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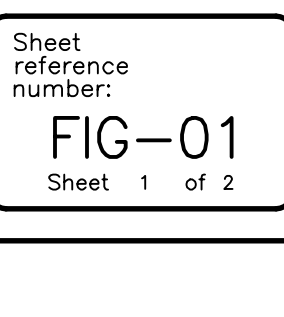
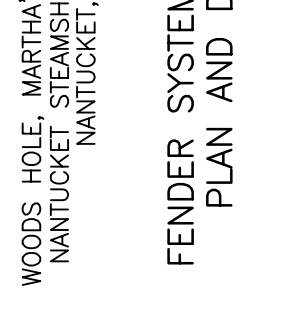
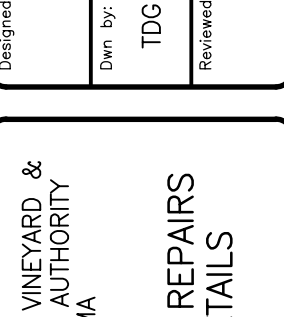
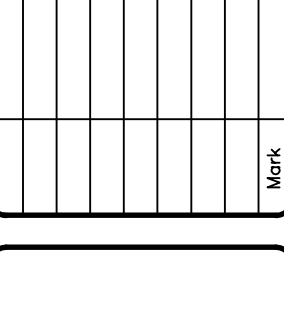
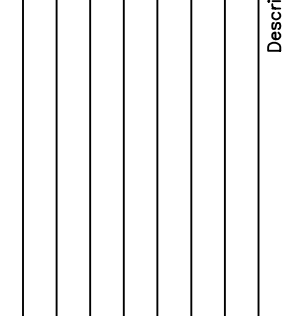
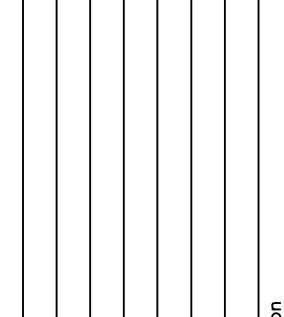
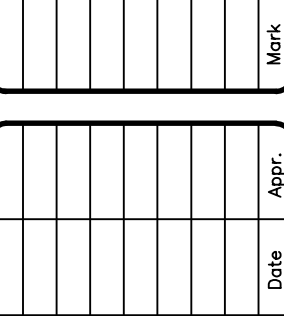
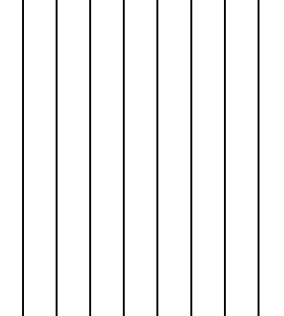
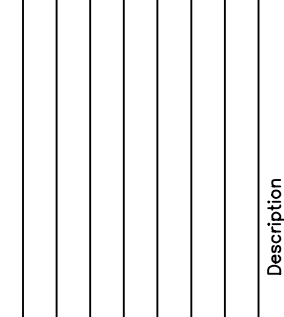
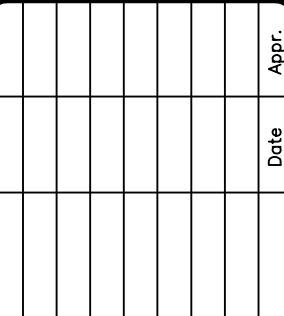
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GENERAL

1. INFORMATION REGARDING EXISTING CONSTRUCTION AND CONDITIONS IS BASED ON FIELD INSPECTION AND IS INCLUDED TO ASSIST THE CONTRACTOR. THE OWNER/ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY OR COMPLETENESS.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER/ENGINEER BEFORE PROCEEDING WITH THE PORTION OF WORK.
3. CONTRACTOR SHALL COORDINATE ALL WORK AROUND THE DAILY OPERATIONAL REQUIREMENTS OF THE NANTUCKET FERRY TERMINAL OPERATIONS.
4. CONTRACTORS LAY DOWN AREA SHALL BE IN CLOSE PROXIMITY TO THE WORK AS DESIGNATED BY THE OWNER.
5. DISPOSE OF ALL MATERIALS IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
6. PROVIDE CONTAINMENT BOOM AND SILT BOOM AS REQUIRED BY PERMITS.
7. RETRIEVE ALL MATERIALS THAT FALL IN THE WATER INCLUDING BUT NOT LIMITED TO TIMBER, DEMOLISHED CONCRETE, DEMOLISHED FENDER COMPONENTS AND ALL OTHER MATERIALS.
8. SUBMIT DEMOLITION PLAN TO THE OWNER FOR APPROVAL. INCLUDE MEANS AND METHODS FOR COLLECTION DEMOLISHED MATERIALS AND PROVIDE LOCATION(S) OF FINAL DISPOSAL.
9. LISTED MATERIALS MAY BE SUBSTITUTED WITH "OR EQUAL" PRODUCTS WITH APPROVAL BY THE ENGINEER AND AT THE SOLE DISCRETION OF THE OWNER IF THEY MEET THE PERFORMANCE REQUIREMENTS.

SUBMITTALS

1. SUBMIT TO THE OWNER FOR APPROVAL THE FOLLOWING:
 - a. CERTIFICATION OF COMPLIANCE FOR TIMBER GRADE AND SPECIES AND SHOP DRAWINGS
 - b. CERTIFICATION OF COMPLIANCE FOR TIMBER TREATMENT
 - c. CERTIFICATION OF COMPLIANCE FOR UHMW MATERIAL AND SHOP DRAWINGS
 - d. DATA SHEET FOR CONCRETE RESTORATION MATERIAL
 - e. DATA SHEET FOR BONDING AGENT
 - f. DATA SHEET FOR ELASTOMERIC SEALANT
 - g. DATA SHEET(S) FOR ANCHOR BOLTS AND CHEMICAL ANCHORS.
 - h. CERTIFICATION OF COMPLIANCE FOR ALL STEEL BARS, PLATES, SHAPES, AND BOLTS.

