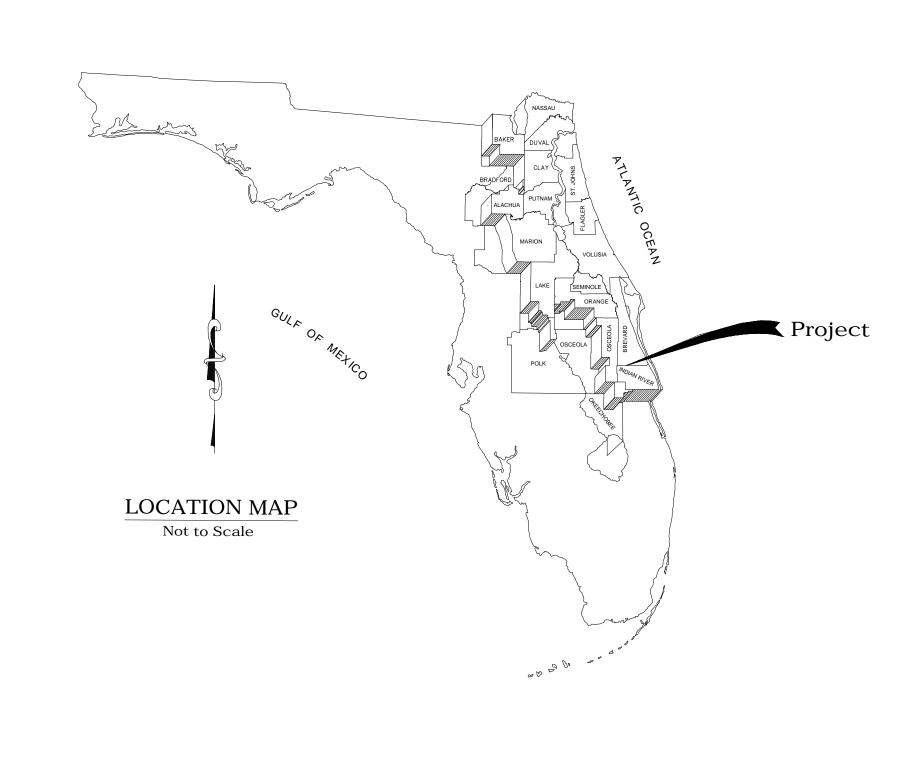
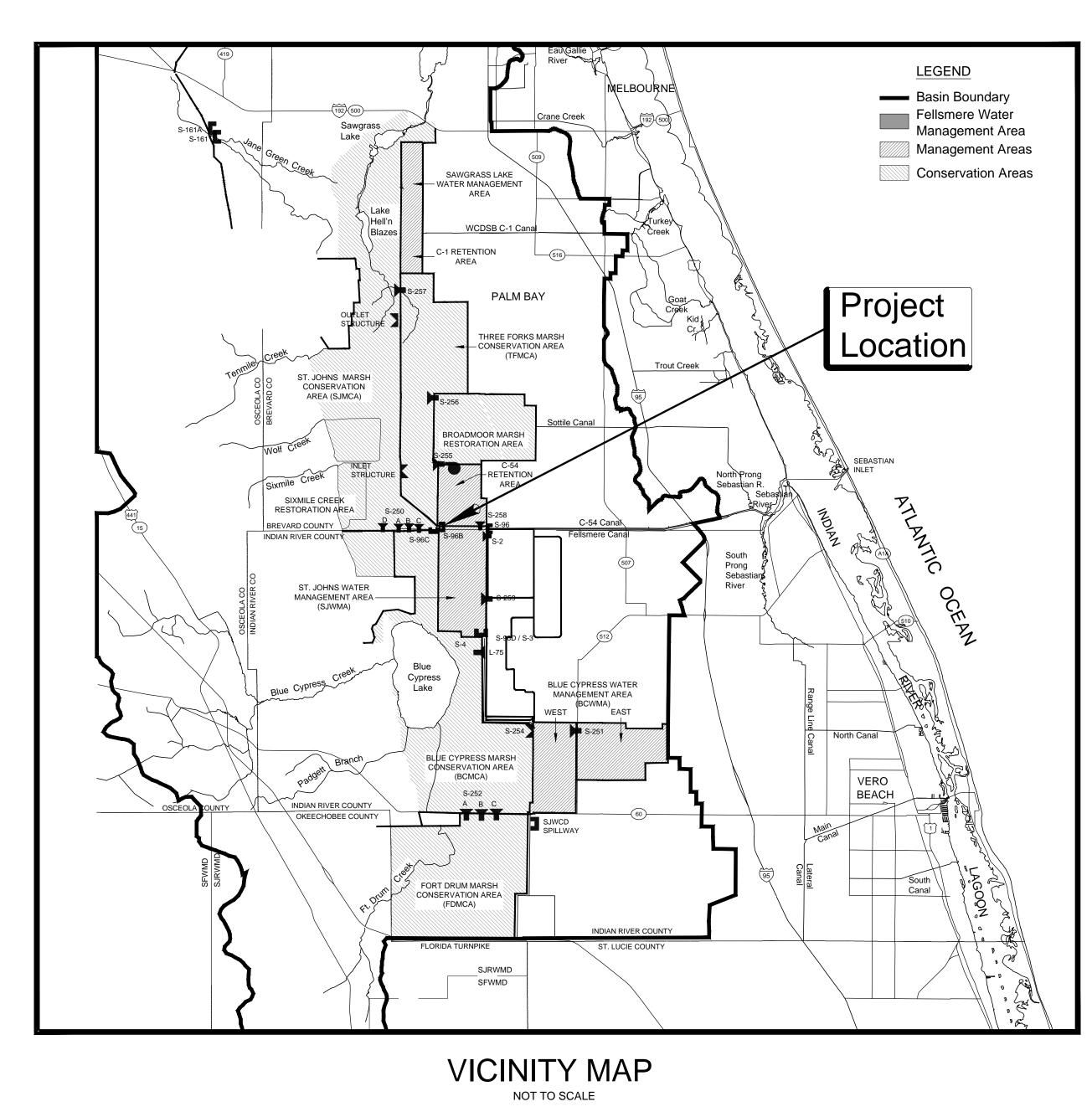
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B REHABILITATION

INDIAN RIVER COUNTY, FLORIDA

NGVD 1929

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





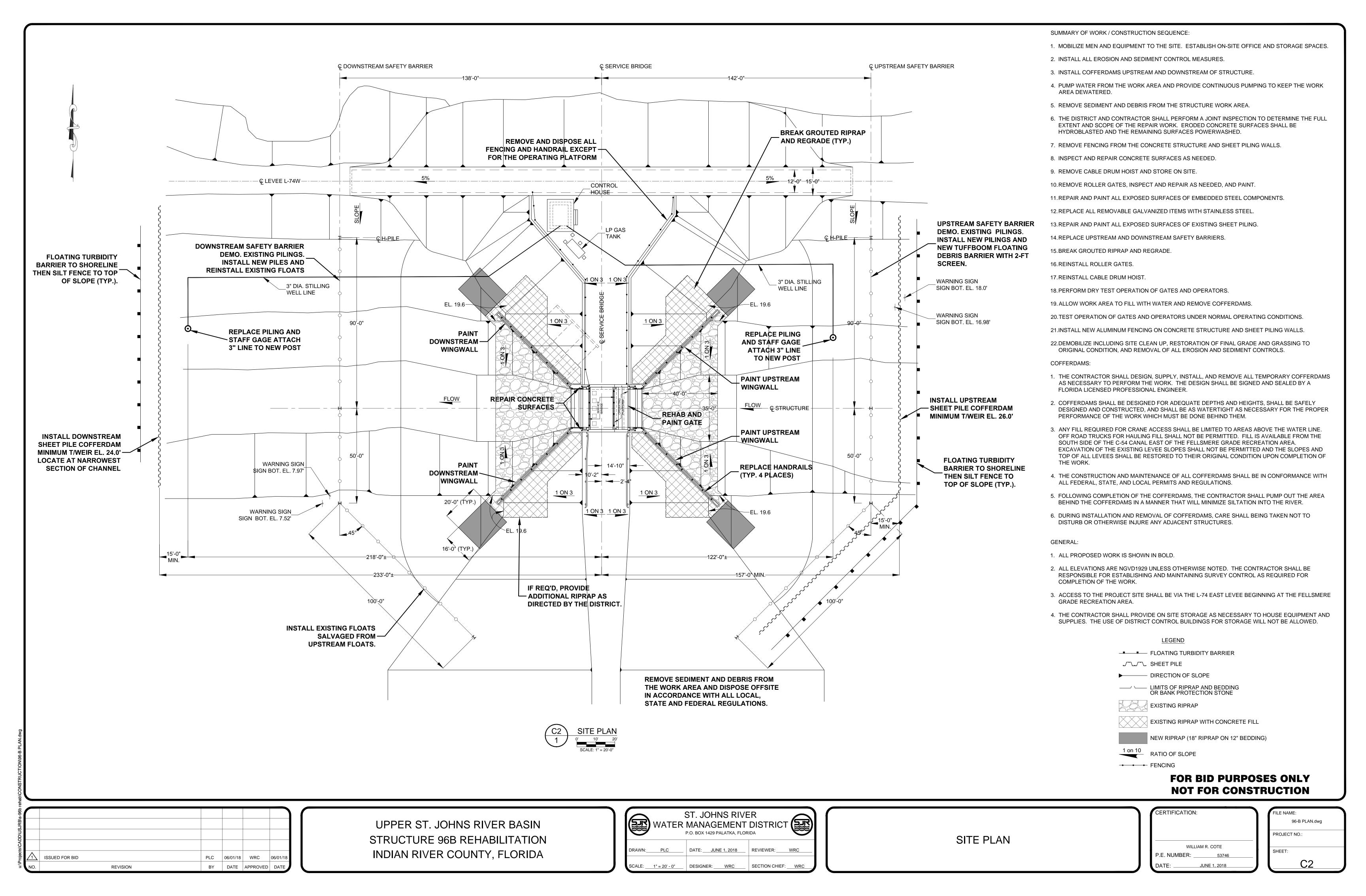


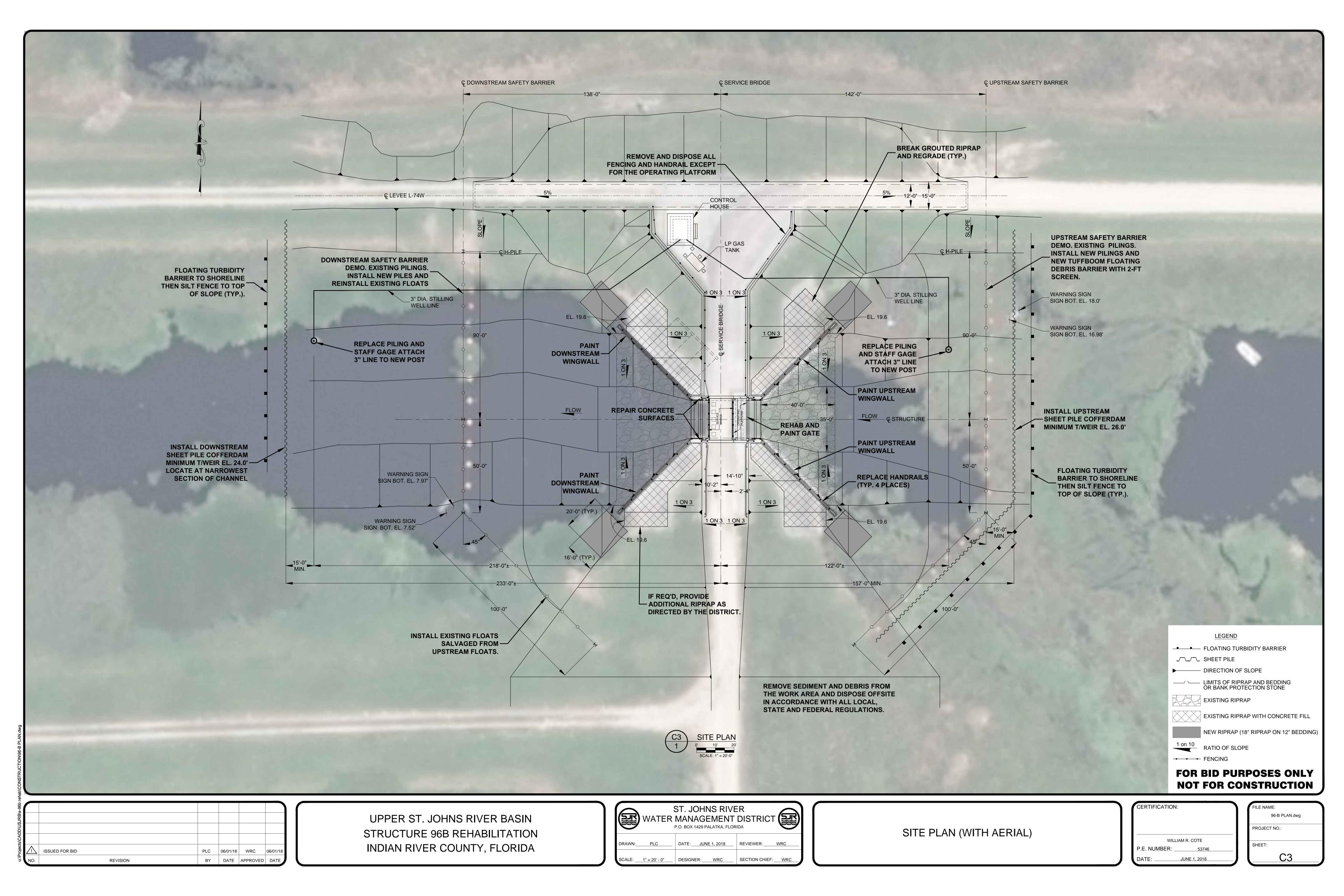
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SITE PLAN (WITH AERIAL)
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CONCRETE REPAIR - SOUTH WALL INSIDE
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SHEET PILING REPAIR - WINGWALL ELEVATION
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NEW PILE GROUP DETAILS
NEW STAFF GAUGES AND GATE POSITION GUIDE
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WRI PLATFORM PLAN AND SECTION
WRI PLATFORM DETAILS

PLC 06/01/18 WRC 06/01/18 ISSUED FOR BID REVISION

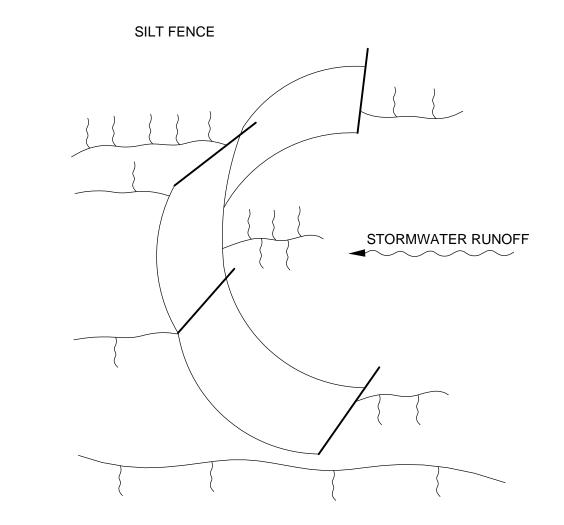
FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

CERTIFICATION:	DRAWING FILENAME:
	96-B PLAN.dwg
WILLIAM R. COTE	SHEET:
P.E. NUMBER: <u>53746</u>	- 04
DATE: JUNE 1, 2018	

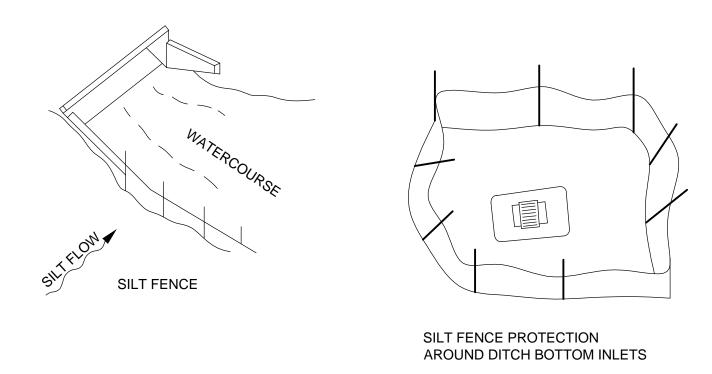




TYPE III SILT FENCE



SILT FENCE PROTECTION IN DITCHES WITH INTERMITTENT FLOW



SILT FENCE APPLICATIONS

NOTES FOR SILT FENCES

- 1. 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 CHART 1, SHEET 1 (FDOT INDEX NO. 102).
- 2. 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.
- 3. 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.
- 4. 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.
- 5. SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE, (LF).

