

CHATHAM FISH PIER BULKHEAD RESHEETING AND SOUTH JOG IMPROVEMENTS PROJECT

TOWN OF CHATHAM, MASSACHUSETTS
SEPTEMBER, 2022

Prepared by:
Foth Infrastructure & Environment, LLC



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LOCATION MAP



VICINITY MAP



ENGINEER OF RECORD

SHEET TITLE	COVER SHEET
SHEET NUMBER	G-001

DESIGN CRITERIA:

- STRUCTURAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE MASSACHUSETTS BUILDING CODE, NINTH EDITION.
- THE COMPLETED STRUCTURE HAS BEEN DESIGNED TO WITHSTAND THE FOLLOWING SUPERIMPOSED LOADS:

a. GENERAL

BUILDING RISK CATEGORY II

b. LIVE LOADS:

UNIFORM LIVE LOAD: 300 PSF UNIFORM LOAD
 HS-20 TRUCK LOAD: 32 KIP AXLE LOAD
 GROVE TMS700E CRANE: 91 KIP OUTRIGGER LOAD
 CAT 320F EXCAVATOR: 91 KIP OUTRIGGER LOAD

c. WIND LOAD

BASIC WIND SPEED 140 MPH
 WIND EXPOSURE CATEGORY D

d. SNOW LOAD

GROUND SNOW LOAD 25 PSF

e. EARTHQUAKE LOAD

SEISMIC IMPORTANCE FACTOR $I_e=1.0$
 MCE_g GROUND MOTION (PERIOD=0.2s) $S_g=0.135$
 MCE_g GROUND MOTION (PERIOD=1.0s) $S_g=0.051$
 SITE-MODIFIED SPECTRAL ACCELERATION $S_M=0.135$
 SITE-MODIFIED SPECTRAL ACCELERATION $S_{M1}=0.0918$
 NUMERIC SEISMIC DESIGN VALUE AT 0.2S SA $SDS=0.09$
 NUMERIC SEISMIC DESIGN VALUE AT 1.0S SA $SD1=0.0612$
 SITE CLASS D
 SEISMIC DESIGN CATEGORY A
 DESIGN PROCEDURE: EQUIVALENT LATERAL FORCE

3. FOUNDATION

REQUIRED SOIL BEARING CAPACITY 1500 PSF

A GEOTECHNICAL ENGINEER SHALL REVIEW ALL BEARING STRATA PRIOR TO CASTING CONCRETE IN ORDER TO VERIFY THE PRESUMPTIVE BEARING VALUE.

4. CONCRETE

- CAST-IN-PLACE CONCRETE $f_c=5000$ PSI
- CONCRETE EXPOSURE CLASSES F3, S1, W1, C2
- W/C RATIO 0.40
- REINFORCING BARS ASTM A615 GR. 60
- WELDED WIRE REINFORCEMENT ASTM A1064
- BAR EXPOXY COATING ASTM A775
- PROVIDE THE FOLLOWING COVER FOR REINFORCEMENT:

CAST AGAINST EARTH 3 IN
 EXPOSED TO EARTH, WEATHER OR WATER 3 IN

5. STEEL

- STEEL W AND WT SHAPES ASTM A276 SS 316
- OTHER STEEL SHAPES ASTM A276 SS 316
- STEEL PLATES ASTM A276 SS 316
- STEEL HSS ASTM A276 SS 316
- STEEL PIPE ASTM A276 SS 316
- BOLTED CONNECTIONS ASTM F3125 GR A325 HDG SNUG TIGHT U.S.O.
HEAVY DUTY BOLT A4-70 SS
ASTM F1554 GR 36 HDG
HAS SS 304/316
E70XX
E316-16
- BLIND BOLTS ASTM A690 GR. 50 (EPOXY COATED - TOP 30 FEET)
- ANCHOR BOLTS ASTM A690 GR. 50 (EPOXY COATED - TOP 30 FEET)
- HILTI ANCHOR BOLTS SYP NO. 2 OR BETTER
- STEEL WELDING ELECTRODES SYP NO. 2 OR BETTER
- SS WELDING ELECTRODES ADMIRAL SPACEMAKER
TANGENT HIBERFORCE
- STEEL SHEET PILE 0.4 PCF ACQ
- HP14X102 (BH CLOSURE)
- HP14X102 (BH WALE)
- C15X33.9 (BH WALE)
- DYWIDAG THREADBAR
- GALVANIZING

6. TIMBER

- TIMBER PILES GREENHEART 14" DIAMETER
 - TIMBER POSTS SYP NO 2 OR BETTER
 - TIMBER PILE CAPS AND BRACES SYP NO. 2 OR BETTER
 - TIMBER STRINGERS SYP NO. 2 OR BETTER
 - TIMBER DECKING ADMIRAL SPACEMAKER
 - TIMBER NOSING TANGENT HIBERFORCE
 - PRESERVATIVES
 - PILE CAPS AND STRINGERS 0.4 PCF ACQ
 - HARDWARE
- HARDWARE FOR TIMBER CONSTRUCTION SHALL BE STAINLESS STEEL IN COMPLIANCE WITH AISI 316, U.N.O.

7. WATER LEVELS

TIDAL DATUM INFORMATION DETERMINED USING NOAA TIDE STATION #8447435 CHATHAM, LYDIA COVE, MA.

TIDAL STAGE	MLLW DATUM	MLW DATUM	NAVD88 DATUM
MHHW (FT)	5.17	5.01	2.68
MHW (FT)	4.80	4.64	2.31
NAVD88 (FT)	2.49	2.33	0.00
MLW (FT)	0.16	0.00	-2.33
MLLW(FT)	0.00	-0.16	-2.49
NOAA TIDE STATION: CHATHAM, MA 8447435			

8. LOCATION OF EXISTING STRUCTURES TAKEN FROM SURVEY BY FOTH INFRASTRUCTURE & ENVIRONMENT, LLC, ON DECEMBER 13, 2016, MARCH 25, 2019, AND REPRESENT THE CONDITIONS OF THE SITE AT THE TIME OF THE SURVEY.

9. THE STRUCTURES HAVE BEEN DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER CONSTRUCTION IS COMPLETE. THE STABILITY OF THE STRUCTURES PRIOR TO COMPLETION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. THIS RESPONSIBILITY EXTENDS TO RELATED ASPECTS OF THE CONSTRUCTION ACTIVITY INCLUDING, BUT NOT LIMITED TO, ERECTION METHODS, ERECTION SEQUENCE, CONNECTIONS, TEMPORARY BRACING, FORMS, SHORING, USE OF EQUIPMENT, AND SIMILAR CONSTRUCTION PROCEDURES. REVIEW OF CONSTRUCTION BY THE OWNER AND ENGINEER OF RECORD IS FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS ONLY. LACK OF COMMENT BY THE OWNER AND ENGINEER OF RECORD WITH REGARD TO CONSTRUCTION PROCEDURES SHALL NOT BE INTERPRETED AS APPROVAL OR ACCEPTANCE OF SUCH PROCEDURES.

GENERAL CONDITIONS:

- NO GUARANTEE TO THE ACCURACY OF THE REFERENCE DOCUMENTS IS PROVIDED HEREIN AND THE CONTRACTOR SHALL RELY ON HIS OWN FIELD VERIFICATION FOR ITEMS SO REQUIRED.
- SECTIONS, DETAILS, NOTES, DIMENSIONS AND CONDITIONS ARE APPLICABLE AT ANY OTHER LOCATION WHERE CONDITIONS AND DETAIL ARE SIMILAR BUT ARE NOT SPECIFICALLY NOTED AS SUCH OR ARE NOT SHOWN.
- THE CONTRACTOR SHALL PERFORM THE WORK IN A MANNER THAT DOES NOT IMPEDE THE OWNER'S OPERATIONS ON SITE OR THE OWNER'S ON-SITE OPERATING EQUIPMENT.
- THE CONTRACTOR PRIOR TO CONSTRUCTION AND FABRICATION OF CONSTRUCTION MATERIALS SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS.
- IF, DURING THE PERFORMANCE OF THE WORK, THE CONTRACTOR FINDS A CONFLICT, ERROR, OR DISCREPANCY IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SO REPORT TO THE ENGINEER OF RECORD IN WRITING AT ONCE. BEFORE PROCEEDING WITH THE WORK AFFECTED THEREBY, THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION OR CLARIFICATION FROM THE ENGINEER OF RECORD. WORK DONE BEFORE THE ENGINEER OF RECORD RENDERS HIS DECISION IS AT THE CONTRACTOR'S SOLE RISK.
- THE WORK SHALL BE PERFORMED IN A GENERAL SEQUENCE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE SEQUENCES AND PROCEDURES TO BE USED.
- THE CONTRACTOR SHALL FURNISH AND COORDINATE PLANT, LABOR, SUPERVISION, MATERIALS, EQUIPMENT AND APPLIANCES FOR DEMOLITION AND/OR CONSTRUCTION WORK IN CONNECTION WITH THE DEMOLITION AND/OR CONSTRUCTION OF THE MARINE FACILITIES.
- THE OWNER HAS SECURED CERTAIN PERMITS REQUIRED BY FEDERAL, AND STATE AUTHORITIES FOR THE PROPOSED ACTIVITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM THE WORK IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE PERMITS. THE CONTRACTOR SHALL POST COPIES OF THE PERMITS AT THE SITE THROUGHOUT THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN PERMITS ASSOCIATED WITH THE LEGAL DISPOSAL OF CONSTRUCTION DEBRIS. THE CONTRACTOR SHALL SECURE REQUIRED LOCAL AUTHORIZATIONS AND PERMITS.
- SPECIAL INSPECTION REQUIREMENTS PER LOCAL AND/OR STATE BUILDING CODES SHALL BE FULFILLED AND SHALL BE COORDINATED BY THE OWNER. THE CONTRACTOR SHALL INFORM THE OWNER OF THE PROGRESS OF WORK AND PROVIDE ADEQUATE NOTICE AS TO WHEN SPECIAL INSPECTIONS ARE TO OCCUR SUCH AS TO NOT DELAY THE SCHEDULE.
- THE CONTRACTOR SHALL FURNISH MATERIALS FOR INSTALLATION IN THE COMPLETED WORK AS SPECIFIED HEREINAFTER. THE CONTRACTOR SHALL HANDLE THESE MATERIALS AS THEY ARE DELIVERED TO THE SITE OR OFF-SITE WORK AREAS AND SHALL STORE THEM IN A DESIGNATED STORAGE AREA.
- THE CONTRACTOR WILL INDEMNIFY AND SAVE HARMLESS THE OWNER AND ENGINEER OF RECORD FROM AND AGAINST ALL LOSSES AND ALL CLAIMS, DEMANDS, PAYMENTS, SUITS, ACTIONS, RECOVERIES, AND JUDGMENTS OF EVERY NATURE AND DESCRIPTION BROUGHT OR RECOVERED AGAINST THE OWNER AND ENGINEER OF RECORD BY REASON OF ANY ACT OR OMISSION OF THE CONTRACTOR, OR OF ANY SUBCONTRACTOR TO THE CONTRACTOR, OR OF ANY PERSON DIRECTLY OR INDIRECTLY EMPLOYED BY THE CONTRACTOR OR ANY SUCH SUBCONTRACTOR, IN THE PERFORMANCE OF ANY WORK FOR, OR THE RENDERING OF ANY SERVICES TO, THE OWNER.
- THE CONTRACTOR AGREES THAT, AT ITS OWN COST AND EXPENSE, IT SHALL PROCURE AND CONTINUE IN FORCE; INSURANCE COVERAGE AS REQUIRED BY THE OWNER. SUCH INSURANCE SHALL BE WRITTEN BY A COMPANY OR COMPANIES AUTHORIZED TO ENGAGE IN THE BUSINESS OF GENERAL LIABILITY INSURANCE IN THE STATE IN WHICH THE DEMISED PREMISES ARE LOCATED, AND THERE SHALL BE DELIVERED TO THE OWNER WITH THE BID CUSTOMARY CERTIFICATES EVIDENCING SUCH PAID-UP INSURANCE, WHICH CERTIFICATES ARE TO BE ISSUED BY THE INSURANCE COMPANIES. GOOD AND RESPONSIBLE COMPANIES, REASONABLY ACCEPTABLE TO THE OWNER, SHALL WRITE SUCH INSURANCE.
- THE ENGINEER AND ITS SUB CONSULTANTS SHALL BE ADDED TO THE CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY AS ADDITIONAL INSURED ON PRIMARY AND CON-CONTRIBUTORY BASIS. SUBMIT CERTIFICATES OF INSURANCE TO THE ENGINEER AS EVIDENCE OF THIS COVERAGE.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY OF LOCATIONS, DIMENSIONS, AND LEVELS AND NO PLEA AS TO INSTRUCTIONS OR ORDER RECEIVED FROM OTHER SOURCES OTHER THAN INFORMATION CONTAINED ON CONTRACT DRAWINGS, SPECIFICATIONS OR IN WRITTEN ORDERS OF THE OWNER OR ENGINEER OF RECORD SHALL JUSTIFY DEPARTURE FROM THE DIMENSIONS AND ELEVATIONS REQUIRED BY THE CONTRACT DRAWINGS.
- THE CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE SITE, VERIFYING THE SAME WITH THE CONTRACT DRAWINGS AND EXISTING FACILITIES, AND WILL BE HELD RESPONSIBLE FOR THE PROPER FIT AND ALIGNMENT OF COMPLETED WORK IN POSITION.
- THE CONTRACTOR SHALL GUARANTEE TO THE OWNER MATERIALS AND WORKMANSHIP AGAINST ORIGINAL DEFECTS, OR AGAINST INJURY FROM PROPER AND USUAL WEAR WHEN USED FOR THE PURPOSE INTENDED, FOR TWELVE (12) MONTHS AFTER DATE OF FINAL PAYMENT CERTIFICATIONS AND SHALL MAINTAIN ITEMS IN PERFECT CONDITION DURING THE PERIOD OF GUARANTEE. DEFECTS APPEARING DURING THE PERIOD OF GUARANTEE SHALL BE MADE GOOD BY THE CONTRACTOR AT HIS EXPENSE UPON DEMAND OF THE OWNER, IT BEING REQUIRED THAT WORK SHALL BE IN PERFECT CONDITION WHEN THE PERIOD OF GUARANTEE SHALL HAVE ELAPSED. IN THE EVENT OF DEFAULT BY THE CONTRACTOR, THE COMPANY SHALL HAVE THE RIGHT TO MAKE GOOD DEFECTS AND BILL THE CONTRACTOR COST PLUS 15% FOR ADMINISTRATION FEES.
- AT THE CONTRACTOR'S EXPENSE, THE CONTRACTOR'S WORKING AREAS SHALL BE CLEANED BY HIM ON A DAY-TO-DAY BASIS, WITH RUBBISH REMOVED FROM THE SITE AND WORK AREAS CLEANED AT THE END OF EACH DAY. AT FINAL COMPLETION OF WORK THE CONTRACTOR SHALL LEAVE THE ENTIRE PREMISES, WITHIN THE SITE OF HIS OPERATIONS, CLEAN AND FREE FROM THE RUBBISH RESULTING FROM HIS CONSTRUCTION OPERATIONS.
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE AND MAINTAIN UTILITIES HE DEEMS NECESSARY TO AFFECT THE WORK.
- THE CONTRACTOR SHALL PROVIDE FIELD ENGINEERING SERVICES REQUIRED FOR PROPER COMPLETION OF THE WORK INCLUDING, BUT NOT NECESSARILY LIMITED TO: ESTABLISHING AND MAINTAINING LINES AND LEVELS; STRUCTURAL DESIGN OF SHORES, FORMS, AND SIMILAR ITEMS PROVIDED BY THE CONTRACTOR AS PART OF HIS MEANS AND METHODS OF CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AT HIS EXPENSE REQUIRED FIRE PROTECTION SYSTEMS AND DEVICES AS NECESSARY TO SAFELY PERFORM THE WORK IN ACCORD WITH THE APPLICABLE REGULATIONS. IT SHALL BE OPERATIONAL THROUGHOUT THE PERIOD OF CONSTRUCTION.
- THE OWNER SHALL HAVE THE RIGHT TO WITHHOLD WITHOUT PENALTY PAYMENT DESCRIBED ABOVE, OR SECTIONS REFERENCED HEREIN, FOR COMPLETED WORK SHOULD THE CONTRACTOR FAIL TO MEET OBLIGATIONS OR REQUIREMENTS OF THE CONTRACT. WITHHELD PAYMENT SHALL BE PROMPTLY MADE UPON THE CONTRACTOR'S FULL COMPLIANCE WITH THE CONTRACT.
- COMPLY WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR PROTECTION OF THE ENVIRONMENT DURING THE WORK. ENSURE THAT PERSONNEL ARE PROPERLY TRAINED AND THAT SUFFICIENT EQUIPMENT AND MATERIALS ARE READILY AVAILABLE FOR USE IF REQUIRED. ABIDE BY STATE AND FEDERAL SPILL REPORTING REQUIREMENTS.
- THE OWNER RESERVES THE RIGHT TO CHARGE THE CONTRACTOR FOR ADDITIONAL ENGINEERING SERVICES IF REQUIRED DUE TO THE CONTRACTOR'S ACTIONS OR INACTIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF HIS OPERATIONS. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS FOR THE SAFETY OF, AND SHALL PROVIDE REASONABLE PROTECTION TO PREVENT DAMAGE, INJURY, OR LOSS TO PERSONS EMPLOYED BY THE CONTRACTOR IN PERFORMANCE OF THE WORK, AND PERSONS NEARBY THAT MAY BE AFFECTED BY THE CONTRACTOR'S OPERATIONS OR THE WORK, INCLUDING EQUIPMENT AND MATERIALS WHICH WILL BE INCORPORATED IN THE WORK, AND OTHER PROPERTIES AND STRUCTURES AT THE SITE, OR ON ADJACENT PROPERTIES.
- OBSTRUCTIONS ARE DEFINED AS UNFORESEEN OBJECTS, WHICH IMPEDE PROGRESS. OBJECTS, WHICH ARE MADE KNOWN TO THE CONTRACTOR, WILL NOT BE CONSIDERED TO BE OBSTRUCTIONS. NOTIFY THE ENGINEER OF RECORD IMMEDIATELY UPON ENCOUNTERING OBSTRUCTIONS. NO CONSIDERATION WILL BE GIVEN FOR ADDITIONAL COMPENSATION ON THIS ACCOUNT WITHOUT THIS TIMELY NOTIFICATION.
- SUBSTITUTIONS MAY BE FURNISHED FOR MATERIALS SPECIFIED HEREIN PROVIDED THE CONTRACTOR SECURES ACCEPTANCE FROM THE ENGINEER OF RECORD.

SELECTIVE DEMOLITION AND DISPOSAL:

- SELECTIVE DEMOLITION AND DISPOSAL SHALL BE PERFORMED IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL PERMIT AND BUILDING CODE REQUIREMENTS.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THOSE STRUCTURES AND DERELICT COMPONENTS AS INDICATED ON THE DRAWINGS.
- SELECTIVE DEMOLITION INCLUDES BUT IS NOT LIMITED TO REMOVAL AND REUSE (WHERE POSSIBLE) OF EXISTING MATERIALS, UTILITIES, AND OTHER COMPONENTS ESSENTIAL FOR A COMPLETE PROJECT.
- THE CONTRACTOR SHALL TAKE REASONABLE CARE IN REMOVING ELEMENTS SELECTED TO BE DEMOLISHED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DAMAGE OR DESTRUCTION BY THE CONTRACTOR TO EXISTING ELEMENTS DESIGNATED TO REMAIN SHALL BE REPAIRED OR REPLACED IN-KIND AT THE DISCRETION OF THE OWNER AT NO ADDITIONAL COST.
- ITEMS TO BE REMOVED AND REUSED SHALL BE PLACED IN A STAGING AREA ACCESSIBLE FOR INSPECTION BY THE OWNER.
- PRIOR TO COMMENCEMENT OF SELECTIVE DEMOLITION, THE CONTRACTOR SHALL SUBMIT A DISPOSAL PLAN FOR ITEMS TO BE DEMOLISHED. DEMOLITION MATERIAL DESIGNATED BY THE OWNER TO BE REMOVED FROM THE SITE SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE DEBRIS DISPOSAL PLAN SHALL ACKNOWLEDGE THIS OWNERSHIP AND SHALL IDENTIFY THE MEANS AND METHODS AND FINAL DISPOSITION FOR DISPOSAL MATERIALS.
- PRIOR TO COMMENCEMENT OF DEMOLITION, THE CONTRACTOR SHALL CLEARLY MARK THE LIMITS OF THE DEMOLITION FOR REVIEW AND APPROVAL BY THE OWNER.
- COMPLETELY REMOVE ITEMS DESIGNATED LEAVING SURFACES CLEAN, SOUND, AND READY TO RECEIVE NEW MATERIALS AS SPECIFIED IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING THE COURSE OF DEMOLITION.
- THE CONTRACTOR SHALL SUBMIT A DISPOSAL CERTIFICATE TO THE OWNER'S REPRESENTATIVE CERTIFYING LEGAL AND PROPER DISPOSAL.

TEMPORARY WORK:

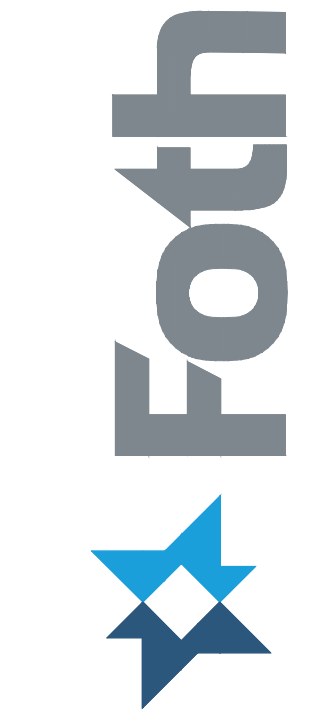
- LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE WORK THAT, UPON COMPLETION, ARE NOT A PART OF THE WORK, SHALL BE FURNISHED, INSTALLED, AND SUBSEQUENTLY REMOVED FROM THE SITE BY THE CONTRACTOR.
- TEMPORARY WORK SHALL BE SUBJECT TO THE REQUIREMENTS OF THE STATE AND APPLICABLE LOCAL BUILDING CODES.
- DURING EXECUTION OF THE WORK, THE CONTRACTOR IS REQUIRED TO INSTALL AND MAINTAIN REQUIRED SEDIMENTATION AND EROSION CONTROL MEASURES TO PROTECT ADJACENT WATERWAYS, STREETS, AND PROPERTIES. MEASURES INCLUDE BUT ARE NOT LIMITED TO TEMPORARY BERMS, HAY BALES, SILT FENCES, CONTAINMENT BOOMS, AND TURBIDITY CURTAINS. IN ACCORDANCE WITH STATE REGULATORY AUTHORIZATIONS, THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN TEMPORARY TURBIDITY CURTAINS DURING CONSTRUCTION. TEMPORARY MATERIALS AND EQUIPMENT SHALL CONFORM TO REQUIREMENTS FOR TEMPORARY WORK.

EXCAVATING, BACKFILLING, AND COMPACTION:

- STRUCTURAL FILL SHALL CONSIST OF BROKEN OR CRUSHED STONE, BANK OR CRUSHED GRAVEL, OR MIXTURES THEREOF. BROKEN OR CRUSHED STONE SHALL CONSIST OF WELL-GRADED, SOUND, TOUGH, DURABLE STONE. BANK OR CRUSHED GRAVEL SHALL CONSIST OF WELL-GRADED, SOUND, TOUGH, DURABLE PARTICLES OF CRUSHED OR UNCRUSHED GRAVEL FREE FROM SOFT, THIN, ELONGATED OR LAMINATED PIECES AND ORGANIC OR OTHER DELETERIOUS SUBSTANCES. STRUCTURAL FILL SHALL WELL GRADED WITH 100% MASS PASSING THE 90 mm (3.5") SQUARE MESH SIEVE. SUBMIT AN INDEPENDENT GRADATION ANALYSIS AND MODIFIED PROCTOR TEST FOR ENGINEER OF RECORD'S REVIEW. INCLUDE A REPRESENTATIVE SAMPLE OF THE FILL MATERIAL WITH THE SUBMITTAL.
- THE CONTRACTOR SHALL EXCAVATE UNSUITABLE MATERIALS AND GRADE THE SITE TO THE ELEVATIONS AND LIMITS SHOWN AND AS NEEDED TO MEET THE REQUIREMENTS OF THE CONSTRUCTION.
- STRUCTURAL FILL SHALL BE PLACED IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH. DO NOT PLACE FILL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN OR CONTAINING FROST AND/OR ICE. PLACE FILL MATERIALS EVENLY ADJACENT TO STRUCTURES, TO REQUIRED ELEVATIONS. TAKE CARE TO PREVENT WEDGING ACTION OF BACKFILL AGAINST STRUCTURES BY CARRYING THE MATERIAL UNIFORMLY AROUND THE STRUCTURE TO APPROXIMATELY THE SAME ELEVATION IN EACH LIFT.
- CONTROL STRUCTURAL FILL COMPACTION DURING CONSTRUCTION TO PROVIDE THE MINIMUM PERCENTAGE OF DENSITY SPECIFIED FOR EACH AREA AS DETERMINED ACCORDING TO ASTM D1557. STRUCTURAL FILL AREAS SHALL NOT FALL BELOW 95% OF ITS DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ABOVE TEST.

PARKING LOT PERIMETER SWALE SEEDING:

- SEEDING (WETMIX BY NEW ENGLAND WETLAND PLANTS, INC., OR APPROVED EQUAL) WILL REQUIRE MULCHING WITH APPROPRIATE MATERIALS. ANCHOR THE MULCH IMMEDIATELY AFTER SEEDING.
- SLOPES AND VEGETATION OF THE WET WATER QUALITY SWALE ARE TO BE INSPECTED THE FIRST FEW MONTHS AFTER CONSTRUCTION AND TWICE A YEAR AFTER EROSION.
- SWALE TO BE RE-SEEDED AS NECESSARY.
- THE SOIL MIX MUST BE UNIFORM, FREE OF STONES, ROOTS, OR SIMILAR OBJECTS LARGER THAN 2". CLAY CONTENT SHOULD NOT EXCEED 5%.



CHATHAM FISH PIER
 BULKHEAD RESHEETING AND
 SOUTH JOG IMPROVEMENTS

TOWN OF CHATHAM
 549 MAIN ST. CHATHAM, MA 02633

NO.	BY	DATE				
		DATE	DATE	DATE	DATE	DATE
1						
2						
3						
4						
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DATE OF PREPARATION		
BY	DATE	
SURVEYED	-	-
DRAWN	JRB2	9/23/2022
DESIGNED	AIM	9/12/2022
CHECKED	AIM	9/23/2022

SHEET TITLE:

GENERAL NOTES



26 September 2022

ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00

SHEET NUMBER

G-002



**CHATHAM FISH PIER
BULKHEAD RESHEETING AND
SOUTH JOG IMPROVEMENTS**

TOWN OF CHATHAM
549 MAIN ST. CHATHAM, MA 02633

PILE DRIVING:

1. DRIVE PILES WITH AN AIR OR DIESEL OPERATED HAMMER WITH SUFFICIENT ENERGY AND ENERGY TRANSFER CHARACTERISTICS TO DRIVE THE PILES TO THE REQUIRED CAPACITY AND TOE ELEVATIONS WITHOUT DAMAGING THE PILE HEAD. USE CAUTION NOT TO INJURE THE PILES BY OVER DRIVING AS WOULD BE INDICATED BY REBOUND OF HAMMER OR STAGGERING OF PILE. CUT OFF HEADS OF PILES ACCURATELY IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AFTER COMPLETION OF DRIVING.
2. DRIVE THE PILES STRAIGHT AND TRUE AT INDICATED LOCATIONS, WITH DEVIATION FROM THE LONGITUDINAL AXIS OF NOT MORE THAN 1/4 INCH PER FOOT.
3. CONTINUOUSLY DRIVE EACH PILE TO REACH THE CAPACITY AND/OR FULL EMBEDDED LENGTH CALLED FOR ON THE DRAWINGS.
4. WITHDRAW PILES THAT ENCOUNTER UNDERGROUND OBSTRUCTIONS SUFFICIENT TO IMPEDE PILE DRIVING. RE-DRIVE AS CLOSE AS POSSIBLE TO ORIGINAL POSITION. SUBJECT TO REVIEW OF THE OWNER. REMOVE PILES WHICH SPLIT, BROOM, BREAK OR DRIVE OUT OF LINE. DRIVE ANOTHER PILE IN ITS PLACE. PROVIDE AND MAINTAIN NECESSARY LIGHTING AND BARRIERS TO ADEQUATELY ASSURE PUBLIC SAFETY. PROVIDE ADEQUATE SAFEGUARDS TO PROTECT FROM DAMAGE IMPROVEMENTS ON THE WORK SITE AND ON ADJACENT PROPERTIES.
5. LENGTHS SHOWN ON THE DRAWINGS ARE CONSIDERED AVERAGE VALUES, AND THE ACTUAL LENGTHS MAY VARY WHEN SO ACCEPTED BY THE ENGINEER.
6. PROVIDE DRIVING RESISTANCE PENETRATION AND REFUSAL VALUES AS ACCEPTED BY THE ENGINEER.
7. USE SUITABLE CUSHIONS OR DRIVING HEADS TO AVOID DAMAGE TO THE PILES, DEVELOPING PROPER TOTAL DRIVING ENERGY, AND DIRECTING THE ENERGY ALONG THE LONGITUDINAL CENTER OF GRAVITY OF THE PILE.
8. DRIVE PILES TO THEIR FULL PENETRATION WITHOUT BENDING, RUPTURING, OR SEVERELY DAMAGING THE PILES. IF FAILURE IN THE ABOVE RESPECTS IS ENCOUNTERED, PULL THE PILE AND DRIVE A NEW PILE AT NO ADDITIONAL COST TO THE OWNER. IF A REPLACEMENT PILE FAILS TO DEVELOP FULL DRIVING RESISTANCE, PULL THE REPLACEMENT PILE AND DRIVE A NEW PILE WITH LARGER DIAMETER AT NO ADDITIONAL COST TO THE OWNER.
9. JETTING TO ASSIST PENETRATION WILL NOT BE PERMITTED UNLESS ACCEPTED BY THE ENGINEER. PRE-DRILLING WILL NOT BE PERMITTED UNLESS ACCEPTED BY THE ENGINEER, WHEREBY APPROVED PRE-DRILLING TO ASSIST PENETRATION MAY BE USED WHERE EXTREME DRIVING RESISTANCE IS ENCOUNTERED, OR WHERE VIBRATIONS FROM DRIVING MAY BE DETRIMENTAL TO ADJACENT STRUCTURES.
10. WHERE PILES ARE PUSHED UP BY PRESSURE FROM DRIVING OF ADJACENT PILES, RE-DRIVE AS REQUIRED AND AT NO ADDITIONAL COST TO THE OWNER.
11. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE DRIVING RECORD WITH THE DATE OF FINAL INSTALLATION AND TIP ELEVATIONS. THIS RECORD SHALL BE SUBMITTED WEEKLY AND SIGNED BY A REPRESENTATIVE OF THE CONTRACTOR. THE CONTRACTOR SHALL KEEP AN ACCURATE SET OF PILE RECORDS INDICATING PILE NUMBER, PILE TYPE AND INSTALLED LENGTH, TYPE OF HAMMER AND RATED ENERGY, DATE OF INSTALLATION, FINAL TIP ELEVATION, AND CONTRACTOR'S REPRESENTATIVE NAME AND SIGNATURE.