TREATED TIMBER

1. TIMBER IS DESIGNED IN ACCORDANCE WITH, AND WORK SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) MANUAL.
2. ALL TIMBER SHALL BE NO. 1 SR SOUTHERN PINE AS GRADED BY SOUTHERN PINE INSPECTION BUREAU.
3. ALL TIMBER SHALL BE NEW AND DIMENSIONAL (S4S) AS INDICATED BY NOMINAL SIZES.
4. JOINTS SHALL BE SQUARE, TIGHT AND BEAR FULLY OVER THE ENTIRE CONTACT SURFACE.
5. HOLES FOR THRU BOLTS SHALL BE DRILLED THE SAME SIZE AS THE BOLT AFTER GALVANIZING. DRILL 1/2" DIAMETER LEAD HOLES FOR 3/4" DIAMETER LAG BOLTS.
6. TIGHTEN BOLTS TO PROVIDE A SOLID CONNECTION. NO, MORE THAN ONE "FENDER" WASHER SHALL BE PROVIDED UNDER THE HEAD OR NUT.
7. ALL BOLTS THAT ARE COUNTERSUNK ON HORIZONTAL SURFACES SHALL HAVE THE HORIZONTAL SURFACE FILLED WITH ELASTOMERIC SEALANT SUCH AS SIKAFLEX OR EQUAL.

TIMBER TREATMENT

1. ALL TIMBER SHALL BE TREATED TO A RETENTION OF 2.5 POUNDS PER CUBIC FOOT WITH CHROMATED COPPER ARSENATE (CCA) IN ACCORDANCE WITH AMERICAN WOOD PRESERVATIVE ASSOCIATION (AWPA) USE CATEGORY 5A-C AND OBTAIN A GREEN TINT DUE TO TREATMENT. THE TREATMENT PROCESS SHALL FOLLOW ALL AWPA STANDARDS.
2. ALL CUTS AND BORED HOLES SHALL BE TREATED WITH 2 COATS OF PRESERVATIVE TREATMENT COMPATIBLE WITH THE TREATMENT OF THE TIMBER ELEMENT ACCORDING TO AWPA M-4.

MISC. METAL

1. STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO ASTM A 36 FOR ANGLES, BARS AND PLATES; ASTM A992, GRADE 50 FOR ROLLED SHAPES.
2. BOLTS, ANCHOR BOLTS AND LAG BOLTS SHALL BE ASTM A307.
3. ALL FASTENERS SHALL BE HOT DIPPED GALVANIZED IN COMPLIANCE WITH ASTM — A123 AND A153 UNLESS NOTED OTHERWISE.
4. WELDS SHALL BE MADE BY A CERTIFIED WELDER IN ACCORDANCE WITH AWS D.1.1. USING E70 SERIES ELECTRODES.
5. ALL STEEL COMPONENTS (EXCLUDING FASTENERS) AND TOUCH-UP AREAS FOR FIELD WELDS & BURN HOLES SHALL BE COATED WITH TWO (2) COATS AT 6 MILS. DFT EACH OF A SINGLE PART MOISTURE CURED URETHANE SUCH AS WASSER "MG-TAR" OR APPROVED EQUAL. COATING SHALL BE APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR BOTH SHOP AND FIELD APPLICATIONS. ALL FIELD APPLIED AREAS SHALL BE WASHED WITH FRESH WATER AND A CHLORIDE NEUTRALIZER SUCH AS "CHLORRID" BEFORE COATING.
6. STAINLESS STEEL ANCHOR BOLTS SHALL BE TYPE 316.
7. SET ANCHOR BOLTS WITH A TWO-PART EPOXY SUCH AS "HILTI C-100" OR SIMILAR PRODUCT INTENDED FOR ANCHORING BOLTS INTO CONCRETE.

