

# ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

## UPPER ST. JOHNS RIVER BASIN

### STRUCTURE 96C REHABILITATION

#### INDIAN RIVER COUNTY, FLORIDA

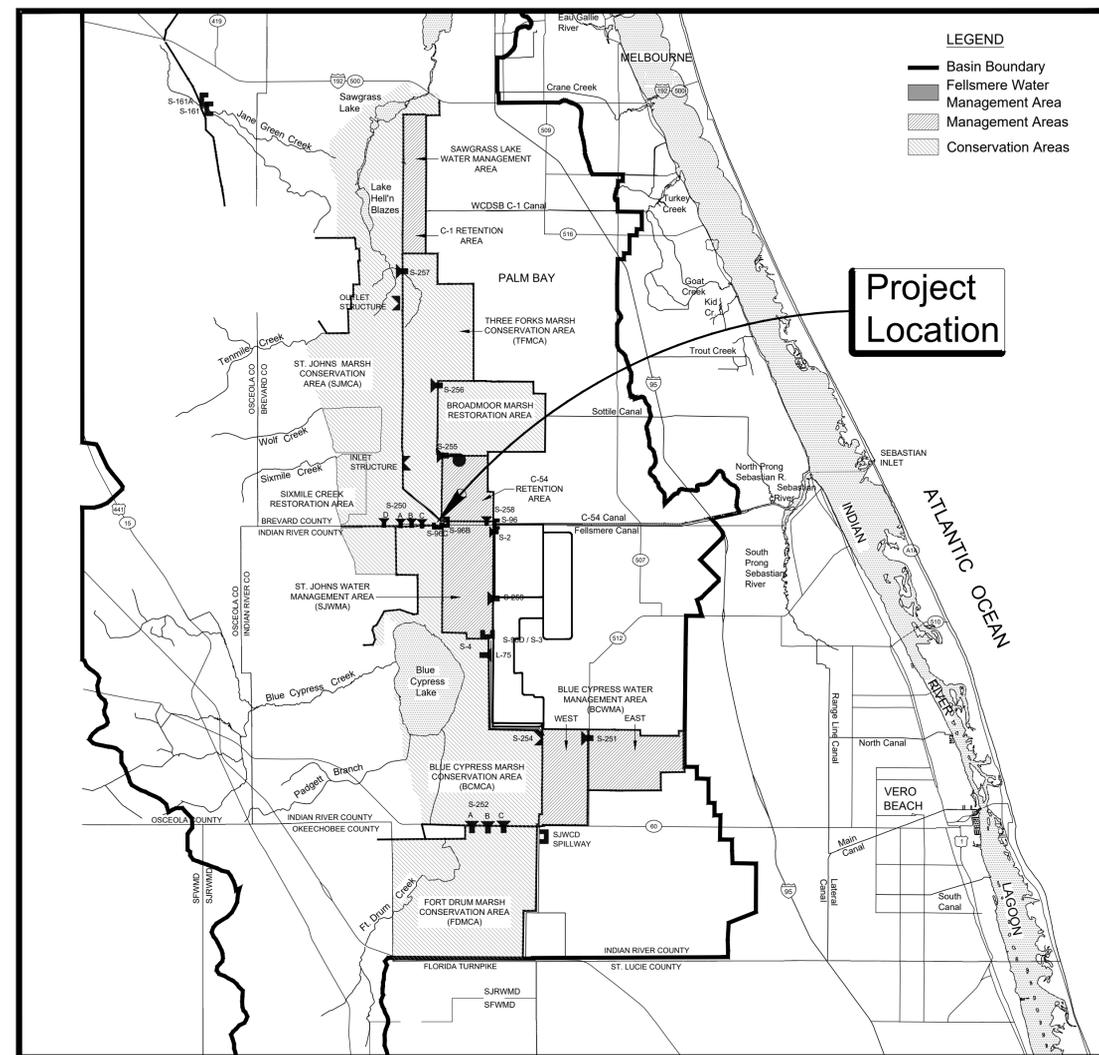
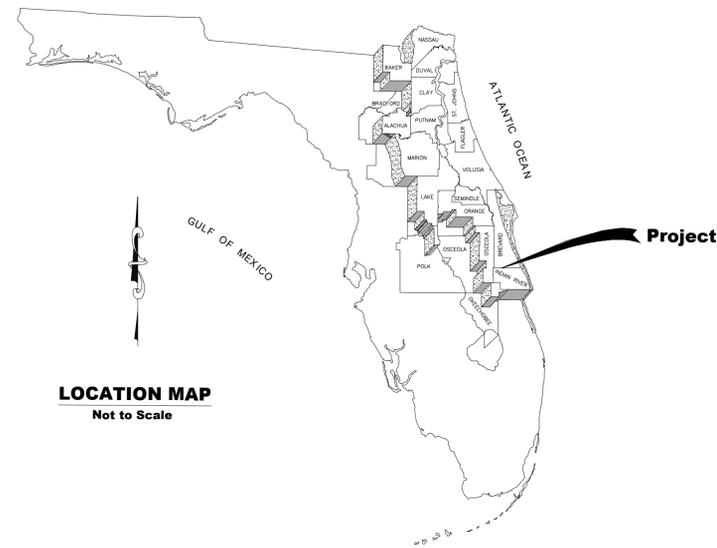


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### NGVD 1929

ALL ELEVATIONS DEPICTED HEREIN REFERENCE NGVD 1929 UNLESS OTHERWISE NOTED. THE CONVERSION FACTOR TO NAVD 1988 IS -1.47.



VICINITY MAP  
NOT TO SCALE

NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19

**FOR BID PURPOSES ONLY  
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CERTIFICATION:	DRAWING FILENAME:
WILLIAM R. COTE	S-96C PLAN.dwg
P.E. NUMBER: 53746	SHEET:
DATE: AUGUST 1, 2019	C1

**SUMMARY OF WORK / CONSTRUCTION SEQUENCE:**

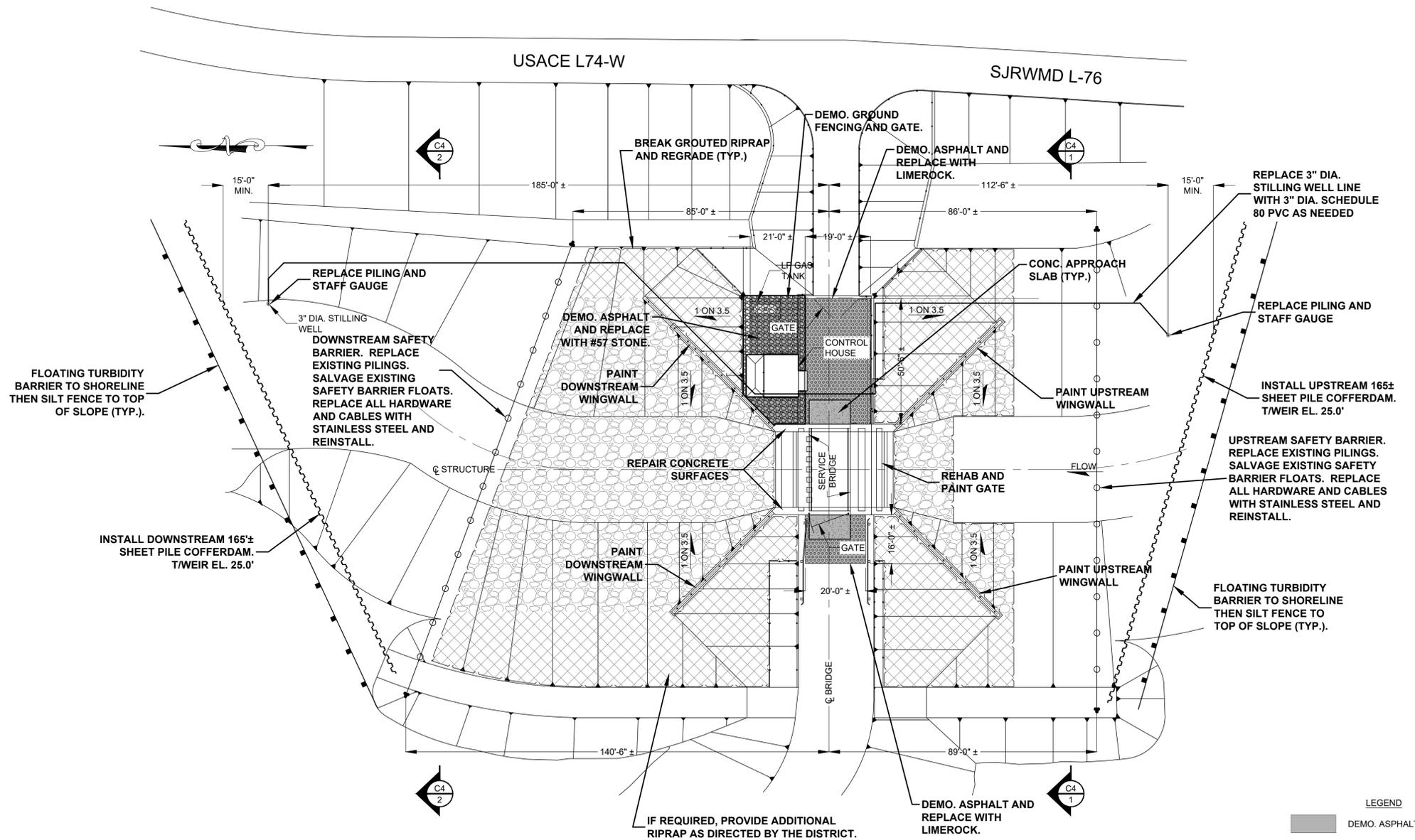
1. MOBILIZE MEN AND EQUIPMENT TO THE SITE. ESTABLISH ON-SITE OFFICE AND STORAGE SPACES.
2. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES.
3. CONSTRUCT BYPASS SPILLWAY IN LEVEE L-76 TO PROVIDE TEMPORARY WATER DIVERSION.
4. INSTALL COFFERDAMS UPSTREAM AND DOWNSTREAM OF STRUCTURE.
5. PUMP WATER FROM THE WORK AREA AND PROVIDE CONTINUOUS PUMPING TO KEEP THE WORK AREA DEWATERED.
6. REMOVE SEDIMENT AND DEBRIS FROM THE STRUCTURE WORK AREA.
7. THE DISTRICT AND CONTRACTOR SHALL PERFORM A JOINT INSPECTION TO DETERMINE THE FULL EXTENT AND SCOPE OF THE REPAIR WORK. ERODED CONCRETE SURFACES SHALL BE HYDRO BLASTED AND THE REMAINING SURFACES POWERWASHED.
8. REMOVE FENCING FROM THE CONCRETE STRUCTURE AND SHEET PILING WALLS.
9. INSPECT AND REPAIR CONCRETE SURFACES AS NEEDED.
10. REMOVE HYDRAULIC GATE OPERATORS AND LOAD ONTO DISTRICT FLATBED.
11. REMOVE ROLLER GATES, INSPECT AND REPAIR AS NEEDED, AND PAINT.
12. REPAIR AND PAINT ALL EXPOSED SURFACES OF EMBEDDED STEEL COMPONENTS.
13. REPLACE ALL REMOVABLE GALVANIZED ITEMS WITH STAINLESS STEEL.
14. REPAIR AND PAINT ALL EXPOSED SURFACES OF EXISTING SHEET PILING.
15. FABRICATE NEEDLE BEAM FRAME AND INSTALL PANEL TOE SUPPORTS.
16. REPLACE UPSTREAM AND DOWNSTREAM SAFETY BARRIER PILES. SALVAGE AND REINSTALL EXISTING BARRIERS.
17. INSTALL NEW STAFF GAGES AND PILES. REPLACE STILLING WELL LINES AS NEEDED.
18. REPLACE UPSTREAM AND DOWNSTREAM WARNING SIGNS AND INSTALL SOLAR LIGHTS.
19. BREAK GROUDED RIPRAP AND REGRADE. INSTALL ADDITIONAL RIPRAP AS NEEDED.
20. REINSTALL ROLLER GATES.
21. INSTALL NEW CABLE DRUM HOIST.
22. ALLOW WORK AREA TO FILL WITH WATER AND REMOVE COFFERDAMS
23. REMOVE BYPASS SPILLWAY AND RESTORE LEVEE L-76 TO ORIGINAL CONDITION.
24. TEST OPERATION OF GATES AND OPERATORS UNDER NORMAL OPERATING CONDITIONS.
25. DEMO ASPHALT AND REPLACE. CONSTRUCT BRIDGE APPROACH SLABS.
26. DEMO ASPHALT AND REPLACE. CONSTRUCT BRIDGE APPROACH SLABS.
27. INSTALL NEW ALUMINUM FENCING AND RAILS ON CONCRETE STRUCTURE AND SHEET PILING WALLS.
28. DEMOBILIZE INCLUDING SITE CLEAN UP, RESTORATION OF FINAL GRADE AND GRASSING TO ORIGINAL CONDITION, AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS.

**COFFERDAMS:**

1. THE CONTRACTOR SHALL DESIGN, SUPPLY, INSTALL, AND REMOVE ALL TEMPORARY COFFERDAMS AS NECESSARY TO PERFORM THE WORK. THE DESIGN SHALL BE SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER.
2. COFFERDAMS SHALL BE DESIGNED FOR ADEQUATE DEPTHS AND HEIGHTS, SHALL BE SAFELY DESIGNED AND CONSTRUCTED, AND SHALL BE AS WATERTIGHT AS NECESSARY FOR THE PROPER PERFORMANCE OF THE WORK WHICH MUST BE DONE BEHIND THEM.
3. ANY FILL REQUIRED FOR CRANE ACCESS SHALL BE LIMITED TO AREAS ABOVE THE WATER LINE. OFF ROAD TRUCKS FOR HAULING FILL SHALL NOT BE PERMITTED. FILL IS AVAILABLE FROM THE SOUTH SIDE OF THE C-54 CANAL EAST OF THE FELLSMERE GRADE RECREATION AREA. EXCAVATION OF THE EXISTING LEVEE L-74W SLOPES SHALL NOT BE PERMITTED AND THE SLOPES AND TOP OF ALL LEVEES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF THE WORK.
4. THE CONSTRUCTION AND MAINTENANCE OF ALL COFFERDAMS SHALL BE IN CONFORMANCE WITH ALL FEDERAL, STATE, AND LOCAL PERMITS AND REGULATIONS.
5. FOLLOWING COMPLETION OF THE COFFERDAMS, THE CONTRACTOR SHALL PUMP OUT THE AREA BEHIND THE COFFERDAMS IN A MANNER THAT WILL MINIMIZE SILTATION INTO THE RIVER.
6. DURING INSTALLATION AND REMOVAL OF COFFERDAMS, CARE SHALL BE TAKEN NOT TO DISTURB OR OTHERWISE INJURE ANY ADJACENT STRUCTURES.

**GENERAL:**

1. ALL PROPOSED WORK IS SHOWN IN BOLD.
2. ALL ELEVATIONS ARE NGVD1929. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SURVEY CONTROL AS REQUIRED FOR COMPLETION OF THE WORK.
3. ACCESS TO THE PROJECT SITE SHALL BE VIA THE L-74 EAST LEVEE BEGINNING AT THE FELLSMERE GRADE RECREATION AREA.
4. THE CONTRACTOR SHALL PROVIDE ON SITE STORAGE AS NECESSARY TO HOUSE EQUIPMENT AND SUPPLIES. THE USE OF DISTRICT CONTROL BUILDINGS FOR STORAGE WILL NOT BE ALLOWED.



**C2**  
**1** SITE PLAN  
SCALE: 1" = 20'-0"

**LEGEND**

	DEMO. ASPHALT
	DIRECTION OF SLOPE
	EXISTING RIPRAP
	EXISTING RIPRAP WITH CONCRETE FILL
	LIMITS OF RIPRAP AND BEDDING OR BANK PROTECTION STONE
	RATIO OF SLOPE
	NEW NO. 57 STONE
	NEW CONCRETE
	NEW LIMEROCK

REMOVE SEDIMENT AND DEBRIS FROM THE WORK AREA AND DISPOSE OFFSITE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

IF REQUIRED, PROVIDE ADDITIONAL RIPRAP AS DIRECTED BY THE DISTRICT.

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UPPER ST. JOHNS RIVER BASIN  
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INDIAN RIVER COUNTY, FLORIDA

ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

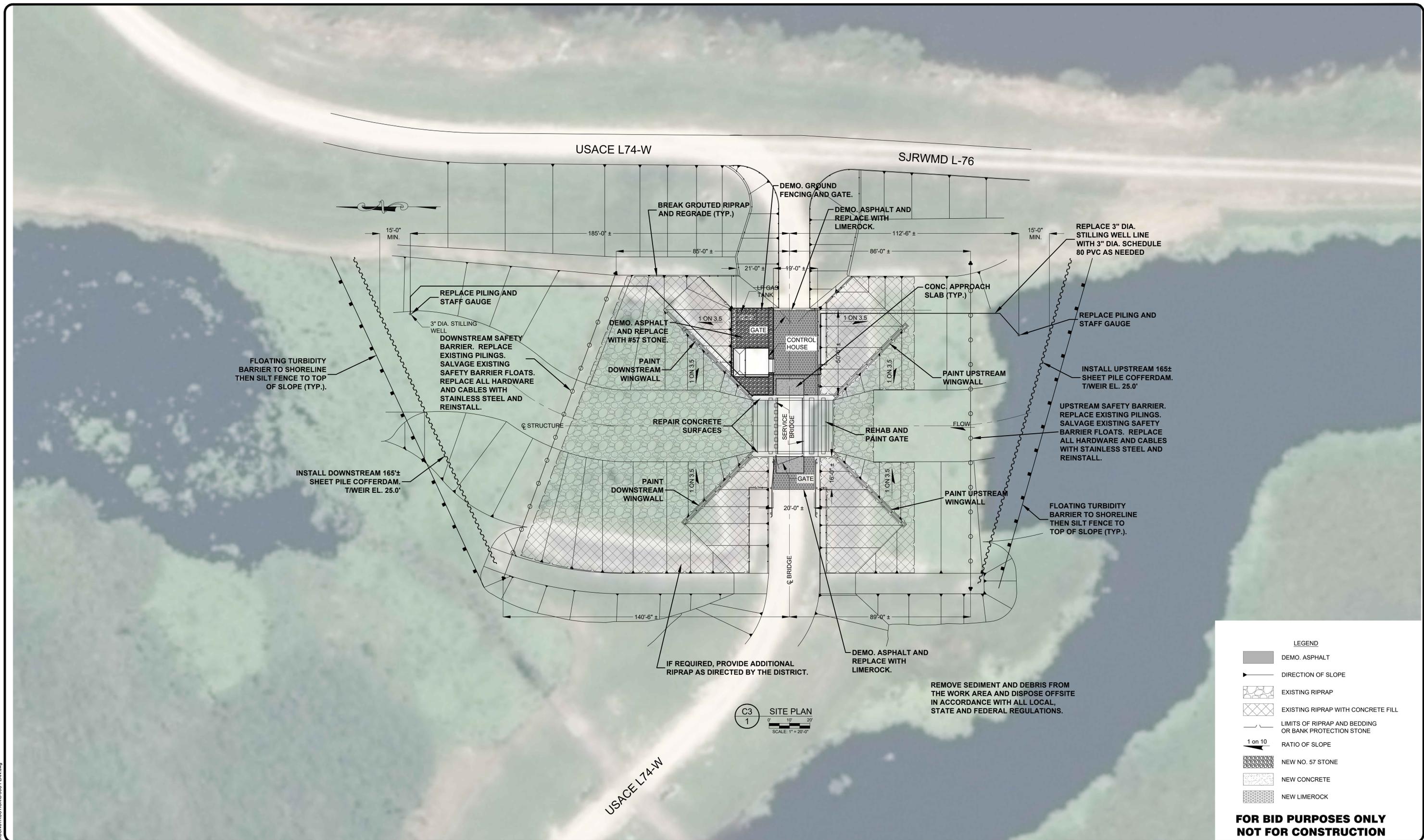
DRAWN: PLC & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC  
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

SITE PLAN

CERTIFICATION:

WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME: S-96C PLAN.dwg  
PROJECT NO.:  
SHEET: C2



**LEGEND**

- DEMO. ASPHALT
- DIRECTION OF SLOPE
- EXISTING RIPRAP
- EXISTING RIPRAP WITH CONCRETE FILL
- LIMITS OF RIPRAP AND BEDDING OR BANK PROTECTION STONE
- RATIO OF SLOPE
- NEW NO. 57 STONE
- NEW CONCRETE
- NEW LIMEROCK

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**C3**  
1  
**SITE PLAN**  
SCALE: 1" = 20'-0"

ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19					
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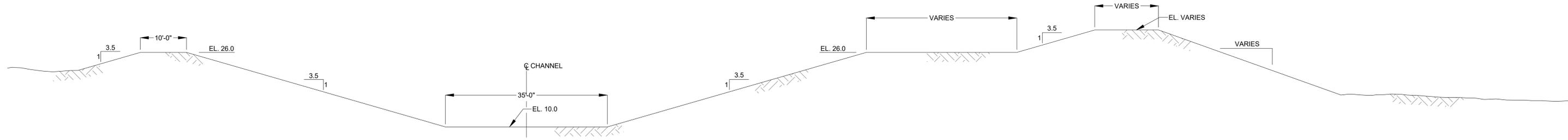
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SITE PLAN (WITH AERIAL)

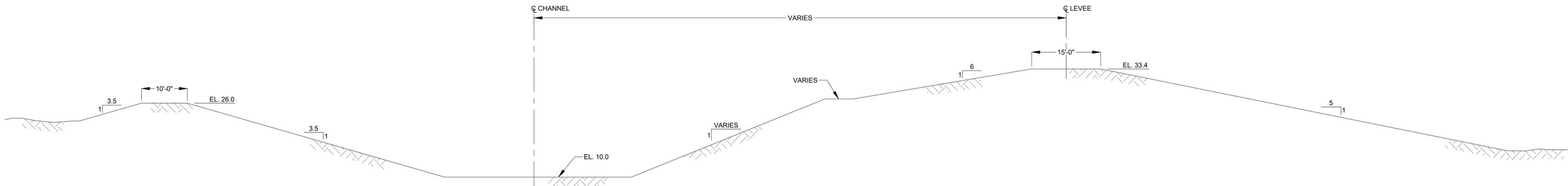
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PROJECT NO.:  
SHEET:  
**C3**

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C4  
1  
UPSTREAM SECTION  
SCALE: 1" = 10'-0"



C4  
2  
DOWNSTREAM SECTION  
SCALE: 1" = 10'-0"

NOTE:  
CHANNEL SECTIONS TAKEN FROM  
USACE AS-BUILT DRAWING NO. 2/4.

