

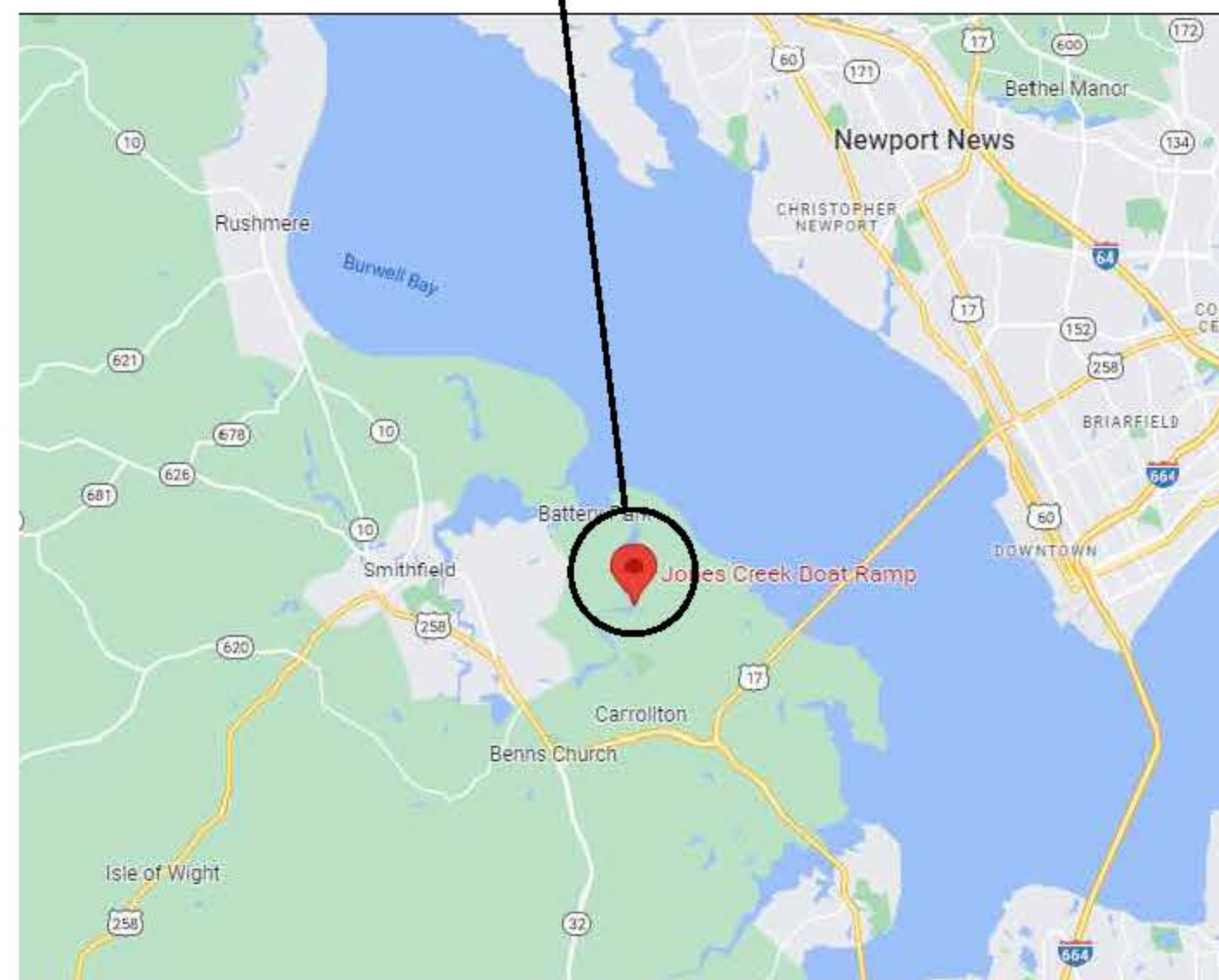
ISLE OF WIGHT COUNTY JONES CREEK BOAT RAMP PIER REPAIRS CARROLLTON, VIRGINIA

JULY 2023

PREPARED BY:

**COLLINS
ENGINEERS** INC

PROJECT LOCATION



VICINITY MAP

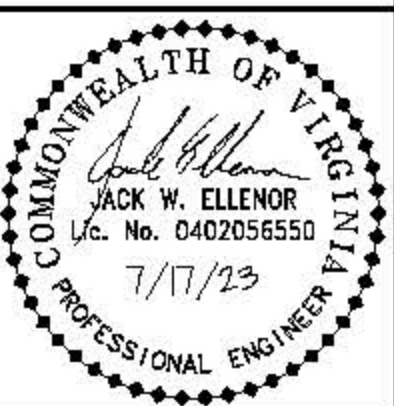
DRAWING INDEX		
SHEET NO.	DRAWING NO.	TITLE
1 OF 15	T01	TITLE SHEET
2 OF 15	G01	GENERAL NOTES
3 OF 15	S01	EXISTING PLAN
4 OF 15	S02	DEMOLITION PLAN
5 OF 15	S03	DEMOLITION SECTION
6 OF 15	S04	INTERMEDIATE PIER FLOATING DOCK DEMOLITION
7 OF 15	S05	NORTH AND INTERMEDIATE PIER WORK PLAN
8 OF 15	S06	SOUTH PIER WORK PLAN
9 OF 15	S07	NORTH AND INTERMEDIATE REPAIR DETAILS AND SECTIONS
10 OF 15	S08	SOUTH REPAIR DETAILS AND SECTIONS
11 OF 15	S09	FENDERING REPAIR DETAILS AND SECTIONS
12 OF 15	S10	PIER TRANSITION DETAILS AND SECTIONS
13 OF 15	S11	FLOATING DOCK REPAIR WORK PLAN
14 OF 15	S12	NON-STRUCTURAL WRAP DETAIL AND LADDER DETAIL
15 OF 15	S13	PILE STRUCTURAL REPAIR DETAIL

PROJECT LOCATION



LOCATION MAP

ISSUED FOR CONSTRUCTION



SCOPE OF WORK:

WORK CONSISTS OF DEMOLITION OF IDENTIFIED AREAS AND STRUCTURAL COMPONENTS, REPAIR OF IDENTIFIED STRUCTURAL MEMBERS AND REPLACE IDENTIFIED DEFICIENT STRUCTURAL MEMBERS. ADDITIONALLY, A CONCRETE TRANSITION PATCH SHALL BE INSTALLED BETWEEN THE TIMBER DOCKS AND THE CONCRETE RAMP.

DESIGN REFERENCES:

- AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE/SEI 7-16)
- UNITED FACILITIES CRITERIA – DESIGN: PIERS AND WHARVES (UFS 4-152-01)
- AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC)
- AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

DESIGN LOADS:

1. VERTICAL DEAD LOAD: DEAD LOAD CONSISTS OF ACTUAL WEIGHT OF THE STRUCTURE AND EQUIPMENT.
2. VERTICAL LIVE LOADS = 100 PSF

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PERMITTING PRIOR TO THE BEGINNING OF WORK.
2. CONTRACTOR SHALL COMPLY WITH CITY, STATE, AND FEDERAL AUTHORITIES EROSION CONTROL MEASURES AND REGULATIONS CONCERNING WORKING IN THE VICINITY OF WETLANDS. ALL COSTS FOR ALL EROSION CONTROL MEASURES MUST BE INCLUDED BY THE CONTRACTOR. OWNER SHALL BE RESPONSIBLE FOR ALL FEES AND COSTS ASSOCIATED WITH THE VIRGINIA MARINE RESOURCE COMMISSION'S JOINT PERMIT APPLICATION (JPA) ACQUISITION AS WELL AS LOCAL WETLAND BOARD'S REQUIREMENTS AND FEES.
3. ANY FUEL, OIL, PAINT OR HAZARDOUS MATERIALS SHOULD BE STORED IN A SECONDARY CONTAINER.
4. COST OF ALL REQUIRED, PERMITS, CITY, STATE OR FEDERAL GOVERNMENT IS THE RESPONSIBILITY OF THE OWNER.
5. CONTRACTOR TO PROVIDE AND PAY FOR ALL UTILITIES REQUIRED FOR CONSTRUCTION OPERATIONS.
6. CONTRACTOR SHALL COORDINATE ALL ACTIVITIES AND SCHEDULES WITH THE OWNER PRIOR TO CONSTRUCTION.
7. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH STRUCTURAL CONDITIONS OF THE EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE STRUCTURES. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR PROPER ERECTION OF STRUCTURAL MEMBERS.
8. ALL DIMENSIONS AND STATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE.
9. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AS INDICATED IN DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
10. THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S DATA OF ALL MATERIAL FOR OWNER APPROVAL PRIOR TO CONSTRUCTION.
11. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS.
12. ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED.
13. ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL PROTECTION STANDARDS, LAWS AND REGULATIONS ARE TO BE STRICTLY FOLLOWED.
14. MATERIALS SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE NOTED.
15. STRUCTURAL STEEL ANGLE SHALL BE HOT DIPPED GALVANIZED.

TIMBER:

1. TIMBER SHALL BE SOUTHERN PINE TREATED WITH ACZA OR CCA IN ACCORDANCE WITH AWWA (USE CATEGORY SYSTEM STANDARD U1-10, COMMODITY SPECIFICATION G) AND T1-06 8.7 MARINE SALT WATER APPLICATIONS FOR MARINE PILING. PRESERVATIVE RETENTION SHALL BE 2.50 POUNDS PER CUBIC FOOT.
2. ALL SAWCUTS AND HOLES SHALL BE TREATED WITH WOOD PRESERVATIVE, IN ACCORDANCE WITH THE NOTE ABOVE.
3. OGEE WASHERS SHALL BE USED UNDER ALL BOLT HEADS AND NUTS IN CONTACT WITH WOOD.
4. BOLTS SHALL BE ASTM A307 AND ALL HARDWARE SHALL BE HOT-DIPPED GALVANIZED.
5. PILE PREVENTIVE WRAPS SHALL BE "PILING WRAP" BY DOCK BUILDERS SUPPLY OR APPROVED EQUAL. INSTALLATION AND HANDLING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. REFER TO SHEET S12 FOR PILE STRUCTURAL REPAIR AND NOTES.

LADDER:

1. NEW LADDERS SHALL BE ALUMINUM "STRAIGHT DOCK LADDER" BY WEST MARINE OR APPROVED EQUAL MEETING ALL SPECIFICATIONS IN THIS SECTION.
2. STAIR ANCHORING SHALL BE FOUR 4½" LONG LAG BOLTS.
3. LADDER TREADS AND STRINGER SHALL BE CAPABLE OF WITHSTANDING A SINGLE CONCENTRATED 300 POUND LOAD WITHOUT PERMANENT DEFORMATION.

SUBMITTALS:

PRIOR TO THE BEGINNING OF WORK, THE CONTRACTOR SHALL SUBMIT TO THE OWNER/ENGINEER FOR REVIEW AND APPROVAL THE FOLLOWING SUBMITTALS:

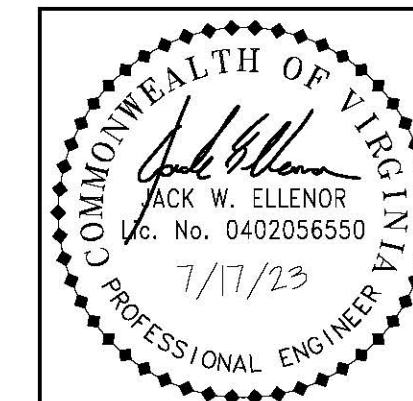
- * WASTE MANAGEMENT PLAN
- * SURVEY AND PROPOSED ELEVATIONS AND LAYOUT
- * TIMBER BEAMS AND CROSS BRACING
- * TIMBER OR COMPOSITE DECKING
- * CONCRETE MIX
- * WIRE REINFORCING
- * CONCRETE ANCHORS

WATER DATUMS:

ALL WATER ELEVATIONS REFERENCED FROM NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), STATION 8638610, SEWELLS POINT, VA.

