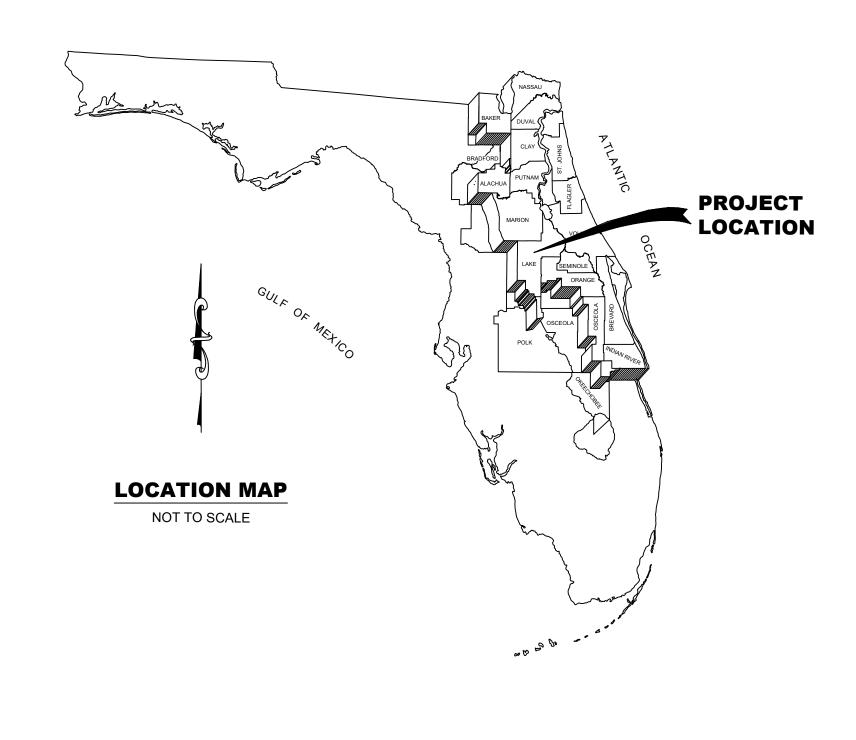
# **ST. JOHNS RIVER WATER MANAGEMENT DISTRICT UPPER OCKLAWAHA RIVER BASIN BURRELL LOCK REHABILITATION** LAKE COUNTY, FLORIDA

# **NGVD 1929**

ALL ELEVATIONS DEPICTED HEREIN REFERENCE NGVD 1929 UNLESS OTHERWISE NOTED. THE CONVERSION FACTOR TO NAVD 1988 IS -1.05'.

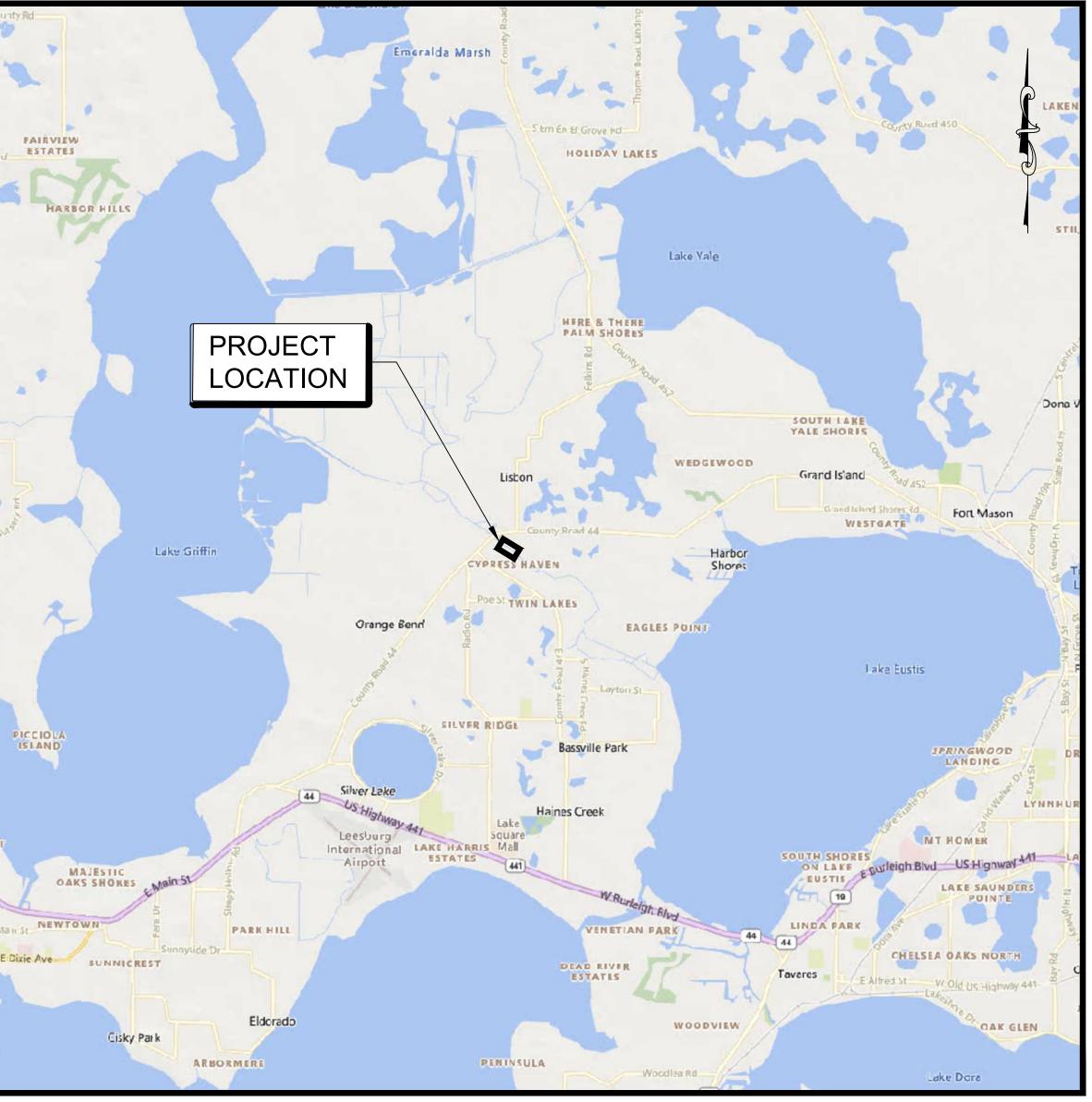


**ENGINEER'S NOTES** 

- These drawings are prepared for the sole and exclusive use of the St. Johns River Water Management District and shall not be relied upon by any other entity or individual.
- Reproductions of these drawings are "NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL SEAL OF A FLORIDA LICENSED ENGINEER.'

$\triangle$	ISSUED FOR BID	N.J.G.	02/19/24	W.R.C.	02/19/24
NO.	REVISION	BY	DATE	APPROVED	DATE

AKE VIEW KE FOREST SEUR



VICINITY MAP



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ALWAYS CALL

Dial 811 or 1-800-432-4770 www.sunshine811.com

COVER SHEET.dwg

C1

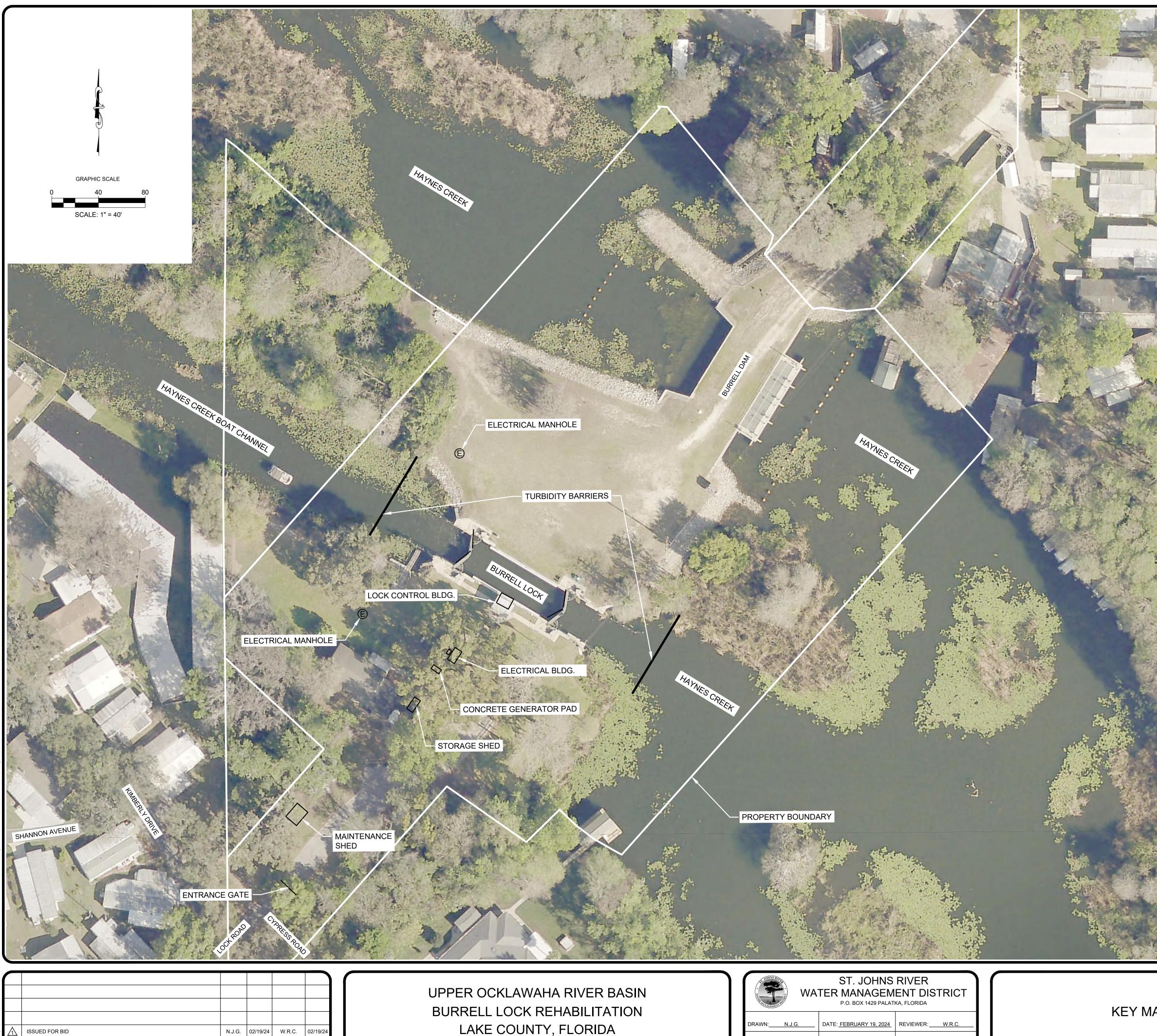
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SHEET:

CERTIFICATION:

FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION** 

WILLIAM R. COTE
P.E. NUMBER:53746
DATE:FEBRUARY 19, 2024



REVISION

BY DATE APPROVED DATE

WA	ST. JOHNS RIVER TER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA			
DRAWN: N.J.G.	DATE: <u>FEBRUARY 19, 2024</u>	REVIEWER: W.R.C.		
SCALE:1" = 40'	DESIGNER: W.R.C.	SECTION CHIEF: W.R.C.		

### NOTE SPECIFICATIONS:

### SUMMARY OF WORK / CONSTRUCTION SEQUENCE:

- 1. MOBILIZE LABOR AND EQUIPMENT TO THE SITE. ESTABLISH ON-SITE OFFICE AND STORAGE SPACES.
- 2. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES.
- 3. INSTALL DEWATERING BULKHEADS AND SUPPORT FRAMING AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE LOCK STRUCTURE.
- PUMP WATER FROM THE WORK AREA AND PROVIDE CONTINUOUS PUMPING TO KEEP THE WORK AREA DEWATERED. PUMPING SHALL BE IN A MANNER THAT WILL MINIMIZE SILTATION INTO THE WATERWAYS.
- 5. REMOVE MANATEE SONAR DETECTION SYSTEM. CAREFULLY STORE UNDER CLIMATE CONTROL FOR LATER
- REINSTALLATION. 6. REMOVE SEDIMENT AND DEBRIS FROM THE STRUCTURE WORK AREA AND DISPOSE AT AN APPROVED OFFSITE LOCATION.
- PRESSURE WASH ALL CONCRETE AND STEEL SURFACES. AFTER WASHING THE DISTRICT AND CONTRACTOR SHALL PERFORM A JOINT INSPECTION TO DETERMINE THE FULL EXTENT AND SCOPE OF THE REPAIR WORK.
- DISCONNECT POWER. DEMO AND DISPOSE OF THE FOUR LOCK MITRE GATE OPERATORS AND CONTROLS. REMOVE THE LOCK MITRE GATES.
- 9. DEMO AND DISPOSE FOUR SLIDE GATES AND OPERATORS. KEEP THE EXISTING CONCRETE ANCHORS FOR ATTACHING THE NEW GATES.
- 10. DEMO AND DISPOSE FOUR ABANDONED ELECTRICAL BOXES AND CONDUITS.
- 11. DEMO UPSTREAM AND DOWNSTREAM FENDERS. REPLACE WITH 3.5X7 PT WOOD. PROVIDE NEW GALVANIZED BOLTS, NUTS, AND WASHERS SIZED ACCORDING TO THE EXISTING FASTENERS TO BOLT ON TIMBER PILES.
- 12. DEMO INTERNAL LOCK FENDERS. UPON COMPLETION OF CONCRETE REPAIR, REPLACE WITH 2X6 COMPOSITE LUMBER. ANCHOR TO CONCRETE WALLS WITH NEW STAINLESS STEEL DRILLED ANCHORS, NUTS, AND WASHERS SIZED ACCORDING TO THE EXISTING FASTENERS.
- DEMO REPLACE NAVIGATION LIGHTS ON TOP OF PILES, TWO AT UPSTREAM AND TWO AT DOWNSTREAM ENDS OF THE LOCK APPROACHES. REPLACE WITH NEW SOLAR MARINE LIGHTS AS SPECIFIED.

14. DEMO AND REPLACE TWO DISTRICT STAFF GAGES AS SPECIFIED.

- REMOVE AND DISPOSE TWO DISTRICT STAFF GAGES AND REPLACE AS SPECIFIED. DEMO AND DISPOSE FOUR FIRE EXTINGUISHER CABINETS AFFIXED TO THE LOCK RAILING. REPLACE WITH FOUR UNITS OF JONESCO MODEL JBXE83, OR EQUAL.
- 16. DEMO AND DISPOSE FOUR THROWABLE FLOATATION RINGS WITH CABINET AFFIXED TO THE LOCK RAILING. REPLACE WITH FOUR UNITS OF JIM BUOY SAFETY STATION MODEL 5070A WITH CABINET, 30-INCH RING, AND 60-FT. HEAVY LINE, OR EQUAL.
- 17. REMOVE AND DISPOSE 26 SIGNS AND REPLACE 23 SIGNS AS SPECIFIED. REMOVE AND SALVAGE 7 SIGNS AND REPLACE UPON COMPLETION OF LOCK REPAIRS. 18. LOCK MITRE GATE REHABILITATION:
- REMOVE THE LOCK GATES, PERFORM JOINT INSPECTION, BLAST AND PAINT AS SPECIFIED. PREPARE SURFACES AND PAINT ALL MITRE GATE HANDRAILS. REPLACE GATE GREASE LINES, SEALS AND HARDWARE. 18.1 LOCK GATE STEEL REPAIRS (IF REQUIRED)
- PATCH GATE STEEL AND HINGE SUPPORT BRACKETS AS NEEDED.
- 18.2 LOCK GATE HINGE PINS (IF REQUIRED) INSPECT AND REPLACE THE HINGE PINS AS NEEDED.
- 18.3 LOCK GATE HINGE BEARINGS (IF REQUIRED) INSPECT AND REPLACE THE HINGE BEARINGS AS NEEDED.
- 18.4 LOCK GATE LUMBER COMPONENTS (IF REQUIRED) INSPECT AND REPLACE LUMBER COMPONENTS AS NEEDED.
- 19. CONCRETE HYDRODEMOLITION, IF NEEDED, SHALL BE AS SPECIFIED.
- 20. CONCRETE ISOLATED PATCHING, IF NEEDED, SHALL BE AS SPECIFIED.
- 21. CONCRETE REBAR REPAIR, IF NEEDED, SHALL BE AS SPECIFIED.
- 22. CONCRETE CRACK REPAIR, IF NEEDED, SHALL BE AS SPECIFIED.
- 23. CONCRETE SAWCUTTING, IF NEEDED, SHALL BE AS SPECIFIED.
- 24. CONCRETE ERODED SURFACE REPAIR, IF NEEDED, SHALL BE AS SPECIFIED.
- 25. CONCRETE TESTING SERVICES, IF NEEDED, SHALL BE AS SPECIFIED.
- 26. CONCRETE SURFACE SHALL BE AS SPECIFIED.
- 27. CONCRETE HYDRAULIC CYLINDER PITS SHALL BE AS SPECIFIED.
- 28. INSPECT, REPAIR LEAKS, AND PAINT THE 42-INCH DIAMETER LOCK FILL AND DISCHARGE PIPES AS SPECIFIED.
- 29. PAINT ALL EMBEDDED STEEL COMPONENTS WITH SHERWIN-WILLIAMS DURA-PLATE 235, 2 COATS 6 MILS DFT EACH COAT, OR EQUAL. SURFACE PREPARATION SHALL BE FOR IMMERSION SERVICE AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. STAINLESS STEEL SHALL BE POWERWASHED ONLY. GALVANIZED STEEL SHALL BE COATED WITH ZRC GALVANIZING COMPOUND, TWO COATS, 3 MILS DFT EACH COAT, OR EQUAL. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS.
- 30. FABRICATE AND INSTALL NEW HANDRAIL AT CYLINDER PITS, NEW LOCK ACCESS GATE AND REPLACE LADDER LOCATED NEAR THE LOCK CONTROL BUILDING.
- 31. INSTALL A NEW ¾" DIAMETER STAINLESS STEEL WATER LINE AND WATER BIB IN THE NORTHEAST LOCK CORNER CONNECTED TO AND MIRRORING THE EXISTING WATER LINE AND BIB NEAR THE NORTHEAST LOCK CORNER. THE ANCHORED LINE SHALL EXTEND DOWN THE NORTHWEST WALL, ACROSS THE CONCRETE FLOOR, AND UP THE NORTHEAST WALL.
- 32. UPON COMPLETION OF LOCK REPAIRS, INSTALL THE FOUR LOCK MITRE GATES AND THE FOUR NEW HYDRAULIC OPERATORS.
- 33. INSTALL FOUR NEW SLIDE GATES AND FOUR NEW HYDRAULIC OPERATORS.
- 34. IN THE LOCK CONTROL BUILDING, INSTALL NEW CONTROL PANELS FOR THE MITRE GATE OPERATORS AND THE SLIDE GATE OPERATORS. INSTALL NEW CONDUITS AND WIRING TO CONNECT TO THE FOUR MITRE GATES AND THE FOUR SLIDE GATE OPERATORS. CONNECT POWER AND PERFORM DRY TEST OPERATION OF ALL GATES AND OPERATORS AND ADJUST AS NEEDED. AFTER LOCK IS FLOODED, TEST OPERATION OF ALL GATES AND OPERATORS UNDER NORMAL OPERATING CONDITIONS AND ADJUST AS NEEDED.
- 35. INSTALL THE DISTRICT SUPPLIED NEW MANATEE PROTECTION SCREENS IN FRONT OF THE FOUR SLIDE GATES. ALSO INSTALL SCREENS AT THE TWO UPSTREAM PIPE INLETS AND AT THE TWO DOWNSTREAM PIPE OUTLETS.
- 36. REINSTALL THE MANATEE SONAR DETECTION SYSTEM. RECALIBRATE THE SYSTEM WITH DIVERS AFTER THE LOCK IS FLOODED.
- 37. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT ANNOTATED DRAWINGS AND SPECIFICATIONS DOCUMENTING ANY CHANGES TO REFLECT THE AS-BUILT CONDITIONS. CONTRACTOR SHALL ALSO SUBMIT AN AS-BUILT SITE SURVEY SIGNED AND SEALED BY A FLORIDA LICENSED PROFESSIONAL LAND SURVEYOR. ELECTRONIC FILES (DWG AND PDF) AND TWO HARD COPIES ARE REQUIRED.
- 38. DEMOBILIZE INCLUDING SITE CLEAN UP, RESTORATION OF FINAL GRADE AND GRASSING TO ORIGINAL CONDITION, AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS.

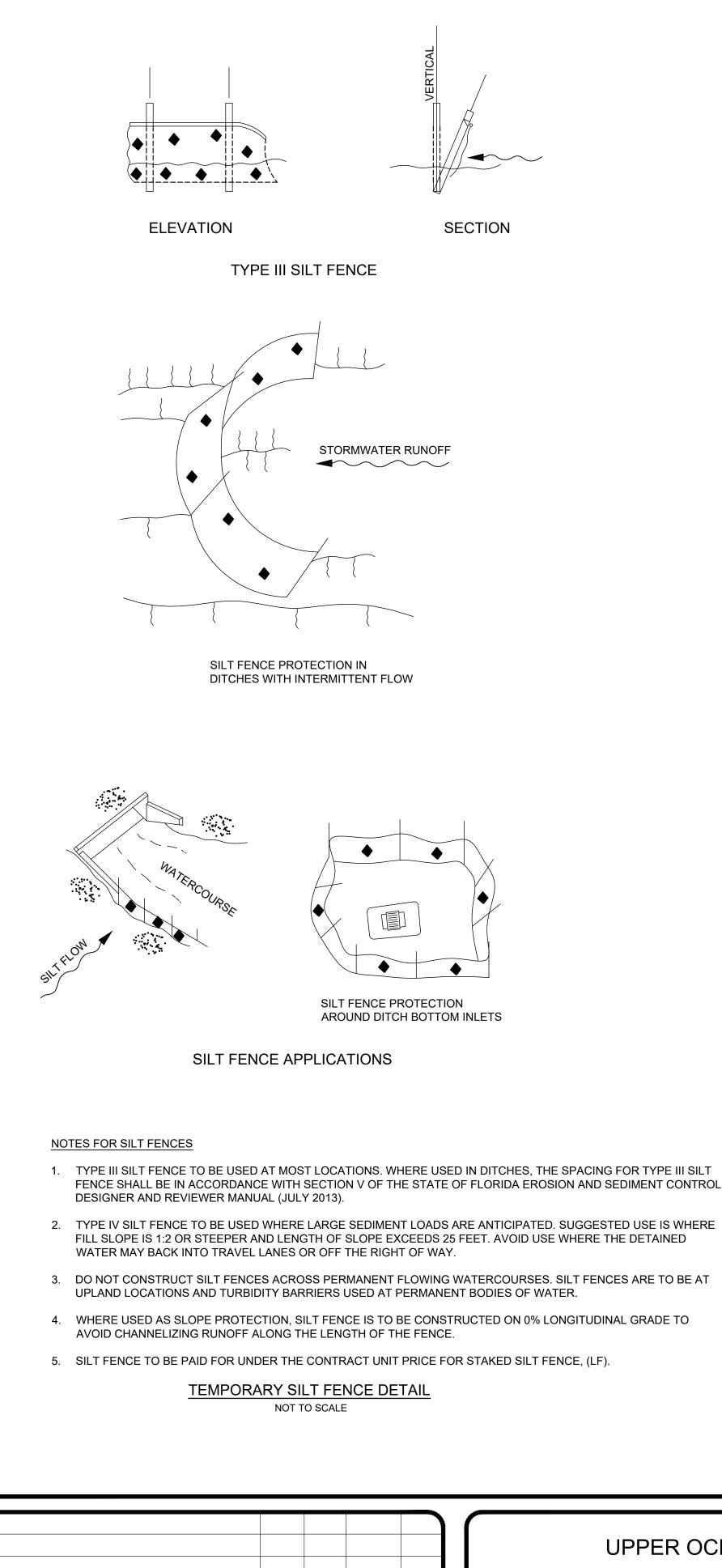
### FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

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WILLIAM R. COTE					
P.E. NUMBER:	53746				
DATE:	FEBRUARY 19, 2024				

CERTIFICATION:

FILE NAME:	
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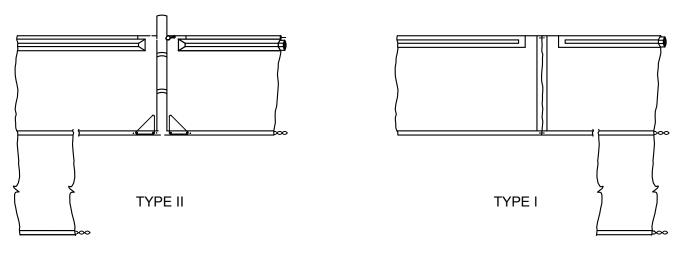
N.J.G. 02/19/24 W.R.C. 02/19/24

BY DATE APPROVED DATE

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BURRELL LOCK F
LAKE COUNT

REVISION

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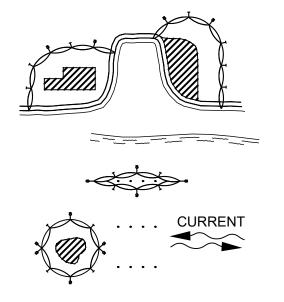


D1= 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS). D2= 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5')

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:

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

LEGEND

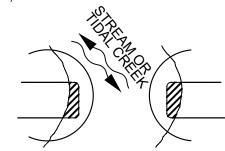
ANCHOR

PILE LOCATIONS

TO CURRENT ACTION

BARRIER MOVEMENT DUE

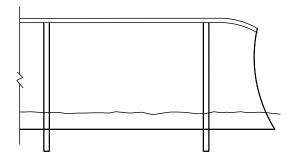
2. STAKED TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED TURBIDITY BARRIER. LF.



