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FDOT STANDARD PLANS FOR BRIDGE CONSTRUCTION

415-001	BAR BENDING DETAILS (STEEL)
455-001	SQUARE PRESTRESSED CONCRETE PILES - TYPICAL DETAILS & NOTES
455-002	SQUARE PRESTRESSED CONCRETE PILE SPLICES
455-003	SQUARE PRESTRESSED CONCRETE PILES - EDC INSTRUMENTATION
455-018	18" SQUARE PRESTRESSED CONCRETE PILE

STANDARD ABBREVIATIONS

APPROX.	APPROXIMATE	LT.	LEFT
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	MIN.	MINIMUM
		N/A	NOT APPLICABLE
BSW	BACK OF SIDEWALK	NTS	NOT TO SCALE
BOT.	BOTTOM	P.C.	POINT OF CURVATURE
CIP	CAST IN PLACE	P.I.	POINT OF INTERSECTION
CL.	CLEARANCE	PREST.	PRESTRESSED
℄	CENTERLINE	PROP.	PROPOSED
CONC.	CONCRETE	P.T.	POINT OF TANGENCY OR PRESSURE TREATED
CO.	COVER		
CF	CUBIC FEET	REINF.	REINFORCING
CFS	CUBIC FEET PER SECOND	RT.	RIGHT
CMU	CONCRETE MASONRY UNIT	R/W	RIGHT OF WAY
CY	CUBIC YARDS	S.F.	SQUARE FOOT
DHW	DESIGN HIGH WATER	SPA.	SPACE OR SPACES OR SPACED
DIA.	DIAMETER		
DIM.	DIMENSION	SP	SPAN
EA.	EACH	S.S.	STAINLESS STEEL
EL.	ELEVATION	S.Y.	SQUARE YARD
EXIST.	EXISTING	STA.	STATION
EXP.	EXPANSION	TYP.	TYPICAL
FSW	FRONT OF SIDEWALK	UNO	UNLESS NOTED OTHERWISE
INV.	INVERT	VERT.	VERTICAL
INT.	INTERMEDIATE		

GENERAL NOTES

A. DESIGN SPECIFICATIONS:
   1. FDOT STRUCTURES MANUAL DATED JANUARY 2023.
   2. AMERICAN ASSOCIATION OF STATE HIGHWAY OF TRANSPORTATION OFFICIALS (AASHTO) LOAD AND RESISTANCE FACTOR (LRFD) BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION.
   3. AASHTO LRFD DESIGN SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES 2009 WITH 2015 INTERIMS.
   4. FDOT DESIGN MANUAL DATED JANUARY 2023 AND SUBSEQUENT ROADWAY DESIGN BULLETIN.

B. GOVERNING STANDARDS AND CONSTRUCTION SPECIFICATIONS:
   FLORIDA DEPARTMENT OF TRANSPORTATION, FY 2023-24 STANDARD PLANS AND JULY 2023-24 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS AMENDED BY CONTRACT DOCUMENTS.

C. VERTICAL DATUM:
   1. ALL ELEVATIONS ARE IN FEET AND BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)

D. ENVIRONMENT:
   1. SUPERSTRUCTURE, SLIGHTLY AGGRESSIVE
   2. SUBSTRUCTURE, MODERATELY AGGRESSIVE

E. CONTROLLING CRITERIA:
   1. FRESH WATER

F. DESIGN METHODOLOGY:
   1. LRFD METHOD USING STRENGTH AND SERVICE LIMIT STATES.

G. DESIGN LOADINGS:
   1. LIVE LOADS: PEDESTRIAN LIVE LOAD (90 PSF).
   2. LIVE LOADS: NO VEHICLE LOAD HAS BEEN INCLUDED IN THE DESIGN.
   3. LIVE LOADS: RAIL AND POST LIVE LOAD (200 LB. (VERTICAL OR HORIZONTAL) PLUS 50 PLF (VERTICAL AND HORIZONTAL, ACTING SIMULTANEOUSLY)).
   4. DEAD LOADS:
      a. REINFORCED CONCRETE (150 PCF)
      b. 2" NO. 9 GAGE FENCE (2.35 LB/FT)
   5. DEAD LOADS: PREFABRICATED STEEL BRIDGE (83,200 LB).
   6. WIND LOADS: END BENT DESIGN WIND LOADS ARE IN ACCORDANCE WITH AASHTO, SECTION 3.8.31, AND WITH STRUCTURES DESIGN GUIDELINES SECTION 2.4.

H. CONSTRUCTION LOADING:
   1. IT IS THE CONSTRUCTION CONTRACTOR'S RESPONSIBILITY TO PROVIDE FOR SUPPORTING CONSTRUCTION LOADS.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
			NOT FOR CONSTRUCTION

ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
RUDOLF P.G. PEIN, P.E. #56805

SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS	
CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

GENERAL NOTES
PEDESTRIAN BRIDGE
(1 OF 2)

SHEET NO. B-1

GENERAL NOTES (CONT.)

I. MATERIALS:
1. CONCRETE:
   a. SUBSTRUCTURE CLASS IV 5500 PSI, MINIMUM 28 DAY COMPRESSIVE STRENGTH.
   b. CONCRETE SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 346.
   c. PROVIDE ¾" CHAMFERS ON ALL EXPOSED EDGES, UNLESS OTHERWISE NOTED.
   d. CONCRETE COVER SHOWN IN PLANS DOES NOT INCLUDE PLACEMENT AND FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER". SEE SPECIFICATIONS FOR ALLOWABLE TOLERANCES.
2. ANCHOR BOLTS, NUTS AND WASHERS:
   a. ANCHOR BOLTS: ASTM F1554 GRADE 105.
   b. NUTS: ASTM A563 GRADE A HEAVY HEX (5 PER ANCHOR BOLT).
   c. PLATE WASHERS: ASTM A36 (2 PER BOLT).
3. REINFORCING STEEL:
   REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE. ALL DIMENSIONS PERTAINING TO LOCATIONS OF REINFORCING ARE TO CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.
4. NEOPRENE PAD:
   NEOPRENE PAD PER SPECIFICATION SECTION 932.
5. PRESTRESSING STRANDS:
   STRANDS FOR PRESTRESSED PILES SHALL MEET THE REQUIREMENTS DETAILED IN INDEX NOS. 455-001 AND 455-018.
6. DIMENSIONAL LUMBER:
   COMPOSITE DECKING MATERIAL SHALL BE IN ACCORDANCE WITH TECHNICAL PROVISIONS T952
   a. MANUFACTURER: MOISTURESHIELD INC. OR EQUAL
   b. SERIES: VISION
   c. SANDSTONE

J. UTILITIES:
1. THE UTILITIES SHOWN IN THE BRIDGE PLANS ARE AT APPROXIMATE LOCATIONS.
2. CONTRACTOR SHALL ENSURE THAT ANY EXISTING UTILITIES ARE NOT ENDANGERED OR DISTURBED DURING CONSTRUCTION AND THAT ACTIVE UTILITIES WITHIN THE PROJECT LIMITS ARE PROPERLY MAINTAINED DURING CONSTRUCTION.
3. UTILITY LINE TO BE MOUNTED ALONG THE OUTSIDE OF THE ABUTMENT(S) AND THE UNDERSIDE OF THE PREFABRICATED STEEL BRIDGE. THE GENERAL LOCATION OF THE FORCE MAIN AND IRRIGATION LINE IS SHOWN ON THE "IRRIGATION PLAN" SHEETS IN THE LANDSCAPE PACKAGE. FINAL LOCATION OF UTILITIES IS SUBJECT TO CHANGE TO ALLOW THE CONTRACTOR ADJUSTMENT IN THE FIELD. UTILITY LINES AND CONNECTIONS SHALL ALLOW THE BRIDGE TO EXPAND AND CONTRACT DURING THERMAL CHANGES.

K. PILES:
1. PRESTRESSED CONCRETE PILES SHALL USE CLASS V 6500 PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH.

L. PLAN DIMENSIONS:
ALL DIMENSIONS IN THESE PLANS ARE MEASURED IN FEET EITHER HORIZONTALLY OR VERTICALLY UNLESS OTHERWISE NOTED.

M. EXISTING STRUCTURE:
CONSTRUCTION OCCURS IN CLOSE PROXIMITY TO EXISTING STRUCTURES. THE CONTRACTOR IS TO TAKE ALL REASONABLE PRECAUTIONS TO PREVENT DAMAGE TO SUCH STRUCTURES IN ACCORDANCE WITH THE PROVISIONS OF SECTION 455 OF THE STANDARD SPECIFICATIONS.

N. GEOTECHNICAL DATA:
REFER TO GEOTECHNICAL ENGINEERING SERVICE REPORT FOR SOIL BORING LOCATION MAP AND SUBSURFACE PROFILES.

O. PREFABRICATED STEEL BRIDGE:
THE PEDESTRIAN PREFABRICATED STEEL BRIDGE SHOWN IS FOR REFERENCE ONLY AND WAS USED TO DESIGN THE FOUNDATIONS. THE CONTRACTOR SHALL PROVIDE A PREFABRICATED BRIDGE THAT MEETS OR EXCEEDS THE DESIGN SPECIFICATIONS AND DESIGN LOADINGS SHOWN ON THIS SHEET. THE CONTRACTOR SHALL SUBMIT LOAD RATING, SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE ENGINEER FOR REVIEW. THE MANUFACTURER SHALL BE RESPONSIBLE FOR ALL MEMBERS, CONNECTIONS, ANCHOR BOLT LOCATIONS AND DETAILS WITHIN THE PREFABRICATED STEEL BRIDGE. FOUNDATION LOADS ASSUMED IN DESIGN ARE BASED ON THE CONCEPT SHOWN ON SHEET "PLAN AND ELEVATION PEDESTRIAN BRIDGE". ANY MODIFICATIONS TO THE SUBSTRUCTURE OR FOUNDATION DUE TO INCREASED PREFABRICATED STEEL BRIDGE LOADINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALTERNATIVE SUPERSTRUCTURE TYPE SHALL BE SUBMITTED AS SHOP DRAWINGS TO THE ENGINEER FOR CONSIDERATION.

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
			NOT FOR CONSTRUCTION

ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
RUDOLF P.G. PEIN, P.E. #56805

SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

GENERAL NOTES
PEDESTRIAN BRIDGE
(2 OF 2)

SHEET NO. B-2

RUDOLF P.G. PEIN
LICENSE
No 56805
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

ON THE DATE ADJACENT TO THE SEAL.

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

ATKINS NORTH AMERICA, INC.
4030 WEST BOY SCOUT BLVD. STE. 700
TAMPA, FLORIDA 33607
CERTIFICATE OF AUTHORIZATION: 24
RUDOLF P.G. PEIN, P.E. NO. 56805

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
B-1	GENERAL NOTES PEDESTRIAN BRIDGE (1 OF 2)
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B1-7	REINFORCING BAR LIST PEDESTRIAN BRIDGE

CARLOS T. COLON
LICENSE
No 66860
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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ATKINS NORTH AMERICA, INC.
4030 WEST BOY SCOUT BLVD. STE. 700
TAMPA, FLORIDA 33607
CERTIFICATE OF AUTHORIZATION: 24
CARLOS T. COLON, P.E. NO. 66860

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SHEET NO.	SHEET DESCRIPTION
B-3	SIGNATORY SHEET
B-5	BRIDGE HYDRAULICS RECOMMENDATIONS SHEET
B-6	SLOPE PROTECTION PLAN AND ELEVATION
B-7	SLOPE PROTECTION DETAILS

THOMAS E. MUSGRAVE
LICENSE
No 81669
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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ON THE DATE ADJACENT TO THE SEAL.

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TIERRA
7351 TEMPLE TERRACE HIGHWAY
TAMPA, FLORIDA 33637
THOMAS E. MUSGRAVE, JR., P.E. NO. 81669

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
B-3	SIGNATORY SHEET
B-4	REPORT OF CORE BORINGS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
			NOT FOR CONSTRUCTION

ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24

SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

SIGNATORY SHEET

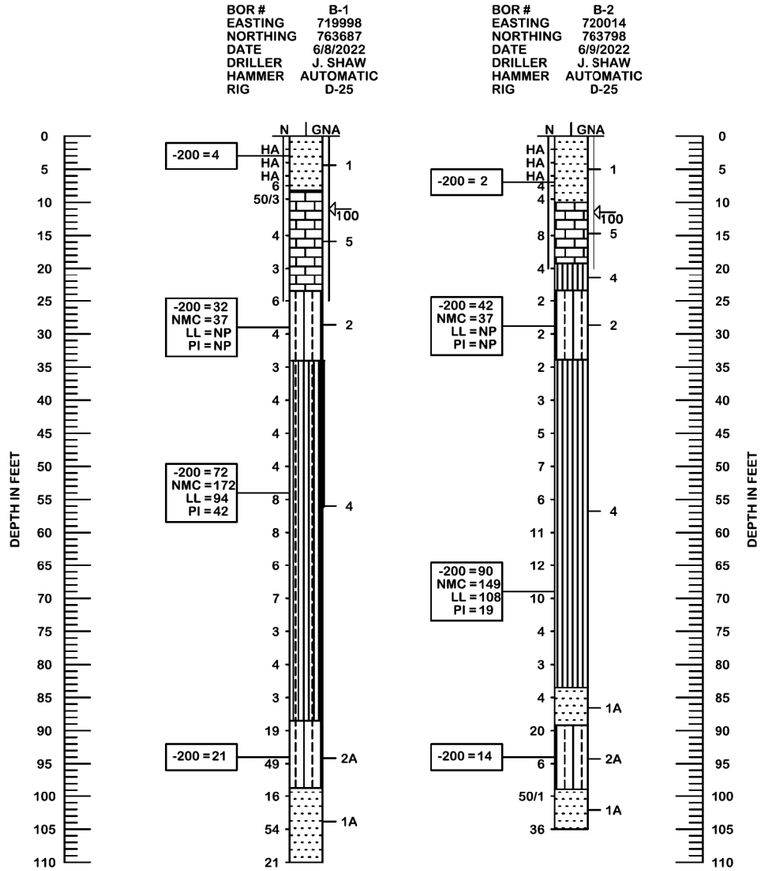
SHEET NO. B-3

BORING LOCATION PLAN

0 50'

PLAN SCALE

SOIL PROFILES



LEGEND

1		LIGHT GRAY TO TAN SAND TO SAND WITH SILT (SP/SP-SM)
2		LIGHT GRAY TO BROWN SILTY SAND (SM)
3		LIGHT GRAY TO TAN CLAYEY SAND (SC)
4		PALE GREEN SILT (ML/MH)
5		WEATHERED LIMESTONE/CAPROCK
	A	A - WITH CAPROCK/LIMESTONE FRAGMENT
	▼	GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION
	N	SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED)
	SP	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW
	GNA	GROUNDWATER NOT APPARENT DUE TO DRILLING METHOD USED
	50/4	NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
	HA	HAND AUGERED TO VERIFY UTILITY CLEARANCES
	100	LOSS OF CIRCULATION OF DRILLING FLUID (100%)
		CASING
	-200	PERCENT PASSING #200 SIEVE
	NMC	NATURAL MOISTURE CONTENT (%)
	LL	LIQUID LIMIT (%)
	PI	PLASTICITY INDEX (%)
	NP	NON PLASTIC

