Miami-Dade County
Department of Transportation
and Public Works

SET # 2 OF 2 SETS

VOLUME III of III

PLANS FOR:

Improvements to SW 87 Avenue Bridge Over Canal C-100

Miami-Dade County

Small Business Enterprise-Construction Program (SBE-CONST.):
SBE–Con 22.01%
Small Business Enterprise-Services Program (SBE-S):
SBE–S 0.26%
DTPW Capital Improvements Engineer:
Katherine Fernandez
RPQ Issue Date:
May 26, 2022

Miscellaneous Construction Contracts (MCC) Program:
MCC 7360 Plan -CICC 7360-0/08, Request for Price Quotation (RPQ) No. 20220010

GENERAL NOTES

DESIGN SPECIFICATIONS

1. FDOT STRUCTURES MANUAL DATED JANUARY 2021.
2. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION.
3. FDOT DESIGN MANUAL DATED JANUARY 2021.

GENERAL SPECIFICATIONS

1. FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 2021).
2. FLORIDA DEPARTMENT OF TRANSPORTATION, FY 2021-2022 STANDARD PLANS.
3. AASHTO GUIDE SPECIFICATION FOR BRIDGE TEMPORARY WORKS (2ND EDITION 2017, AND 2020 INTERIM REVISIONS)

VERTICAL DATUM

ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NAVD-29).

ENVIRONMENT

1. SUPERSTRUCTURE = SLIGHTLY AGGRESSIVE.
   SUBSTRUCTURE = MODERATELY AGGRESSIVE (RESISTIVITY = 1435 OHM-CM)

DESIGN METHODOLOGY

1. LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD) USING STRENGTH SERVICE, EXTREME EVENT AND FATIGUE LIMIT STATES.

DESIGN LOADINGS

1. LIVE LOAD:
   A. HL-93 WITH DYNAMIC LOAD ALLOWANCE
   B. SIDE WALK LOADING = 75 PSF
2. DEAD LOADS:
   A. UNIT WEIGHT OF STRUCTURAL CONCRETE = 150 PCF (NORMAL WEIGHT), 120 PCF (LIGHT WEIGHT).
   B. UNIT WEIGHT OF STRUCTURAL STEEL = 490 PCF
   C. TRAFFIC RAILING, 32" VERTICAL SHAPE = 385 PLF
   D. PEDESTRIAN/BICYCLE BULLET RAILING = 10 PLF
   E. FUTURE WEARING SURFACE: NO ALLOWANCE FOR FUTURE WEARING SURFACE
4. THERMAL LOADS:
   A. UNIFORM TEMPERATURE

SUPERSTRUCTURE MATERIAL	THEMPERATURE RANGE			THERMAL COEFFICIENT
	MEAN	RISE	FALL	
CONCRETE ONLY	70°F	35°F	35°F	0.000006/°F

5. WIND LOAD ON STRUCTURE: WIND LOAD ON STRUCTURES SHALL BE COMPUTED AND APPLIED AS PER FDOT STRUCTURES DESIGN GUIDELINES (SDG) 2.4.

BRIDGE NAME AND NUMBER

PLACE THE FOLLOWING BRIDGE NAME AND NUMBER ON THE TRAFFIC RAILINGS IN ACCORDANCE WITH THE TRAFFIC RAILING STANDARD PLANS:

NAME:	NUMBER:
SW 87TH AVENUE C-100 CANAL	TBD

MATERIALS

1. REINFORCING STEEL: GRADE 60 CARBON STEEL PER FDOT SPECIFICATIONS SECTION 931
2. CONCRETE:

CONCRETE CLASS	MIN. 28-DAY COMPRESSIVE STRENGTH	LOCATION
II	3400 PSI	TRAFFIC RAILINGS & TRAFFIC SEPARATOR
II (BRIDGE DECK)	4500 PSI	APPROACH SLABS
IV (WITH SRA)	5500 PSI	DECK TOPPING
IV	5500 PSI	C.I.P SUBSTRUCTURE
VI	8500 PSI	FL SLAB BEAMS

UNLESS NOTED OTHERWISE CONCRETE COVER PER FDOT (SDG) 1.4.2. CONCRETE COVER DIMENSIONS SHOWN IN THE PLANS DO NOT INCLUDE PLACEMENT AND FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER". SEE FDOT SPECIFICATIONS SECTION 415 FOR ALLOWABLE TOLERANCES. ALL DIMENSIONS PERTAINING TO THE LOCATION OF REINFORCING STEEL ARE TO CENTERLINE OF BARS EXCEPT WHERE CLEAR DIMENSION IS NOTED TO FACE OF CONCRETE.

3. PRESTRESSING STRANDS: ASTM A416, GRADE 270, LOW RELAXATION.
4. C.I.P. TOPPING: THOROUGHLY SATURATE THE TOP SURFACE OF THE FLORIDA SLAB BEAMS WITH WATER IN ACCORDANCE WITH FDOT SPECIFICATION 400 FOR 12 HOURS IMMEDIATELY PRIOR TO PLACING THE C.I.P. TOPPING. CURE THE C.I.P. TOPPING IN ACCORDANCE WITH THE FDOT SPECIFICATION 400 REQUIREMENTS FOR BRIDGE DECKS. ADD SHRINKAGE REDUCING ADMIXTURE TO C.I.P. TOPPING CONCRETE.

UTILITIES

FOR PLAN LOCATIONS OF UTILITIES, SEE PLAN AND ELEVATION SHEETS. LOCATION OF UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE.

BRIDGE MOUNTED SHEETING

INSTALL REFLECTING SHEETING ATTACHED TO FACE OF EXTERIOR FLORIDA SLAB BEAMS. MARKINGS SHALL CONSIST OF BLACK AND YELLOW STRIPES. THE SHEETING SHALL BE A MINIMUM OF 360 SQUARE INCHES WITH A HEIGHT OF 12 INCHES CENTERED ON THE CENTERLINE OF CANAL C-100.

SCREEDING DECKS

SCREED THE SURFACE OF THE BRIDGE DECK AND APPROACH SLAB TO ACHIEVE THE FINISH GRADE ELEVATIONS SHOWN IN THESE PLANS. ACCOUNT FOR THEORETHICAL DEFLECTIONS DUE TO SELF WEIGHT, DECK CASTING SEQUENCE AND CONSTRUCTION LOADS.

CONSTRUCTION JOINT

CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT THE LOCATION INDICATED IN THE PLANS.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

R.J. Behar & Company, Inc.
Engineers • Planners
6861 SW 196 Avenue, Suite 302
Pembroke Pines, Florida 33332

	NAME	DATE		NAME	DATE
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CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

BRIDGE GENERAL NOTES

SUMMARY OF QUANTITIES

SECTION	PAY ITEM NO.	PAY ITEM DESCRIPTION	UNIT	TOTAL	
				P	F
FOUNDATION	455-113-24	AUGER CAST PILES FOR BRIDGES	LF	1166	
	455-147-1	THERMAL INTEGRITY TESTING, UP TO 4' SHAFT DIAMETER	EA	2	
SUBSTRUCTURE	400-4-5	CONCRETE CLASS IV, BRIDGE SUBSTRUCTURE	CY	161	
	415-1-5	REINFORCING STEEL - BRIDGE SUBSTRUCTURE	LB	25956	
	548-12	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER	SF	271	
APPROACH SLABS	400-2-10	CONCRETE CLASS II, APPROACH SLABS	CY	167	
	415-1-9	REINFORCING STEEL - APPROACH SLABS	LB	26924	
SUPERSTRUCTURE	400-4-47	CONCRETE CLASS IV, CAST - IN - PLACE TOPPING WITH SHRINKAGE REDUCING ADMIXTURE	CY	164	
	400-7-1	BRIDGE DECK GROOVING	SY	162	
	400-9-1	BRIDGE DECK PLANING	SY	96	
	400-148	PLAIN NEOPRENE BEARING PADS	CF	6.2	
	415-1-4	REINFORCING STEEL - BRIDGE SUPERSTRUCTURE	LB	21812	
	450-8-24	PRESTRESSED BEAM: FLORIDA SLAB BEAM, BEAM DEPTH 18", WIDTH 53"	LF	957	
	458-1-11	BRIDGE DECK EXPANSION JOINT, NEW CONSTRUCTION, F&I POURED JOINT WITH BACKER ROD	LF	127	
RAILING/BARRIERS	515-4-1	BULLET RAIL, SINGLE RAIL	LF	198	
	521-5-4	CONCRETE TRAFFIC RAILING - BRIDGE, 32" VERTICAL FACE	LF	200	
UTILITY PROTECTION	400-2-5	CONCRETE CLASS II	CY	242	
	415-1-4	REINFORCING STEEL	LB	6102	
MISCELLANEOUS	400-10-SP	DECORATIVE URN PLANTER	EA	4	
	415-1-4	REINFORCING STEEL (SUPER STRUCTURE)	LB	1013	
	400-2-10	CONCRETE CLASS II, URN CONCRETE PAD	CY	8.6	

PAY ITEM NOTES:

400-10-SP INCLUDES THE COST OF 4 ADHESIVE ANCHOR PER EACH DECORATIVE URN PLANTER.

400-2-5 INCLUDES THE COST OF A 1/4" PLYWOOD AND 6" CARDBOARD .

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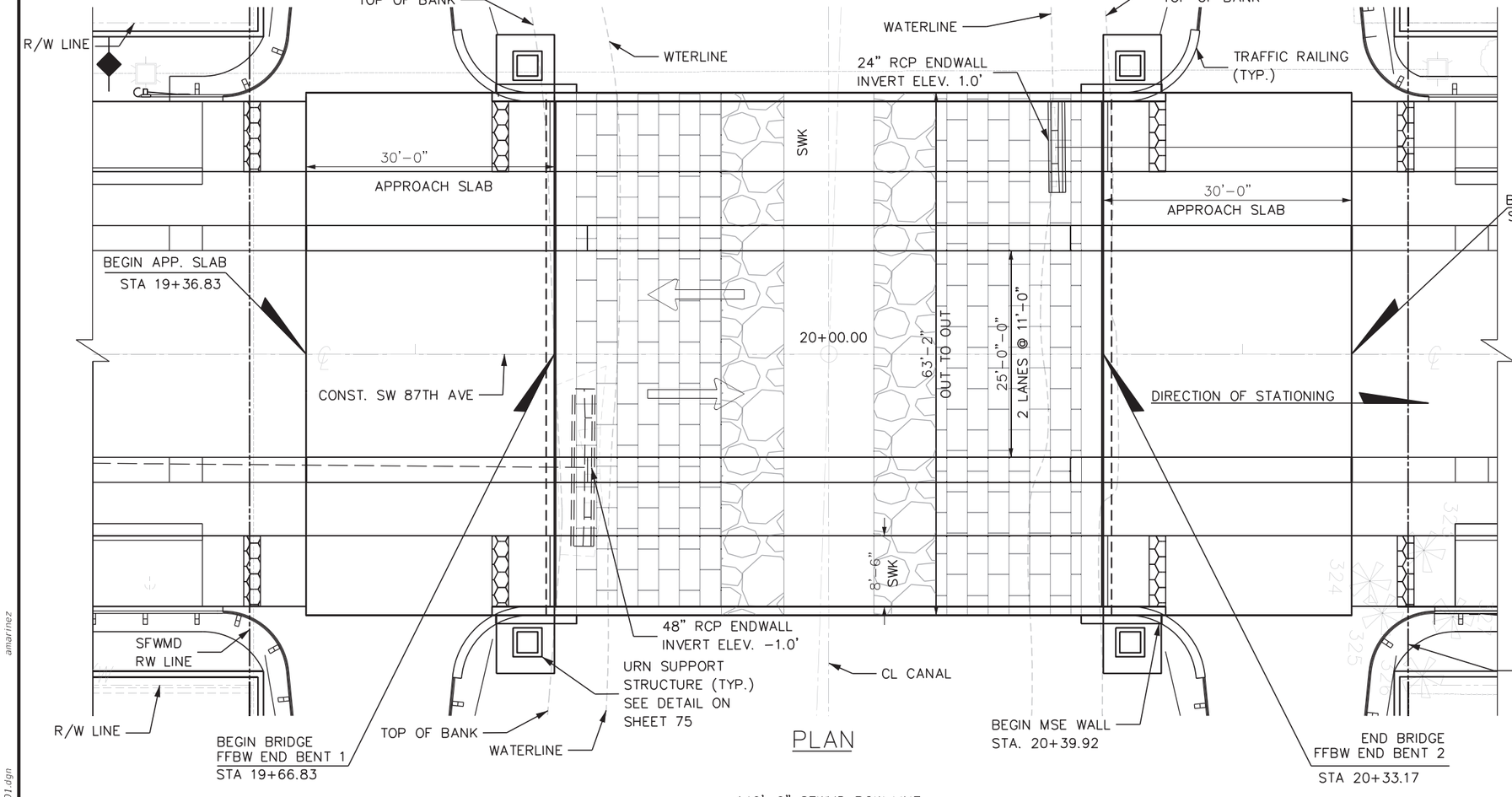
BRIDGE SUMMARY OF QUANTITIES

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
SW 87th AVENUE
AT CANAL
PROJECT NO. 20210098 SHEET 60 OF 81



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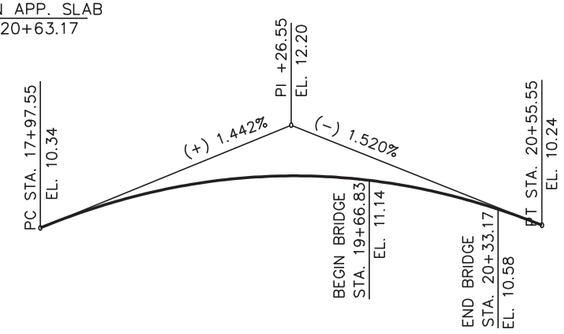

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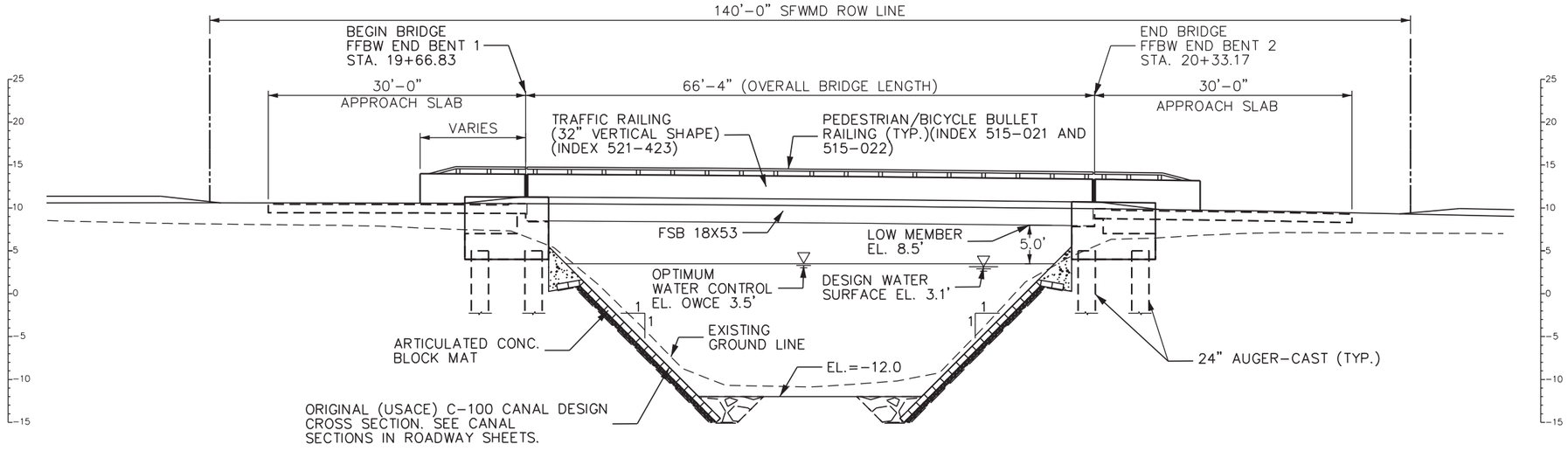

ELEVATION
SW 87TH AVENUE

REVISIONS								
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PLAN AND ELEVATION

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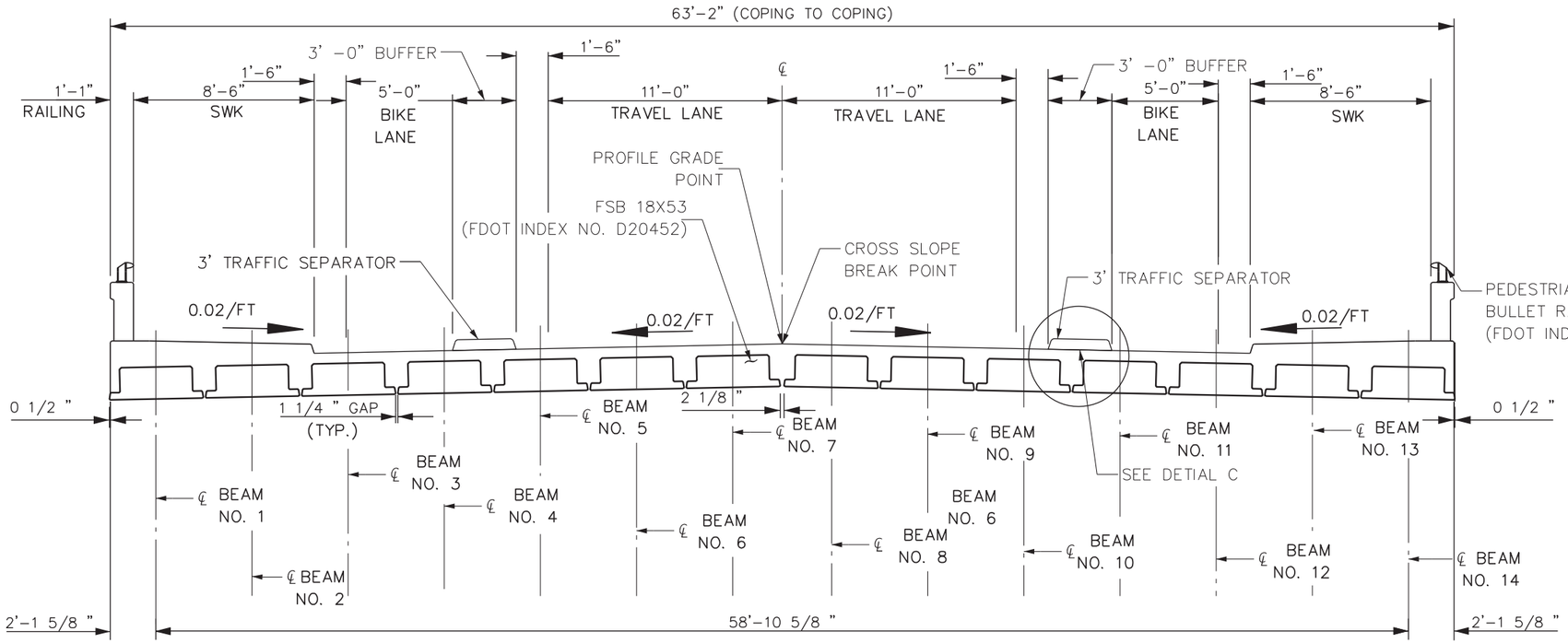
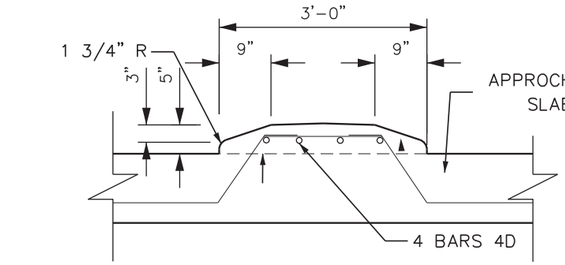
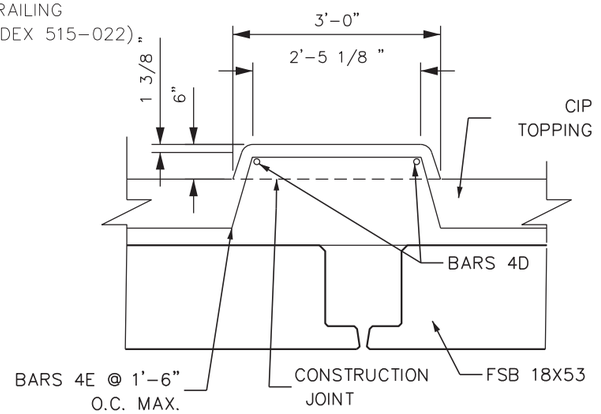


TYPICAL SECTION
SW 87TH AVENUE



DETAIL D
(DECK/APPROCH SLAB REINFORCEMENT NOT SHOWN FOR CLARITY)



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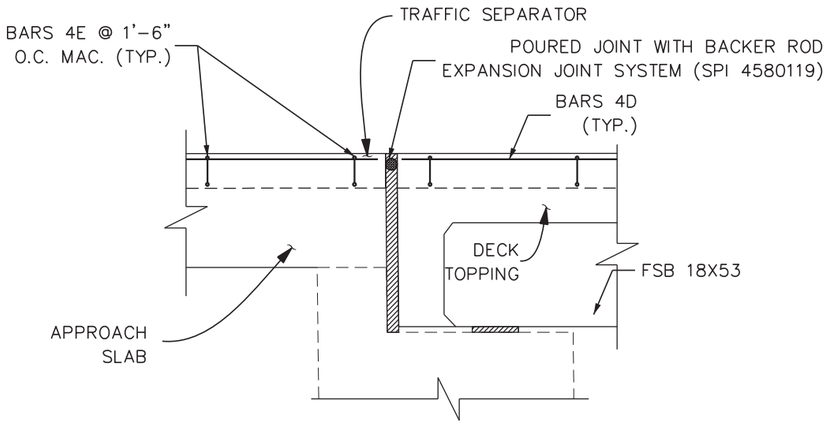
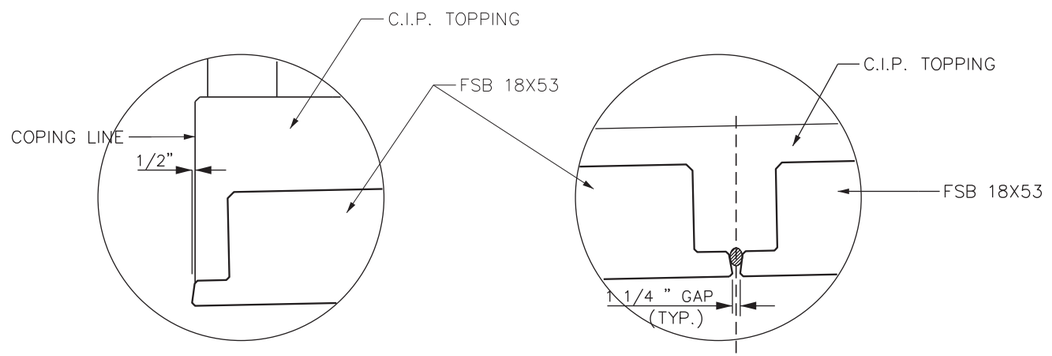


TRAFFIC SEPARATOR DETAILS
AT END BENTS



DETAIL A

DETAIL B

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BRIDGE
TYPICAL SECTION

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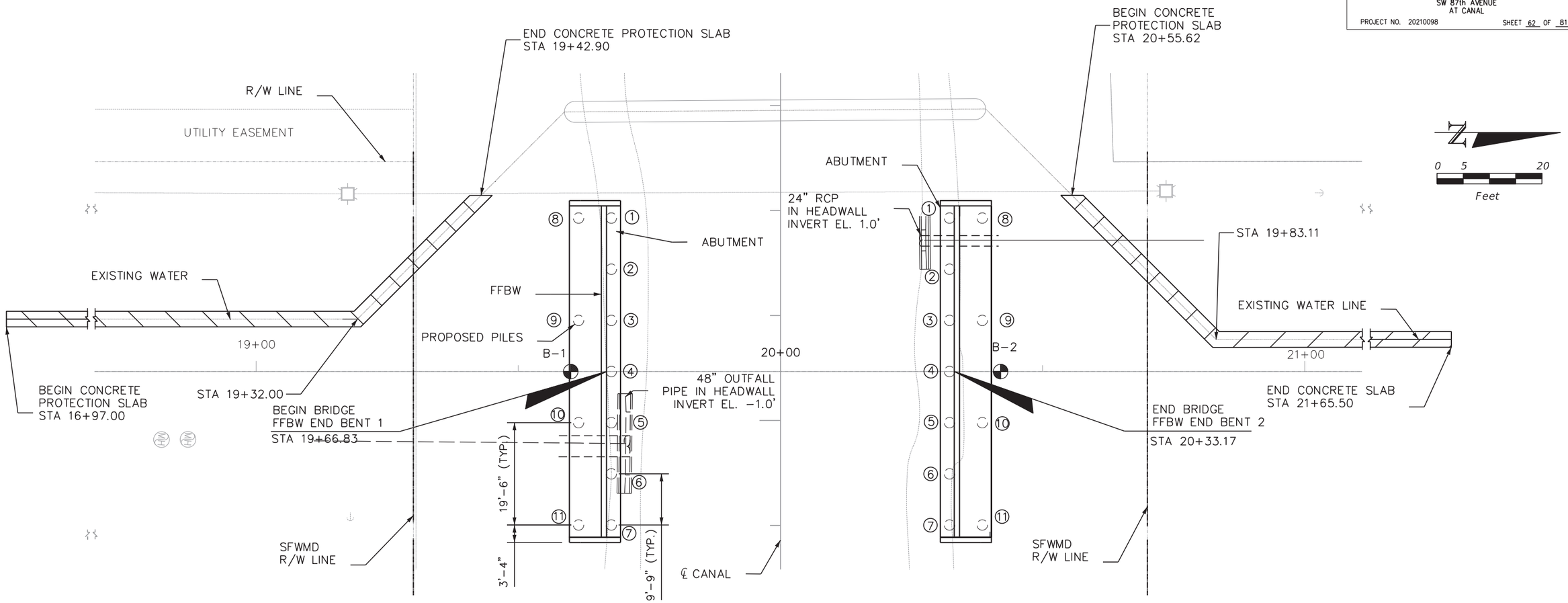


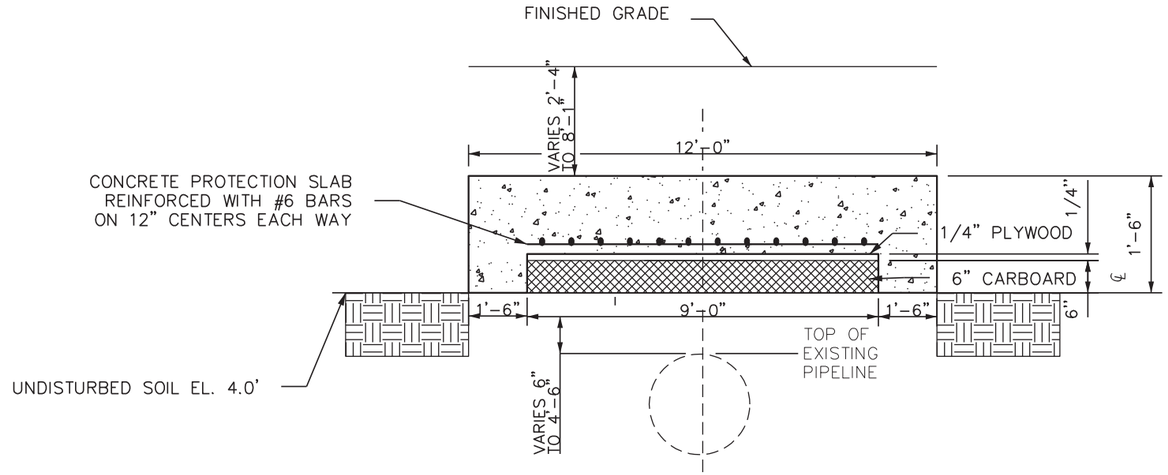
PLAN

LEGEND:

○ DENOTES PROPOSED 24" SQ. AUGER-CAST PILE (PLUMB)

FFBW INDICATES FRONT FACE OF BACKWALL

⊕ INDICATES APPROXIMATE BORING LOCATION



UTILITY CONCRETE PROTECTION SLAB DETAIL

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FOUNDATION LAYOUT

AUGER CAST PILE DATA TABLE																	
Installation Criteria							Design Criteria										
Found Location	Pile Diameter (In.)	Axial Compression Test Load (Tons)	Uplift Resist. (Tons)	Min. Top Elev. (Feet) (See Note 1)	Min. Rock Socket (Feet)	Minimum Required Pile Length (Feet)	Factored Designed Load (Tons)	Service Design Lateral Load (Tons)	Factored Designed Uplift Load (Tons)	Down Drag (Tons)	Total Scour Resist. (Tons)	Net Scour Resistance (Tons)	Long Term Scour Elev. (Feet)	100-Year Scour Elev. (Feet)	Factor of Safety Compression (Resist. Factor)	Factor of Safety Uplift	Pile Cut-Off Elev. (Feet)
End Bent 1	24	358	N/A	-48	10	53	179	5	N/A	N/A	N/A	N/A	N/A	N/A	2.0 (0.50)	N/A	5
End Bent 2	24	358	N/A	-48	10	53	179	5	N/A	N/A	N/A	N/A	N/A	N/A	2.0 (0.50)	N/A	5

AUGER CAST PILE FOUNDATION NOTES:

1. THE 28-DAY COMPRESSIVE STRENGTH OF THE GROUT USED IN THE PILES SHOULD BE AT LEAST 5,500 PSI.

2. AUGERED PILE SHALL REMAIN PLUMB WITHIN ONE-EIGHTH OF THE PILE DIAMETER.

3. CENTERS OF VERTICAL ACIPS (AUGER CAST-IN-PLACE) SHALL BE LOCATED WITH AN ACCURACY OF THREE (3) INCHES AT THE CUT-OFF ELEVATION FOR GROUP PILES AND ONE (1) INCH FOR ISOLATED PILES. OUT FOR PLUMBNESS OF THE ACIP PILES SHALL BE LIMITED TO TWO (2) INCHES PER 10 FEET FROM VERTICAL.