FENDER FRAME FACING AND CONCRETE CAP

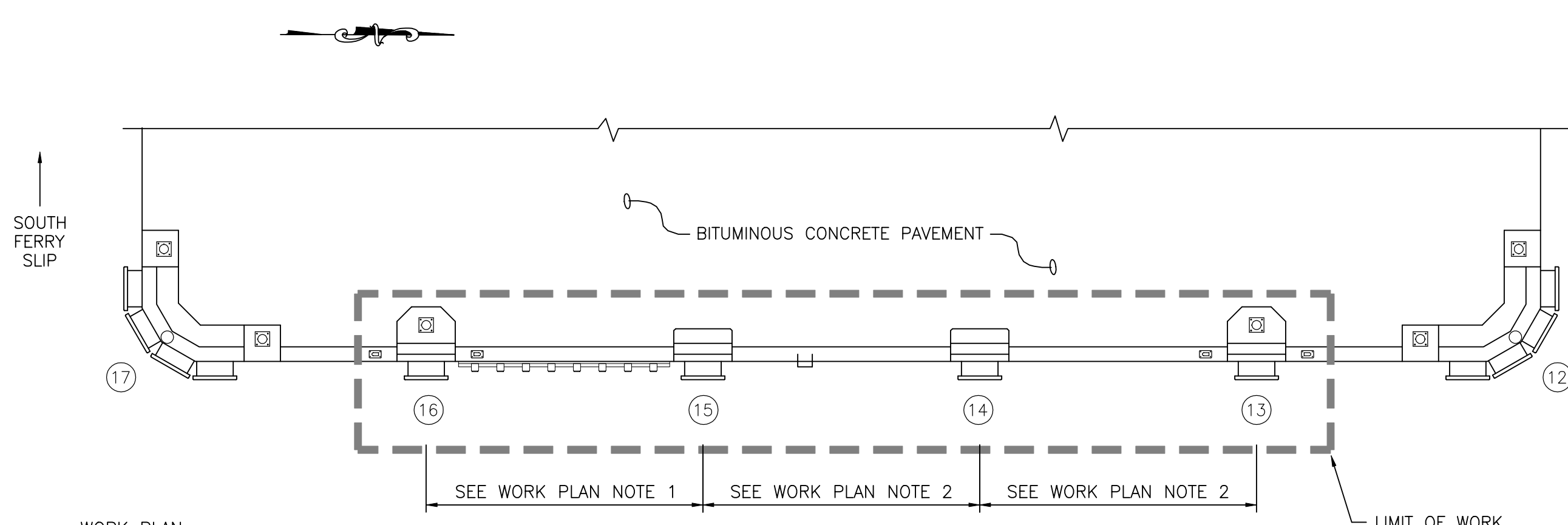
1. SUBMIT FOR APPROVAL THE ULTRA HIGH MOLECULAR WEIGHT (UHMW) FACING MANUFACTURERS RECOMMENDATIONS FOR BOLTING PATTERN AND STOCK AVOID. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE BOLTING PATTERN OF EXISTING TIMBER FENDER FACING TO AVOID INTERFERENCE. COLOR SHALL BE BLACK.
2. THE MATERIAL SHALL BE 1 1/2" THICK UHMW POLYETHYLENE WITH A CARBON CONTENT OF 1.5% AND UV STABILIZED. IT SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

PROPERTY	TEST METHOD	REQUIREMENT
SPECIFIC GRAVITY	ASTM D792	.92 GM/CC
TENSILE STRENGTH	ASTM D638	3000 PSI MIN.
YIELD		4000 PSI MIN.
ULTIMATE		18 FT-LBS/IN. MIN.
IZOD IMPACT	ASTM 0256H	SAND SLURRY
ABRASION RESISTANCE	ASTM 0570	NIL
WATER ABSORPTION	ASTM D1894	0.20 MAX.
COEFFICIENT OF FRICTION		

3. CURB CAP MATERIAL SHALL HAVE A NON-SLIP PATTERN CUT INTO THE EXPOSED FACE. PATTERN SHALL BE SUBMITTED FOR APPROVAL.

CONCRETE REPAIR

1. REMOVE CONCRETE AS INDICATED ON THE DRAWINGS. ALL DAMAGED CONCRETE SHALL BE REMOVED, AND AREAS CLEANED OF ALL FOREIGN MATERIALS AND UNSOUND CONCRETE. DO NOT FEATHER EDGE BOUNDARY AREAS. SAW CUT 1 INCH DEEP AT EDGES.
2. ANY EXPOSED REINFORCING STEEL SHALL BE GRIT BLASTED AND COATED WITH SIKA ARMATEC 110 EPOCEM (BONDING AGENT) PRIOR TO PLACING CONCRETE. REPLACE OR SUPPLEMENT REINFORCING BARS THAT HAVE LOST 25% OR MORE OF CROSS SECTION.
3. CONCRETE RESTORATION MATERIAL SHALL BE SIKACRETE 211 SCC PLUS BY SIKA CORPORATION (PREPACKAGED POLYMER MODIFIED REPAIR MATERIAL) AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
4. CONCRETE RESTORATION MATERIAL SHALL BE MIXED, PLACED, AND CURED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. THE REPAIRED AREAS SHALL MATCH THE ADJACENT CAP IN DIMENSIONS.

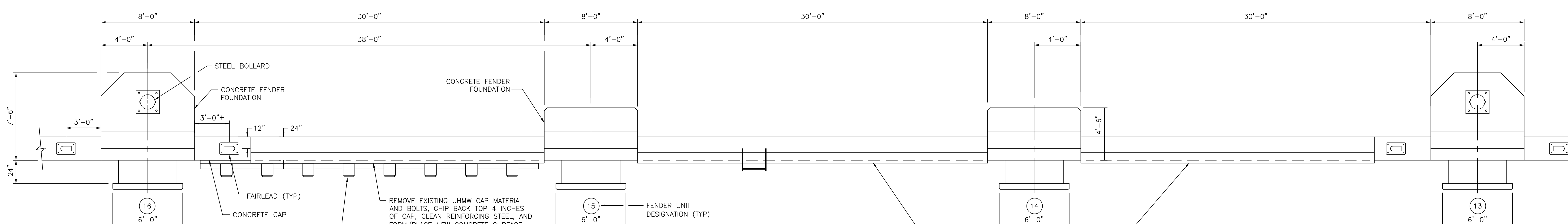


WORK PLAN:

1. REMOVE AND REPLACE EXISTING TIMBER FENDER SYSTEM IN-KIND (AS SHOWN ON PLANS). PERFORM CONCRETE RESTORATION ON SHEET PILE CAP AS SHOWN ON THE PLANS.
2. INSTALL NEW TIMBER FENDER SYSTEM AS SHOWN ON PLANS. PERFORM CONCRETE RESTORATION ON SHEET PILE CAP AS SHOWN ON THE PLANS.