TEMPORARY SILT FENCE DETAIL

NOT TO SCALE

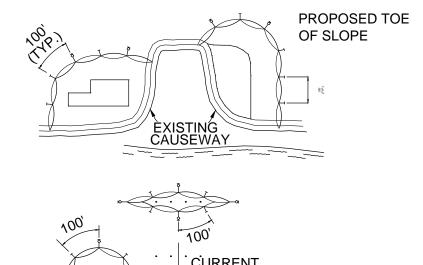
 $5/_{6}$ " VINYL SHEATHED EAW STEEL CABLE (9800 LBS. BREAKING STRENGTH WITH GALVANIZED CONNECTORS (TOOL FREE DISCONNECT)

CLOSED CELL SOLID PIPE (METAL COLLAR REINFORCED) PLASTIC FOAM FLOATATION (8" DIA. EQUIV.) (17 LBS. PER FT. BUOYANCY) %" POLYPRO 18 Oz. NYLON ROPE (600 LB. 18 Oz. NYLON STRESS PLATI REINFORCED PVC BREAKING REINFORCED PVC FABRIC (300 PSI STRENGTH) FABRIC (300 PSI TEST) 5/16" GALVANIZED CHAIN TYPE I TYPE II

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.

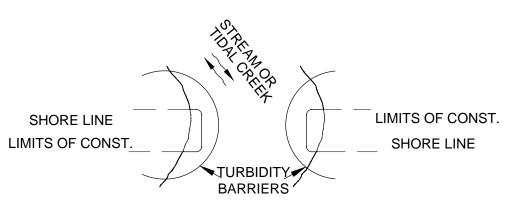
NOTICE: COMPONENTS OF TYPE I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGN. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

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



LEGEND

ANCHOR

PILE LOCATIONS

■ BARRIER MOVEMENT DUE

DREDGE OR FILL AREA

TO CURRENT ACTION

MOORING BUOY W/ANCHOR

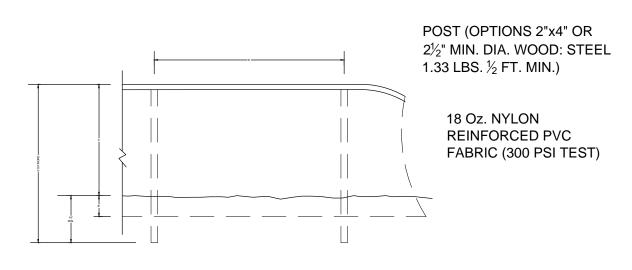
NOTE

SLOTTED PVC CONNECTOR

- 1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
- 2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
- 3. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
- 4. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
- 5. TURBIDITY BARRIERS SHALL CONFORM TO SECTION 104 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION <u>STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION</u>, LATEST EDITION.

TURBIDITY BARRIER APPLICATIONS

NOT TO SCALE



STAKED TURBIDITY BARRIER NOT TO SCALE

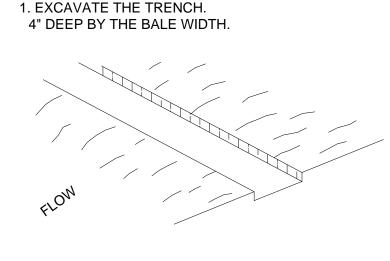
NOTES:

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.

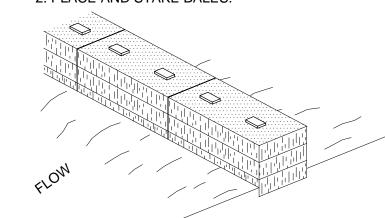
CLOSED CELL SOLID
PLASTIC FOAM FLOATATION
(6" DIA. EQUIV.) (12 LBS.
PER FT. BUOYANCY)

 $\frac{1}{4}$ " GALV.

CHAIN

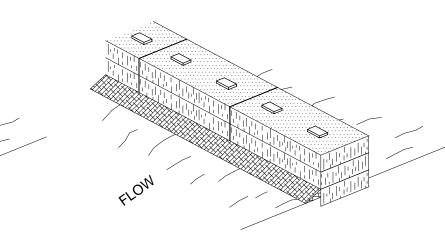


2. PLACE AND STAKE BALES.



3. WEDGE LOOSE STRAW BETWEEN THE BALES.

4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



NOTE:

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

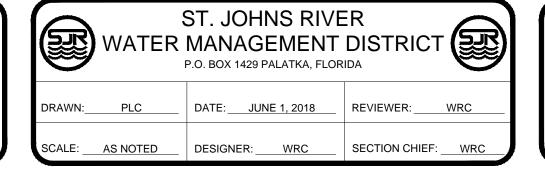
HAY BALE BARRIER

EROSION AND SEDIMENT CONTROL NOTES:

- 1. 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.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 7. 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.
- 8. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO THE FLORIDA DEVELOPMENT MANUAL A GUIDE TO SOUND LAND AND WATER MANAGEMENT FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (F.D.E.P.) CHAPTER 6, LATEST EDITION.
- 9. 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 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION 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

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



EROSION AND SEDIMENT CONTROL

CERTIFICATION	N:
WIL	LIAM R. COTE
P.E. NUMBER:	53746
DATE:	JUNE 1, 2018



NOTE SPECIFICATIONS:

REFERENCE DOCUMENTS:

- 1. AS-BUILT DRAWINGS PREPARED BY THE US ARMY CORPS OF ENGINEERS, "STRUCTURE 96B AND TIEBACK LEVEE", DATED MARCH 1993.
- 2. REPORT PREPARED BY ARDAMAN & ASSOCIATES, INC., "ENGINEERING EVALUATION OF CONCRETE CONDITION AND STEEL SHEET PILE WING WALL THICKNESS, STRUCTURE S-96B", DATED JULY 9, 2014.

CENEDAL

- THE CONTRACTOR SHALL BE RESPONSIBLE TO FAMILIARIZE HIMSELF WITH THE NATURE AND EXTENT OF THE CONTRACT DOCUMENTS, SCOPE OF WORK, LOCAL CONDITIONS, ALL FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS THAT MAY AFFECT THE WORK. THE CONTRACTOR SHALL PROVIDE A GANTT CHART SCHEDULE FOR ALL THE PROPOSED WORK PRIOR TO THE START OF CONSTRUCTION.
- 2. THE EXISTING CONDITIONS REPRESENTED IN THESE DRAWINGS AND THE REFERENCED DRAWINGS ARE BELIEVED TO BE ACCURATE ACCORDING TO THE INFORMATION AVAILABLE TO THE DISTRICT. HOWEVER, IT IS THE SOLE RESPONSIBILITY OF THE BIDDER (CONTRACTOR) TO VERIFY ALL EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE DISTRICT PRIOR TO SUBMITTAL OF THE BID.

3 PERMITS

THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS CONTAINED IN THE FOLLOWING PERMITS WHICH HAVE BEEN OBTAINED BY THE DISTRICT:

- U.S. DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS, NATIONWIDE PERMIT.
- FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, NOTICED GENERAL PERMIT.

THE CONTRACTOR SHALL OBTAIN ANY AND ALL REMAINING PERMITS AS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL OBTAIN AN NPDES PERMIT IF HIS CONSTRUCTION ACTIVITIES WILL DISTURB AN ACRE OR MORE OF LAND.

- 4. THE CONTRACTOR SHALL CARRY OUT ALL CONSTRUCTION OPERATIONS IN A MANNER WHICH DOES NOT CAUSE VIOLATIONS OF STATE WATER QUALITY STANDARDS. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCE, HAY BALES, TURBIDITY BARRIER, ETC.) AS REQUIRED FOR COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS.
- 5. ALL ERODIBLE GROUND AREAS AND SLOPES DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED WITH SOD, MULCH, SEED, WETLAND SPECIES, OR OTHERWISE APPROPRIATELY STABILIZED WITHIN 72 HOURS AFTER COMPLETION OF THE CONSTRUCTION ACTIVITY AND AT ANY OTHER TIME AS NECESSARY TO PREVENT VIOLATIONS OF STATE WATER QUALITY STANDARDS. ANY DISTURBED SLOPES STEEPER THAT 4:1 SHALL BE
- 6. THE CONTRACTOR SHALL PROVIDE THE NECESSARY WATER CONTROL SUCH THAT ALL CONSTRUCTION IS PERFORMED IN THE DRY. FOR THE PURPOSES OF THIS WORK, THE TERM "DRY" SHALL BE DEFINED AS SURFACES FREE OF MOISTURE, STANDING WATER, FLOWING WATER, RAIN, OR GROUNDWATER SEEPAGE EXCEPT AS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS OR AS OTHERWISE APPROVED BY THE DISTRICT. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO CONTROL THE FLOW OF WATER.
- 7. THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND OTHER SITE IMPROVEMENTS FROM DAMAGE WHETHER OR NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR REPAIRS TO UTILITIES AND OTHER SITE IMPROVEMENTS DAMAGED DURING CONSTRUCTION. ADDITIONALLY, THE WORK WILL BE CONSIDERED COMPLETE ONLY AFTER ALL RUBBISH AND UNUSED MATERIAL DUE TO OR CONNECTED WITH THE WORK HAS BEEN REMOVED AND THE PREMISES LEFT IN A CONDITION SATISFACTORY TO THE DISTRICT.
- 8. THE CONTRACTOR SHALL REPAIR ALL AREAS DISTURBED DURING CONSTRUCTION TO ITS ORIGINAL OR BETTER CONDITION
- 9. THE CONTRACTOR SHALL PROVIDE ALL SAFETY AND TRAFFIC CONTROL NECESSARY FOR ACCESS TO THE SITE AND WORK WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR THE DISTRICT AND ITS SUB-CONTRACTORS ALONG L-74N AND ACROSS S-96B TO L-74W THROUGHOUT THE DURATION OF THE PROJECT.
- 10. THE CONTRACTOR SHALL COORDINATE ACTIVITIES AND COOPERATE WITH OTHER CONTRACTORS AND DISTRICT PERSONNEL PERFORMING WORK WITHIN THE PROJECT LIMITS.
- 11. CONSTRUCTION INSPECTION WILL BE PERFORMED BY THE DISTRICT. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AT LEAST 48 HOURS PRIOR TO THE REQUIRED TIME OF INSPECTION FOR EACH AND EVERY PHASE OF WORK.
- 12. THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF CONTRACT DOCUMENTS INCLUDING DRAWINGS AND SPECIFICATIONS AT THE JOB SITE CLEARLY MARKED TO REFLECT ALL AS-BUILT CONDITIONS. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT THESE ANNOTATED DRAWINGS AND SPECIFICATIONS TO THE DISTRICT.

CONCRETE REPAIR:

- 1. THE SCOPE AND EXTENT OF ALL CONCRETE REPAIR WORK SHALL BE FIELD DETERMINED DURING THE JOINT INSPECTION BY THE DISTRICT AND THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE FOR, AND PROVIDE, THE SERVICES OF THE PRODUCT MANUFACTURER'S TECHNICAL REPRESENTATIVE FOR THIS MEETING TO REVIEW AND DISCUSS THE REPAIR SCOPE OF WORK, TECHNIQUES, AND PROCEDURES. THE PRODUCT REPRESENTATIVE SHALL ALSO BE PRESENT FOR AN INITIAL CONCRETE REPAIR OPERATION SITE VISIT FOR THE PURPOSE OF CONFIRMING THAT THE CONTRACTOR'S PERSONNEL ARE PROPERLY APPLYING THE REPAIR MATERIAL AND TO WITNESS THE FIRST APPLICATION OF EACH TYPE OF REPAIR MATERIAL INSTALLED.
- THE CONTRACTOR SHALL INSPECT AND PROBE CONCRETE SURFACES TO IDENTIFY AND LOCATE ALL AREAS OF DETERIORATION. REPAIR AREAS SHALL INCLUDE CONCRETE FOUND TO BE CRACKED, SPALLED, OR OTHERWISE SHOWING EVIDENCE OF DISINTEGRATION OR STRUCTURAL FAILURE.
- 3. SURFACE PREPARATION: ALL ERODED, DAMAGED, DETERIORATED, LOOSENED, OR UNBONDED PORTIONS OF EXISTING CONCRETE SHALL BE REMOVED BY HIGH PRESSURE HYDROBLASTING (8000–15000 PSI) TO ACHIEVE A SOUND EXPOSED AGGREGATE SURFACE WITH A MINIMUM SURFACE PROFILE EQUAL TO CSP 6 9 IN ACCORDANCE WITH ICRI GUIDELINE 310.2. THE PRODUCT REPRESENTATIVE SHALL INSPECT AND APPROVE IN WRITING THAT THE SURFACE PREPARATION IS ACCEPTABLE FOR THE APPLICATION OF THE REPAIR PRODUCTS. GENERALLY, THE CONCRETE AREAS TO BE HYDROBLASTED WILL BE TO A DEPTH OF LESS THAN 1 INCH. THE FINAL EXTENT OF THE HYDRODEMOLITION AREA WILL BE DETERMINED DURING CONSTRUCTION AS DICTATED BY THE EXISTING CONDITIONS ENCOUNTERED.

REMOVAL OF DETERIORATED CONCRETE BY MECHANICAL MEANS SUCH AS BUSH HAMMERING, JACK HAMMERING, SCABBLER, OR OTHER APPROPRIATE MEANS MAY BE USED SUBJECT TO DISTRICT APPROVAL. IF MECHANICAL METHODS ARE USED, THE SURFACES SHALL BE FINISHED BY HYDROBLASTING, SHOTBLASTING, OR WET SANDBLASTING WITH NON-METALLIC ABRASIVES TO REMOVE ANY MICROFRACTURED SURFACES RESULTING FROM THE INITIAL REMOVAL PROCESS.

ALL REPAIR SURFACES SHALL BE THOROUGHLY CLEANED WITH WATER UNDER PRESSURE. THE SURFACE MUST BE CLEAN AND FREE OF LOOSE CONCRETE, LAITANCE, DIRT, GREASE, FORM OIL, EFFLORESCENCE, PAINT, AND ANY OTHER FOREIGN MATERIAL.

- 4. CONCRETE SURFACE REPAIRS MAY GENERALLY CONSIST OF EITHER HAND-APPLIED OR MACHINE APPLIED METHODS.
- 5. ALL SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. CONTRACTOR SHALL CONSULT IN THE FIELD WITH MANUFACTURER AND DISTRICT PRIOR TO SURFACE PREPARATION AND REPAIR. FOR SPECIFIC SURFACE PREPARATION REQUIREMENTS, REFER TO INTERNATIONAL CONCRETE REPAIR INSTITUTE (ICRI) GUIDELINE NO. 03732.