4. THE ACIP INSTALLATION AUGER SHALL BE RAISED IN A REASONABLY SMOOTH MANNER AT A RATE THAT DOES NOT EXCEED THE INJECTION CAPACITY OF THE PUMP. IF THE AUGER IS RAISED IN A RAPID OR ERRATIC MANNER, OR SUDDEN DROP IN THE GROUT RETURN OR PUMPING PRESSURE IS OBSERVED, THE AUGER SHOULD BE ADVANCED AT LEAST FIVE FEET BELOW THE DEPTH WHERE THE HEAD/PRESSURE DROP OCCURRED. PUMPING SHALL CONTINUE WHILE THE AUGER IS ROTATED TO THE REQUIRED DEPTH. WHEN THE RE-AUGERING OPERATION IS COMPLETED, THE NORMAL PUMPING AND RAISING PROCESS SHALL BE CONTINUED.

5. A GROUT HEAD OF A LEAST 10 FEET ABOVE THE TIP OF THE AUGER SHALL BE MAINTAINED THROUGHOUT THE PUMPING PROCESS.

6. THE GROUT TAKE FOR EACH PILE SHALL BE AT LEAST 10 PERCENT GREATER THAN THE THEORETICAL VOLUME OF THE ACIP. IF, IN THE OPINION OF THE ACIP INSPECTOR, LESS GROUT IS PLACED THAN REQUIRED FOR ANY INTERVAL FIVE FEET OR LESS, THE ACIP SHALL BE REINSTALLED BY ROTATING THE AUGER TO A DEPTH FIVE FEET BELOW THE BOTTOM OF THE INTERVAL FOLLOWED BY CONTROLLED REMOVAL AND GROUT INJECTION.

7. IT IS ADVISED THAT THE CONTRACTOR SHALL BID GROUT TAKES UP TO AN AVERAGE OF 25% TO 50% OF THE THEORETICAL VOLUME OF THE ACIP (FOR THE ENTIRE PROJECT) AND PROVIDE ADDITIONAL PRICING FOR CONCRETE VOLUMES THAT VARY FROM AN AVERAGE OF 1.25 UP TO 1.50 GROUT FACTOR FOR THE OVERALL PROJECT.

8. ADJACENT ACIPS SHALL NOT BE PLACED CLOSED THAN 4 FEET EDGE-TO-EDGE UNTIL THE GROUT IN THE ACIPS HAS SET OVERNIGHT.

9. THE ACIP CONTRACTOR SHALL INSTALL REINFORCEMENT STEEL IN THE ACIPS IN ACCORDANCE WITH THE DESIGN DRAWINGS WHILE THE GROUT IS FLUID. REINFORCING STEEL SHOULD BE PROVIDED WITH SPACERS TO ASSURE THAT REINFORCING CAGES REMAIN CENTERED AND ARE NOT ALLOWED TO FALL AGAINST THE SIDES OF THE ACIP SHAFT. STEEL REINFORCEMENT SHOULD BE PROVIDED WITH A MINIMUM OF 3 INCHES OF SIDE CLEARANCE.

10. WHERE OBSTRUCTIONS ARE ENCOUNTERED WHICH PREVENT THE ADVANCEMENT OF THE REINFORCING STEEL, THE CONTRACTOR SHOULD REMOVE THE REINFORCING CAGE, RE-DRILL AND RE-GROUT THE HOLE TO A DEPTH OF AT LEAST FIVE FEET BELOW THE TIP ELEVATION AT WHICH THE OBSTRUCTION WAS ENCOUNTERED BEFORE REINSERTING THE STEEL. ADDITIONALLY, ACIP PILES WHICH LOSE GROUT HEAD OR WHICH SETTLE EXCESSIVELY SUBSEQUENT TO AUGER EXTRACTION WILL NEED TO BE RE-DRILLED, OR REPLACED IF REBAR CAGES CANNOT BE EXTRACTED.

11. REINFORCEMENT CAGES SHALL NOT BE ADVANCED TO THE DESIRED TIP ELEVATION USING BACKHOE OR OTHER MECHANICAL EQUIPMENT PUSHING ON THE TOP OF THE REBAR CAGE. SUCH RE-DRILL SHOULD BE AT THE CONTRACTOR'S EXPENSE.

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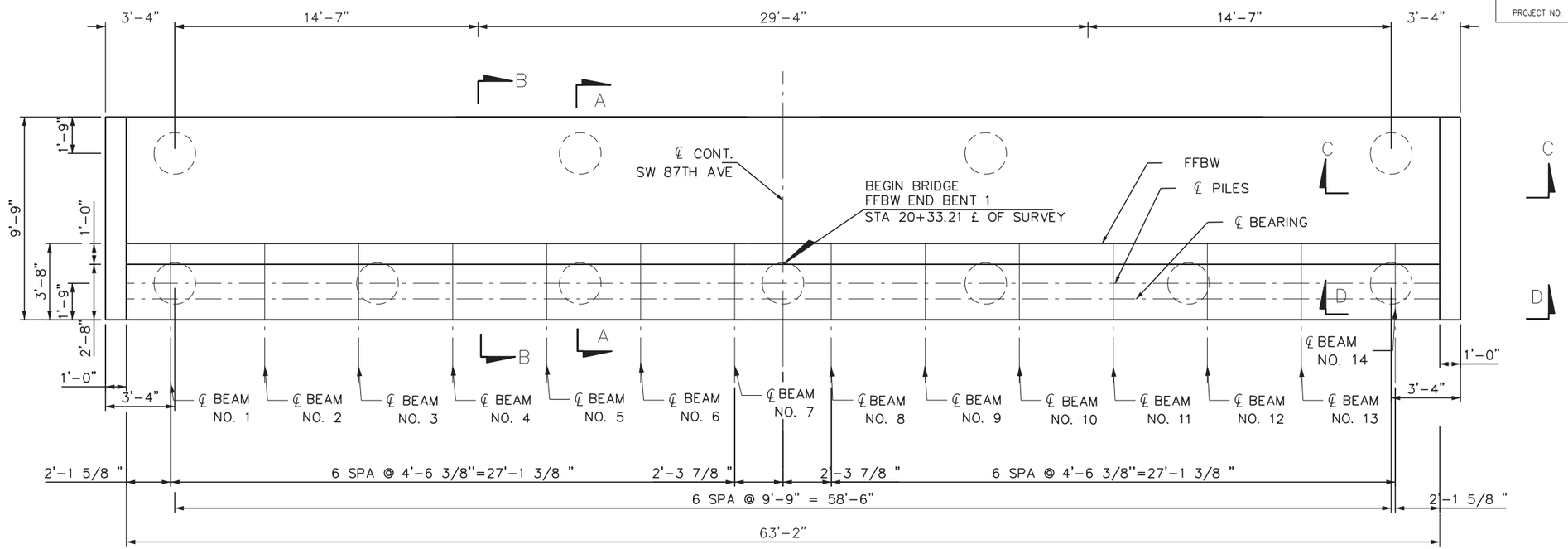
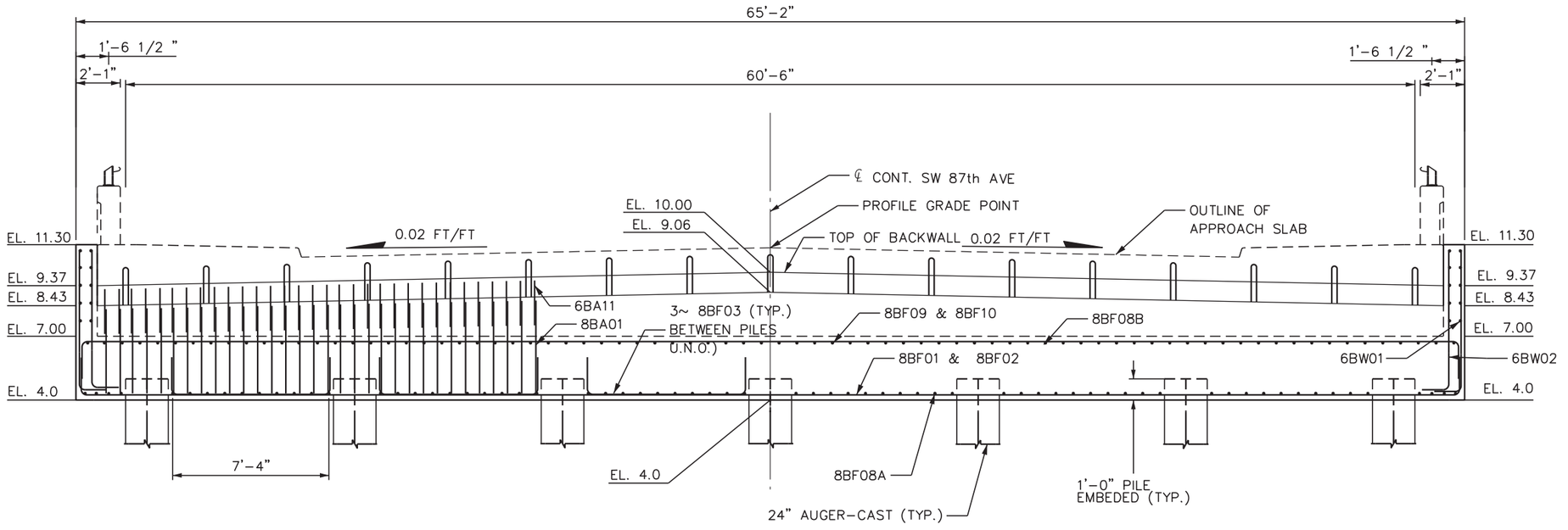
PILE DATA TABLE



PLAN



ELEVATION

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END BENT 01

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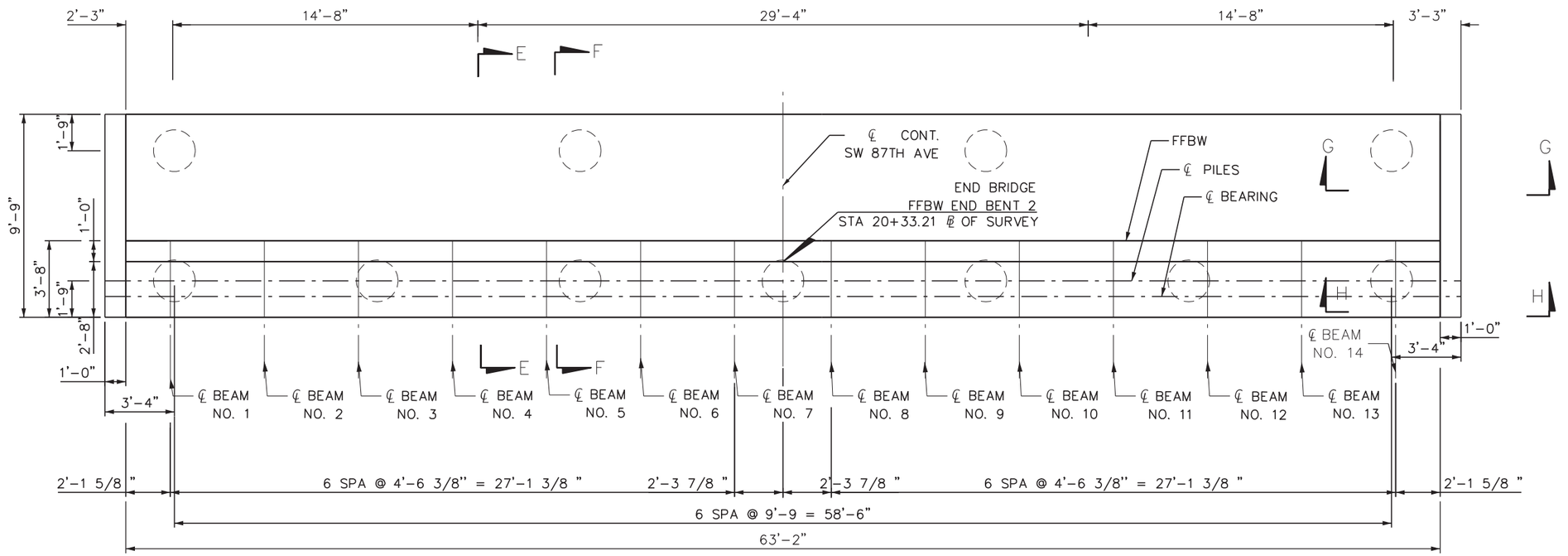
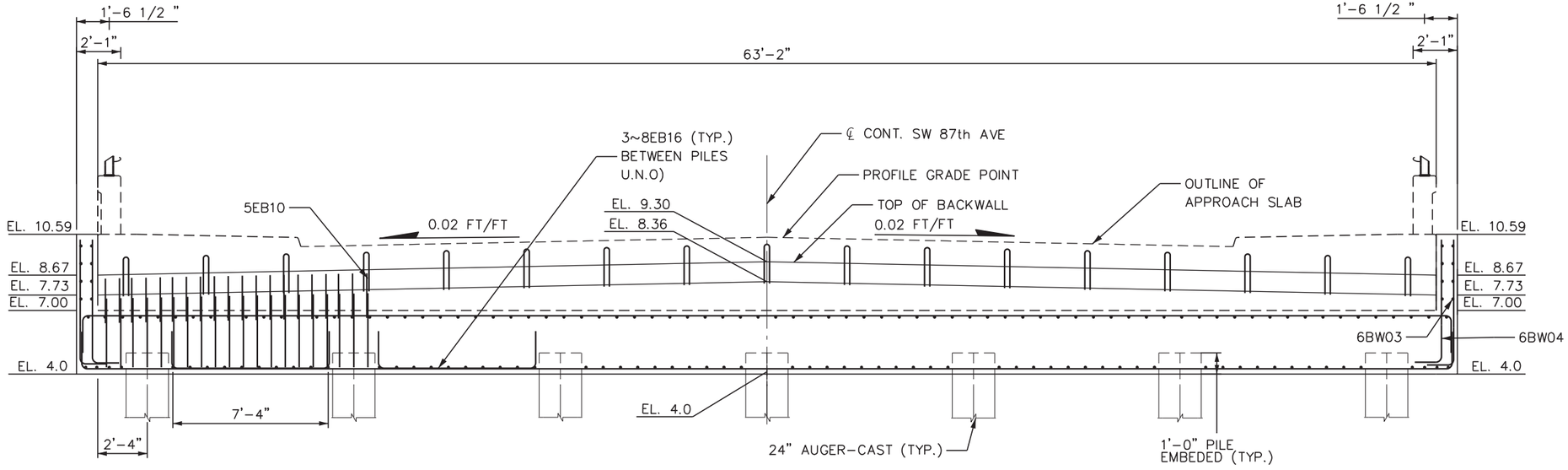


PLAN



ELEVATION

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END BENT 02

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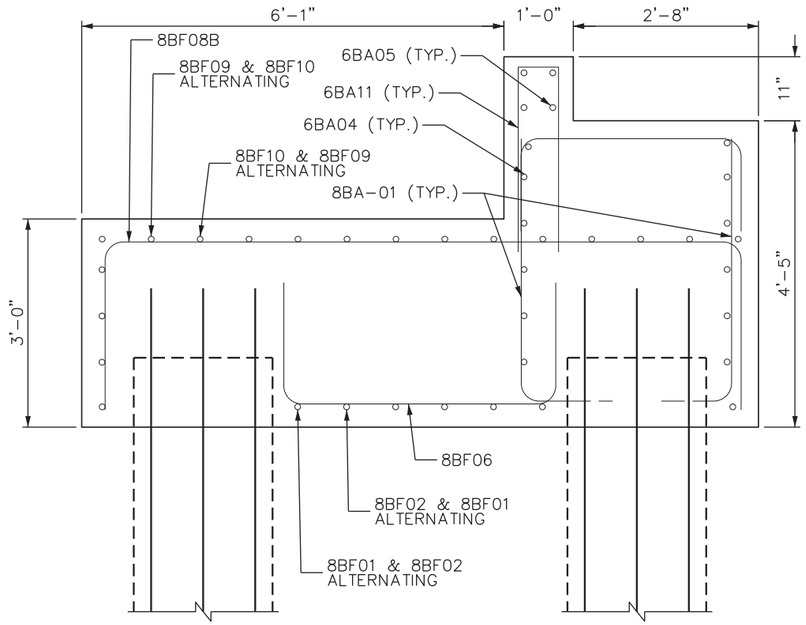
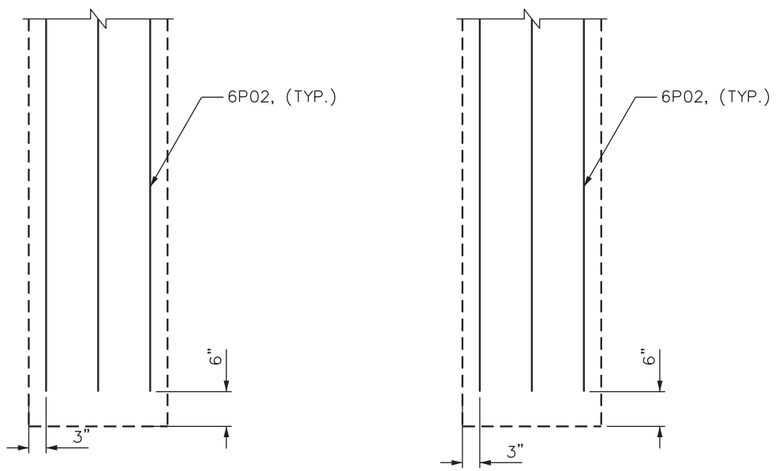
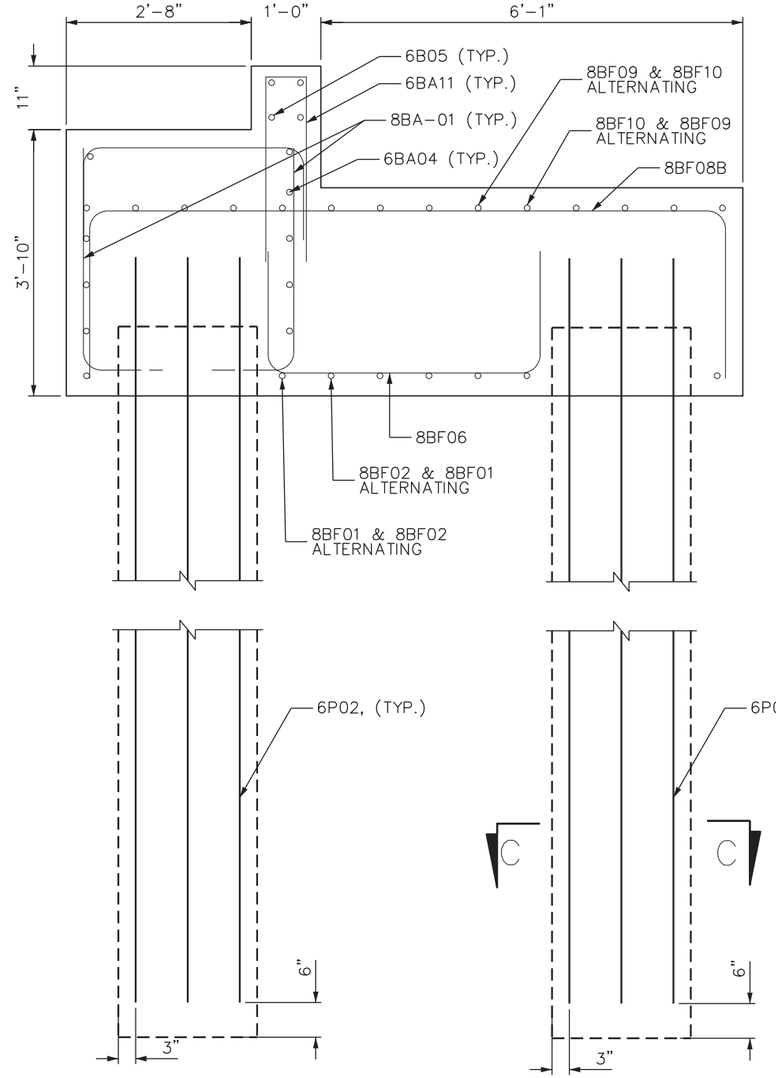
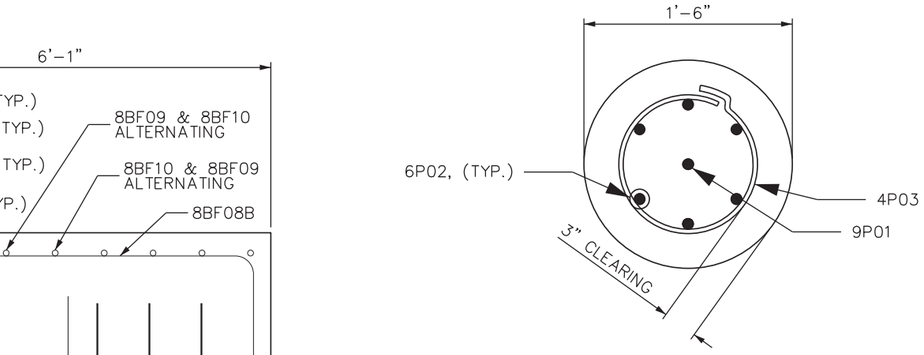




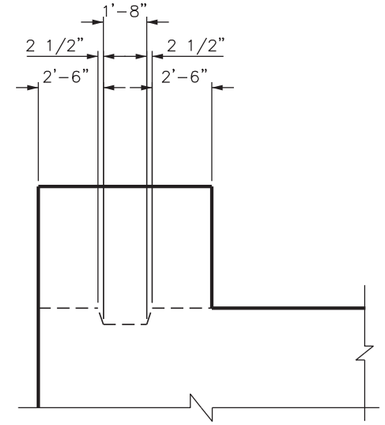
VIEW A-A



VIEW E-E



VIEW C-C



DETAIL B
KEYED CONSTRUCTION JOINT

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

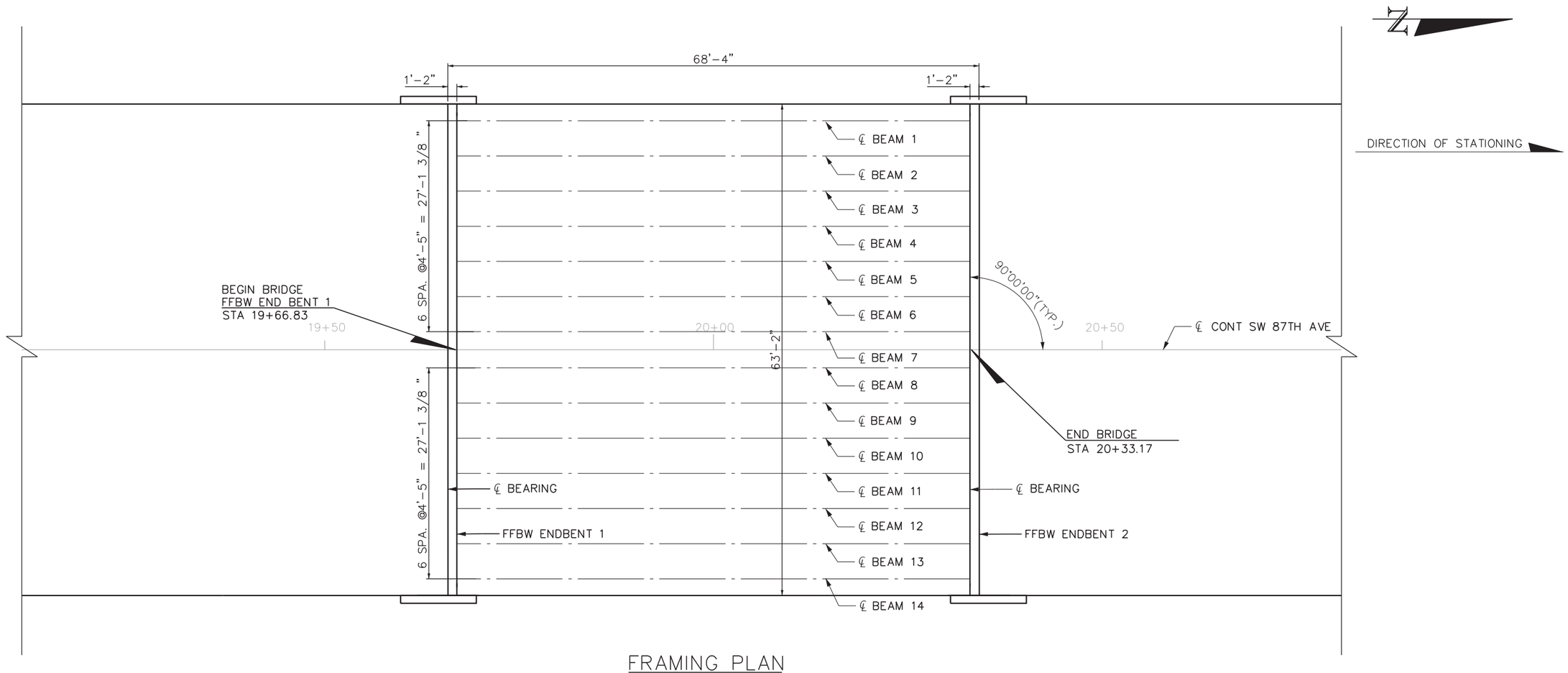
R.J. Behar & Company, Inc.
Engineers • Planners
6861 SW 196 Avenue, Suite 302
Pembroke Pines, Florida 33332

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

END BENT DETAIL

amarinez
5/13/2022 11:52:04 AM F:\21030_SW 87 Bridge over Canal C-100\CADD\struct\B1EndBentDet01.dgn



FRAMING PLAN

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

R.J. Behar & Company, Inc.
Engineers • Planners
6861 SW 196 Avenue, Suite 302
Pembroke Pines, Florida 33332

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MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
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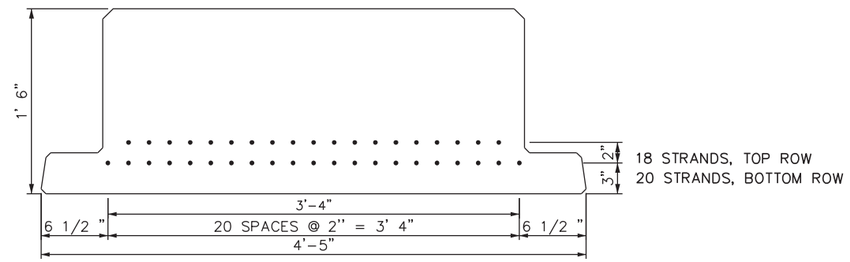
MIAMI, FLORIDA 33128

FRAMING PLAN

FLORIDA SLAB BEAM – TABLE OF VARIABLES

LOCATION		BEAM TYPE	CONCRETE PROPERTIES			STND. PTR N. TYPE	PLAN VIEW CASE		ANGLE Φ		BEAM DIMENSIONS*			REINFORCING STEEL																	
														3C		4D1	4D2	4D3		5E1		5E2		6Y1	6Y2	4K	NO. OF BAR SPACES		BAR SPACING *	
SPAN NO.	BEAM NO.		CLASS	STRENGTHS (psi) 28 DAY	STRENGTHS (psi) RELEASE		END 1	END 2	END 1	END 2	DIM W	DIM L	DIM R	NO.	DIM C	DIM D	DIM D	NO.	DIM D	NO.	DIM E	NO.	DIM E	DIM Y	DIM Y	NO.	S1	S2	V1	V2
1	1&14	FSB18X53	IV	8,500	6,000	1	1	1	90	90	4'-5"	60'-0"	1/2"	61	4'-1/2"	2'-2 1/2"	2'-2 1/2"	27	2'-2 1/2"	---	---	1/2	4'-1 1/2"	3'-1/2"	3'-1/2"	2/2	31	1	10"	9"
2	2-13	FSB18X53	IV	8,500	6,000	1	1	1	90	90	4'-5"	60'-0"	1/2"	61	4'-1/2"	2'-2 1/2"	2'-2 1/2"	27	2'-2 1/2"	1/2	4'-3"	---	---	3'-1/2"	3'-1/2"	2/3	31	1	10"	9"



TYPE (1) 38 STRANDS

STRAND DESCRIPTION: USE 0.60" DIAMETER, GRADE 270, LOW RELAXATION CARBON STEEL STRANDS STRESSED AT 44 KIPS EACH. AREA PER STRAND EQUALS 0.217 SQ. IN.