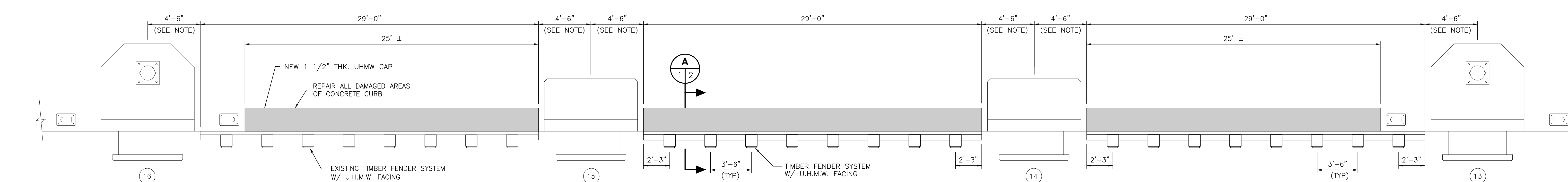
KEY PLAN

SCALE: 1/16"=1'-0"



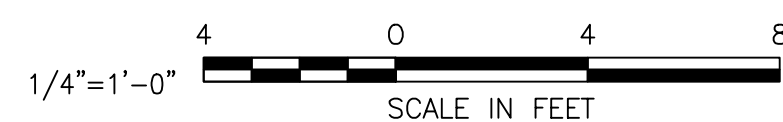
EXISTING CONDITIONS

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



PROPOSED BARGE FENDER SYSTEM

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

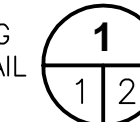


NOTE:

1. BETWEEN FENDER UNITS 15 AND 16 REMOVE EXISTING RUB STRIPS, BRACKETS, AND CONNECTORS ENTIRELY AND REPLACE WITH NEW.
2. BETWEEN FENDER UNITS 13 AND 14, AND BETWEEN FENDER UNITS 14 AND 15, INSTALL NEW RUB STRIPS, BRACKETS, AND CONNECTORS AS SHOWN ON THESE PLANS.

NOTE:

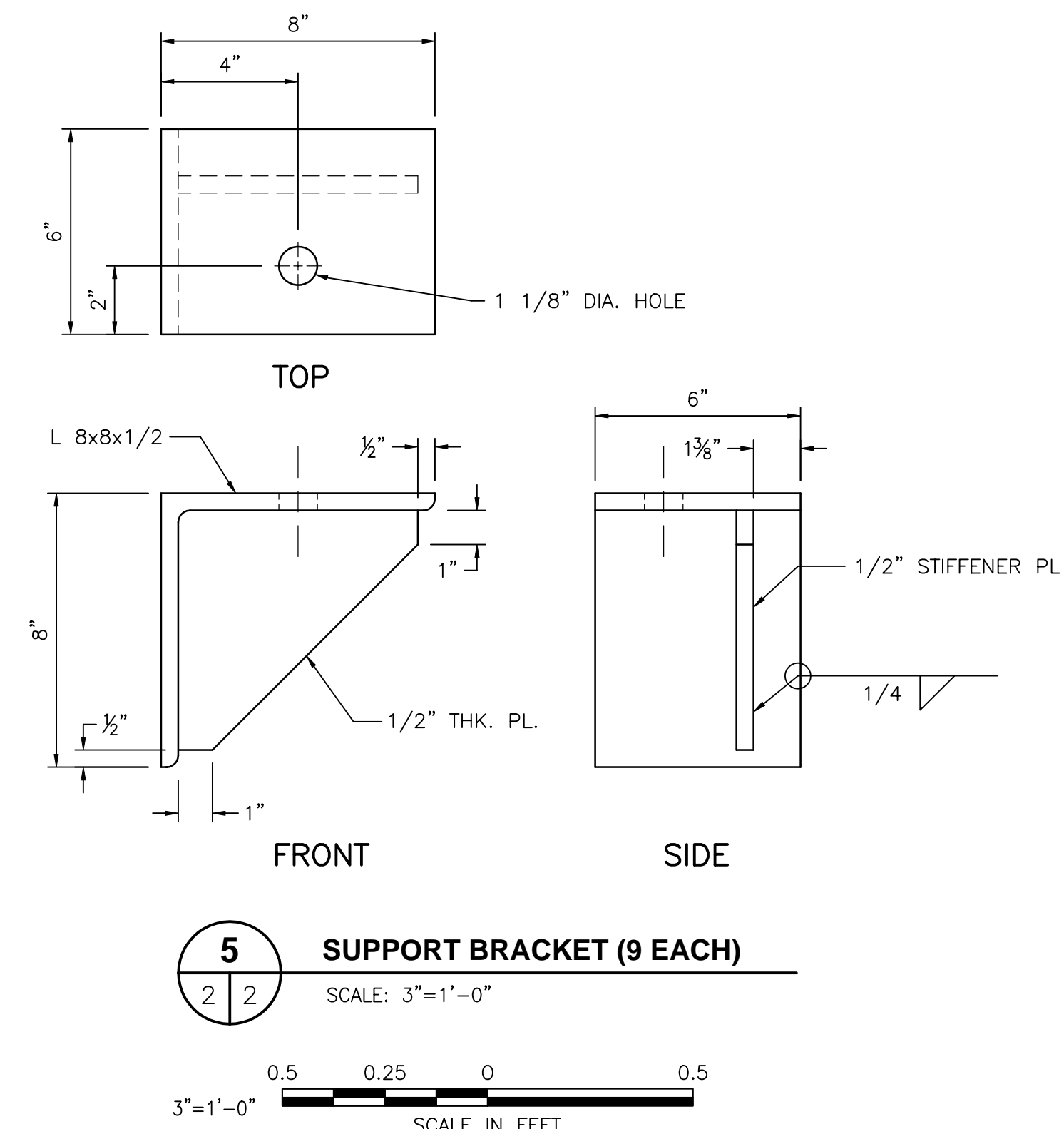
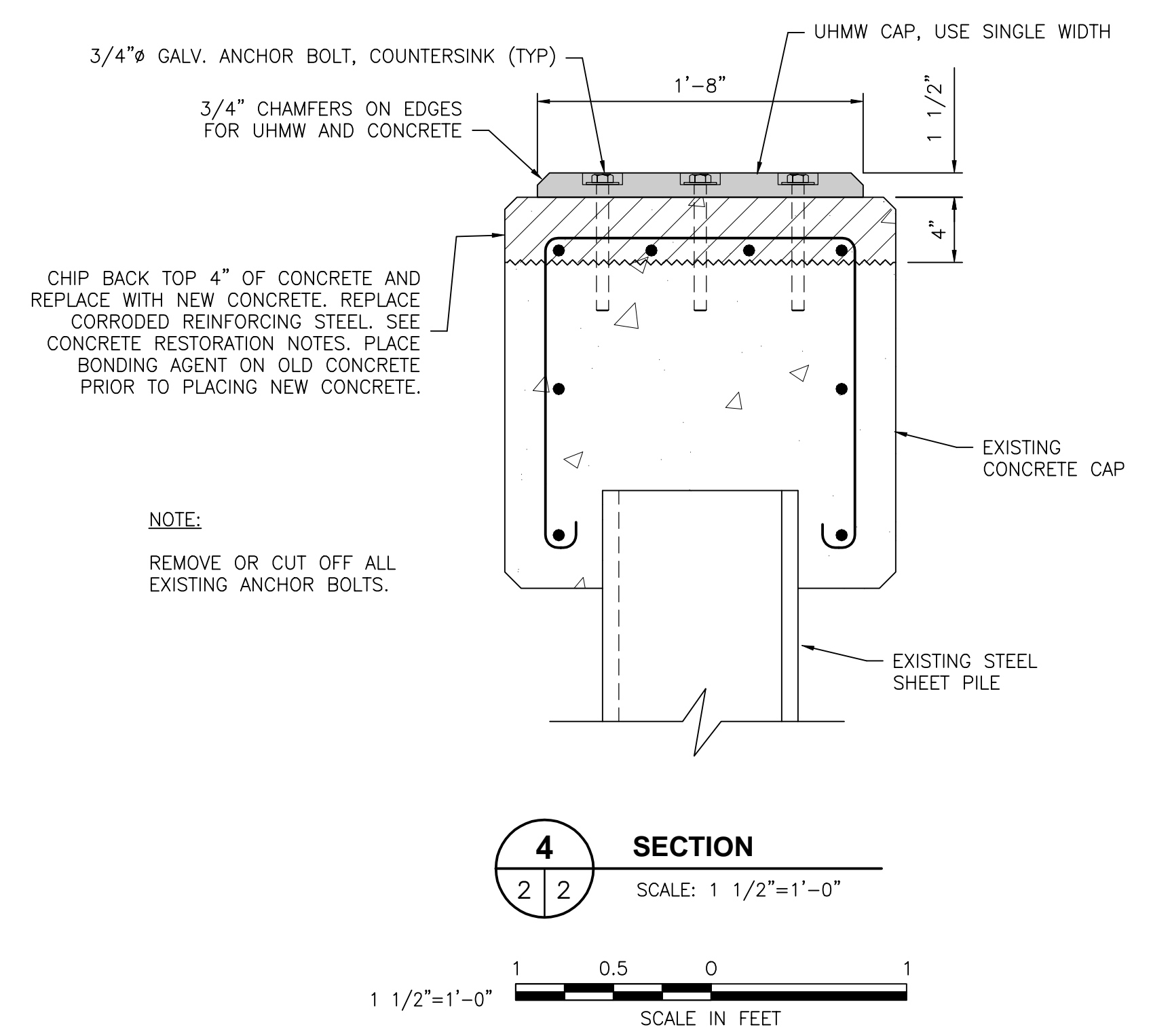
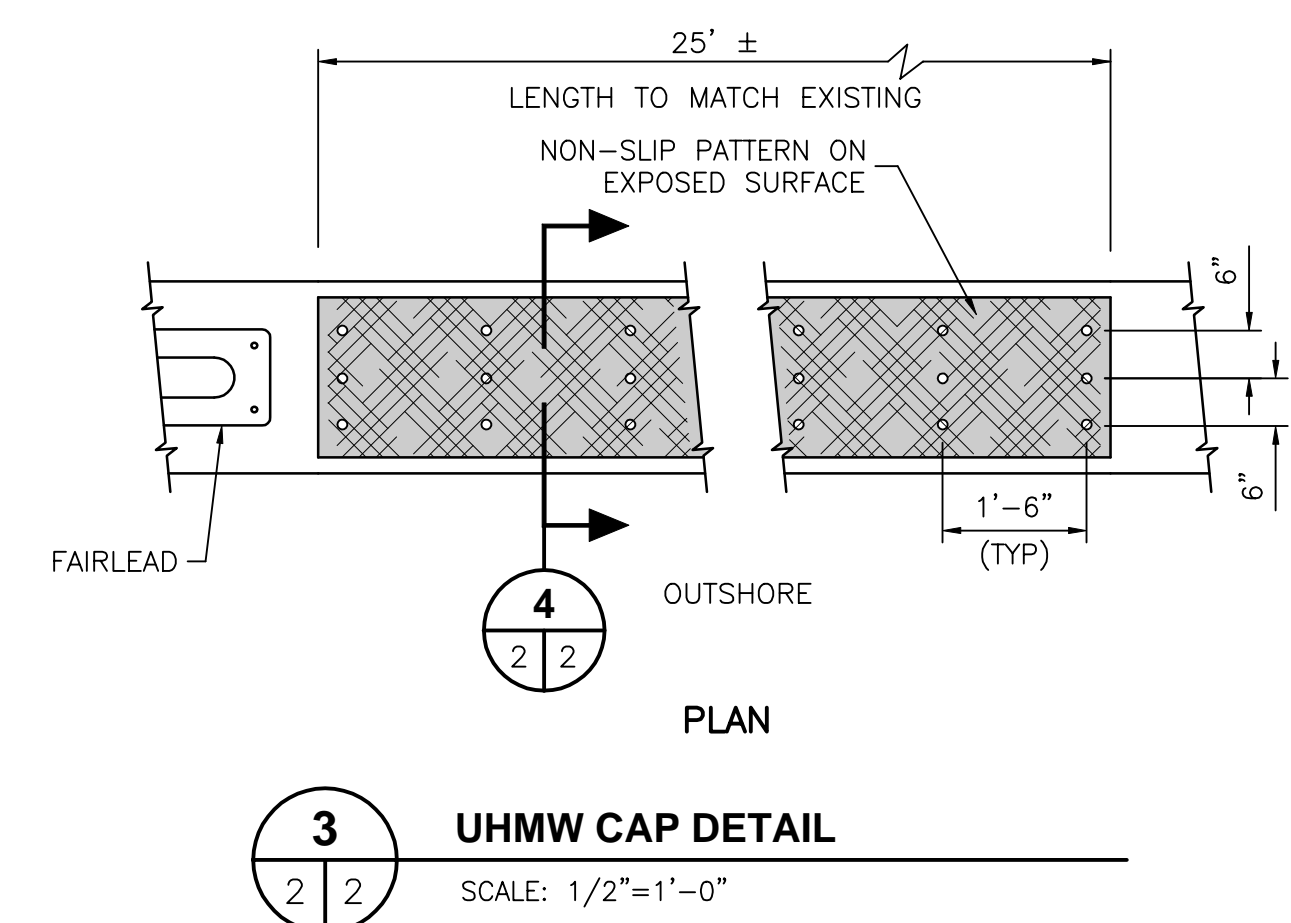
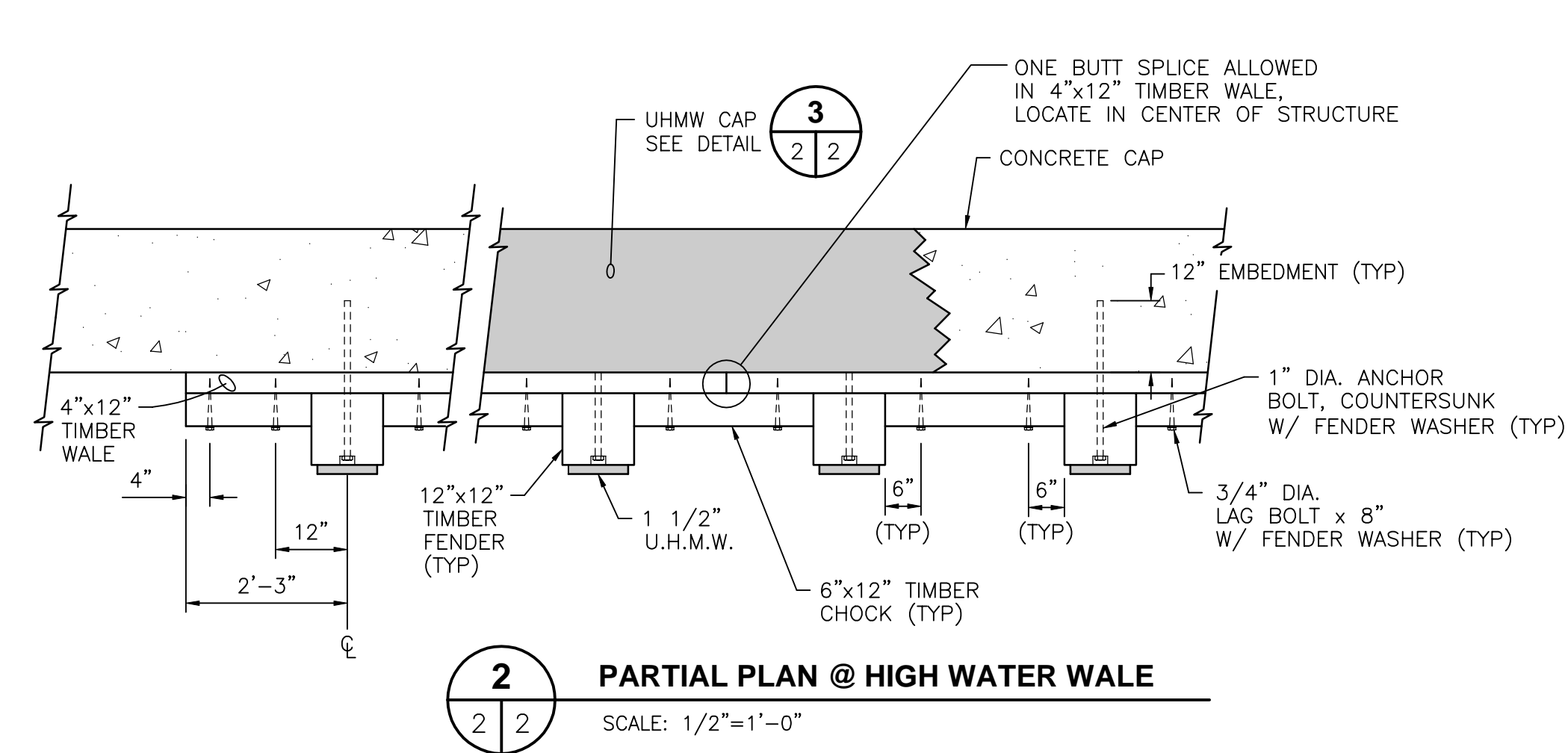
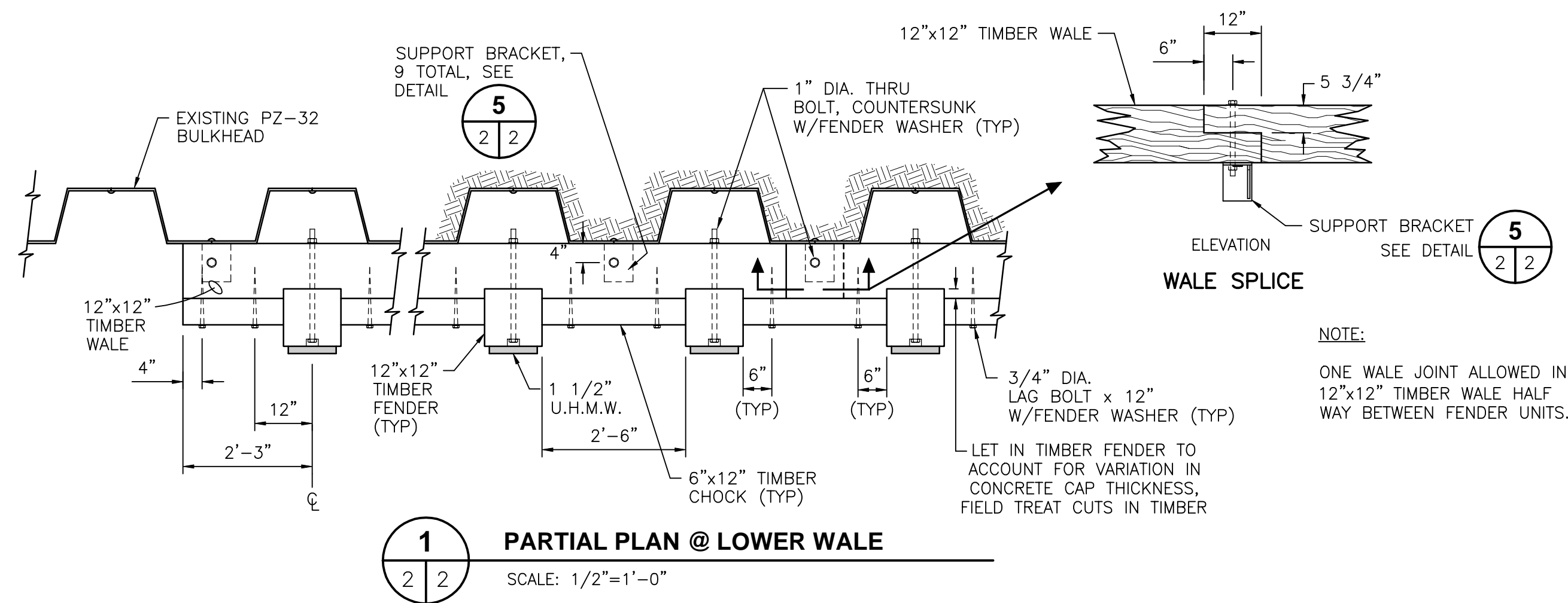
