

THE CITY OF SAVANNAH SAVANAH RIVER LANDING FLOATING DOCK REPAIRS

SAVANNAH, GEORGIA
COLLINS PROJECT NO. 40-10175.02 TASK 10
ISSUED FOR PERMITTING - 07/23/2018

Approximate Location of Project:	
LATITUDE	32.078568
LONGITUDE	-81.079318

PROJECT LOCATION



SOURCE: GOOGLE EARTH

PROJECT SITE



SOURCE: GOOGLE EARTH



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PROJECT LOCATION

SAVANAH RIVER
SAVANNAH, GA 31401

COLLINS ENGINEERS INCORPORATED
CONTROL NUMBER: 0231955

PLANS PREPARED FOR



5515 ABERCORN STREET
SAVANNAH, GA 31405
PH: (912) 651-6510

PLANS PREPARED BY

COLLINS
ENGINEERS INC.

1481 DEAN FOREST ROAD SUITE A
SAVANNAH, GA 31405
PH: (912) 790-0123
24 Hour Service 1-877-FIND-CEI

CODES AND DOCUMENTS

1. ALL CONSTRUCTION SHALL BE PERFORMED IN CONFORMANCE WITH THE BUILDING AND DESIGN CODES REFERENCED WITHIN THESE DOCUMENTS. THE PROJECT DOCUMENTS REFER TO THE FOLLOWING CODES AND STANDARDS, UON:

BUILDING CODE
INTERNATIONAL BUILDING CODE 2012 WITH GEORGIA AMENDMENTS.

STRUCTURAL CONCRETE
"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
THE AMERICAN CONCRETE INSTITUTE (ACI 318-2011)

STRUCTURAL STEEL
"SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, FOURTEENTH EDITION"
THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

2. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE ONE PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE REMAINING PARTS OF THE CONTRACT DOCUMENTS. SPECIFICATIONS HAVE BEEN ISSUED IN CONJUNCTION WITH THESE DRAWINGS.
3. "DRAWINGS" MEANS THE LATEST STRUCTURAL DESIGN DRAWINGS, UON "SPECIFICATIONS" MEANS THE LATEST PROJECT SPECIFICATIONS, UON.
4. THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS. IN CASES, IF ANY WHERE REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY THE STRUCTURAL ENGINEER. FOR PRICING, ASSUME THAT THE DRAWINGS TAKE PRECEDENCE OVER THE SPECIFICATIONS IN THE CASE OF ANY CONFLICTS.
5. ALL DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL OR DETAIL TITLE OR NOTE.
6. ASSUME EQUAL SPACING IF NOT INDICATED ON DRAWINGS.
7. USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES.

CONTRACTOR RESPONSIBILITIES AND COORDINATION

1. THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS FOR SUCCESSFUL COMPLETION OF THIS PROJECT.
2. THE SPECIFICATIONS AND STRUCTURAL DRAWINGS REPRESENT THE REQUIRED REPAIR WORK AND DO NOT INDICATE THE METHOD OF DEMOLITION OR CONSTRUCTION, UON. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF DEMOLITION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF ALL TEMPORARY BRACING AND CONSTRUCTION SUPPORTS, FOR NEW AND EXISTING STRUCTURES, AS NECESSARY TO COMPLETE THE PROJECT. NO PORTION OF THE PROJECT, WHILE BEING DEMOLISHED, IS INTENDED TO BE STABLE IN THE ABSENCE OF THE CONTRACTOR'S TEMPORARY BRACES AND SUPPORTS. CONTRACTOR SHALL RETAIN A STRUCTURAL ENGINEER LICENSED IN THE STATE OF GEORGIA TO DESIGN ALL TEMPORARY BRACING AND CONSTRUCTION SUPPORTS. SUBMIT ANY DRAWINGS AND/OR CALCULATIONS TO THE CITY OF SAVANNAH FOR APPROVAL PRIOR TO PERFORMING ANY WORK.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS, NEW AND EXIST, BY MEASUREMENTS AND SURVEYS AT THE JOB SITE, PRIOR TO SUBMITTAL OF SHOP DRAWINGS. THE CONTRACTOR SHALL TAKE ANY AND ALL OTHER MEASUREMENTS NECESSARY TO VERIFY CONFORMANCE WITH THE DRAWINGS AND TO PERFORM THE WORK PROPERLY.
5. ALL FIELDWORK SHALL BE COORDINATED AND CONTINUOUSLY SUPERVISED BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL MAKE NO DEVIATION FROM THE DRAWINGS WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.
7. THE CONTRACTOR SHALL NOTIFY THE CITY OF SAVANNAH AND STRUCTURAL ENGINEER OF RECORD OF ANY DISCREPANCIES BETWEEN THE STRUCTURAL DOCUMENTS AND EXISTING CONDITIONS FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK.
8. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF RECORD OF ANY DISCREPANCIES BETWEEN THE STRUCTURAL DRAWINGS AND DETAILS, FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK. COMPLY WITH STANDARD CONDITIONS.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE UNTIL THE CONSTRUCTION OF THE STRUCTURE REACHES ITS FINISHED STATE.

STRUCTURAL STEEL CONNECTIONS

1. STRUCTURAL STEEL CONNECTION MATERIAL SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES:

BOLTS, NUTS, WASHERS:	ASTM A325 OR A490
WELD ELECTRODES:	E70XX FOR WELDING STEEL TO STEEL
2. ALL SHOP AND FIELD CONNECTIONS SHALL BE BOLTED OR WELDED. SUBMITTAL FROM CONTRACTOR FOR VARIATIONS TO TYPICAL CONNECTION DETAILS WILL BE CONSIDERED.
3. ALL WELDING SHALL BE PERFORMED BY PREQUALIFIED WELDERS, AND SHALL CONFORM TO THE REQUIREMENTS OF THE STRUCTURAL WELDING CODE, ANSI/AWS D1.1, LATEST EDITION, UON.
4. FOR EXPOSED WELDS, PROVIDE WELDING IN CONFORMANCE WITH AWS D1.5.
5. WELDS NOT OTHERWISE NOTED ON DRAWINGS SHALL BE CONTINUOUS FILLET WELDS. THE MINIMUM SIZE SHALL BE 1/4" OR AS REQUIRED BY THE AISC SPECIFICATIONS, WHICHEVER IS LARGER.
6. ALL BOLTS SHALL BE SNUG TIGHT UNLESS SPECIFICALLY NOTED OTHERWISE. BOLTING FOR STRUCTURAL STEEL SHALL CONFORM TO THE PROVISIONS OF THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES, UON:

PLATE:	ASTM A36
ANCHOR RODS:	ASTM A307
CHANNELS:	ASTM A36
2. ALL STRUCTURAL STEEL AND HARDWARE SHALL BE GALVANIZED AFTER FABRICATION.
3. ALL COPES, HOLES, OPENINGS AND MODIFICATIONS REQUIRED IN STRUCTURAL STEEL MEMBERS FOR ERECTION OR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS FOR APPROVAL BY THE STRUCTURAL ENGINEER.
4. FIELD MODIFICATION OF STRUCTURAL STEEL IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
5. SUBMIT STEEL SHOP DRAWINGS FOR REVIEW BY CITY OF SAVANNAH AND ENGINEER OF RECORD A MINIMUM OF 3 WEEKS PRIOR TO SCHEDULED FABRICATION OF STEEL.