STRAND PATTERNS

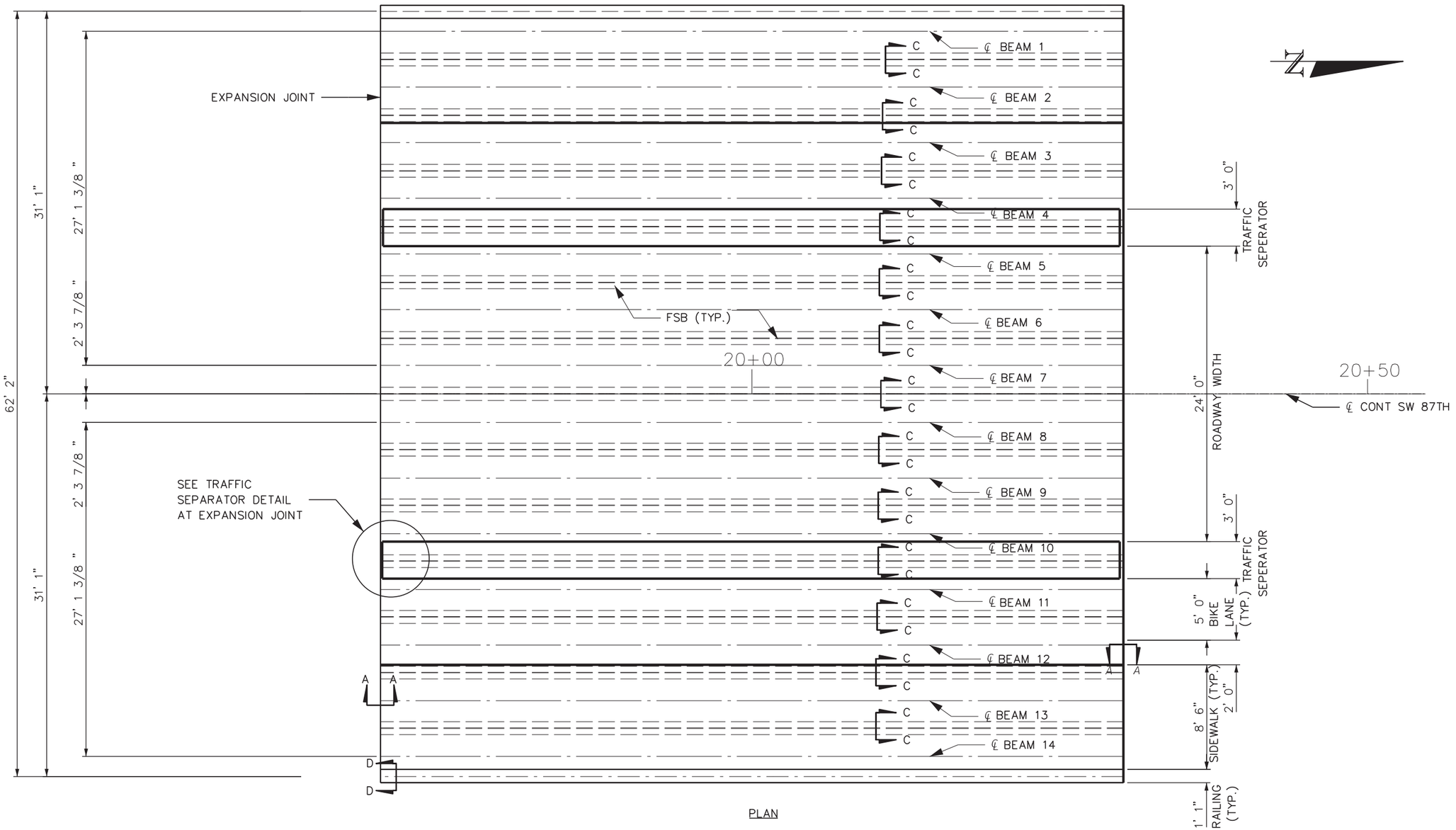
NOTE: WORK THIS SHEET WITH FDOT DESIGN STANDARD INDEXES 450-299 AND 450-453.

STRAND DEBONDING LEGEND

•– FULL BONDED STRANDS.

DIMENSION NOTES

*ALL LONGITUDINAL BEAM DIMENSIONS SHOWN ON THIS SHEET WITH A SINGLE ASTERISK (*) ARE MEASURED ALONG THE TOP OF BEAM AT THE CENTERLINE.



PLAN

LEGEND:

Ⓐ 2" OPEN JOINT IN 36" SINGLE-SLOPE RAILING AND 2'-0" TRAFFOC SEPARATOR

Ⓑ 1/2" V-GROOVE IN 36" SINGLE-SLOPE RAILING

Ⓒ 1/4" CONTRACTION JOINT IN 2'-0" TRAFFIC SEPARATOR

NOTES:

1. FOR SECTIONS A-A AND D-D, AND DETAIL AT COPINGS, SEE SUPERSTRUCTURE DETAILS.
2. FOR SECTION C-C, SEE SUPERSTRUCTURE SECTION SHEET.

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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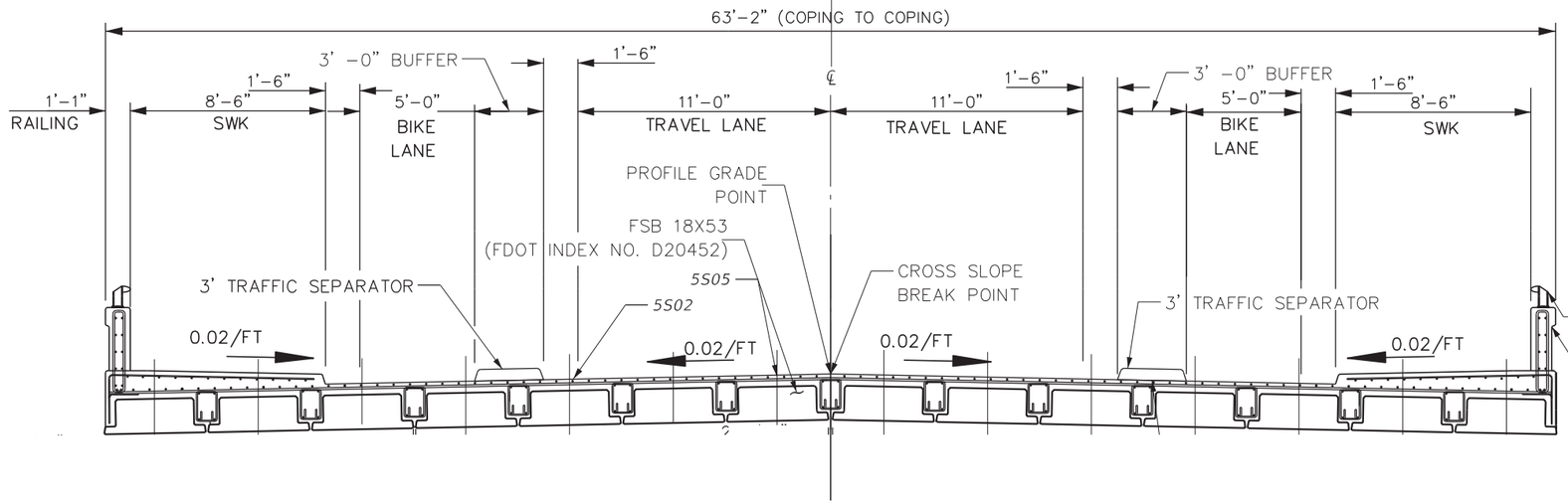
SUPERSTRUCTURE PLAN

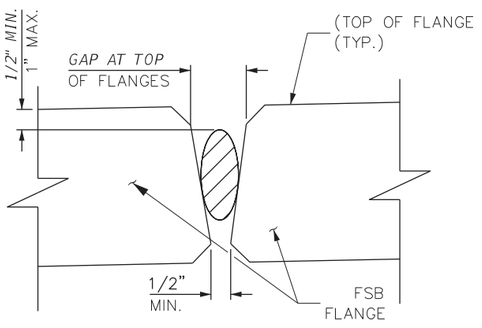


SUPERSTRUCTURE SECTION

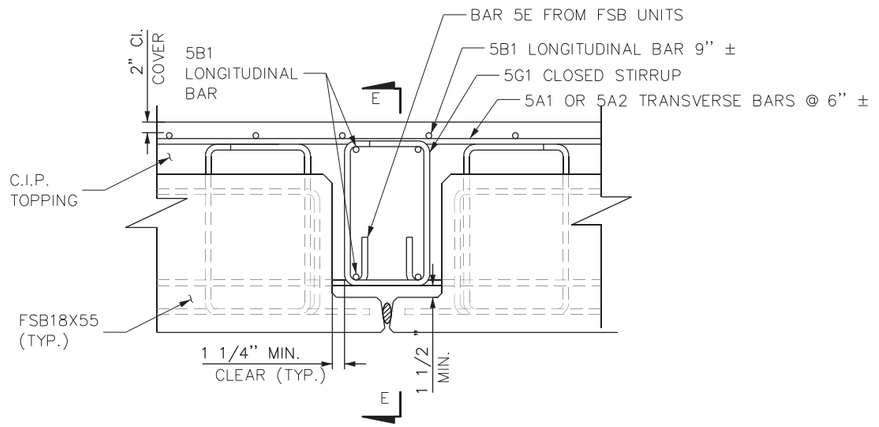
EMBEDDED CONDUIT NOTE:
PROVIDE "EXPANSION FITTING" AT EXPANSION JOINTS. EMBEDDED JOINT BOXES (EJB) SHALL BE TYPE "A".

NOTES:
1. FOR SECTION E-E SEE SUPERSTRUCTURE DETAILS SHEET.
2. FOR SECTIONS K-K, SEE TYPICAL SECTION SHEET.

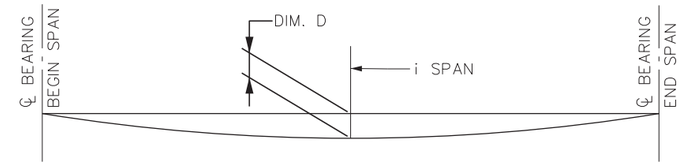
CAMBER NOTE:
THE VALUES GIVEN IN THE TABLE ARE BASED ON THEORETICAL BEAM CAMBERS. MONITOR BEAM CAMBERS FOR THE PURPOSE OF PREDICTING CAMBER VALUES AT THE TIME OF THE TOPPING CASTING. IF THE PREDICTED CAMBERS BASED ON FIELD MEASUREMENTS DIFFER MORE THAN ± 1/2" FROM THE THEORETICAL "NET BEAM CAMBER @120 DAYS" SHOWN IN THE TABLE. PROPOSE MODIFIED DIMENSIONS AS REQUIRED AND SUBMIT TO THE ENGINEER FOR APPROVAL A MINIMUM OF 21 DAYS PRIOR TO CASTING TOPPING CONCRETE.



BACKER ROD DETAIL

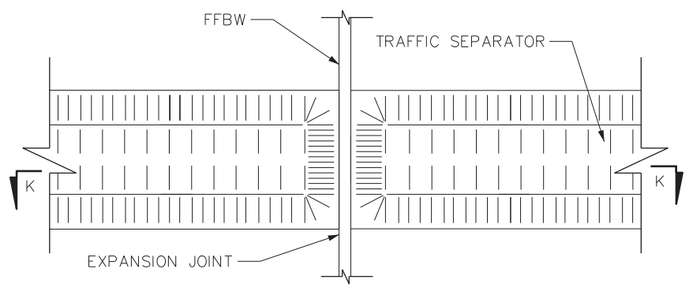


SECTION C-C
DETAIL AT POCKETS



DEAD LOAD DEFLECTION DIAGRAM

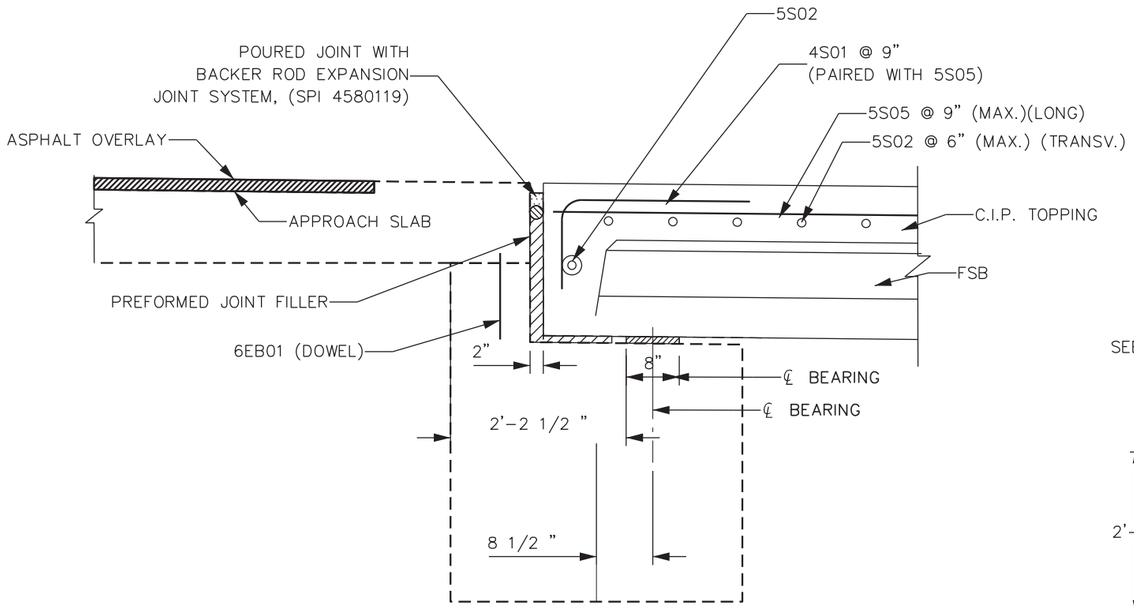
CAMBER AND DEFLECTION DATA TABLE FOR FLORIDA SLAB BEAMS			TABLE DATE 09-22-21
LOCATION		NET BEAM CAMBER (PRESTRESS - DEAD LOAD OF BEAM) @ 120 DAYS (in.)	DIM. D DEAD LOAD DEFLECTION DUE TO TOPPING CASTING @ 120 DAYS (in.)
SPAN NO.	BEAM NO.		
ALL	ALL	1.07	2.41



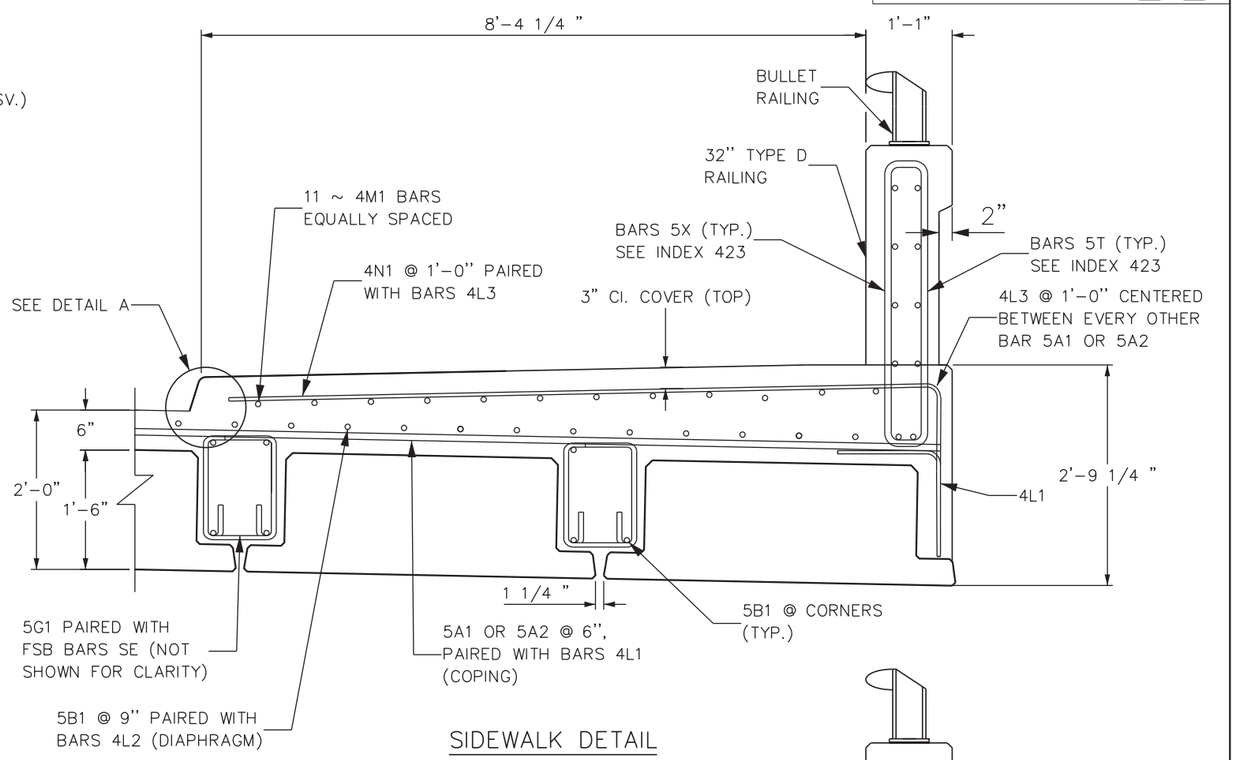
TRAFFIC SEPARATOR DETAIL AT EXPANSION JOINTS

BACKER ROD DETAIL

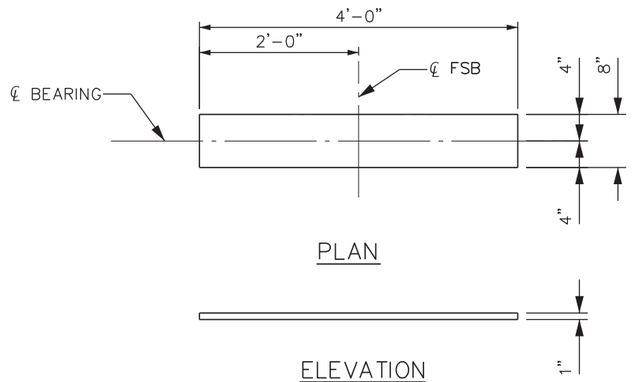
1. USE A BACKER ROD TO FORM THE BOTTOM OF THE CAST IN PLACE TOPPING AT THE GAP BETWEEN ADJACENT BEAMS. USE A BACKER ROD MEETING THE REQUIREMENTS OF ASTM C1330 OR ASTM D5249. TYPES 1 OR 3. WITH A MINIMUM UNCOMPRESSED DIAMTER 50% LARGER THAN THE FIELD VERIFIED MAXIMUM WIDTH OF THE GAP BETWEEN ADJACENT BEAMS. MEASURE GAP AT THE TOP OF THE FLANGES AS SHOWN IN THE BACKER ROD DETAIL.
2. INSTALL THE BACKER ROD FROM THE TOP DOWN TO THE POSITION SHOWN IN THE BACKER ROD DETAIL.
3. SECURE THE BACKER ROD TO PREVENT DISPLACEMENT DURING TOPPING CONCRETE PLACEMENT AND TO BE MORTAR TIGHT USING A COMPATIBLE CONSTRUCTION ADHESIVE.
4. THE BACKER ROD MAY REMAIN IN PLACE AFTER TOPPING CONCRETE PLACEMENT.



SECTION A-A AT BEGIN/END BRIDGE



SIDEWALK DETAIL



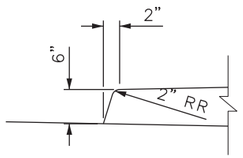
PLAN

ELEVATION

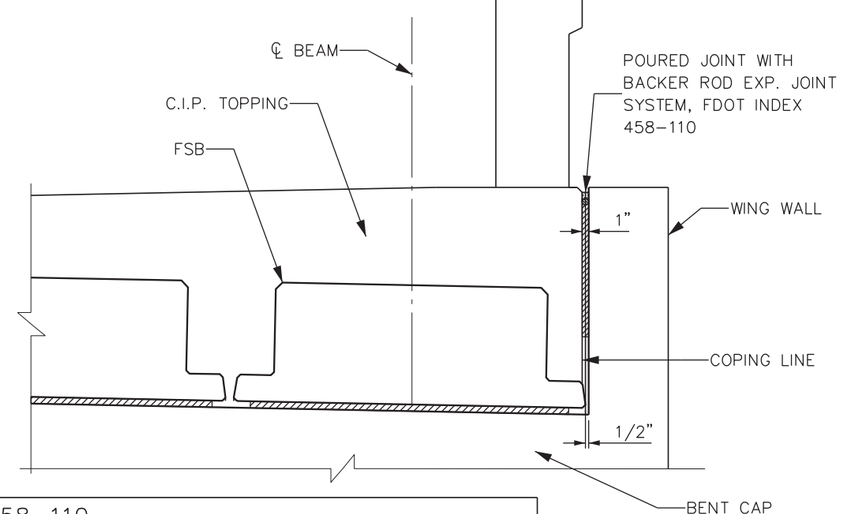
BEARING PAD DETAIL:

BEARING PAD NOTE:

PROVIDE PLAIN NEOPRENE BEARING PADS WITH A SHEAR MODULUS G = 110 PSI AND IN ACCORDANCE WITH SPECIFICATION 932.



DETAIL A



POURED EXPANSION JOINT DATA TABLE INDEX NO 458-110		
LOCATION	DIM. "A" @ 70°	DIM. "A" ADJUSTMENT PER 10°F
TYPICAL	2"	0"

NOTE:
1. DIM. "A" ADJUSTMENT PER 10°F SHOWN IS MEASURED PERPENDICULAR TO i EXPANSION JOINT. WORK THIS TABLE WITH FDOT DESIGN STANDARDS INDEX NO. 458-110.

EXPANSION JOINT NOTE:

INSTALL COVER PLATES WHERE THE EXPANSION JOINTS INTERSECT WITH SIDEWALK. SEE INDEX 458-110 FOR DETAILS.
BRIDGE NO.

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

R.J. Behar & Company, Inc.
Engineers • Planners
6861 SW 196 Avenue, Suite 302
Pembroke Pines, Florida 33332

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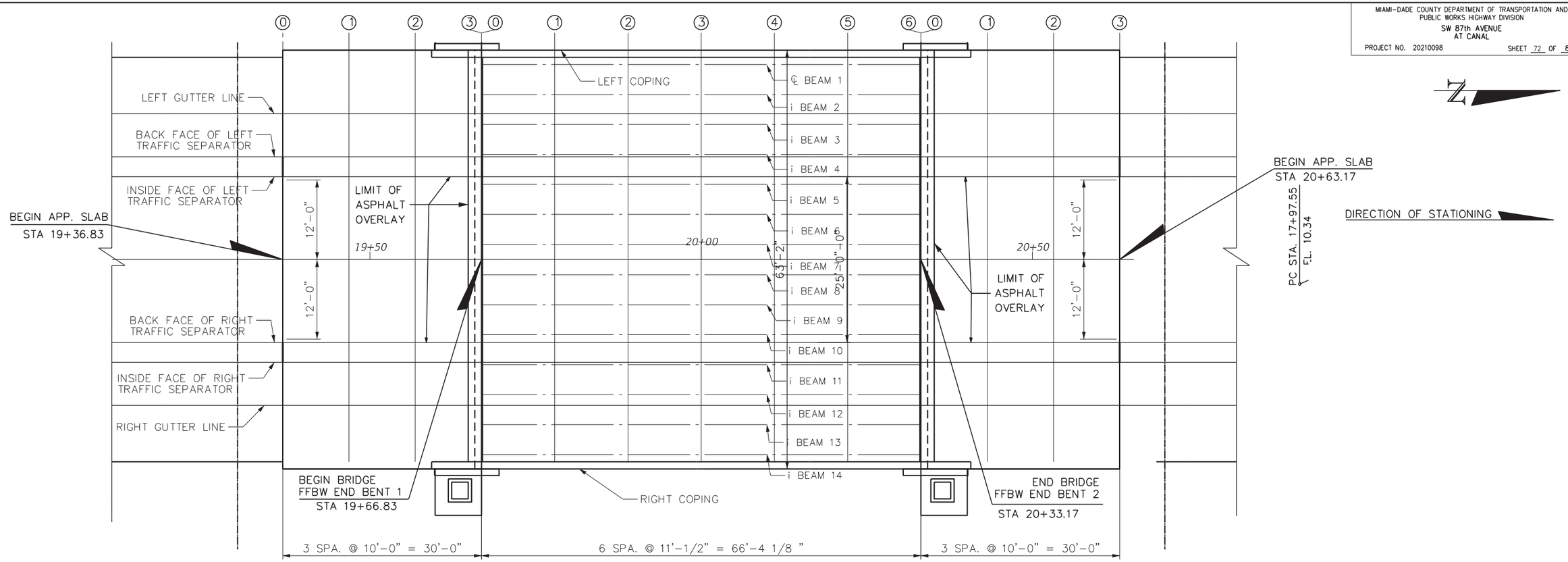
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

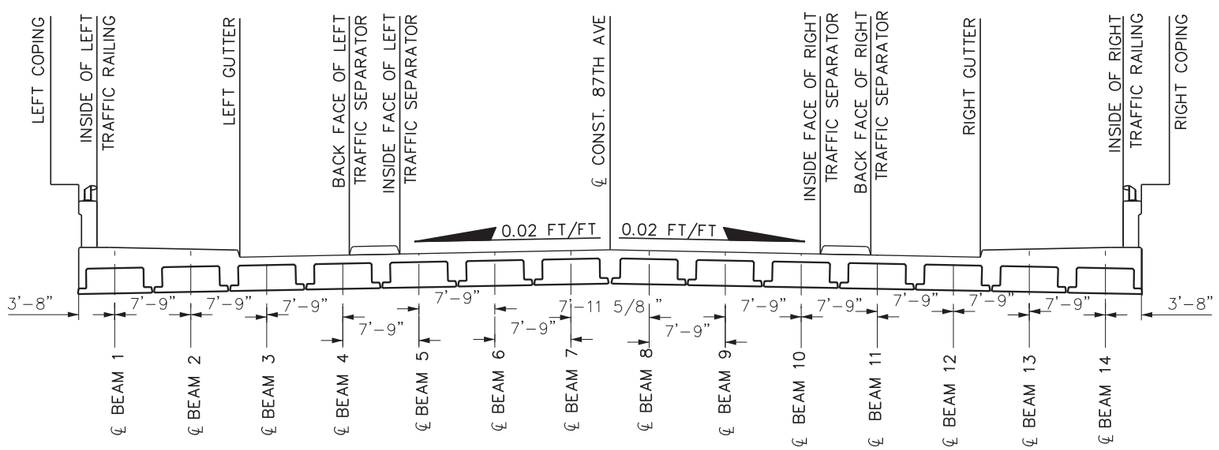
MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SUPERSTRUCTURE DETAIL

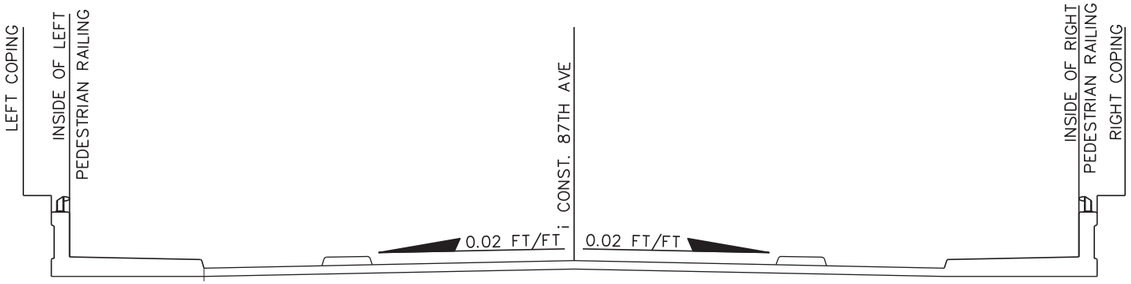
MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
SW 87th AVENUE
AT CANAL
PROJECT NO. 20210098 SHEET 72 OF 81



PLAN



TYPICAL SECTION THRU SUPERSTRUCTURE



TYPICAL SECTION THRU SLAB

BRIDGE NO.

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Engineers • Planners
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MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

FINISH GRADE ELEVATIONS (1 OF 2)

POINTS / LOCATION	APP. SLAB 1			
	0	1	2	3
LEFT COPING	11.2683	10.5429	10.5755	10.5946
LEFT GUTTER LINE	10.2783	9.5529	9.5855	9.6046
BACK FACE OF LEFT TRAFFIC SEPARATOR	10.4983	9.7729	9.8055	9.8246
INSIDE FACE OF LEFT TRAFFIC SEPARATOR	10.5983	9.8729	9.9055	9.9246
CL CONST/ 87TH AVE/PGL	11.0283	10.3029	10.3355	10.3546
INSIDE FACE OF RIGHT TRAFFIC SEPARATOR	10.5983	9.8729	9.9055	9.9246
BACK FACE OF RIGHT TRAFFIC SEPARATOR	10.4983	9.7729	9.8055	9.8246
RIGHT GUTTER LINE	10.2783	9.5529	9.5855	9.6046
RIGHT COPING	11.2683	10.5429	10.5755	10.5946

POINTS / LOCATION	APP. SLAB 2			
	0	1	2	3
LEFT COPING	10.6828	9.7751	9.6336	9.4358
LEFT GUTTER LINE	9.6928	8.7851	8.6436	8.4458
BACK FACE OF LEFT TRAFFIC SEPARATOR	9.9128	9.0051	8.8636	8.6658
INSIDE FACE OF LEFT TRAFFIC SEPARATOR	10.0128	9.1051	8.9636	8.8658
CL CONST/ 87TH AVE/PGL	10.4428	9.5351	9.3636	9.1958
INSIDE FACE OF RIGHT TRAFFIC SEPARATOR	10.0128	9.1051	8.9636	8.8658
BACK FACE OF RIGHT TRAFFIC SEPARATOR	9.9128	9.0051	8.8636	8.6658
RIGHT GUTTER LINE	9.6928	8.7851	8.6436	8.4458
RIGHT COPING	10.6828	9.7751	9.6336	9.4358

POINTS / LOCATION	TABLE OF FINISH GRADE ELEVATIONS SPAN NO. 1						
	0	1	2	3	4	5	6
LEFT COPING	11.2683	11.1683	11.0683	10.9783	10.8783	10.7783	10.6828
CL BEAM 1	11.2583	11.1583	11.0583	10.9683	10.8683	10.7683	10.6728
CL BEAM 2	11.0283	10.9283	10.8283	10.7383	10.6383	10.5383	10.4428
LEFT GUTTER LINE	10.2783	10.1783	10.0783	9.988	9.8883	9.7883	9.6928
CL BEAM 3	10.3283	10.2283	10.1283	10.0383	9.9383	9.8383	9.7428
CL BEAM 4	10.4883	10.3883	10.2883	10.1983	10.0983	9.9983	9.9028
BACK FACE OF LEFT TRAFFIC SEPARATOR	10.4983	10.3983	10.2983	10.2083	10.1083	10.0083	9.9128
INSIDE FACE OF LEFT TRAFFIC SEPRATOR	10.5983	10.4983	10.3983	10.3083	10.2083	10.1083	10.0128
CL BEAM 5	10.6383	10.5383	10.4383	10.3483	10.2483	10.1483	10.0528
CL BEAM 6	10.7983	10.6983	10.5983	10.5083	10.4083	10.3083	10.2128
CL BEAM 7	10.9483	10.8483	10.7483	10.6583	10.5583	10.4583	10.3628
CL CONST. 87TH AVE/PGL	11.0283	10.9283	10.8283	10.7383	10.6383	10.5383	10.4428
CL BEAM 8	10.9483	10.8483	10.7483	10.6583	10.5583	10.4583	10.3628
CL BEAM 9	10.7983	10.6983	10.5983	10.5083	10.4083	10.3083	10.2128
CL BEAM 10	10.6383	10.5383	10.4383	10.3483	10.2483	10.1483	10.0528
INSIDE FACE OF RIGHT TRAFFIC SEPRATOR	10.5983	10.4983	10.3983	10.3083	10.2083	10.1083	10.0128
BACK FACE OF RIGHT TRAFFIC SEPARATOR	10.4983	10.3983	10.2983	10.2083	10.1083	10.0083	9.9128
CL BEAM 11	10.4883	10.3883	10.2883	10.1983	10.0983	9.9983	9.9028
CL BEAM 12	10.3283	10.2283	10.1283	10.0383	9.9383	9.8383	9.7428
RIGHT GUTTER LINE	10.2783	10.1783	10.0783	9.988	9.8883	9.7883	9.6928
CL BEAM 13	11.0283	10.9283	10.8283	10.7383	10.6383	10.5383	10.4428
CL BEAM 14	11.2583	11.1583	11.0583	10.9683	10.8683	10.7683	10.6728
RIGHT COPING	11.2683	11.1683	11.0683	10.9783	10.8783	10.7783	10.6828

BRIDGE NO.