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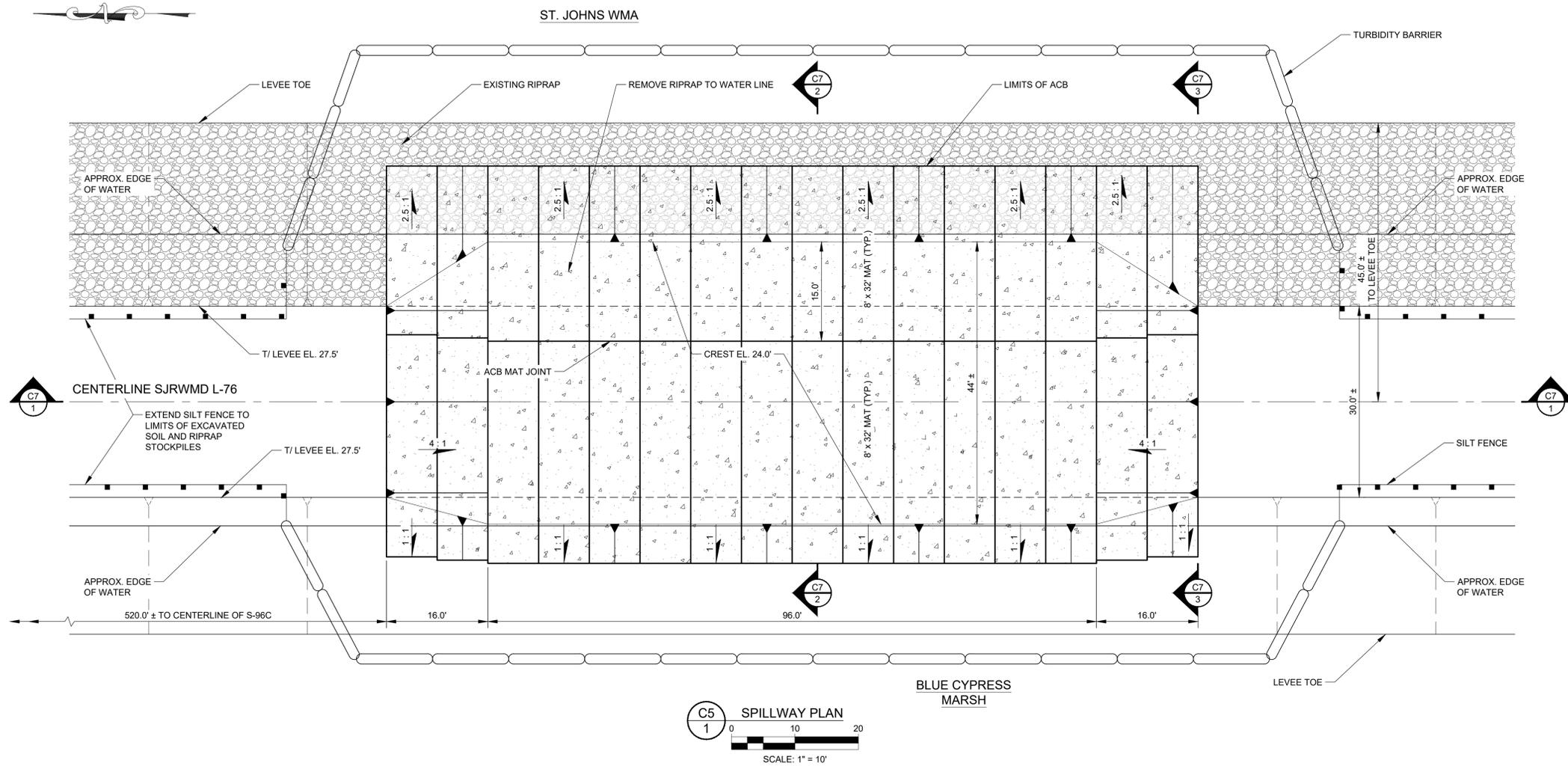
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WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

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CHANNEL SECTIONS

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P.E. NUMBER: 53746  
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FILE NAME:  
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PROJECT NO.:  
SHEET:  
C4



**BYPASS SPILLWAY SUMMARY OF WORK**

1. THE BYPASS SPILLWAY SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF TEMPORARY COFFERDAMS AT S-96C.
2. EROSION AND SEDIMENT CONTROL: INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES.
3. EARTHWORK: EXCAVATE THE TOP OF LEVEE L-76 TO THE GRADES SHOWN ON THE DRAWINGS. STOCKPILE EXCAVATED MATERIAL (SOIL AND RIPRAP) ON TOP OF THE LEVEE ADJACENT TO THE SPILLWAY AT LOCATIONS AS DIRECTED BY THE DISTRICT. CONTRACTOR SHALL MAINTAIN A MINIMUM 15-FOOT WIDE ACCESS ROAD ON TOP OF THE LEVEE.
4. GEOTEXTILE: INSTALL GEOTEXTILE TO THE LIMITS SHOWN ON THE DRAWINGS.
5. ARTICULATING CONCRETE BLOCK (ACB): INSTALL ACB MATS TO THE GRADES AND LIMITS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DRAWINGS DEPICTING DESIGN AND INSTALLATION DETAILS SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER.
6. RESTORE LEVEE: FOLLOWING COMPLETION OF THE S-96C REHABILITATION AND REMOVAL OF THE COFFERDAMS, RESTORE THE LEVEE TO ORIGINAL GRADES AND CONDITION. REMOVE ACB MATS, REMOVE GEOTEXTILE, PLACE COMPACTED FILL, AND PLACE RIPRAP ON LEVEE SLOPE. THE DISTRICT SHALL RETAIN OWNERSHIP OF THE ACB MATS AND THE CONTRACTOR SHALL DELIVER THE MATS TO THE DISTRICT'S REWORK SITE LOCATED AT 9555 SOUTH BABCOCK ROAD, PALM BAY, FL.

**EARTHWORK:**

1. SITE PREPARATION SHALL CONSIST OF STRIPPING ACTIVITIES PRIOR TO EXCAVATION AND BACKFILLING. STRIPPING INCLUDES COMPLETE REMOVAL OF LOW-GROWING VEGETATION, ORGANIC TOPSOILS, PEAT/MUCK (PT), AND ANY CONCENTRATED ROOT ZONES AND ROOT MATS.
2. THE SOILS BELOW THE BOTTOM OF THE EXCAVATION SHALL NOT BE DISTURBED BY THE EXCAVATION PROCESS. IF SOILS BECOME DISTURBED AND DIFFICULT TO COMPACT, THEY SHALL BE OVER EXCAVATED TO A DEPTH NECESSARY TO REMOVE ALL DISTURBED SOILS. OVER EXCAVATED AREAS SHALL BE REPLACED WITH COMPACTED BACKFILL.
3. AREAS TO RECEIVE COMPACTED BACKFILL AND ARTICULATING BLOCK SHALL BE PROOF-ROLLED TO IMPROVE THE OVERALL UNIFORMITY AND BEARING CONDITIONS OF THE EXPOSED SOILS. INITIAL COMPACTION OPERATIONS SHALL CONSIST OF AT LEAST 4 OVERLAPPING PASSES IN EACH DIRECTION WITH A SELF-PROPELLED ROLLER. PROOFROLLING SHALL CONTINUE UNTIL ALL SOFT, WET, OR YIELDING AREAS HAVE BEEN IDENTIFIED, OVER-EXCAVATED, AND BACKFILLED. PROOF-ROLLING SHALL OCCUR AFTER CUTTING AND BEFORE FILLING.
4. COMPACTED BACKFILL REQUIRED TO REPLACE ANY DISTURBED SOILS AND/OR BACKFILL IN THE LEVEE SHALL BE FINE SAND WITH CLAY OR CLAYEY FINE SAND HAVING A FINES CONTENT BETWEEN 8 AND 18 PERCENT PASSING THE U.S. STANDARD NO. 200 SIEVE. BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS. EACH LIFT SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D-1557). MOISTURE CONTENT OF THE SOILS SHALL BE MANIPULATED AS NECESSARY TO MEET THE PERCENT COMPACTION REQUIREMENT. THE BACKFILL SOIL SHALL BE OF A HOMOGENOUS NATURE SUCH THAT LAYERS OF RELATIVELY PERMEABLE SOIL ARE NOT PLACED BENEATH RELATIVELY LOW PERMEABLE SOILS. ORGANIC SOILS, PEAT, MUCK, OR CLAY (CL OR CH) SHALL NOT BE USED AS FILL.
5. THE CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING LABORATORY, APPROVED BY THE DISTRICT, FOR THE SAMPLING AND TESTING OF SOILS. FIELD DENSITY TESTS SHALL BE PERFORMED AS NECESSARY WITH EITHER THE DRIVE CYLINDER METHOD (ASTM D2937) OR NUCLEAR METHOD (ASTM D2922). PENETROMETER PROBES SHALL ALSO BE PERFORMED TO VERIFY THE UNIFORMITY OF COMPACTION. LABORATORY COMPACTION PROCTOR TESTS SHALL BE PERFORMED WHENEVER CHANGES IN SOIL COMPOSITION ARE OBSERVED, OR ON NEW MATERIAL FROM A DIFFERENT SOURCE. MOISTURE CONTENT AND PERCENT FINES (-200) TESTS SHALL BE PERFORMED ON EACH BAG SAMPLE RECOVERED FOR PROCTOR TESTING. LIQUID AND PLASTIC LIMITS SHALL BE PERFORMED AS NECESSARY WHEN PLASTIC FINES ARE PRESENT. THE NECESSITY AND FREQUENCY OF THE SOIL TESTS OUTLINED HEREIN MAY BE ADJUSTED BY THE DISTRICT. ANY FAILING TEST RESULTS SHALL BE ACCOMPANIED BY RETESTS SHOWING PASSING RESULTS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR GIVING ADVANCE NOTICE (MINIMUM 24 HOURS) TO THE DESIGNATED CONTACT WHEN TESTING SERVICES ARE REQUIRED.
7. THE TESTING LABORATORY SHALL SUBMIT A REPORT OF EACH TEST MADE, SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER. INDIVIDUAL TEST REPORTS SHALL BE SUBMITTED TO THE DISTRICT AS SOON AS THEY ARE AVAILABLE. A FINAL REPORT THAT SUMMARIZES THE TESTING AND SAMPLING PROCEDURES AND COMPILES ALL THE INDIVIDUAL TESTS SHALL ALSO BE SUBMITTED TO THE DISTRICT UPON CONCLUSION OF THE WORK.

**ARTICULATING CONCRETE BLOCK**

1. THE ARTICULATING CONCRETE BLOCK MATS SHALL CONSIST OF 6-INCH CLOSED CELL BLOCK, ARMORFLEX CLASS 55-S AS MANUFACTURED BY CONTECH ENGINEERED SOLUTIONS, OR APPROVED EQUAL. ANY SUBSTITUTION SHALL SATISFY THE REQUIREMENTS OF SECTION 530 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DRAWINGS DEPICTING DESIGN AND INSTALLATION DETAILS SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER.
2. GEOTEXTILE FABRIC SHALL BE MIRAFI FILTERWEAVE WOVEN NO. FW 404 (OR APPROVED EQUAL) AND SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 514 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION). ADDITIONALLY, THE GEOTEXTILE FABRIC MATERIAL SHALL CONFORM TO THE REQUIREMENTS FOR TYPE D-2 OF THE FDOT SPECIFICATIONS SECTION 985.

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P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC  
SCALE: 1" = 10'    DESIGNER: WRC    SECTION CHIEF: WRC

BYPASS SPILLWAY SITE PLAN

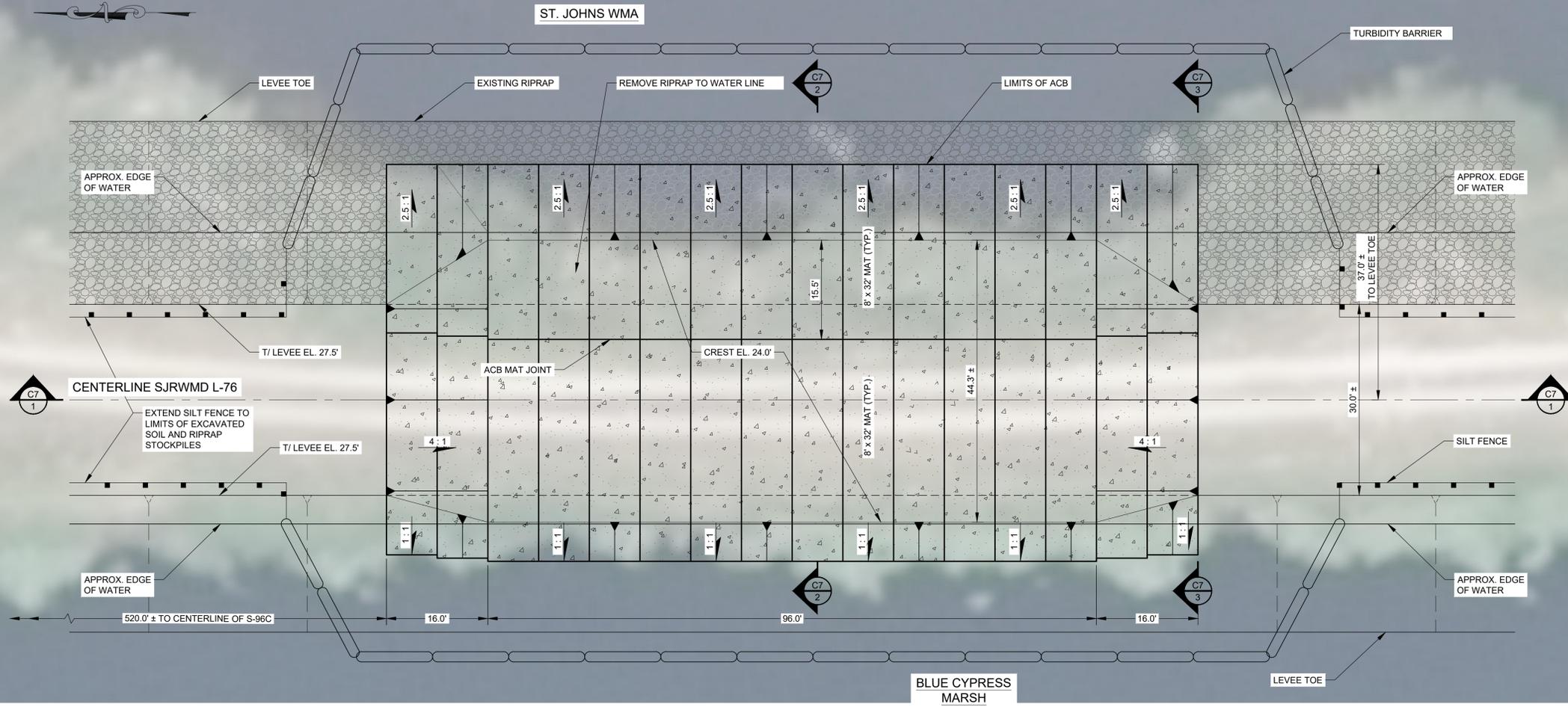
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PROJECT NO.:

SHEET:  
**C5**



C6  
2 SPILLWAY PLAN  
SCALE: 1" = 10'

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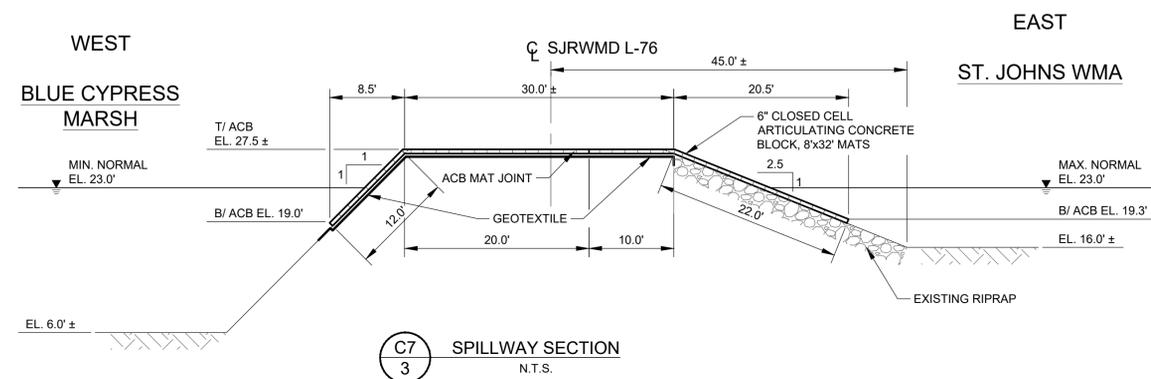
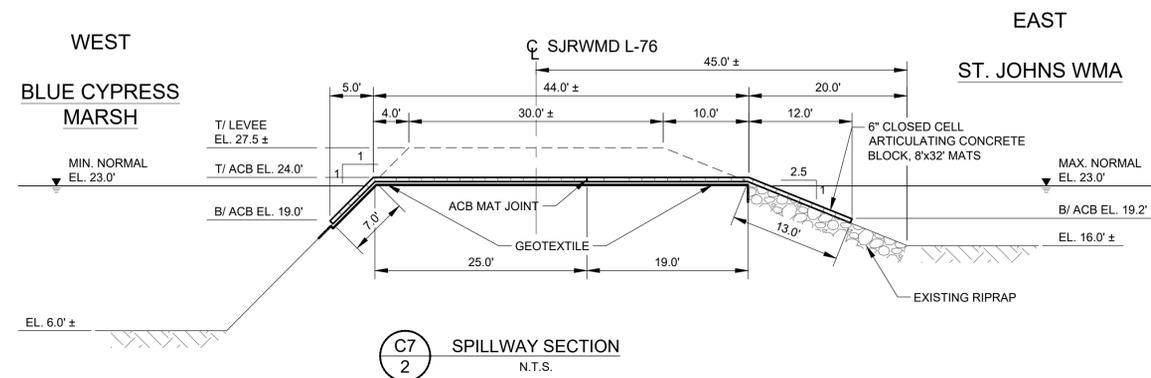
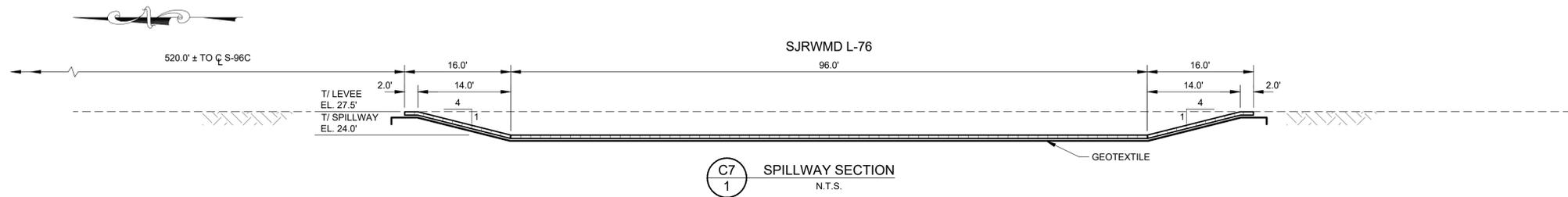
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SCALE: 1" = 10' DESIGNER: WRC SECTION CHIEF: WRC

BYPASS SPILLWAY SITE PLAN WITH AERIAL

CERTIFICATION:  
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P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C PLAN.dwg  
PROJECT NO.:  
SHEET:  
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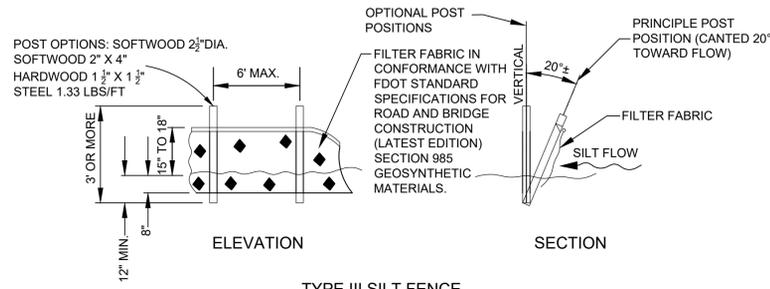
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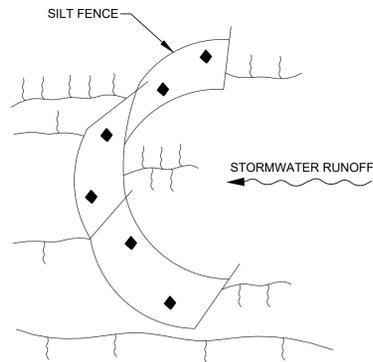
BYPASS SPILLWAY SECTIONS

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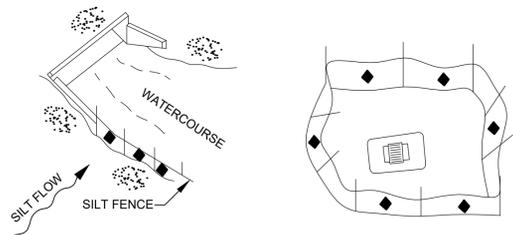
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S-96C PLAN.dwg  
PROJECT NO.:  
SHEET:  
**C7**



TYPE III SILT FENCE



SILT FENCE PROTECTION IN DITCHES WITH INTERMITTENT FLOW

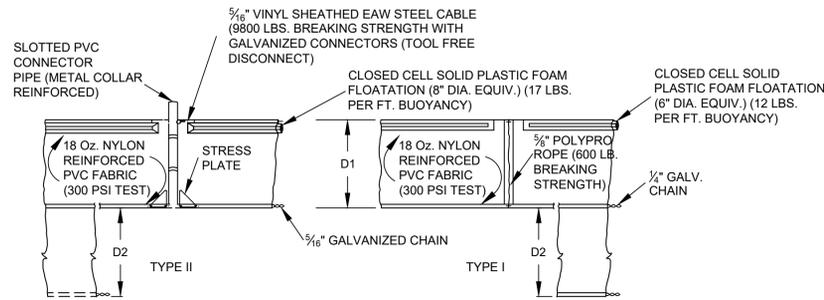


SILT FENCE APPLICATIONS

NOTES FOR SILT FENCES

- TYPE III SILT FENCE TO BE USED AT MOST LOCATIONS. WHERE USED IN DITCHES, THE SPACING FOR TYPE III SILT FENCE SHALL BE IN ACCORDANCE WITH SECTION V OF THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL (JULY 2013).
- TYPE IV SILT FENCE TO BE USED WHERE LARGE SEDIMENT LOADS ARE ANTICIPATED. SUGGESTED USE IS WHERE FILL SLOPE IS 1:2 OR STEEPER AND LENGTH OF SLOPE EXCEEDS 25 FEET. AVOID USE WHERE THE DETAINED WATER MAY BACK INTO TRAVEL LANES OR OFF THE RIGHT OF WAY.
- DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
- WHERE USED AS SLOPE PROTECTION, SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.
- SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE, (LF).