NON-SHRINK GROUT:

1. NON-SHRINK GROUT SHALL BE SIKAGROUT 212, AS MANUFACTURED BY SIKA CORPORATION, CONFORMING TO ASTM C827 AND SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 6000 PSI.

GROUND ANCHORS:

1. GROUND ANCHORS SHALL BE DESIGNED, INSTALLED AND TESTED IN ACCORDANCE WITH POST TENSIONING INSTITUTE (PTI) GUIDELINES. SEE SPECIFICATIONS FOR PERFORMANCE AND PROOF TEST, DETAILED REQUIREMENTS OF COMPONENTS AND OTHER REQUIREMENTS.
2. GROUND ANCHORS SHALL BE DESIGNED FOR THE FOLLOWING LOADS:
HORIZONTAL LOAD: 12.1 KIP/FT
3. GROUND ANCHORS ARE SPACED AT 9.2+/- FEET ON CENTER.
4. ULTIMATE GEOTECHNICAL ANCHOR CAPACITY SHALL BE NO LESS THAN 1.5 TIMES THE ANCHOR DESIGN LOAD. BOND LENGTH SHALL BE DESIGNED BY THE CONTRACTOR.
5. GROUND ANCHORS SHALL BE INSTALLED WITH 30 DEGREE VERTICAL ANGLE RESPECT HORIZONTAL PLANE AS SHOWN ON DRAWINGS.
6. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING THE ANCHOR BEARING PLATE. BEARING PLATE DESIGN SHALL CONSIDER FACTORS, INCLUDING BUT NOT LIMITED TO, ANCHOR TEST LOAD, SIZE OF ANCHOR HEAD, SIZE OF HOLE IN BEARING PLATE, SIZE OF HOLE IN BEARING SURFACE (SLEEVE), AND CONCRETE COMPRESSIVE STRENGTH.
7. STEEL TRUMPET SHALL BE WELDED TO BEARING PLATE. STEEL ANCHORAGE ASSEMBLY SHALL BE GALVANIZED AFTER FABRICATION.
8. PROVIDE CLASS I CORROSION PROTECTION FOR GROUND ANCHOR IN ACCORDANCE WITH PTI RECOMMENDATIONS.
9. REGROUT TUBES SHALL BE INSTALLED IN EACH ANCHOR.
10. ANCHORAGE BLOCKOUTS SHALL BE FILLED WITH NON-SHRINK GROUT AFTER TESTING AND LOCK-OFF OF THE ANCHOR IS COMPLETED AND ACCEPTED.

PROTECTIVE COATING:

1. MATERIAL USED FOR FACTORY EPOXY COATING OF ALL SCHEDULED SURFACES SHALL BE BAR_RUST 235 MULTI_PURPOSE EPOXY COATING AS MANUFACTURED BY DEVOE COATINGS OR EQUIVALENT ACCEPTED BY THE ENGINEER.
2. FIELD TOUCH_UP COATING SHALL BE IDENTICAL TO FACTORY COATING AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
3. PROTECTIVE COATING TOPCOAT SHALL BE BLACK.
4. SURFACES SHALL BE PREPARED IN STRICT ACCORDANCE WITH THE PROTECTIVE COATING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. THE PROTECTIVE COATING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. COATING IS TO BE APPLIED IN TWO COATS TO ACHIEVE A MINIMUM OVERALL DRY FILM THICKNESS OF 16 MILS.
6. ALL HOLIDAYS OR OTHER IMPERFECTIONS IN THE COATING SHALL BE REMOVED OR REPAIRED AT THE CONTRACTORS EXPENSE PRIOR TO FINAL ACCEPTANCE OF THE WORK.

ACCESS LADDERS:

1. ACCESS LADDERS SHALL BE MANUFACTURED FOLLOWING THESE DRAWINGS AND USING STEEL IN COMPLIANCE WITH ASTM A36.
2. ACCESS LADDERS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
3. COAT BOTTOM 42 INCHES OF LADDER WITH COMPATIBLE PRODUCT. COLOR OF COATING SHALL BE YELLOW.
4. SUBMIT PRODUCT AND APPLICATION PROCEDURE TO ENGINEER FOR REVIEW AND ACCEPTANCE.

BATHYMETRIC SURVEY NOTES:

1. THE BATHYMETRIC DATA SHOWN ON THIS PLAN WAS GATHERED BY FOTH ON MARCH 10, 2021.
2. THE TOPOGRAPHIC DATA SHOWN ON THIS PLAN WAS GATHERED BY FOTH ON 3/17/2021 AND 1/19/2022.
3. UTILITIES SHOWN ON THIS PLAN ARE FROM GPR SURVEY PERFORMED BY TPI ENVIRONMENTAL ON 1/19/2022. SEE TPI REPORT FOR ADDITIONAL INFORMATION REGARDING UTILITIES.
4. CONTOURS REFER TO DEPTH BELOW THE REFERENCE PLANE. THE REFERENCE PLANE FOR THIS PROJECT IS NAVD88.
5. COORDINATES ARE BASED ON NAD 83 STATE PLANE MASSACHUSETTS MAINLAND COORDINATE GRID.
6. BENCHMARK / RTK TIDES: TIDES ARE RECORDED USING RTK TIDES IN HYPACK. ELEVATIONS FROM ELLIPSOID TO ORTHOMETRIC NAVD88 USE GEOID 12B.
7. PROJECT BENCHMARK IS A NGS DISK STAMPED "7435 F 2009" LOCATED ON A CONCRETE BULKHEAD NEAR THE USCG DOCK EL= 7.11' NAVD88 (9.74' MLW).
8. RTK CORRECTIONS FOR THIS SURVEY PROVIDED BY KEYNET - VRS (GEOID 12A)
9. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THAT TIME. INTERPOLATED INFORMATION FROM BETWEEN SOUNDING RUNS IS NOT GUARANTEED. SHOALS, OBSTRUCTIONS OR OTHER DIFFERING CONDITIONS MAY EXIST BETWEEN THESE RUNS. CONSULT WITH FOTH FOR MORE DETAILED INFORMATION.
10. POSSESSION AND USE OF THE MATERIAL CONTAINED ON THESE DRAWINGS IS GRANTED ONLY IN CONNECTION WITH ITS USE AS IT RELATES TO THE TITLED PROJECT, ANY OTHER USE, REPRODUCTION OR DISCLOSURE OF THE INFORMATION CONTAINED HEREON IS EXPRESSLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF FOTH.

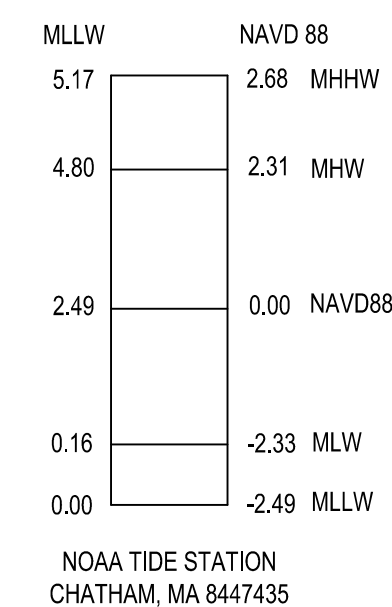
LAND SURVEY NOTES:

1. PROJECT NAME: AUNT LYDIA'S COVE CONDITIONS
2. PROJECT NUMBER: 21C036.00
3. PLOT SCALE: AS SHOWN
4. SURVEY DATE: MARCH 10, 2021
5. SURVEYOR: M. COUNT, H. CHOUINARD
6. VESSEL: OLAF
7. TRANS./FATH.: 200KHZ, 3 DEGREE, ODOM CVM RTK KEYNET CORRECTIONS
9. PROJECT DATUM: NAVD88 SEE DATUM CONVERSION
10. COOR. SYSTEM: NAD-83, MASSACHUSETTS MAINLAND
11. DATA REDUCTION: DATA SORTED BASED ON A 20' RADIUS USING THE HYPACK SORT PROGRAM
12. SITE BENCHMARK: DISK IN CONCRETE BULKHEAD 7.11 FT NAVD88 (9.74 FT MLW)

GPR AND UTILITY SURVEY NOTES:

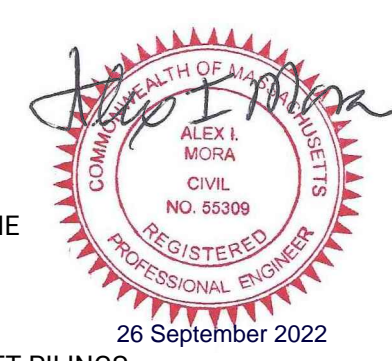
1. PROJECT NAME: AUNT LYDIA'S COVE CONDITIONS
2. PROJECT NUMBER: 20C036.00
3. PLOT SCALE: AS SHOWN
4. SURVEY DATE: JANUARY 19, 2022
5. SURVEYOR: M. COUNT
6. VESSEL: OLAF
7. TRANS./FATH.: 200KHZ, 3 DEGREE, ODOM CVM RTK KEYNET CORRECTIONS
9. PROJECT DATUM: NAVD88 SEE DATUM CONVERSION
10. COOR. SYSTEM: NAD-83, MASSACHUSETTS MAINLAND
12. SITE BENCHMARK: DISK IN CONCRETE BULKHEAD 7.11 FT NAVD88 (9.74 FT MLW)

TIDAL DATUM



GENERAL SYMBOLS

- EXISTING TREE
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- EXISTING CONTROL POINT LOCATION
- EXISTING BENCH MARK LOCATION
- EXISTING SPRINKLER HEAD LOCATION
- EXISTING CATCH BASIN LOCATION
- EXISTING LIGHTPOLE LOCATION
- PROPOSED LIGHTPOLE LOCATION
- EXISTING SANITARY MANHOLE LOCATION
- EXISTING DRAINAGE MANHOLE LOCATION
- EXISTING SANITARY MANHOLE LOCATION
- EXISTING WATER SOURCE LOCATION
- EXISTING GAS METER LOCATION
- EXISTING GAS VALVE LOCATION
- EXISTING WATER VALVE LOCATION
- NO PARKING AREA
- AREA TO BE EXCAVATED OR DEMOLISHED
- AREA TO PLACE CONCRETE - PAD & DECK
- HANDICAP PARKING SPOT
- EXISTING ELECTRIC LINE
- EXISTING COMMUNICATIONS LINE
- EXISTING WATER LINE
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING GAS LINE
- UNKNOWN UTILITY LINE
- APPROXIMATE PROPERTY LINE
- PROPERTY EASEMENT
- BENT GRASS BOUNDARY
- EXISTING OR PROPOSED SHEET PILINGS
- SHELLFISH SUITABILITY AREA (MASSGIS)
- HISTORIC HIGH TIDE LINE (MASSGIS)
- FEMA FLOOD ZONE (MASSGIS)
- WETLAND RESOURCE AREAS (MA GIS)
- MEAN LOW WATER (MLW) = -2.33' NAVD88
- MEAN HIGH WATER (MHW) = 2.31' NAVD88



NO.	BY	DATE	DATE OF PREPARATION							
			BY	DATE						
REVISIONS										
DESCRIPTION										

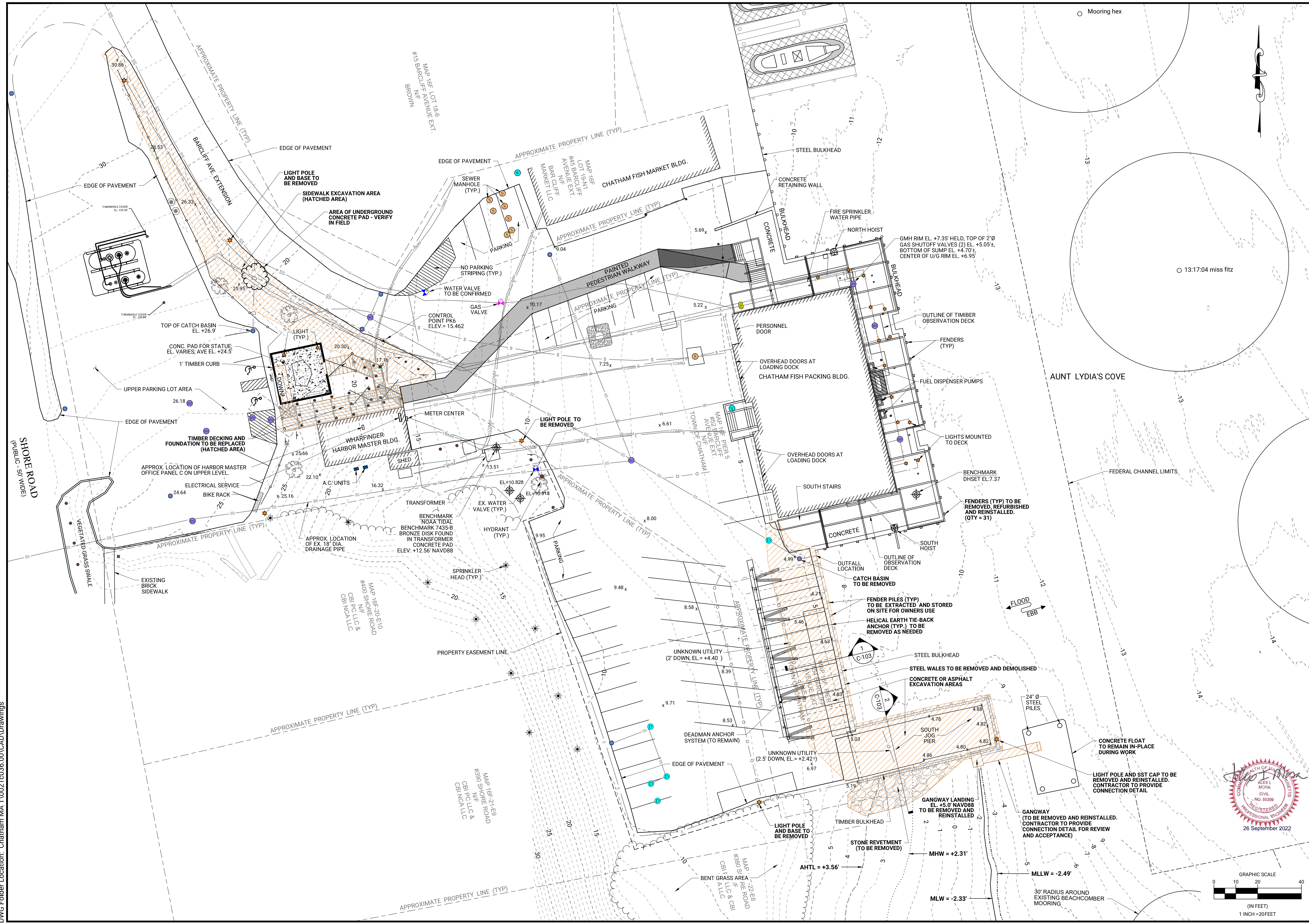
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DRAWN	JRB2	9/12/2022
DESIGNED	AIM	9/12/2022
CHECKED	AIM	9/13/2022

SHEET TITLE:

NOTES AND LEGEND

ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00
SHEET NUMBER
G-003



REVISIONS		DESCRIPTION	
NO.	DATE	BY	DATE

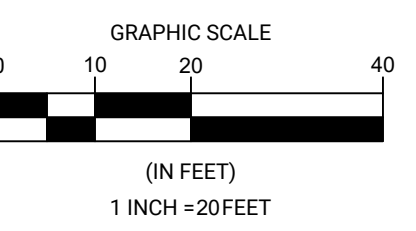
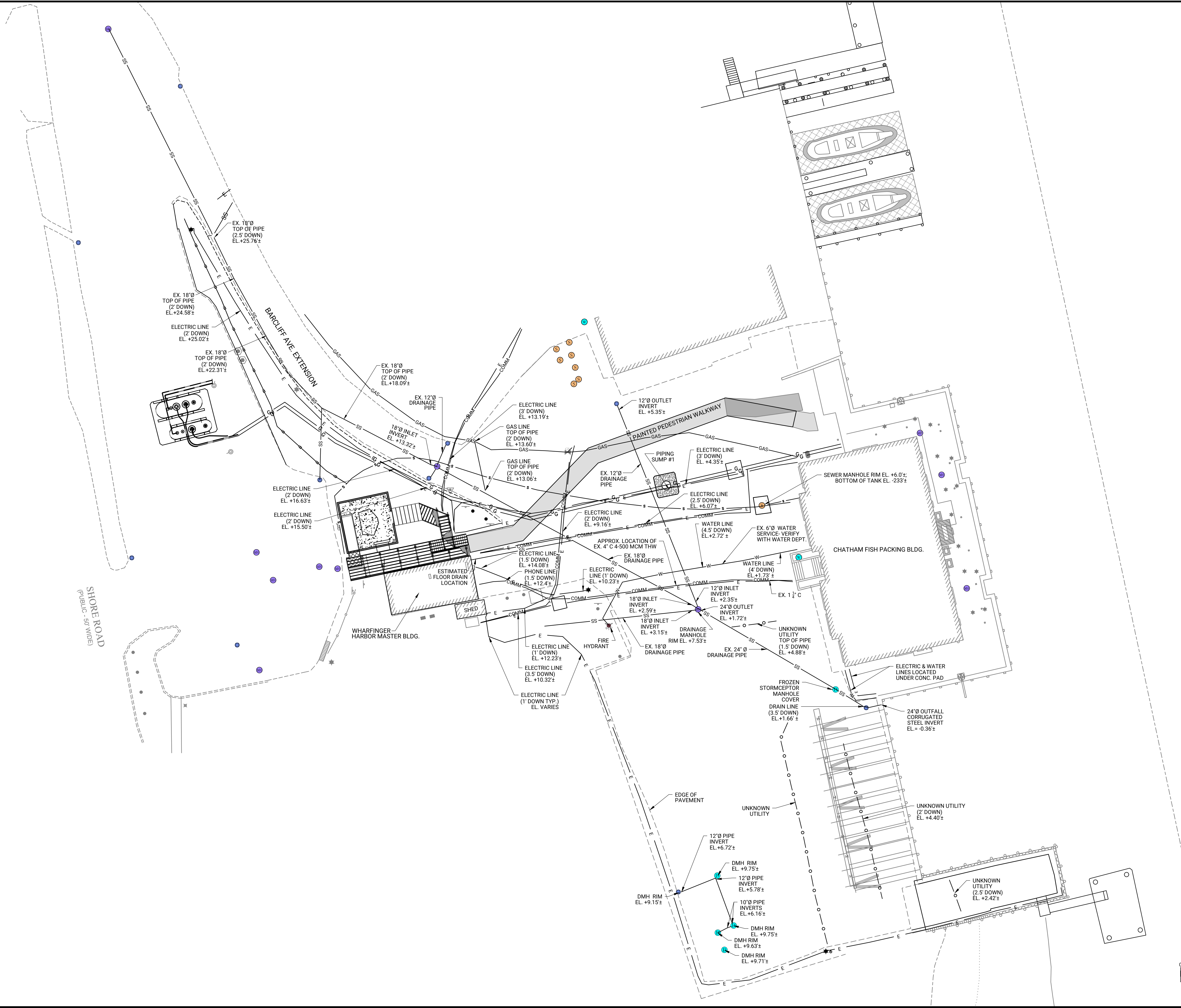
DATE OF PREPARATION	
BY	DATE

EXISTING SITE AND DEMOLITION PLAN

ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00
SHEET NUMBER
C-101

Friday, September 23, 2022 11:46:43 AM
DWG Filename: existing conditions.dwg Layout: c-101 - existing conditions
DWG Folder Location: Chatham MA T:\021c036.00\CAD\Drawings



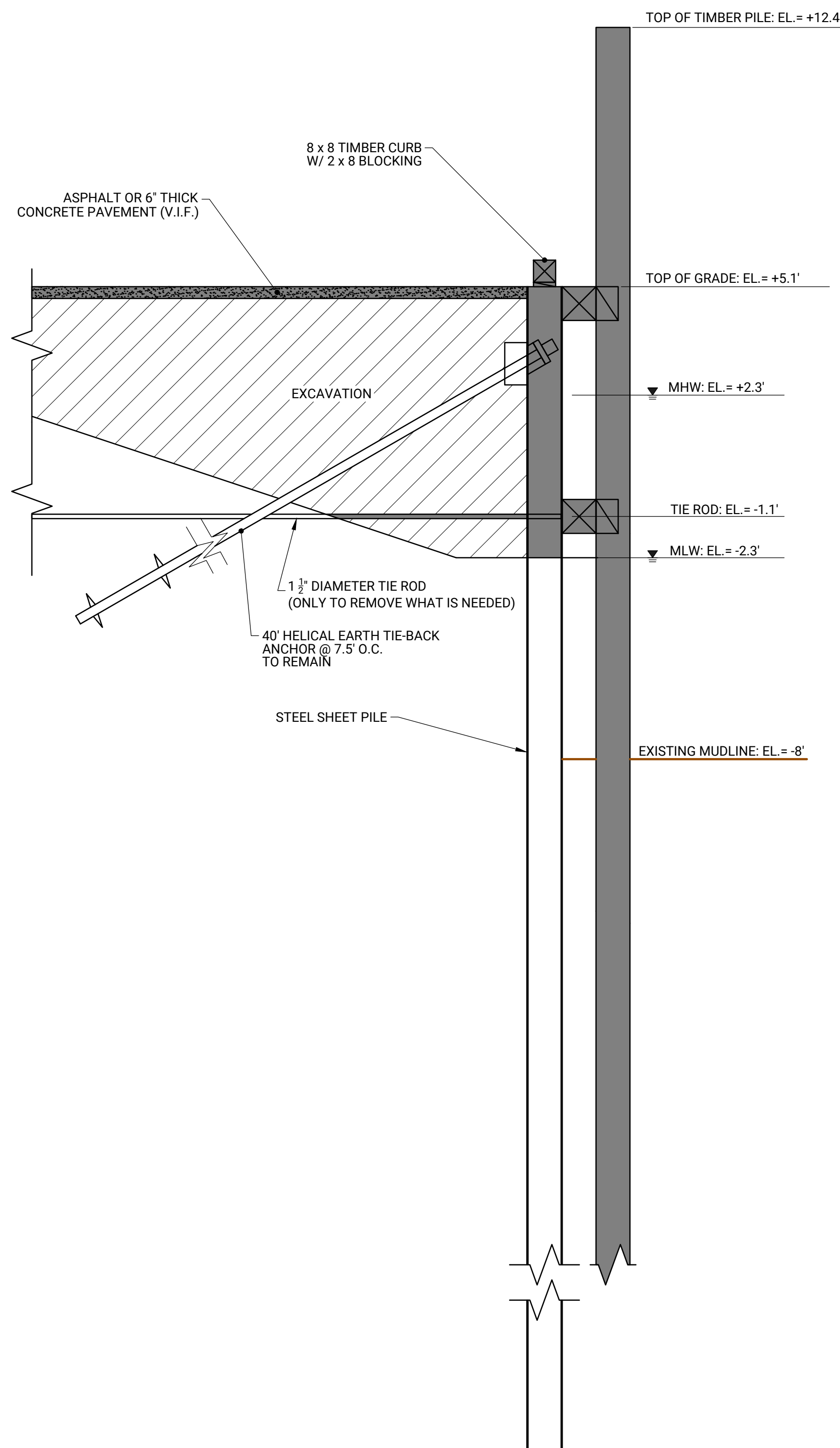
REVISIONS	
NO.	DESCRIPTION

DATE OF PREPARATION		
BY	DATE	

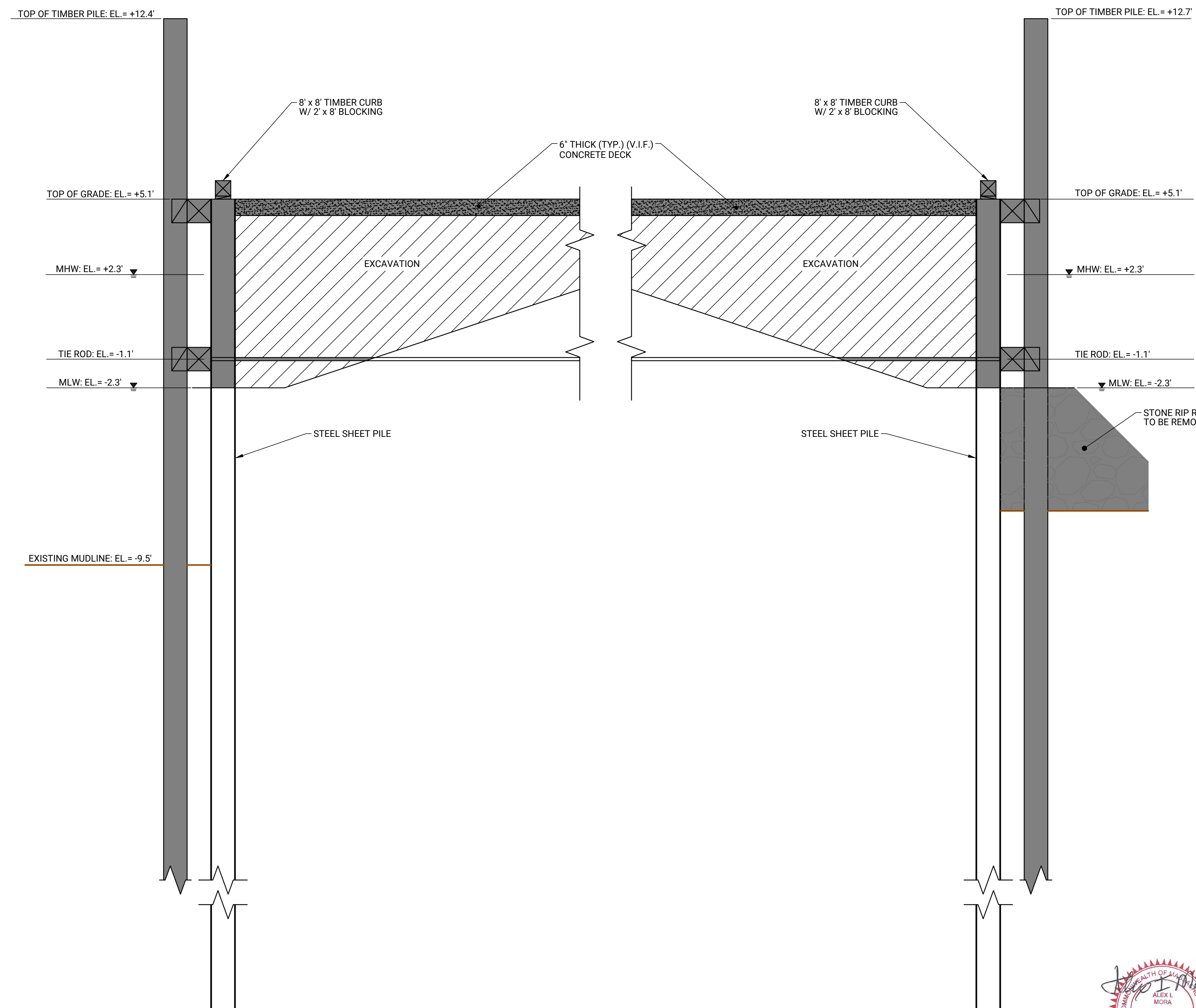
**EXISTING
UTILITY
LAYOUT**

**ISSUED FOR
CONSTRUCTION**

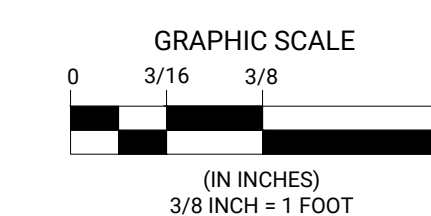
PROJECT NO: 021C036.00
SHEET NUMBER
C-102