REVISIONS								
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STEPHEN P. CLARK CENTER
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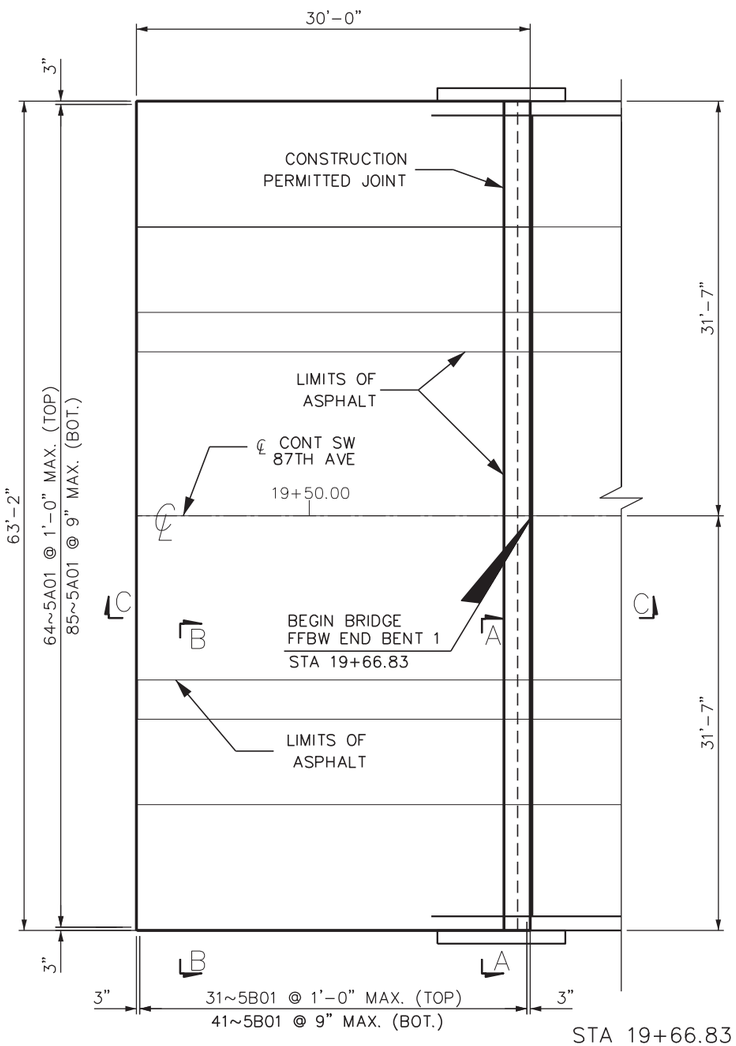
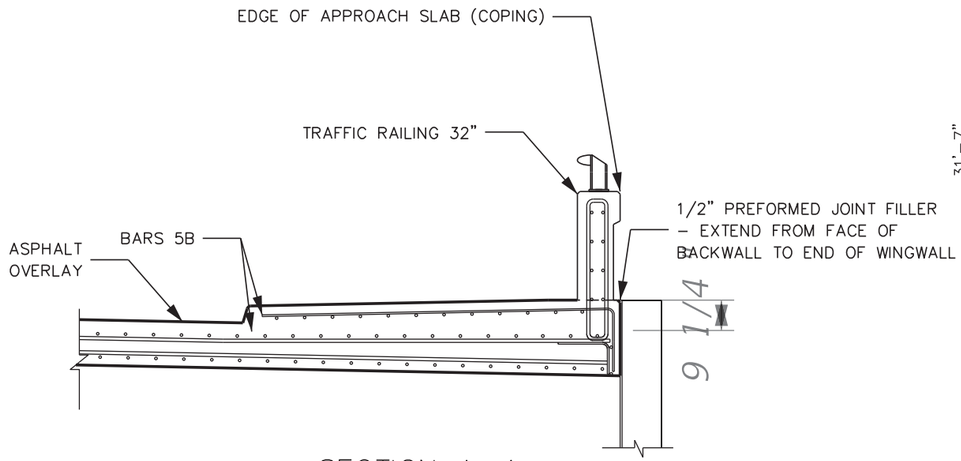
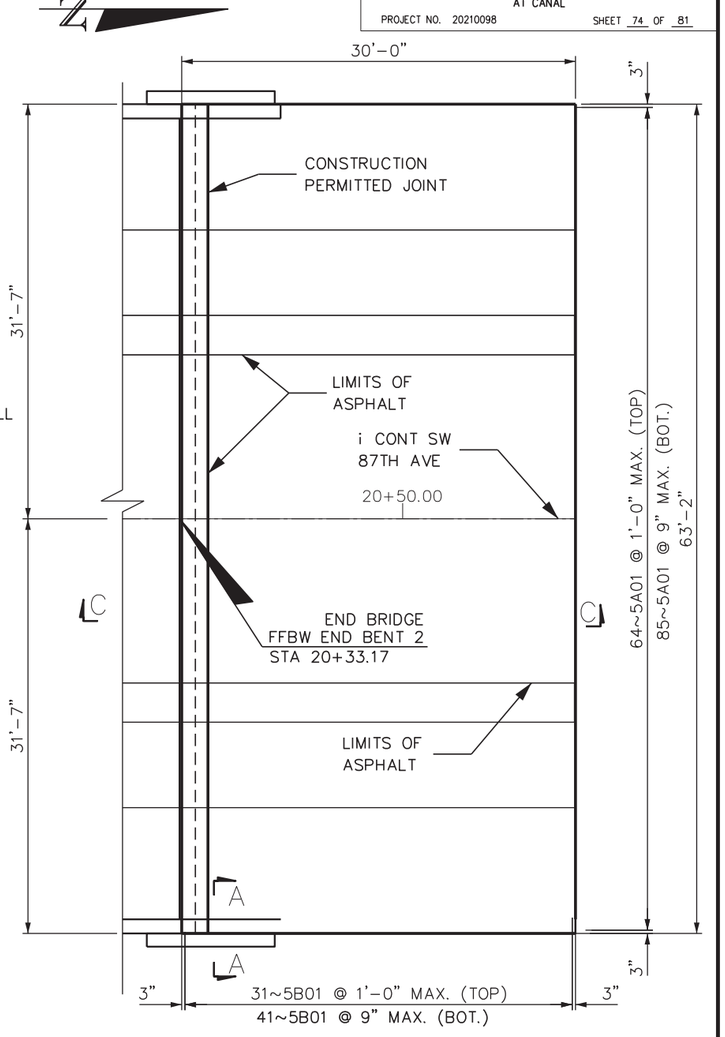
FINISH GRADE ELEVATIONS (2 OF 2)



APPROACH SLAB 1

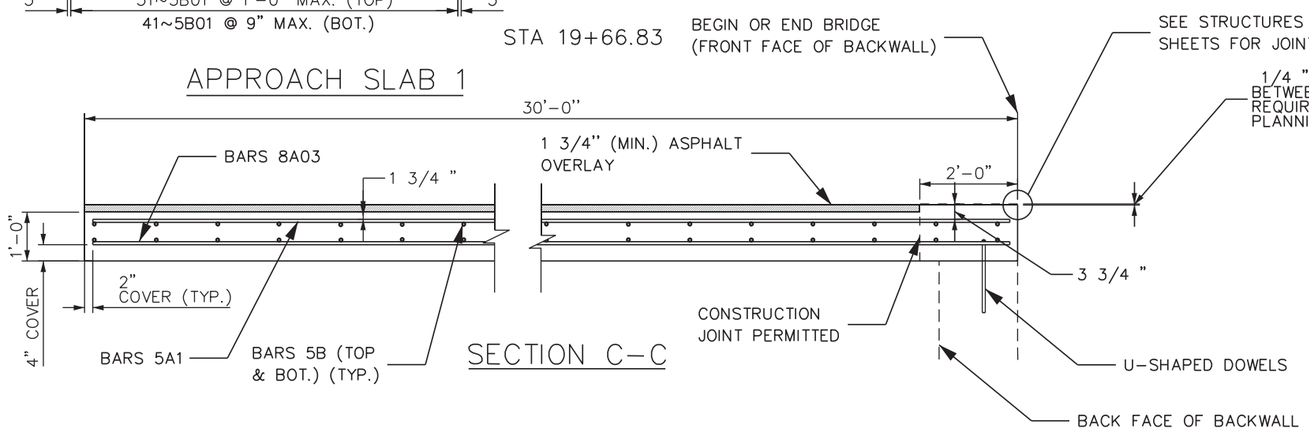


SECTION A-A



APPROACH SLAB 2

STA 19+66.83



SECTION C-C

APPROACH SLAB TABLE OF DIMENSIONS	TABLE DATE					
LOCATION	DIMENSIONS					ANGLE Φ
	L1	L2	M1	M2	N	
APPROACH SLAB 1	31'-4 1/4"	30'-10 1/4"	1'-4"	1'-4"	48'-0"	0°00'00.00"
APPROACH SLAB 2	31'-4 1/2"	30'-0 1/4"	1'-4"	1'-4"	48'-0"	0°00'00.00"

DIMENSION NOTES:
DIMENSIONS L1 & L2 ARE MEASURED ALONG GUTTER LINE, INSIDE FACE OF PARAPET OR INSIDE FACE OF RAILING ON RAISED SIDEWALKS.
DIMENSIONS L1 & L2 ARE ARC DIMENSIONS WITHIN CURVED ALIGNMENTS.

WORK THIS DATA TABLE WITH FDOT STANDARD PLANS INDEX 400-090

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

R.J. Behar & Company, Inc.
Engineers • Planners
6861 SW 196 Avenue, Suite 302
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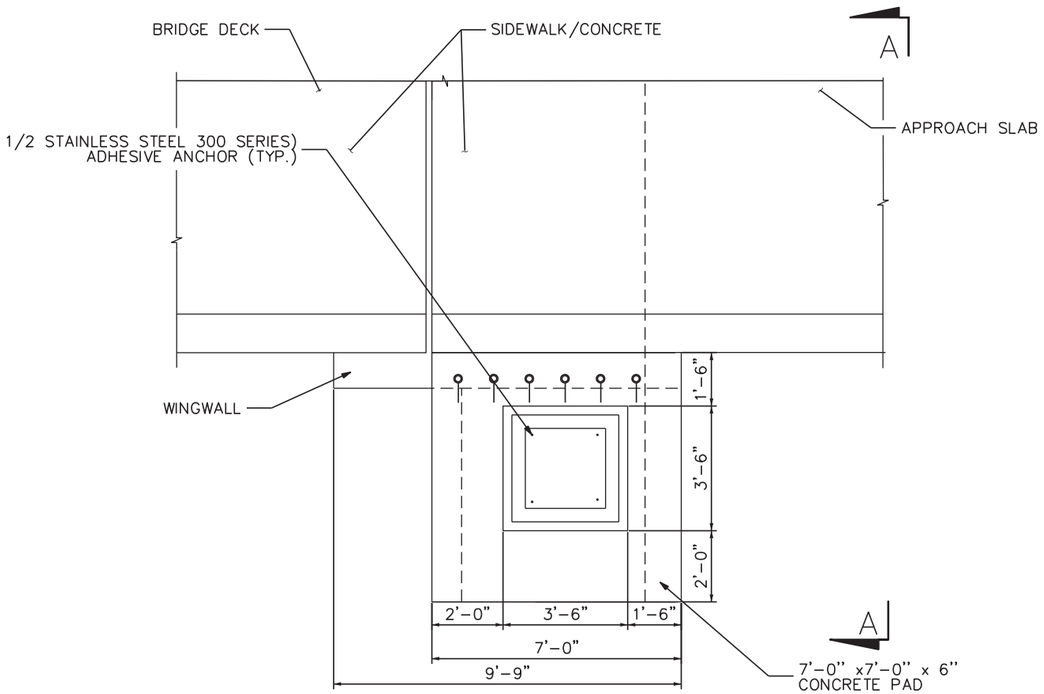
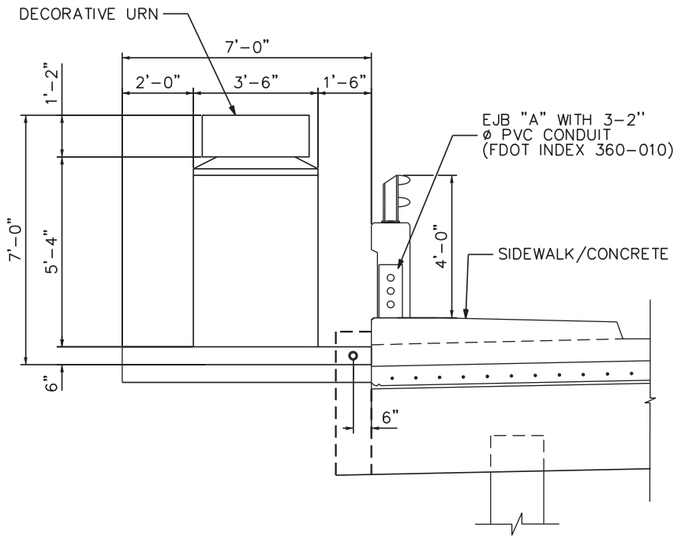
MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

APPROACH SLAB

amarinez
5/13/2022 11:52:08 AM F:\21030_SW 87 Bridge over Canal C-100\CADD\struct\B1ApproachSlab01.dgn



PLAN
URN SUPPORT DETAIL

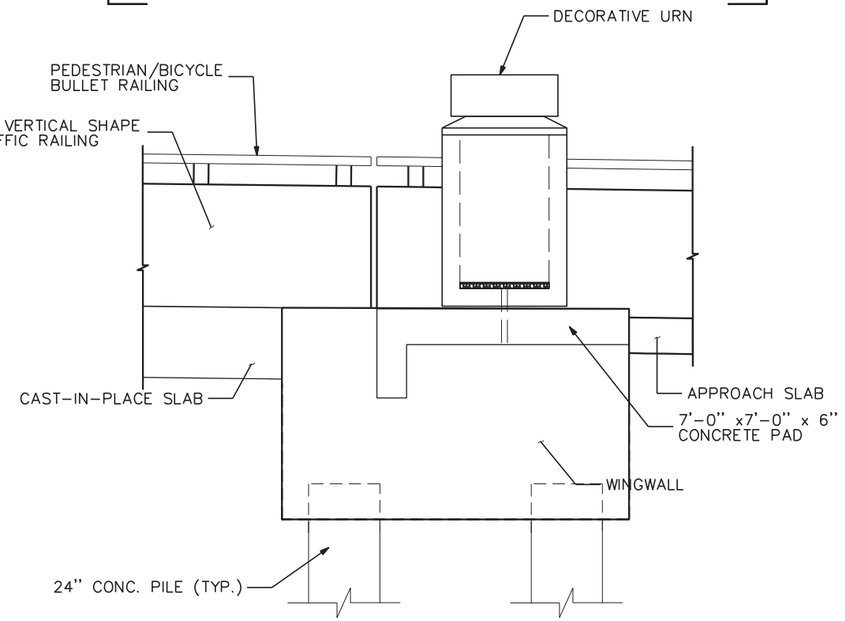


VIEW A-A
URN SUPPORT DETAIL

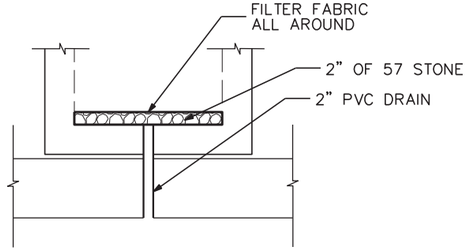
NOTES:
1. USE MATERIAL SPECIFICATION FROM FDOT STANDARD PLANS 425-010 ONLY FOR BOTTOM PART OF URN FEATURE, USE PAY ITEM 400-10-SP, FOR THE ENTIRE COST OF THE URN FEATURE.
2. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL FOR THE PRE-CAST CONCRETE URN AND BASE, INCLUDING ALL REINFORCEMENT DETAILS AND REINFORCEMENT SCHEDULE.
3. LOCATE REBAR IN SLAB USING NON-DESTRUCTIVE METHODS PRIOR TO DRILLING FOR ADHESIVE ANCHORS.
4. THE ADHESIVE ANCHORS ARE INCIDENTAL TO PAY ITEM 400-10-SP.

B

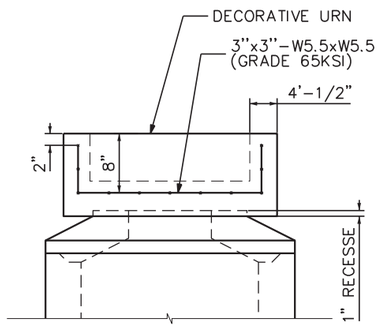
B



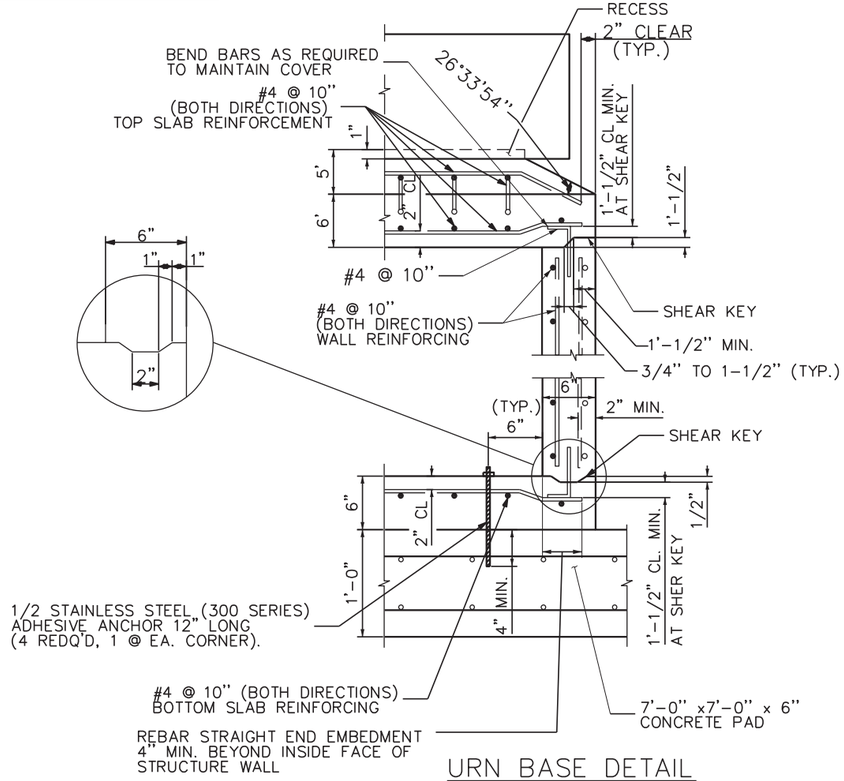
VIEW B-B
URN SUPPORT DETAIL



URN DRAIN DETAIL



URN DETAIL



URN BASE DETAIL

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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6861 SW 196 Avenue, Suite 302
Pembroke Pines, Florida 33332

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CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

URN DETAILS

amarinez
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LOAD RATING SUMMARY DETAILS FOR REINFORCED CONCRETE DETAILS

TABLE DATE 9-28-21

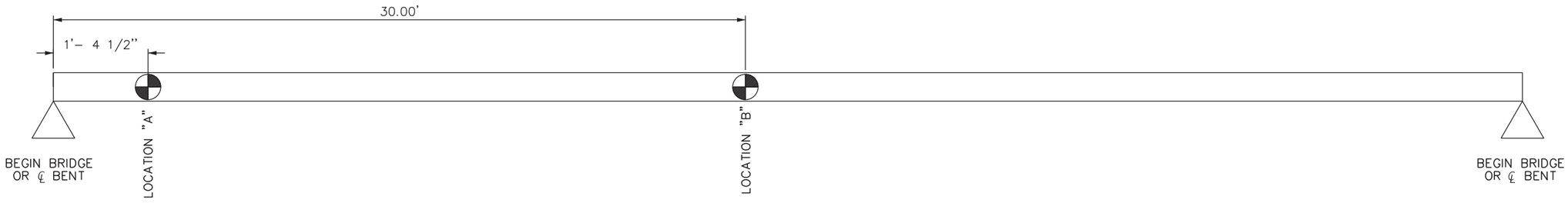
TABLE 2 – LRFR

LEVEL	LIMIT STATE	VEHICLE	WEIGHT (TONS)	LOAD FACTORS			MOMENT (STRENGTH)					SHEAR (STRENGTH)					
				LL	DC	DW	DISTRIBUTION FACTOR (DF)	RATING FACTOR	TONS	LOCATION	DIMENSION	DISTRIBUTION FACTOR (DF)	RATING FACTOR	TONS	LOCATION	DIMENSION	COMMENTS: INTERIOR/EXTERIOR BEAM DF METHOD IF OTHER THAN LRFD. OTHER APPROPRIATE COMMENTS
DESIGN LOAD RATING	STRENGTH I (INV)	HL-93	N/A	1.75	1.25	1.50	0.32	1.11	N/A	B	30.00'	0.33	4.53	N/A	A	1'-4 1/2"	EXTERIOR BEAMS
	STRENGTH I (OP)	HL-93	N/A	1.35	1.25	1.50	0.32	1.44	N/A	B	30.00'	0.33	7.04	N/A	A	1'-4 1/2"	EXTERIOR BEAMS
	SERVICE III (INV)	HL-93	N/A	0.8	1.00	1.00	0.32	1.13	N/A	B	30.00'	N/A	N/A	N/A	N/A	N/A	EXTERIOR BEAMS
PERMIT LOAD RATING	STRENGTH II	FL120	60.0	1.35	1.25	1.50	0.32	1.10	66.25	B	30.00'	0.33	4.35	260.81	A	1'-4 1/2"	EXTERIOR BEAMS

GENERAL NOTES:
1. THIS TABLE IS BASED ON THE REQUIREMENTS ESTABLISHED IN THE JANUARY 2021 FDOT "STRUCTURES MANUAL".

TABLE 2 NOTES:
1. PERMIT CAPACITY IS DETERMINED BY USING THE PERMIT VEHICLE IN ALL LANES.
2. HAS THE AASHTO LRFD SPECIFICATIONS ARTICLE 5.8.3.5 LONGITUDINAL REINFORCEMENT BEEN SATISFIED? ☒ YES ☐ NO

ABBREVATIONS:
INV – INVENTORY
OP – OPERATING



RATING LOCATIONS

BRIDGE NO.

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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111 NW 1 ST.
MIAMI, FLORIDA 33128

REINFORCING BAR LIST (1 OF 2)

MARK		LENGTH		NO	TYP	STY		B		C		D		E		F		H		J		K		N	Φ
SIZE	DES	FT	IN	BARS	BAR	A	G	FT	IN	FT	IN	FT	IN	FT	IN	FT	IN	FT	IN	FT	IN	FT	IN	NO	ANG
FOUNDATION REINFORCEMENT SCHEDULE																									
8	BF01	40	0	11	10			38	3	1	9														
8	BF02	31	6	11	10			29	9	1	9														
8	BF03	12	0	18	11			8	0	2	0	2	0												
8	BF04	22	0	9	11			18	0	2	0	2	0												
6	BF05A	4	8	12	11			0	8	2	0	2	0												
6	BF05B	4	8	33	11			0	8	2	0	2	0												
8	BF06	7	6	12	11			4	0	1	9	1	9												
8	BF07	10	10	9	11			6	10	2	0	2	0												
8	BF08A	12	9	68	11			9	3	1	9	1	9												
8	BF08B	14	3	79	11			9	3	2	6	2	6												
8	BF09	40	0	12	10			38	3	1	9														
8	BF10	32	6	12	10			30	9	1	9														
8	BF11	11	11	8	18	3	3	9	3																
8	BF12	35	11	16	17	3		34	7																
WING REINFORCEMENT SCHEDULE (EACH OF 2 UNITS E/W)																									
8	BW01	9	3	20	1			9	3																
8	BW02	8	10	11	10			7	10	1	0														
8	BW03	9	3	16	1			9	3																
8	BW04	7	1	11	10			6	1	1	0														
ABUTMENT WALL REINFORCEMENT SCHEDULE																									
8	BA01	4	6	196	10			3	4	1	2														
8	BA02	5	10	98	11			3	2	1	4	1	4												
6	BA03	40	0	40	10			37	0	3	0														
6	BA04	32	8	40	10			29	8	3	0														
6	BA05	40	0	16	17	1		39	0																
6	BA06	28	8	16	17	1		27	8																
6	BA07	12	6	10	18	3	3	8	6																
6	BA11	5	10	196	11			0	6	2	8	2	8												
18" DIAMETER AUGER CAST PILES – REINFORCEMENT SCHEDULE (QUANTITIES FOR A TOTAL OF 22 ACP)																									
9	P01	56	0	26	2			4	0	52	0														
6	P02	40	0	104	1			42	0																
4	P03	4	8	1118	24			1	9	0	11														
DECORATIVE URN FOUNDATION REINFORCEMENT SCHEDULE (QUANTITIES FOR TWO FOUNDATIONS, AT ONE END BENT)																									
5	UF01	9	3	22	1			9	3																
4	UF02	8	3	22	1			8	3																
4	UF03	6	6	22	1			6	6																
4	UF04	2	8	22	17	3		2	0																
4	UF05	2	8	22	17	3		2	0																

LIGHTING NOTES

1. ENDS OF CONDUITS SHALL BE SEALED WITH POLYURETHANE FOAM AFTER WIRING IS COMPLETE. FOAM SEAL SHALL NOT BE USED AS A MEANS TO PROTECT CONDUCTORS FROM ABRASION IN RACEWAYS. GALVANIZED RIGID METAL CONDUIT SHALL HAVE PROPER FITTINGS TO PROTECT CONDUCTORS FROM ABRASION.
2. SPLICES AND CONNECTIONS MADE IN PULL BOXES SHALL BE PROPERLY TAPED AND HEAT SHRINK TUBES OR CAPS SHALL BE USED TO WATERPROOF THESE CONNECTIONS. ONLY USE GEL CAP SPLICES IN GROUND LEVEL PULL BOXES.
3. GROUND RODS ARE TO BE LOCATED AT EACH PULL BOX ASSOCIATED WITH A LIGHTING POLE OR ELECTRICAL LOAD CENTER. INSTALL TWO 5/8"X 20' COPPER CLAD STEEL GROUNDING ELECTRODES AT EACH SERVICE POINT. THEY MUST BE SPACED A MINIMUM OF SIX FEET AND SIX INCHES FROM EACH OTHER WHEN INSTALLED AS AN ARRAY. WHEN THE GROUNDING ELECTRODE CONDUCTOR IS ENCLOSED IN A METAL RACEWAY, BOTH ENDS OF THE RACEWAY AND ALL INTERVENING RACEWAYS AND METALLIC ENCLOSURES CONTAINING THE GROUNDING ELECTRODE CONDUCTOR MUST BE BONDED TO THE GROUNDING ELECTRODE CONDUCTOR
4. ALL GROUNDING CONNECTIONS SHALL BE EXOTHERMICALLY WELDED AS PER MAINTENANCE AGENCY SPECIFICATIONS.
5. SYSTEM SHALL BE GROUNDED WITH INSULATED GREEN #10 THE CONDUCTORS RUN INSIDE THE CONDUIT.
6. INSTALLATIONS OF NEW PULL BOXES SHALL BE PERFORMED BY A QUALIFIED ELECTRICAL CONTRACTOR.
7. COLOR CODING OF CONDUCTORS

   A. WIRING FOR 120 VOLT SYSTEM SHALL BE CODED AS FOLLOWS:

   PHASES "A-1,2"-BLACK
   NEUTRAL-WHITE
   GROUND-GREEN

   B. COLORS ON CONDUCTOR 6 AWG AND SMALLER SHALL BE INTEGRAL PART OF INSULATION, ON CONDUCTOR 4 AWG AND LARGER CONDUCTORS, EITHER COLOR CODING TAPE OR PAINTED WITH TWO COATS OF CORRECT COLOR PAINT AT ALL TERMINALS AND CONNECTIONS POINTS.

LIGHTING DESIGN CRITERIA:

1. AVERAGE MAINTAINED ILLUMINATION = N/A.
2. UNIFORMITY RATIO = N/A.
3. MAXIMUM TO MINIMUM RATIO (LESS THAN 10:1) = N/A.
4. LIGHT SOURCE = LIGHT EMITTING DIODE (LED).
5. AESTHETIC LIGHTING NOT REQUIRED TO MEET FDOT LIGHTING DESIGN CRITERIA.