REINFORCEMENT

1. REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES:

DEFORMED BARS: ASTM A615 (GRADE 60)
2. DETAIL REINFORCEMENT BASED ON THE PROJECT REQUIREMENTS, ACI-318 AND ACI-315.
3. ALL LAP SPLICES ARE TO BE ACI STANDARD CLASS B TENSION LAP SPLICES. WHERE BARS OF DIFFERENCE SIZES LAP, PROVIDE LAP SPLICE LENGTH FOR LARGER BAR.
4. WHERE A 90-DEG. HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 90-DEG. HOOK.
5. REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE PROTECTION (CLEAR COVER), UON:
 - a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
 - b. CONCRETE EXPOSED TO EARTH OR WEATHER: 1 1/2"
 - c. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: 3/4"

FLOATING DOCK SYSTEM

1. SUFFICIENT FLOTATION SHALL BE PROVIDED TO SUPPORT A DEAD LOAD FREEBOARD OF NOT LESS THAN 20 INCHES AND A LIVE LOAD FREEBOARD OF 18 INCHES TO MATCH EXISTING FLOATS THAT REMAIN.
2. DEAD LOADS SHALL CONSIST OF THE FLOATS, FRAMING, WALER SYSTEMS, ATTACHMENT STEEL, MISCELLANEOUS CONNECTIONS, PERMANENTLY ATTACHED CONNECTIONS AND ALL PERMANENTLY ATTACHED EQUIPMENT AND UTILITIES.
3. THE CLOSED CELL EXPANDED POLYSTYRENE CORE USED INSIDE THE CONCRETE UNITS SHALL MEET FEDERAL SPECIFICATION C-578-85
4. ALL CAST INSERTS SHALL BE GALVANIZED STEEL, $\frac{3}{4}$ INCH IN DIAMETER MINIMUM
5. ALL THRU-RODS SHALL BE PLACED WITHIN PVC SLEEVES CAST INTO THE FLOAT UNITS.
6. WALERS SHALL BE SECURELY FASTENED TO THE CONCRETE FLOATS USING GALVANIZED THRU-RODS, PLATE WASHERS, SPUR LOCKER WASHERS AND NUTS.
7. ALL TIMBER SHALL BE SOUTHERN YELLOW PINE NO. 1 OR GLU-LAM IN ACCORDANCE WITH SPIB GRADING RULES, TREATED WITH CCA PRESERVATIVE TREATMENT TO 2.5 POUNDS PER CUBIC FOOT.
8. PILE GUIDES SHALL BE OF RIGID TYPE WITH GALVANIZED STEEL FRAMES AND SHALL HAVE REPLACEABLE ULTRA HIGH MOLECULAR WEIGHT PLASTIC ROLLERS WITH STAINLESS STEEL AXLES.

DEMOLITION

1. ALL EXIST CONDITIONS SHOWN ARE FOR REFERENCE ONLY AND IS TO BE FIELD VERIFIED BY THE CONTRACTOR.
2. REMOVED MATERIALS, UNLESS NOTED OTHERWISE, BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, AND REGULATIONS.
3. THE CONTRACTOR SHALL USE QUALIFIED, EXPERIENCED PERSONEL FOR REMOVAL AND DEMOLITION OPERATIONS. REMOVAL AND DEMOLITION OPERATIONS SHALL BE PERFORMED IN A CAREFUL AND ORDERLY MANNER TO AVOID HAZARDS TO PERSONS, DAMAGE TO PROPERTY, AND THE SPREADING OF DUST AND FLYING PARTICLES.
4. THE EXACT EXTENT OF DEMOLITION TO BE DONE SHALL BE VERIFIED AT THE SITE. DETERMINE THE NATURE AND EXTENT OF DEMOLITION THAT WILL BE NECESSARY BY COMPARING THE DRAWINGS WITH THE EXIST CONDITIONS.
5. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE MEANS AND METHODS OF DEMOLITION AND THE SAFETY OF THE EXIST STRUCTURE.
6. NO PORTIONS OF THE STRUCTURE SHALL BE PERMITTED TO FALL NOR SHALL ANY DEBRIS BE DROPPED EXCEPT BY METHODS WHICH WILL INSURE LIFE SAFETY AND OTHER INSURANCE.
7. DO NOT REMOVE MORE OF THE EXIST STRUCTURE THAN NECESSARY. DO NOT DAMAGE, MAR, OR DEFACE THE REMAINING STRUCTURE OR MATERIALS TO BE REUSED.
8. THE CONTRACTOR SHALL PROVIDE SHORING IN ALL LOCATIONS WHERE EXIST CONSTRUCTION TO REMAIN WILL BE AFFECTED BY DEMOLITION.

CONCRETE MATERIAL PROPERTIES

1. CONCRETE STRENGTH SHALL MEET THE FOLLOWING 28-DAY COMPRESSIVE STRENGTHS (f'c): 3,500 PSI MIN.
2. PROVIDE NORMAL WEIGHT CONCRETE WITH MINIMUM CURED DENSITY OF 145 PCF, AND AGGREGATE CONFORMING TO ASTM C33, UON.
3. THE USE OF CALCIUM CHLORIDE AND OTHER CHLORIDE CONTAINING AGENTS IS PROHIBITED. THE USE OF RECYCLED CONCRETE IS PROHIBITED. PLACEMENT WITHIN AND CONTACT BETWEEN ALUMINUM ITEMS, INCLUDING ALUMINUM CONDUIT, AND CONCRETE IS PROHIBITED.
4. MAX WATER:CEMENT RATIO = 0.45.

DESIGN CRITERIA

CRITERIA MATCH DESIGN PARAMETERS FOR EAST PORTION OF FLOATING DOCK.

WIND CRITERIA (ASCE) 7-10:3

1. UNOCCUPIED MAXIMUM WIND SPEED 110 MILES PER HOUR (MPH)
2. 100% OCCUPIED MAXIMUM WIND SPEED 60 MILES PER HOUR (MPH)

WATER AND WAVE CRITERIA

- | | | |
|----|---------------------------|---|
| 1. | UNOCCUPIED WAVE HEIGHT | 2.0 FEET |
| 2. | OCCUPIED WAVE HEIGHT | 1.0FEET |
| 3. | UNOCCUPIED WAVE PERIOD | 2.0 SECONDS |
| 4. | OCCUPIED WAVE PERIOD | 2.0 SECONDS |
| 5. | BOAT WAKE | NOT GREATER THAN GOVERNING WAVE (i.e., <10FEET) |
| 6. | OCCUPIED CURRENT VELOCITY | 5.1 FEET PER SECOND (FPS) OR 3.0 KNOTS |

SPECIFIC SITE DATA

- | | | |
|----|------------------------------|---------------------------|
| 1. | MAXIMUM PILE LENGTH | 55.0 FEET |
| 2. | LARGEST AVERAGE VESSELS | 30 FT X 9 FT BEAM |
| 3. | LARGEST SINGLE VESSEL | 50 FT X 15 FT BEAM |
| 4. | MAXIMUM VESSEL DOCKING SPEED | 1.0 FEET PER SECOND (FPS) |

REQUIRED FREE BOARD

- | | | |
|----|-----------------|--------------------------|
| 1. | UNDER DEAD LOAD | 20" PER PLANS (DL) |
| 2. | UNDER LIVE LOAD | +/- 8" PER PLANS (DL+LL) |

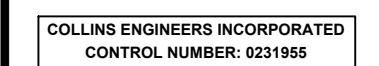
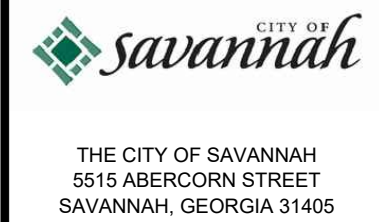
DESIGN LOADS

- | | |
|-----------------------|---------------------------------|
| 1. DEAD LOADS | TO INCLUDE UTILITIES |
| 2. LIVE LOADS | 60 POUNDS PER SQUARE FOOT (PSF) |
| 3. GANGWAY LIVE LOADS | 60 PSF AND/ OR ADA LOADING |