6. ALL LOOSE SCALE, RUST, CORROSION BY PRODUCTS, OR CONCRETE SHALL BE REMOVED FROM EXPOSED REINFORCING STEEL (REBAR) BY MECHANICAL CLEANING METHODS. REBAR EXPOSED FOR MORE THAN ONE-THIRD OF ITS CIRCUMFERENCE SHALL BE COMPLETELY EXPOSED TO PROVIDE 1-INCH MINIMUM CLEARANCE BETWEEN THE REBAR AND THE CONCRETE. DAMAGED OR DETERIORATED REBAR SHALL BE REMOVED AND REPLACED. REPLACEMENT REBAR SHALL BE GRADE 60 DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A-615. REINFORCEMENT SPLICES SHALL BE AS FOLLOWS:

BAR SIZE	SPLICE LENGTH (IN)
#3	12
#4	12
#5	15
#6	18
#7	24
#8	30

- ALTERNATIVELY, MECHANICAL SPLICES MAY BE USED SUBJECT TO DISTRICT APPROVAL.
- 7. ALL EXPOSED AND REPLACEMENT REBAR SHALL BE COATED WITH DURALPREP AC AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR APPROVED EQUAL, PRIOR TO PATCHING WITH THE REPAIR MORTAR.
- 8. ISOLATED SPALLS SHALL BE HAND PATCHED WITH TAMMS STRUCTURAL MORTAR AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR APPROVED EQUAL. EDGES OF SPALLS SHALL BE SAWCUT DURING SURFACE PREPARATION TO A MINIMUM DEPTH OF 1/2 INCH. THE REPAIR AREA SHALL NOT BE LESS THAN 1/8" IN DEPTH. SUBSTRATE SHALL BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER DURING APPLICATION. THE PREPARED CONCRETE SUBSTRATE SHALL BE PRIMED WITH A BRUSH OR SPRAY APPLIED COAT OF DURALPREP AC. THE PRIMER COAT OF DURALPREP AC MUST BE ALLOWED TO THOROUGHLY DRY BEFORE APPLICATION OF THE TAMMS STRUCTURAL MORTAR. ALTERNATIVELY, AN SSD CONCRETE SURFACE CAN BE PRIMED WITH A SCRUB COAT OF TAMMS STRUCTURAL MORTAR FOR HAND APPLICATIONS. THE REPAIR MUST BE MADE BEFORE THE SCRUB COAT DRIES OUT.
- 9. OPEN CRACKS IN CONCRETE SHALL BE SAWCUT 1/4-INCH WIDE X 1/4-INCH DEEP AND REPAIRED WITH TAMMS STRUCTURAL MORTAR. APPLY A PRIMER COAT OF DURALPREP AC OR A SCRUB COAT OF TAMMS STRUCTURAL MORTAR TO THE CONCRETE SUBSTRATE PRIOR TO PATCHING.
- 10. CRACKS WITH FLOWING WATER SHALL BE REPAIRED WITH CHEMICAL GROUT ACCORDING TO DETAIL S8/4 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.
- 11.ERODED CONCRETE SURFACES SHALL BE REPAIRED WITH TAMMS STRUCTURAL MORTAR. APPLICATION MAY BE BY TROWEL OR LOW PRESSURE WET SPRAY PROCESS. AN EVAPORATION RETARDANT, SUCH AS EUCOBAR AS MANUFACTURED BY THE EUCLID CHEMICAL COMPANY, OR APPROVED EQUAL, SHALL BE USED IF REQUIRED BY WEATHER CONDITIONS. SURFACE PREPARATION, APPLICATION, AND CURING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. THE REPAIR AREA SHALL NOT BE LESS THAN 1/8" IN DEPTH. SUBSTRATE SHALL BE SSD WITH NO STANDING WATER DURING APPLICATION. FOR HAND APPLICATION, THE PREPARED CONCRETE SUBSTRATE SHALL BE PRIMED WITH A BRUSH OR SPRAY APPLIED COAT OF DURALPREP AC. THE PRIMER COAT OF DURALPREP AC MUST BE ALLOWED TO THOROUGHLY DRY BEFORE APPLICATION OF THE TAMMS STRUCTURAL MORTAR. ALTERNATIVELY, AN SSD CONCRETE SURFACE CAN BE PRIMED WITH A SCRUB COAT OF TAMMS STRUCTURAL MORTAR FOR HAND APPLICATIONS. THE REPAIR MUST BE MADE BEFORE THE SCRUB COAT DRIES OUT. AT NO TIME SHALL THE REPAIR MORTAR MIX BE ALLOWED TO EXCEED 90 DEGREES FAHRENHEIT, COLD WATER SHALL BE USED IN THE MIX AS REQUIRED TO MAINTAIN THE PROPER TEMPERATURE.
- 12.FOLLOWING COMPLETION OF MORTAR REPAIRS, ALL CONCRETE SURFACES SHALL BE COATED WITH SIKATOP 144 (CEMENT-GRAY COLOR), AS MANUFACTURED BY SIKA CORPORATION, OR APPROVED EQUAL, TO PROVIDE A UNIFORM APPEARANCE. APPLICATION SHALL BE WITH BRUSHES, ROLLERS, OR HOPPER-TYPE SPRAY EQUIPMENT. SURFACE SHALL BE SSD BEFORE APPLICATION. APPLY A MINIMUM OF TWO COATS, 8-16 MILS DFT PER COAT, SUCH THAT THE SURFACE HAS A UNIFORM APPEARANCE.
- 13. CURING: ALL MORTAR REPAIRS SHALL BE WATER CURED FOR 7 DAYS FOLLOWING APPLICATION. MOIST CURE IMMEDIATELY AFTER FINISHING WITH WET BURLAP AND POLYETHYLENE OR A FINE MIST OF WATER. IF NECESSARY, PROTECT NEWLY APPLIED MATERIAL FROM DIRECT SUNLIGHT, WIND, RAIN, AND FROST. AT NO TIME DURING THIS INITIAL CURING PERIOD SHALL THE MORTAR BE ALLOWED TO DRY. FOLLOWING THE 7-DAY CURING PERIOD AND WHILE THE REPAIR IS STILL SATURATED, THE SURFACE OF THE REPAIR SHALL RECEIVE TWO COATS OF THE SPECIFIED PROTECTIVE COATING.
- 14. SUBMITTALS: BEFORE BEGINNING ANY REPAIR WORK, THE CONTRACTOR SHALL SUBMIT A DETAILED LIST OF THE EQUIPMENT, PROCEDURES, AND MATERIALS PROPOSED FOR USE IN CONCRETE REPAIR TO THE DISTRICT FOR APPROVAL.
- 15.POTABLE WATER SHALL BE USED FOR THE FINAL CLEANING OF CONCRETE SURFACES, FOR MIXING WITH REPAIR PRODUCTS, AND FOR CURING REPAIRED SURFACES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING POTABLE WATER AS REQUIRED FOR COMPLETION OF THE PROJECT.

CONCRETE TESTING SERVICES:

- 1. TESTING LABORATORY: THE DISTRICT SHALL RETAIN AN INDEPENDENT TESTING LABORATORY FOR THE SAMPLING AND TESTING OF THE REPAIR MORTAR. THE LABORATORY'S INSPECTORS SHALL HAVE FREE ACCESS TO ALL POINTS WHERE CONCRETE MATERIALS ARE STORED, PROPORTIONED, MIXED AND PLACED.
- 2. TEST SCHEDULING: CONTRACTOR SHALL ADVISE THE LABORATORY WITH TWENTY-FOUR (24) HOURS ADVANCE NOTICE OF THE TIME AND LOCATION OF ALL CONCRETE PLACEMENT OR OTHERWISE MAKE ARRANGEMENTS WITH THE LABORATORY SO THAT SAMPLES MAY BE OBTAINED.
- 3. CUBE TESTS: CUBE SAMPLES (2" MORTAR CUBES) SHALL BE TAKEN IN ACCORDANCE WITH ASTM C109 FOR COMPRESSIVE STRENGTH TESTING. CUBE TESTING SHALL INCLUDE ONE (1) AT 7-DAYS AND THREE (3) AT 28-DAYS. AN ADDITIONAL SAMPLE SHALL BE TESTED AT 56 DAYS IF DEEMED NECESSARY.
- 4. SAMPLING FREQUENCY: SAMPLING FOR BOTH PANELS AND CUBES SHALL BE ONE PER DAY OR A MINIMUM OF ONE PER WORK AREA, WHICHEVER IS GREATER. THE WORK AREAS ARE DEFINED AS EACH SEPARATE WALL AND FLOOR AREA.
- 5. COMPRESSIVE STRENGTH: THE REPAIR MATERIAL SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 7000 PSI. COMPRESSION STRENGTH OF A SAMPLE SHALL BE DETERMINED BY THE AVERAGE OF THE THREE (3) SAMPLES TESTED AT TWENTY-EIGHT (28) DAYS. COMPLIANCE WITH THE STRENGTH REQUIREMENTS OF THESE SPECIFICATIONS SHALL BE VERIFIED IF THE AVERAGE COMPRESSIVE STRENGTH OF THREE (3) CONSECUTIVE SAMPLES IS NOT LESS THAN THE SPECIFIED STRENGTH FOR THE CLASS OF CONCRETE, PROVIDED NO INDIVIDUAL SAMPLE SHALL HAVE A STRENGTH TEST RESULT THAT FALLS BELOW THE SPECIFIED STRENGTH BY MORE THAN SEVEN-HUNDRED (700) PSI. CONCRETE WHICH FAILS TO MEET STRENGTH REQUIREMENTS SHALL BE FURTHER TESTED AS PROVIDED IN ACI 318 AT THE EXPENSE OF CONTRACTOR OR SHALL BE REMOVED AS DETERMINED BY THE DISTRICT.
- 6. REPORTS: THE DISTRICT'S 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.

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", NINTH EDITION.
- 2. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE" AWS D1.1.
- 3. 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.
- 4. 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.
- 5. ALL WELDING SHALL UTILIZE E70XX LOW-HYDROGEN ELECTRODES UNLESS NOTED OTHERWISE.
- 6. ALL REMOVABLE STEEL ITEMS WHICH WERE PREVIOUSLY GALVANIZED SHALL BE REMOVED AND REPLACED WITH STAINLESS STEEL TYPE 304.
- 7. FIELD CORRECTING OF FABRICATED STEEL SHALL NOT BE PERMITTED ON MAJOR STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL OF THE DISTRICT.

REPAIR OF EXISTING STEEL SHEET PILING WING WALLS:

- 1. EXCAVATE EXISTING RIPRAP AND BEDDING STONE ADJACENT TO THE SHEET PILING WALLS DOWN TO SUBGRADE.
- 2. INSPECT AND REPAIR STEEL SHEET PILING AS NEEDED.
- 3. PREPARE AND PAINT ALL EXPOSED SHEET PILING SURFACES. REFER TO NOTES FOR PAINTS AND PROTECTIVE COATINGS.
- 4. AFTER PAINTING, REPLACE THE BEDDING STONE AND RIPRAP. SUPPLEMENT WITH ADDITIONAL RIPRAP AND BEDDING STONE AS DIRECTED BY THE DISTRICT.

PAINTS AND PROTECTIVE COATINGS:

- 1. ALL STEEL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL (SSPC) "STEEL STRUCTURES PAINTING MANI IAL"
- 2. PREPARE SURFACES AND PAINT ALL EXPOSED STEEL COMPONENTS. ITEMS TO BE PAINTED INCLUDE THE SHEET PILING WING WALLS AND ALL EMBEDDED STEEL (EXCLUDING STAINLESS STEEL AND ALUMINUM ITEMS).
- 3. STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:
- SHEET PILING AND EMBEDDED STEEL: SSPC-SP10 NEAR WHITE BLAST CLEANING.

THE USE OF 100% SILICA BLAST MEDIA SHALL NOT BE ALLOWED ON THE CONSTRUCTION SITE. BLAST MEDIA IF USED ON SITE WILL BE SUBJECT TO APPROVAL BY THE DISTRICT.

DURING SURFACE PREPARATION, CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO CAPTURE PAINT PARTICLES AND BLAST MEDIA AND DISPOSE OFFSITE AT A MUNICIPAL OR COMMERCIAL LANDFILL.

4. PROTECTIVE COATING FOR STRUCTURAL STEEL AND SHEET PILING 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 TO BE SILVER OR LIGHT GRAY. CONTRACTOR SHALL SUBMIT COLOR SAMPLES FOR DISTRICT APPROVAL. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER SPECIFICATIONS.

5. ALL EMBEDDED GALVANIZED ITEMS SHALL BE PAINTED WITH ZRC COLD GALVANIZING COMPOUND AS MANUFACTURED BY ZRC WORLDWIDE, MARSHFIELD, MA, OR EQUAL. SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH SSPC-SP3 POWER TOOL CLEANING. APPLY 2 COATS 1.5 MILS DFT EACH IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

BRIDGE EXPANSION JOINT CAULK:

1. THE CAULK FOR THE BRIDGE EXPANSION JOINT SHALL BE SIKAFLEX-2C SL AS MANUFACTURED BY SIKA CORPORATION, OR EQUAL

RIPRAP:

- 1. PROVIDE RUBBLE RIPRAP AND BEDDING STONE AT THE LOCATIONS SHOWN ON THE DRAWINGS AND AS DIRECTED BY THE DISTRICT. THE WORK SHALL BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, (FDOT) LATEST EDITION, CONFORMING TO FDOT SECTIONS 514, 530, AND 985, UNLESS OTHERWISE NOTED HEREIN.
- 2. PROVIDE ADDITIONAL BEDDING STONE SUCH THAT THE FINAL BLANKET THICKNESS IS A MINIMUM OF 9 INCHES. THE MINIMUM UNIT WEIGHT OF STONE SHALL BE 145 PCF (SATURATED SURFACE DRY). THE STONE SHALL BE REASONABLY WELL GRADED WITHIN THE FOLLOWING LIMITS:

STONE SIZE (IN) OR SIEVE NUMBER	% FINER
6 IN	100
1 IN	30-75
3/8 IN	5-45
NO 10	1-10

3. PROVIDE ADDITIONAL RIPRAP SUCH THAT THE FINAL BLANKET THICKNESS IS A MINIMUM OF 18 INCHES. THE MINIMUM UNIT WEIGHT OF STONE SHALL BE 145 PCF (SATURATED SURFACE DRY). THE STONE SHALL BE REASONABLY WELL GRADED WITHIN THE FOLLOWING LIMITS:

STONE WEIGHT (LBS) % LIGHTER BY WEIGHT

 165
 100

 45
 45-65

 15
 10-30

 5
 0-15

THE MATERIAL SHALL BE SOUND AND DURABLE, AND SHALL BE FREE OF CRACKS, SOFT SEAMS OR OTHER STRUCTURAL DEFECTS. THE PIECES SHALL BE ROUGHLY ANGULAR, AND THE LOT SHALL BE REASONABLY FREE OF THIN, FLAT OR ELONGATED PIECES.

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

| Composition |

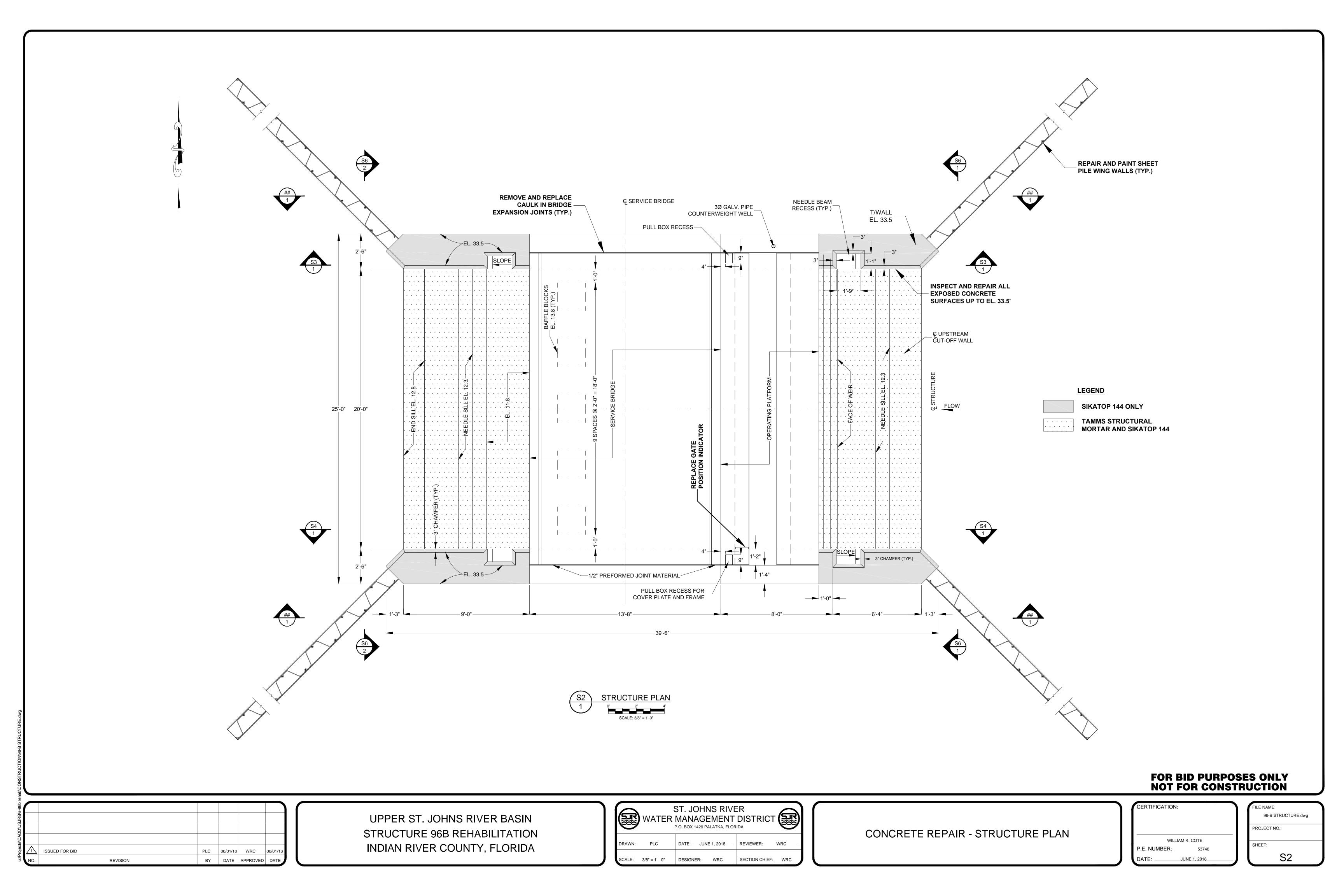
UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B REHABILITATION INDIAN RIVER COUNTY, FLORIDA