LEGEND

SYMBOL	DESCRIPTION
	INSET LIGHT, 70 WATT LED, WALL MOUNTED LUMINAIRE WITH ASYMMETRICAL DISTRIBUTION DIE CAST ALUMINUM WITH INTEGRAL WIRING COMPARTMENT (BEGA CATALOG NO. 2315 LED). SURFACE MOUNTED THROUGH BACK WITH 3/4" THREADED CONDUIT. DESIGNED FOR CANAL BRIDGE LIGHTING. INTEGRAL BALLAST WIRED FOR 120 VOLT CIRCUIT.
	EACH LED FIXTURE SHALL INCLUDE A 6"X8" JUNCTION BOX INSTALL BELOW THE LED HOUSING FOR CONNECTING TO THE 2" PVC CONDUIT IN THE BARRIER WALL. THERE WILL BE A 3/4" CONDUIT CONNECTING THE LED AND THE JUNCTION BOX.
	NEW LOAD CENTER
	NEW CONNECTION POINT
	NEW PULL BOX. STANDARD MDC SIZE FOR GROUND (13"X24"). INSTALL STANDARD CONCRETE APRON AROUND ALL GROUND LEVEL PULL BOXES.
	NEW 2-2" P.V.C. UNDERGROUND CONDUIT WITH RHW-XLP CONDUCTORS INSIDE (CONDUCTOR SIZE SHOWN ON LIGHTING PLANS) PROVIDE WITH MINIMUM 1#10 THE GREEN INSULATED BOND (COPPER) INSIDE CONDUIT.
	NEW 2-2" H.D.P.E. UNDER PAVEMENT CONDUIT WITH RHW-XLP CONDUCTORS INSIDE (CONDUCTOR SIZE SHOWN ON LIGHTING PLANS) PROVIDE WITH MINIMUM 1#10 THE GREEN INSULATED BOND (COPPER) INSIDE CONDUIT.
	NEW 2-2" CONDUIT MOUNTED INSIDE BRIDGE WALL WITH RHW-XLP CONDUCTORS INSIDE (CONDUCTOR SIZE SHOWN ON LIGHTING PLANS) PROVIDE WITH MINIMUM 1#10 THE GREEN INSULATED BOND (COPPER) INSIDE CONDUIT.

TABULATION OF QUANTITIES

PAY ITEM NO.		DESCRIPTION	QUANTITY
630-2-11	LF	CONDUIT - OPEN TRENCH: 2-2" PVC F&I	309
630-2-16	LF	CONDUIT - EMBEDDED: 2-2" PVC, F&I	212
635-2-11	EA	PULL & SPLICE BOX, FURNISH & INSTALL, 13" x 24" COVER SIZE	3
635-3-13	EA	JUNCTION BOX - EMBEDDED, F&I (6" x 8" BOX)	6
639-1-111	AS	ELECTRICAL POWER SERVICE (FURNISH & INSTALL, OVERHEAD, METER FURNISHED BY POWER COMPANY)	1
641-2-11	EA	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II PEDESTAL	1
715-1-12	LF	LIGHTING - CONDUCTORS: #10 THHN	7000
715-7-11	EA	LOAD CENTER - SECONDARY VOLTAGE, F&I (INCLUDES SWITCH, WEATHERHEAD AND WIRE AT SERVICE POINTS)	1
715-11-115	EA	LUMINAIRE ROADWAY - WALL MOUNT, F&I (INSET LIGHT)	6

SUBMITTAL DATA:

SUBMITTAL DATA:

PRIOR TO ANY PROCUREMENT ORDER THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, EQUIPMENT SPECIFICATIONS OR DESIGN DATA FOR ALL MATERIALS PROPOSED FOR THE PROJECT AND SHALL INCLUDE, BUT NOT LIMITED TO:

A. SHOP DRAWINGS FOR THE LUMINARIES.
B. CONDUCTORS, CONDUIT, GROUND RODS AND PULL BOXES.
C. FUSES, FUSE HOLDERS, SURGE PROTECTORS.
D. SAFETY SWITCHES, PANELS, CIRCUIT BREAKERS, AND OTHER MAJOR SERVICE POINT COMPONENTS.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

R.J. Behar & Company, Inc.
Engineers • Planners
6861 SW 196 Avenue, Suite 302
Pembroke Pines, Florida 33332

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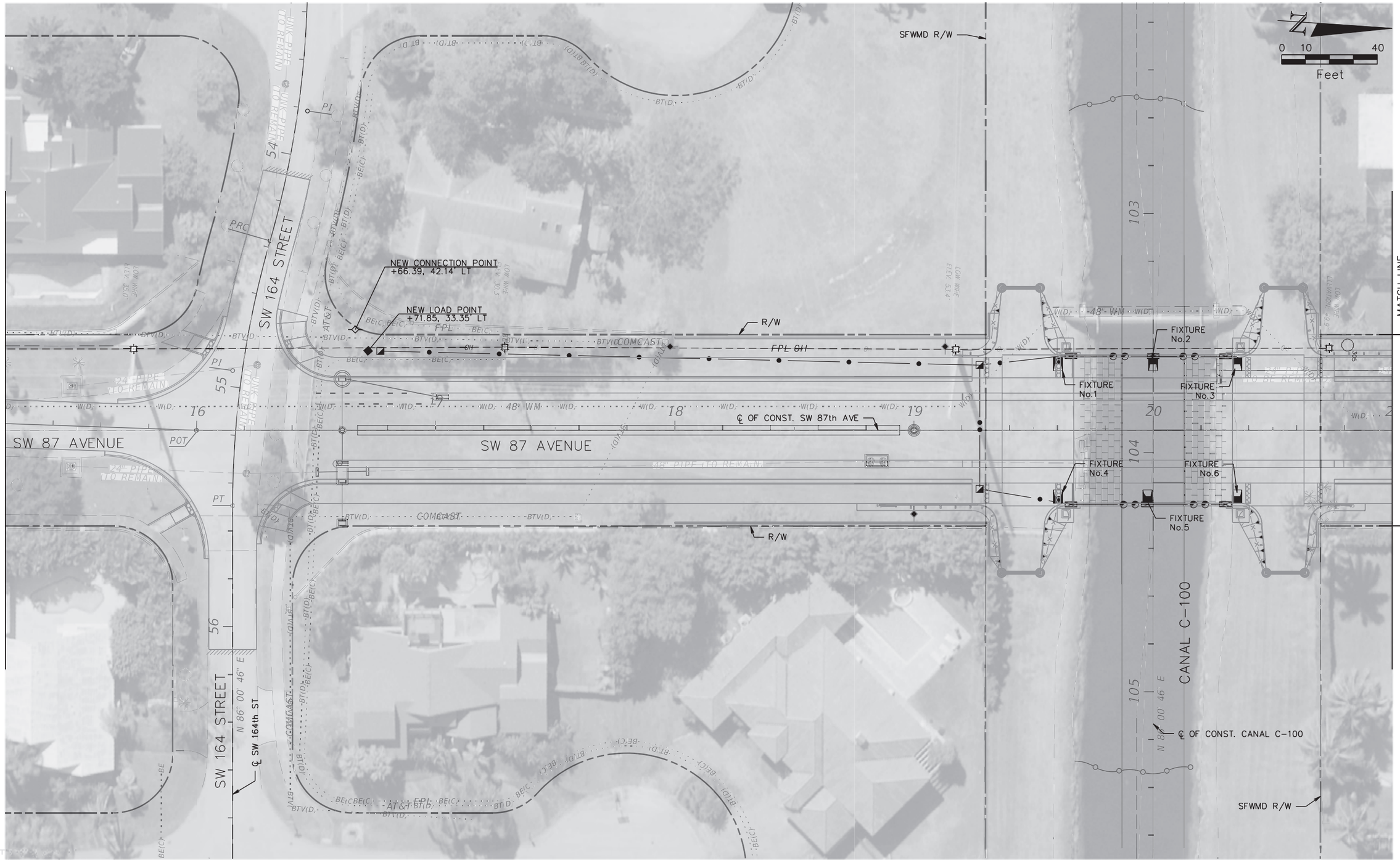
MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST.
MIAMI, FLORIDA 33128

LIGHTING GENERAL NOTES & QUANTITIES

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
SW 87th AVENUE
AT CANAL
PROJECT NO. 20210098 SHEET 79 OF 81



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LIGHTING SITE PLAN

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ELECTRICAL PANEL SCHEDULE " A "

TYPE : AQ, G.E.
MOUNTING : ENCLOUSURE
LOCATION : SW 84 AVE. & SW 164 ST.
25,000 A.I.C.
MAINS : MAIN
BUS RATING : 200A AMP
VOLTAGE : 120/240V-1PHASE-3WIRE

DESCRIPTION	WIRE & COND. SIZE	LOAD (V.A.)	POLE / TRIP	CKT. No.	A B	CKT. No.	POLE / TRIP	LOAD (V.A.)	WIRE & COND. SIZE	DESCRIPTION
LED INSET A-1 CKT	#10-2"	420	1 / 20	1		2	1 / 20	420	#10-2"	LED INSET A-2 CKT
SPD	#10-1/2"	500	1 / 20	3		4	1 / 20	780	#10-1/2"	GFI RECEPTACLE CKT A-5
SPARE			1 / 20	5		6	1 / 20			SPARE
				7		8				
				9		10				
				11		12				
				13		14				
				15		16				
				17		18				
				19		20				
				21		22				
				23		24				
				25		26				
				27		28				
				29		30				
				31		32				
				33		34				
				35		36				
				37		38				
				39		40				
				41		42				

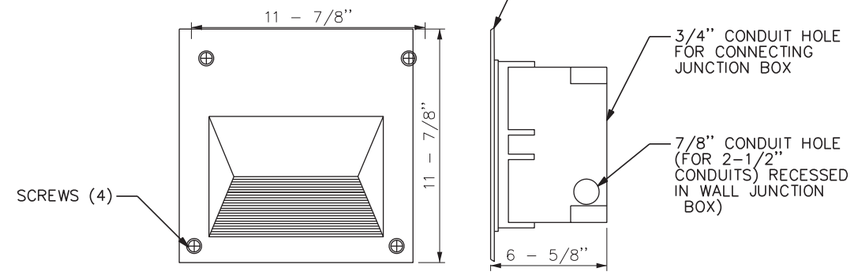
* CONTROLLED BY TIME CLOCK THROUGH LIGHTING CONTACTOR

LOAD CALCULATION PANEL ' A '

CONTINUOUS LOAD AT 125% = 1,340 VA X 1.25 = 1,675 VA
NON CONTINUOUS LOAD AT 100% = 780 VA
TOTAL DEMANDED LOAD = 2,455 VA
TOTAL DEMAND AMPS = 10 AMPS PER PHASE

GENERAL NOTES:

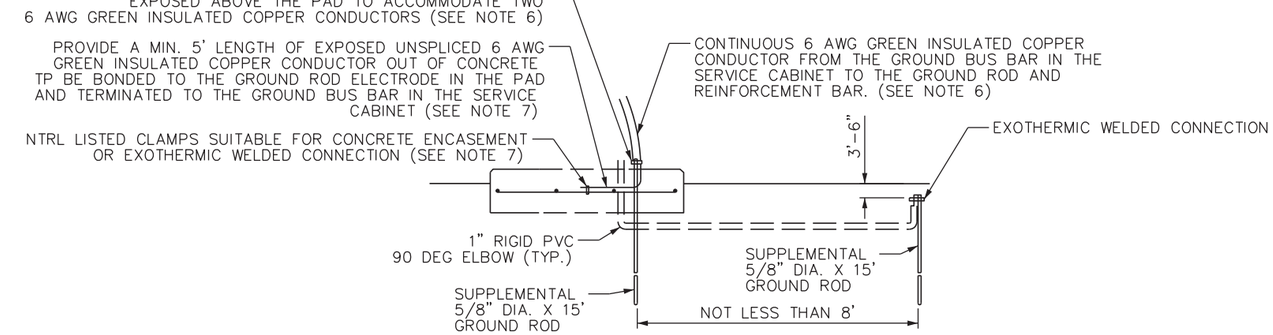
1. MEET THE REQUIREMENTS OF MIAMI-DADE COUNTY TRAFFIC CONTROL EQUIPMENT STANDARDS AND SPECIFICATIONS SECTION 635 (PULL, SPLICE, AMD JUNCTION BOXES)
2. BOXES SHALL NOT BE INSTALLED IN ROADWAYS OR DRIVEWAYS.
3. BOXES SHALL BE ON THE FDOT APPROVED PRODUCT LIST (APL) AND THE MIAMI-DADE COUNTY QUALIFIED PRODUCT LIST (QPL)
4. BOXES SHALL BE INSTALLED FLUSH WITH THE FINISHED GRADE SURFACE.
5. FIBER OPTIC SPLICE BOXES SHALL BE PROVIDED WITH CABLE HANGER RACKS DESIGNED TO SUPPORT CABLES AND SPLICE ENCLOSURES. COST OF RACKS TO BE INCLUDED IN COST OF SPLICE BOX.
6. FIBER OPTIC BOXES SHALL CONTAIN ONLY FIBER OPTIC CABLE, CONDUIT, AND LOCATE WIRE.
7. CONDUIT CENTER LINE SHALL BE ALIGNED TO TOP EDGE OF BOX TO FACILITATE CABLE PULLING.
8. ALL BOXES SHALL HAVE 1'-0" WIDE (MIN.) CONCRETE APRON. CONCRETE FOR CONCRETE APRONS SHALL BE CLASS NS WITH A MINIMUM STRENGTH AT 28 DAYS OF F'C=2.5 KSI. APRONS SHALL BE SLOPED AWAY FROM BOX. COST OF APRON TO BE INCLUDED IN THE COST OF EACH BOX.
9. PREVENT THE INGRESS OF WATER, DIRT, SAND, AND OTHER FOREIGN MATERIALS INTO THE CONDUIT PRIOR TO, DURING AND AFTER CONSTRUCTION USING A FOAM-SEALING MATERIAL, RUBBER PLUG, OR OTHER DEVICE DESIGNED FOR THIS APPLICATION.
10. WHERE MULTIPLE PULL BOXES ARE PLACED SIDE BY SIDE, MAINTAIN AT LEAST 8" BETWEEN THE PULL BOXES.



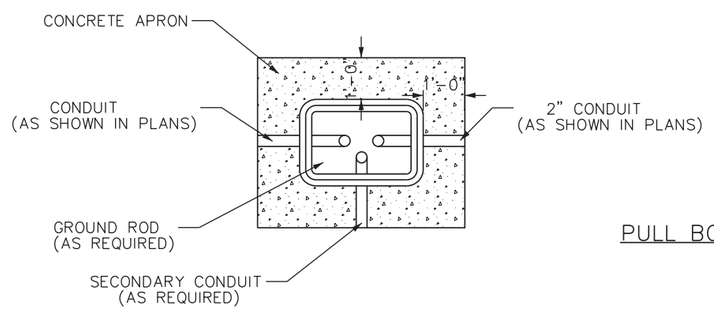
PROPOSED INSET LIGHT DETAIL

FIXTURE DATA

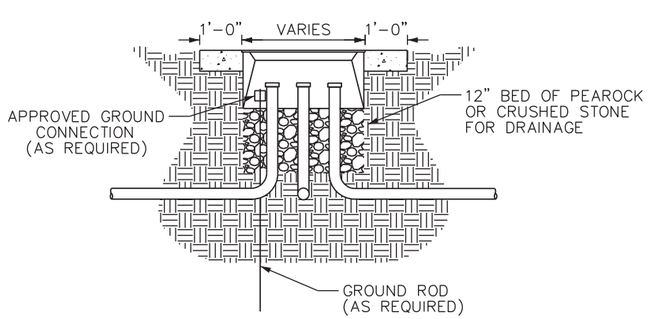
FIXTURE NO.	CIRCUIT	STATION	DIST OF ARM	LUMINAIRE WATTAGE	MOUNTING HEIGHT	POLE SET BACK	PAY ITEM
1	A-1	15+28.77 LT	FLUSH MOUNT	70	2.5'	RECESSED IN BRIDGE I WALL	715-11-115
2	A-1	14+87.37 LT	FLUSH MOUNT	70	2.5'	RECESSED IN BRIDGE I WALL	715-11-115
3	A-1	14+46.02 LT	FLUSH MOUNT	70	2.5'	RECESSED IN BRIDGE I WALL	715-11-115
4	A-2	15+28.77 RT	FLUSH MOUNT	70	2.5'	RECESSED IN BRIDGE I WALL	715-11-115
5	A-2	14+87.37 RT	FLUSH MOUNT	70	2.5'	RECESSED IN BRIDGE I WALL	715-11-115
6	A-2	14+46.02 RT	FLUSH MOUNT	70	2.5'	RECESSED IN BRIDGE I WALL	715-11-115



GROUNDING ELECTRODE SYSTEM



PULL BOX



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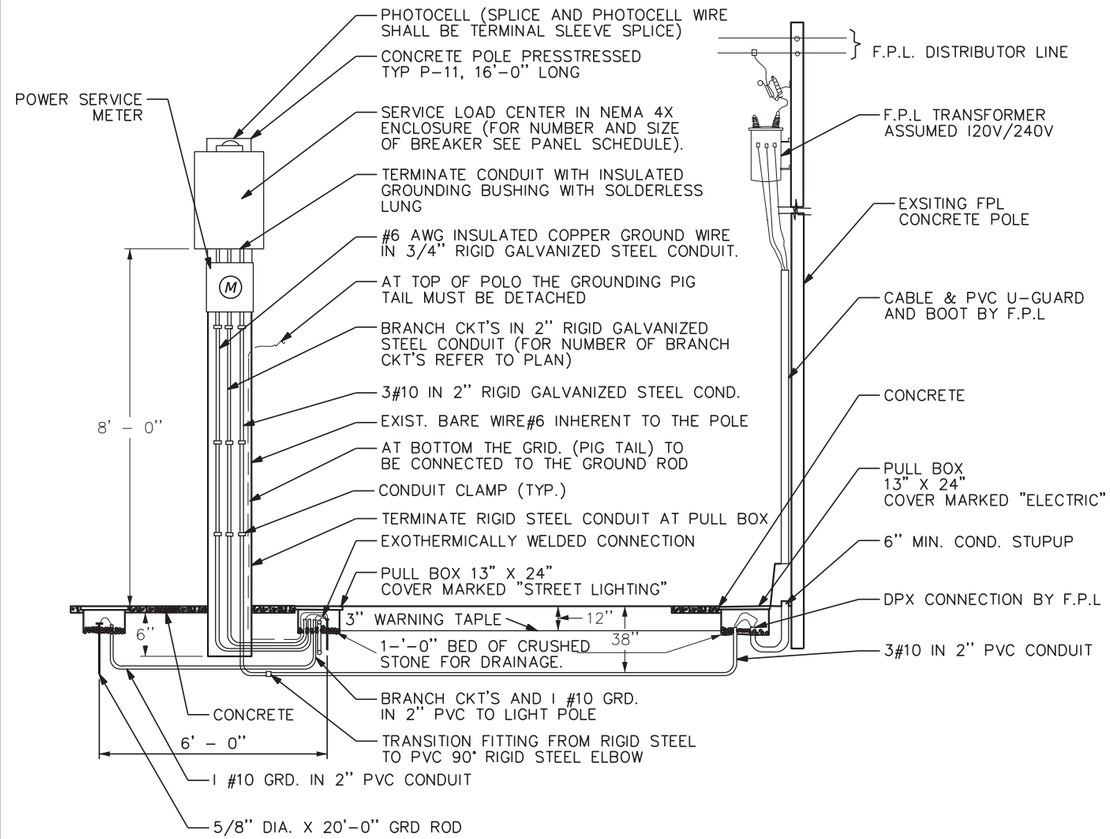
LIGHTING PLAN
ELECTRICAL SERVICE DETAIL



SERVICE POINT DISCONECT
(SW 87TH AVE/SW 164TH ST STA. 16+66.39)

NOTES:

1. THE ENCLOSURE SHALL BE NEMA 4X (STAINLESS STEEL). POLE MOUNTED, RIGIDLY ATTACHED TO POLE FACE.

2. THE ENCLOSURE DOOR SHALL BE SECURED BY LOCKABLE LATCH.

3. 240 VOLT MINIMUN RATINNG BOLD-IN TYPE BREAKERS SHALL BE USED.

4. A 600V LIGHTING PROTECTOR SHALL BE WIRED OUTSIDE THE ENCLOSURE.

5. A MAIN BREAKER IS REQUIRED IN ALL SERVICE PANEL WITH 2 OR MORE FENDER BREAKERS.

6. ALL SERVICE EQUIPMENT SHALL BE UL APPROVED.

7. BUS BAR TO BE COPPER COATED AND HAVE A MINIMUN RATING OF 100 AMPS WHEN THE MAIN BREAKER EXCEEDS 100 AMPS. BUSBAR O MATCH BREAKER AMPERAGE.

8. LOCATE CONTACTOR, TRANSFORMER, AND H.O.A SWITCH INSIDE ENCLOSURE. THE ENCLOSURE TO BE SIZED TO ACCOMODATE AS MANY BREAKERS AS CALL FOR AND ALL OTHER SERVICE EQUIPMENT.

9. THE ENCLOSURE TO BE RIGIDLY ATTACHED TO THE POLE FACE.

10. CONTRACTOR SHALL COORDINATE WITH F.P.L ENGINEERS FOR THE INSTALLATION OF THE F.P.L. RISER WHICH INCLUDED A CONNECTION FEE. (THIS FEE SHALL BE INCLUDED IN THE BID ITEM 639-1-121) THIS LAYOUT HAVE BEEN APPROVED BY THE MAINTENANCE AGENCY (MIAMI-DADE COUNTY).

11. SURGE PROTECTION DEVIDES (SPD), UL 1449 THIRD EDITION LISTED, BY ATLANTIC SCIENTIFIC MODEL ZONE DEFENDER OR EQUAL, RATED FOR 80KS MINIMUM. THIS UNIT SHALL BE MOUNTED IN THE INTERIOR OF THE CABINET, ON THE LOAD SIZE OF THE MAIN CIRCUIT BREAKER. THE SPD SHALL BE INSTALLED IN SUCH A WAY THAT THE STATUS LED CAN BE OBSERVED WHEN THE CABINET DOOR IS OPEN DEVICE SHALL BE INSTALLED IN ACCORDANCE WITH NEC AND LOCAL CODES.

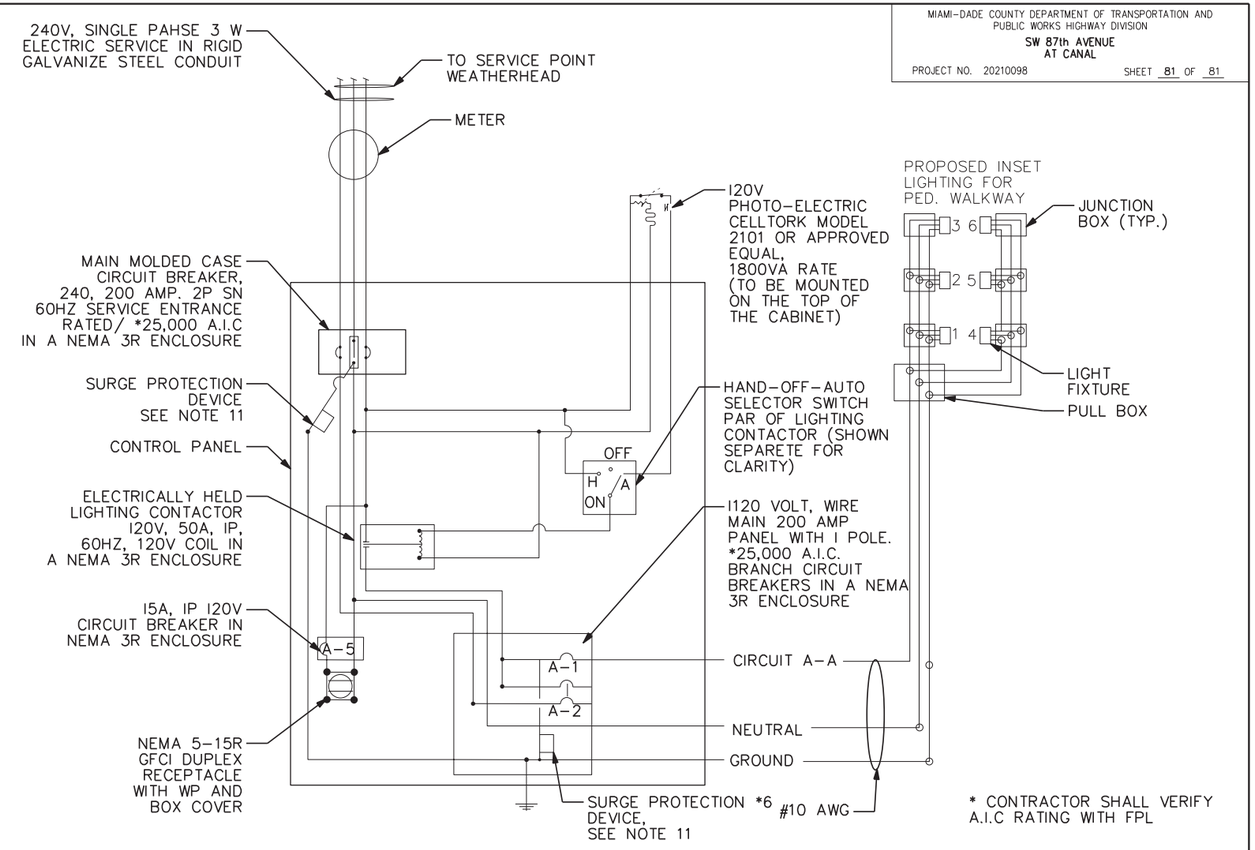
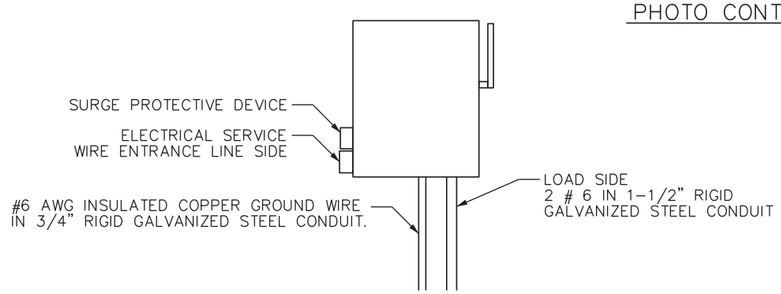
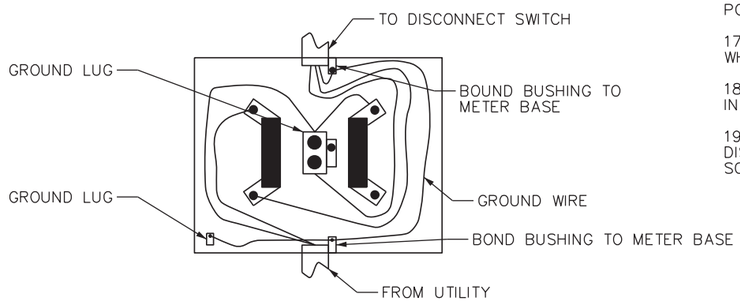


PHOTO CONTROLLER WIRING DIAGRAM



SERVICE DISCONNECT DETAIL
FRONT VIEW



METER SOCKET DETAIL

NOTES:

12. STRUCTURAL CALCULATIONS OF THE POLE INSTALLATION, SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER, MAY BE REQUIRED.