### NOTES:

- 1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH. DREDGE OR FILL AREA
- 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 FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).

TURBIDITY BARRIER APPLICATIONS NOT TO SCALE

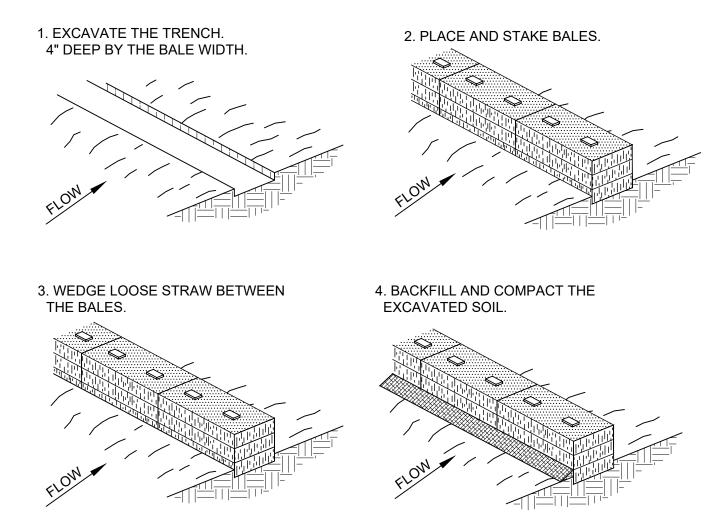


STAKED TURBIDITY BARRIER NOT TO SCALE

### 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.

AHA RIVER BASIN REHABILITATION	ST. JOHNS RIVER WATER MANAGEMENT DISTRIC P.O. BOX 1429 PALATKA, FLORIDA	;T
Y. FLORIDA	DRAWN: N.J.G. DATE: FEBRUARY 19, 2024 REVIEWER: W.R.C.	
	SCALE: <u>AS NOTED</u> DESIGNER: <u>W.R.C.</u> SECTION CHIEF: <u>W.R.</u>	.C.



NOTES:

- 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.

STRAW BALE BARRIER NOT TO SCALE

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.
- 6. 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 STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL (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 FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITIONS). NOTE THAT OTHER GRASSING ALTERNATIVES MAY BE USED WITH PRIOR DISTRICT APPROVAL.

**PERMIT CONDITIONS FOR MANATEE PROTECTION:** 

- 1. MANATEES ARE EXPECTED TO BE PRESENT AT THIS SITE DURING CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH ALL STANDARD MANATEE CONDITIONS IN THE PERMIT.
- 2. SILTATION OR TURBIDITY BARRIERS SHALL BE MADE OF MATERIAL IN WHICH MANATEES CANNOT BECOME ENTANGLED, SHALL BE PROPERLY SECURED, AND SHALL BE REGULARLY MONITORED TO AVOID MANATEE ENTANGLEMENT OR ENTRAPMENT. BARRIERS MUST NOT IMPEDE MANATEE MOVEMENT.
- 3. CONTRACTOR SHALL PROVIDE MANATEE PROTECTION SCREENS WITH A MAXIMUM 8-INCH **OPENING FOR ANY AND ALL DEWATERING OUTLET PIPES.**

### FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

CERTIFICATION:

DATE:

WILLIAM R. COTE P.E. NUMBER: \_ 53746

FEBRUARY 19, 2024

FILE NAME:
EROSION AND SEDIMENT.dwg
PROJECT NO.:
SHEET:

**EROSION AND SEDIMENT CONTROL** 

<u>C3</u>

### NOTE SPECIFICATIONS:

**REFERENCE DOCUMENTS:** 

1. LOCK CONSTRUCTION DRAWINGS PREPARED BY GEE & JENSEN CONSULTING ENGINEERS, WEST PALM BEACH, FLORIDA, DATED JANUARY 6, 1955.

GENERAL:

- 1. 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 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:
- USACE 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.

- 4. THE CONTRACTOR SHALL CONDUCT 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. DURING CONSTRUCTION, ALL ERODIBLE GROUND AREAS AND SLOPES WHICH ARE DISTURBED SHALL BE REVEGETATED WITH SOD, SEED, AND MULCH, 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.

UPON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS SHALL BE SODDED IN ACCORDANCE WITH FDOT SECTIONS 981, 982, AND 983. SOD SHALL BE BAHIA GRASS.

- 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.
- 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. HOURS OF CONSTRUCTION OPERATIONS SHALL BE LIMITED TO BETWEEN THE HOURS OF 7 AM TO 6 PM
- 13. 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. CONTRACTOR SHALL ALSO SUBMIT AN AS-BUILT SITE SURVEY SIGNED AND SEALED BY A FLORIDA LICENSED LAND SURVEYOR.

### 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.
- 2. 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 (8000-12000 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

Ζ	ISSUED FOR BID	N.J.G.	02/19/24	W.R.C.	02/19/24
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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.

THE BOUNDARIES BETWEEN THE ERODED AND SOUND CONCRETE SURFACES, IF ANY AS DETERMINED BY INSPECTION, SHALL BE SAWCUT IN ORDER TO PROVIDE A SMOOTH TRANSITION FOR THE MORTAR REPAIR AREAS.

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.

- APPLIED METHODS.
- (ICRI) GUIDELINE NO. 03732.
- SHALL BE AS FOLLOWS:

BAR SIZE

#3			
#4			
#5			
#6			
<b>#</b> 7			
uО			

ALTERNATIVELY, MECHANICAL SPLICES MAY BE USED SUBJECT TO DISTRICT APPROVAL.

- WITH THE REPAIR MORTAR.
- MADE BEFORE THE SCRUB COAT DRIES OUT.

- PROTECTIVE COATING.
- SUBJECT TO IMMERSION.
- TO THE DISTRICT FOR APPROVAL.

UPPER OCKLAWAHA **BURRELL LOCK REH** LAKE COUNTY,

4. CONCRETE SURFACE REPAIRS MAY GENERALLY CONSIST OF EITHER HAND-APPLIED OR MACHINE

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

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

SPLICE LENGTH (IN)

12	
12	
15	
18	
24	
30	

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

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

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 AS DETAILED ON THE DRAWINGS 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. 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

13. 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 AND ALL POCK MARKS ARE FILLED. MOIST CURE WITH WET BURLAP AND POLYETHYLENE OR A FINE MIST OF WATER FOR A MINIMUM OF 3 DAYS IN AREAS THAT WILL BE

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

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 AND CAST IN PLACE CO LABORATORY'S INSPECTORS SHALL HAVE FREE ACCESS TO ALL POINTS WHE MATERIALS ARE STORED, PROPORTIONED, MIXED AND PLACED.
- 2. TEST SCHEDULING: CONTRACTOR SHALL ADVISE THE LABORATORY WITH TWE HOURS ADVANCE NOTICE OF THE TIME AND LOCATION OF ALL REPAIR MORTAR A PLACEMENT OR OTHERWISE MAKE ARRANGEMENTS WITH THE LABORATORY SO MAY BE OBTAINED.
- 3. REPAIR MORTAR CUBE TESTS: CUBE SAMPLES (2" MORTAR CUBES) SHALL BE TAKEN ACCORDANCE WITH ASTM C109 "STANDARD TEST METHOD FOR COMPRESSIVE HYDRAULIC CEMENT MORTARS." CUBE TESTING SHALL INCLUDE ONE (1) AT 7-DAYS AT 28-DAYS. TWO (2) ADDITIONAL SAMPLES SHALL BE TESTED AT 56 DAYS IF DEEME SAMPLING FREQUENCY FOR CUBES SHALL BE ONE PER DAY OR A MINIMUM OF C AREA, WHICHEVER IS GREATER. THE WORK AREAS ARE DEFINED AS EACH SEPAR FLOOR AREA.
- 4. REPAIR MORTAR COMPRESSIVE STRENGTH: THE REPAIR MATERIAL SHALL ATTA 28-DAY COMPRESSIVE STRENGTH OF 7000 PSI. COMPRESSION STRENGTH OF A SAM DETERMINED BY THE AVERAGE OF THE THREE (3) SAMPLES TESTED AT TWENTY-EI COMPLIANCE WITH THE STRENGTH REQUIREMENTS OF THESE SPECIFICATIONS SHA IF THE AVERAGE COMPRESSIVE STRENGTH OF THREE (3) CONSECUTIVE SAMPLES THAN THE SPECIFIED STRENGTH FOR THE CLASS OF CONCRETE, PROVIDED NO INDIV SHALL HAVE A STRENGTH TEST RESULT THAT FALLS BELOW THE SPECIFIED STREI THAN SEVEN-HUNDRED (700) PSI. CONCRETE WHICH FAILS TO MEET STRENGTH F SHALL BE FURTHER TESTED AS PROVIDED IN ACI 318 AT THE EXPENSE OF CONTRAC BE REMOVED AS DETERMINED BY THE DISTRICT.
- 5. CONCRETE CYLINDER TESTS: CONCRETE CYLINDERS SHALL BE TAKEN AN ACCORDANCE WITH ASTM C39 "STANDARD TEST METHOD FOR COMPRESSIVE CYLINDRICAL CONCRETE SPECIMENS." SAMPLING FREQUENCY FOR CONCRETE SHAL FIFTY (50) CUBIC YARDS OR PORTION THEREOF OF CONCRETE PLACED EA LABORATORY SHALL TAKE A SAMPLE FROM A BATCH OF ITS SELECTION AS THE CONC PLACED. NO WATER SHALL BE ADDED OR OTHER CHANGE MADE IN ANY BATCH AFTE SAMPLED. IN ADDITION TO OTHER TESTS, THE LABORATORY WILL MAKE A SET OF FIVE COMPRESSION CYLINDERS FROM EACH SAMPLE, ONE (1) OF WHICH WILL BE TESTE DAYS AND THREE (3) TESTS AT TWENTY-EIGHT (28) DAYS AND AN ADDITIONAL SAM TESTED AT 56 DAYS IF DEEMED NECESSARY.
- 6. CONCRETE COMPRESSIVE STRENGTH: CAST-IN-PLACE CONCRETE SHALL ATTAIN A M COMPRESSIVE STRENGTH OF 5500 PSI. COMPRESSION STRENGTH OF A SAMI DETERMINED BY THE AVERAGE OF THE THREE (3) CYLINDERS 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 FIVE HUNDRED (500) PSI. CONCRETE WHICH FAILS TO MEET STRENGTH REQUIREMENTS MAY BE FURTHER TESTED AS PROVIDED IN ACI 318 AT THE EXPENSE OF CONTRACTOR OR SHALL BE REMOVED AS DETERMINED BY DISTRICT'S PROJECT MANAGER.
- 7. REPORTS: 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.

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. 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, NUTS AND WASHERS SHALL BE STAINLESS STEEL CONFORMING TO ASTM A276, TYPE 304, UNLESS NOTED OTHERWISE. THE SIZE AND LOCATION OF REPLACEMENT BOLTS SHALL MATCH EXISTING.
- 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

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. PREPARE SURFACES AND PAINT ALL EXPOSED STEEL COMPONENTS. ITEMS TO BE PAINTED INCLUDE STRUCTURAL STEEL, LOCK INLET AND OUTLET PIPES, AND ALL EMBEDDED STEEL (EXCLUDING STAINLESS STEEL AND ALUMINUM ITEMS). ALL STAINLESS STEEL AND ALUMINUM ITEMS SHALL BE THOROUGHLY CLEANED.
- 3. STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:

STRUCTURAL STEEL AND EMBEDDED STEEL: SSPC-10 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.

RIVER BASIN	
ABILITATION	
FLORIDA	

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA			
DRAWN: N.J.G.	DATE: FEBRUARY 19, 2024	REVIEWER: W.R.C.	
SCALE: NONE	DESIGNER: W.R.C.	SECTION CHIEF: W.R.C.	

NOTE	
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ND TESTED IN STRENGTH OF L BE FOR EACH ACH DAY. THE CRETE IS BEING ER IT HAS BEEN E (5) STANDARD D AT SEVEN (7) MPLE SHALL BE
1INIMUM 28-DAY PLE SHALL BE

4. PROTECTIVE COATING FOR STRUCTURAL STEEL SHALL BE AS MANUFACTURED BY SHERWIN-WILLIAMS (S-W), OR EQUAL, AS FOLLOWS:

FIRST COAT (PRIMER): S-W DURA-PLATE 235 4-8 MILS DFT SECOND COAT: S-W DURA-PLATE 235 4-8 MILS DFT THIRD (FINAL) COAT: S-W DURA-PLATE 235 4-8 MILS DFT

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

5. PROTECTIVE COATING FOR ALL EMBEDDED GALVANIZED ITEMS SHALL BE AS FOLLOWS:

FIRST COAT (PRIMER): SECOND COAT: THIRD COAT:

WASSER MC-ZINC 3-5 MILS DFT S-W DURA-PLATE 235 4-8 MILS DFT S-W DURA-PLATE 235 4-8 MILS DFT

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

6. PROTECTIVE COATING FOR THE INLET AND OUTLET PIPES SHALL BE AS MANUFACTURED BY SHERWIN-WILLIAMS, OR EQUAL, AS FOLLOWS:

FIRST COAT: TARGUARD LOW VOC COAL TAR EPOXY 8-16 MILS DFT TARGUARD LOW VOC COAL TAR EPOXY 8-16 MILS DFT SECOND COAT:

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

7. WHERE SEEPAGE IS PRESENT AT THE INLET AND OUTLET PIPES, THE PROTECTIVE COATING SHALL BE SOMAY HICOTE 151 AS MANUFACTURED BY SOMAY PRODUCTS, INC., OR EQUAL. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. APPLY TWO COATS AT 10 MILS DFT.

8. PROTECTIVE COATINGS FOR WATER CONTROL GATES ARE SPECIFIED ON SHEET S6.

### SUBMITTALS:

- 1. SAFETY PLAN FOR INFORMATION ONLY
- 2. CONSTRUCTION SCHEDULE 3. SILT FENCE AND TURBIDITY BARRIER DATA SHEETS
- 4. CONCRETE MORTAR REPAIR DATA SHEETS
- 5. CONCRETE MORTAR EVAPORATION RETARDANT DATA SHEETS
- 6. CONCRETE TOPCOAT DATA SHEETS
- CONCRETE AND REBAR BONDING AGENT DATA SHEETS 8. CONCRETE CRACK WITH FLOWING WATER REPAIR PRODUCT DATA SHEETS
- 9. CONCRETE MIX DESIGN
- 10. JOINT CAULK DATA SHEETS 11. PAINT AND PROTECTIVE COATINGS DATA SHEETS
- 12. SIGNS SHOP DRAWINGS
- 13. MARINE NAVIGATION LIGHT DATA SHEETS
- 14. STAFF GAGE AND WATER DEPTH GAGE DATA SHEETS 15. LOCK ACCESS GATE AND LADDER SHOP DRAWING
- 16. EPOXY ANCHOR DATA SHEETS
- 17. GATE ANODE DATA SHEETS
- 18. GATE SEAL DATA SHEETS 19. GATE STAINLESS STEEL BOLT DATA SHEETS
- 20. GATE BRONZE NUT DATA SHEETS
- 21. AS-BUILT DRAWINGS
- 22. MITRE GATE HYDRAULIC OPERATORS 23. SLIDE GATES AND HYDRAULIC OPERATORS
- 24. HYDRAULIC POWER UNITS
- 25. CONTROL SYSTEM TO OPERATE THE MITRE AND SLIDE GATES

### **AS-BUILT REQUIREMENTS:**

- 1. PROVIDE THE SURVEYOR'S CERTIFICATION AND INDICATE SURVEYED DATUM AND STATE PLANE COORDINATE SYSTEM ON THE COVER SHEET.
- 2. DO NOT REMOVE ANY ORIGINAL DESIGN INFORMATION FROM THE CAD FILE, ALTER THE LINE WEIGHTS OR COLORS, NOR CHANGE THE SCALE OF ANY PLAN, PROFILE, OR SECTIONS. LEAVE THE ORIGINAL DESIGN ELEVATIONS VISIBLE.
- 3. ADD AS-BUILT ELEVATION DATA, AS NEEDED, TO THE PROFILES AND SECTIONS WITHIN THE CAD FILE THAT HAS BEEN PROVIDED IN THE ZIP FILE. TO SHOW THAT THE CONSTRUCTION WAS DONE PER PLAN. AND CLEARLY NOTATE ANY DEVIATIONS FROM THE ISSUED FOR CONSTRUCTION DRAWINGS.
  - PROVIDE THE AS-BUILT ELEVATION WITH A CLOUD AROUND EACH POINT FOR ALL PROPOSED CUT AND FILL GRADING ELEVATIONS, INCLUDING SPOT GRADES AT THE BEGINNING AND END OF ALL CUT AND FILL GRADING AREAS.
  - IF A SHEET DOES NOT HAVE ANY AS-BUILT INFORMATION ON IT AND IS REMOVED FROM THE INDEX OF PLANS ON SHEET C1, THEN THE ABSENCE OF THAT SHEET SHOULD BE NOTED ON SHEET C1 OF THE AS-BUILT DRAWINGS.

### FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

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WILLIAM R. COTE

P.E. NUMBER: 53746

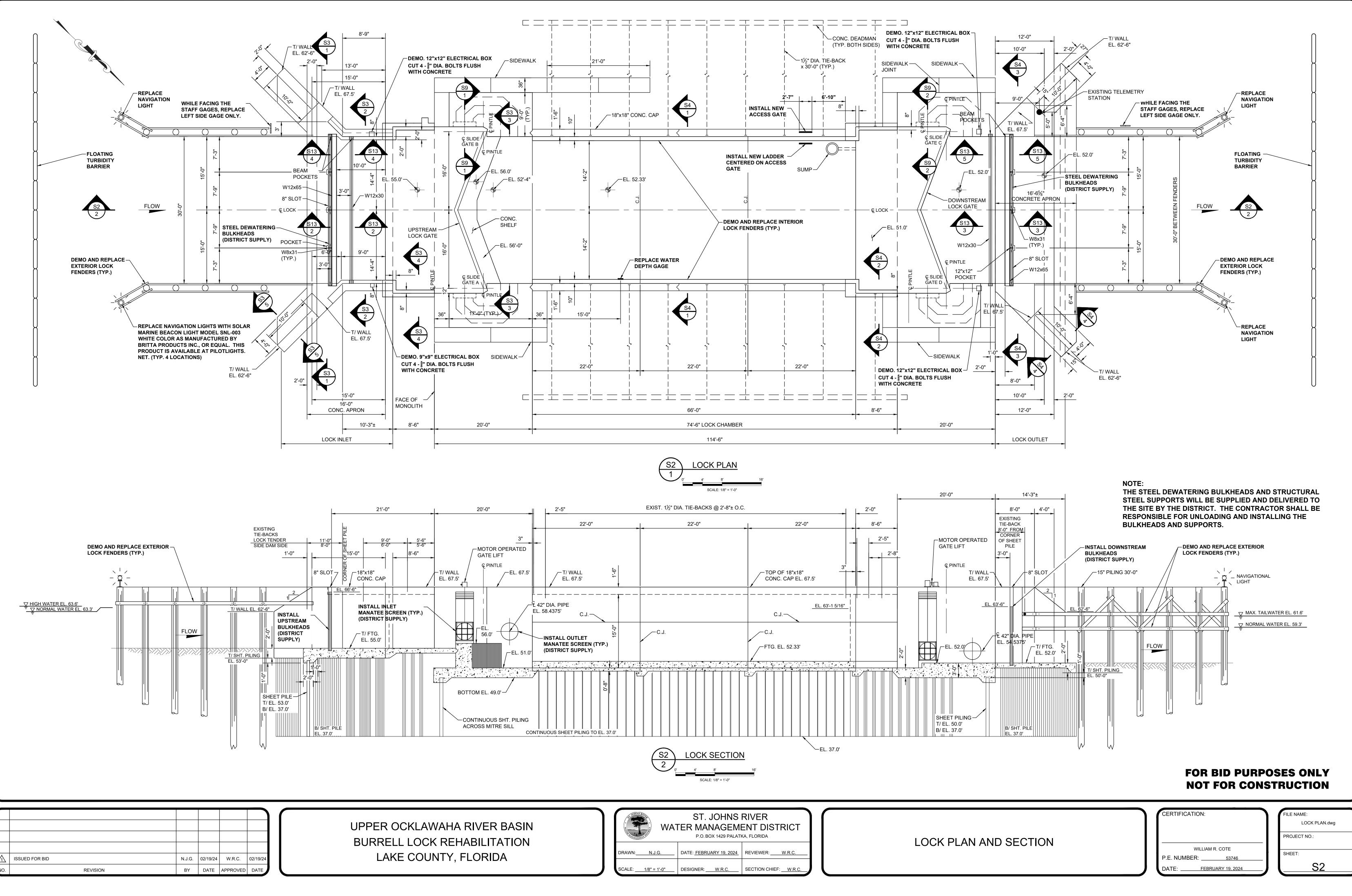
FEBRUARY 19, 2024 DATE:

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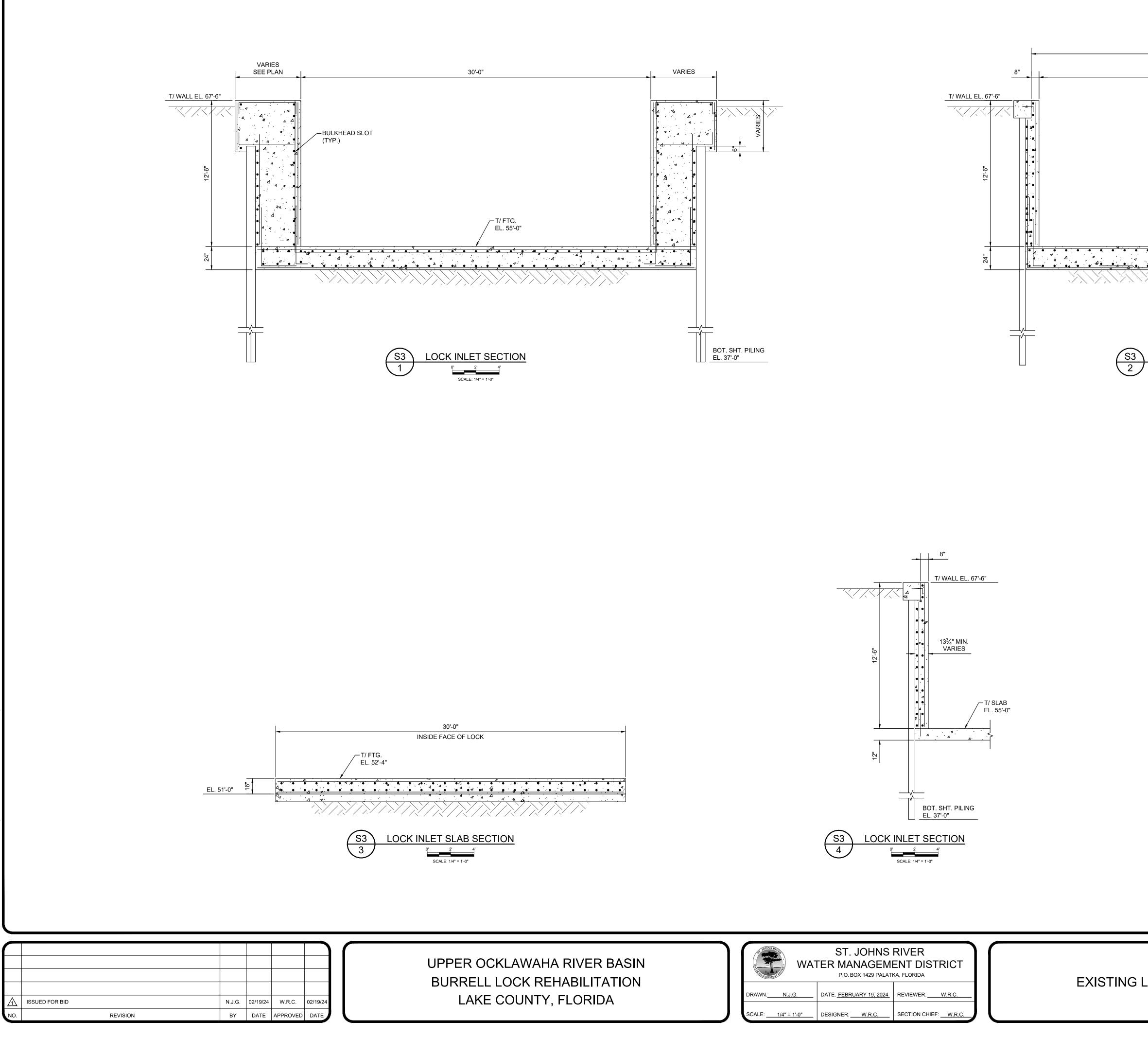
**SPECIFICATIONS** 

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WILLIAM R. COTE P.E. NUMBER: <u>53746</u> DATE: <u>FEBRUARY 19, 2024</u>	
P.E. NUMBER:53746	
P.E. NUMBER:53746	
· · · · · · · · · · · · · · · · · · ·	WILLIAM R. COTE
DATE:FEBRUARY 19, 2024	P.E. NUMBER:53746
	DATE:FEBRUARY 19, 2024

FILE NAME:
LOCK PLAN.dwg
PROJECT NO.:
SHEET:
S2



	WA	ST. JOHNS TER MANAGEM P.O. BOX 1429 PALAT	ENT DISTRICT
	DRAWN: N.J.G.	DATE: <u>FEBRUARY 19, 2024</u>	REVIEWER: W.R.C.
J	SCALE: <u>1/4" = 1'-0"</u>	DESIGNER: W.R.C.	SECTION CHIEF: W.R.C.

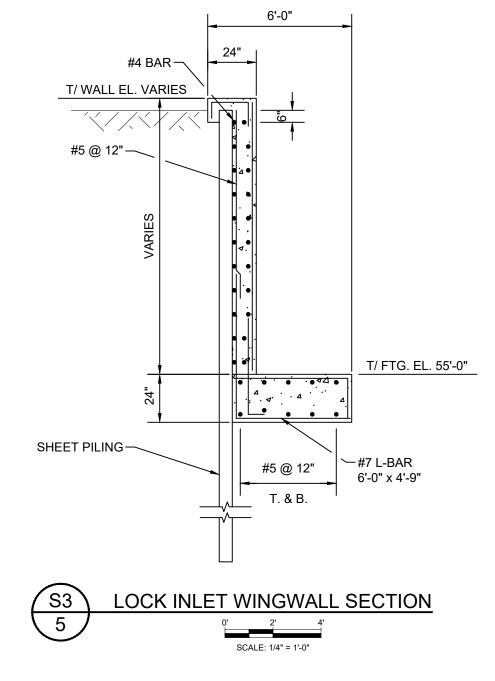
EXISTING LOCK INLET SECTIONS

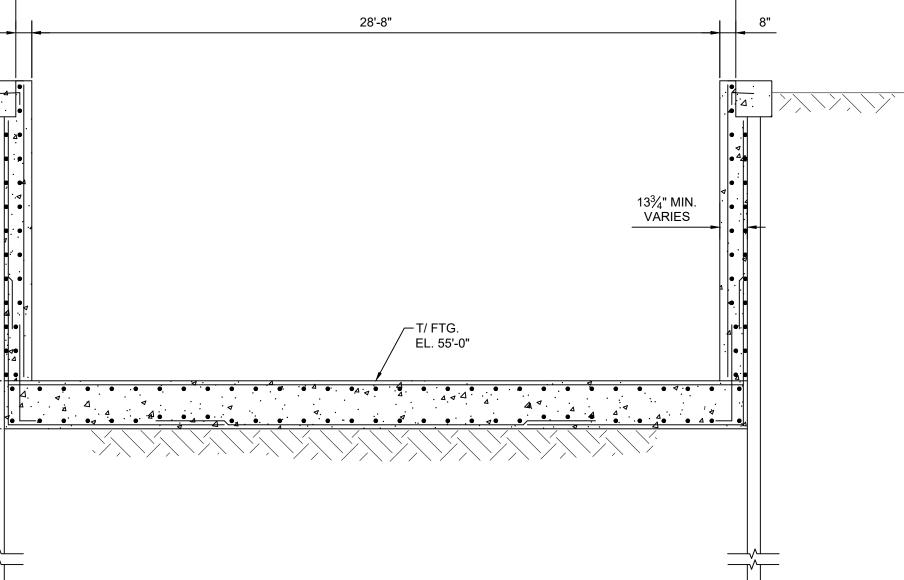
WI	LLIAM R. COTE
P.E. NUMBER:	53746
DATE:	FEBRUARY 19, 2024

CERTIFICATION:

FILE NAME:
LOCK INLET SECTIONS.dwg
PROJECT NO.:
SHEET:
S3

### FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**



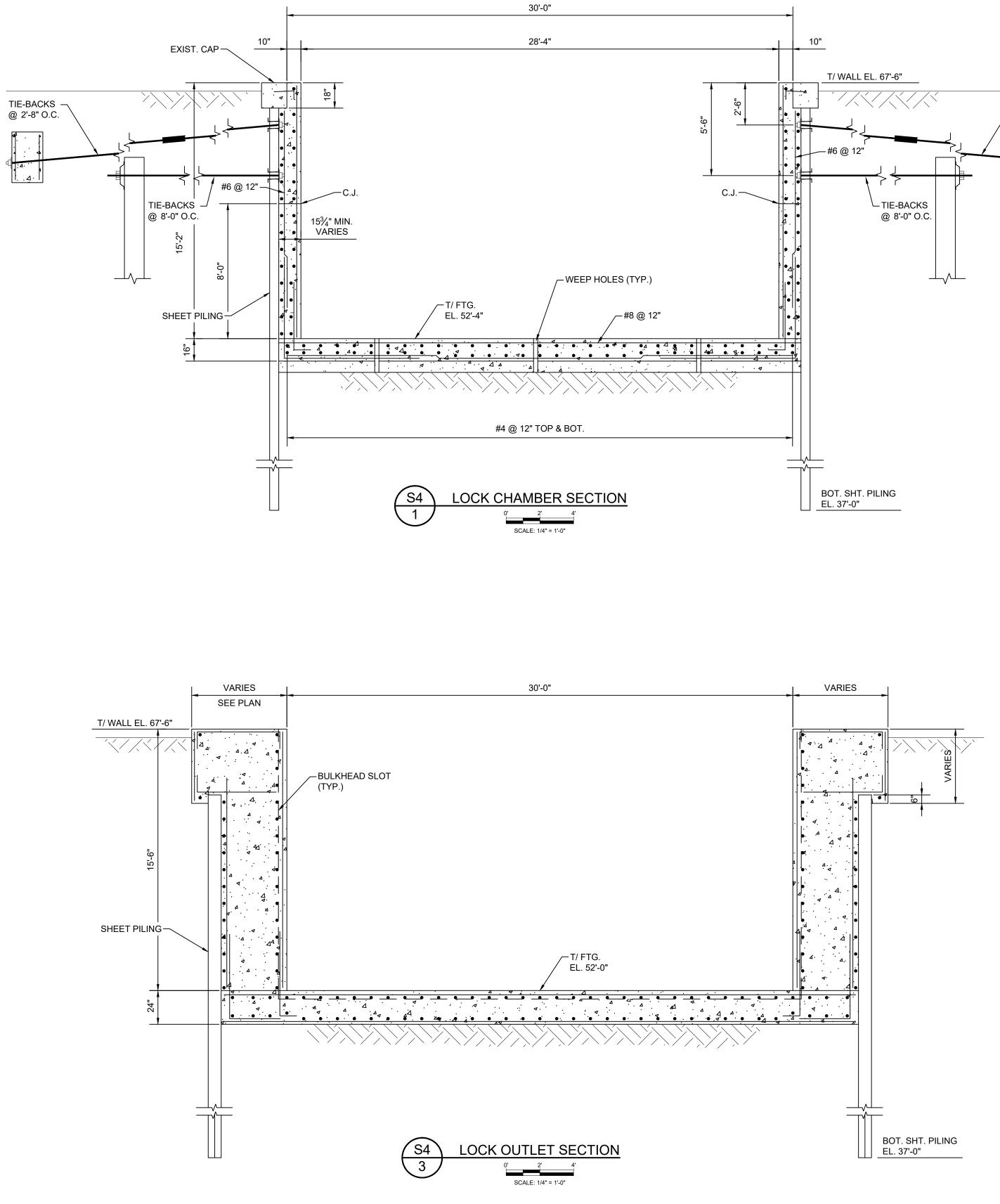


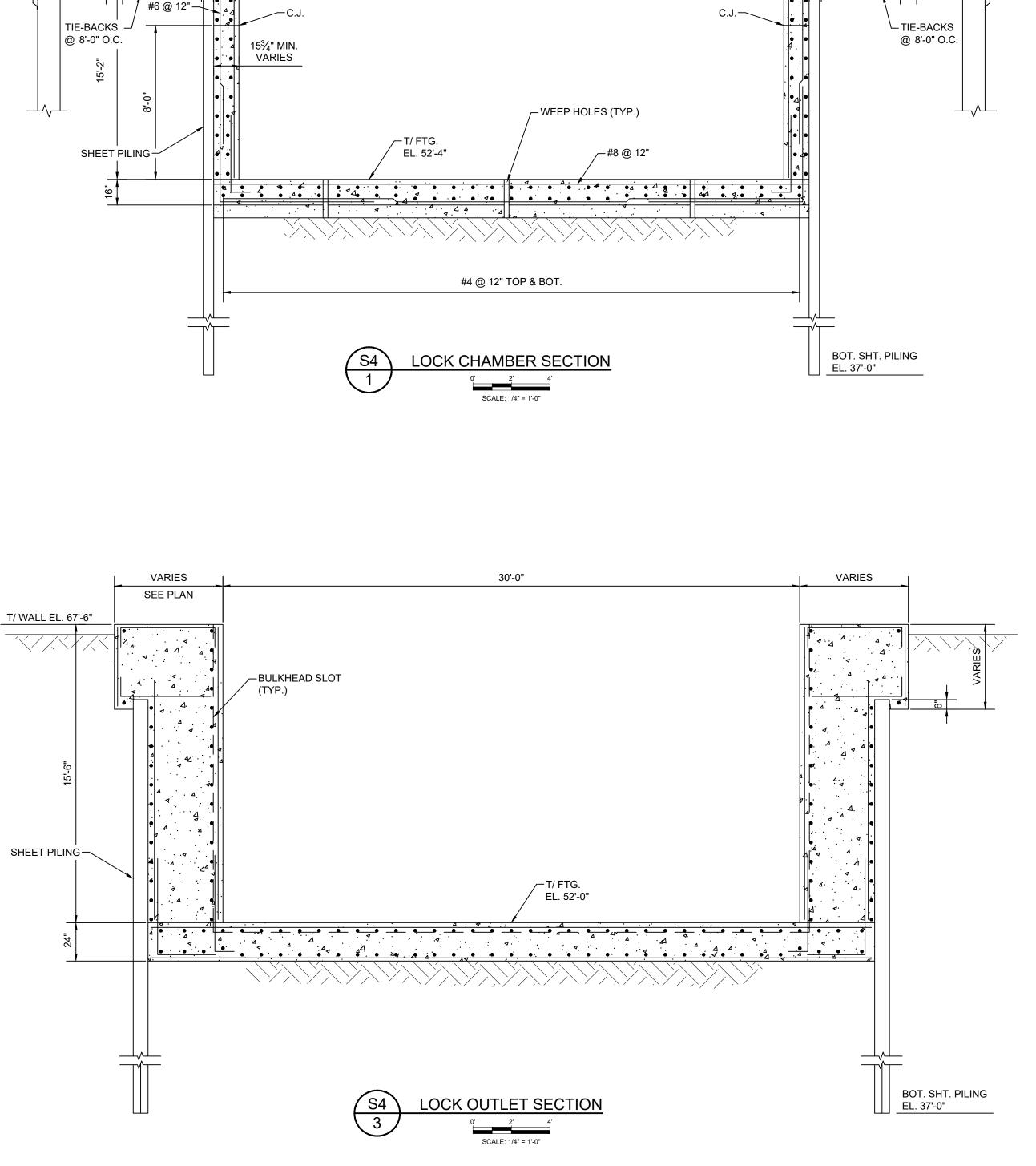
30'-0"

LOCK INLET SECTION

0' 2' 4' SCALE: 1/4" = 1'-0"

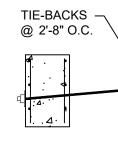
BOT. SHT. PILING EL. 37'-0"





UPPER OCKLAWAHA
BURRELL LOCK REF
LAKE COUNTY,

$\triangle$	ISSUED FOR BID	N.J.G.	02/19/24	W.R.C.	02/19/24
NO.	REVISION	BY	DATE	APPROVED	DATE



# A RIVER BASIN HABILITATION , FLORIDA

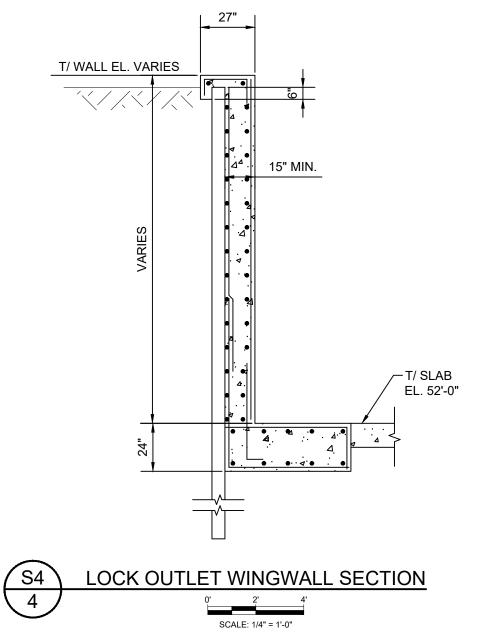
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DRAWN: N.J.G.	DATE: <u>FEBRUARY 19, 2024</u>	REVIEWER: W.R.C.
SCALE:1/4" = 1'-0"	DESIGNER: W.R.C.	SECTION CHIEF: <u>W.R.C.</u>

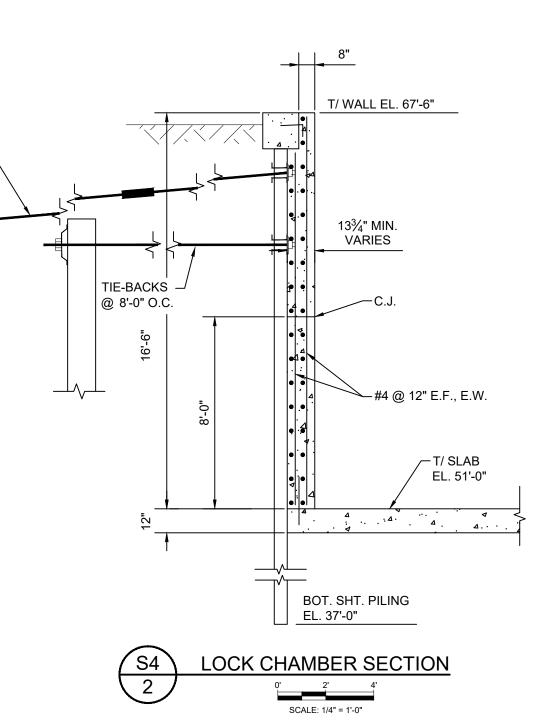
# EXISTING LOCK CHAMBER AND OUTLET SECTIONS

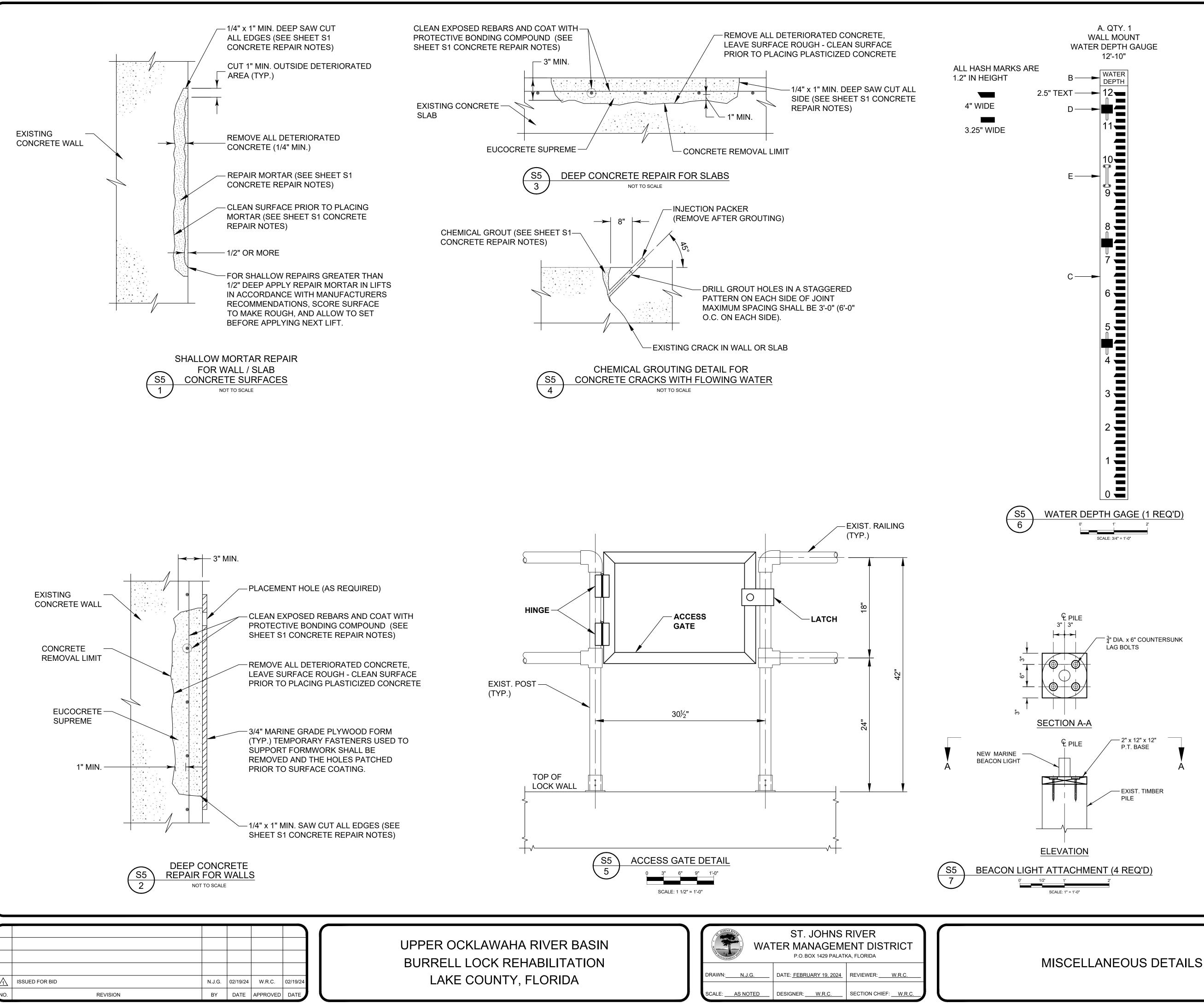
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	LIAM R. COTE
P.E. NUMBER:	53746
DATE:	FEBRUARY 19, 2024

FILE NAME:
LOCK CR & OT SECT.dwg
PROJECT NO.:
SHEET:
S4

## FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**







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.
- 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 AS DETAILED 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 DENEEF CONSTRUCTION CHEMICALS, INC., OR APPROVED EQUAL.

**STAFF GAGE NOTES:** 

- 1. THERE ARE TWO STAFF GAGES AT BOTH THE UPSTREAM AND DOWNSTREAM LOCATIONS. ONLY THE LEFT-HAND STAFF GAGES SHALL BE REPLACED. THE RIGHT-HAND STAFF GAGES OWNED BY USGS SHALL REMAIN.
- 2. STAFF GAGES SHALL BE AS MANUFACTURED BY PERFORMANCE RESULTS PLUS INC. THE WEB ADDRESS IS PRPH2O.COM.
- 3. THE LEFT-HAND UPSTREAM STAFF GAGE SHALL CONSIST OF ITEMS NOS. 801-017, 801-018, AND 801-019. THE VERTICAL DATUM SHALL BE SET TO NAVD88.
- 4. THE LEFT-HAND DOWNSTREAM STAFF GAGE SHALL CONSIST OF ITEMS NOS. 801-016, 801-017, AND 801-018. THE VERTICAL DATUM SHALL BE SET TO NAVD88.
- 5. THE MOUNTING BOARDS SHALL BE REPLACED WITH 1"X6" PRESSURE TREATED LUMBER. THE GAGES SHALL BE ATTACHED TO THE MOUNTING BOARDS WITH STAINLESS STEEL SCREWS AND RUBBER WASHERS. THE MOUNTING BOARDS SHALL BE ATTACHED TO THE LOCK FENDERS WITH STAINLESS STEEL LAG BOLTS AND WASHERS.