	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

REPORT OF CORE BORINGS

DRAWN BY: SW
CHECKED BY: TJ
APPROVED BY: TEM
DATE: JUL 2022
ENGINEER OF RECORD: THOMAS E. MUSGRAVE, JR., P.E.
FLORIDA LICENSE NO.: 81669

TIERRA
7351 Temple Terrace Highway
Tampa, Florida 33637
Phone: 813-989-1354 Fax: 813-989-1355

SCALE: NOTED
PROJECT NUMBER: 6511-22-136

GEOTECHNICAL ENGINEERING SERVICES
SANDY LANE/BROADWAY E IMPROVEMENTS
LEE COUNTY, FLORIDA

B-5

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24

SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

REPORT OF CORE BORINGS

SHEET NO. B-4

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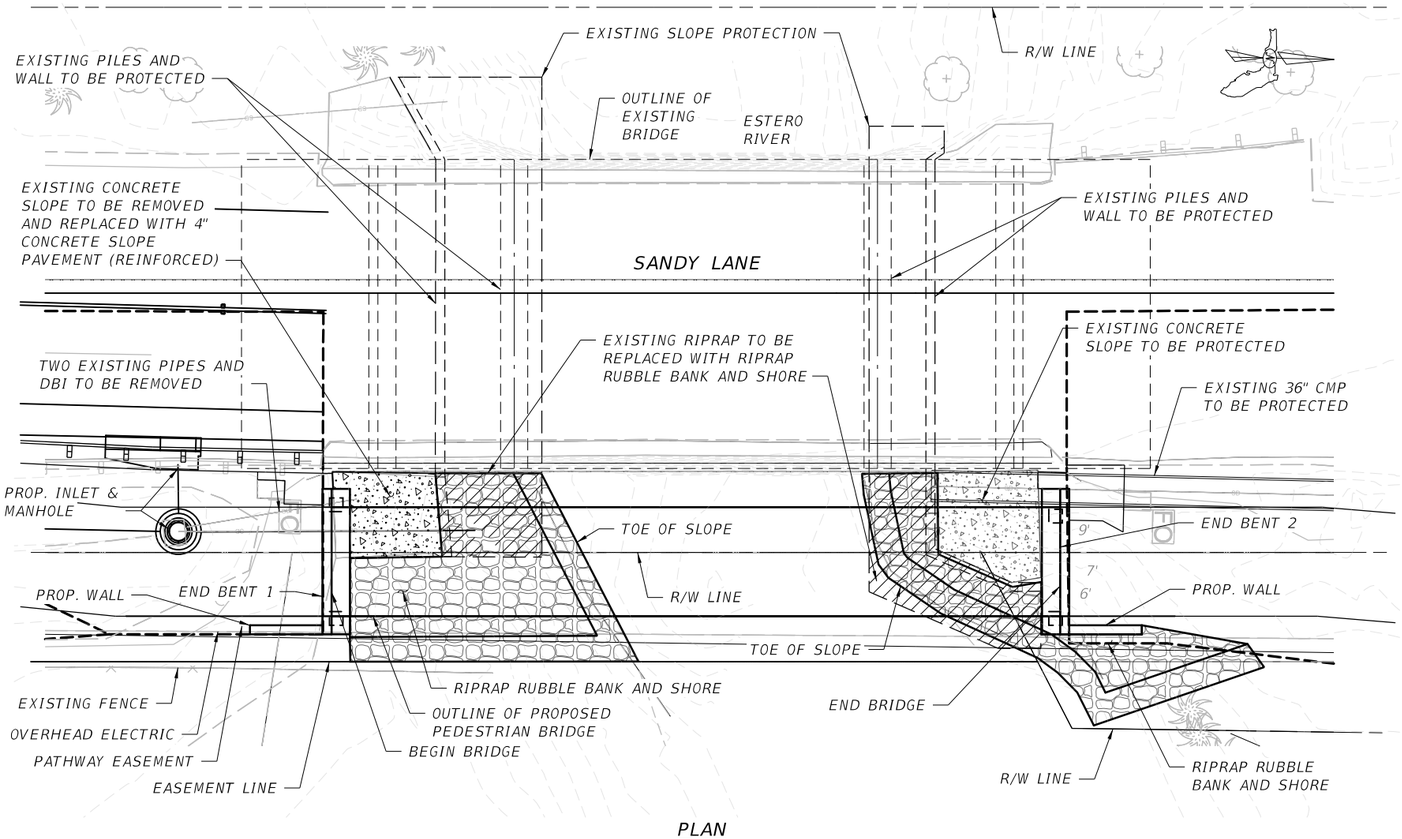
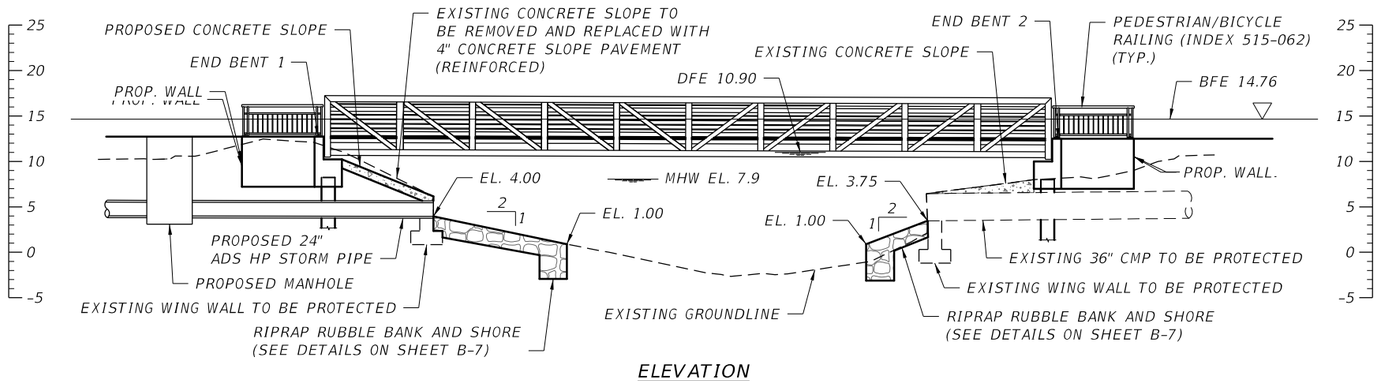
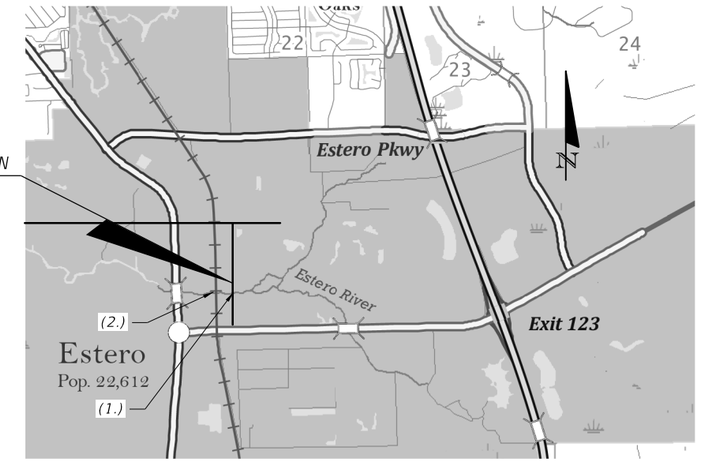


PLAN



ELEVATION



	EXISTING STRUCTURES				PROPOSED STRUCTURE
(REFERENCE)	(1)	(2)	(3)	(4)	18" SQ. PREST. CONC. PILES
FOUNDATION	N/A	N/A			
OVERALL LENGTH	N/A	N/A			80.17'
SPAN LENGTH	N/A	N/A			76.17'
TYPE CONSTRUCTION	N/A	N/A			STEEL
AREA OF OPENING@D.F.	N/A	N/A			617 Sq. ft
BRIDGE WIDTH	N/A	N/A			12.00'
ELEV. LOW MEMBER	N/A	N/A			10.67 ft-NGVD

HYDRAULIC DESIGN DATA

NOTE:
This hydraulic data is a summary of design calculations and is provided for informational purposes only. The user is cautioned against the assumption of precision for the discharge rates, units are in cubic feet per second and the design stages, feet-NAVD YYYY.

TERMS:
Design Flood: Utilized to assure a desired level of hydraulic performance.
Base Flood: Has a 1% chance of being exceeded in any given year (100 year frequency)
Overtopping Flood: Causes flow over the highway, over a watershed divide, or thru emergency relief structures.
Greatest Flood: The most severe that can be predicted where overtopping is not practicable.

WATER SURFACE ELEVATIONS: N.H.W. (Non-Tidal) N/A; M.H.W. (Tidal) 7.90 ft-NGVD; CONTROL (Non-Tidal) N/A; M.L.W. (Tidal) N/A

FLOOD DATA:	MAX. EVENT OF RECORD	DESIGN FLOOD	BASE FLOOD	☐ OVERTOPPING or ☒ GREATEST FLOOD
STAGE ELEV. NGVD (ft)	13.30	10.90	14.76	17.30
DISCHARGE (cfs)	-	3,070	6,073	8,254
AVERAGE VELOCITY (f/s)	-	-	2.53	-
EXCEEDANCE PROB. (%)	-	10	1	0.2
FREQUENCY (yr.)	-	10	100	500

SCOUR PREDICTIONS FOR PROPOSED STRUCTURE DESCRIBED ABOVE:

PIER INFORMATION		TOTAL SCOUR ELEVATION		
NUMBERS	SIZE AND TYPE	LONG TERM SCOUR ELEV.	WORST CASE < 100 yr. FREQ. (yr.) 100	WORST CASE < 500 yr. FREQ. (yr.) 500
N/A	N/A	0	-4.3 FT-NGVD	-7.7 FT-NGVD
		ABUTMENTS WILL BE ARMORED WITH RIPRAP RUBBLE BANK & SHORE		

HYDRAULIC RECOMMENDATIONS

1. BEGIN BRIDGE STATION 112+07.93; END BRIDGE STATION 112+88.09; SKEW ANGLE 13° 16'2"
2. CLEARANCE PROVIDED: NAV: HORIZ. N/A VERT. N/A ABOVE EL. N/A; DRIFT: HORIZ. N/A VERT. N/A ABOVE EL. N/A
3. MINIMUM CLEARANCE: NAV: HORIZ. N/A VERT. N/A ABOVE EL. N/A; DRIFT: HORIZ. N/A VERT. N/A ABOVE EL. N/A
4. ABUTMENTS:

	BEGIN BRIDGE	END BRIDGE
RUBBLE GRADE:	RIPRAP RUBBLE BANK & SHORE	RIPRAP RUBBLE BANK & SHORE
SLOPE:	1:2	1:2
BURIED OR NON-BURIED HORIZ. TOE:	N/A	N/A
TOE HORIZ. DISTANCE:	N/A	N/A
LIMIT OF PROTECTION:	42.05 ft RT. (FROM SURVEY BASE LINE)	49.02 ft RT. (FROM SURVEY BASE LINE)

5. DECK DRAINAGE: THE PEDESTRIAN BRIDGE RAILS ARE OPEN. DECK DRAINS TOWARDS THE RIVER.

REMARKS: 1. HYDRAULIC ANALYSIS WAS PERFORMED TO CONFIRM THAT THE PROPOSED PEDESTRIAN BRIDGE DOES NOT CREATE A HEAD LOSS GREATER THAN 0.10 FT ON THE BASE FLOOD PROFILE AS REQUIRED BY THE VILLAGE OF ESTERO. THE MODEL RESULTS SHOW THAT THE HEAD LOSS IS BELOW 0.10 FT DURING 100-YR STORM EVENT. (2.) THE DESIGN FLOOD IS EQUAL TO THE 10-YR STORM EVENT. (3.) THE DESIGN FLOOD & GREATEST FLOOD VALUES WERE OBTAINED FROM THE EFFECTIVE FEMA FIS 11-17-2022.(4.) MAX. EVENT OF RECORD STAGE ELEVATION WAS OBTAINED FROM THE VILLAGE OF ESTERO STORMWATER MASTER PLAN BY J.R. EVANS ENGINEERING ON OCTOBER 2018.