13. INTERCONNECT ALL GROUNDING ELECTRODES USING #6 GROUNDING CONDUCTOR

14. PROVIDE SUPPLEMENTARY GROUNDING ELECTRODES SPACED AT A MINIMUM OF 6FT APART.

15. SERVICE DISCONNECT MUST BE RATED FOR SERVICE ENTERANCE.

16. SERVICE DISCONNECT TO BE ORIENTED ON CONCRETE POLE SO ITS FACING THE SIDEWALK.

17. METER TO BE ORIENTED ON SIDE OF CONCRETE POLE SO WHEN READING IT YOU ARE FACING ON-COMING TRAFFIC.

18. PROVIDE 2 FEET OF COILED TERMINATION OF CONDUCTOR IN THE PULLBOX MARKED "ELECTRIC".

19. TERMINATE CONDUITS IN METER SOCKET AND SERVICE DISCONNECT WITH INSULATED GROUNDING BUSHING WITH SOLDERLESS LUG.

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

R.J. Behar & Company, Inc.
Engineers • Planners
6861 SW 196 Avenue, Suite 302
Pembroke Pines, Florida 33332

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

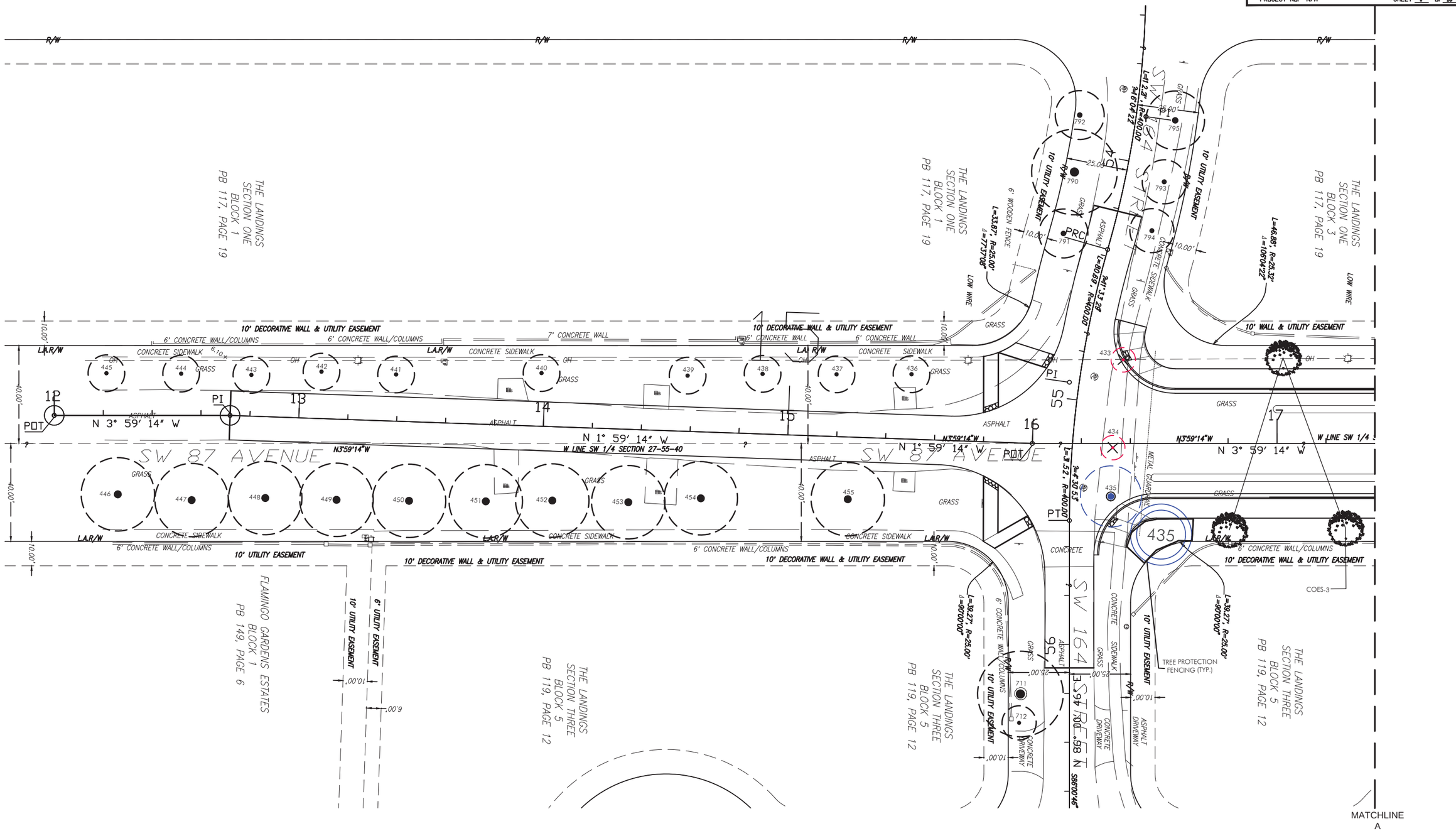
MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

LIGHTING PLAN
ELECTRICAL SERVICE DETAIL

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION

SW 87th AVENUE AT CANAL

PROJECT NO. N/A SHEET 1 OF 10



N

160' 80' 40' 0

SCALE: 1" = 40'

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

GSLA DESIGN, INC.
Landscape Architects / Land Planners
17670 NW 78th Avenue, #214
Miami, FL 33015

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY					

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
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MIAMI, FLORIDA 33128

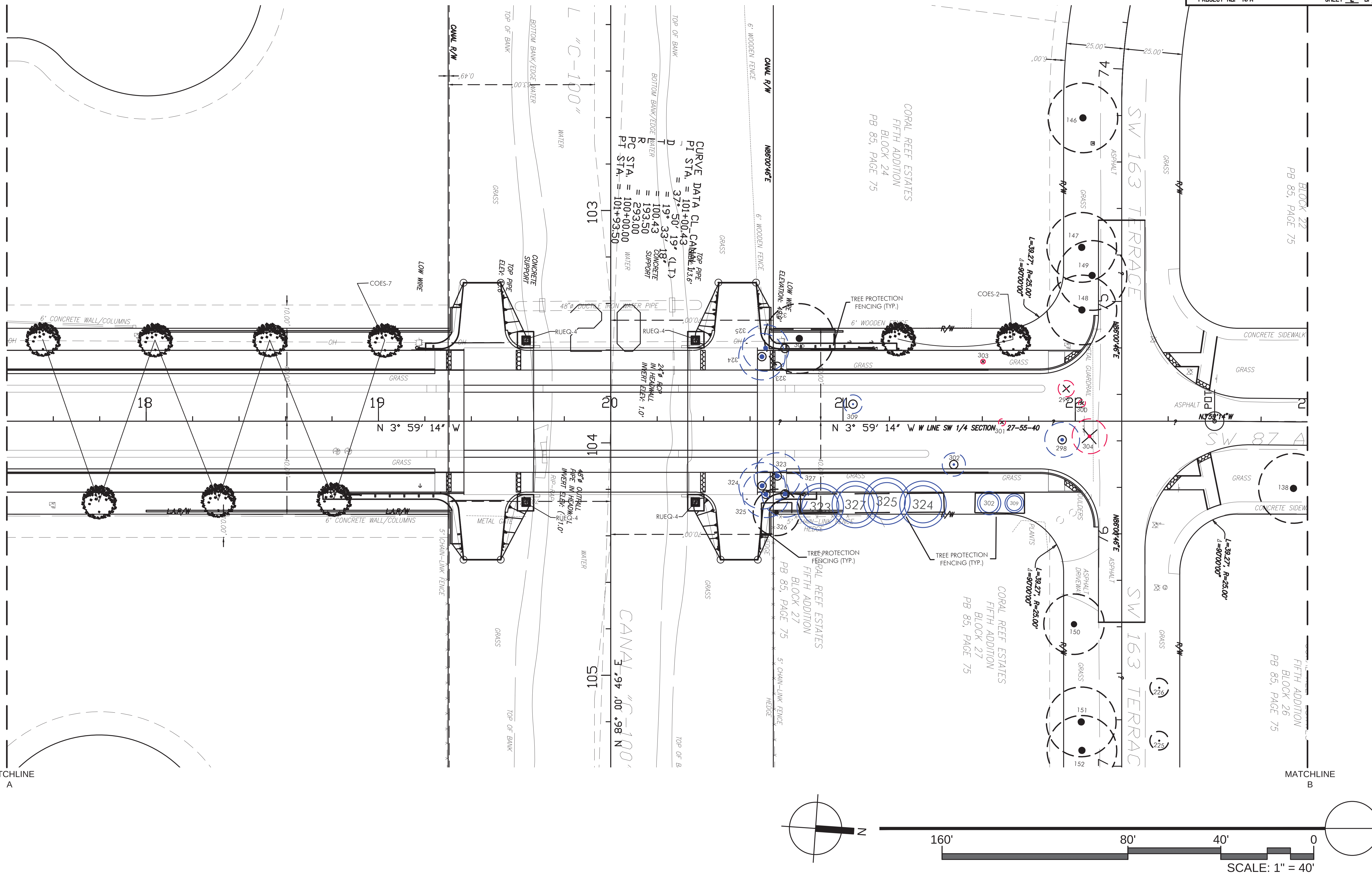
PLANTING PLAN

$FILE$ $USER$ $TIME$ $DATE$

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION

SW 87th AVENUE AT CANAL

PROJECT NO. N/A — SHEET 2 OF 10



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Landscape Architects / Land Planners
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Miami, FL 33015

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SUPERVISED BY:					

MIAMI-DADE
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
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MIAMI, FLORIDA 33128

PLANTING PLAN

$FILES$ $USERS$ $TIMES$ $DATES$

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION

SW 87th AVENUE AT CANAL

PROJECT NO. N/A SHEET 3 OF 10

CORAL REEF ESTATES FIFTH ADDITION

12' UTILITY EASEMENT

CORAL REEF ESTATES FIFTH ADDITION BLOCK 22 PB 85, PAGE 75

6' UTILITY EASEMENT

CORAL REEF ESTATES FOURTH ADDITION BLOCK 22 PB 84, PAGE 85

CORAL REEF ESTATES THIRD ADDITION BLOCK 22 PB 84, PAGE 49

R/W

CONCRETE SIDEWALK

ASPHALT DRIVEWAY

GRASS

145 144 143 142 141

40.00'

3 24 PI PCI 5

N 3° 32' 13" W

W LINE SW 1/4 SECTION 27-55-40

ASPHALT

N3°59'14"W

SW 87 AVENUE

N3°59'14"W 528.42'

SW 161 TERRACE

N87°55'30"E

25.00'

CONCRETE DRIVEWAY

DRIVEWAY (UNDER CONSTRUCTION)

139 140

N86°00'46"E

L=39.27', R=25.00', Δ=90°00'00"

SW 162 STREET

CORAL REEF ESTATES FIFTH ADDITION BLOCK 26 PB 85, PAGE 75

CORAL REEF ESTATES FIFTH ADDITION BLOCK 25 PB 85, PAGE 75

CORAL REEF ESTATES FIRST ADDITION BLOCK 15 PB 80, PAGE 66

MATCHLINE B

N

160' 80' 40' 0

SCALE: 1" = 40'

$FILE$ $USER$ $TIME$ $DATE$

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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17670 NW 78th Avenue, #214
Miami, FL 33015

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MIAMI-DADE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
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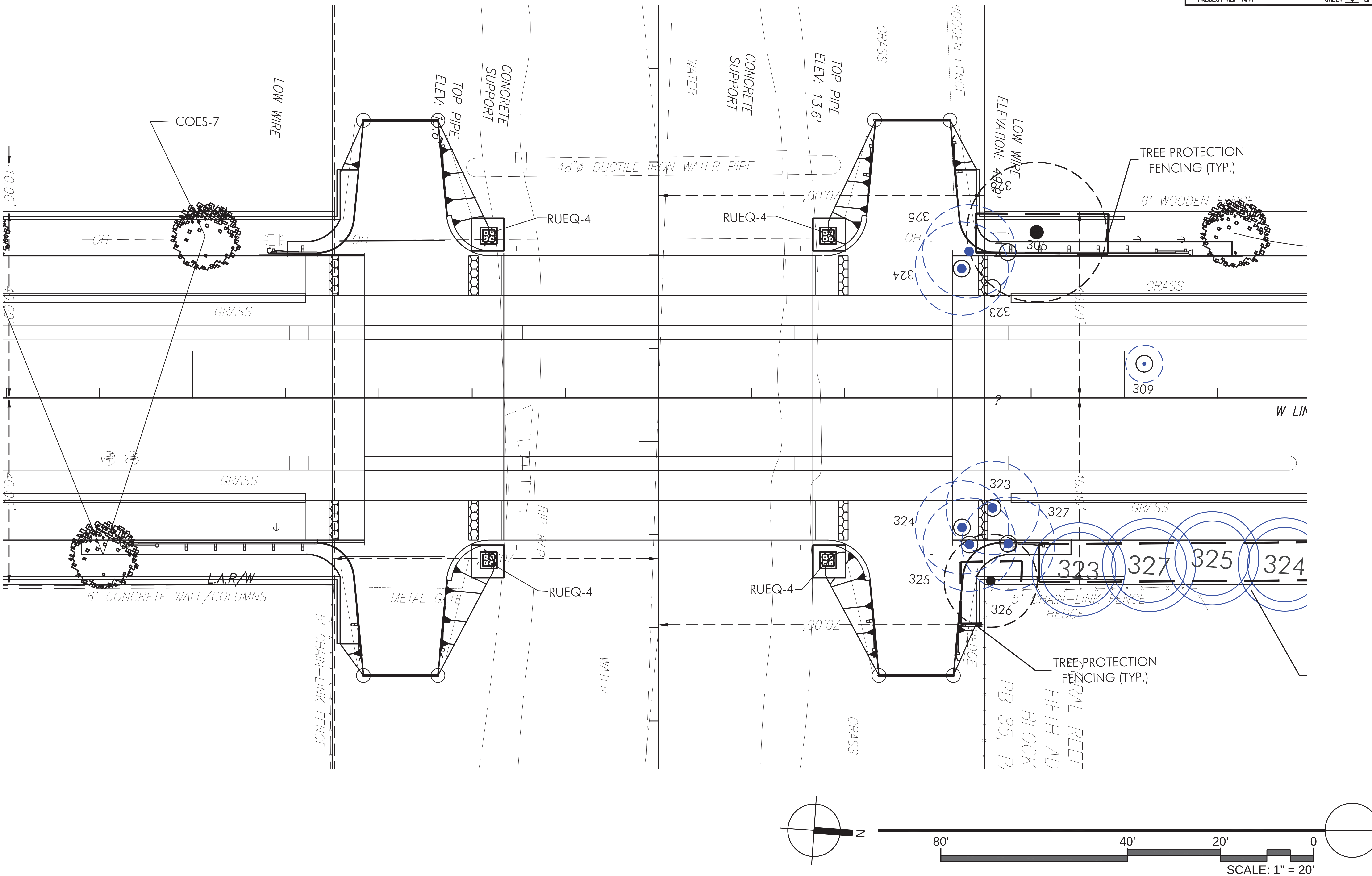
MIAMI, FLORIDA 33128

PLANTING PLAN



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17670 NW 78th Avenue, #214
Miami, FL 33015

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MIAMI-DADE
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

BRIDGE PLANTING

$FILE$ $USER$ $TIME$ $DATE$

EXISTING TREE DISPOSITION LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE HT.(ft.)	SIZE SPD.(ft.)	SIZE DBH.(in.)	DISPOSITION	MITIGATION S.F. CANOPY
138	Quercus virginiana	Live Oak	30	30	21	keep	
139	Quercus virginiana	Live Oak	30	30	15	keep	
140	Quercus virginiana	Live Oak	25	25	13	keep	
141	Bucida buceras	Black Olive	25	25	12	keep	
142	Quercus virginiana	Live Oak	25	30	12	keep	
143	Quercus virginiana	Live Oak	25	30	12	keep	
144	Quercus virginiana	Live Oak	28	25	10/10/7	keep	
145	Quercus virginiana	Live Oak	25	40	21	keep	
146	Quercus virginiana	Live Oak	25	25	multi	keep	
147	Bucida buceras	Black Olive	30	30	multi	keep	
148	Bucida buceras	Black Olive	30	30	multi	keep	
149	Bucida buceras	Black Olive	30	30	multi	keep	
150	Quercus virginiana	Live Oak	22	26	8	keep	
151	Bucida buceras	Black Olive	30	30	multi	keep	
152	Bucida buceras	Black Olive	30	30	multi	keep	
225	Quercus virginiana	Live Oak	16	8	3	keep	
226	Quercus virginiana	Live Oak	16	8	3	keep	
298	Quercus virginiana	Live Oak	20	15	4	transplant	
299	Quercus virginiana	Live Oak	14	7	2	remove	38
300	Quercus virginiana	Live Oak	8	3	1	remove	not a tree
301	Quercus virginiana	Live Oak	6	3	1	remove	not a tree
302	Quercus virginiana	Live Oak	14	10	3	transplant	
303	Quercus virginiana	Live Oak	4	2	multi	remove	not a tree
304	Busera simaruba	Gumbo Limbo	12	15	6	remove	177
305	Bischofia javanica	Bishofia	50	30	24	keep	
309	Ptychosperma elegans	Solitaire Palm	18	8	3	transplant	
323	Cocos nucifera	Coconut palm	28	20	10	transplant	
324	Cocos nucifera	Coconut palm	28	20	10	transplant	
325	Cocos nucifera	Coconut palm	28	20	10	transplant	
326	Cocos nucifera	Coconut palm	28	20	10	keep	
327	Roystonea regia	Royal Palm	15	20	14	transplant	
433	Elaepcarpus decipiens	Japanese Blueberry	10	10	6	remove	79
434	Elaepcarpus decipiens	Japanese Blueberry	10	10	5	remove	79
435	Elaepcarpus decipiens	Japanese Blueberry	20	25	14	transplant	
436	Wodyetia bifurcata	Foxtail Palm	28	15	10	keep	
437	Wodyetia bifurcata	Foxtail Palm	20	15	7	keep	
438	Wodyetia bifurcata	Foxtail Palm	20	15	7	keep	
439	Wodyetia bifurcata	Foxtail Palm	20	15	7	keep	
440	Wodyetia bifurcata	Foxtail Palm	26	15	8	keep	
441	Wodyetia bifurcata	Foxtail Palm	25	15	7	keep	
442	Wodyetia bifurcata	Foxtail Palm	28	15	8	keep	
443	Wodyetia bifurcata	Foxtail Palm	26	15	7	keep	
444	Wodyetia bifurcata	Foxtail Palm	26	15	7	keep	
445	Wodyetia bifurcata	Foxtail Palm	26	15	7	keep	
446	Quercus virginiana	Live Oak	26	30	12	keep	
447	Quercus virginiana	Live Oak	26	30	13	keep	
448	Quercus virginiana	Live Oak	26	30	20	keep	
449	Quercus virginiana	Live Oak	26	30	15	keep	
450	Quercus virginiana	Live Oak	26	30	15	keep	
451	Quercus virginiana	Live Oak	26	30	12	keep	
452	Quercus virginiana	Live Oak	26	30	19	keep	
453	Quercus virginiana	Live Oak	26	30	11	keep	
454	Quercus virginiana	Live Oak	26	30	14	keep	
455	Quercus virginiana	Live Oak	26	30	19	keep	
711	Busera simaruba	Gumbo Limbo	30	35	Multi	keep	
712	Syagrus romanzoffianum	Queen Palm	16	14	7	keep	
790	Busera simaruba	Gumbo Limbo	25	35	24	keep	
791	Busera simaruba	Gumbo Limbo	22	20	10	keep	
792	Busera simaruba	Gumbo Limbo	18	20	8	keep	
793	Busera simaruba	Gumbo Limbo	18	18	7	keep	
794	Busera simaruba	Gumbo Limbo	18	18	7	keep	
795	Quercus virginiana	Live Oak	22	24	7	keep	
						TOTAL CANOPY S.F. TO BE REPLACED	372
						TOTAL CANOPY S.F. MITIGATION PROVIDED	3,600

PLANT LIST

KEY	PLANT NAME	QTY.	UT.	SIZE
TREES				
COES	Conocarpus erectus 'Sericeus' ..Silver Buttonwood	12	ea.	8' tall x 4' spread, 3 trunks max. lifted to tree form.
SHRUBS				
KEY	**PLANT NAME**	**QTY.**	**UT.**	**SIZE**
RUEQ	Russelia equisetiformis ..Firecracker Plan	16	ea.	18" tall x 18" wide
MISCELLANEOUS				
sod	St. Augustine 'CitraBlue'	as req.	s.f.	solid sod for patching
	Planting Soil 70% Silica Sand 20% Everglades Muck 10% Shredded Pinebark	as req.	c.y.	
	Shredded Melaleuca Mulch	as req.	c.y.	3" layer in 3' dia. Circles around trees

$FILE$
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$TIME$
$DATE$

REVISIONS

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GSLA DESIGN, INC.
Landscape Architects / Land Planners
17670 NW 78th Avenue, #214
Miami, FL 33015

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MIAMI-DADE
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

EXISTING TREE DISPOSITION AND PLANT LIST

TREE TRANSPLANTING SPECIFICATIONS

1.01 Root pruning, Watering Before Transplanting

A. Root prune trees a minimum of eight (8) weeks prior to moving them. It is not necessary to root prune palms prior to transplanting unless specifically instructed to do so by the Landscape Architect. Prior to root pruning, thoroughly water the root zone with at least 2"-3" of water.

B. Root pruning shall be accomplished by digging a trench two-thirds (2/3) of the way around the tree at a minimum of twenty-four (24) inches deep. Root prune only with a mechanical root-pruning saw or a trencher with a maximum trench width of 8 inches. This trench shall form a rootball of the following sizes:

4"-5" caliper	3' diameter
6"-8" caliper	4'-6' diameter
9"-12" caliper	8' diameter
Over 12" caliper	10' diameter

C. All exposed roots shall be cut off smoothly, with sharp instruments. Backfill trenches with soil consisting of 30% silica sand and 70% mulch. Water them thoroughly after root pruning, and once weekly during the root regeneration period, with a soluble fertilizer that has a 20.20.20 analysis at manufacturer's recommended rate, dissolved in the water.

D. It may be necessary to re move curbing and/or paving to compete the root pruning operation. Where this is required the Contractor shall first cut cleanly with a concrete saw, any section of curb or pavement before cutting the roots.

E. This material shall be removed from the site by the Contractor and the area of pavement cut and removed by the root pruning shall be filled to flush with adjacent pavement. If required by the Landscape Architect for maintenance of traffic or pedestrian safety, the Contractor shall replace said curb or pavement.

F. Maintenance of Traffic safety requirements must be met where trees are close to travel lanes.

1.02 Top Pruning and Thinning

A. The amount of general pruning and thinning shall be limited to the minimum necessary to remove dead or injured twigs or branches and to compensate for the loss of roots as a result of transplanting operations. Approximately one third (1/3) of the mass of the canopy shall be removed unless otherwise instructed by the Landscape Architect. Pruning and thinning shall be done in such a manner as not to change the natural habit or shape of a plant. For very large trees that must be transported on public ROWs or where obstacles require it, additional pruning may be allowed at time of transport; cut back trees to the maximum size which can be transported after limbs are tied in as much as possible. The Landscape Architect shall be contacted prior to performing any major pruning or thinning. For palms, remove only fronds that are in decline or hanging lower than horizontal to the ground. Sabal palms may be "hurricane cut".

B. Bracing and Guying of Trees after Root Pruning
   a. Bracing and Guying shall be provided to assure the trees' stability during the root regeneration period; as per the applicable detail.

C. Balling and Burlappng
   a. Plant material which is in a soil of a loose texture, which does not readily adhere to the root system, especially in the case of large plants or trees, shall have the root ball wrapped in burlap and then wire, if directed by the Landscape Architect.

1.03 Transporting Plant Material

A. Movement of plants on public ROWs shall comply with all ordinances, codes and safety requirements, etc.

B. Before attaching slings to tree trunks for lifting, wrap the trunks with burlap tied tightly to avoid slippage and damage to the bark. To lift a large specimen, drill a two-inch diameter hole through the trunk and skewer it with a hardened steel pin. Attach the slings to the projecting ends. When the tree is planted, remove the pin and drive a hardwood dowel p lug into both ends of the hole, driven just below the level of the bark.

C. Transport materials on vehicles large enough to allow plants to not be crowded and damaged.

D. Protect plant material during transporting to prevent damage to the root system and desiccation of leaves. Trees shall be protected by tying in the branches and covering all exposed branches as necessary. Do not bend or bind-tie plant material in such a manner as to damage bark, break branches or alter the natural shape. **Plants shall be covered to prevent wind damage during transit.**

E. The Contractor shall exercise care in handling, loading, unloading, storing and transporting material to prevent damage. The Contractor shall assume full responsibility for protection and safekeeping of materials stored.

F. Transplanting must be done within 24 hours after being dug. Store plants in shade and keep the root ball and canopy moist.

1.04 Installation

A. Excavation of Holes: Plant holes shall be roughly cylindrical in shape with sides approximately vertical. The depth of the hole shall be equal to the rootball depth, unless further depth is required to provide adequate drainage. The diameter of the hole shall be a minimum of 24" larger than the rootball diameter.

B. Setting of Plants
   a. PLANT MATERIAL SHALL BE PLANTED AT THEIR NATURAL AND ORIGINAL PLANTING LEVEL PRIOR TO THEIR PLACE MENT ON THIS PROJECT OR JOB. WHEN LOWERED INTO THE HOLE, THE PLANTS SHALL REST ON THE PREPARED HOLE BOTTOM SUCH THAT THE SURFACE ROOTS AT THE TOP OF THE ROOTBALL ARE LEVEL OR SLIGHTLY ABOVE THE LEVEL OF THE TOP OF THE HOLE. CREATE A SAUCER, APPROXIMATELY 6" DEEP TO HELP HOLD WATER. THE PRACTICE OF PLUNGING, BURYING OR PLANTING PLANT MATERIAL SUCH THAT THE SURFACE ROOTS AT THE TOP OF THE ROOTBALL ARE BELOW THE LEVEL OF THE SURROUNDING FINAL GRADE WILL NOT BE PERMITTED UNLESS IT IS INDICATED OTHERWISE IN THESE SPECIFICATIONS. The plants shall be set straight or plumb or normal to the relationship of their growth prior to transplanting. The Landscape Architect reserves the right to realign any plant material after it has been set.

C. Backfilling
   a. Use planting soil consisting of 80% soil from site and 20% well-rotted compost derived from yard wastes. Remove any rocks 2" in diameter or larger before backfilling.
   b. Backfill the bottom two-thirds of the planting hole and firmly tamp and settle by watering as backfilling progresses. After having tamped and settled the bottom two-thirds of the hole, thoroughly puddle with water and fill remaining one-third of the hole with planting soil, tamping and watering to eliminate air pockets.

1.05 Watering Transplanted Trees

A. Once trees have been relocated and well-watered-in during the transplanting, provide water for a minimum of 90 days or the length of time specified in the plans.

B. Rootball watering: Maintain a soil moisture in the root zone at an optimum level for growth by deep watering of the entire rootball area according to the following schedule (or extended schedule specified in plans):

When	Frequency	Amount
Week1	once daily	3 gallons water per inch caliper
Weeks 2-4	every other day	2 gallons water per inch caliper
Weeks 5-8	twice a week	1 ½ gallons water per inch caliper
Weeks 9-12	once per week	1 ½ gallons water per inch caliper

C. If there is no available water source at the project, such as a hose bib(s) or fire hydrant(s) if approved for use, then the Contractor shall be responsible for supplying water by means of a truck or tank. It is the Contractor's responsibility to pay any fees for water use.

1.06 Mulching of Plant Saucer

A. Spread a 3" thick layer for shredded Eucalyptus or Melaleuca mulch over entire area of the rootball.

1.07 Application of Fertilizer

A. At time of watering root-pruned trees prior to transplanting, drench rootball once per week during the course of watering with a soluble fertilizer that has a 20.20.20 analysis at manufacturer 's recommended rate.

B. Three (3) weeks after transplanting, and after mulching, apply on the surface, evenly spread over the area of the entire rootball, FEC (Florida East Coast Fertilizer Co.) #5231 (12-6-8) or equal at the rate of one (1) pound per inch of trunk diameter.

Fertilizer Analysis

Total Nitrogen 12.00%
Derived from activated sludge, urea-form, sulfur coated urea & potassium nitrate.

Nitrate	0.75%
Ammoniacal	0.00%
Water soluble	10.25%
Water insoluble	1.00%

Total Phosphoric Acid 6.00%
Derived from triple super phosphate

Total Water Soluble Potash 8.00%
Derived form Sulfate of Potash Magnesium, Potassium Nitrate, Sulfate of Potash, and activated sludge

Total Water Soluble Magnesium 2.41%
Derived from Sulfate of Potash Magnesium

Total Manganese 0.77%
Derived from Manganous Oxide

Total Boraon 0.02%
Derived from Sodium Borate

Total Copper 0.07%
Derived from Copper Oxide

Total Zinc 0.08%
Derived from Zinc Oxide

Total Iron 1.00%

1.08 Staking Trees

A. Stake all trees and palms at the new site with new timbers with a minimum 2" x 4" dimension as per the details enclosed, or in the case of obstacle, in another manner which will support the trees.

Stakes will remain according to the following schedule, after which stakes will be removed by the Contractor:

Trees up to 6" DBH	4 months
Trees 6"-12" DBH	6 months
Trees greater than 12" DBH	12 months, or as required by Landscape Architect

Contractor will replace damaged guys as necessary.

1.09 Clean-Up

A. Disposal of Waste: All waste and other objectionable material created through planting operations and landscape construction shall be removed completely on a daily basis from the job or as directed by the Landscape Architect. Any paved areas, including curbs and sidewalks which have been strewn with soil, sod, fertilizer or other waste shall be thoroughly swept.

B. The Contractor shall remove and dispose of stakes and battens and untie any tied-up canopies when it is determined by the Landscape Architect that sufficient time has elapsed for the plants to root, stabilizing the plant. This shall be done even if the project has been completed and given final acceptance.

C. Backfilling of holes left after trees are transplanted shall be done immediately after tree removal, or suitable barricades shall be provided to prevent injuries. If the area is to be planted, backfill with a mix of 80% sand, 20% organic material. If the area is to be paved, consult with the Landscape Architect for proper backfill material.

1.10 Guarantee and Replacement

A. Plant material which is on the site and scheduled to be transplanted is not covered by the guarantee, except in the case of Contractor's negligence or work that has been done in an unworkmanlike manner. If it is determined by the Landscape Architect that the Contractor's negligence or unworkmanlike operations has severely damaged or poses a threat to the health of material to be transplanted or already transplanted, then the Contractor shall be required to replace the tree at a size equal to the transplanted tree, at his cost, and water it as per 1.07.

$FILE$
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$TIME$
$DATE$

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

GSLA DESIGN, INC.
Landscape Architects / Land Planners
17670 NW 78th Avenue, #214
Miami, FL 33015

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY					

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

TRANSPLANTING NOTES

LANDSCAPE SPECIFICATIONS
PART 1 - GENERAL

1.1 SCOPE
A. Contractor shall provide all labor, materials, equipment, supervision, and related work necessary to complete the landscape work in accordance with the intent of the landscape plans, schedules and these specifications. The extent of work is shown on the drawings which are a part of this document.

1.2 CONTRACTOR QUALIFICATIONS
A. Landscape installation work to be performed by a Contractor Certified by the Florida Nurserymen, Growers and Landscape Association (FNGLA) as a Certified Landscape Contractor. Any pruning to be supervised by an Arborist, certified by the International Society of Arboriculture (ISA) and licensed in County where work is performed.

1.3 INVESTIGATION OF UTILITIES
A. Prior to beginning work, the Contractor shall be responsible to locate existing underground utilities. Check with all utility companies and Sunshine State, call (811).

1.4 SUBSTITUTIONS
A. Only materials specified will be accepted, unless approved in writing by the Landscape Architect in advance.

1.5 PLANT SIZES
A. All plant sizes shall equal or exceed the minimum sizes as specified in the plant list. If plant sizes of local codes and ordinances require larger plant material than specified on plans, then they shall supercede the sizes on the plan. When plant sizes are specified as a range of size, installed materials shall average the mean of the range specified. Plants shall be measured following pruning, with branches in normal position. All necessary pruning shall be done at the time of planting.