### WATER DEPTH GAGE NOTES:

MATERIALS KEY:

- A. 2"X10" (1.5"X9.5") MADE FROM TANGENT TECHNOLOGIES POLYFORCE RECYCLED PLASTIC LUMBER, WHITE OVER BLACK, OR EQUAL.
- B. TITLE PLAQUE INSERT: WHITE WITH RED LETTERING AS FOLLOWS: "WATER DEPTH."
- C. GAGE SPLICE LINES (IF REQUIRED).
- D. WALL MOUNTED GAGE: ALL SLOTS ARE 0.6875"x7.3125". THRU HOLES ARE 5/8" DIAMETER. PROVIDE SS WASHERS 1/4"X3"X4" AND SS CONCRETE ANCHORS.
- E. 8" SS CLEAT MOUNTED WITH THREADED INSERTS.

### HARDWARE:

ALL HARDWARE SHALL BE STAINLESS STEEL

### FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

WILLIAM R. COTE P.E. NUMBER: 53746 DATE: . FEBRUARY 19, 2024

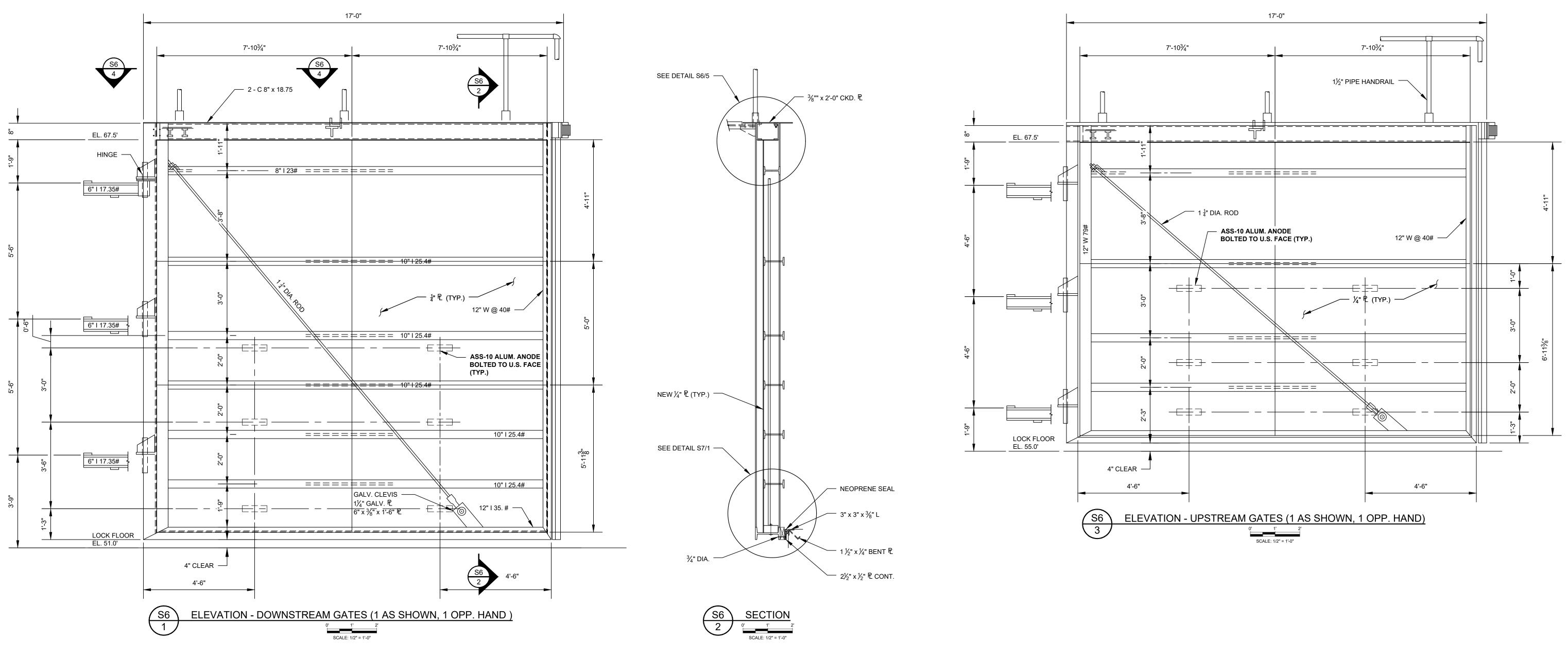
CERTIFICATION

FILE NAME:
MISC DTLS.dwg

PROJECT NO .:

SHEET:

<u>S5</u>



### GATE REHABILITATION NOTES:

### STRUCTURAL STEEL:

REFER TO NOTES ON SHEET S-1.

GATE OVERHAUL:

- 1. INSTALL THE DEWATERING BULKHEADS AND PUMP WATER FROM THE LOCK.
- 2. DISCONNECT POWER. PRESSURE WASH THE GATES TO REMOVE ALL ORGANIC GROWTH, LOOSE PARTICLES, AND OTHER EXTRANEOUS MATERIALS.
- 3. MARK ALL GATE COMPONENTS PRIOR TO REMOVAL FOR EASE OF REASSEMBLY.
- 4. DEMO THE ELECTRIC GATE OPERATORS AND CONNECTION TO GATES.
- 5. REMOVE GREASE LINES AND FITTINGS FROM THE GATE AND DISPOSE.
- 6. REMOVE GATE HANDRAILS AND STORE FOR REINSTALLATION LATER.
- 7. REMOVE THE GATES FROM THE STRUCTURE. IF GATES ARE BLASTED AND PAINTED ONSITE, CONTRACTOR SHALL PROVIDE AN APPROPRIATE CONTAINMENT ENCLOSURE TO CAPTURE BLAST MATERIAL AND PROTECT THE GATES FROM WEATHER.

8. REMOVE ALL BOLTS, RETAINING PLATES, AND SEALS FROM THE GATES.

9. HINGES:

- REPLACE THE BRONZE BUSHINGS IF ALLOWABLE CLEARANCE OF 1/32 INCH IS EXCEEDED.
- ALIGNMENT OF GATES SHALL BE CHECKED USING A 1-1/2 INCH ROUND BAR THREADED THROUGH ALL THREE HINGE BRONZE BUSHINGS. REPAIR AS NEEDED. • THE HINGE STEEL SUPPORTS SHALL BE INSPECTED AND REPAIRED IF NEEDED,
- BLASTED, AND PAINTED.
- GREASE.
- 11. THE ESTIMATED WEIGHT OF THE GATES ARE 11,700# EACH FOR THE UPSTREAM GATES AND 14,700# EACH FOR THE DOWNSTREAM GATES. MARK THE ACTUAL WEIGHT OF THE GATES ON THE TOP CHANNEL USING A FILLET WELD.
- 12. ALL STEEL COMPONENTS (EXCEPT FOR STAINLESS STEEL ITEMS) SHALL BE BLASTED AND PAINTED. ITEMS TO BE PAINTED SHALL INCLUDE THE GATES, HINGE SUPPORTS, AND SEAL RETAINING PLATES.
- 13. INSPECT ALL WOOD COMPONENTS AND REPLACE AS NEEDED. ALL REPLACEMENT LUMBER SHALL MATCH THE EXISTING SIZES AND SHALL BE MARINE GRADE DENSE SELECT STRUCTURAL SOUTHERN PINE. PRESERVATIVE TREATMENT SHALL BE COPPER AZOLE TYPE B (CA-B) OR APPROVED EQUAL. RETENTION ASSAY OF TREATED WOOD SHALL BE 0.31 PCF. ALL END CUTS, NOTCHES, AND DRILLED HOLES SHALL BE FIELD TREATED WITH COPPER NAPHTENATE, OR APPROVED EQUAL, IN ACCORDANCE WITH AWPA M4.

$\triangle$	ISSUED FOR BID	N.J.G.	02/19/24	W.R.C.	02/19/24
NO.	REVISION	BY	DATE	APPROVED	DATE

UPPER OCKLAWAHA RIVER BASIN BURRELL LOCK REHABILITATION LAKE COUNTY, FLORIDA

INSPECT THE GATE HINGE PINS AND REPLACE IF NEEDED.

- 10. INSPECT ALL GATE COMPONENTS TO ENSURE THEY ARE CLEAN OF DEBRIS AND
- 14. REASSEMBLE THE GATES, INCLUDING THE SEALS AND RETAINING PLATES WITH ALL NEW HARDWARE. BOLTS AND WASHERS SHALL BE SS-304 STAINLESS STEEL. ALL NUTS SHALL BE SILICON BRONZE CONFORMING TO ASTM F467.
- 15. 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.
- 16. REINSTALL THE COMPLETED GATES AND HANDRAILS. INSTALL NEW GREASE LINES AND FITTINGS.
- 17. INSTALL THE NEW HYDRAULIC OPERATOR SYSTEMS. RECONNECT POWER.
- 18. PERFORM DRY TEST OPERATION OF GATES. ADJUST AS NEEDED.
- 19. REMOVE DEWATERING BULKHEADS AND STEEL SUPPORTS.
- 20. TEST OPERATION OF GATES UNDER NORMAL OPERATING CONDITIONS. LEAKAGE SHALL NOT EXCEED 0.1 GPM/FT OF WETTED PERIMETER. ADJUST AS NEEDED.

### **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".

WA	ST. JOHNS TER MANAGEM P.O. BOX 1429 PALAT	ENT DISTRICT
DRAWN: N.J.G.	DATE: FEBRUARY 19, 2024	REVIEWER: W.R.C.
SCALE: <u>AS NOTED</u>	DESIGNER: W.R.C.	SECTION CHIEF: W.R.C.

2. STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:

SSPC-10 NEAR WHITE BLAST CLEANING. ALL BLAST MEDIA AND PAINT CHIPS SHALL BE CAPTURED, REMOVED, AND PROPERLY DISPOSED.

3. 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:**

- 1. THE J-SEALS SHALL BE REPLACED WITH SOLID BULB TYPE J-SEAL SIZED TO MATCH EXISTING, AS MANUFACTURED BY SEALS UNLIMITED, INC., OR EQUAL. DRILL HOLES TO CONFORM WITH THE SIZE AND SPACING ON THE GATE.
- 2. REPLACE ALL SEAL FASTENERS. BOLTS AND WASHERS SHALL CONFORM TO ASTM A276, TYPE SS-304 AND SILICON BRONZE NUTS SHALL CONFORM TO ASTM F467.
- 3. THE JOINT BETWEEN THE SIDE AND BOTTOM J-SEALS SHALL BE FUSED IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS.

### FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

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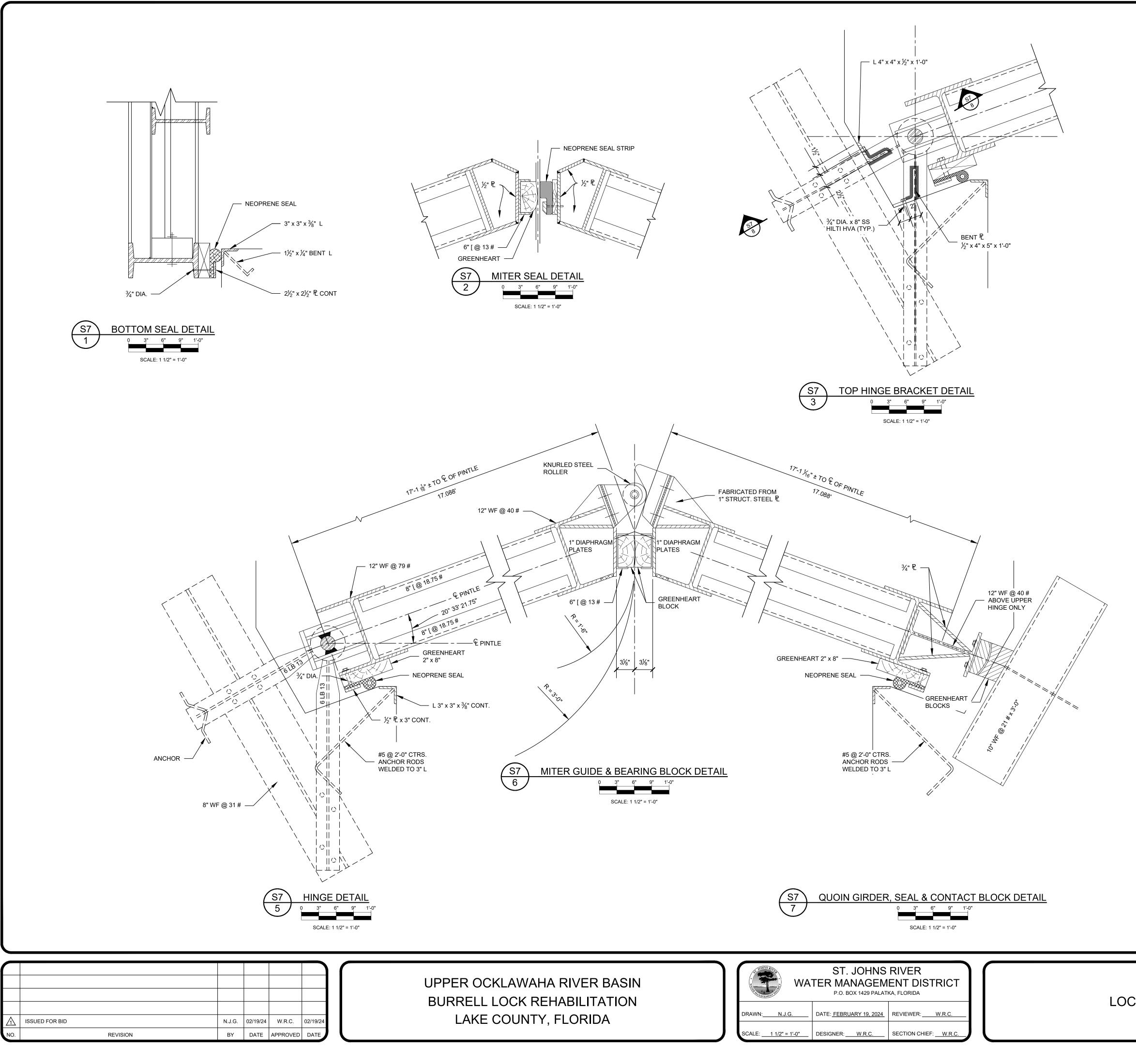
WILLIAM R. COTE P.E. NUMBER: 53746

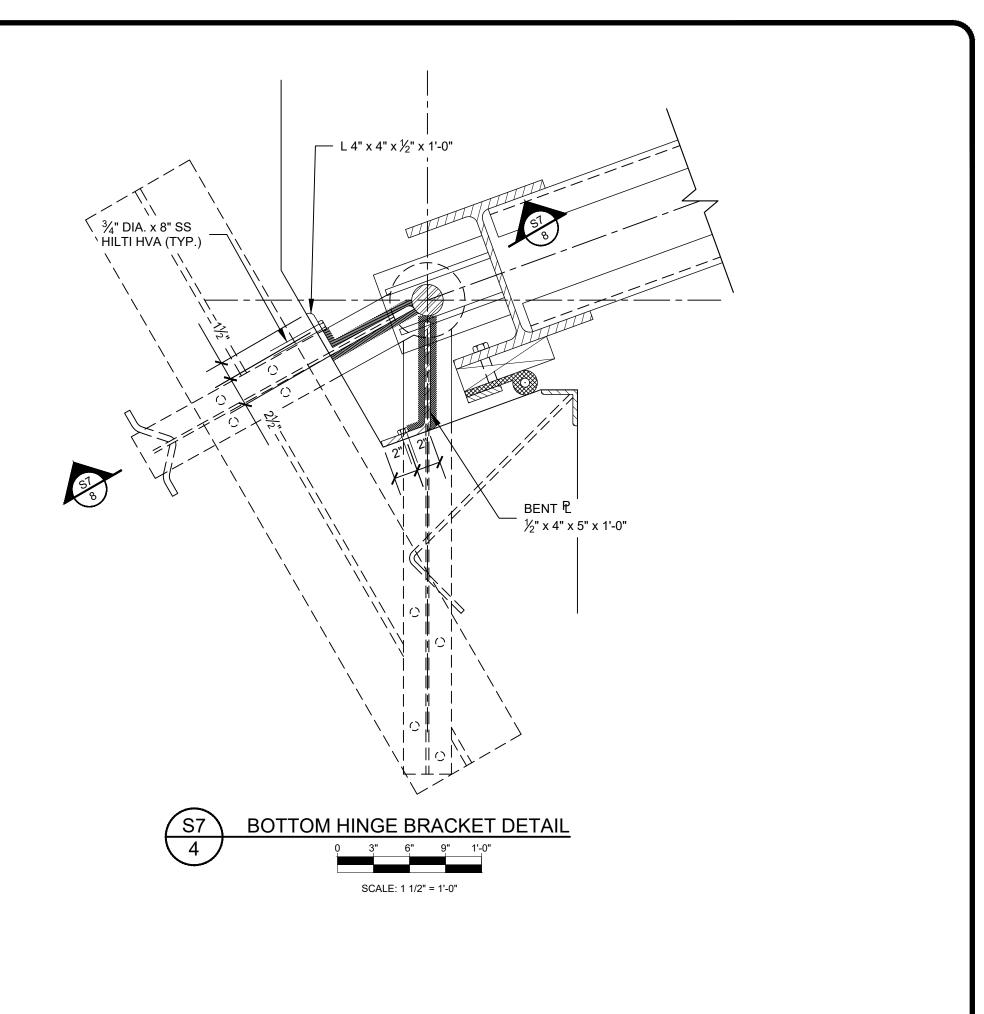
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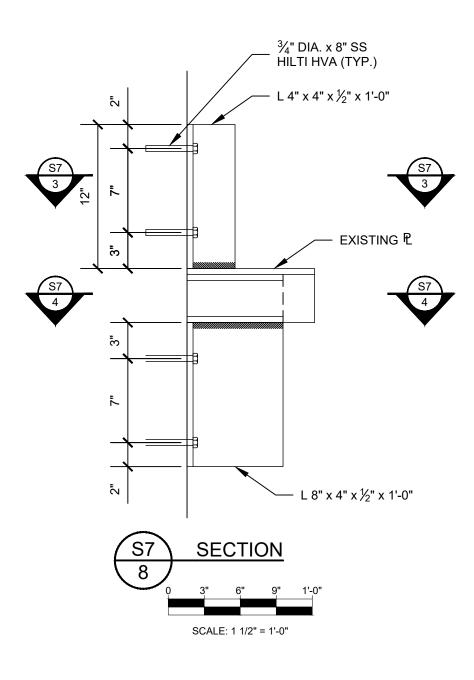
FILE NAME:
LOCK GATE AND NOTES.d
PROJECT NO.:
SHEET:

LOCK GATES AND NOTES

<u>S6</u>

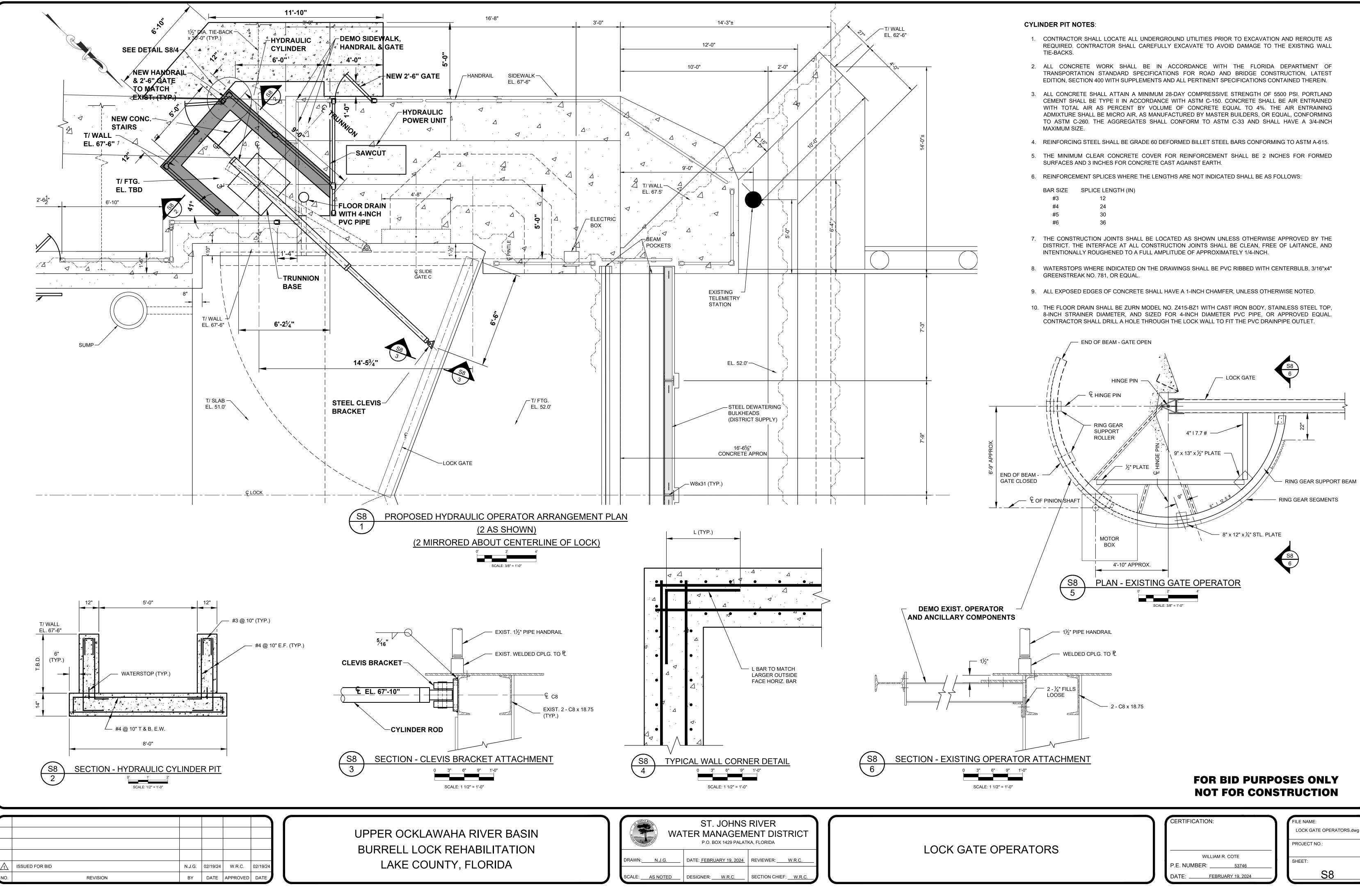




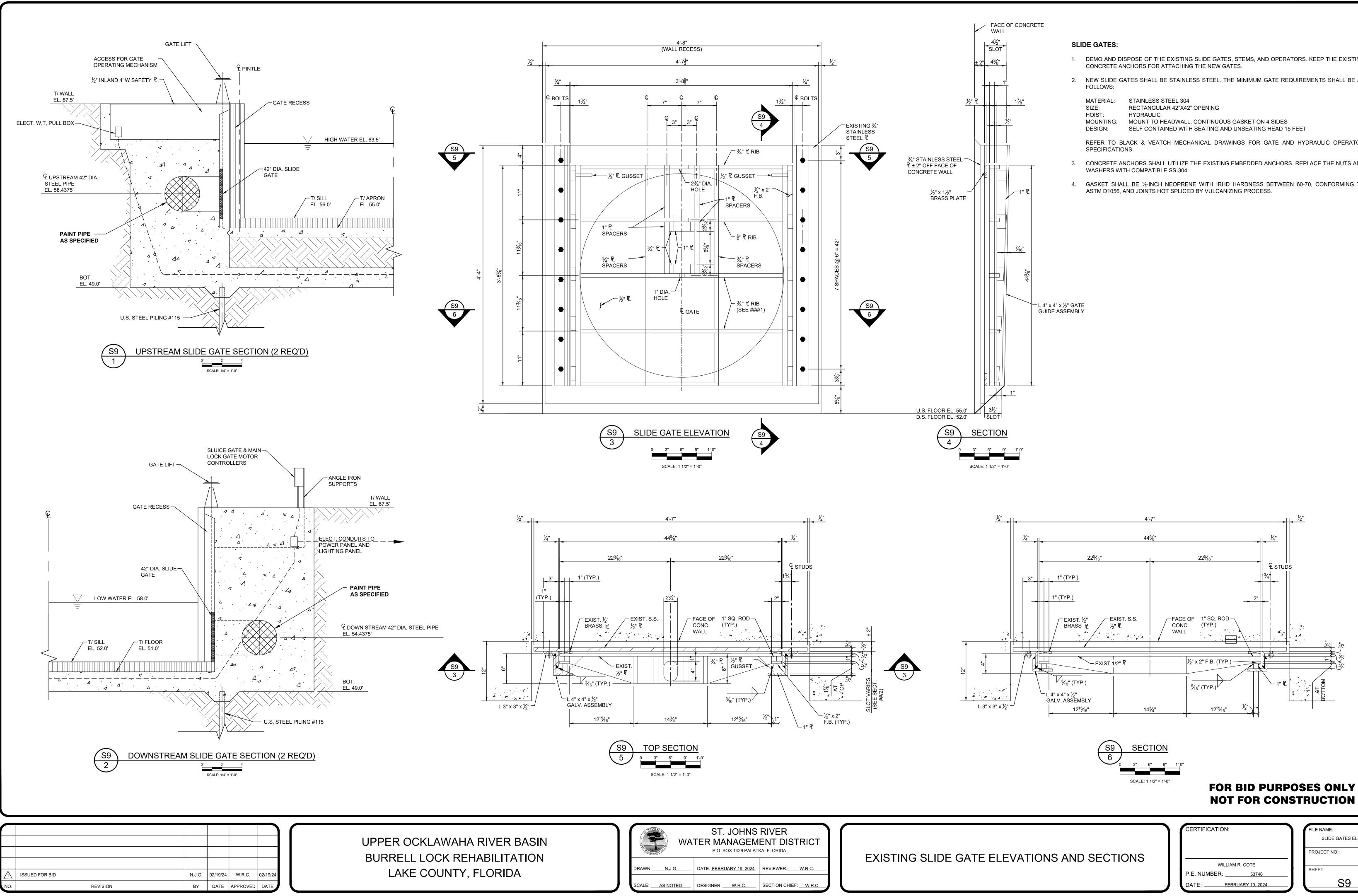


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	CERTIFICATION:	FILE NAME: LOCK GATE DETAILS.dwg
CK GATE DETAILS	WILLIAM R. COTE	PROJECT NO.:
	P.E. NUMBER:53746	SHEET:
	DATE:	

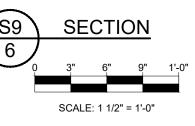


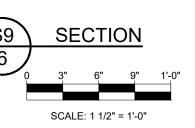
BAR SIZE	SPLICE LENGTH (II
#3	12
#4	24
#5	30
#6	36



CERTIFICATION:	
WILLIAM R. COTE	
P.E. NUMBER:53746	
DATE:FEBRUARY 19, 2024	

FILE NAME:
SLIDE GATES EL.dwg
PROJECT NO.:
SHEET:
S9





- 1. DEMO AND DISPOSE OF THE EXISTING SLIDE GATES, STEMS, AND OPERATORS. KEEP THE EXISTING
- 2. NEW SLIDE GATES SHALL BE STAINLESS STEEL. THE MINIMUM GATE REQUIREMENTS SHALL BE AS

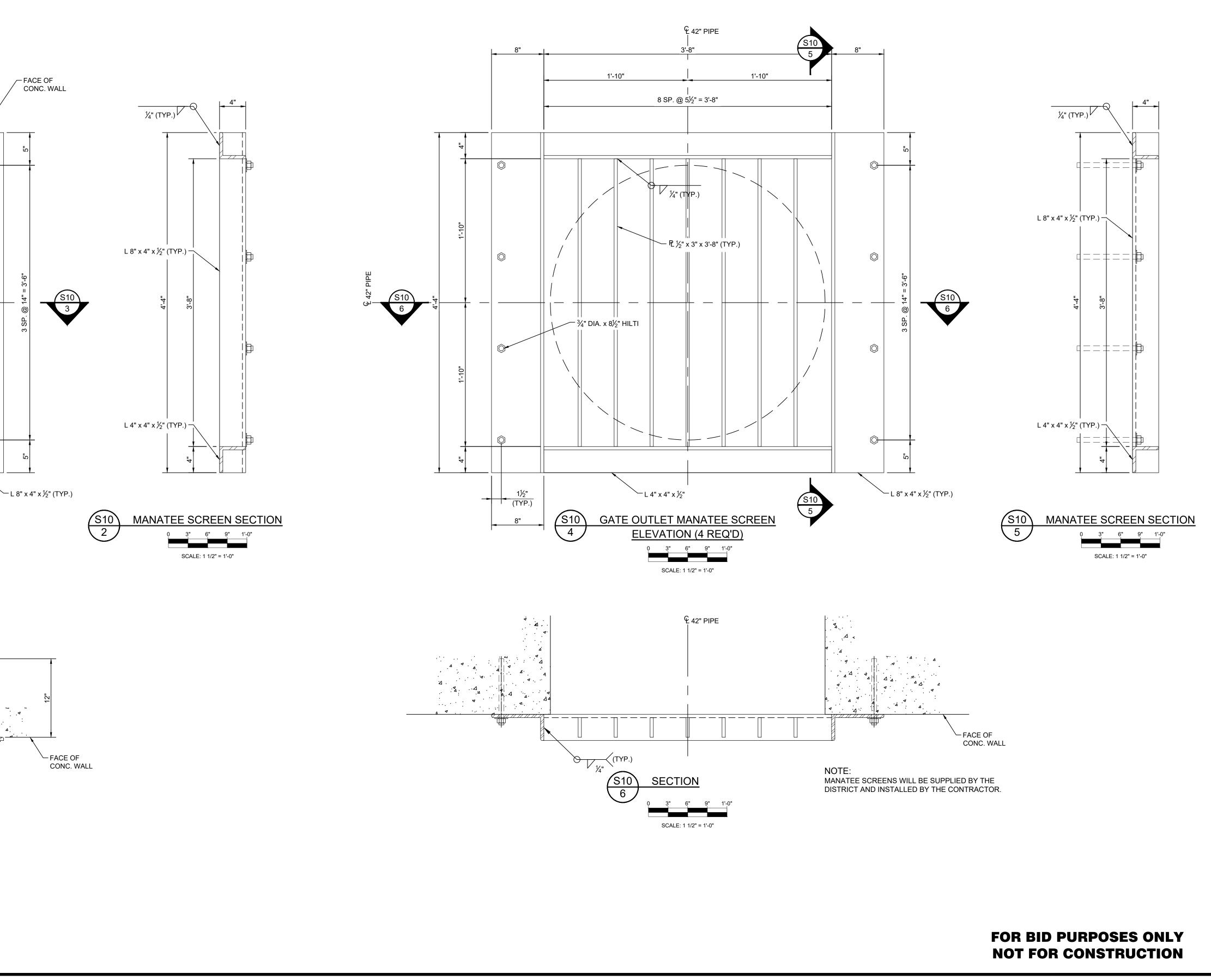
REFER TO BLACK & VEATCH MECHANICAL DRAWINGS FOR GATE AND HYDRAULIC OPERATOR

3. CONCRETE ANCHORS SHALL UTILIZE THE EXISTING EMBEDDED ANCHORS. REPLACE THE NUTS AND

4. GASKET SHALL BE <sup>1</sup>/<sub>2</sub>-INCH NEOPRENE WITH IRHD HARDNESS BETWEEN 60-70, CONFORMING TO

မို 42" PIPE 4'-8" 2'-4" 2'-4" FACE OF -CONC. WALL 8 SP. @ 6¾" = 4'-6"  $\bigcirc$  $\bigcirc +$ ¼" (TYP.) - ₽½" x 3" x 3'-8" (TYP.)  $\bigcirc$  $\bigcirc$ S10 3 <u>~\_\_\_\_\_\_</u>3⁄4″ DIA. x 8½″ HILTI  $\bigcirc$ Ô  $\bigcirc +$ -- (TYP. −L 4" x 4" x ½" 11⁄2" S10 2 
 8"
 S10
 GATE INLET MANATEE SCREEN ELEVATION

 1
 (4 REQ'D)
 3" 6" 9" 1'-0" SCALE: 1 1/2" = 1'-0" 4'-8" မှ 42" PIPE · 🏹 اً <u>م</u> . . . . . 4 .4. ⊿ ⊿. ₹. t<u>akan na h</u> О / /4" (ТҮР.) S10 SECTION SCALE: 1 1/2" = 1'-0" UPPER OCKLAWAHA R BURRELL LOCK REHA LAKE COUNTY, FL N.J.G. 02/19/24 W.R.C. 02/19/24 BY DATE APPROVED DATE REVISION



RIVER BASIN ABILITATION	ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA			MAN
FLORIDA	DRAWN: N.J.G. SCALE: <u>1 1/2" = 1'-0"</u>	DATE: <u>FEBRUARY 19, 2024</u> DESIGNER: <u>W.R.C.</u>	REVIEWER: <u>W.R.C.</u> SECTION CHIEF: <u>W.R.C.</u>	

NATEE SCREENS

CERTIFICA	TION:	
	WILLIAM R. COTE	

53746

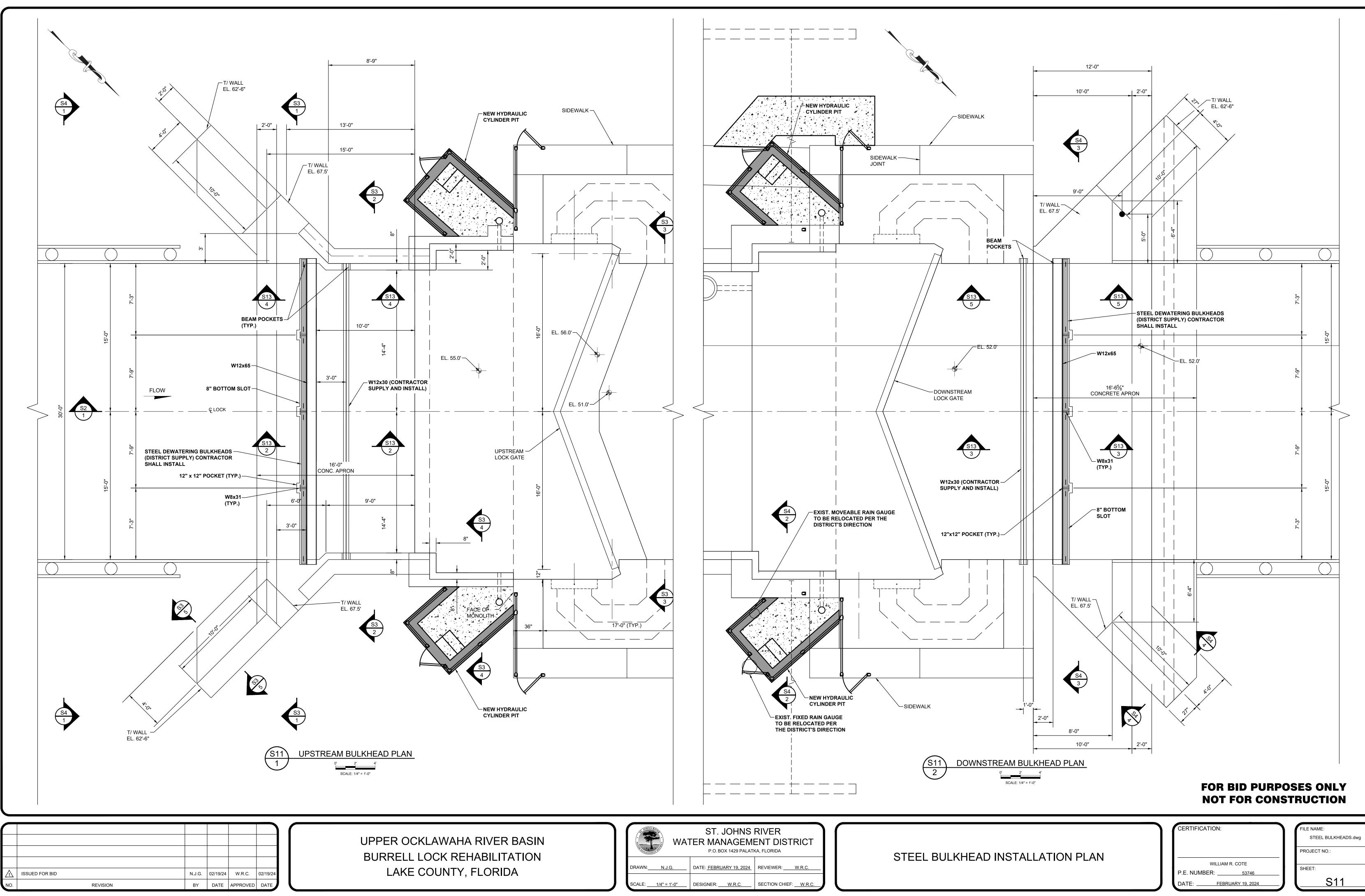
FEBRUARY 19, 2024

P.E. NUMBER:

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PROJECT NO.:
SLIDE GATES EL.c

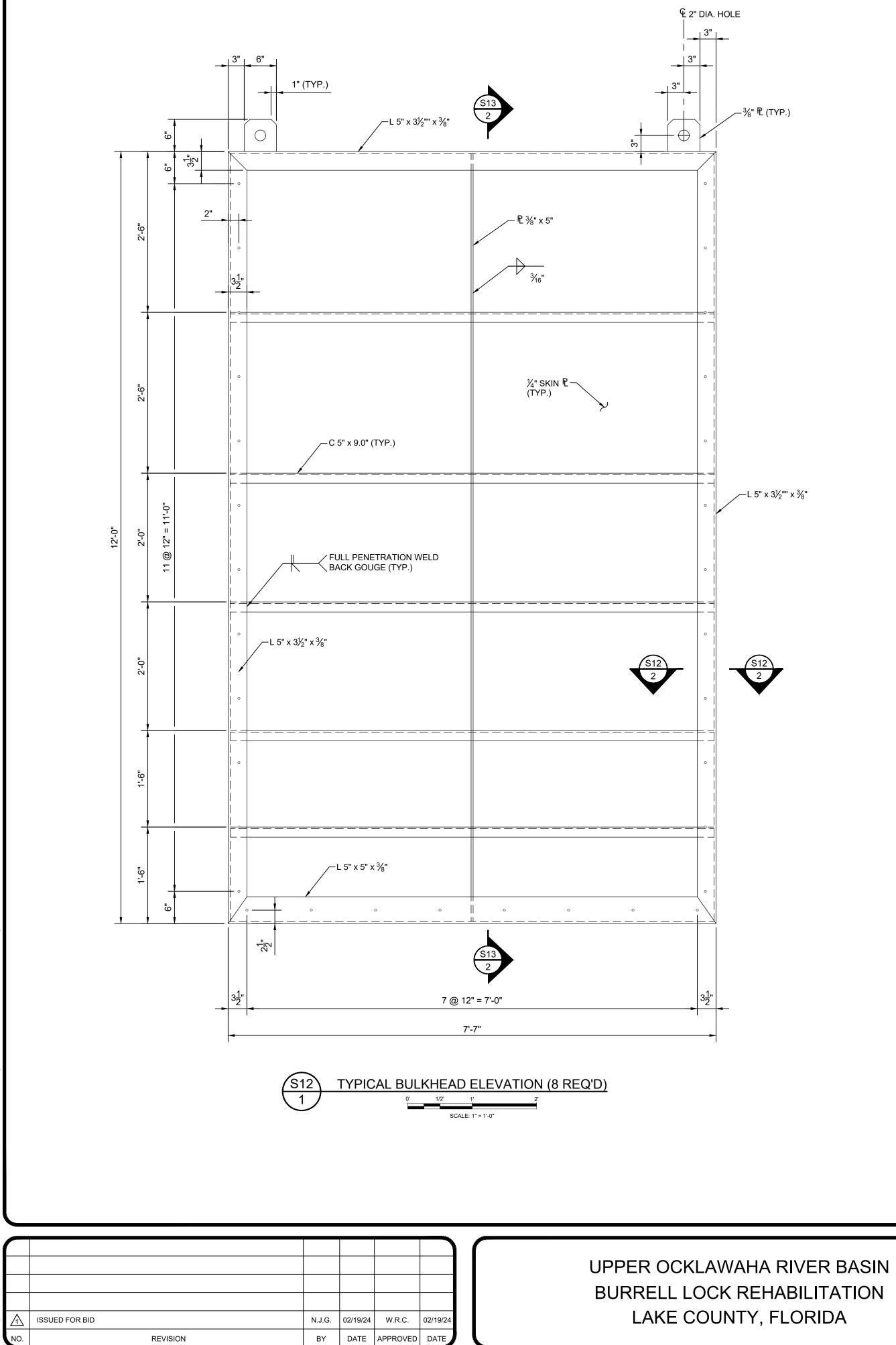
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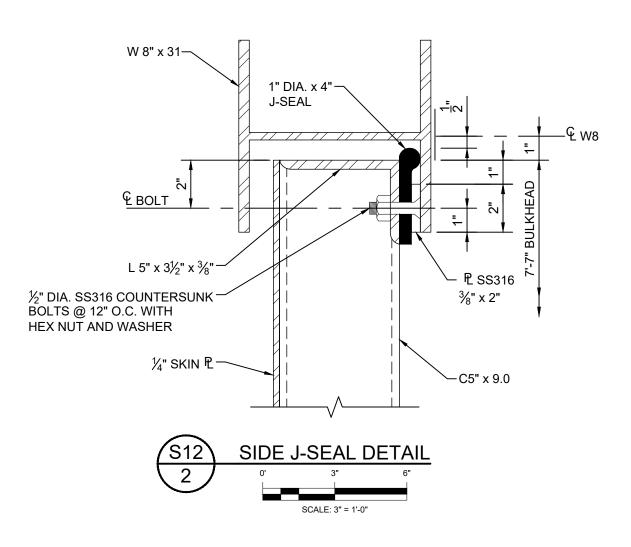


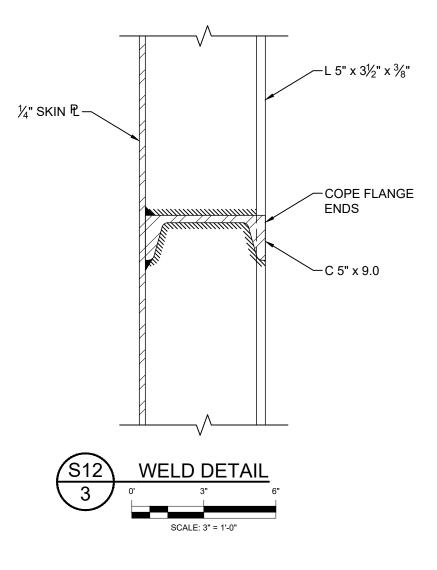
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P.E. NUMBER:	53746
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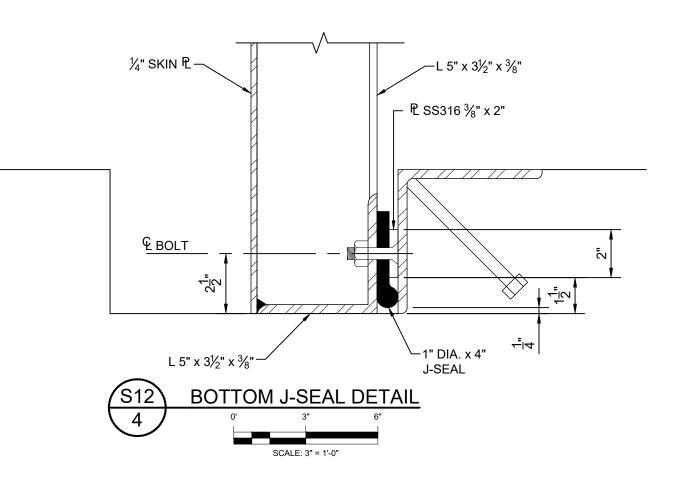
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STEEL BULKHEADS.dwg
PROJECT NO.:
SHEET:
S11













### NOTES:

- 1. THE DISTRICT WILL DELIVER EIGHT (8) STEEL BULKHEADS AND THE STRUCTURAL STEEL SUPPORTS TO THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UNLOADING THE BULKHEADS AND STEEL SUPPORTS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE STEEL BULKHEAD SYSTEM AND SEALING THE JOINTS FOR THE DEWATERING OF THE LOCK.
- 3. THE CONTRACTOR IS ADVISED THAT DIVERS WILL BE REQUIRED FOR SEALING ALL LEAKING JOINTS.
- 4. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE TEMPORARY ACCESS WALKWAY DECKS AND RAILS.
- 5. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REMOVE THE BULKHEAD SYSTEM AND LOAD ONTO THE DISTRICT PROVIDED TRANSPORT.

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WILLIAM R. COTE 53746

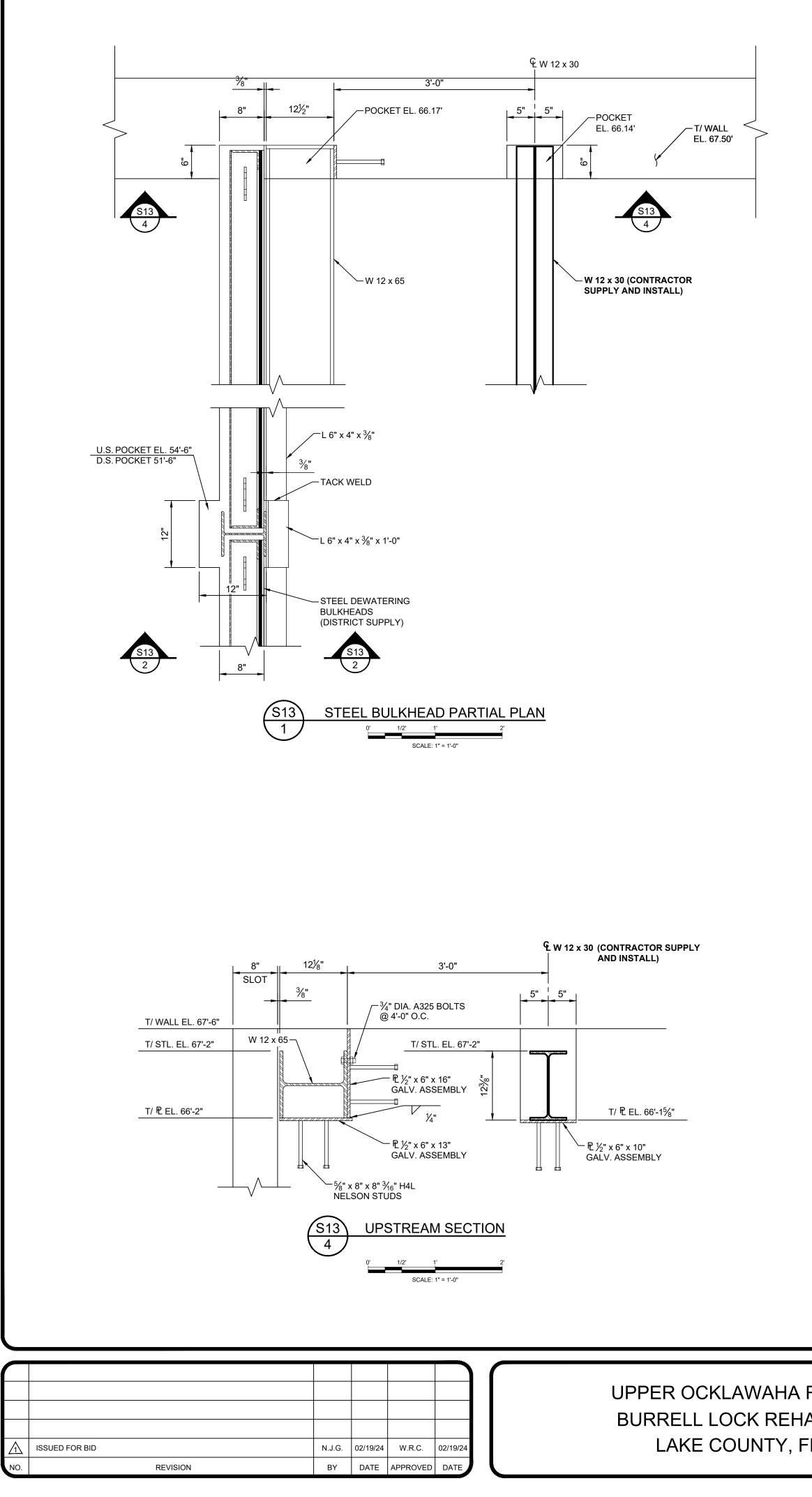
STEEL BULKHEADS.dwg
PROJECT NO.:
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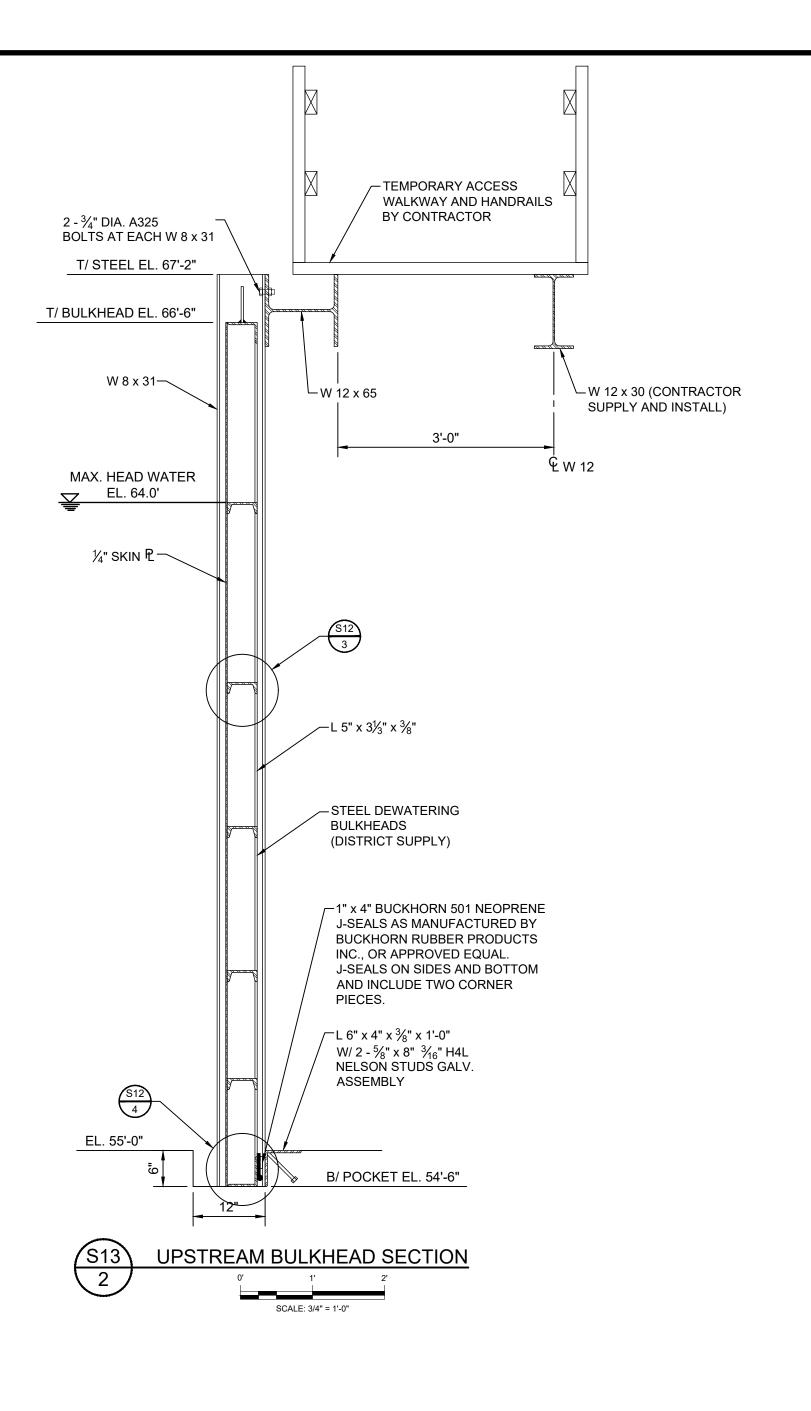
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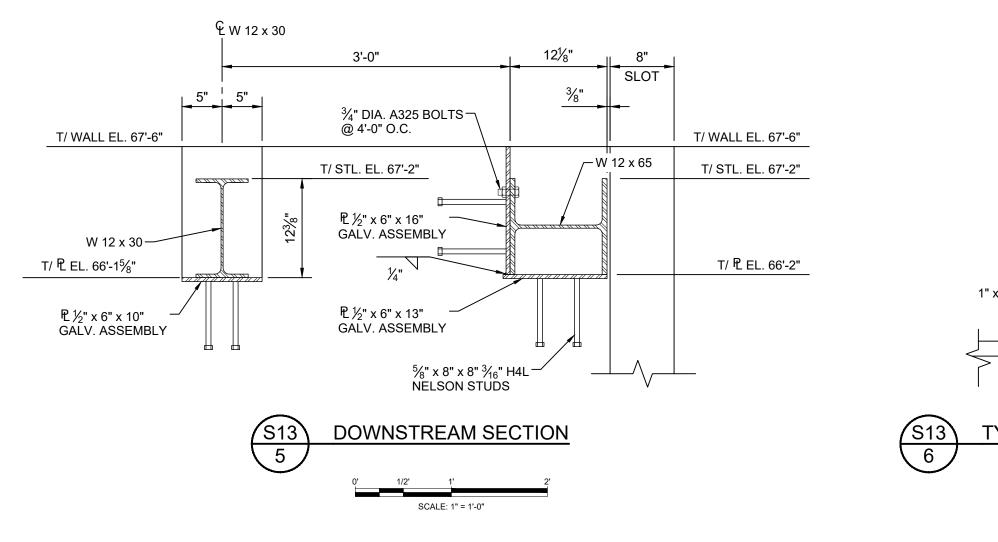
EXISTING STEEL BULKHEADS

P.E. NUMBER: \_\_\_\_ FEBRUARY 19, 2024 DATE: \_\_\_\_

S12







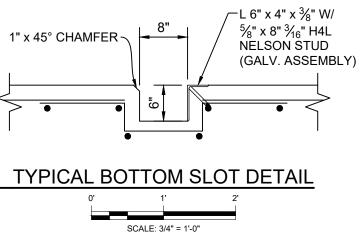
A RIVER BASIN HABILITATION	ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA	
FLORIDA	DRAWN:       N.J.G.       DATE: FEBRUARY 19, 2024       REVIEWER:       W.R.C.         SCALE:       AS NOTED       DESIGNER:       W.R.C.       SECTION CHIEF:       W.R.C.	BULKHEAD

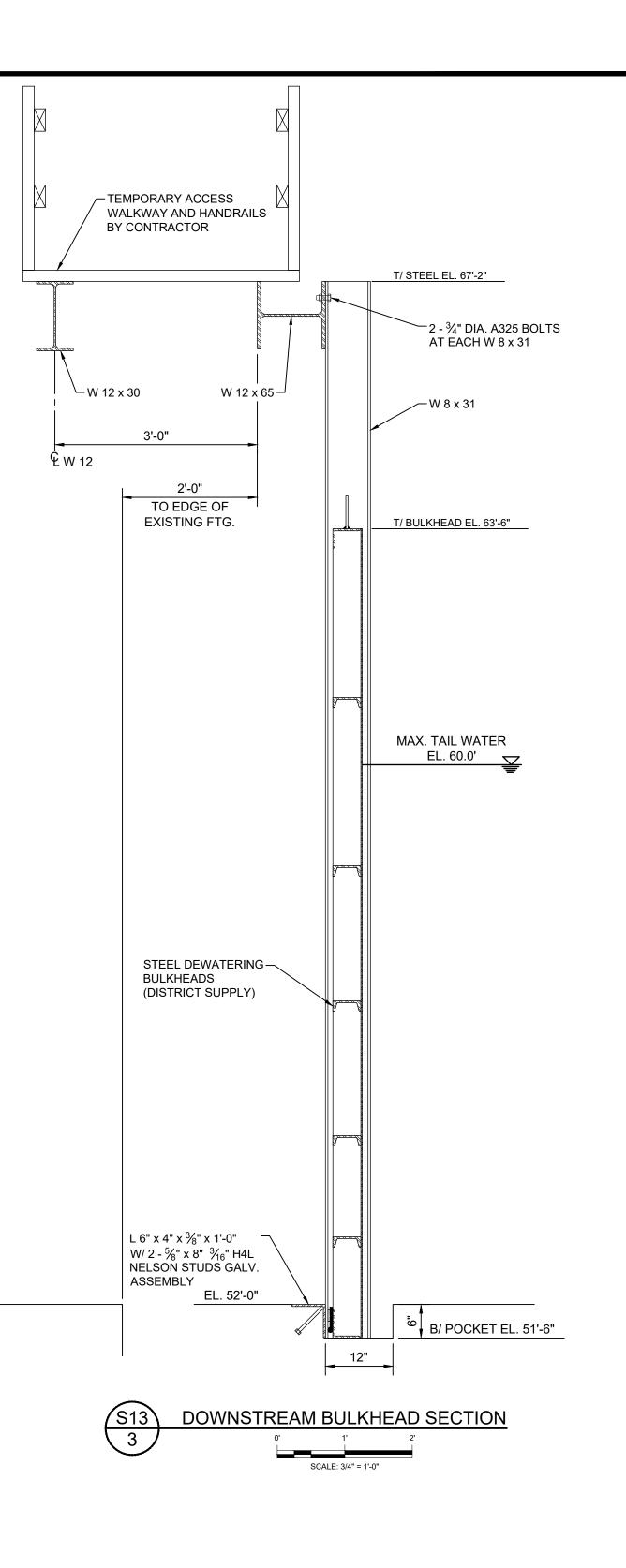
# SECTIONS AND DETAILS

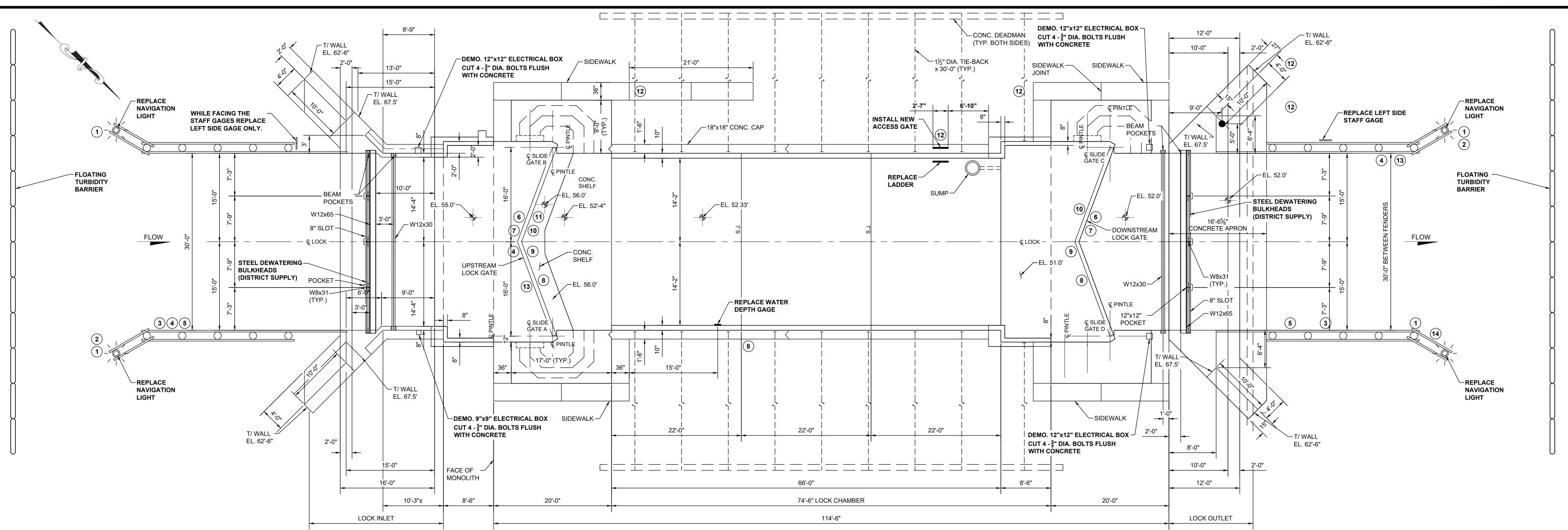
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W	ILLIAM R. COTE
P.E. NUMBER:	53746
DATE:	FEBRUARY 19, 2024

FILE NAME:
STEEL BULKHEADS.dwg
PROJECT NO.:
SHEET:
<u>S13</u>





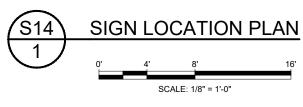




SIGN SCHEDULE								
SYMBOL	QUANTITY	MESSAGE	COLOR	SIZE W x H	COMMENTS			
1	4	NO PARKING ANY TIME	RED LETTERS ON WHITE, RED BORDER	12" x 18"	NEW SIGNS, DISPOSE OF EXISTING			
2	2	NOTICE BOATS EXITING THE LOCK HAVE THE RIGHT OF WAY. DO NOT ENTER THE LOCK UNTIL ALL BOATS HAVE EXITED.	TOP LINE WHITE ON BLUE, NEXT LINES BLACK ON WHITE, BLUE BORDER	14" x 10"	NEW SIGNS, DISPOSE OF EXISTING			
3	2	STAY IN BOAT DO NOT CLIMB ON FENDERS	TOP LINE WHITE ON RED, NEXT LINES BLACK ON YELLOW, BLACK BORDER	36" x 24"	NEW SIGNS, DISPOSE OF EXISTING			
4	2	SLOW PLEASE REPORT MANATEE INJURIES	N/A	N/A	SALVAGE EXISTING SIGNS AND REINSTALL			
5	2	<b>CAUTION</b> (ALLIGATOR LOGO) DANGEROUS ALLIGATORS DO NOT APPROACH, FEED OR MOLEST	BLACK LETTERS AND BORDER ON YELLOW	30" x 24"	NEW SIGNS, DISPOSE OF EXISTING			
6	2	NOTICE LAST LOCKAGE 15 MINUTES BEFORE CLOSING	N/A	N/A	DEMO AND DISPOSE			
7	2	HOURS OF OPERATION	N/A	N/A	SALVAGE EXISTING SIGNS AND REINSTALL			

UPPER OCKLAWAHA
BURRELL LOCK REF
LAKE COUNTY,

$\triangle$	ISSUED FOR BID	N.J.G.	02/19/24	W.R.C.	02/19/24
NO.	REVISION	BY	DATE	APPROVED	DATE



SIGN SCHEDULE							
SYMBOL	QUANTITY	MESSAGE	MESSAGE COLOR		COMMENTS		
8	2	NO SMOKING	RED LETTERS ON WHITE, RED BORDER	24" x 24"	NEW SIGNS, DISPOSE OF EXISTING		
9	2	POSITIVELY NO REFUELING	TOP LINE WHITE LETTERS ON RED, NEXT LINES BLACK LETTERS ON WHITE, BLACK BORDER	24" x 24"	NEW SIGNS, DISPOSE OF EXISTING		
(10)	2	SHUT OFF ENGINES DURING LOCK OPERATIONS	RED LETTERS ON WHITE, RED BORDER	36" x 24"	NEW SIGNS, DISPOSE OF EXISTING		
(11)	1	FLORIDA FRIENDLY BOATING	N/A	N/A	SALVAGE EXISTING SIGNS AND REINSTALL		
(12)	7	DANGER AUTHORIZED PERSONNEL ONLY	TOP LINE WHITE LETTERS ON RED, NEXT LINES BLACK BLACK ON WHITE, RED BORDER	22" x 19"	NEW SIGNS, DISPOSE OF EXISTING (ONE OF SIGNS IS ON ELECTRICAL BUILDING DOOR, AND IS NOT SHOWN LOCATION PLAN)		
(13)	2	BURRELL LOCK	N/A	N/A	SALVAGE EXISTING SIGNS AND REINSTALL		
(14)	1	BURRELL LOCK & DAM	BLACK LETTERS ON WHITE, BLACK BORDER	N/A	DEMO AND DISPOSE		

# IA RIVER BASIN EHABILITATION , FLORIDA

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA				
DRAWN: N.J.G.	DATE: <u>FEBRUARY 19, 2024</u>	REVIEWER: W.R.C.		
SCALE: <u>1/8" = 1'-0"</u>	DESIGNER: W.R.C.	SECTION CHIEF: <u>W.R.C.</u>		

### FOR BID PURPOSES ONLY **NOT FOR CONSTRUCTION**

CERTIFICATION:	FILE NAME:
	SIGN LOCATION.dwg
	PROJECT NO .:
WILLIAM R. COTE	
P.E. NUMBER:53746	SHEET:
	<u>S14</u>

SIGN LOCATION PLAN AND SCHEDULE

FEBRUARY 19, 202

DATE: \_

ROJECT NO.:
HEET:

<u>S14</u>

E-LINE DIAGRAM LEGEND		SCHEMATIC SYMBOLS		BREAKER DETAILS	
NE-LINE DIAGRAM LEGEND $ \begin{array}{c}                                     $	TRANSFORMER WITH PRIMARY AND SECONDARY VOLTAGE, AND KVA RATING AS NOTED CIRCUIT NO.22 WITH 3#8 INSULATED CONDUCTORS AND 1#10 GROUND WIRE FOR A 20HP MOTOR WITH 3 POLE, 60A, MOTOR DISCONNECT SWITCH AND 4#14 INSULATED CONDUCTORS FOR AUXILIARY ITEM, AS FOR EXAMPLE A CONTROL STATION, ALL IN 2" CONDUCTORS FOR AUXILIARY ITEM SHALL NOT PASS THROUGH MOTOR DISCONNECT SWITCH.	SCHEMATIC SYMBOLS         •       WIRE CONNECTION POINT         •       EXTERNAL CONNECTION POINT         •       EXTERNAL CONNECTION POINT         •       NORMALLY OPEN CONTACT         •       NORMALLY CLOSED CONTACT         •       STARTER, CONTACTOR OR RELAY COIL         •       •         •       NORMALLY OPEN PUSH BUTTON         •       •         •       NORMALLY CLOSED PUSH BUTTON         •       • <th>𝔅𝔅VACUUM SWITCH (CLOSING ON INCREASING VACUUM)𝔅𝔅VACUUM SWITCH (OPENING ON INCREASING VACUUM)𝔅TEMPERATURE SWITCH (CLOSING ON RISING TEMPERATURE)𝔅TEMPERATURE SWITCH (CLOSING ON RISING TEMPERATURE)𝔅TEMPERATURE SWITCH (OPENING ON RISING TEMPERATURE)𝔅FLOW ACTUATED SWITCH (CLOSING ON INCREASE IN FLOW)𝔅FLOW ACTUATED SWITCH (CLOSING ON INCREASE IN FLOW)𝔅ON TIME DELAY CONTACT (NORMALLY OPEN, WHEN THE COIL IS ENERGIZED THE CONTACT WILL CLOSE AFTER A TIME DELAY)</th> <th>BREAKER DETAILSDETAIL A</th> <th></th>	𝔅𝔅VACUUM SWITCH (CLOSING ON INCREASING VACUUM)𝔅𝔅VACUUM SWITCH (OPENING ON INCREASING VACUUM)𝔅TEMPERATURE SWITCH (CLOSING ON RISING TEMPERATURE)𝔅TEMPERATURE SWITCH (CLOSING ON RISING TEMPERATURE)𝔅TEMPERATURE SWITCH (OPENING ON RISING TEMPERATURE)𝔅FLOW ACTUATED SWITCH (CLOSING ON INCREASE IN FLOW)𝔅FLOW ACTUATED SWITCH (CLOSING ON INCREASE IN FLOW)𝔅ON TIME DELAY CONTACT (NORMALLY OPEN, WHEN THE COIL IS ENERGIZED THE CONTACT WILL CLOSE AFTER A TIME DELAY)	BREAKER DETAILSDETAIL A	
AUXILIARY ITEMS M. NOT BE COMPLETEL SHOWN	ONE-LINE SHOWING POWER AND CONTROL TO A PACKAGE UNIT, AS FOR EXAMPLE A STEAM GENERATOR OR AN AIR HANDLING UNIT, SHALL IMPLY THAT ANY AND ALL ASSOCIATED EQUIPMENT SHALL ALSO BE INSTALLED AND WIRED AS REQUIRED BY THE EQUIPMENT FURNISHED. INDICATES THAT ALL OR PART OF CIRCUIT MAY BE ROUTED IN DUCT BANK OR UNDERCODUND. CONDUCT SIZE SUCOMM	□       FUSE         Image: Objeet the second s	T       ON TIME DELAY CONTACT (NORMALLY CLOSED, WHEN THE COIL IS ENERGIZED THE CONTACT WILL OPEN AFTER A TIME DELAY)         S       OFF TIME DELAY CONTACT (NORMALLY OPEN, WHEN THE COIL IS DE-ENERGIZED THE CONTACT WILL OPEN AFTER A TIME DELAY)         S       OFF TIME DELAY CONTACT (NORMALLY CONTACT (NORMALLY CLOSED, WHEN THE COIL IS DE-ENERGIZED THE CONTACT WILL CLOSE AFTER A TIME DELAY)	DETAIL C A LOW VOLTAGE, DRAWOUT, POWER OR INSULATED CASE CIRCUIT BREAKER WITH A 1600A FRAME AND SOLID-STATE TRIP UNIT. TRIP UNIT HAS A SENSOR MODULE RATED FOR 1000 AMPERES AND WITH A TRIP RATING OF 800 AMPERES AND ARC-FLASH REDUCTION PROTECTION FEATURES.	
	OR UNDERGROUND. CONDUIT SIZE SHOWN ON ONE-LINE IS ABOVE GROUND AND/OR INSIDE OF STRUCTURE. SEE DUCT BANK SCHEDULE AND SECTIONS FOR CONDUIT SIZE OF UNDERGROUND PORTION OF CIRCUIT.	SWITCH MS 	<ul> <li>TORQUE SWITCH (NORMALLY OPEN)</li> <li>TORQUE SWITCH (NORMALLY CLOSED)</li> </ul>	CONDUIT & WIRING INSTALLATION LEGEND	PROTECTIC 25 27
	HIGH VOLTAGE DRAWOUT AIR OR VACUUM CIRCUIT BREAKER LOW VOLTAGE AIR CIRCUIT BREAKER, 3 POLE, 20 AMPERE SIZE 4 COMBINATION	OL - OVERLOAD - OVERLOAD ELECTRODE	<ul> <li>LIMIT SWITCH (NORMALLY OPEN)</li> <li>LIMIT SWITCH (NORMALLY OPEN, HELD CLOSED)</li> </ul>	<ul> <li> CONDUIT CONCEALED</li> <li> ○</li> <li>CONDUIT TURNING UP. CONDUIT TURNING DOWN.</li> <li> ⊕</li> <li>CONDUIT PLUGGED FLUSH. CONDUIT CAPPED.</li> <li>TYPICAL FOR HOME RUN TO BE ROUTED TO</li> </ul>	32 37 46 47 49 50 51
	LOW VOLTAGE DRAWOUT AIR CIRCUIT BREAKER	<ul> <li>FLOAT SWITCH (CLOSING ON RISING LEVEL)</li> <li>FLOAT SWITCH (OPENING ON RISING LEVEL)</li> <li>PRESSURE SWITCH (CLOSING ON RISING PRESSURE)</li> <li>PRESSURE SWITCH (OPENING ON RISING PRESSURE)</li> </ul>	<ul> <li>LIMIT SWITCH (NORMALLY CLOSED)</li> <li>LIMIT SWITCH (NORMALLY CLOSED, HELD OPEN)</li> <li>DIFFERENTIAL PRESSURE SWITCH (NORMALLY OPEN, CLOSING ON INCREASING DIFF.)</li> <li>DIFFERENTIAL PRESSURE SWITCH (NORMALLY CLOSED, OPENING ON INCREASING DIFF.)</li> </ul>	L2 - 5LIGHTING PANEL L2 & CONNECTED TO CIRCUIT #5 (MINIMUM NO. 12 AWG CONDUCTORS AND 3/4" CONDUIT)	52 59 63 64 67 71 81 83 86 87
		S SINGLE POLE SWITCH	MISCELLANEOUS SYMBOLS	CONTROLLED VIA FROM SWITCH A.         CEILING, PENDANT, OR RECESSED LIGHTING         FIXTURE. REFER TO NUMBER OR LETTER IN         FIXTURE SCHEDULE. POWERED FROM LIGHTING         PANEL LP1, CIRCUIT 1. CONTROLLED VIA FROM         SWITCH A.         PLP1-1         RECEPTACLE POWERED FROM         LP1-1         RECEPTACLE POWERED FROM         LIGHTING PANEL LP1, CIRCUIT 1.	
	POTENTIAL TRANSFORMER CURRENT TRANSFORMER CURRENT OR POTENTIAL TEST SWITCH GENERATOR	S2TWO POLE SWITCHS3ATHREE-WAY SWITCH CONTROLLING LIGHTS WITH "A" DESIGNATIONS4FOUR-WAY SWITCHSMMOMENTARY SWITCH CONTROLLING CONTACTOR C1SADIMMING WALL SWITCH CONTROLLING LIGHTS WITH "A" DESIGNATION	HORN & STROBE HORN & STROBE HORN THERMOSTAT JUNCTION BOX © GROUND ROD	LP1-1ALINEAR LIGHTING FIXTURE. REFER TO NUMBER OR LETTER IN FIXTURE SCHEDULE. POWERED FROM LIGHTING PANEL LP1, CIRCUIT 1. CONTROLLED VIA SWITCH A.LP1-1EXIT LIGHTING FIXTURE. REFER TO FIXTURE NUMBER OR LETTERS IN FIXTURE SCHEDULE. POWERED FROM LIGHTING PANEL 1, CIRCUIT 1.	
K E R	KIRK KEY INTERLOCK ELECTRICAL INTERLOCK RESISTOR	SAS       WALL SWITCH OCCUPANCY SENSOR CONTROLLING LIGHTS WITH "A" DESIGNATION         →       DUPLEX RECEPTACLE 120 VOLT         →       SIMPLEX RECEPTACLE         ↓       RANGE RECEPTACLE         ↓       TWISTLOCK RECEPTACLE	Image: Second connection   Image: Ground connection   Image: Ground connect switch   Image: Second connect switch   Image: Combination starter	LP1-1       EMERGENCY LIGHTING FIXTURE. REFER         TO FIXTURE NUMBER OR LETTERS IN       FIXTURE SCHEDULE. POWERED FROM         LIGHTING PANEL 1, CIRCUIT 1.       UNDERGROUND CONCRETE ENCASED         E       UNDERGROUND CONCRETE ENCASED         ELECTRICAL DUCT BANK       ELECTRICAL DUCT BANK	
59G (V) 	PROTECTION RELAY WITH IEEE DEVICE FUNCTION AS SHOWN SINGLE-FUNCTION METER SURGE OR LIGHTNING ARRESTER	- ◯ 30240V, 1Ø RECEPTACLE, TYPICAL AMPERE RATING NOTED. ◯ 60480V, 3Ø WELDING RECEPTACLE, TYPICAL AMPERE RATING NOTED. ◯ 120 VOLT DUPLEX RECEPTACLE (UPS). ◯DUPLEX FLOOR OUTLET. <	POWER PANEL   Image: Description of the second sec	UNDERGROUND CONCRETE ENCASED         ELECTRICAL BANK ROUTED BENEATH         SLAB-ON-GRADE         DIRECT BURIED CONDUIT         GROUND CONDUCTOR         UE       UNDERGROUND ELECTRIC         OH       OVERHEAD CIRCUIT	
الــــلـــــــــــــــــــــــــــــــ	SURGE ARRESTER WITH SURGE CAPACITOR	<ul> <li>✓ TELEPHONE FLOOR OUTLET</li> <li>← COAXIAL CABLE OUTLET</li> <li>✓ DATA NETWORK OUTLET</li> </ul>	PE       PHOTOELECTRIC SENSOR, PHOTOCELL         OS       CEILING MOUNTED OCCUPANCY SENSOR         OS       WALL MOUNTED OCCUPANCY SENSOR		

UPPER OCKLAWAHA
BURRELL LOCK REF
LAKE COUNTY,

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HABILITATION , FLORIDA

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA			
DRAWN: H.V.T	DATE: 2-19-2024	REVIEWER:	
SCALE: <u>NTS</u>	DESIGNER:	SECTION CHIEF:	L

### ELECTRICAL LEGEND

### **IUNICATION SYMBOLS**



HORN SPEAKER

DUAL HORN SPEAKER

WALL MOUNTED CONE SPEAKER CEILING MOUNTED CONE SPEAKER

### ECTION/RELAY DEVICE NUMBERS

- 25 SYNCHRONIZING OR SYNCHRONISM-CHECK DEVICE
- 27 UNDERVOLTAGE RELAY
- 32 DIRECTIONAL POWER RELAY 37 - UNDERCURREN⊺ OR UNDERPOWER RELAY
- 46 REV. PHASE OR PHASE-BAL. CURRENT RELAY
- 47 PHASE SEQ. OR PHASE BAL. VOLTAGE RELAY
- 49 MACHINE OR TRANSFORMER THERMAL RELAY
- 50 INSTANTANEOUS OVERCURRENT 51 - AC TIME OVERCURRENT RELAY
- 52 AC CIRCUIT BREAKER
- 59 OVERVOLTAGE RELAY
- 63 PRESSURE SWITCH
- 64 GROUND DETECTOR RELAY
- 67 AC DIRECTIONAL OVERCURRENT RELAY 71 - LIQUID OR GAS LEVEL RELAY
- 81 FREQUENCY RELAY
- 83 AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY
- 86 LOCKOUT RELAY 87 - DIFFERENTIAL PROTECTIVE RELAY

### FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

CER	TIFIC	ATIO	

DAVID MARTINS

P.E. NUMBER: \_\_\_\_\_\_\_91665 DATE: \_\_\_\_\_\_FEBRUARY 19, 2024

FILE NAME:
E-001.dwg
PROJECT NO.:
417482
SHEET:
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# BLACK & VEATCH

Black & Veatch Corporation Certificate No. 8132 1715 N. Westshore Blvd. Suite 725 Tampa, Florida 33607

# E-001

# **ELECTRICAL ABBREVIATIONS & NOTES**

### **ELECTRICAL GENERAL NOTES**

- 1. SOLID LINES ( ) INDICATE NEW WORK OR EQUIPMENT.
- 3. DASHED LINES (- - - ) INDICATE FUTURE WORK OR EQUIPMENT.
- 4. REFER TO INDIVIDUAL DISCIPLINE CONTRACT DRAWINGS FOR ADDITIONAL ABBREVIATIONS, DETAILS, AND GENERAL DESIGN NOTES.
- 5. LEGEND SHEETS ARE GENERAL. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
- 6. INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
  - A. ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
  - B. FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF THE IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
  - C. SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS, CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
  - D. DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.

### **AREA DESIGNATIONS**

THE SPECIAL AREA DESIGNATION BOXES, AS DEFINED BELOW, ARE LOCATED ON THE PLAN DRAWINGS TO DEFINE ELECTRICAL INSTALLATION REQUIREMENTS. DESIGNATION BOXES ARE LOCATED WITHIN ROOM OR BELOW ROOM NUMBER. ALL INDOOR AREAS NOT INDICATED OTHERWISE ARE AREA TYPE 1 AND MINIMUM NEMA TYPE 1 ENCLOSURES.

AREA TYPE 1A	CORROSIVE CHEMICAL FEED AND STORAGE ROOMS. CONDUIT SYSTEM SHALL BE EXPOSED SCHEDULE 80 PVC RIGID NON-METALLIC CONDUIT WITH PVC FITTINGS, BOXES AND ACCESSORIES.
AREA TYPE 4	INDOOR WET LOCATIONS SUCH AS VAULTS, HOSEDOWN AREAS, BASEMENTS, ETC. MINIMUM NEMA TYPE 4 ENCLOSURE FOR EQUIPMENT AND GASKETED FITTINGS IN A CONDUIT SYSTEM.
AREA TYPE 7A	CLASS I, DIVISION 1 AREA AS DEFINED BY NEC. ALL EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.
AREA TYPE 7B	CLASS I, DIVISION 2, GROUP C AND D (METHANE, GASOLINE) AS DEFINED BY NEC. EQUIPMENT AND CONDUITS SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.
AREA TYPE 12	INDOOR, DRY, DIRTY AREA. REQUIRES MINIMUM NEMA TYPE 12 GASKETED ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS.

### GENERAL REQUIREMENTS

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DEFINED IN THE SPECIFICATION.
- 2. SPARE WIRES SHALL BE TAPED AND COILED AND LABELED TO INDICATE WHERE OTHER END OF SPARE WIRE IS LOCATED.
- 3. IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMMODATE THE HIGHER VALUE.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED.
- 5. LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO. 12AWG. CONDUIT FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM 3/4".
- 6. IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC. NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL INTERFERE WITH THE OPERATION OF THE EQUIPMENT.

	ISSUED FOR BID	D.M.	2-19-24	J.D.	2-19-24
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# UPPER OCKLAWAHA RIVER BASIN BURRELL LOCK REHABILITATION LAKE COUNTY, FLORIDA

### ELECTRICAL ABBREVIATIONS

<u>A</u>		Ī		<u>s</u>	
А	AMBER, AMPERE, ALARM	I/O	INPUT/OUTPUT	S	SHORT-TIME, SHIELDED, S
AC	ALTERNATING CURRENT	I	INSTANTANEOUS	SA	SURGE ARRESTER, SPEAK
ACB ACR	AIR CIRCUIT BREAKER ACCESS CARD READER	IJB	INTERCOM JUNCTION BOX	SCADA	SUPERVISORY CONTROL A DATA ACQUISITION
ACK	AMPERE FRAME	<u>J</u>		SF6	SULFUR HEXAFLOURIDE
AFD	ADJUSTABLE FREQUENCY DRIVE	 J,JB	JUNCTION BOX	SH	SPACE HEATER
AFRD AM	ARC-FLASH REDUCTION DEVICE AMMETER	J,JB	JUNCTION BOX	SN SO	SOLID NEUTRAL SOLENOID OILER
AM	AMMETER	<u>K</u>		SP	SINGLE POLE
AR	ALARM RELAY	К	KEY INTERLOCK	SPD	SURGE PROTECTION DEVIC
AS	AMMETER SWITCH, AMPERE SENSOR	KAIC	THOUSAND AMPERES INTERRUPTING CURRENT	SPDT	SINGLE POLE DOUBLE THR
AT ATS	AMPERE TRIP AUTOMATIC TRANSFER SWITCH	KCMIL	THOUSAND CIRCULAR MIL	SPST SS	SINGLE POLE SINGLE THRO SELECTOR SWITCH, START
AUX	AUXILIARY	KO KV	KEY OPERATED KILOVOLT	SSM	SOLID-STATE METERING
AWG	AMERICAN WIRE GAUGE	KV KVA	KILOVOLT AMPERE	SSS	SOLID STATE STARTER
<u>B</u>		KVAR	KILOVAR	SST SUPV	SOLID-STATE TRIP SUPERVISORY CONTROL
		KW	KILOWATT	SV	SOLENOID VALVE
B BC	BUS BATTERY CHARGER	KWH	KILOWATT HOUR		SWITCHBOARD
BKR	BREAKER	L		,	R SWITCHGEAR
BR	BRAKE	L	LOW, LEVEL, LONG-TIME	Ţ	
BT	BEARING TEMPERATURE	LA	LIGHTNING ARRESTER	Т	THERMOSTAT, TIMER, TOT
<u>C</u>		LAN	LOCAL AREA NETWORK	I	TRANSFORMER
C	CLOSE COUNTER CONTACTOR CONTROL	LC LCE	LIGHTING CONTRACTOR LIGHTING CONTACTOR ENCLOSURE	TACH	TACHOMETER
C	CLOSE, COUNTER, CONTACTOR, CONTROL, CCTV CAMERA	LOL	LIGHTING CONTROL ENCLOSURE	TB TC	
CAP	CAPACITOR	LCP	LOCAL CONTROL PANEL	TD	TIMER CLUTCH TIME DELAY RELAY
CB		LCS		TEMP	TEMPERATURE
CB"A"	CIRCUIT BREAKER AUXILIARY CONTACT (OPEN WHEN BREAKER IS OPEN)	LOA LOR	LOCAL-OFF-AUTO LOCAL-OFF-REMOTE	TM	
CB"B"	CIRCUIT BREAKER AUXILIARY CONTACT	LOS	LOCK OUT STOP	TQ TR	TORQUE TIMER RELAY, TRIAD
	(CLOSED WHEN BREAKER IS OPEN)	LP		TS	TEMPERATURE SWITCH
CD CI	CONTROL DAMPER CELL INTERLOCK	LS LTG	LIMIT OR LEVEL SWITCH LIGHTING	TTB	TELEPHONE TERMINAL BO
CKT	CIRCUIT	LWCO	LOW WATER CUTOFF	<u>U</u>	
CL2	CHLORINE				
COS	CABLE OPERATED SWITCH	Μ		UG UPS	UNDERGROUND UNINTERRUPTIBLE POWER
CP CPT	CONTROL PANEL CONTROL POWER TRANSFORMER	_			UNINTERRUPTIBLE FOWER
CR	CURRENT OF CONTROL RELAY, CARD READER	M	MAGNETIC MOTOR STARTER	<u>V</u>	
CS	CONTROL STATION	MA MCB	MILLIAMPERE MAIN CIRCUIT BREAKER	V	VOLTS, VOLTAGE RESTRAI
СТ СТС	CYCLE TIMER OR CURRENT TRANSFORMER CYCLE TIMER CLUTCH	MCC	MOTOR CONTROL CENTER	VA	VOLT AMPERE
СТМ	CYCLE TIMER MONITOR	MCLU	MOTOR CONTROL LINEUP	VAR	VARMETER
2/C	2 CONDUCTOR	MD MDL	MOISTURE DETECTOR, MOTION DETECTOR MAGNETIC DOOR LOCK	VFD VI	VARIABLE FREQUENCY DR VACUUM INTERRUPTER
4"C	4" CONDUIT	MFR	MANUFACTURER	VLS	VACOUM INTERROPTER
<u>D</u>		MH	MANHOLE, MOUNTING HEIGHT	VM	VOLTMETER
DC	DIRECT CURRENT, DOOR CONTACT	MOV MPR	MOTOR OPERATED VALVE MOTOR PROTECTION RELAY	VPI	VALVE POSITION INDICATO
DI	DOOR INTERLOCK	MPR	MOTOR PROTECTION RELAT	VS	VOLTMETER SWITCH
DM	DAMPER MOTOR, DEMAND METER,	MSH	MOTOR SPACE HEATER	W	
DDDT		MTS	MANUAL TRANSFER SWITCH	W	WHITE, WATTS
DPDT DPST	DOUBLE POLE DOUBLE THROW DOUBLE POLE SINGLE THROW	MV MVA	MILLIVOLT, MEDIUM VOLTAGE MEGAVOLT AMPERE	ŴН	WATTHOUR METER
DPR	DIFFERENTIAL PRESSURE REGULATOR			WM	WATT METER
DPS	DIFFERENTIAL PRESSURE SWITCH	<u>N</u>		WP WPI	WEATHERPROOF WEATHERPROOF IN-USE
DS	DISCONNECT SWITCH, DOOR SWITCH, DESKTOP STATION	Ν	NEUTRAL	WS	WALL STATION
DVLS	DISCHARGE VALVE LIMIT SWITCH	NGR			
		NGT NC	NEUTRAL GROUNDING TRANSFORMER NORMALLY CLOSED	<u>X</u>	
<u>E</u>		NO	NORMALLY OPEN, NUMBER	х	AUXILIARY RELAY
Е	ELECTRIC OPERATOR FOR CONTROL	0		XFMR	TRANSFORMER
EC	DAMPER OR VALVE EMPTY CONDUIT	<u>0</u>		XP	EXPLOSION PROOF
EDS	ELECTRICAL DOOR STRIKE	0	OPEN	<u>Y</u>	
EL	ELEVATION, EMERGENCY LIGHT	OL	OVERLOAD	Y	YELLOW
EMH		OOA OOR	ON-OFF-AUTO ON-OFF-REMOTE		TELLOW
ER ES	ELECTRODE RELAY END SWITCH, REQUEST TO EXIT SENSOR	OS	OCCUPANCY SENSOR	<u>Z</u>	
E-STOP	EMERGENCY STOP	O/U	OVER/UNDER	Z	AUXILIARY RELAY, IMPEDA
ETM	ELAPSED TIME METER	<u>P</u>		ZS	POSITION SWITCH
EX EXP	EXISTING EXPLOSION PROOF			ZSS	ZERO SPEED SWITCH
		P PCS	PRIMARY, POWER, POLE PLANT CONTROL SYSTEM	1-1PR#16S	ONE, SINGLE PAIR, TWIS
<u>F</u>		PB	PUSH BUTTON, PULL BOX		SHIELDED #16 CABLE
F	FORWARD, FIELD	PE	PHOTOELECTRIC SENSOR, PHOTOCELL	3-7/C#14	THREE, SINGLE, SEVEN
FO	FIBER OPTIC	PF	POWER FACTOR		MULTICONDUCTOR CON
FPR FS	FEEDER PROTECTION RELAY FLOW SWITCH	PFCC PH	POWER FACTOR CORRECTION CAPACITOR PHASE		
		PL	PILOT LIGHT		
<u>G</u>		PLC	PROGRAMMABLE LOGIC CONTROLLER		
G	GREEN, GROUND, GENERATOR,	PP PR	POWER PANEL PAIR		
U	GROUND FAULT	PRS	PROXIMITY SWITCH		
GD	GROUND DETECTOR	PS	PRESSURE SWITCH		
GEN GFCI,GFI	GENERATOR GROUND FAULT CURRENT INTERRUPTOR,	PT	POTENTIAL TRANSFORMER, PROGRAM TIMER		
	GROUND FAULT INTERRUPTOR, GROUND FAULT INTERRUPTOR	<u>Q</u>			
GLS	GEARED LIMIT SWITCH		NOT USED		
GPR	GENERATOR PROTECTION RELAY	_			
GND #8G	GROUND #8 GROUND WIRE	<u>R</u>			
		R	RED, RAISE, RELAY, REVERSE		
<u>H</u>		RECP	RECEPTACLE		
н	HIGH, HUMIDISTAT	RES	RESISTOR		
HH	HANDHOLE	RH RT	REMO⊺E HANDSET REPEATING TIMER		
HMT HOA	HIGH MOTOR TEMPERATURE HAND-OFF-AUTO	RTD	RESISTANCE TEMPERATURE DETECTOR		
HOA HOR	HAND-OFF-AUTO HAND-OFF-REMOTE	RTU	REMOTE TERMINAL UNIT		
HP	HORSEPOWER	RVSS	REDUCED VOLTAGE SOLID STATE STARTER		
HS					
HWCO HZ	HIGH WATER CUTOFF HERTZ (CYCLE)				

WAT	ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA		
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SCALE: NTS	DESIGNER:	SECTION CHIEF:	

# ELECTRICAL ABBREVIATION AND NOTES

### HORT-TIME, SHIELDED, STARTER URGE ARRESTER, SPEAKER AMPLIFIER UPERVISORY CONTROL AND

### JRGE PROTECTION DEVICE INGLE POLE DOUBLE THROW

NGLE POLE SINGLE THROW ELECTOR SWITCH, START/STOP, STAINLESS STEEL

HERMOSTAT, TIMER, TOTALIZER,

ELEPHONE TERMINAL BOARD

NINTERRUPTIBLE POWER SUPPLY

OLTS, VOLTAGE RESTRAINED

ARIABLE FREQUENCY DRIVE

ALVE POSITION INDICATOR

UXILIARY RELAY, IMPEDANCE

ONE, SINGLE PAIR, TWISTED

THREE, SINGLE, SEVEN CONDUCTOR #14 MULTICONDUCTOR CONTROL CABLES

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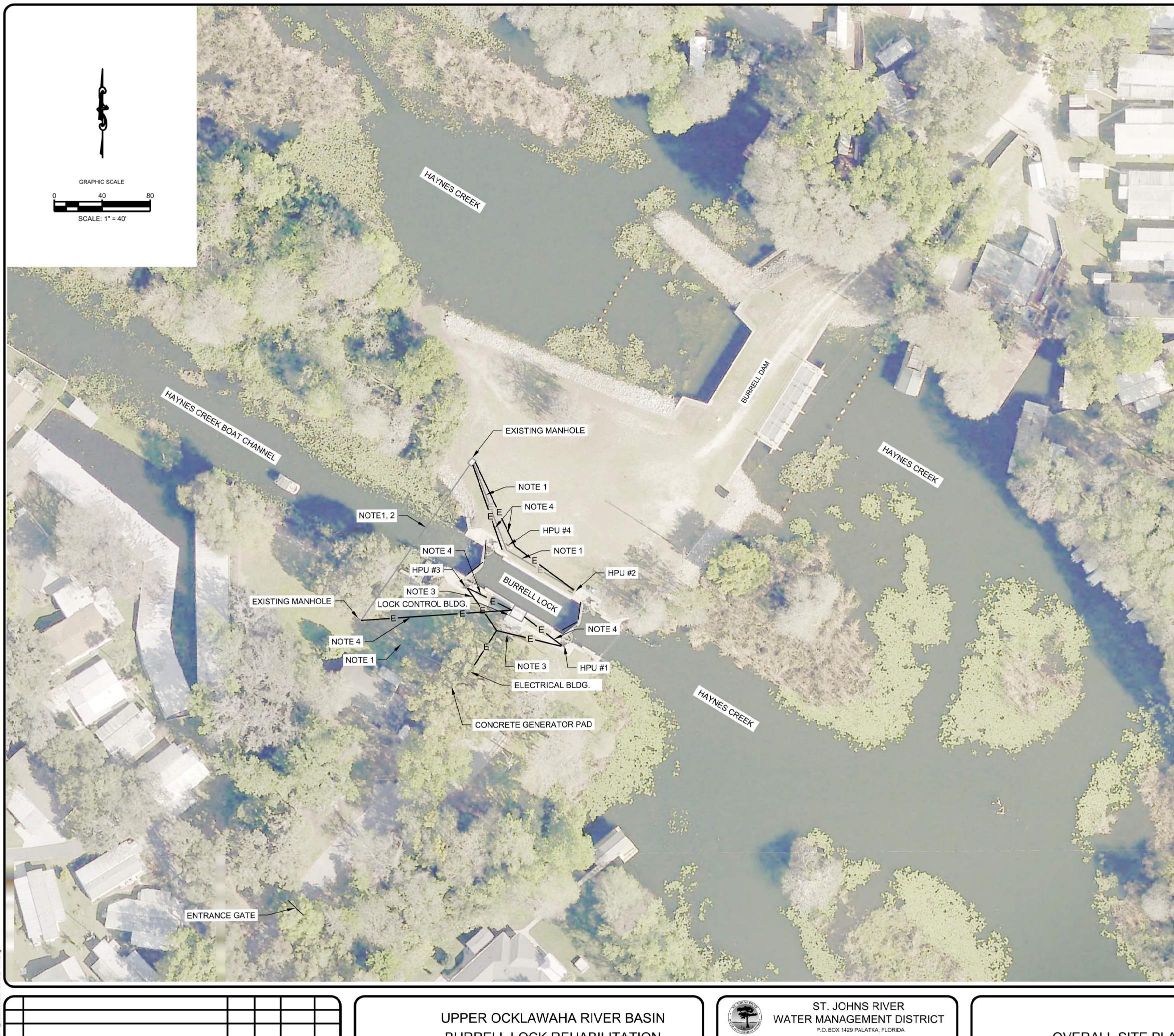
DAVID MARTINS .E. NUMBER: 9166

FEBRUARY 19. 2024 DATE: .

FILE NAME:	
E-002.dwg	
PROJECT NO .:	
417482	
SHEET:	
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10.	REVISION	BY	DATE	APPROVED	DATE

BURRELL LOCK REHABILITATION LAKE COUNTY, FLORIDA

WAT	ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA			
DRAWN: <u>H.V.T</u>	DATE: <u>2-19-2024</u>	REVIEWER:		
SCALE: NTS	DESIGNER:	SECTION CHIEF:		

OVERALL SITE PLAN

### OVERALL PROJECT SCOPE

THE MAIN SCOPE OF THIS PROJECT IS TO REMOVE THE ELECTRICALLY DRIVEN GATE SYSTEM AND SLIDE GATES AND REPLACE THEM WITH A HYDRAULIC SYSTEM THAT WILL OPERATE THE MITER GATES AND THE SLIDE GATES.

### SHEET NOTES

- EXISTING 4" UNDERGROUND CONDUIT (1). REMOVE AND DEMO EXISTING POWER AND CONTROL CONDUCTORS NOT IN USE. PROVIDE NEW DEDICATED 2#8, 1#8G FROM NEW PANEL PP2 (REFER TO SHEET E-602 FOR LOCATION) TO EACH NEW HPU.
- 2. EXISTING 4" CONDUIT INSTALLED UNDERGROUND UNDER THE CHANNEL. COMBINE POWER WITH CONTROLS AND INSTRUMENTATION ONLY ON THIS SECTION.
- PROVIDE A NEW DEDICATED 2#10, 1#10G, IN A 2"C FROM NEW PANEL PP2 (REFER TO SHEET E-602) TO EACH HPU. FIELD LOCATE CONDUIT STUB UP LOCATIONS.
- 4. NEW 2"C FOR CONTROLS AND INSTRUMENTATION

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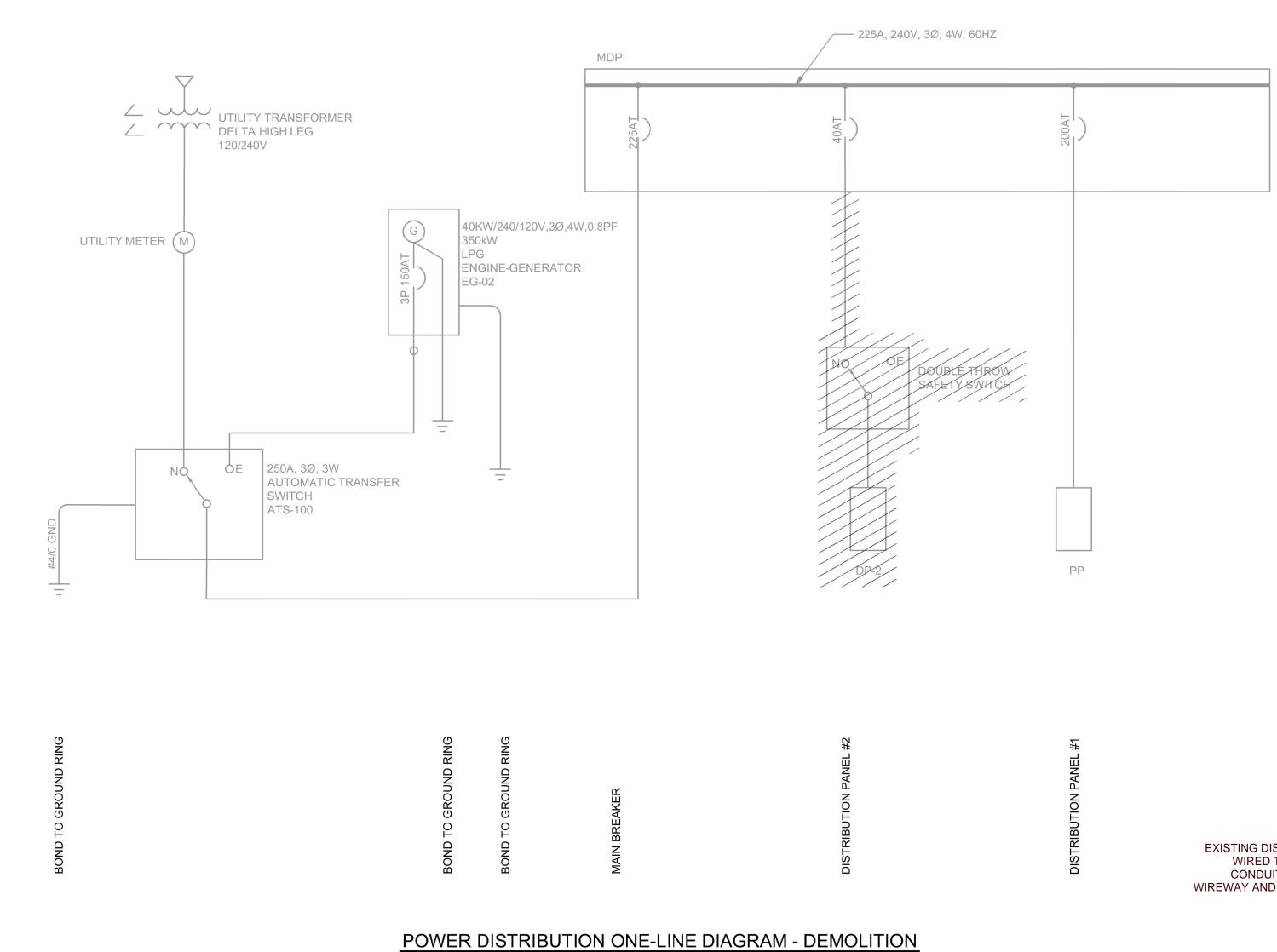
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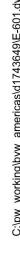
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DAVID MARTINS P.E. NUMBER:

FEBRUARY 19, 2024 DATE:

FILE NAME:	
E-101.dwg	
PROJECT NO .:	
417482	
SHEET:	
E-101	





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E					
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	REVISION	BY	DATE	APPROVED	DATE

# UPPER OCKLAWAHA RIVER BASIN BURRELL LOCK REHABILITATION LAKE COUNTY, FLORIDA

EXISTING DISCONNECT AND LOAD CENTER WIRED THROUGH DP-2. PROVIDE NEW CONDUIT BETWEEN DISCONNECT AND WIREWAY AND RE-ROUTE EXISTING FEEDER.

> EXISTING ELECTRICAL ROOM -EAST WALL ELEVATION - DEMO

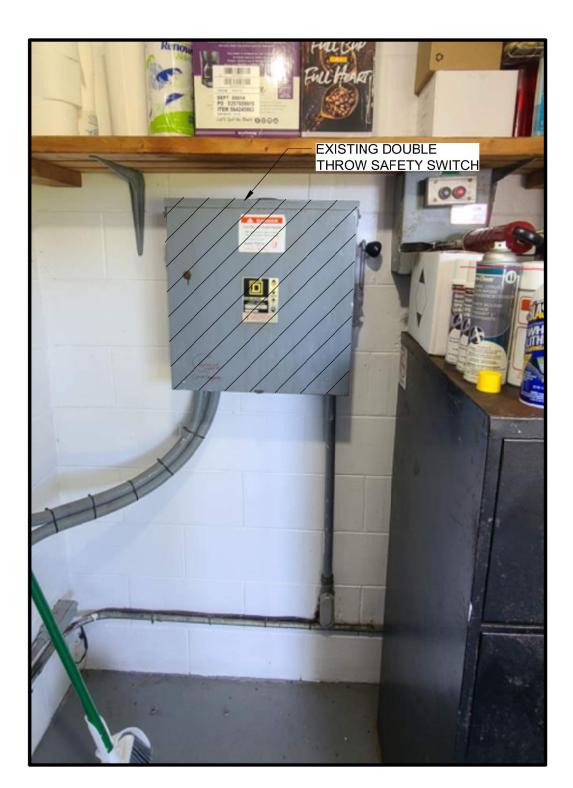
ONE-LINE DIAGRAM DEMOLITION

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA									
DRAWN: <u>H.V.T</u>	DATE: <u>2-19-2024</u>	REVIEWER:							
SCALE: <u>NTS</u>	DESIGNER:	SECTION CHIEF:							





EXISTING ELECTRICAL ROOM -SOUTH WALL ELEVATION



EXISTING ELECTRICAL ROOM -WEST WALL ELEVATION - DEMO

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DAVID MARTINS P.E. NUMBER: 91665

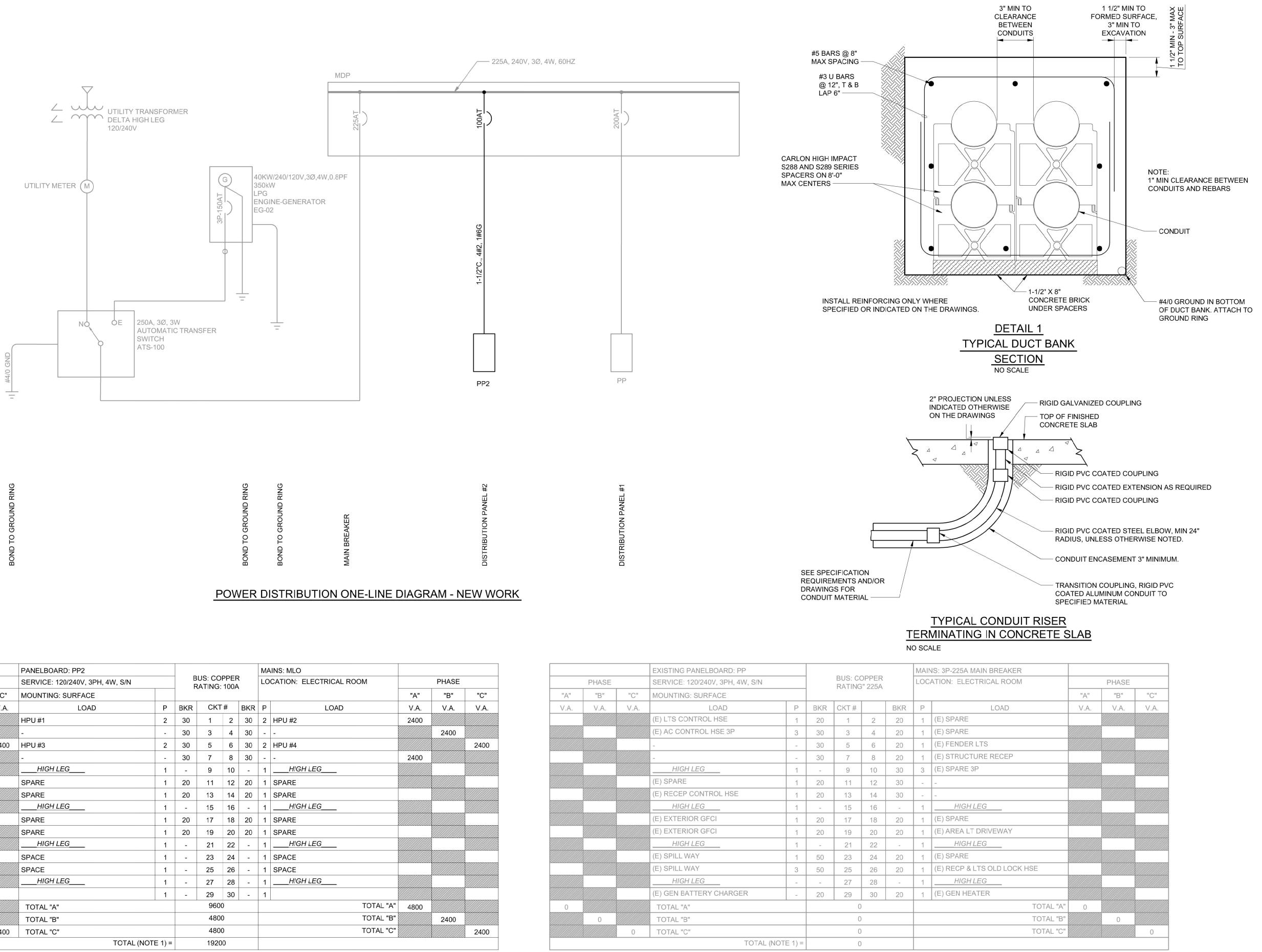
FEBRUARY 19. 2024 DATE:

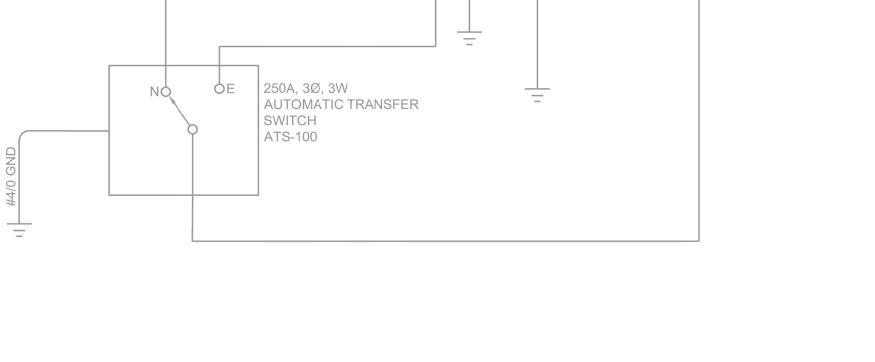
FILE NAME:
E-601.dwg
PROJECT NO.:
417482
SHEET:
<u> </u>

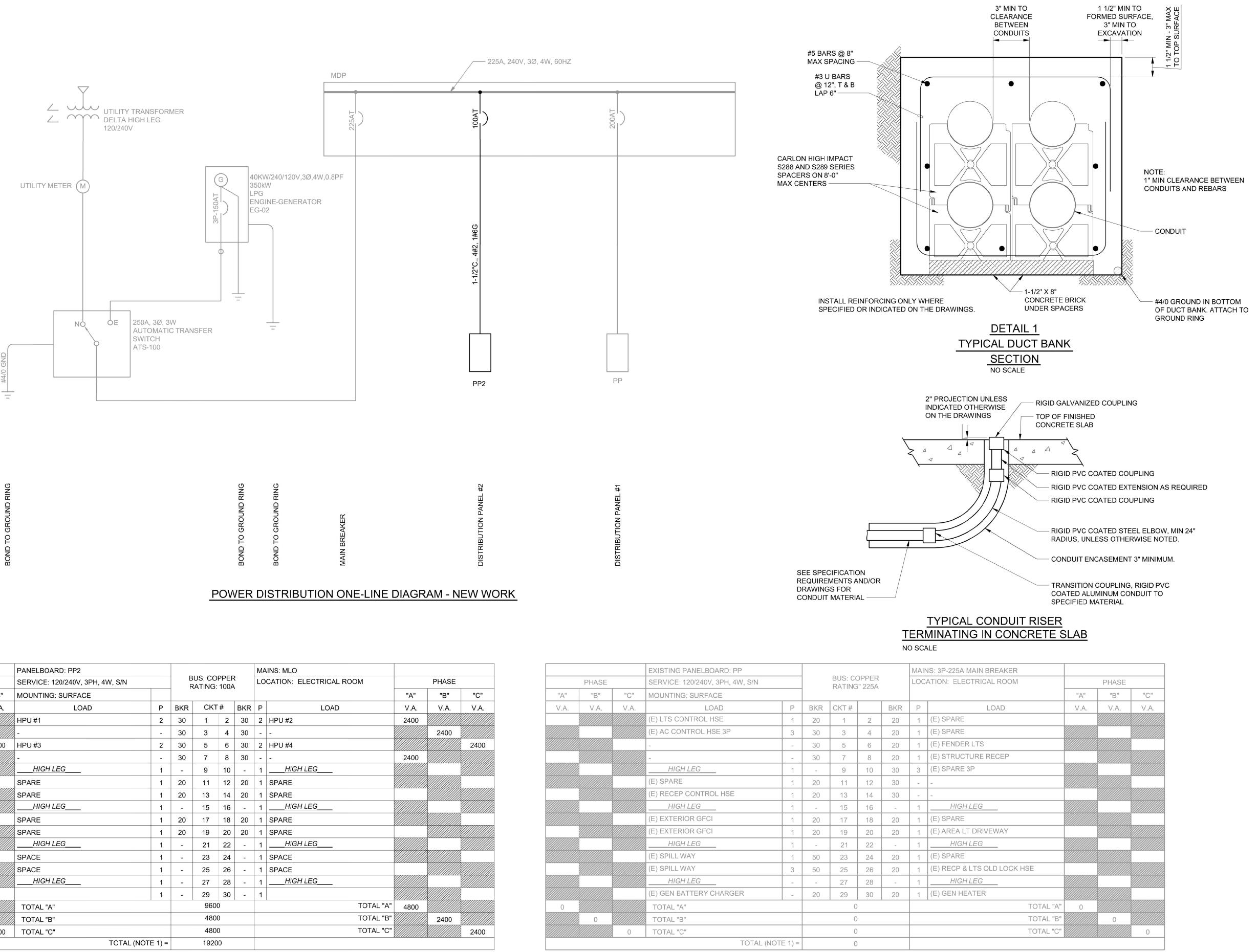
UPPER OCKLAWAHA
BURRELL LOCK REF
LAKE COUNTY,

	ISSUED FOR BID	D.M.	2-19-24	J.D.	2-19-24
NO.	REVISION	BY	DATE	APPROVED	DATE

SERVICE: 120/240V, 3PH, 4W, S/N			RATING: 100A				LOCATION: ELECTRICAL ROOM		PHASE				
	"C"	MOUNTING: SURFACE				100/					"A"	"B"	"C"
	V.A.	LOAD	Р	BKR	СКТ	.#	BKR	Ρ	LOAD		V.A.	V.A.	V.A.
		HPU #1	2	30	1	2	30	2	HPU #2		2400		
		-	-	30	3	4	30	-	-			2400	
	2400	HPU #3	2	30	5	6	30	2	HPU #4				2400
		-	-	30	7	8	30	-	-		2400		
		HIGH LEG	1	-	9	10	-	1	HIGH LEG				
		SPARE	1	20	11	12	20	1	SPARE				
		SPARE	1	20	13	14	20	1	SPARE				
		HIGH LEG	1	-	15	16	-	1	HIGH LEG				
		SPARE	1	20	17	18	20	1	SPARE				
		SPARE	1	20	19	20	20	1	SPARE				
		HIGH LEG	1	-	21	22	-	1	HIGH LEG				
		SPACE	1	-	23	24	-	1	SPACE				
		SPACE	1	-	25	26	-	1	SPACE				
		HIGH LEG	1	-	27	28	-	1	<u> </u>				
			1	-	29	30	-	1					
		TOTAL "A"			960	0			тот	AL "A"	4800		
		TOTAL "B"			480	0			тот	AL "B"		2400	
	2400	TOTAL "C"			480	0			тот	AL "C"			2400
		TOTAL (NOTE	E 1) =		1920	0							







PHASE

2400

"A" "B"

V.A. V.A.

2400

2400

4800

2400

### NOTE:

1. THE TOTAL CONNECTED LOAD FOR THIS PANEL SCHEDULE IS UNKNOWN AND UNVERIFIED. PROVIDE A 30-DAY LOAD STUDY PER NEC 220.87 TO ENSURE THE PANEL HAS ADEQUATE CAPACITY FOR EXISTING LOADS.

# A RIVER BASIN EHABILITATION , FLORIDA

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FLORIDA							
DRAWN: <u>H.V.T</u>	DATE: <u>2-19-2024</u>	REVIEWER:					
SCALE: NTS	DESIGNER:	SECTION CHIEF:					

### ONE-LINE DIAGRAM **NEW WORK**

BLACK & VEATCH

Black & Veatch Corporation Certificate No. 8132 1715 N. Westshore Blvd. Suite 725 Tampa, Florida 33607

# LOCATION AS PREVIOUS DEMOLISHED DP-2.

- INSTALL NEW PP2 IN SAME

EXISTING ELECTRICAL ROOM -EAST WALL ELEVATION - NEW WORK

CERTIFICATION:

DAVID MARTINS P.E. NUMBER: 9166

FEBRUARY 19. 2024 DATE:

FILE NAME:
E-602.dwg
PROJECT NO .:
417482
SHEET:
<u> </u>

FOR BID PURPOSES ONLY

**NOT FOR CONSTRUCTION**