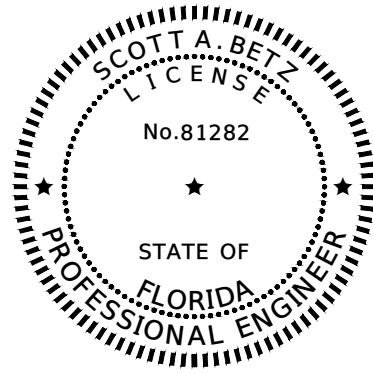


THIS DOCUMENT HAS BEEN DIGITALLY
SIGNED AND SEALED BY:




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

Kisinger Campo & Associates Corp.
201 N. Franklin Street
Suite 400
Tampa, FL 33602
Florida C.O.A. No. 02317
Scott A. Betz, P.E. No. 81282

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
2A	SIGNATURE SHEET
5	GENERAL NOTES (2 OF 2)
9 - 11	CROSS SECTIONS
12	RETAINING WALL DETAILS (1 OF 2)

M:\6201601\00_Manatee_County_Transportation_Services\WO_4 - Harvard Avenue Seawall Repair\Structures\SIGNS\T02.dwg_Dec 14 20 1:17 PM

DATE	DESCRIPTION	DATE	PROJECT #		SURVEYED			 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East, Bradenton, FL 34208	<i>SIGNATURE SHEET</i>	SHEET NO.			
12/2020	△ REVISED SHEETS		SURVEY #		DESIGNED	SAB	08/2019					24	
			SEC./TWN./RGE		DRAWN	ARF	08/2019						
			SCALE		CHECKED	DBT	08/2019						

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**PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES**
1022 26th Avenue East, Bradenton, FL 34208

SIGNATURE SHEET

SHEET NO.
24

DESIGN SPECIFICATIONS

1. FDOT STRUCTURES MANUAL, DATED JANUARY 2020.
2. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LOAD AND RESISTANCE FACTOR (LRFD) BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.
3. FDOT DESIGN MANUAL (TOPIC 625-000-002), DATED JANUARY 2020.

GENERAL SPECIFICATIONS

1. FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, JULY 2020 EDITION.
2. FDOT FY 2020-21 STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION.

PRIMARY SCOPE OF WORK

1. REMOVE AND REPLACE EXISTING SHEET PILE WALL.
2. REGRADE UPLAND CHANNEL BANKS.
3. REPAIR VOID AT WEIR.

DRAWINGS AND DIMENSIONS

1. DO NOT SCALE DRAWINGS FOR DIMENSIONS NOT GIVEN.
2. ALL DIMENSIONS ARE IN FEET AND INCHES, EITHER HORIZONTALLY OR VERTICALLY, UNLESS NOTED OTHERWISE.

EXISTING CONDITIONS

THE CONTRACTOR SHALL BE AWARE THAT PORTIONS OF THE EXISTING SHEET PILE WALL HAVE FAILED SUBSEQUENT TO THE FIELD SURVEY FOR THESE PLANS. VERIFY EXISTING FIELD CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING REPAIRS OR ORDERING ANY MATERIALS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOUND.

DATUM

UNLESS NOTED OTHERWISE, ALL ELEVATIONS REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND REFERENCE PROJECTION OF THE FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE NAD 1983/2011 ADJUSTMENT).

ENVIRONMENT

SUBSTRUCTURE: MODERATELY AGGRESSIVE

CONCRETE

ALL CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 346 OF THE STANDARD SPECIFICATIONS.

CONCRETE STRENGTH		
CLASS	LOCATION	MINIMUM 28 DAY COMPRESSIVE STRENGTH (PSI)
IV	BULKHEAD CAP	5,500
III (SEAL)	WEIR CONNECTION	3,000

CONCRETE COVER

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE PLACEMENT OR FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER". SEE FDOT STANDARD SPECIFICATIONS FOR ALLOWABLE TOLERANCES. UNLESS NOTED OTHERWISE, THE FOLLOWING CONCRETE COVERS SHALL BE USED:

CONCRETE COVER	
LOCATION	MODERATELY AGGRESSIVE
SURFACES CAST AGAINST EARTH AND IN CONTACT WITH WATER	4"

JOINTS IN CONCRETE

CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT LOCATIONS INDICATED ON THE PLANS. ADDITIONAL CONSTRUCTION JOINTS OR ALTERATIONS TO THOSE SHOWN SHALL REQUIRE APPROVAL BY THE ENGINEER.

DEMOLITION

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DEBRIS FROM FALLING INTO THE WATERWAY DURING DEMOLITION, EXCAVATION, AND CONSTRUCTION. ANY FALLEN DEBRIS SHALL BE PROMPTLY REMOVED.

