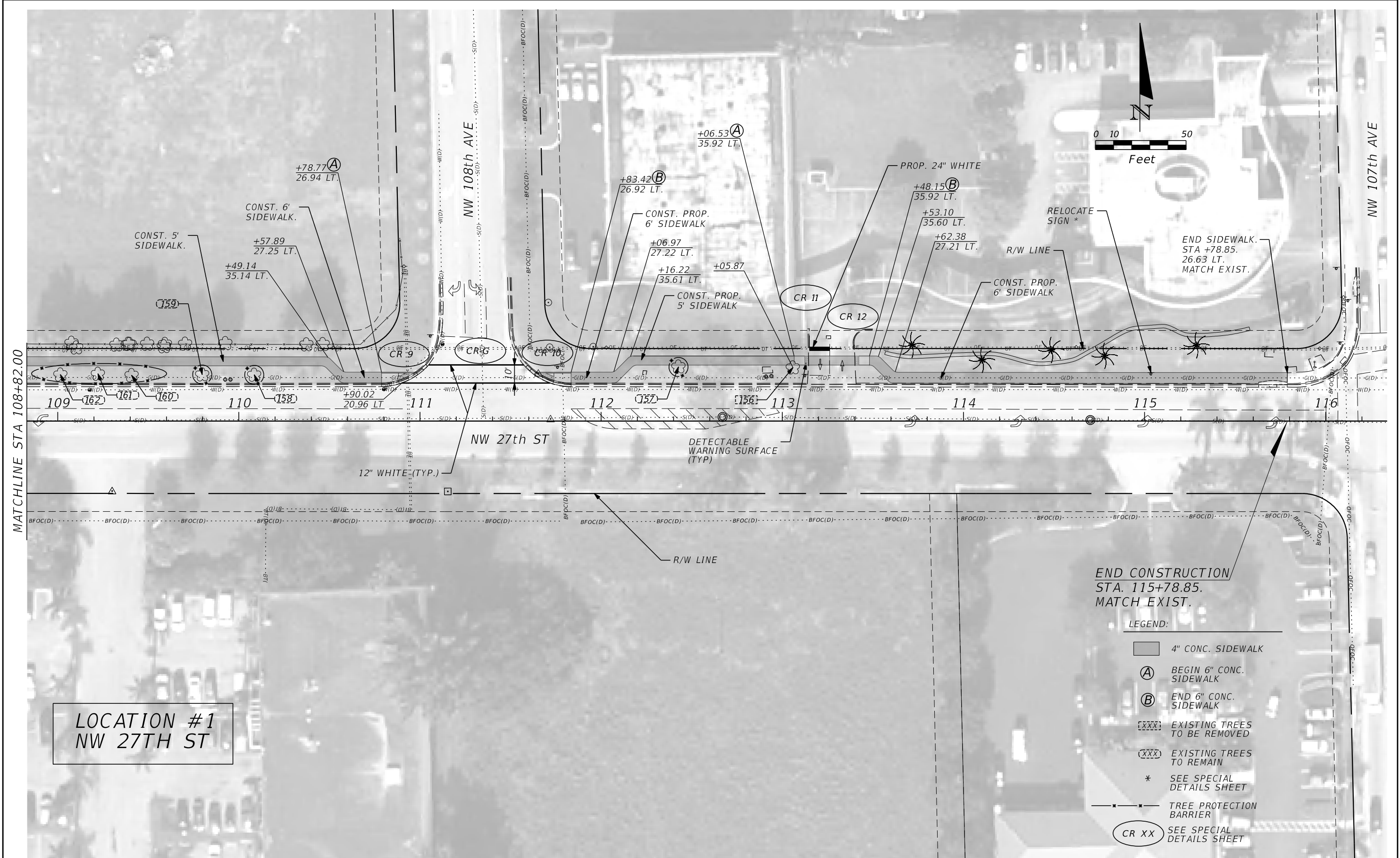
REVISIONS				<div>  </div> <div> ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104 </div>	<div>  </div> <div> CITY OF DORAL COUNTY: MIAMI-DADE FINANCIAL PROJECT ID: 446064-1-58-01 </div>	TYPICAL SECTIONS	SHEET NO. 5
DATE	DESCRIPTION	DATE	DESCRIPTION				

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REVISIONS				<div><div>MARLIN</div><div>ENGINEERING</div></div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>	<div><div>CITY OF DORAL</div><div>FLORIDA</div></div> <div>COUNTY MIAMI-DADE</div>	<div>FINANCIAL PROJECT ID 446064-1-58-01</div>	PLAN SHEETS	SHEET NO. 6
DATE	DESCRIPTION	DATE	DESCRIPTION					



LOCATION #1
NW 27TH ST

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MARLIN
ENGINEERING

ROXANA P. MATAMOROS • P.E. No.: 77979
1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313
(305) 477-7575 • C.A. No. 6104

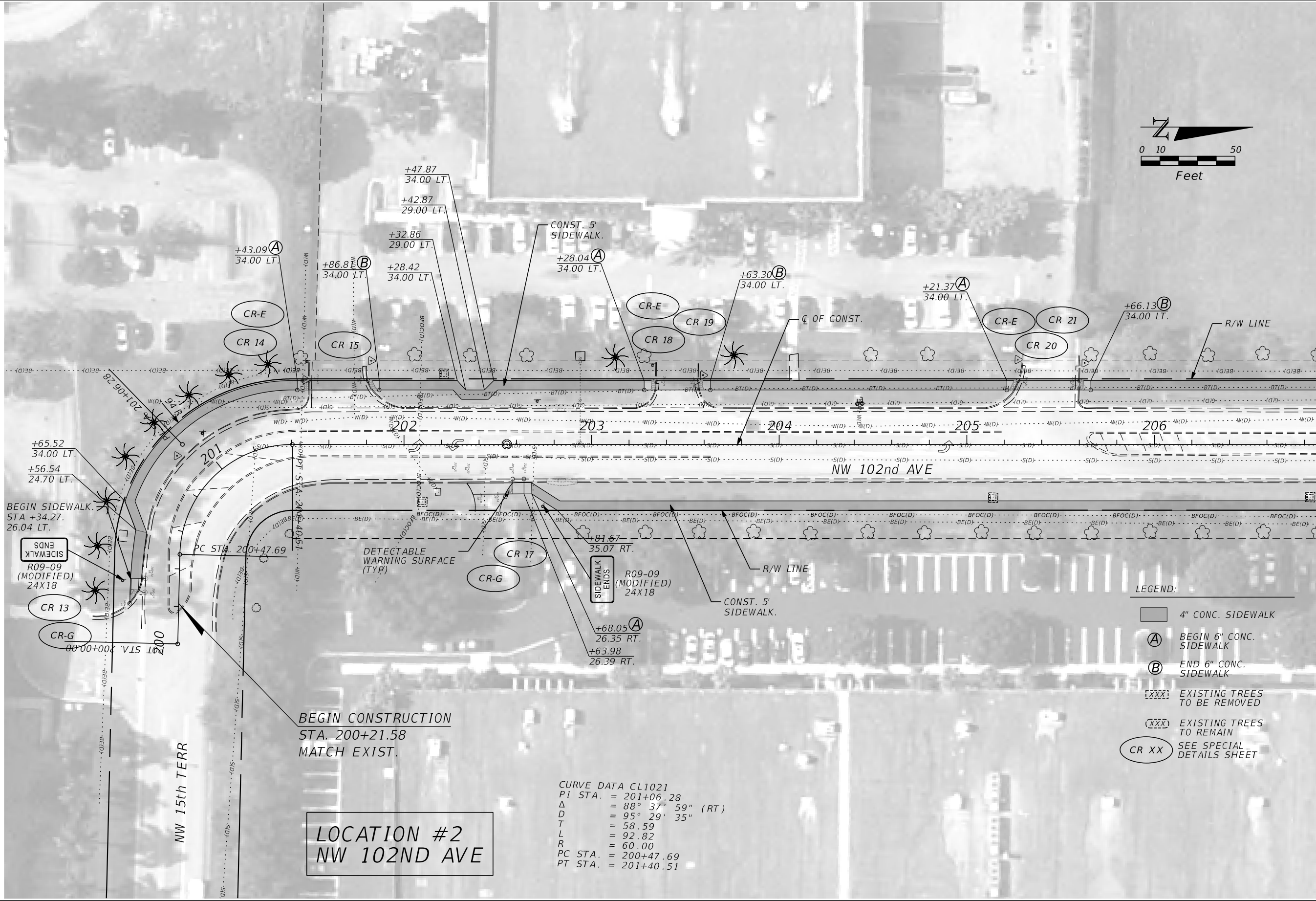


CITY OF DORAL	
COUNTY	FINANCIAL PROJECT ID
MIAMI-DADE	446064-1-58-01

PLAN SHEETS

SHEET NO.
7

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



CURVE DATA CL1021
PI STA. = 201+06.28
 Δ = 88° 37' 59" (RT)
D = 95° 29' 35"
T = 58.59
L = 92.82
R = 60.00
PC STA. = 200+47.69
PT STA. = 201+40.51

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MARLIN
ENGINEERING

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(305) 477-7575 • C.A. No. 6104

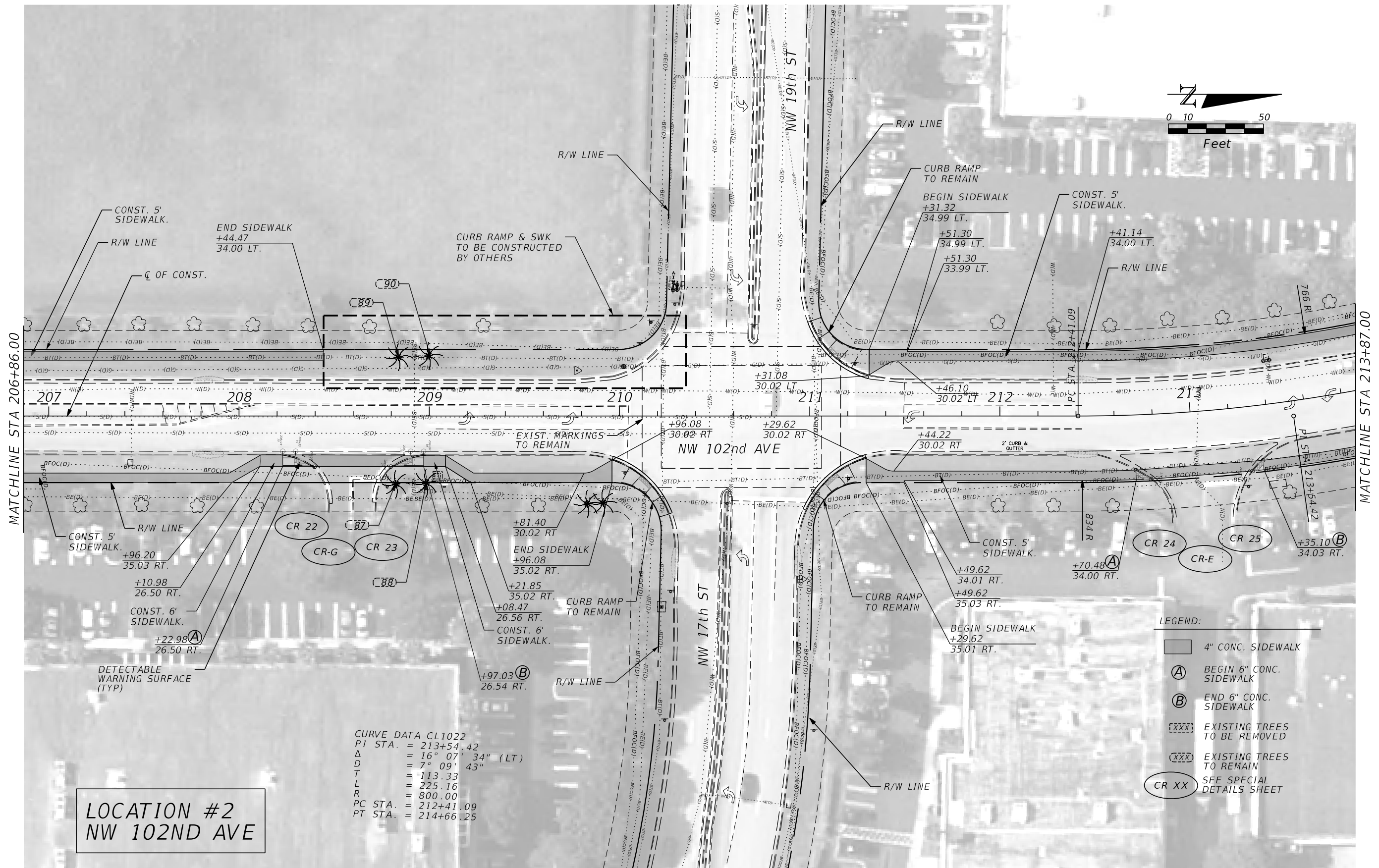


CITY OF DORAL	
COUNTY	FINANCIAL PROJECT ID
MIAMI-DADE	446064-1-58-01

PLAN SHEETS	
8	

SHEET NO.
8

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



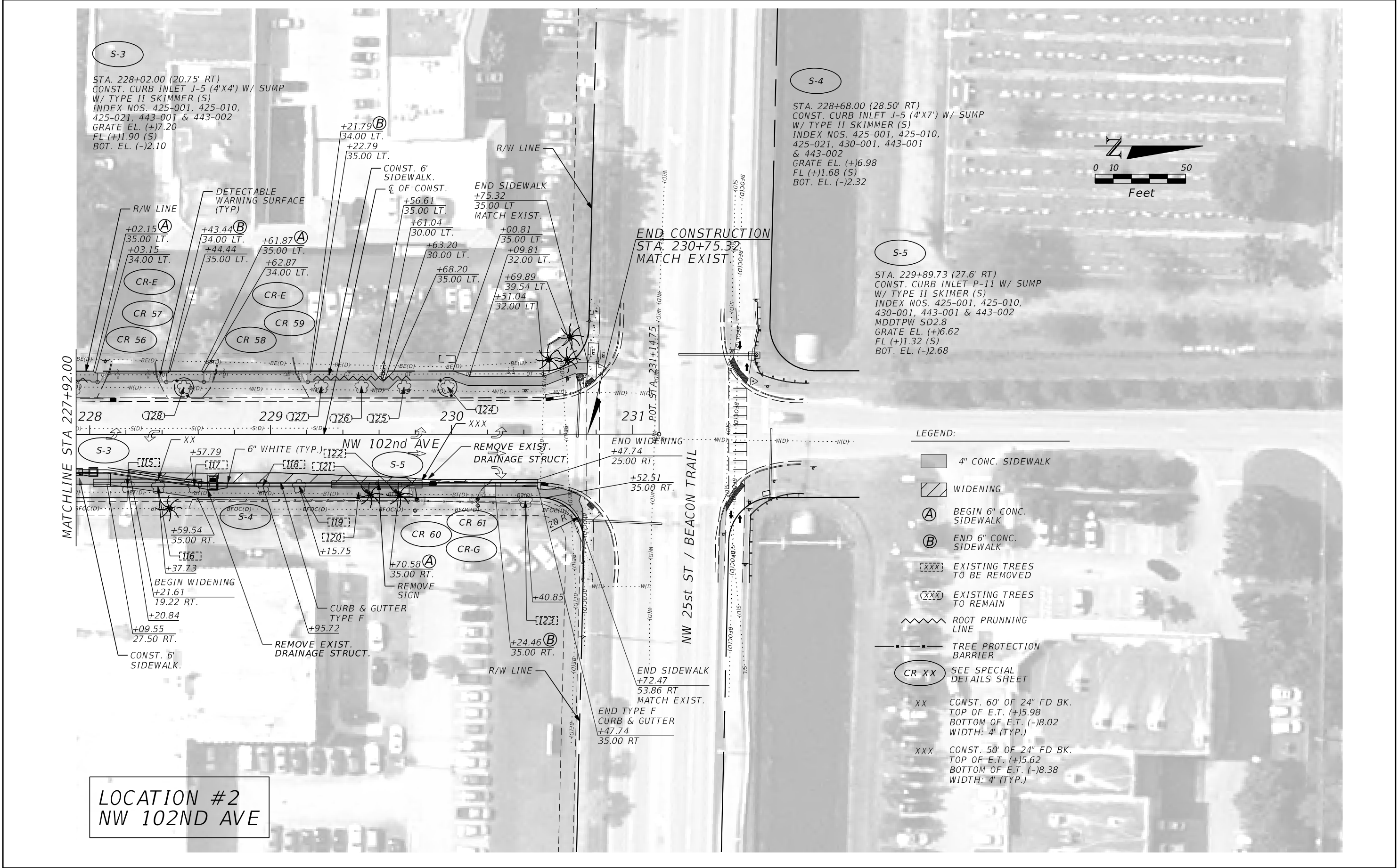
REVISIONS				<div>MARLIN ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>	<div>CITY OF DORAL</div> <div>COUNTY MIAMI-DADE</div> <div>FINANCIAL PROJECT ID 446064-1-58-01</div>	PLAN SHEETS	SHEET NO. 9
DATE	DESCRIPTION	DATE	DESCRIPTION				

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REVISIONS				<div>MARLIN ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>	<div>CITY OF DORAL</div> <div>COUNTY MIAMI-DADE</div> <div>FINANCIAL PROJECT ID 446064-1-58-01</div>	PLAN SHEETS	SHEET NO. 11
DATE	DESCRIPTION	DATE	DESCRIPTION				

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LOCATION #2
NW 102ND AVE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MARLIN
ENGINEERING

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(305) 477-7575 • C.A. No. 6104



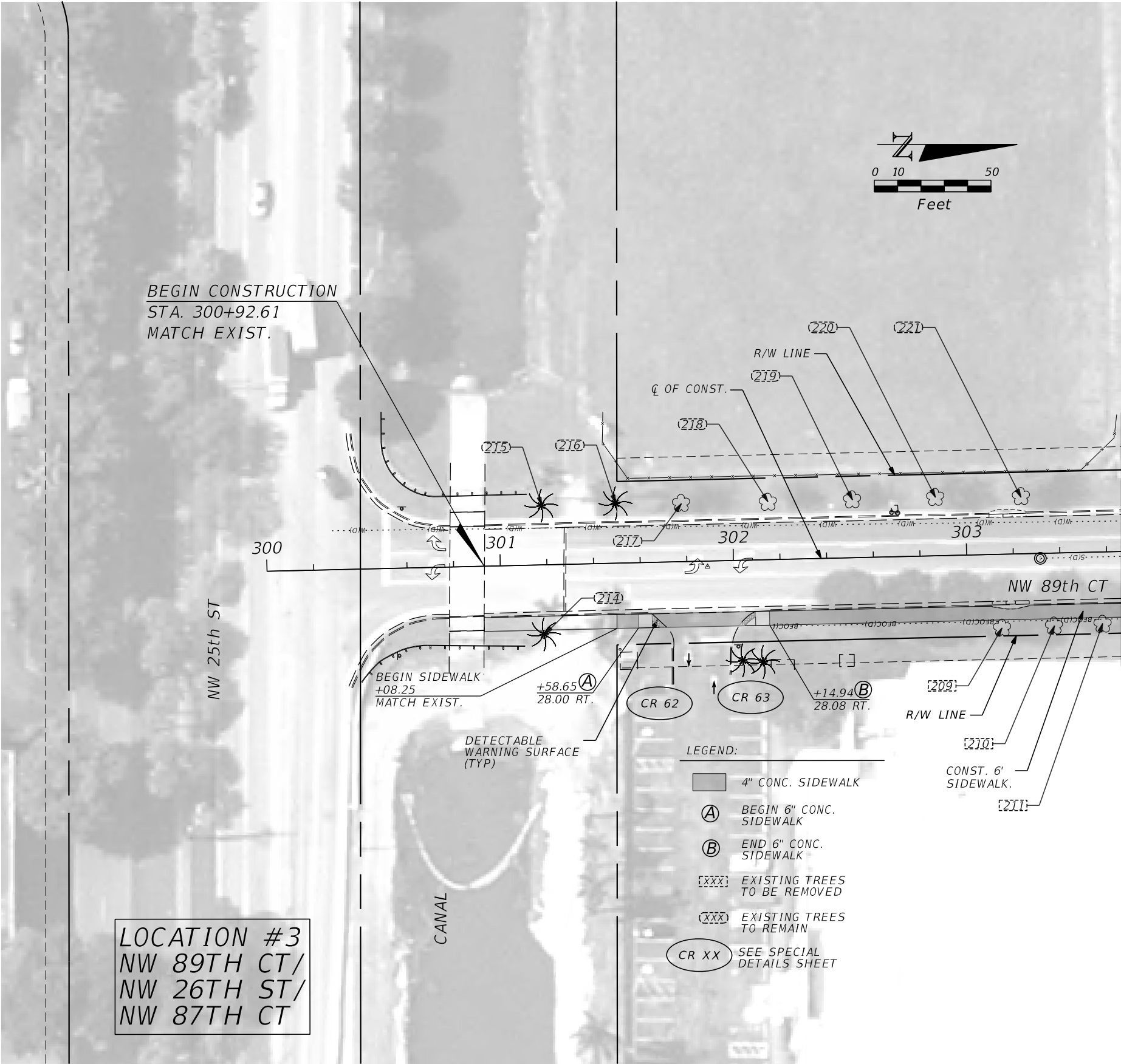
CITY OF DORAL
COUNTY
MIAMI-DADE

FINANCIAL PROJECT ID
446064-1-58-01

PLAN SHEETS

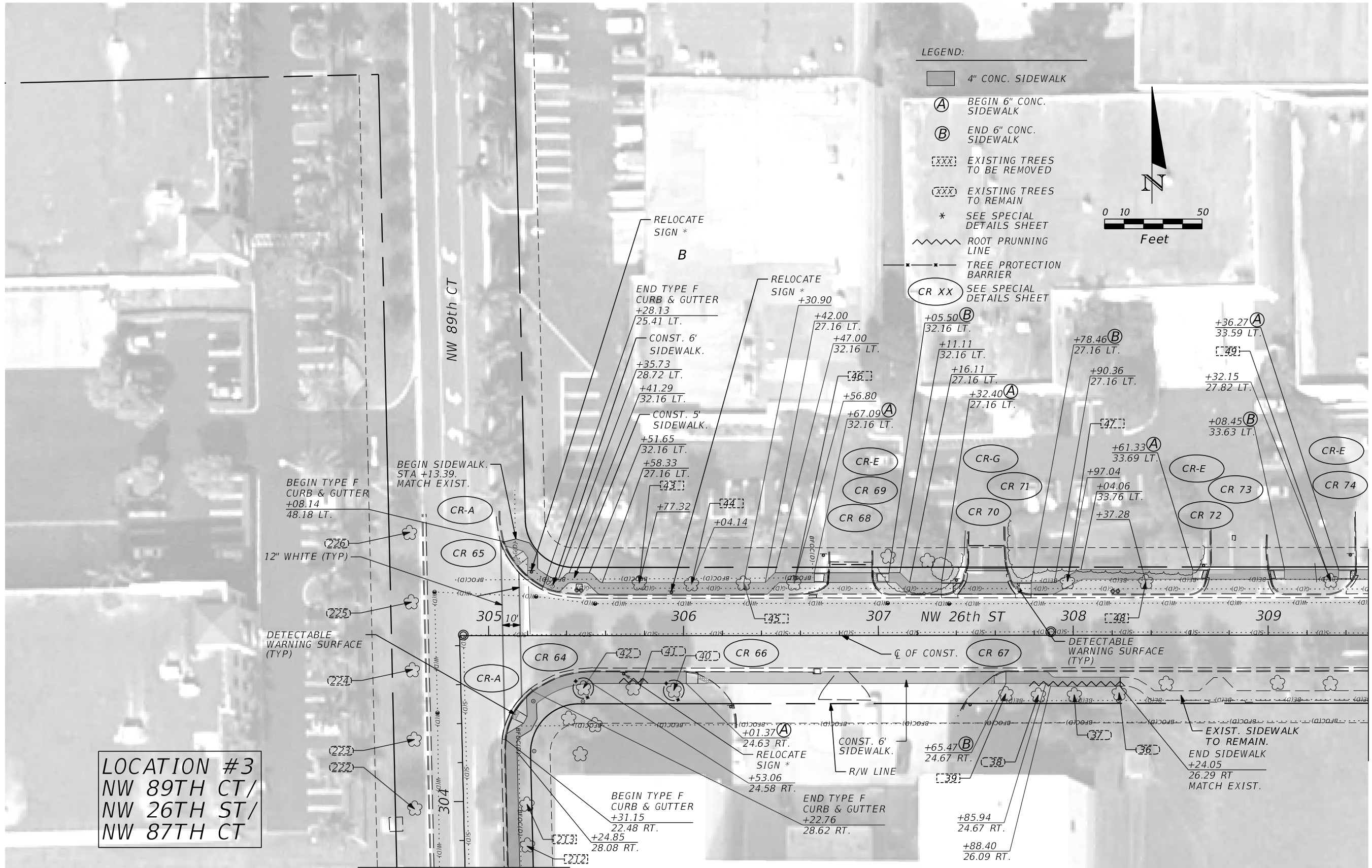
SHEET NO.
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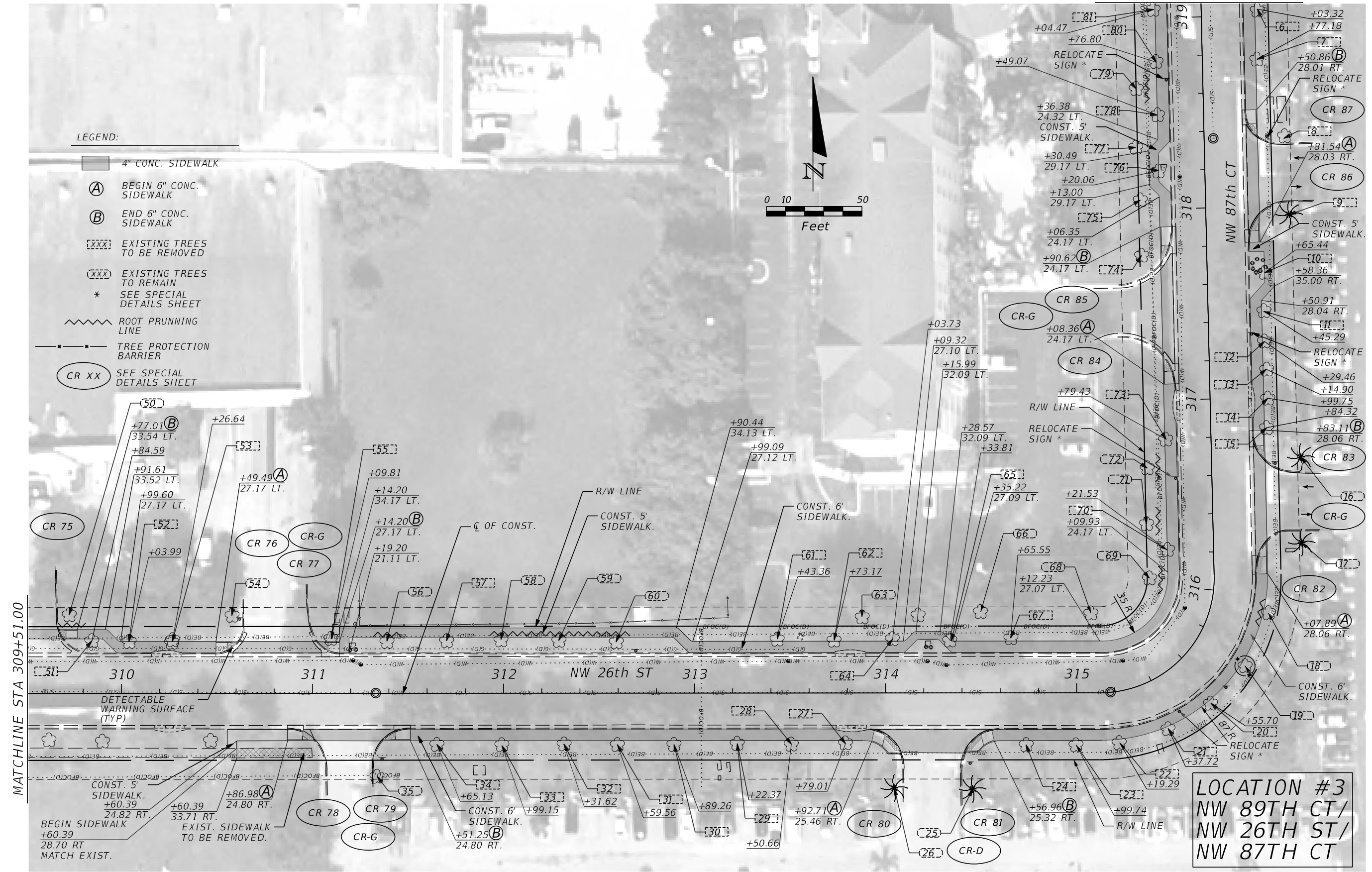


REVISIONS				<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div>MARLIN</div><div>ENGINEERING</div></div><div><div>ROXANA P. MATAMOROS • P.E. No.: 77979</div><div>1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313</div><div>(305) 477-7575 • C.A. No. 6104</div></div></div></div> <div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div>CITY OF DORAL</div><div></div></div></div><div><div>COUNTY</div><div>MIAMI-DADE</div></div><div><div>FINANCIAL PROJECT ID</div><div>446064-1-58-01</div></div></div> <div data-cs="2" data-kind="parent">PLAN SHEETS</div> <div data-kind="ghost"></div> <tr><td>SHEET NO.</td><td>13</td></tr>	SHEET NO.	13
SHEET NO.	13					