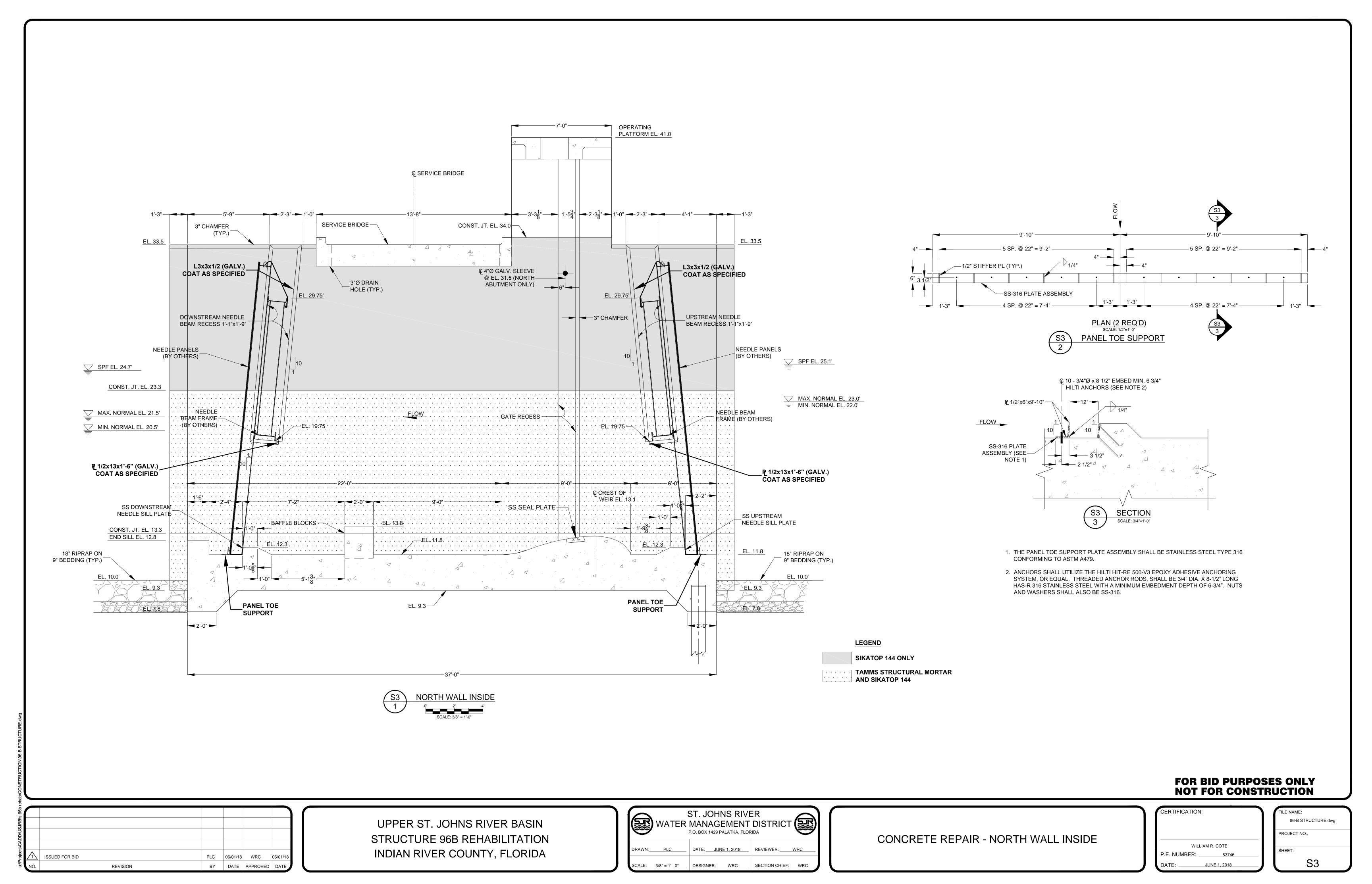


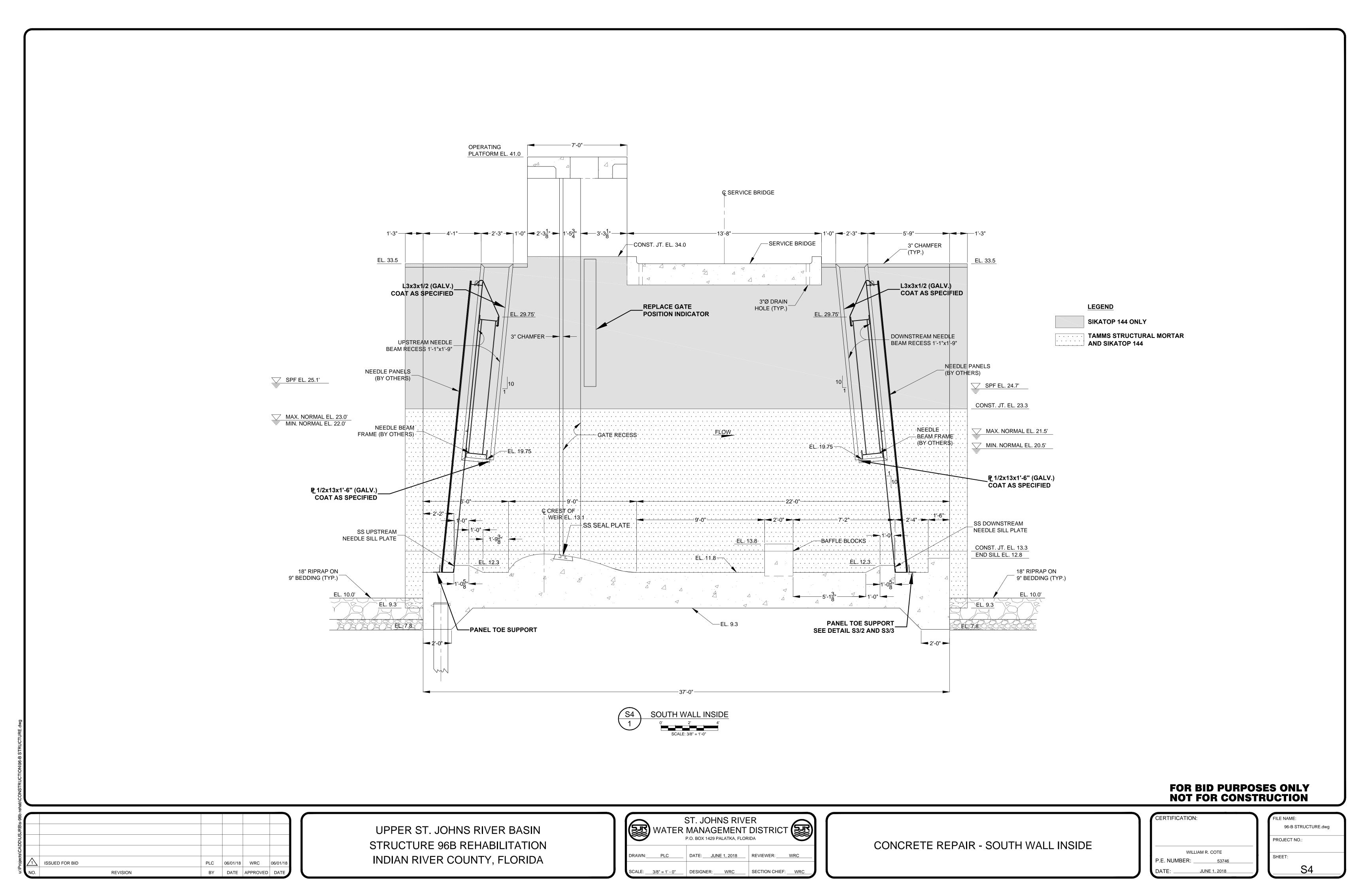
NOTE SPECIFICATIONS

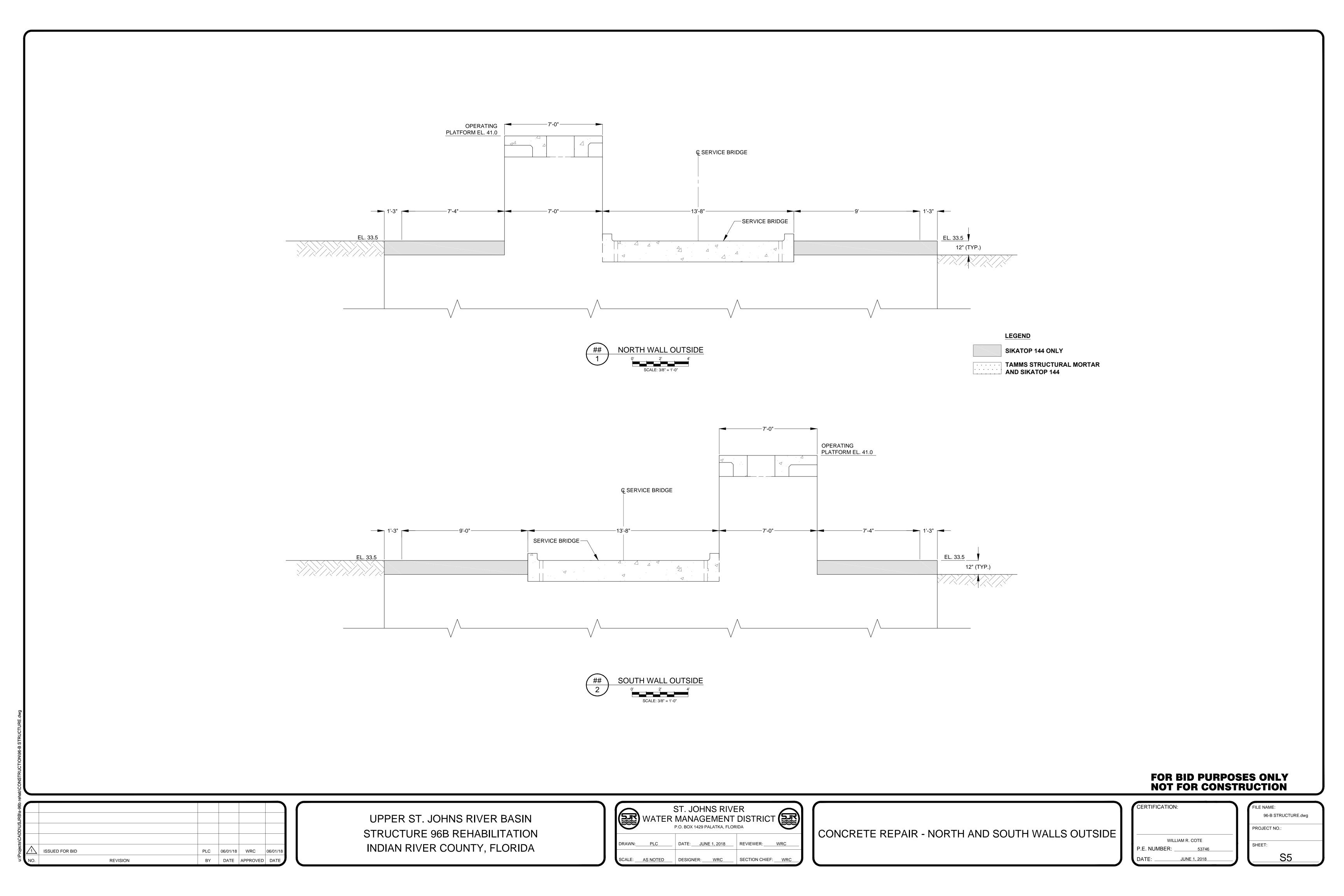
1	CERTIFICATION	N:
	WIL	LIAM R. COTE
	P.E. NUMBER:	5374
•	DATE:	JUNE 1, 2018

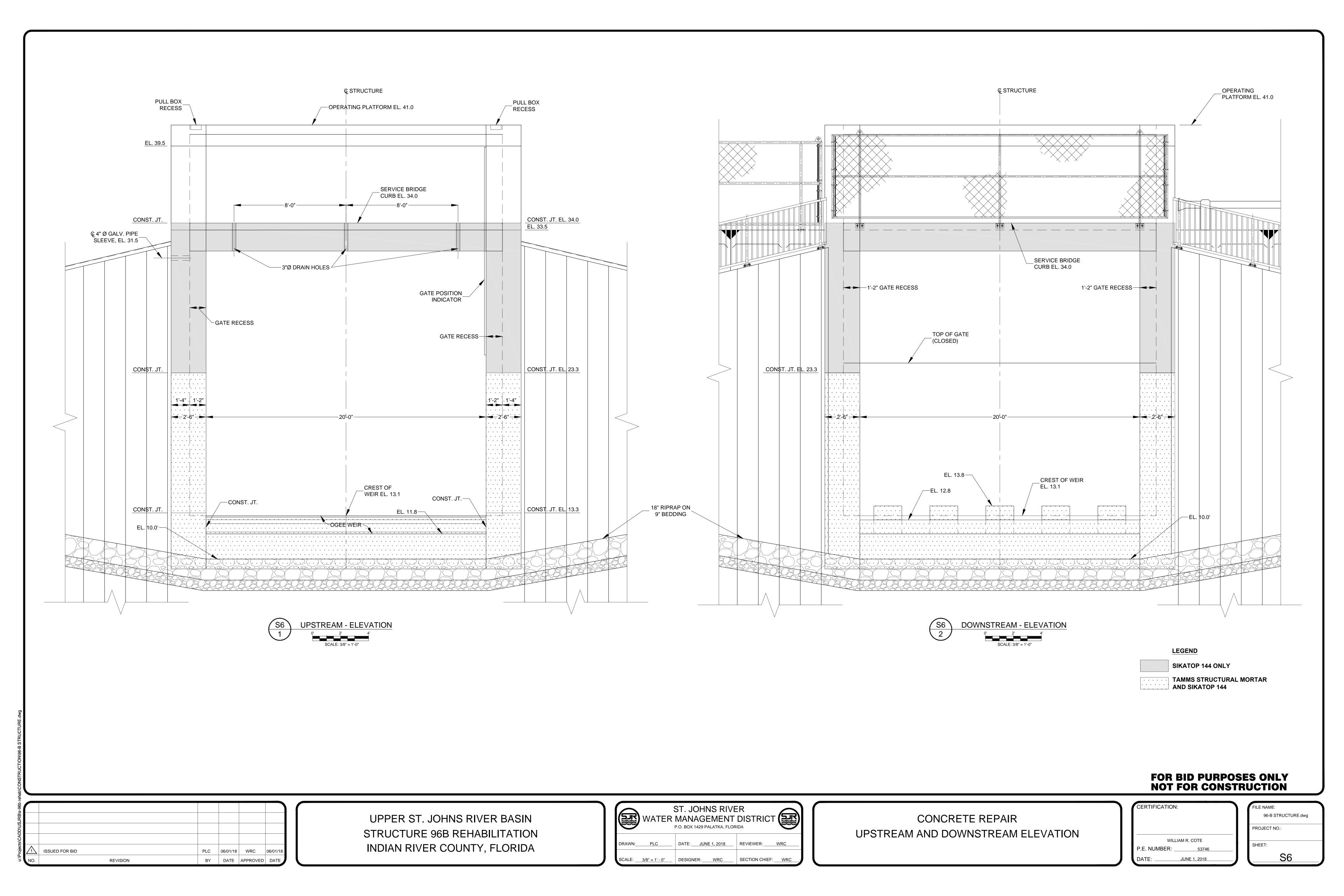
FILE NAME:
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PROJECT NO.:
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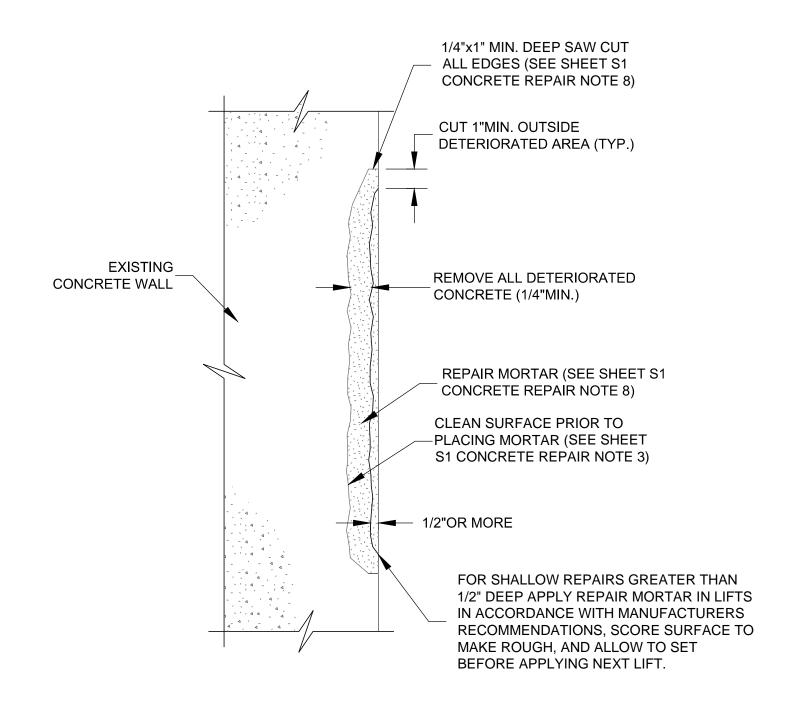