MONITORING

1. MONITOR EXISTING STRUCTURES IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION NUMBER 108 AND NOTIFY THE ENGINEER AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF EXISTING AND PROPOSED STRUCTURES DURING CONSTRUCTION OPERATIONS.
2. AN EXISTING 15" GRAVITY MAIN SOUTH OF THE BRIDGE HAS BEEN IDENTIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MONITORING THE GRAVITY MAIN DURING ALL CONSTRUCTION ACTIVITIES.

STAGING AREA

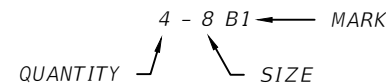
THE CONTRACTOR MAY UTILIZE COUNTY PROPERTY AT THE NORTHEAST CORNER OF HARVARD AVENUE AND BAYSHORE CANAL FOR PROJECT STAGING. CONSTRUCTION EQUIPMENT SHALL NOT BE ALLOWED WITHIN 10FT OF THE EXISTING RETAINING WALL.

TEMPORARY TRAFFIC CONTROL PLAN

PERFORM MAINTENANCE OF TRAFFIC AS NECESSARY, IN ACCORDANCE WITH STANDARD PLANS 102 LEVEL INDICES. FOR NECESSARY MAINTENANCE OF TRAFFIC NOT MEETING THE REQUIREMENTS OF THE STANDARD PLANS, SUBMIT A MAINTENANCE OF TRAFFIC PLAN, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA, FOR APPROVAL BY THE COUNTY.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE ASTM A615-96, GRADE 60.
2. ALL DIMENSIONS PERTAINING TO LOCATION OF REINFORCEMENT ARE TO CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.
3. REINFORCEMENT DETAIL DIMENSIONS ARE OUT-TO-OUT OF BARS.
4. TYPICAL REINFORCING BARS ARE DESIGNATED THUS:



INCIDENTAL ITEMS

1. PAYMENT FOR INCIDENTAL ITEMS NOT SPECIFICALLY COVERED IN THE INDIVIDUAL BID ITEMS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR BID ITEMS CONTAINED IN THIS CONTRACT.
2. THE COST OF FILLING HOLES RESULTING FROM THE REMOVAL OF THE EXISTING CONCRETE SHEET PILE WALLS IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS SECTION 110-10.2 SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PAY ITEM NO. 110-73 REMOVE EXISTING BULKHEAD.
3. THE COST OF ALL LABOR, EQUIPMENT, MATERIALS, AND OTHER INCIDENTAL ITEMS RELATED TO THE INSTALLATION OF MECHANICAL ANCHORS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PAY ITEM 455-87 ANCHOR BAR, STEEL.
4. THE COST OF ALL LABOR, EQUIPMENT, MATERIALS, AND OTHER INCIDENTAL ITEMS RELATED TO THE CONSTRUCTION OF THE NORTH END SEAWALL CONNECTION SHALL BE IN THE CONTRACT UNIT PRICE FOR PAY ITEM 455-133-3 SHEET PILING, STEEL, F&I, PERMANENT.

SHEET PILE WALL COATING NOTES

COAT STEEL SHEET PILING IN ACCORDANCE WITH SECTION 560-11 OF THE FDOT STANDARD SPECIFICATIONS.

SHEET PILE WALL NOTES

PROVIDE STEEL SHEET PILING WHICH MEET OR EXCEED THE PROPERTIES NOTED BELOW:

SECTION MODULUS (ELASTIC):	30.2 IN3/FT
MOMENT OF INERTIA:	184.2 IN4/FT
FLANGE THICKNESS:	0.375"
WEB THICKNESS:	0.375"
STRUCTURAL STEEL:	HOT FORMED, A572 GRADE 50

1. THE SHEET PILE WALL SECTIONS SHOWN IN THE PLANS ARE FOR INFORMATIONAL PURPOSES, BUT MEET THE MINIMUM REQUIREMENTS NOTED ABOVE.
2. SUBMIT SHEET PILE WALL SHOP DRAWINGS TO THE ENGINEER PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL ANTICIPATE THAT DIFFICULT INSTALLATION OF SHEET PILES MAY BE ENCOUNTERED WITHIN THE PROJECT LIMITS. CONCRETE AND RUBBLE RIPRAP EXISTS WITHIN THE CHANNEL LIMITS. LAYERS OF STIFF CLAYS AND CEMENTED SILTS ARE PRESENT AT APPROXIMATE ELEVATION -8FT. SPECIAL EQUIPMENT AND/OR INSTALLATION METHODS INCLUDING THE USE OF PREFORMED HOLES, PUNCHING, ETC. MAY BE REQUIRED TO INSTALL THE SHEET PILES TO THE REQUIRED MINIMUM TIP ELEVATION. INSTALLATION, INCLUDING THE COST OF SPECIAL INSTALLATION METHODS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PAY ITEM NO. 455-133-3 STEEL SHEET PILING, F&I PERMANENT.
4. THE CONTRACTOR SHALL ANTICIPATE THE PRESENCE OF DEADMAN ANCHORS AT THE EXISTING WALL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE EXISTING WALL DURING CONSTRUCTION. DISCONNECTION AND REMOVAL OF THE EXISTING DEADMAN ANCHORS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PAY ITEM NO. 110-73 REMOVE EXISTING BULKHEAD.