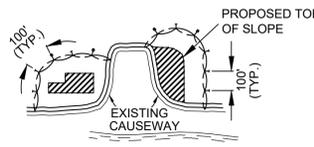
TEMPORARY SILT FENCE DETAIL  
NOT TO SCALE



D1= 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).  
D2= 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5')  
CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

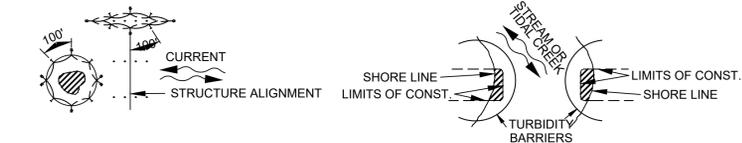
NOTICE: COMPONENTS OF TYPE I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGN. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS  
NOT TO SCALE



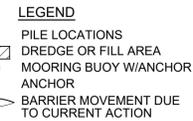
GENERAL NOTES:

- FLOATING TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR FLOATING TURBIDITY BARRIER, LF.
- STAKED TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED TURBIDITY BARRIER, LF.

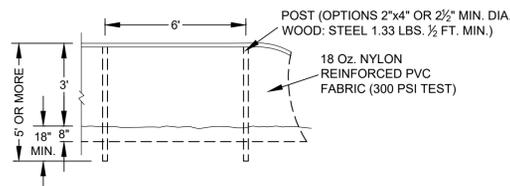


NOTES:

- TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
- NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
- DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
- NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
- TURBIDITY BARRIERS SHALL CONFORM TO SECTION 104 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).



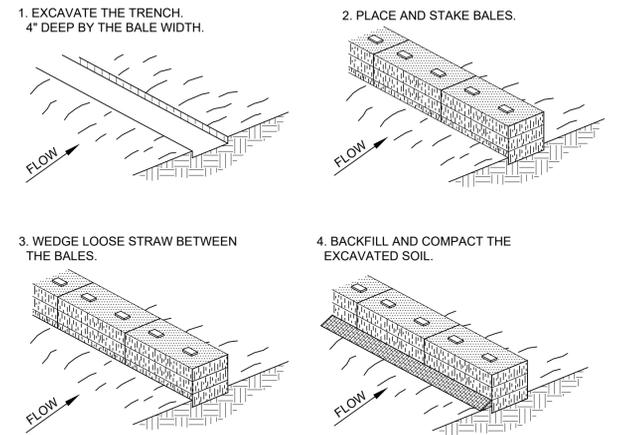
TURBIDITY BARRIER APPLICATIONS  
NOT TO SCALE



STAKED TURBIDITY BARRIER  
NOT TO SCALE

NOTES:

TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTIONS UNLESS OTHERWISE SPECIFIED IN THE PLANS. HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE DISTRICT.



NOTES:

- INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

HAY BALE BARRIER  
NOT TO SCALE

EROSION AND SEDIMENT CONTROL NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL WORK AT COMPLETION OF CONSTRUCTION.
- ON-SITE PROTECTION IN ADDITION TO THE ABOVE MUST BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNSEEN CONDITIONS OR ACCIDENTS.
- THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 8 INCHES. THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.
- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND GRASSED.
- THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS, PERMITS, AND ST. JOHNS RIVER WATER MANAGEMENT DISTRICT CRITERIA.
- FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL (LATEST EDITION).
- ALL DISTURBED AREAS SHALL BE GRASSED, FERTILIZED, WATERED AND MAINTAINED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED. GRASSING SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 570 AND 981 THRU 983 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITIONS). NOTE THAT OTHER GRASSING ALTERNATIVES MAY BE USED WITH PRIOR DISTRICT APPROVAL.

FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION

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ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
NO.	REVISION	BY	DATE	APPROVED

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

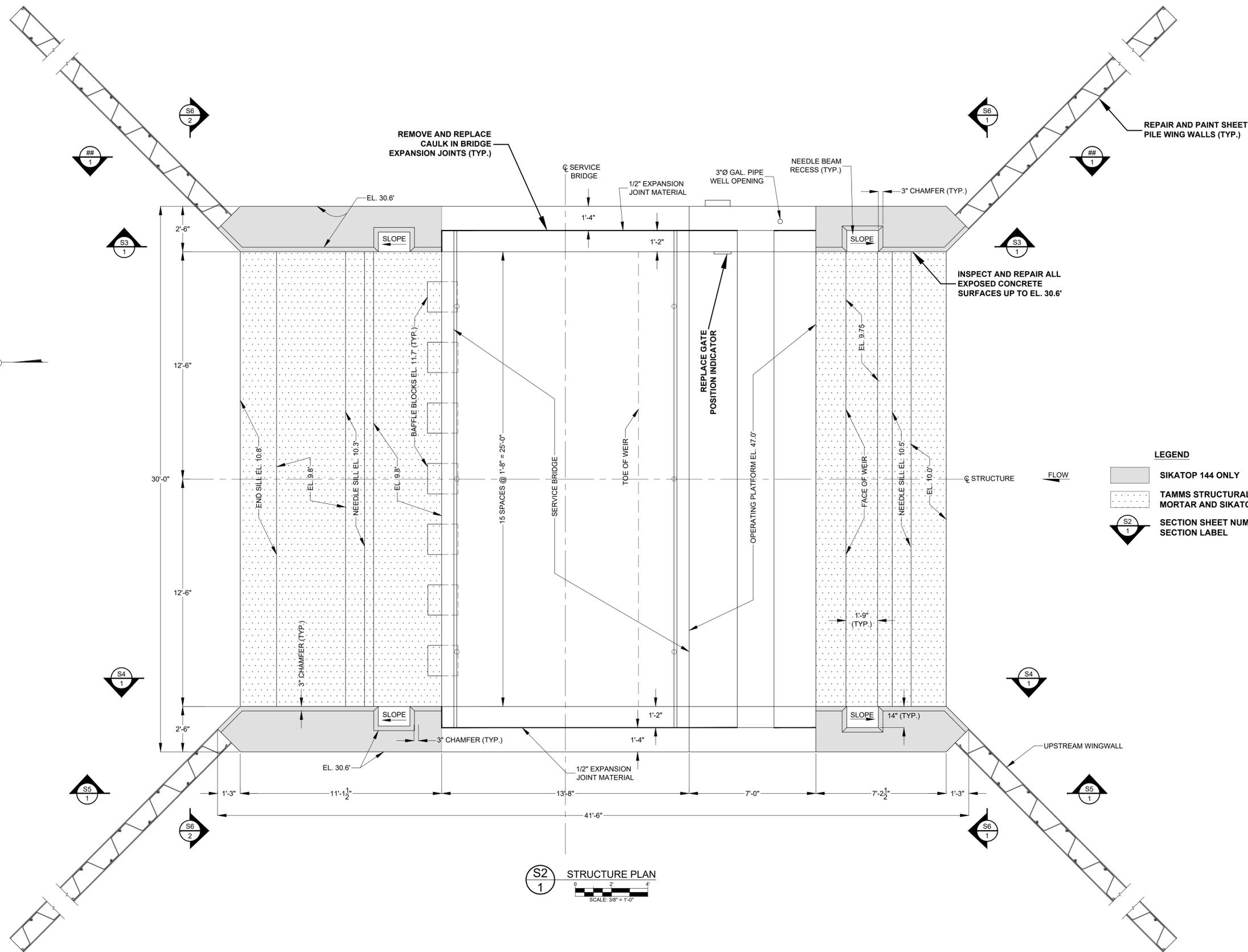
DRAWN: PLG & NUG DATE: AUGUST 1, 2019 REVIEWER: WRC  
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

EROSION AND SEDIMENT CONTROL

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME: S-96C PLAN.dwg  
PROJECT NO.:  
SHEET: C8





**S2**  
1  
STRUCTURE PLAN  
SCALE: 3/8" = 1'-0"

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NO.	REVISION	BY	DATE	APPROVED	DATE

ISSUED FOR BID

N.J.G. 08/1/19 W.R.C. 08/1/19

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

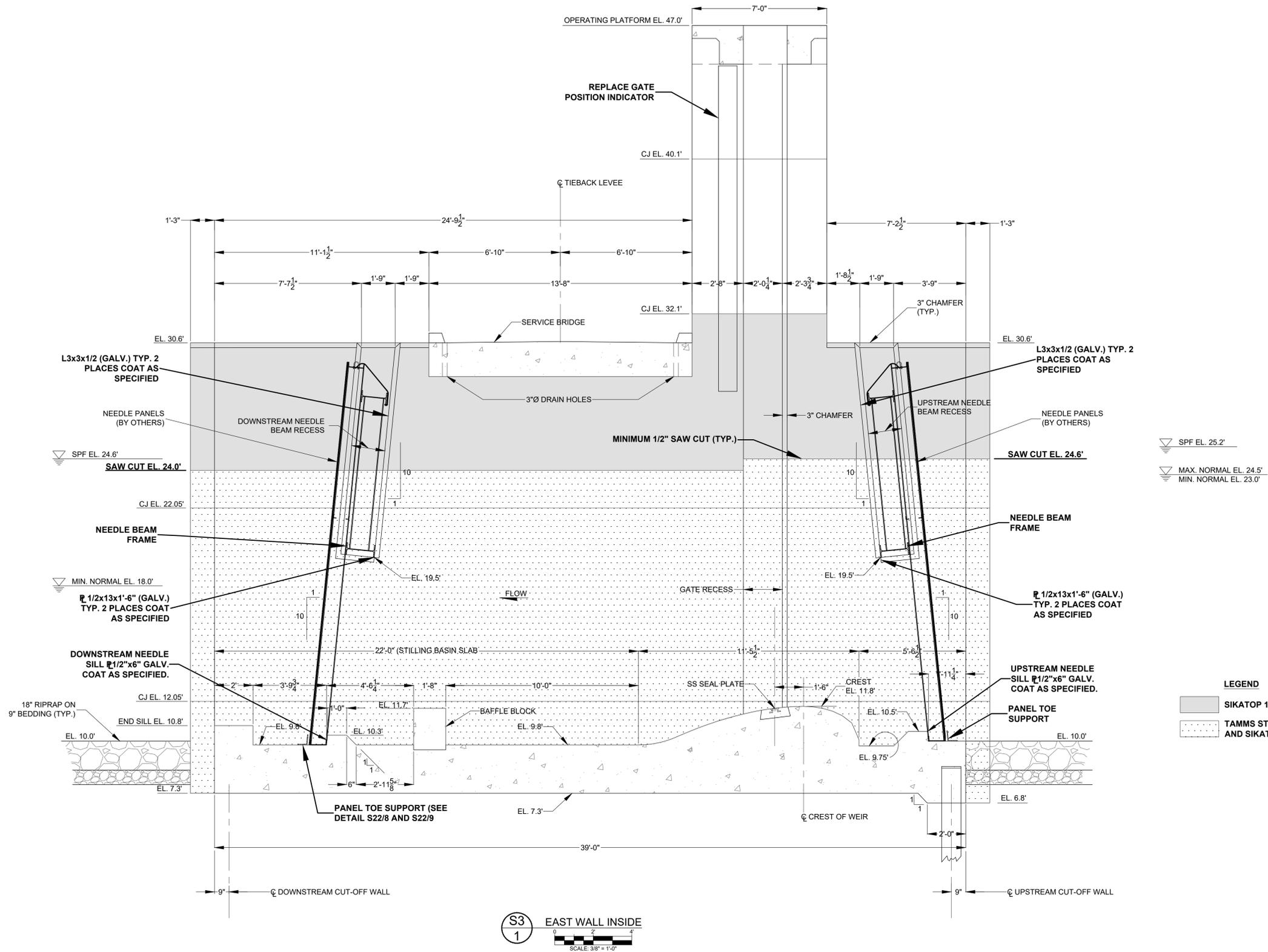
DRAWN: PLG & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC  
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

CONCRETE REPAIR - STRUCTURE PLAN

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
**S2**

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SPF EL. 25.2'  
 MAX. NORMAL EL. 24.5'  
 MIN. NORMAL EL. 23.0'

**LEGEND**  
 SIKATOP 144 ONLY  
 TAMMS STRUCTURAL MORTAR AND SIKATOP 144

S3  
 1  
 EAST WALL INSIDE  
 SCALE: 3/8" = 1'-0"

**FOR BID PURPOSES ONLY  
 NOT FOR CONSTRUCTION**

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UPPER ST. JOHNS RIVER BASIN  
 STRUCTURE 96C REHABILITATION  
 INDIAN RIVER COUNTY, FLORIDA

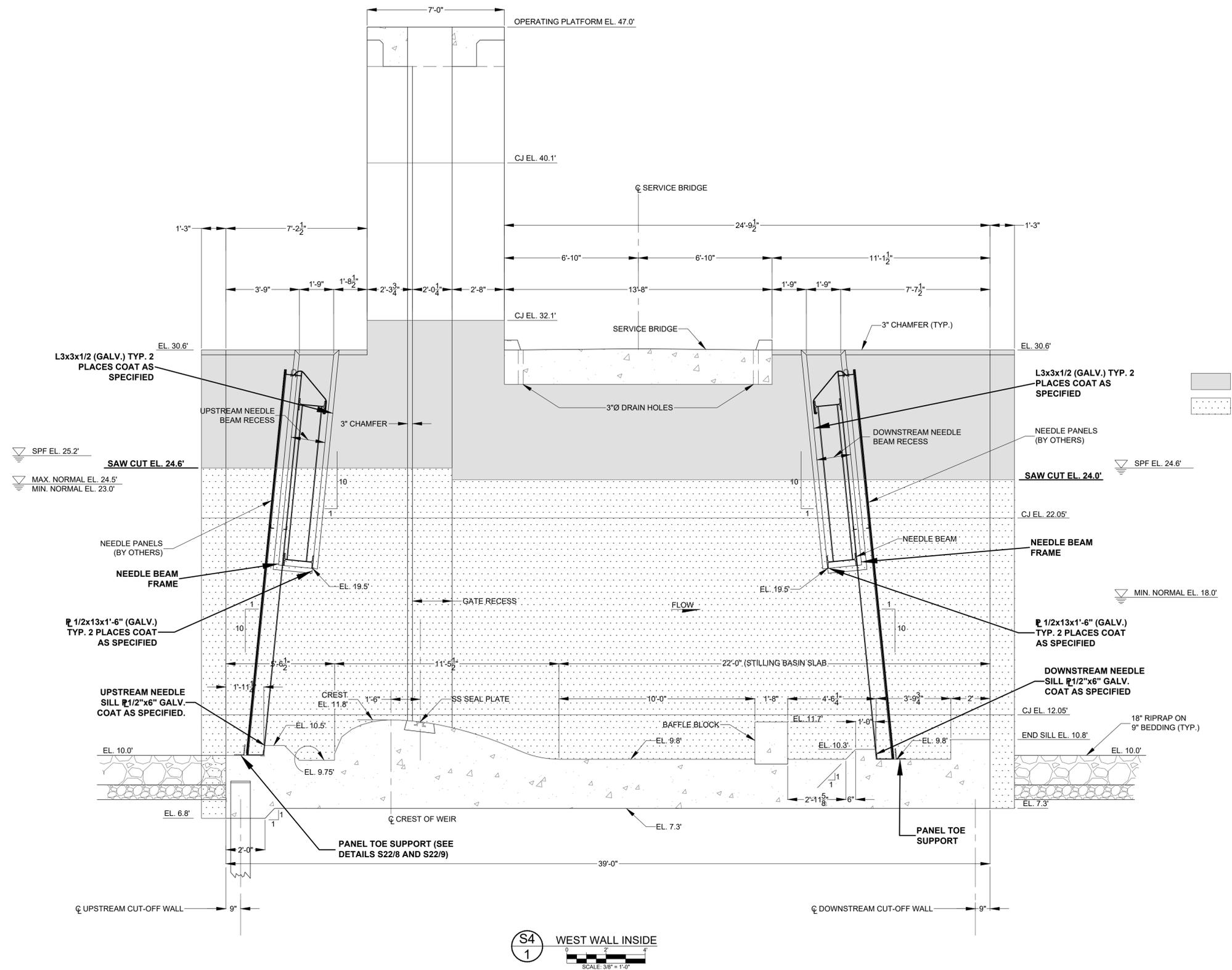
ST. JOHNS RIVER  
 WATER MANAGEMENT DISTRICT  
 P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLG & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC  
 SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

CONCRETE REPAIR - EAST WALL INSIDE

CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: AUGUST 1, 2019

FILE NAME:  
 S-96C STRUCTURE.dwg  
 PROJECT NO.:  
 SHEET:  
 S3



**LEGEND**

■ SIKATOP 144 ONLY

▨ TAMMS STRUCTURAL MORTAR AND SIKATOP 144

S4  
1  
WEST WALL INSIDE  
SCALE: 3/8" = 1'-0"

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

NO.	REVISION	BY	DATE	APPROVED	DATE

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

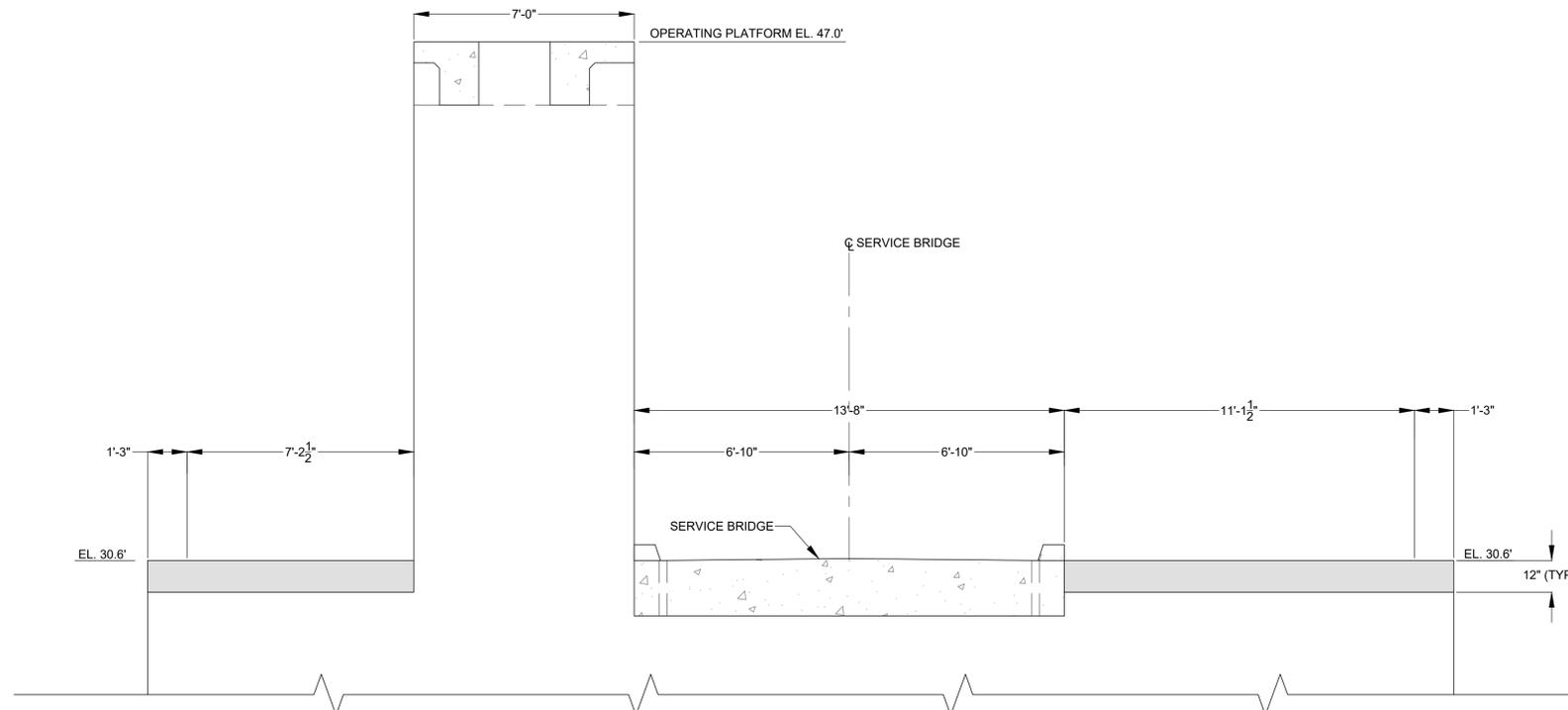
DRAWN: PLG & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC

SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

CONCRETE REPAIR - WEST WALL INSIDE

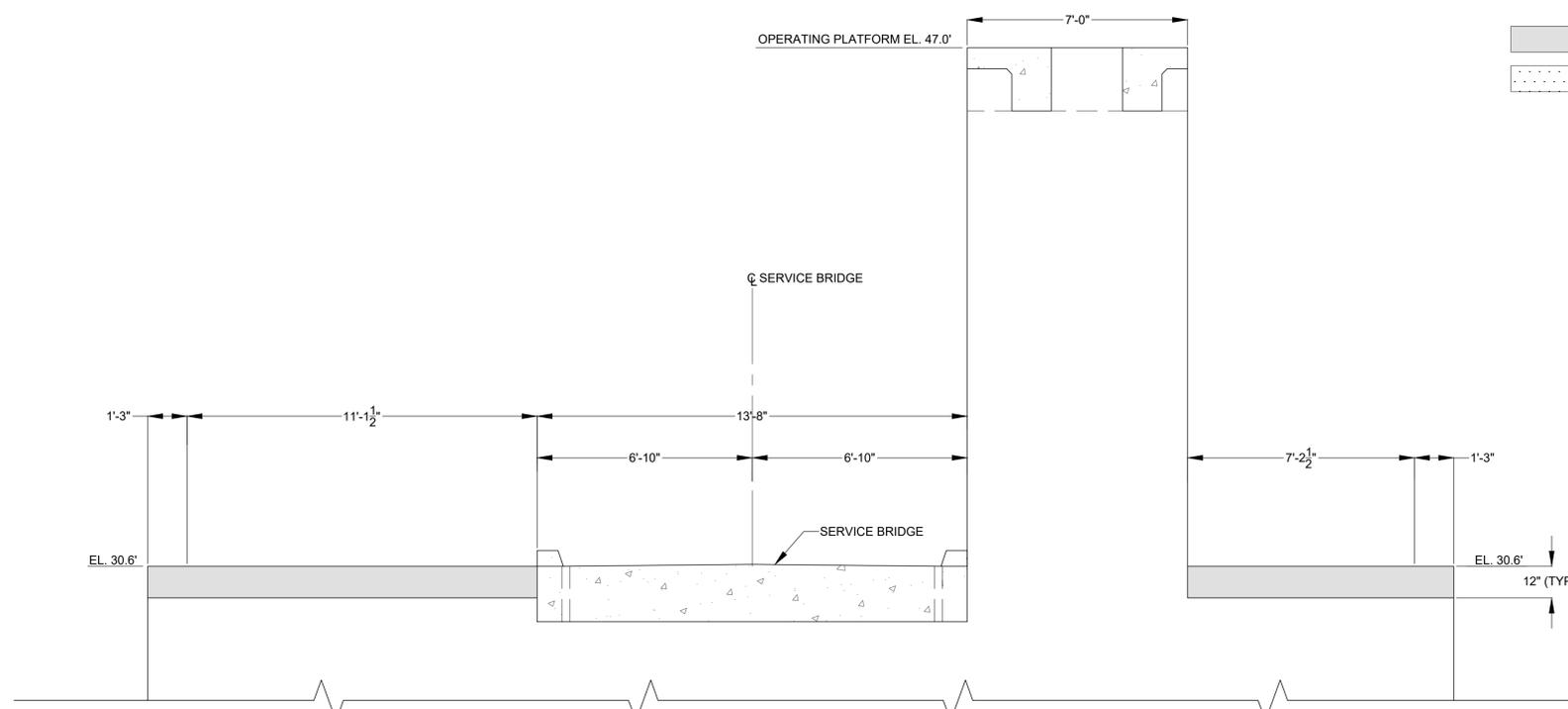
CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
S4



**S5**  
1 EAST WALL OUTSIDE  
SCALE: 3/8" = 1'-0"

**LEGEND**  
 SIKATOP 144 ONLY  
 TAMMS STRUCTURAL MORTAR AND SIKATOP 144



**S5**  
2 WEST WALL OUTSIDE  
SCALE: 3/8" = 1'-0"

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UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

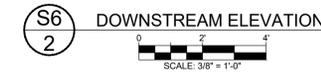
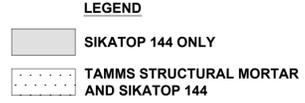
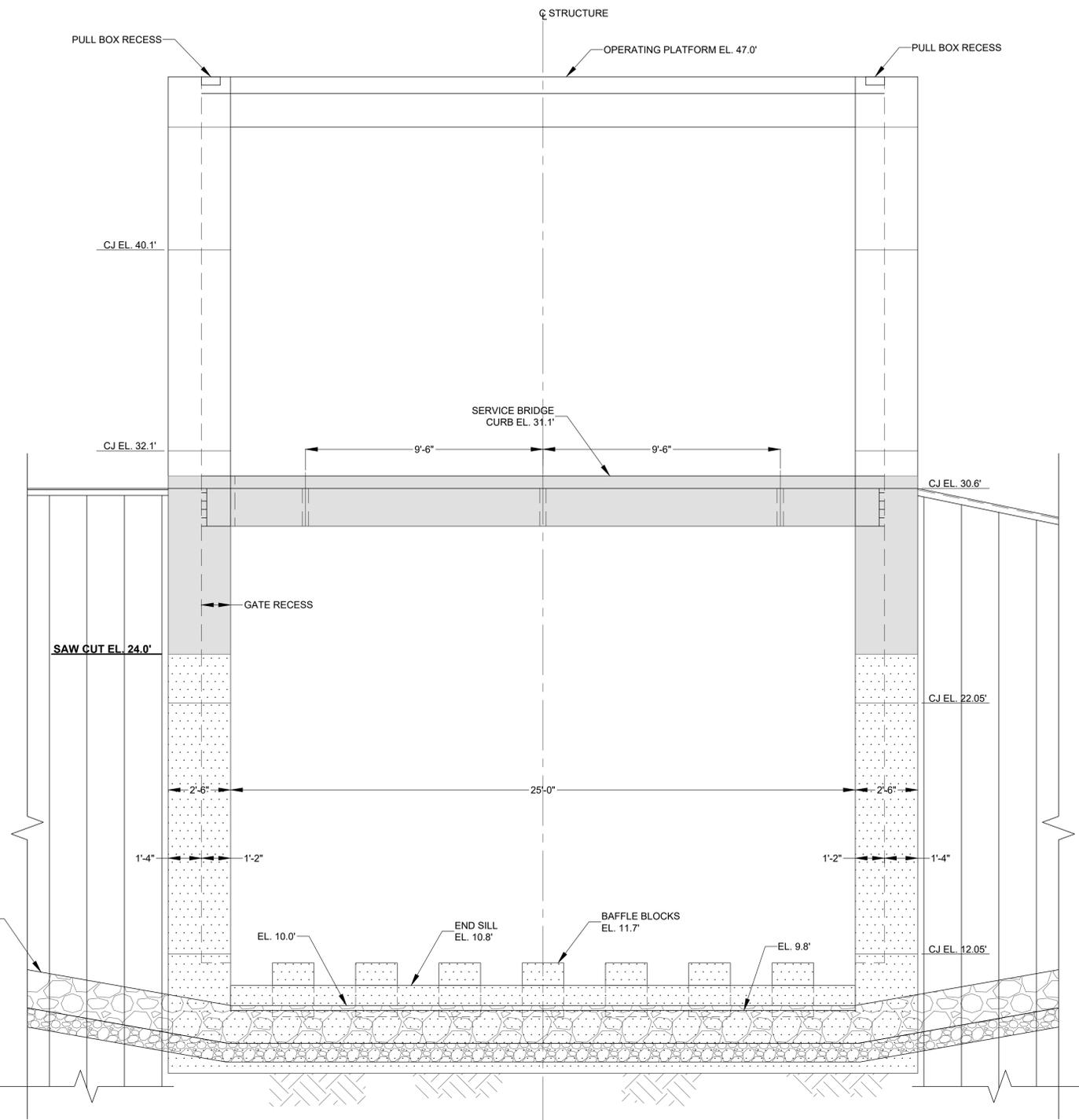
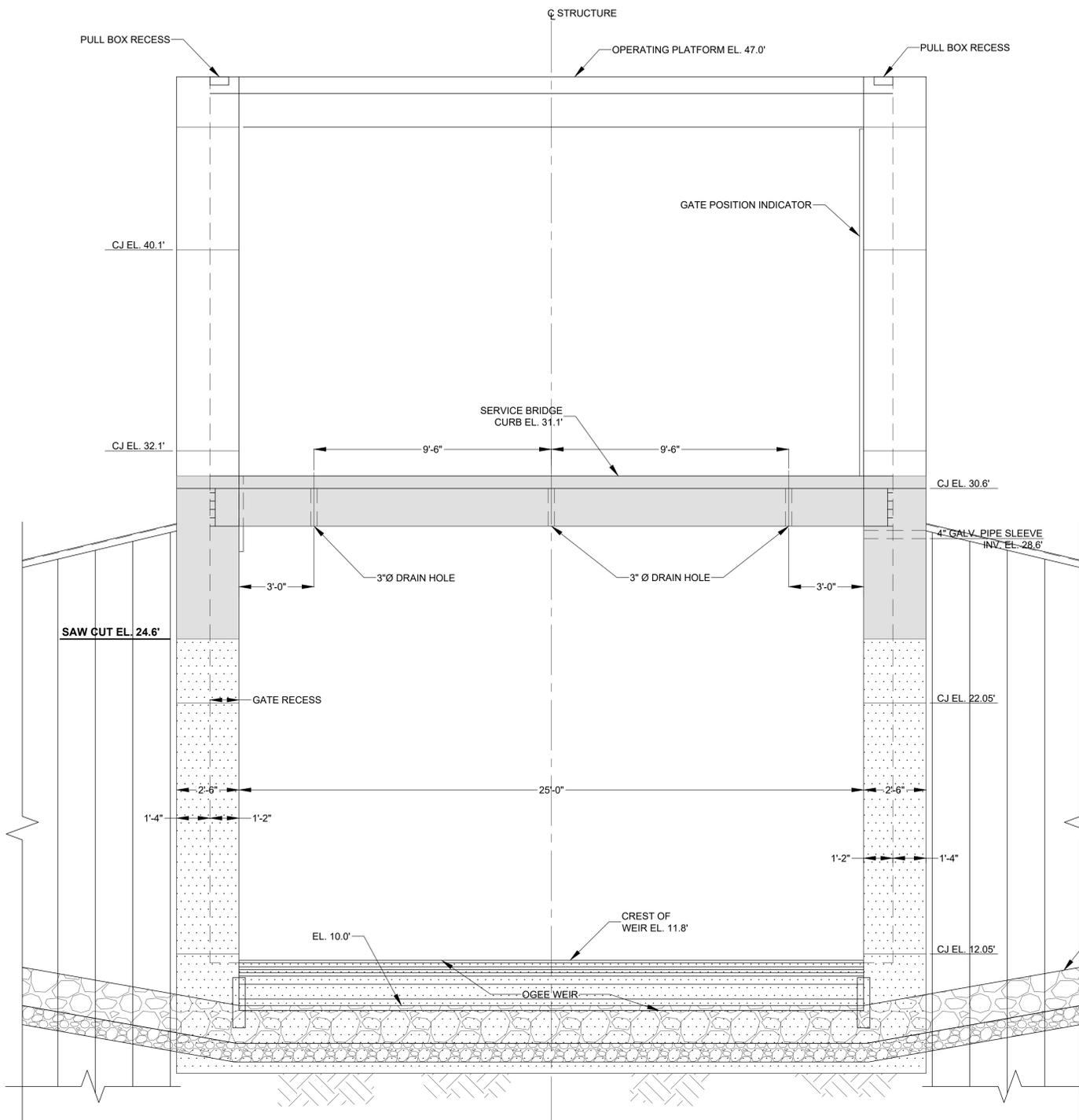
**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC  
 SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

CONCRETE REPAIR - EAST AND WEST WALLS OUTSIDE

CERTIFICATION:  
 WILLIAM R. COTE  
 P. E. NUMBER: 53746  
 DATE: AUGUST 1, 2019

FILE NAME:  
S-96C STRUCTURE.dwg  
 PROJECT NO.:  
 SHEET:  
**S5**



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ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
NO.	REVISION	BY	DATE	APPROVED

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

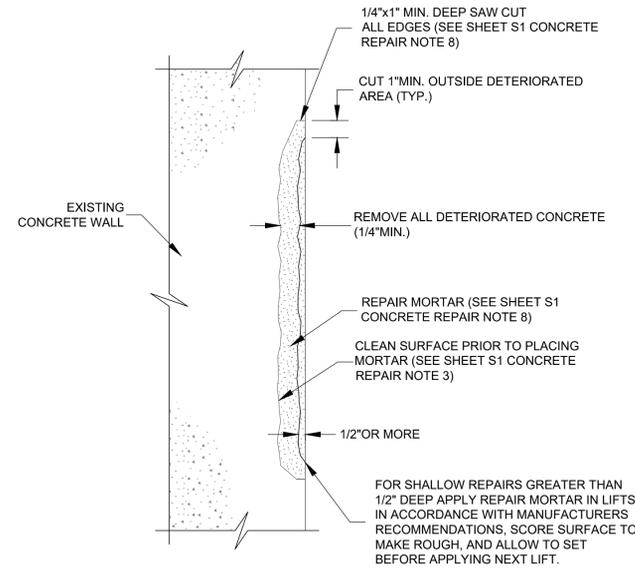
DRAWN: PLC & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC  
SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

CONCRETE REPAIR  
UPSTREAM AND DOWNSTREAM ELEVATION

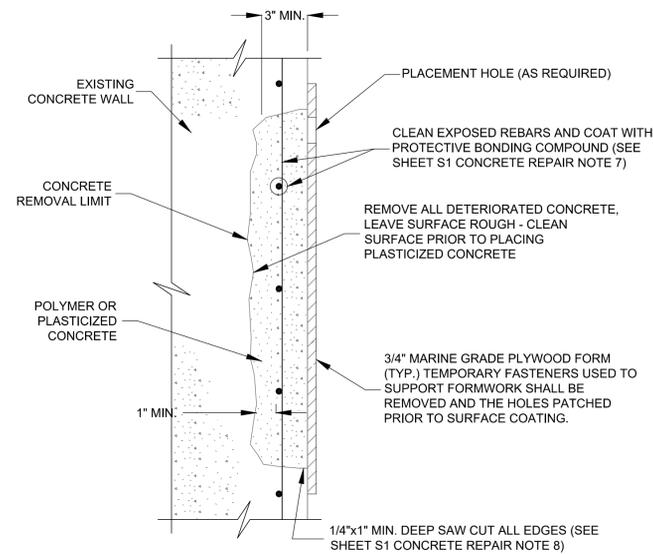
CERTIFICATION:  
WILLIAM R. COTE  
P. E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
**S6**

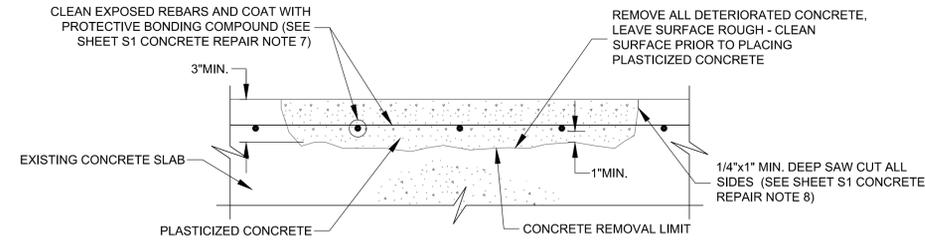
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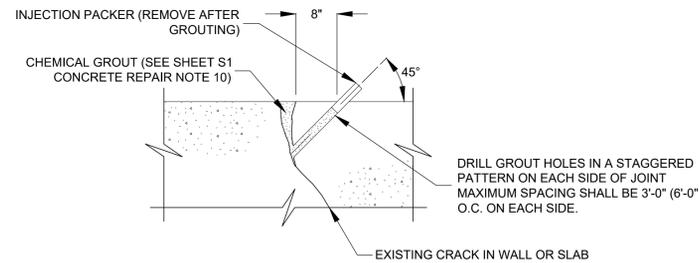
**S7  
1**  
SHALLOW MORTAR REPAIR  
FOR WALL / SLAB  
CONCRETE SURFACES  
NOT TO SCALE



**S7  
2**  
DEEP CONCRETE  
REPAIR FOR WALLS  
NOT TO SCALE



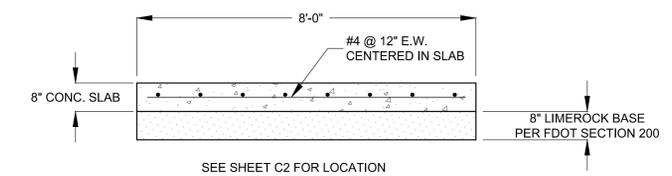
**S7  
3**  
DEEP CONCRETE REPAIR FOR SLABS  
NOT TO SCALE



**S7  
4**  
CHEMICAL GROUTING DETAIL FOR  
CONCRETE CRACKS WITH FLOWING WATER  
NOT TO SCALE

**CONCRETE:**

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SECTION 400 WITH SUPPLEMENTS AND ALL PERTINENT SPECIFICATIONS CONTAINED THEREIN.
2. ALL CONCRETE SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,500 PSI. PORTLAND CEMENT SHALL BE TYPE II IN ACCORDANCE WITH ASTM C-150. CONCRETE SHALL BE AIR ENTRAINED WITH TOTAL AIR AS PERCENT BY VOLUME OF CONCRETE EQUAL TO 4%. THE AIR ENTRAINING ADMIXTURE SHALL BE MICRO AIR, AS MANUFACTURED BY MASTER BUILDERS, OR EQUAL, CONFORMING TO ASTM C-260. THE AGGREGATES SHALL CONFORM TO ASTM C-33 AND SHALL HAVE A 3/4-INCH MAXIMUM SIZE.
3. REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A-615.
4. THE MINIMUM CLEAR CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES FOR FORMED SURFACES AND 4.5 INCHES FOR CONCRETE CAST AGAINST EARTH.
5. CRACKS WITH FLOWING WATER SHALL BE REPAIRED WITH CHEMICAL GROUT ACCORDING TO DETAIL S7/4 PRIOR TO CONCRETE SURFACE REPAIR. CUT AND REMOVE EXCESS CHEMICAL GROUT PRIOR TO CONCRETE REPAIR. WHEN SEALING VERTICAL CRACKS, BEGIN AT THE BOTTOM AND WORK UP. WHERE WATER FLOW IS PRESENT, BEGIN INJECTING CRACK AT THE POINT OF LEAST FLOW AND WORK TOWARDS AREA OF HEAVIEST FLOW. CHEMICAL GROUT SHALL BE HYDRO ACTIVE FLEX AS MANUFACTURED BY DE NEEF CONSTRUCTION CHEMICALS, INC., OR APPROVED EQUAL.