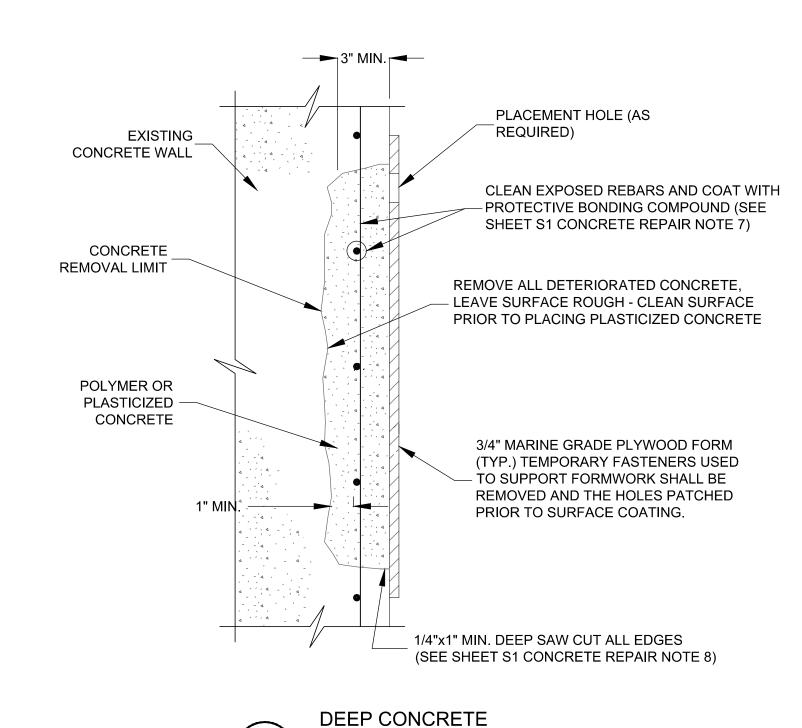




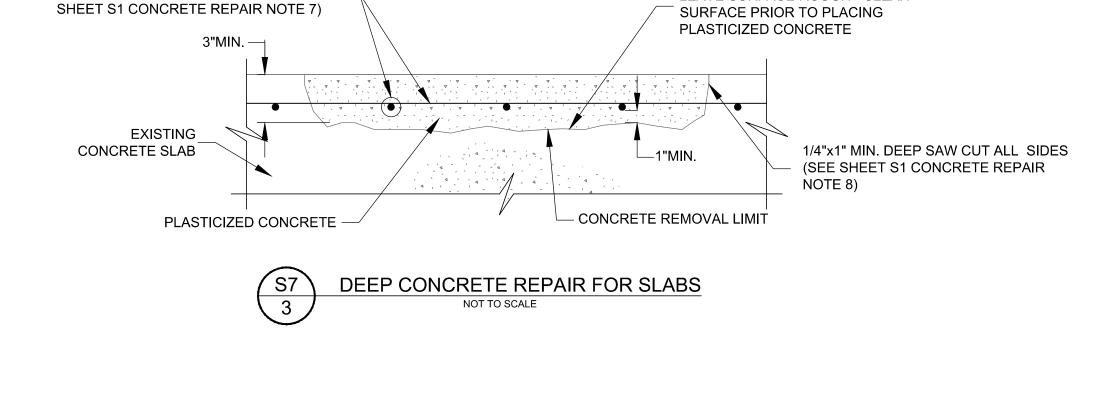




SHALLOW MORTAR REPAIR
FOR WALL / SLAB
CONCRETE SURFACES
NOT TO SCALE



REPAIR FOR WALLS

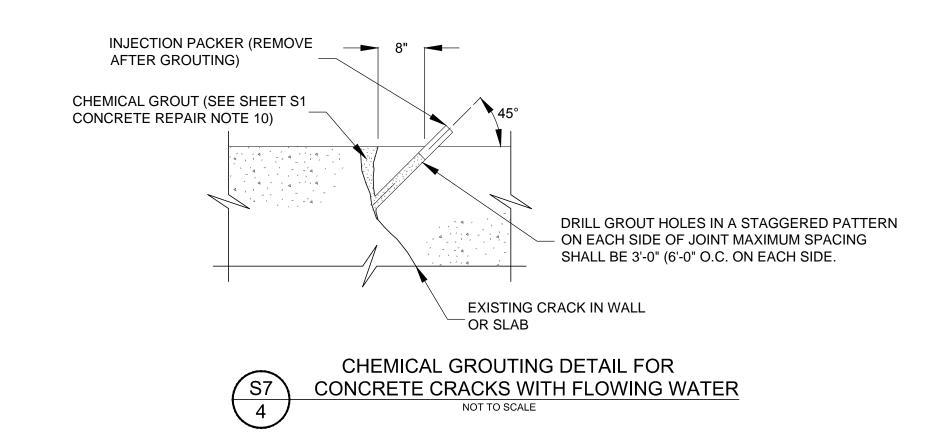


REMOVE ALL DETERIORATED CONCRETE,

LEAVE SURFACE ROUGH - CLEAN

CLEAN EXPOSED REBARS AND COAT WITH

PROTECTIVE BONDING COMPOUND (SEE -



CONCRETE:

- 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 S8/4 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.

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

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

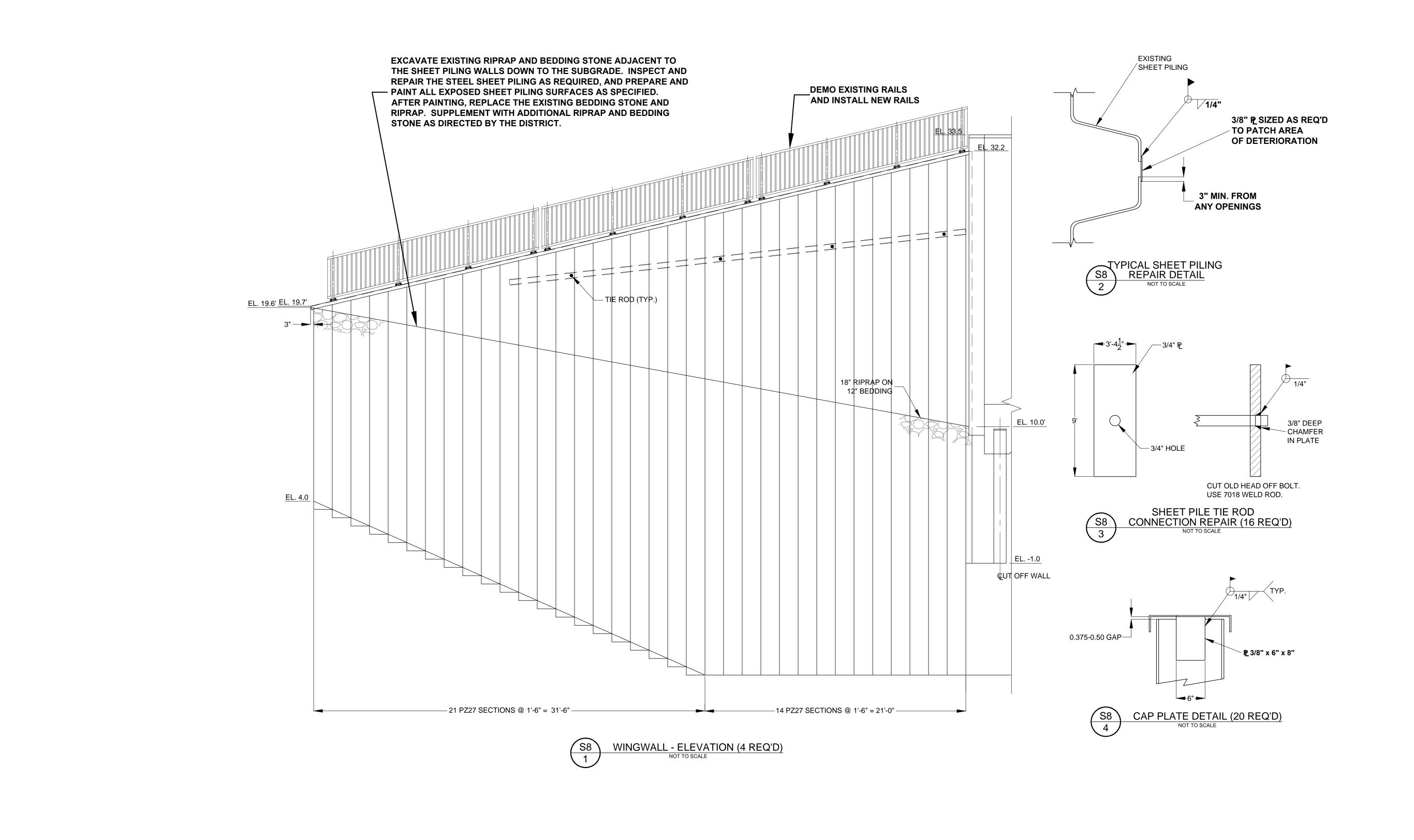


CONCRETE REPAIR - TYPICAL DETAILS

WILLIAM R. COTE
P.E. NUMBER: _______53746

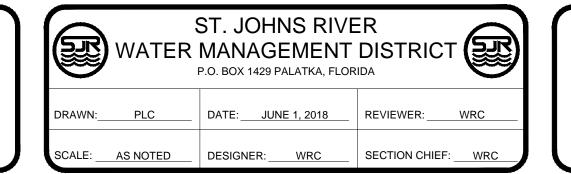
DATE: ______JUNE 1, 2018

FILE NAME:
96-B STRUCTURE.dwg
PROJECT NO.:
SHEET:



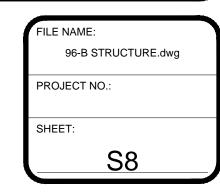
FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

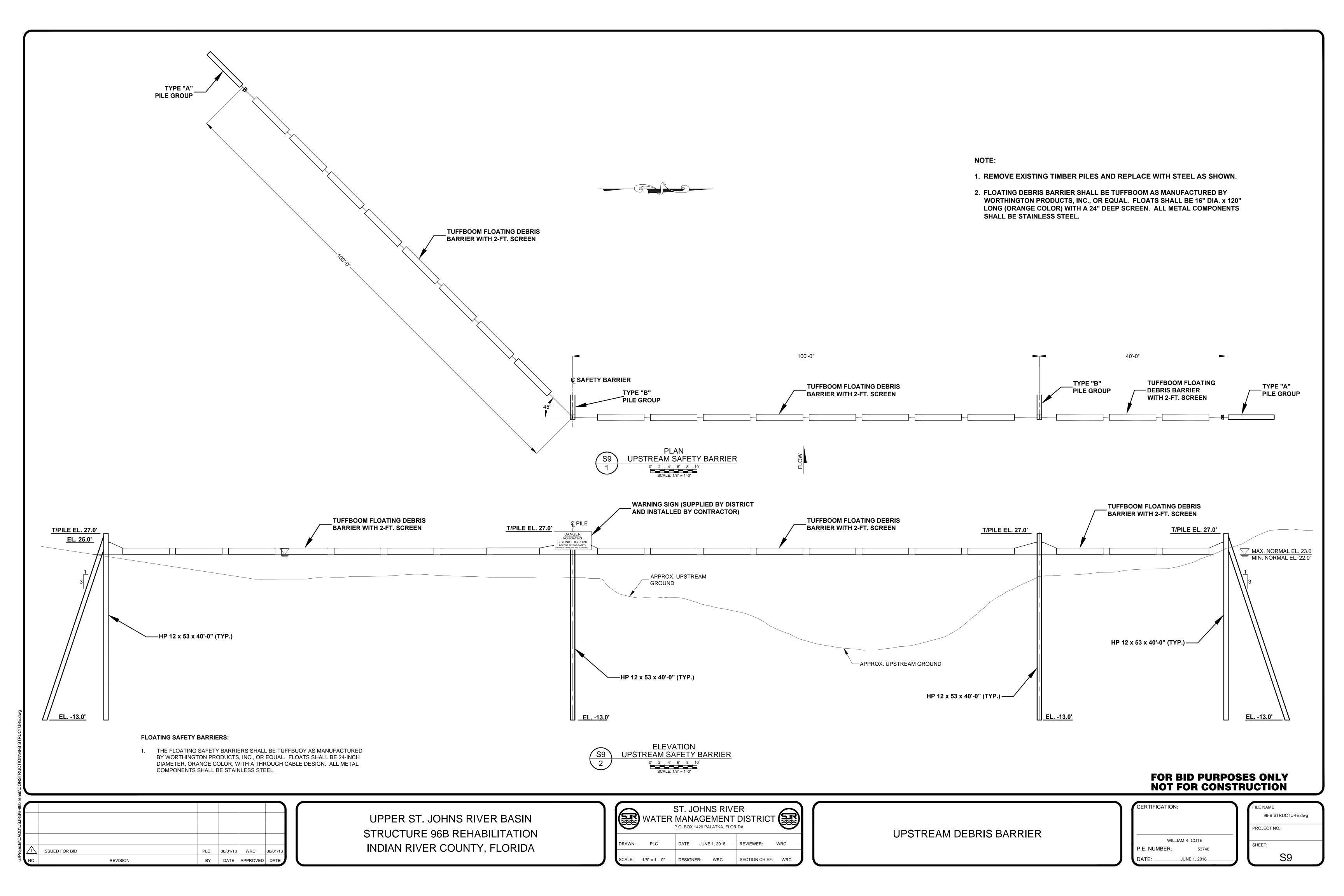
UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B REHABILITATION INDIAN RIVER COUNTY, FLORIDA