ABBREVIATIONS

APPROX	APPROXIMATELY	OPP	OPPOSITE
BLDG	BUILDING	PEN	PENETRATION
BTW	BETWEEN	REINF	REINFORCING
CONC	CONCRETE	REQD	REQUIRED
CONT	CONTINUOUS	REQTS	REQUIREMENTS
DIA	DIAMETER	SF	SQUARE FEET
EXIST	EXISTING	SPECS	SPECIFICATIONS
F/	FACE OF	STRUC	STRUCTURAL
HDG	HOT-DIPPED GALVANIZED	T/	TOP OF
HORIZ	HORIZONTAL	TRANS	TRANSVERSE
LONG	LONGITUDINAL	TYP	TYPICAL
MANUF	MANUFACTURER	OC	ON CENTER
MAX	MAXIMUM	UON	UNLESS OTHERWISE NOTED
MIN	MINIMUM	VERT	VERTICAL
NWC	NORMAL WEIGHT CONCRETE	VIF	VERIFY IN FIELD

SYN	DESCRIPTION	DATE	APPR
	ISSUED FOR REVIEW	07/09/2018	JS
	ISSUED FOR PERMITTING	07/23/2018	JS



DES	KWW	DRW	JWM	CHK	JS
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THE CITY OF SAVANNAH

FLOATING DOCK REPAIR

GENERAL NOTES

SCALE: **AS SHOWN**

PROJECT NO.: 40-10175.02

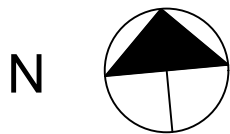
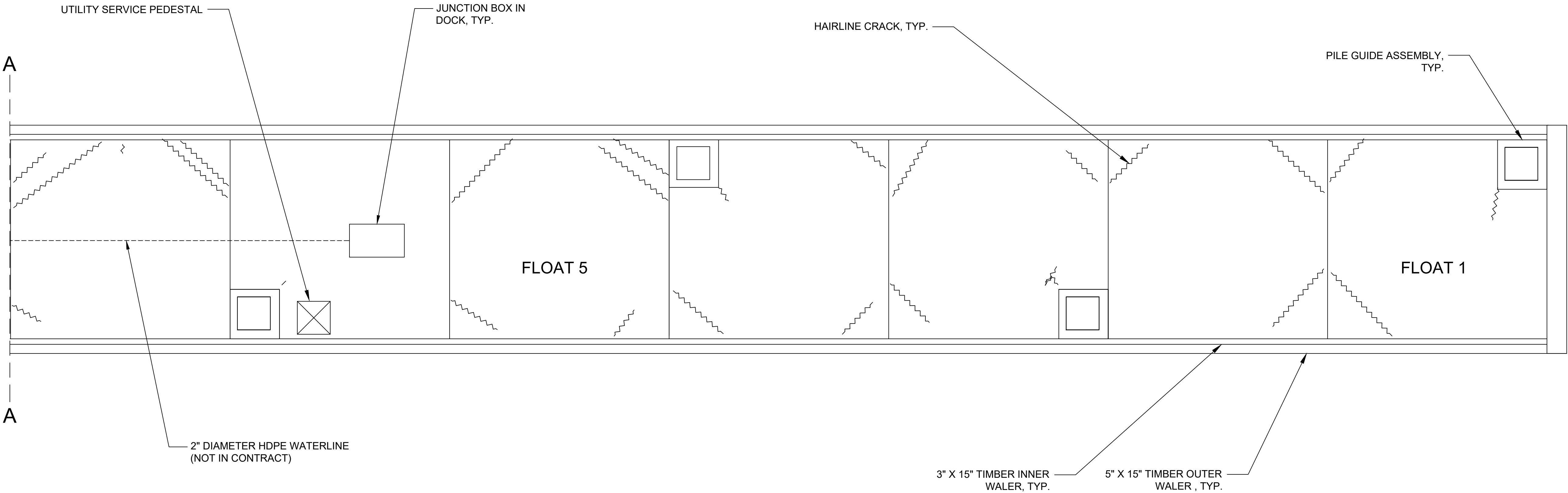
CONSTR. CONTR. NO.

DRAWING NO.

SHEET 2 OF 14

G-1

1 2 3 4 5 6



PARTIAL PLAN FLOATS 1 - 7

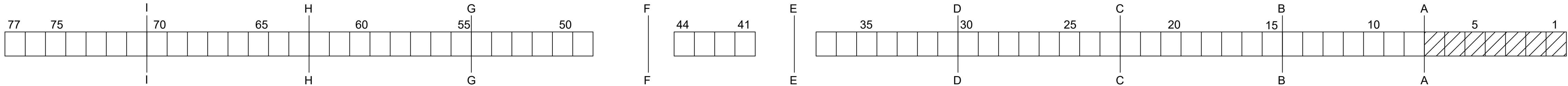
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REPAIR NOTES

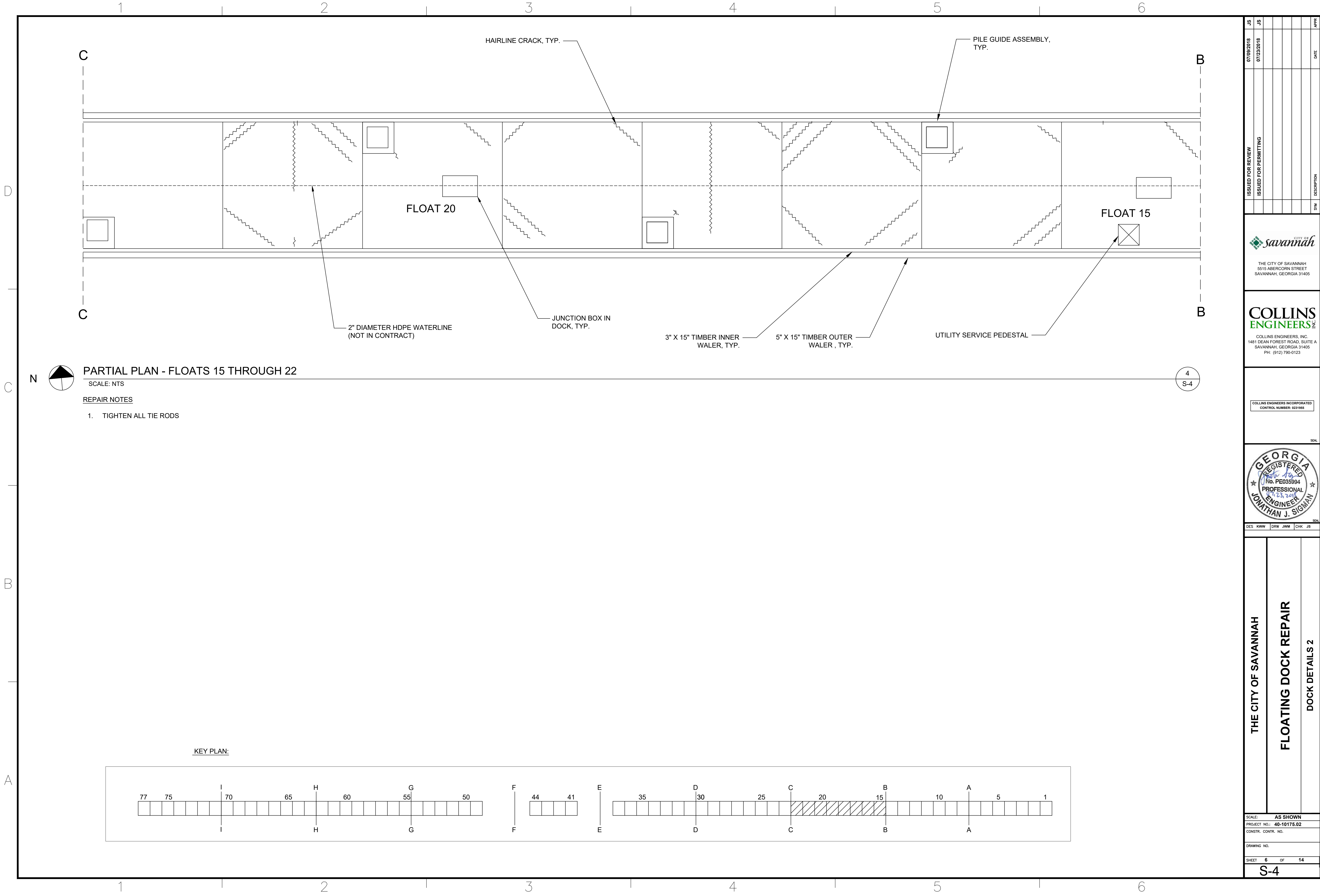
1. TIGHTEN ALL TIE RODS

1
S-2

KEY PLAN:



JS	JS						APPR
07/09/2018	07/23/2018						DATE
ISSUED FOR REVIEW	ISSUED FOR PERMITTING						DESCRIPTION
							SYM
 THE CITY OF SAVANNAH 5515 ABERCORN STREET SAVANNAH, GEORGIA 31405							
 COLLINS ENGINEERS, INC. 1481 DEAN FOREST ROAD, SUITE A SAVANNAH, GEORGIA 31405 PH: (912) 790-0123							
COLLINS ENGINEERS INCORPORATED CONTROL NUMBER: 0231955							
SEAL							
DES: KWW	DRW: JWM	CHK: JS	SEAL				
THE CITY OF SAVANNAH							
FLOATING DOCK REPAIR							
DOCK DETAILS							
SCALE: AS SHOWN							
PROJECT NO.: 40-10175.02							
CONSTR. CONTR. NO.							
DRAWING NO.							
SHEET 4 OF 14							
S-2							



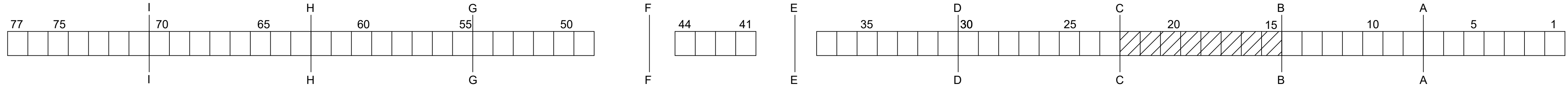
PARTIAL PLAN - FLOATS 15 THROUGH 22

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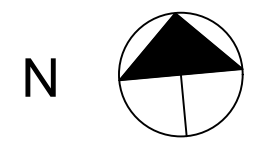
REPAIR NOTES

1. TIGHTEN ALL TIE RODS

KEY PLAN:




ISSUED FOR REVIEW	ISSUED FOR PERMITTING	SYN	DESCRIPTION	DATE	APPR
07/09/2018	07/23/2018				
THE CITY OF SAVANNAH 5515 ABERCORN STREET SAVANNAH, GEORGIA 31405					
COLLINS ENGINEERS, INC. 1481 DEAN FOREST ROAD, SUITE A SAVANNAH, GEORGIA 31405 PH: (912) 790-0123					
COLLINS ENGINEERS INCORPORATED CONTROL NUMBER: 9231955					
GEORGIA REGISTERED PROFESSIONAL ENGINEER No. PE035994 7/23/2018 JONATHAN J. SIGMAN					
DES. KWW	DRW. JWM	CHK. JS			
THE CITY OF SAVANNAH FLOATING DOCK REPAIR DOCK DETAILS 2					
SCALE: AS SHOWN PROJECT NO.: 40-10175.02 CONSTR. CONTR. NO. DRAWING NO. SHEET 6 OF 14 S-4					



SCALE: NTS

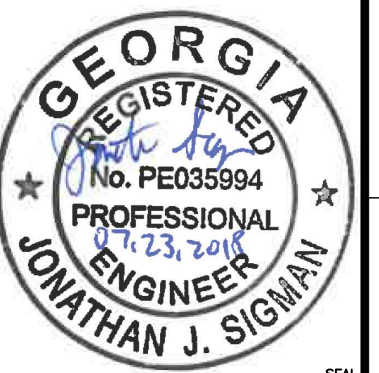
1. FILL 21" LONG X $\frac{1}{8}$ " WIDE CRACK WITH EPOXY. SEE PHOTO 1
2. TIGHTEN ALL TIE RODS



THE CITY OF SAVANNAH
5515 ABERCORN STREET
SAVANNAH, GEORGIA 31405

COLLINS ENGINEERS, INC.
1481 DEAN FOREST ROAD, SUITE A
SAVANNAH, GEORGIA 31405
PH: (912) 790-0123

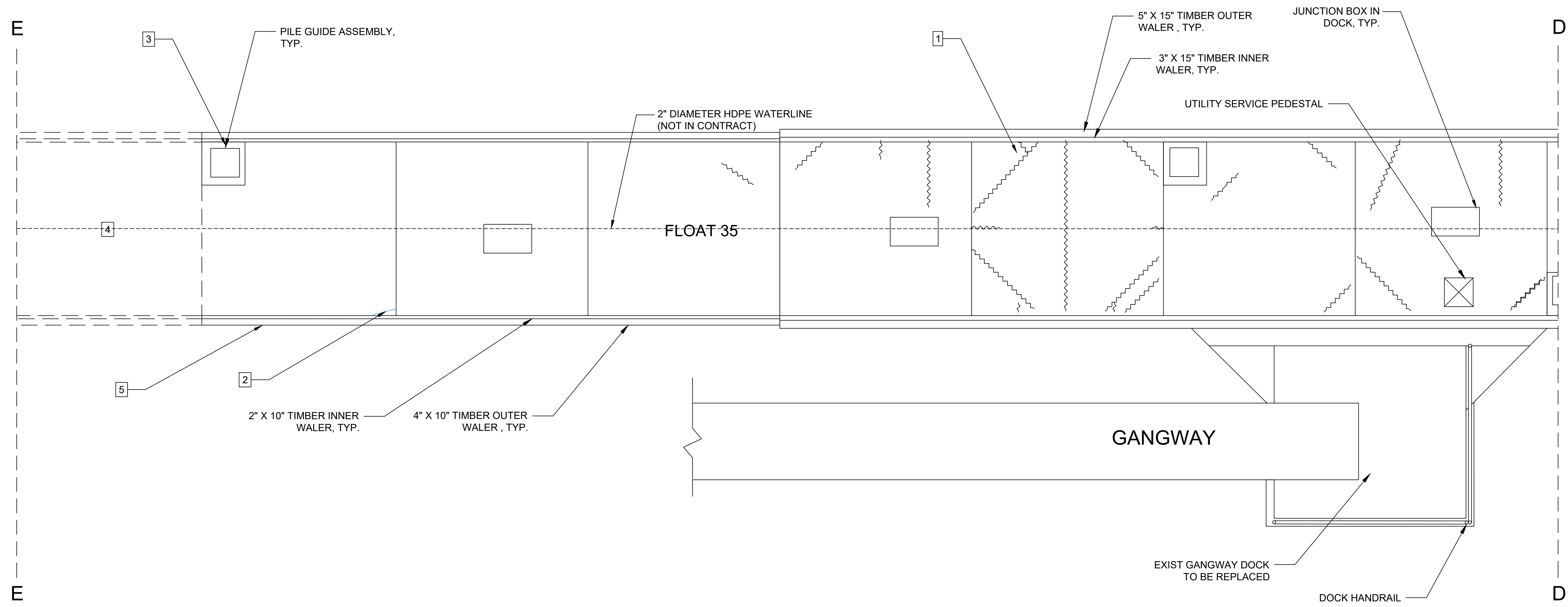
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CONTROL NUMBER: 0231955