DATUM	VALUE	DESCRIPTION
MHHW	1.15	MEAN HIGHER-HIGH WATER
MHW	0.95	MEAN HIGH WATER
NAVD88	0.00	NORTH AMERICAN VERTICAL DATUM OF 1988
MSL	-0.25	MEAN SEA LEVEL
MLW	-1.48	MEAN LOW WATER
MLLW	-1.61	MEAN LOWER-LOW WATER

ISSUED FOR CONSTRUCTION



LOW ATCS JONES CREEK PIER REPAIRS

COLLINS ENGINEERS 745 BLUECRAB RD, SUITE B
NEWPORT NEWS, VA 23606
757-873-0251
WWW.COLLINSENGR.COM

DESIGNED BY:	D. MARTINEZ	SCALE:	AS NOTED	PROJECT NO.:	13932
DRAWN BY:	J. AMOR	DRAWING NO.:	G01	SHEET NO.:	2 OF 15
CHECKED BY:	J. ELLENOR	DATE:	JULY 2023		

REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

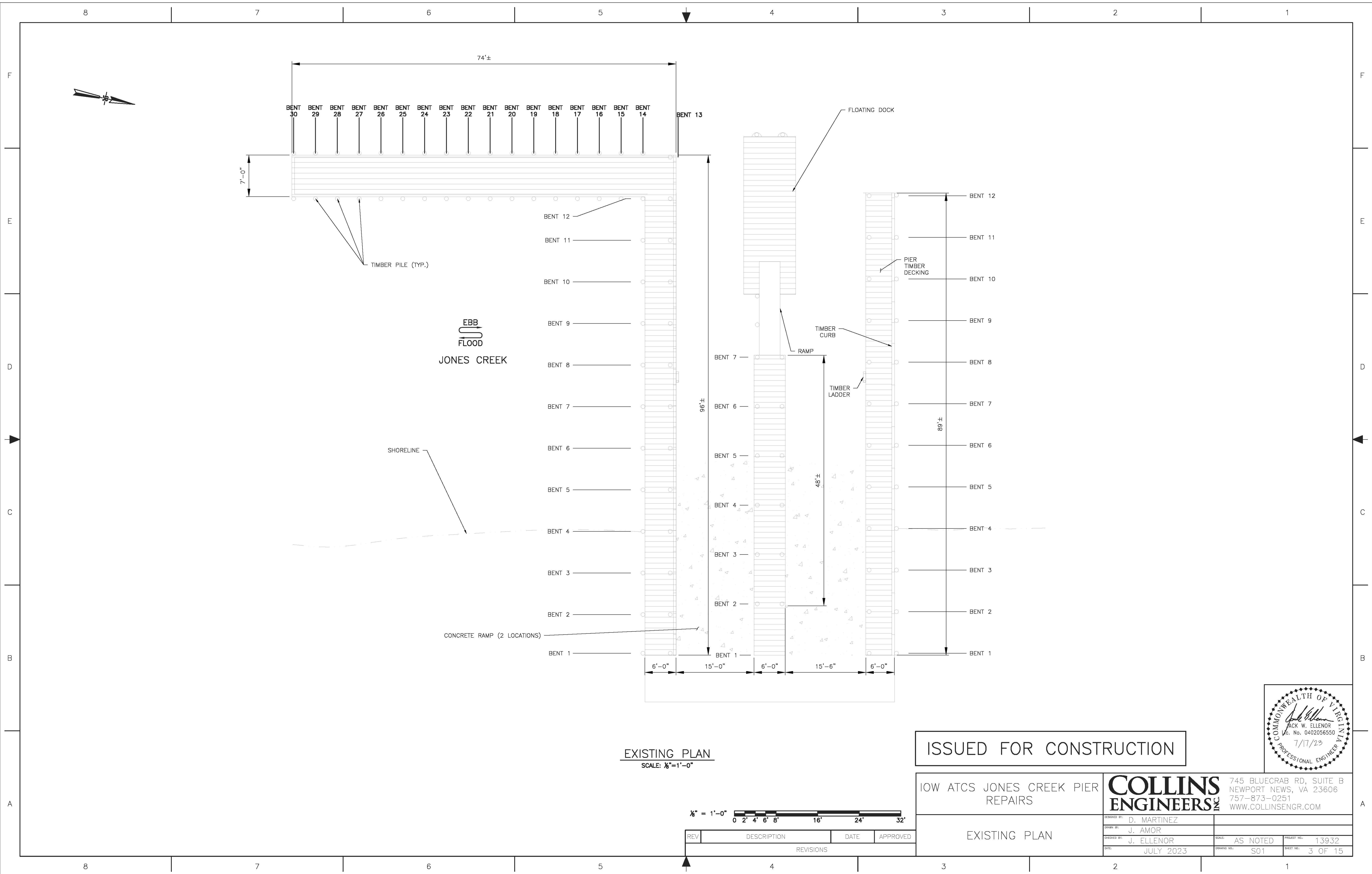
GENERAL NOTES

F
E
D
C
B
A

F
E
D
C
B
A

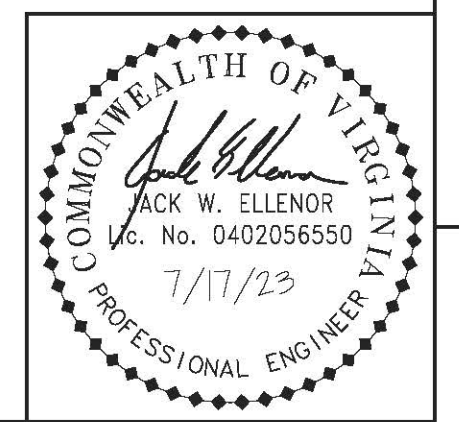
8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1



EXISTING PLAN
SCALE: 1/8" = 1'-0"

ISSUED FOR CONSTRUCTION



LOW ATCS JONES CREEK PIER REPAIRS
COLLINS ENGINEERS
745 BLUECRAB RD, SUITE B
NEWPORT NEWS, VA 23606
757-873-0251
WWW.COLLSINSENGR.COM

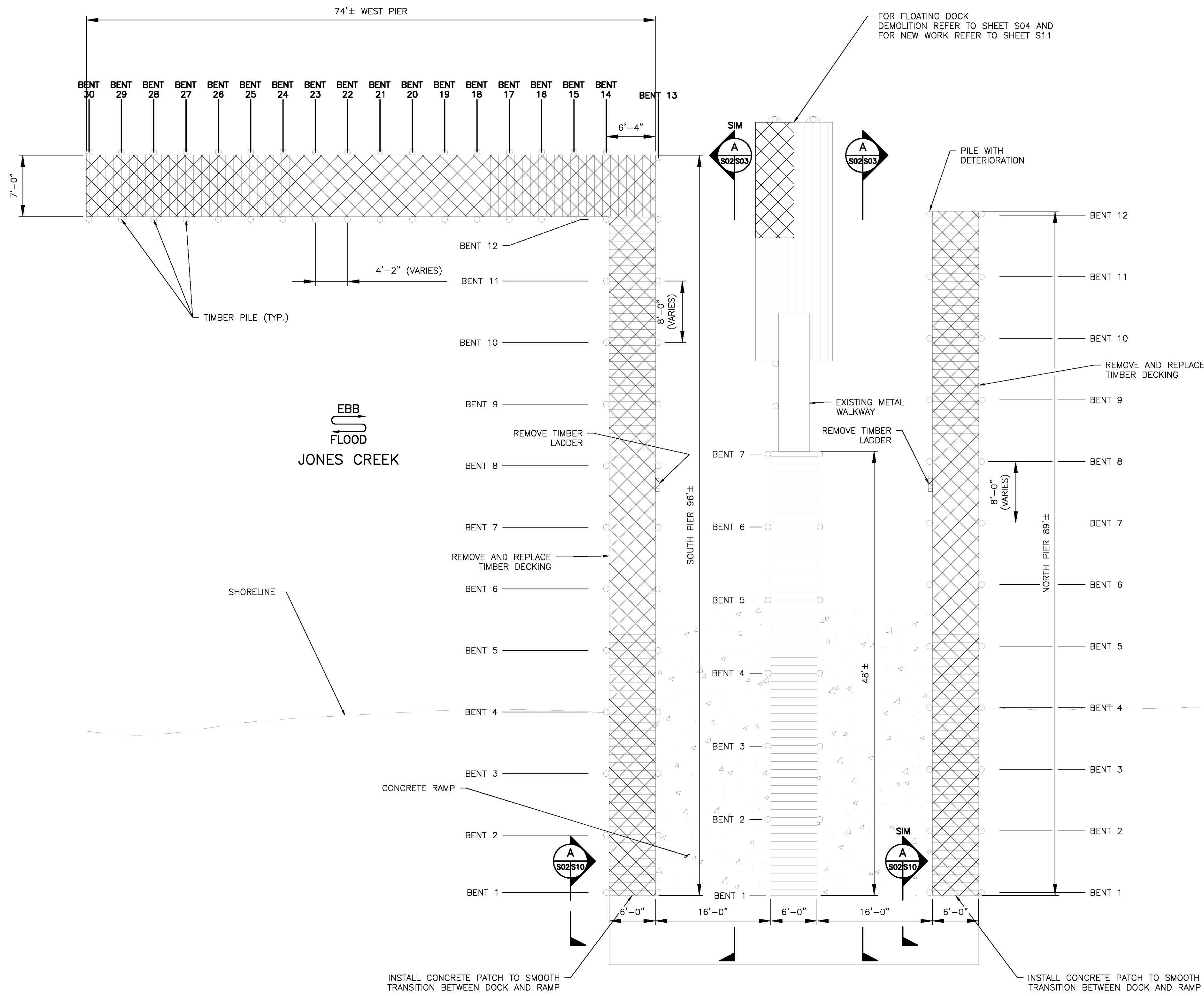


REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

EXISTING PLAN		DESIGNED BY: D. MARTINEZ	SCALE: AS NOTED	PROJECT NO: 13932
		DRAWN BY: J. AMOR	DRAWING NO: S01	SHEET NO: 3 OF 15
		CHECKED BY: J. ELLENOR		
		DATE: JULY 2023		

8 7 6 5 4 3 2 1

F E D C B A



LEGEND:

AREA OF DEMOLITION

DEMOLITION PLAN

SCALE: 1/8"=1'-0"



REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

ISSUED FOR CONSTRUCTION

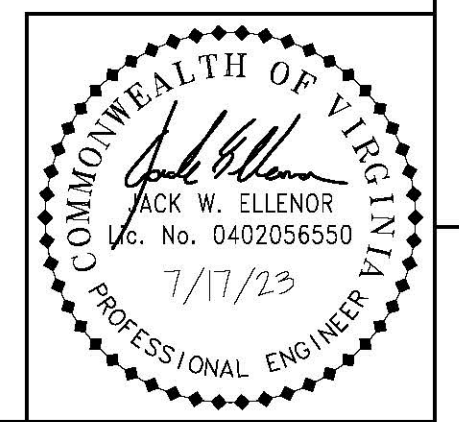
LOW ATCS JONES CREEK PIER REPAIRS

DEMOLITION PLAN

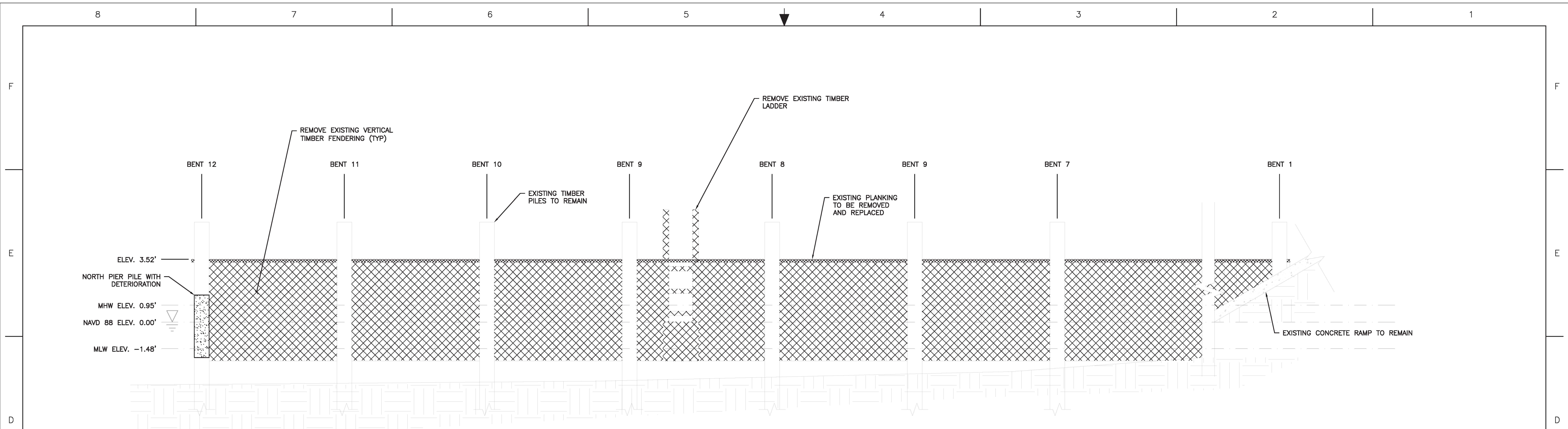
COLLINS ENGINEERS

745 BLUECRAB RD, SUITE B
NEWPORT NEWS, VA 23606
757-873-0251
WWW.COLLINSSENGR.COM

DESIGNED BY: D. MARTINEZ	SCALE: AS NOTED	PROJECT NO: 13932
DRAWN BY: J. AMOR	DRAWING NO: S02	SHEET NO: 4 OF 15
CHECKED BY: J. ELLENOR	DATE: JULY 2023	