**S7  
5**  
8'x13'-8" CONCRETE APPROACH APRON (2 REQ'D)  
SCALE: 1/2"=1'-0"

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

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NO.	REVISION	BY	DATE	APPROVED	DATE

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

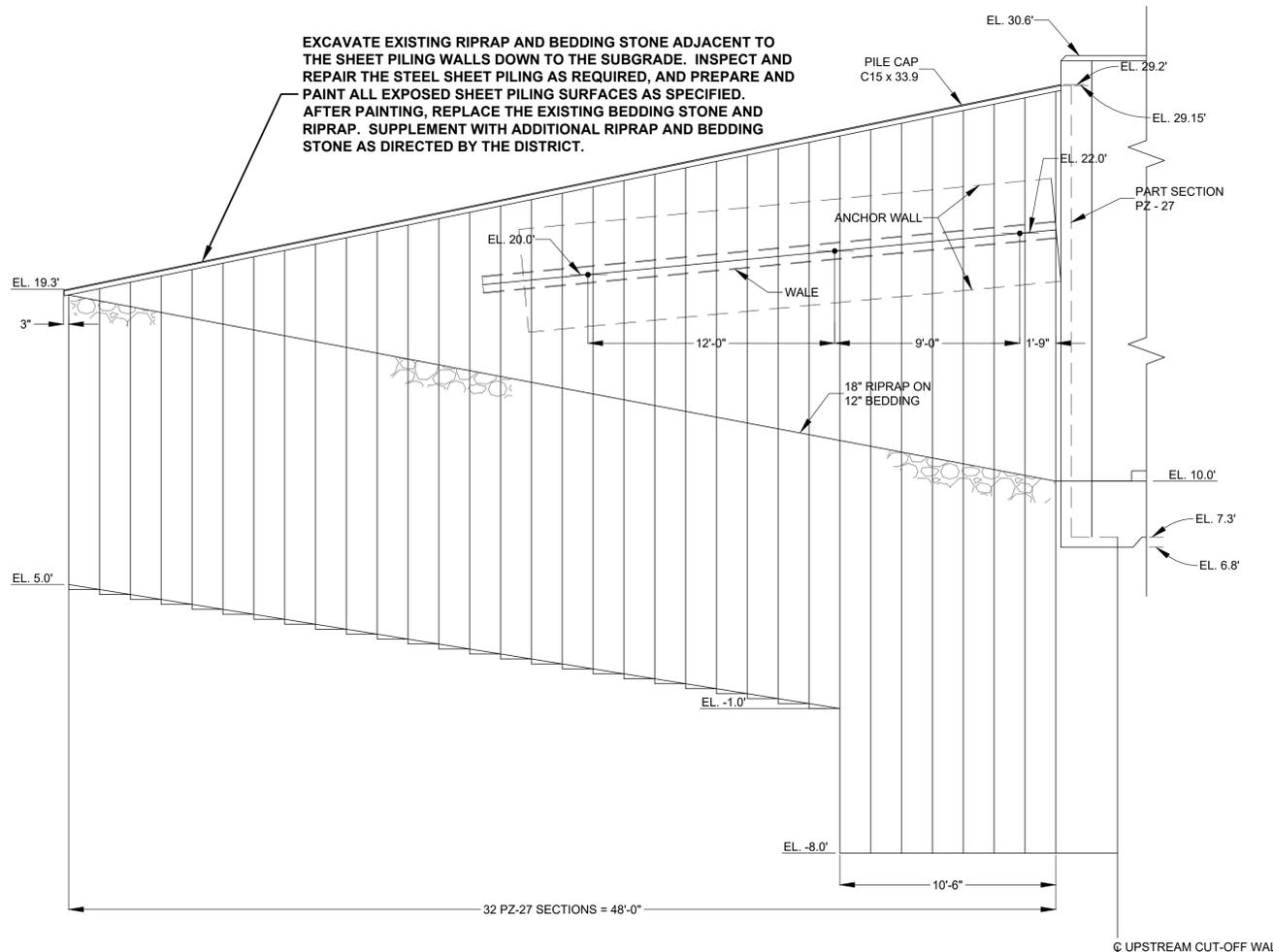
**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLG & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC  
SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

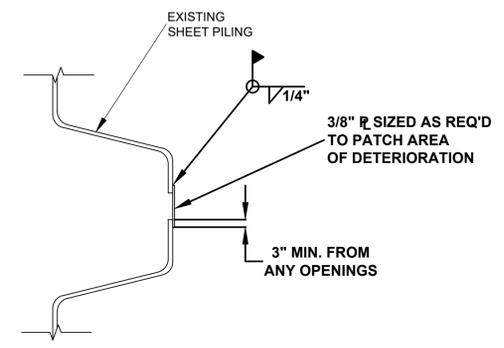
CONCRETE REPAIR - TYPICAL DETAILS

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

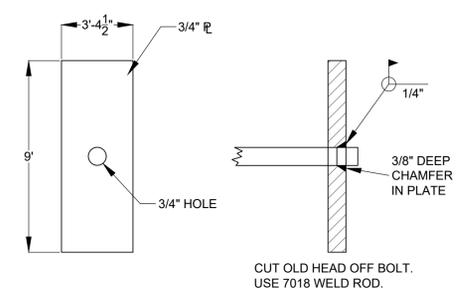
FILE NAME:  
S-96C STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
**S7**



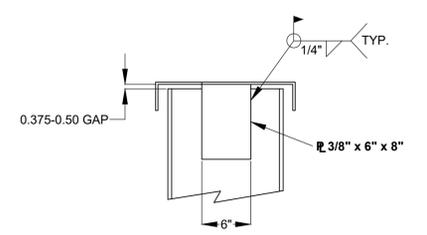
**S8**  
**1** ELEVATION  
UPSTREAM WINGWALLS (2 REQ'D)  
SCALE: 1/4" = 1'-0"



**S8**  
**2** TYPICAL SHEET PILING  
REPAIR DETAIL  
NOT TO SCALE



**S8**  
**3** SHEET PILE BOLTED  
CONNECTION REPAIR (14 REQ'D)  
NOT TO SCALE



**S8**  
**4** CAP PLATE DETAIL (36 REQ'D)  
NOT TO SCALE

**FOR BID PURPOSES ONLY  
NOT FOR CONSTRUCTION**

ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19
NO.	REVISION	BY	DATE	APPROVED

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC  
SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

**SHEET PILING REPAIR  
UPSTREAM WINGWALLS ELEVATION AND DETAILS**

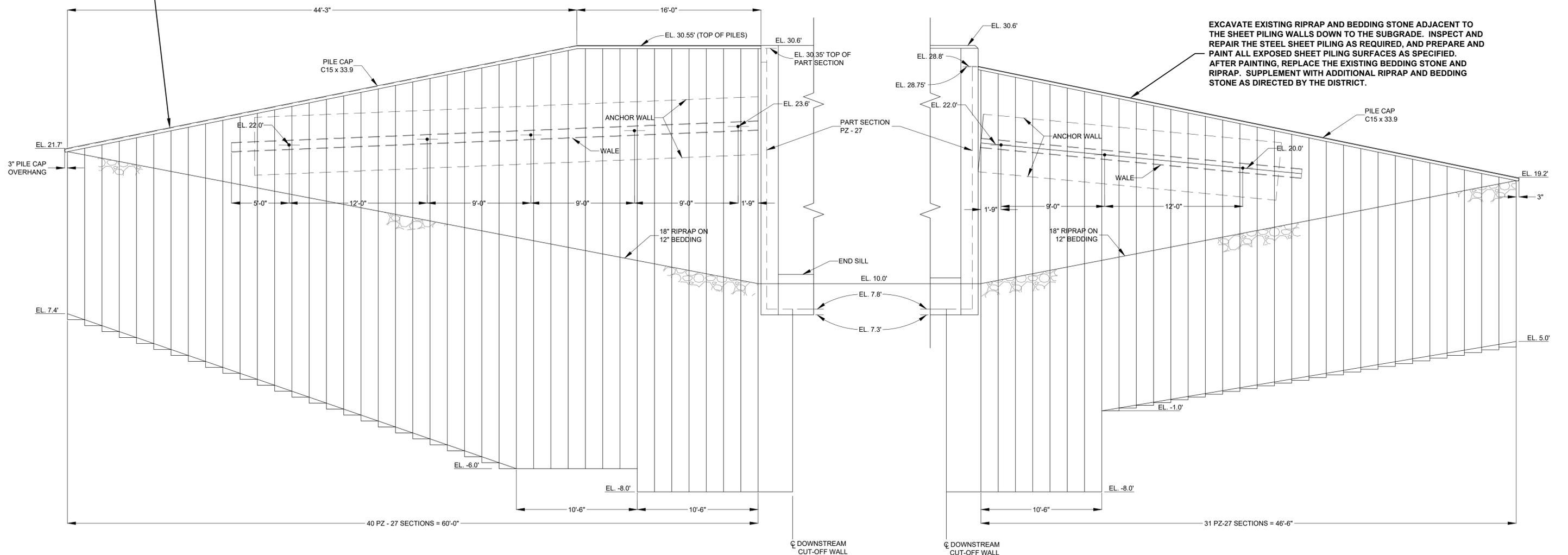
CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
**S8**

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EXCAVATE EXISTING RIPRAP AND BEDDING STONE ADJACENT TO THE SHEET PILING WALLS DOWN TO THE SUBGRADE. INSPECT AND REPAIR THE STEEL SHEET PILING AS REQUIRED, AND PREPARE AND PAINT ALL EXPOSED SHEET PILING SURFACES AS SPECIFIED. AFTER PAINTING, REPLACE THE EXISTING BEDDING STONE AND RIPRAP. SUPPLEMENT WITH ADDITIONAL RIPRAP AND BEDDING STONE AS DIRECTED BY THE DISTRICT.

EXCAVATE EXISTING RIPRAP AND BEDDING STONE ADJACENT TO THE SHEET PILING WALLS DOWN TO THE SUBGRADE. INSPECT AND REPAIR THE STEEL SHEET PILING AS REQUIRED, AND PREPARE AND PAINT ALL EXPOSED SHEET PILING SURFACES AS SPECIFIED. AFTER PAINTING, REPLACE THE EXISTING BEDDING STONE AND RIPRAP. SUPPLEMENT WITH ADDITIONAL RIPRAP AND BEDDING STONE AS DIRECTED BY THE DISTRICT.



S9  
1  
ELEVATION  
DOWNSTREAM EAST WINGWALL  
SCALE: 1/4" = 1'-0"

S9  
2  
ELEVATION  
DOWNSTREAM WEST WINGWALL  
SCALE: 1/4" = 1'-0"

**FOR BID PURPOSES ONLY  
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NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

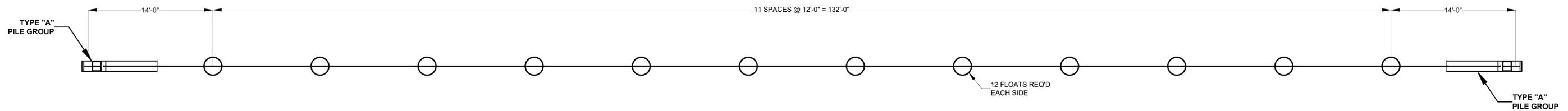
DRAWN: PLG & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC  
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

SHEET PILING REPAIR  
DOWNSTREAM WINGWALLS ELEVATION

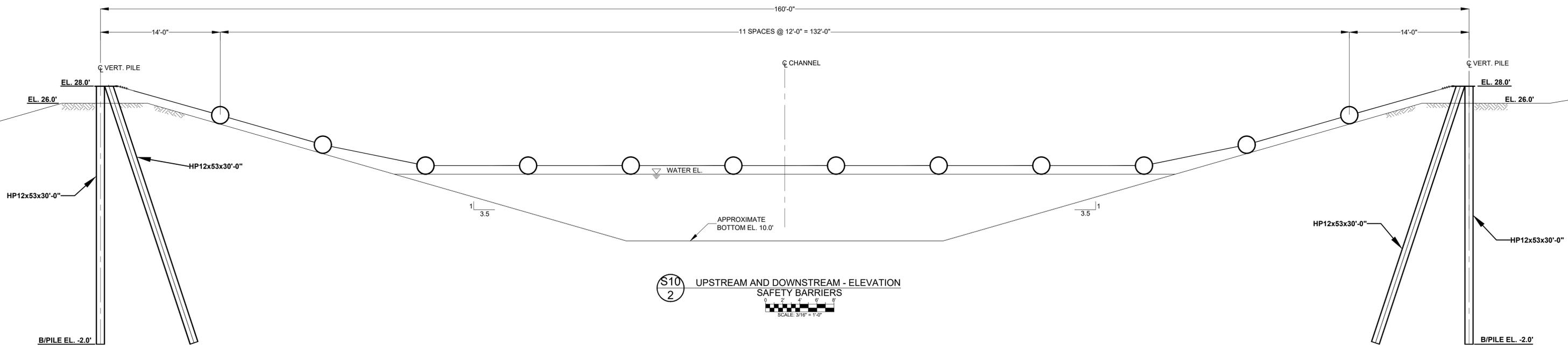
CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C\_STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
S9

NOTE:  
 REMOVE EXISTING TIMBER PILES AND REPLACE WITH STEEL AS SHOWN.  
 CONTRACTOR MAY ELECT TO CUT TIMBER PILES 2 FEET BELOW GRADE  
 AND LEAVE REMAINDER IN PLACE.



S10  
 1 UPSTREAM AND DOWNSTREAM - PLAN  
 SCALE: 3/16" = 1'-0"



S10  
 2 UPSTREAM AND DOWNSTREAM - ELEVATION  
 SAFETY BARRIERS  
 SCALE: 3/16" = 1'-0"

- FLOATING SAFETY BARRIERS:
1. SALVAGE THE EXISTING FLOATS, REPLACE ALL HARDWARE AND CABLES WITH STAINLESS STEEL. REINSTALL BARRIERS.

**FOR BID PURPOSES ONLY  
 NOT FOR CONSTRUCTION**

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NO.	REVISION	BY	DATE	APPROVED	DATE
1	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19

UPPER ST. JOHNS RIVER BASIN  
 STRUCTURE 96C REHABILITATION  
 INDIAN RIVER COUNTY, FLORIDA

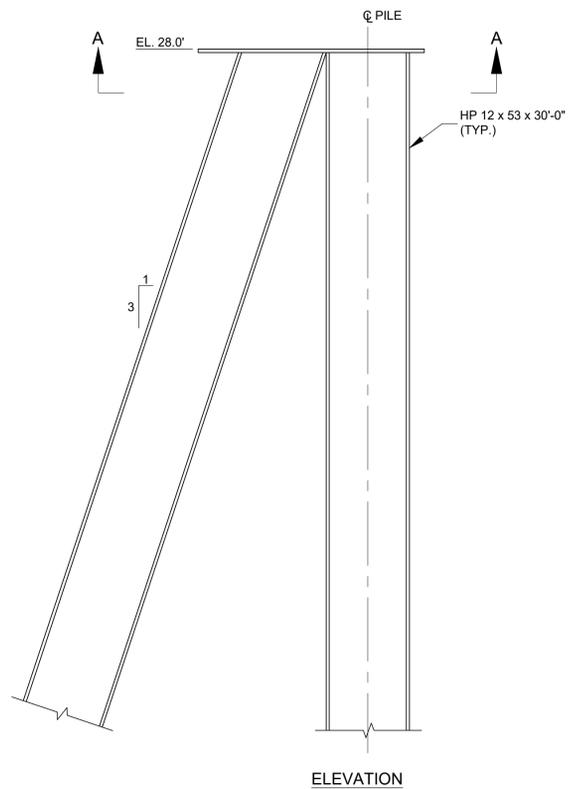
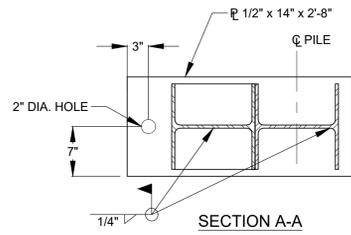
ST. JOHNS RIVER  
 WATER MANAGEMENT DISTRICT  
 P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC  
 SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

UPSTREAM AND DOWNSTREAM SAFETY BARRIERS

CERTIFICATION:  
 WILLIAM R. COTE  
 P.E. NUMBER: 53746  
 DATE: AUGUST 1, 2019

FILE NAME:  
 S-96C STRUCTURE.dwg  
 PROJECT NO.:  
 SHEET:  
 S10



**S11**  
1 TYPE "A" PILE GROUP (4 REQ'D)  
SCALE: 1"=1'-0"

**NOTE SPECIFICATIONS:**

**STRUCTURAL STEEL:**

1. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
2. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE NEW AND CONFORM TO THE REQUIREMENTS OF THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) STANDARD A36 UNLESS NOTED OTHERWISE.
3. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE" AWS D1.1. ALL WELDING SHALL UTILIZE E70XX ELECTRODES UNLESS NOTED OTHERWISE.

**PAINTS AND PROTECTIVE COATINGS:**

1. ALL STEEL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL (SSPC) "STEEL STRUCTURES PAINTING MANUAL". STEEL SURFACE PREPARATION SHALL BE SSPC-10 NEAR WHITE BLAST CLEANING
2. PROTECTIVE COATING FOR STRUCTURAL STEEL SHALL BE AS MANUFACTURED BY SHERWIN-WILLIAMS, OR EQUAL, AS FOLLOWS:  
 FIRST COAT (PRIMER): DURA-PLATE 235, 4-8 MILS DFT  
 SECOND COAT: DURA-PLATE 235, 4-8 MILS DFT  
 THIRD (FINAL) COAT: DURA-PLATE 235, 4-8 MILS DFT  
 COLOR: LIGHT GRAY  
 SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER SPECIFICATIONS.

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UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLG & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC  
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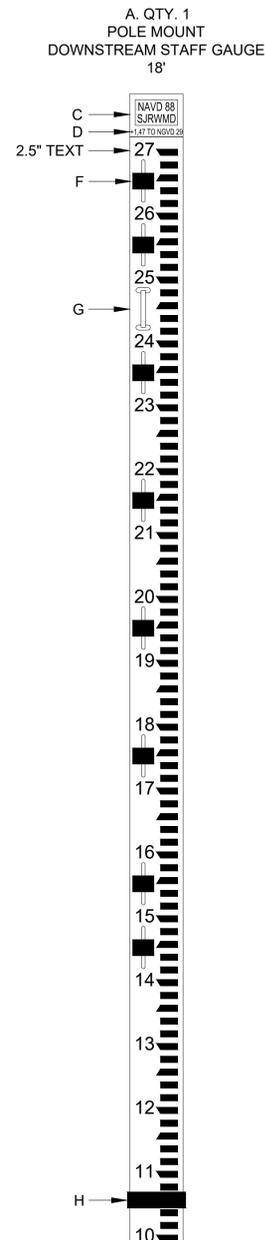
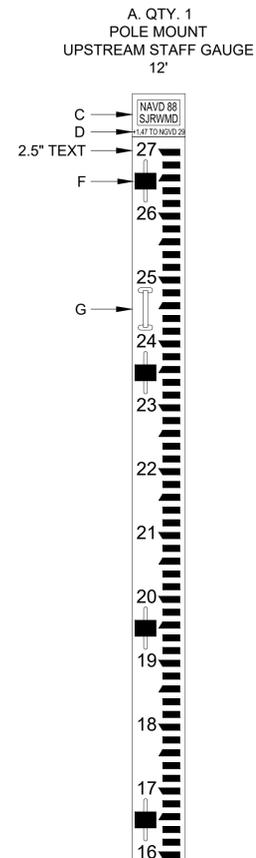
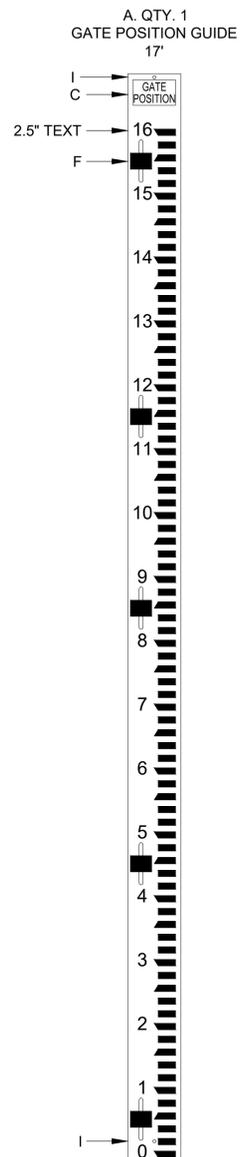
NEW PILE GROUP DETAILS

CERTIFICATION:  
WILLIAM R. COTE  
P. E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C STRUCTURE.dwg  
PROJECT NO.:  
SHEET:  
**S11**

ALL HASH MARKS ARE  
1.2" IN HEIGHT

4" WIDE  
3.25" WIDE



**MATERIALS KEY:**

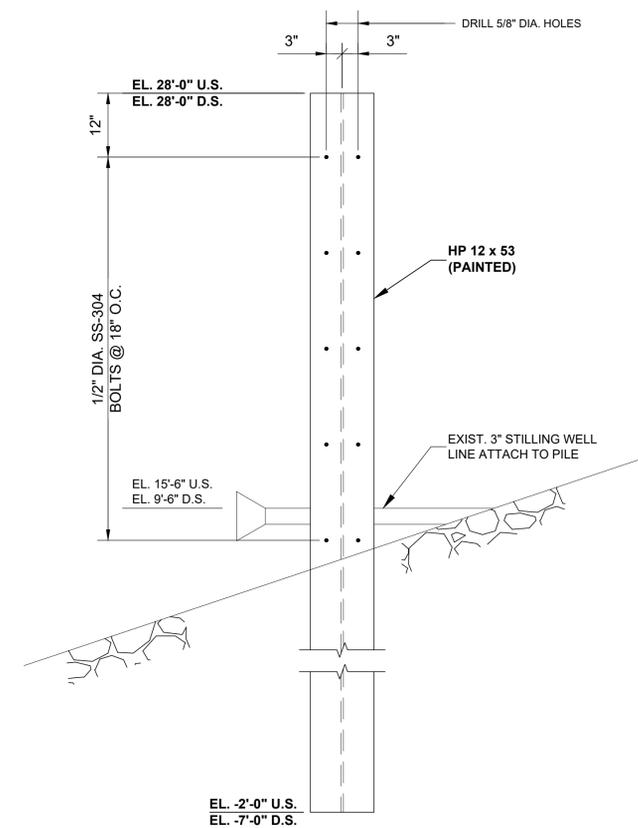
- A. STAFF GAUGES AND GATE POSITION GUIDES:  
2"x10" (1.5"x9.5") MADE FROM TANGENT TECHNOLOGIES POLYFORCE RECYCLED PLASTIC LUMBER, WHITE OVER BLACK, OR EQUAL.
- B. BACKBOARDS:  
2"x12" (1.5"x11.75") SOLID BLACK POLYFORCE BY TANGENT TECHNOLOGIES, OR EQUAL.
- C. TITLE PLAQUE INSERT:  
WHITE WITH RED LETTERING.
- D. NAVD29 OFFSET = +1.47
- E. STAFF GAUGE SPLICE LINES.
- F. ALL SLOTS ARE 0.8875"x7.3125" AND ARE SUPPLIED WITH SS WASHERS 1/4"x3/4". THRU HOLES ARE 5/8" DIAMETER. PROVIDE SS CONCRETE ANCHORS OR SS HEX HEAD THRU-BOLT 5/8"x4".
- G. 8" SS CLEAT MOUNTED WITH THREADED INSERTS.
- H. ABS BRACKET WITH SS SCREWS. MOUNTS OVER STAFF GAUGE TO BACKBOARDS.
- I. THRU HOLES ARE 5/16" DIAMETER FOR 1/4" SS CONCRETE SCREWS.

**HARDWARE:**

ALL HARDWARE SHALL BE STAINLESS STEEL.

**DATUM:**

ELEVATIONS ON THIS SHEET ARE IN NAVD88.