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REVISIONS			
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ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
CARLOS T. COLON, P.E. #66860

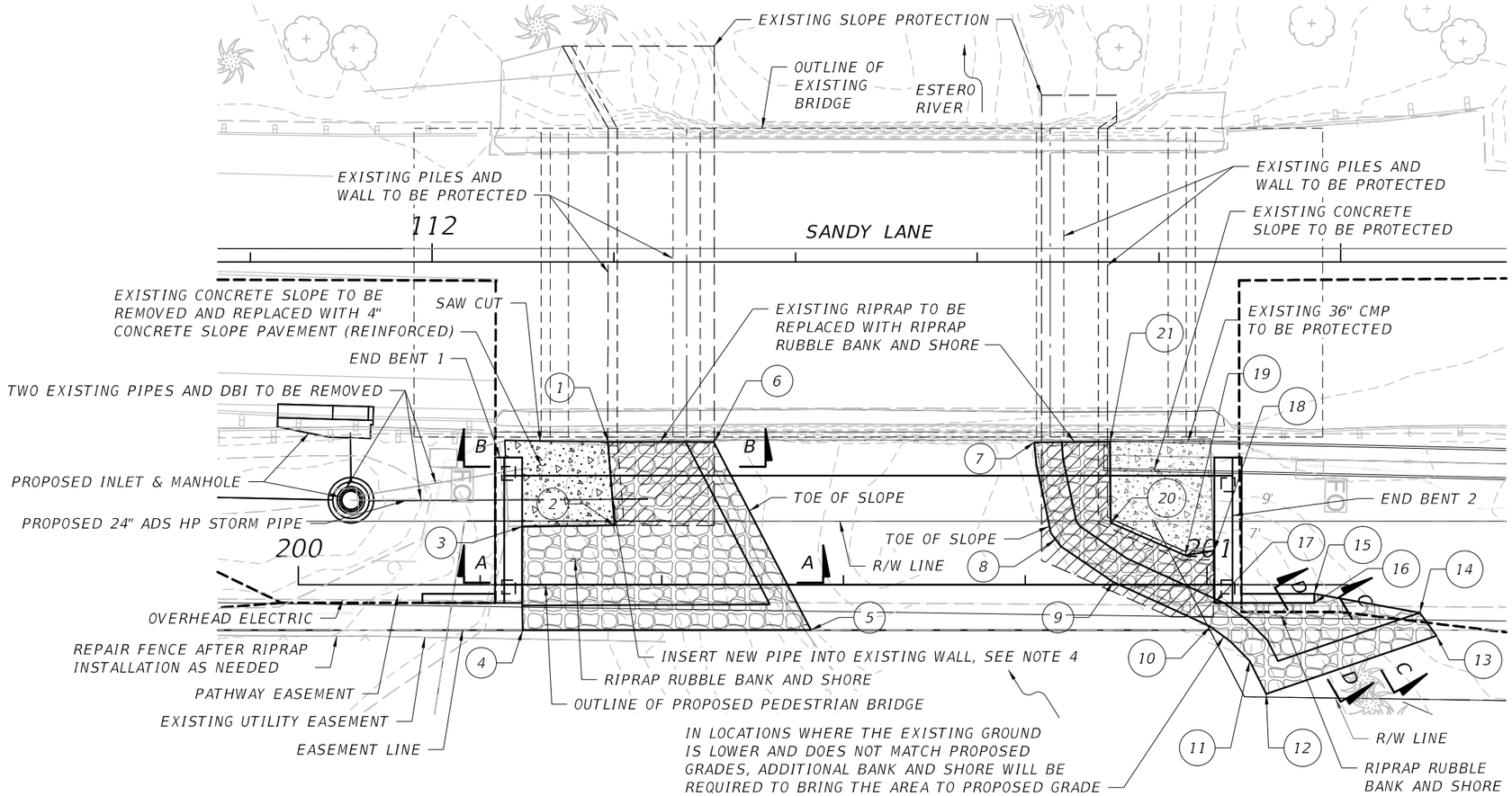
SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

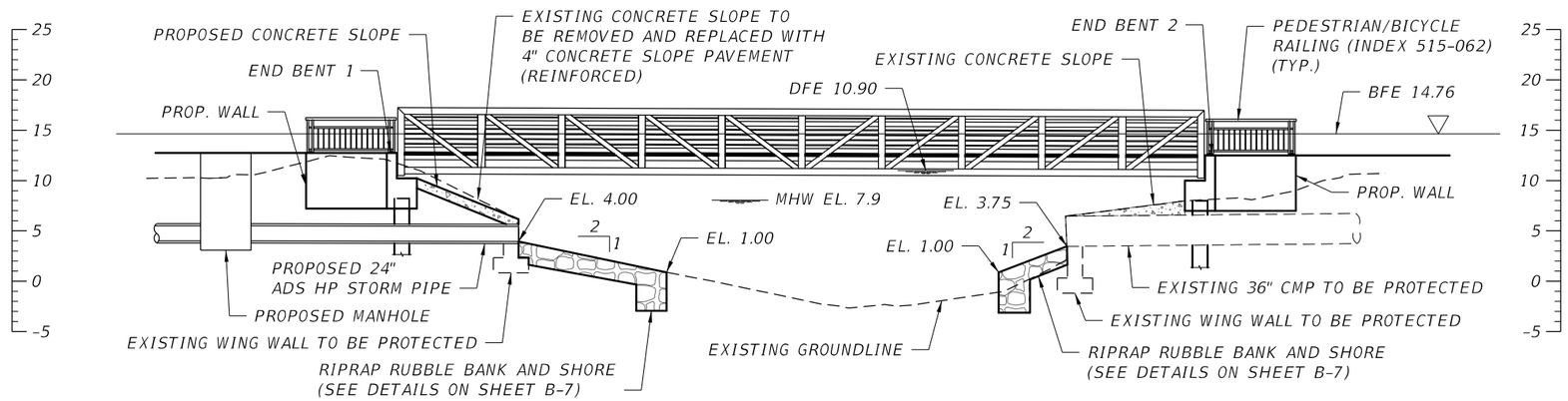
Village of ESTERO

BRIDGE HYDRAULICS RECOMMENDATIONS SHEET

SHEET NO. B-5



PLAN



REVETMENT THROUGH BRIDGE SECTION

NOTES:

1. UP TO 6 FEET OF TOE MAY BE REQUIRED. QUANTITIES ARE BASED ON 5 FEET.
2. THE CONTRACTOR TO DETERMINE THE DEPTH OF THE TOE IN THE CHANNEL DUE TO CONSTRICTIONS. ADDITIONAL ROCK MAY BE REQUIRED. REMOVAL OF EXISTING RIPRAP RUBBLE DITCH LINING, AS REQUIRED TO CONSTRUCT THE PROJECT, IS INCLUDED IN PAY ITEM 110-1-1.
3. THE CONTRACTOR SHALL AVOID BLOCKING THE EXISTING AND PROPOSED PIPES INVERT ELEVATIONS DURING RIPRAP RUBBLE BANK AND SHORE INSTALLATION.
4. FOR THE PROPOSED PIPE TO BE INSTALLED ALONG THE SOUTH BANK, PROTECT EXISTING WING WALL AND USE EXISTING OPENING FORMED BY REMOVED PIPE. LARGER PIPE TO BE ACCOMMODATED WITH MINOR CHIPPING OF GRINDING. ADD GROUT/COLLAR BETWEEN PIPE AND WALL TO RETAIN EARTH.
5. BANK AND SHORE RIPRAP AROUND END BENT 2 SHOULD BE PLACED BEFORE PEDESTRIAN BRIDGE IS INSTALLED.
6. RIPRAP RUBBLE BANK & SHORE MATERIALS, CONSTRUCTION AND INSTALLATION PER FDOT STANDARD SPECIFICATIONS SECTION 530.

LEGEND:

- EXISTING RIPRAP TO BE REMOVED
- EXISTING CONCRETE SLOPE TO BE REMOVED AND REPLACED WITH SLOPE PAVEMENT
- PROPOSED RIPRAP RUBBLE BANK AND SHORE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
			NOT FOR CONSTRUCTION

ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
CARLOS T. COLON, P.E. #66860

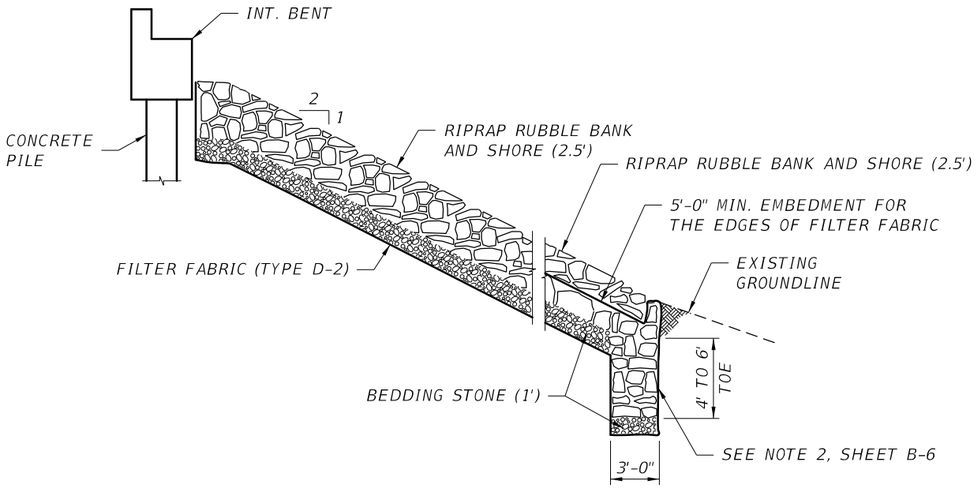
SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS	
CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

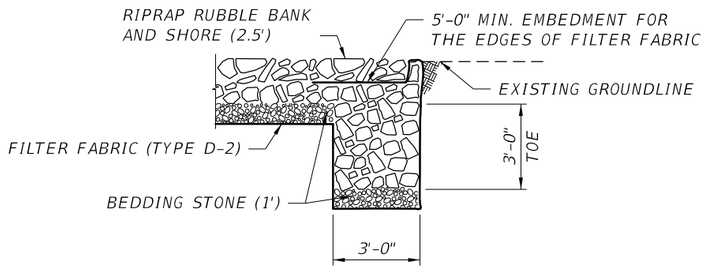
SLOPE PROTECTION PLAN AND ELEVATION

SHEET NO. B-6

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

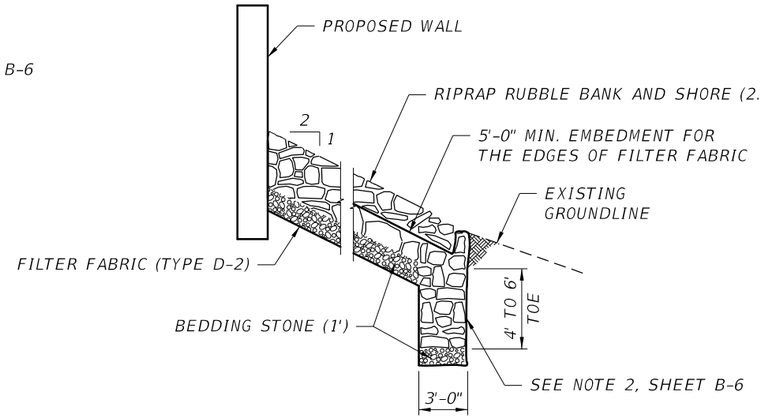


SECTION A-A - BANK AND SHORE DETAIL
FOR END BENTS 1 & 2 PROTECTION

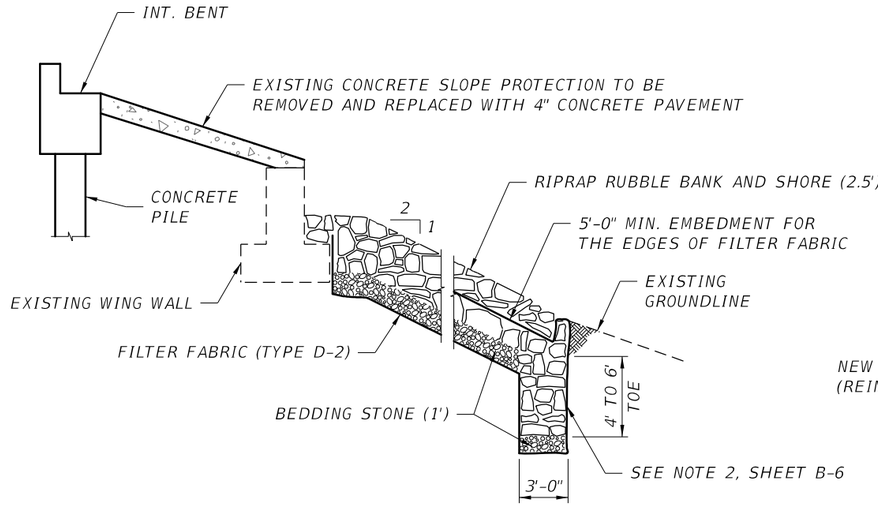


SECTION C-C - BANK AND SHORE
TOE ON SIDE SLOPE

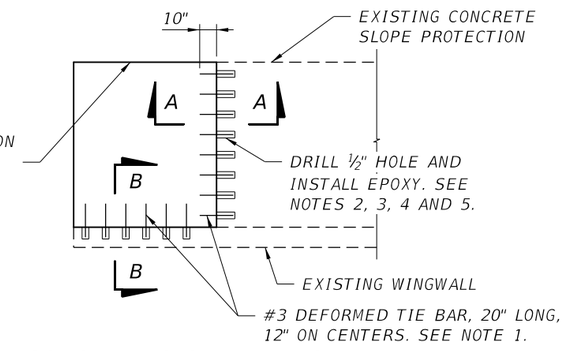
TABLE OF RIPRAP STAKING POINTS			
POINT ID	ELEVATION (TOP OF RIPRAP)	X	Y
1	4.75	720015.1251	763717.9833
2	4.75	720024.2884	763718.8771
3	10.00	720024.6432	763708.7181
4	10.00	720036.3025	763709.0113
5	1.00	720035.5353	763740.8001
6	1.00	720014.8754	763729.6473
7	1.00	720014.1905	763764.8611
8	1.00	720024.8605	763767.4584
9	1.00	720029.3996	763773.8798
10	1.00	720034.0756	763784.6500
11	1.00	720037.7745	763789.0618
12	1.00	720041.3539	763790.9553
13	10.00	720034.5666	763809.5628
14	10.00	720032.0614	763807.6762
15	10.00	720030.2267	763796.0193
16	10.00	720031.2265	763796.0400
17	7.50	720031.4546	763785.0424
18	7.50	720025.6992	763784.9017
19	4.00	720026.3012	763781.7217
20	3.75	720022.8832	763773.4587
21	3.75	720013.9514	763773.2106



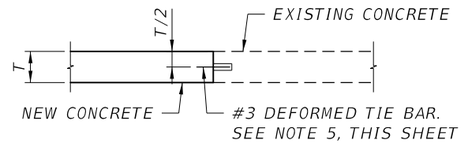
SECTION D-D - BANK AND SHORE DETAIL
FOR SLOPE PROTECTION AT PROPOSED WALL



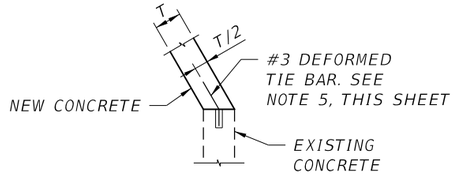
SECTION B-B - BANK AND SHORE DETAIL
FOR SLOPE PROTECTION AT EXISTING WALL



CONCRETE SLOPE REPLACEMENT DETAIL



SECTION A-A



SECTION B-B

NOTES:
1. CONTRACTOR SHALL USE #3 DEFORMED TIE BAR, LOW-CARBON CHROMIUM.
2. ON COMPLETION OF THE DRILLING OPERATION, THE TIE BAR HOLE SHALL BE BLOWN OUT WITH OIL-FREE, COMPRESSED AIR.
3. TIE BAR SHALL BE BONDED IN THE DRILLED HOLES USING EPOXY RESIN. USE ANCHORING EPOXY TYPE HV PER FDOT SPECIFICATION 937.
4. EPOXY RESIN SHALL BE INJECTED AT THE BACK OF THE HOLE BEFORE INSTALLING THE TIE BAR.
5. WHERE THE TWO CONCRETE SLABS HAVE DIFFERENT THICKNESS, THE TIE BAR IS PLACED AT MID-DEPTH OF THE THINNER CONCRETE.
6. REINFORCE CONCRETE WITH 3"x3" WELDED WIRE MESH (10 GAUGE).