1 BULKHEAD AT PARKING AREA
SCALE: 3/8" = 1'



2 BULKHEAD AT SOUTH JOG PIER
SCALE: 3/8" = 1'



NO.	BY	DATE	REVISIONS	
			DESCRIPTION	
1				
2				
3				
4				
5				

DATE OF PREPARATION	
BY	DATE
SURVEYED	-
DRAWN	JRB2 9/23/2022
DESIGNED	AIM 9/12/2022
CHECKED	AIM 9/23/2022

SHEET TITLE:
EXISTING BULKHEAD DEMOLITION AND EXCAVATION SECTIONS

ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00

SHEET NUMBER
C-103

NO.	BY	DATE	DESCRIPTION

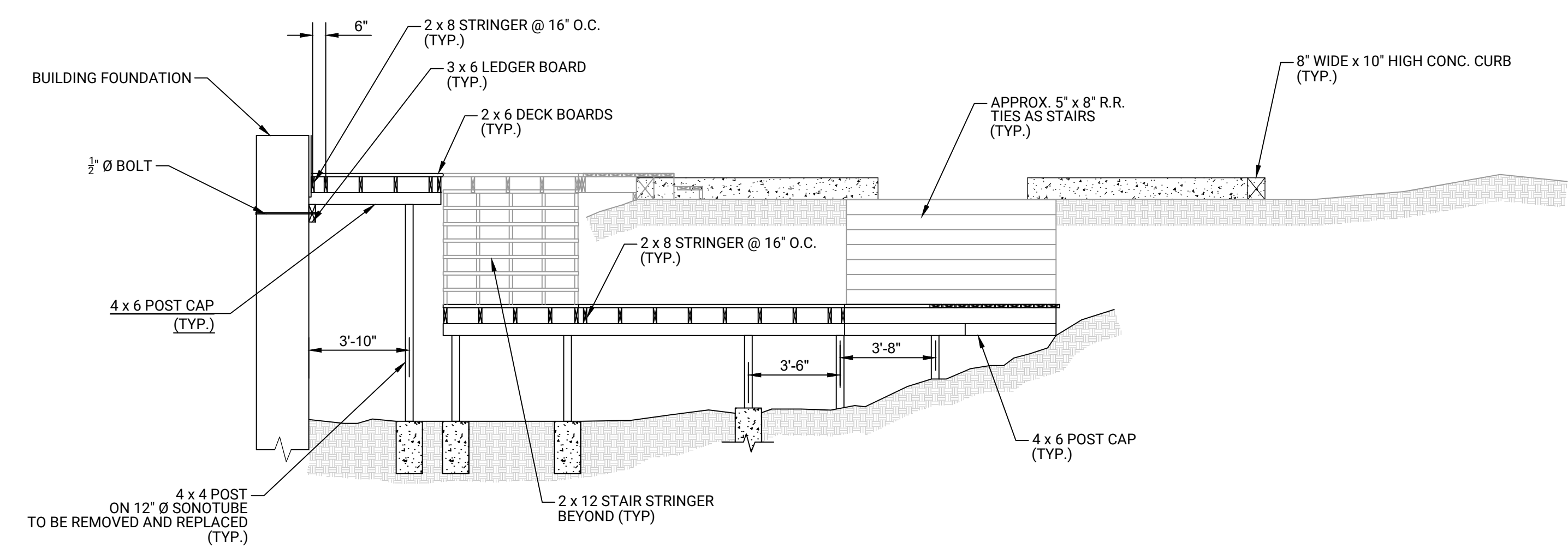
DATE OF PREPARATION	
BY	DATE
SURVEYED	
DRAWN	JRB2 9/12/2022
DESIGNED	AIM 9/12/2022
CHECKED	AIM 9/13/2022

SHEET TITLE:
**EXISTING
TIMBER DECK
PLAN AND
SECTION**

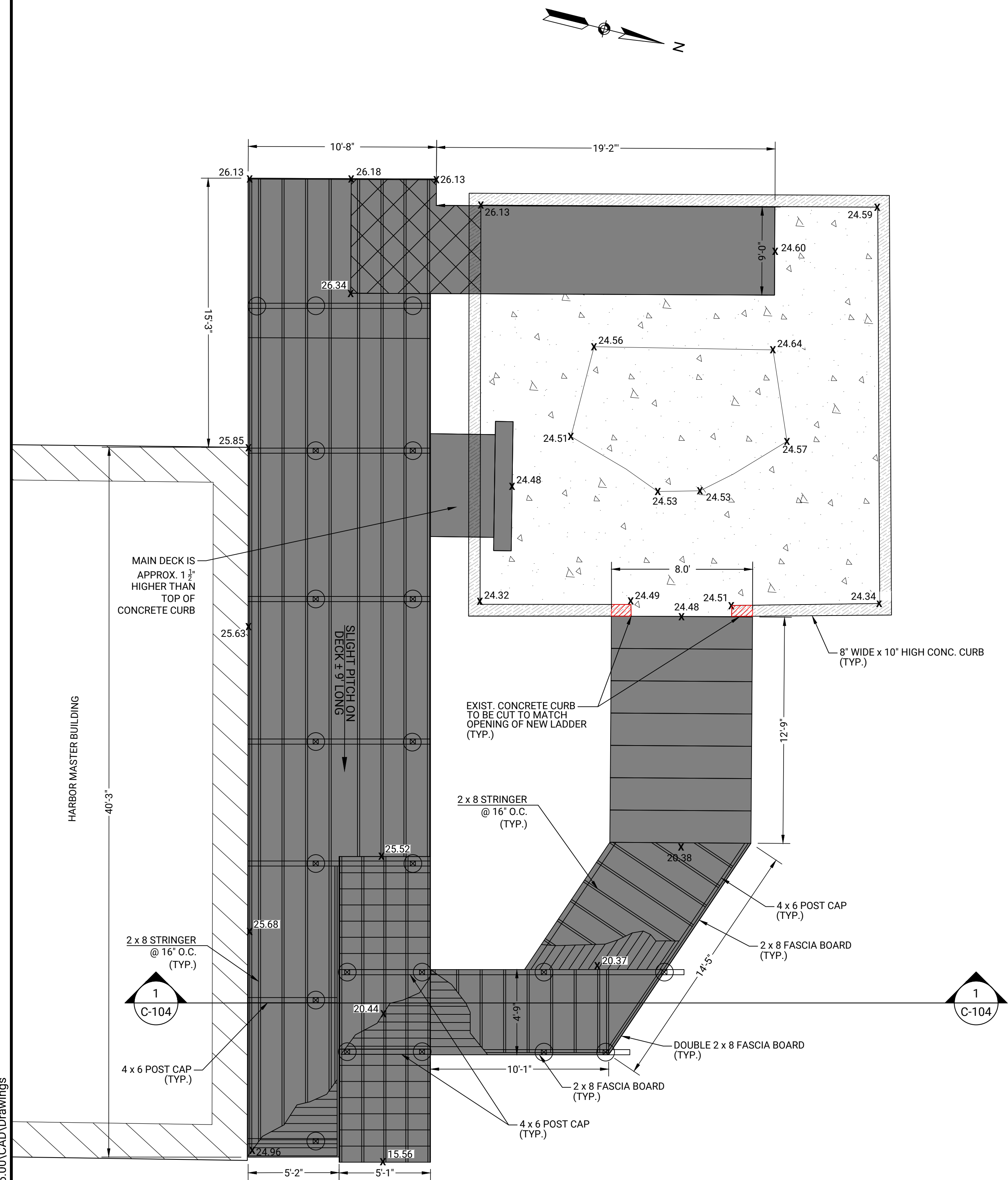
**ISSUED FOR
CONSTRUCTION**

PROJECT NO: 021C036.00
SHEET NUMBER
C-104

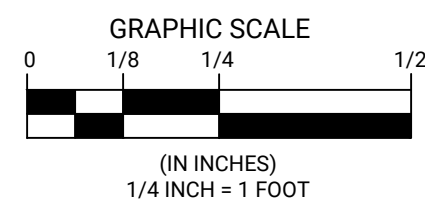
- NOTES:**
- All Elevations are Referenced to NAVD 88.
 - Shaded Denotes Items for Demolition. See S-104 for New Construction.



1
C-104 **TIMBER DECK**
SCALE: 1/4" = 1'



A
C-104 **EXISTING TIMBER DECKING PLAN**
SCALE: 1/4" = 1'





**CHATHAM FISH PIER
BULKHEAD RESHEETING AND
SOUTH JOG IMPROVEMENTS**
TOWN OF CHATHAM
54 BARCLIFF AVE. CHATHAM, MA 02633

NO.	BY	DATE	DESCRIPTION

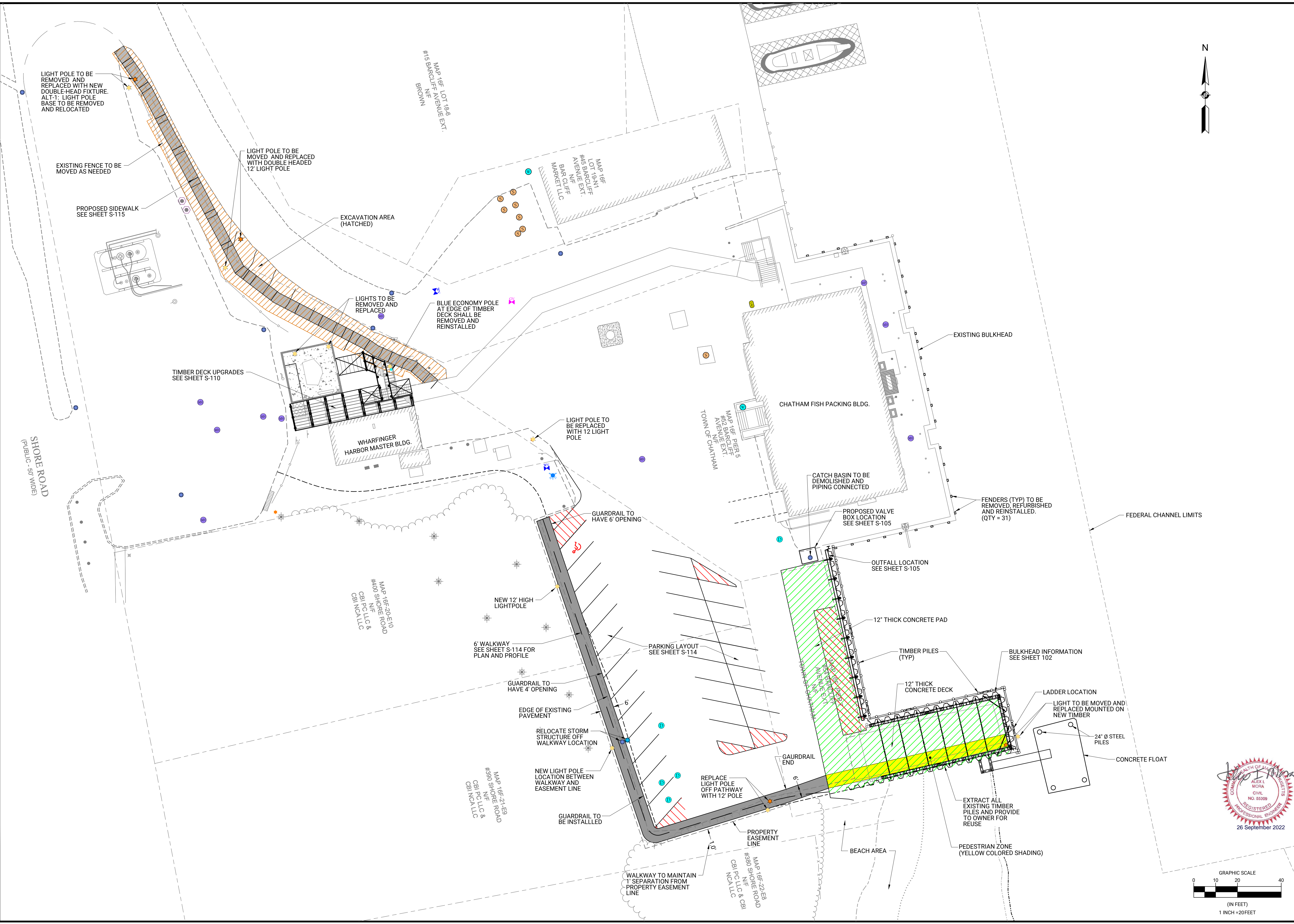
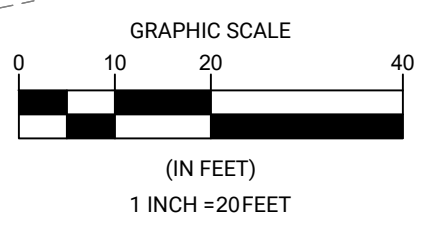
DATE OF PREPARATION	
BY	DATE

SHEET TITLE:
**GENERAL
SITE
IMPROVEMENTS
PLAN**

**ISSUED FOR
CONSTRUCTION**

PROJECT NO: 021C036.00

SHEET NUMBER
S-101



Monday, October 03, 2022 10:56:30 AM
DWG Filename: site design.dwg Layout: s-101 - general site improvements plan
DWG Folder Location: Chatham MA T:\0021c036.00\CAD\Drawings

NO.	BY	DATE	DESCRIPTION

DATE OF PREPARATION	
BY	DATE
SURVEYED	-
DRAWN	JRB2 9/12/2022
DESIGNED	AIM 9/12/2022
CHECKED	AIM 9/13/2022

SHEET TITLE:

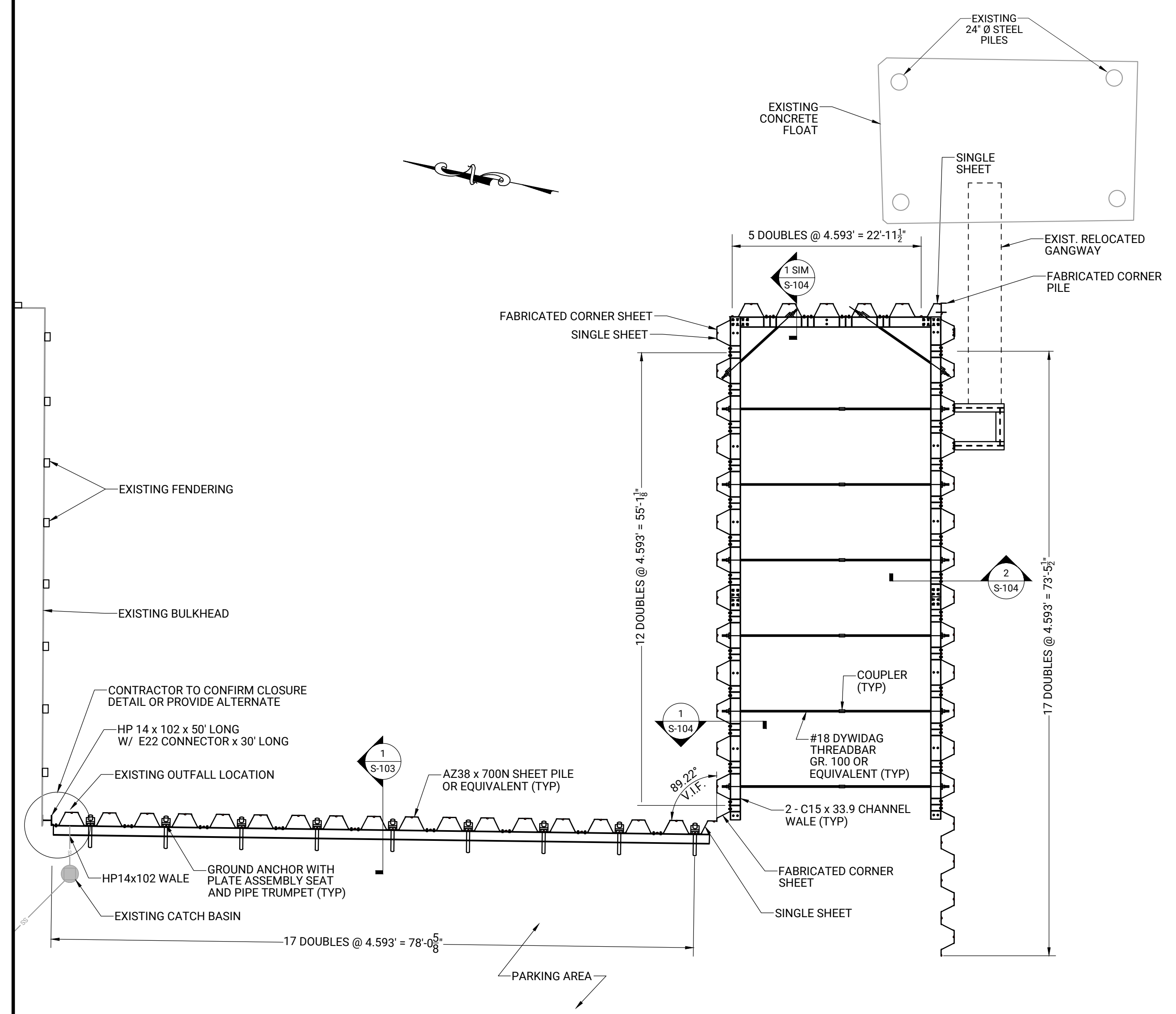
**BULKHEAD AND
SOUTH PIER
DESIGN PLAN**

**ISSUED FOR
CONSTRUCTION**

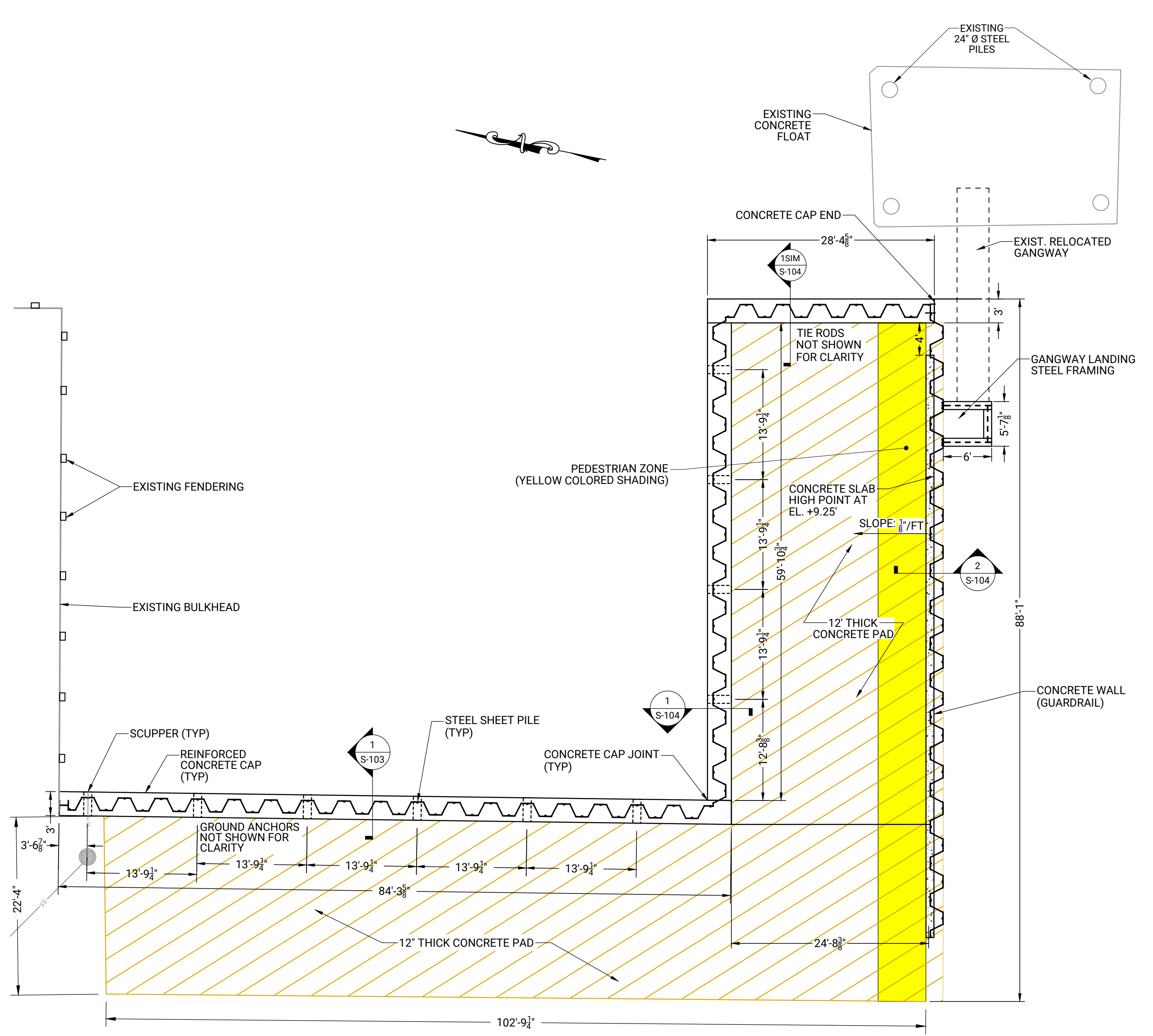
PROJECT NO: 021C036.00

SHEET NUMBER
S-102

Monday, October 03, 2022 10:58:15 AM
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DWG Folder Location: Chatham\0021c026.00\CAD Drawings

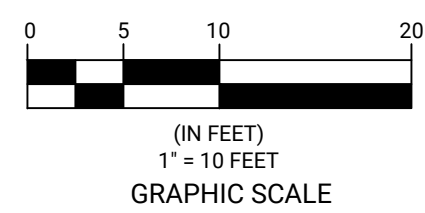


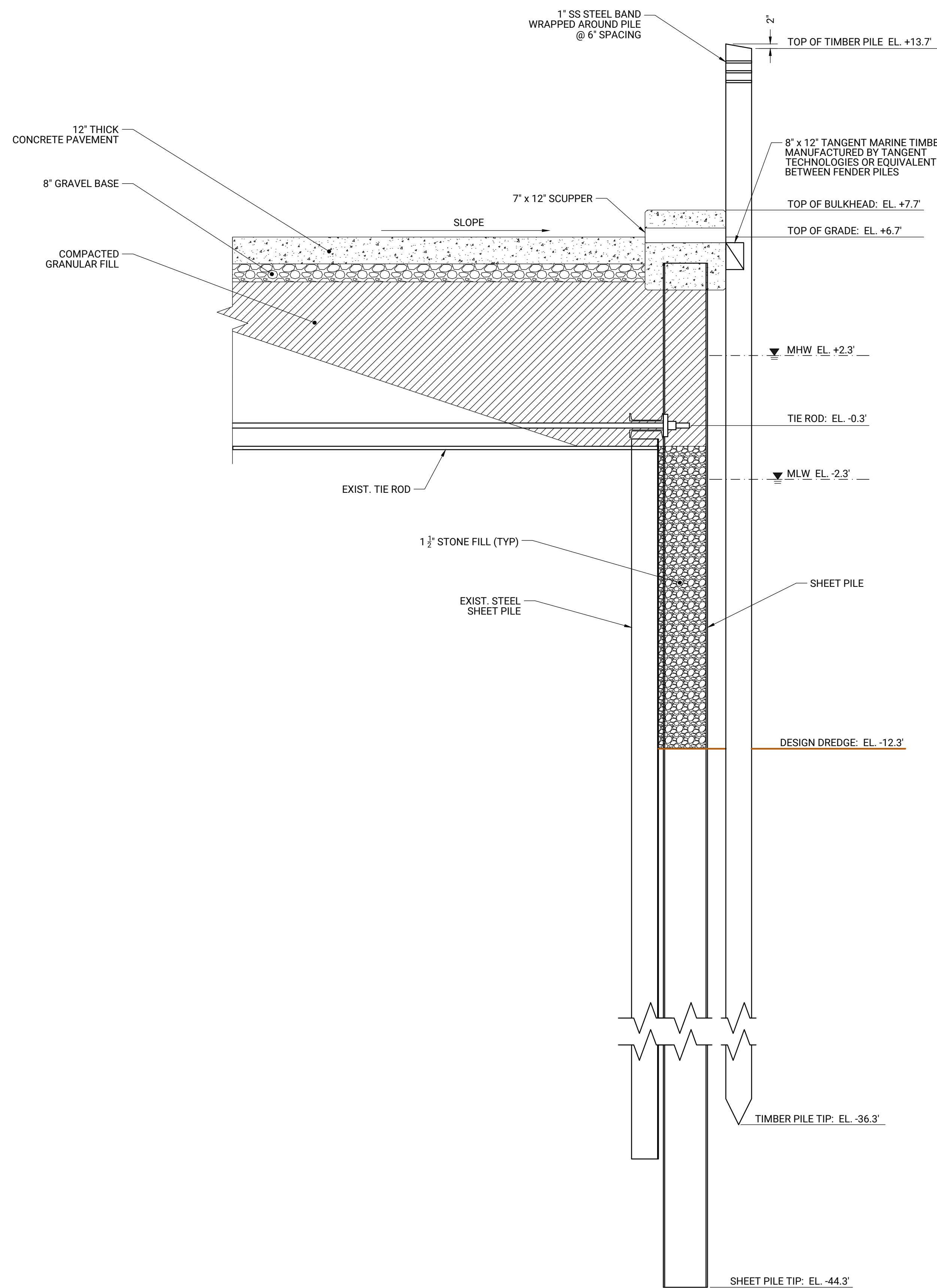
A BULKHEAD PLAN
SCALE: 1" = 10'



B REINFORCED CONCRETE CAP AND SLAB PLAN
SCALE: 1" = 10'

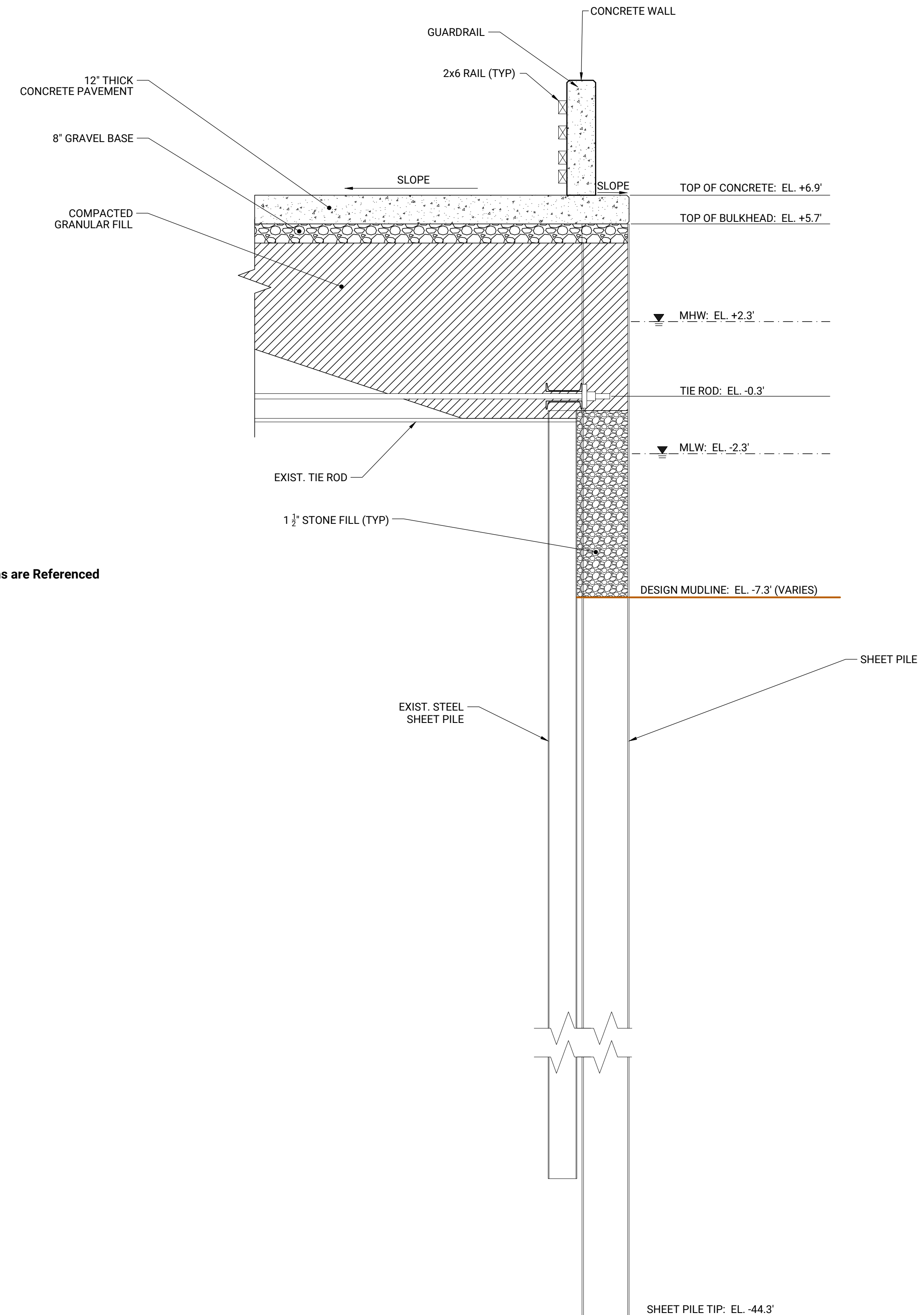
- NOTE:**
- Contractor to survey site for generation of sheet pile bulkhead shop drawing.
 - Steel sheet pile layout, including corner piles, shall be provided by sheet pile distributor in a shop drawing, after site is surveyed for accuracy of dimensions.