DATE	DESCRIPTION	DATE	DESCRIPTION

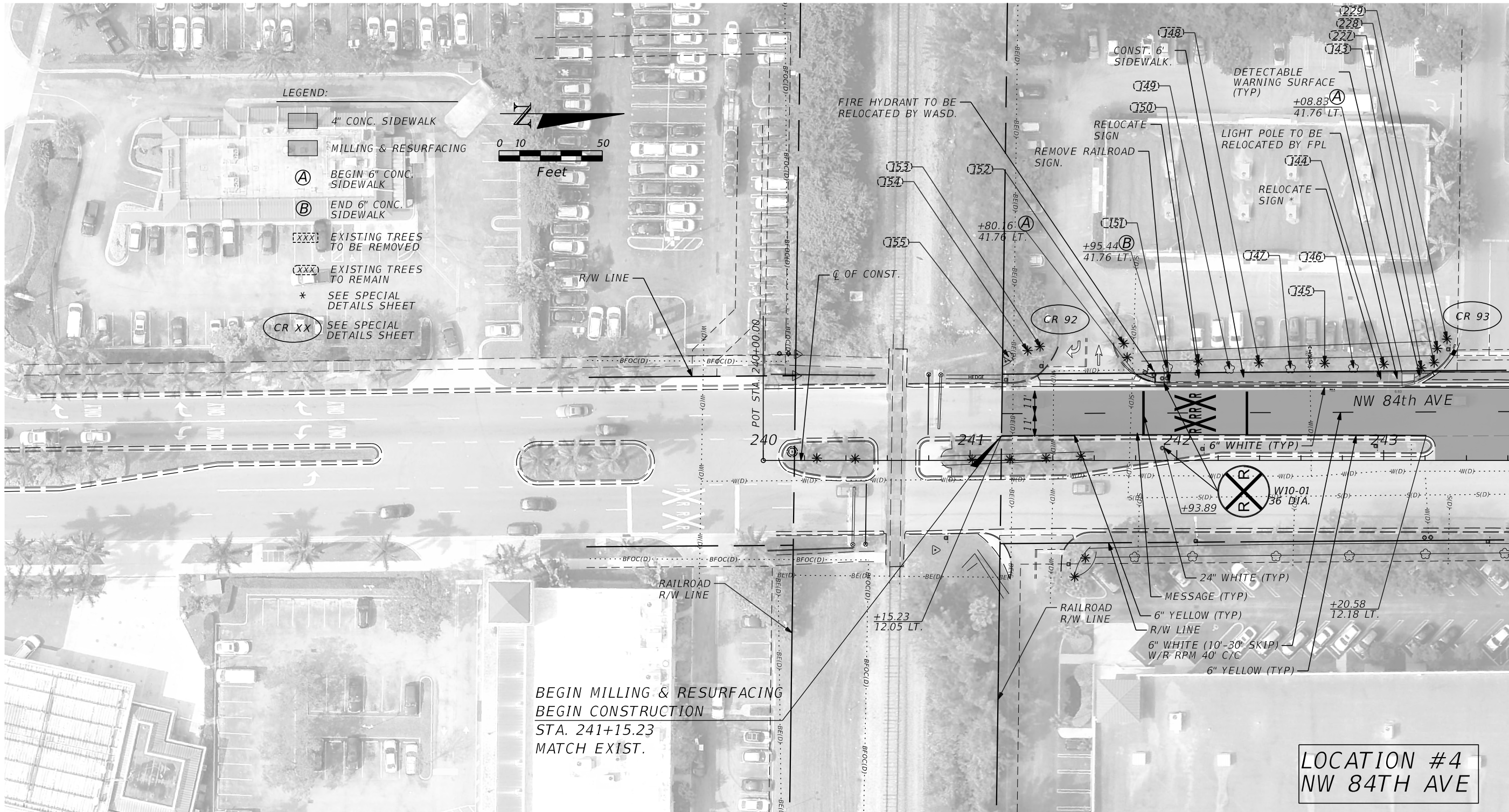


REVISIONS				<div>MARLIN ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>	<div>CITY OF DORAL</div> <div>COUNTY MIAMI-DADE</div> <div>FINANCIAL PROJECT ID 446064-1-58-01</div>	PLAN SHEETS	SHEET NO. 14
DATE	DESCRIPTION	DATE	DESCRIPTION				



REVISIONS				<div>MARLIN ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>	<div>CITY OF DORAL</div> <div>COUNTY MIAMI-DADE</div> <div>FINANCIAL PROJECT ID 446064-1-58-01</div>	PLAN SHEETS	SHEET NO. 15
DATE	DESCRIPTION	DATE	DESCRIPTION				


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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MARLIN
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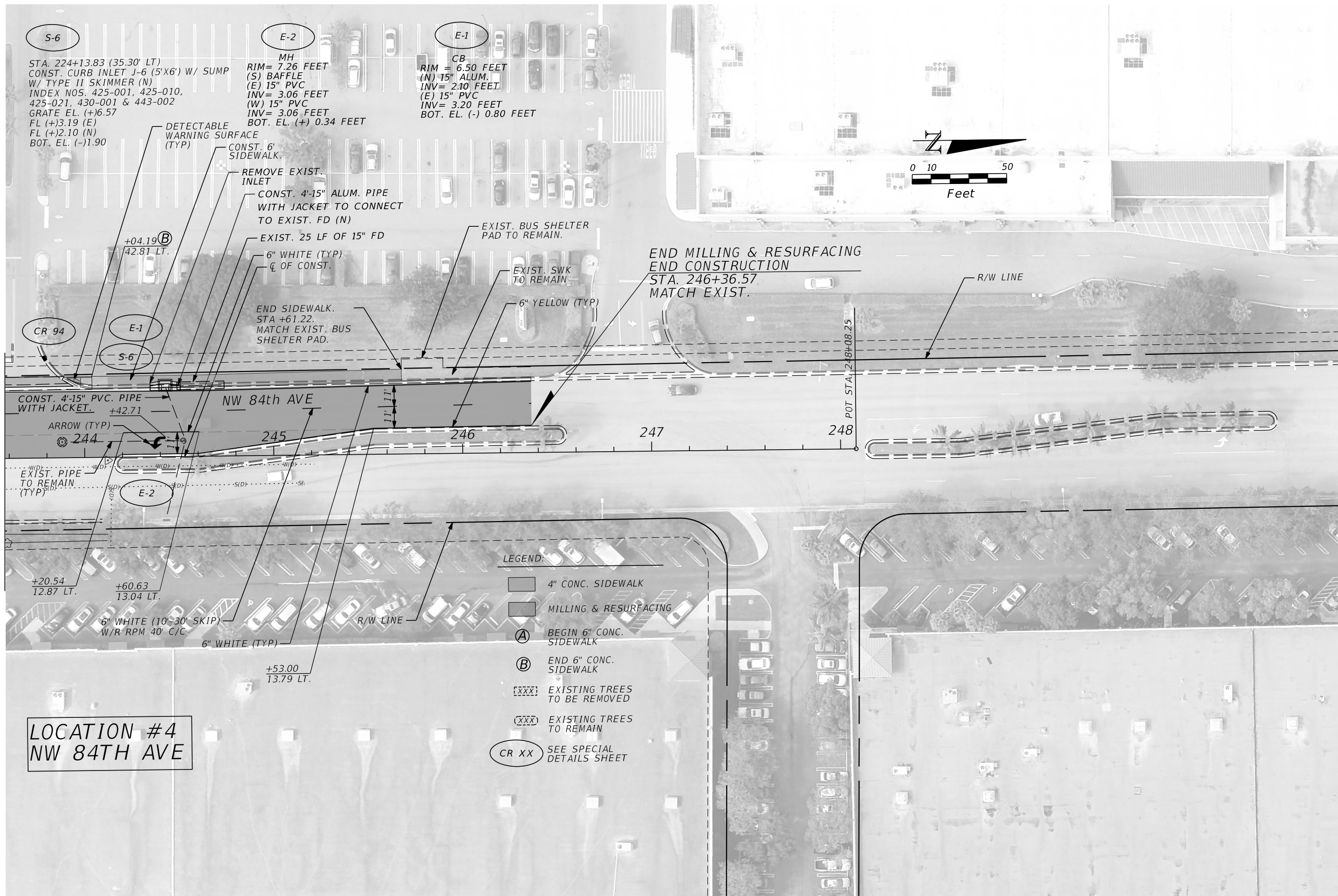


CITY OF DORAL
COUNTY: MIAMI-DADE
FINANCIAL PROJECT ID: 446064-1-58-01

PLAN SHEETS

SHEET NO. 17

MATCHLINE STA 243+60.00



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MARLIN
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(305) 477-7575 • C.A. No. 6104

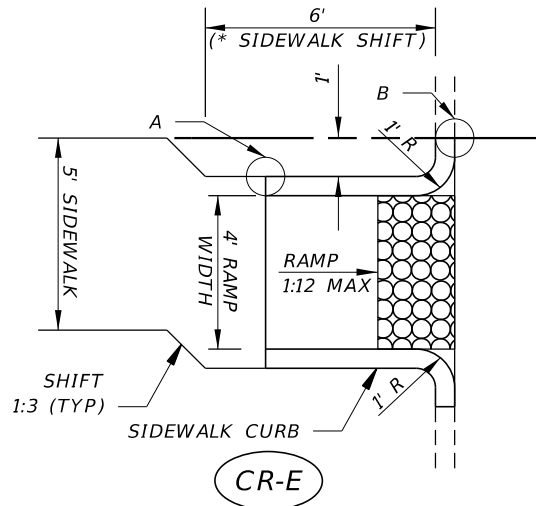


CITY OF DORAL	
COUNTY	FINANCIAL PROJECT ID
MIAMI-DADE	446064-1-58-01

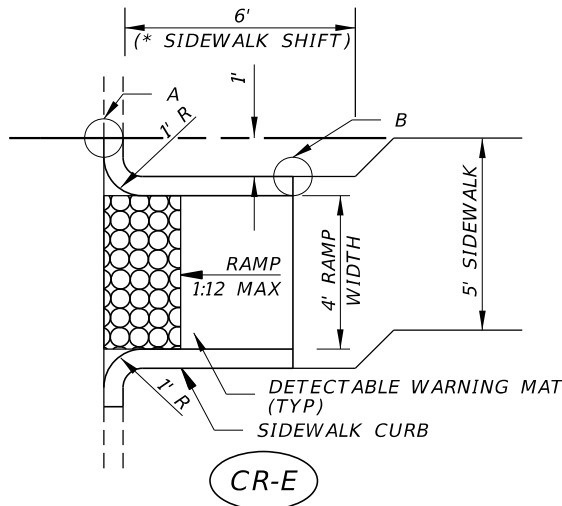
PLAN SHEETS	

SHEET NO.
18

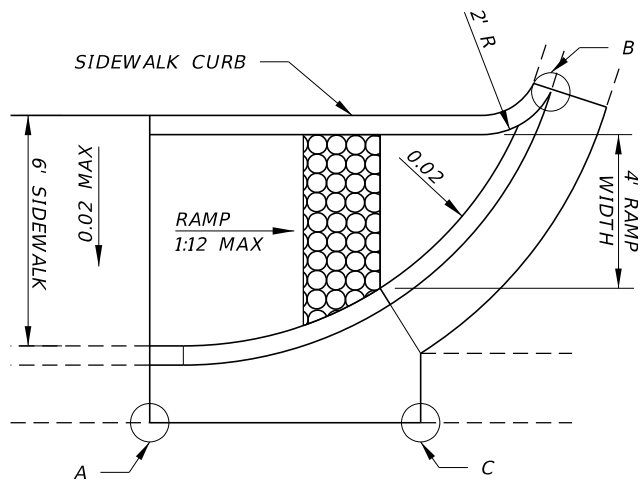
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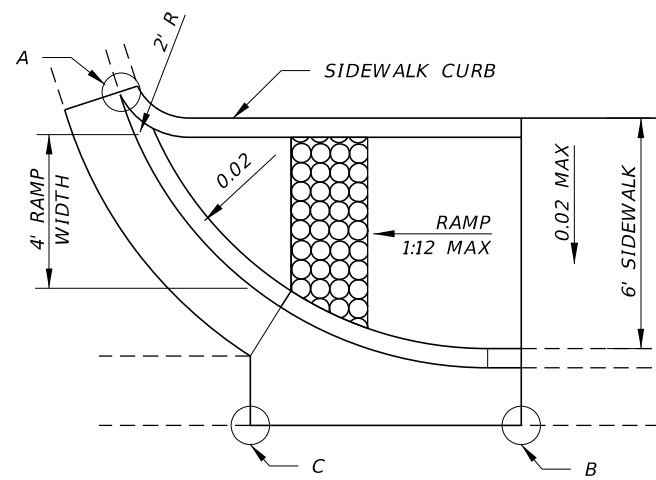
MODIFIED CURB RAMP LEFT



MODIFIED CURB RAMP RIGHT



MODIFIED CURB RAMP LEFT



MODIFIED CURB RAMP RIGHT

SUMMARY OF CURB RAMPS

CURB RAMP	CURB TYPE	STATION						SHEET No.
		BEGIN (A)		END (B)		CURB & GUTTER (C)		
		STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	
CR1	CR-G	STA 103+00	19' LT	STA 103+13	28' LT	STA 103+08	19' LT	6
CR2	CR-G	STA 103+59	27' LT	STA 103+75	19' LT	STA 103+66	19' LT	6
CR3		STA 104+94	35' LT	STA 105+03	35' LT			6
CR4		STA 105+26	35' LT	STA 105+36	35' LT			6
CR5	CR-E	STA 105+62	35' LT	STA 105+72	36' LT			6
CR6	CR-E	STA 105+97	36' LT	STA 106+08	35' LT			6
CR7	CR-E	STA 106+50	35' LT	STA 106+61	36' LT			6
CR8	CR-E	STA 106+86	36' LT	STA 106+96	35' LT			6
CR9	CR-G	STA 110+79	19' LT	STA 110+98	27' LT	STA 110+89	21' LT	6
CR10	CR-G	STA 111+64	27' LT	STA 111+83	19' LT	STA 111+73	21' LT	7
CR11		STA 113+07	36' LT	STA 113+14	36' LT			7
CR12		STA 113+40	36' LT	STA 113+48	36' LT			7
CR13	CR-G	STA 200+21	26' LT	STA 200+34	18' LT	STA 200+27	18' LT	8
CR14	CR-E	STA 201+43	29' LT	STA 201+49	34' LT			8
CR15	CR-E	STA 201+81	34' LT	STA 201+87	29' LT			8
CR17	CR-G	STA 202+54	28' RT	STA 202+64	18' RT	STA 202+58	18' RT	8
CR18	CR-E	STA 203+28	29' LT	STA 203+34	34' LT			8
CR19	CR-E	STA 203+57	34' LT	STA 203+63	29' LT			8
CR20	CR-E	STA 205+21	29' LT	STA 205+27	34' LT			8
CR21	CR-E	STA 205+60	34' LT	STA 205+66	29' LT			8
CR22	CR-G	STA 208+23	19' RT	STA 208+40	27' RT	STA 208+30	19' RT	9
CR23	CR-G	STA 208+80	27' RT	STA 208+97	19' RT	STA 208+90	19' RT	9
CR24	CR-E	STA 212+70	29' RT	STA 212+78	34' RT			9
CR25	CR-E	STA 213+29	34' RT	STA 213+35	29' RT			9
CR26	CR-E	STA 215+07	29' LT	STA 215+13	34' LT			10
CR27	CR-E	STA 215+67	34' LT	STA 215+72	29' LT			10
CR28	CR-G	STA 216+70	19' RT	STA 216+84	27' RT	STA 216+77	19' LT	10
CR29	CR-G	STA 217+25	27' RT	STA 217+39	19' RT	STA 217+32	19' RT	10
CR30	CR-D	STA 218+44	23' RT	STA 218+61	37' RT			10
CR31	CR-E	STA 219+25	31' RT	STA 219+30	35' RT			10
CR32	CR-E	STA 218+60	32' RT	STA 218+60	32' LT			10
CR33	CR-D	STA 219+23	34' RT	STA 219+31	25' LT			10
CR34	CR-G	STA 219+80	20' RT	STA 219+92	29' RT	STA 219+87	20' RT	10
CR35	CR-G	STA 220+30	29' RT	STA 220+42	20' RT	STA 220+35	20' RT	10
CR36	CR-E	STA 220+34	29' LT	STA 220+40	34' LT			10
CR37	CR-E	STA 220+66	34' LT	STA 220+72	29' LT			10
CR38	CR-E	STA 221+23	29' LT	STA 221+29	34' LT			11

SUMMARY OF CURB RAMPS

CURB RAMP	CURB TYPE	STATION						SHEET No.
		BEGIN (A)		END (B)		CURB & GUTTER (C)		
		STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	
CR39	CR-E	STA 221+53	34' LT	STA 221+59	29' LT			11
CR40	CR-G	STA 222+00	20' RT	STA 222+11	28' RT	STA 222+07	20' RT	11
CR41	CR-G	STA 222+47	29' RT	STA 222+58	20' RT	STA 222+52	20' RT	11
CR42	CR-E	STA 222+09	29' LT	STA 222+15	34' LT			11
CR43	CR-E	STA 222+40	34' LT	STA 222+46	29' LT			11
CR44	CR-E	STA 222+96	29' LT	STA 223+02	34' LT			11
CR45	CR-E	STA 223+27	34' LT	STA 223+33	29' LT			11
CR46	CR-G	STA 223+33	28' RT	STA 223+44	28' RT			11
CR47	CR-G	STA 223+74	28' RT	STA 223+87	27' RT			11
CR48	CR-E	STA 223+84	29' LT	STA 223+90	34' LT			11
CR49	CR-E	STA 224+31	34' LT	STA 224+37	29' LT			11
CR50	CR-G	STA 224+31	27' RT	STA 224+42	28' RT			11
CR51	CR-G	STA 225+00	28' RT	STA 225+11	27' RT			11
CR52	CR-E	STA 225+25	29' LT	STA 225+31	34' LT			11
CR53	CR-E	STA 225+72	34' LT	STA 225+78	29' LT			11
CR54	CR-E	STA 227+37	29' LT	STA 227+43	34' LT			11
CR55	CR-E	STA 227+66	34' LT	STA 227+72	29' LT			11
CR56	CR-E	STA 228+04	29' LT	STA 228+10	34' LT			12
CR57	CR-E	STA 228+36	34' LT	STA 228+42	29' LT			12
CR58	CR-E	STA 228+63	29' LT	STA 228+69	34' LT			12
CR59	CR-E	STA 229+15	34' LT	STA 229+21	29' LT			12
CR60	CR-G	STA 229+71	35' LT	STA 229+81	36' LT			12
CR61	CR-G	STA 230+14	36' LT	STA 230+24	35' LT			12
CR62	CR-G	STA 301+59	22' RT	STA 301+71	28' RT			13
CR63	CR-G	STA 302+02	28' RT	STA 302+15	22' RT			13
CR64	CR-C	STA 304+37	30' RT	STA 305+25	34' RT			14
CR65	CR-C	STA 305+13	52' LT	STA 305+21	38' LT			14
CR66		STA 306+01	19' RT	STA 306+16	25' RT			14
CR67		STA 307+54	25' RT	STA 307+65	19' RT			14
CR68	CR-E	STA 306+67	32' LT	STA 306+75	33' LT			14

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

MARLIN
ENGINEERING

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1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313
(305) 477-7575 • C.A. No. 6104



CITY OF DORAL

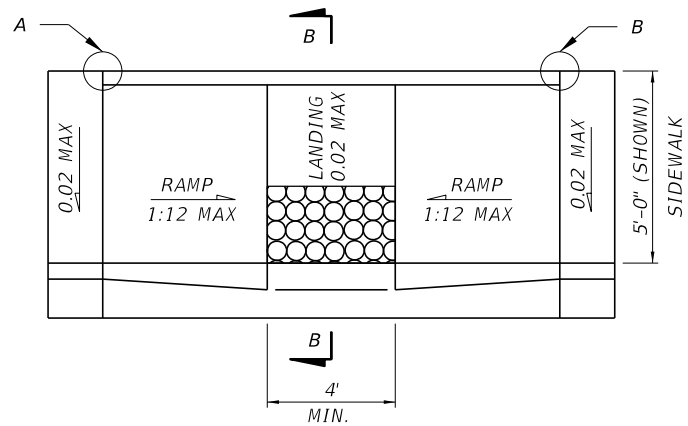
COUNTY
MIAMI-DADE

FINANCIAL PROJECT ID
446064-I-58-0I

SPECIAL DETAILS

SHEET
NO.

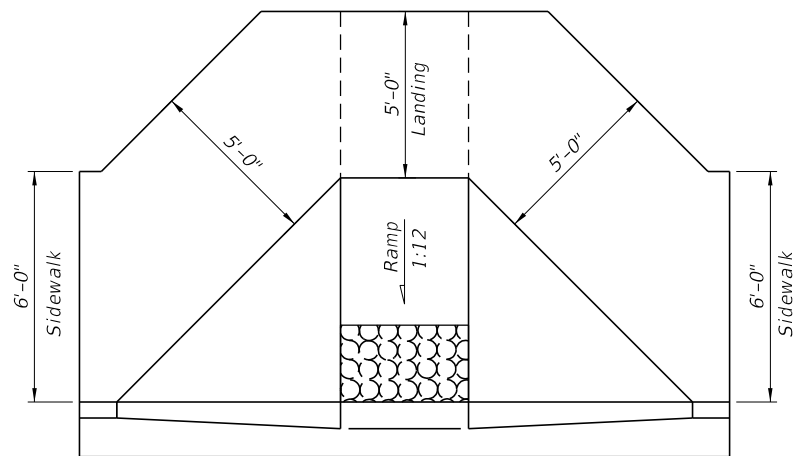
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PLAN VIEW

CR-C

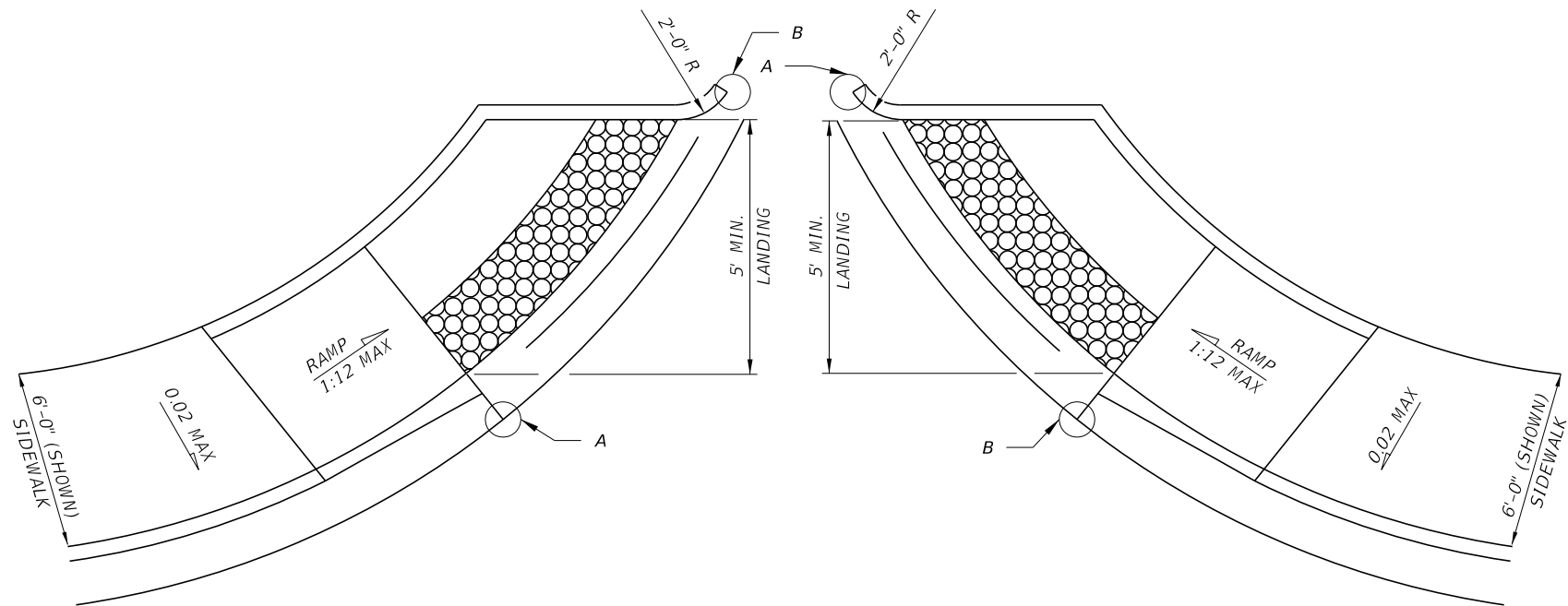
MODIFIED CURB RAMP



PLAN VIEW

CR-A

MODIFIED CURB RAMP



CR-D

MODIFIED CURB RAMP LEFT

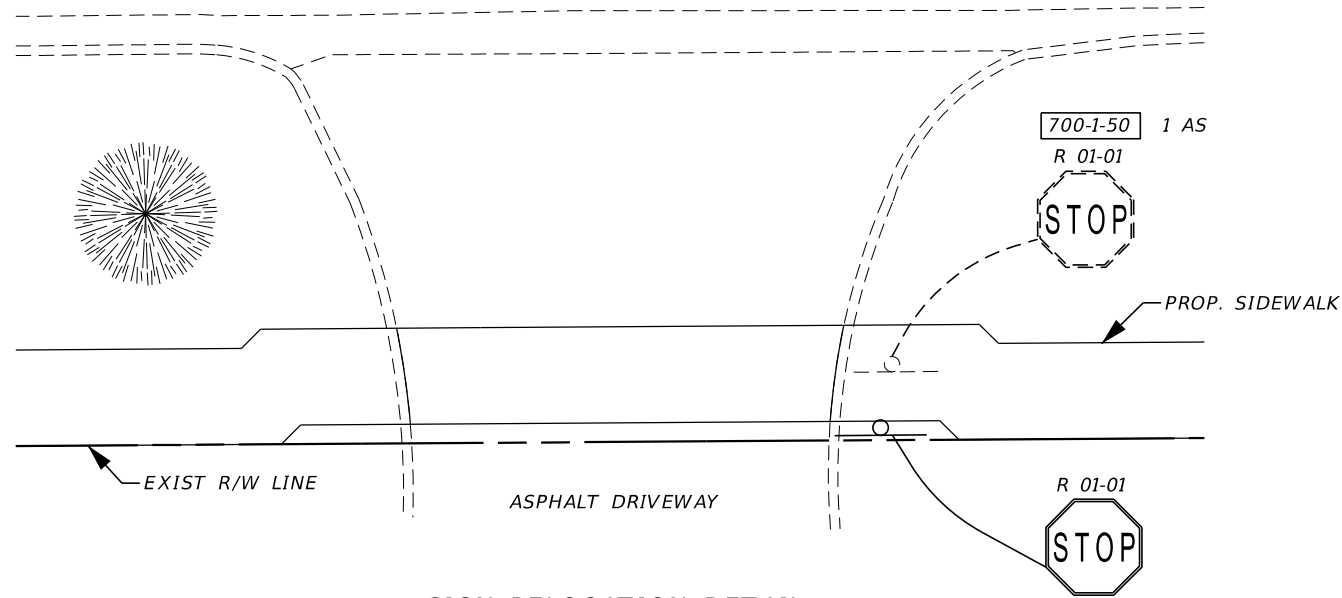
CR-D

MODIFIED CURB RAMP RIGHT

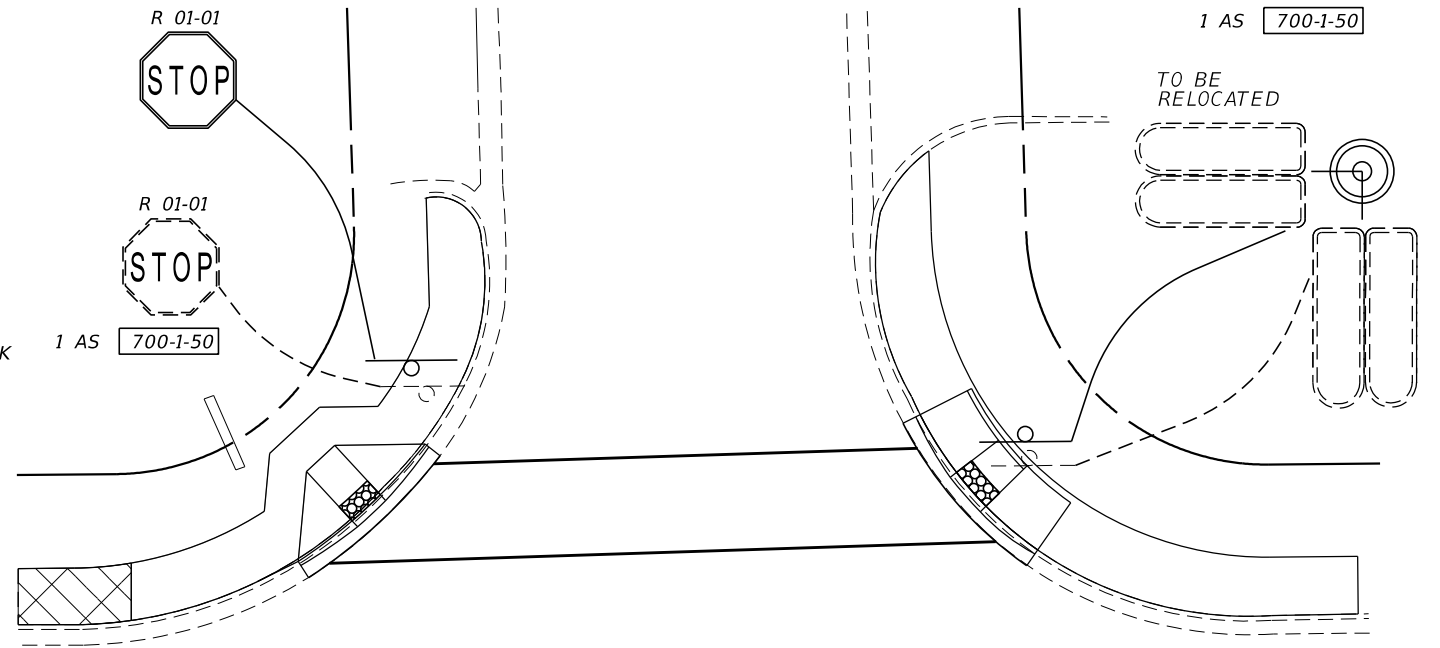
SUMMARY OF CURB RAMP

SUMMARY OF CURB RAMPS								
CURB RAMP	CURB TYPE	STATION						SHEET No.
		BEGIN (A)		END (B)		CURB & GUTTER (C)		
		STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	
CR69	CR-E	STA 306+97	33' LT	STA 307+06	32' LT			14
CR70	CR-G	STA 307+32	19' LT	STA 307+44	28' LT	STA 307+41	19' LT	14
CR71	CR-G	STA 307+68	28' LT	STA 307+78	19' LT	STA 307+70	19' LT	14
CR72	CR-E	STA 308+61	34' LT	STA 308+70	34' LT			14
CR73	CR-E	STA 309+00	34' LT	STA 309+08	34' LT			14
CR74	CR-E	STA 309+36	34' LT	STA 309+45	34' LT			14
CR75	CR-E	STA 309+67	34' LT	STA 309+77	34' LT			15
CR76	CR-G	STA 310+49	19' LT	STA 310+62	28' LT	STA 310+58	19' LT	15
CR77	CR-G	STA 311+02	28' LT	STA 311+14	19' LT	STA 311+05	19' LT	15
CR78	CR-G	STA 310+87	17' RT	STA 311+02	25' RT	STA 310+95	17' RT	15
CR79	CR-G	STA 311+36	25' RT	STA 311+51	17' RT	STA 311+43	17' RT	15
CR80	CR-D	STA 314+08	33' RT	STA 314+08	31' RT			15
CR81	CR-D	STA 314+41	32' RT	STA 314+50	21' RT			15
CR82	CR-G	STA 316+08	20' RT	STA 316+26	28' RT	STA 316+18	20' RT	15
CR83	CR-G	STA 316+67	28' RT	STA 316+83	20' RT	STA 316+74	20' RT	15
CR84	CR-G	STA 317+08	16' LT	STA 317+24	24' LT	STA 317+19	16' LT	15
CR85	CR-G	STA 317+71	24' LT	STA 317+91	16' LT	STA 317+76	16' LT	15
CR86	CR-G	STA 317+81	20' RT	STA 317+97	28' RT	STA 317+88	20' RT	15
CR87	CR-G	STA 318+36	29' RT	STA 318+51	20' RT	STA 318+43	20' RT	15
CR88	CR-G	STA 319+29	16' LT	STA 319+48	24' LT	STA 319+42	16' LT	16
CR89	CR-G	STA 319+96	24' LT	STA 320+14	16' LT	STA 320+03	16' LT	16
CR90	CR-C	STA 320+59	32' LT	STA 320+68	45' LT			16
CR91	CR-C	STA 320+58	37' RT	STA 320+66	51' RT			16
CR92	CR-G	STA 241+79	42' LT	STA 241+95	37' LT	STA 241+89	37' LT	17
CR93	CR-G	STA 243+09	36' LT	STA 243+24	42' LT	STA 243+15	37' LT	17
CR94	CR-G	STA 243+89	43' LT	STA 244+04	36' LT	STA 243+98	37' LT	18