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
			NOT FOR CONSTRUCTION

ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
CARLOS T. COLON, P.E. #66860

SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

SLOPE PROTECTION DETAILS

SHEET NO. B-7

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SUMMARY OF STRUCTURES QUANTITIES - PEDESTRIAN BRIDGE

SECTION	PAY ITEM NO.	DESCRIPTION	LOCATION	UNIT	QUANTITY		TOTAL		DESIGN NOTES	CONSTRUCTION NOTES
					P	F	P	F		
SUBSTRUCTURE	400-4-5	CONCRETE CLASS IV, BRIDGE SUBSTRUCTURE	END BENT 1	CY	9.1		9.1			
			END BENT 2		9.0		9.0			
	415-1-5	REINFORCING STEEL - BRIDGE SUBSTRUCTURE	END BENT 1	LB	1133		1133			
			END BENT 2		1246		1246			
FOUNDATIONS	455-34-3	PRESTRESSED CONCRETE PILING, 18" SQ	END BENTS 1 AND 2	LF	320.0		320.0			
SUPERSTRUCTURE	460- 7	PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE	-	SF	962.0		962.0			
CONCRETE SLOPE PAVEMENT	524-2-29	CONCRETE SLOPE PAVEMENT, 4", REINFORCED	END BENT 1	SY	11.0		11.0			
SLOPE PROTECTION	530-3-3	RIPRAP- RUBBLE, BANK AND SHORE	END BENTS 1 AND 2	TN	163.0		163.0			
	530-74	BEDDING STONE	END BENTS 1 AND 2	TN	46.0		46.0			

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
RUDOLF P.G. PEIN, P.E. #56805

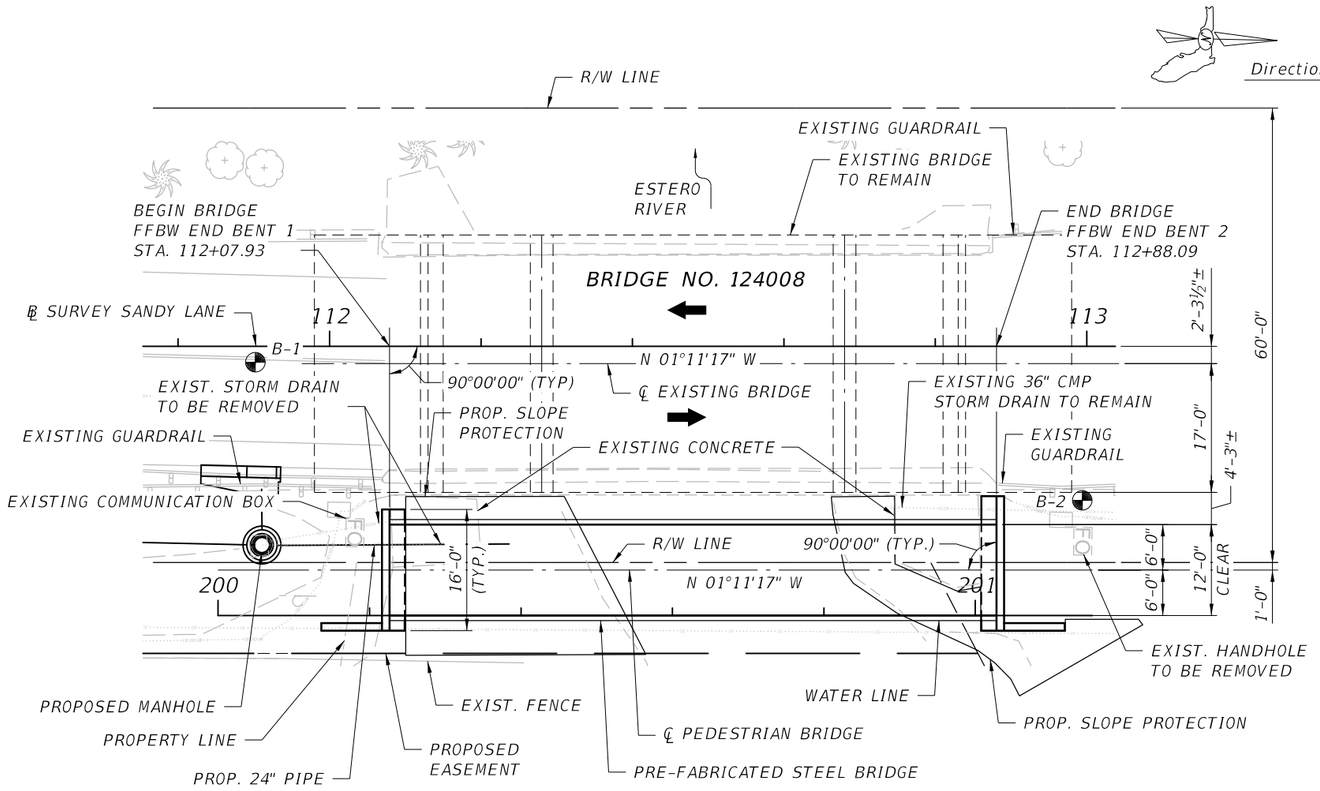
SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

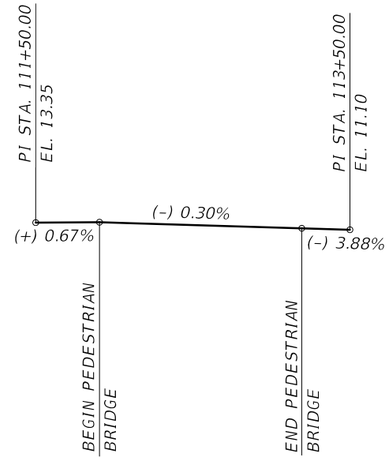
Village of ESTERO

SUMMARY OF STRUCTURES QUANTITIES

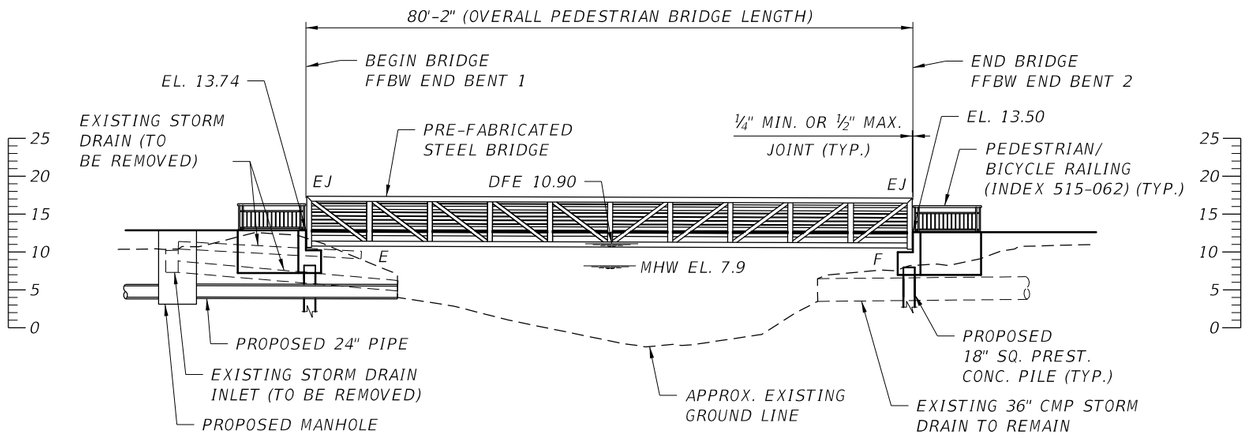
SHEET NO. B-8



PLAN



VERTICAL CURVE DATA
(ALONG EAST CURB LINE)



ELEVATION
(EXISTING BRIDGE NOT SHOWN FOR CLARITY)

LEGEND:

- ◓ – APPROXIMATE LOCATION OF SOIL BORING
- FFBW – FRONT FACE BACKWALL
- EJ – EXPANSION JOINT
- E – EXPANSION BEARING
- F – FIXED BEARING
- MHW – MEAN HIGH WATER
- DFE – DESIGN FLOOD ELEVATION
- ➡ – TRAVEL LANE
- ▭ – NEW STRUCTURE
- ▭ – EXISTING STRUCTURE

REVISIONS				
DATE	DESCRIPTION	DATE	DESCRIPTION	
			NOT FOR CONSTRUCTION	

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SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS	
CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

PLAN AND ELEVATION
PEDESTRIAN BRIDGE

SHEET NO.
B1-1

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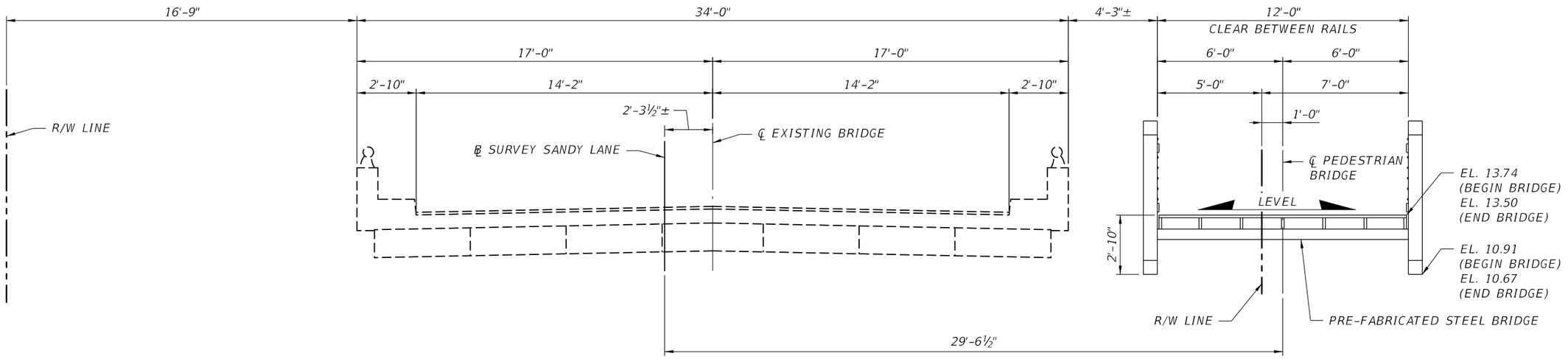

EXISTING BRIDGE

PEDESTRIAN BRIDGE

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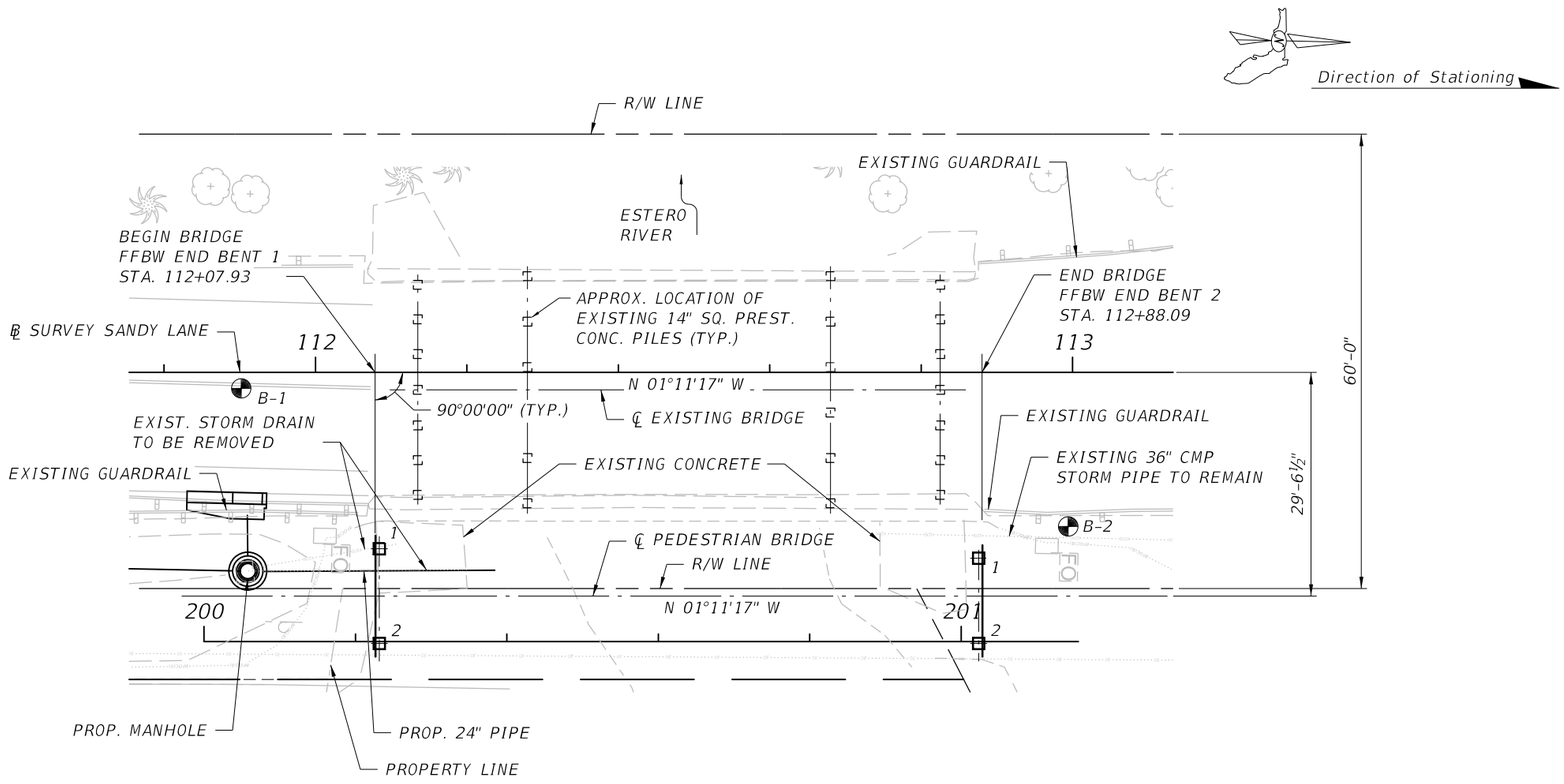
SANDY LANE BICYCLE/
PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

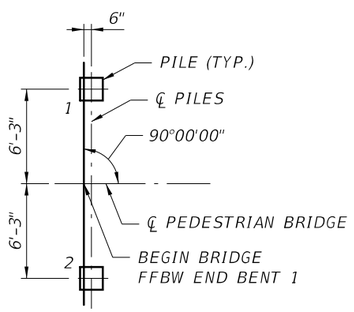
Village of ESTERO

TYPICAL SECTION
PEDESTRIAN BRIDGE

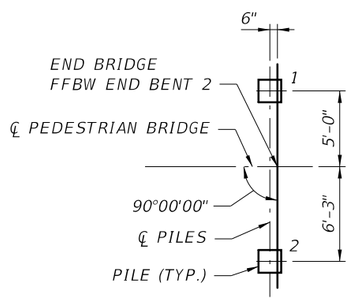
SHEET NO.
B1-2



PLAN



END BENT 1



END BENT 2

LEGEND:

- ◔ – APPROXIMATE LOCATION OF SOIL BORING
- FFBW – FRONT FACE BACKWALL
- ⊏ – EXISTING 14" SQ. PRESTRESSED CONCRETE PILE
- □ – PROPOSED 18" SQ. PRESTRESSED CONCRETE PILE

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REVISIONS					
DATE	DESCRIPTION	DATE	DESCRIPTION	ATKINS	SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS
			NOT FOR CONSTRUCTION	800 WATERFORD WAY, SUITE 700 MIAMI, FLORIDA 33126 FBPE CERTIFICATE OF AUTHORIZATION NO. 24 RUDOLF P.G. PEIN, P.E. #56805	CLIENT: VILLAGE OF ESTERO / PROJECT #: CN 2022-02

Village of ESTERO

FOUNDATION LAYOUT
PEDESTRIAN BRIDGE

SHEET NO. B1-3

PILE DATA TABLE													
INSTALLATION CRITERIA							DESIGN CRITERIA						
STATION	PILE SIZE (IN.)	NOMINAL BEARING RESISTENCE (KIPS)	MINIMUM TIP ELEVATION (FT.)	PILE ORDER LENGTH (FT.)	TEST PILE LENGTH (FT.)*	REQUIRED PREFORM ELEVATION (FT.)	FACTORED DESIGN LOADS (KIPS)	DOWN DRAG (TONS)	TOTAL SCOUR RESISTENCE (TONS)	NET SCOUR RESISTENCE (TONS)	100 YR. SCOUR ELEVATION (FT.)	LONG TERM SCOUR ELEVATION (FT.)	∅ COMPRESSION
ALL	18	163	-24.00	80	N/A	-15.00	122	N/A	N/A	N/A	N/A	N/A	0.75

$$\frac{\text{FACTORED DESIGN LOAD + NET SCOUR RESISTANCE + DOWN DRAG}}{\varnothing} \leq \text{NOMINAL BEARING RESISTANCE}$$

TENSION RESISTANCE: THE ULTIMATE SIDE FRICTION CAPACITY THAT MUST BE OBTAINED BELOW THE 100 YEAR SCOUR ELEVATION TO RESIST PULLOUT OF THE PILE (SPECIFY ONLY WHEN DESIGN REQUIRES TENSION CAPACITY).