8 7 6 5 4 3 2 1



DEMOLITION SECTION
 SCALE: 3/8" = 1'-0"
 A
 S02/S03

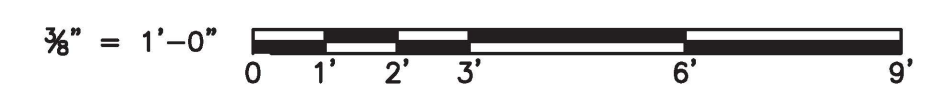


NORTH PIER FENDERING
SCALE: NTS



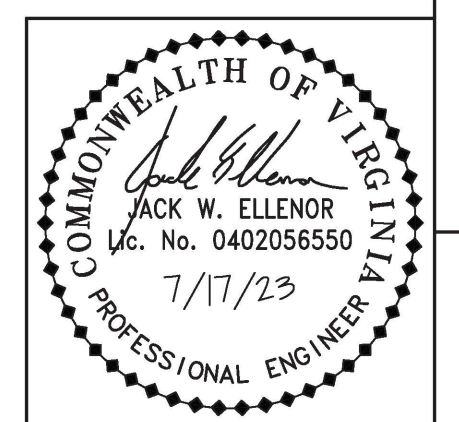
SOUTH PIER FENDERING
SCALE: NTS

LEGEND:
 AREA OF DEMOLITION



REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

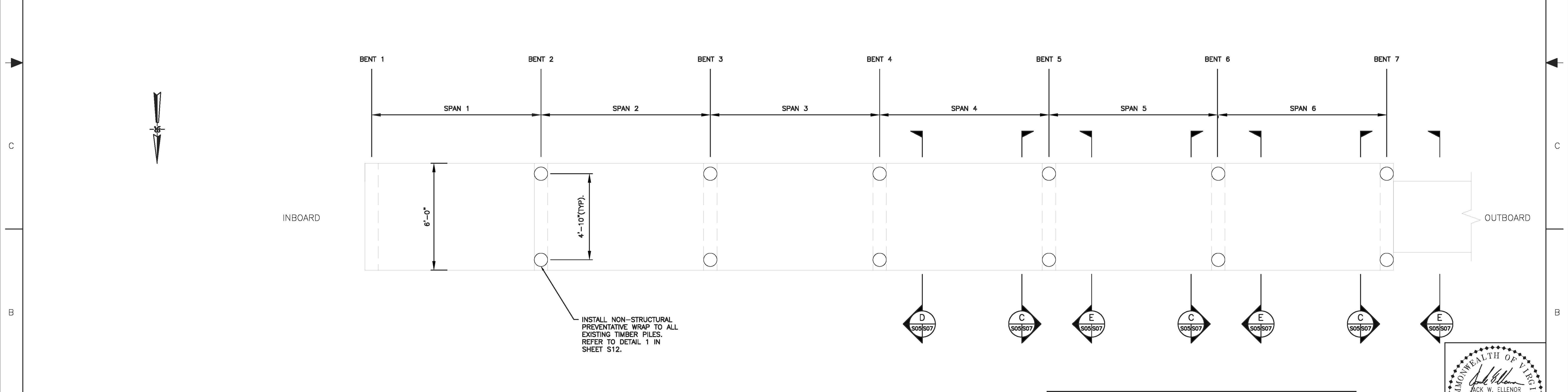
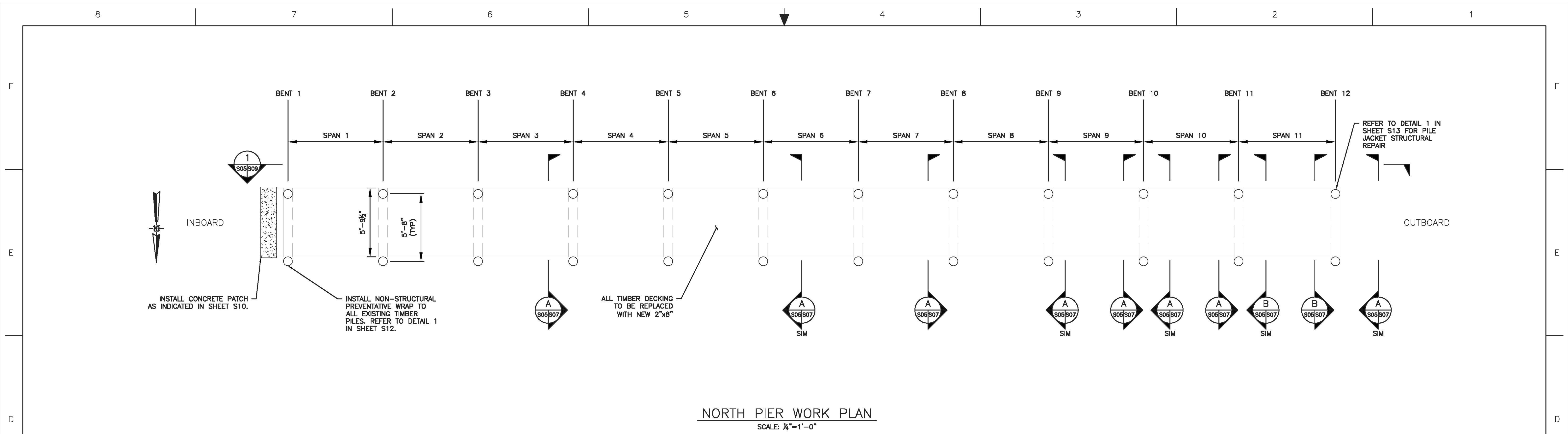
ISSUED FOR CONSTRUCTION



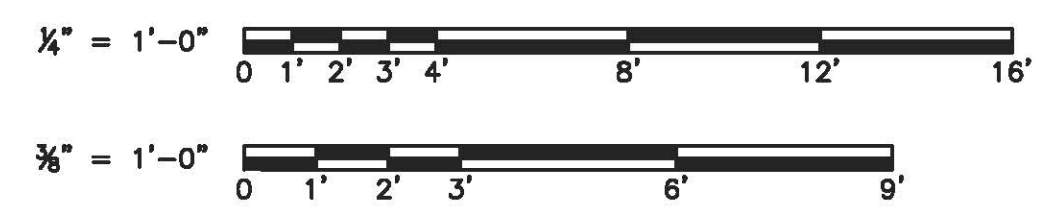
IOW ATCS JONES CREEK PIER REPAIRS

COLLINS ENGINEERS
 745 BLUECRAB RD, SUITE B
 NEWPORT NEWS, VA 23606
 757-873-0251
 WWW.COLLINSENGR.COM

<p style="text-align: center; font-weight: bold;">DEMOLITION SECTION</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">DESIGNED BY:</td> <td>D. MARTINEZ</td> <td style="font-size: 8px;">SCALE:</td> <td>AS NOTED</td> <td style="font-size: 8px;">PROJECT NO.:</td> <td>13932</td> </tr> <tr> <td style="font-size: 8px;">DRAWN BY:</td> <td>J. AMOR</td> <td style="font-size: 8px;">DRAWING NO.:</td> <td>S03</td> <td style="font-size: 8px;">SHEET NO.:</td> <td>5 OF 15</td> </tr> <tr> <td style="font-size: 8px;">CHECKED BY:</td> <td>J. ELLENOR</td> <td style="font-size: 8px;">DATE:</td> <td>JULY 2023</td> <td></td> <td></td> </tr> </table>	DESIGNED BY:	D. MARTINEZ	SCALE:	AS NOTED	PROJECT NO.:	13932	DRAWN BY:	J. AMOR	DRAWING NO.:	S03	SHEET NO.:	5 OF 15	CHECKED BY:	J. ELLENOR	DATE:	JULY 2023		
DESIGNED BY:	D. MARTINEZ	SCALE:	AS NOTED	PROJECT NO.:	13932														
DRAWN BY:	J. AMOR	DRAWING NO.:	S03	SHEET NO.:	5 OF 15														
CHECKED BY:	J. ELLENOR	DATE:	JULY 2023																



- REPAIR SECTIONS:**
- A-A: BENT REPLACEMENT (NORTH PIER)
 - B-B: CROSS BRACING AND BEAM REPLACEMENT (NORTH PIER)
 - C-C: BENT REPLACEMENT (INTERMEDIATE PIER)
 - D-D: CROSS BRACING REPLACEMENT (INTERMEDIATE PIER)
 - E-E: CROSS BRACING AND BEAM REPAIR



REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

ISSUED FOR CONSTRUCTION

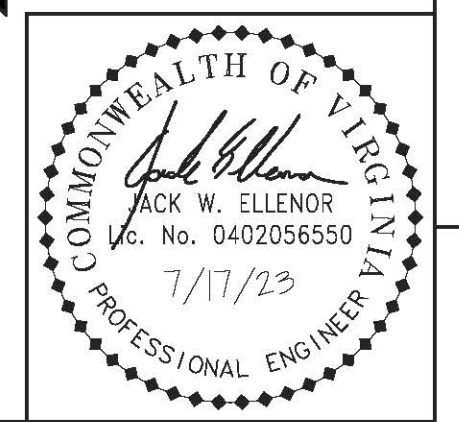
LOW ATCS JONES CREEK PIER REPAIRS

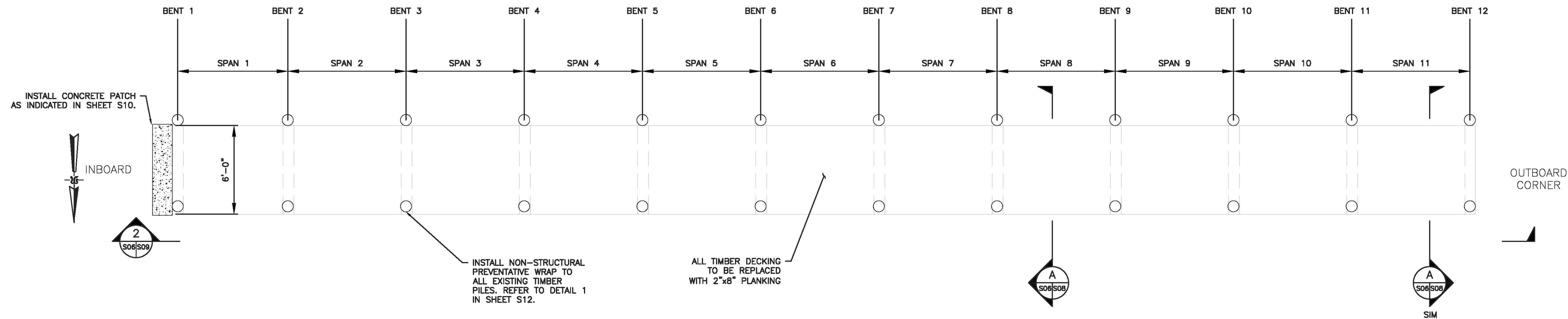
NORTH PIER AND INTERMEDIATE PIER WORK PLAN

COLLINS ENGINEERS
745 BLUECRAB RD, SUITE B
NEWPORT NEWS, VA 23606
757-873-0251
WWW.COLLSINSENGR.COM

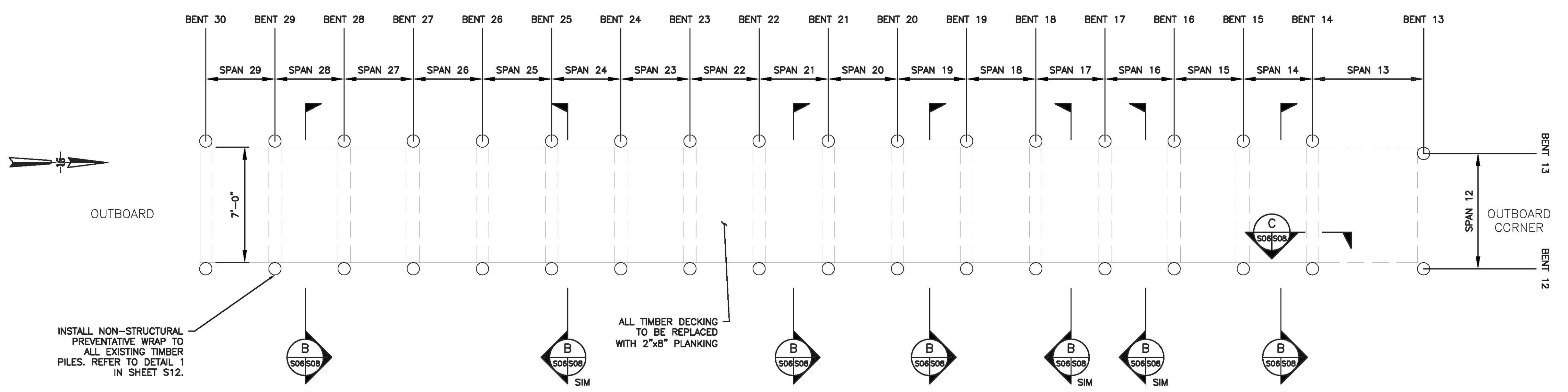
DESIGNED BY: D. MARTINEZ
 DRAWN BY: J. AMOR
 CHECKED BY: J. ELLENOR
 DATE: JULY 2023

SCALE: AS NOTED
 SHEET NO.: S05
 PROJECT NO.: 13932
 SHEET NO.: 7 OF 15





SOUTH PIER WORK PLAN—BENTS 1 THRU 12
SCALE: 1/4"=1'-0"



SOUTH PIER WORK PLAN—BENTS 13 THRU 30
SCALE: 1/4"=1'-0"

- REPAIR SECTIONS:**
- A-A: BENT REPLACEMENT (BENTS 1-12)
 - B-B: BENT REPLACEMENT WITH NEW HANDRAILS (BENTS 13-30)
 - C-C: CORNER REPAIR



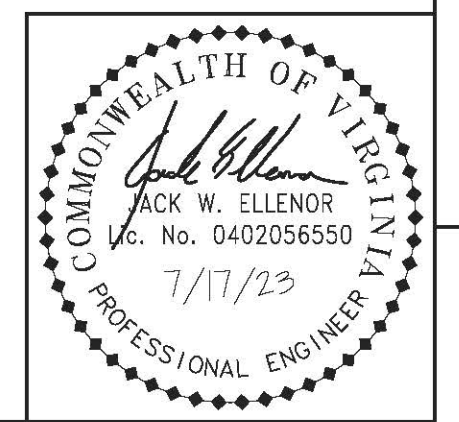
REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