REVISIONS				<div>MARLIN ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>	<div>CITY OF DORAL</div> <div>COUNTYMIAMI-DADEFINANCIAL PROJECT ID446064-1-58-01</div>	SPECIAL DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				
							20

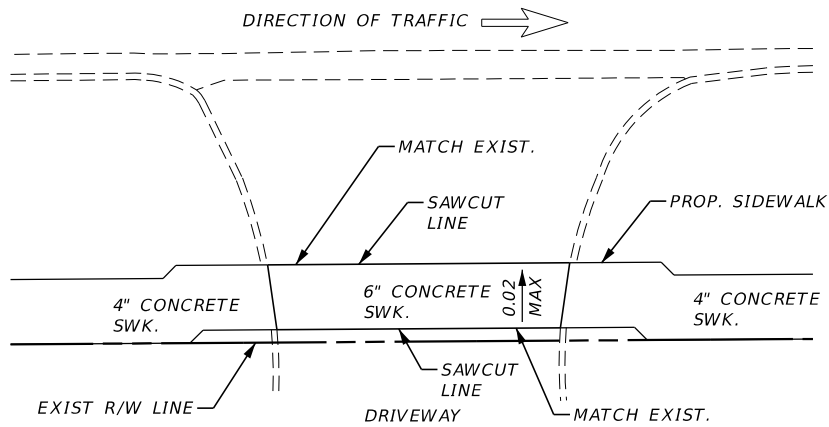


SIGN RELOCATION DETAIL
DRIVEWAY STOP SIGN

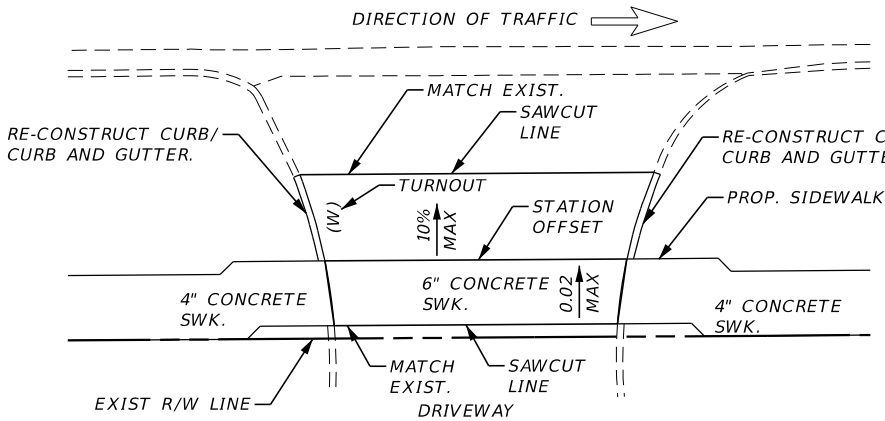


SIGN RELOCATION DETAIL
STOP SIGN & STREET SIGN

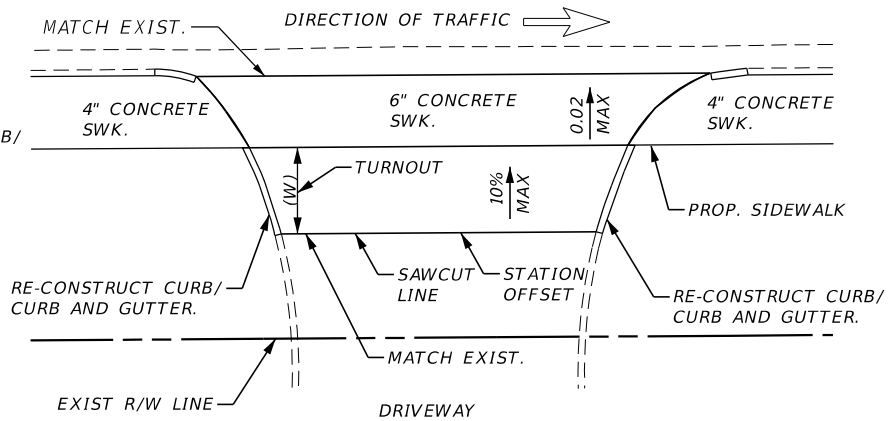
REVISIONS				<div><div><div>MARLIN</div><div>ENGINEERING</div></div><div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div></div>	<div><div><div>CITY OF DORAL</div><div>FLORIDA</div></div></div>	CITY OF DORAL		SPECIAL DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		21
						MIAMI-DADE	446064-1-58-01		



DRIVEWAY CROSSWALK DETAIL



DRIVEWAY CROSSWALK DETAIL
TURNOUT BUILD IN FRONT OF SIDEWALK

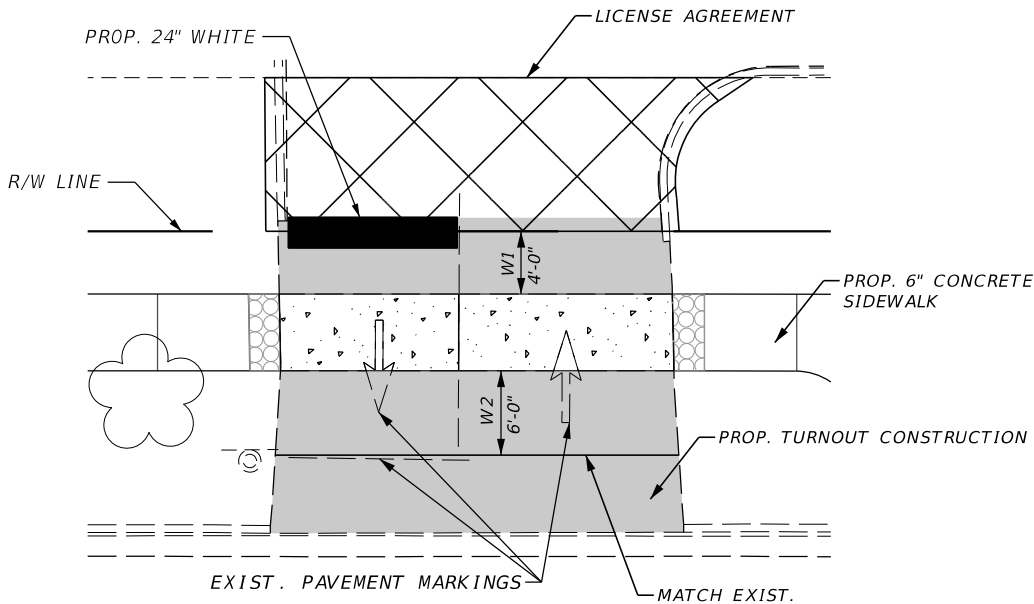


DRIVEWAY CROSSWALK DETAIL
TURNOUT BUILD IN BACK OF SIDEWALK

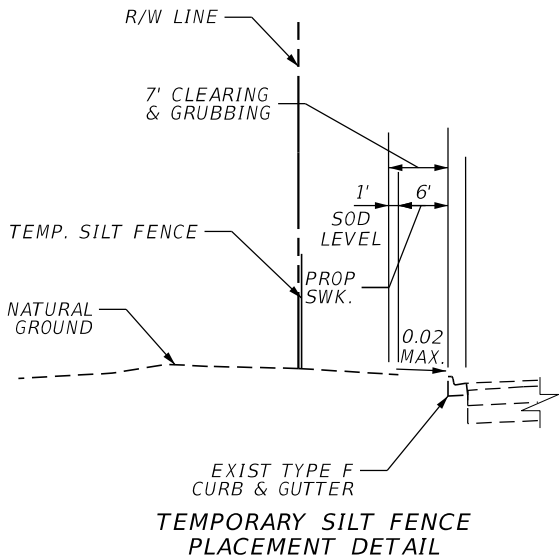
DRIVEWAY			TYPE D CURB	TYPE F CURB & GUTTER	SHEET No.
STATION	OFFSET	(W)			
STA 201.67	34' LT			*	8
STA 205+42	34' LT			*	8
STA 208+60	21' RT			*	9
STA 243+57	43' LT			*	18

DRIVEWAY				TYPE D CURB	TYPE F CURB & GUTTER	SHEET No.
STATION	OFFSET	(W1)	(W2)			
STA 105+15	35' LT	4				6
STA 105+84	35' LT	4		*		6
STA 106+73	35' LT	4		*		6
STA 113+27	36' LT	4	6	SEE SPECIAL DETAIL THIS SHEET		
STA 203+46	34' LT	4			*	8
STA 203+47	34' LT	4			*	9
STA 215+40	34' LT	4			*	10
STA 220+53	29' LT	6		*		10
STA 221+40	34' LT	4				11
STA 222+28	34' LT	4				11
STA 223+14	34' LT	4				11
STA 224+12	34' LT	4		*		11
STA 225+52	34' LT	4		*		11
STA 227+55	34' LT	4				11
STA 228+23	34' LT	6				12
STA 228+93	34' LT	8				12
STA 306+85	32' LT	6		*		14
STA 308+85	34' LT	4			*	14
STA 309+57	34' LT	4			*	15

DRIVEWAY			TYPE D CURB	TYPE F CURB & GUTTER	SHEET No.
STATION	OFFSET	(W)			
STA 103+36	27' LT	4	*		6
STA 202+46	20' RT	4			8
STA 217+05	21' RT	6		*	10
STA 220+11	22' RT	4			10
STA 222+29	22' RT	4			11
STA 223+59	22' RT	4			11
STA 224+71	22' RT	4			11
STA 301+86	22' RT	4			13
STA 306+85	19' RT	4			14
STA 307+56	27' RT	7		*	14
STA 310+82	21' LT	4		*	15
STA 311+19	19' RT	8	*		15
STA 314+24	22' RT	10	*		15
STA 316+46	22' RT	10	*		15
STA 317+47	18' LT	4		*	15
STA 318+17	22' LT	6	*		15
STA 319+72	18' LT	6		*	16



SPECIAL DETAIL
FOR DRIVEWAY
STATION 113+27

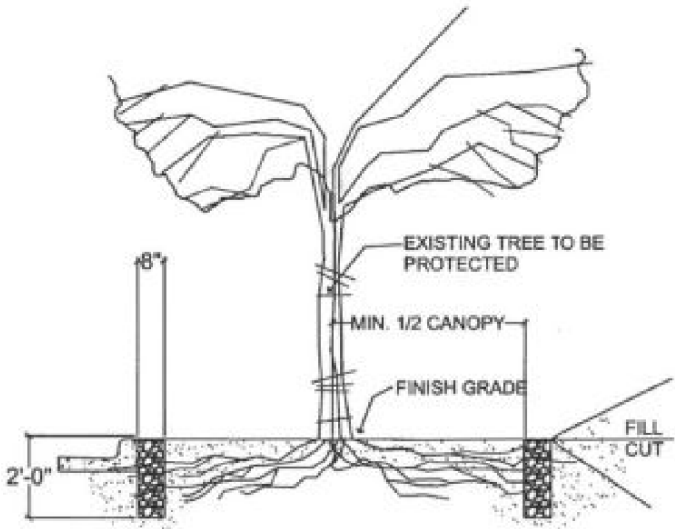
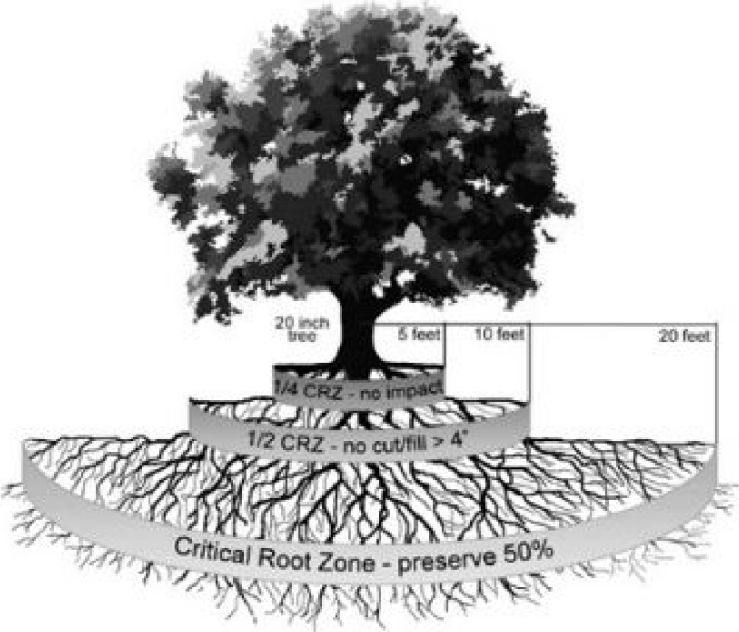


TEMPORARY SILT FENCE
PLACEMENT DETAIL

REVISIONS				<div>MARLIN</div> <div>ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>	<div>CITY OF DORAL</div> <div>FLORIDA</div>	CITY OF DORAL		SPECIAL DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		
						MIAMI-DADE	446064-1-58-01		22

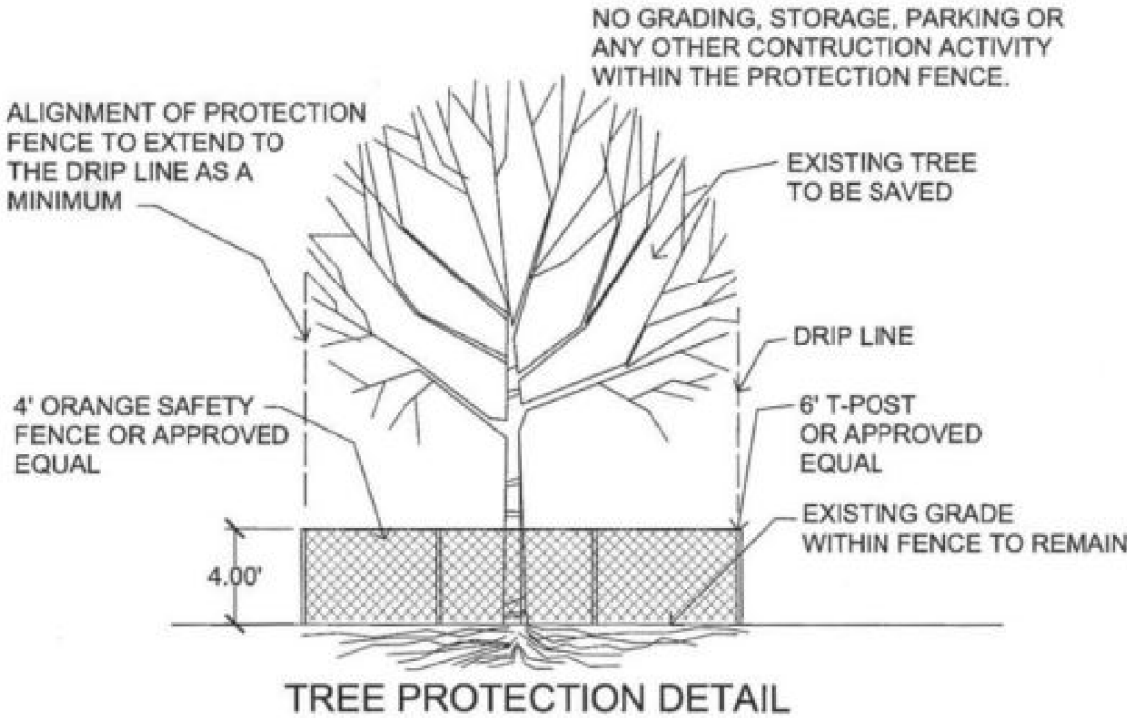
The Critical Root Zone - Development Impact Zones

Example: 20 inch diameter tree

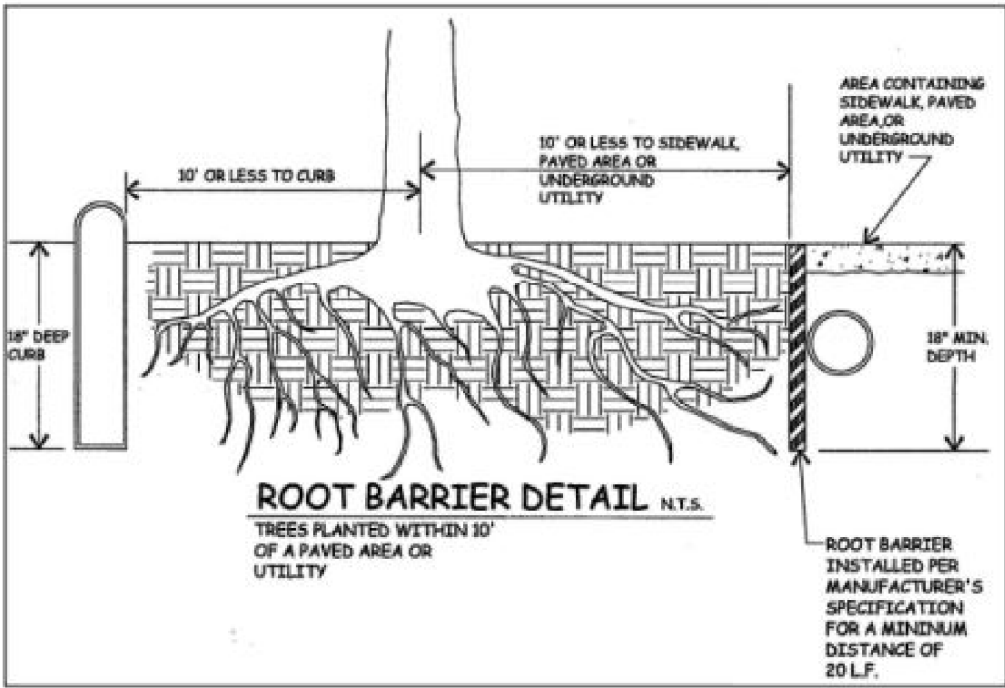


ROOT PRUNING DETAIL

- *HAND DIG TRENCH (NO MECHANICAL TRENCHING)
- *CUT ROOTS WITH A SHARP PRUNING TOOL
- *BACKFILL WITH EXISTING SOIL
- *PERFORM ROOT PRUNING A MINIMUM OF 2 WEEKS PRIOR TO CONTRUCTION



TREE PROTECTION DETAIL



ROOT BARRIER DETAIL N.T.S.

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DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		
						MIAMI-DADE	446064-1-58-01		23

NW 27TH AVENUE

Tree No.	Common Name	Botanical Name	DBH. (in)	Height (ft) (Approx.)	Canopy Spread (ft) (Approx.)	Canopy Area (sq.ft)	Condition	Disposition	Notes
156	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	6.5	12	18	254	Good	Remove	Some watersprouts
157	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	8.5	15	16	201	Good	Remain	Minor storm damage
158	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	5.0	12	12	113	Fair	Remain	Minor storm damage, lopsided.
159	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	4.0	9	9	64	Fair	Remain	Growing in understory of adjacent tree. Minor storm damage, lopsided.
160	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	4.5	10	9	64	Fair	Remain	Growing in understory of adjacent tree. Minor storm damage, lopsided.
161	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	4.0	15	9	64	Fair	Remain	Growing in understory of adjacent tree. Minor storm damage, lopsided.
162	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	4.0	10	9	64	Fair	Remain	Growing in understory of adjacent tree. Minor storm damage, lopsided.
163	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	4.0	9	7	38	Good	Remain	
164	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	4.5	9	12	113	Good	Remain	
165	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	5.0	11	10	79	Good	Remain	Minor storm damage
166	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	4.0	10	9	64	Good	Remain	
167	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	4.0	9	9	64	Good	Remain	
168	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	6.0	12	12	113	Good	Remain	
169	Silver buttonwood	<i>Conocarpus erectus var. sericeus</i>	6.0	13	12	113	Good	Remain	Minor storm damage
170	Gumbo limbo	<i>Bursera simaruba</i>	16.0	25	30	707	Good	Remove	Buttressing roots, included bark
171	Gumbo limbo	<i>Bursera simaruba</i>	13.5	25	24	452	Good	Remove	Buttressing roots
172	Gumbo limbo	<i>Bursera simaruba</i>	14.5	25	27	573	Good	Remove	Buttressing roots, included bark
173	Gumbo limbo	<i>Bursera simaruba</i>	12.5	25	18	254	Poor	Remove	Very defoliated, buttressing roots
Total canopy (sq.ft)						3,393			

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DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		25
						MIAMI-DADE	446064-1-58-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

NW 102ND AVENUE

Tree No.	Common Name	Botanical Name	DBH. (in)	Height (ft) (Approx.)	Canopy Spread (ft) (Approx.)	Canopy Area (sq.ft)	Condition	Disposition	Notes	Branch Trimming Required	Root Pruning Required
87	Pygmy date palm	<i>Phoenix roebelenii</i>	5+5+5.5	7	12	113	Good	Remain	Cluster of 3		
88	Pygmy date palm	<i>Phoenix roebelenii</i>	5+5+6	6	10	79	Good	Remain	Cluster of 3		
89	Pygmy date palm	<i>Phoenix roebelenii</i>	4+6+6	7	12	113	Good	Remain	Cluster of 3		
90	Pygmy date palm	<i>Phoenix roebelenii</i>	5+4	8	8	50	Good	Remain	Cluster of 2		
91	Gumbo limbo	<i>Bursera simaruba</i>	15.5	22	36	1,018	Good	Remain	Buttressing roots		Yes
92	Royal palm	<i>Roystonea regia</i>	18.1	18	25	491	Fair	Remain	Root system on adjacent gumbo limbo growing at the base of palm		
93	Royal palm	<i>Roystonea regia</i>	20.0	22	20	314	Good	Remain			
94	Gumbo limbo	<i>Bursera simaruba</i>	16.0	20	24	452	Fair	Remain	Buttressing roots		Yes
95	Gumbo limbo	<i>Bursera simaruba</i>	17.0	20	24	452	Fair	Remove	Buttressing roots, trunk damage at base		
96	Gumbo limbo	<i>Bursera simaruba</i>	19.0	20	24	452	Fair	Remove	Buttressing roots		
97	Gumbo limbo	<i>Bursera simaruba</i>	10.0	15	16	201	Good	Remain			
98	Gumbo limbo	<i>Bursera simaruba</i>	15.5	18	18	254	Poor	Remain	Major trunk damage		
99	Royal palm	<i>Roystonea regia</i>	22.5	25	20	314	Good	Remain			
100	Royal palm	<i>Roystonea regia</i>	22.0	25	17	227	Fair	Remain			
101	Gumbo limbo	<i>Bursera simaruba</i>	17.5	25	28	616	Fair	Remain	Exposed roots		Yes
102	Live oak	<i>Quercus virginiana</i>	11.5	17	30	707	Good	Remove			
103	Live oak	<i>Quercus virginiana</i>	10.0	20	18	254	Good	Remove			
104	Live oak	<i>Quercus virginiana</i>	4.0	15	6	28	Good	Remove			
105	Live oak	<i>Quercus virginiana</i>	8.0	18	15	177	Good	Remove	Partially defoliated		
106	Live oak	<i>Quercus virginiana</i>	3.0	18	6	28	Good	Remove			
107	Live oak	<i>Quercus virginiana</i>	8.5	30	18	254	Good	Remove			
108	Live oak	<i>Quercus virginiana</i>	7.5	25	18	254	Good	Remove			
109	Live oak	<i>Quercus virginiana</i>	9.5	30	20	314	Good	Remove			
110	Live oak	<i>Quercus virginiana</i>	10.0	30	20	314	Good	Remove			
111	Live oak	<i>Quercus virginiana</i>	9.0	35	30	707	Good	Remove			
112	Live oak	<i>Quercus virginiana</i>	9.0	30	25	491	Good	Remove			
113	Live oak	<i>Quercus virginiana</i>	3.0	20	4	13	Good	Remove			
114	Live oak	<i>Quercus virginiana</i>	3.0	15	2	3	Poor	Remove	No leaves		
115	Live oak	<i>Quercus virginiana</i>	16.0	30	30	707	Good	Remove			
116	Live oak	<i>Quercus virginiana</i>	13.0	35	25	491	Good	Remove			
117	Live oak	<i>Quercus virginiana</i>	13.5	35	27	573	Good	Remove			
118	Live oak	<i>Quercus virginiana</i>	13.0	35	25	491	Good	Remove			
119	Live oak	<i>Quercus virginiana</i>	12.0	35	24	452	Good	Remove			
120	Live oak	<i>Quercus virginiana</i>	4.0	16	6	28	Good	Remove			
121	Queen palm	<i>Syagrus romanzoffiana</i>	9.0	15	10	79	Good	Remove			
122	Queen palm	<i>Syagrus romanzoffiana</i>	10.0	15	12	113	Good	Remove			
123	Black olive	<i>Terminalia buceras</i>	17.5	25	35	962	Poor	Remove	90% defoliated, trunk damage along trunk with fungi growth, all lower than 10 feet. Growing next to fence. No cavities/crevices above 10 feet, or evidence of bat usage.		
124	Live oak	<i>Quercus virginiana</i>	10.5	30	30	707	Good	Remain	Watersprouts		
125	Live oak	<i>Quercus virginiana</i>	11.0	30	30	707	Good	Remain	Watersprouts		Yes
126	Live oak	<i>Quercus virginiana</i>	12.0	30	25	491	Good	Remain	Watersprouts		Yes
127	Live oak	<i>Quercus virginiana</i>	12.0	30	25	491	Fair	Remain	Watersprouts, yellowing foliage		Yes
128	Live oak	<i>Quercus virginiana</i>	10.0	30	27	573	Good	Remain			
129	Live oak	<i>Quercus virginiana</i>	13.0	32	30	707	Good	Remain			Yes

REVISIONS				 <p>MARLIN ENGINEERING</p> <p>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</p>	 <p><i>CITY OF DORAL</i></p>	<p><i>CITY OF DORAL</i></p>		<p><i>TREE DISPOSITION CHART</i></p>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		
						MIAMI-DADE	446064-1-58-01		26

NW 102ND AVENUE

Tree No.	Common Name	Botanical Name	DBH. (in)	Height (ft) (Approx.)	Canopy Spread (ft) (Approx.)	Canopy Area (sq.ft)	Condition	Disposition	Notes	Branch Trimming Required	Root Pruning Required
130	Live oak	Quercus virginiana	13.0	30	33	855	Good	Remain			Yes
131	Live oak	Quercus virginiana	14.0	30	30	707	Good	Remain			Yes
132	Live oak	Quercus virginiana	13.0	30	30	707	Good	Remain			Yes
133	Live oak	Quercus virginiana	8.0	30	24	452	Good	Remain			Yes
134	Live oak	Quercus virginiana	13.5	35	24	452	Good	Remain			Yes
135	Live oak	Quercus virginiana	11.0	30	25	491	Good	Remain			Yes
136	Live oak	Quercus virginiana	9.5	30	20	314	Good	Remain			Yes
137	Live oak	Quercus virginiana	12.0	30	25	491	Good	Remain			Yes
138	Live oak	Quercus virginiana	8.5	20	25	491	Good	Remain			Yes
139	Live oak	Quercus virginiana	12.0	20	25	491	Good	Remain			Yes
140	Live oak	Quercus virginiana	9.0	25	20	314	Good	Remain			Yes
141	Live oak	Quercus virginiana	7.0	25	20	314	Fair	Remain	Yellowing foliage, not in great shape		Yes
142	Live oak	Quercus virginiana	10.5	25	30	707	Good	Remain			Yes
200	Live oak	Quercus virginiana	16.5	20	27	573	Fair	Remain			Yes
201	Live oak	Quercus virginiana	20.0	22	27	573	Good	Remain			Yes
202	Laurel oak	Quercus laurifolia	16.5+9	21	21	80	Good	Remain	Split at 4 feet		Yes
203	Live oak	Quercus virginiana	14.0	20	18	254	Fair	Remain	Storm damage		Yes
204	Laurel oak	Quercus laurifolia	17.0	23	27	573	Good	Remain	Will require branch pruning	Yes	Yes
205	Laurel oak	Quercus laurifolia	22.5	23	30	81	Good	Remain	Will require branch pruning	Yes	Yes
206	Live oak	Quercus virginiana	17.6	22	24	452	Good	Remain	Some storm damage. Will require branch pruning	Yes	Yes
207	Live oak	Quercus virginiana	18.0	22	24	452	Good	Remain	Some storm damage. Will require branch pruning	Yes	Yes
208	Live oak	Quercus virginiana	18.0	20	24	82	Fair	Remain	Storm damage, water sprouts		Yes

Total canopy (sq.ft) 26,168

Potential Specimen Tree

REVISIONS				<div><div>MARLIN</div><div>ENGINEERING</div><div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div></div>		CITY OF DORAL		TREE DISPOSITION CHART	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		27
						MIAMI-DADE	446064-1-58-01		