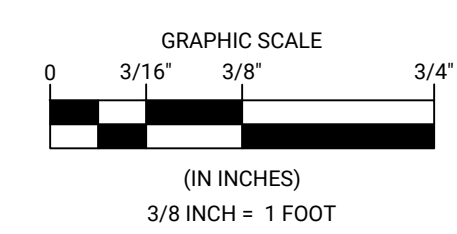


1 SECTION OF BULKHEAD AT SOUTH JOG
SCALE: 3/8" = 1"

NOTE:
All Elevations are Referenced
to NAVD 88.



2 SECTION OF BULKHEAD AT SOUTH JOG
SCALE: 3/8" = 1"



NO.	BY	DATE	REVISIONS	
			DESCRIPTION	
1				
2				
3				
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5				

DATE OF PREPARATION		
BY	DATE	
SURVEYED		
DRAWN	JRB2	9/23/2022
DESIGNED	AIM	9/12/2022
CHECKED	AIM	9/23/2022

SHEET TITLE:
BULKHEAD SECTIONS

ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00
SHEET NUMBER

S-104

NO.	BY	DATE	DESCRIPTION

DATE OF PREPARATION	
BY	DATE

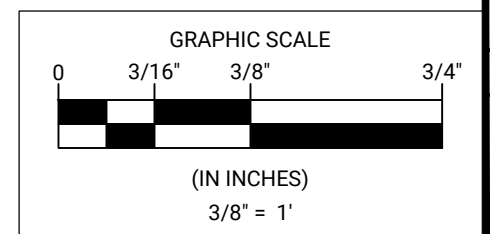
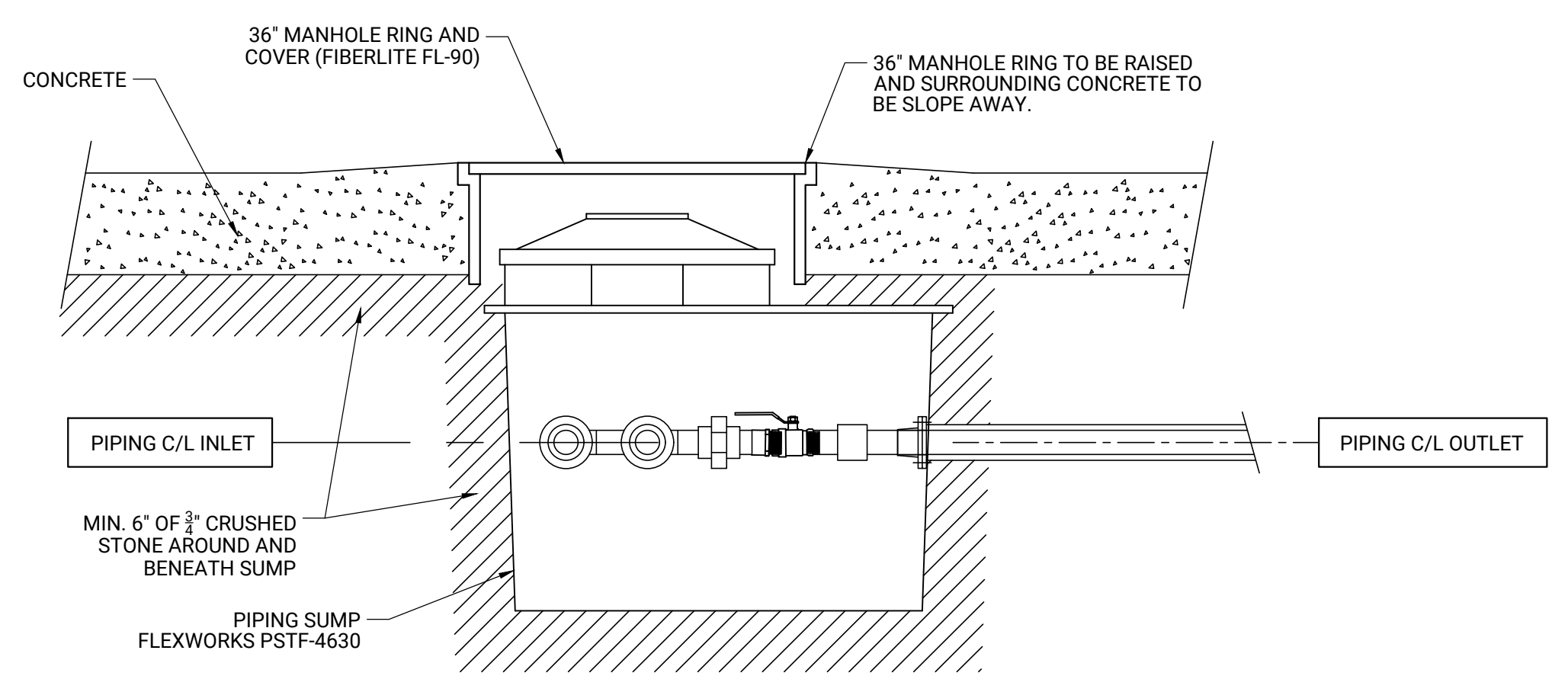
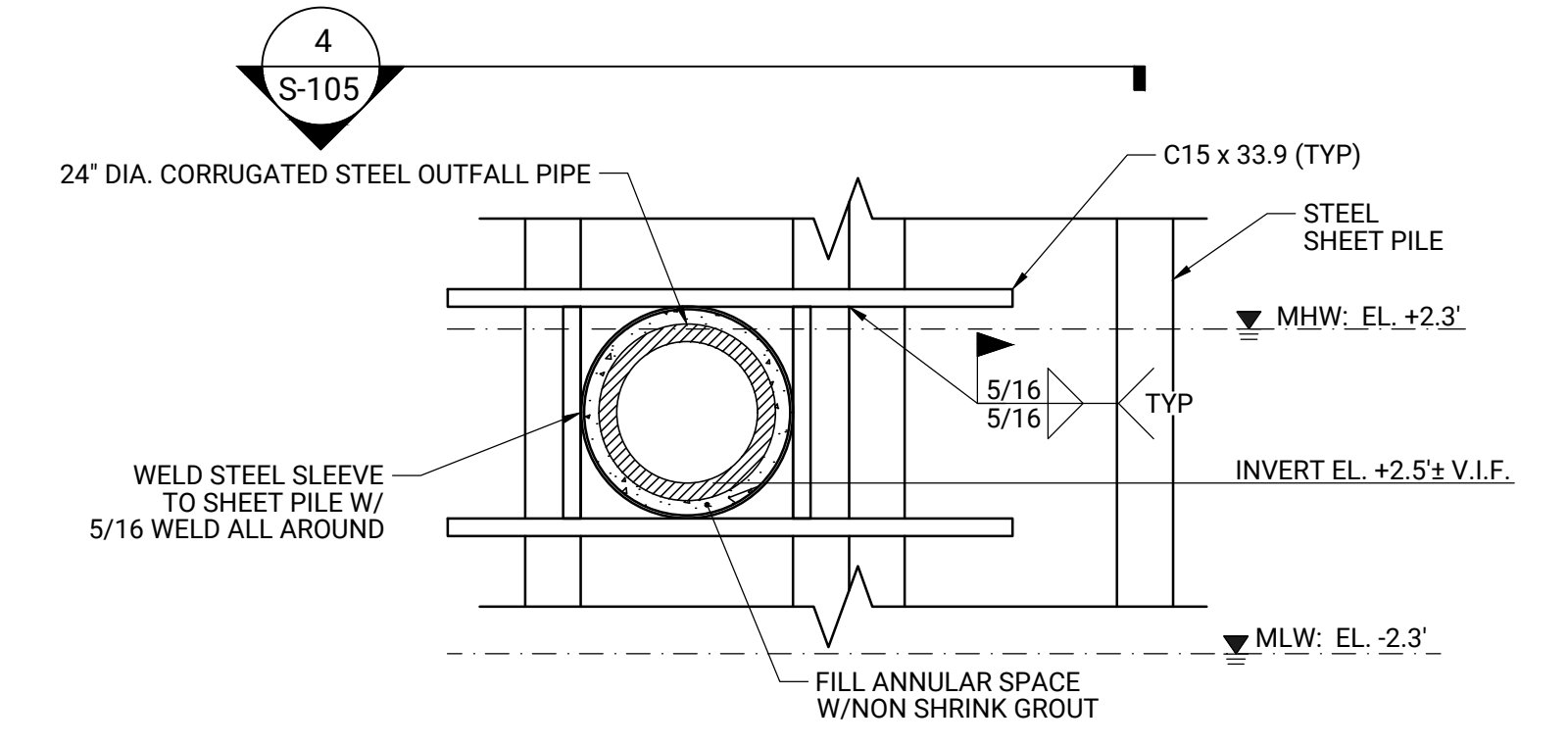
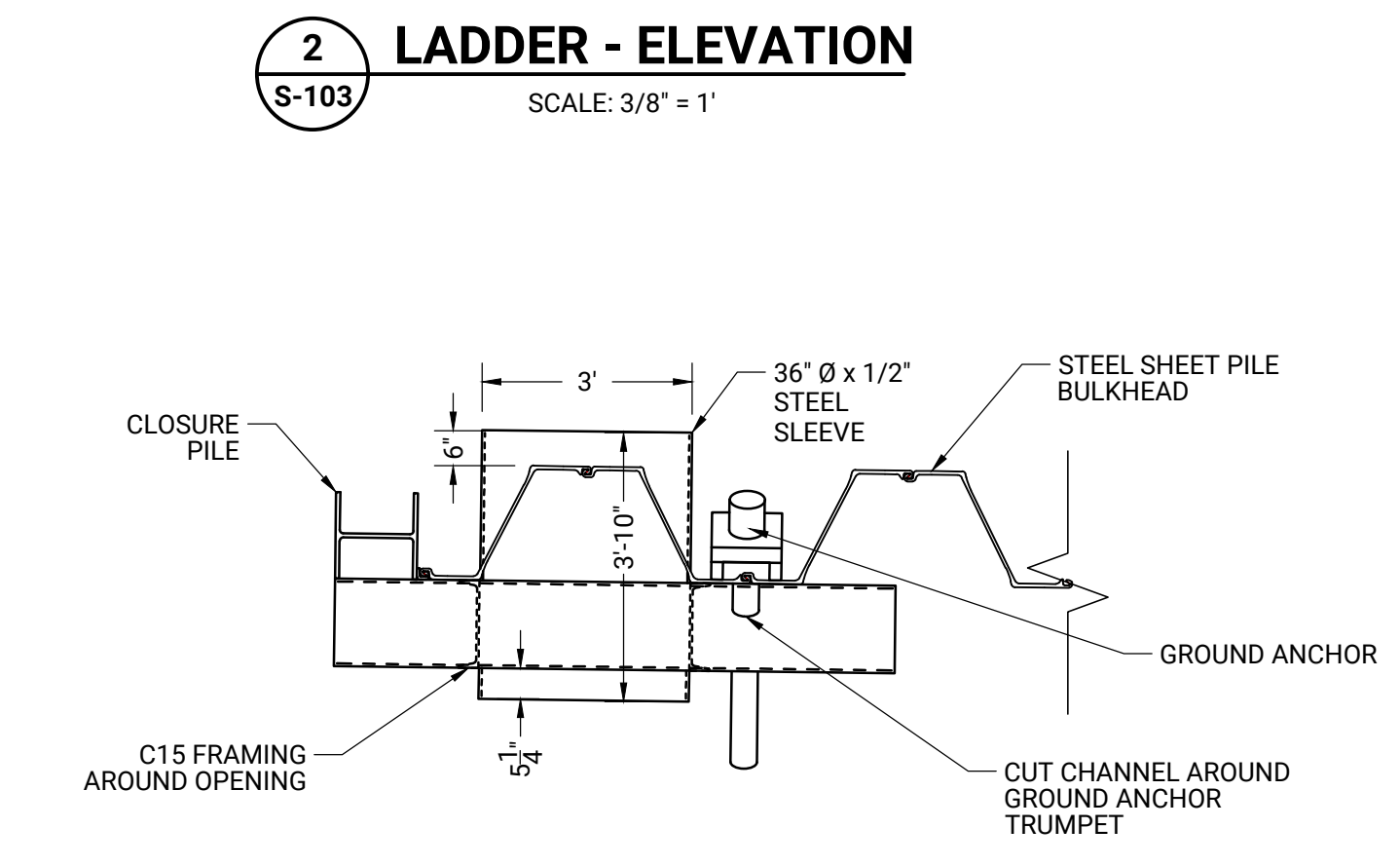
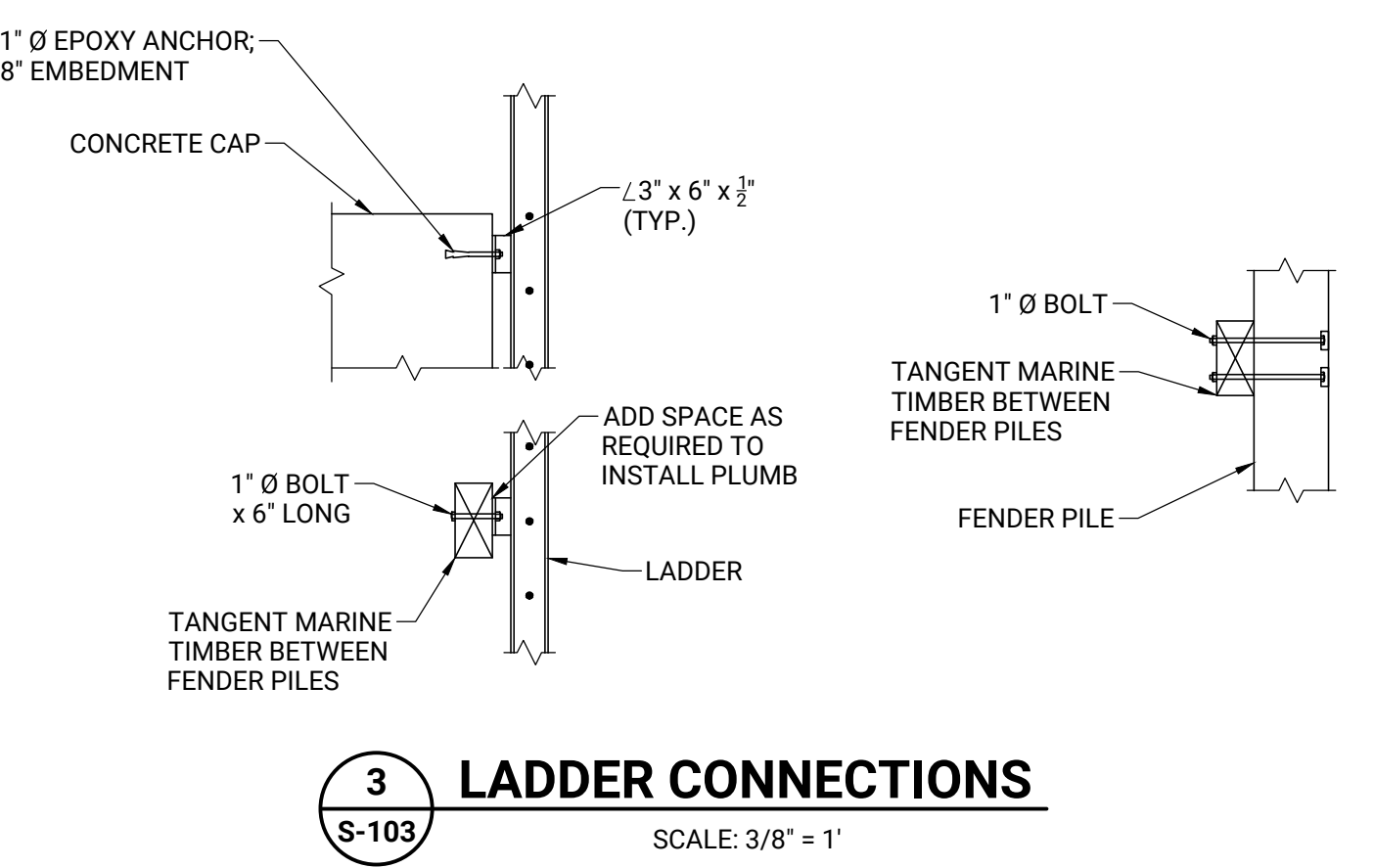
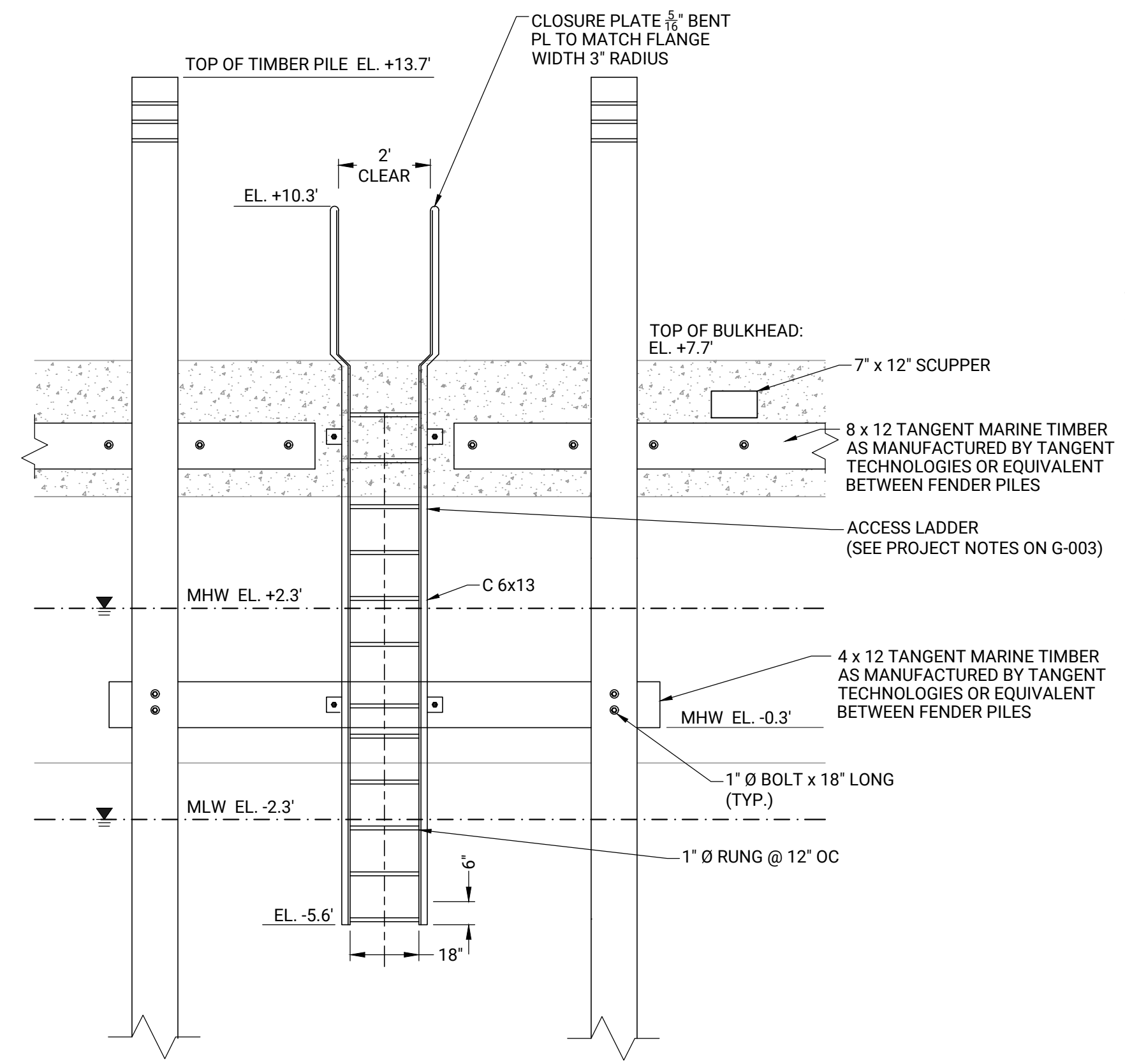
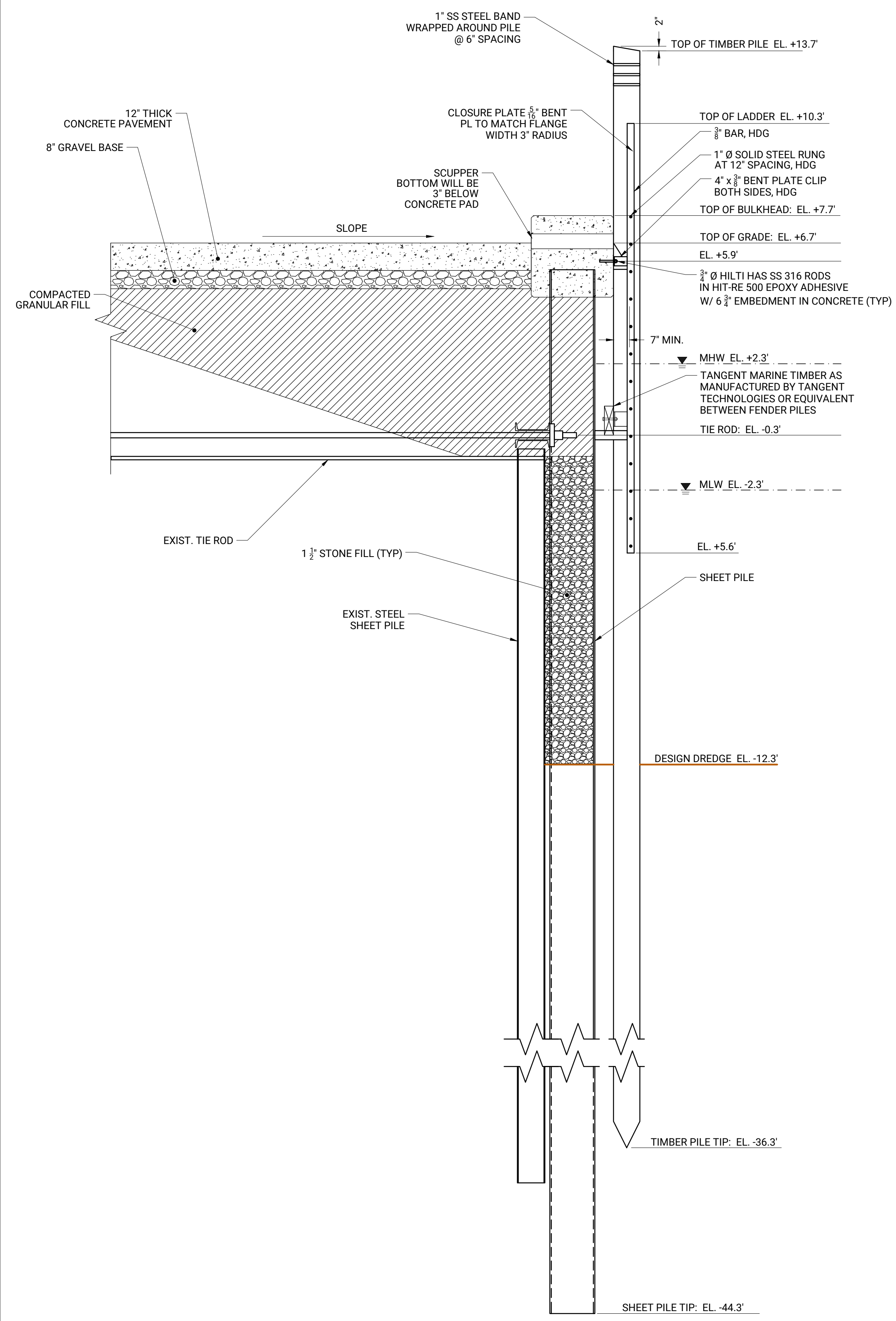
SURVEYED		
DRAWN	JRB2	9/12/2022
DESIGNED	AIM	9/12/2022
CHECKED	AIM	9/13/2022

SHEET TITLE:
BULKHEAD SECTION, OUTFALL AND VALVE BOX DETAILS

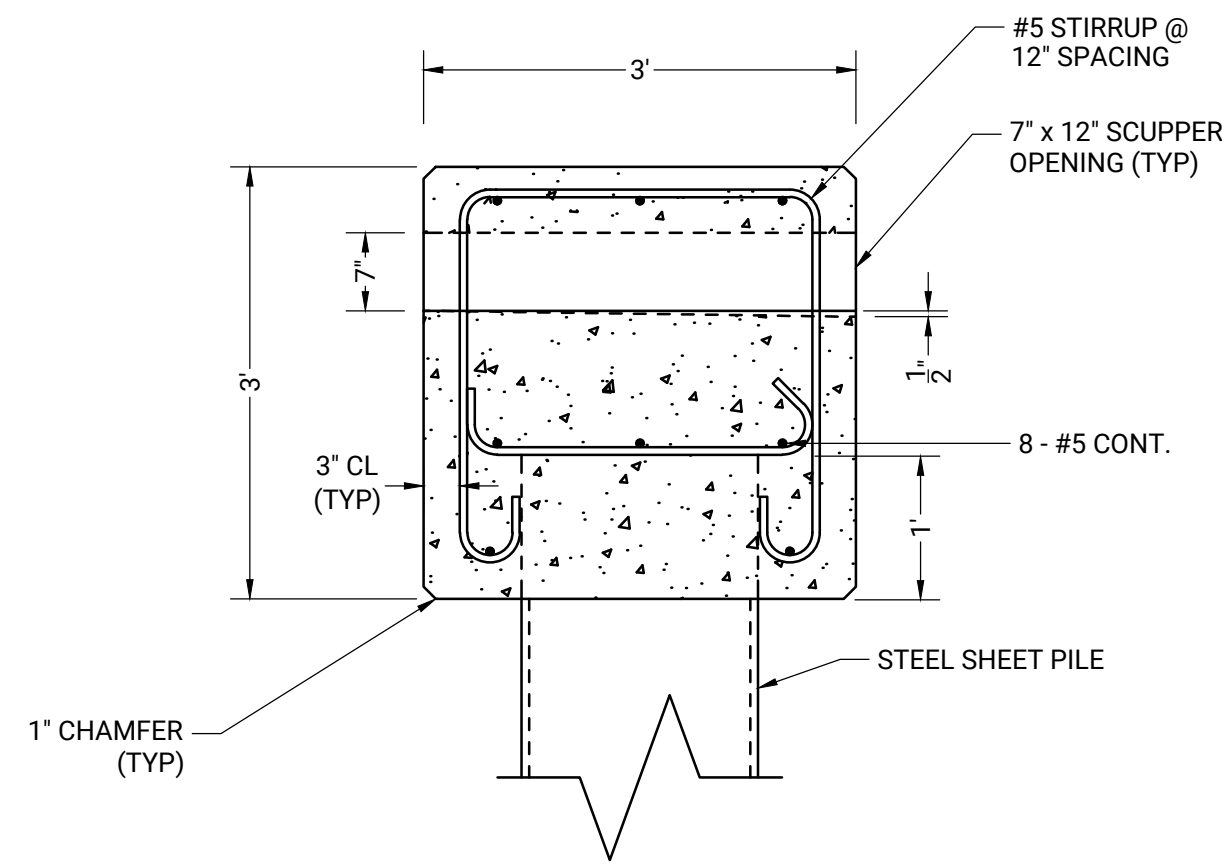
ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00
SHEET NUMBER