INSTALLATION NOTES

INSTALL NEW SHEET PILE WALL CAP TO ELEVATIONS EQUIVALENT OR GREATER THAN THE EXISTING CONCRETE SHEET PILE WALL CAP, AS SHOWN IN THE WALL CONTROL DRAWINGS. FINAL WALL ELEVATIONS SHALL NOT DEVIATE GREATER THAN 2" FROM THE ELEVATIONS SHOWN IN THE PLANS.

EXISTING WEIR

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE EXISTING WEIR WITHIN BAYSHORE CANAL, WITHIN THE PROJECT LIMITS, DURING ALL CONSTRUCTION OPERATIONS.

UTILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT SUNSHINE AT (800) 432-4770 AND ANY OTHER LOCAL UTILITIES NOT LESS THAN 48 HOURS PRIOR TO ANY EXCAVATIONS IN ORDER TO VERIFY EXISTING UTILITIES AT SITE OF CONSTRUCTION. IF ANY EXISTING UTILITIES CONFLICT WITH PROPOSED CONSTRUCTION METHODS, MATERIALS, OR EQUIPMENT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITIES FOR THE POSSIBLE TEMPORARY OR PERMANENT RELOCATION OF ANY EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY.

UTILITY/AGENCY OWNERS:

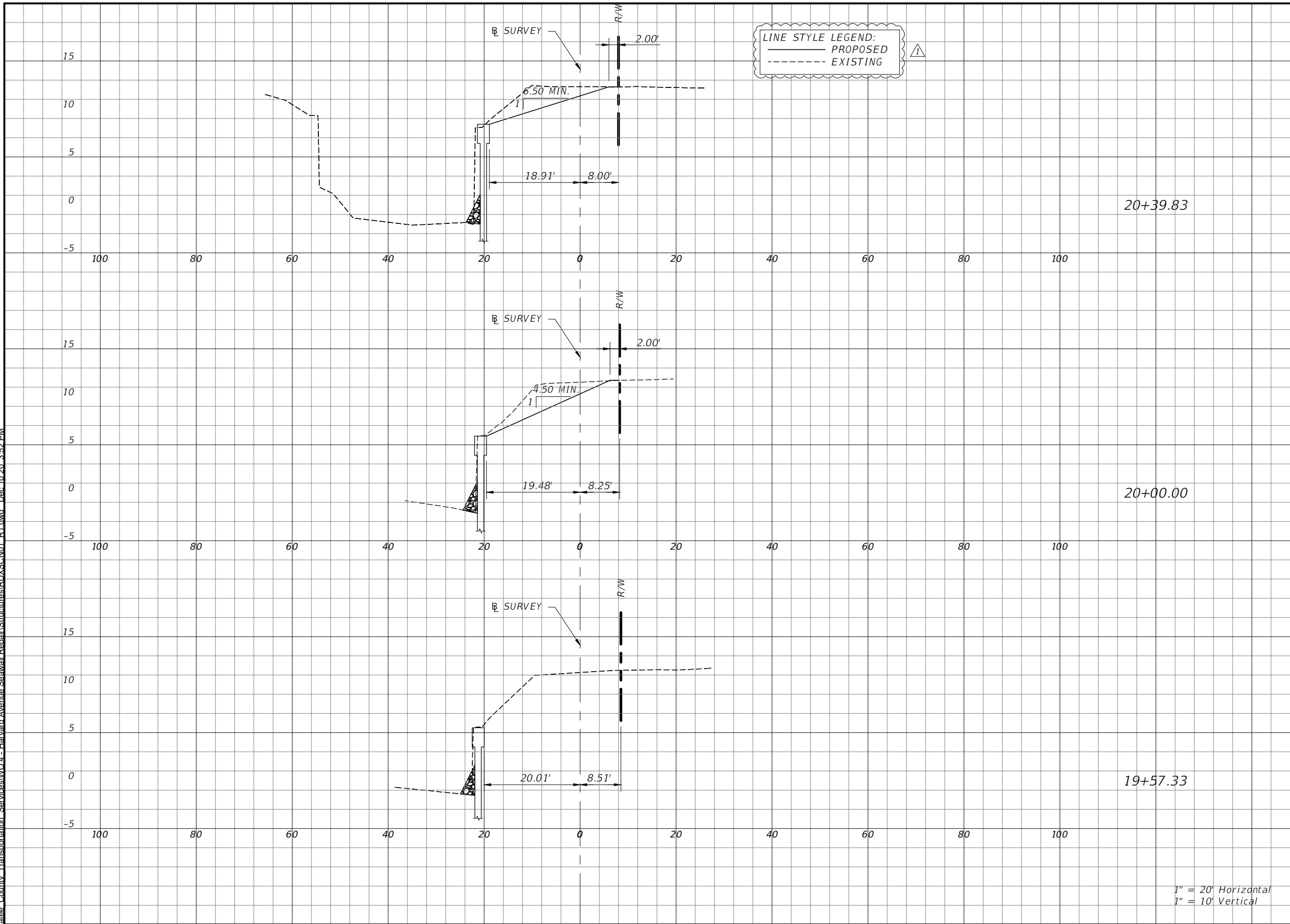
COMPANY	CONTACT	TELEPHONE NUMBER
SPECTRUM COMMUNICATION	JAMES CRUZAN	727-329-2846
FRONTIER COMMUNICATION	DENIS HUTTON	941-906-6722
FLORIDA POWER & LIGHT - DISTRIBUTION	GREG COKER	941-723-4430
FLORIDA POWER & LIGHT - TRANSMISSION	GARY PETERSON	561-904-3665
MANATEE COUNTY UTILITIES - WATER	ROBBY PHILLIPS	941-792-8811
MANATEE COUNTY UTILITIES - SEWER	JOE BURNS	941-792-8811