NW 89TH COURT

Tree No.	Common Name	Botanical Name	DBH. (in)	Height (ft) (Approx.)	Canopy Spread (ft) (Approx.)	Canopy Area (sq.ft)	Condition	Disposition	Notes	Branch Trimming Required	Root Pruning Required
1	Pygmy date palm	Phoenix roebelenii	6.0	6	8	50	Good	Remain			
2	Live oak	Quercus virginiana	21.7	25	36	1,018	Good	Remove	Minor bark damage.		
3	Live oak	Quercus virginiana	17.5	25	32	804	Good	Remove	Very minor damage to overhead branches from traffic.		
4	Live oak	Quercus virginiana	19.9	25	33	855	Good	Remove	Some included bark.		
5	Live oak	Quercus virginiana	16.7	25	33	855	Good	Remove			
6	Live oak	Quercus virginiana	16.2	25	24	452	Good	Remove			
7	Live oak	Quercus virginiana	22.3	25	35	962	Good	Remove			
8	Pygmy date palm	Phoenix roebelenii	4+4+4	6	5+5+5	60	Good/Fair	Remove	Cluster of 3, one with trunk damage		
9	Pygmy date palm	Phoenix roebelenii	3+3+3	5	5+5+5	60	Good	Remove	Cluster of 3		
10	Live oak	Quercus virginiana	14.8	20	28	616	Good	Remove	Adjacent to natural gas structure		
11	Live oak	Quercus virginiana	13.4	20	30*15	450	Good	Remove	Slight lean.		
12	Live oak	Quercus virginiana	12.9	20	30*15	450	Good	Remove			
13	Live oak	Quercus virginiana	14.3	20	36*15	540	Good	Remove			
14	Live oak	Quercus virginiana	19.8	22	40*15	600	Good	Remove			
15	Live oak	Quercus virginiana	18.5	20	40*15	600	Good	Remove			
16	Pygmy date palm	Phoenix roebelenii	4+4+4	5	5+5+5	60	Good/Fair	Remain	Cluster of 3, one with trunk damage		
17	Pygmy date palm	Phoenix roebelenii	5+4	5	5+5	40	Good	Remain	Cluster of 3		
18	Live oak	Quercus virginiana	11.7	18	24	452	Good	Remain			Yes
19	Live oak	Quercus virginiana	16.9	20	33	855	Good	Remove			
20	Live oak	Quercus virginiana	18.8	25	40	1,257	Good	Remove	Root system slight rootbound, minor damage to overhanging branches from traffic.		
21	-	-	8.5	15	-	0	Dead	Remove	Dead with fungi, peeling bark at elevation.		
22	Live oak	Quercus virginiana	20.8	25	42	1,385	Good	Remove	Very minor damage to overhead branches from traffic.		
23	Live oak	Quercus virginiana	20.8	25	40	1,257	Good	Remove			
24	Live oak	Quercus virginiana	12.8	18	30	707	Good	Remove			
25	Pygmy date palm	Phoenix roebelenii	4+4+4	4.5	5+5+5	60	Good	Remain	Cluster of 3		
26	Pygmy date palm	Phoenix roebelenii	4+4+4	5	5+5+5	60	Good	Remain	Cluster of 3		
27	Live oak	Quercus virginiana	19.9	25	45	1,590	Fair	Remove	One branch partially broken. Roots slightly rootbound. Adjacent to road.		
28	Live oak	Quercus virginiana	18.8	25	45	1,590	Fair	Remove	Roots slightly rootbound, included bark on secondary branches. Near roadway.		
29	Live oak	Quercus virginiana	16.0	25	30	707	Good	Remove	Very minor damage to overhead branches from traffic. Adjacent to water pump.		
30	Live oak	Quercus virginiana	20.0	25	36	1,018	Fair	Remove	Some included bark. Minor watersprouts.		
31	Live oak	Quercus virginiana	20.0	25	33	855	Fair	Remove	Some included bark.		
32	Live oak	Quercus virginiana	16.5	22	30	707	Good	Remove	Slightly girdling roots.		
33	Live oak	Quercus virginiana	23.5	30	42	1,385	Good	Remove	Minor cavity at 12 feet. Near roadway.		
34	Live oak	Quercus virginiana	24.2	25	42	1,385	Fair	Remove	Broken branches		
35	Pygmy date palm	Phoenix roebelenii	5+5+4	5	5+5+5	60	Fair	Remain	Some trunk damage, cluster of 3		
36	West Indian mahogany	Swietenia mahagoni	16.0	25	27	573	Good	Remain	Some storm damage.		Yes
37	West Indian mahogany	Swietenia mahagoni	15.5	25	30	707	Good	Remain	Some storm damage and some damage to overhead branches from traffic.		Yes
38	West Indian mahogany	Swietenia mahagoni	14.5	28	27	573	Good	Remain			Yes
39	West Indian mahogany	Swietenia mahagoni	12.5+10.5+11	25	30	707	Poor	Remove	Directly adjacent to light pole and tree encroaching light pole. Included bark, co-dominant leaders split at 3.5 feet.		
40	West Indian mahogany	Swietenia mahagoni	18.6	25	35	962	Good	Remove			
41	West Indian mahogany	Swietenia mahagoni	14.0	25	36	1,018	Good	Remain	Minor storm damage.		Yes
42	West Indian mahogany	Swietenia mahagoni	16.5	25	33	855	Good	Remove	May require minimal root pruning		

NW 89TH COURT

Tree No.	Common Name	Botanical Name	DBH. (in)	Height (ft) (Approx.)	Canopy Spread (ft) (Approx.)	Canopy Area (sq.ft)	Condition	Disposition	Notes	Branch Trimming Required	Root Pruning Required
43	Live oak	Quercus virginiana	11.0	20	22	380	Good	Remove	Partially defoliated.		
44	Live oak	Quercus virginiana	13.8	22	24	452	Good	Remove	Minor girdling roots. Partially defoliated.		
45	Live oak	Quercus virginiana	15.0	25	24	452	Good	Remove	Minor girdling roots. Droopy looking.		
46	Live oak	Quercus virginiana	14.0	25	30	707	Fair	Remove	Droopy looking, crevice between two branches merging. Some damage to overhead branches from traffic.		
47	Live oak	Quercus virginiana	9.0	22	24	452	Good	Remove			
48	Live oak	Quercus virginiana	13.0	25	30	707	Good	Remove	Some storm damage.		
49	Live oak	Quercus virginiana	13.0	25	27	573	Good	Remove			
50	West Indian mahogany	Swietenia mahagoni	17.9	25	30	707	Good	Remain	Some trunk damage. Co-dominant leaders split at 5'.		Yes
51	Live oak	Quercus virginiana	15.0	25	36	1,018	Good	Remove	Some damage to overhead branches from traffic. Exposed roots.		
52	Live oak	Quercus virginiana	16.8	25	36	1,018	Fair	Remove	Exposed roots.		
53	Live oak	Quercus virginiana	15.9	25	33	855	Fair	Remove	Minor storm damage, exposed roots.		
54	West Indian mahogany	Swietenia mahagoni	16+10+11+13	25	30	707	Good	Remain	Four co-dominant leaders split at 4 feet. .		Yes
55	Live oak	Quercus virginiana	20.0	25	33	855	Good	Remove	Included bark, exposed roots, adjacent to water pump.		
56	Live oak	Quercus virginiana	10.6	22	28	616	Good	Remain	Minor storm damage.		Yes
57	Live oak	Quercus virginiana	15.2	25	30	707	Good	Remove			
58	Live oak	Quercus virginiana	11.5	22	24	452	Good	Remain			Yes
59	Live oak	Quercus virginiana	13.0	28	28	616	Good	Remain			Yes
60	Live oak	Quercus virginiana	11.0	24	24	452	Good	Remain	Minor storm damage.		Yes
61	Live oak	Quercus virginiana	15.0	28	30	707	Good	Remove			
62	Live oak	Quercus virginiana	12.0	25	18	254	Fair	Remove	Defoliated bottom branches, included bark, lopsided and droopy looking.		
63	Live oak	Quercus virginiana	23.2	28	48	1,810	Fair	Remain	Adjacent tree (#64) growing towards this tree. Lopsided, exposed roots. Will require branch trimming.	Yes	Yes
64	Live oak	Quercus virginiana	26.2	30	38	1,134	Fair	Remove	Included bark on all branches, exposed roots.		
65	Live oak	Quercus virginiana	22.1	30	27	573	Fair	Remove	Some storm damage		
66	Live oak	Quercus virginiana	15.3	28	25	491	Fair	Remain	Growing in understory, some storm damage. Will require branch trimming.	Yes	Yes
67	Live oak	Quercus virginiana	20.1	30	33	855	Fair	Remove	Watersprouts, very dense canopy.		
68	Live oak	Quercus virginiana	22.7	30	35	962	Good	Remain	Minor included bark, exposed roots. Will require branch trimming.	Yes	Yes
69	Live oak	Quercus virginiana	19.7	27	30	707	Good	Remain	Lopsided due to adjacent tree (#70). Will require branch trimming.	Yes	Yes
70	Live oak	Quercus virginiana	20.2	32	45	1,590	Good	Remove	Branch damage from street traffic.		
71	Live oak	Quercus virginiana	13.5	28	30	707	Fair	Remain	Many dead branches. Will require branch trimming.	Yes	Yes
72	Live oak	Quercus virginiana	25.7	30	48	1,810	Good	Remain	Cluttered canopy with watersprouts. Will require branch trimming.	Yes	Yes
73	Live oak	Quercus virginiana	17.2	28	40*24	960	Good	Remove			
74	Live oak	Quercus virginiana	12.0	25	28	616	Fair	Remove	Root damage, leaning.		
75	Live oak	Quercus virginiana	20.8	32	48	1,810	Good	Remove			
76	Live oak	Quercus virginiana	18.7	30	42	1,385	Good	Remove	Branch damage from street traffic, watersprouts. Adjacent to fire hydrant.		
77	Live oak	Quercus virginiana	21.0	32	25	491	Good	Remove	Minor watersprouts. Heavy with resurrection fern on trunk.		
78	Live oak	Quercus virginiana	23.0	33	48	1,810	Good	Remove	Branch damage from street traffic. Some included bark and watersprouts.		
79	Live oak	Quercus virginiana	12.6	22	24	452	Fair	Remain	Growing in understory of surrounding trees. Will require branch trimming.	Yes	Yes
80	Live oak	Quercus virginiana	19.0	30	33	855	Fair	Remove	Storm damage. Watersprouts.		
81	Live oak	Quercus virginiana	22.8	30	48	1,810	Fair	Remove	Slight lean. Fresh branch damage due to traffic.		

NW 89TH COURT

Tree No.	Common Name	Botanical Name	DBH. (in)	Height (ft) (Approx.)	Canopy Spread (ft) (Approx.)	Canopy Area (sq.ft)	Condition	Disposition	Notes	Branch Trimming Required	Root Pruning Required
82	Live oak	Quercus virginiana	13.2	20	33	855	Good	Remain	Will require branch trimming.	Yes	Yes
83	Live oak	Quercus virginiana	11.4	20	33	855	Good	Remain	Will require branch trimming.	Yes	Yes
84	Pygmy date palm	Phoenix roebelenii	4.5+5	5	8+8	100	Good	Remain	Cluster of 2		
85	Live oak	Quercus virginiana	16.0	22	39	1,195	Good	Remain	Will require branch trimming.	Yes	Yes
86	Foxtail Palm	Wodyetia bifurcata	20.0	30	18	254	Good	Remain			
209	West Indian mahogany	Swietenia mahagoni	10+10	18	21	346	Fair	Remove			
210	West Indian mahogany	Swietenia mahagoni	16.5	23	33	855	Good	Remove			
211	West Indian mahogany	Swietenia mahagoni	10.5	20	24	452	Good	Remove			
212	West Indian mahogany	Swietenia mahagoni	9.5+8	20	24	452	Fair	Remove			
213	West Indian mahogany	Swietenia mahagoni	13+12	22	24	452	Good	Remove			
214	Royal palm	Roystonea regia	-	-	-	0	Dead	Remain			
215	Royal palm	Roystonea regia	14.5	22	15	177	Good	Remain			
216	Royal palm	Roystonea regia	-	-	-	0	Dead	Remain			
217	Live oak	Quercus virginiana	12.0	22	27	573	Good	Remain			
218	Live oak	Quercus virginiana	7.5	20	18	254	Good	Remain			
219	Live oak	Quercus virginiana	11.0	22	27	573	Good	Remain			
220	Live oak	Quercus virginiana	10.5	22	33	855	Good	Remain			
221	Live oak	Quercus virginiana	10.0	22	27	573	Good	Remain			
222	Live oak	Quercus virginiana	10.0	22	30	707	Good	Remain			
223	Live oak	Quercus virginiana	10.0	22	30	707	Good	Remain			
224	Live oak	Quercus virginiana	10.0	22	22	380	Good	Remain			
225	Live oak	Quercus virginiana	15.0	22	27	573	Good	Remain			
226	Live oak	Quercus virginiana	14.5	25	33	855	Good	Remain			

Total canopy (sq.ft) 74,758

Potential Specimen Tree

REVISIONS				<div>MARLIN ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>		CITY OF DORAL		TREE DISPOSITION CHART	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		30
						MIAMI-DADE	446064-1-58-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

NW 84TH AVENUE

Tree No.	Common Name	Botanical Name	DBH. (in)	Height (ft) (Approx.)	Canopy Spread (ft) (Approx.)	Canopy Area (sq.ft)	Condition	Disposition	Notes
143	Live oak	Quercus virginiana	8.0	20	20	314	Good	Remove	
144	Washington palm	Washingtonia robusta	0.0	0	0	0	Dead	Remain	Dead. Exempt from tree removal permit
145	Washington palm	Washingtonia robusta	11.0	20	25	491	Good	Remain	Exempt from tree removal permit
146	Live oak	Quercus virginiana	13.0	30	25	491	Good	Remain	
147	Live oak	Quercus virginiana	12.1	25	30	707	Good	Remain	
148	Washington palm	Washingtonia robusta	15.0	35	12	113	Good	Remain	Exempt from tree removal permit
149	Live oak	Quercus virginiana	9.0	30	25	491	Good	Remain	
150	Washington palm	Washingtonia robusta	13.0	35	12	113	Good	Remain	Exempt from tree removal permit
151	Live oak	Quercus virginiana	12.0	22	33	855	Good	Remain	
152	Solitaire palm	Ptychosperma elegans	9.0	18	10	79	Good	Remain	
153	Solitaire palm	Ptychosperma elegans	8.0	20	15	177	Good	Remain	
154	Solitaire palm	Ptychosperma elegans	12.0	18	10	79	Good	Remain	
155	West Indian mahogany	Swietenia mahagoni	14.0	30	28	616	Good	Remain	
227	Montgomery palm	Veitchia arecina	8.0	15	14	154	Good	Remain	
228	Montgomery palm	Veitchia arecina	8.0	15	12	86	Good	Remain	
229	Montgomery palm	Veitchia arecina	9.0	15	14	154	Good	Remain	

Total canopy (sq.ft) 4,918

REVISIONS				<div>MARLIN ENGINEERING</div> <div>ROXANA P. MATAMOROS • P.E. No.: 77979 1700 NW 66 Ave., Ste. 106 • Plantation, FL 33313 (305) 477-7575 • C.A. No. 6104</div>		CITY OF DORAL		TREE DISPOSITION CHART	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			COUNTY	FINANCIAL PROJECT ID		31
						MIAMI-DADE	446064-1-58-01		



SPECIFICATIONS PACKAGE
Contract Number: _____
FINANCIAL PROJECT ID(S).446064-1-58-01
FEDERAL FUNDS
DISTRICT SIX
MIAMI-DADE COUNTY

The applicable Articles and Subarticles of the General Requirements & Covenants division (Division I) of the January 2021 edition of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction are added, and all of the Construction Details and Materials divisions (Division II & III) are revised, as follows:

I hereby certify that this specifications package has been properly prepared by me, or under my responsible charge, in accordance with procedures adopted by the Florida Department of Transportation.

This item has been digitally signed and sealed by Roxana Matamoros, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Date: March 22, 2021
State of Florida,
Professional Engineer, License No.: 77979
Firm/Agency Name: Marlin Engineering, Inc.
Firm/Agency Address: 3663 W Commercial Blvd. Suite 115
City, State, Zip Code: Ft. Lauderdale, FL 33309
Page(s): 1 to 70

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LAP DIVISION 1 SPECIFICATIONS.

(REV 2-17-20) (1-21)

Construction Checklist Specifications
from
Department of Transportation
Standard Specifications for Road and Bridge Construction

The following excerpts from the Standard Specifications and Special Provisions are provided for use in LAP Specifications as needed in accordance with the Local Agency Program Checklist for Construction Contracts (Phase 58) – Federal and State Requirements (525-070-44)

FROM SECTION 1 – DEFINITIONS AND TERMS:

Department Name City of Doral

Engineer Eugene Collings-Bonfill, P.E.

Contractor's Engineer of Record.

A Professional Engineer registered in the State of Florida, other than the Engineer of Record or his subcontracted consultant, who undertakes the design and drawing of components of the permanent structure as part of a redesign or Cost Savings Initiative Proposal, or for repair designs and details of the permanent work. The Contractor's Engineer of Record may also serve as the Specialty Engineer.

The Contractor's Engineer of Record must be an employee of a pre-qualified firm. The firm shall be pre-qualified in accordance with the Rules of the Department of Transportation, Chapter 14-75. Any Corporation or Partnership offering engineering services must hold a Certificate of Authorization from the Florida Department of Business and Professional Regulation.

As an alternate to being an employee of a pre-qualified firm, the Contractor's Engineer of Record may be a pre-qualified Specialty Engineer. For items of the permanent work declared by the State Construction Office to be "major" or "structural", the work performed by a pre-qualified Specialty Engineer must be checked by another pre-qualified Specialty Engineer. An individual Engineer may become pre-qualified in the work groups listed in the Rules of the Department of Transportation, Chapter 14-75, if the requirements for the Professional Engineer are met for the individual work groups. Pre-qualified Specialty Engineers are listed on the State Construction Website. Pre-qualified Specialty Engineers will not be authorized to perform redesigns or Cost Savings Initiative Proposal designs of items fully detailed in the plans.

Specialty Engineer.

A Professional Engineer registered in the State of Florida, other than the Engineer of Record or his subcontracted consultant, who undertakes the design and drawing preparation of components, systems, or installation methods and equipment for specific temporary portions of the project work or for special items of the permanent works not fully detailed in the plans and required to be furnished by the Contractor. The Specialty Engineer may also provide designs and details, repair designs and details, or perform Engineering Analyses for items of the permanent work declared by the State Construction Office to be "minor" or "non-structural".

For items of work not specifically covered by the Rules of the Department of Transportation, a Specialty Engineer is qualified if he has the following qualifications:

- (1) Registration as a Professional Engineer in the State of Florida.
- (2) The education and experience necessary to perform the submitted design as required by the Florida Department of Business and Professional Regulation.

FROM SECTION 4 (ALTERATION OF WORK).

4-3 Alteration of Plans or of Character of Work.

4-3.1 General: The Engineer reserves the right to make, at any time prior to or during the progress of the work, such increases or decreases in quantities, whether a significant change or not, and such alterations in the details of construction, whether a substantial change or not, including but not limited to alterations in the grade or alignment of the road or structure or both, as may be found necessary or desirable by the Engineer. Such increases, decreases or alterations shall not constitute a breach of Contract, shall not invalidate the Contract, nor release the Surety from any liability arising out of this Contract or the Surety bond. The Contractor agrees to perform the work, as altered, the same as if it had been a part of the original Contract.

The term "significant change" applies only when:

1. The Engineer determines that the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction, or

2. A major item of work, as defined in 1-3, is increased in excess of 125% or decreased below 75% of the original Contract quantity. The Department will apply any price adjustment for an increase in quantity only to that portion in excess of 125% of the original Contract item quantity in accordance with 4-3.2 below. In the case of a decrease below 75% the Department will only apply a price adjustment for the additional costs that are a direct result of the reduction in quantity.

In (1) above, the determination by the Engineer shall be conclusive. If the determination is challenged by the Contractor in any proceeding, the Contractor must establish by clear and convincing proof that the determination by the Engineer was without any reasonable basis.

4-3.2 Increase, Decrease or Alteration in the Work: The Engineer reserves the right to make alterations in the character of the work which involve a substantial change in the nature of the design or in the type of construction or which materially increases or decreases the cost or time of performance. Such alteration shall not constitute a breach of Contract, shall not invalidate the Contract or release the Surety.

Notwithstanding that the Contractor shall have no formal right whatsoever to any extra compensation or time extension deemed due by the Contractor for any cause unless and until the Contractor follows the procedures set forth in 5-12.2 for preservation, presentation and resolution of the claim, the Contractor may at any time, after having otherwise timely submitted a notice of intent to claim or preliminary time extension request pursuant to 5-12.2 and 8-7.3.2, submit to the Department a request for equitable adjustment of compensation or time or other dispute resolution proposal. The Contractor shall in any request for equitable adjustment of compensation, time, or other dispute resolution proposal certify under oath and in writing, in accordance with the formalities required by Florida law, that the request is made in good faith, that any supportive data submitted is accurate and complete to the Contractor's best knowledge and belief, and that the amount of the request accurately reflects what the Contractor in good faith believes to be the Department's responsibility. Such certification must be made by an officer or director of the Contractor with the authority to bind the Contractor. Any such certified statements of entitlement and costs shall be subject to the audit provisions set forth in 5-12.14. While the submittal or review of a duly certified request for equitable adjustment shall neither create, modify, nor activate any legal rights or obligations as to the Contractor or the

Department, the Department will review the content of any duly certified request for equitable adjustment or other dispute resolution proposal, with any further action or inaction by the Department thereafter being in its sole discretion. Any request for equitable adjustment that fails to fully comply with the certification requirements will not be reviewed by the Department.

The monetary compensation provided for below constitutes full and complete payment for such additional work and the Contractor shall have no right to any additional monetary compensation for any direct or indirect costs or profit for any such additional work beyond that expressly provided below. The Contractor shall be entitled to a time extension only to the extent that the performance of any portion of the additional work is a controlling work item and the performance of such controlling work item actually extends completion of the project due to no fault of the Contractor. All time related costs for actual performance of such additional work are included in the compensation already provided below and any time extension entitlement hereunder will be without additional monetary compensation. The Contractor shall have no right to any monetary compensation or damages whatsoever for any direct or indirect delay to a controlling work item arising out of or in any way related to the circumstances leading up to or resulting from additional work (but not relating to the actual performance of the additional work, which is paid for as otherwise provided herein), except only as provided for under 5-12.6.2.1.

4-3.2.1 Allowable Costs for Extra Work: The Engineer may direct in writing that extra work be done and, at the Engineer's sole discretion, the Contractor will be paid pursuant to an agreed Supplemental Agreement or in the following manner:

1. Labor and Burden: The Contractor will receive payment for actual costs of direct labor and burden for the additional or unforeseen work. Labor includes foremen actually engaged in the work; and will not include project supervisory personnel nor necessary on-site clerical staff, except when the additional or unforeseen work is a controlling work item and the performance of such controlling work item actually extends completion of the project due to no fault of the Contractor. Compensation for project supervisory personnel, but in no case higher than a Project Manager's position, shall only be for the pro-rata time such supervisory personnel spent on the contract. In no case shall an officer or director of the Company, nor those persons who own more than 1% of the Company, be considered as project supervisory personnel, direct labor or foremen hereunder.

Payment for burden shall be limited solely to the following:

Table 4-3.2.1	
Item	Rate
FICA	Rate established by Law
FUTA/SUTA	Rate established by Law
Medical Insurance	Actual
Holidays, Sick & Vacation benefits	Actual
Retirement benefits	Actual
Workers Compensation	Rates based on the National Council on Compensation Insurance basic rate tables adjusted by Contractor's actual experience modification factor in effect at the time of the additional work or unforeseen work.
Per Diem	Actual but not to exceed State of Florida's rate

Table 4-3.2.1	
Item	Rate
Insurance*	Actual
*Compensation for Insurance is limited solely to General Liability Coverage and does not include any other insurance coverage (such as, but not limited to, Umbrella Coverage, Automobile Insurance, etc.).	

At the Pre-construction conference, certify to the Engineer the following:

- a. A listing of on-site clerical staff, supervisory personnel and their pro-rated time assigned to the contract,
- b. Actual Rate for items listed in Table 4-3.2.1,
- c. Existence of employee benefit plan for Holiday, Sick and Vacation benefits and a Retirement Plan, and,
- d. Payment of Per Diem is a company practice for instances when compensation for Per Diem is requested.

Such certification must be made by an officer or director of the Contractor with authority to bind the Contractor. Timely certification is a condition precedent to any right of the Contractor to recover compensations for such costs, and failure to timely submit the certification will constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to recover such costs. Any subsequent changes shall be certified to the Engineer as part of the cost proposal or seven calendar days in advance of performing such extra work.

2. Materials and Supplies: For materials accepted by the Engineer and used on the project, the Contractor will receive the actual cost of such materials incorporated into the work, including Contractor paid transportation charges (exclusive of equipment as hereinafter set forth). For supplies reasonably needed for performing the work, the Contractor will receive the actual cost of such supplies.

3. Equipment: For any machinery or special equipment (other than small tools), including fuel and lubricant, the Contractor will receive 100% of the "Rental Rate Blue Book" for the actual time that such equipment is in operation on the work, and 50% of the "Rental Rate Blue Book" for the time the equipment is directed to standby and remain on the project site, to be calculated as indicated below. The equipment rates will be based on the latest edition (as of the date the work to be performed begins) of the "Rental Rate Blue Book for Construction Equipment" as published by EquipmentWatch, a division of Informa Business Media, Inc., using all instructions and adjustments contained therein and as modified below. On all projects, the Engineer will adjust the rates using regional adjustments and Rate Adjustment Tables according to the instructions in the "Rental Rate Blue Book."

Allowable Equipment Rates will be established as set out below:

- a. Allowable Hourly Equipment Rate = Monthly Rate/176
x Adjustment Factors x 100%.
- b. Allowable Hourly Operating Cost = Hourly Operating
Cost x 100%.
- c. Allowable Rate Per Hour = Allowable Hourly
Equipment Rate + Allowable Hourly Operating Cost.
- d. Standby Rate = Allowable Hourly Equipment
Rate x 50%.

The Monthly Rate is The Basic Machine Rate Plus Any Attachments. Standby rates will apply when equipment is not in operation and is directed by the Engineer to standby at the project site when needed again to complete work and the cost of moving the equipment will exceed the accumulated standby cost. Standby rates will not apply on any day the equipment operates for eight or more hours. Standby payment will be limited to only that number of hours which, when added to the operating time for that day equals eight hours. Standby payment will not be made on days that are not normally considered work days on the project.

The Department will allow for the cost of transporting the equipment to and from the location at which it will be used. If the equipment requires assembly or disassembly for transport, the Department will pay for the time to perform this work at the rate for standby equipment.

Equipment may include vehicles utilized only by Labor, as defined above.

4. Indirect Costs, Expenses, and Profit: Compensation for all indirect costs, expenses, and profit of the Contractor, including but not limited to overhead of any kind, whether jobsite, field office, division office, regional office, home office, or otherwise, is expressly limited to the greater of either (a) or (b) below:

a. Solely a mark-up of 17.5% on the payments in (1) through (3), above.

1. Bond: The Contractor will receive compensation for any premium for acquiring a bond for such additional or unforeseen work at the original Contract bond rate paid by the Contractor. No compensation for bond premium will be allowed for additional or unforeseen work paid by the Department via initial contingency pay item.

2. The Contractor will be allowed a markup of 10% on the first \$50,000 and a markup of 5% on any amount over \$50,000 on any subcontract directly related to the additional or unforeseen work. Any such subcontractor mark-up will be allowed only by the prime Contractor and a first tier subcontractor, and the Contractor must elect the markup for any eligible first tier subcontractor to do so.

b. Solely the formula set forth below and only as applied solely as to such number of calendar days of entitlement that are in excess of ten cumulative calendar days as defined below.

$$D = \frac{A \times C}{B}$$

Where A = Original Contract Amount

B = Original Contract Time

C = 8%

D = Average Overhead Per Day

Cumulative Calendar Days is defined as the combined total number of calendar days granted as time extensions due to either extra work, excluding overruns to existing contract items, that extend the duration of the project or delay of a controlling work item caused solely by the Department, or the combined total number of calendar days for which

a claim of entitlement to a time extension due to delay of a controlling work item caused solely by the Department is otherwise ultimately determined to be in favor of the Contractor.

No compensation, whatsoever, will be paid to the Contractor for any jobsite overhead and other indirect impacts when the total number of calendar days granted for time extension due to delay of a controlling work item caused solely by the Department is, or the total number of calendar days for which entitlement to a time extension due to delay of a controlling work item caused solely by the Department is otherwise ultimately determined in favor of the Contractor to be, equal to or less than ten calendar days and the Contractor also fully assumes all monetary risk of any and all partial or single calendar day delay periods, due to delay of a controlling work item caused solely by the Department, that when combined together are equal to or less than ten calendar days and regardless of whether monetary compensation is otherwise provided for hereunder for one or more calendar days of time extension entitlement for each calendar day exceeding ten calendar days. All calculations under this provision shall exclude weather days, Holidays, and Special Events.

Further, for (a) and (b) above, in the event there are concurrent delays to one or more controlling work items, one or more being caused by the Department and one or more being caused by the Contractor, the Contractor shall be entitled to a time extension for each day that a controlling work item is delayed by the Department but shall have no right to nor receive any monetary compensation for any indirect costs for any days of concurrent delay.

4-3.2.2 Subcontracted Work: Compensation for the additional or unforeseen work performed by a subcontractor shall be limited solely to that provided for in 4-3.2.1 (1), (2), (3) and (4)(a). In addition, the Contractor compensation is expressly limited to the greater of the total provided in either 4-3.2.1(4)(a) or (4)(b), except that the Average Overhead Per-Day calculation is as follows:

$$Ds = \frac{As \times C}{B}$$

Where As = Original Contract Amount minus Original

Subcontract amounts(s)*

B = Original Contract Time

C = 8%

Ds = Average Overhead Per-Day

* deduct Original Subcontract Amount(s) of subcontractor(s) performing the work

The subcontractor may receive compensation for any premium for acquiring a bond for the additional or unforeseen work; provided, however, that such payment for additional subcontractor bond will only be paid upon presentment to the Department of clear and convincing proof that the subcontractor has actually submitted and paid for separate bond premiums for such additional or unforeseen work in such amount and that the subcontractor was required by the Contractor to acquire a bond.

The Contractor shall require the subcontractor to submit a certification, in accordance with 4-3.2.1 (1), as part of the cost proposal and submit such to the Engineer. Such certification must be made by an officer or director of the subcontractor with authority to bind

the subcontractor. Timely certification is a condition precedent to any right of the Contractor to recover compensation for such subcontractor costs, and failure to timely submit the certification will constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to recover such subcontractor costs.

4-3.3 No Waiver of Contract: Changes made by the Engineer will not be considered to waive any of the provisions of the Contract, nor may the Contractor make any claim for loss of anticipated profits because of the changes, or by reason of any variation between the approximate quantities and the quantities of work actually performed. All work shall be performed as directed by the Engineer and in accordance with the Contract Documents.

4-3.4 Conditions Requiring a Supplemental Agreement or Unilateral Payment: A Supplemental Agreement or Unilateral Payment will be used to clarify the Plans and Specifications of the Contract; to provide for unforeseen work, grade changes, or alterations in the Plans which could not reasonably have been contemplated or foreseen in the original Plans and Specifications; to change the limits of construction to meet field conditions; to provide a safe and functional connection to an existing pavement; to settle documented Contract claims; to make the project functionally operational in accordance with the intent of the original Contract and subsequent amendments thereto.

A Supplemental Agreement or Unilateral Payment may be used to expand the physical limits of the project only to the extent necessary to make the project functionally operational in accordance with the intent of the original Contract. The cost of any such agreement extending the physical limits of the project shall not exceed \$100,000 or 10% of the original Contract price, whichever is greater.

Perform no work to be covered by a Supplemental Agreement or Unilateral Payment before written authorization is received from the Engineer. The Engineer's written authorization will set forth sufficient work information to allow the work to begin. The work activities, terms and conditions will be reduced to written Supplemental Agreement or Unilateral Payment form promptly thereafter. No payment will be made on a Supplemental Agreement or Unilateral Payment prior to the Department's approval of the document.

4-3.5 Extra Work: Extra work authorized in writing by the Engineer will be paid in accordance with the formula in 4-3.2. Such payment will be the full extent of all monetary compensation entitlement due to the Contractor for such extra work. Any entitlement to a time extension due to extra work will be limited solely to that provided for in 4-3.2 for additional work.

4-3.6 Connections to Existing Pavement, Drives and Walks: Generally adhere to the limits of construction at the beginning and end of the project as detailed in the Plans. However, if the Engineer determines that it is necessary to extend the construction in order to make suitable connections to existing pavement, the Engineer will authorize such a change in writing.

For necessary connections to existing walks and drives that are not indicated in the Plans, the Engineer will submit direction regarding the proper connections in accordance with the Standard Plans.

4-3.7 Differing Site Conditions: During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the Contract, or if unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract are encountered at the site, the party discovering such conditions shall promptly notify

the other party in writing of the specific differing conditions before the Contractor disturbs the conditions or performs the affected work.

Upon receipt of written notification of differing site conditions from the Contractor, the Engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the Contract, an adjustment will be made, excluding loss of anticipated profits, and the Contract will be modified in writing accordingly. The Engineer will notify the Contractor whether or not an adjustment of the Contract is warranted.

The Engineer will not allow a Contract adjustment for a differing site condition unless the Contractor has submitted the required written notice.

The Engineer will not allow a Contract adjustment under this clause for any effects caused to any other Department or non-Department projects on which the Contractor may be working.