STAFF GAUGE POLE  
NOT TO SCALE

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STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

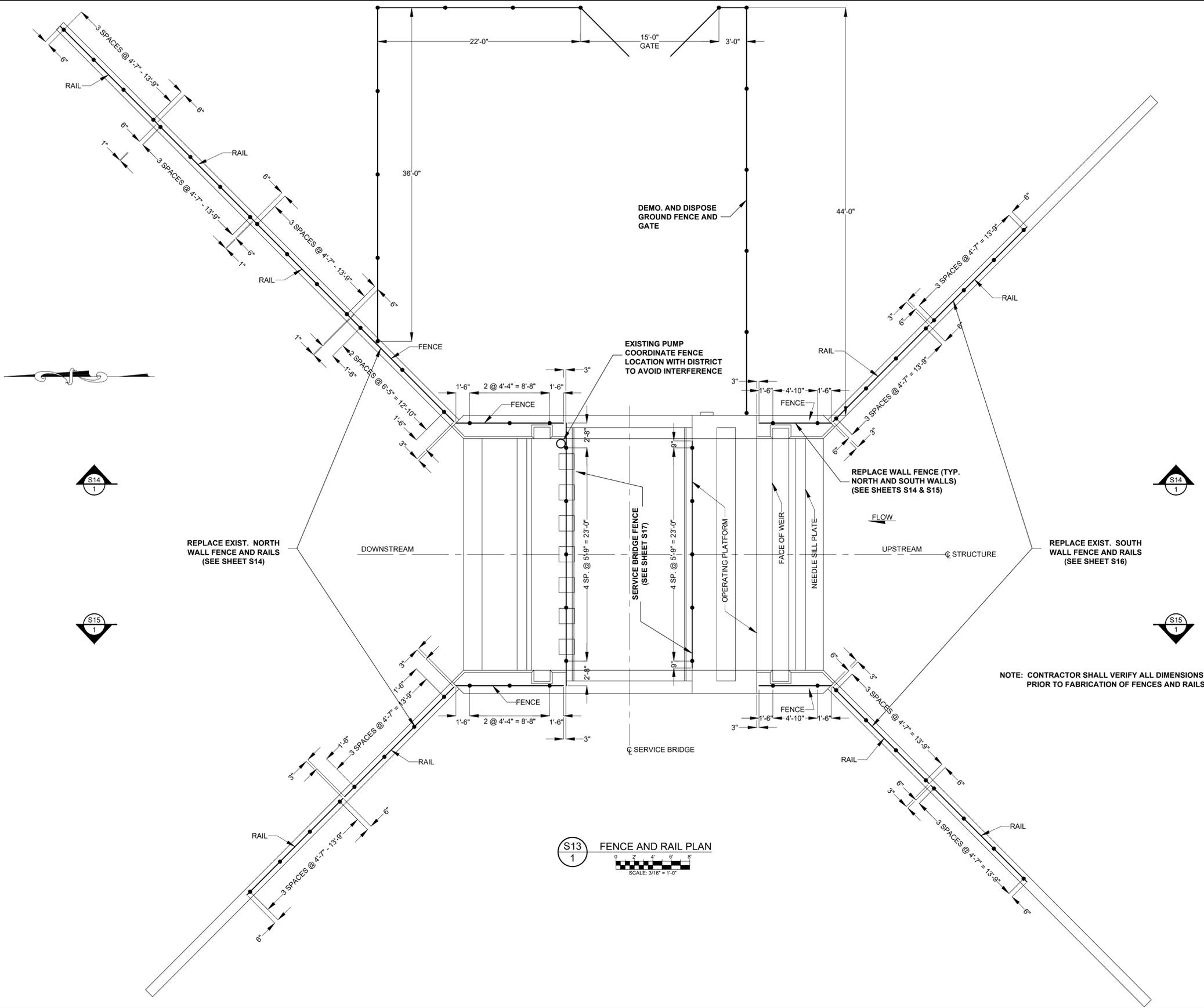
DRAWN: PLG & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC

SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

NEW STAFF GAUGES AND GATE POSITION GUIDE

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C FENCING.dwg  
PROJECT NO.:  
SHEET:  
S12



- FENCE NOTE SPECIFICATIONS:**
- ALL NEW FENCING COMPONENTS SHALL BE AS FOLLOWS:
1. POSTS: 2" NOMINAL DIAMETER SCHEDULE 80 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  2. VEHICULAR GATE POSTS: 3.5" NOMINAL DIAMETER SCHEDULE 40 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  3. FENCE RAIL: 2" NOMINAL DIAMETER SCHEDULE 40 PIPE, ASTM B241, ALUMINUM ALLOY 6061-T6.
  4. CHAIN LINK FABRIC: 2" x 9 GAGE x 6'-0" NOMINAL, ASTM F1183, ALUMINUM ALLOY 6061-T94.
  5. TENSION WIRE: MINIMUM 3/16" DIAMETER, ASTM B211, ALUMINUM ALLOY 5056-H38 OR 5056-H192.
  6. TIE WIRE AND HOG RINGS: MINIMUM 9 GAGE, ASTM B211, ALUMINUM ALLOY 5056-H38 OR 5056-H192.
  7. TENSION BARS: 1/4" x 3/4", ASTM B210, ALUMINUM ALLOY 6061 T-6.
  8. TENSION POST CONNECTORS AND FENCING TIES SHALL BE ALUMINUM.
  9. ALL HINGES, LATCH ASSEMBLIES, POST BASE PLATES, AND LIFTING EYES: ASTM B209, ALUMINUM ALLOY 6061 T-6.
  10. ALL CONNECTION HARDWARE: 316 STAINLESS STEEL.
  11. PROVIDE 1/4" NEOPRENE GASKET UNDER ALL FENCE POST FOOT PLATES. NEOPRENE PADS SHALL BE IN ACCORDANCE WITH ASTM D2000 AND SHALL HAVE A DUROMETER HARDNESS BETWEEN 60 AND 80.
  12. ALL FENCING SHALL BE CONNECTED TO THE EXISTING GROUNDING SYSTEM.
  13. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF FENCES AND RAILS.

NOTE: CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF FENCES AND RAILS.

**S13**  
1  
FENCE AND RAIL PLAN  
SCALE: 3/16" = 1'-0"

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UPPER ST. JOHNS RIVER BASIN  
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**ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT**  
P.O. BOX 1429 PALATKA, FLORIDA

DRAWN: PLC & NJG    DATE: AUGUST 1, 2019    REVIEWER: WRC  
SCALE: AS NOTED    DESIGNER: WRC    SECTION CHIEF: WRC

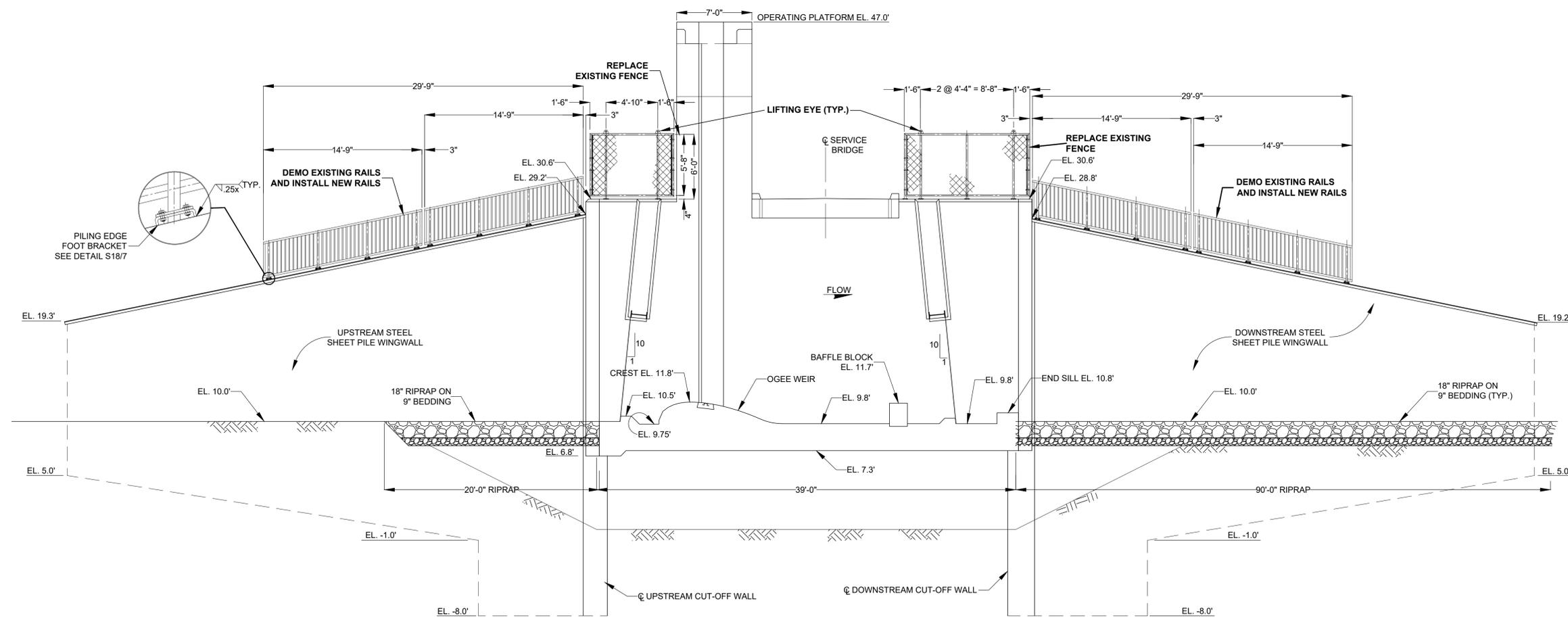
FENCE AND HANDRAIL REPLACEMENT PLAN

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C FENCING.dwg  
PROJECT NO.:  
SHEET:  
**S13**

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S15  
1  
SECTION - FACING WEST  
SCALE: 3/16" = 1'-0"

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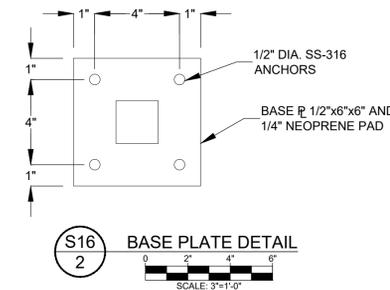
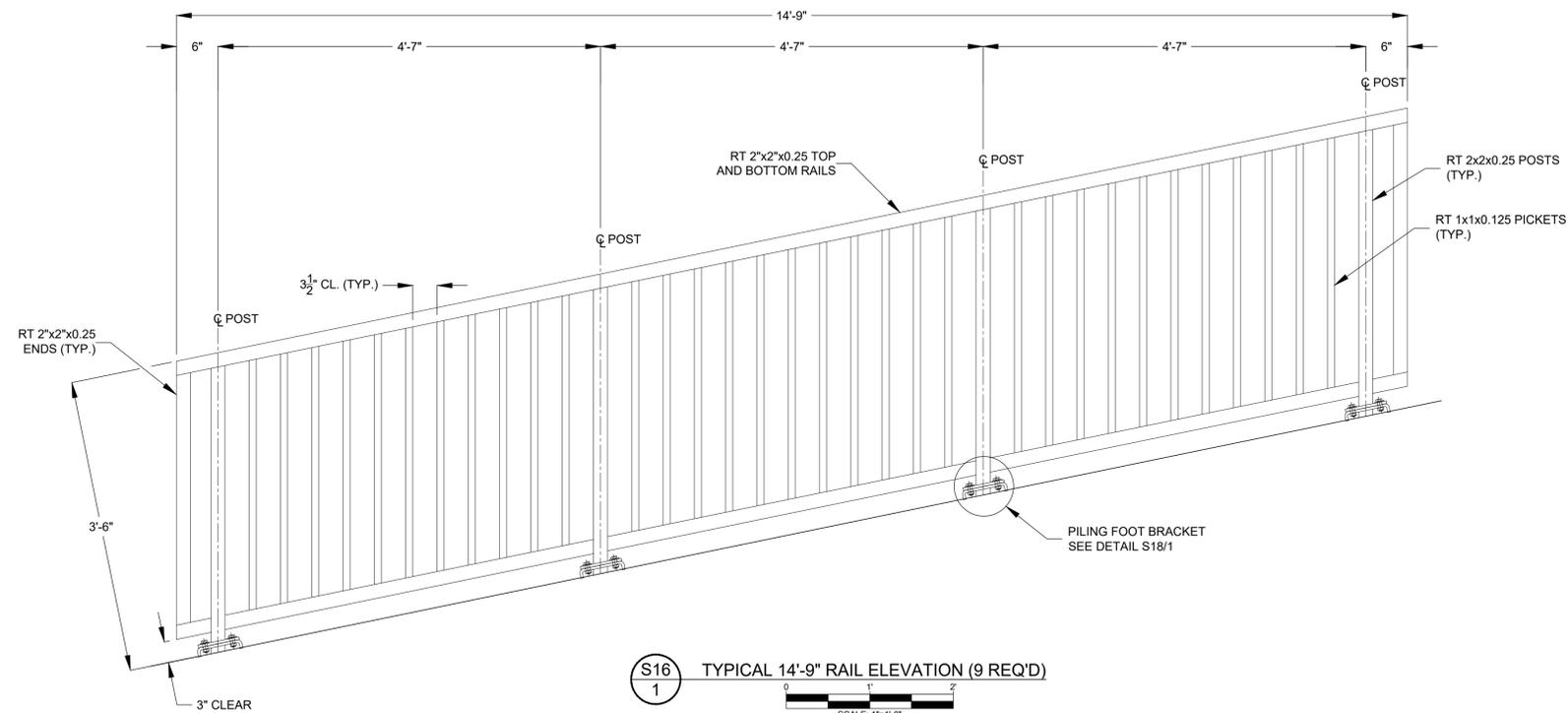
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NEW WEST WALL FENCE AND HANDRAILS

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
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FILE NAME:  
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PROJECT NO.:  
SHEET:  
S15



**ALUMINUM PEDESTRIAN RAIL NOTE SPECIFICATIONS:**

1. STRUCTURAL ALUMINUM DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION, INC. "SPECIFICATIONS FOR ALUMINUM STRUCTURES", LATEST EDITION.
2. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE - ALUMINUM" AWS D1.2.
3. ALUMINUM STRUCTURAL SHAPES SHALL BE NEW AND CONSIST OF ALLOY 6061-T6 CONFORMING TO THE REQUIREMENTS OF THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) STANDARD B308.
4. ALUMINUM BARS, RODS, AND WIRE SHALL BE NEW AND CONSIST OF ALLOY 6061-T6 CONFORMING TO THE REQUIREMENTS OF ASTM STANDARD B211.
5. ALUMINUM PLATE SHALL BE NEW AND CONSIST OF ALLOY 5052-H32 CONFORMING TO THE REQUIREMENTS OF ASTM STANDARD B209.
6. ALL BOLTS, NUTS, AND WASHERS SHALL CONSIST OF SS316 STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM STANDARDS F593 AND F594.
7. ALL WELDING SHALL UTILIZE ER4043 FILLER ALLOY AND SHALL BE SHOP WELDED TO THE GREATEST EXTENT POSSIBLE.
8. ALL WELDED JOINTS SHALL BE GROUND SMOOTH.
9. THE ALUMINUM RAILING SHALL BE MILL FINISH.
10. PROVIDE 1/4" NEOPRENE PADS UNDER ALL RAIL POST BASE PLATES. NEOPRENE PADS SHALL BE IN ACCORDANCE WITH ASTM D2000 AND SHALL HAVE A DUROMETER HARDNESS BETWEEN 60 AND 80.

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N.J.G. 08/1/19 W.R.C. 08/1/19

UPPER ST. JOHNS RIVER BASIN  
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DRAWN: PLG & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC  
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

NEW WINGWALL HANDRAIL DETAILS

CERTIFICATION:

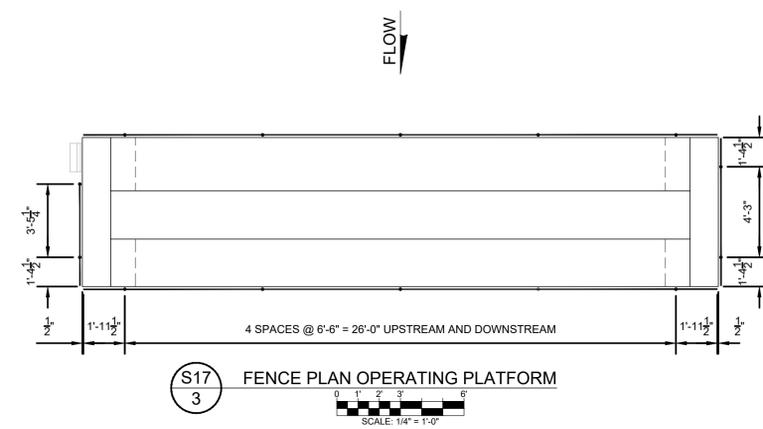
WILLIAM R. COTE  
P. E. NUMBER: 53746  
DATE: AUGUST 1, 2019

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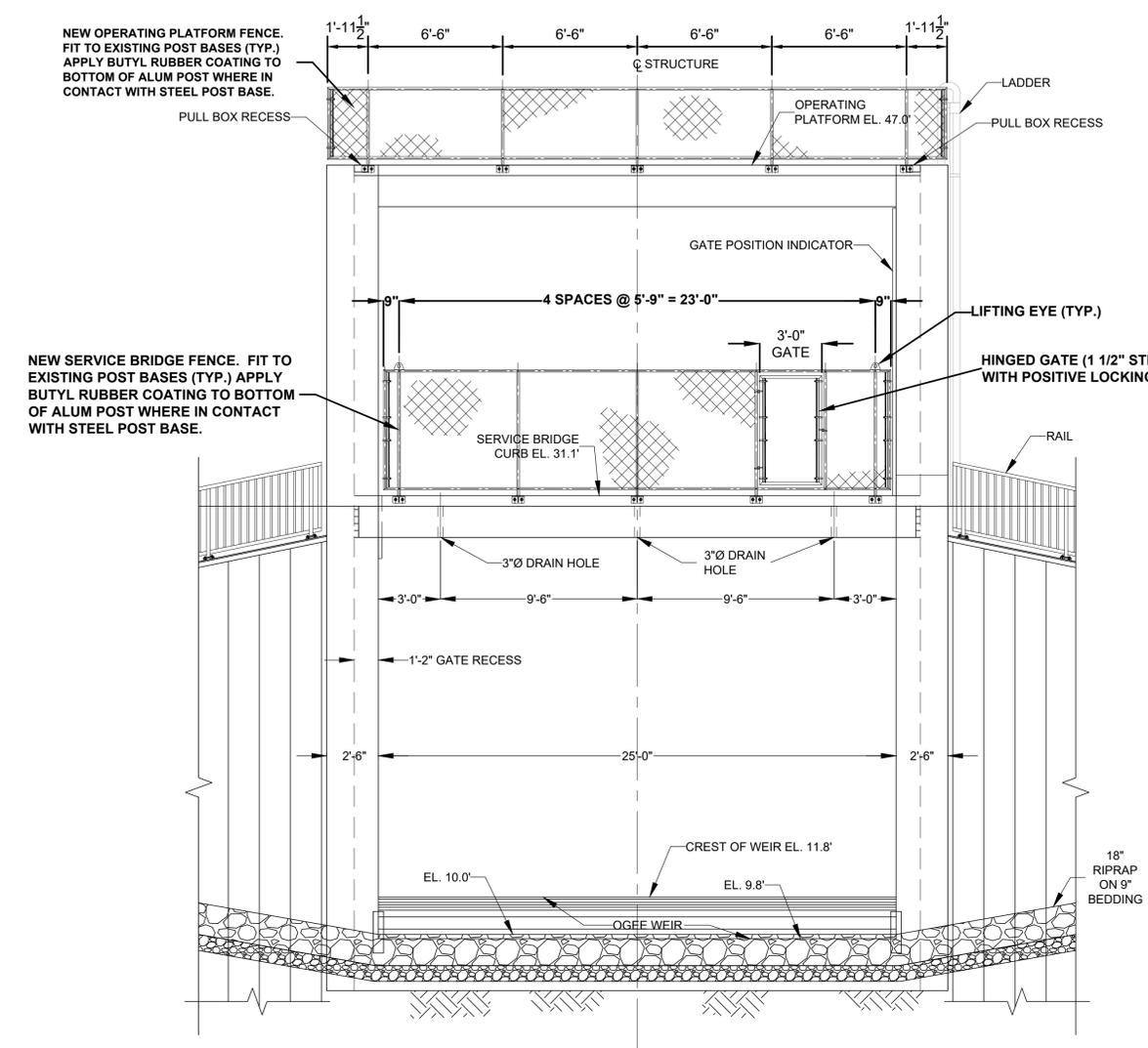
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**S16**

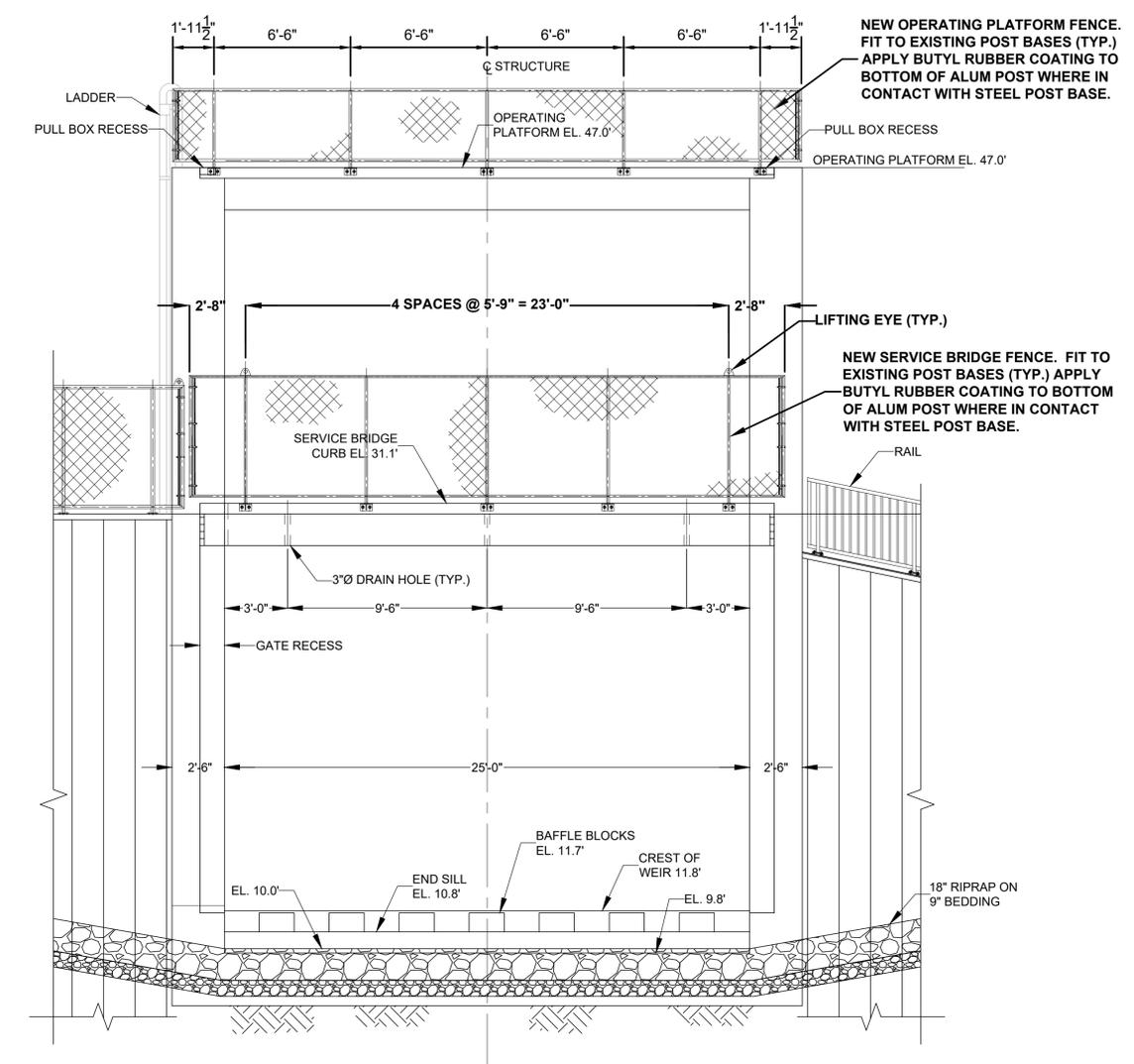
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S17  
3 FENCE PLAN OPERATING PLATFORM  
SCALE: 1/4" = 1'-0"



S17  
1 UPSTREAM ELEVATION  
SCALE: 1/4" = 1'-0"



S17  
2 DOWNSTREAM ELEVATION  
SCALE: 1/4" = 1'-0"

NEW OPERATING PLATFORM FENCE. FIT TO EXISTING POST BASES (TYP.) APPLY BUTYL RUBBER COATING TO BOTTOM OF ALUM POST WHERE IN CONTACT WITH STEEL POST BASE.