1.6 PLANT QUALITY
A. All plant material shall be equal to or better than Florida No. 1 as classified by "Grades and Standards for Nursery Plants" by the Division of Plant Industry, Florida Department of Agriculture. They shall have a growth habit that is normal for the species; healthy, vigorous, free from insects, disease and injury.

B. The Owner or Landscape Architect reserves the right to refuse any plant material which does not conform to the intent of the written specifications or design.

C. CIRCLING ROOTS FOUND ON CONTAINER-GROWN MATERIAL WILL NOT BE ACCEPTED UNLESS REMEDIAL ROOT PRUNING, APPROVED BY THE LANDSCAPE ARCHITECT IS DONE BEFORE PLANTING.

1.7 PLANT QUANTITY
A. The plant quantities shown on the plant list are to be used only as an aid to bidders. In the case of discrepancy between the plant list and the plan, the quantity on the plan shall override the plant list.

1.8 UNIT PRICES
A. The successful bidder shall furnish to the Owner and the Landscape Architect, a unit price breakdown for all materials. The Owner may, at his discretion, add to or delete from the materials utilizing the unit price breakdown submitted to and accepted by the Owner.

1.9 SUBMITTALS
A. Fertilizer: The Contractor shall submit to the Owner and Landscape Architect documentation that all the fertilizer used for the project is of the analysis specified and placed at the rates specified in section 2.2 FERTILIZER.

B. Planting soil: The Contractor shall submit a sample of the planting soil (approximately 1 cu. Ft.) for approval by the Landscape Architect prior to delivery to the site.

1.10 CLEAN-UP & MAINTENANCE OF TRAFFIC
A. Follow procedures in FDOT Index 600 for maintenance of traffic during construction.

B. At the end of each work day, the Contractor shall remove debris and shall barricade the un-filled holes in a manner appropriate in the path of pedestrians and motorists.

C. Upon completion of the work or any major portion of the work or as directed by the Landscape Architect, all debris and surplus material from his work shall be removed from the job site.

1.11 MAINTENANCE PRIOR TO ACCEPTANCE
A. The Contractor is responsible to maintain the plantings until they are accepted under the provisions of 1.12 "ACCEPTANCE OF INSTALLATION".

1. Plants: Begin maintenance immediately following the final plant installation operation for each plant and continue until all plant installation is complete and accepted. Maintenance shall include watering all plants, weeding, mulching, pest and disease control, tightening and repairing of guys, repair of braces, removal of dead growth, resetting of plants to proper grade or up-right position, restoration of plant saucer, litter pick-up in plant beds and other necessary operations to assure specified minimum grade of Florida No. 1.

2. Turf Areas: Begin maintenance of turf immediately following the placement of sod and continue until sod installation is complete and accepted. Maintenance shall include but not be limited to, watering, leveling, mowing, weed and pest control, fungus and disease control and other necessary operations as determined by the Landscape Architect and good nursery practice.

3. Re-setting or straightening trees and palms:
The Contractor shall re-set and/or straighten trees and palms as required at no additional cost to the Owner unless caused by sustained winds of 75 mph or more. Then, the costs of the operations may be charged to the owner. Re-set trees within 48 hours.

1.12 ACCEPTANCE OF INSTALLATION
A. Inspection: Inspection of the work, to determine completion of contract work, exclusive of the possible replacement of plants and turf, will be made by the Landscape Architect at the conclusion of the maintenance period. Written notice requesting such an inspection and submitted by the Contractor at least ten (10) days prior to the anticipated date.

1.13 GUARANTEE
A. Guarantee all plants for a period of one year (CCD). Guarantee shall commence from the date of written acceptance. Plant material which is on the site and scheduled to be relocated is not covered by the guarantee except in the case of Contractor's negligence or work that has been done in an unworkman-like manner. The Contractor is not responsible for loss due to acts of god, (i.e.) sustained winds of 75 mph or more, floods, frost, lightning, vandalism or theft.

1.14 REPLACEMENT
A. Replacement shall be made during the guarantee period as directed by the Landscape Architect within ten (10) days from time of notification. For all replacement plant material, the guarantee period shall extend for an additional forty-five (45) days beyond the original guarantee period. The Contractor shall be responsible to provide water to the replacement plants in sufficient quantity to aid in their establishment. At the end of the guarantee period, inspection will be made by the Landscape Architect, upon written notice requesting such inspection and submitted by the Contractor at least five (5) days before the anticipated date. Replacement plants must meet the requirements of Florida No. 1 at time of inspection. Remove from the site all plants that are dead or in a state of unsatisfactory growth, as determined by the Landscape Architect. Replace these and any plants missing due to the Contractor's negligence as soon as conditions permit.

1. Materials and Operations: All replacement plants shall be of the same kind and size as indicated on the plant list. The Contractor shall supply and plant the plants as specified under planting operations.

2. Cost of Replacements: A sum sufficient to cover the estimated cost of possible replacements, including material and labor will be retained by the Owner and paid to the Contractor after all replacements have been satisfactorily made and approved by the Landscape Architect.

PART 2 - MATERIALS

2.1 PLANTING SOIL
A. Planting soil for trees, shrubs and ground covers shall be of the composition noted on the plans, measured by volume.

B. Soil for Sodded Areas: shall be coarse lawn sand.

2.2 FERTILIZER
A. Fertilizer for trees, palms, shrubs, and groundcovers shall be as follows: LESCO Palm Special 13-3-13 or equal, Sulfur coated with iron and other minor elements and maximum of 2% chlorine, or brand with equal analysis. The fertilizer shall be uniform in composition, dry and free flowing and shall be delivered to the site in the original unopened containers, bearing the manufacturer's guaranteed analysis. Fertilizer for sod and seeded areas shall be 8-6-8, 50% organically derived nitrogen, or equal.

2.3 WATER
A. The Contractor shall provide potable water on site, available from the start of planting. The Contractor is responsible to ascertain the location and accessibility of the water source. The Contractor is responsible to provide the means of distribution (i.e. water truck, hoses, etc.) for distribution of water to the planting areas.

2.4 MULCH
A. Mulch shall be as specified on the Plant List.

2.5 ROOT BARRIER MATERIAL
A. Root barrier material shall be 24" deep polypropolylene panels by DeepRoot or approved equal.
B. Install per details in the plans.

PART 3 - INSTALLATION PROCEDURES

3.1 LAYOUT
A. Verify location of all underground utilities and obstructions prior to excavation.

3.2 HERBICIDE TREATMENT
A. In all areas infected with weed and/or grass growth, a systemic herbicide shall be applied per manufacturer's rates. When it has been established where work will be done, the systemic herbicide shall be applied in accordance with manufacturer's labeling to kill all noxious growth. Contractor shall schedule his work to allow more than one application to obtain at least 95% kill of undesirable growth. If necessary, Contractor shall conduct a test to establish suitability of product and applicator to be used on this project, prior to execution of the full application.

3.3 PLANT PIT EXCAVATION AND BACKFILLING
A. Trees: See the Planting and Bracing Details and notes.

B. All planting holes shall be hand dug where machine dug holes may adversely affect utilities or improvements.

C. Shrubs and Groundcover: Shrubs and groundcover shall be planted in a soil bed as described in the notes and details. Space shrubs and provide setback from curb and pavements as shown in the plans.

D. Watering of field-grown plants: Thoroughly puddle in water to remove any air pockets in the plant hole.

3.4 WATERING
A. The Contractor is responsible to provide the water for all new plants and transplants and means of distribution (i.e. hand watering or water truck) during the maintenance period and extending into the period after acceptance until the full schedule as listed below is complete. Water for trees and other large field grown plants shall be supplemented by hand or water truck, in addition to the irrigation system, (if one is provided). Contractor can adjust watering schedule during heavy rain season upon approval of the Landscape Architect.

AMOUNT OF WATER PER APPLICATION
For trees up to 5 inch caliper - 5 gallons
From 5 to 8 inch caliper - 25 gallons
9 inch and up caliper - 50 gallons

FREQUENCY OF WATER
Daily for the first week
3 times per week for weeks 2 - 5
2 times per week for weeks 6 - 8
1 time per week for weeks 9 - 12

B. Water in plants by thoroughly soaking of the entire root ball immediately after planting. For large trees and shrubs, add water while backfilling hole to eliminate any air pockets in the soil around the root ball.

C. Water shrubs, sod and groundcover a minimum of once daily for a week or until an irrigation system is fully operational. If no irrigation system is to be installed, the Contractor shall be responsible for watering the shrub, sod, and groundcover for the time specified above, after installation of each section of the planting installed.

3.5 FERTILIZING
A. Add fertilizer on top of the surface of shrubs beds and tree and palms root balls two (2) months after installation. Fertilize sod within two (2) days after installing after planting of each segment of the job. Fertilizer shall be applied after soil has been well moistened. Fertilizer shall be washed off of plant leaves and stems immediately after application. Apply at the following rates:

1. Trees and Large Shrubs: One (1) pound per inch of trunk diameter, spread evenly over the root ball area.

2. Shrubs: One half (1/2) handful per shrub, spread evenly over the root ball area.

3. Groundcover: Twelve (12) pounds per 100 sq. ft. of bed area.

4. Sod: Twelve (12) pounds per 1,000 sq. ft. Wash fertilizer off blades immediately after spreading.

3.6 MULCHING
A. Spread mulch three (3) inches thick uniformly over the entire surface of shrubs and groundcover beds, depth measured after settling, unless otherwise specified in the plans. Provide 36" diameter bed of mulch, measured from outer edge of the trunk, for all trees and palms planted in sod areas. Keep mulch away from contact with the trunk. Create a 6" high ring of mulch at the outer edge of tree and palm holes.

3.7 GUYING AND BRACING
A. See the details bound herewith or made part of the plans.

3.8 SODDING
A. Provide a blanket of lawn sand as described in the notes in these plans. Prior to planting, remove stones, sticks, etc. from the sub-soil surface. Excavate existing non-conforming soil as required so that the finish grade of sod is flush with adjacent pavement or top of curb as well as adjacent sod in the case of sod patching.

B. Place sod on moistened soil, with edges tightly butted, in staggered rows at right angles to slopes. The sod shall be rolled with a 500 pound hand roller immediately after placing.

C. Keep edge of sod bed a minimum of 18" away from groundcover beds and 24" away from edge of shrub beds and 36" from trees, measured from the edge of plant or tree trunk.

D. Sod shall be watered immediately after installation to uniformly wet the soil to at least two inches below the bottom of sod strips.

E. Apply fertilizer to the sod as specified in Section 3.5.

F. Excavate and remove excess soil so top of sod is flush w/top of curb or adjacent pavement, or adjacent existing sod.

PLANT BED PREPARATION NOTES

1. In all areas where new sod and shrub and groundcover masses are to be planted, kill all existing weeds by treating with systemic herbicide prior to beginning soil preparation.

2. In all shrub and groundcover beds, excavate and backfill soil as described in "Plant List(s)". If no specific preparation is noted, prepare soil as described below for either condition, over the entire area to be planted:

Condition A:
If any compacted road base or asphalt or rocky soil is encountered, remove compacted material entirely to allow an 18" depth of planting soil per plant list unless otherwise stated. Backfill the entire area of the shrub and groundcover beds with 18" planting soil (as specified in Plans) to within 2 inches of the adjacent pavement or top of curb. Remove all debris and rocks and pebbles larger than 2 inches in size and level the grade before planting.

Condition B:
Where no compacted soil is encountered, thoroughly mix 6 inches of planting soil per plant list into the existing soil to a depth of 18 inches unless otherwise stated. If required, excavate and remove the existing soil to lower the grade, so that the prepared mix is finished to a minimum of 2 inches below top of curb or adjacent walkway. Remove all debris and rocks and pebbles larger than 2 inches in size and level the grade before planting.

For all sod areas, spread a 2" deep layer of lawn sand prior to sodding. Remove all debris and rocks and pebbles larger than 2 inchs in size and level the grade before sodding. Remove, if required, existing soil so that top of sod is flush with and adjacent top of curb or pavement.

For Trees and shrubs larger than 7 gallon, Add Diehard" transplant innoculant supplied by Horticultural Alliance, Inc. (800-628-6373) or equal. Mix into top 8-10 inches of planting hole, making sure it is contact with the root ball. Add at a rate specified by manufacturer (typically 4oz. per 1 inches of trunk caliper or 7 gallon can).

SPACING OF PLANTS (SEE PLANT SPACING DETAIL)

1. Plants shall be planted sufficiently away from edges of pavements or curbs, to allow for growth toward the edges of the bed.

PROTECTION OF PLANTS

1. The Contractor shall be responsible to protect existing trees and shrubs in and adjacent to the area of work. Erect barriers as necessary to keep equipment and materials, any toxic material, away from the canopy drip line of trees and shrubs. DO NOT PILE SOIL OR DEBRIS AGAINST TREE TRUNKS OR DEPOSIT NOXIOUS BUILDING SUPPLIES OR CHEMICALS WITHIN THE DRIP LINE.

$FILE$
$USER$
$TIME$
$DATE$

REVISIONS

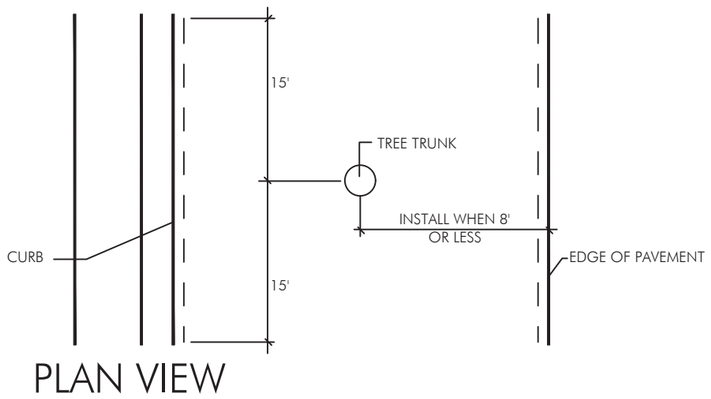
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

GSLA DESIGN, INC.
Landscape Architects / Land Planners
17670 NW 78th Avenue, #214
Miami, FL 33015

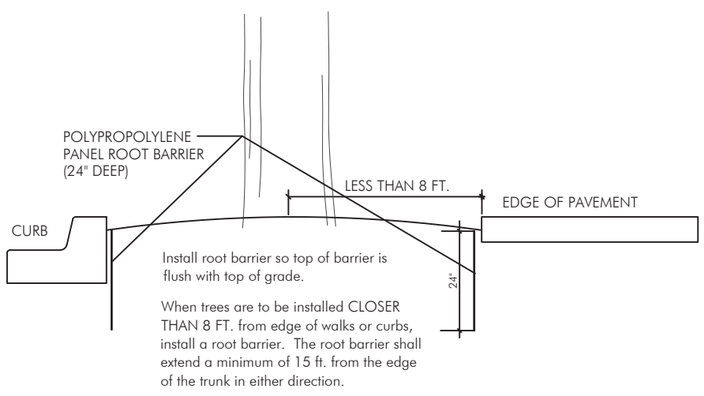
	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY					

MIAMI-DADE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

PLANTING SPECS

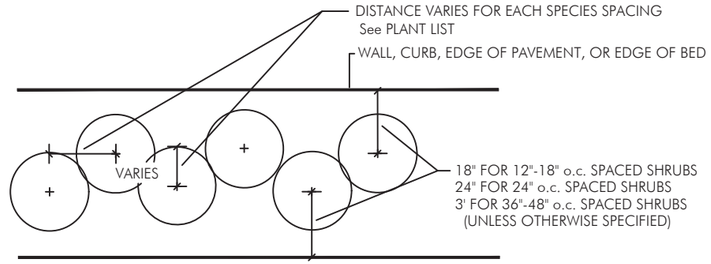


PLAN VIEW



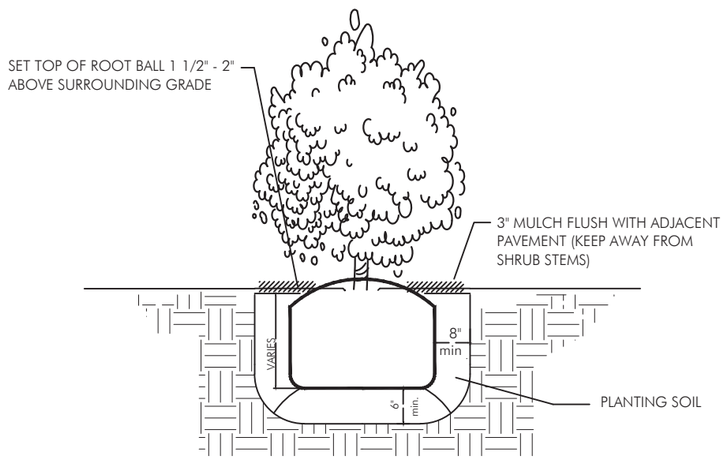
ROOT BARRIER INSTALLATION DETAIL

N.T.S.

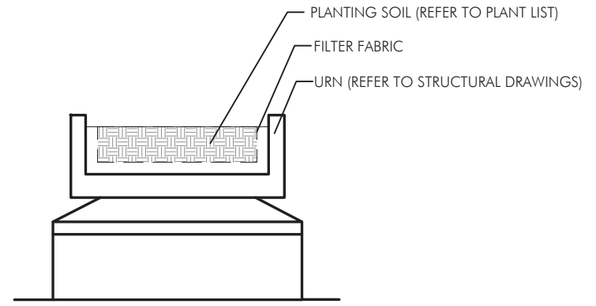


SHRUB SPACING DIAGRAM

N.T.S.



SHRUB INSTALLATION DETAIL



URN DETAIL

$FILE$
$USER$
$TIME$
$DATE$

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

GSLA DESIGN, INC.
Landscape Architects / Land Planners
17670 NW 78th Avenue, #214
Miami, FL 33015

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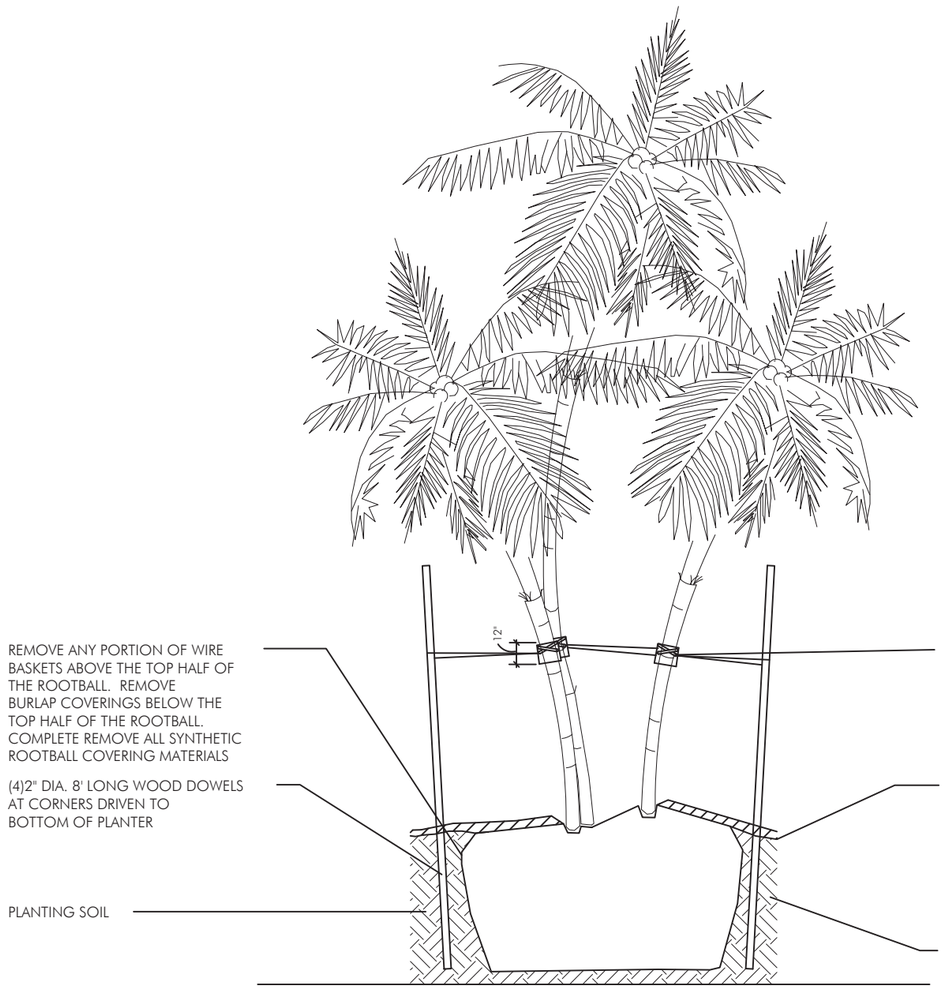
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE
DEPARTMENT OF TRANSPORTATION
AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

PLANTING DETAILS



NOTE - IRREGULAR OR MULTI-STEMED TREES SHALL HAVE A SIMILAR STAKING PATTERN AS SINGLE TRUNKED TREES. STAKES NEED NOT ALL BE ATTACHED TO EVERY STEM

ALL SUPPORT MATERIALS ARE TO BE REMOVED FROM THE TREES ONCE THE TREES HAVE BECOME ESTABLISHED(NOT TO EXCEED 12 MONTHS FROM THE COMPLETION OF THE PROJECT).

MULTI-TRUNKED TREE/PALM BRACING DETAIL

N.T.S.

$FILE$
$USER$
$TIME$
$DATE$

REVISIONS

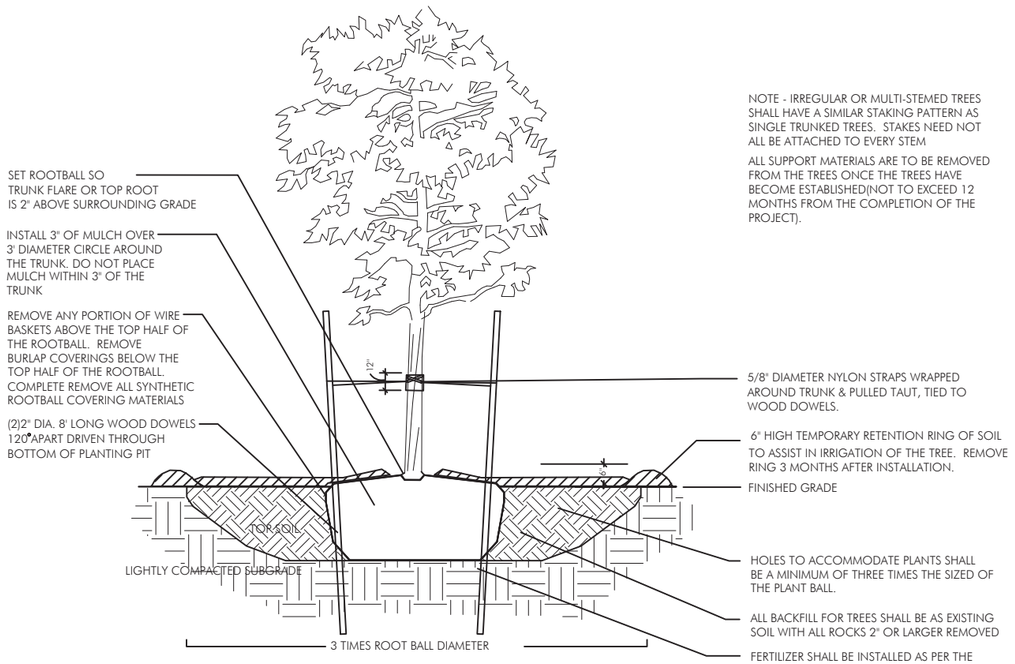
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

GSLA DESIGN, INC.
Landscape Architects / Land Planners
17670 NW 78th Avenue, #214
Miami, FL 33015

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

PLANTING DETAILS

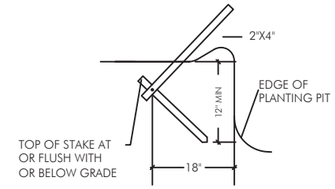


NOTE - IRREGULAR OR MULTI-STEMED TREES SHALL HAVE A SIMILAR STAKING PATTERN AS SINGLE TRUNKED TREES. STAKES NEED NOT ALL BE ATTACHED TO EVERY STEM

ALL SUPPORT MATERIALS ARE TO BE REMOVED FROM THE TREES ONCE THE TREES HAVE BECOME ESTABLISHED(NOT TO EXCEED 12 MONTHS FROM THE COMPLETION OF THE PROJECT).

PLANTING & BRACING DETAIL UNDER 3 1/2" CALIPER

N.T.S.



DETAIL A

N.T.S.

NOTE- USE 4" X 4" STAKES TREES & PALMS OVER 12" CALIPER

PLANTING & BRACING DETAIL OVER 3 1/2" CALIPER

N.T.S.

BATTEN DETAIL B

N.T.S.

NOTE - IRREGULAR OR MULTI-STEMED TREES SHALL HAVE A SIMILAR STAKING PATTERN AS SINGLE TRUNKED TREES. STAKES NEED NOT ALL BE ATTACHED TO EVERY STEM.

ALL SUPPORT MATERIALS ARE TO BE REMOVED FROM THE TREES ONCE THE TREES HAVE BECOME ESTABLISHED (NOT TO EXCEED 12 MONTHS FROM THE COMPLETION OF THE PROJECT).

$FILE$
$USER$
$TIME$
$DATE$

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

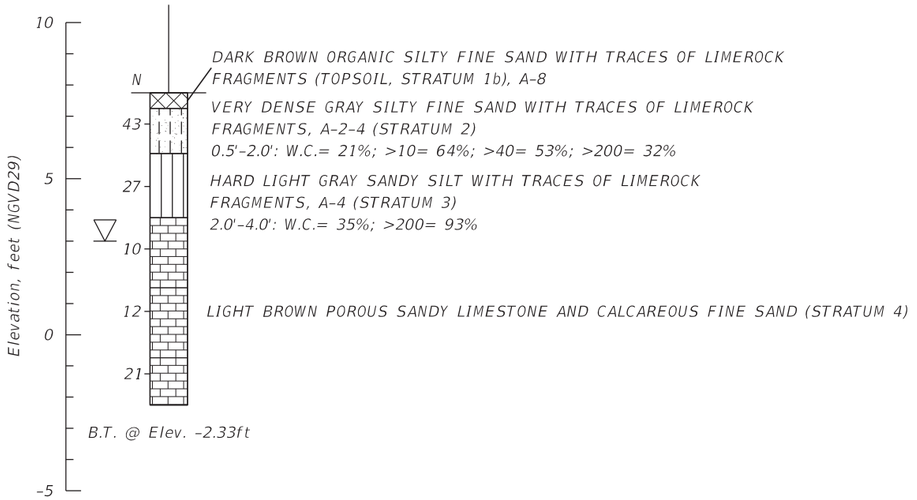
GSLA DESIGN, INC.
Landscape Architects / Land Planners
17670 NW 78th Avenue, #214
Miami, FL 33015

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY:					

MIAMI-DADE
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

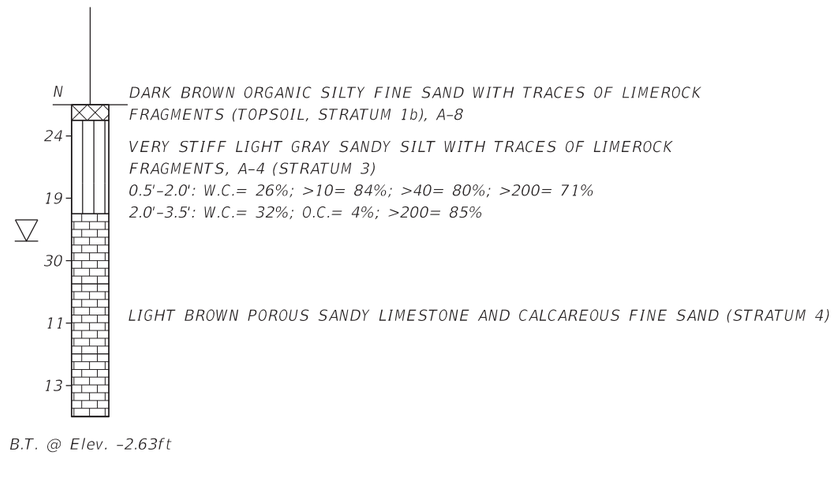
PLANTING DETAILS

BOR # RB-1
STA. 17+00
OFF. 30.0 LT
ELEV. 7.67 FT
DATE 8/30/2021
DRILLER O. MEJIAS
LATITUDE 25.61721
LONGITUDE -80.33302



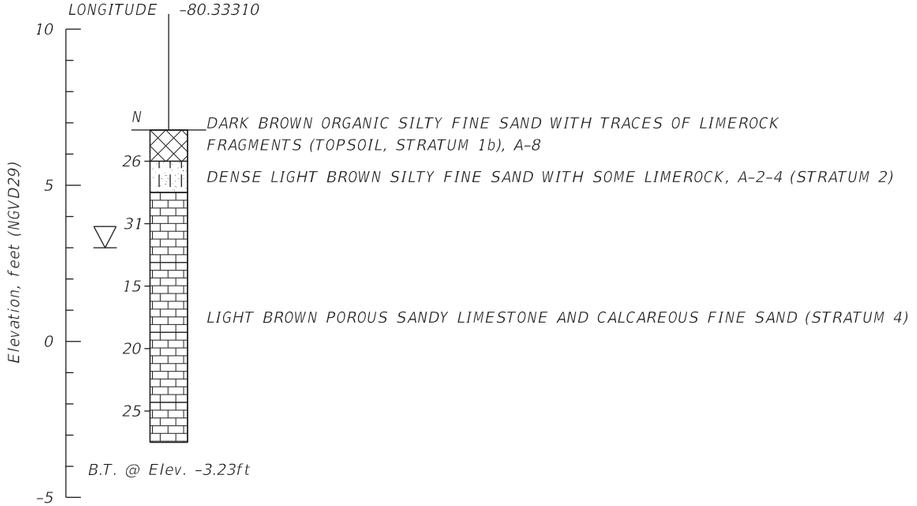
B.T. @ Elev. -2.33ft

BOR # RB-2
STA. 17+00
OFF. 33.0 RT
ELEV. 7.37 FT
DATE 8/30/2021
DRILLER O. MEJIAS
LATITUDE 25.61722
LONGITUDE -80.33283



B.T. @ Elev. -2.63ft

BOR # RB-3
STA. 21+90
OFF. 25.0 LT
ELEV. 6.77 FT
DATE 8/30/2021
DRILLER O. MEJIAS
LATITUDE 25.61857
LONGITUDE -80.33310



B.T. @ Elev. -3.23ft

BOR # RB-4
STA. 21+90
OFF. 27.0 RT
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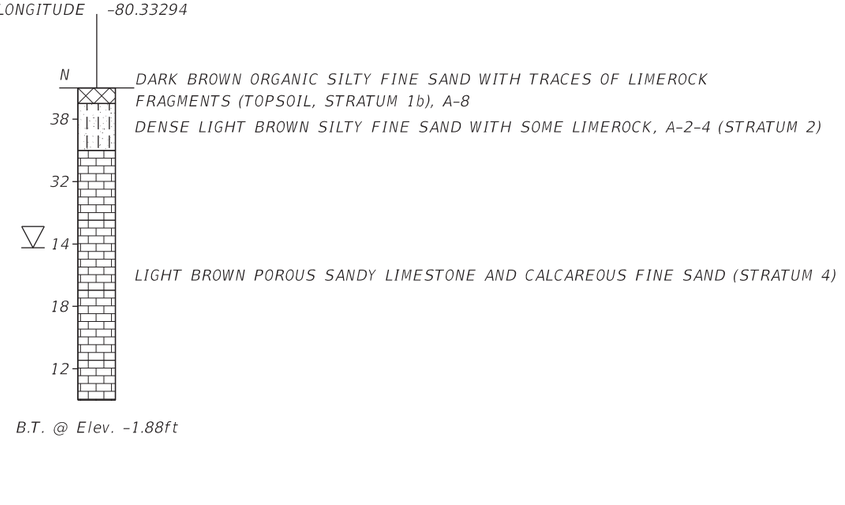
DATE 8/30/2021
DRILLER O. MEJIAS
LATITUDE 25.61857
LONGITUDE -80.33294



B.T. @ Elev. -1.88ft

VERTICAL SCALE: 0 5
HORIZONTAL SCALE: NTS
HRES PROJECT No.: HR21-1691R

LEGEND

TOPSOIL
SILTY SAND
SILT
LIMESTONE

GROUND WATER LEVEL AT BORING COMPLETION
B.T. BORING TERMINATED
W.C.: WATER CONTENT
O.C.: ORGANIC CONTENT
>10: PERCENT PASSING #10 SIEVE
>40: PERCENT PASSING #40 SIEVE
>200: PERCENT PASSING #200 SIEVE

THE TEST BORINGS WERE PERFORMED BY HRES USING A CME-55 TRUCK MOUNTED RIG.