4-3.8 Changes Affecting Utilities: The Contractor shall be responsible for identifying and assessing any potential impacts to a utility that may be caused by the changes proposed by the Contractor, and the Contractor shall at the time of making the request for a change notify the Department in writing of any such potential impacts to utilities.

Department approval of a Contractor proposed change does not relieve the Contractor of sole responsibility for all utility impacts, costs, delays or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those in the original Contract Specifications, Design Plans (including Traffic Control Plans) or other Contract Documents and which effect a change in utility work different from that shown in the Utility Plans, joint project agreements or utility relocation schedules.

4-3.9 Cost Savings Initiative Proposal:

4-3.9.1 Intent and Objective:

1. This Subarticle applies to any cost reduction proposal (hereinafter referred to as a Proposal) that the Contractor initiates and develops for the purpose of refining the Contract to increase cost effectiveness or significantly improve the quality of the end result. A mandatory Cost Savings Initiative Workshop will be held prior to Contract Time beginning for the Contractor and Department to discuss potential Proposals. This mandatory workshop can only be eliminated if agreed to in writing by both the Contractor and Department. This Subarticle does not, however, apply to any such proposal unless the Contractor identifies it at the time of its submission to the Department as a proposal submitted pursuant to this Subarticle.

2. The Department will consider Proposals that would result in net savings to the Department by providing a decrease in the cost of the Contract. Proposals must result in savings without impairing essential functions and characteristics such as safety, service, life, reliability, economy of operation, ease of maintenance, aesthetics and necessary standard design features. The Department will not recognize the Contractor's correction of plan errors that result in a cost reduction, as a Proposal. Deletions of work, approved by the Engineer which are not directly associated with or integral to a Proposal will be handled as full credit to the Department for the work deleted.

3. The Department shall have the right to reject, at its discretion, any Proposal submitted that proposes a change in the design of the pavement system or that would require additional right-of-way. Pending the Department's execution of a formal supplemental agreement implementing an approved Proposal, the Contractor shall remain obligated to perform

the work in accordance with the terms of the existing Contract. The Department may grant time extensions to allow for the time required to develop and review a Proposal.

4. For potential Proposals not discussed at the Cost Savings Initiative Workshop, a mandatory concept meeting will be held for the Contractor and Department to discuss the potential Proposal prior to development of the Proposal. This mandatory meeting can only be eliminated if agreed to in writing by both the Contractor and Department.

4-3.9.2 Subcontractors: The Department encourages the Contractor to include the provisions of this Subarticle in Contracts with subcontractors and to encourage submission of Proposals from subcontractors. However, it is not mandatory to submit Proposals to the Department or to accept or transmit subcontractor proposed Proposals to the Department.

4-3.9.3 Data Requirements: As a minimum, submit the following information with each Proposal:

1. a description of the difference between the existing Contract requirement, including any time extension request, and the proposed change, and the comparative advantages and disadvantages.

2. separate detailed cost estimates for both the existing Contract requirement and the proposed change. Break down the cost estimates by pay item numbers indicating quantity increases or decreases and deleted pay items. Identify additional proposed work not covered by pay items within the Contract, by using pay item numbers in the Basis of Estimates Manual. In preparing the estimates, include overhead, profit, and bond within pay items in the Contract. Separate pay item(s) for the cost of overhead, profit, and bond will not be allowed.

3. an itemization of the changes, deletions or additions to plan details, plan sheets, Standard Plans and Specifications that are required to implement the Proposal if the Department adopts it. Submit preliminary plan drawings sufficient to describe the proposed changes.

4. engineering or other analysis in sufficient detail to identify and describe specific features of the Contract that must be changed if the Department accepts the Proposal with a proposal as to how these changes can be accomplished and an assessment of their effect on other project elements. The Department may require that engineering analyses be performed by a prequalified consultant in the applicable class of work. Support all design changes that result from the Proposal with drawings and computations signed and sealed by the Contractor's Engineer of Record. Written documentation or drawings will be submitted clearly delineating the responsibility of the Contractor's Engineer of Record.

5. the date by which the Department must approve the Proposal to obtain the total estimated cost reduction during the remainder of the Contract, noting any effect on the Contract completion time or delivery schedule.

6. a revised project schedule that would be followed upon approval of the Proposal. This schedule would include submittal dates and review time for the Department and Peer reviews.

4-3.9.4 Processing Procedures: Submit Proposals to the Engineer or his duly authorized representative. The Department will process Proposals expeditiously; however, the Department is not liable for any delay in acting upon a Proposal submitted pursuant to this Subarticle. The Contractor may withdraw, in whole or in part, a Proposal not accepted by the Department within the period specified in the Proposal. The Department is not liable for any

Proposal development cost in the case where the Department rejects or the Contractor withdraws a Proposal.

The Engineer is the sole judge of the acceptability of a Proposal and of the estimated net savings in construction costs from the adoption of all or any part of such proposal. In determining the estimated net savings, the Department reserves the right to disregard the Contract bid prices if, in the judgment of the Engineer, such prices do not represent a fair measure of the value of work to be performed or to be deleted.

Prior to approval, the Engineer may modify a Proposal, with the concurrence of the Contractor, to make it acceptable. If any modification increases or decreases the net savings resulting from the Proposal, the Department will determine the Contractor's fair share upon the basis of the Proposal as modified and upon the final quantities. The Department will compute the net savings by subtracting the revised total cost of all bid items affected by the Proposal from the total cost of the same bid items as represented in the original Contract.

Prior to approval of the Proposal that initiates the supplemental agreement, submit acceptable Contract-quality plan sheets revised to show all details consistent with the Proposal design.

4-3.9.5 Computations for Change in Contract Cost of Performance: If the Proposal is adopted, the Contractor's share of the net savings as defined hereinafter represents full compensation to the Contractor for the Proposal.

The Department will not include its costs to process and implement a Proposal in the estimate. However, the Department reserves the right, where it deems such action appropriate, to require the Contractor to pay the Department's cost of investigating and implementing a Proposal as a condition of considering such proposal. When the Department imposes such a condition, the Contractor shall accept this condition in writing, authorizing the Department to deduct amounts payable to the Department from any monies due or that may become due to the Contractor under the Contract.

4-3.9.6 Conditions of Acceptance for Major Design Modifications of Category 2 Bridges: A Proposal that proposes major design modifications of a category 2 bridge, as determined by the Engineer, shall have the following conditions of acceptance:

All bridge Plans relating to the Proposal shall undergo an independent peer review conducted by a single independent engineering firm referred to for the purposes of this article as the Independent Review Engineer who is not the originator of the Proposal design, and is pre-qualified by the Department in accordance with Rule 14-75, Florida Administrative Code. The independent peer review is intended to be a comprehensive, thorough verification of the original work, giving assurance that the design is in compliance with all Department requirements. The Independent Review Engineer's comments, along with the resolution of each comment, shall be submitted to the Department. The Independent Review Engineer shall sign and seal the submittal cover letter stating that all comments have been adequately addressed and the design is in compliance with the Department requirements. If there are any unresolved comments the Independent Review Engineer shall specifically list all unresolved issues in the signed and sealed cover letter.

The Contractor shall designate a primary engineer responsible for the Proposal design and as such will be designated as the Contractors Engineer of Record for the Proposal design. The Department reserves the right to require the Contractor's Engineer of Record to assume responsibility for design of the entire structure.

New designs and independent peer reviews shall be in compliance with all applicable Department, FHWA and AASHTO criteria requirements including bridge load ratings.

4-3.9.7 Sharing Arrangements: If the Department approves a Proposal, the Contractor shall receive 50% of the net reduction in the cost of performance of the Contract as determined by the final negotiated agreement between the Contractor and the Department. The net reduction will be determined by subtracting from the savings of the construction costs the reasonable documented engineering costs incurred by the contractor to design and develop a Proposal. The reasonable documented engineering costs will be paid by the Department. Engineering costs will be based on the consultant's certified invoice and may include the costs of the Independent Review Engineer in 4-3.9.6. The total engineering costs to be subtracted from the savings to determine the net reduction will be limited to 25% of the construction savings and shall not include any markup by the Contractor or the costs for engineering services performed by the Contractor.

4-3.9.8 Notice of Intellectual Property Interests and Department's Future Rights to a Proposal:

4-3.9.8.1 Notice of Intellectual Property Interests: The Contractor's Proposal submittal shall identify with specificity any and all forms of intellectual property rights that either the Contractor or any officer, shareholder, employee, consultant, or affiliate, of the Contractor, or any other entity who contributed in any measure to the substance of the Contractor's Proposal development, have or may have that are in whole or in part implicated in the Proposal. Such required intellectual property rights notice includes, but is not limited to, disclosure of any issued patents, copyrights, or licenses; pending patent, copyright or license applications; and any intellectual property rights that though not yet issued, applied for or intended to be pursued, could nevertheless otherwise be subsequently the subject of patent, copyright or license protection by the Contractor or others in the future. This notice requirement does not extend to intellectual property rights as to stand-alone or integral components of the Proposal that are already on the Department's Approved Product List (APL) or Standard Plans, or are otherwise generally known in the industry as being subject to patent or copyright protection.

4-3.9.8.2 Department's Future Rights to a Proposal: Notwithstanding 7-3 nor any other provision of the Standard Specifications, upon acceptance of a Proposal, the Contractor hereby grants to the Department and its contractors (such grant being expressly limited solely to any and all existing or future Department construction projects and any other Department projects that are partially or wholly funded by or for the Department) a royalty-free and perpetual license under all forms of intellectual property rights to manufacture, to use, to design, to construct, to disclose, to reproduce, to prepare and fully utilize derivative works, to distribute, display and publish, in whole or in part, and to permit others to do any of the above, and to otherwise in any manner and for any purpose whatsoever do anything reasonably necessary to fully utilize any and all aspects of such Proposal on any and all existing and future construction projects and any other Department projects.

Contractor shall hold harmless, indemnify and defend the Department and its contractors and others in privity therewith from and against any and all claims, liabilities, other obligations or losses, and reasonable expenses related thereto (including reasonable attorneys' fees), which are incurred or are suffered by any breach of the foregoing grants, and regardless of whether such intellectual property rights were or were not disclosed by

the Contractor pursuant to 4-3.9.8.1, unless the Department has by express written exception in the Proposal acceptance process specifically released the Contractor from such obligation to hold harmless, indemnify and defend as to one or more disclosed intellectual property rights.

FROM SECTION 5 – CONTROL OF THE WORK (CLAIMS).

5-12 Claims by Contractor.

5-12.1 General: When the Contractor deems that extra compensation or a time extension is due beyond that agreed to by the Engineer, whether due to delay, additional work, altered work, differing site conditions, breach of Contract, or for any other cause, the Contractor shall follow the procedures set forth herein for preservation, presentation and resolution of the claim.

Submission of timely notice of intent to file a claim, preliminary time extension request, time extension request, and the certified written claim, together with full and complete claim documentation, are each a condition precedent to the Contractor bringing any circuit court, arbitration, or other formal claims resolution proceeding against the Department for the items and for the sums or time set forth in the Contractor's certified written claim. The failure to provide such notice of intent, preliminary time extension request, time extension request, certified written claim and full and complete claim documentation within the time required shall constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to additional compensation or a time extension for such claim.

5-12.2 Notice of Claim:

5-12.2.1 Claims For Extra Work: Where the Contractor deems that additional compensation or a time extension is due for work or materials not expressly provided for in the Contract or which is by written directive expressly ordered by the Engineer pursuant to 4-3, the Contractor shall submit written notification to the Engineer of the intention to make a claim for additional compensation before beginning the work on which the claim is based, and if seeking a time extension, the Contractor shall also submit a preliminary request for time extension pursuant to 8-7.3.2 within ten calendar days after commencement of a delay and a request for Contract Time extension pursuant to 8-7.3.2 within thirty calendar days after the elimination of the delay. If such written notification is not submitted and the Engineer is not afforded the opportunity for keeping strict account of actual labor, material, equipment, and time, the Contractor waives the claim for additional compensation or a time extension. Such notice by the Contractor, and the fact that the Engineer has kept account of the labor, materials and equipment, and time, shall not in any way be construed as establishing the validity of the claim or method for computing any compensation or time extension for such claim. On projects with an original Contract amount of \$3,000,000 or less within 90 calendar days after final acceptance of the project and on projects with an original Contract amount greater than \$3,000,000 within 180 calendar days after final acceptance of the project the Contractor shall submit full and complete claim documentation as described in 5-12.3 and duly certified pursuant to 5-12.9. However, for any claim or part of a claim that pertains solely to final estimate quantities disputes the Contractor shall submit full and complete claim documentation as described in 5-12.3 and duly certified pursuant to 5-12.9, as to such final estimate claim dispute issues, within 90 or 180 calendar days, respectively, of the Contractor's receipt of the Department's final estimate.

If the Contractor fails to submit a certificate of claim as described in 5-12.9, the Department will so notify the Contractor in writing. The Contractor shall have ten calendar days from receipt of the notice to resubmit the claim documentation, without change,

with a certificate of claim as described in 5-12.9, without regard to whether the resubmission is within the applicable 90 or 180 calendar day deadline for submission of full and complete claim documentation. Failure by the Contractor to comply with the ten calendar day notice shall constitute a waiver of the claim.

5-12.2.2 Claims For Delay: Where the Contractor deems that additional compensation or a time extension is due on account of delay, differing site conditions, breach of Contract, or any other cause other than for work or materials not expressly provided for in the Contract (Extra Work) or which is by written directive of the Engineer expressly ordered by the Engineer pursuant to 4-3, the Contractor shall submit a written notice of intent to the Engineer within ten days after commencement of a delay to a controlling work item expressly notifying the Engineer that the Contractor intends to seek additional compensation, and if seeking a time extension, the Contractor shall also submit a preliminary request for time extension pursuant to 8-7.3.2 within ten calendar days after commencement of a delay to a controlling work item, as to such delay and providing a reasonably complete description as to the cause and nature of the delay and the possible impacts to the Contractor's work by such delay, and a request for Contract Time extension pursuant to 8-7.3.2 within thirty calendar days after the elimination of the delay. On projects with an original Contract amount of \$3,000,000 or less within 90 calendar days after final acceptance of the project and on projects with an original Contract amount greater than \$3,000,000 within 180 calendar days after final acceptance of the project the Contractor shall submit full and complete documentation as described in 5-12.3 and duly certified pursuant to 5-12.9.

If the Contractor fails to submit a certificate of claim as described in 5-12.9, the Department will so notify the Contractor in writing. The Contractor shall have ten calendar days from receipt of the notice to resubmit the claim documentation, without change, with a certificate of claim as described in 5-12.9, without regard to whether the resubmission is within the applicable 90 or 180 calendar day deadline for submission of full and complete claim documentation. Failure by the Contractor to comply with the ten calendar day notice shall constitute a waiver of the claim.

There shall be no Contractor entitlement to any monetary compensation or time extension for any delays or delay impacts, whatsoever, that are not to a controlling work item, and then as to any such delay to a controlling work item entitlement to any monetary compensation or time extension shall only be to the extent such is otherwise provided for expressly under 4-3 or 5-12, except that in the instance of delay to a non-controlling item of work the Contractor may be compensated for the direct costs of idle labor or equipment only, at the rates set forth in 4-3.2.1(1) and (3), and then only to the extent the Contractor could not reasonably mitigate such idleness.

If the Contractor provides the written notice of intent, the preliminary request for time extension, and the request for Contract Time extension in compliance with the aforementioned time and content requirements, the Contractor's claim for delay to a controlling work item will be evaluated as of the date of the elimination of the delay even if the Contractor's performance subsequently overcomes the delay. If the claim for delay has not been settled, the Contractor must also comply with 5-12.3 and 5-12.9 to preserve the claim.

5-12.3 Content of Written Claim: As a condition precedent to the Contractor being entitled to additional compensation or a time extension under the Contract, for any claim, the Contractor shall submit a certified written claim to the Department which will include for each individual claim, at a minimum, the following information:

1. A detailed factual statement of the claim providing all necessary dates, locations, and items of work affected and included in each claim;
2. The date or dates on which actions resulting in the claim occurred or conditions resulting in the claim became evident;
3. Identification of all pertinent documents and the substance of any material oral communications relating to such claim and the name of the persons making such material oral communications;
4. Identification of the provisions of the Contract which support the claim and a statement of the reasons why such provisions support the claim, or alternatively, the provisions of the Contract which allegedly have been breached and the actions constituting such breach;
5. A detailed compilation of the amount of additional compensation sought and a breakdown of the amount sought as follows:
 - a. documented additional job site labor expenses;
 - b. documented additional cost of materials and supplies;
 - c. a list of additional equipment costs claimed, including each piece of equipment and the rental rate claimed for each;
 - d. any other additional direct costs or damages and the documents in support thereof;
 - e. any additional indirect costs or damages and all documentation in support thereof.
6. A detailed compilation of the specific dates and the exact number of calendar days sought for a time extension, the basis for entitlement to time for each day, all documentation of the delay, and a breakout of the number of days claimed for each identified event, circumstance or occurrence.

Further, the Contractor shall be prohibited from amending either the bases of entitlement or the amount of any compensation or time stated for any and all issues claimed in the Contractor's written claim submitted hereunder, and any circuit court, arbitration, or other formal claims resolution proceeding shall be limited solely to the bases of entitlement and the amount of any compensation or time stated for any and all issues claimed in the Contractor's written claim submitted hereunder. This shall not, however, preclude a Contractor from withdrawing or reducing any of the bases of entitlement and the amount of any compensation or time stated for any and all issues claimed in the Contractor's written claim submitted hereunder at any time.

5-12.4 Action on Claim: The Engineer will respond in writing on projects with an original Contract amount of \$3,000,000 or less within 90 calendar days of receipt of a complete claim submitted by a Contractor in compliance with 5-12.3, and on projects with an original Contract amount greater than \$3,000,000 within 120 calendar days of receipt of a complete claim submitted by a Contractor in compliance with 5-12.3. Failure by the Engineer to respond to a claim in writing within 90 or 120 days, respectively, after receipt of a complete claim submitted by the Contractor in compliance with 5-12.3 constitutes a denial of the claim by the Engineer. If the Engineer finds the claim or any part thereof to be valid, such partial or whole claim will be allowed and paid for to the extent deemed valid and any time extension granted, if applicable, as provided in the Contract. No circuit court or arbitration proceedings on any claim, or a part thereof, may be filed until after final acceptance of all Contract work by the Department or denial hereunder, whichever occurs last.

5-12.5 Pre-Settlement and Pre-Judgment Interest: Entitlement to any pre-settlement or pre-judgment interest on any claim amount determined to be valid subsequent to the Department's receipt of a certified written claim in full compliance with 5-12.3, whether determined by a settlement or a final ruling in formal proceedings, the Department shall pay to the Contractor simple interest calculated at the Prime Rate (as reported by the Wall Street Journal as the base rate on corporate loans posted by at least 75% of the nations 30 largest banks) as of the 60th calendar day following the Department's receipt of a certified written claim in full compliance with 5-12.3, such interest to accrue beginning 60 calendar days following the Department's receipt of a certified written claim in full compliance with 5-12.3 and ending on the date of final settlement or formal ruling.

5-12.6 Compensation for Extra Work or Delay:

5-12.6.1 Compensation for Extra Work: Notwithstanding anything to the contrary contained in the Contract Documents, the Contractor shall not be entitled to any compensation beyond that provided for in 4-3.2.

5-12.6.2 Compensation for Delay: Notwithstanding anything to the contrary contained in the Contract Documents, the additional compensation set forth in 5-12.6.2.1 shall be the Contractor's sole monetary remedy for any delay other than to perform extra work caused by the Department unless the delay shall have been caused by acts constituting willful or intentional interference by the Department with the Contractor's performance of the work and then only where such acts continue after Contractor's written notice to the Department of such interference. The parties anticipate that delays may be caused by or arise from any number of events during the term of the Contract, including, but not limited to, work performed, work deleted, supplemental agreements, work orders, disruptions, differing site conditions, utility conflicts, design changes or defects, time extensions, extra work, right-of-way issues, permitting issues, actions of suppliers, subcontractors or other contractors, actions by third parties, suspensions of work by the Engineer shop drawing approval process delays, expansion of the physical limits of the project to make it functional, weather, weekends, holidays, special events, suspension of Contract Time, or other events, forces or factors sometimes experienced in construction work. Such delays or events and their potential impacts on the performance by the Contractor are specifically contemplated and acknowledged by the parties in entering into this Contract, and shall not be deemed to constitute willful or intentional interference with the Contractor's performance of the work without clear and convincing proof that they were the result of a deliberate act, without reasonable and good-faith basis, and specifically intended to disrupt the Contractor's performance.

5-12.6.2.1 Compensation for Direct Costs, Indirect Costs, Expenses, and Profit thereon, of or from Delay: For any delay claim, the Contractor shall be entitled to monetary compensation for the actual idle labor (including supervisory personnel) and equipment, and indirect costs, expenses, and profit thereon, as provided for in 4-3.2.1(4) and solely for costs incurred beyond what reasonable mitigation thereof the Contractor could have undertaken.

5-12.7 Mandatory Claim Records: After submitting to the Engineer a notice of intent to file a claim for extra work or delay, the Contractor must keep daily records of all labor, material and equipment costs incurred for operations affected by the extra work or delay. These daily records must identify each operation affected by the extra work or delay and the specific locations where work is affected by the extra work or delay, as nearly as possible. The Engineer may also keep records of all labor, material and equipment used on the operations affected by the

extra work or delay. The Contractor shall, once a notice of intent to claim has been timely filed, and not less than weekly thereafter as long as appropriate, submit the Contractor's daily records to the Engineer and be likewise entitled to receive the Department's daily records. The daily records to be submitted hereunder shall be done at no cost to the recipient.

5-12.8 Claims For Acceleration: The Department shall have no liability for any constructive acceleration of the work, nor shall the Contractor have any right to make any claim for constructive acceleration nor include the same as an element of any claim the Contractor may otherwise submit under this Contract. If the Engineer gives express written direction for the Contractor to accelerate its efforts, such written direction will set forth the prices and other pertinent information and will be reduced to a written Contract Document promptly. No payment will be made on a Supplemental Agreement for acceleration prior to the Department's approval of the documents.

5-12.9 Certificate of Claim: When submitting any claim, the Contractor shall certify under oath and in writing, in accordance with the formalities required by Florida law, that the claim is made in good faith, that the supportive data are accurate and complete to the Contractor's best knowledge and belief, and that the amount of the claim accurately reflects what the Contractor in good faith believes to be the Department's liability. Such certification must be made by an officer or director of the Contractor with the authority to bind the Contractor.

5-12.10 Non-Recoverable Items: The parties agree that for any claim the Department will not have liability for the following items of damages or expense:

1. Loss of profit, incentives or bonuses;
2. Any claim for other than extra work or delay;
3. Consequential damages, including, but not limited to, loss of bonding capacity, loss of bidding opportunities, loss of credit standing, cost of financing, interest paid, loss of other work or insolvency;
4. Acceleration costs and expenses, except where the Department has expressly and specifically directed the Contractor in writing "to accelerate at the Department's expense"; nor
5. Attorney fees, claims preparation expenses and costs of litigation.

5-12.11 Exclusive Remedies: Notwithstanding any other provision of this Contract, the parties agree that the Department shall have no liability to the Contractor for expenses, costs, or items of damages other than those which are specifically identified as payable under 5-12. In the event any legal action for additional compensation, whether on account of delay, acceleration, breach of contract, or otherwise, the Contractor agrees that the Department's liability will be limited to those items which are specifically identified as payable in 5-12.

5-12.12 Settlement Discussions: The content of any discussions or meetings held between the Department and the Contractor to settle or resolve any claims submitted by the Contractor against the Department shall be inadmissible in any legal, equitable, arbitration or administrative proceedings brought by the Contractor against the Department for payment of such claim. Dispute Resolution Board, State Arbitration Board and Claim Review Committee proceedings are not settlement discussions, for purposes of this provision.

5-12.13 Personal Liability of Public Officials: In carrying out any of the provisions of the Contract or in exercising any power or authority granted to the Secretary of Transportation, Engineer or any of their respective employees or agents, there shall be no liability on behalf of any employee, officer or official of the Department for which such individual is responsible,

either personally or as officials or representatives of the Department. It is understood that in all such matters such individuals act solely as agents and representatives of the Department.

5-12.14 Auditing of Claims: All claims filed against the Department shall be subject to audit at any time following the filing of the claim, whether or not such claim is part of a suit pending in the Courts of this State. The audit may be performed, at the Department's sole discretion, by employees of the Department or by any independent auditor appointed by the Department, or both. The audit may begin after ten days written notice to the Contractor, subcontractor, or supplier. The Contractor, subcontractor, or supplier shall make a good faith effort to cooperate with the auditors. As a condition precedent to recovery on any claim, the Contractor, subcontractor, or supplier must retain sufficient records, and provide full and reasonable access to such records, to allow the Department's auditors to verify the claim and failure to retain sufficient records of the claim or failure to provide full and reasonable access to such records shall constitute a waiver of that portion of such claim that cannot be verified and shall bar recovery thereunder. Further, and in addition to such audit access, upon the Contractor submitting a written claim, the Department shall have the right to request and receive, and the Contractor shall have the affirmative obligation to submit to the Department any and all documents in the possession of the Contractor or its subcontractors, materialmen or suppliers as may be deemed relevant by the Department in its review of the basis, validity or value of the Contractor's claim.

Without limiting the generality of the foregoing, the Contractor shall upon written request of the Department make available to the Department's auditors, or upon the Department's written request, submit at the Department's expense, any or all of the following documents:

1. Daily time sheets and foreman's daily reports and diaries;
2. Insurance, welfare and benefits records;
3. Payroll register;
4. Earnings records;
5. Payroll tax return;
6. Material invoices, purchase orders, and all material and supply acquisition contracts;
7. Material cost distribution worksheet;
8. Equipment records (list of company owned, rented or other equipment used);
9. Vendor rental agreements and subcontractor invoices;
10. Subcontractor payment certificates;
11. Canceled checks for the project, including, payroll and vendors;
12. Job cost report;
13. Job payroll ledger;
14. General ledger, general journal, (if used) and all subsidiary ledgers and journals together with all supporting documentation pertinent to entries made in these ledgers and journals;
15. Cash disbursements journal;
16. Financial statements for all years reflecting the operations on this project;
17. Income tax returns for all years reflecting the operations on this project;

18. All documents which reflect the Contractor's actual profit and overhead during the years this Contract was being performed and for each of the five years prior to the commencement of this Contract;

19. All documents related to the preparation of the Contractor's bid including the final calculations on which the bid was based;

20. All documents which relate to each and every claim together with all documents which support the amount of damages as to each claim;

21. Worksheets used to prepare the claim establishing the cost components for items of the claim including, but not limited to, labor, benefits and insurance, materials, equipment, subcontractors, and all documents that establish which time periods and individuals were involved, and the hours and rates for such individuals.

FROM SECTION 6 – CONTROL OF MATERIALS (CONVICT LABOR AND BUY AMERICA).

6-5 Products and Source of Supply.

6-5.1 Source of Supply–Convict Labor (Federal-Aid Contracts Only): Do not use materials that were produced after July 1, 1991, by convict labor for Federal-aid highway construction projects unless the prison facility has been producing convict-made materials for Federal-aid highway construction projects before July 1, 1987.

Use materials that were produced prior to July 2, 1991, by convicts on Federal-aid highway construction projects free from the restrictions placed on the use of these materials by 23 U.S.C. 114. The Department will limit the use of materials produced by convict labor for use in Federal-aid highway construction projects to:

1. Materials produced by convicts on parole, supervised release, or probation from a prison or,

2. Materials produced in a qualified prison facility.

The amount of such materials produced for Federal-aid highway construction during any 12-month period shall not exceed the amount produced in such facility for use in such construction during the 12-month period ending July 1, 1987.

6-5.2 Source of Supply-Steel: Use steel and iron manufactured in the United States, in accordance with the Buy America provisions of 23 CFR 635.410, as amended. Ensure that all manufacturing processes for this material occur in the United States. As used in this specification, a manufacturing process is any process that modifies the chemical content, physical shape or size, or final finish of a product, beginning with the initial melting and continuing through the final shaping and coating. If a steel or iron product is taken outside the United States for any manufacturing process, it becomes foreign source material. When using steel or iron materials as a component of any manufactured product (e.g., concrete pipe, prestressed beams, corrugated steel pipe, etc.), these same provisions apply. Foreign steel and iron may be used when the total actual cost of such foreign materials does not exceed 0.1% of the total Contract amount or \$2,500, whichever is greater. These requirements are applicable to all steel and iron materials incorporated into the finished work, but are not applicable to steel and iron items that the Contractor uses but does not incorporate into the finished work. Submit a certification from the manufacturer of steel or iron, or any product containing steel or iron, stating that all steel or iron furnished or incorporated into the furnished product was produced and manufactured in the United States or a statement that the product was produced within the

United States except for minimal quantities of foreign steel and iron valued at \$ (actual cost). Submit each such certification to the Engineer prior to incorporating the material or product into the project. Prior to the use of foreign steel or iron materials on a project, submit invoices to document the actual cost of such material, and obtain the Engineer's written approval prior to incorporating the material into the project

FROM SECTION 7 – LEGAL REQUIREMENTS AND RESPONSIBILITIES TO THE PUBLIC (FHWA 1273, WAGE RATES, E-VERIFY, TITLE VI, DBE, AND ON-THE-JOB TRAINING)

Compliance with FHWA 1273: The FHWA-1273 Electronic version, dated May 1, 2012 is posted on the Department's website at the following URL address
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/programmanagement/implemented/urlinspecs/files/deo112468a91904c88e94148b94569982fdff3d2.pdf?sfvrsn=6b78d1d6_2

Take responsibility to obtain this information and comply with all requirements posted on this website up through five calendar days before the opening of bids.

Comply with the provisions contained in FHWA-1273.

If the Department's website cannot be accessed, contact the Department's Specifications Office Web Coordinator at (850) 414-4101.

7-1.4 Compliance with Federal Endangered Species Act and other Wildlife

Regulations: The Federal Endangered Species Act requires that the Department investigate the potential impact to a threatened or endangered species prior to initiating an activity performed in conjunction with a highway construction project. If the Department's investigation determines that there is a potential impact to a protected, threatened or an endangered species, the Department will conduct an evaluation to determine what measures may be necessary to mitigate such impact. When mitigation measures and/or special conditions are necessary, these measures and conditions will be addressed in the Contract Documents or permits.

In addition, in cases where certain protected, threatened or endangered species are found or appear within close proximity to the project boundaries, the Department has established guidelines that will apply when interaction with certain species occurs, absent of any special mitigation measures or permit conditions otherwise identified for the project.

These guidelines are posted at the following URL address:
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/programmanagement/implemented/urlinspecs/files/endangeredwildlifeguidelines.pdf?sfvrsn=e27baf3f_2.

Take responsibility to obtain this information and take all actions and precautions necessary to comply with the conditions of these guidelines during all project activities.

Prior to establishing any off-project activity in conjunction with a project, notify the Engineer of the proposed activity. Covered activities include but are not necessarily limited to borrow pits, concrete or asphalt plant sites, disposal sites, field offices, and material or equipment storage sites. Include in the notification the Financial Project ID, a description of the activity, the location of the site by township, range, section, county, and city, a site location map including the access route, the name of the property owner, and a person to contact to arrange a site inspection. Submit this notification at least 30 days in advance of planned commencement of

the off-site activity, to allow for the Department to conduct an investigation without delaying job progress.