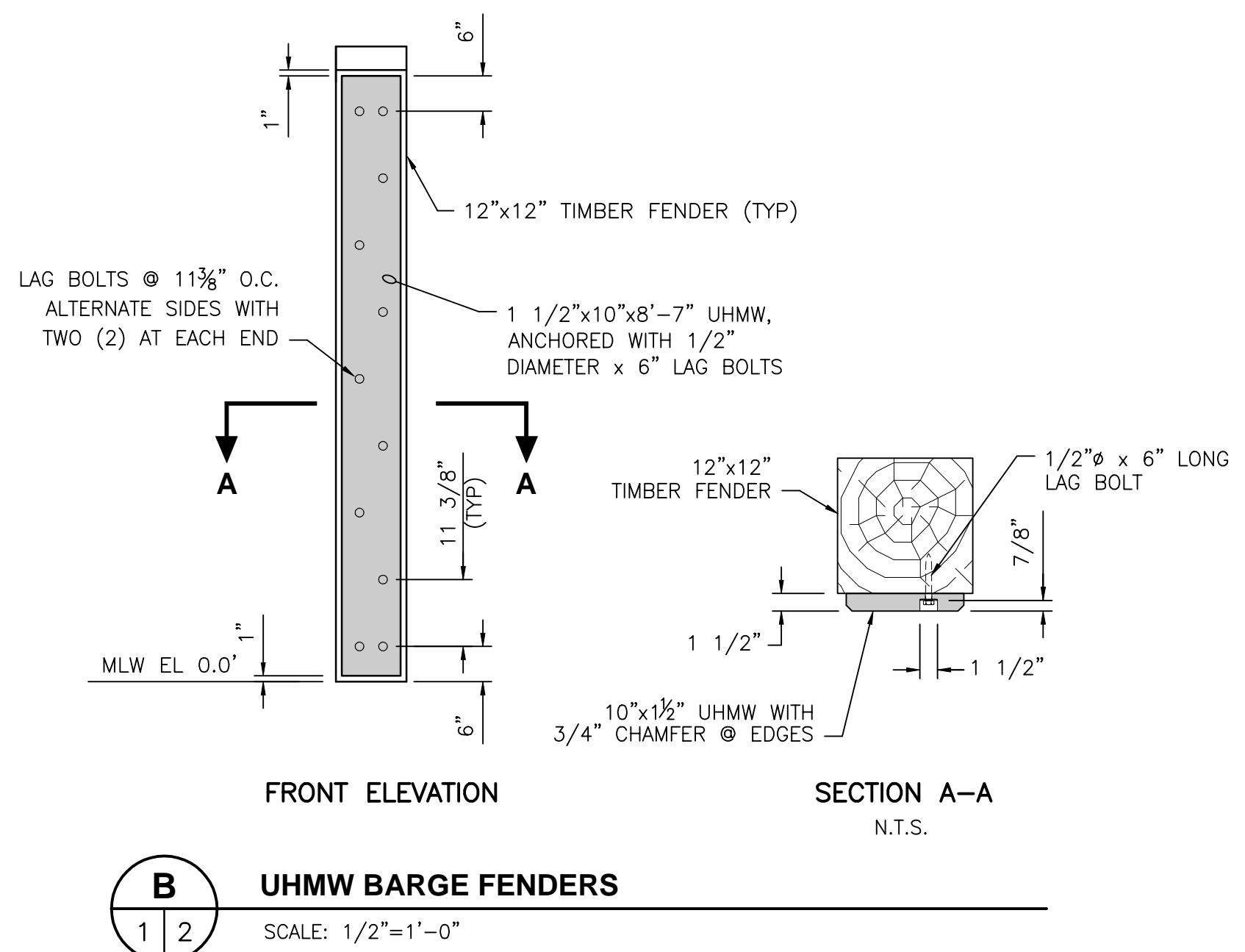
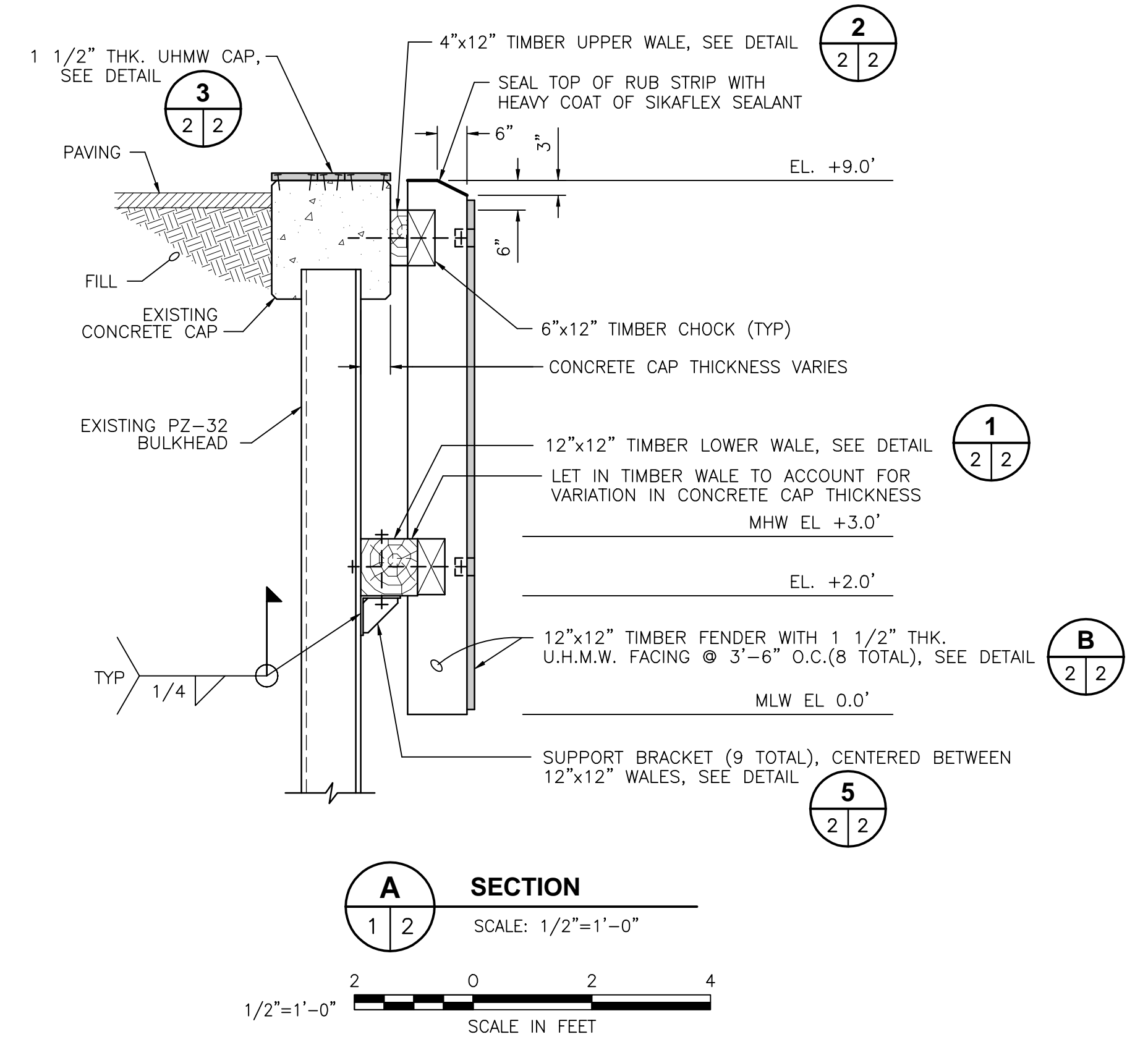
FIELD ADJUST FENDER SYSTEM LOCATION TO COINCIDE WITH EXISTING PZ-32 BULKHEAD LAYOUT, SEE DETAIL



Checked by	09/08/22	AS NOTED
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WOODS HOLE, MARTHA'S VINEYARD & NANTUCKET, MA
**FENDER SYSTEM REPAIRS
 PLAN AND DETAILS**

Sheet reference number:
FIG-01
 Sheet 1 of 2



NOTE:
ONE WALE JOINT ALLOWED IN 12"x12" TIMBER WALE HALF WAY BETWEEN FENDER UNITS.

NOTE:
LET IN TIMBER FENDER TO ACCOUNT FOR VARIATION IN CONCRETE CAP THICKNESS. FIELD TREAT CUTS IN TIMBER