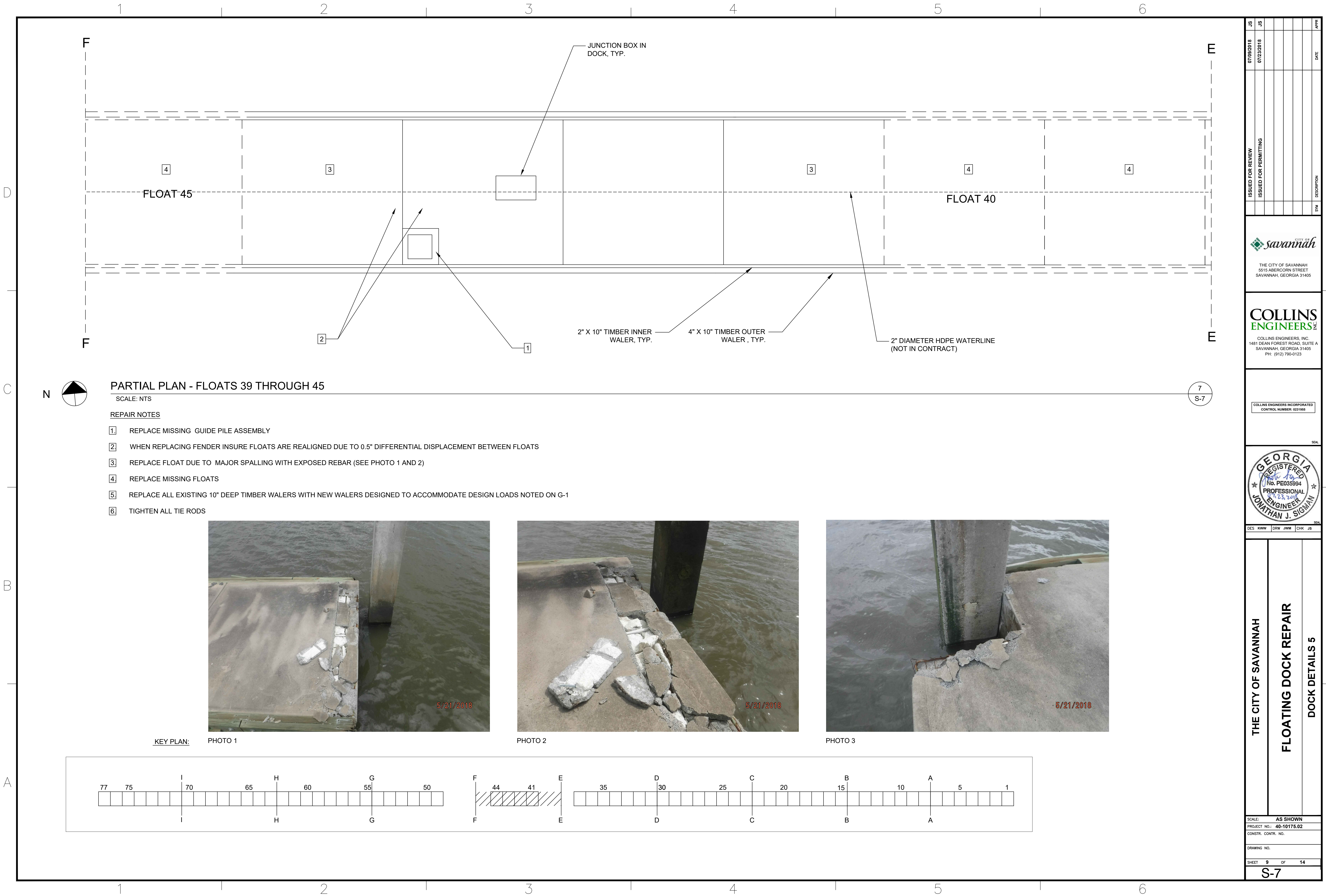


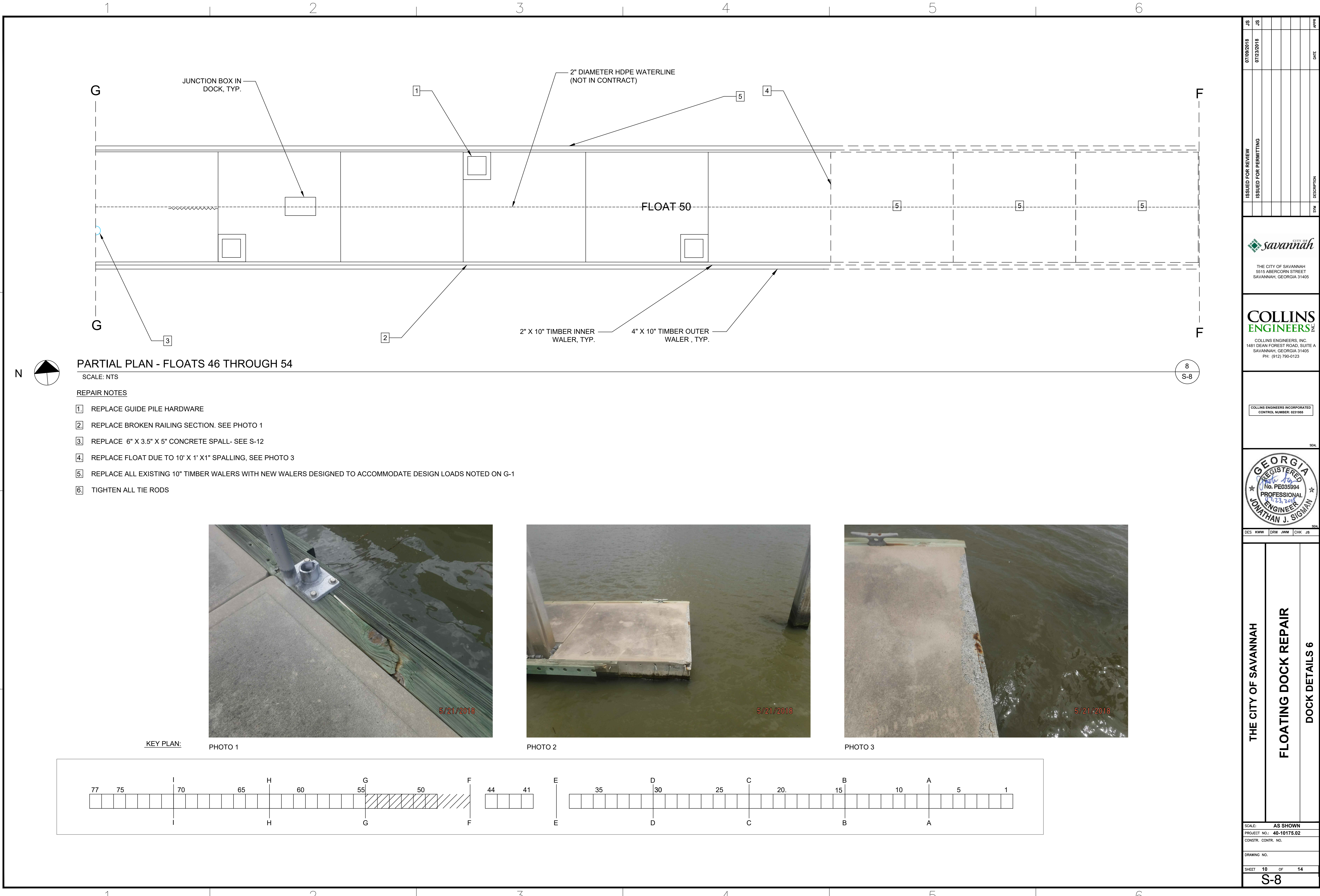
DES KWW	DRW JWM	CHK JS
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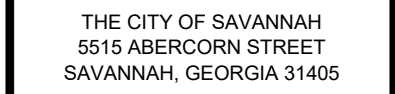
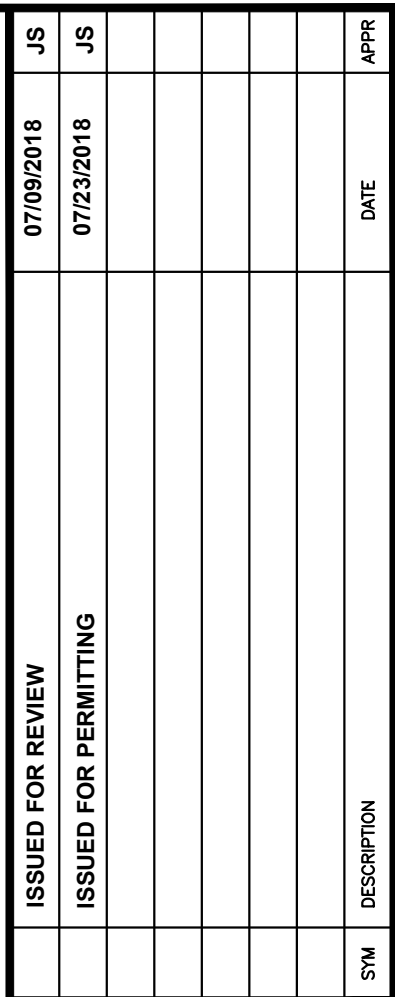
THE CITY OF SAVANNAH
FLOATING DOCK REPAIR
DOCK DETAILS 3