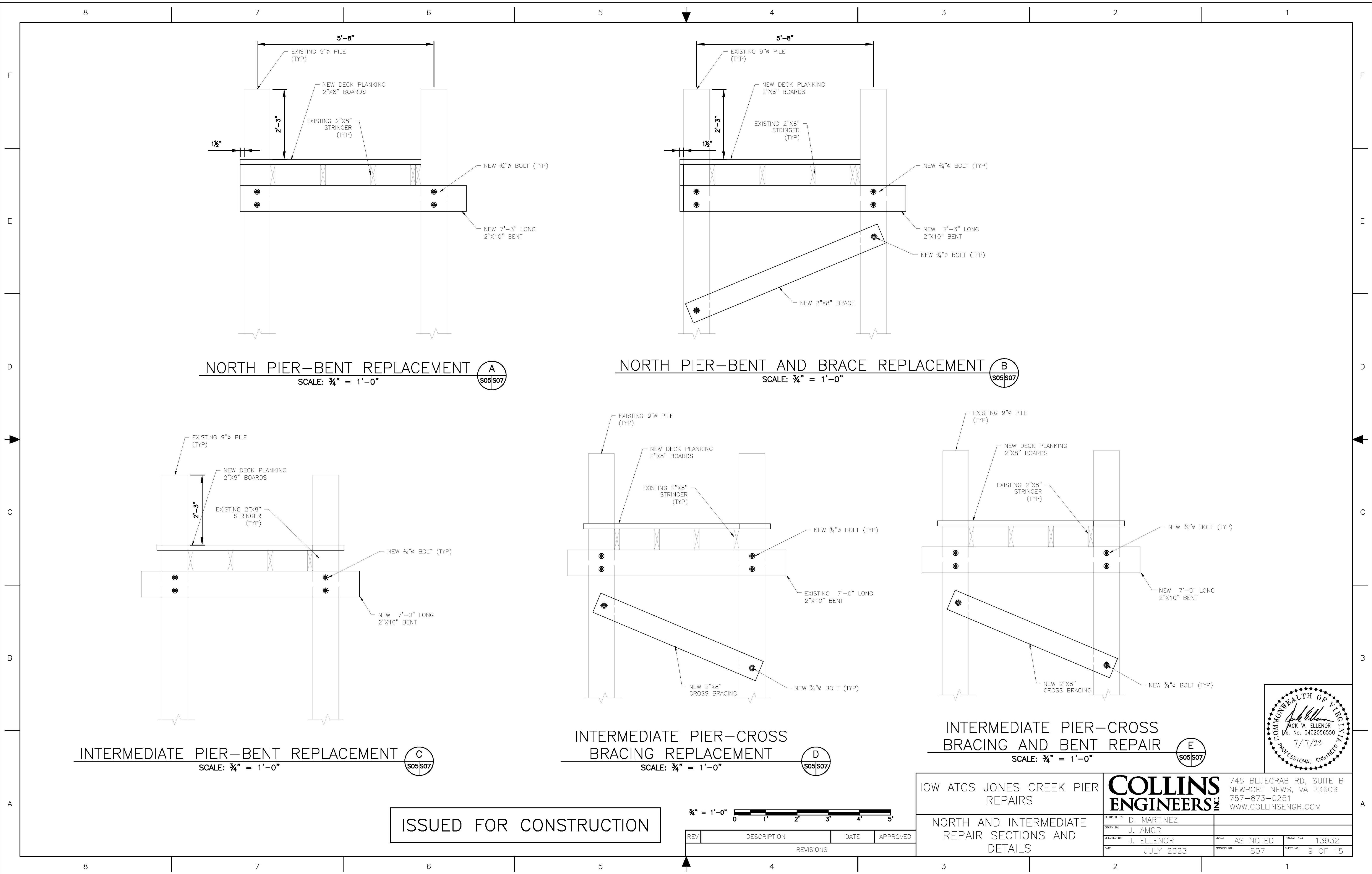
ISSUED FOR CONSTRUCTION

LOW ATCS JONES CREEK PIER
REPAIRS

SOUTH PIER WORK PLAN

COLLINS ENGINEERS		745 BLUECRAB RD, SUITE B NEWPORT NEWS, VA 23606 757-873-0251 WWW.COLLSINGR.COM	
DESIGNED BY:	D. MARTINEZ	SCALE:	AS NOTED
DRAWN BY:	J. AMOR	PRIOR PROJ. NO.:	13932
CHECKED BY:	J. ELLENOR	DRAWING NO.:	S06
DATE:	JULY 2023	SHEET NO.:	8 OF 15





NORTH PIER-BENT REPLACEMENT A
 SCALE: 3/4" = 1'-0"

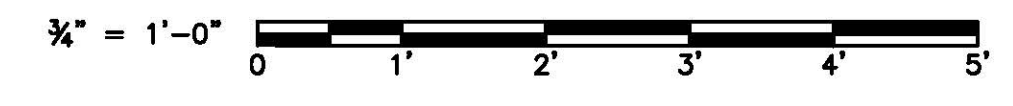
NORTH PIER-BENT AND BRACE REPLACEMENT B
 SCALE: 3/4" = 1'-0"

INTERMEDIATE PIER-BENT REPLACEMENT C
 SCALE: 3/4" = 1'-0"

INTERMEDIATE PIER-CROSS BRACING REPLACEMENT D
 SCALE: 3/4" = 1'-0"

INTERMEDIATE PIER-CROSS BRACING AND BENT REPAIR E
 SCALE: 3/4" = 1'-0"

ISSUED FOR CONSTRUCTION

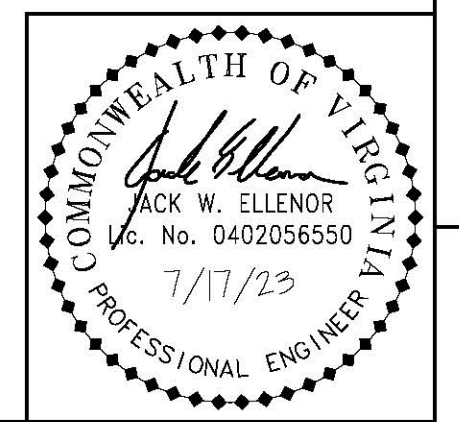


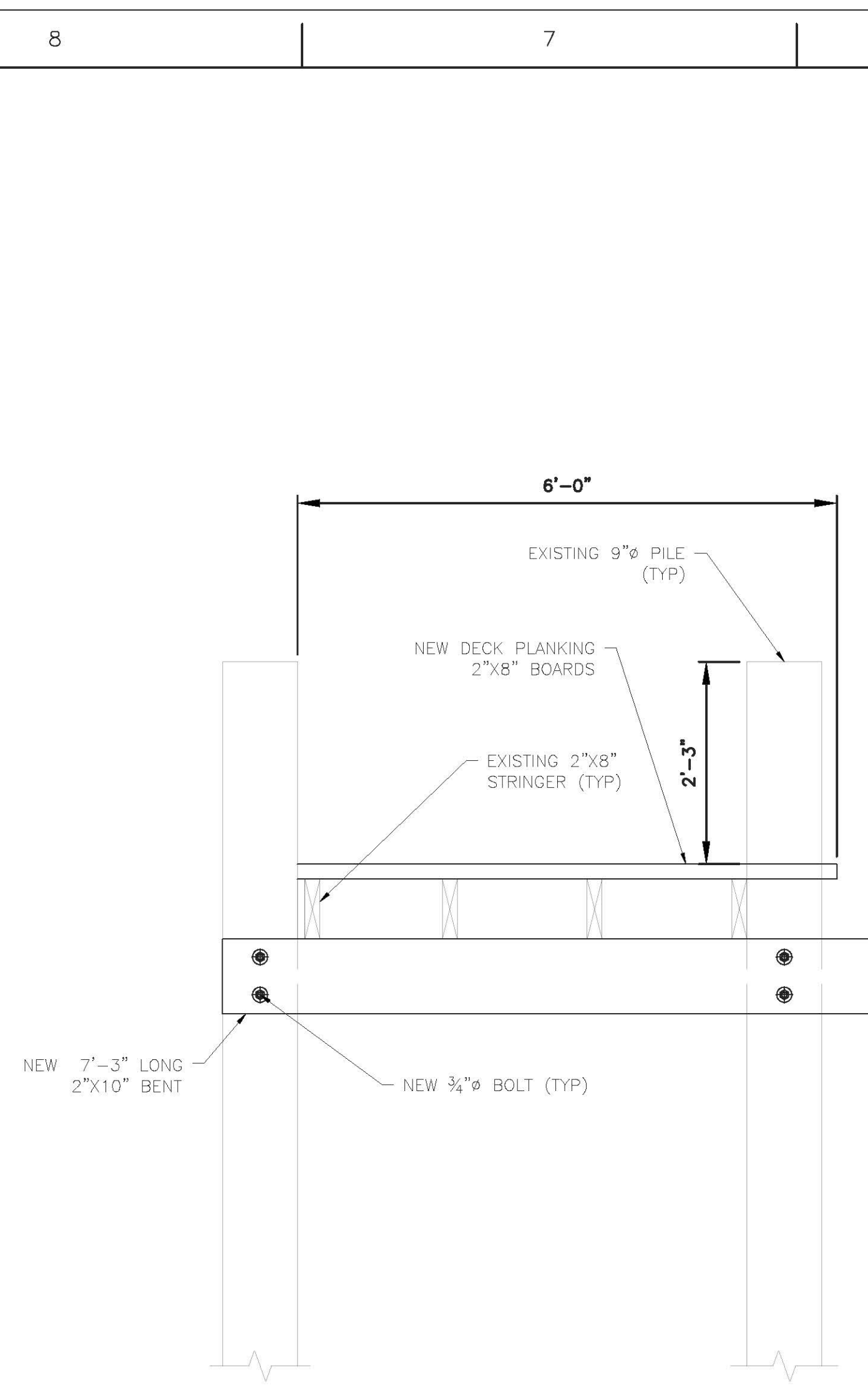
REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

IOW ATCS JONES CREEK PIER REPAIRS

NORTH AND INTERMEDIATE REPAIR SECTIONS AND DETAILS

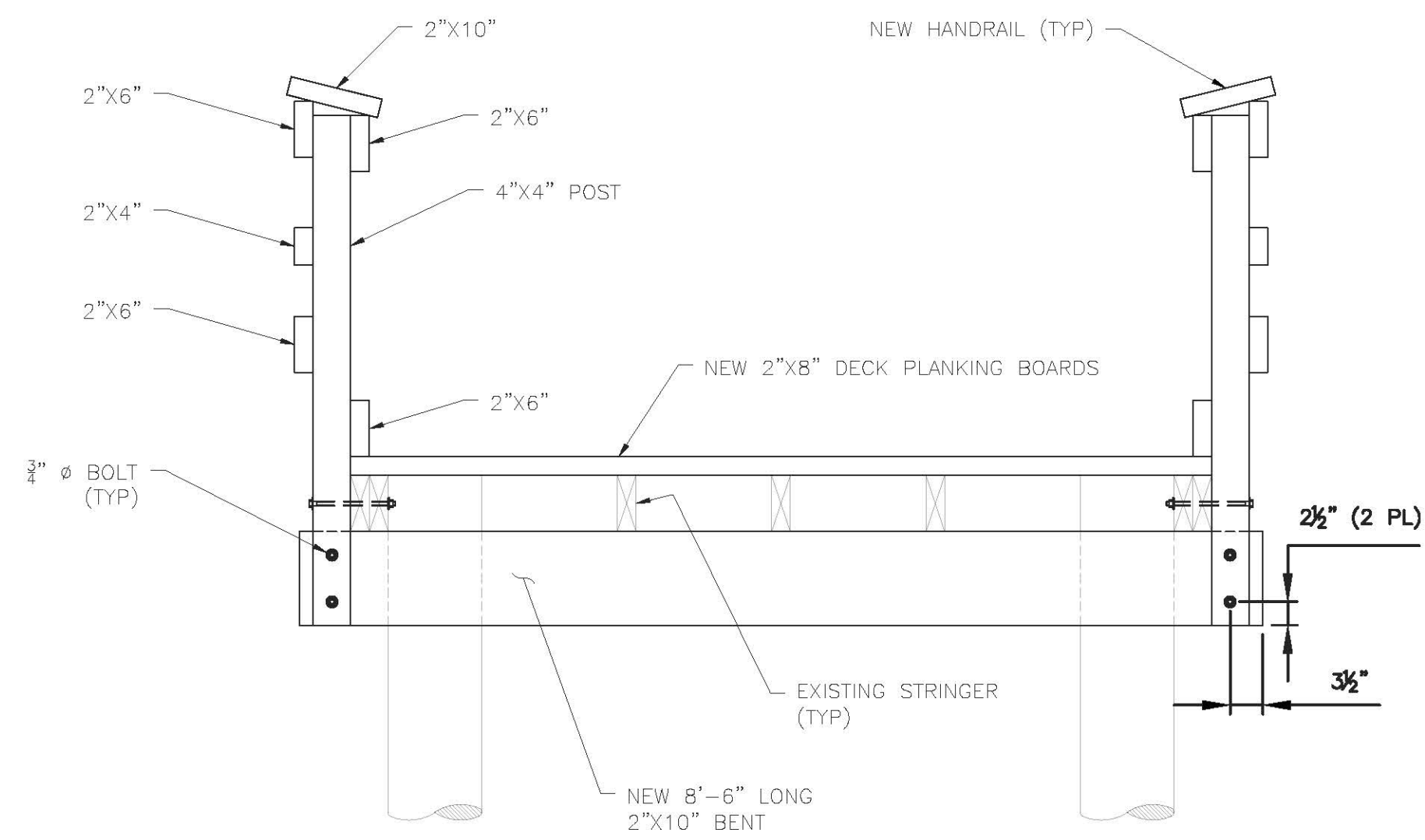
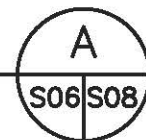
COLLINS ENGINEERS		745 BLUECRAB RD, SUITE B NEWPORT NEWS, VA 23606 757-873-0251 WWW.COLLINSENGR.COM	
DRAWN BY:	D. MARTINEZ	SCALE:	AS NOTED
CHECKED BY:	J. AMOR	PROJECT NO.:	13932
DATE:	JULY 2023	DRAWING NO.:	S07
		SHEET NO.:	9 OF 15