TOTAL SCOUR RESISTANCE: AN ESTIMATE OF THE ULTIMATE STATIC SIDE FRICTION RESISTANCE PROVIDED BY THE SCOURABLE SOIL.

NET SCOUR RESISTANCE: AN ESTIMATE OF THE ULTIMATE STATIC SIDE FRICTION RESISTANCE PROVIDED BY THE SOIL FROM THE REQUIRED PREFORMED OR JETTING ELEVATION TO THE SCOUR ELEVATION.

100 YEAR SCOUR ELEVATION: ESTIMATED ELEVATION OF SCOUR DUE TO THE 100 YEAR STORM EVENT.

LONG TERM SCOUR ELEVATION: ESTIMATED ELEVATION OF SCOUR USED IN DESIGN FOR EXTREME EVENT LOADING.

PILE NOTES:
A PILE INSTALLATION PLAN DETAILING THE PROPOSED PILE INSTALLATION METHODS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO THE INSTALLATION OF ANY PILES. THE PILE INSTALLATION PLAN SHOULD INCLUDE AT A MINIMUM: THE PILE HAMMER TYPE AND SPECIFICATIONS, AN ANALYSIS SHOWING THE PILE HAMMER IS CAPABLE OF PRODUCING REQUIRED DRIVING RESISTANCE, AND PILE INSTALLATION SEQUENCE.

PILE INSTALLATION NOTES:

1. MINIMUM PILE TIP ELEVATIONS ARE REQUIRED FOR LATERAL STABILITY.
2. NO JETTING WILL BE ALLOWED WITHOUT APPROVAL OF THE ENGINEER.
3. VIBRATION MONITORING PER FDOT STANDARD SPECIFICATION 455.
4. ALL PILES SHALL BE DYNAMICALLY MONITORED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS.
5. PILE REBOUND POTENTIAL SHALL BE CONSIDERED DURING PILE HAMMER SELECTION. ANTICIPATE SET-CHECKS AND/OR RE-DRIVES DURING PILE DRIVING OPERATIONS TO ACHIEVE THE REQUIRED NOMINAL BEARING RESISTANCE. ANTICIPATE SET-CHECKS AND/OR REDRIVES WHEN DEVELOPING THE PILE DRIVING SCHEDULE.
6. DO NOT ADVANCE PREFORMED PILE HOLES DEEPER THAN THE PREFORM ELEVATIONS SHOWN ON THE PILE DATA TABLES WITHOUT THE APPROVAL OF THE ENGINEER. IF ACTUAL PREFORMING ELEVATIONS DIFFER FROM THOSE SHOWN ON THE PILE DATA TABLES, THE ENGINEER SHALL DETERMINE THE REQUIRED DRIVING RESISTANCE.
7. ANTICIPATE THE USE OF SPECIALIZED EQUIPMENT AND/OR METHODS INCLUDING, BUT NOT LIMITED TO, CORE BARRELS, ROCK AUGERS, PUNCHES, DRILL BITS, ETC. TO COMPLETE PREFORMING. IF DRILLING EQUIPMENT WITH A TAPERED END IS USED TO CONSTRUCT THE PREFORMED PILE HOLES, THE MAXIMUM DIAMETER OF THE DRILLING EQUIPMENT MUST REACH THE REQUIRED PREFORM ELEVATION.
8. ALL PILES ARE 18" SQUARE PRESTRESSED CONCRETE PILES AND SHALL BE DRIVEN PLUMB.
9. VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO ANY PILE DRIVING.

PILE CUT-OFF ELEVATIONS		
LOCATION	1	2
END BENT 1	8.53	8.53
END BENT 2	8.29	8.29

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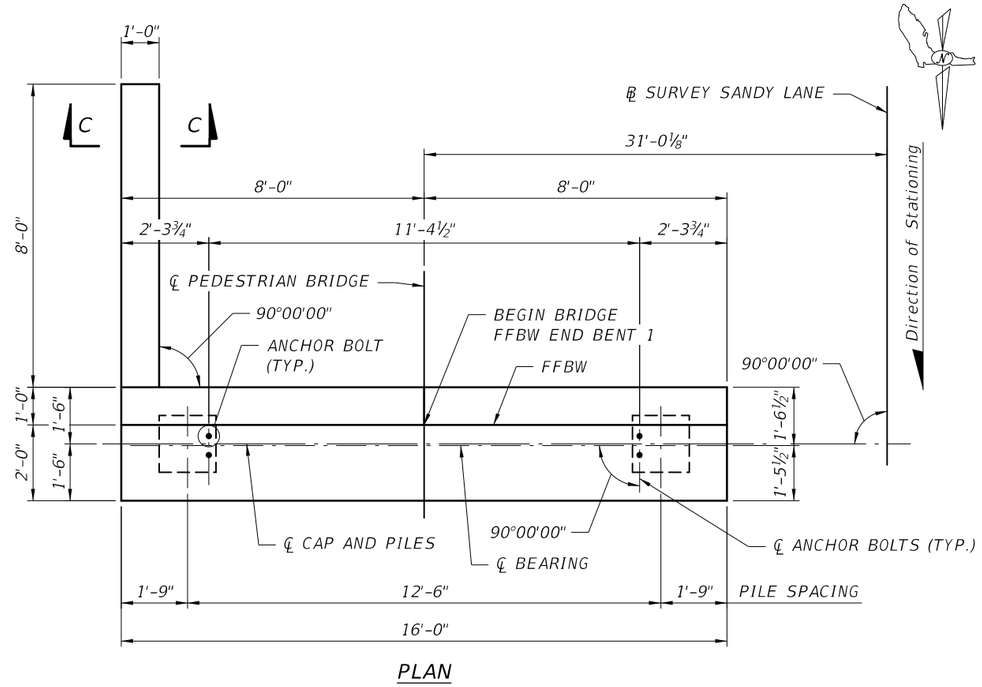
SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

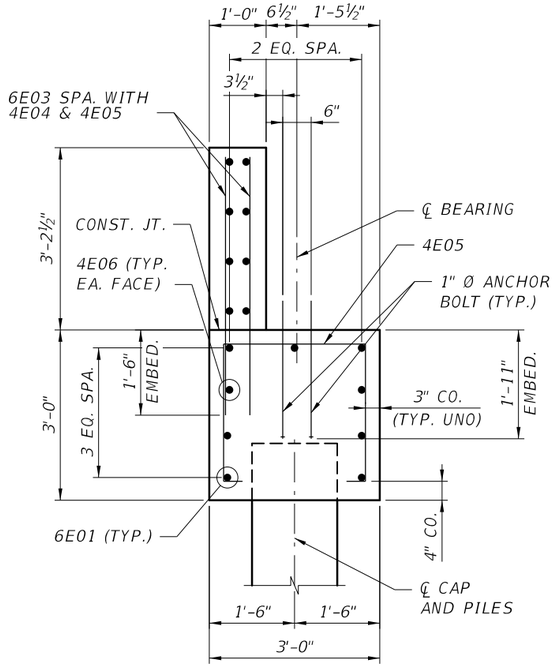
Village of ESTERO

PILE DATA TABLE AND NOTES PEDESTRIAN BRIDGE

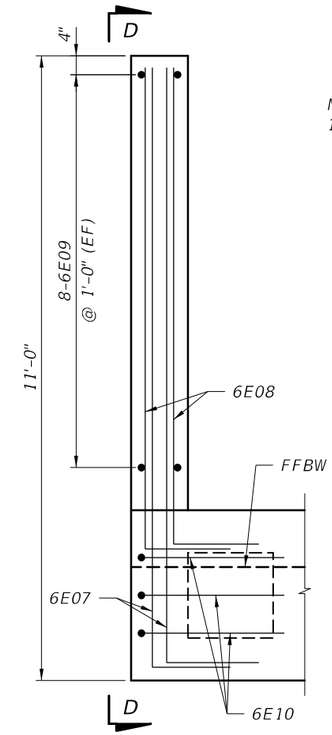
SHEET NO. B1-4



PLAN

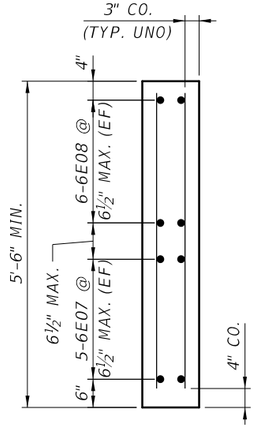


SECTION A-A

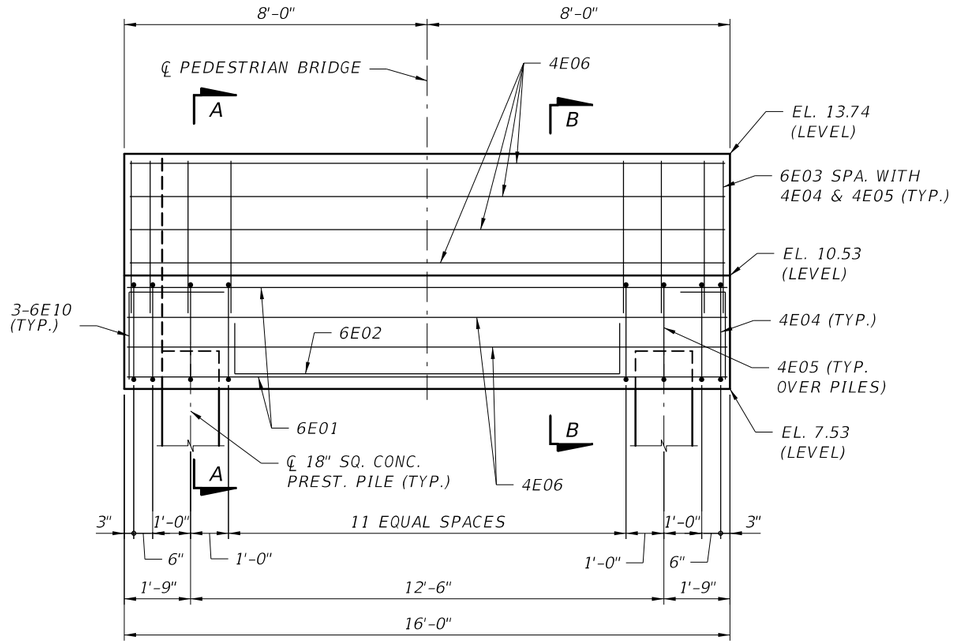


PLAN - END BENT 1 CAP

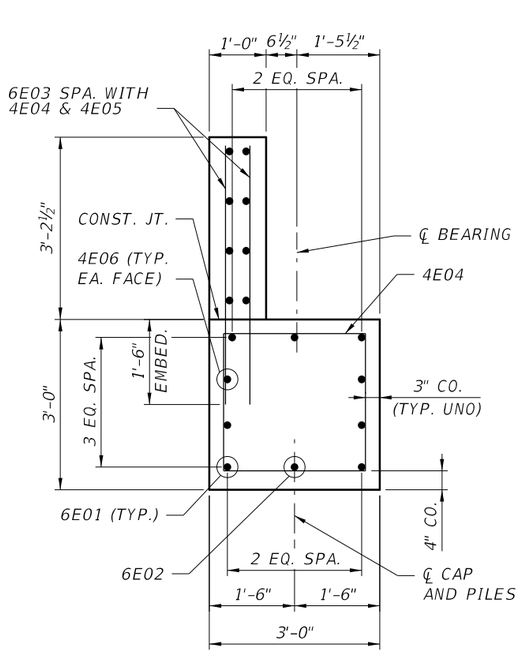
NOTE:
1. FINAL ELEVATIONS TO BE ADJUSTED TO MATCH PREFABRICATED BRIDGE.