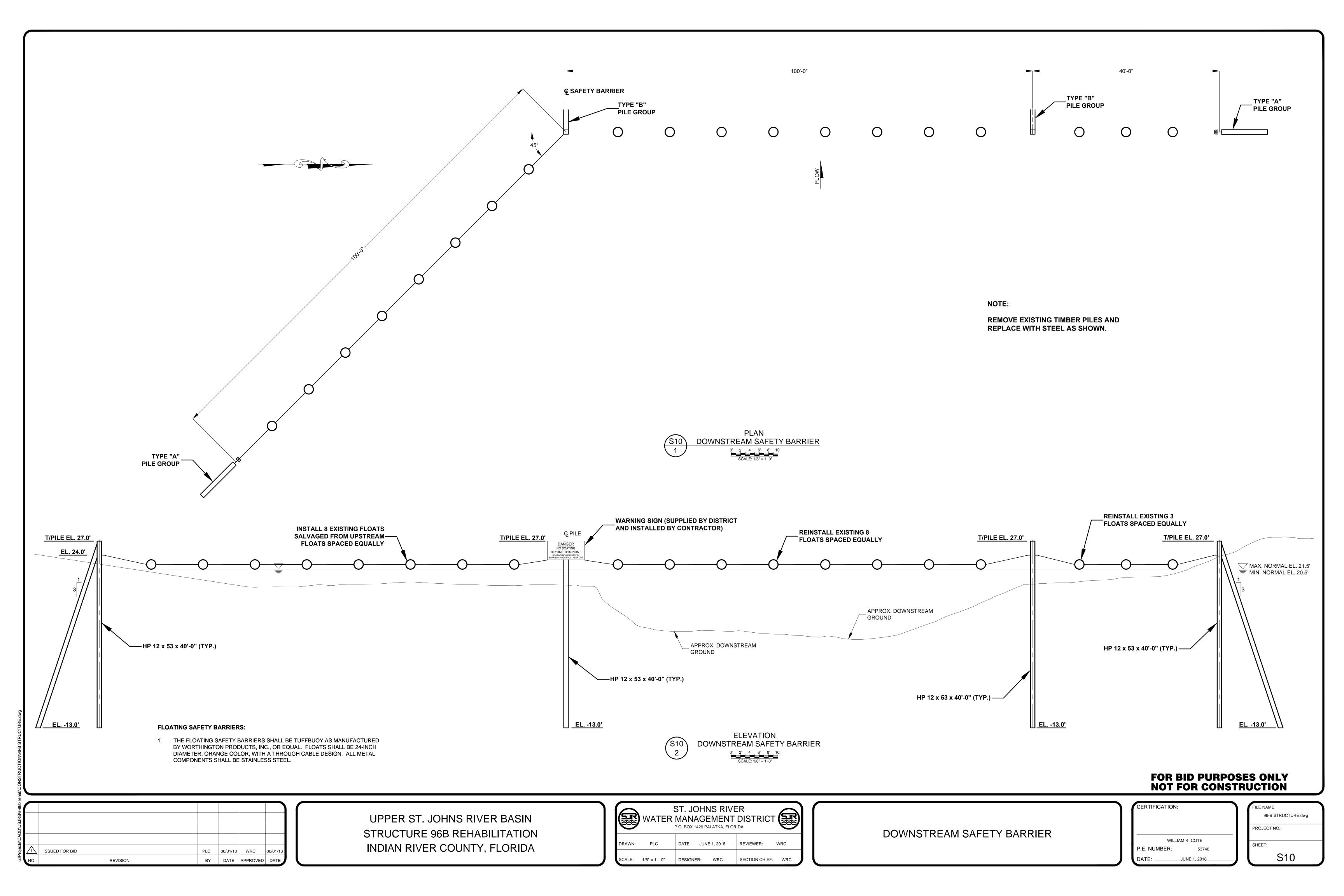


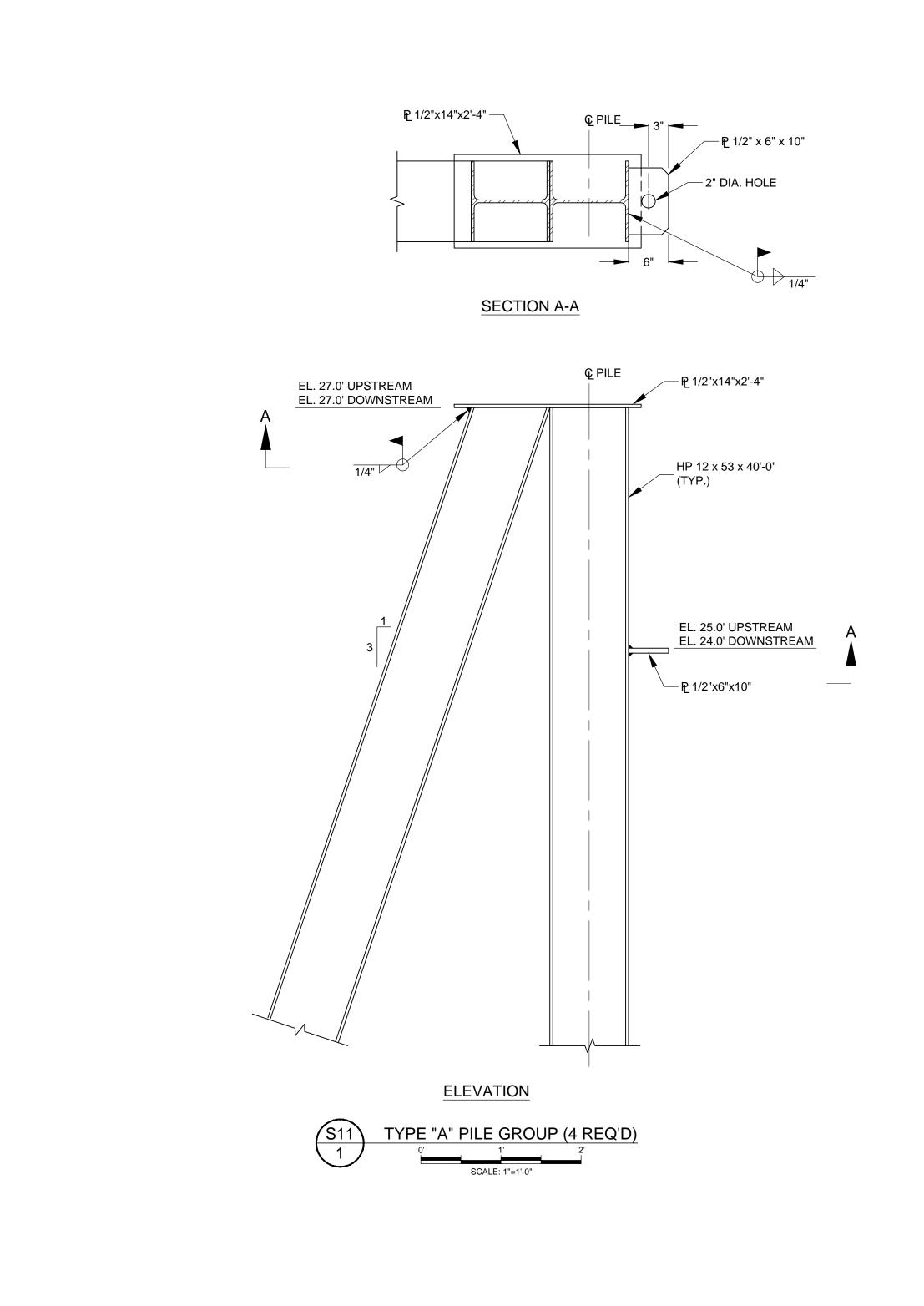
SHEET PILING REPAIR - WINGWALL ELEVATION

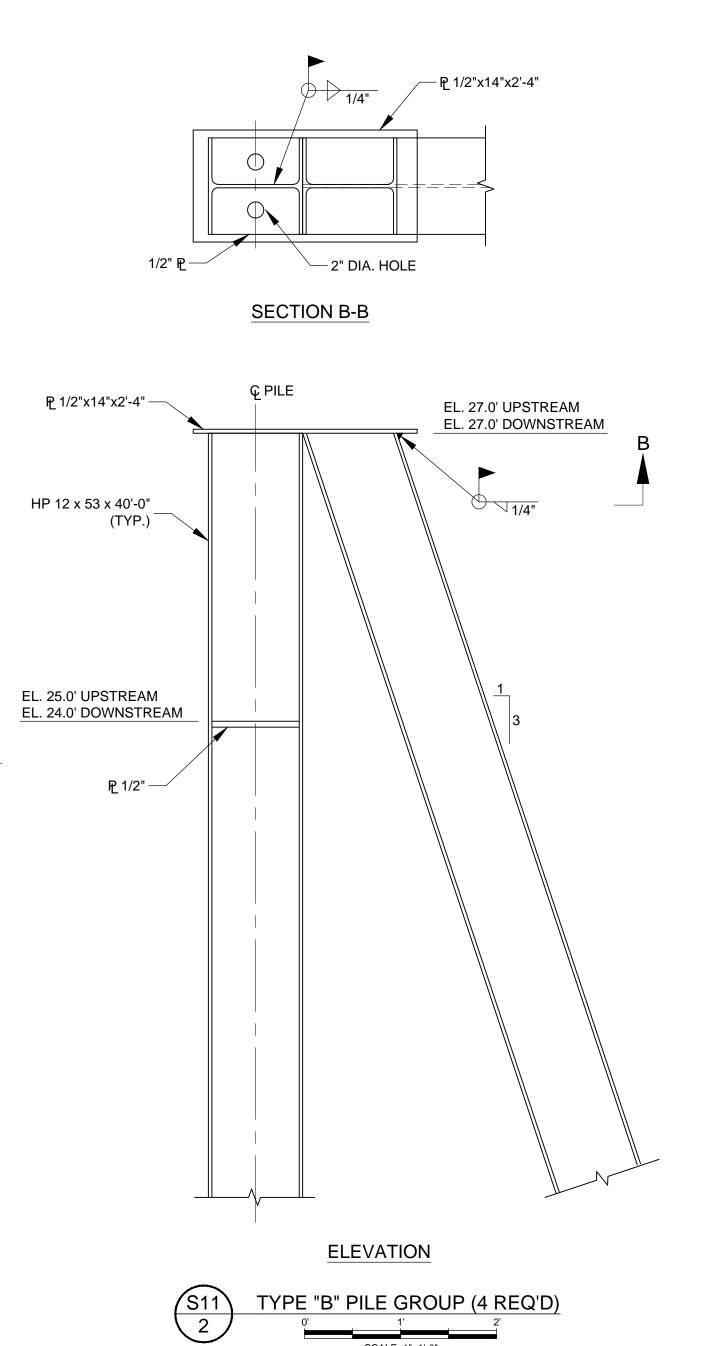
	CERTIFICATION:	
	WILLIAM R. COTE P.E. NUMBER:53746	
)	DATE: JUNE 1, 2018	











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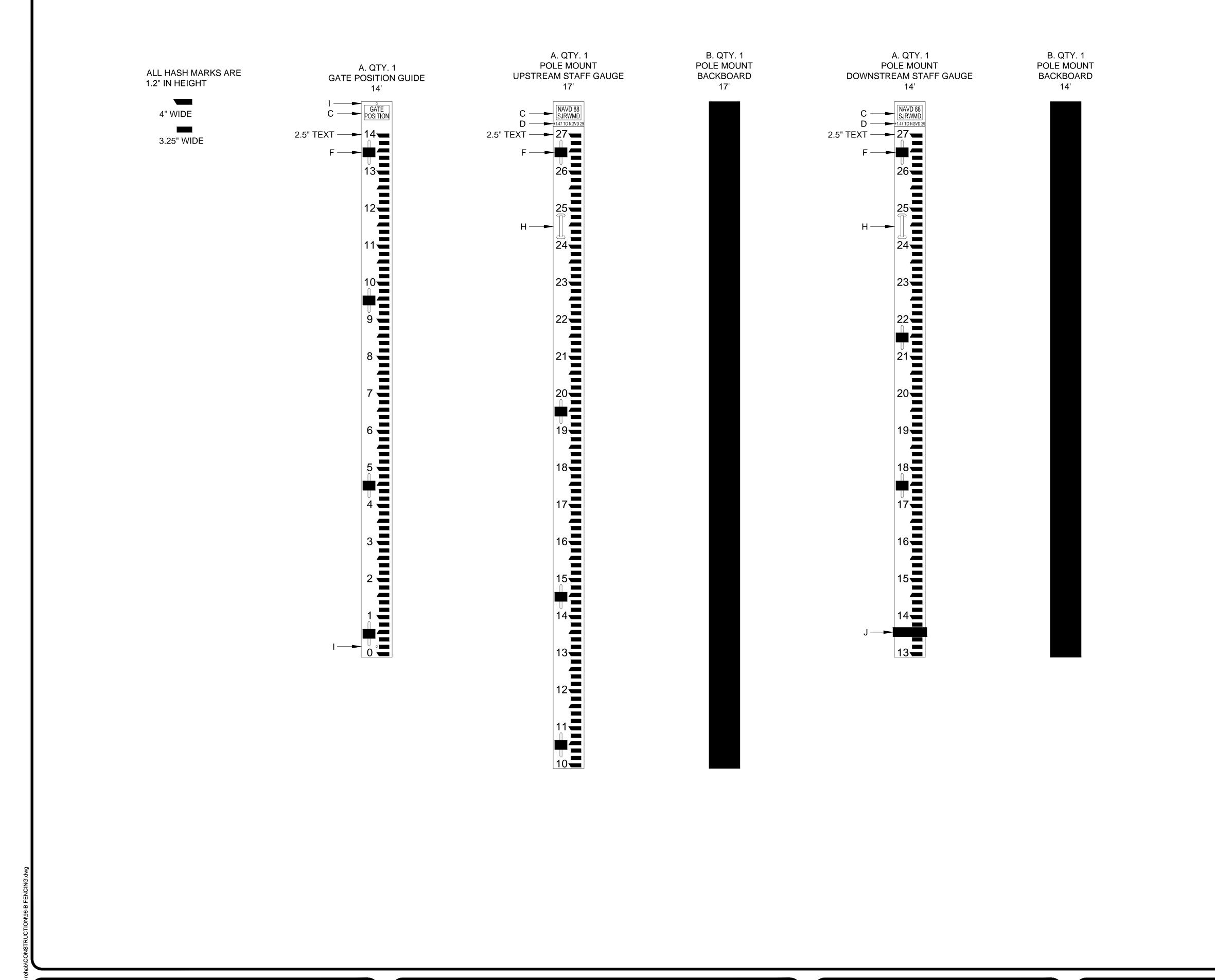
UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B REHABILITATION INDIAN RIVER COUNTY, FLORIDA



NEW PILE GROUP DETAILS

CERTIFICATION	1:
WILI	LIAM R. COTE
P.E. NUMBER:	53746
DATE:	JUNE 1, 2018

FILE NAME:
96-B STRUCTURE.dwg
PROJECT NO.:
SHEET:
S11



MATERIALS KEY:

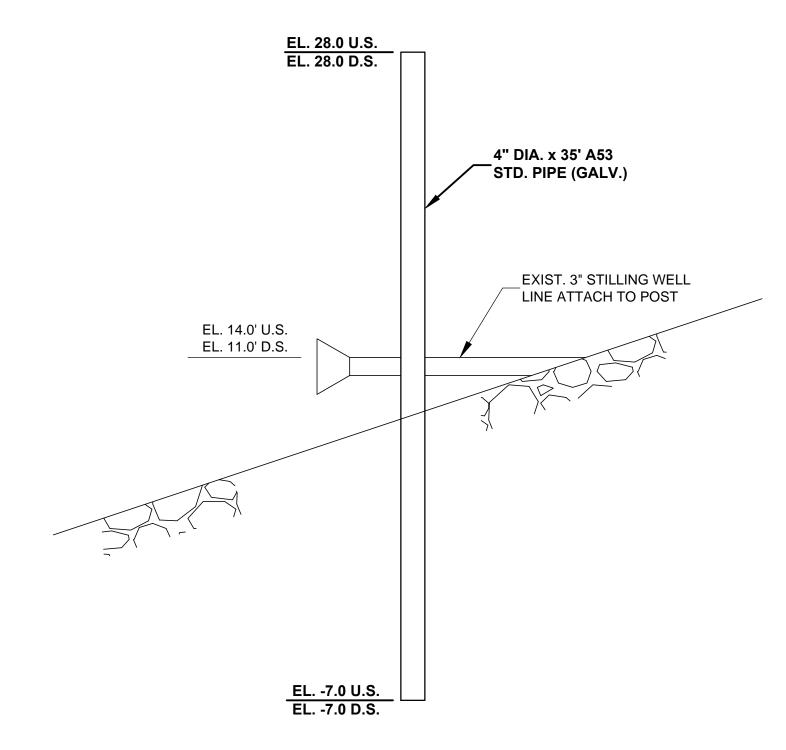
- A. STAFF GAUGES & GATE POSITION GUIDES 2"x10" (1.5"x9.5") MADE FROM TANGENT TECHNOLOGIES POLYFORCE RECYCLED PLASTIC LUMBER, WHITE OVER BLACK, OR EQUAL.
- B. BACKBOARDS: SOLID BLACK POLYFORCE 2"x12" BY TANGENT TECHNOLOGIES. (1.5" THICK x 11.75" WIDE), OR EQUAL.
- C. TITLE PLAQUE INSERT, WHITE WITH RED LETTERING.
- D. NGVD29 OFFSET: +1.47
- E. STAFF GAUGE SECTION LINES.
- F. SLOTS ARE .8875" x 7.3125" AND ARE SUPPLIED WITH SS WASHERS AT: 1/4" x 3" x 4". PROVIDE MOUNTING BOLTS/ANCHORS.
- G. THRU HOLES ARE 5/8" DIAMETER AND ARE SUPPLIED WITH SS WASHERS AT: 1/4" x 3" x 4". PROVIDE MOUNTING BOLTS/ANCHORS.
- H. 8" SS CLEAT MOUNTED WITH THREADED INSERTS.
- I. THRU HOLES ARE 5/16" DIAMETER. PROVIDE MOUNTING BOLTS/ANCHORS.
- J. ABS BRACKET WITH SS SCREWS. MOUNTS OVER STAFF GAUGE TO BACKBOARDS.

HARDWARE:

ALL HARDWARE SHALL BE STAINLESS STEEL.

DATUM:

ELEVATIONS ON THIS SHEET ARE IN NAVD88.