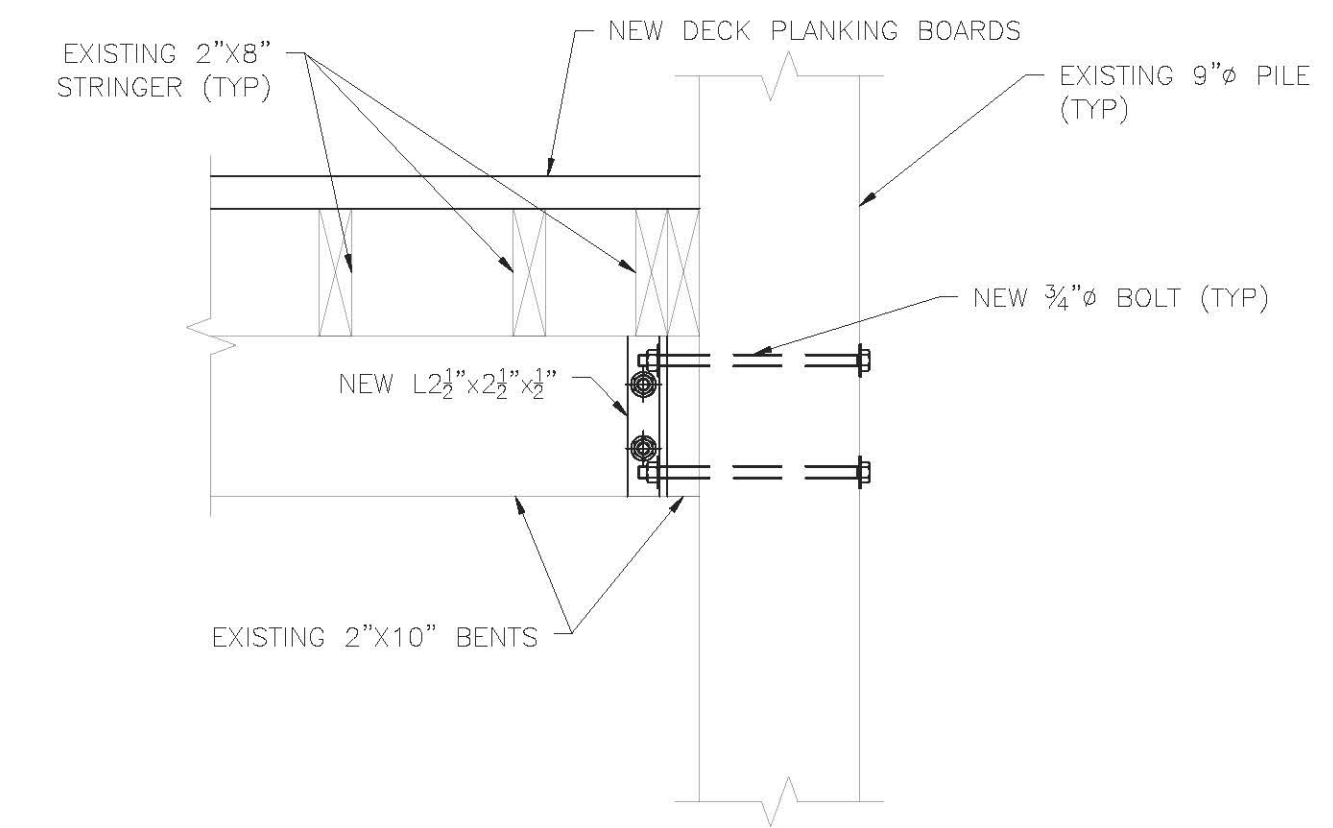
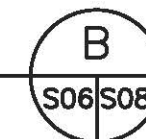
SOUTH PIER – BENT
REPLACEMENT (BENTS 1–12)

SCALE: 3/4" = 1'-0"



SOUTH PIER – BENT
REPLACEMENT (BENTS 13–30)

SCALE: 3/4" = 1'-0"

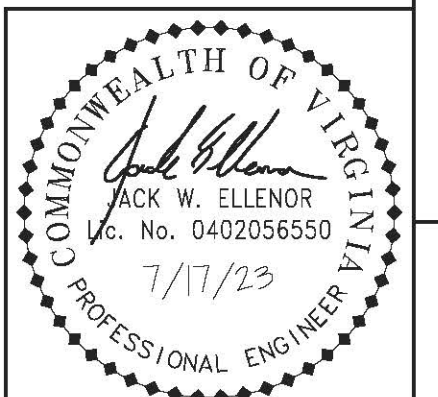


NEW CORNER CONNECTION SECTION

SCALE: 1" = 1'-0"



ISSUED FOR CONSTRUCTION



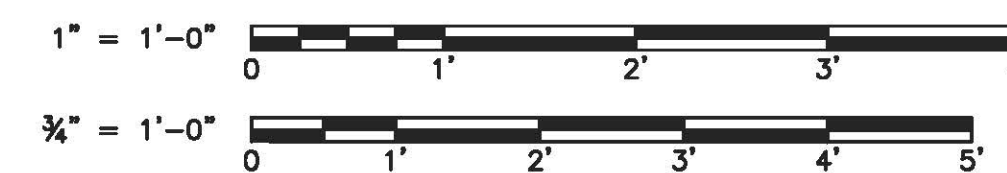
LOW ATCS JONES CREEK PIER
REPAIRS

COLLINS ENGINEERS

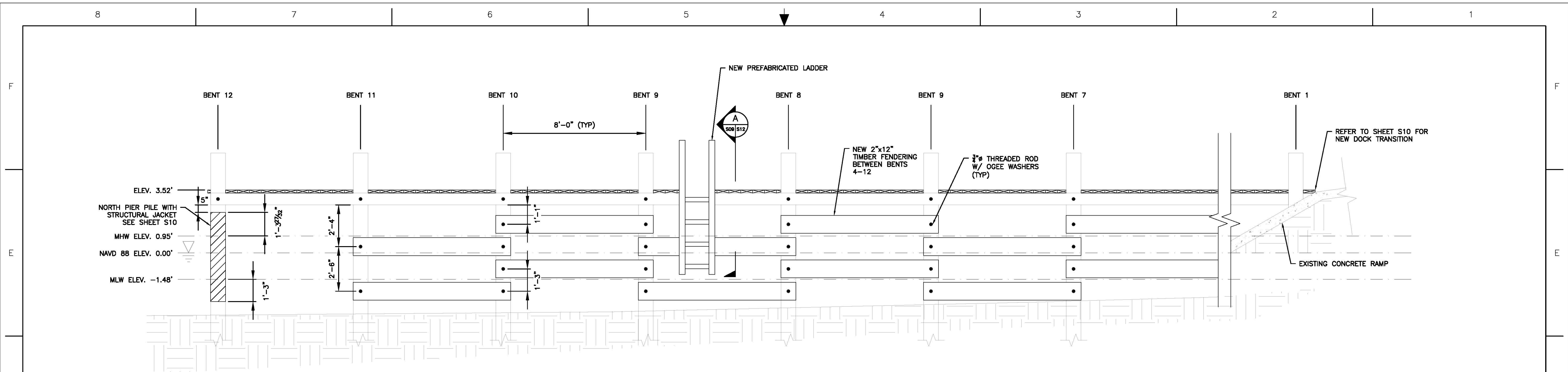
745 BLUECRAB RD, SUITE B
NEWPORT NEWS, VA 23606
757-873-0251
WWW.COLLINSENGR.COM

SOUTH REPAIR SECTIONS
AND DETAILS

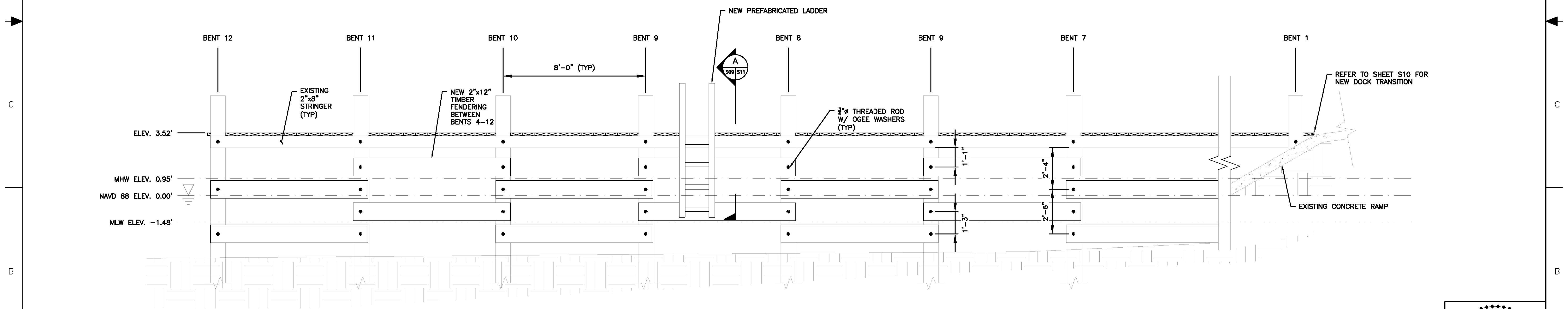
DESIGNED BY:	D. MARTINEZ	SCALE:	AS NOTED	PROJECT NO.:	13932
DRAWN BY:	J. AMOR	DRAWING NO.:	S08	SHEET NO.:	10 OF 15
CHECKED BY:	J. ELLENOR	DATE:	JULY 2023		



REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

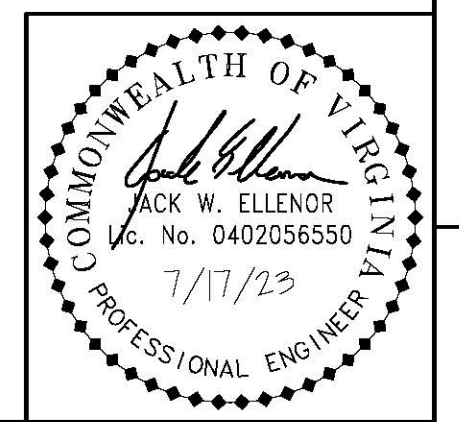


NORTH PIER FENDERING ELEVATION 1
 SCALE: 3/8" = 1'-0"



SOUTH PIER FENDERING ELEVATION 2
 SCALE: 3/8" = 1'-0"

ISSUED FOR CONSTRUCTION



LOW ATCS JONES CREEK PIER REPAIRS

COLLINS ENGINEERS 745 BLUECRAB RD, SUITE B
 NEWPORT NEWS, VA 23606
 757-873-0251
 WWW.COLLINSENGR.COM

3/8" = 1'-0"

REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

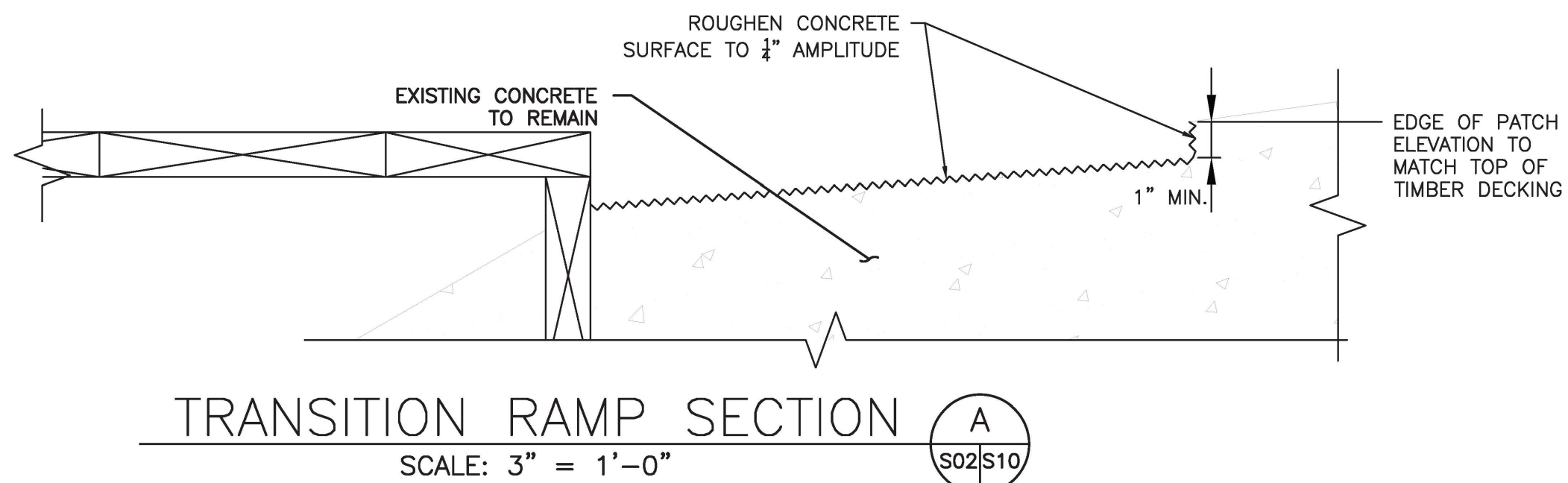
FENDERING REPAIR DETAILS AND SECTIONS		DESIGNED BY: D. MARTINEZ	SCALE: AS NOTED	PROJECT NO.: 13932
		DRAWN BY: J. AMOR	DRAWING NO.: S09	SHEET NO.: 11 OF 15
		CHECKED BY: J. ELLENOR		
		DATE: JULY 2023		

GENERAL NOTES:

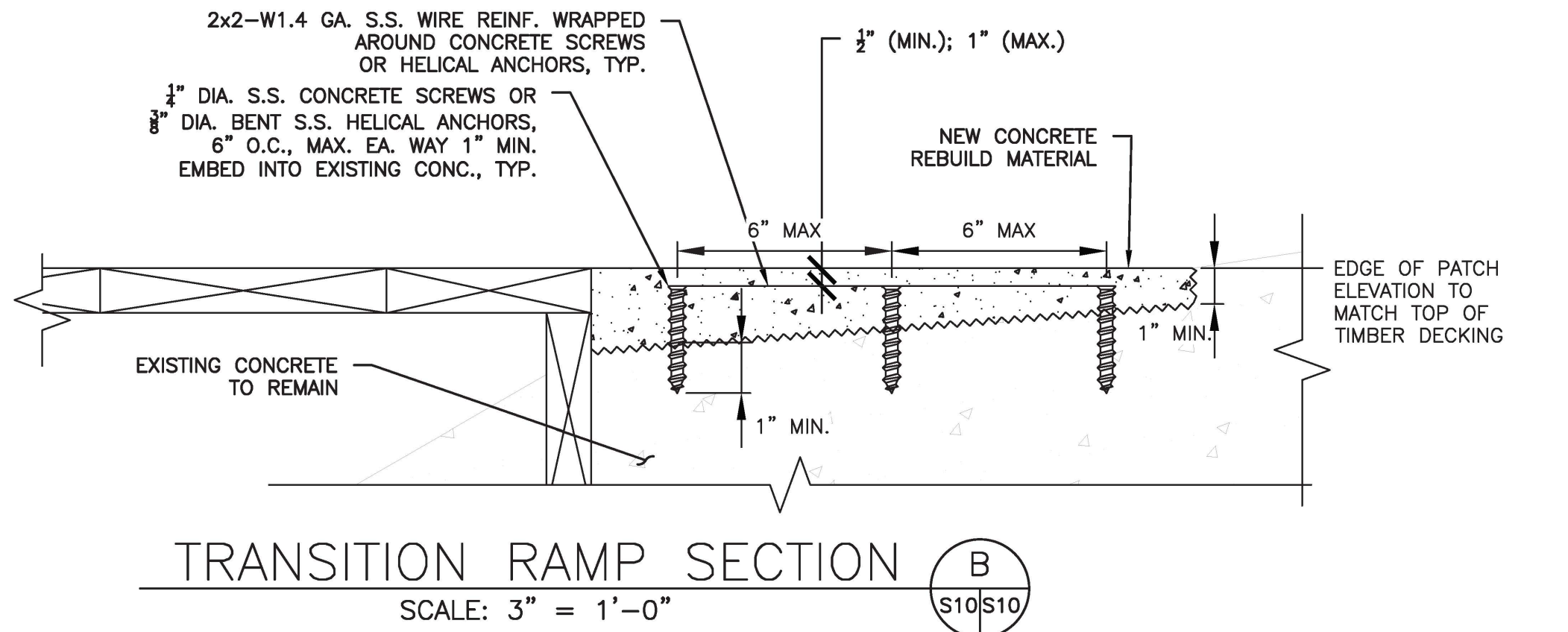
1. INSTALLATION OF CONCRETE TRANSITION SHALL CONSIST OF PREPARING & THOROUGHLY CLEANING EXPOSED CONCRETE SURFACES, INSTALLING CONCRETE SCREW ANCHORS & WIRE REINFORCING, AND INSTALLING NEW CONCRETE MATERIAL.
2. CONCRETE TRANSITION SHALL BE INSTALLED AT THE NORTH AND SOUTH PIER.
3. EXISTING CONCRETE RAMP HAS COMPOUND SLOPE, BOTTOM OF CONCRETE PATCH WILL VARY BUT THE TOP SHALL MATCH TIMBER DOCK ELEVATION.
4. EACH ANCHORS SHALL BE EMBEDDED A MINIMUM OF 1" INTO THE EXISTING CONCRETE RAMP.
5. PRIOR TO PLACEMENT OF NEW MATERIAL, CLEANING SHALL BE PERFORMED BY ABRASIVE BLAST CLEANING, OR OTHER MEANS APPROVED BY THE ENGINEER TO REMOVE UNSOUND CONCRETE, RUST, OIL, AND OTHER FOREIGN MATERIALS DETRIMENTAL TO ACHIEVING A BOND.
6. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF EXCESS MATERIAL AND DEBRIS RESULTING FROM REPAIRS IN AN APPROVED DISPOSAL AREA IN ACCORDANCE WITH SECTION 106.04 OF VDOT 2020 ROAD AND BRIDGE SPECIFICATIONS.

CONCRETE REPAIR PROCEDURE:

1. REMOVAL
 - 1.1. EDGE AND SURFACE CONDITIONING OF CONCRETE:
 - 1.1.1. CONCRETE PATCHES SHALL BE SQUARE OR RECTANGULAR IN SHAPE WITH SQUARED CORNERS.
 - 1.1.2. CREATE A CLEAN, SOUND SUBSTRATE BY REMOVING BOND-INHIBITING MATERIALS FROM THE CONCRETE SUBSTRATE BY HIGH PRESSURE WATER BLASTING OR ABRASIVE BLASTING.
 - 1.1.3. IMMEDIATELY PRIOR TO PLACING NEW CONCRETE, FACES OF EXISTING CONCRETE SHALL BE CLEANED OF ALL DUST AND DEBRIS BY BLOWING WITH OIL-FREE COMPRESSED AIR OR HOSING WITH WATER. A FINE SPRAY OF MOISTURE SHALL BE APPLIED TO THE EXPOSED CONCRETE SURFACES. FACES OF EXISTING CONCRETE SHALL BE IN A SATURATED SURFACE DRY CONDITION PRIOR TO PLACING NEW CONCRETE.
2. CLEANING AND REPAIR OF REINFORCING STEEL
 - 2.1. INSTALL STAINLESS STEEL WIRE MESH AND CONCRETE SCREWS OR HELICAL ANCHORS AS INDICATED IN DRAWINGS.
 - 2.2. CLEAN EXPOSED REINFORCING STEEL OF RUST, MORTAR, ETC. BY ABRASIVE BLASTING AND REMOVE ALL CLEANING MEDIA AND DEBRIS BY VACUUM OR BLOWING WITH HIGH-PRESSURE, OIL FREE AIR.
3. PLACEMENT MATERIAL AND INSTALLATION FOR THIS REPAIR SHALL BE HD 50 REPAIR MORTAR OR APPROVED EQUAL
 - 3.1. MIXING, PLACEMENT, AND CURING OF MATERIAL SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS.



TRANSITION RAMP SECTION A
SCALE: 3" = 1'-0"



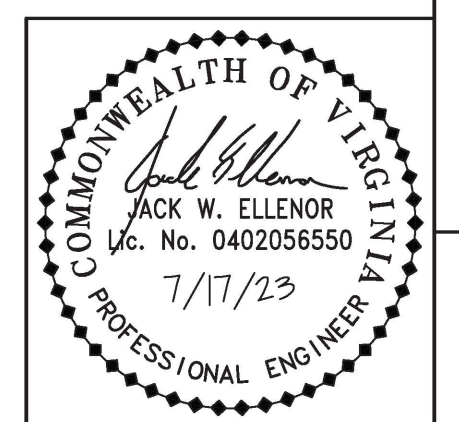
TRANSITION RAMP SECTION B
SCALE: 3" = 1'-0"



BOAT RAMP TRANSITION
SCALE: NTS



ISSUED FOR CONSTRUCTION

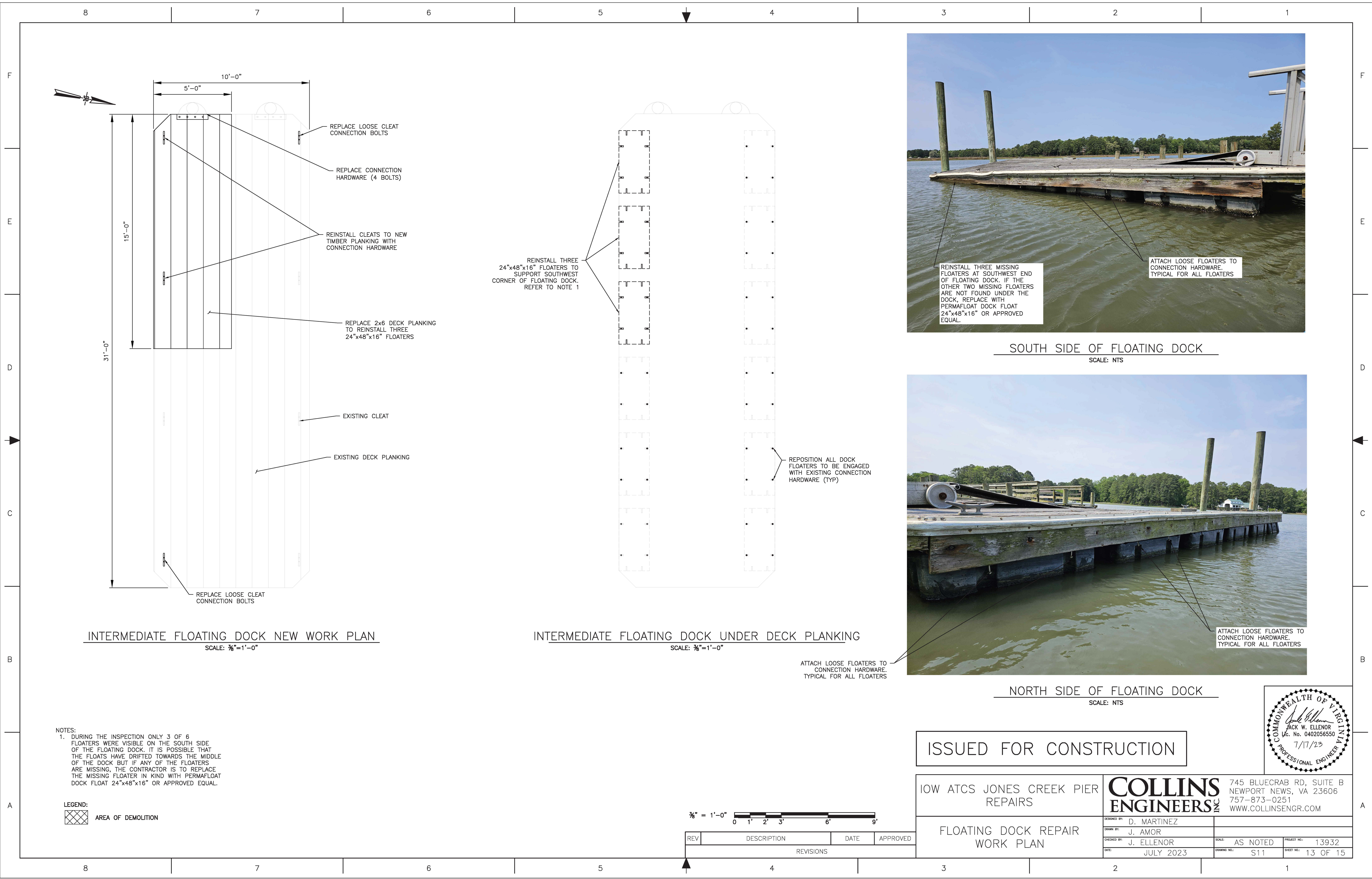


IOW ATCS JONES CREEK PIER REPAIRS
COLLINS ENGINEERS
745 BLUECRAB RD, SUITE B
NEWPORT NEWS, VA 23606
757-873-0251
WWW.COLLINSENGR.COM

DESIGNED BY: D. MARTINEZ	SCALE: AS NOTED	PROJECT NO.: 13932
DRAWN BY: J. AMOR	DRAWING NO.: S10	SHEET NO.: 12 OF 15
CHECKED BY: J. ELLENOR	DATE: JULY 2023	

REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

PIER TRANSITION DETAILS AND SECTIONS



INTERMEDIATE FLOATING DOCK NEW WORK PLAN
SCALE: 3/8"=1'-0"

INTERMEDIATE FLOATING DOCK UNDER DECK PLANKING
SCALE: 3/8"=1'-0"

SOUTH SIDE OF FLOATING DOCK
SCALE: NTS

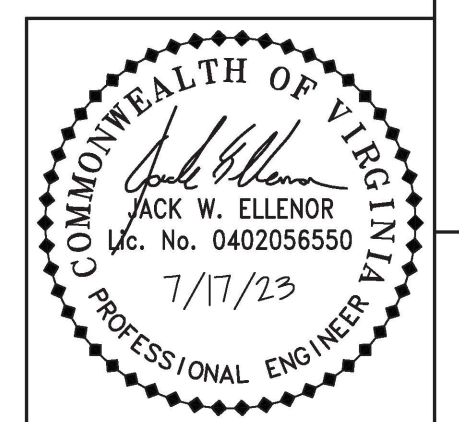
NORTH SIDE OF FLOATING DOCK
SCALE: NTS

NOTES:
1. DURING THE INSPECTION ONLY 3 OF 6 FLOATERS WERE VISIBLE ON THE SOUTH SIDE OF THE FLOATING DOCK. IT IS POSSIBLE THAT THE FLOATS HAVE DRIFTED TOWARDS THE MIDDLE OF THE DOCK BUT IF ANY OF THE FLOATERS ARE MISSING, THE CONTRACTOR IS TO REPLACE THE MISSING FLOATER IN KIND WITH PERMAFLOAT DOCK FLOAT 24"x48"x16" OR APPROVED EQUAL.