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DATE	DESCRIPTION	DATE	PROJECT #	SURVEYED			Kisinger Campo & Associates Corp. 201 N. Franklin Street Suite 400 Tampa, FL 33602 Florida C.O.A. No. 02317	PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East, Bradenton, FL 34208	GENERAL NOTES (2 OF 2)	SHEET NO. 5
12/2020	△ ADDED LINE STYLE LEGEND		SURVEY #	DESIGNED	SAB	08/2019				
			SEC./TWN./RGE	DRAWN	ARF	08/2019				
			SCALE	CHECKED	DBT	08/2019				

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LINE STYLE LEGEND:
 — PROPOSED
 - - - EXISTING

Regular		Exc.		Embankment	
A	V	A	V	A	V

1" = 20' Horizontal
 1" = 10' Vertical

DATE	DESCRIPTION	DATE	PROJECT #	SURVEYED	HYATT	07/2019
12/2020	ADDED LINE STYLE LEGEND			DESIGNED	SAB	08/2019
				DRAWN	ARF	08/2019
				CHECKED	DBT	08/2019

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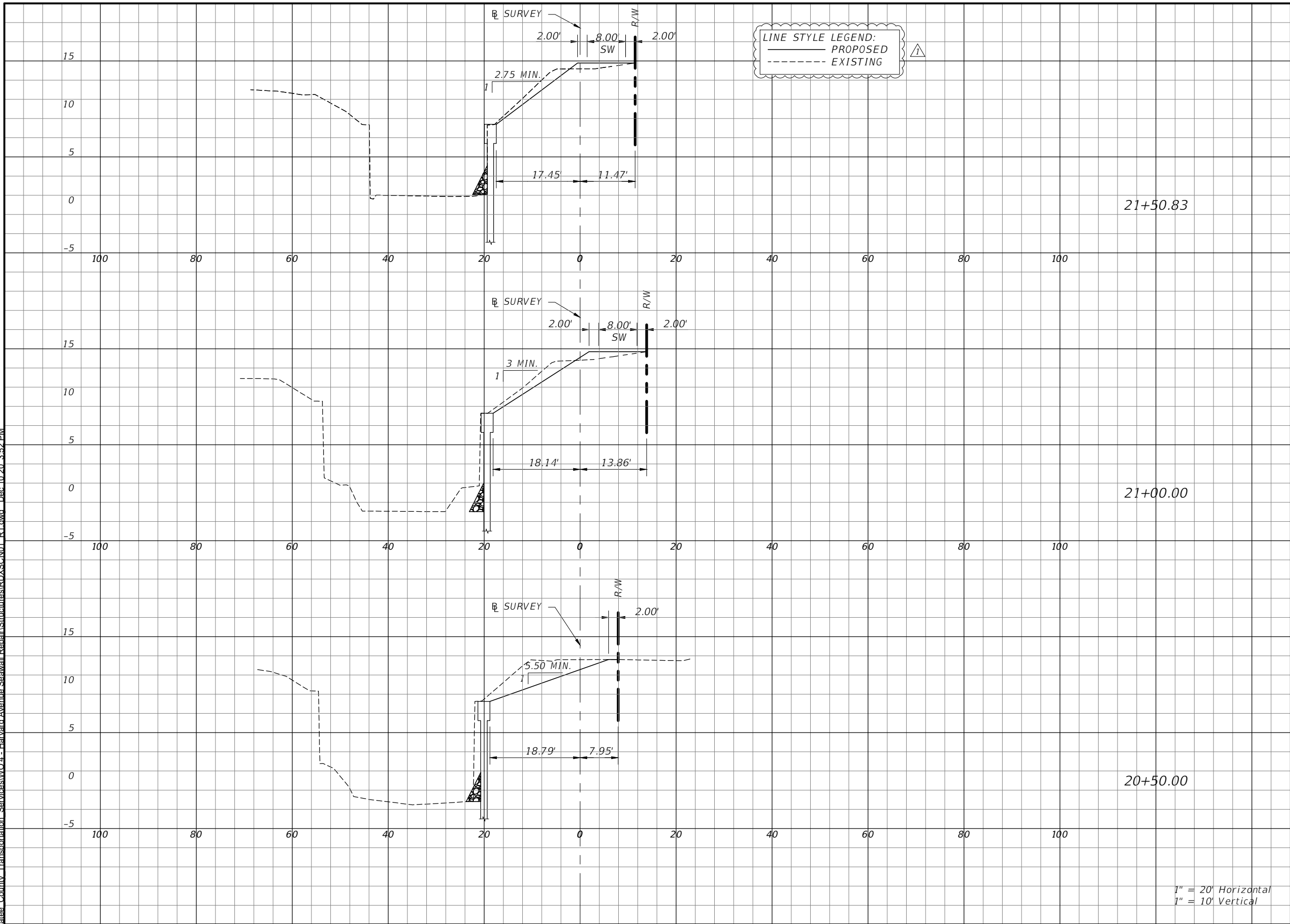


PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
 1022 26th Avenue East, Bradenton, FL 34208

CROSS SECTIONS
 STA. 19+58.51 TO 20+41.29

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Regular		Exc.		Embankment	
A	V	A	V	A	V

1" = 20' Horizontal
1" = 10' Vertical

DATE	DESCRIPTION	DATE	PROJECT #	SURVEYED	HYATT	07/2019
12/2020	ADDED LINE STYLE LEGEND			DESIGNED	SAB	08/2019
				DRAWN	ARF	08/2019
				CHECKED	DBT	08/2019

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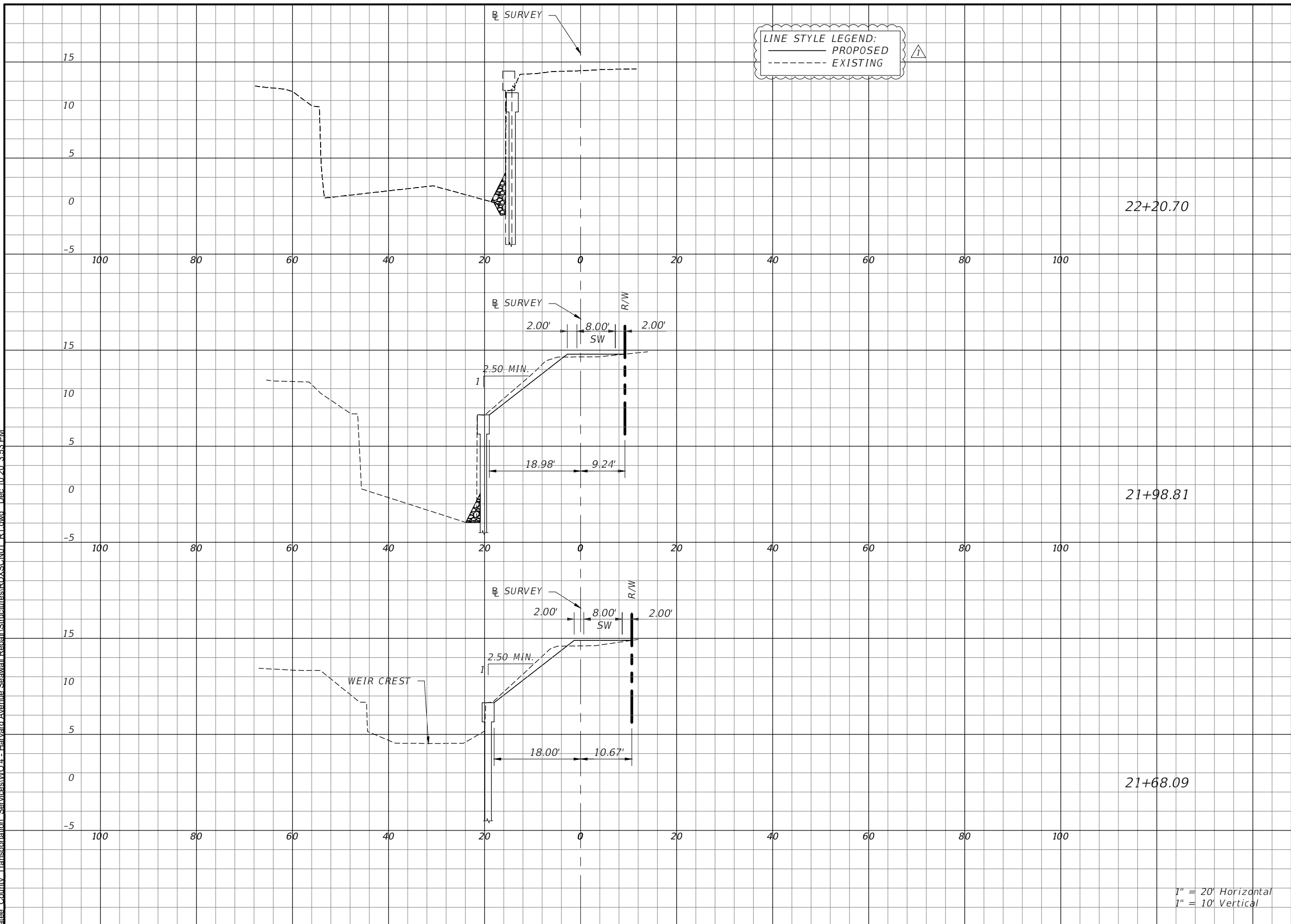


PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

CROSS SECTIONS
STA. 20+50.00 TO 21+51.25

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Regular		Exc.		Embankment	
A	V	A	V	A	V

1" = 20' Horizontal
1" = 10' Vertical

DATE	DESCRIPTION	DATE	PROJECT #	SURVEYED	HYATT	07/2019
12/2020	ADDED LINE STYLE LEGEND			DESIGNED	SAB	08/2019
				DRAWN	ARF	08/2019
				CHECKED	DBT	08/2019

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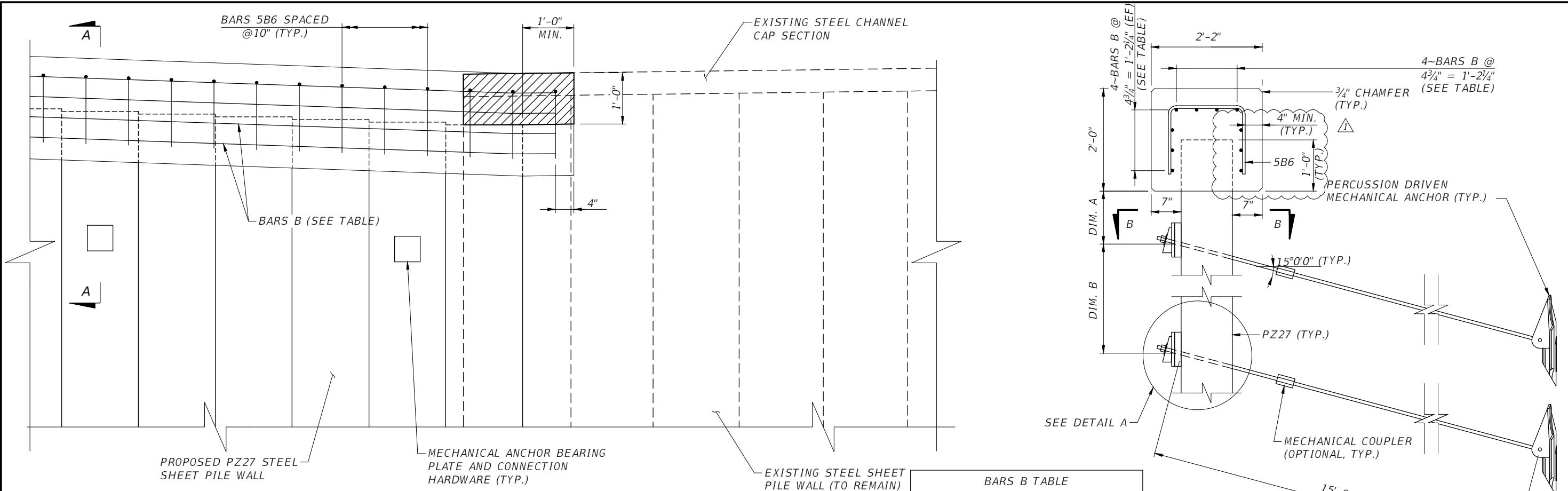


PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

CROSS SECTIONS
STA. 21+68.09 TO 22+20.76

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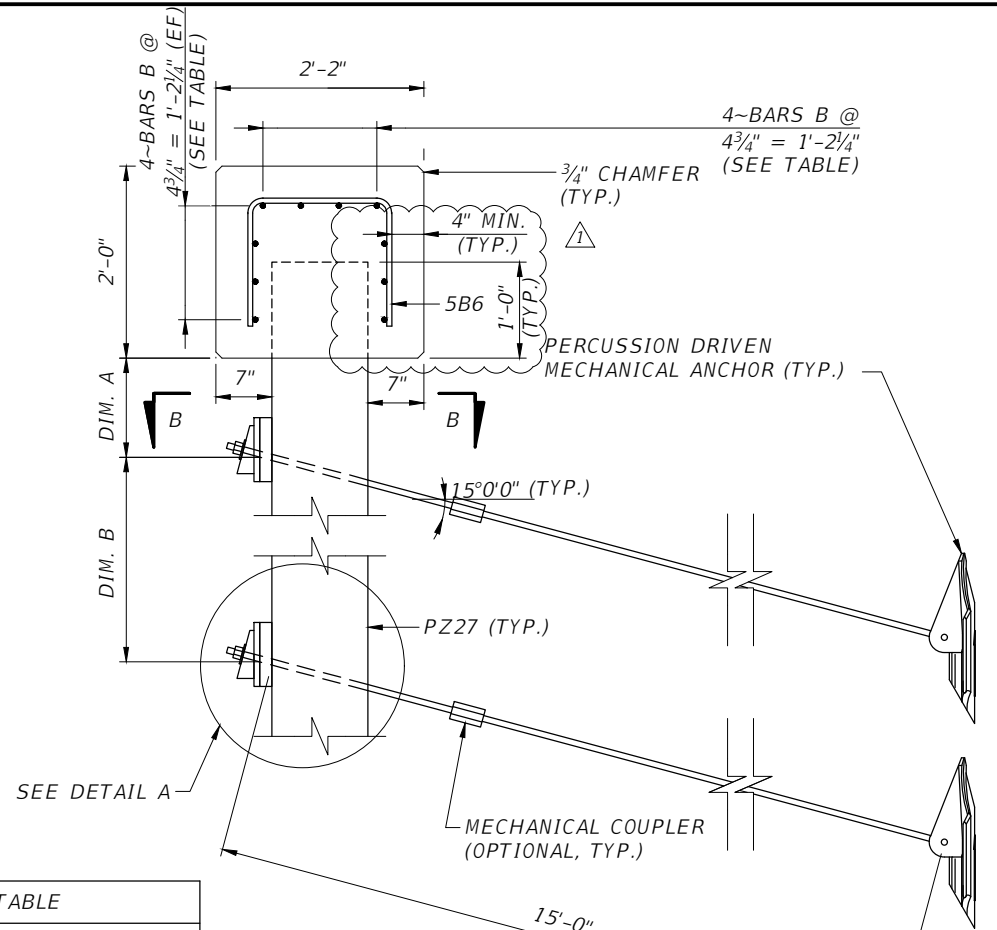


PARTIAL SEAWALL ELEVATION
(SOUTH PROJECT LIMITS SHOWN)

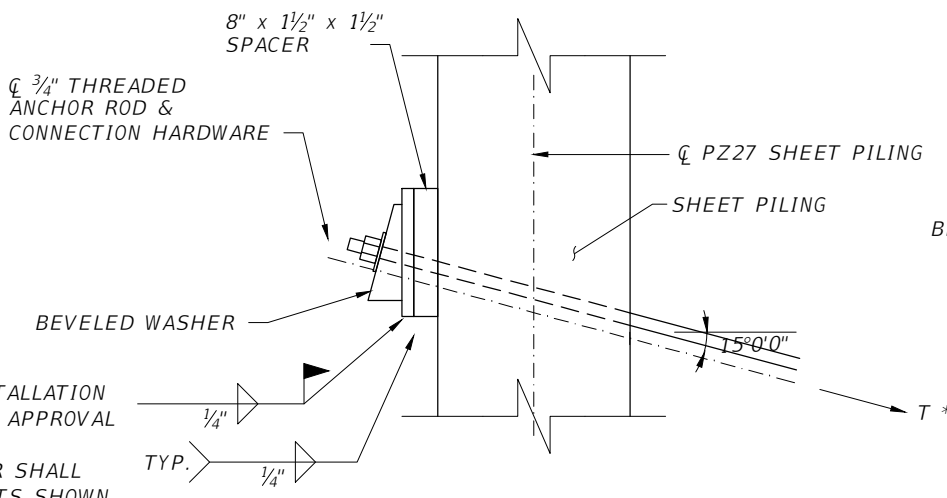
BARS B TABLE	
BAR MARK	STA. LIMITS
5B1	19+53.38 TO 20+39.83
5B2	20+39.83 TO 20+96.83
5B3	20+96.83 TO 21+50.83
5B4	21+50.83 TO 21+98.81
5B5	21+98.81 TO 22+20.70