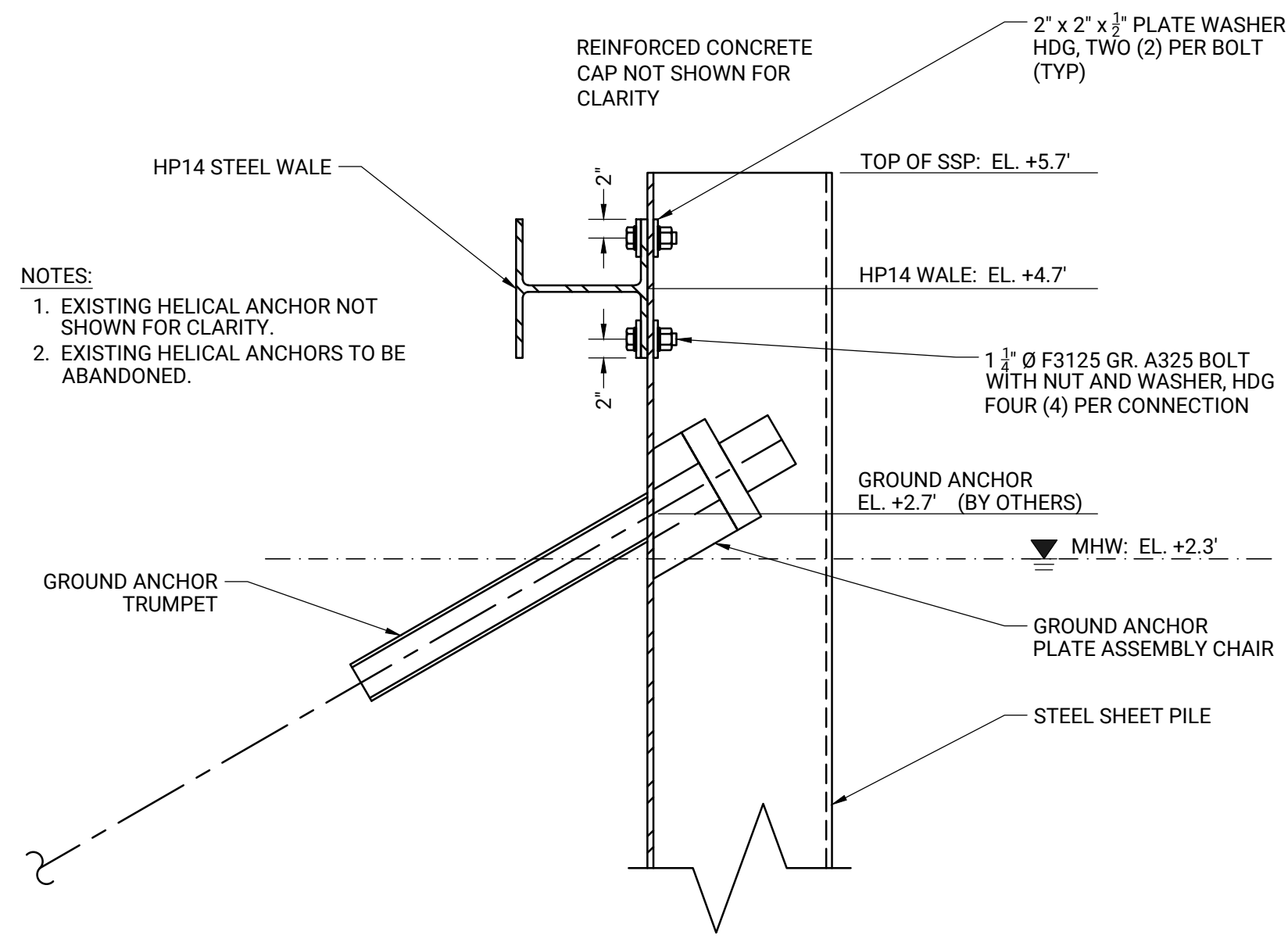
S-105



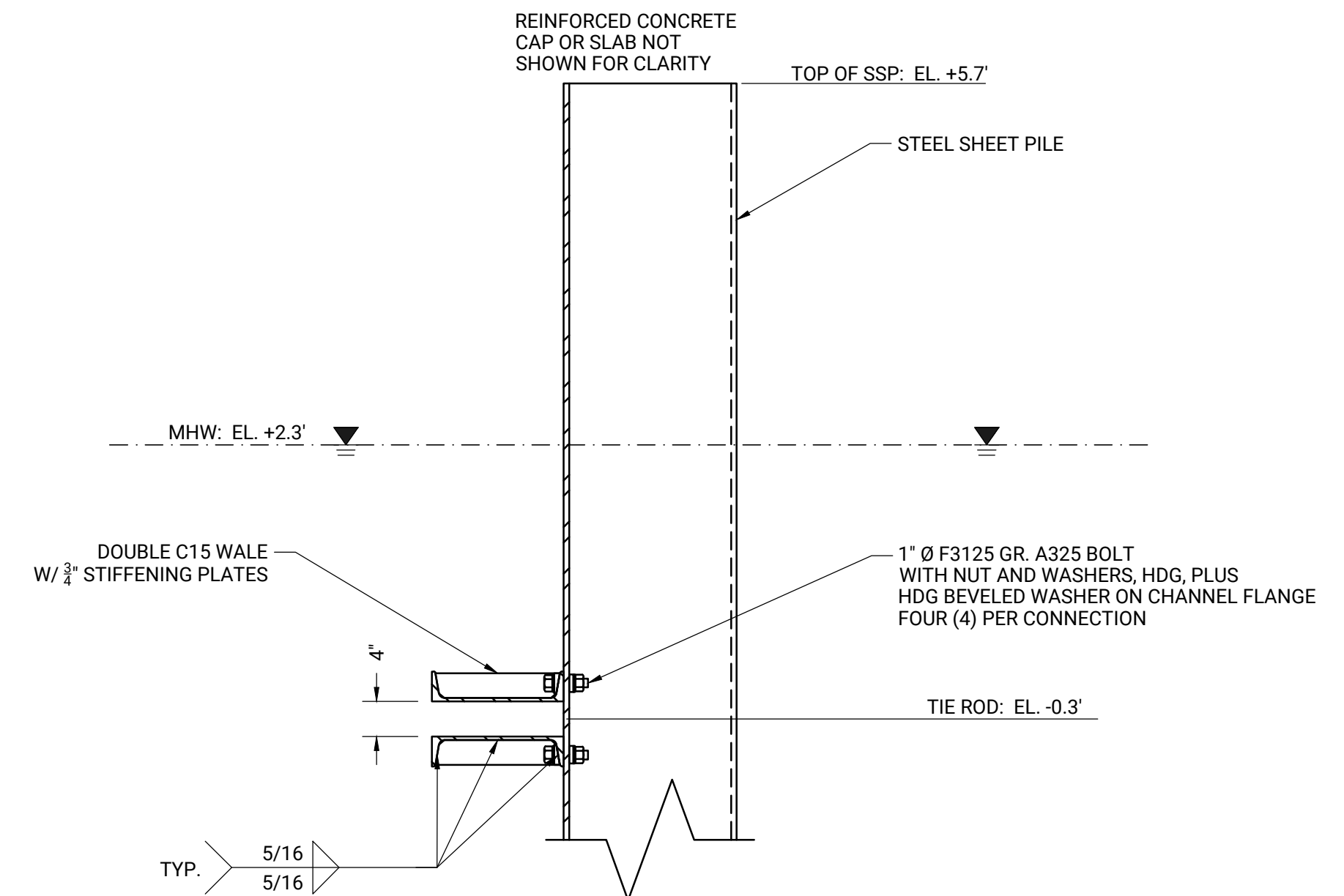
Monday, September 12, 2022 1:23:37 PM
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DWG Folder Location: Chatham\0021c026.00\CAD Drawings



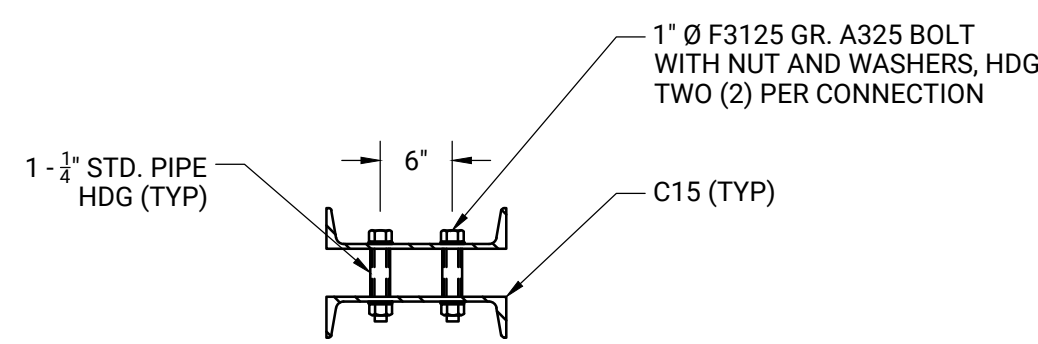
A REINFORCED CONCRETE CAP DETAIL
S-106 SCALE: 3/4" = 1'-0"



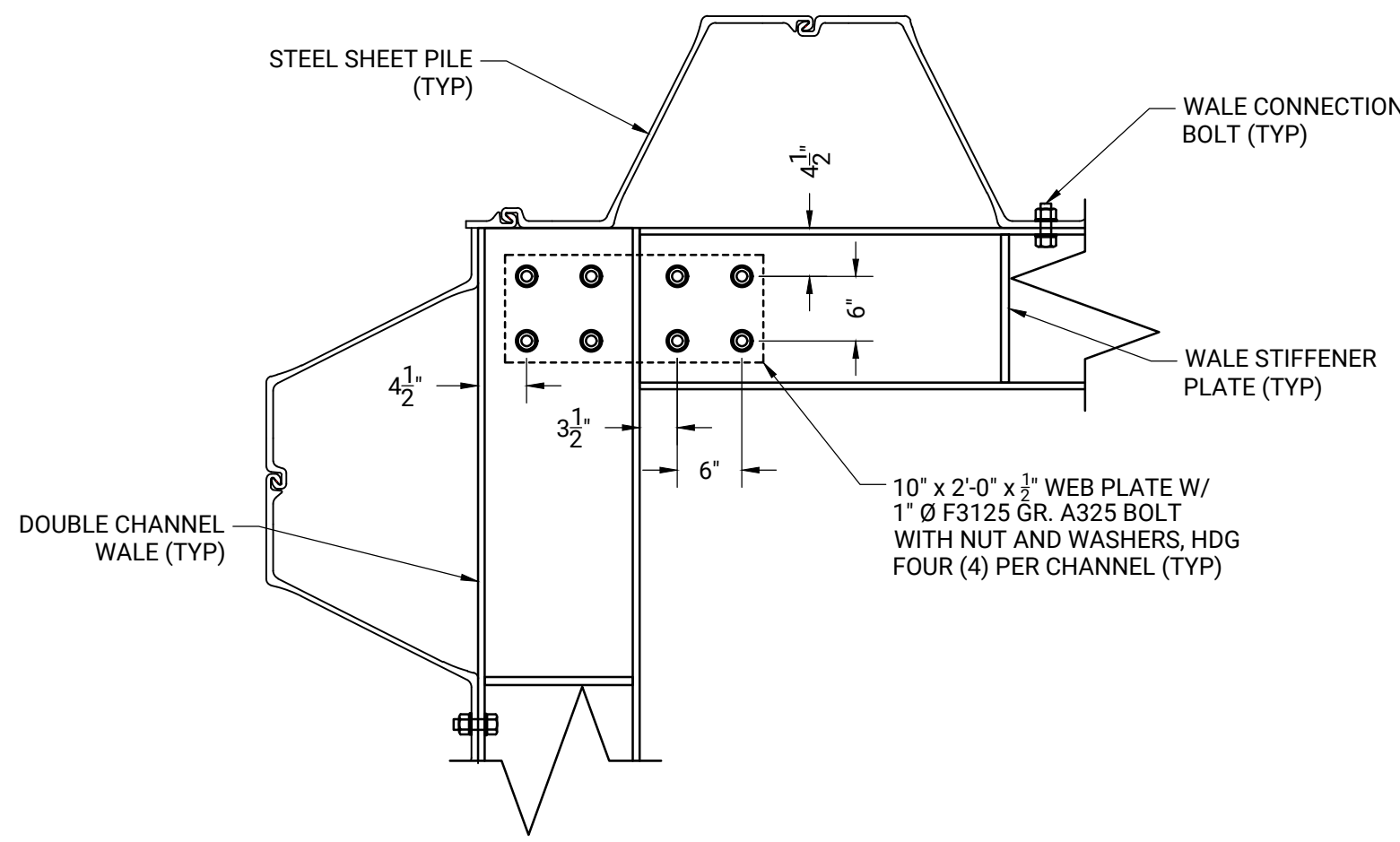
B BULKHEAD HP14 WALE CONNECTION DETAIL
S-106 SCALE: 3/4" = 1'-0"



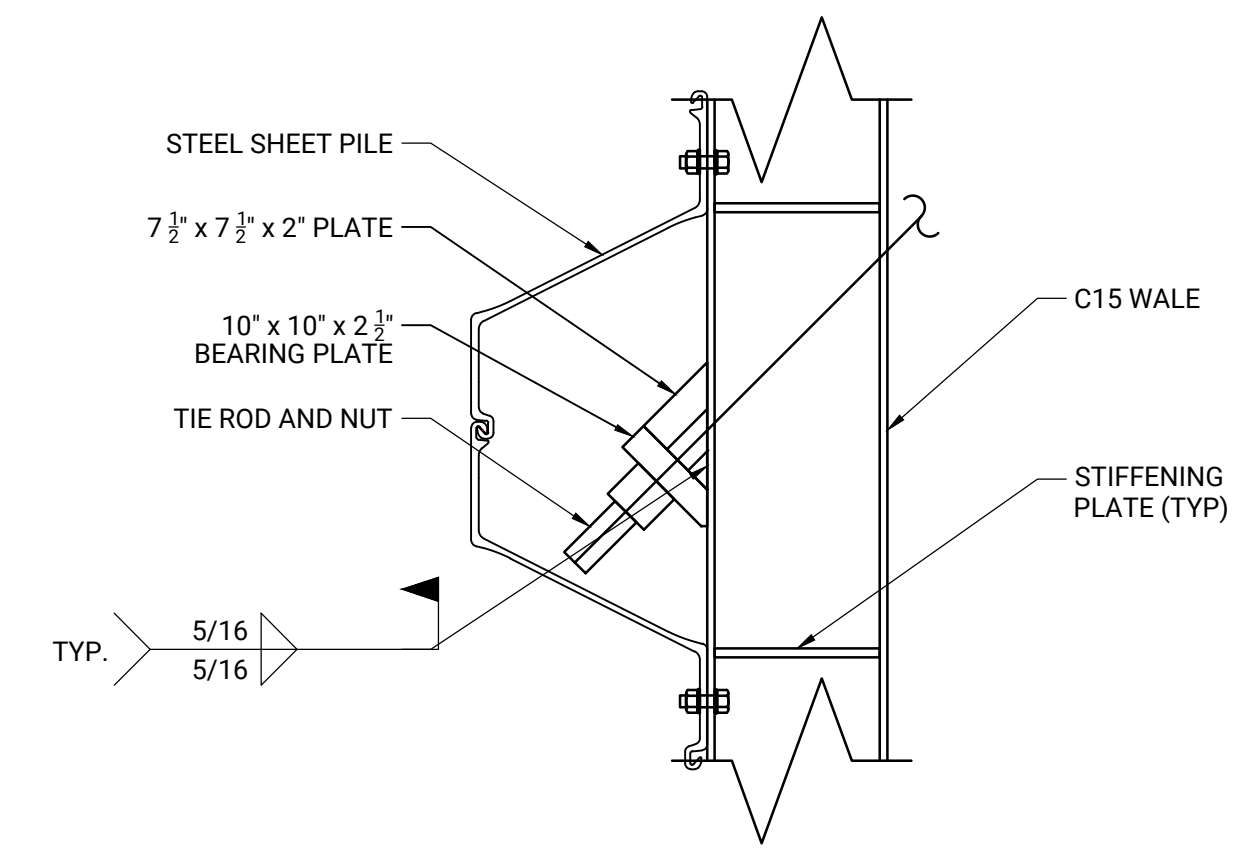
C DOUBLE C15 CHANNEL WALE CONNECTION DETAIL
S-106 SCALE: 3/4" = 1'-0"



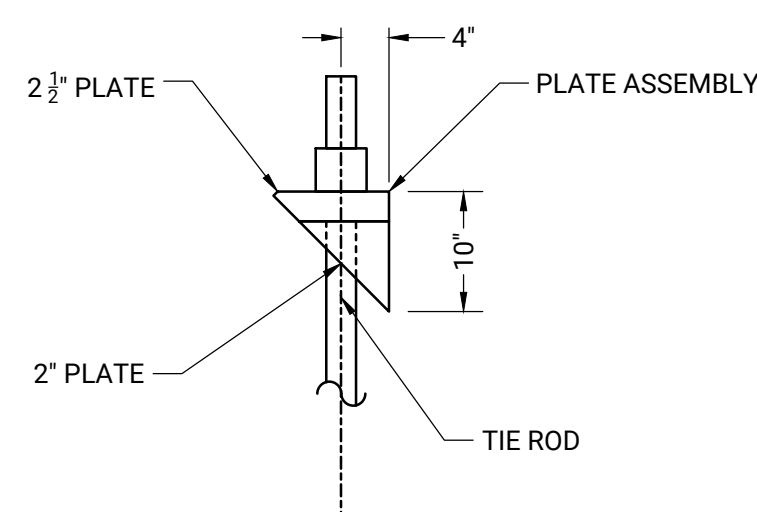
D WALE SPACER DETAIL
S-106 SCALE: 3/4" = 1'-0"



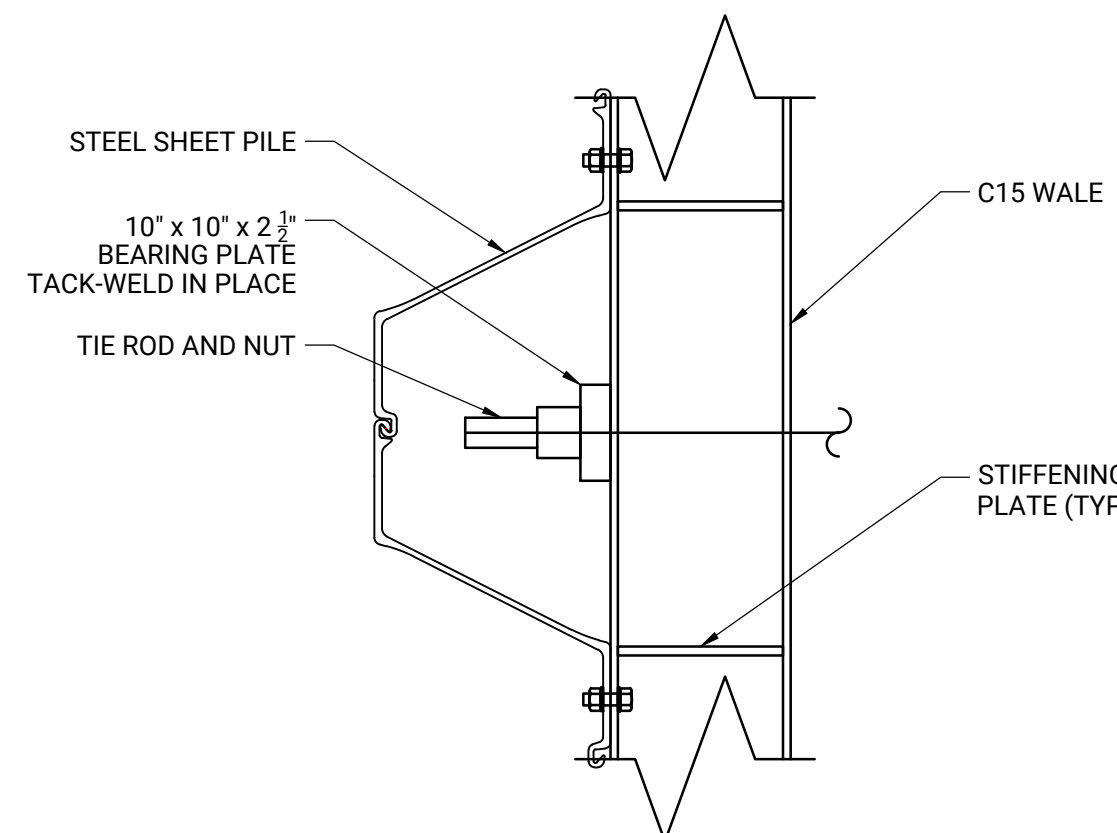
E WALE CORNER CONNECTION DETAIL
S-106 SCALE: 3/4" = 1'-0"



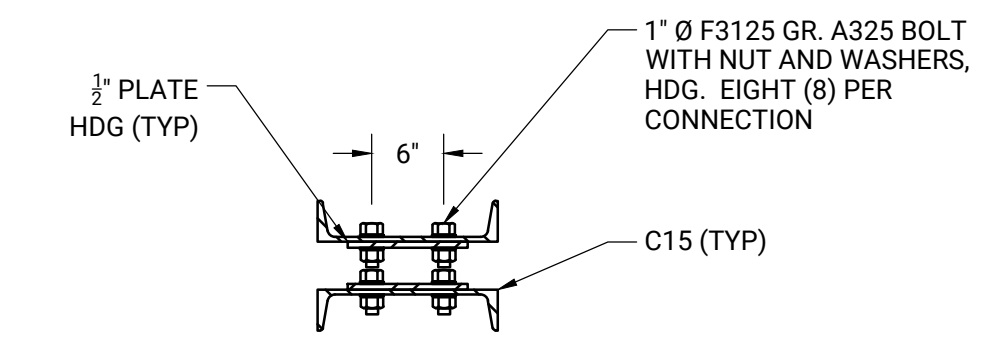
F ANGLED TIE ROD CONNECTION DETAIL
S-106 SCALE: 3/4" = 1'-0"



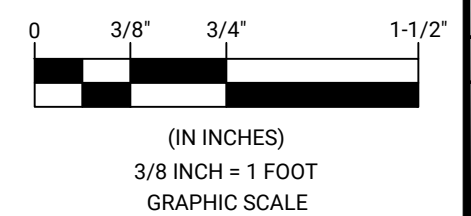
G TIE ROD CHAIR DETAIL
S-106 SCALE: 3/4" = 1'-0"



H TIE ROD CONNECTION DETAIL
S-106 SCALE: 3/4" = 1'-0"



I WALE SPLICE DETAIL
S-106 SCALE: 3/4" = 1'-0"



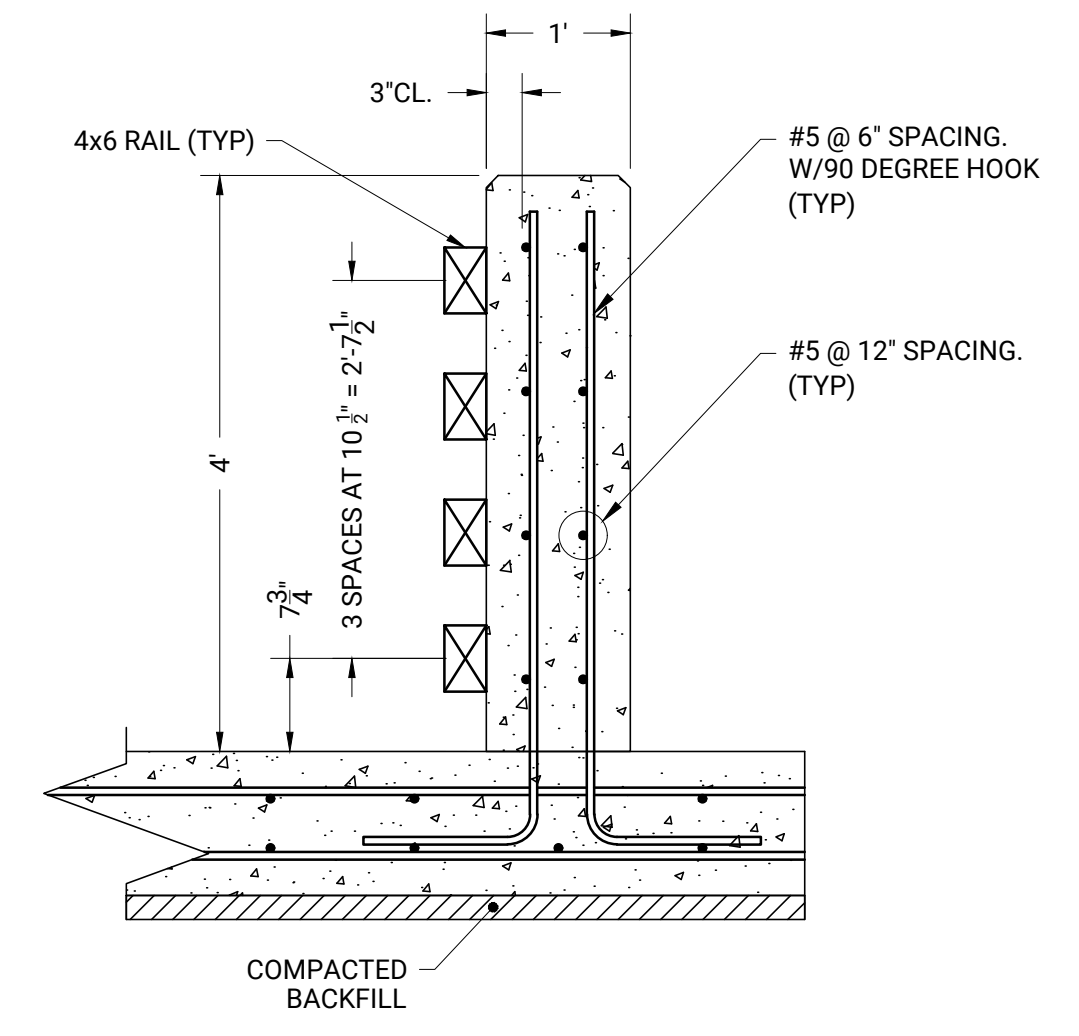
CHATHAM FISH PIER
BULKHEAD RESHEETING AND
SOUTH JOG IMPROVEMENTS PROJECT
TOWN OF CHATHAM
54 BARCLIFF AVE. CHATHAM, MA 02633

REVISIONS		DATE OF PREPARATION	
NO.	DESCRIPTION	BY	DATE
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2		AIM	9/12/2022
3		AIM	9/13/2022

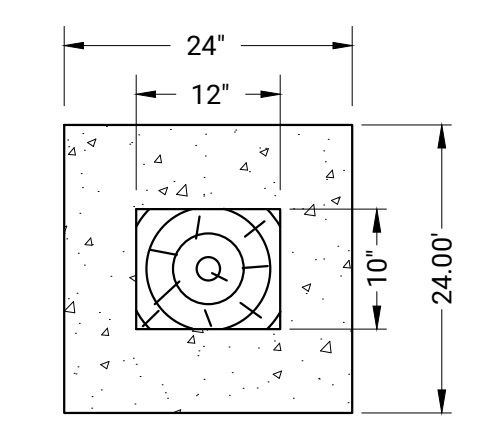
DATE OF PREPARATION	
BY	DATE
JRB2	9/12/2022
AIM	9/12/2022
AIM	9/13/2022