Do not perform any off-project activity without obtaining written clearance from the Engineer. In the event the Department's investigation determines a potential impact to a protected, threatened or endangered species and mitigation measures or permits are necessary, coordinate with the appropriate resource agencies for clearance, obtain permits and perform mitigation measures as necessary. Immediately notify the Engineer in writing of the results of this coordination with the appropriate resource agencies. Additional compensation or time will not be allowed for permitting or mitigation, associated with Contractor initiated off-project activities.

7-1.8 Compliance with Section 4(f) of the USDOT Act: Section 4(f) of the USDOT Act prohibits the U. S. Secretary of Transportation from approving a project which requires the use of publicly owned land of a public park, recreation area or a wildlife and waterfowl refuge, or of any historic site of national, state, or local significance unless there is no prudent or feasible alternative to using that land and the program or project includes all possible planning to minimize the harm to the site resulting from the use.

Before undertaking any off-project activity associated with any federally assisted undertaking, ensure that the proposed site does not represent a public park, recreation area, wildlife or waterfowl refuge, or a historic site (according to the results of the Cultural Resources Survey discussed in 120-6.2). If such a site is proposed, notify the Engineer and provide a description of the proposed off-site activity, the Financial Project ID, the location of the site by township, range, section, a county or city map showing the site location, including the access route and the name of the property. It is the Contractor's responsibility to submit justification for use of Section 4(f) property that is sufficient for the Florida Department of Transportation and the Federal Highway Administration to make a Section 4(f) determination. Submit this notification sufficiently in advance of planned commencement of the off-site activity to allow a reasonable time for the Engineer to conduct an investigation without delaying job progress. Do not begin any off-project activity without obtaining written clearance from the Engineer.

7-16 Wage Rates for Federal-Aid Projects.

For this Contract, payment of predetermined minimum wages applies.

The U.S. Department of Labor (USDOL) Wage Rates applicable to this Contract are listed in table below, as modified up through ten days prior to the opening of bids.

Wage Rate Decision Number	Associated Work
FL20210178	All roadway construction under this contract (Miami-Dade County).

Obtain the applicable General Decision(s) (Wage Tables) through the Department's Office of Construction website and ensure that employees receive the minimum compensation applicable. Review the General Decisions for all classifications necessary to complete the project. Request additional classifications through the Engineer's office when needed.

7-24 Disadvantaged Business Enterprise Program.

~~**7-24.1 Disadvantaged Business Enterprise Affirmative Action Plan:** Prior to award of the Contract, have an approved Disadvantaged Business Enterprise (DBE) Affirmative Action~~

Program Plan filed with the Equal Opportunity Office. Update and resubmit the plan every three years. No Contract will be awarded until the Department approves the Plan. The DBE Affirmative Action Program Plan is incorporated into and made a part of the Contract.

7-24.2 Required Contract and Subcontract DBE Assurance Language: In accordance with 49 CFR 26.13 (b), the Contract FDOT signs with the Contractor (and each subcontract the prime contractor signs with a subcontractor) must include the following assurance: “The Contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted Contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to,

1. Withholding monthly progress payments;
2. Assessing sanctions;
3. Liquidated damages; and/or
4. Disqualifying the Contractor from future bidding as non-responsible.”

~~7-24.3 Plan Requirements: Include the following in the DBE Affirmative Action Program Plan:~~

~~1. A policy statement, signed by an authorized representative (president, chief executive officer, or chairman of the contractor), expressing a commitment to use DBEs in all aspects of contracting to the maximum extent feasible, outlining the various levels of responsibility, and stating the objectives of the program. Circulate the policy statement throughout the Contractor’s organization.~~

~~2. The designation of a Liaison Officer within the Contractor’s organization, as well as support staff, necessary and proper to administer the program, and a description of the authority, responsibility, and duties of the Liaison Officer and support staff. The Liaison Officer and staff are responsible for developing, managing, and implementing the program on a day-to-day basis for carrying out technical assistance activities for DBEs and for disseminating information on available business opportunities so that DBEs are provided an equitable opportunity to participate in Contracts let by the Department.~~

~~3. Utilization of techniques to facilitate DBE participation in contracting activities which include, but are not limited to:~~

~~a. Soliciting price quotations and arranging a time for the review of Plans, quantities, specifications, and delivery schedules, and for the preparation and presentation of quotations.~~

~~b. Providing assistance to DBEs in overcoming barriers such as the inability to obtain bonding, financing, or technical assistance.~~

~~c. Carrying out information and communication programs or workshops on contracting procedures and specific contracting opportunities in a timely manner, with such programs being bilingual where appropriate.~~

~~d. Encouraging eligible DBEs to apply for certification with the Department.~~

~~e. Contacting Minority Contractor Associations and city and county agencies with programs for disadvantaged individuals for assistance in recruiting and encouraging eligible DBE contractors to apply for certification with the Department.~~

7-24.4 DBE Records and Reports: Submit the following through the Equal Opportunity

Compliance System:

1. DBE Commitments - at or before the Pre-Construction Conference.
2. Report monthly, through the Equal Opportunity Compliance System on the Department's Website, actual payments (including retainage) made to DBEs for work performed with their own workforce and equipment in the area in which they are certified. Report payments made to all DBE and Minority Business Enterprise (MBE) subcontractors and DBE and MBE construction material and major suppliers.

The Equal Opportunity Office will provide instructions on accessing this system. Develop a record keeping system to monitor DBE affirmative action efforts which include the following:

1. the procedures adopted to comply with these Specifications;
 2. the number of subordinated Contracts on Department projects awarded to DBEs;
 3. the dollar value of the Contracts awarded to DBEs;
 4. the percentage of the dollar value of all subordinated Contracts awarded to DBEs as a percentage of the total Contract amount;
 5. a description of the general categories of Contracts awarded to DBEs;
- and
6. the specific efforts employed to identify and award Contracts to DBEs.

Upon request, provide the records to the Department for review.

Maintain all such records for a period of five years following acceptance of final payment and have them available for inspection by the Department and the Federal Highway Administration.

7-24.5 Counting DBE Participation and Commercially Useful Functions:

49 CFR Part 26.55 specifies when DBE credit shall be awarded for work performed by a DBE. DBE credit can only be awarded for work actually performed by DBEs themselves for the types of work for which they are certified. When reporting DBE Commitments, only include the dollars that a DBE is expected to earn for work they perform with their own workforce and equipment. Update DBE Commitments to reflect changes to the initial amount that was previously reported or to add DBEs not initially reported.

When a DBE participates in a contract, the value of the work is determined in accordance with 49 CFR Part 26.55, for example:

1. The Department will count only the value of the work performed by the DBE toward DBE goals. The entire amount of the contract that is performed by the DBE's own forces (including the cost of supplies, equipment and materials obtained by the DBE for the contract work) will be counted as DBE credit.
2. The Department will count the entire amount of fees or commissions charged by the DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services or for providing bonds or insurance specifically required for the performance of a Department-assisted contract, toward DBE goals, provided that the Department determines the fees to be reasonable and not excessive as compared with fees customarily followed for similar services.
3. When the DBE subcontracts part of the work of its contract to another firm, the Department will count the value of the subcontracted work only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

4. When a DBE performs as a participant in a joint venture, the Department will count the portion of the dollar value of the contract equal to the distinct, clearly defined portion of the work the DBE performs with its own forces toward DBE goals.

5. The Contractors shall ensure that only expenditures to DBEs that perform a commercially useful function (CUF) in the work of a contract may be counted toward the voluntary DBE goal.

6. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.

7. Contractors wishing to use joint checks involving DBE credit must provide written notice to the District Contract Compliance Office prior to issuance of the joint check. The Contractor must also provide a copy of the notice to the DBE subcontractor and maintain a copy with the project records.

8. To determine whether a DBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

9. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.

10. If a DBE does not perform or exercise responsibility for at least 30% of the total cost of its contract with its own workforce, or if the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, the DBE has not performed a commercially useful function.

7-24.6 Prompt Payments: Meet the requirements of 9-5 for payments to all DBE subcontractors.

7-25 On-The-Job Training Requirements.

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide On-The-Job Training aimed at developing full journeymen in the type of trade or job classification involved in the work. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this Section. Ensure that, when feasible, 25% of trainees in each occupation are in their first year of training. The Contractor shall incorporate the requirements of this Section into such subcontract.

The number of trainees will be estimated on the number of calendar days of the contract, the dollar value, and the scope of work to be performed. The trainee goal will be finalized at a Post-Preconstruction Trainee Evaluation Meeting and the goal will be distributed among the work classifications based on the following criteria:

1. Determine the number of trainees on Federal Aid Contract:
 - a. No trainees will be required for contracts with a Contract Time allowance of less than 275 calendar days.
 - b. If the Contract Time allowance is 275 calendar days or more, the number of trainees shall be established in accordance with the following chart:

Estimated Contract Amount	Trainees Required
\$2,000,000 or less	0
Over \$2,000,000 to \$4,000,000	2
Over \$4,000,000 to \$6,000,000	3
Over \$6,000,000 to \$12,000,000	5
Over \$12,000,000 to \$18,000,000	7
Over \$18,000,000 to \$24,000,000	9
Over \$24,000,000 to \$31,000,000	12
Over \$31,000,000 to \$37,000,000	13
Over \$37,000,000 to \$43,000,000	14
Over \$43,000,000 to \$49,000,000	15
Over \$49,000,000 to \$55,000,000	16
Over \$55,000,000 to \$62,000,000	17
Over \$62,000,000 to \$68,000,000	18
Over \$68,000,000 to \$74,000,000	19
Over \$74,000,000 to \$81,000,000	20
Over \$81,000,000 to \$87,000,000	21
Over \$87,000,000 to \$93,000,000	22
Over \$93,000,000 to \$99,000,000	23
Over \$99,000,000 to \$105,000,000	24
Over \$105,000,000 to \$112,000,000	25
Over \$112,000,000 to \$118,000,000	26
Over \$118,000,000 to \$124,000,000	27
Over \$124,000,000 to \$130,000,000	28
Over \$130,000,000 to *	
*One additional trainee per \$6,000,000 of estimated Construction Contract amount over \$130,000,000	

Further, if the Contractor or subcontractor requests to utilize banked trainees as discussed later in this Section, a Banking Certificate will be validated at this meeting allowing credit to the Contractor for previously banked trainees. Banked credits of prime Contractors working as Subcontractors may be accepted for credit. The Contractor's Project Manager, the Construction Project Engineer and the Department's District Contract Compliance Manager will attend this meeting. Within ten days after the Post-Preconstruction Training Evaluation Meeting, the Contractor shall submit to the Department for approval an On-The-Job Training Schedule indicating the number of trainees to be trained in each selected classification and the portion of the Contract Time during which training of each trainee is to take place. This schedule may be subject to change if any of the following occur:

1. When a start date on the approved On-The-Job Training Schedule has been missed by 14 or more days;

2. When there is a change in previously approved classifications;
3. When replacement trainees are added due to voluntary or involuntary

termination

The revised schedule will be resubmitted to and approved by the Department's District Contract Compliance Manager.

The following criteria will be used in determining whether or not the Contractor has complied with this Section as it relates to the number of trainees to be trained:

1. Credit will be allowed for each trainee that is both enrolled and satisfactorily completes training on this Contract. Credit for trainees, over the established number for this Contract, will be carried in a "bank" for the Contractor and credit will be allowed for those surplus trainees in subsequent, applicable projects. A "banked" trainee is described as an employee who has been trained on a project, over and above the established goal, and for which the Contractor desires to preserve credit for utilization on a subsequent project.

2. Credit will be allowed for each trainee that has been previously enrolled in the Department's approved training program on another contract and continues training in the same job classification and completes their training on a different contract.

3. Credit will be allowed for each trainee who, due to the amount of work available in their classification, is given the greatest practical amount of training on the contract regardless of whether or not the trainee completes training.

4. Credit will be allowed for any training position indicated in the approved On-The-Job Training Schedule, if the Contractor can demonstrate that made a good faith effort to provide training in that classification was made.

5. No credit will be allowed for a trainee whose employment by the Contractor is involuntarily terminated unless the Contractor can clearly demonstrate good cause for this action.

Training and upgrading of minorities, women and economically disadvantaged persons toward journeyman status is a primary objective of this Section. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. If a non-minority male is enrolled into the On-The-Job Training Program, the On-The-Job Training Notification of Personnel Action Form notifying the District Contract Compliance Manager of such action shall be accompanied by a disadvantaged certification or a justification for such action acceptable to the Department's District Contract Compliance Manager. The Contractor will be given an opportunity and will be responsible for demonstrating the steps that it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Section. This training is not intended, and shall not be used, to discriminate against any applicant for training, whether a minority, woman or disadvantaged person.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman status, or have been employed as a journeyman. The Contractor may satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established at the Post-Preconstruction Trainee Evaluation Meeting and approved by the Department. Graduation to journeyman status will be based upon satisfactory completion of a Proficiency Demonstration set up at the completion of training and established for the specific training

classification, completion of the minimum hours in a training classification range, and the employer's satisfaction that the trainee does meet journeyman status in the classification of training. Upon reaching journeyman status, the following documentation must be forwarded to the District Contract Compliance Office:

1. Trainee Enrollment and Personnel Action Form
2. Proficiency Demonstration Verification Form indicating completion of each standard established for the classification signed by representatives of both the Contractor and the Department.

The Department and the Contractor shall establish a program that is tied to the scope of the work in the project and the length of operations providing it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classifications concerned, by at least, the minimum hours prescribed for a training classification. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal Aid highway construction contract. Approval or acceptance of a training schedule shall be obtained from the Department prior to commencing work on the classifications covered by the program.

A voluntary On-The-Job Training Program is available to a Contractor which has been awarded a state funded project. Through this program, the Contractor will have the option to train employees on state funded projects for "banked credit" as discussed previously in this provision, to be utilized on subsequent Federal Aid Projects where training is required. Those Contractors availing themselves of this opportunity to train personnel on state funded projects and bank trainee hours for credit shall comply with all training criteria set forth in this Section for Federal Aid Projects; voluntary banking may be denied by the Department if staff is not available to monitor compliance with the training criteria.

It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial type positions. Training is permissible in lower level management positions such as office engineers, estimators, etc., where the training is oriented toward construction applications. Training in the laborer classifications, except Common/General Laborer, may be permitted provided that significant and meaningful training is provided and approved by the District Contract Compliance Office.

When approved in advance by the District Contract Compliance Manager, credit will be given for training of persons in excess of the number specified herein under the current contract or a Contractor will be allowed to bank trainees who have successfully completed a training program and may apply those trainees to a training requirement in subsequent project(s) upon approval of the Department's District Contract Compliance Manager. This credit will be given even though the Contractor may receive training program funds from other sources, provided such other source do not specifically prohibit the Contractor from receiving other form of compensation. Offsite training is permissible as long as the training is an integral part of an approved training program and does not compromise a significant part of the overall training. Credit for offsite training indicated above may only be made to the Contractor when it does one or more of the following and the trainees are concurrently employed on a Federal Aid Project:

1. Contributes to the cost of the training,

2. Provides the instruction to the trainee,
3. Pays the trainee's wages during the offsite training period.

The Contractor shall compensate the trainee at no less than the laborer rate established in the Contract at the onset of training. The compensation rate will be increased to the journeyman's wage upon graduation from the training program for the remainder of the time the trainee works in the classification in which they were trained.

The Contractor shall furnish the trainee a copy of the program they will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed. The Contractor shall enroll a trainee in one training classification at a time to completion before the trainee can be enrolled in another classification on the same project.

The Contractor shall maintain records to document the actual hours each trainee is engaged in training on work being performed as a part of this Contract.

The Contractor shall submit to the District Contract Compliance Manager a copy of an On-The-Job Training Notification of Personnel Action form no later than seven days after the effective date of the action when the following actions occur: a trainee is transferred on the project, transferred from the project to continue training on another contract, completes training, is upgraded to journeyman status or voluntarily terminates or is involuntary terminated from the project.

The Contractor shall furnish to the District Contract Compliance Manager a copy of a Monthly Time Report for each trainee. The Monthly Time Report for each month shall be submitted no later than the tenth day of the subsequent month. The Monthly Time Report shall indicate the phases and sub-phases of the number of hours devoted to each proficiency.

Highway or Bridge Carpenter Helper, Mechanic Helper, Rodman/Chainman, and Timekeeper classifications will not be approved for the On-The-Job Training Program.

The number of trainees may be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

The Contractor will have fulfilled the responsibilities of this Specification when acceptable training has been provided to the trainee as specified above.

7-26 Cargo Preference Act – Use of United States-Flag Vessels.

Pursuant to Title 46 CFR 381, the Contractor agrees

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this Contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this Article to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this Contract.

7-29 E-Verify.

The Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor during the term of the Contract and shall expressly require any subcontractors performing work or providing services pursuant to the Contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the Contract term.

7-31 Title VI Assurance – DOT 1050.2A, Appendix A and Appendix E.

7-31.1 Appendix A: During the performance of this Contract, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

1. Compliance with Regulations: The Contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the US Department of Transportation (hereinafter, "USDOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

2. Nondiscrimination: The Contractor, with regard to the work performed by it during the Contract, shall not discriminate on the basis of race, color, national origin or sex in the selection and retention of sub-contractors, including procurements of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3. Solicitations for subcontractors, including procurements of materials and equipment: In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to nondiscrimination on the basis of race, color, national origin, or sex.

4. Information and Reports: The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by the Florida Department of Transportation or the Federal Highway Administration, Federal Transit Administration, Federal Aviation Administration, and Federal Motor Carrier Safety Administration to be pertinent to ascertain compliance with such Regulations, order and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information the Contractor shall so certify to the Florida Department of Transportation, or the Federal Highway Administration, Federal Transit Administration, Federal Aviation Administration, or Federal Motor Carrier Safety Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Florida Department of Transportation

shall impose such Contract sanctions as it or the Federal Highway Administration, Federal Transit Administration, Federal Aviation Administration, or Federal Motor Carrier Safety Administration may determine to be appropriate, including, but not limited to:

- a. withholding of payments to the Contractor under the Contract until the Contractor complies, or
- b. cancellation, termination or suspension of the Contract, in whole or in part.

6. Incorporation of Provisions: The Contractor shall include the provisions of this appendix in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as the Florida Department of Transportation or the Federal Highway Administration, Federal Transit Administration, Federal Aviation Administration, or Federal Motor Carrier Safety Administration may direct as a means of enforcing such provisions including sanctions for noncompliance, provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the Florida Department of Transportation to enter into such litigation to protect the interests of the Florida Department of Transportation, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

7-31.2 Appendix E: During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor” agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
2. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired of Federal or Federal-aid programs and projects);
3. Federal-Aid Highway Act of 1973, (23 U.S.C § 324 et seq.), (prohibits discrimination on the basis of sex);
4. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
5. The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
6. Airport and Airway Improvement Act of 1982, (49 U.S.C. 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color national origins or sex);
7. The Civil Rights Restoration Act of 1987 (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
8. Titles II and III of the Americans with Disabilities Act, which prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities

(42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

9. The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

10. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

11. Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

12. Title IX of the Education Amendments of 1972, as amended, which prohibits discrimination based on sex in education programs, or activities (20 U.S.C. 1681 et seq.).

FROM SECTION 8 (SUBLETTING, CONTRACT TIME EXTENSION, AND LIQUIDATED DAMAGES).

8-1 Subletting or Assigning of Contracts.

Do not, sell, transfer, assign or otherwise dispose of the Contract or Contracts or any portion thereof, or of the right, title, or interest therein, without written consent of the Department. If the Contractor chooses to sublet any portion of the Contract, the Contractor must provide a written request to sublet work on the Certification of Sublet Work form developed by the Department for this purpose. With the Engineer's acceptance of the request, the Contractor may sublet a portion of the work, but shall perform with its own organization work amounting to not less than 40% of the total Contract amount. The Certification of Sublet Work request will be deemed acceptable by the Department, for purposes of the Department's consent, unless the Engineer notifies the Contractor within 5 business days of receipt of the Certification of Sublet Work that the Department is not consenting to the requested subletting.

Include in the total Contract amount the cost of materials and manufactured component products, and their transportation to the project site. For the purpose of meeting this requirement the Department will not consider off-site commercial production of materials and manufactured component products that the Contractor purchases, or their transportation to the project, as subcontracted work.

If the Contractor sublets a part of a Contract item, the Department will use only the sublet proportional cost in determining the percentage of subcontracted normal work.

Execute all agreements to sublet work in writing and include all pertinent provisions and requirements of the Contract. All other agreements must be in writing and reference all applicable Contract provisions. Upon request, furnish the Department with a copy of the subcontract and agreement. The subletting of work does not relieve the Contractor or the surety of their respective liabilities under the Contract.

The Department recognizes a subcontractor only in the capacity of an employee or agent of the Contractor, and the Engineer may require the Contractor to remove the subcontractor as in the case of an employee.

8-7.3.2 Contract Time Extensions: The Department may grant an extension of Contract Time when a controlling item of work is delayed by factors not reasonably anticipated or foreseeable at the time of bid. The Department may allow such extension of time only for delays occurring during the Contract Time period or authorized extensions of the Contract Time period. When failure by the Department to fulfill an obligation under the Contract results in delays to the controlling items of work, the Department will consider such delays as a basis for granting a time extension to the Contract.

Whenever the Engineer suspends the Contractor's operations, as provided in 8-6, for reasons other than the fault of the Contractor, the Engineer will grant a time extension for any delay to a controlling item of work due to such suspension. The Department will not grant time extensions to the Contract for delays due to the fault or negligence of the Contractor.

The Department does not include an allowance for delays caused by the effects of inclement weather or suspension of Contractor's operations in establishing Contract Time. The Engineer will continually monitor the effects of weather and, when found justified, grant time extensions on either a bimonthly or monthly basis. The Engineer will not require the Contractor to submit a request for additional time due to the effects of weather.

The Department will grant time extensions, on a day for day basis, for delays caused by the effects of rains or other inclement weather conditions, related adverse soil conditions or suspension of operations that prevent the Contractor from productively performing controlling items of work resulting in:

1. The Contractor being unable to work at least 50% of the normal work day on pre-determined controlling work items; or
2. The Contractor must make major repairs to work damaged by weather, provided that the damage is not attributable to the Contractor's failure to perform or neglect; and provided that the Contractor was unable to work at least 50% of the normal workday on pre-determined controlling work items.

No additional compensation will be made for delays caused by the effects of inclement weather.

The Department will consider the delays in delivery of materials or component equipment that affect progress on a controlling item of work as a basis for granting a time extension if such delays are beyond the control of the Contractor or supplier. Such delays may include an area-wide shortage, an industry-wide strike, or a natural disaster that affects all feasible sources of supply. In such cases, the Contractor shall furnish substantiating letters from a representative number of manufacturers of such materials or equipment clearly confirming that the delays in delivery were the result of an area-wide shortage, an industry-wide strike, etc. No additional compensation will be made for delays caused by delivery of materials or component equipment.

The Department will not consider requests for time extension due to delay in the delivery of custom manufactured equipment such as traffic signal equipment, highway lighting equipment, etc., unless the Contractor furnishes documentation that he placed the order for such equipment in a timely manner, the delay was caused by factors beyond the manufacturer's control, and the lack of such equipment caused a delay in progress on a

controlling item of work. No additional compensation will be paid for delays caused by delivery of custom manufactured equipment.

The Department will consider the affect of utility relocation and adjustment work on job progress as the basis for granting a time extension only if all the following criteria are met:

1. Delays are the result of either utility work that was not detailed in the Plans, or utility work that was detailed in the Plans but was not accomplished in reasonably close accordance with the schedule included in the Contract Documents.

2. Utility work actually affected progress toward completion of controlling work items.

3. The Contractor took all reasonable measures to minimize the effect of utility work on job progress, including cooperative scheduling of the Contractor's operations with the scheduled utility work at the preconstruction conference and providing adequate advance notification to utility companies as to the dates to coordinate their operations with the Contractor's operations to avoid delays.

As a condition precedent to an extension of Contract Time the Contractor must submit to the Engineer:

A preliminary request for an extension of Contract Time must be made in writing to the Engineer within ten calendar days after the commencement of a delay to a controlling item of work. If the Contractor fails to submit this required preliminary request for an extension of Contract Time, the Contractor fully, completely, absolutely and irrevocably waives any entitlement to an extension of Contract Time for that delay. In the case of a continuing delay only a single preliminary request for an extension of Contract Time will be required. Each such preliminary request for an extension of Contract Time shall include as a minimum the commencement date of the delay, the cause of the delay, and the controlling item of work affected by the delay.

Furthermore, the Contractor must submit to the Engineer a request for a Contract Time extension in writing within 30 days after the elimination of the delay to the controlling item of work identified in the preliminary request for an extension of Contract Time. Each request for a Contract Time extension shall include as a minimum all documentation that the Contractor wishes the Department to consider related to the delay, and the exact number of days requested to be added to Contract Time. If the Contractor contends that the delay is compensable, then the Contractor shall also be required to submit with the request for a Contract Time extension a detailed cost analysis of the requested additional compensation. If the Contractor fails to submit this required request for a Contract Time extension, with or without a detailed cost analysis, depriving the Engineer of the timely opportunity to verify the delay and the costs of the delay, the Contractor waives any entitlement to an extension of Contract Time or additional compensation for the delay.

Upon timely receipt of the preliminary request of Contract Time from the Contractor, the Engineer will investigate the conditions, and if it is determined that a controlling item of work is being delayed for reasons beyond the control of the Contractor the Engineer will take appropriate action to mitigate the delay and the costs of the delay. Upon timely receipt of the request for a Contract Time extension the Engineer will further investigate the conditions, and if it is determined that there was an increase in the time or the cost of performance of the controlling item of work beyond the control of the Contractor, then an adjustment of Contract

Time will be made, and a monetary adjustment will be made, excluding loss of anticipated profits, and the Contract will be modified in writing accordingly.

The existence of an accepted schedule, including any required update(s), is a condition precedent to the Contractor having any right to the granting of an extension of Contract Time or any monetary compensation arising out of any delay. Contractor failure to have an accepted schedule, including any required update(s), for the period of potential impact, or in the event the currently accepted schedule and applicable updates do not accurately reflect the actual status of the project or fail to accurately show the true controlling or non-controlling work activities for the period of potential impact, will result in any entitlement determination as to time or money for such period of potential impact being limited solely to the Department's analysis and identification of the actual controlling or non-controlling work activities. Further, in such instances, the Department's determination as to entitlement as to either time or compensability will be final, unless the Contractor can prove by clear and convincing evidence to a Disputes Review Board that the Department's determination was without any reasonable factual basis.

8-10 Liquidated Damages for Failure to Complete the Work.

8-10.2 Amount of Liquidated Damages: Applicable liquidated damages are the amounts established in the following schedule:

Original Contract Amount	Daily Charge Per Calendar Day
\$50,000 and under.....	\$1,015
Over \$50,000 but less than \$250,000.....	\$1,045
\$250,000 but less than \$500,000.....	\$1,170
\$500,000 but less than \$2,500,000.....	\$1,690
\$2,500,000 but less than \$5,000,000.....	\$2,579
\$5,000,000 but less than \$10,000,000.....	\$3,756
\$10,000,000 but less than \$15,000,000.....	\$4,344
\$15,000,000 but less than \$20,000,000.....	\$5,574
\$20,000,000 and over.....	\$10,203 plus 0.00005 of any amount over \$20 million (Round to nearest whole dollar)

FROM SECTION 9 (PARTIAL PAYMENTS).

9-5 Partial Payments.

9-5.1 General: The Engineer will make partial payments on monthly estimates based on the amount of work that the Contractor completes during the month (including delivery of certain materials, as specified herein below). The Engineer will make approximate monthly payments, and the Department will correct all partial estimates and payments in the subsequent estimates and in the final estimate and payment.

The Department will base the amount of such payments on the total value of the work that the Contractor has performed to the date of the estimate, based on the quantities completed and the Contract prices, less payments previously made and less any retainage withheld.

Retainage will not be withheld until the percent of Contract Time used exceeds 75%. From that time forward, the Department will withhold retainage of 10% of the amount due on the current estimate as retainage when the percent of Contract Time used exceeds the percent of Contract amount earned by more than 15%.

Contract amount is defined as the original Contract amount adjusted by approved supplemental agreements.

Retainage will be determined for each job on multiple job Contracts. The Department will not accept Securities, Certificates of Deposit or letters of credit as a replacement for retainage. Amounts withheld will not be released until payment of the final estimate.

9-5.2 Unsatisfactory Payment Record: In accordance with Sections 255.05 and 337.16 of the Florida Statutes, and the rules of the Department, the Department may disqualify the Contractor from bidding on future Department contracts if the Contractor's payment record in connection with contract work becomes unsatisfactory.

9-5.3 Withholding Payment:

9-5.3.1 Withholding Payment for Defective Work: If the Department discovers any defective work or material prior to the final acceptance, or if the Department has a reasonable doubt as to the integrity of any part of the completed work prior to final acceptance, then the Department will not allow payment for such defective or questioned work until the Contractor has remedied the defect and removed any causes of doubt.

9-5.3.2 Withholding Payment for Failure to Comply: The Department will withhold progress payments from the Contractor if he fails to comply with any or all of the following within 60 days after beginning work:

1. comply with and submit required paperwork relating to prevailing wage rate provisions, Equal Employment Opportunity, On-The-Job Training, and Affirmative Action;
2. comply with the requirement to all necessary information, including actual payments to DBEs, all other subcontractors and major suppliers, through the Internet based Equal Opportunity Reporting System;
3. comply with or make a good faith effort to ensure employment opportunity for minorities and females in accordance with the required contract provisions for Federal Aid Construction Contracts, and
4. comply with or make a good faith effort to meet On-The-Job Training goals.

The Department will withhold progress payments until the Contractor has satisfied the above conditions.

9-5.4 Release of Retainage After Acceptance: When the Contractor has furnished the Department with all submittals required by the Contract, such as invoices, EEO reports, materials certifications, certification of materials procured, etc., (excluding Contractor's letter of acceptance of final amount due and Form 21-A release) and the Engineer has determined that the measurement and computation of pay quantities is correct, the Department may reduce the retainage to \$1,000 plus any amount that the Department elects to deduct for defective work as provided in 9-5.3.

The Department may deduct from payment estimates any sums that the Contractor owes to the Department on any account. Where more than one project or job (separate job number) is included in the Contract, the Department will distribute the reduced retainage as provided in the first paragraph of this Subarticle to each separate project or job in the ratio that the Contract value of the work for the particular job bears to the total Contract amount.

9-5.5 Partial Payments for Delivery of Certain Materials:

9-5.5.1 General: The Department will allow partial payments for new materials that will be permanently incorporated into the project and are stockpiled in approved locations in the project vicinity. Stockpile materials so that they will not be damaged by the elements and in a manner that identifies the project on which they are to be used.

The following conditions apply to all payments for stockpiled materials:

1. There must be reasonable assurance that the stockpiled material will be incorporated into the specific project on which partial payment is made.

2. The stockpiled material must be approved as meeting applicable specifications.

3. The total quantity for which partial payment is made shall not exceed the estimated total quantity required to complete the project.

4. The Contractor shall furnish the Engineer with copies of certified invoices to document the value of the materials received. The amount of the partial payment will be determined from invoices for the material up to the unit price in the Contract.