GRANULAR MATERIALS:

DENSITY	SPT N-VALUE (BLOWS/12 INCHES)
VERY LOOSE	<3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	>40

SILTS AND CLAYS:

CONSISTENCY	SPT N-VALUE (BLOWS/12 INCHES)
VERY SOFT	<1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	>24

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
CONCRETE: MODERATELY AGGRESSIVE
STEEL: MODERATELY AGGRESSIVE
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

Resistivity ohms-cm	pH	Sulfates ppm	Chlorides ppm
1,435	7.4	18.0	123.0

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

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

HERNANDO R. RAMOS, P.E.
P.E. LICENSE NUMBER 42045
HR ENGINEERING SERVICES, INC.
7815 NW 72ND AVENUE
MEDLEY, FLORIDA 33166

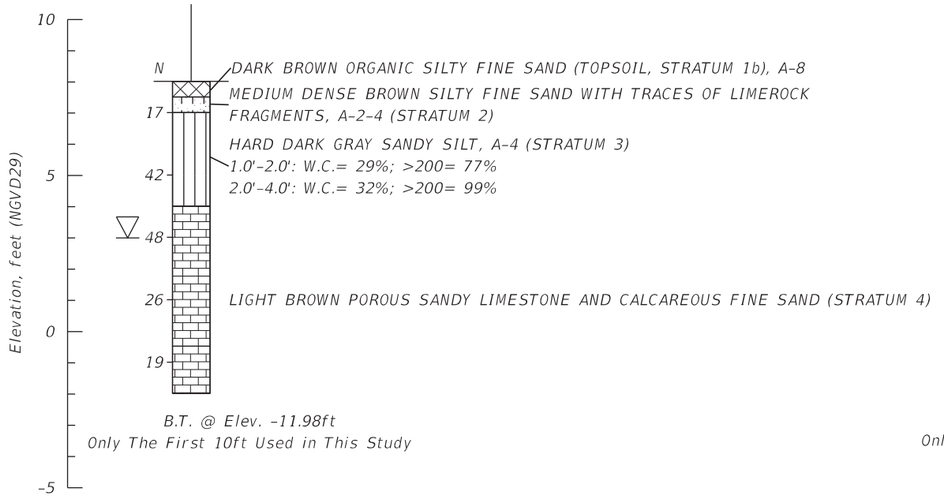
DRAWN BY: CS 10-21
CHECKED BY: PV 10-21
DESIGNED BY: CS 10-21
CHECKED BY: HRR 10-21

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
-	MIAMI-DADE	-

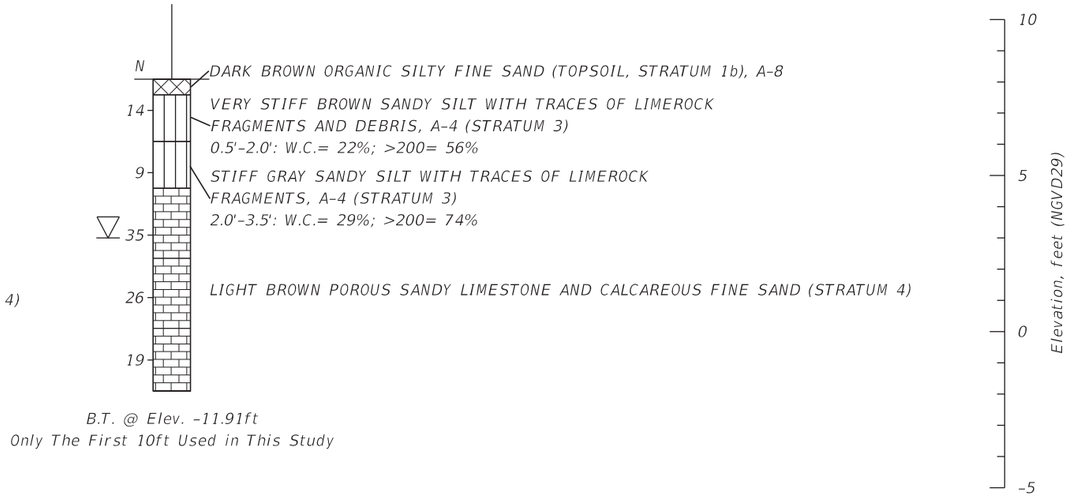
SHEET TITLE: REPORT OF CORE BORINGS
REF. DWG. NO.:
PROJECT NAME: SW 87TH AVENUE BRIDGE OVER C-100 CANAL
SHEET NO.: A-9

BOR # MSE-1
STA. 18+20
OFF. 30.0 LT
ELEV. 8.02 FT
DATE 8/27/2021
DRILLER O. MEJIAS
LATITUDE 25.61753
LONGITUDE -80.33303



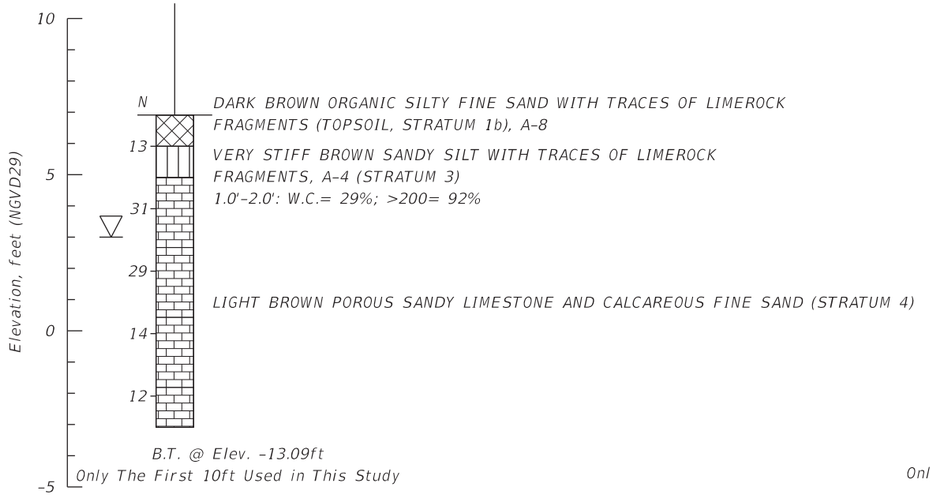
B.T. @ Elev. -11.98ft
Only The First 10ft Used in This Study

BOR # MSE-2
STA. 18+20
OFF. 25.0 RT
ELEV. 8.09 FT
DATE 8/27/2021
DRILLER O. MEJIAS
LATITUDE 25.61754
LONGITUDE -80.33287



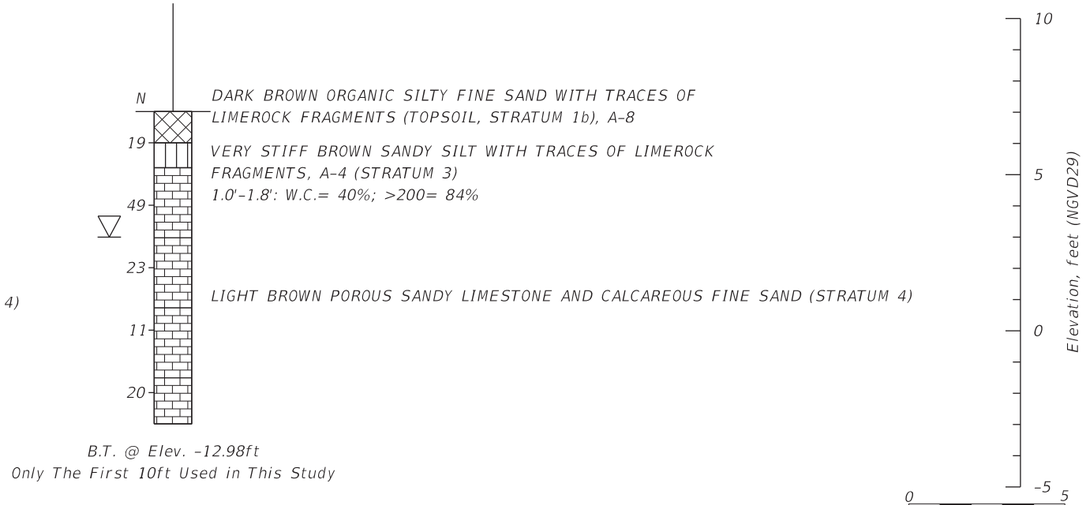
B.T. @ Elev. -11.91ft
Only The First 10ft Used in This Study

BOR # MSE-3
STA. 20+95
OFF. 30.0 LT
ELEV. 6.91 FT
DATE 9/1/2021
DRILLER O. MEJIAS
LATITUDE 25.6183
LONGITUDE -80.33309



B.T. @ Elev. -13.09ft
Only The First 10ft Used in This Study

BOR # MSE-4
STA. 20+95
OFF. 23.0 RT
ELEV. 7.02
DATE 9/1/2021
DRILLER O. MEJIAS
LATITUDE 25.61831
LONGITUDE -80.33292



B.T. @ Elev. -12.98ft
Only The First 10ft Used in This Study

VERTICAL SCALE: 0 5
HORIZONTAL SCALE: NTS
HRES PROJECT No.: HR21-1691R

LEGEND

TOPSOIL
SILTY SAND
SILT
LIMESTONE

GROUND WATER LEVEL AT BORING COMPLETION

B.T. BORING TERMINATED

W.C.: WATER CONTENT

>200: PERCENT PASSING #200 SIEVE

THE TEST BORINGS WERE PERFORMED BY HRES USING A CME-55 TRUCK MOUNTED RIG.

GRANULAR MATERIALS:

DENSITY	SPT N-VALUE (BLOWS/12 INCHES)
VERY LOOSE	<3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	>40

SILTS AND CLAYS:

CONSISTENCY	SPT N-VALUE (BLOWS/12 INCHES)
VERY SOFT	<1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	>24

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
CONCRETE: MODERATELY AGGRESSIVE
STEEL: MODERATELY AGGRESSIVE
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

Resistivity ohms-cm	pH	Sulfates ppm	Chlorides ppm
1,435	7.4	18.0	123.0

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

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

HERNANDO R. RAMOS, P.E.
P.E. LICENSE NUMBER 42045
HR ENGINEERING SERVICES, INC.
7815 NW 72ND AVENUE
MEDLEY, FLORIDA 33166

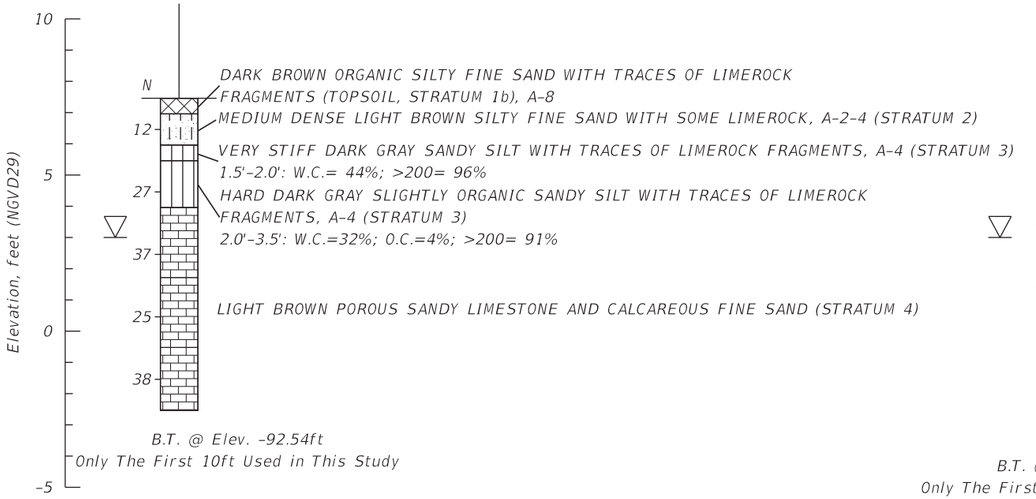
DRAWN BY: CS 10-21
CHECKED BY: PV 10-21
DESIGNED BY: CS 10-21
CHECKED BY: HRR 10-21

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
-	MIAMI-DADE	-

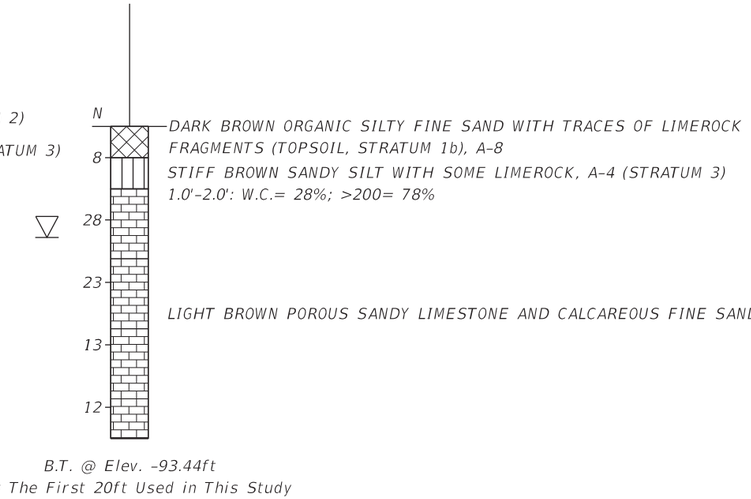
SHEET TITLE: REPORT OF CORE BORINGS
REF. DWG. NO.:
PROJECT NAME: SW 87TH AVENUE BRIDGE OVER C-100 CANAL
SHEET NO.: A-10

BOR # B-1
STA. 19+60
OFF. 0.0
ELEV. 7.46 FT
DATE 8/26/2021
DRILLER O. MEJIAS
HAMMER Auto
LATITUDE 25.61793
LONGITUDE -80.33298



B.T. @ Elev. -92.54ft
Only The First 10ft Used in This Study

BOR # B-2
STA. 20+40
OFF. 0.0
ELEV. 6.56 FT
DATE 8/26/2021
DRILLER O. MEJIAS
HAMMER Auto
LATITUDE 25.61815
LONGITUDE -80.33299



B.T. @ Elev. -93.44ft
Only The First 20ft Used in This Study

10
5
0
-5
Elevation, feet (NGVD29)

VERTICAL SCALE: 0 5
HORIZONTAL SCALE: NTS
HRES PROJECT No.: HR21-1691R

LEGEND

TOPSOIL
SILT
SILTY SAND
LIMESTONE

GROUND WATER LEVEL AT BORING COMPLETION

B.T. BORING TERMINATED

THE TEST BORINGS WERE PERFORMED BY HRES USING A CME-55 TRUCK MOUNTED RIG.

GRANULAR MATERIALS:

DENSITY	SPT N-VALUE (BLOWS/12 INCHES)
VERY LOOSE	<3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	>40

SILTS AND CLAYS:

CONSISTENCY	SPT N-VALUE (BLOWS/12 INCHES)
VERY SOFT	<1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	>24

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
CONCRETE: MODERATELY AGGRESSIVE
STEEL: MODERATELY AGGRESSIVE
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

Resistivity ohms-cm	pH	Sulfates ppm	Chlorides ppm
1,435	7.4	18.0	123.0

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

HERNANDO R. RAMOS, P.E.
P.E. LICENSE NUMBER 42045
HR ENGINEERING SERVICES, INC.
7815 NW 72ND AVENUE
MEDLEY, FLORIDA 33166

DRAWN BY: CS 10-21
CHECKED BY: PV 10-21
DESIGNED BY: CS 10-21
CHECKED BY: HRR 10-21

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
-	MIAMI-DADE	-

SHEET TITLE: REPORT OF CORE BORINGS
REF. DWG. NO.
PROJECT NAME: SW 87TH AVENUE BRIDGE OVER C-100 CANAL
SHEET NO. A-11

DATE OF SURVEY: AUGUST AND OCTOBER, 2021
SURVEY MADE BY: HR ENGINEERING SERVICES, INC.
SUBMITTED BY: HERNANDO RAMOS, P.E.

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

DISTRICT: N/A
ROAD NO.: -
COUNTY: MIAMI-DADE

PROJECT ID: N/A
PROJECT NAME: SW 87TH AVENUE BRIDGE OVER C-100 CANAL

CROSS SECTION SOIL SURVEY FOR THE DESIGN OF ROADS

SURVEY BEGINS STA. : 14+00 SURVEY ENDS STA. : 25+00

REFERENCE: SW 87 AVENUE

	ORGANIC CONTENT		MOISTURE CONTENT		SIEVE ANALYSIS RESULTS PERCENT PASS (%)						ATTERBERG LIMITS (%)					CORROSION TEST RESULTS				
STRATUM NO.	NO. OF TESTS	% ORGANIC	NO. OF TESTS	MOISTURE CONTENT	NO. OF TESTS	10 MESH	40 MESH	60 MESH	100 MESH	200 MESH	NO. OF TESTS	LIQUID LIMIT	PLASTIC INDEX	AASHTO GROUP	DESCRIPTION	NO. OF TESTS	RESISTIVITY ohm-cm	CHLORIDE ppm	SULFATES ppm	pH
1b	--	--	--	--	--	--	--	--	--	--	--	--	--	A-8	ORGANIC SILTY FINE SAND WITH TRACES OF LIMEROCK FRAGMENTS (TOPSOIL)					
2	--	--	1	21	1	64	53	44	35	32	--	--	--	A-2-4	SILTY FINE SAND WITH TRACES OF LIMEROCK FRAGMENTS					
3	2	4	12	44-22	12	84	80	76	72	99-56	--	--	--	A-4	SANDY SILT WITH TRACES OF LIMEROCK FRAGMENTS					
4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	POROUS SANDY LIMESTONE AND CALCAREOUS FINE SAND					
																1 (1)	1,435	123.0	18.0	7.4

(1): SOIL SAMPLES WERE TAKEN FROM PERCOLATION TEST P-1.

EMBANKMENT AND SUBGRADE MATERIAL

STRATA BOUNDARIES ARE APPROXIMATE. MAKE FINAL CHECK AFTER GRADING.

∇ - WATER TABLE ENCOUNTERED

GNE - GROUNDWATER NOT ENCOUNTERED

THE MATERIAL FROM STRATUM NUMBER 1b A-8 MATERIAL (TOPSOIL) AND IS UNSUITABLE FOR USE AS STABILIZED SUBGRADE OR FILL MATERIAL AND SHALL BE REMOVED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS SECTION 120.

THE MATERIAL FROM STRATUM NUMBER 2 A-2-4 MATERIAL AND IS SUITABLE FOR USE IN THE EMBANKMENT WHEN UTILIZED IN ACCORDANCE WITH INDEX 120-001. HOWEVER, THIS MATERIAL IS LIKELY TO RETAIN EXCESS MOISTURE AND BE DIFFICULT TO DRY AND COMPACT. IT SHALL BE USED IN THE EMBANKMENT ABOVE THE WATER LEVEL EXISTING AT THE TIME OF CONSTRUCTION.

THE MATERIAL FROM STRATUM NUMBER 3 IS A-4 MATERIAL. THIS MATERIAL IS UNSUITABLE FOR USE IN THE EMBANKMENT AND AS STABILIZED SUBGRADE AND SHALL BE REMOVED IN ACCORDANCE WITH STANDARD PLAN INDEX 120-002, IT SHALL BE REMOVED IF ENCOUNTERED WITHIN 2 FEET BELOW THE BOTTOM OF THE BASE.

THE MATERIAL FROM STRATUM NUMBER 4 IS THE NATURAL LIMESTONE. THIS MATERIAL APPEARS SUITABLE FOR USE AS GENERAL FILL AND AS STABILIZED SUBGRADE WHEN UTILIZED IN ACCORDANCE WITH FDOT INDEX 120-001. THIS MATERIAL TYPICALLY OFFERS A HIGH RESISTANCE TO EXCAVATION. SPECIAL EQUIPMENT AND BREAKING TOOLS MAY BE REQUIRED TO EXCAVATE IT. THIS MATERIAL IS ALSO DIFFICULT TO DEWATER DUE TO ITS HIGH POROSITY AND PERMEABILITY.

THE SYMBOL "---" REPRESENTS NO TESTING PERFORMED.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

HERNANDO R. RAMOS, P.E.
P.E. LICENSE NUMBER 42045
HR ENGINEERING SERVICES, INC.
7815 NW 72ND AVENUE
MEDLEY, FLORIDA 33166

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
-	MIAMI-DADE	-

ROADWAY SOILS SURVEY

SHEET NO. B-2

VERIFIED UTILITY LOCATE

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY DIVISION
SW 87th AVENUE
AT CANAL
PROJECT NO. N/A SHEET 01 OF 01

Vvh #	UTILITY DESCRIPTION	SIZE	MATERIALS	B/L and/or C/L			EXISTING GROUND ELEVATION	TOP ELEVATION	COMMENTS
				STATION	OFFSET	LT/RT			
TH-1	WATER MAIN	48"	STEEL	16+60.89	9.83'	LT.	7.30'	3.20'	
TH-13	N/A	N/A	N/A	21+90.13	6.74'	LT.	7.12'	N/A	AIR LANCED DOWN TO DEPTH OF 5.69' AND HIT SOLID ROCK AND WATER TABLE. UNABLE TO VERIFY WM. TRACED W/GPR.EQUIP.
TH-17	WATER MAIN	N/A	STEEL	22+34.17	20.20'	RT.	6.86'	2.32'	UNABLE TO OBTAIN SIZE DUE TO WATER TABLE. TRACED W/GPR.EQUIP.
TH-19	N/A	N/A	N/A	23+10.12	9.93'	LT.	6.06'	N/A	AIR LANCED DOWN TO DEPTH OF 5.42' AND HIT SOLID ROCK AND WATER TABLE. UNABLE TO VERIFY WM. TRACED W/GPR.EQUIP.
TH-20	WATER MAIN	N/A	STEEL	23+09.90	20.61'	LT.	5.82'	1.77'	UNABLE TO OBTAIN SIZE DUE TO WATER TABLE. TRACED W/GPR.EQUIP.
TH-25	BURIED ELECTRIC	1"	DBC	21+93.65	21.19'	RT.	7.49'	5.09'	
TH-26	BURIED TELEPHONE	1/2"	DBC	22+06.24	19.85'	RT.	7.07'	4.48'	
TH-27	BURIED TELEVISION	1/2"	DBC	22+02.79	20.12'	RT.	7.28'	4.64'	
TH-31	WATER MAIN	N/A	STEEL	24+36.99	10.90'	LT.	6.32'	1.96'	UNABLE TO OBTAIN SIZE DUE TO WATER TABLE. TRACED W/GPR.EQUIP.

S.U.E. NOTES:

1. OWNERSHIP IS BASED UPON OBSERVING VISIBLE ABOVE GROUND UTILITY FEATURES AND PROFESSIONAL JUDGEMENT. NO RECORDS RESEARCH WAS PERFORMED BY MG VERA & ASSOCIATES, INC.

SURVEYOR'S NOTES:

1. HORIZONTAL INFORMATION IS RELATIVE TO THE STATE PLANE COORDINATES, FLORIDA EAST ZONE, NORTH AMERICAN DATUM (NAD) OF 1983/1990 ADJUSTMENT.
2. VERTICAL INFORMATION IS RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).
3. PROJECT UNITS: U.S. SURVEY FEET
4. GEOPAK ELECTRONIC DATABASE: job100.gpk
5. STATION AND OFFSETS ARE RELATIVE TO SW 87TH AVE CENTERLINE OF CONSTRUCTION.
6. THIS SPECIFIC PURPOSE SURVEY IS TO DETERMINE THE HORIZONTAL AND VERTICAL LOCATION OF THE VACUUM TEST HOLES AS MARKED ON THE SURFACE BY THE SUBSURFACE UTILITY ENGINEERING DEPARTMENT OF MG VERA & ASSOCIATES, INC. LOCATED AT 13960 SW 47TH STREET, MIAMI, FL. 33175. THE SIGNING SURVEYOR IS CERTIFYING ONLY TO THE LOCATION OF THE TEST HOLES AS MARKED ON THE SURFACE.

LEGEND:

B/L	BASELINE
BE	BURIED ELECTRIC
BFOC	BURIED FIBER OPTIC CABLE
BT	BURIED TELEPHONE
CHISX	CHISEL "X" MARK
CTR	CENTER
C/L	CENTERLINE
CONC	CONCRETE
CVR	COVER
DBC	DIRECT BURIED CABLE
DIP	DUCTILE IRON PIPE
ELECTRO	ELECTROMAGNETIC
ELEV	ELEVATION
EQUIP	EQUIPMENT
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
FM	FORCE MAIN
GM	GAS MAIN
GPR	GROUND PENETRATING RADAR
HDPE	HIGH DENSITY POLYETHYLENE
IR	IRON ROD
IRRIG	IRRIGATION
POSS	POSSIBLE
PSM	PROFESSIONAL SURVEYOR AND MAPPER
PVC	POLYVINYL CHLORIDE
S.U.E.	SUBSURFACE UTILITY ENGINEERING
S.R.	STATE ROAD
TH	TEST HOLE
TS	TRAFFIC SIGNAL
UNK	UNKNOWN
Vvh	VERIFIED VERTICAL ELEVATION and HORIZONTAL LOCATION
WM	WATER MAIN

LIMITS: SW 87TH AVE BRIDGE OVER C-100 CANAL

SURVEYOR'S CERTIFICATION
I HEREBY CERTIFY THIS SPECIFIC PURPOSE SURVEY WAS MADE FOR THE PURPOSE OF SURVEYING, REFERENCING, DESCRIBING AND MAPPING THE UTILITY VACUUM EXCAVATIONS, AS MARKED ON THE SURFACE, FOR THE TRANSPORTATION FACILITY DEPICTED HEREON AND THAT SAID SURVEY WAS DONE UNDER MY RESPONSIBLE CHARGE AND MEETS THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17 FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472.027 FLORIDA STATUTES. THIS MAP CONSISTING OF SHEET UTV-1 IS A TRUE, ACCURATE AND COMPLETE DEPICTION OF THE RESULTS OF A FIELD SURVEY PERFORMED UNDER MY DIRECTION AND COMPLETED ON MARCH 9, 2022.

SURVEYOR: MARK R. SOWERS, PSM NUMBER: 5266

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

MARK R. SOWERS LICENSE No 5266 STATE OF FLORIDA PROFESSIONAL SURVEYOR & MAPPER

THE ABOVE NAMED PROFESSIONAL SURVEYOR & MAPPER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 5J-17.062, F.A.C.

INDEX OF SURVEY PLANS	
SHEET NUMBER	SHEET DESCRIPTION
UTV-1	VERIFIED UTILITY LOCATE

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 5J-17.062, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

MANUEL G. VERA & ASSOCIATES, INC.
SURVEYORS MAPPERS SUBSURFACE UTILITIES
13960 S.W. 47th STREET
MIAMI, FL 33175-3616
TEL: (305) 221-6210 FAX: (305) 221-1295
CERTIFICATE OF AUTHORIZATION: LB2439
MARK R. SOWERS, PSM 5266

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY	BM	4/25/2022
CHECKED BY			CHECKED BY	JL	4/25/2022
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

VERIFIED UTILITY LOCATE