MECHANICAL ANCHOR DATA TABLE					
WALL TYPE	DIM. A	DIM. B	ULTIMATE LOAD T (KIPS)	THREADED ANCHOR ROD DIAMETER (IN.)	MIN. ANCHOR BEARING AREA (SF)
A	1'-6"	N/A	9.1	3/4	1.24
B	2'-0"	N/A	10.4	3/4	1.24
C	3'-0"	N/A	12.4	3/4	1.24
D	1'-6"	3'-0"	9.4	3/4	1.24
E	1'-6"	3'-6"	11.6	3/4	1.24
F	2'-0"	4'-0"	13.6	3/4	1.24

- NOTES:**
1. DETAILS PROVIDED ARE FOR MECHANICAL ANCHOR DRIVING PRIOR TO SHEET PILE INSTALLATION. FOR OTHER INSTALLATION METHODS PROPOSED BY THE CONTRACTOR, SUBMIT INSTALLATION PLAN AND SHOP DRAWINGS FOR THE ENGINEERS APPROVAL PRIOR TO BEGINNING INSTALLATION.
 2. PLATIPUS EARTH ANCHORING SYSTEM B10 BAT ANCHORS SHOWN FOR INFORMATIONAL PURPOSES. THE CONTRACTOR SHALL UTILIZE EQUIVALENT OR GREATER PRECUSSION DRIVEN MECHANICAL ANCHOR MEETING THE MINIMUM REQUIREMENTS SHOWN IN THE MECHANICAL ANCHOR DATA TABLE. ALL MECHANICAL ANCHOR HEADS SHALL BE GALVANIZED CAST IRON IN ACCORDANCE WITH ISO 9001 AND THE SPECIFICATIONS.
 3. MECHANICAL ANCHOR BEARING ASSEMBLIES SHALL PROVIDE BEARING SURFACES NOT LESS THAN 1/2" FROM ACCESS HOLES CUT INTO THE SHEET PILE WALLS FOR ANCHOR ACCESS. BEARING PLATES SHALL BE SIZED IN ACCORDANCE WITH THE PRECUSSION DRIVEN MECHANICAL ANCHOR INSTALLATION METHOD UTILIZED.

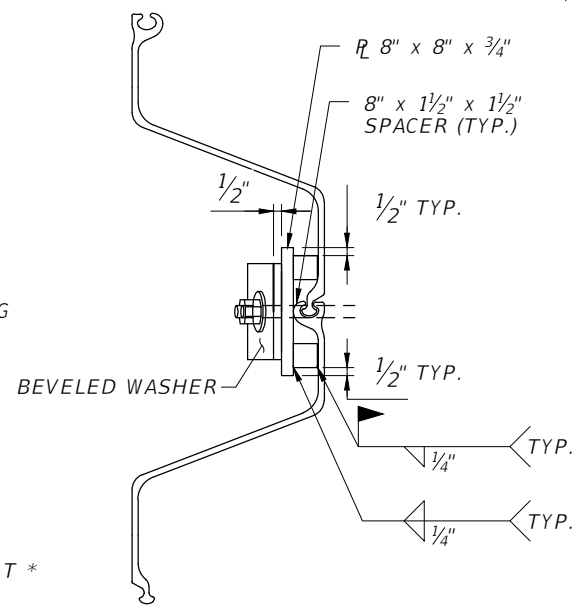


SECTION A-A



DETAIL A

* REQUIRED ANCHOR ULTIMATE CAPACITY (SEE MECHANICAL ANCHOR DATA TABLE)



SECTION B-B

(SHEET PILE TROUGH ATTACHMENT SHOWN, CREST ATTACHMENT SIMILAR)

DATE	DESCRIPTION	DATE	PROJECT #	SURVEYED	DESIGNED	DRAWN	CHECKED
12/2020	ADDED SHEET PILE EMBEDMENT DEPTH				SAB	ARF	DBT

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PUBLIC WORKS DEPARTMENT
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RETAINING WALL DETAILS (1 OF 2)

SHEET NO.
12

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