LEGEND:
[Cross-hatched box] AREA OF DEMOLITION

3/8" = 1'-0"
0 1' 2' 3' 6' 9'

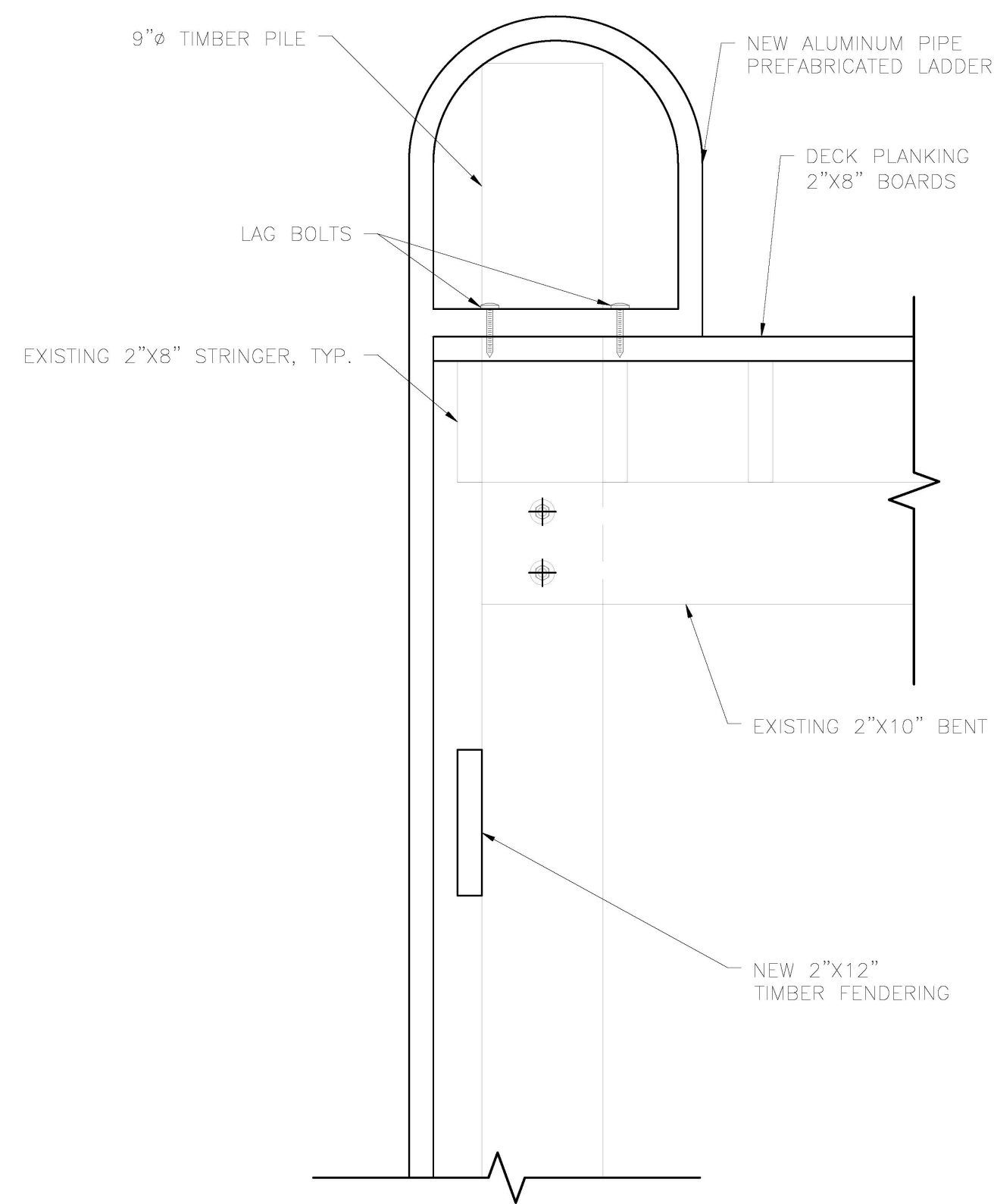
ISSUED FOR CONSTRUCTION



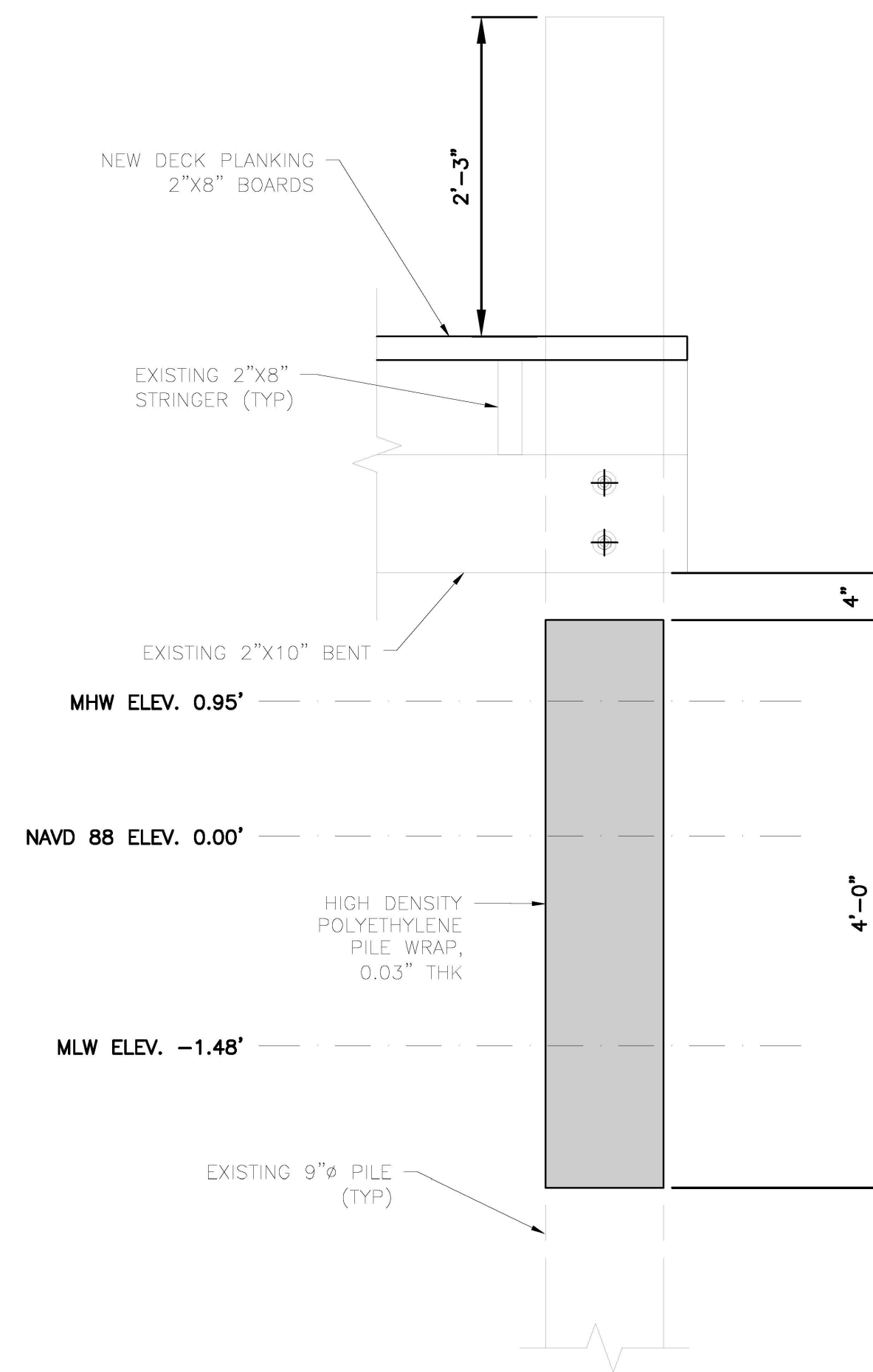
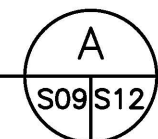
IOW ATCS JONES CREEK PIER REPAIRS		COLLINS ENGINEERS		745 BLUECRAB RD, SUITE B NEWPORT NEWS, VA 23606 757-873-0251 WWW.COLLINSENGR.COM	
DESIGNED BY:	D. MARTINEZ	SCALE:	AS NOTED	PROJECT NO.:	13932
DRAWN BY:	J. AMOR	DRAWING NO.:	S11	SHEET NO.:	13 OF 15
CHECKED BY:	J. ELLENOR	DATE:	JULY 2023		

REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

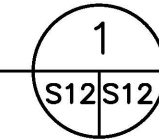
FLOATING DOCK REPAIR WORK PLAN



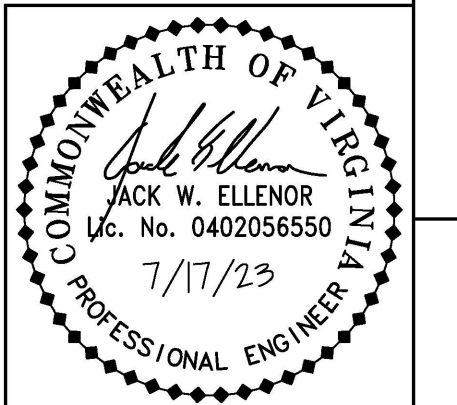
LADDER SECTION
SCALE: 1" = 1'-0"



NON-STRUCTURAL PILE WRAP
SCALE: 1" = 1'-0"



ISSUED FOR CONSTRUCTION



IOW ATCS JONES CREEK PIER REPAIRS		COLLINS ENGINEERS		745 BLUECRAB RD, SUITE B NEWPORT NEWS, VA 23606 757-873-0251 WWW.COLLINSENGR.COM	
NON-STRUCTURAL WRAP DETAIL AND LADDER DETAIL		DESIGNED BY: D. MARTINEZ	SCALE: AS NOTED	PROJECT NO.: 13932	
		DRAWN BY: J. AMOR	DRAWING NO.: S12	SHEET NO.: 14 OF 15	
		CHECKED BY: J. ELLENOR	DATE: JULY 2023		



REV	DESCRIPTION	DATE	APPROVED
REVISIONS			

PILE JACKET STRUCTURAL REPAIR NOTES:

1. THE WORK UNDER THIS SECTION SHALL INCLUDE FURNISHING AND INSTALLING A PERMANENT OUTER JACKET, MADE FROM DURABLE, INERT CORROSION-FREE MATERIALS AND FILLING THE ANNULAR SPACE BETWEEN THE PILE AND THE PERMANENT JACKET WITH MULTI-PURPOSE MARINE EPOXY GROUT AND CONSTRUCTING A BEVEL AT THE TOP OF THE JACKET WITH A TROWEL GRADE GROUT. ALL MATERIALS SHALL BE COMPATIBLE AND SHALL BE MANUFACTURED BY A SINGLE SOURCE.

MATERIALS:

JACKETS:

1. THE JACKETS SHALL BE FX-70 INERT CORROSION-FREE JACKETS OR APPROVED EQUAL, WITH AN INTERLOCKING JOINT.
2. THE JACKETS SHALL BE FABRICATED FROM FIBERGLASS AND POLYMER RESINS AND SHALL BE A MINIMUM THICKNESS OF 1/8 INCH UNLESS OTHERWISE SHOWN ON THE PLANS. THE INSIDE FACE OF THE JACKET SHALL BE TEXTURED SIMILAR TO A SANDBLASTED SURFACE AND HAVE NO BOND-INHIBITING AGENTS IN CONTACT WITH THE HYDRO-ESTER EPOXY GROUTS. THE JACKETS SHALL BE PROVIDED WITH NON-CORROSIVE STANDOFFS, WHICH WILL MAINTAIN THE JACKETS IN THE REQUIRED POSITIONS. THE JACKET SHALL BE CAPABLE OF BEING OPENED, PLACED AROUND A PILE AND THEN RETURNED TO ITS ORIGINAL SHAPE WITHOUT DAMAGING THE JACKET. THE JACKET SHALL BE EQUIPPED WITH A COMPRESSIBLE SEALING STRIP AT THE BOTTOM, WHICH WILL EFFECTIVELY SEAL THE BOTTOM OF THE ANNULAR SPACE BETWEEN THE PILE AND JACKET.
 - a. WATER ABSORPTION (ASTM D-570) 1% MAX
 - b. ULTIMATE TENSILE STRENGTH (ASTM D-638) LONGITUDINAL, TRANSVERSE AND DIAGONAL 15,000 PSI
 - c. FLEXURAL STRENGTH (ASTM D-796) 25,000 PSI
 - d. FLEXURAL MODULUS OF ELASTICITY (ASTM D-790) 700,000 PSI MIN
 - e. BARCOL HARDNESS (ASTM D-2583) 45 MINIMUM
 - f. COLOR FEDERAL COLOR STANDARD NO. 595A-TABLE VII-26622-GRAY OR TRANSLUCENT

HYDRO-ESTER MULTI-PURPOSE MARINE EPOXY GROUT:

1. THE EPOXY GROUT SHALL BE COMPOSED OF FX-70-6 MULTI-PURPOSE MARINE EPOXY BINDER AND C COMPONENT OR APPROVED EQUAL AS FOLLOWS:

BINDER:

THE BINDER SHALL BE A TWO (2) COMPONENT (2:1 RATIO) HYDRO-ESTER EPOXY OR APPROVED EQUAL MATERIAL MEETING THE FOLLOWING REQUIREMENTS:

 - a. IT SHALL BE MOISTURE INSENSITIVE FOR APPLICATION BOTH ABOVE AND BELOW WATER.
 - b. IT SHALL ADHERE TO WET CONCRETE, STEEL, AND THE INSTALLED JACKETS.