NEW SERVICE BRIDGE FENCE. FIT TO EXISTING POST BASES (TYP.) APPLY BUTYL RUBBER COATING TO BOTTOM OF ALUM POST WHERE IN CONTACT WITH STEEL POST BASE.

NEW OPERATING PLATFORM FENCE. FIT TO EXISTING POST BASES (TYP.) APPLY BUTYL RUBBER COATING TO BOTTOM OF ALUM POST WHERE IN CONTACT WITH STEEL POST BASE.

NEW SERVICE BRIDGE FENCE. FIT TO EXISTING POST BASES (TYP.) APPLY BUTYL RUBBER COATING TO BOTTOM OF ALUM POST WHERE IN CONTACT WITH STEEL POST BASE.

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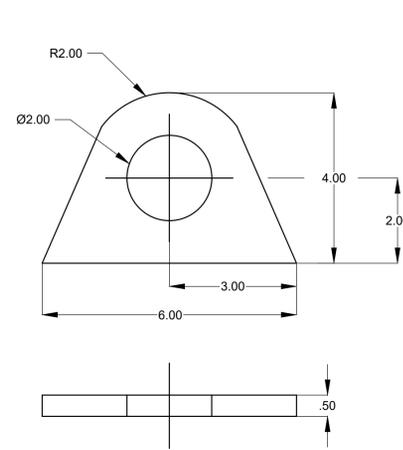
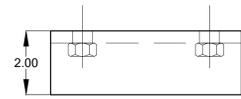
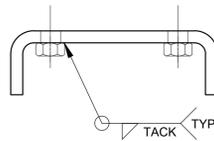
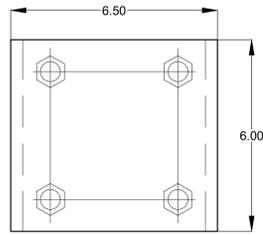
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NEW SERVICE BRIDGE AND OPERATING  
PLATFORM FENCE

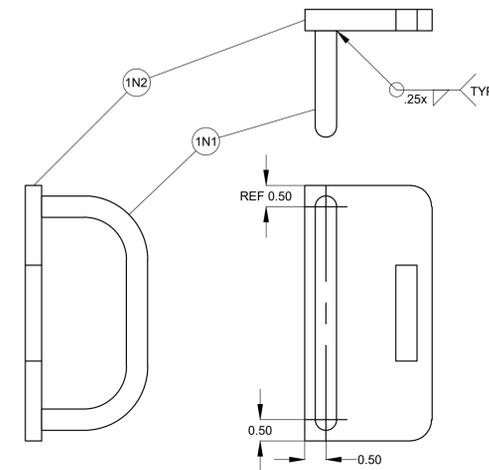
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S17



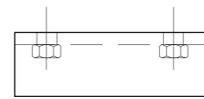
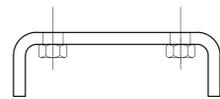
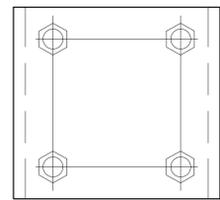
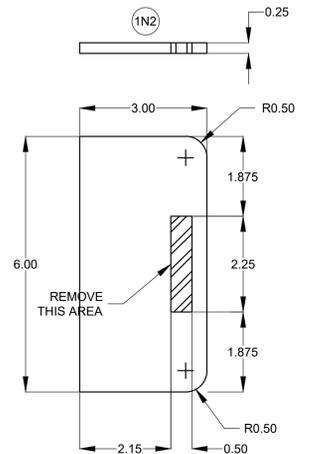
ASTM B210 6061 ALUMINUM PLATE

**S18**  
2 LIFTING EYE  
NOT TO SCALE

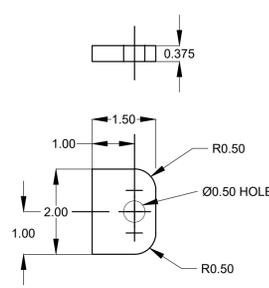
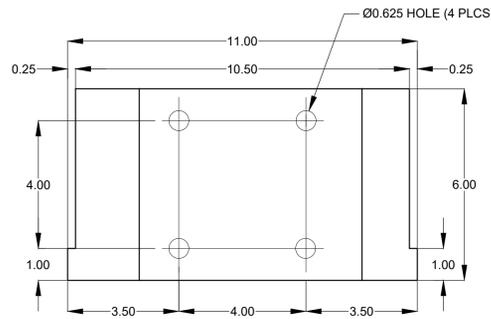


ASTM B210 6061 ALUMINUM

**S18**  
3 LATCH ASSEMBLY  
NOT TO SCALE

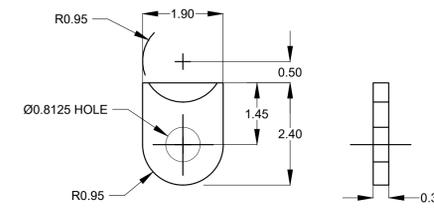


0.375" A36 CARBON STEEL PLATE



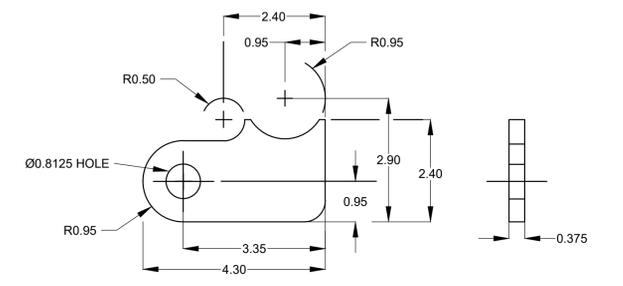
ASTM B210 6061 ALUMINUM

**S18**  
4 LOCKING EYELET  
NOT TO SCALE



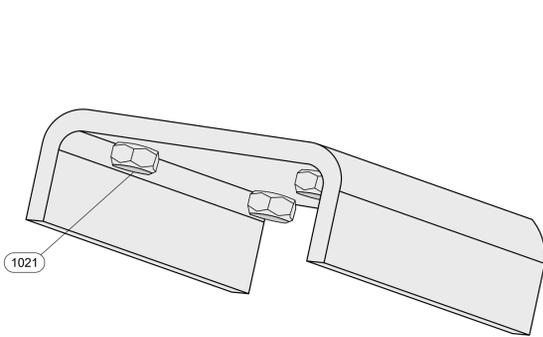
ASTM B210 6061 ALUMINUM

**S18**  
5 HINGE HALF - DOOR SIDE  
NOT TO SCALE

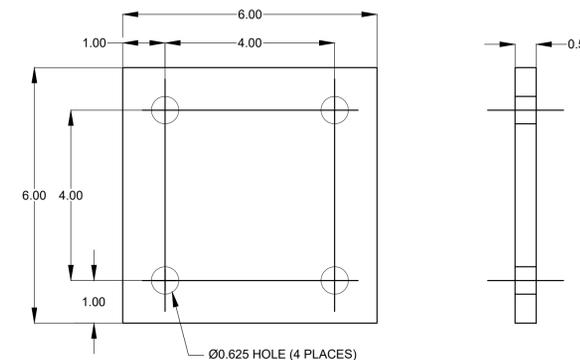
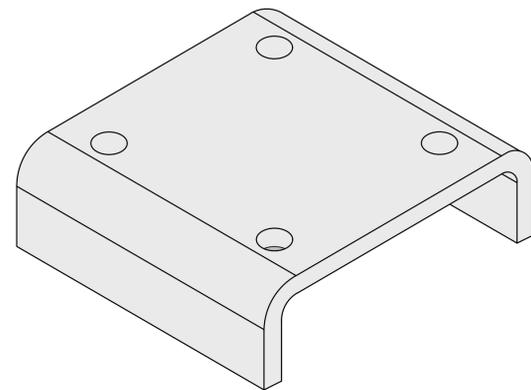


ASTM B210 6061 ALUMINUM

**S18**  
6 HINGE HALF - FENCE SIDE  
NOT TO SCALE



**S18**  
1 PILING FOOT BRACKET  
NOT TO SCALE



ASTM 6061 ALUMINUM PLATE

**S18**  
7 POST FOOT PLATE  
NOT TO SCALE

NOTE:  
PROVIDE 1/4" NEOPRENE PAD BETWEEN  
ALUMINUM POST PLATE AND STEEL  
BRACKET.

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UPPER ST. JOHNS RIVER BASIN  
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DRAWN: PLC & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC  
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

NEW FENCE DETAILS

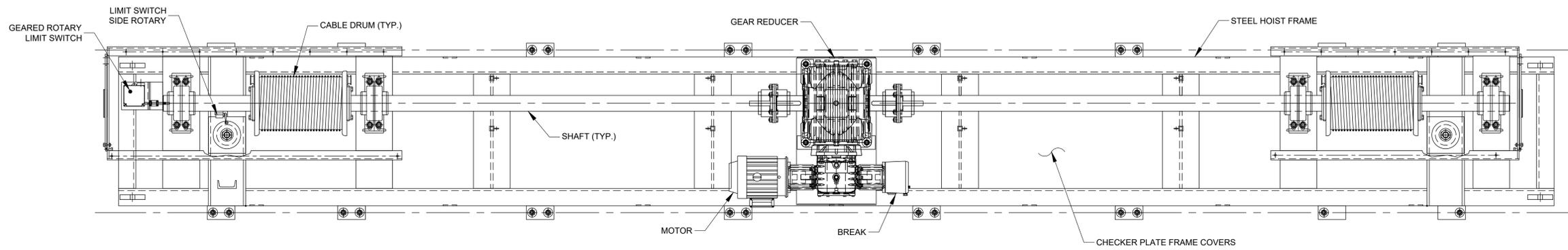
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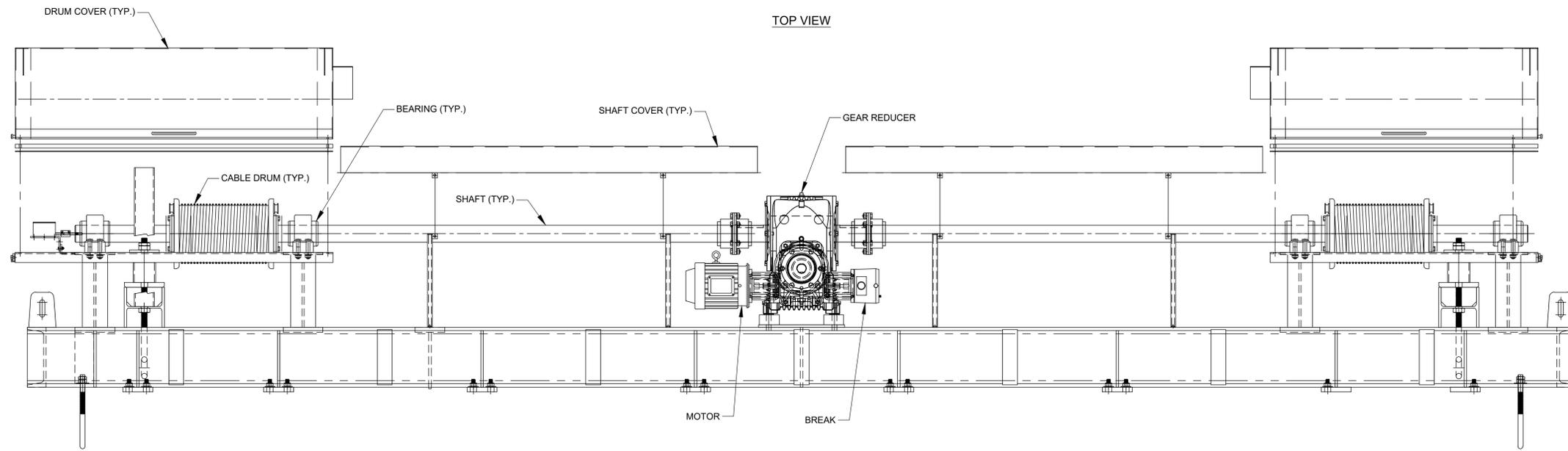
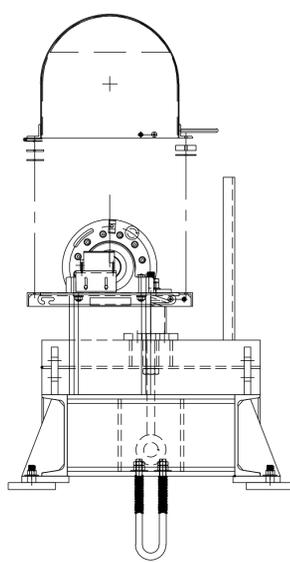
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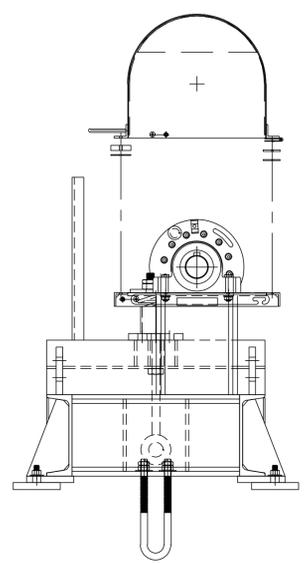
SHEET:  
**S18**



TOP VIEW



FRONT VIEW



S19  
1 CABLE HOIST ASSEMBLY (1 REQ'D)  
NOT TO SCALE

**CABLE DRUM HOIST**

1. THE PLAN AND ELEVATION SHOWN ARE A GENERAL ARRANGEMENT FOR A CABLE DRUM HOIST SYSTEM. ALTERNATIVE DESIGNS WILL BE CONSIDERED ACCEPTABLE PROVIDED THAT THE SPECIFICATIONS ARE MET.
2. REFER TO SPECIFICATION SECTION 14611 - VERTICAL LIFT GATE OPERATING SYSTEMS FOR PRODUCT REQUIREMENTS.
3. REFER TO SPECIFICATION "SECTION 09900 - PROTECTIVE COATINGS" FOR THE HOIST COATING REQUIREMENTS.
4. THE DEAD LOAD OF THE ROLLER GATE IS APPROXIMATELY 24,000 POUNDS.
5. THE REQUIRED LIFTING HEIGHT OF THE ROLLER GATES IS 15.9 FEET ABOVE THE SPILLWAY CREST.
6. THE CONTRACTOR SHALL CONFIRM ALL PERTINENT STRUCTURE DIMENSIONS PRIOR TO FABRICATION OF THE HOIST.
7. FOR HOIST POWER SUPPLY, CONTRACTOR SHALL CONNECT TO THE ELECTRICAL PANEL LOCATED IN THE CONTROL HOUSE ADJACENT TO THE STRUCTURE. THE EXISTING SERVICE IS 150 AMP, SINGLE PHASE 120/240 VOLTS.
8. THE OPERATING FORCES FOR THE GATE HOIST SHALL BE DETERMINED BASED ON AN UNBALANCED HEAD CONDITION OF 16 FEET.

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1	ISSUED FOR BID	N.J.G.	08/1/19	W.R.C.	08/1/19

UPPER ST. JOHNS RIVER BASIN  
STRUCTURE 96C REHABILITATION  
INDIAN RIVER COUNTY, FLORIDA

ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT  
P.O. BOX 1429 PALATKA, FLORIDA

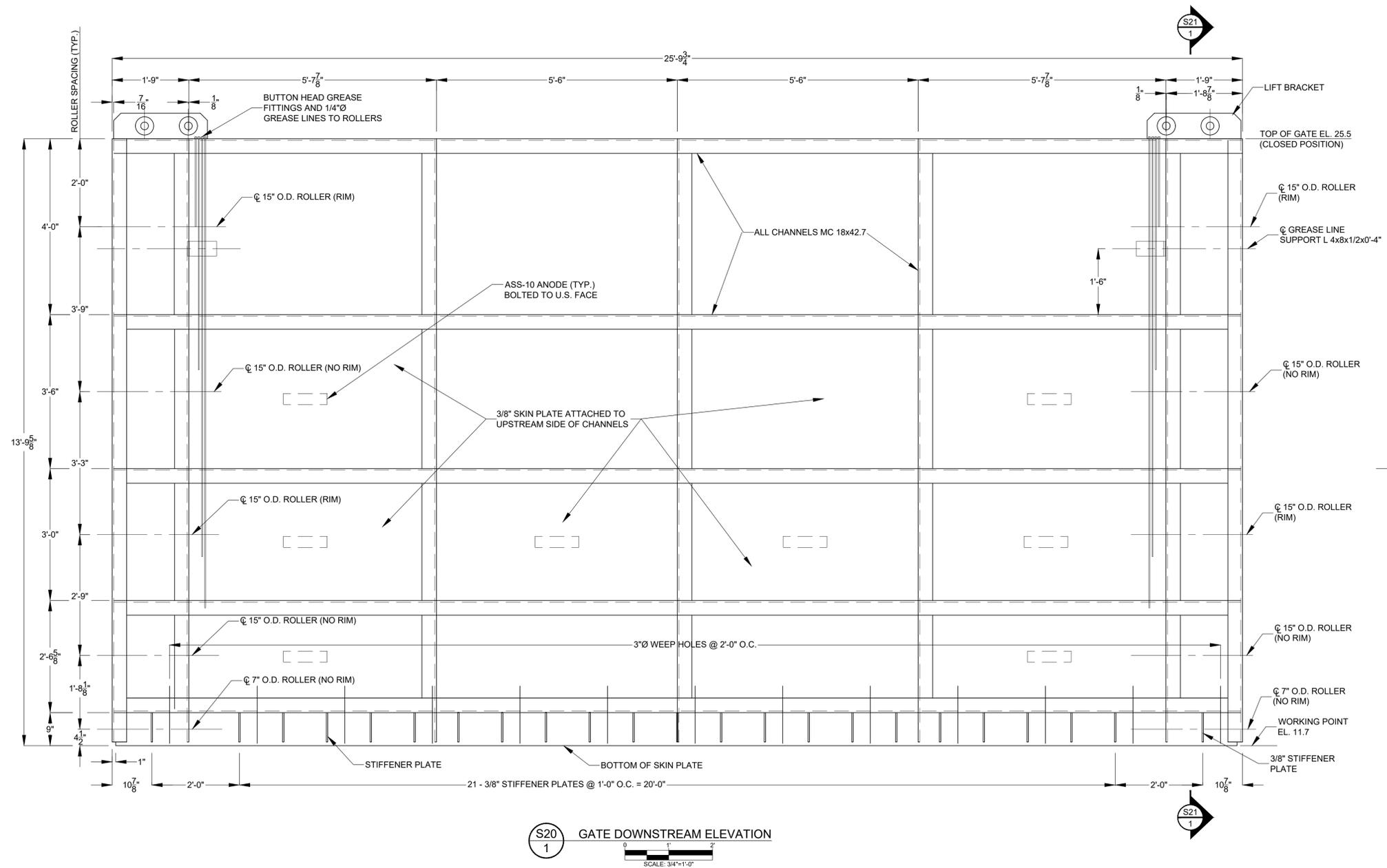
DRAWN: PLC & NJG DATE: AUGUST 1, 2019 REVIEWER: WRC  
SCALE: AS NOTED DESIGNER: WRC SECTION CHIEF: WRC

NEW CABLE DRUM HOIST

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

FILE NAME:  
S-96C FENCING.dwg  
PROJECT NO.:  
SHEET:  
S19

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GATE REHABILITATION - ELEVATION

CERTIFICATION:  
WILLIAM R. COTE  
P.E. NUMBER: 53746  
DATE: AUGUST 1, 2019

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S20

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**GATE REHABILITATION NOTES:**

**STRUCTURAL STEEL:**

- STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", NINTH EDITION.
- WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE" AWS D1.1.
- ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE NEW AND CONFORM TO THE REQUIREMENTS OF THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) STANDARD A36 UNLESS NOTED OTHERWISE.
- ALL BOLTS SHALL BE STAINLESS STEEL CONFORMING TO ASTM A276, TYPE 304. THE SIZE AND LOCATION OF REPLACEMENT BOLTS SHALL MATCH EXISTING UNLESS NOTED OTHERWISE.
- ALL WELDING SHALL UTILIZE E70XX LOW-HYDROGEN ELECTRODES UNLESS NOTED OTHERWISE.
- FIELD CORRECTING OF FABRICATED STEEL SHALL NOT BE PERMITTED ON MAJOR STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL OF THE DISTRICT.