SCALE:	AS SHOWN	
PROJECT NO.:	40-10175.02	
CONSTR. CONTR. NO.		
DRAWING NO.		
SHEET	7	OF 14
S-5		

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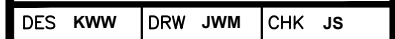






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1481 DEAN FOREST ROAD, SUITE A
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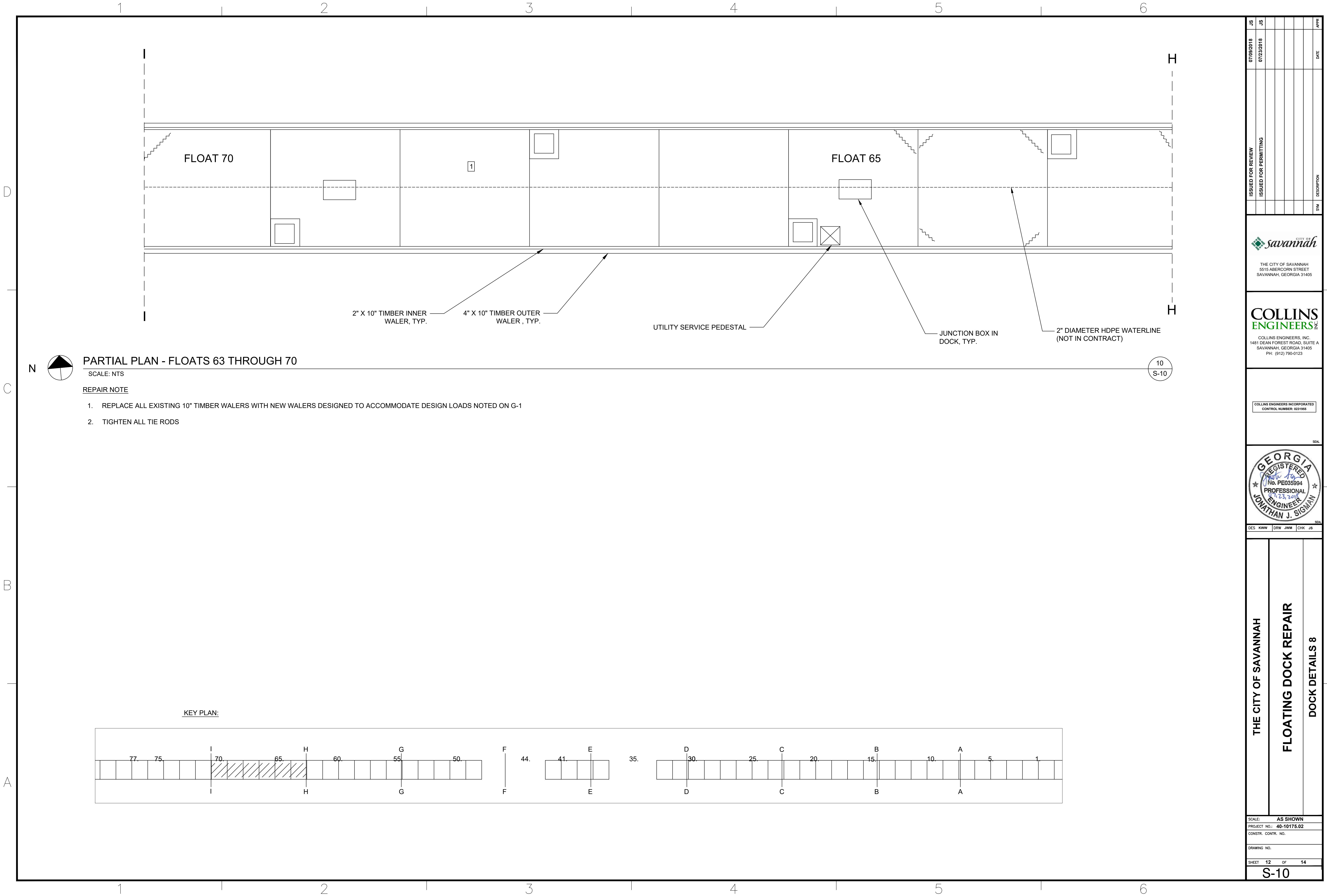
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CONTROL NUMBER: 0231955