C COMPONENT:

THE C COMPONENT SHALL BE COMPATIBLE WITH THE EPOXY BINDER AND, WHEN MIXED WITH THE EPOXY BINDER, SHALL PRODUCE A SMOOTH FLOWING POURABLE/PUMPABLE GROUT.

MIXING:

- THE BINDER SHALL BE MECHANICALLY MIXED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION.
- a. COMBINE TWO (2) GALLONS A COMPONENT WITH ONE (1) GALLON B COMPONENT, MIX WITH A LOW SPEED DRILL AND MIXING PADDLE FOR TWO MINUTES. ADD TWO (2) 50 LB. BAGS OF THE C COMPONENT. MIX UNTIL UNIFORM. SCRAPE SIDES AND BOTTOM TO ENSURE THOROUGH MIXING. AVOID ENTRAPPING AIR WHILE MIXING. PUMP OR POUR IMMEDIATELY AFTER MIXING.

HYDRO-ESTER TROWEL GRADE EPOXY GROUT:

1. THE TROWEL GRADE EPOXY GROUT SHALL BE COMPOSED OF FX-763 TROWEL GRADE EPOXY BINDER AND FX-701 FILLER OR APPROVED EQUAL AS FOLLOWS:

BINDER:

THE BINDER SHALL BE A TWO COMPONENT 2:1 RATIO FX-763 TROWEL GRADE HYDRO-ESTER OR APPROVED EQUAL EPOXY MATERIAL MEETING THE FOLLOWING REQUIREMENTS:

 - a. IT SHALL BE MOISTURE INSENSITIVE FOR APPLICATION BOTH ABOVE AND BELOW WATER.
 - b. IT SHALL ADHERE TO WET CONCRETE, STEEL, THE INSTALLED JACKETS.

FILLER:

THE FILLER SHALL BE FX-701 KILN-DRIED SILICA SAND OR APPROVED EQUAL.

MIXING:

- THE BINDER SHALL BE MECHANICALLY MIXED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION.
- a. ONE PART OF BINDER SHALL BE COMBINED WITH A MAXIMUM OF ONE PART OF FILLER.
 - b. WHEN MIXED ON A RATIO OF ONE PART BINDER TO ONE PART FILLER, TWO-INCH CUBES OF THIS MATERIAL AT SEVEN DAYS (CURING AT 66 TO 74° F) SHALL BE 8,000 PSI WHEN TESTED ACCORDING TO ASTM C-579 METHOD B.

HYDRO-ESTER PROTECTIVE COATING FOR CONCRETE PILES:

1. THE HYDRO-ESTER PROTECTIVE COATING SHALL BE FX-70-9 PROTECTIVE COATING OR APPROVED EQUAL.
 - a. IT SHALL BE A 100% SOLIDS, MOISTURE-INSENSITIVE COATING CAPABLE OF BEING APPLIED BOTH TO DAM AND DRY SURFACES.
 - b. THE PROTECTIVE COATING SHALL HAVE A MINIMUM TENSILE STRENGTH OF 5,000 PSI AFTER FOURTEEN DAYS WHEN TESTED IN ACCORDANCE WITH ASTM D-638.

CERTIFICATION AND MATERIAL TESTS:

THE CONTRACTOR SHALL FURNISH A CERTIFICATE TO THE OWNER OR OWNER'S REPRESENTATIVE, ATTESTING THAT THE MATERIALS MEET ALL THE REQUIREMENTS CONTAINED HEREIN AND THAT THE SYSTEM SUBMITTED HAS BEEN SUCCESSFULLY USED BY CITY, STATE, OR FEDERAL AGENCIES IN MARINE ENVIRONMENTS FOR A MINIMUM OF FIVE YEARS.

TECHNICAL ASSISTANCE:

THE CONTRACTOR SHALL PROCURE THE MANUFACTURER'S SERVICES TO PROVIDE ONSITE TECHNICAL ASSISTANCE DURING THE INITIAL JACKETING INSTALLATION UNTIL BOTH THE OWNER OR OWNER'S REPRESENTATIVE AND THE ENGINEER ARE SATISFIED WITH THE PROCEDURE.

SHOP DRAWINGS:

SHOP DRAWINGS, SHOWING LOCATIONS OF STANDOFF SPACERS, METHOD OF FASTENING JACKET FORM TO PILING, SEALING THE JACKET AFTER INSTALLATION, AND BRACING DURING PLACEMENT OF MATERIALS IN THE ANNULAR SPACE BETWEEN THE JACKET AND THE PILE, SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL PRIOR TO ANY FIELD INSTALLATIONS.

FRP JACKET:

1. CONTRACTOR SHALL USE FOX INDUSTRIES FX-70 FIBERGLASS JACKET SYSTEM OR APPROVED EQUAL. THE FIBERGLASS JACKET SYSTEM SHALL INCLUDE THE FIBERGLASS JACKET (FX-70 FIBERGLASS JACKET OR APPROVED EQUAL) AND EPOXY GROUT (FX-70 HYDRO-ESTER COMPOUND) OR APPROVED EQUAL.
2. TO PREVENT JACKET BULGE, STRONG BACKS SHALL BE PLACE OUTSIDE OF THE JACKET.
3. PROVIDE SEAL AT THE BOTTOM OF THE JACKET TO PREVENT THE GROUT FROM LEAKING PER MANUFACTURERS RECOMMENDATION.
4. IN GENERAL, CONTRACTOR SHALL PLACE EPOXY GROUT STARTING AT THE LOWEST PORT AND MOVING UP TO THE NEXT PORT ONLY WHEN A CONSTANT FLOW IS OBSERVED FROM THE NEXT PORT TO BE FILLED. IN ALL CASES CONTRACTOR SHALL FOLLOW THE MANUFACTURES RECOMMENDATIONS FOR PLACING EPOXY GROUT.

5. CONTRACTOR SHALL PROVIDE STAND-OFFS TO ENSURE 2" CLEARANCE BETWEEN EXISTING PILE AND FRP JACKET IS MAINTAINED.
6. CONTRACTOR SHALL SUPPORT FRP JACKET SUFFICIENTLY TO ENSURE JACKET MAINTAINS SHAPE WHILE THE EPOXY GROUT IS CURING.

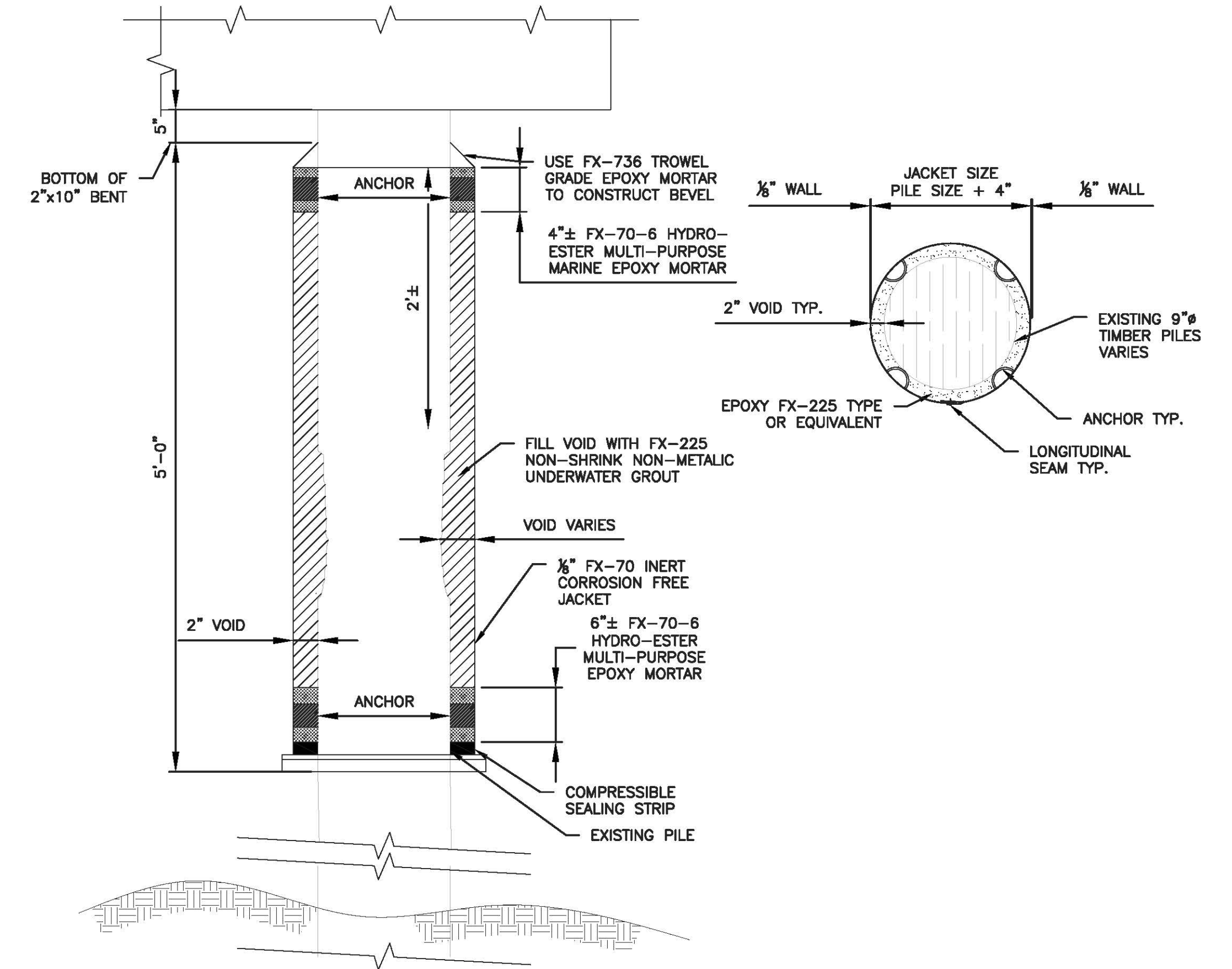
CONSTRUCTION METHODS:

SURFACE PREPARATION:

1. ALL PILE SURFACES TO BE COVERED WITH PILE JACKETS OR PROTECTIVE COATING SHALL BE THOROUGHLY CLEANED OF OIL, GREASE, DIRT, AND ANY OTHER DELETERIOUS MATERIAL, WHICH WOULD PREVENT PROPER BONDING.
2. NO PLACEMENT OF THE JACKETS WILL BE ALLOWED UNTIL THE PILE CLEANING HAS BEEN APPROVED BY THE OWNER'S INSPECTOR.

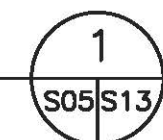
POSITION JACKETS:

1. PLACE FX-763 TROWEL GRADE EPOXY OR APPROVED EQUAL, NO FILLER, INTO FEMALE PORTION OF JOINT.
2. SPREAD JACKET OPEN AND PLACE AROUND PILE.
3. ALLOW JACKET TO RETURN TO ORIGINAL SHAPE ENGAGING INTERLOCKING JOINT.
4. SET JACKET AT PROPER ELEVATION.
5. INSTALL SELF-DRILLING, SELF-TAPPING STAINLESS STEEL SCREWS, TO SECURING INTERLOCKING JOINT, AT 6 INCH CENTERS.
6. INSTALL EXTERNAL BRACING.
7. INSTALL TEMPORARY BOTTOM SEAL (MAY BE INSTALLED PRIOR TO PLACING JACKET).
8. PLACE MULTI-PURPOSE MARINE EPOXY GROUT INTO THE BOTTOM 6" OF THE ANNULAR VOID BY POURING OR PUMPING.
9. ALLOW TO CURE OVERNIGHT.
10. COMPLETE FILLING THE JACKET WITH EPOXY GROUT.
11. ALLOW TO CURE A MINIMUM OF 6 HOURS AND THEN CONSTRUCT THE BEVEL USING TROWEL GRADE EPOXY MORTAR, AS SHOWN ON THE DRAWINGS.
12. REMOVE EXTERNAL BRACING MATERIALS AFTER COMPLETION OF WORK.
13. CLEAN EXTERIOR SURFACES OF JACKETS OF ANY FILLER MATERIAL OR OTHER EXTRANEIOUS MATERIAL DEPOSITED ON THE PILE JACKETS.
14. APPLY TWO (2) COATS OF EPOXY PROTECTIVE COATING FROM THE TOP OF THE JACKET TO THE UNDERSIDE OF THE CAP CONCRETE.

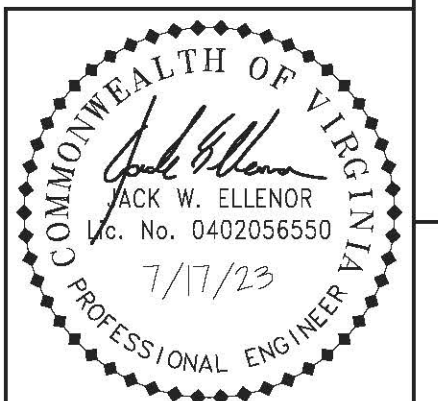


PILE JACKET STRUCTURAL REPAIR

SCALE: 3/4" = 1'-0"



ISSUED FOR CONSTRUCTION



LOW ATCS JONES CREEK PIER REPAIRS		COLLINS ENGINEERS		745 BLUECRAB RD, SUITE B NEWPORT NEWS, VA 23606 757-873-0251 WWW.COLLINSENGR.COM	
PILE STRUCTURAL REPAIR DETAILS		DESIGNED BY: D. MARTINEZ	SCALE: AS NOTED	PROJECT NO: 13932	
		DRAWN BY: J. AMOR	DRAWING NO: S13	SHEET NO: 15 OF 15	
		CHECKED BY: J. ELLENOR	DATE: JULY 2023		



REV	DESCRIPTION	DATE	APPROVED
REVISIONS			