SHEET TITLE:
BULKHEAD AND PIER DETAILS

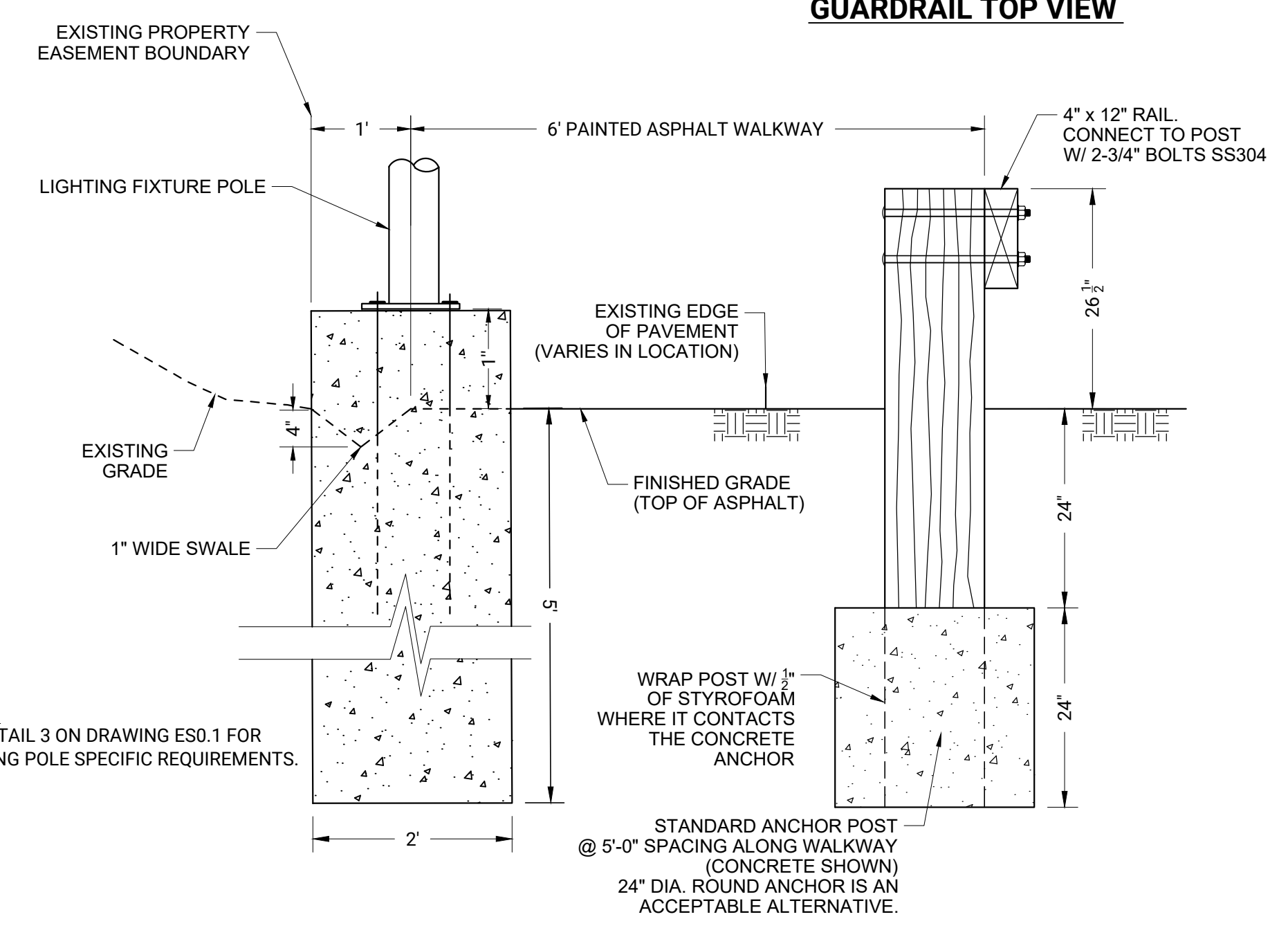
ISSUED FOR CONSTRUCTION
PROJECT NO: 021C036.00
SHEET NUMBER
S-106



M CONCRETE WALL DETAIL
SCALE: 3/4" = 1'-0"

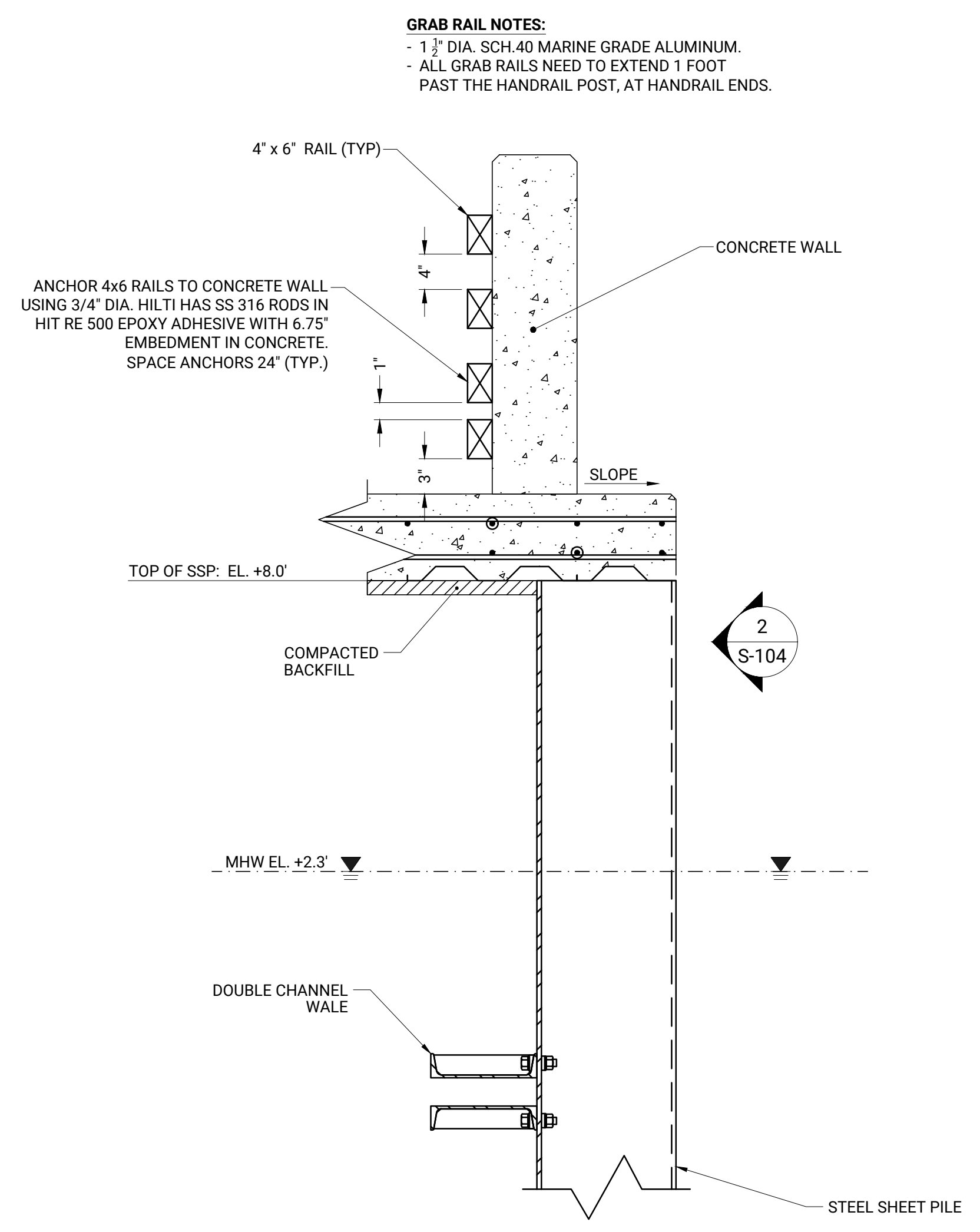


GUARDRAIL TOP VIEW

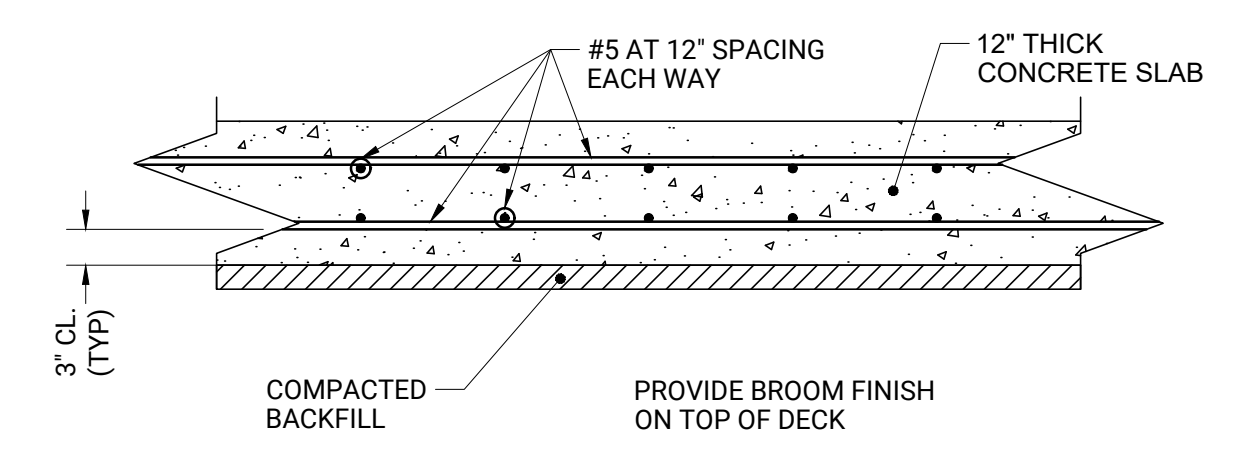


NOTE:
SEE DETAIL 3 ON DRAWING ES0.1 FOR
LIGHTING POLE SPECIFIC REQUIREMENTS.

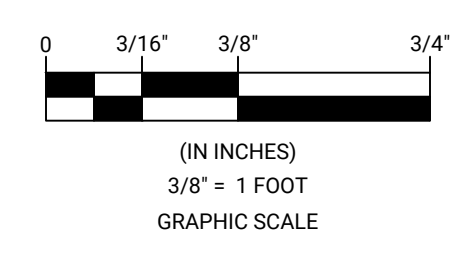
O SECTION OF PARKING LOT WALKWAY
SCALE: 3/4" = 1'-0"



N HANDRAIL DETAIL
SCALE: 3/4" = 1'-0"



P REINFORCED CONCRETE SLAB DETAIL
SCALE: 3/4" = 1'-0"

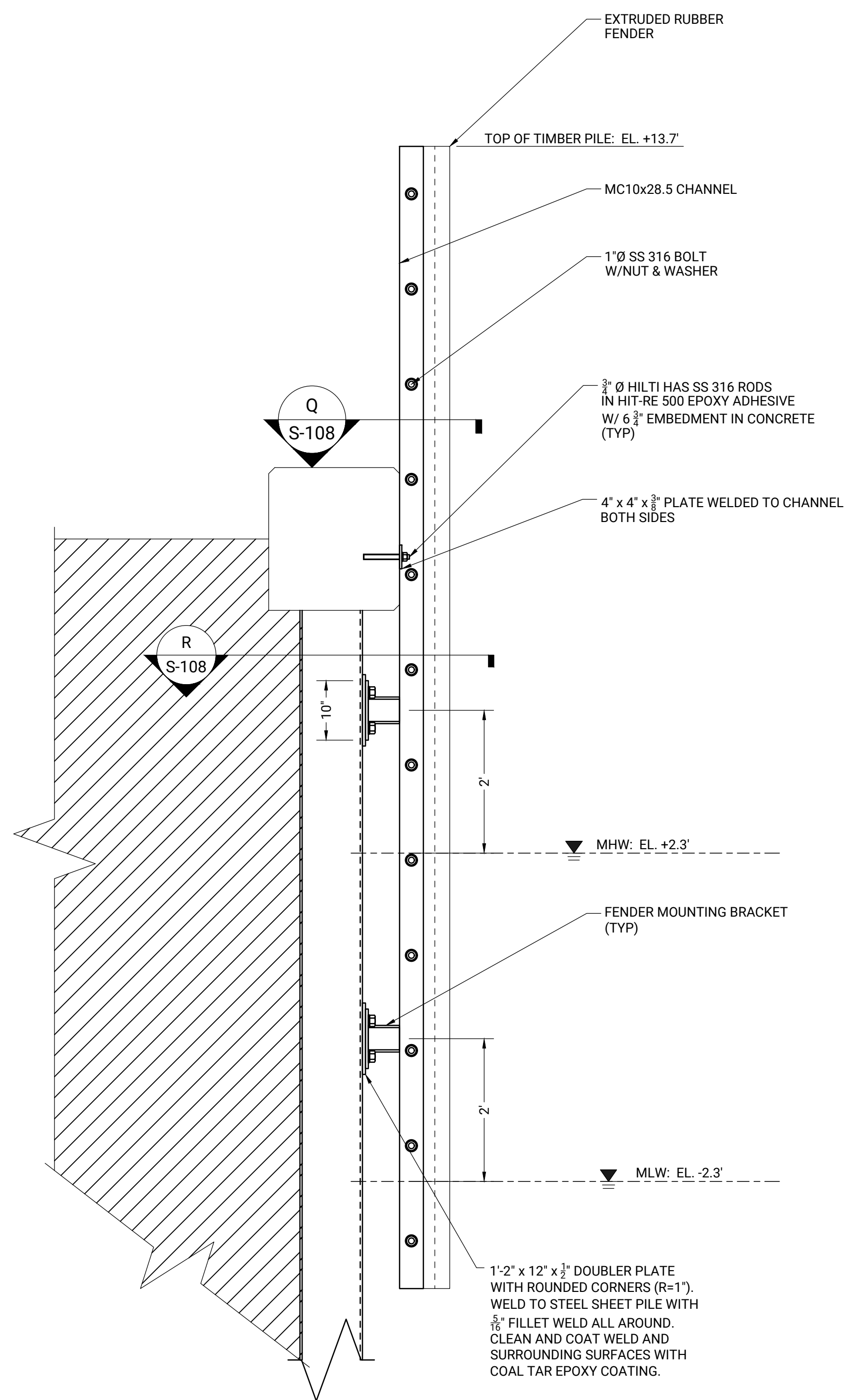


REVISIONS	
NO.	DESCRIPTION

DATE OF PREPARATION		
BY	DATE	

SURVEYED		
DRAWN	JRB2	9/23/2022
DESIGNED	AIM	9/12/2022
CHECKED	AIM	9/23/2022

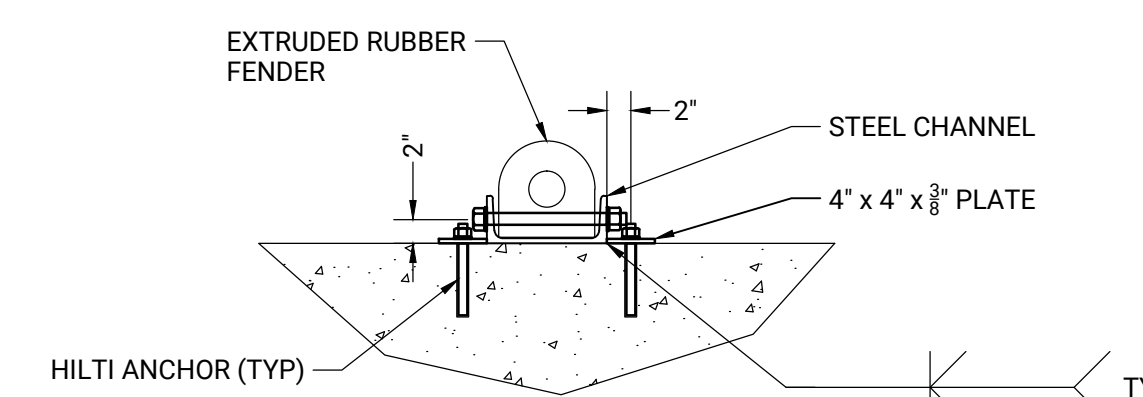
SHEET TITLE:
GUARDRAIL AND HANDRAIL DETAILS
ISSUED FOR CONSTRUCTION
PROJECT NO: 021C036.00
SHEET NUMBER
S-107



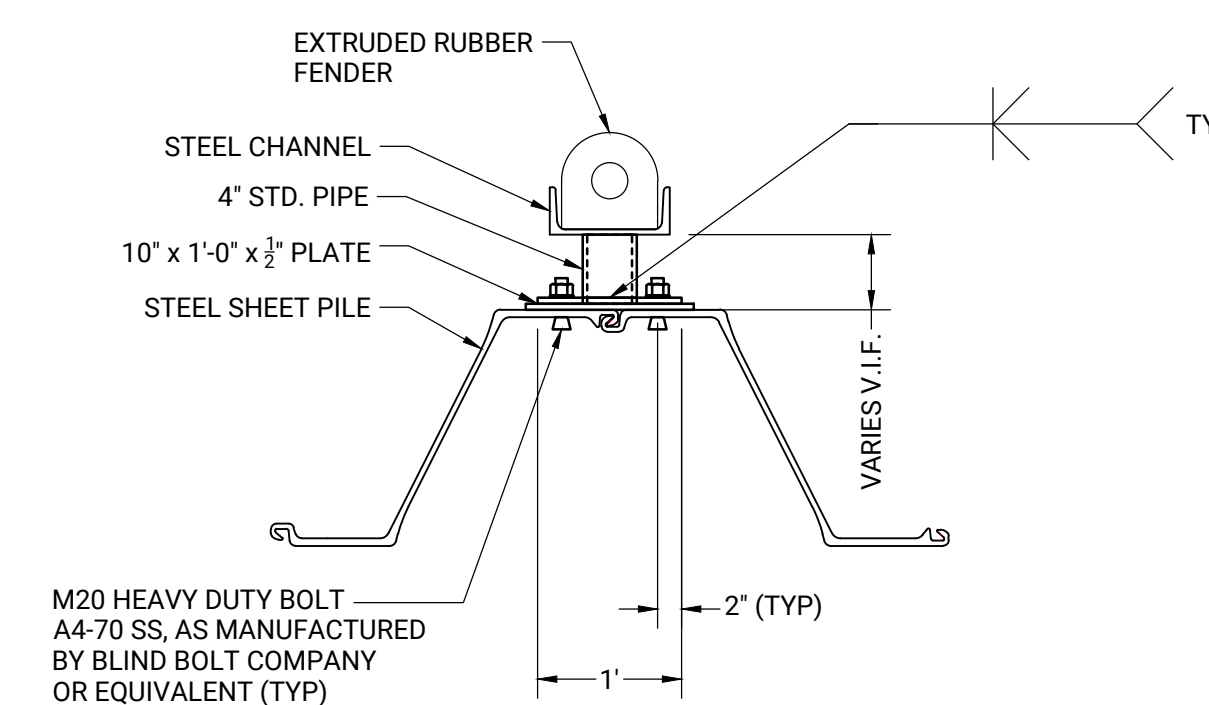
1
S-108 SECTION AT FISH BUILDING FENDER SYSTEM
SCALE: 3/4" = 1'-0"

NOTES:

- FENDER ASSEMBLY SHALL BE REMOVED, REFURBISHED, AND REINSTALLED. ONLY BOTTOM BRACKET TO BE REPLACED. TOP BRACKET TO BE INSPECTED AND REPLACED IF NEEDED.
- AFTER REMOVAL OF FENDER ASSEMBLY, REMOVE RUBBER FENDER, CLEAN AND COAT STEEL SHEET PILE AT LOCATIONS WHERE NEW DOUBLER PLATE WILL BE INSTALLED.
- INSTALL DOUBLER PLATE AND WELD TO EXISTING STEEL SHEET PILE. WELD ALL AROUND WITH 5/16" FILLET WELD.
- CLEAN AND COAT WELDED AREA WITH COAL TAR EPOXY COATING.
- DRILL HOLES ON DOUBLER PLATE TO RECEIVE FENDER ASSEMBLY ANCHOR BOLTS.
- ONCE FENDER ASSEMBLY IS REMOVED, BURN OUT CONNECTING BRACKETS AND REPLACE WITH NEW.
- FENDER STEEL ASSEMBLY SHALL BE HOT DIPPED GALVANIZED AFTER CONNECTING BRACKETS ARE REPLACED.
- INSTALL RUBBER FENDER.
- INSTALL FENDER ASSEMBLY AS SHOWN ON THE DRAWINGS.



Q
S-108 FENDER SYSTEM CONNECTION TO CONCRETE CAP DETAIL
SCALE: 3/4" = 1'-0"



R
S-108 FENDER SYSTEM CONNECTION TO SHEET PILE DETAIL
SCALE: 3/4" = 1'-0"

NO.	BY	DATE	REVISIONS	
			DESCRIPTION	DATE
1				
2				
3				
4				
5				

DATE OF PREPARATION		
BY	DATE	
SURVEYED		
DRAWN	JRB2	9/12/2022
DESIGNED	AIM	9/12/2022
CHECKED	AIM	9/13/2022

SHEET TITLE:

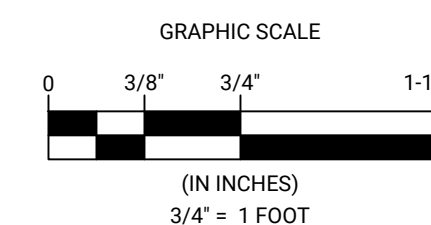
FENDER MOUNTING DETAILS

ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00

SHEET NUMBER

S-108



(IN INCHES)
3/4" = 1 FOOT



REVISIONS		DATE		DESCRIPTION	
NO.	BY	DATE	NO.	BY	DATE
1	AIM		1	AIM	
2	AIM		2	AIM	
3	AIM		3	AIM	
4	AIM		4	AIM	

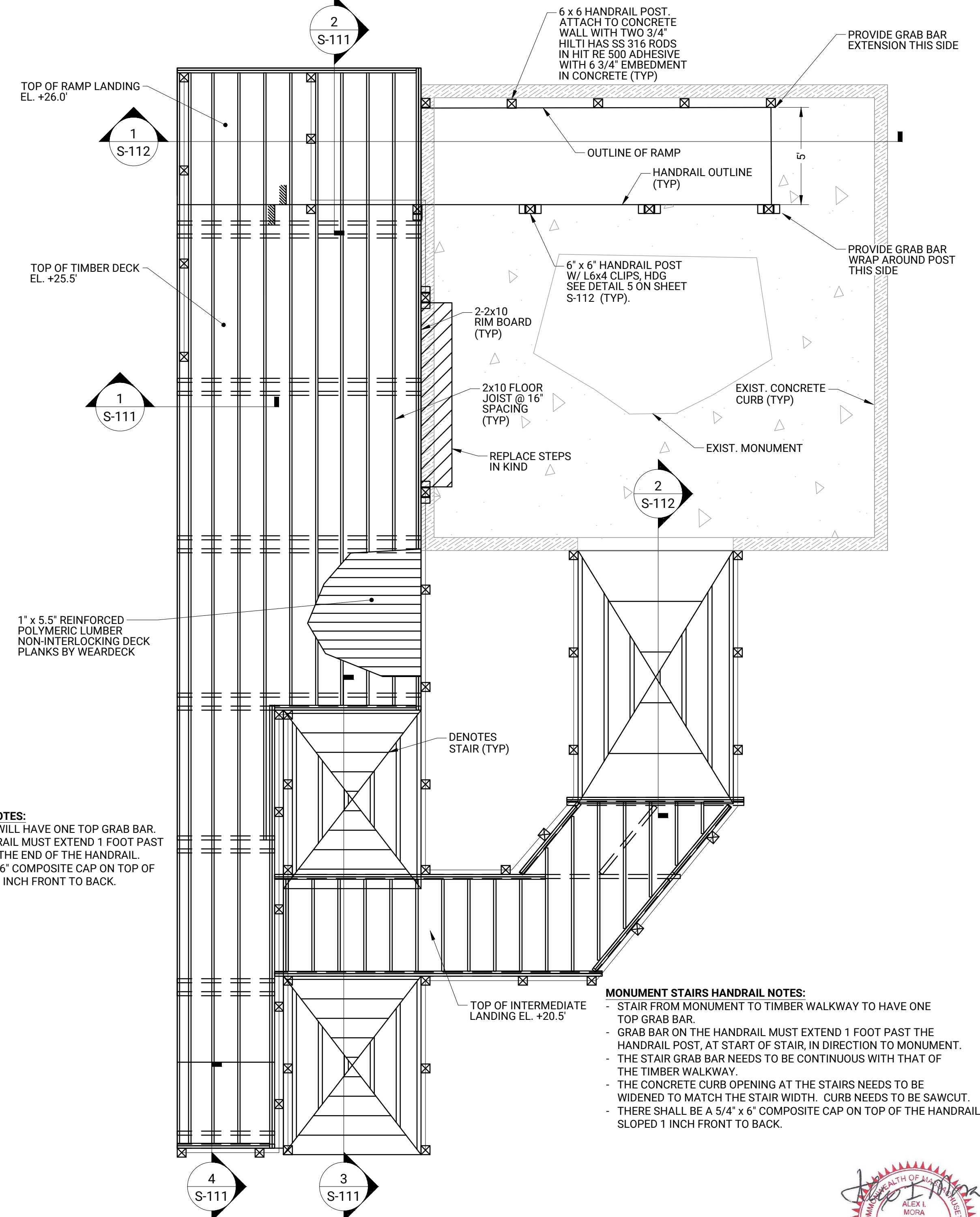
DATE OF PREPARATION	
BY	DATE
JRB2	9/12/2022
AIM	9/12/2022
AIM	9/13/2022

**TIMBER DECK
PLAN DESIGN**

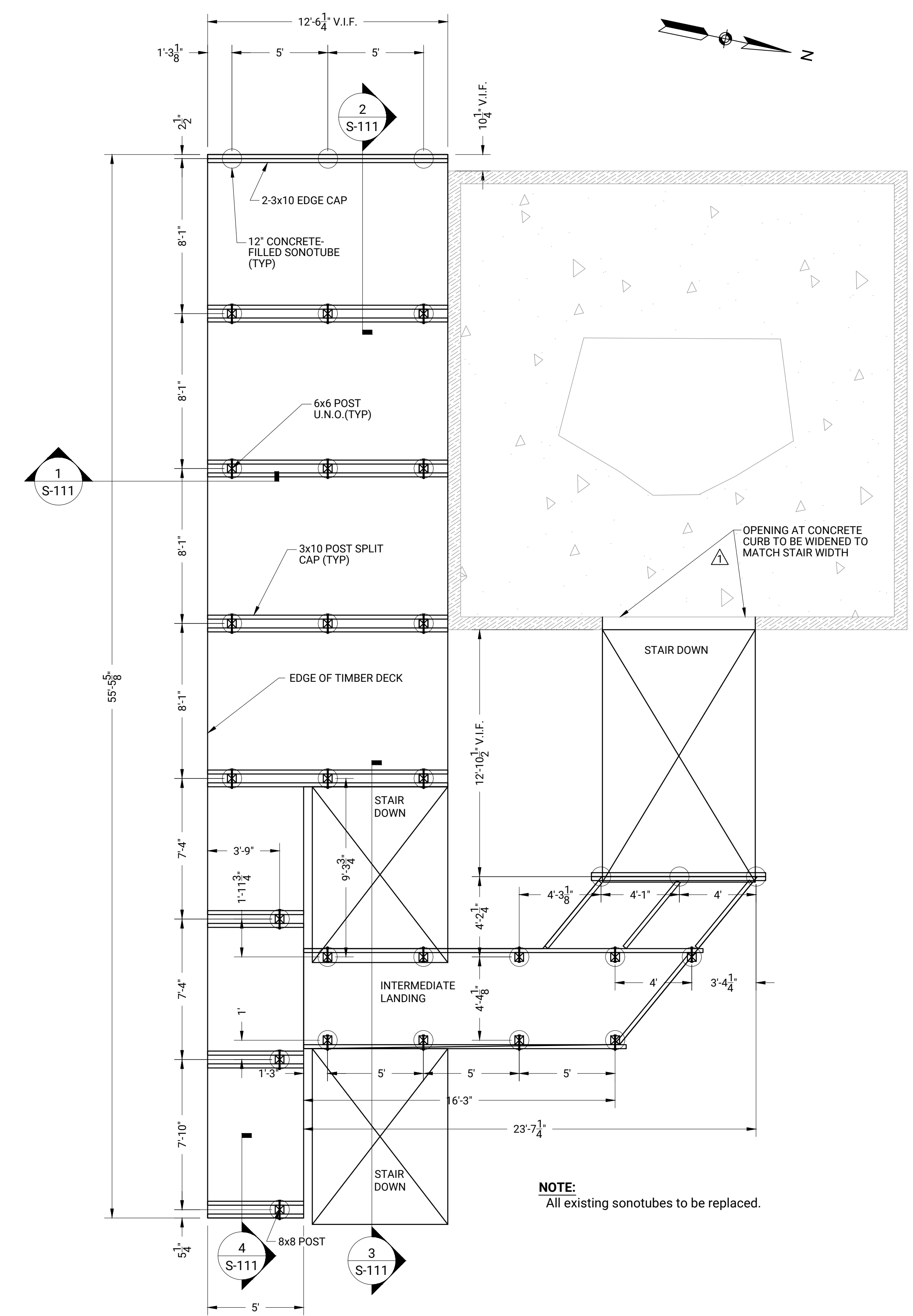
**ISSUED FOR
CONSTRUCTION**

PROJECT NO: 021C036.00
SHEET NUMBER
S-109

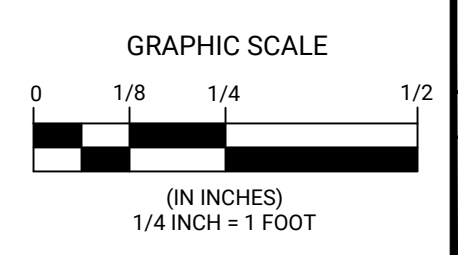
- MONUMENT RAMP HANDRAIL NOTES:**
- TOP GRAB BAR FOR THE HANDRAIL TO BE AT 36 INCHES FROM WALKING SURFACE.
 - BOTTOM GRAB BAR FOR THE HANDRAIL TO BE AT 18 INCHES FROM WALKING SURFACE.
 - GRAB BARS ON THE HANDRAIL AWAY FROM THE MONUMENT MUST EXTEND 1 FOOT PAST THE HANDRAIL POST, AT HANDRAIL END.
 - GRAB BARS ON THE HANDRAIL CLOSER TO THE MUST WRAP AROUND THE POST.