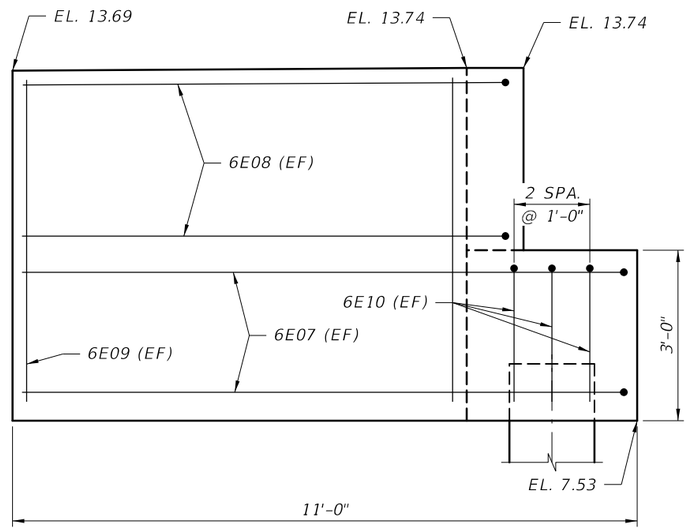
SECTION C-C



ELEVATION



SECTION B-B



VIEW D-D

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
			NOT FOR CONSTRUCTION

ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
RUDOLF P.G. PEIN, P.E. #56805

SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS	
CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

END BENT 1
PEDESTRIAN BRIDGE

SHEET NO.
B1-5

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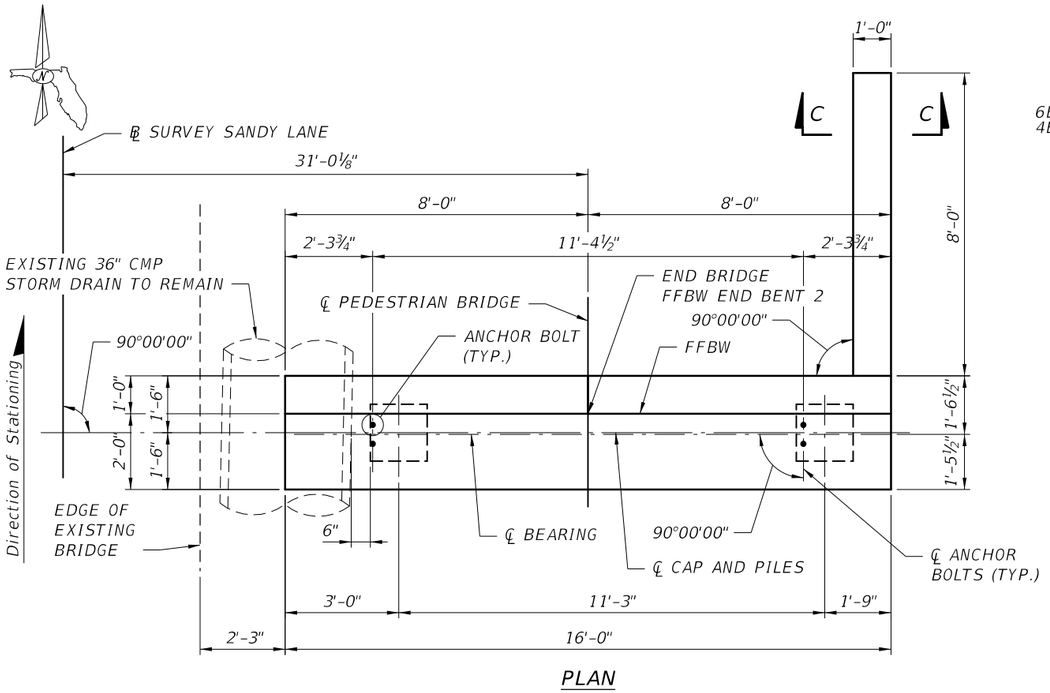
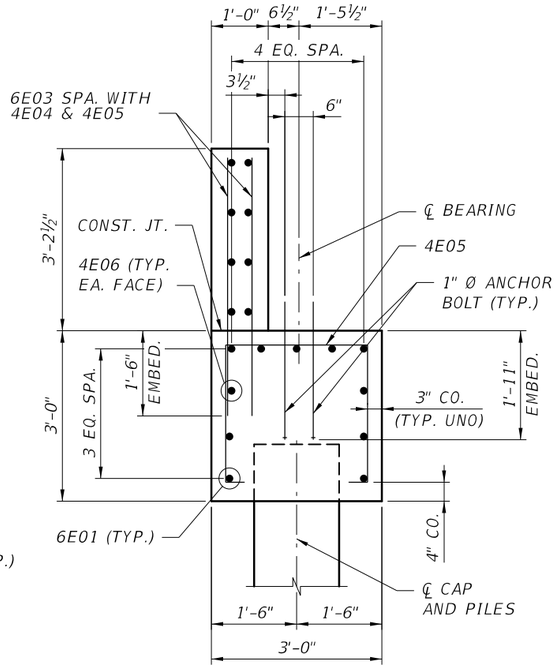
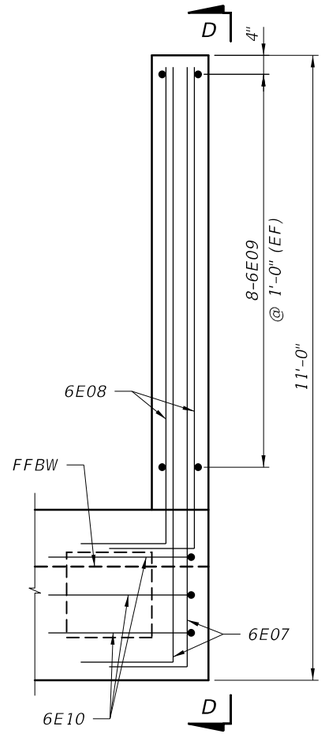


PLAN

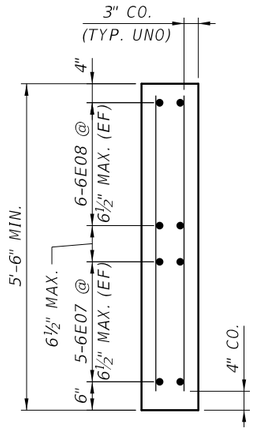


SECTION A-A

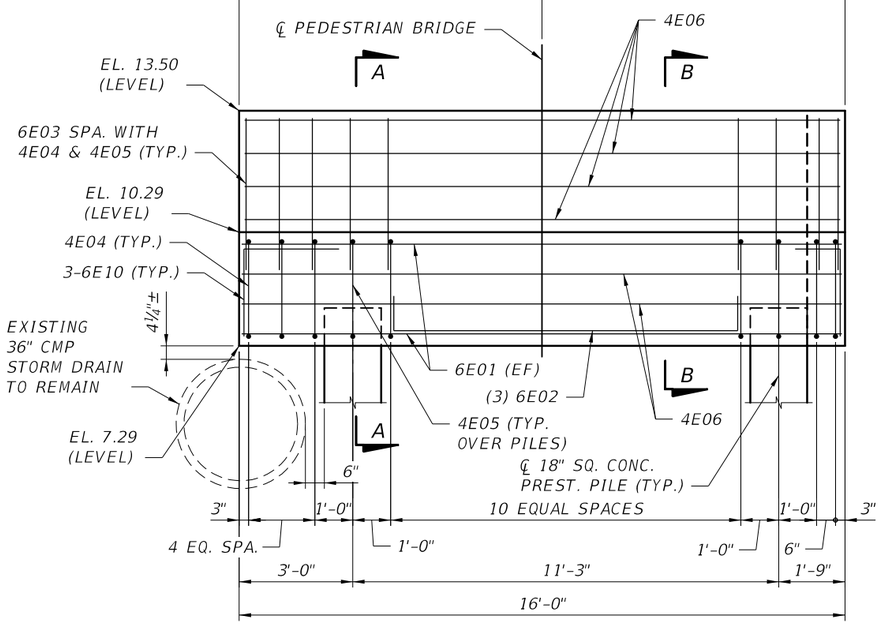


PLAN - END BENT 2 CAP

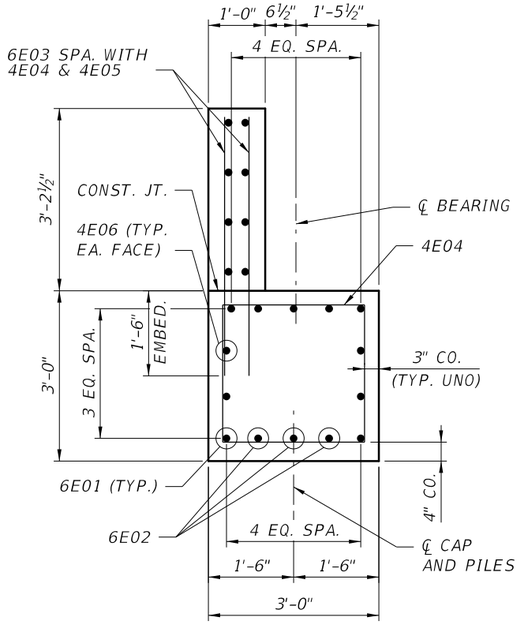
NOTE:
1. FINAL ELEVATIONS TO BE ADJUSTED TO MATCH PREFABRICATED BRIDGE.



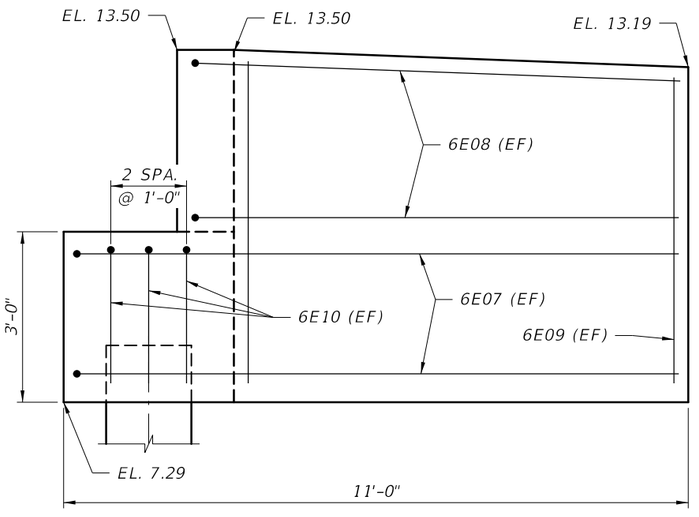
SECTION C-C



ELEVATION



SECTION B-B



VIEW D-D

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
			NOT FOR CONSTRUCTION

ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
RUDOLF P.G. PEIN, P.E. #56805

SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

END BENT 2 PEDESTRIAN BRIDGE

SHEET NO. B1-6

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

Sandy Lane Rebar Table Substructure (Pedestrian Bridge)

MARK		LENGTH		NO	TYPE	STY		B			C			D			E			F			H			J			K			N	Φ
SIZE	DES	FT	IN	BARS	BAR	A	G	FT	IN	FR	FT	IN	FR	FT	IN	FR	FT	IN	FR	FT	IN	FR	FT	IN	FR	FT	IN	FR	FT	IN	FR	NO	ANG
LOCATION END BENT 1 NO. REQUIRED = 1																																	
6	E01	15	6	5	1			15	6																								
6	E02	11	4	1	18	1	1	10	0																								
6	E03	4	6	36	1			4	6																								
4	E04	10	7	16	4	4	4	2	5		2	6																					
4	E05	8	0	2	5			2	5		2	6			4			4															
4	E06	15	6	12	1			15	6																								
6	E07	11	6	10	10			10	6		1	0																					
6	E08	9	6	12	10			8	6		1	0																					
6	E09	Vary 5	7	2 Sets of 8	1			5	6																								
								5	7																								
6	E10	3	4	6	10			2	4		1	0																					
LOCATION END BENT 2 NO. REQUIRED = 1																																	
6	E01	15	6	7	1			15	6																								
6	E02	10	1	3	18	1	1	8	9																								
6	E03	4	6	40	1			4	6																								
4	E04	10	7	18	4	4	4	2	5		2	6																					
4	E05	8	0	2	5			2	5		2	6			4			4															
4	E06	15	6	12	1			15	6																								
6	E07	11	6	10	10			10	6		1	0																					
6	E08	9	6	12	10			8	6		1	0																					
6	E09	Vary 5	5	2 Sets of 8	1			5	3																								
								5	7																								
6	E10	3	4	6	10			2	4		1	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	DESCRIPTION	DATE	DESCRIPTION
			NOT FOR CONSTRUCTION

ATKINS
800 WATERFORD WAY, SUITE 700
MIAMI, FLORIDA 33126
FBPE CERTIFICATE OF AUTHORIZATION NO. 24
RUDOLF P.G. PEIN, P.E. #56805

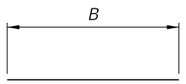
SANDY LANE BICYCLE/ PEDESTRIAN IMPROVEMENTS

CLIENT	PROJECT #
VILLAGE OF ESTERO	CN 2022-02

Village of ESTERO

REINFORCING BAR LIST
PEDESTRIAN BRIDGE

SHEET NO.
B1-7



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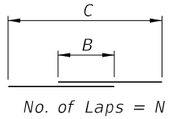

No. of Laps = N

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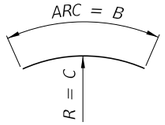

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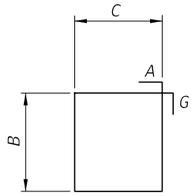

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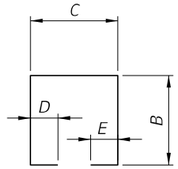

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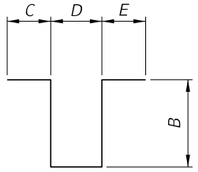

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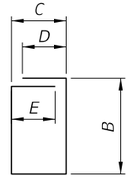

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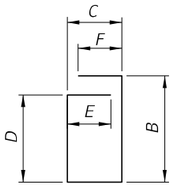

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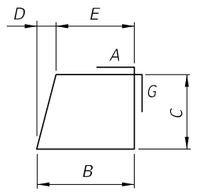

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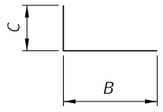

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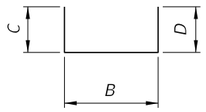

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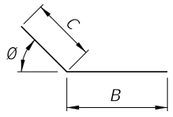

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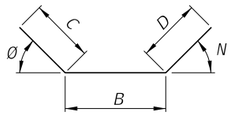

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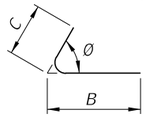

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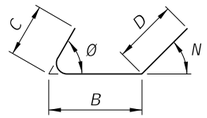

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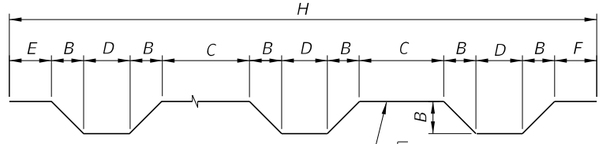
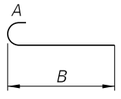


TYPE 16

Number of Beams or Walls = N
Number of D's = N-1
Number of B's = 2N-2
Number of C's = N-2
45° Typical



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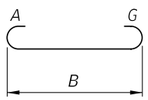

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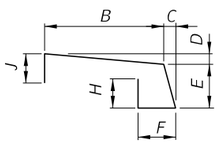

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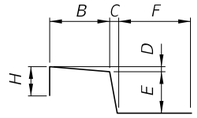

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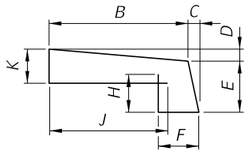

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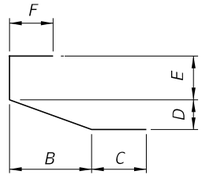

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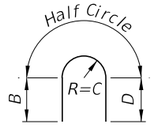

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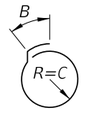