**GATE OVERHAUL:**

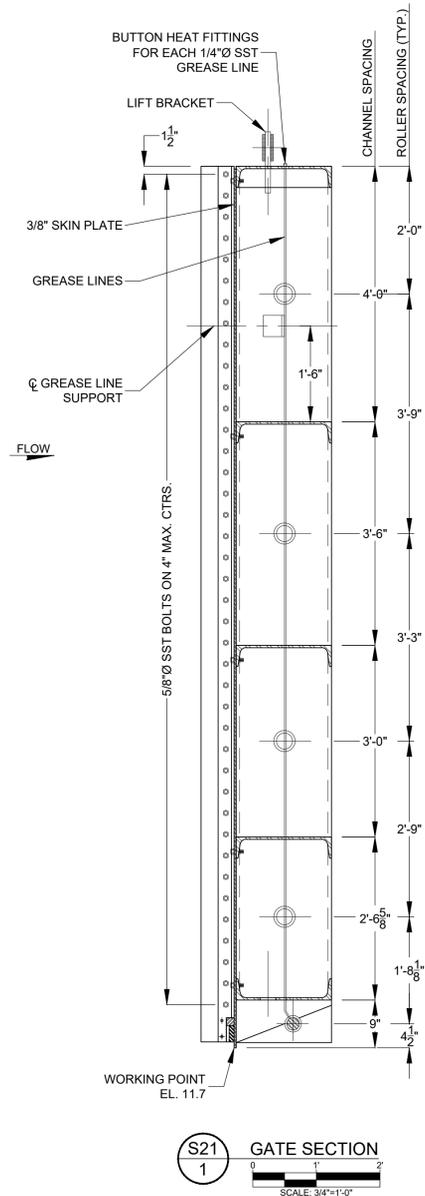
- PRESSURE WASH THE GATES TO REMOVE ALL ORGANIC GROWTH, LOOSE PARTICLES, AND OTHER EXTRANEIOUS MATERIALS.
- MARK ALL GATE COMPONENTS PRIOR TO REMOVAL FOR EASE OF REASSEMBLY.
- REMOVE GREASE LINES AND FITTINGS FROM THE ROLLER GATE. REMOVE OLD HYDRAULIC LINES, EVACUATE AND GROUT.
- REMOVE ALL SHEAVE HANGERS, SHEAVES, AND SHEAVE PINS FROM HOIST COFFINS. DISASSEMBLE THE HOIST LIFT SYSTEMS.
- REMOVE THE HOIST SYSTEMS AND ROLLER GATES FROM THE STRUCTURE. AT THE CONTRACTOR'S OPTION, THE DISTRICT'S REWORK SITE AND/OR GATE SUPPORT BRACING MAY BE USED FOR THE GATE REHABILITATION. THE REWORK SITE IS LOCATED AT 9555 SOUTH BABCOCK ROAD, PALM BAY, FL. THE CONTRACTOR SHALL PROVIDE A PORTABLE TOILET IF THE REWORK SITE IS UTILIZED.
- REMOVE RAILS AND SPLICE BARS AS REQUIRED. WHEN REMOVING RAILS, CARE SHALL BE TAKEN TO MEASURE AND DOCUMENT SHIM THICKNESS AT EACH LOCATION AND TO REPLACE WITH SS-304 SAME SIZE AND NUMBER OF SHIMS, AS NEEDED. REPLACE RAILS AND RAIL CLIPS USING ASCE 60# RAIL AND NO. 106 RAIL CLIPS, IF REQUIRED. REPLACE ALL NUTS WITH SILICON BRONZE NUTS CONFORMING TO ASTM F467.
- REMOVE ALL BOLTS, RETAINING PLATES, AND SEALS FROM THE ROLLER GATES.
- REMOVE WHEELS FROM THE ROLLER GATE.
- PRESS OUT SHAFTS WITH PORTA POWER WHILE MAKING SURE NOT TO DAMAGE GATE STRUCTURE. IF SHAFTS ARE NOT MOVING, USE HEAT ON COLLARS WHILE PRESSING OUT.
- INSPECT WHEELS, COLLARS, AXLES, AND BEARINGS AND REPAIR AS NEEDED.
- ALL GATE COLLARS SHALL BE INSPECTED AND REPLACED IF NECESSARY. IF COLLARS NEED TO BE REPLACED, ABRASIVE BLASTING AROUND THE COLLAR IS REQUIRED TO PREPARE FOR INSTALLATION OF THE NEW COLLAR.
- WHEELS SHALL BE BLASTED, INSPECTED, AND TURNED DOWN IF NECESSARY FOR BANDING. IF REQUIRED, THE BANDS SHALL BE SIZED AND THE WHEEL PLACED IN AN OVEN OVERNIGHT IN PREPARATION OF THE WELDING PROCESS. AFTER WELDING, THE WHEEL SHALL BE COOLED SLOWLY TO PREVENT FRACTURING OF THE WELDS AND THEN MACHINED TO THE REQUIRED DIAMETER.
- AXLES AND WHEELS SHALL BE MEASURED FOR "THORDON THORPLAS" BEARING FABRICATION. THE "THORDON THORPLAS" BEARINGS SHALL BE INSERTED AND THE WHEELS BLASTED AND PAINTED. THE CONTRACTOR SHALL COORDINATE WITH THE BEARING MANUFACTURER IN DETERMINING THE PROPER SIZING OF THE BEARINGS.
- AXLES SHALL BE ABRASIVE BLASTED (EXCEPT FOR STAINLESS STEEL) AND INSPECTED FOR SERVICEABILITY. IF NECESSARY, THE AXLES SHALL BE REPAIRED. UPON COMPLETION, AXLES SHALL BE BLASTED AND PAINTED.
- INSPECT ALL COMPONENTS TO ENSURE THEY ARE CLEAN OF DEBRIS AND GREASE.
- MARK THE WEIGHT OF THE GATE ON THE TOP CHANNEL USING A FILLET WELD.
- ALL STEEL COMPONENTS (EXCEPT FOR STAINLESS STEEL ITEMS) SHALL BE BLASTED AND PAINTED. ITEMS TO BE PAINTED SHALL INCLUDE THE ROLLER GATES, WHEELS, SEAL RETAINING PLATES, AND RAILS.
- REASSEMBLE THE ROLLER GATES, INCLUDING THE WHEELS, SEALS, RETAINING PLATES, AND HARDWARE.
- PROVIDE AND INSTALL CATHODIC PROTECTION ANODES AT THE LOCATIONS SHOWN. ANODES SHALL BE ASS-10 CONFORMING TO MIL SPEC A-24779. THE ANODE MOUNTING STRAP SHALL HAVE 5/8" DRILLED HOLES AND SHALL BE BOLTED TO THE UPSTREAM FACE OF THE GATE WITH 1/2" DIAMETER SS-304 BOLTS. THE CONTACT SURFACES BETWEEN THE GATE AND THE ANODES SHALL BE BARE METAL. THE ANODES SHALL NOT BE PAINTED.
- REINSTALL RAILS. REPLACE SHIMS OF SAME SIZE WITH SS-304 PLATES AS REQUIRED. REPLACE ANCHOR BOLTS OF SAME SIZE WITH SS-304 BOLTS AS REQUIRED.
- REINSTALL THE COMPLETED ROLLER GATES AND HOIST SYSTEMS.
- REINSTALL THE ROLLER GATE GREASE LINES AND FITTINGS.
- PERFORM DRY TEST OPERATION OF GATES.
- TEST OPERATION OF GATES UNDER NORMAL OPERATING CONDITIONS.

**PAINTS AND PROTECTIVE COATINGS:**

- ALL STEEL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL (SSPC) "STEEL STRUCTURES PAINTING MANUAL".
- STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:  
SSPC-10 NEAR WHITE BLAST CLEANING.
- PAINT SHALL BE BY THE WASSER CORPORATION, OR EQUAL, AS FOLLOWS:  
FIRST COAT: MC-ZINC 100 GRAY 3-5 MILS DFT MINIMUM  
SECOND COAT: MC-TAR 100 RED 5-7 MILS DFT MINIMUM  
THIRD COAT: MC-TAR 100 BLACK 5-7 MILS DFT MINIMUM  
FOURTH COAT: MC-LUSTER 100 SILVER 2-4 MILS DFT MINIMUM  
SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER SPECIFICATIONS.

**RUBBER SEALS:**

- THE EXISTING J-SEALS SHALL BE REPLACED WITH SOLID BULB TYPE J-SEAL NO. 2514 (1-3/4"X5"X9/16") AS MANUFACTURED BY SEALS UNLIMITED, INC., OR EQUAL. DRILL HOLES TO CONFORM WITH THE SIZE AND SPACING ON THE GATE.
- THE NEW 4"X1" BOTTOM SEAL SHALL BE BLACK NEOPRENE SHEET COMMERCIAL GRADE 60 DURO PLATE FINISH IN ACCORDANCE WITH ASTM D2000 1BC805, AS MANUFACTURED BY TAMPA RUBBER AND GASKET COMPANY, INC., OR EQUAL. DRILL HOLES TO CONFORM WITH THE SIZE AND SPACING ON THE GATE.
- REPLACE ALL SEAL FASTENERS. BOLTS SHALL CONFORM TO ASTM A276, TYPE SS-304 AND SILICON BRONZE NUTS SHALL CONFORM TO ASTM F467.



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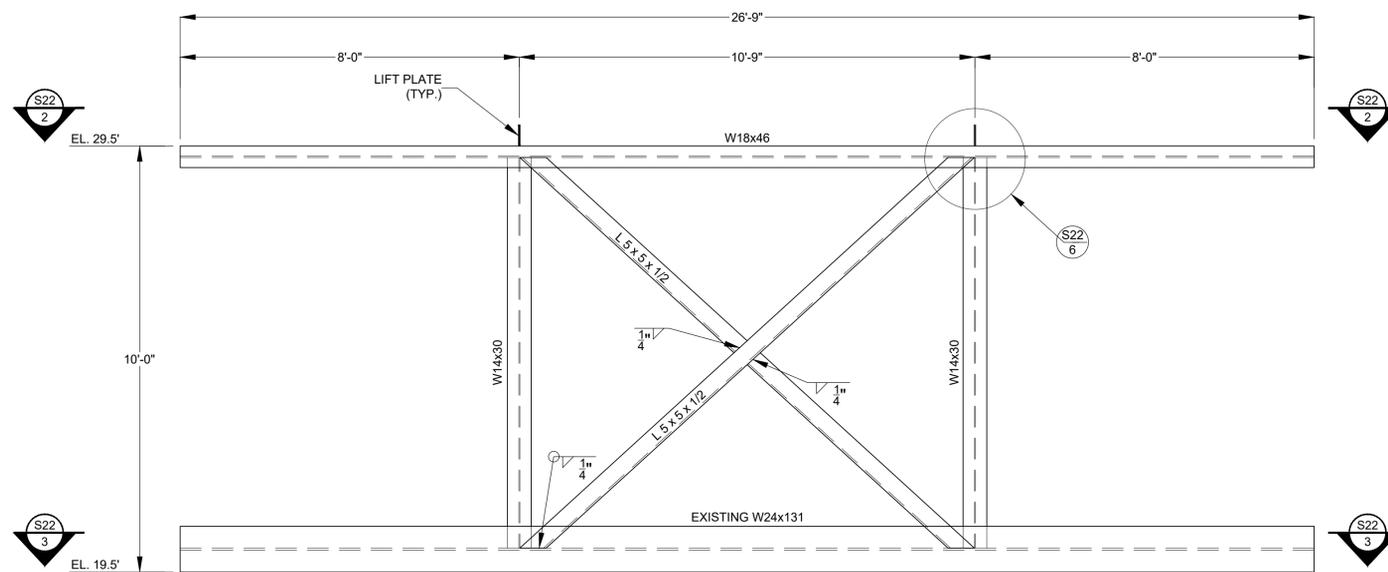
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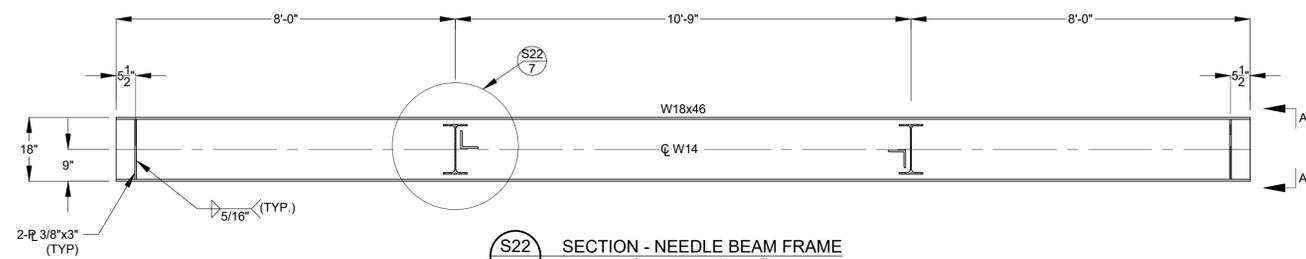
GATE REHABILITATION SECTION AND NOTES

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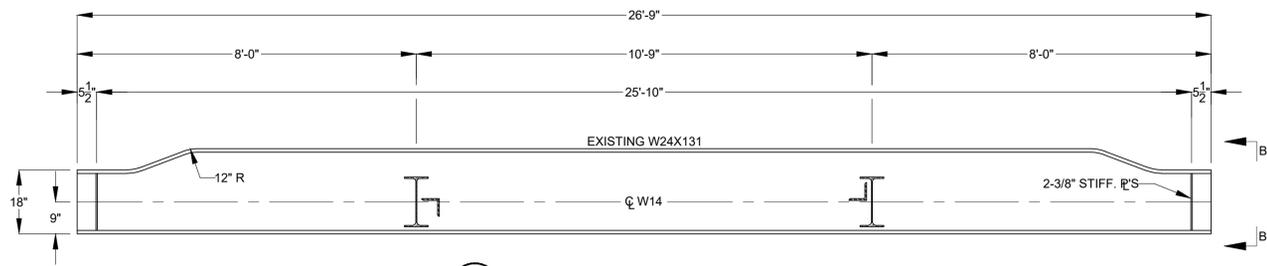
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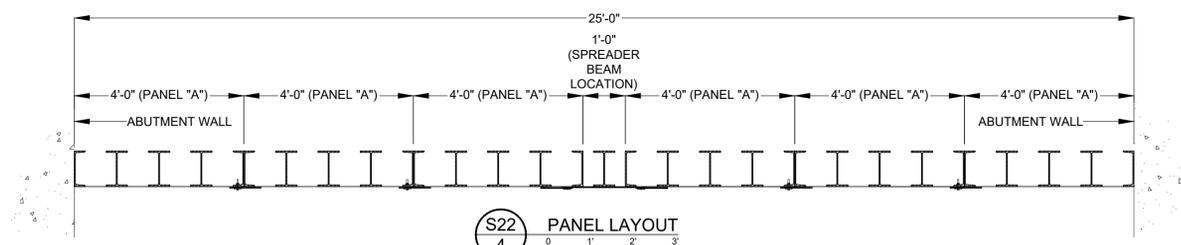
S22 1 PARTIAL ELEVATION NEEDLE BEAM FRAME (2 REQ'D)  
SCALE: 1/2"=1'-0"



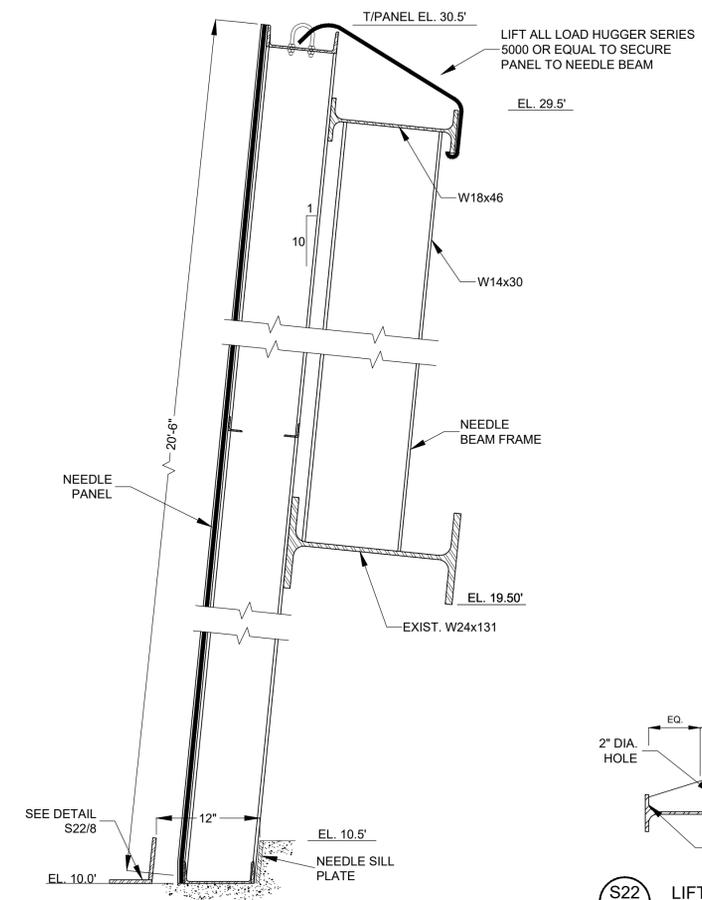
S22 2 SECTION - NEEDLE BEAM FRAME  
SCALE: 1/2"=1'-0"



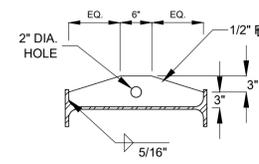
S22 3 SECTION - NEEDLE BEAM FRAME  
SCALE: 1/2"=1'-0"



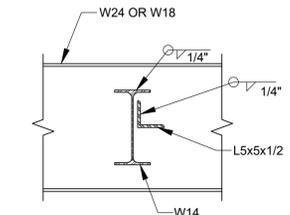
S22 4 PANEL LAYOUT  
SCALE: 1/2"=1'-0"



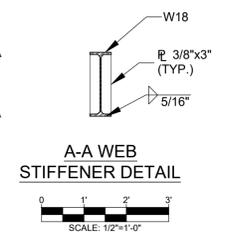
S22 5 TYPICAL PANEL SECTION  
SCALE: 1"=1'-0"



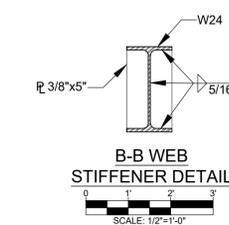
S22 6 LIFT PLATE DETAIL  
SCALE: 3/4"=1'-0"



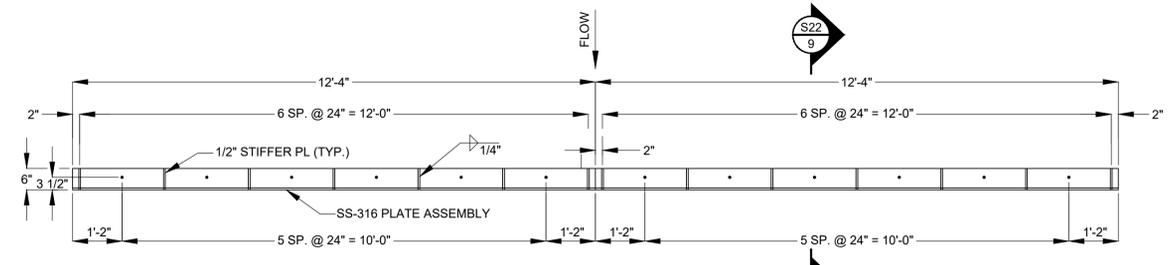
S22 7 CONNECTION DETAIL  
SCALE: 3/4"=1'-0"



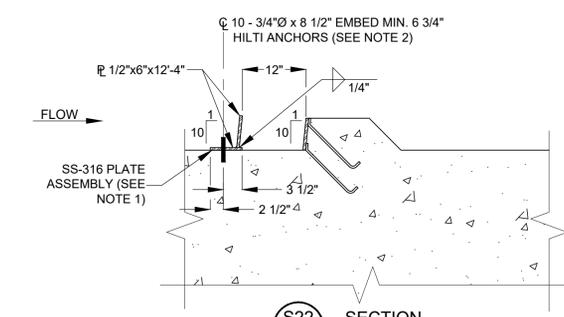
A-A WEB STIFFENER DETAIL  
SCALE: 1/2"=1'-0"



B-B WEB STIFFENER DETAIL  
SCALE: 1/2"=1'-0"



S22 8 PLAN (2 REQ'D) PANEL TOE SUPPORT (BY OTHERS)  
SCALE: 1/2"=1'-0"



S22 9 SECTION  
SCALE: 3/4"=1'-0"

1. THE PANEL TOE SUPPORT PLATE ASSEMBLY SHALL BE STAINLESS STEEL TYPE 316 CONFORMING TO ASTM A479.
2. ANCHORS SHALL UTILIZE THE HILTI HIT-RE 500-V3 EPOXY ADHESIVE ANCHORING SYSTEM, OR EQUAL. THREADED ANCHOR RODS, SHALL BE 3/4" DIA. X 8-1/2" LONG HAS-R 316 STAINLESS STEEL WITH A MINIMUM EMBEDMENT DEPTH OF 6-3/4". NUTS AND WASHERS SHALL ALSO BE SS-316.
3. SEE SHEET S1 PAINTS AND PROTECTIVE COATINGS FOR STEEL.

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NEW NEEDLE BEAM FRAME

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