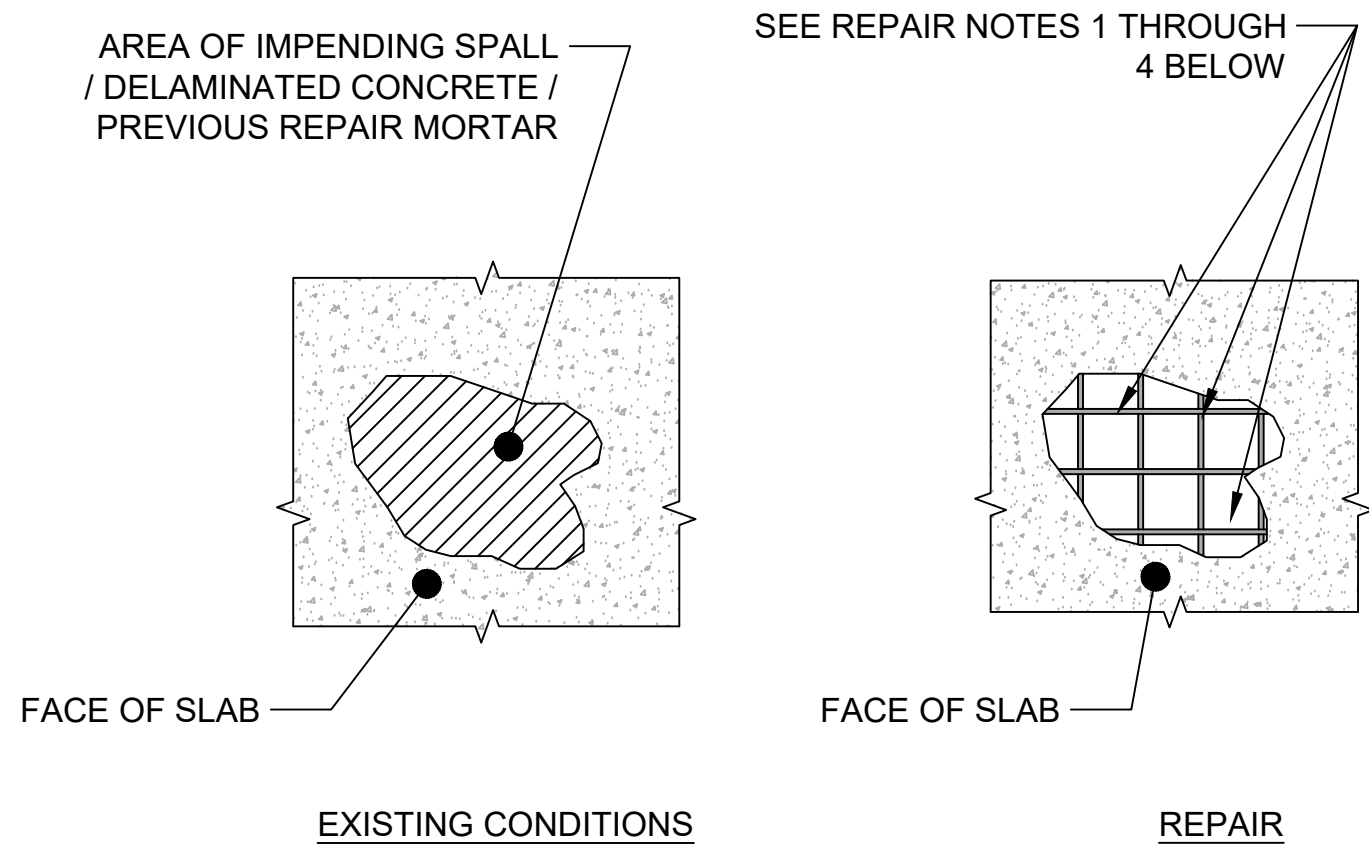


DOCK DETAILS 7

S-9

S-9





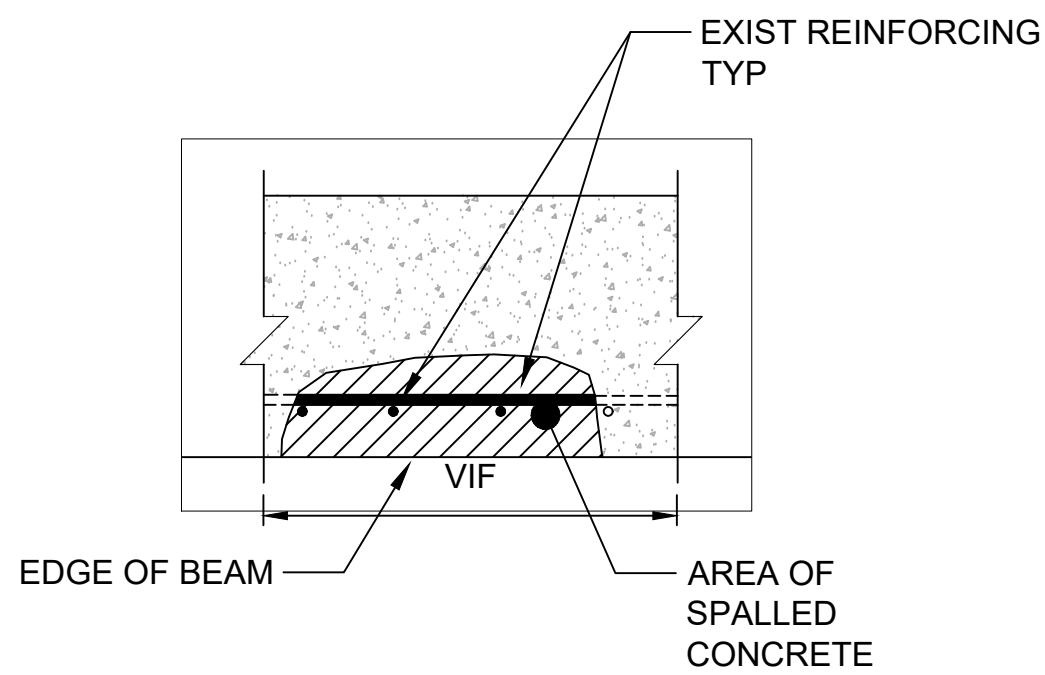
CONCRETE REPAIR NOTES

1. REMOVE AREA OF DELAMINATED CONCRETE, IMPENDING SPALL, AND PREV REPAIR MORTAR UNTIL SOUND CONCRETE IS EXPOSED OVER THE ENTIRE AREA. REMOVE TO A MIN DEPTH OF 1-IN OF CONC WITHIN THE AREA.
2. INSTALL STAINLESS STEEL CONCRETE REPAIR PINS SIMILAR TO HELIFIX PATCHPIN PER MANUFACTURER RECOMMENDATIONS.
3. APPLY PATCHING MORTAR SUCH AS BASF GEL PATCH, SIKA MONOTOP 615, OR APPROVED EQUAL. MINIMUM COVERAGE SHALL BE 2".
4. IF STEEL IS EXPOSED DURING CONCRETE REMOVAL, REMOVE A MINIMUM OF 3/4-IN OF CONCRETE BEHIND THE STEEL. CLEAN ALL EXPOSED STEEL WITH A WIRE BRUSH AND COAT WITH A PRIMER SUCH AS SIKA ARMATEC 110 EPOCEM OR APPROVED EQUAL BEFORE REPAIR.
5. WIRE BRUSH EXPOSED REINFORCING TO REMOVE ALL SURFACE CORROSION. IF REINFORCEMENT HAS LOST MORE THAN 20% OF ITS INITIAL SECTION, ADDITIONAL REINFORCEMENT MUST BE INSTALLED AND SPLICED TO THE EXISTING REINFORCING CONTACT ENGINEER IF THIS OCCURS TO REVIEW LENGTH OF BAR REQUIRED AND PROVIDE EMBEDMENT DETAILS.