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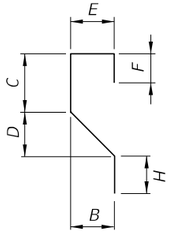

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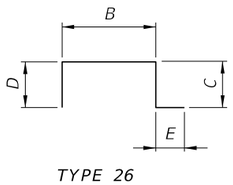

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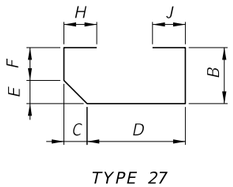

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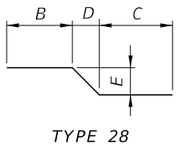
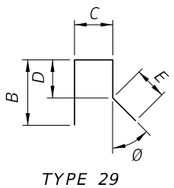


TYPE 28



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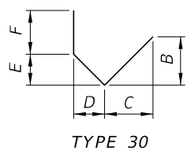
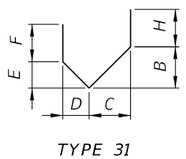


TYPE 30



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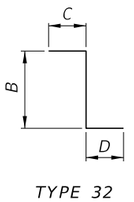
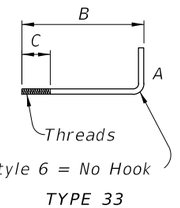
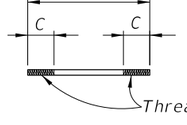


TYPE 32

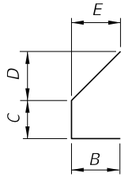


Style 6 = No Hook

TYPE 33



TYPE 34



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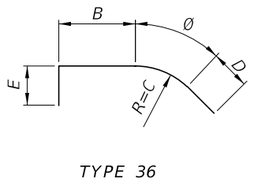

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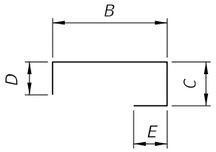
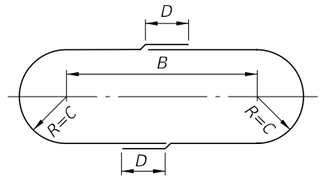
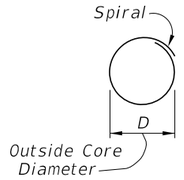


TYPE 37



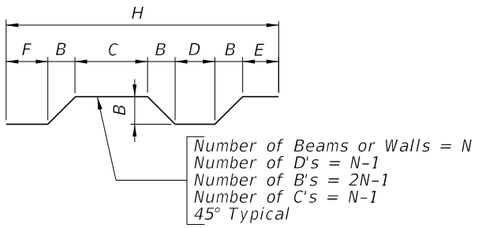
TYPE 38



TYPE 39

C = Pitch
B = Overall Height
N = Total number of closed turns at Top and Bottom of columns

Splices may be accomplished by lapping 1.5 turns. Cost of Channel Spacers and Splices shall be included in the Contract Unit Price for Reinf. Steel (Substructure)



Number of Beams or Walls = N
Number of D's = N-1
Number of B's = 2N-1
Number of C's = N-1
45° Typical

TYPE 40

TYPE 41

TYPE 42

TYPE 43

HOOK DETAILS

180° 90°

BAR SIZE	D	180° HOOKS A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2¼"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3¾"	7"	5"	10"
#6	4½"	8"	6"	1'-0"
#7	5¼"	10"	7"	1'-2"
#8	6"	11"	8"	1'-4"
#9	9½"	1'-3"	11¾"	1'-7"
#10	10¾"	1'-5"	1'-1¼"	1'-10"
#11	12"	1'-7"	1'-2¾"	2'-0"
#14	18¼"	2'-3"	1'-9¾"	2'-7"
#18	24"	3'-0"	2'-4½"	3'-5"
STYLE		1		3

STIRRUPS (TIES SIMILAR)

STIRRUP & TIE HOOK DIMENSIONS

BAR SIZE	D	90° HOOKS A or G	135° HOOKS A or G	135° HOOKS H *
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	1'-0"	8"	4½"
#7	5¼"	1'-2"	9"	5¼"
#8	6"	1'-4"	10½"	6"
STYLE		4	5	

STYLE 6 = NO HOOK

* Dimension is approximate.

Hook Styles Detailed on this sheet are for Illustration Only.

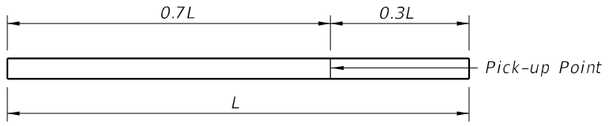
Actual Hook Style for any particular bar will be shown under A or G Heading on REINFORCING BAR LIST sheet(s) in Structures Plans.

All Dimensions are out-to-out.

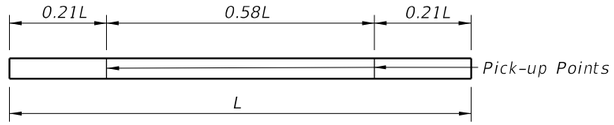
NOTE: For Bar Dimensions See REINFORCING BAR LIST Sheet(s) in Structures Plans.

10/6/2022 10:52:29 AM

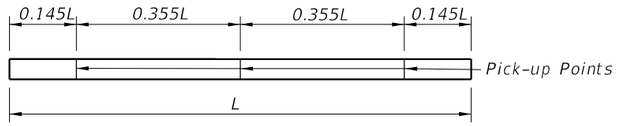
LAST REVISION	REVISION	DESCRIPTION:				
11/01/20			FDOT	FY 2023-24 STANDARD PLANS	BAR BENDING DETAILS (STEEL)	INDEX 415-001 / SHEET 1 of 1



1-POINT PICK-UP

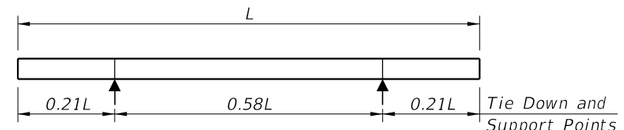


2-POINT PICK-UP

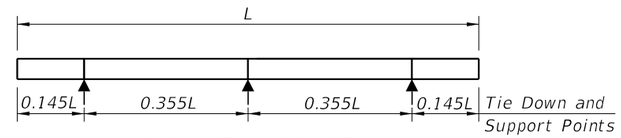


3-POINT PICK-UP

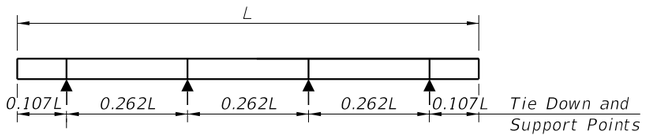
PILE PICK-UP DETAILS



2-POINT SUPPORT



3-POINT SUPPORT



4-POINT SUPPORT

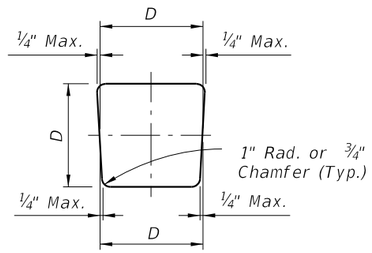
STORAGE AND TRANSPORTATION SUPPORT DETAILS

PRESTRESSED CONCRETE PILE NOTES:

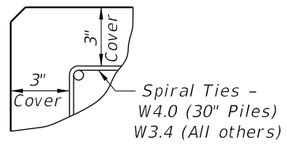
1. Work this Index with the Square Prestressed Concrete Pile Splices (Index 455-002), the Prestressed Concrete Pile Standards (Index 455-012 thru 455-030), the High Moment Capacity Square Prestressed Concrete Pile (Index 455-031) and the Pile Data Table in the Structures Plans.
2. Concrete:
   - A. Piles: Class V, except use Class VI for High Moment Capacity Pile (Index 455-031).
   - B. High Capacity Splice Collar: Class V.
   - C. See "GENERAL NOTES" in the Structures Plans for locations where the use of Highly Reactive Pozzolans is required.
3. Concrete strength at time of prestress transfer:
   - A. Piles: 4,000 psi minimum.
   - B. High Moment Capacity Piles: 6,500 psi minimum.
4. Carbon-Steel Reinforcing:
   - A. Bars: Meet the requirements of Specification Section 415.
   - B. Prestressing Strands: Meet the requirements of Specification Section 933.
   - C. Protect all strands permanently exposed to the environment and not embedded under final conditions in accordance with Specification Section 450.
5. Spiral Ties:
   - A. Tie each wrap of the spiral strand to a minimum of two corner strands.
   - B. One full turn required for spiral splices.
6. Pile Splices: Fill dowel holes and form the joint between pile sections with a Type AB Epoxy Compound in accordance with Specification Section 962. Use an Epoxy Bonding Compound or an Epoxy Mortar as recommended by the Manufacturer.

TABLE OF MAXIMUM PILE PICK-UP AND SUPPORT LENGTHS

	D = Square Pile Size (inches)					Required Storage and Transportation Detail	Pick-Up Detail
	12	14	18	24	30		
Maximum Pile Length (Feet)	48	52	59	68	87	2, 3, or 4 point	1 Point
	69	75	85	98	124	2, 3, or 4 point	2 Point
	99	107	121	140	178	3 or 4 point	3 Point



TYPICAL PILE SHAPE FOR MOLD FORMS



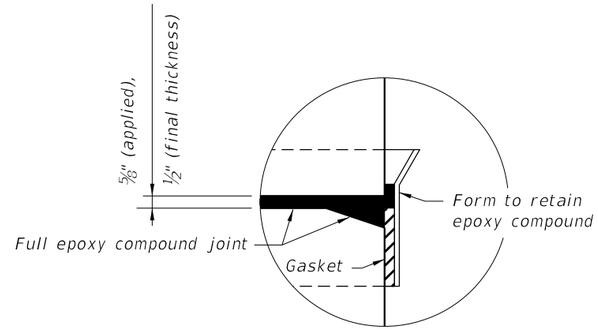
DETAIL SHOWING TYPICAL COVER

10/6/2022 11:03:02 AM

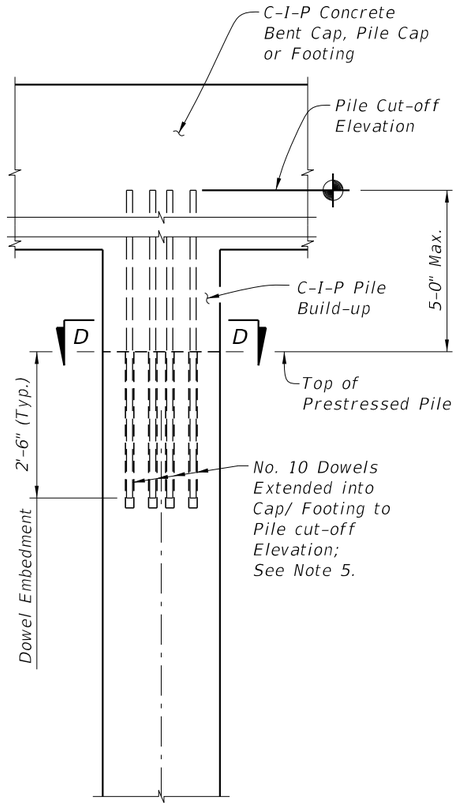
LAST REVISION	REVISION	DESCRIPTION:				
11/01/22			FDOT	FY 2023-24 STANDARD PLANS	SQUARE PRESTRESSED CONCRETE PILES - TYPICAL DETAILS & NOTES	INDEX 455-001	SHEET 1 of 1

NOTES:

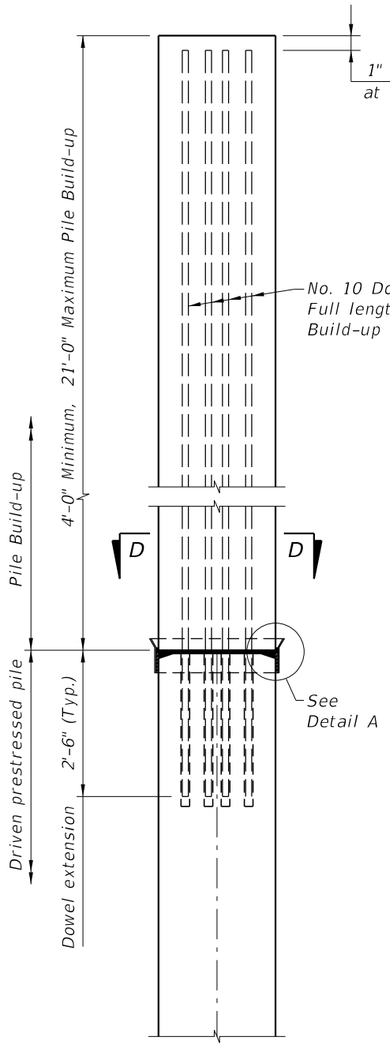
1. For Sections D–D, E–E, & F–F see Index 455–012 thru 455–030 for applicable concrete pile size and Pile Splice Reinforcement Details.
2. Prestressing strands, spiral ties and/or reinforcement are not shown for clarity.
3. When pile splices are necessary due to shipping and handling limitations, use the "Drivable Planned Prestressed Precast Splice Detail" or Mechanical Pile Splices on the Approved Products List (APL).
4. When preformed dowel holes are used, continue the 1" spiral tie pitch to 4'–0" below the head of the pile, See Index 455–018, 455–020 & 455–024. For preformed holes; use either removable preforming material or stay–in–place corrugated galvanized steel ducts meeting ASTM Specification A653, Coating Designation G90, 26 gauge. Use 2" diameter ducts with a minimum corrugation (rib) height of 0.12 in. fabricated with either welded or interlocked seams. Galvanizing of welded seams is not required.
5. For tension piles where top of Prestressed Pile is less than 3 feet below Pile Cut–off Elevation, extend No. 10 Dowels into cap beyond Pile Cut–off Elevation to achieve development as approved by the Engineer.