5. Delivery charges for materials delivered to the jobsite will be included in partial payments if properly documented.

6. Partial payments will not be made for materials which were stockpiled prior to award of the Contract for a project.

9-5.5.2 Partial Payment Amounts: The following partial payment restrictions apply:

1. Partial payments less than \$5,000 for any one month will not be processed.

2. Partial payments for structural steel and precast prestressed items will not exceed 85% of the bid price for the item. Partial payments for all other items will not exceed 75% of the bid price of the item in which the material is to be used.

3. Partial payment will not be made for aggregate and base course material received after paving or base construction operations begin except when a construction sequence designated by the Department requires suspension of paving and base construction after the initial paving operations, partial payments will be reinstated until the paving and base construction resumes.

9-5.5.3 Off Site Storage: If the conditions of 9-5.5.1 are satisfied, partial payments will be allowed for materials stockpiled in approved in-state locations. Additionally, partial payments for materials stockpiled in approved out-of-state locations will be allowed if the conditions of 9-5.5.1 and the following conditions are met:

1. Furnish the Department a Materials Bond stating the supplier guarantees to furnish the material described in the Contract to the Contractor and Department. Under this bond, the Obligor shall be the material supplier and the Obligees shall be the Contractor and the Florida Department of Transportation. The bond shall be in the full dollar amount of the bid price for the materials described in the contract.

2. The following clauses must be added to the construction Contract between the Contractor and the supplier of the stockpiled materials:

“Notwithstanding anything to the contrary, <supplier> will be liable to the Contractor and the Florida Department of Transportation should <supplier> default in the performance of this agreement.”

“Notwithstanding anything to the contrary, this agreement, and the performance bond issued pursuant to this agreement, does not alter, modify, or otherwise change the Contractor’s obligation to furnish the materials described in this agreement to the Florida Department of Transportation.”

3. The agreement between the Contractor and the supplier of the stockpiled materials must include provisions that the supplier will store the materials and that such materials are the property of the Contractor.

9-5.6 Certification of Payment to Subcontractors: The term “subcontractor,” as used herein, includes persons or firms furnishing materials or equipment incorporated into the work or stockpiled for which the Department has made partial payment and firms working under equipment-rental agreements. The Contractor is required to pay all subcontractors for satisfactory performance of their Contracts before the Department will make a further progress (partial) payment. The Contractor shall also return all retainage withheld to the subcontractors within 30 days after the subcontractor’s work is satisfactorily complete, as determined by the Department. Prior to receipt of any progress (partial) payment, the prime contractor shall certify that all subcontractors having an interest in the Contract were paid for satisfactory performance of their Contracts and that the retainage is returned to subcontractors within 30 days after satisfactory completion of the subcontractor’s work. Provide this certification in the form designated by the Department.

Within 30 days of the Contractor’s receipt of the final progress payment or any other payments thereafter, except the final payment, the Contractor shall pay all subcontractors and suppliers having an interest in the Contract for all work completed and materials furnished. The Department will honor an exception to the above when the Contractor demonstrates good cause for not making any required payment and furnishes written notification of any such good cause to both the Department and the affected subcontractors or suppliers within said 30 day period.

The Contractor shall indemnify and provide defense for the Department when called upon to do so for all claims or suits against the Department, by third parties, pertaining to Contractor payment or performance issues arising out of the Contract. It is expressly understood that the monetary limitation on the extent of the indemnification shall be the approved Contract amount, which shall be the original Contract amount as may be increased by subsequent Supplemental Agreements.

EARTHWORK AND RELATED OPERATIONS FOR LAP (OFF-SYSTEM).

(REV 1-23-12) (FA 2-27-12)

SECTION 120

EARTHWORK AND RELATED OPERATIONS FOR LAP (OFF-SYSTEM)

120-1 Description.

120-1.1 General: Perform earthwork and related operations based on the type of work specified in the Contract and the Earthwork Categories as defined below. Meet the applicable requirements for materials, equipment and construction as specified.

Earthwork and related operations consists of excavation for the construction of the roadway, excavation for structures and pipe, constructing backfill around structures and pipe, and constructing embankments as required for the roadway, ditches, and channel changes.

120-1.2 Earthwork Categories: Performance of Earthwork Operations will fall into one of the following Earthwork Categories:

120-1.2.1 Earthwork Category 1: Includes the earthwork and related operations associated with the construction of sidewalks and bike paths along with any drainage structures associated with these facilities.

120-1.2.2 Earthwork Category 2: Includes the earthwork and related operations associated with the construction of turn lanes and other non-mainline traffic lanes, widening, roadway shoulders, concrete box culverts, retaining walls, and other drainage structures on the non-mainline pavement.

120-1.2.3 Earthwork Category 3: Includes the earthwork and related operations associated with the construction of new mainline pavement, along with concrete box culverts, retaining walls, and other drainage structures on the mainline pavement.

120-2 Classes of Excavation.

120-2.1 Excavation of Unsuitable Material: Excavation of unsuitable material consists of the removal of muck, clay, rock or any other material that is unsuitable in its original position and that is excavated below the finished grading template. For stabilized bases and sand bituminous road mixes, the finished grading template is the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, the finished grading template is the finished shoulder and slope lines and bottom of completed base or rigid pavement.

120-2.2 Lateral Ditch Excavation: Lateral ditch excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches parallel to the roadway right-of-way. Dress lateral ditches to the grade and cross-section shown in the plans.

120-2.3 Channel Excavation: Channel excavation consists of the excavation and satisfactory disposal of all materials from the limits of the channel as shown in the plans.

120-2.4 Excavation for Structures and Pipe: Excavation for structures consists of the excavation for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

120-3 Excavation Requirements.

120-3.1 Excavation and Replacement of Unsuitable Materials: Where rock, muck, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the plans or indicated by the Engineer, and backfill with suitable material. Shape backfill materials to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance of plus or minus 0.2 foot in depth and plus or minus 6 inches (each side) in width.

120-3.2 Lateral Ditch Excavation: Excavate inlet and outlet ditches to structures and roadway, changes in channels of streams and ditches parallel to the roadway. Dress lateral ditches to the grade and cross-section shown in the plans.

120-3.3 Channel Excavation: Excavate and dispose of all materials from the limits of the channel as shown in the plans. Excavate for bridge foundations, box culverts, pipe culverts,

storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

120-3.4 Excavation for Structures and Pipe.

120-3.4.1 Requirements for all Excavation: Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the plans, with full horizontal beds. Do not round or undercut corners or edges of footings. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown on the plans. Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing masonry.

120-3.4.2 Earth Excavation:

120-3.4.2.1 Foundation Material other than the Rock: When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require excavation to a greater depth and to backfill to grade with approved material.

120-3.4.2.2 Foundation Piles: Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

120-3.4.2.3 Removal of Obstructions: Remove boulders, logs, or any unforeseen obstacles encountered in excavating.

120-3.4.3 Rock Excavation: Clean all rock and other hard foundation material, remove all loose material, and cut all rock to a firm surface. Either level, step vertically and horizontally, or serrate the rock, as may be directed by the Engineer. Clean out all seams, and fill them with concrete or mortar.

120-3.4.4 Pipe Trench Excavation: Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified as suitable backfill material in 120-8.3.2.2 to a depth of 4 inches below the bottom of the pipe elevation. Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.

For pipe lines placed above the natural ground line, place and compact the embankment, prior to excavation of the trench, to an elevation at least 2 feet above the top of the pipe and to a width equal to four pipe diameters, and then excavate the trench to the required grade.

120-4 Disposal of Surplus and Unsuitable Material.

120-4.1 Ownership of Excavated Materials: Dispose of surplus and excavated materials as shown in the plans or, if the plans do not indicate the method of disposal, take ownership of the materials and dispose of them outside the right-of-way.

120-4.2 Disposal of Muck on Side Slopes: As an exception to the provisions of 120-4.1, when approved by the Engineer, muck (A-8 material) may be placed on the slopes, or stored alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits and the muck, and the muck is dressed to present a neat appearance. In addition, this material may also be disposed of by placing it on the slopes where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or of side ditches. The Engineer will determine the limits adjacent to channels within which such materials may be disposed.

120-4.3 Disposal of Paving Materials: Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-of-way. If the materials are to remain the property of the Agency, place them in neat piles as directed. Existing limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.

120-4.4 Disposal Areas: Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation.

Provide areas for disposal of removed paving materials out of sight of the project and at least 300 feet from the nearest roadway right-of-way line of any road. If the materials are buried, disregard the 300 foot limitation.

120-5 Materials for Embankment.

120-5.1 General Requirements for Embankment Materials: Construct embankments using suitable materials excavated from the roadway or delivered to the jobsite from authorized borrow pits.

Construct the embankment using maximum particle sizes as follows:

In top 12 inches: 3 1/2 inches (in any dimension).

12 to 24 inches: 6 inches (in any dimension).

In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.

Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with 120-7.2.

When and where approved by the Engineer, larger rocks (not to exceed 18 inches in any dimension) may be placed outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3 1/2 inches in diameter within 3 feet of the location of any end-bent piling.

120-5.2 Use of Materials Excavated From the Roadway and Appurtenances: Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.

120-5.3 Authorization for Use of Borrow: Use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures and pipe. Do not use borrow material until so ordered by the Engineer, and then only use material from approved borrow pits.

120-5.3.1 Haul Routes for Borrow Pits: Provide and maintain, at no expense to the Agency, all necessary roads for hauling the borrow material. Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.

Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.

120-5.3.2 Borrow Material for Shoulder Build-up: When so indicated in the plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile.

120-5.4 Materials Used at Pipes, Culverts, etc.: Construct embankments over and around pipes, culverts, and bridge foundations with selected materials.

120-6 Embankment Construction.

120-6.1 General: Construct embankments in sections of not less than 300 feet in length or for the full length of the embankment.

120-6.2 Dry Fill Method:

120-6.2.1 General: Construct embankments to meet compaction requirements in 120-7 and in accordance with the acceptance program requirements in 120-9. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.

As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.

Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

120-6.2.1.1 For A-3 and A-2-4 Materials with up to 15% fines:

Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A-2-4 material does not exceed 15%.

120-6.2.1.2 For A-1 Plastic materials (As designated in FDOT Design Standard Index 505) and A-2-4 Materials with greater than 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.

120-6.2.1.3 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.

When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or in low swampy ground in accordance with 120-7.2.4.

120-6.2.2 Placing in Unstable Areas: Where depositing the material in water, or in low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions of 120-7.2.4 and 120-7.2.6.

120-6.2.3 Placing on Steep Slopes: When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or cut into steps the surface of the original ground on which the embankment is to be placed.

120-6.2.4 Placing Outside Standard Minimum Slope: Where material that is unsuitable for normal embankment construction is to be used in the embankment outside the standard minimum slope (approximately one to two), place such material in layers of not more than 18 inches in thickness, measured loose. The Contractor may also place material which is suitable for normal embankment, outside such standard minimum slope, in 18 inch layers. Maintain a constant thickness for suitable material placed within and outside the standard minimum slope, unless placing in a separate operation.

120-6.3 Hydraulic Method:

120-6.3.1 Method of Placing: When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is re-handled, or moved and placed in its final position by any other method, as specified in 120-7.2. The Contractor may use baffles or any form of construction he may select, provided the slopes of the embankments are not steeper than indicated in the plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact the holes thus formed. When placing fill on submerged land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation.

120-6.3.2 Excess Material: Do not use excess material placed outside the prescribed slopes, below the normal high-water level, to raise the fill. Remove only the portion of this material required for dressing the slopes.

120-6.3.3 Protection of Openings in Embankment: Leave openings in the embankments at the bridge sites. Remove any material which invades these openings or existing channels without additional compensation to provide the same depth of channel as existed before the construction of the embankment. Do not excavate or dredge any material within 200 feet of the toe of the proposed embankment.

120-7 Compaction Requirements.

120-7.1 Moisture Content: Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate.

120-7.2 Compaction of Embankments:

120-7.2.1 Earthwork Category 1 and 2 Density Requirements: The Engineer will accept a minimum density of 95% of the maximum density as determined by AASHTO T-99 Method C for all earthwork items requiring densities.

120-7.2.2 Earthwork Category 3 Density Requirements: The Engineer will accept a minimum of 100% of the maximum density as determined by AASHTO T-99 Method C for all densities required under category 3.

Except for embankments constructed by the hydraulic method as specified in 120-6.3, and for the material placed outside the standard minimum slope as specified in 120-6.2.4, and for other areas specifically excluded herein, compact each layer of the material used in the formation of embankments to the required density stated above. Uniformly compact each layer using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.

120-7.2.3 Compaction Over Unstable Foundations: Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided in 120-6.2.2), compact the top 6 inches (compacted thickness) of such layer to the density as specified in 120-9.5.

120-7.2.4 Compaction Where Plastic Material Has Been Removed: Where unsuitable material is removed and the remaining surface is of the A-4, A-5, A-6, or A-7 Soil Groups, as determined by the Engineer, compact the surface of the excavated area by rolling with a sheepsfoot roller exerting a compression of at least 250 psi on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Perform rolling before beginning any backfill, and continue until the roller feet do not penetrate the surface more than 1 inch. Do not perform such rolling where the remaining surface is below the normal water table and covered with water. Vary the procedure and equipment required for this operation at the discretion of the Engineer.

120-7.2.5 Compaction of Material To Be Used In Base, Pavement, or Stabilized Areas: Do not compact embankment material which will be incorporated into a pavement, base course, or stabilized subgrade, to be constructed as a part of the same Contract.

120-7.2.6 Compaction of Grassed Shoulder Areas: For the upper 6 inch layer of all shoulders which are to be grassed, since no specific density is required, compact only to the extent directed.

120-7.2.7 Compaction of Grassed Embankment Areas: For the outer layer of all embankments where plant growth will be established, do not compact. Leave this layer in a loose condition to a minimum depth of 6 inches for the subsequent seeding or planting operations.

120-7.3 Compaction of Subgrade: If the plans do not provide for stabilizing, compact the subgrade in both cuts and fills to the density specified in 120-9.5. For undisturbed soils, do not apply density requirements where constructing narrow widening strips or paved shoulders 5 feet or less in width.

Where trenches for widening strips are not of sufficient width to permit the use of standard compaction equipment, perform compaction using vibratory rollers, trench rollers, or other type compaction equipment approved by the Engineer.

Maintain the required density until the base or pavement is placed on the subgrade.

120-8 Backfilling Around Structures and Pipe.

120-8.1 Requirements for all Structures:

120-8.1.1 General: Backfill around structures and pipe in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

129-8.1.2 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps, wellpoints and header pipe and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, perforated pipe drains, sumps and siphons.

120-8.1.3 Backfill Materials: Backfill to the original ground surface or subgrade surface of openings made for structures, with a sufficient allowance for settlement. The Engineer may require that the material used for this backfill be obtained from a source entirely apart from the structure.

Do not allow heavy construction equipment to cross over culvert or storm sewer pipes until placing and compacting backfill material to the finished earthwork grade or to an elevation at least 4 feet above the crown of the pipe.

120-8.1.4 Use of A-7 Material: In the backfilling of trenches, A-7 material may be used from a point 12 inches above the top of the pipe up to the elevation shown on the FDOT Design Standards as the elevation for undercutting of A-7 material.

120-8.1.5 Time of Placing Backfill: Do not place backfill against any masonry or concrete abutment, wingwall, or culvert until the Engineer has given permission to do so, and in no case until the masonry or concrete has been in place seven days or until the specified 28-day compressive strength occurs.

120-8.1.6 Placement and Compaction: When the backfill material is deposited in water, compact per 120-8.2.5 and 120-8.3.4. Place the material in horizontal layers not exceeding 6 inches compacted thickness, in depth above water level, behind abutments, wingwalls and end bents or end rest piers, and around box culverts and all structures including pipe culverts. The Engineer may approve placing material in thicker lifts of no more than 12 inches compacted thickness above the soil envelope if a test section demonstrates the required density can be achieved. Approval will be based on five passing density tests over the test section consisting of a lift of backfill from structure to structure. The Engineer will identify the test section with the compaction effort and soil classification in the Agency Logbook. In case of a change in compaction effort or soil classification, construct a new test section. The Engineer reserves the right to terminate the Contractor's use of thick lift construction and have him revert to the 6 inch compacted lifts whenever it is determined that satisfactory results are not being obtained.

120-8.2 Additional Requirements for Structures Other than Pipe:

120-8.2.1 Density: Where the backfill material is deposited in water, obtain a 12 inch layer of comparatively dry material, thoroughly compacted by tamping, before the Engineer verifies layer and density requirements. Meet the requirements of the density Acceptance Criteria.

120-8.2.2 Box Culverts: For box culverts over which pavement is to be constructed, compact around the structure to an elevation not less than 12 inches above the top of the structure, using rapid-striking mechanical tampers.

120-8.2.3 Other Limited Areas: Compact in other limited areas using mechanical tampers or approved hand tampers, until the cover over the structure is at least 12 inches thick. When hand tampers are used, deposit the materials in layers not more than 4 inches thick using hand tampers suitable for this purpose with a face area of not more than 100 in². Take special precautions to prevent any wedging action against the masonry, and step or

terrace the slope bounding the excavation for abutments and wingwalls if required by the Engineer.

120-8.2.4 Culverts and Piers: Backfill around culverts and piers on both sides simultaneously to approximately the same elevation.

120-8.2.5 Compaction Under Wet Conditions: Where wet conditions do not permit the use of mechanical tampers, compact using hand tampers. Use only A-3 material for the hand tamped portions of the backfill. When the backfill has reached an elevation and condition such as to make the use of the mechanical tampers practical, perform mechanical tamping in such manner and to such extent as to transfer the compaction force into the sections previously tamped by hand.

120-8.3 Additional Requirements for Pipe 15 Inches Inside Diameter or Greater:

120-8.3.1 General: Trenches for pipe may have up to four zones that must be backfilled.

Lowest Zone: The lowest zone is backfilled for deep undercuts up to within 4 inches of the bottom of the pipe.

Bedding Zone: The zone above the Lowest Zone is the Bedding Zone. Usually it will be the backfill which is the 4 inches of soil below the bottom of the pipe. When rock or other hard material has been removed to place the pipe, the Bedding Zone will be the 12 inches of soil below the bottom of the pipe.

Cover Zone: The next zone is backfill that is placed after the pipe has been laid and will be called the Cover Zone. This zone extends to 12 inches above the top of the pipe. The Cover Zone and the Bedding Zone are considered the Soil Envelope for the pipe.

Top Zone: The Top Zone extends from 12 inches above the top of the pipe to the base or final grade.

120-8.3.2 Material:

120-8.3.2.1 Lowest Zone: Backfill areas undercut below the Bedding Zone of a pipe with coarse sand, or other suitable granular material, obtained from the grading operations on the project, or a commercial material if no suitable material is available.

120-8.3.2.2 Soil Envelope: In both the Bedding Zone and the Cover Zone of the pipe, backfill with materials classified as A-1, A-2, or A-3. Material classified as A-4 may be used if the pipe is concrete pipe.

120-8.3.2.3 Top Zone: Backfill the area of the trench above the soil envelope of the pipe with materials allowed on Design Standard, Index No. 505.

120-8.3.3 Compaction:

120-8.3.3.1 Lowest Zone: Compact the soil in the Lowest Zone to approximately match the density of the soil in which the trench was cut.

120-8.3.3.2 Bedding Zone: If the trench was not undercut below the bottom of the pipe, loosen the soil in the bottom of the trench immediately below the approximate middle third of the outside diameter of the pipe.

If the trench was undercut, place the bedding material and leave it in a loose condition below the middle third of the outside diameter of the pipe. Compact the outer portions to meet the density requirements of the Acceptance Criteria. Place the material in lifts no greater than 6 inches (compacted thickness).

120-8.3.3.3 Cover Zone: Place the material in 6 inches layers (compacted thickness), evenly deposited on both sides of the pipe, and compact with mechanical tampers

suitable for this purpose. Hand tamp material below the pipe haunch that cannot be reached by mechanical tampers. Meet the requirements of the density Acceptance Criteria.

120-8.3.3.4 Top Zone: Place the material in layers not to exceed 12 inches in compacted thickness. Meet the requirements of the density Acceptance Criteria.

120-8.3.4 Backfill Under Wet Conditions: Where wet conditions are such that dewatering by normal pumping methods would not be effective, the procedure outlined below may be used when specifically authorized by the Engineer in writing.

Granular material may be used below the elevation at which mechanical tampers would be effective, but only material classified as A-3. Place and compact the material using timbers or hand tampers until the backfill reaches an elevation such that it's moisture content will permit the use of mechanical tampers. When the backfill has reached such elevation, use normally acceptable backfill material. Compact the material using mechanical tampers in such manner and to such extent as to transfer the compacting force into the material previously tamped by hand.

120-9 Acceptance Program.

120-9.1 Density over 105%: When a computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, the Engineer will perform a second density test within 5 feet. If the second density results in a value greater than 105%, investigate the compaction methods, examine the applicable Maximum Density and material description. If necessary, the Engineer will test an additional sample for acceptance in accordance with AASHTO T 99, Method C.

120-9.2 Maximum Density Determination: The Engineer will determine the maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in 120-9.3.

120-9.3 Density Testing Requirements: Compliance with the requirements of 120-9.5 will be determined in accordance FM 1-T 238. The in-place moisture content will be determined for each density in accordance with FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D 4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven).

120-9.4 Soil Classification: The Engineer will perform soil classification tests in accordance with AASHTO T-88, and classify soils in accordance with AASHTO M-145 (Standard Specification for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes) in order to determine compliance with embankment utilization requirements.

120-9.5 Acceptance Criteria: The Engineer will accept a minimum density in accordance with 120-7.2 with the following exceptions:

- 1) embankment constructed by the hydraulic method as specified in 120-6.3;
- 2) material placed outside the standard minimum slope as specified in 120-6.2.4;
- 3) other areas specifically excluded herein.

120-9.6 Frequency: The Engineer will conduct sampling and testing at a minimum frequency listed in the table below.

Test Name	Frequency
Maximum Density	One per soil type
Density	1 per 500' RDWY (Alt Lift)
Soil Classification	One per Maximum Density

120-10 Maintenance and Protection of Work.

While construction is in progress, maintain adequate drainage for the roadbed at all times. Maintain a shoulder at least 3 feet wide adjacent to all pavement or base construction in order to provide support for the edges.

Maintain and protect all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. Repair any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work. Maintain all channels excavated as a part of the Contract work against natural shoaling or other encroachments to the lines, grades, and cross-sections shown in the plans, until final acceptance of the project.

120-11 Construction.

120-11.1 Construction Tolerances: Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the plan cross-section with the following exceptions:

1. Shape the surface of shoulders to within 0.1 foot of the plan cross-section.
2. Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.
3. Shape the bottom of ditches so that the ditch impounds no water.
4. When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the plan cross-section.

Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the plans.

120-11.2 Operations Adjacent to Pavement: Carefully dress areas adjacent to pavement areas to avoid damage to such pavement. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface.

When shoulder dressing is underway adjacent to a pavement lane being used to maintain traffic, exercise extreme care to avoid interference with the safe movement of traffic.

120-12 Method of Measurement.

120-12.1 Excavation: Excavation will be paid for by volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer. Measurement for payment will include the excavation of unsuitable material, lateral ditch excavation, channel excavation, and excavation for structures and pipe. Payment will not be made for excavation or embankment beyond the limits shown in the plans or authorized by the Engineer.

120-12.2 Embankment: Measurement will be made on a loose volume basis, as measured in trucks or other hauling equipment at the point of dumping on the road. Payment will not be made for embankment beyond the limits shown in the plans or authorized by the Engineer.

120-13 Basis of Payment.

120-13.1 General: Prices and payments for the work items included in this Section will be full compensation for all work described herein, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork; and maintaining and protecting the complete earthwork.

120-13.2 Excavation: The total quantity of all excavation specified under this Section will be paid for at the Contract unit price for Excavation. No payment will be made for the excavation of any materials which are used for purposes other than those shown in the plans or designated by the Engineer. No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer.

120-13.3 Embankment: The total quantity of embankment specified in this Section will be paid for at the Contract unit price for embankment. No payment will be made for materials which are used for purposes other than those shown in the plans or designated by the Engineer. No payment will be made for materials placed outside the lines and grades given by the Engineer.

SUPERPAVE ASPHALT FOR LAP (OFF-SYSTEM).

(REV 1-26-15) (FA 1-29-15)

**SECTION 334
SUPERPAVE ASPHALT FOR LAP (OFF-SYSTEM)**

334-1 Description.

334-1.1 General: Construct a Superpave asphalt pavement (consisting of either Hot Mix Asphalt (HMA) or Warm Mix Asphalt (WMA)) based on the type of work specified in the Contract and the Asphalt Work Categories as defined below. Meet the applicable requirements for plants, equipment, and construction requirements as defined below. Use an asphalt mix, either HMA or WMA, which meets the requirements of this specification.

334-1.2 Asphalt Work Mix Categories: Construction of asphalt pavement will fall into one of the following work categories:

334-1.2.1 Asphalt Work Category 1: Includes the construction of shared use paths and miscellaneous asphalt.

334-1.2.2 Asphalt Work Category 2: Includes the construction of new asphalt turn lanes, paved shoulders and other non-mainline pavement locations.

334-1.2.3 Asphalt Work Category 3: Includes the construction of new mainline asphalt pavement lanes, milling and resurfacing.

334-1.3 Mix Types: Use the appropriate asphalt mix as shown in Table 334-1.

Table 334-1 Asphalt Mix Types			
Asphalt Work Category	Mix Types	Traffic Level	ESALs (millions)
1	Type SP-9.5	A	<0.3
2	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	B	0.3 to <3
3	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	C	≥3

A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost (i.e. Traffic Level B may be substituted for Traffic Level A, etc.). Traffic levels are as defined in Section 334 of the Florida Department of Transportation's (FDOT's) Specifications.

334-1.4 Gradation Classification: The Superpave mixes are classified as fine and are defined in 334-3.2.2. The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

Type SP-9.5, FC-9.5 9.5 mm

Type SP-12.5, FC-12.5 12.5 mm

334-1.5 Thickness: The total pavement thickness of the asphalt pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness. When the total pavement thickness is specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:

$$\text{Spread rate (lbs/yd}^2\text{)} = t \times G_{mm} \times 43.3$$

where: t = Thickness (in.) (Plan thickness or individual layer thickness)
 G_{mm} = Maximum specific gravity from the mix design

For target purposes only, spread rate calculations shall be rounded to the nearest whole number.

334-1.5.1 Layer Thicknesses: Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for asphalt mixtures are as follows:

Type SP-9.5, FC-9.5 3/4 to 1-1/2 inches

Type SP-12.5, FC-12.5 1-1/2 to 2-1/2 inches

334-1.5.2 Additional Requirements: The following requirements also apply to asphalt mixtures:

1. When construction includes the paving of adjacent shoulders (less than or equal to 5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.

2. For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/2 inch, and the maximum allowable thickness will be as specified below, unless called for differently in the Contract Documents.

Type SP-9.5.....3/8 to 2 inches

Type SP-12.5.....1/2 to 3 inches

3. Variable thickness overbuild layers may be tapered to zero thickness provided the contract documents require a minimum of 1-1/2 inches of mix placed over the variable thickness overbuild layer.

334-1.6 Weight of Mixture: The weight of the mixture shall be determined as provided in 320-3.2 of the FDOT Specifications.

334-2 Materials.

334-2.1 Superpave Asphalt Binder: Unless specified elsewhere in the Contract or in 334-2.3.3, use a PG 67-22 asphalt binder from the FDOT's Approved Products List (APL). If the Contract calls for an alternative asphalt binder, meet the requirements of FDOT Specifications Section 336 or 916, as appropriate.

334-2.2 Aggregate: Use aggregate capable of producing a quality pavement.

For Type FC mixes, use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:

1. Up to 40% fine aggregate from other sources; or,
2. A combination of up to 20% RAP and the remaining fine aggregate

from other sources.

A list of aggregates approved for use in friction courses may be available on the FDOT's State Materials Office website. The URL for obtaining this information, if available, is: <ftp://ftp.dot.state.fl.us/fdot/smo/website/sources/frictioncourse.pdf>.

334-2.3 Reclaimed Asphalt Pavement (RAP) Material:

334-2.3.1 General requirements: RAP may be used as a component of the asphalt mixture, provided the RAP meets the following requirements:

1. When using a PG 76-22 (PMA), or PG 76-22 (ARB) asphalt binder, limit the amount of RAP material used in the mix to a maximum of 20% by weight of total aggregate. As an exception, amounts greater than 20% RAP by weight of total aggregate can be used if no more than 20% by weight of total asphalt binder comes from the RAP material.

2. Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.

3. Provide RAP material having a minimum average asphalt binder content of 4.0% by weight of RAP. As an exception, when using fractionated RAP, the minimum

average asphalt binder content for the coarse portion of the RAP shall be 2.5% by weight of the coarse portion of the RAP. The coarse portion of the RAP shall be the portion of the RAP retained on the No. 4 sieve. The Engineer may sample the stockpile to verify that this requirement is met.

4. Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.

334-2.3.2 Material Characterization: Assume responsibility for establishing the asphalt binder content, gradation, and bulk specific gravity (G_{sb}) of the RAP material based on a representative sampling of the material.

334-2.3.3 Asphalt Binder for Mixes with RAP: Select the appropriate asphalt binder grade based on Table 334-2. The Engineer reserves the right to change the asphalt binder type and grade during production based on characteristics of the RAP asphalt binder.

Table 334-2 Asphalt Binder Grade for Mixes Containing RAP	
Percent RAP	Asphalt Binder Grade
0 - 15	PG 67-22
16 – 30	PG 58-22
> 30	PG 52-28

334-3 Composition of Mixture.

334-3.1 General: Compose the asphalt mixture using a combination of aggregates, mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined.

334-3.2 Mix Design:

334-3.2.1 General: Design the asphalt mixture in accordance with AASHTO R 35-12, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of any asphalt mixture, obtain the Engineer's conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to a laboratory designated by the Engineer for verification. As an exception to these requirements, use a currently approved FDOT Mix Design.

Warm mix technologies (additives, foaming techniques, etc.) listed on the Department's website may be used in the production of the mix. The URL for obtaining this information, is:

<http://www.dot.state.fl.us/statematerialsoffice/quality/programs/warmmixasphalt/index.shtm>.

The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.

334-3.2.2 Mixture Gradation Requirements: Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this

specification and conform to the gradation requirements at design as defined in AASHTO M 323-12, Table 3. Aggregates from various sources may be combined.

334-3.2.2.1 Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323-12, Table-3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323-12, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point.

334-3.2.3 Gyratory Compaction: Compact the design mixture in accordance with AASHTO T312-12, with the following exceptions: use the number of gyrations at N_{design} as designed in Table 334-3.

Table 334-3 Gyratory Compaction Requirements	
Traffic Level	N_{design} Number of Gyrations
A	50
B	65
C	75

334-3.2.4 Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323-12, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323-12, Table 6. N_{initial} and N_{maximum} requirements are not applicable.

334-3.2.5 Moisture Susceptibility: Test 4 inch specimens in accordance with FDOT Test Method FM 1-T 283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 pounds per square inch. If necessary, add a liquid anti-stripping agent from the FDOT's APL or hydrated lime in order to meet these criteria.

In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT's APL. Add 0.5% liquid anti-stripping agent by weight of asphalt binder.

334-3.2.6 Additional Information: In addition to the requirements listed above, provide the following information on each mix design:

1. The design traffic level and the design number of gyrations (N_{design}).
2. The source and description of the materials to be used.
3. The FDOT source number and the FDOT product code of the aggregate components furnished from an FDOT approved source (if required).
4. The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.
5. A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.
6. The bulk specific gravity (G_{sb}) value for each individual aggregate and RAP component.
7. A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1%.