B MAIN DECK FRAMING PLAN
SCALE: 1/4" = 1'-0"



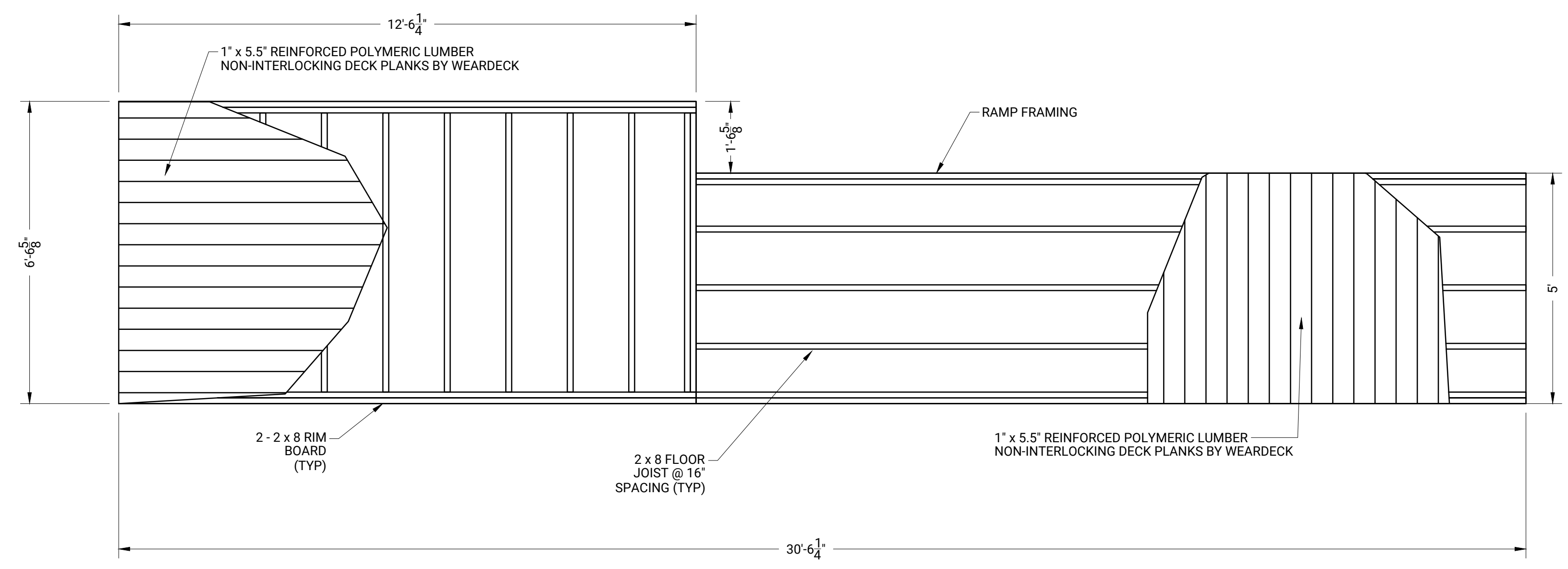
A SONOTUBE, TIMBER POST AND TIMBER CAP PLAN
SCALE: 1/4" = 1'-0"



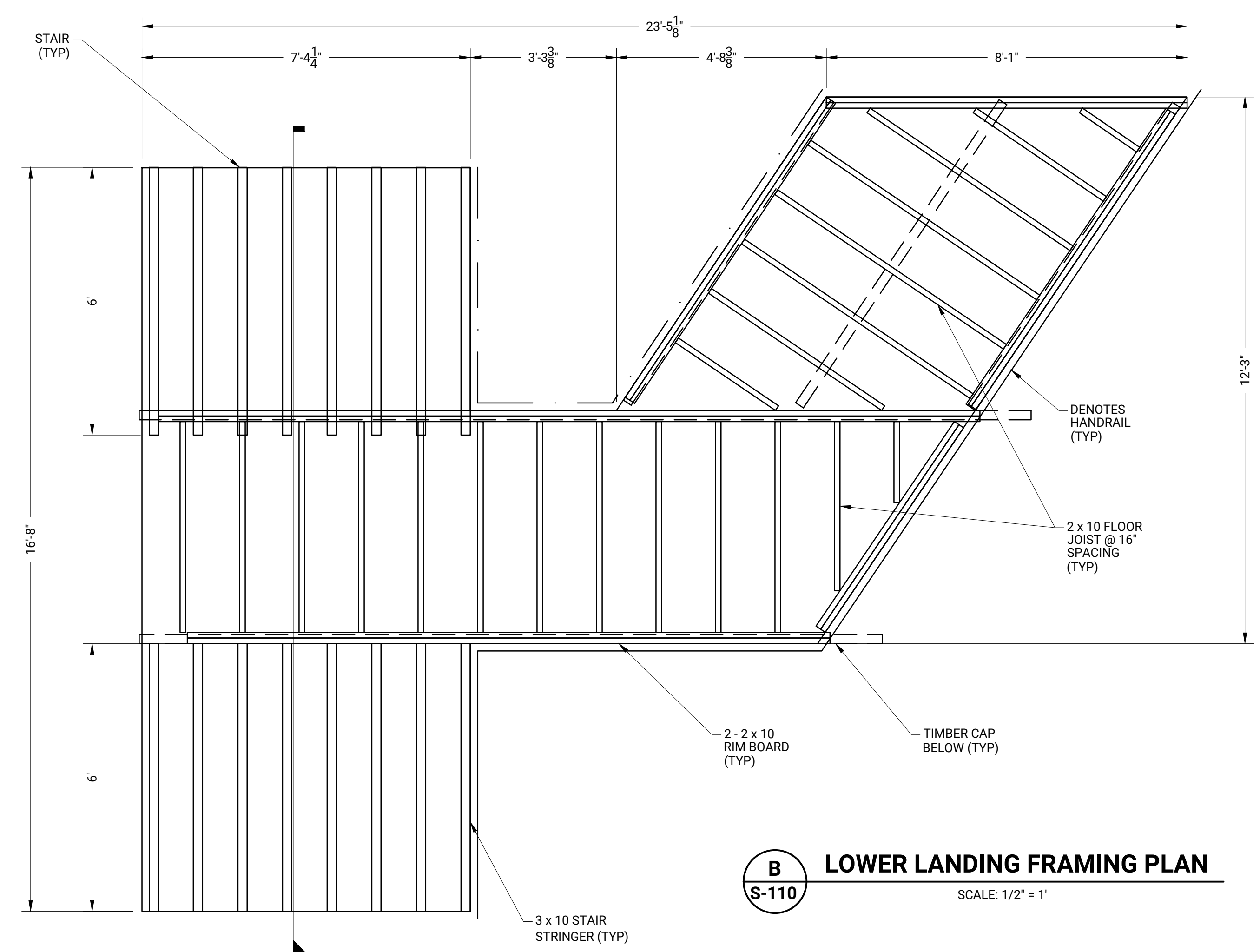
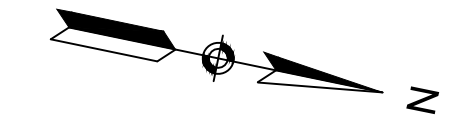
26 September 2022



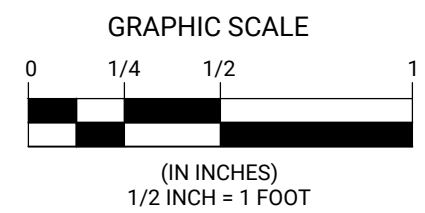
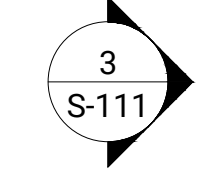
CHATHAM FISH PIER
 BULKHEAD RESHEETING AND
 SOUTH JOG IMPROVEMENTS
 TOWN OF CHATHAM
 54 BARCLIFF AVE. CHATHAM, MA 02633



1
S-110 **TIMBER DECK DESIGN**
 SCALE: 1/2" = 1'



B
S-110 **LOWER LANDING FRAMING PLAN**
 SCALE: 1/2" = 1'



NO.	BY	DATE	REVISIONS	
			DESCRIPTION	
1				
2				
3				
4				
5				

DATE OF PREPARATION		
BY	DATE	
SURVEYED		
DRAWN	JRB2	9/12/2022
DESIGNED	AIM	9/12/2022
CHECKED	AIM	9/13/2022

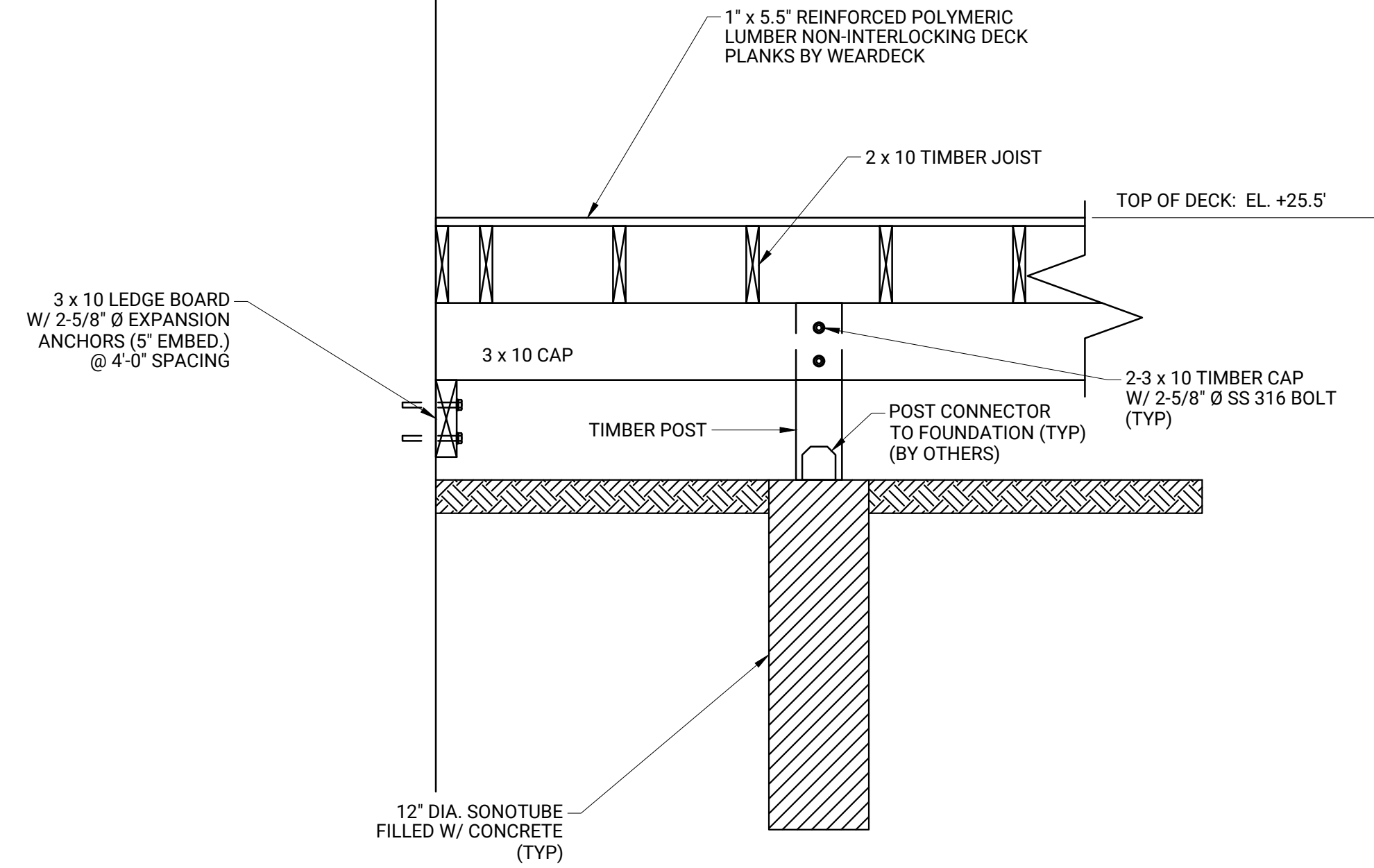
SHEET TITLE:
TIMBER DECK DESIGN

ISSUED FOR CONSTRUCTION

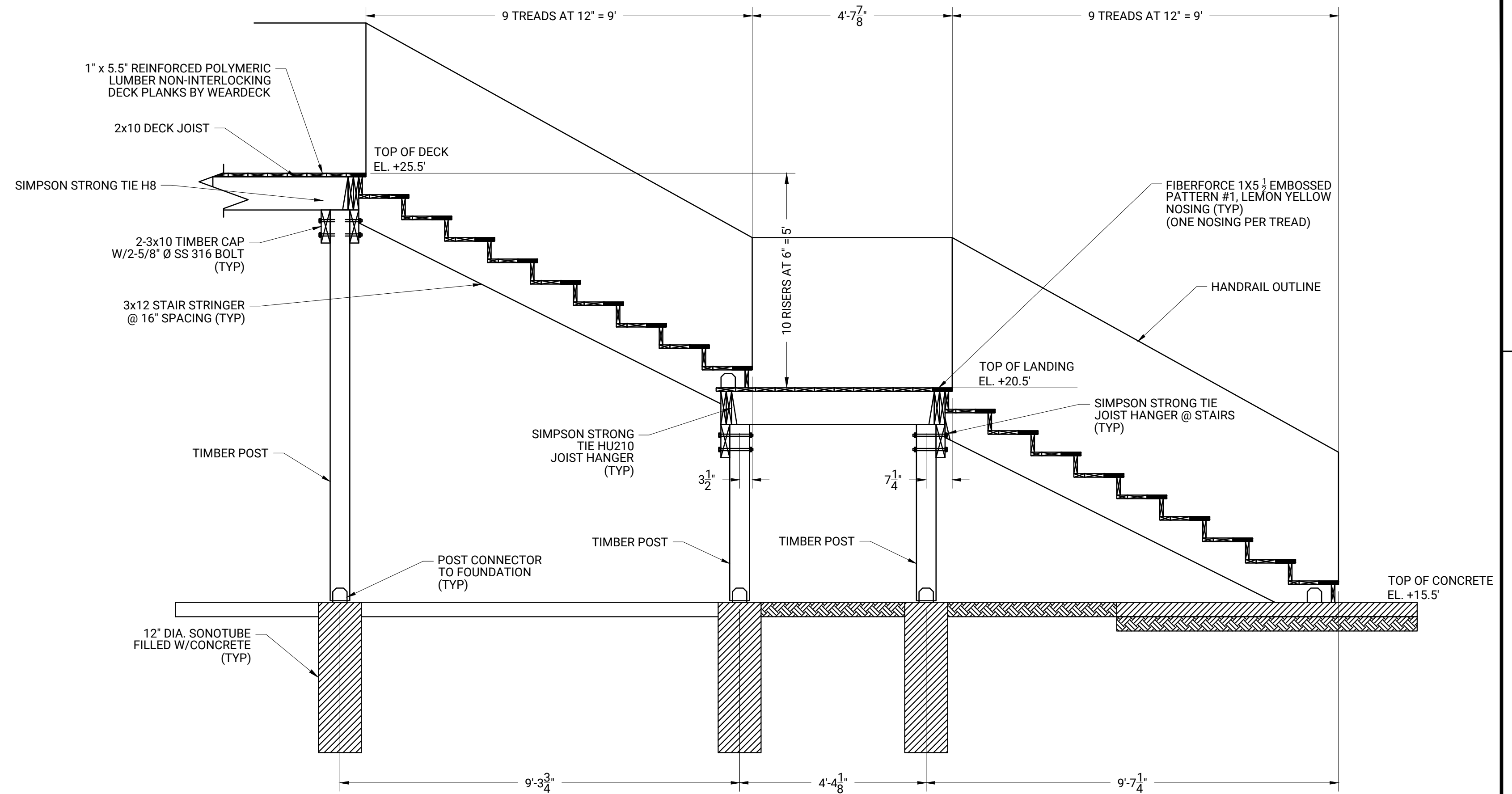
PROJECT NO: 021C036.00
 SHEET NUMBER

S-110

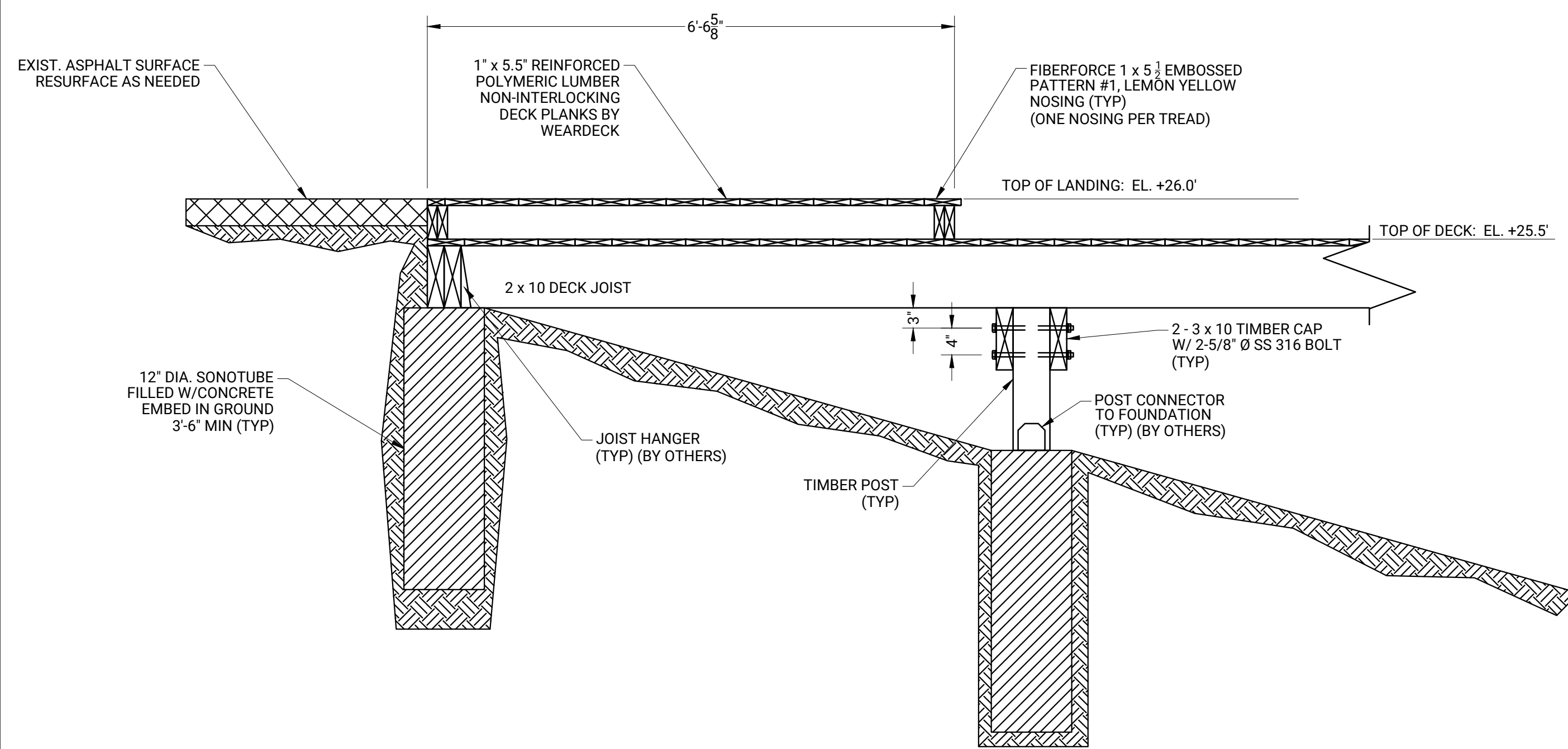
Monday, September 12, 2022 1:47:18 PM
 DWG Filename: timber deck sections and details.dwg Layout: s-110 timber deck design
 DWG Folder Location: Chatham MA T:\021c036.00\CAD\Drawings



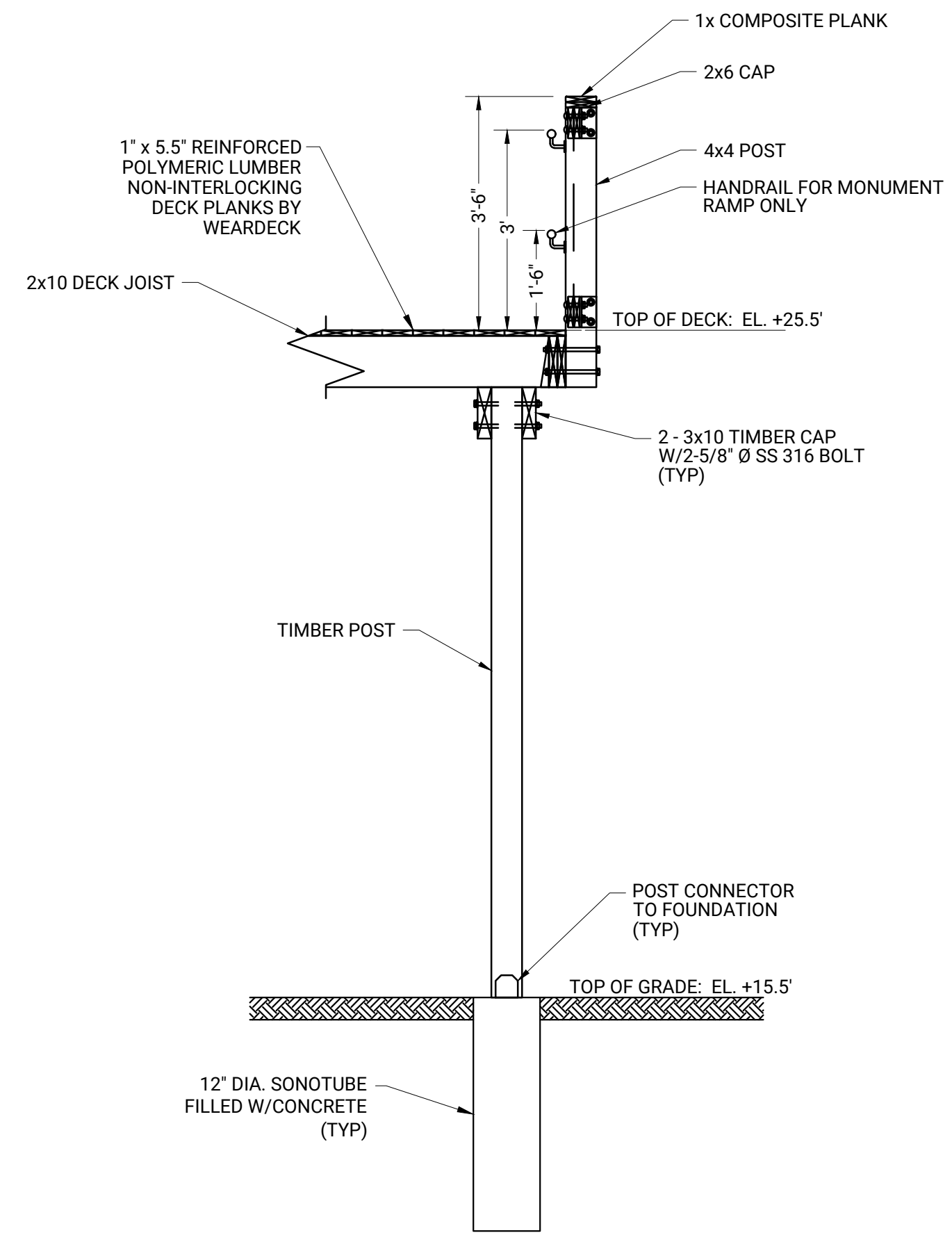
1 **TIMBER FRAMING AND FOUNDATION**
S-109 SCALE: 3/4" = 1'



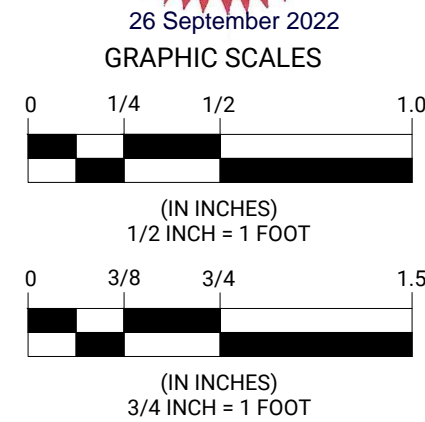
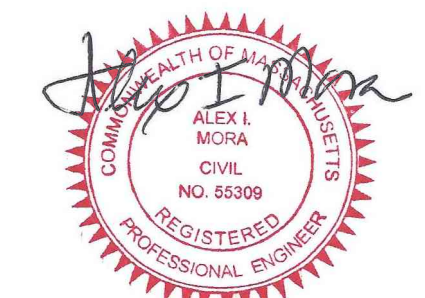
3 **TIMBER FRAMING AND FOUNDATION**
S-109 SCALE: 1/2" = 1'



2 **TIMBER FRAMING AND FOUNDATION**
S-109 SCALE: 3/4" = 1'



4 **DECK-END FRAMING SECTION**
S-109 SCALE: 1/2" = 1'