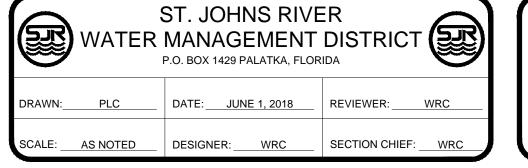


STAFF GAGE POLE

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| Composition |

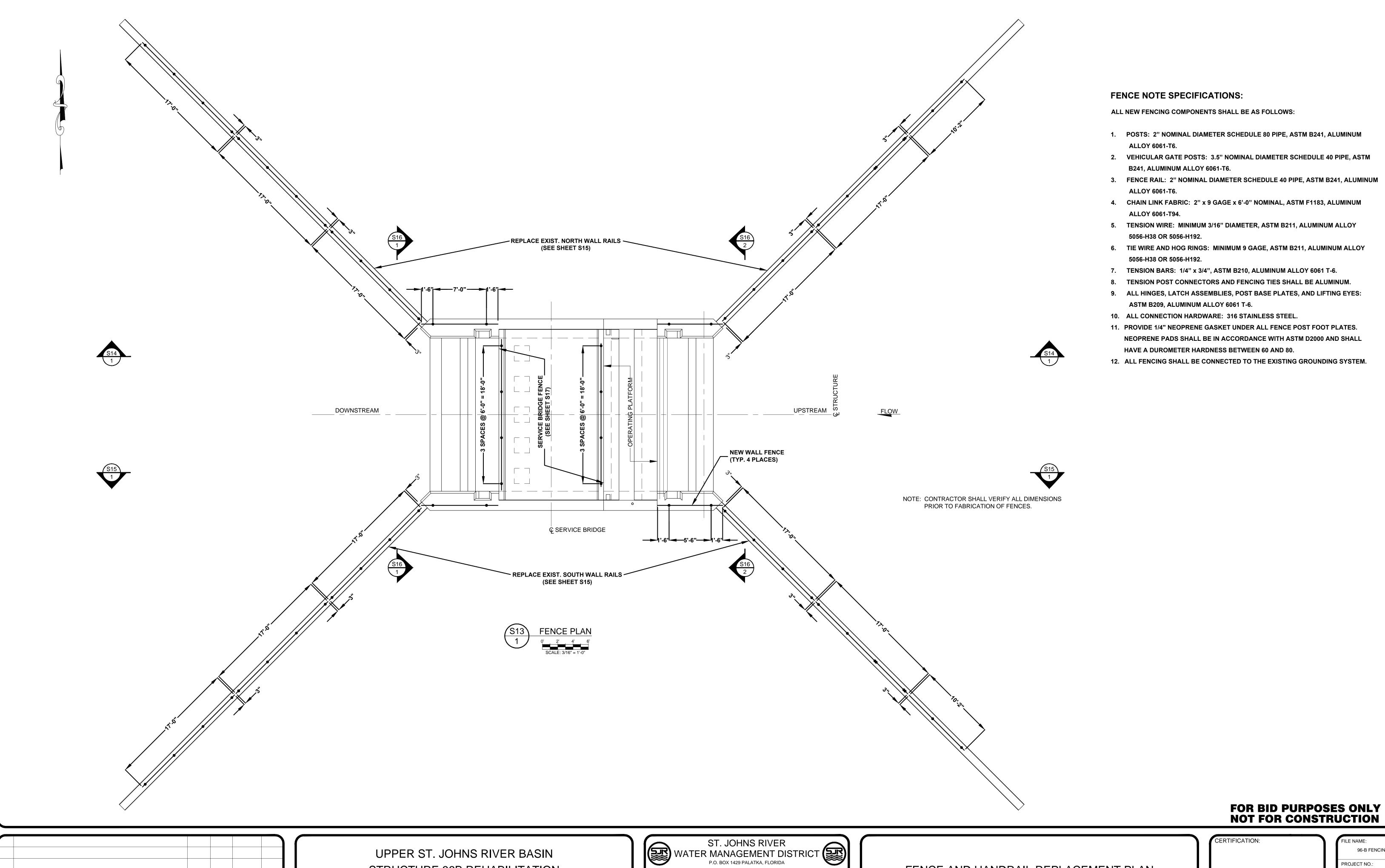
UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B REHABILITATION INDIAN RIVER COUNTY, FLORIDA



NEW STAFF GAUGES AND GATE POSITION GUIDE

CERTIFICATION	l:
WILL	IAM R. COTE
P.E. NUMBER: _	53746
DATE:	JUNE 1, 2018

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



DRAWN: PLC DATE: JUNE 1, 2018 REVIEWER: WRC

SCALE: 3/16" = 1' - 0" DESIGNER: WRC SECTION CHIEF: WRC

STRUCTURE 96B REHABILITATION

INDIAN RIVER COUNTY, FLORIDA

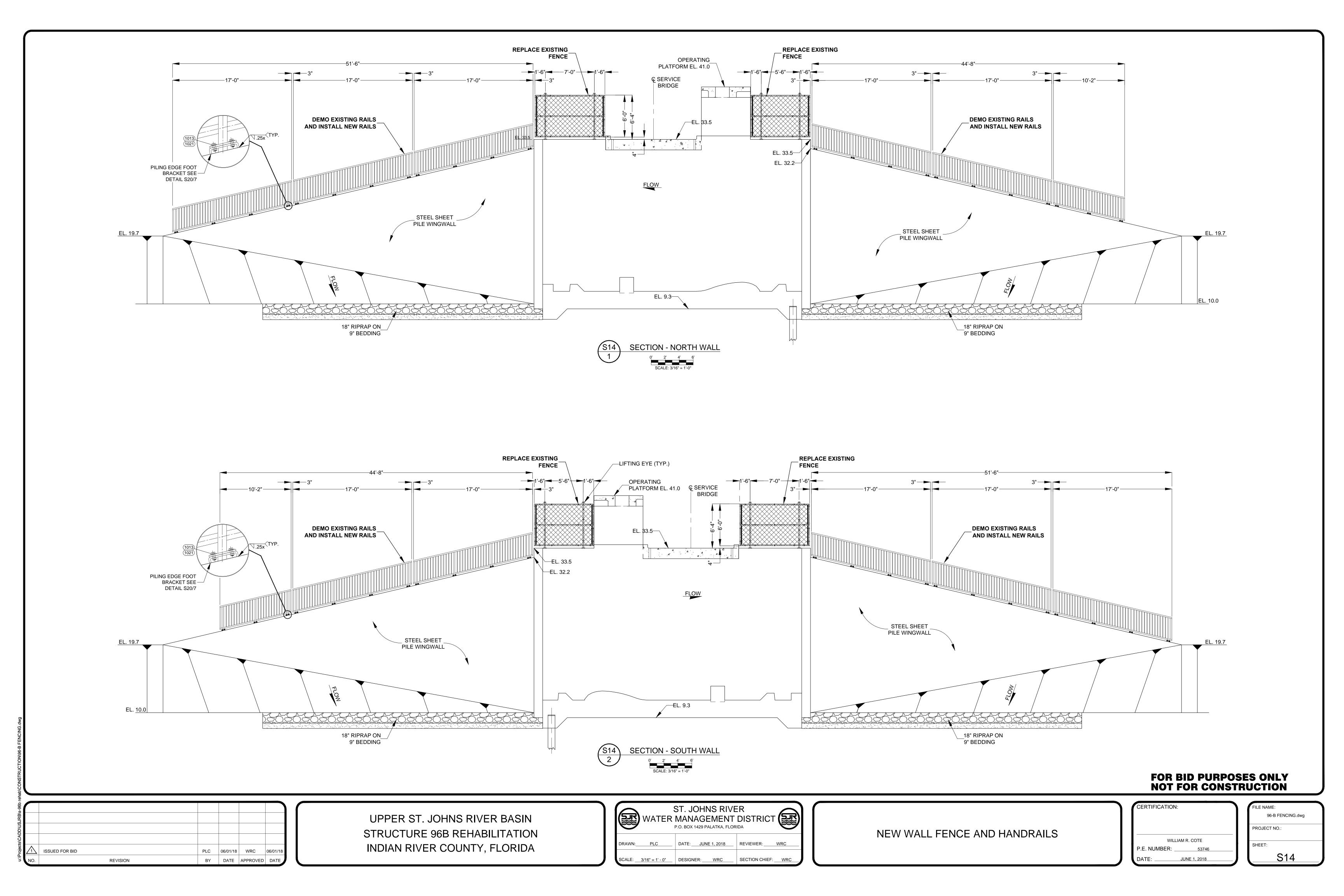
PLC 06/01/18 WRC 06/01/1

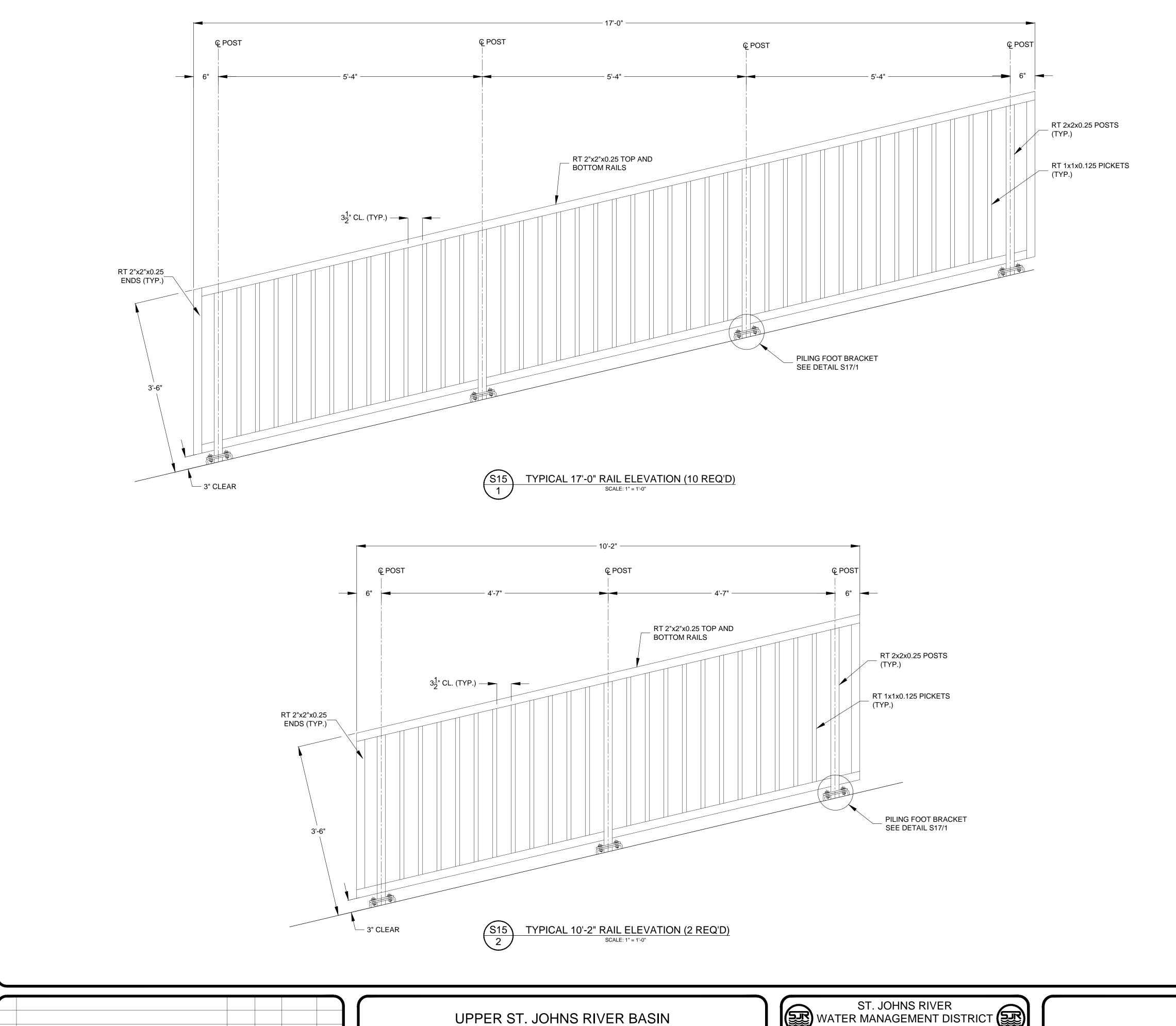
BY DATE APPROVED DATE

1 ISSUED FOR BID

FENCE AND HANDRAIL REPLACEMENT PLAN

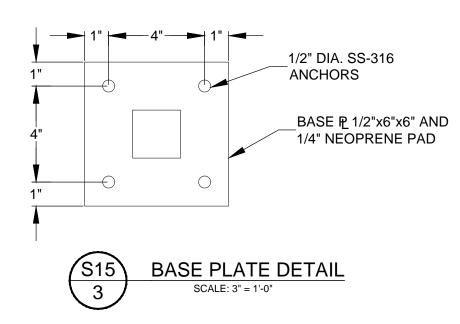
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PROJECT NO.:
SHEET:
\$13





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 FOOT PLATES. NEOPRENE PADS SHALL BE IN ACCORDANCE WITH ASTM D2000 AND SHALL HAVE A DUROMETER HARDNESS BETWEEN 60 AND 80.



FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

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

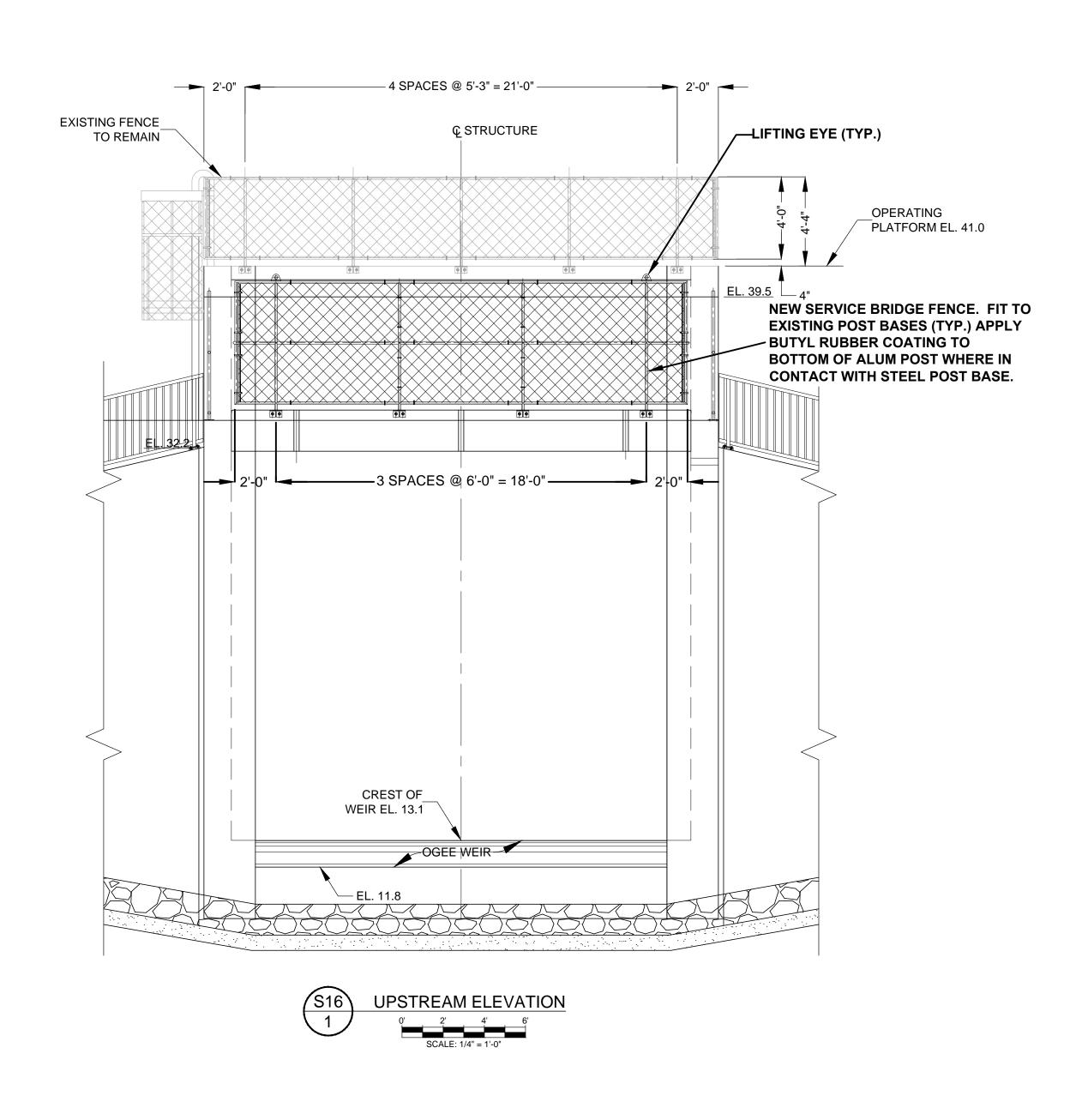


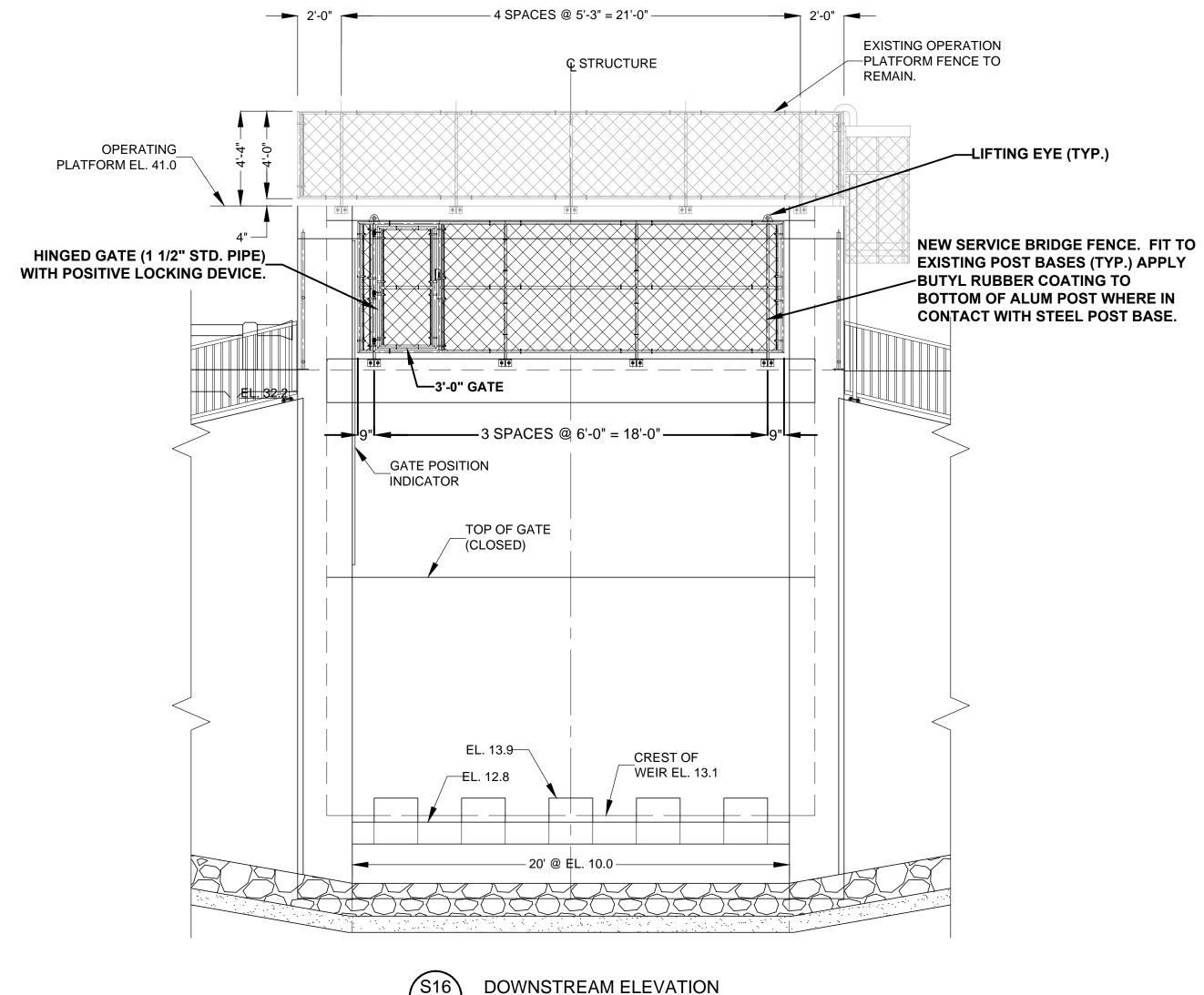
NEW WINGWALL HANDRAIL DETAILS

CERTIFICATION	N:
WIL	LIAM R. COTE
P.E. NUMBER:	53746
DATE:	JUNE 1, 2018
-	

FILE NAME:
96-B FENCING.dwg

PROJECT NO.:
SHEET:
S15





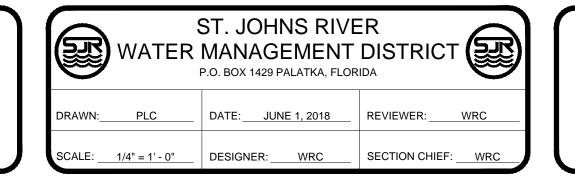
S16 DOWNSTREAM ELEVATION

O' 2' 4' 6'

SCALE: 1/4" = 1'-0"

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

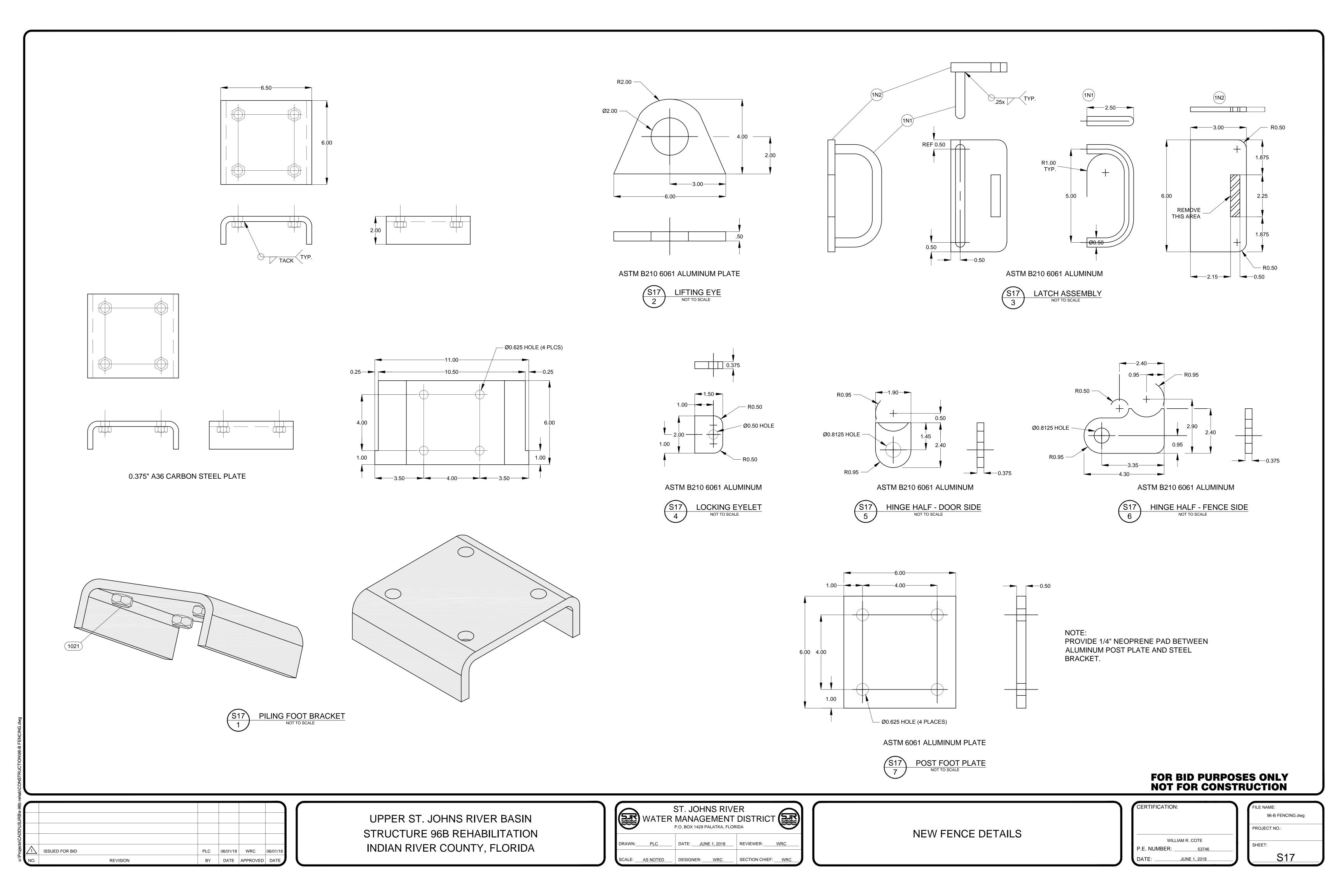
UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B REHABILITATION INDIAN RIVER COUNTY, FLORIDA

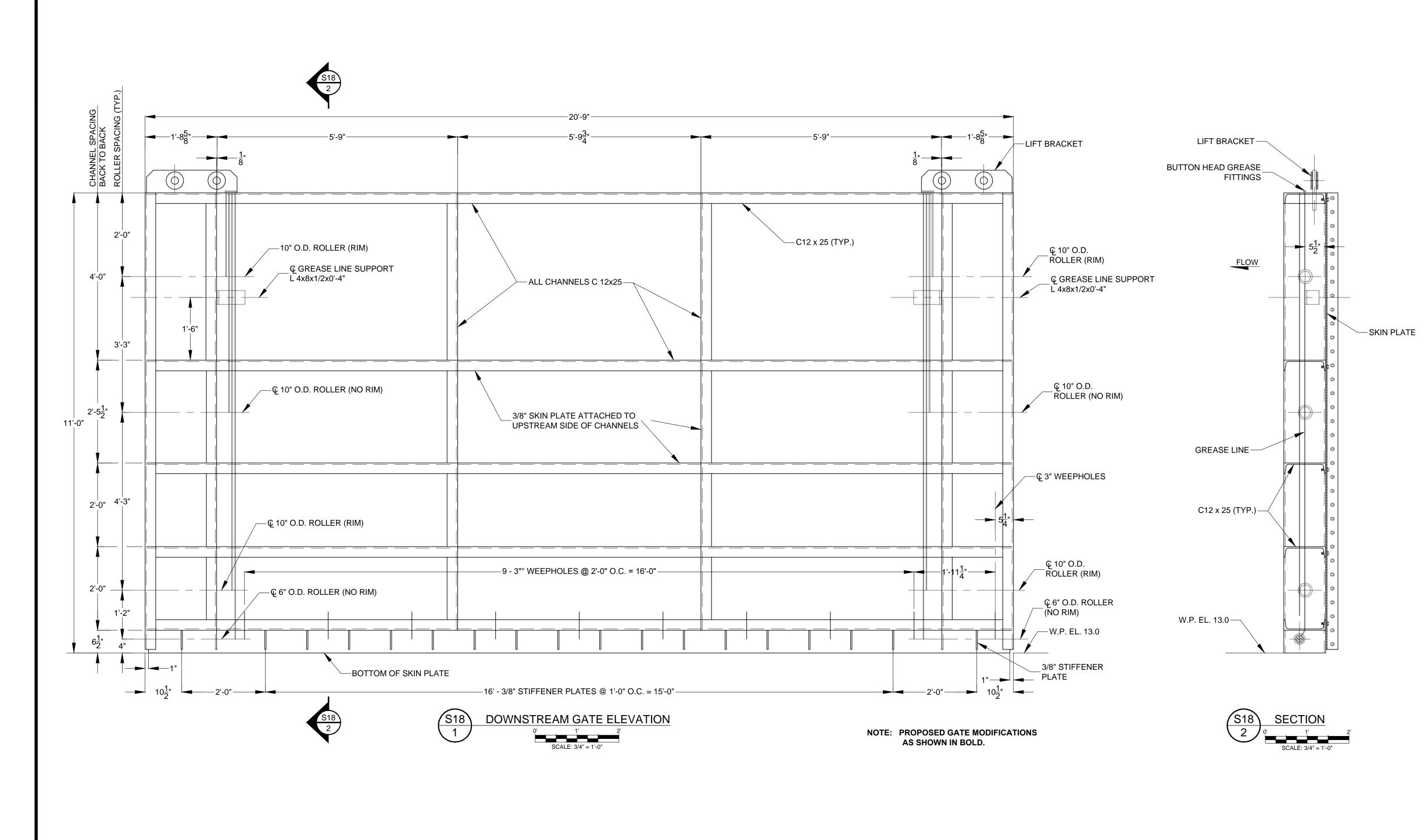


NEW SERVICE BRIDGE FENCE

CERTIFICATION	N:
WIL	LIAM R. COTE
P.E. NUMBER:	53746
DATE:	JUNE 1, 2018

FILE NAME:
96-B FENCING.dwg
PROJECT NO.:
SHEET:
\$16





GATE REHABILITATION NOTES:

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", NINTH EDITION.
- 2. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE" AWS D1.1.
- 3. 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.
- 4. 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.
- 5. ALL WELDING SHALL UTILIZE E70XX LOW-HYDROGEN ELECTRODES UNLESS NOTED OTHERWISE.
- 6. FIELD CORRECTING OF FABRICATED STEEL SHALL NOT BE PERMITTED ON MAJOR STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL OF THE DISTRICT.

GATE OVERHAUL:

- 1. PRESSURE WASH THE GATES TO REMOVE ALL ORGANIC GROWTH, LOOSE PARTICLES, AND OTHER EXTRANEOUS MATERIALS.
- 2. MARK ALL GATE COMPONENTS PRIOR TO REMOVAL FOR EASE OF REASSEMBLY.
- 3. REMOVE GREASE LINES AND FITTINGS FROM THE ROLLER GATE.
- 4. REMOVE ALL SHEAVE HANGERS, SHEAVES, AND SHEAVE PINS FROM THE CABLE DRUM HOIST.
- 5. REMOVE THE CABLE DRUM HOIST AND ROLLER GATES FROM THE STRUCTURE.
- 6. 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.
- 7. REMOVE ALL BOLTS, RETAINING PLATES, AND SEALS FROM THE ROLLER GATES.
- 8. REMOVE WHEELS FROM THE ROLLER GATE.
- 9. 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.
- 10. INSPECT WHEELS, COLLARS, AXLES, AND BEARINGS AND REPAIR AS NEEDED.
- 11. 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.
- 12. 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.
- 13. AXLES AND WHEELS SHALL BE MEASURED FOR "THORDON THORPLAS" BEARING FABRICATION. THE "THORDON THORPLAS" BEARINGS SHALL BE INSERTED AND THE WHEELS BLASTED AND PAINTED.
- 14. 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.
- 15. INSPECT ALL COMPONENTS TO ENSURE THEY ARE CLEAN OF DEBRIS AND GREASE.
- 16. 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.
- 17. REASSEMBLE THE ROLLER GATES, INCLUDING THE WHEELS, SEALS, RETAINING PLATES, AND HARDWARE.
- 18. PROVIDE CATHODIC PROTECTION AS REQUIRED FOR THE SIZE OF THE ROLLER GATES.
- 19. 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.
- 20. REINSTALL THE COMPLETED ROLLER GATES AND HOIST SYSTEMS.
- 21. REINSTALL THE ROLLER GATE GREASE LINES AND FITTINGS.
- 22. PERFORM DRY TEST OPERATION OF GATES.
- 23. TEST OPERATION OF GATES UNDER NORMAL OPERATING CONDITIONS.

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".
- 2. STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:

SSPC-10 NEAR WHITE BLAST CLEANING.

3. PAINT SHALL BE BY THE WASSER CORPORATION, OR EQUAL, AS FOLLOWS:

FIRST COAT: MC-ZINC 100 GRAY, 6 MILS DFT MINIMUM SECOND COAT: MC-TAR 100 RED, 6 MILS DFT MINIMUM THIRD COAT: MC-LUSTER 100 SILVER, 6 MILS DFT MINIMUM

SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER SPECIFICATIONS.

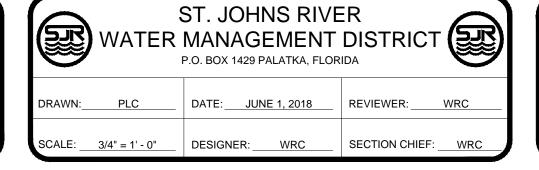
RUBBER SEALS:

- 1. 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.
- 2. THE NEW 4"X1" BOTTOM SEAL SHALL BE BLACK NEOPRENE SHEET COMMERCIAL GRADE 60 DURO PLATE FINISH IN ACCORDANCE WITH ASTM D2000 1BC605, AS MANUFACTURED BY TAMPA RUBBER AND GASKET COMPANY, INC., OR EQUAL. DRILL HOLES TO CONFORM WITH THE SIZE AND SPACING ON THE GATE.

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

| SSUED FOR BID | PLC | 06/01/18 | WRC | 06/01/18 |
| NO. | REVISION | BY | DATE | APPROVED | DATE |

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



GATE REHABILITATION

WILLIAM R. COTE
P.E. NUMBER: _______53746
DATE: ______JUNE 1, 2018

FILE NAME:
96-B FENCING.dwg
PROJECT NO.:
SHEET:

