

NOTE SPECIFICATIONS:

REFERENCE DOCUMENTS:

- 1. AS-BUILT DRAWINGS PREPARED BY THE US ARMY CORPS OF ENGINEERS, "STRUCTURE 96", DATED AUGUST 1970. THE BORING LOGS AND GRADATION CURVES ARE INCLUDED IN THESE DRAWINGS.
- 2. REPORTS PREPARED BY ARDAMAN & ASSOCIATES, INC., "ENGINEERING EVALUATION OF CONCRETE CONDITION AND STEEL SHEET PILE WING WALL THICKNESS, STRUCTURE S-96", DATED AUGUST 30, 2013 AND JUNE 25, 2014.

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 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 SODDED.
- 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. 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 SURVEY SIGNED AND SEALED BY A FL 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 (8000-15000 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.

- THE BOUNDARIES BETWEEN THE ERODED AND SOUND CONCRETE SURFACES SHALL BE SAWCUT AS SHOWN ON THE DRAWINGS 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.
- 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 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 PROTECTIVE COATING.
- 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. MOIST CURE WITH WET BURLAP AND POLYETHYLENE OR A FINE MIST OF WATER FOR A MINIMUM OF 3 DAYS IN AREAS THAT WILL BE SUBJECT TO IMMERSION.
- 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 AND CAST IN PLACE CONCRETE. 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 REPAIR MORTAR AND CONCRETE PLACEMENT OR OTHERWISE MAKE ARRANGEMENTS WITH THE LABORATORY SO THAT SAMPLES MAY BE
 OBTAINED.
- 3. REPAIR MORTAR CUBE TESTS: CUBE SAMPLES (2" MORTAR CUBES) SHALL BE TAKEN AND TESTED IN ACCORDANCE WITH ASTM C109 "STANDARD TEST
 METHOD FOR COMPRESSIVE STRENGTH OF HYDRAULIC CEMENT MORTARS." 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. SAMPLING FREQUENCY FOR 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.
- 4. REPAIR MORTAR 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.
- 5. CONCRETE CYLINDER TESTS: CONCRETE CYLINDERS SHALL BE TAKEN AND TESTED IN ACCORDANCE WITH ASTM C39 "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." SAMPLING FREQUENCY FOR CONCRETE SHALL BE FOR EACH FIFTY (50) CUBIC YARDS OR PORTION THEREOF OF CONCRETE PLACED EACH DAY. THE LABORATORY SHALL TAKE A SAMPLE FROM A BATCH OF ITS SELECTION AS THE CONCRETE IS BEING PLACED. NO WATER SHALL BE ADDED OR OTHER CHANGE MADE IN ANY BATCH AFTER IT HAS BEEN SAMPLED. IN ADDITION TO OTHER TESTS, THE LABORATORY WILL MAKE A SET OF FIVE (5) STANDARD COMPRESSION CYLINDERS FROM EACH SAMPLE, ONE (1) OF WHICH WILL BE TESTED AT 56 DAYS IF DEEMED NECESSARY.
- 6. CONCRETE COMPRESSIVE STRENGTH: CAST-IN-PLACE CONCRETE SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5500 PSI. COMPRESSION STRENGTH OF A SAMPLE SHALL BE 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.
- 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.

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 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 THE 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 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 MANUAL".
- 2. PREPARE SURFACES AND PAINT ALL EXPOSED STEEL COMPONENTS. ITEMS TO BE PAINTED INCLUDE STRUCTURAL STEEL, SHEET PILING WING WALLS, AND ALL EMBEDDED STEEL (EXCLUDING STAINLESS STEEL AND ALUMINUM ITEMS).
- 3. STEEL SURFACE PREPARATION SHALL BE AS FOLLOWS:
- STRUCTURAL STEEL, SHEET PILING, 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.
- WHERE LEAD PAINT IS FOUND TO BE PRESENT, APPROPRIATE REMOVAL MEASURES SHALL BE UNDERTAKEN IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATORY REQUIREMENTS.
- 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 SHALL BE LIGHT GRAY. CONTRACTOR SHALL SUBMIT COLOR SAMPLES FOR DISTRICT APPROVAL. 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): WASSER MC-ZINC 3-5 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
- SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER 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 SYSTEM SPECIFICATIONS:

- 1. PROVIDE RUBBLE RIPRAP, BEDDING STONE, AND GEOTEXTILE FABRIC AT THE LOCATIONS SHOWN ON THE DRAWINGS. 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. GEOTEXTILE FABRIC WHERE REQUIRED SHALL BE MIRAFI FILTERWEAVE WOVEN NO. FW 404 (OR APPROVED EQUAL) AND SHALL COMPLY WITH THE REQUIREMENTS SECTION 514 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. ADDITIONALLY, THE GEOTEXTILE FABRIC MATERIAL SHALL CONFORM TO THE REQUIREMENTS FDOT TYPE D-2 OF THE FDOT SPECIFICATION SECTION 985. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
- 3. <u>BEDDING STONE</u> SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 530 OF THE <u>FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION</u>, LATEST EDITION. THE FINAL BLANKET THICKNESS SHALL BE A MINIMUM OF 12 INCHES. THE MINIMUM UNIT WEIGHT OF STONE SHALL BE 145 PCF (SATURATED SURFACE DRY).
- 4. <u>RUBBLE RIPRAP</u> SHALL COMPLY WITH THE REQUIREMENTS OF FDOT SECTION 530-2.1.3.1 BANK AND SHORE PROTECTION OR 530-2.1.3.2 DITCH LINING, AS DIRECTED BY THE DISTRICT. THE MATERIAL SHALL BE WELL-GRADED, SOUND AND DURABLE, AND SHALL HAVE A MINIMUM SPECIFIC GRAVITY OF 2.3. THE MATERIAL SHALL BE FREE OF CRACKS, SOFT SEAMS OR OTHER STRUCTURAL DEFECTS. THE PIECES SHALL BE ROUGHLY ANGULAR, AND THE LOT SHALL REASONABLY FREE OF THIN, FLAT OR ELONGATED PIECES. CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 530.
- 5. COMPACTED SAND BACKFILL WHERE REQUIRED SHALL CONSIST OF CLEAN SAND CLASSIFIED AS SW OR SP WITH LESS THAN 5% PASSING THE NO. 200 SIEVE
- 6. CONSTRUCTION REQUIREMENTS: ALL SLOPES TO BE TREATED WITH RIPRAP SHALL BE TRIMMED TO THE LINES AND GRADES INDICATED BY THE PLANS OR DIRECTED BY THE DISTRICT. THE SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE EARTHWORK SPECIFICATIONS. ALL OUTER EDGES AND THE TOP OF RIPRAP WHERE THE RIPRAP TERMINATES SHALL BE FORMED SO THAT THE SURFACE OF THE RIPRAP WILL BE EMBEDDED AND EVEN WITH THE SURFACE OF THE GROUND AND/OR SLOPE. ALL RIPRAP CONSTRUCTION SHALL BEGIN AT THE BOTTOM OF THE SLOPE AND PROGRESS UPWARD.
- PLACE A MINIMUM 12-INCH THICK LAYER OF BEDDING STONE UNDER ALL RUBBLE RIPRAP WITHOUT PUNCTURING OR TEARING THE GEOSYNTHETIC MATERIAL. REMOVE AND REPLACE GEOTEXTILE FABRIC DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS.
- PLACE RIPRAP FORMING A COMPACT LAYER CONFORMING TO THE NEAT LINES AND THICKNESS SPECIFIED ON THE DRAWINGS. ENSURE THAT RIPRAP DOES NOT SEGREGATE SO THAT SMALLER PIECES EVENLY FILL THE VOIDS BETWEEN THE LARGER PIECES.

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

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 ADDENDUM NO. 3
 N.J.G. 07-19-21
 W.R.C. 07-19-21

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 ISSUED FOR BID
 N.J.G. 05/14/21
 W.R.C. 05/14/21

 NO.
 REVISION
 BY DATE APPROVED DATE

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



NOTE SPECIFICATIONS

WILLIAM R. COTE
P.E. NUMBER: ______53746

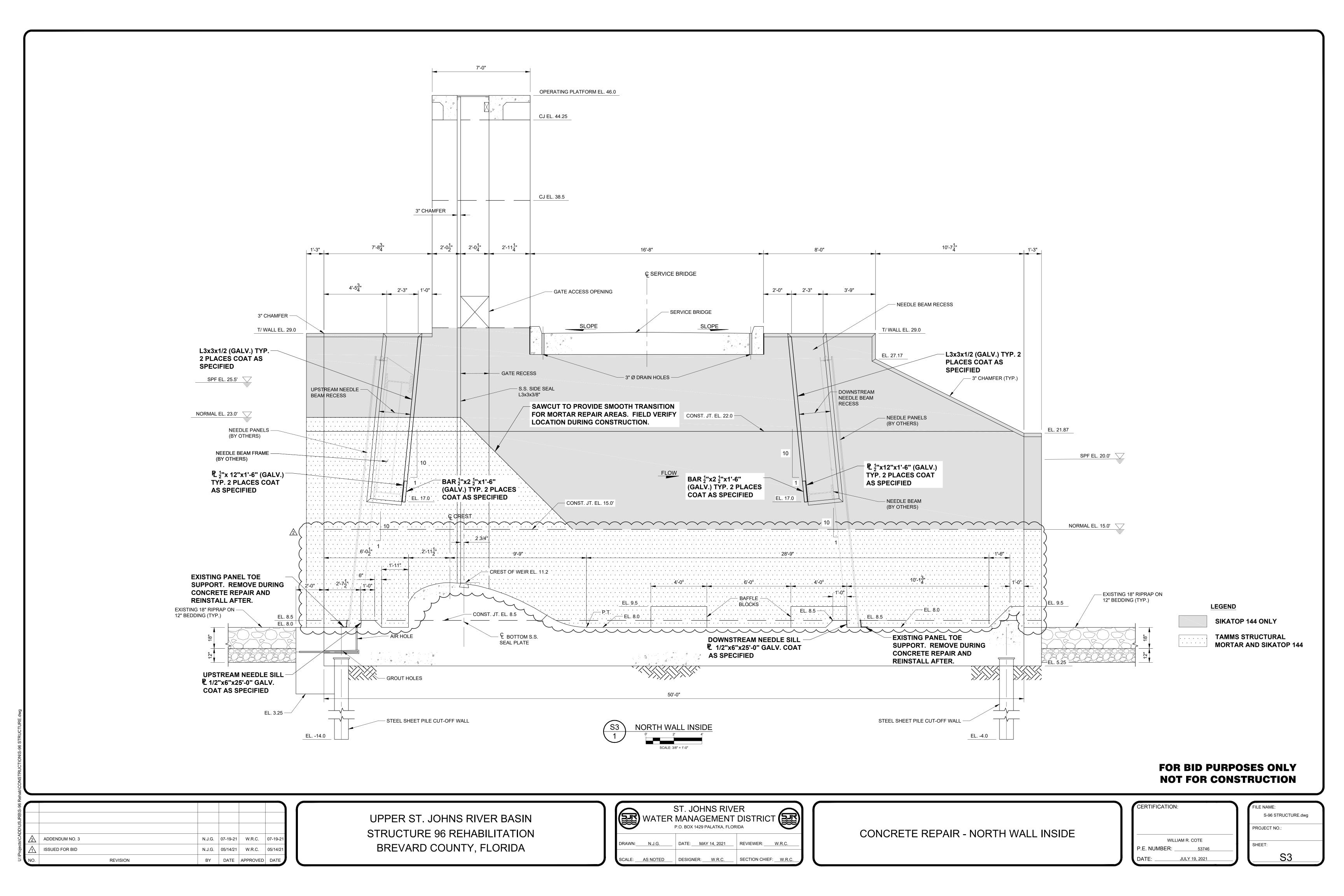
DATE: _____JULY 19, 2021

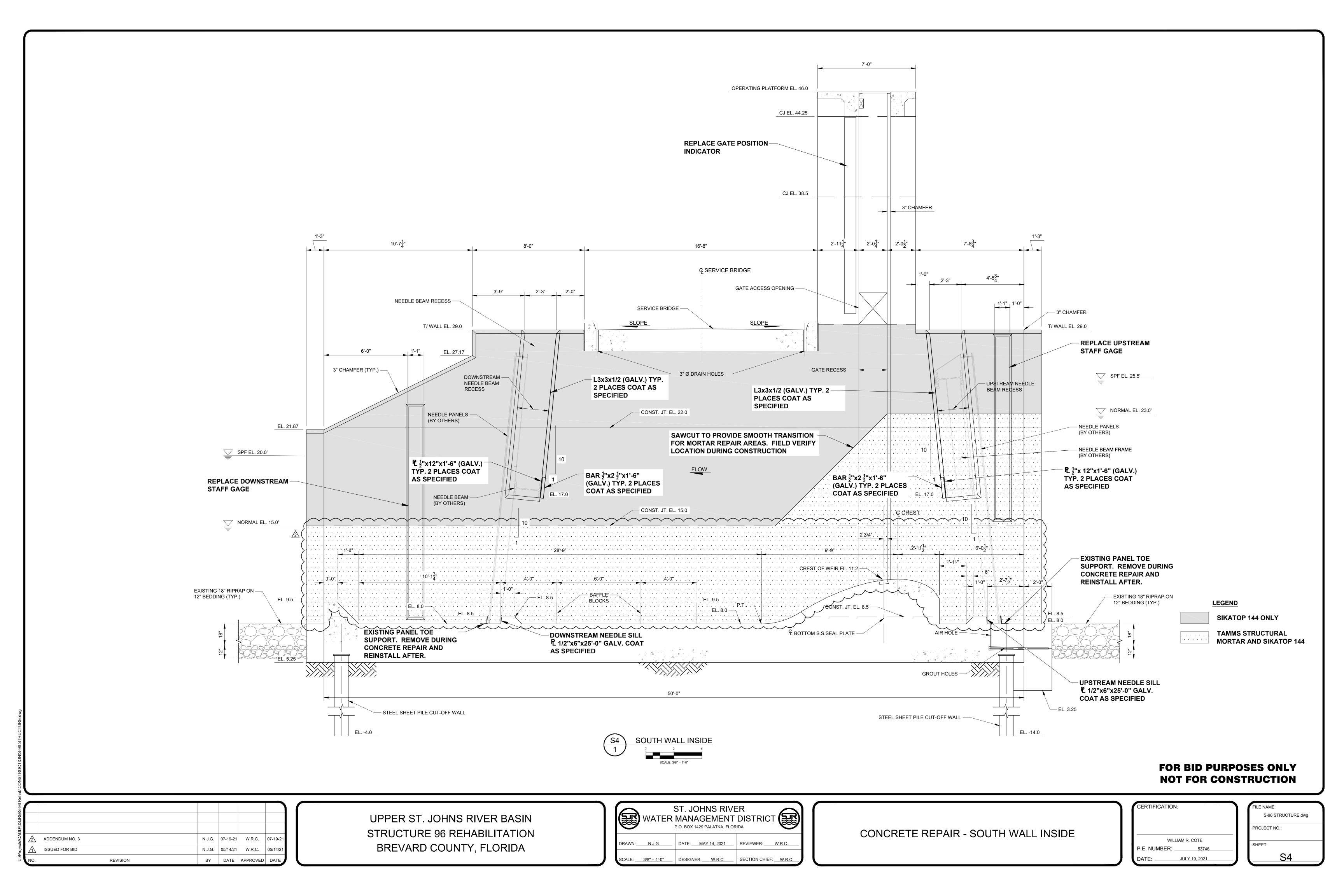
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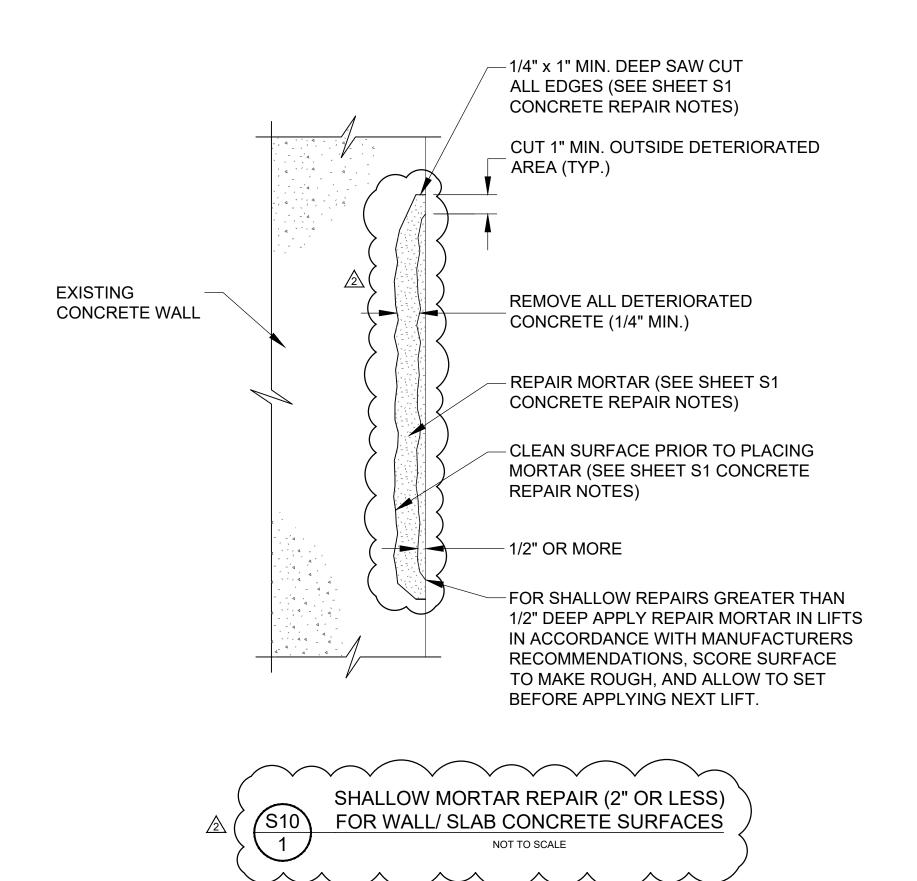
FILE NAME:
S-96 STRUCTURE.dwg

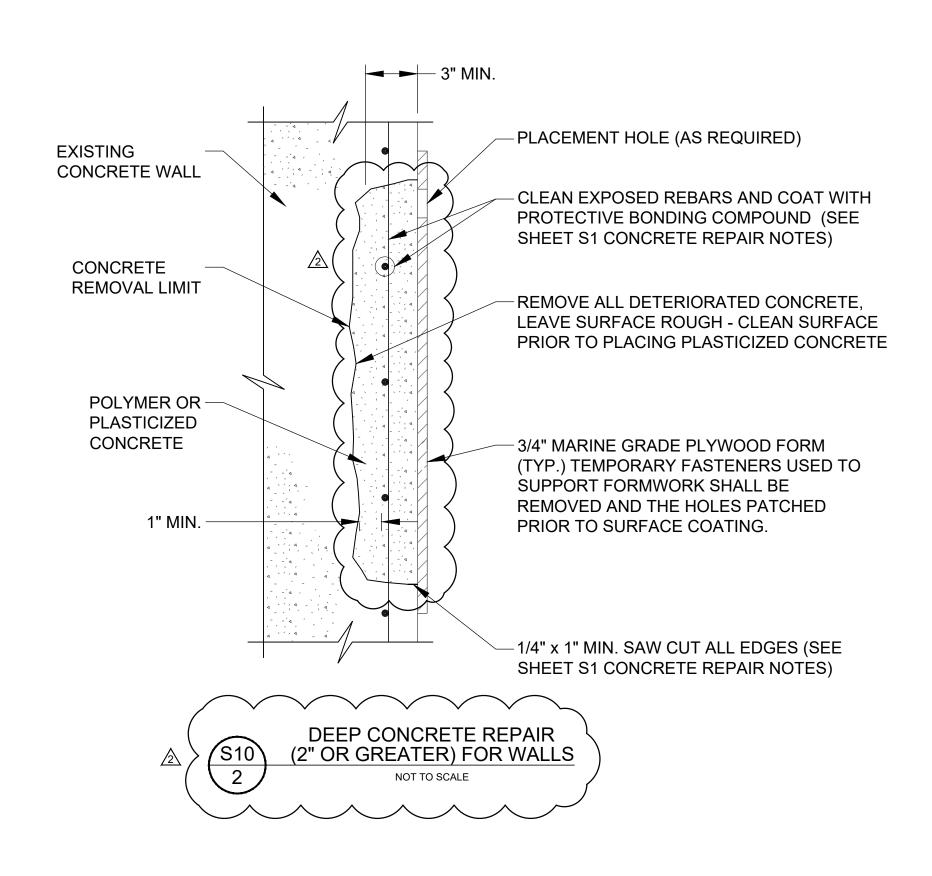
PROJECT NO.:

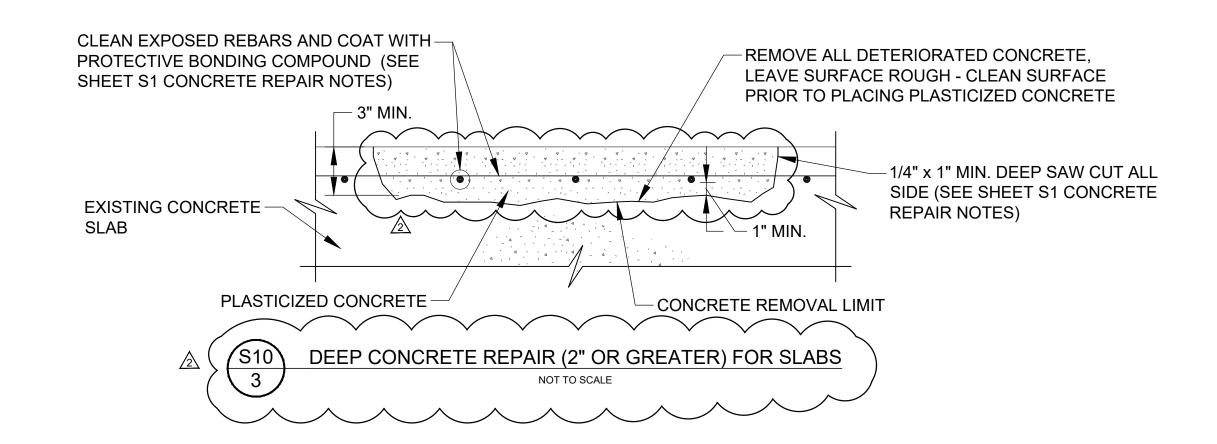
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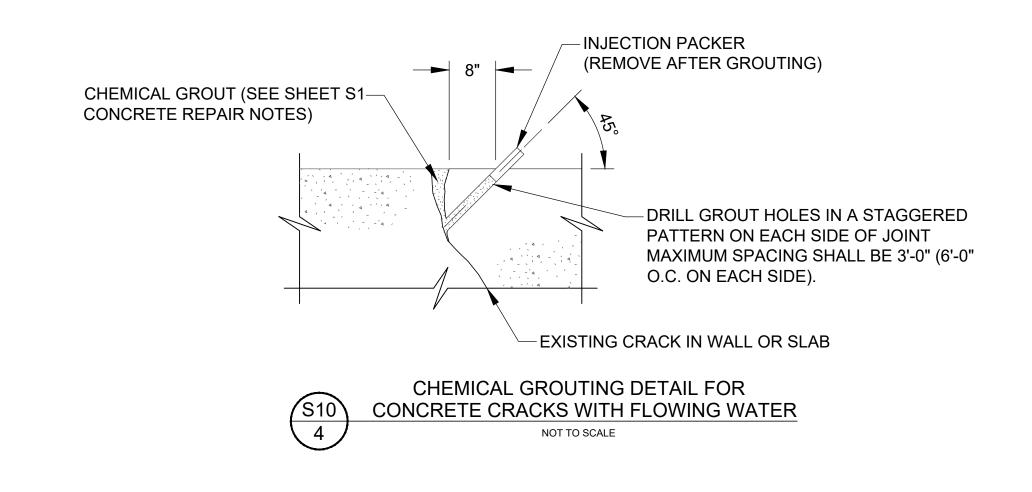












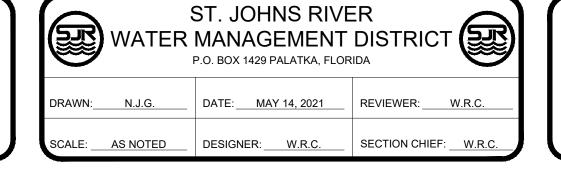
CONCRETE:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SECTION 400 WITH SUPPLEMENTS AND ALL PERTINENT SPECIFICATIONS CONTAINED THEREIN.
- 2. ALL CONCRETE SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,500 PSI. PORTLAND CEMENT SHALL BE TYPE II IN ACCORDANCE WITH ASTM C-150. CONCRETE SHALL BE AIR ENTRAINED WITH TOTAL AIR AS PERCENT BY VOLUME OF CONCRETE EQUAL TO 4%. THE AIR ENTRAINING ADMIXTURE SHALL BE MICRO AIR, AS MANUFACTURED BY MASTER BUILDERS, OR EQUAL, CONFORMING TO ASTM C-260. THE AGGREGATES SHALL CONFORM TO ASTM C-33 AND SHALL HAVE A 3/4-INCH MAXIMUM SIZE.
- 3. REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A-615.
- 4. THE MINIMUM CLEAR CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES FOR FORMED SURFACES AND 4.5 INCHES FOR CONCRETE CAST AGAINST EARTH.
- 5. CRACKS WITH FLOWING WATER SHALL BE REPAIRED WITH CHEMICAL GROUT 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.

FOR BID PURPOSES ONLY NOT FOR CONSTRUCTION

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U:\Projects\CADD\USJRB\S-96	2	ADDENDUM NO. 3	N.J.G.	07-19-21	W.R.C.	07-19-21
200	Λ	ISSUED FOR BID	N.J.G.	05/14/21	W.R.C.	05/14/21
	NO.	REVISION	BY	DATE	APPROVED	DATE

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



CONCRETE REPAIR - TYPICAL DETAILS

CERTIFICATION:						
WILL	LIAM R. COTE					
P.E. NUMBER: _	53746					
DATE:	JULY 19, 2021					