CONCRETE REPAIR AT FACE OF CONCRETE FLOAT

SCALE: NTS

1
S-12

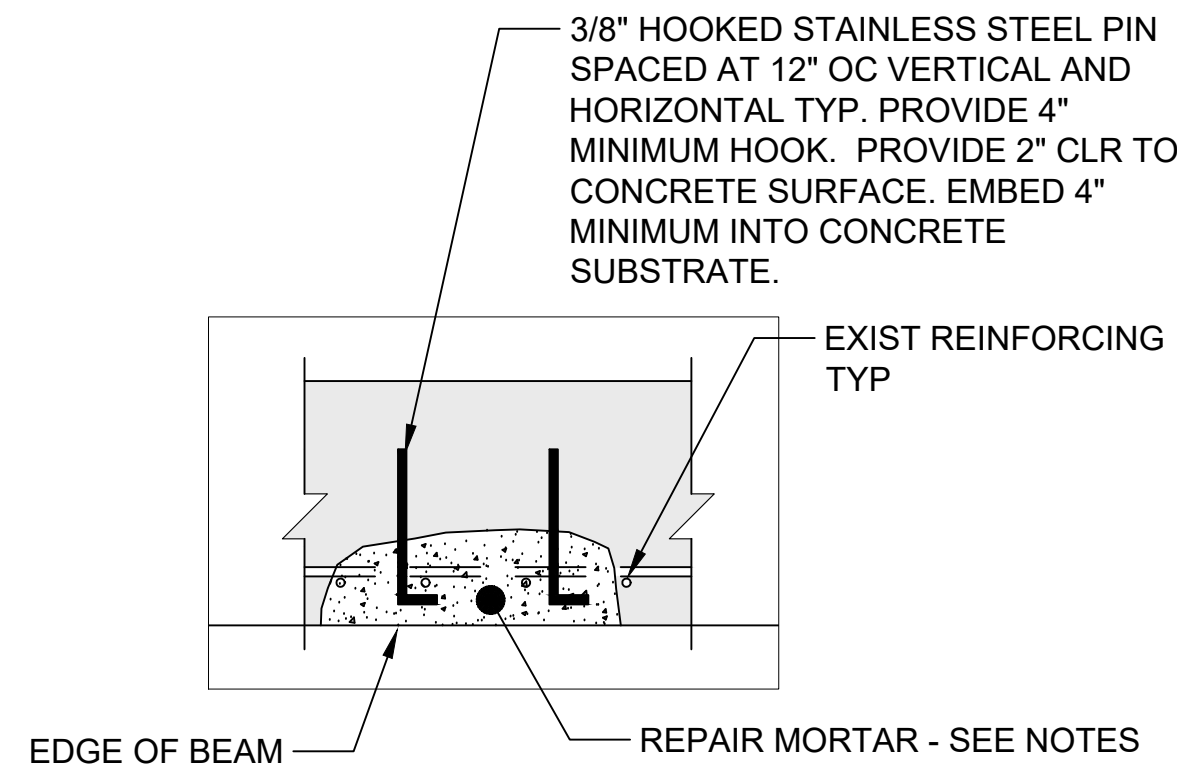


NOTES

1. REMOVE ALL LOOSE/DELAMINATED CONCRETE, SAW CUT PERIMETER OF REMOVED CONCRETE AREA
2. CHIP OUT CONCRETE TO A MINIMUM OF 3/4" AROUND ANY EXPOSED REINFORCING.
3. REMOVE CONCRETE ABOVE AND BELOW EXPOSED AREA AROUND REINFORCING. UNTIL NO/MINOR SURFACE CORROSION IS EVIDENT.
4. WIRE BRUSH EXPOSED REINFORCING TO REMOVE ALL SURFACE CORROSION. IF REINFORCEMENT HAS LOST MORE THAN 20% OF ITS INITIAL SECTION, ADDITIONAL REINFORCEMENT MUST BE INSTALLED AND SPLICED TO THE EXISTING REINFORCING. CONTACT ENGINEER IF THIS OCCURS TO REVIEW LENGTH OF BAR REQUIRED AND PROVIDE EMBEDMENT DETAILS.

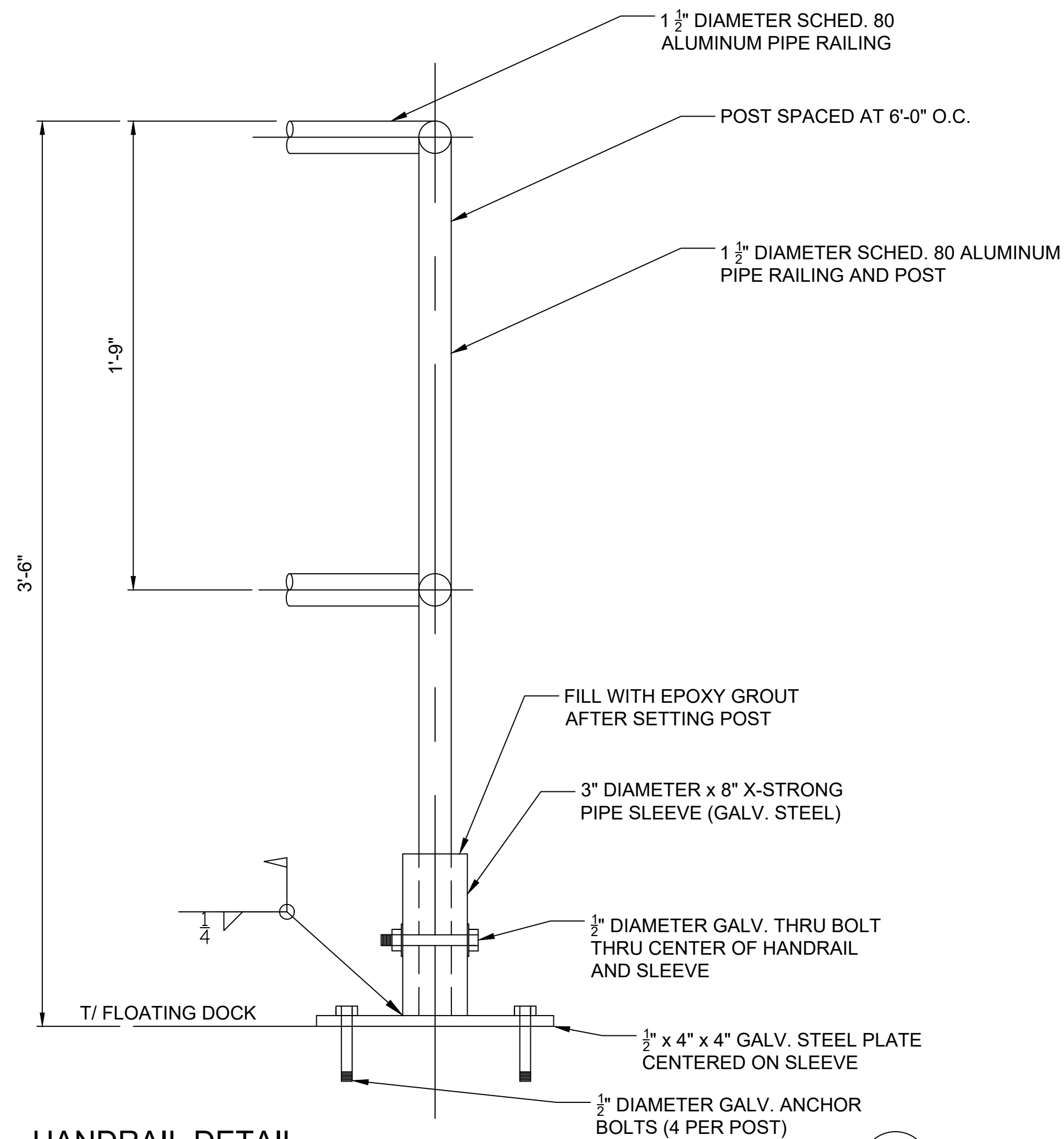
CONCRETE REPAIR AT EDGE OF CONCRETE FLOAT

SCALE: NTS



REPAIR NOTES

1. COAT ALL EXPOSED STEEL REINFORCING WITH SIKA ARMATEC EPOCEM. CLEAN SURFACES PRIOR TO APPLICATION AND APPLY PER MANUFACTURER INSTRUCTIONS.
2. INSTALL 3/8" DIA HOOKED STEEL PINS AT 12" OC MAX, EPOXY EMBED PINS 4" MIN INTO EXIST CONCRETE. PINS SHOULD BE INSTALLED PERPENDICULAR TO DIRECTION OF EXPOSED CONCRETE SURFACE.
3. REPLACE CONCRETE. WITH BASF MASTEREMACO S 440 (FORMERLY LA40) REPAIR MORTAR OR EQUIVALENT APPROVED BY ENGINEER AND CITY OF CHARLESTON. INSTALL PER MANUFACTURER RECOMMENDATIONS. MINIMUM COVERAGE SHALL BE 2 1/2".



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ISSUED FOR REVIEW	ISSUED FOR PERMITTING	SYN	DESCRIPTION	DATE	APPR
07/09/2018	07/23/2018				



COLLINS ENGINEERS INCORPORATED
CONTROL NUMBER: 9231955



DES KWW | DRW JWM | CHK JS

THE CITY OF SAVANNAH
FLOATING DOCK REPAIR
REPAIRS AND DETAILS

SCALE: AS SHOWN
PROJECT NO.: 40-10175.02
CONSTR. CONTR. NO.
DRAWING NO.
SHEET 14 OF 14
S-12