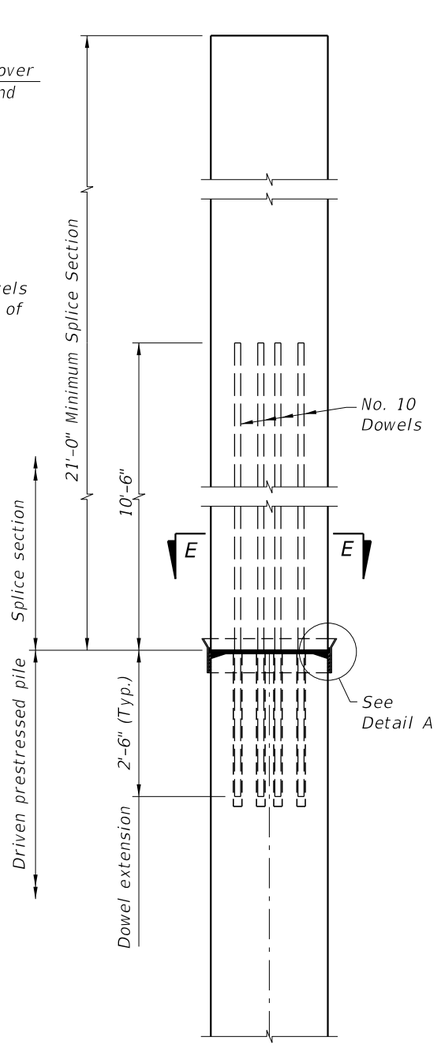
DETAIL A



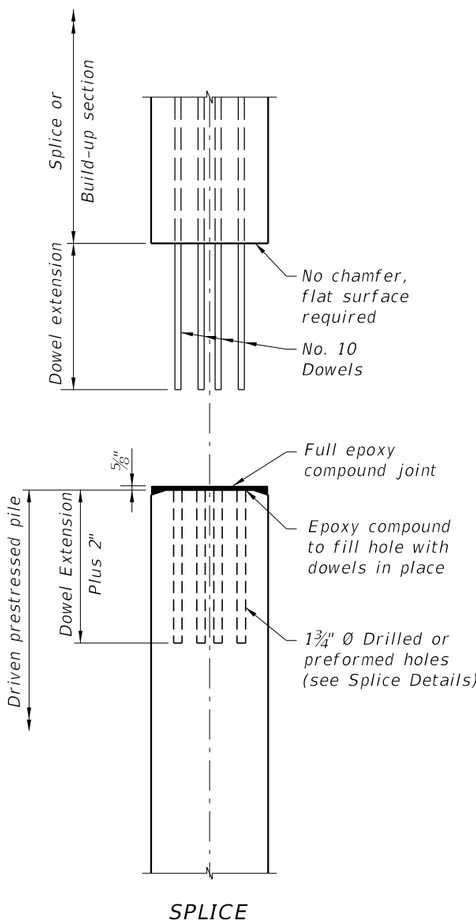
UNPLANNED
REINFORCED C-I-P
PILE BUILD-UP DETAIL



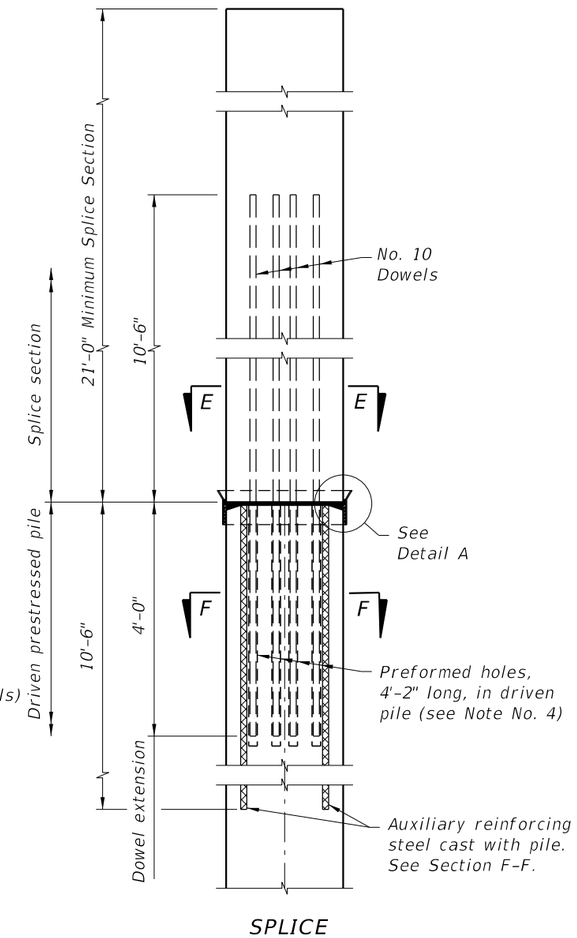
NON-DRIVABLE UNPLANNED
REINFORCED PRECAST
PILE BUILD-UP DETAIL



DRIVABLE UNPLANNED
PRESTRESSED PRECAST
PILE SPLICE DETAIL



SPLICE
BEFORE BONDING



SPLICE
AFTER BONDING

DRIVABLE PLANNED
PRESTRESSED PRECAST
PILE SPLICE DETAIL

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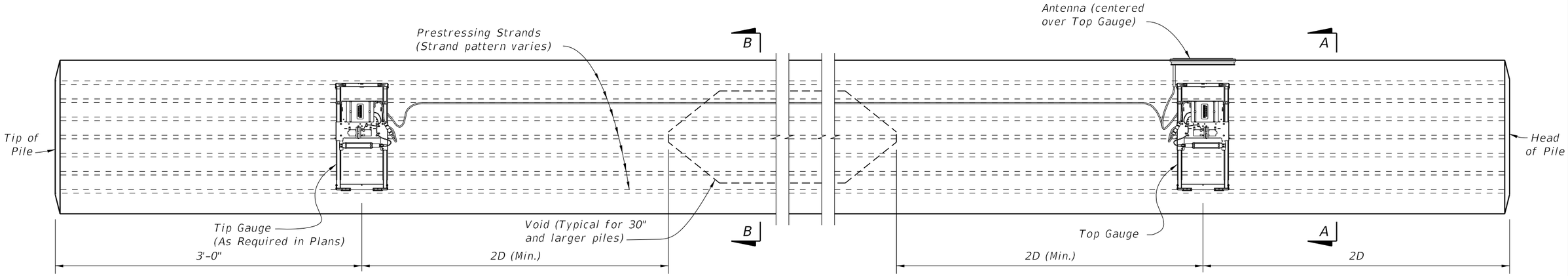
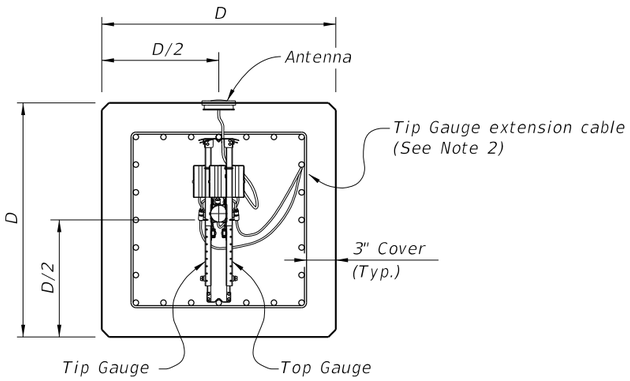
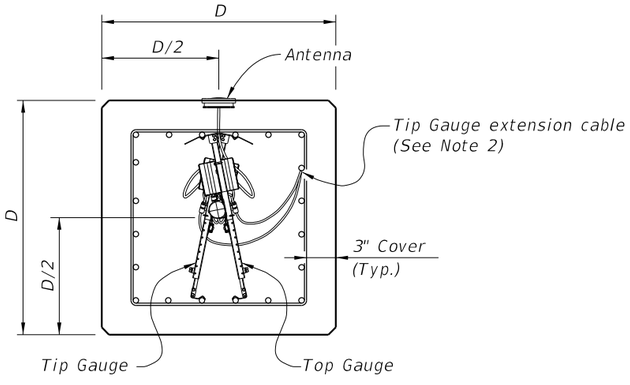
LAST REVISION	REVISION	DESCRIPTION:			
11/01/22			FY 2023-24 STANDARD PLANS	SQUARE PRESTRESSED CONCRETE PILE SPLICES	INDEX 455-002 / SHEET 1 of 1



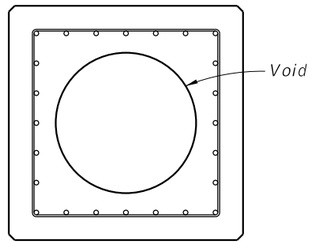
ELEVATION



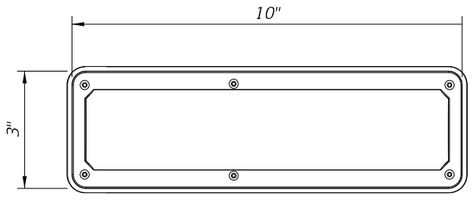
SECTION A-A
(Strand Pattern with odd number of strands per face)



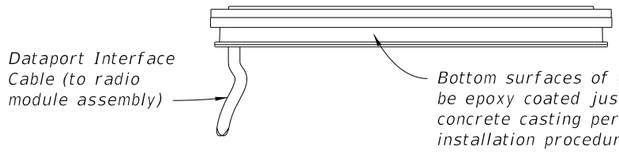
SECTION A-A
(Strand Pattern with even number of strands per face)



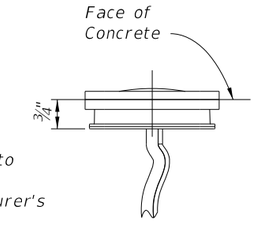
SECTION B-B
(Showing Voided Pile, Solid Pile Similar)



ANTENNA TOP VIEW



ANTENNA SIDE VIEW



ANTENNA END VIEW

NOTES:

1. For piles 18" and larger installed for bridge foundations, provide EDC Instrumentation in accordance with Specification Section 455.

2. Attach Tip Gauge extension cable to the underside of the strand shown in Section A–A. Secure cable to strand with nylon wire ties spaced a maximum of 6ft. along cable.

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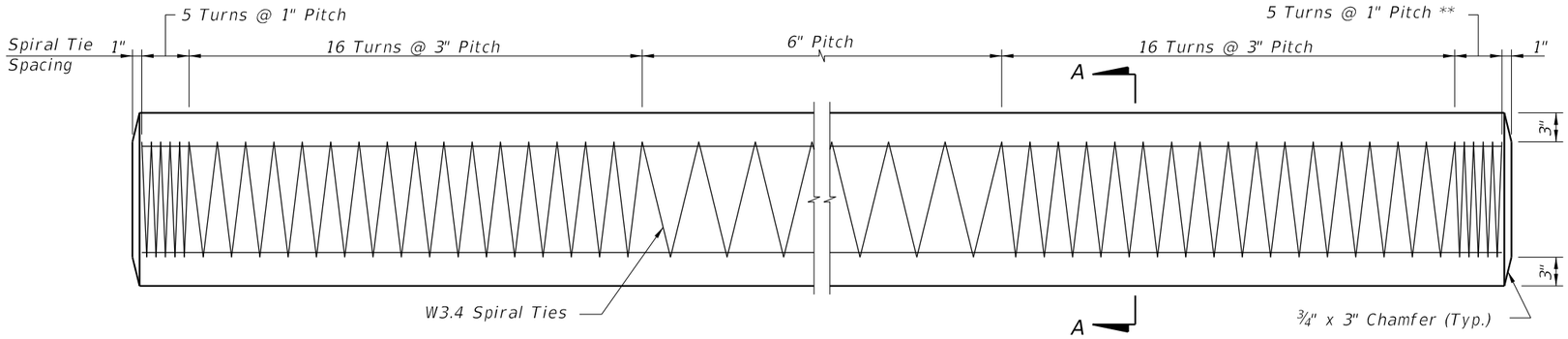
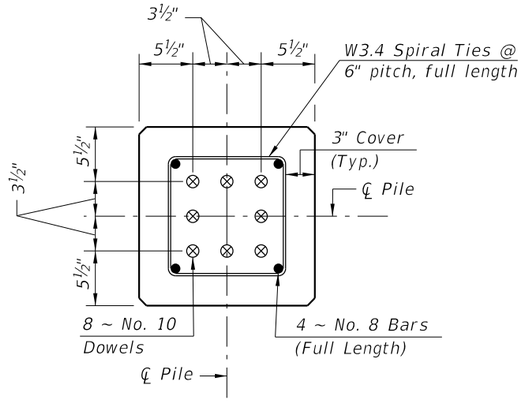
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FY 2023-24 STANDARD PLANS	SQUARE PRESTRESSED CONCRETE PILES - EDC INSTRUMENTATION	455-003	1 of 1



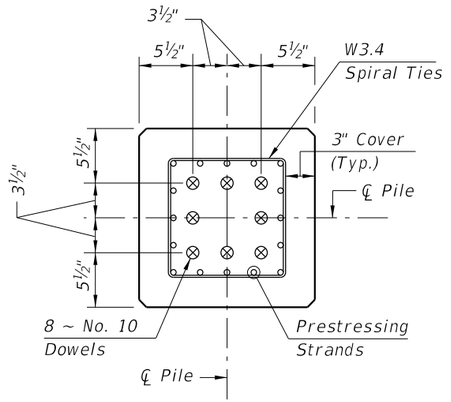
ELEVATION

** See Note 4 on Index 455-002



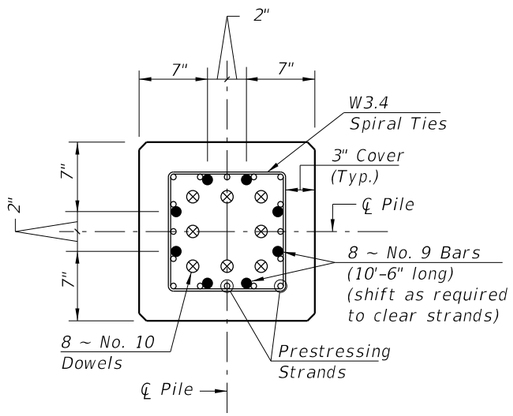
SECTION D-D

(See Non-Drivable Unforeseen Reinforced Precast Splice Detail)



SECTION E-E

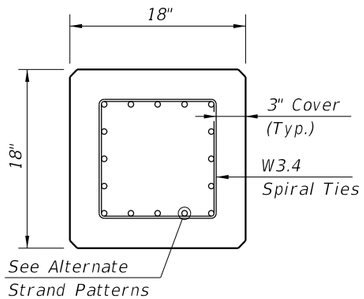
(See Drivable Prestressed Precast Splice Detail)



SECTION F-F

(See Drivable Preplanned Splice Detail)

PILE SPLICE REINFORCEMENT DETAILS



SECTION A-A

ALTERNATE STRAND PATTERNS

12 ~ 0.6" Ø, Grade 270 LRS, at 35 kips
12 ~ ½" Ø (Special), Grade 270 LRS, at 34 kips
16 ~ ½" Ø, Grade 270 LRS, at 26 kips
20 ~ 7/16" Ø, Grade 270 LRS, at 21 kips
24 ~ ⅜" Ø, Grade 270 LRS, at 17 kips

NOTES:
1. Work this Index with Index 455-001 – Typical Details and Notes for Square Prestressed Concrete Piles and Index 455-002 – Square Prestressed Concrete Pile Splices.
2. Any of the given Alternate Strand Patterns may be utilized. The strands shall be located as follows:
   Place one strand at each corner and place the remaining strands equally spaced between the corner strands.
   The total strand pattern shall be concentric with the nominal concrete section of the pile.

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LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
01/01/12			FY 2023-24 STANDARD PLANS	18" SQUARE PRESTRESSED CONCRETE PILE	455-018	1 of 1