8. A target temperature for the mixture at the plant (mixing temperature) and a target temperature for the mixture at the roadway (compaction temperature). Do not exceed a target temperature of 330°F for PG 76-22 (PMA) and PG 76-22 (ARB) asphalt binders, and 315°F for unmodified asphalt binders.

9. Provide the physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content, and must conform to all specified physical requirements.

10. The name of the mix designer.

11. The ignition oven calibration factor.

12. The warm mix technology, if used.

334-4 Process Control.

Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and roadway to control the process.

334-5 General Construction Requirements.

334-5.1 Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the paving operations.

334-5.2 Limitations of Paving Operations:

334-5.2.1 General: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, dry, clean, and the tack, with acceptable spread rate, is properly broken. Ensure all granular base materials are properly primed and all asphalt base materials are properly tacked, prior to paving.

334-5.2.2 Air Temperature: Place the mixture only when the air temperature in the shade and away from the artificial heat meets the requirements of Table 334-4. The minimum ambient temperature requirement may be reduced by 5°F when using a warm mix technology, if mutually agreed to by both the Engineer and the Contractor. Table 334-4 Ambient Air Temperature Requirements for Paving	
Layer Thickness or Asphalt Binder Type	Minimum Temperature (°F)
≤1 inch	50
Any mixture > 1 inch containing a PG asphalt binder with a high temperature designation ≥ 76°C	45
Any mixture > 1 inch containing a PG asphalt binder with a high temperature designation < 76°C	40

334-5.3 Mix Temperature: Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of plus or minus 30°F from the target temperature as shown on the mix design. Reject all loads outside of this range. For warm mix asphalt, the Contractor may produce the first five loads of the production day and at other times when approved by the Engineer, at a hot mix asphalt temperature not to exceed 330°F for purposes of heating the asphalt paver. For these situations, the upper tolerance of +30°F does not apply.

334-5.4 Transportation of the Mixture: Transport the mix in trucks of tight construction, which prevents the loss of material and the excessive loss of heat and previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies

with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use a release agent that will contaminate, degrade, or alter the characteristics of the asphalt mix or is hazardous or detrimental to the environment. Petroleum derivatives (such as diesel fuel), solvents, and any product that dissolves asphalt are prohibited. Provide each truck with a tarpaulin or other waterproof cover mounted in such a manner that it can cover the entire load when required. When in place, overlap the waterproof cover on all sides so it can be tied down. Cover each load during cool and cloudy weather and at any time it appears rain is likely during transit with a tarpaulin or waterproof cover. Cover and tie down all loads of friction course mixtures.

334-5.5 Preparation of Surfaces Prior to Paving:

334-5.5.1 Cleaning: Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

334-5.5.2 Patching and Leveling Courses: As shown in the plans, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.

334-5.5.3 Application over Surface Treatment: Where an asphalt mix is to be placed over a surface treatment, sweep and dispose of all loose material from the paving area.

334-5.5.4 Tack Coat: Use a rate of application as defined in Table 334-5. Control the rate of application to be within plus or minus 0.01 gallon per square yard of the target application rate. The target application rate may be adjusted by the Engineer to meet specific field conditions. Determine the rate of application as needed to control the operation. When using PG 52-28, multiply the target rate of application by 0.6.

Table 334-5 Tack Coat Application Rates		
Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd ²)
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.03 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.06
	Concrete Pavement	0.08

334-5.6 Placing Mixture:

334-5.6.1 Alignment of Edges: With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than plus or minus 1.5 inches from the stringline.

334-5.6.2 Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in 334-5.3, the Contractor may then place the mixture caught in transit.

334-5.6.3 Checking Depth of Layer: Check the depth of each layer at frequent intervals to ensure a uniform spread rate that will meet the requirements of the Contract.

334-5.6.4 Hand Work: In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.

334-5.6.5 Spreading and Finishing: Upon arrival, dump the mixture in the approved paver, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required weight of mixture per square yard, or the specified thickness, is secured. Carry a uniform amount of mixture ahead of the screed at all times.

334-5.6.6 Thickness Control: Ensure the spread rate is within 10% of the target spread rate, as indicated in the Contract. When calculating the spread rate, use, at a minimum, an average of five truckloads of mix. When the average spread rate is beyond plus or minus 10% of the target spread rate, monitor the thickness of the pavement layer closely and adjust the construction operations.

If the Contractor fails to maintain an average spread rate within plus or minus 10% of the target spread rate for two consecutive days, the Engineer may elect to stop the construction operation at any time until the issue is resolved.

When the average spread rate for the total structural or friction course pavement thickness exceeds the target spread rate by plus or minus 50 pounds per square yard for layers greater than or equal to 2.5 inches or exceeds the target spread rate by plus or minus 25 pounds per square yard for layers less than 2.5 inches, address the unacceptable pavement in accordance with 334-5.10.4, unless an alternative approach is agreed upon by the Engineer.

334-5.7 Leveling Courses:

334-5.7.1 Patching Depressions: Before spreading any leveling course, fill all depressions in the existing surface as shown in the plans.

334-5.7.2 Spreading Leveling Courses: Place all courses of leveling with an asphalt paver or by the use of two motor graders, one being equipped with a spreader box. Other types of leveling devices may be used upon approval by the Engineer.

334-5.7.3 Rate of Application: When using Type SP-9.5 for leveling, do not allow the average spread of a layer to be less than 50 pounds per square yard or more than 75 pounds per square yard. The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.

334-5.8 Compaction: For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

When density testing for acceptance is required, select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

When density testing for acceptance is not required, use a rolling pattern approved by the Engineer.

Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

334-5.9 Joints.

334-5.9.1 Transverse Joints: Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15 foot manual straightedge meeting the requirements of FDOT Test Method FM 5-509. These requirements are waived for transverse joints at the beginning and end of the project and at the beginning and end of bridge structures, if the deficiencies are caused by factors beyond the control of the Contractor such as no milling requirement, as determined by the Engineer. When smoothness requirements are waived, construct a reasonably smooth transitional joint.

334-5.9.2 Longitudinal Joints: For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. Do not construct longitudinal joints in the wheel paths. The Engineer may waive these requirements where offsetting is not feasible due to the sequence of construction.

334-5.10 Surface Requirements: Construct a smooth pavement with good surface texture and the proper cross slope.

334-5.10.1 Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with 334-5.10.4.

In areas not defined to be a density testing exception per 334-6.4.1, obtain for the Engineer, three 6 inch diameter roadway cores at locations visually identified by the Engineer to be segregated. The Engineer will determine the density of each core in accordance with FDOT Test Method FM 1-T 166 and calculate the percent G_{mm} of the segregated area using the average G_{mb} of the roadway cores and the representative PC G_{mm} for the questionable material. If the average percent G_{mm} is less than 90.0, address the segregated area in accordance with 334-5.10.4.

334-5.10.2 Cross Slope: Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents.

334-5.10.3 Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FDOT Test Method FM 5-509.

334-5.10.3.1 Straightedge Testing:

334-5.10.3.1.1 Acceptance Testing: Perform straightedge testing in the outside wheel path of each lane for the final (top) layer of the pavement. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing.

334-5.10.3.1.2 Final (Top) Pavement Layer: At the completion of all paving operations, straightedge the final (top) layer either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with 334-5.10.4, unless waived by the Engineer. Retest all corrected areas.

334-5.10.3.1.3 Straightedge Exceptions: Straightedge testing will not be required in the following areas: shoulders, intersections, tapers, crossovers, sidewalks, shared use paths, parking lots and similar areas, or in the following areas when they are less than 250 feet in length: turn lanes, acceleration/deceleration lanes and side streets. The limits of the

intersection will be from stop bar to stop bar for both the mainline and side streets. In the event the Engineer identifies a surface irregularity in the above areas that is determined to be objectionable, straightedge and address all deficiencies in excess of 3/8 inch in accordance with 334-5.10.4.

334-5.10.4 Correcting Unacceptable Pavement: Correct deficiencies in the pavement layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides (where possible) of the defective area for the full width of the paving lane, at no additional cost.

334-6 Acceptance of the Mixture.

334-6.1 General: The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:

1. Asphalt Work Category 1 – Certification by the Contractor as defined in 334-6.2.

2. Asphalt Work Category 2 – Certification and process control testing by the Contractor as defined in 334-6.3.

3. Asphalt Work Category 3 – Process control testing by the Contractor and acceptance testing by the Engineer as defined in 334-6.4.

334-6.2 Certification by the Contractor: On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications. The Engineer may run independent tests to determine the acceptability of the material.

334-6.3 Certification and Process Control Testing by the Contractor: On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications, along with supporting test data documenting all process control testing as described in 334-6.3.1. If required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the process control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material.

334-6.3.1 Process Control Sampling and Testing Requirements: Perform process control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1-T 168. Test the mixture at the plant for gradation (P₈ and P₂₀₀) and asphalt binder content (P_b). Measure the roadway density with 6 inch diameter roadway cores at a minimum frequency of once per 1,500 feet of pavement with a minimum of three cores per day.

Determine the asphalt binder content of the mixture in accordance with FDOT Method FM 5-563. Determine the gradation of the recovered aggregate in accordance with FDOT Method FM 1-T 030. Determine the roadway density in accordance with FDOT Method FM 1-T 166. The minimum roadway density will be based on the percent of the maximum specific gravity (G_{mm}) from the approved mix design. If the Contractor or Engineer suspects that the mix design G_{mm} is no longer representative of the asphalt mixture being

produced, then a new Gmm value will be determined from plant-produced mix, in accordance with FDOT Method FM 1-T 209, with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in 334-6.4.1. Assure that the asphalt binder content, gradation and density test results meet the criteria in Table 334-4.

Table 334-4 Process Control and Acceptance Values	
Characteristic	Tolerance
Asphalt Binder Content (percent)	Target \pm 0.55
Passing No. 8 Sieve (percent)	Target \pm 6.00
Passing No. 200 Sieve (percent)	Target \pm 2.00
Roadway Density (daily average)	Minimum 90.0% of Gmm

334-6.4 Process Control Testing by the Contractor and Acceptance Testing by the Engineer: On Asphalt Work Category 3, perform process control testing as described in 334-6.3.1. In addition, the Engineer will accept the mixture at the plant with respect to gradation (P₈ and P₂₀₀) and asphalt binder content (P_b). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in 334-6.3.1. The Engineer will randomly obtain at least one set of samples per day. Assure that the asphalt content, gradation and density test results meet the criteria in Table 334-4. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material.

334-6.4.1 Acceptance Testing Exceptions: When the total quantity of any mix type in the project is less than 500 tons, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.

Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, any asphalt layer placed on subgrade (regardless of type), miscellaneous asphalt pavement, shared use paths, crossovers, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 pounds per square yard. Density testing for acceptance will not be performed on asphalt courses placed on bridge decks or approach slabs; compact these courses in static mode only. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet continuous in length: turning lanes, acceleration lanes, deceleration lanes, shoulders, parallel parking lanes, or ramps. Density testing for acceptance will not be performed in intersections. The limits of the intersection will be from stop bar to stop bar for both the mainline and side streets. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

334-7 Method of Measurement.

For the work specified under this Section, the quantity to be paid for will be the weight of the mixture, in tons.

The bid price for the asphalt mix will include the cost of the liquid asphalt and the tack

coat application as specified in 334-5.5.4. There will be no separate payment or unit price adjustment for the asphalt binder material in the asphalt mix.

334-8 Basis of Payment.

334-8.1 General: Price and payment will be full compensation for all the work specified under this Section.

CONCRETE FOR LAP (OFF-SYSTEM).

(REV 12-20-11) (FA 2-27-12)

SECTION 344 CONCRETE FOR LAP (OFF-SYSTEM)

344-1 Description.

344-1 General: Construct concrete based on the type of work as described in the Contract and the concrete work categories as defined below.

344-1.2 Work Categories: Construction will fall into one of the following concrete work categories:

344-1.2.1 Concrete Work Category 1: Includes the construction of sidewalks, curb and gutter, ditch and slope pavement, or other non-reinforced cast-in-place elements.

344-1.2.2 Concrete Work Category 2: Includes the construction of precast concrete including concrete barriers, traffic railing barriers, parapets, sound barriers, inlets, manholes, junction boxes, pipe culverts, storm sewers, box culverts, prestressed concrete poles, concrete bases for light poles, highway sign foundations, retaining wall systems, traffic separators or other structural precast elements.

344-1.2.3 Concrete Work Category 3: Includes the work associated with the placement and/or construction of structural cast-in-place concrete meeting the requirements of this section.

344-2 Materials.

344-2.1 General: Use concrete composed of a mixture of Portland cement, aggregates, and water, with or without chemical or mineral admixtures that meet the following requirements:

344-2.1.1 Portland Cement: Portland cements meeting the requirements of AASHTO M-85 or ASTM C-150 is required. Different brands of cement, cement of the same brand from different facilities or different types of cement shall be stored separately and shall not be mixed.

344-2.1.2 Coarse and Fine Aggregates: Aggregates shall meet ASTM C 33. Source approval by the FDOT is not required.

344-2.1.3 Water: Water shall meet the requirements of ASTM C 1602.

344-2.1.4 Chemical Admixtures: Chemical admixtures shall be listed on the FDOT Qualified Products List. Admixtures may be added at the dosage rates recommended by the manufacturer.

344-2.1.5 Pozzolans and Slag: Pozzolans and Slag shall meet the requirements of Table 344-1. Fly ash shall not include the residue resulting from the burning of municipal garbage or any other refuse with coal, or the burning of industrial or municipal garbage in incinerators.

Table 344-1		
Type or Class	Test Method	Exceptions
Class C Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.
Class F Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.
Petroleum Coke Class F	ASTM C 618	Not to be used with Types IP or IS cements.
Bark Ash Class F	ASTM C 618	Not to be used with Types IP or IS cements.
Silica Fume	ASTM C 1240	
Metakaolin	ASTM C 618	
Slag	ASTM C 989	Use only ground granulated blast-furnace slag grade 100 or 120.
Ultra Fine Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.

344-3 Production, Mixing and Delivery of Concrete.

344-3.1 Concrete Production Requirements:

344-3.1.1 Category 1: Use a concrete production facility that is certified by the National Ready Mixed Concrete Association (NRMCA) or listed on the FDOT list of non-structural concrete producers. Concrete production facilities listed on the FDOT Producers with Accepted QC Programs list for structural concrete may also be used for Category 1.

344-3.1.2 Category 2: Use a prestressed and or precast facility listed on the FDOT Producers with Accepted QC Programs for precast or prestressed concrete.

344-3.1.3 Category 3: Use a structural concrete facility listed on the FDOT Producers with Accepted QC Programs for structural concrete.

344-3.2 Classes of Concrete: Meet the requirements of Table 344-2.

Table 344-2						
Class	Minimum Strength (28 day) (psi)	Target Slump (inches)	Target Range (inches)	Air Content Range (%)	Minimum Total Cementitious Materials Content (lb/yd ³)	Maximum Water to Cementitious Material Ratio (lb/lb)
Category 1						
Class NS	2,500	N/A	N/A	N/A	N/A	N/A
Category 3						
I	3,000	3	± 1.5	1.0 to 6.0	470	0.53
I (Pavement)	3,000	2	± 1.5	1.0 to 6.0	470	0.50
II	3,400	3	± 1.5	1.0 to 6.0	470	0.53
II (Bridge Deck)	4,500	3	± 1.5	1.0 to 6.0	611	0.44
III	5,000	3	± 1.5	1.0 to 6.0	611	0.44
III (Seal)	3,000	8	± 1.5	1.0 to 6.0	611	0.53
IV	5,500	3	± 1.5	1.0 to 6.0	658	0.41
IV (Drilled Shaft)	4,000	8.5	± 1.5	0.0 to 6.0	658	0.41
V (Special)	6,000	3	± 1.5	1.0 to 6.0	752	0.37
V	6,500	3	± 1.5	1.0 to 6.0	752	0.37

VI	8,500	3	± 1.5	1.0 to 6.0	752	0.37
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344-3.3 Contractors Quality Control: For Categories 1 and 2, assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times.

For Category 3, furnish a Quality Control (QC) plan to identify to the Engineer how quality will be ensured at the project site. During random inspections, the Engineer will use this document to verify that the construction of the project is in agreement with the QC plan.

344-3.4 Concrete Mix Design: Before producing any Category 1 or Category 2, submit the proposed mix designs to the Engineer on a form provided by the Engineer. For Category 3, submit to the Engineer for approval, FDOT approved mix designs. Do not use concrete mix designs without prior approval of the Engineer.

Materials may be adjusted provided that the theoretical yield requirement of the approved mix design is met. Show all required original approved design mix data and batch adjustments on an Engineer approved concrete delivery ticket.

344-3.5 Delivery: For Category 3, the maximum allowable transit time of concrete is 90 minutes.

Furnish a delivery ticket on a form approved by the Engineer with each batch of concrete before unloading at the placement site. Record material quantities incorporated into the mix on the delivery ticket. Ensure that the Batchers responsible for producing the concrete signs the delivery ticket certifying that the batch was produced and delivered in accordance with these requirements. Sign the delivery ticket certifying that the concrete was placed in accordance with these requirements.

344-3.6 Placing Concrete:

344-3.6.1 Concreting in Cold Weather: Do not mix or place concrete when the air temperature at placement is below 45°F.

During the curing period, if NOAA predicts the ambient temperature to fall below 35°F for 12 hours or more or to fall below 30°F for more than 4 hours, enclose the structure in such a way that the air temperature within the enclosure can be kept above 50°F for a period of 3 days after placing the concrete or until the concrete reaches a minimum compressive strength of 1,500 psi.

Assume all risks connected with the placing and curing of concrete. Although the Engineer may give permission to place concrete, the Contractor is responsible for satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the Agency.

344-3.6.2 Concreting in Hot Weather: For Category 3, hot weather concreting is defined as the production, placing and curing of concrete when the concrete temperature at placing exceeds 86°F but is less than 100°F.

Unless the specified hot weather concreting measures are in effect, reject concrete exceeding 86°F at the time of placement. Regardless of special measures taken, reject concrete exceeding 100°F. Predict the concrete temperatures at placement time and implement hot weather measures to avoid production shutdown.

344-3.7 Mixers: For Category 3 concrete, do not place concrete from a truck mixer that does not have a current FDOT mixer identification card.

344-3.8 Small Quantities of Concrete: With approval of the Engineer, small quantities of concrete, less than 3 cubic yards placed in one day and less than 0.5 cubic yards placed in a

single placement may be accepted using a pre-bagged mixture. The Engineer may verify that the pre-bagged mixture is prepared in accordance with the manufacturer's recommendations and will meet the requirements of this Specification.

344-3.9 Sampling and Testing:

344-3.9.1 Category 1: The Engineer may sample and test the concrete to verify its quality. The minimum 28 day compressive strength requirement for this concrete is 2,500 psi.

344-3.9.2: Category 2: No sampling and testing is required for category 2.

344-3.9.3 Category 3: The Engineer will randomly select a sample from each 200 cubic yards or one day's production to determine plastic properties and to make three 4 x 8 inch cylinders for testing by the Engineer at 28 days to ensure that the design compressive strength has been met for the class of concrete as specified in Table 344-2.

344-3.10 Records: Ensure the following records are available for review for at least 3 years after final acceptance of the project:

1. Approved concrete mix designs.
2. Materials source (delivery tickets, certifications, certified mill test reports).
3. A copy of the scale company or testing agency report showing the observed deviations from quantities checked during calibration of the scales and meters.
4. A copy of the documentation certifying the admixture weighing/measuring devices.

344-4 Acceptance of the Work.

344-4.1 Category 1 Work: Category 1 work will be accepted based on certification by the batcher and contractor on the delivery ticket.

344-4.2 Category 2 Work: Certify that the precast elements were produced by a production facility on the FDOT's list of Producers with Accepted QC Programs for precast or prestressed concrete. In addition, the producer's logo shall be stamped on the element. The producer shall not use the Florida Department of Transportation QC stamp on elements used on this project. Provide a statement of certification from the manufacturer of the precast element that the element meets the requirements of this Specification.

344-4.3 Category 3 Work: Category 3 concrete will be accepted based on the Engineer's test results for plastic properties and compressive strength requirements for the class of concrete as defined in Table 344-2. In addition, a Delivery Ticket as described in 344-3.5 will be required for acceptance of the material at the project site.

344-4.4 Small Quantities of Concrete: Category 3 concrete meeting the definition of 344-3.8 will be accepted in accordance with 344-4.3 based on test results for plastic properties and compressive strength.

344-5 Method of Measurement.

The quantities to be paid for will be the items shown in the plans, completed and accepted.

344-6 Basis of Payment.

Prices and payments will be full compensation for all work and materials specified in this Section.

LANDSCAPE INSTALLATION FOR LAP (OFF-SYSTEM).
(REV 4-5-11) (FA 4-15-11)

SECTION 580
LANDSCAPE INSTALLATION FOR LAP (OFF-SYSTEM)

580-1 Description.

Plant trees and shrubs of the species, size, and quality indicated in the plans.

The Engineer reserves the right to adjust the number and location of any of the designated types and species to be used at any of the locations shown, in order to provide for any unanticipated effects which might become apparent after the substantial completion of other phases of the project, or for other causes.

580-2 Materials.

580-2.1 Plants:

580-2.1.1 Authority for Nomenclature; Species, etc.: For the designated authority in the identification of all plant material, refer to two publications of L.H. Bailey: "Hortus III" and "Manual of Cultivated Plants," and ensure that all specimens are true to type, name, etc., as described therein. For the standard nomenclature, refer to the publication of the American Joint Committee on Horticultural Nomenclature, "Standardized Plant Names."

580-2.1.2 Grade Standards and Conformity with Type and Species: Only use nursery grown plant material except where specified as Collected Material. Use nursery grown plant material that complies with all required inspection, grading standards, and plant regulations in accordance with the latest edition of the Florida Department of Agriculture's "Grades and Standards for Nursery Plants".

Except where a lesser grade might be specifically specified in the plans, ensure that the minimum grade for all trees and shrubs is Florida No. 1. Ensure that all plants are the proper size and grade at the time of delivery to the site, throughout the project construction period and during any designated plant establishment period.

Ensure that plant materials are true to type and species and that any plant materials not specifically covered in Florida Department of Agriculture's "Grades and Standards for Nursery Plants" conform in type and species with the standards and designations in general acceptance by Florida nurseries.

Ensure that plant materials are shipped with tags stating the botanical and common name of the plant.

580-2.1.3 Inspection and Transporting: Move nursery stock in accordance with all Federal and State regulations therefor, and accompany each shipment with the required inspection certificates for filing with the Engineer.

580-2.2 Water: Water used in landscaping operations may be obtained from any approved source. Ensure that water is free of any substance which might be detrimental to plant growth. The use of effluent water is subject to approval and must meet all Federal, State and Local requirements.

580-3 Specific Requirements for the Various Plant Designations.

580-3.1 Balled-and-Burlapped Plants (B&B), and Wired Balled-and-Burlapped (WB & B):

580-3.1.1 General: Properly protect the root ball of these plants until planting them. The Engineer may reject any plant which shows evidence of having been mishandled.

Set the B&B and WB&B plants then remove the top 2/3 of all wire, rope, and binding surrounding the plant. Remove the burlap from the top 4 inches of the root ball. Do not disturb the root ball in any way. Bare root material is not allowed for substitution.

At least 90 days before digging out B & B and WB & B plants, root-prune those 1 1/2 inches or greater in diameter and certify such fact on accompanying invoices.

580-3.1.2 Provisions for Wiring: For plants grown in soil of a loose texture, which does not readily adhere to the root system (and especially in the case of large plants or trees), the Engineer may require WB & B plants. For WB & B plants, before removing the plant from the excavated hole, place sound hog wire around the burlapped ball, and loop and tension it until the tightened wire netting substantially packages the burlapped ball such as to prevent disturbing of the loose soil around the roots during handling.

580-3.2 Container-Grown Plants (CG): The Engineer will not accept any CG plants with roots which have become pot-bound or for which the top system is too large for the size of the container. Fully cut and open all containers in a manner that will not damage the root system. Do not remove CG plants from the container until immediately before planting to prevent damage to the root system.

580-3.3 Collected Plants (Trees and Shrubs) (C): Use C plants which have a root ball according to "Florida Grades and Standards for Nursery Plants". Do not plant any C plant before the Engineer's inspection and acceptance at the planting site.

580-3.4 Collected Plants (Herbaceous) (HC): The root mass and vegetative portions of collected herbaceous plants shall be as large as the specified container-grown equivalent. Do not plant any collected plant before inspection and acceptance by the Engineer.

580-3.5 Specimen Plants (Special Grade): When Specimen (or Special Grade) plants are required, label them as such on the plant list, and tag the plant to be furnished.

580-3.6 Palms: Wrap the roots of all plants of the palm species before transporting, except if they are CG plants and ensure that they have an adequate root ball structure and mass for healthy transplantation as defined in "Florida Grades and Standards for Nursery Plants".

The Engineer will not require burlapping if the palm is carefully dug from marl or heavy soil that adheres to the roots and retains its shape without crumbling. During transporting and after arrival, carefully protect root balls of palms from wind and exposure to the sun. Muck grown palms are not allowed. After delivery to the job site, if not planting the palm within 24 hours, cover the root ball with a moist material. Plant all palms within 48 hours of delivery to the site.

Move sabal and coconut palms in accordance with the "Florida Grades and Standards for Nursery Plants."

580-3.7 Substitution of Container-Grown (CG) Plants: With the Engineer's approval, the Contractor may substitute CG plants for any other root classification types, if he has met all other requirements of the Contract Documents.

580-4 Planting Requirements.

580-4.1 Layout: Prior to any excavation or planting, mark all planting beds and individual locations of palms, trees, large shrubs and proposed art and architectural structures, as shown in the plans, on the ground with a common bright orange colored spray paint, or with other approved methods, within the project limits. Obtain the Engineer's approval and make necessary utility clearance requests.

580-4.2 Excavation of Plant Holes: Excavate plant holes after an area around the plant three times the size of the root ball has been tilled to a depth of the root ball. Ensure that the plant hole is made in the center of the tilled area only to the depth of the plant root ball.

Where excess material has been excavated from the plant hole, use the excavated material to backfill to proper level.

580-4.3 Setting of Plants: Center plants in the hole. Lower the plant into the hole so that it rests on a prepared hole bottom such that the roots are level with, or slightly above, the level of their previous growth and so oriented such as to present the best appearance.

Backfill with native soil, unless otherwise specified on the plans. Firmly rod and water-in the backfill so that no air pockets remain. Apply a sufficient quantity of water immediately upon planting to thoroughly moisten all of the backfilled earth. Keep plants in a moistened condition for the duration of the planting period.

When so directed, form a water ring 6 inches in width to make a water collecting basin with an inside diameter equal to the diameter of the excavated hole. Maintain the water ring in an acceptable condition.

580-4.4 Special Bed Preparation: Where multiple or mass plantings are to be made in extended bedding areas, and the plans specify Special Bed Preparation, prepare the planting beds as follows:

Remove all vegetation from within the area of the planting bed and excavate the surface soil to a depth of 6 inches. Backfill the excavated area with peat, sand, finish soil layer material or other material to the elevation of the original surface. Till the entire area to provide a loose, friable mixture to a depth of at least 8 inches. Level the bed only slightly above the adjacent ground level. Then mulch the entire bedding area, in accordance with 580-8.

580-5 Staking and Guying.

580-5.1 General: When specified in the plans, or as directed by the Engineer, stake plants in accordance with the following.

Use wide plastic, rubber or other flexible strapping materials to support the tree to stakes or ground anchors that will give as the tree moves in any direction up to 30 degrees. Do not use rope or wire through a hose. Use guy chords, hose or any other thin bracing or anchorage material which has a minimum 12 inches length of high visibility flagging tape secured to guys, midway between the tree and stakes for safety.

Stake trees larger than 1 inch diameter and smaller than 2 inches diameter with a 2 by 2 inch stake, set at least 2 feet in the ground and extending to the crown of the plant. Firmly fasten the plant to the stake with flexible strapping materials as noted above.

580-5.2 Trees of 2 to 3 1/2 inches [50 to 90 mm] Caliper: Stake all trees, other than palm trees, larger than 2 inches caliper and smaller than 3 1/2 inches caliper with two 2 by 4 inch

stakes, 8 feet long, set 2 feet in the ground. Place the tree midway between the stakes and hold it firmly in place by flexible strapping materials as noted above.

580-5.3 Large Trees: Guy all trees, other than palm trees, larger than 3 1/2 inches caliper, from at least three points, with flexible strapping materials as noted above.

Anchor flexible strapping to 2 by 4 by 24 inch stakes, driven into the ground such that the top of the stake is at least 3 inches below the finished ground.

580-5.4 Special Requirements for Palm Trees: Brace palms which are to be staked with three 2 by 4 inch wood braces, toe-nailed to cleats which are securely banded at two points to the palm, at a point one third the height of the trunk. Pad the trunk with five layers of burlap under the cleats. Place braces approximately 120 degrees apart and secure them underground by 2 by 4 by 12 inch stake pads.

580-6 Tree Protection and Root Barriers.

Install tree barricades when called for in the Contract Documents or by the Engineer to protect existing trees from damage during project construction. Place barricades at the drip line of the tree foliage or as far from the base of the tree trunk as possible. Barricades shall be able to withstand bumps by heavy equipment and trucks. Maintain barricades in good condition.

When called for in the Contract Documents, install root barriers or fabrics in accordance with the details shown.

580-7 Pruning.

Prune all broken or damaged roots and limbs in accordance with established arboriculture practices. When pruning is completed ensure that all remaining wood is alive. Do not reduce the size or quality of the plant below the minimum specified.

580-8 Mulching.

Uniformly apply mulch material, consisting of wood chips (no Cypress Mulch is allowed), pine straw, compost, or other suitable material approved by the Engineer, to a minimum loose thickness of 3 inches over the entire area of the backfilled hole or bed within two days after the planting. Maintain the mulch continuously in place until the time of final inspection.

580-9 Disposal of Surplus Materials and Debris.

Dispose of surplus excavated material from plant holes by scattering or otherwise as might be directed so that it is not readily visible or conspicuous to the passing motorist or pedestrian. Remove all debris and other objectionable material from the site and clean up the entire area and leave it in neat condition.

580-10 Contractor's Responsibility for Condition of the Plantings.

Ensure that the plants are kept watered, that the staking and guying is kept adjusted as necessary, that all planting areas and beds are kept free of weeds and undesirable plant growth and that the plants are maintained so that they are healthy, vigorous, and undamaged at the time of acceptance.

580-11 Plant Establishment Period.

If the Contract Documents designate a Plant Establishment Period, assume responsibility for the proper maintenance, survival and condition of all landscape items during such period at no additional cost.

580-12 Method of Measurement.

The quantities to be paid for will be the items shown in the plans, completed and accepted.

580-13 Basis of Payment.

Prices and payments will be full compensation for all work specified in this Section.

SCOPE OF WORK – INTENT OF CONTRACT.

(REV 8-19-09) (FA 8-24-09) (1-21)

ARTICLE 4-1 is expanded by the following:

The Improvements under this Contract consist of the new construction of sidewalk in accordance with the American with Disabilities Act (ADA), minor drainage improvement and curb ramps.

The summary of pay items for this project is listed in the Plans.

THIS COMPLETES THIS SPECIFICATIONS PACKAGE