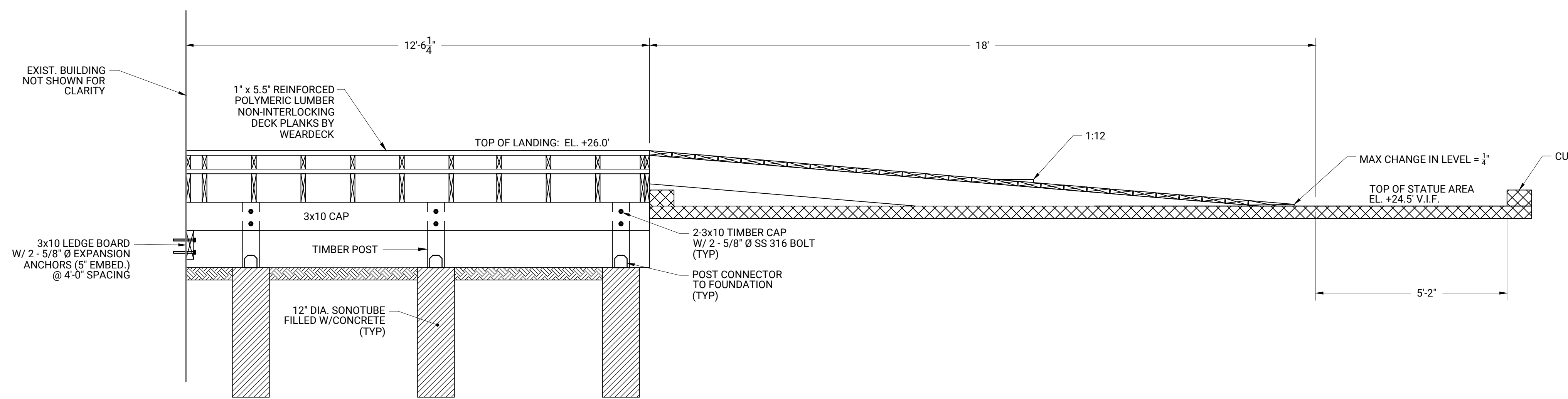
NO.	DATE	DESCRIPTION

DATE OF PREPARATION	
BY	DATE
SURVEYED	
DRAWN	JRB2 9/23/2022
DESIGNED	AIM 9/12/2022
CHECKED	AIM 9/23/2022

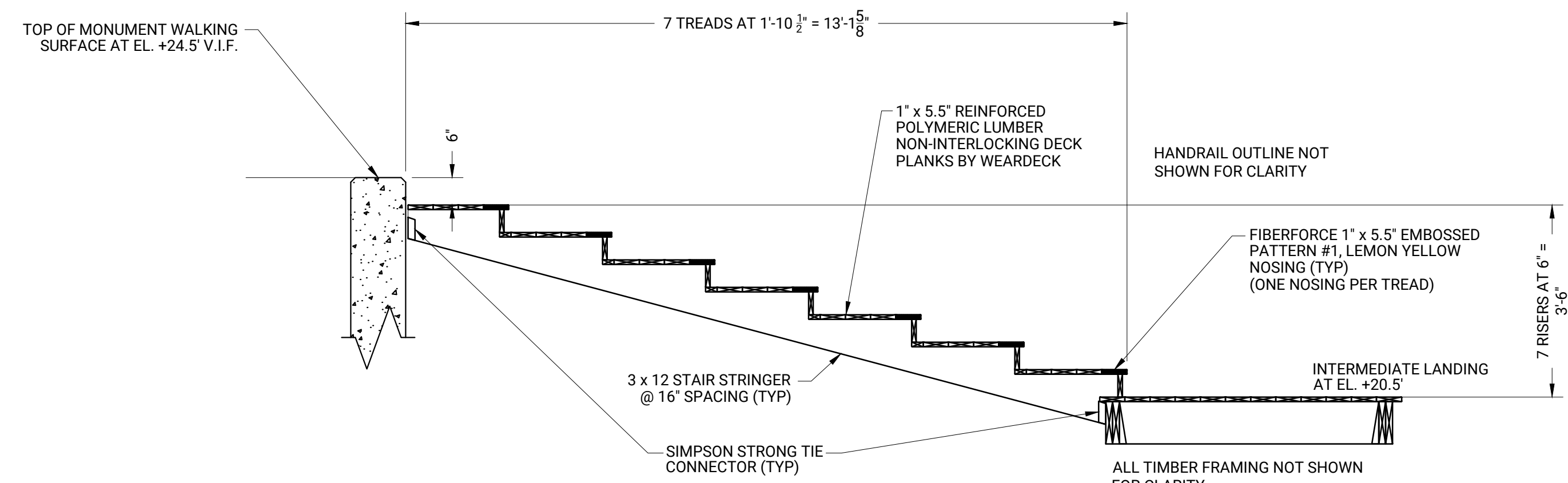
SHEET TITLE:
TIMBER DECK SECTIONS

ISSUED FOR CONSTRUCTION

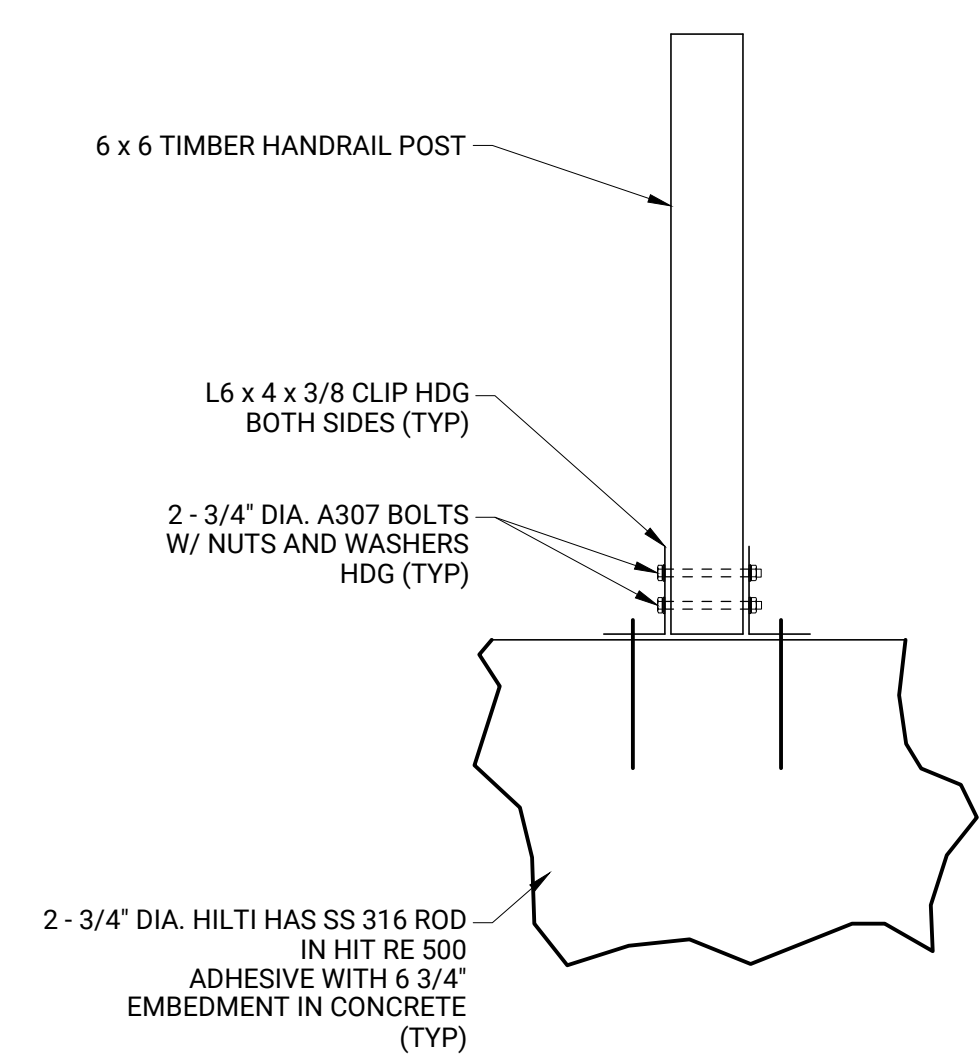
PROJECT NO: 021C036.00
SHEET NUMBER
S-111



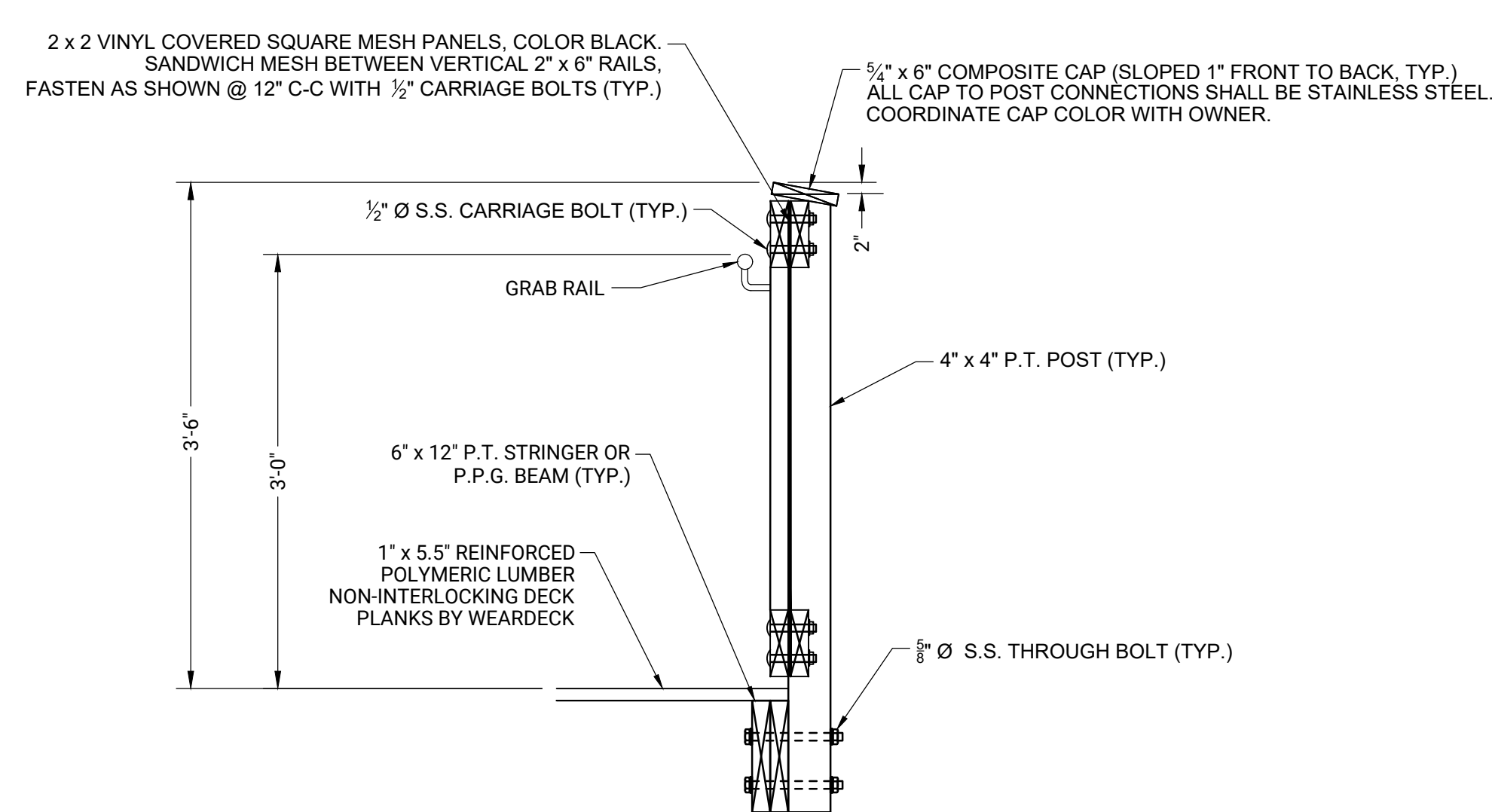
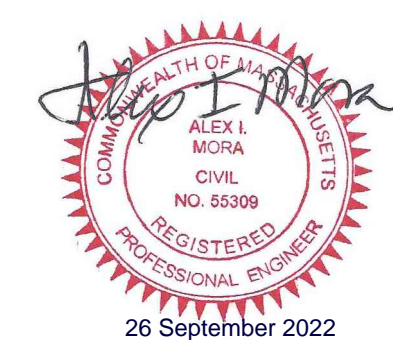
1 LONGITUDINAL RAMP FRAMING SECTION
S-110 SCALE: 1/2" = 1'



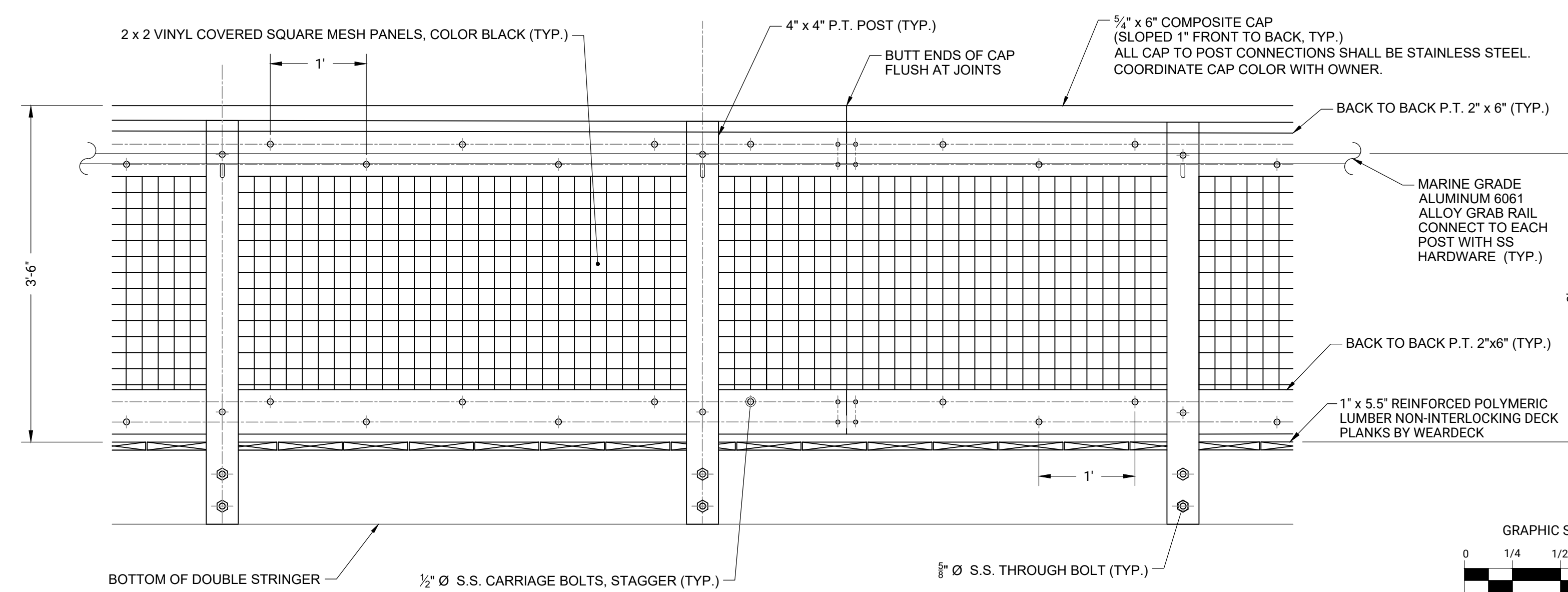
2 MONUMENT STAIR FRAMING SECTION
S-110 SCALE: 1/2" = 1'



5 RAMP POST CONNECTION DETAIL
S-110 SCALE: 3/4" = 1'

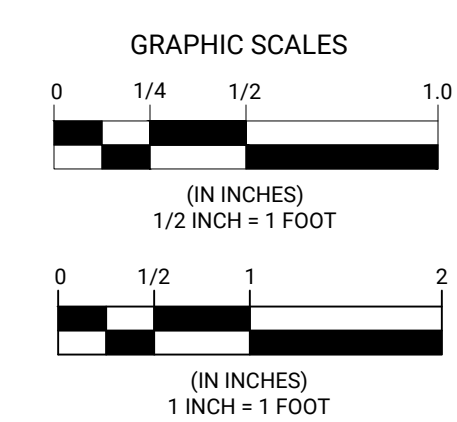


3 TYPICAL HANDRAIL DETAIL ELEVATION
S-112 SCALE: 1" = 1'



4 TYPICAL HANDRAIL DETAIL SECTION
S-112 SCALE: 1" = 1'

NOTE: GRAB RAIL SHALL EXTEND PAST END OF HANDRAIL 12 INCHES TO MEET ADA REQUIREMENTS.



REVISIONS		DATE OF PREPARATION	
NO.	DESCRIPTION	BY	DATE

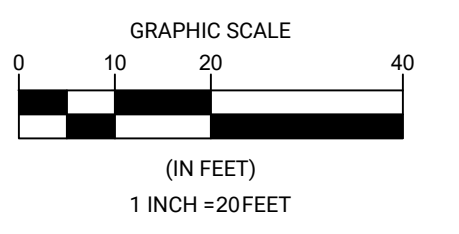
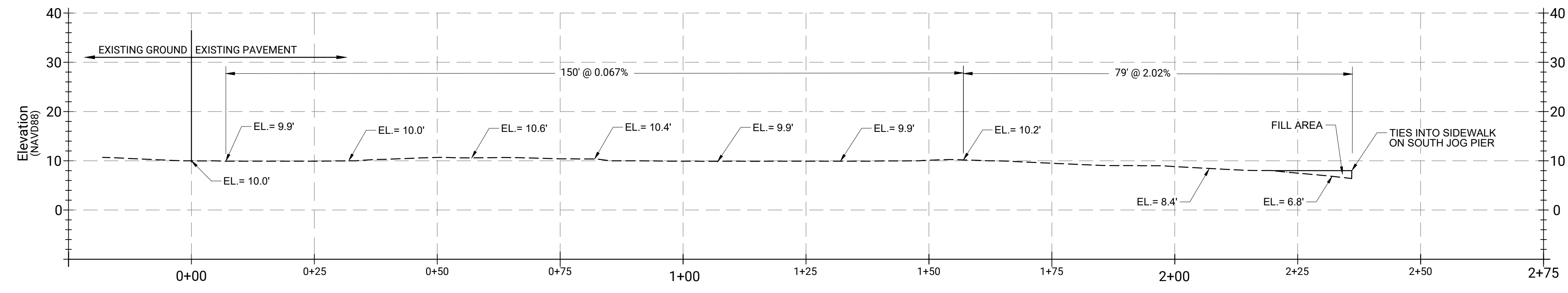
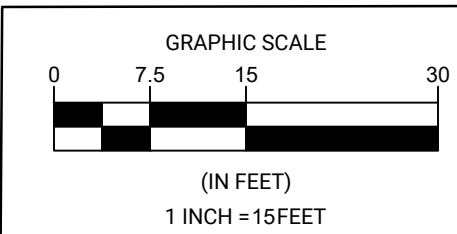
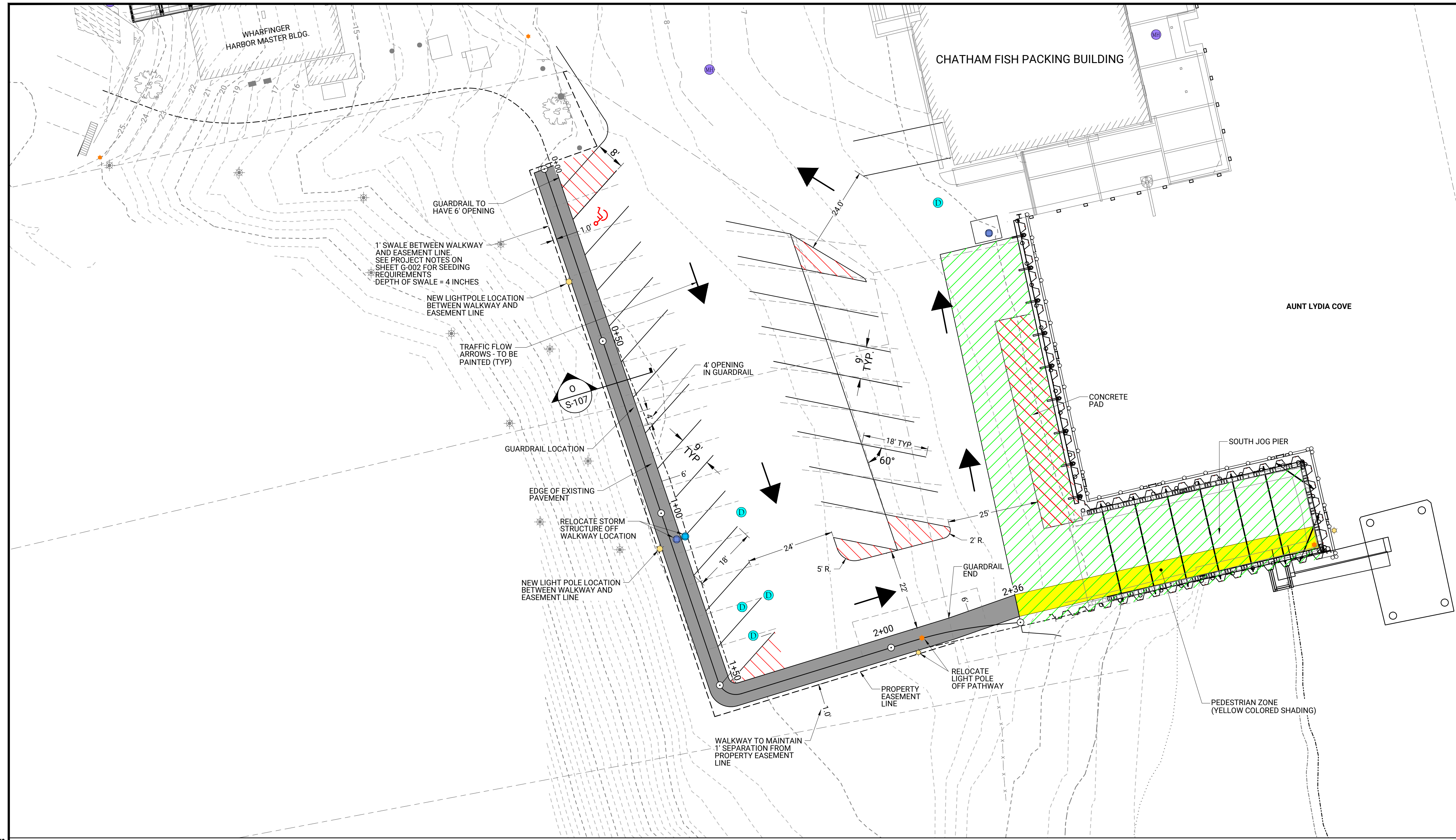
DATE OF PREPARATION	
BY	DATE

SHEET TITLE:
TYPICAL FRAMING AND HANDRAIL SECTIONS

ISSUED FOR CONSTRUCTION
PROJECT NO: 021C036.00
SHEET NUMBER
S-112



**CHATHAM FISH PIER
BULKHEAD RESHEETING AND
SOUTH JOG IMPROVEMENTS**
TOWN OF CHATHAM
54 BARCLIFF AVE. CHATHAM, MA 02633



NO.	BY	DATE	DESCRIPTION
1	AIM	9/13/2022	CHECKED
2	AIM	9/12/2022	DESIGNED
3	JRB2	9/12/2022	DRAWN
4	-	-	SURVEYED

DATE OF PREPARATION	
BY	DATE
AIM	9/13/2022

SHEET TITLE:
PARKING LOT LAYOUT AND WALKWAY PLAN AND PROFILE

ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00

SHEET NUMBER
S-113



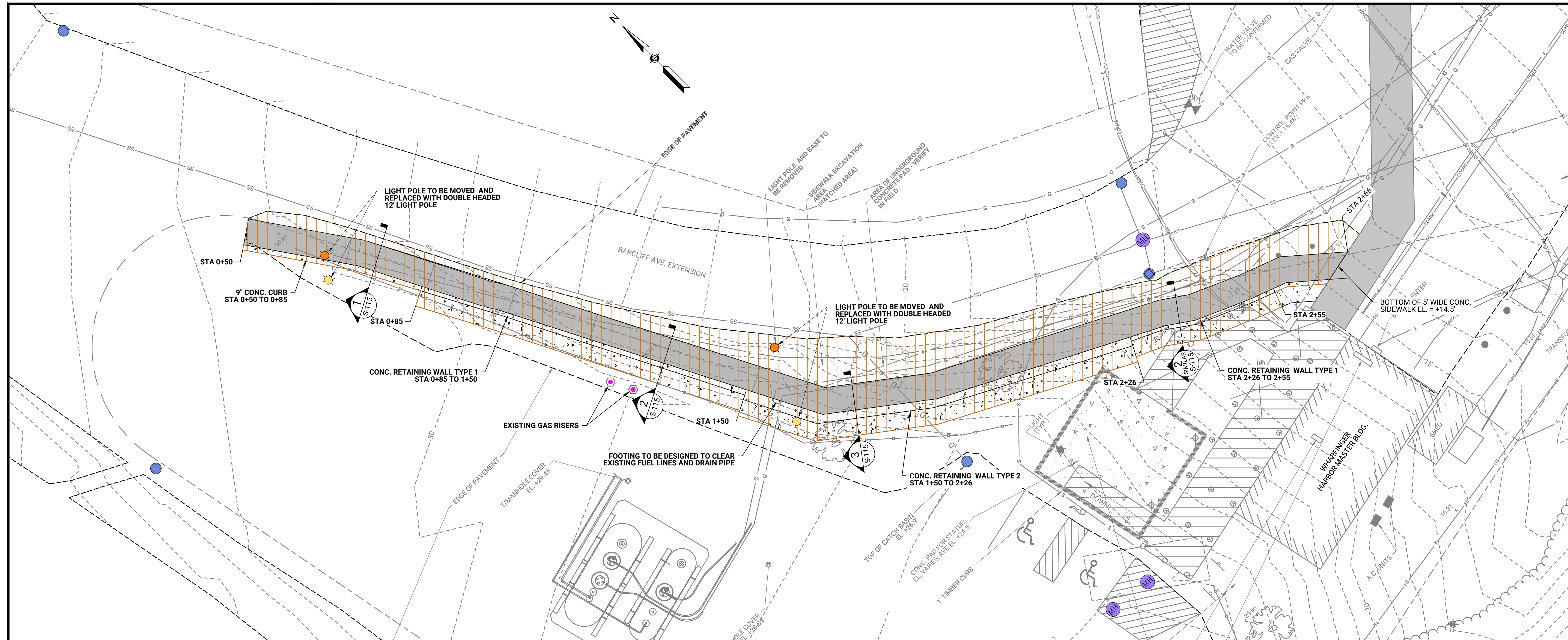
Tuesday, October 04, 2022 8:22:17 AM
DWG Filename: walkway plan and profile.dwg
Layout: s-113 - parking lot layout and walkway plan and profile
DWG Folder Location: Clients\Chatham Ma T\0021C036.00\CAD\Drawings

WALKWAY PROFILE



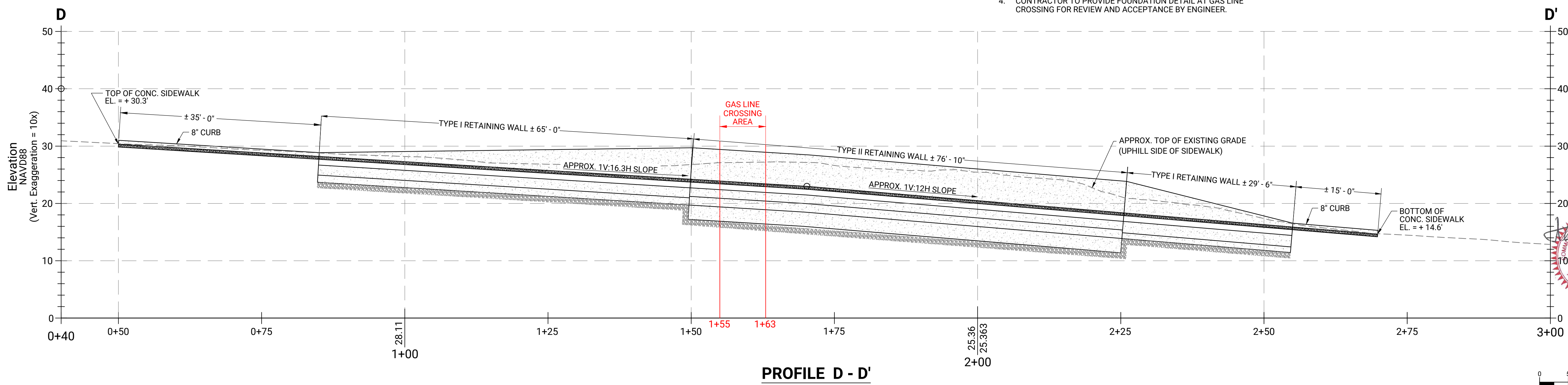
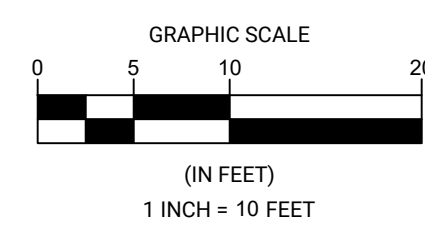
**CHATHAM FISH PIER
BULKHEAD RESHEETING AND SOUTH
JOG IMPROVEMENTS PROJECT**

**TOWN OF CHATHAM
54 BARCLIFF AVE. CHATHAM, MA 02633**

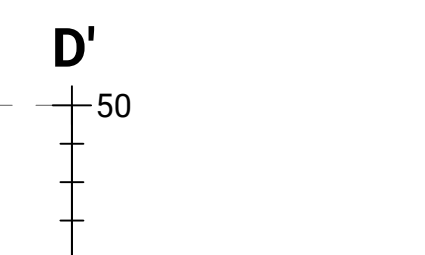


SITE PLAN
SCALE: 1" = 10'

- NOTES:**
1. EXISTING LAMP POLES IN WORK AREA OF SITE WALL SHALL BE REMOVED AND REINSTALLED.
 2. EXISTING TREES SHALL BE IDENTIFIED AND REMOVED AS NECESSARY.
 3. LAMP POLE FOUNDATION MAY BE PLACED BEARING ON SITE WALL FOUNDATION.
 4. CONTRACTOR TO PROVIDE FOUNDATION DETAIL AT GAS LINE CROSSING FOR REVIEW AND ACCEPTANCE BY ENGINEER.



PROFILE D - D'



REVISIONS	
NO.	DESCRIPTION

DATE OF PREPARATION	
BY	DATE

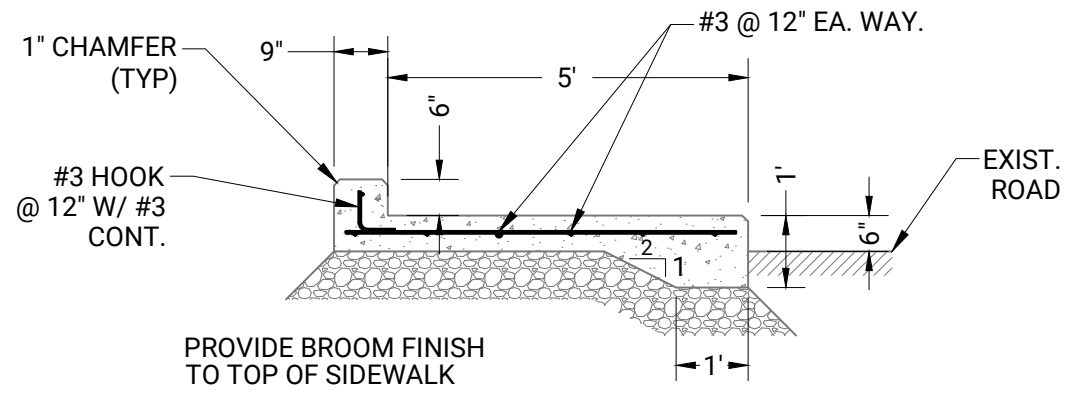
SURVEYED		
DRAWN	JRB2	9/12/2022
DESIGNED	AIM	9/12/2022
CHECKED	AIM	9/13/2022

SHEET TITLE:
SIDEWALK PLAN AND PROFILE

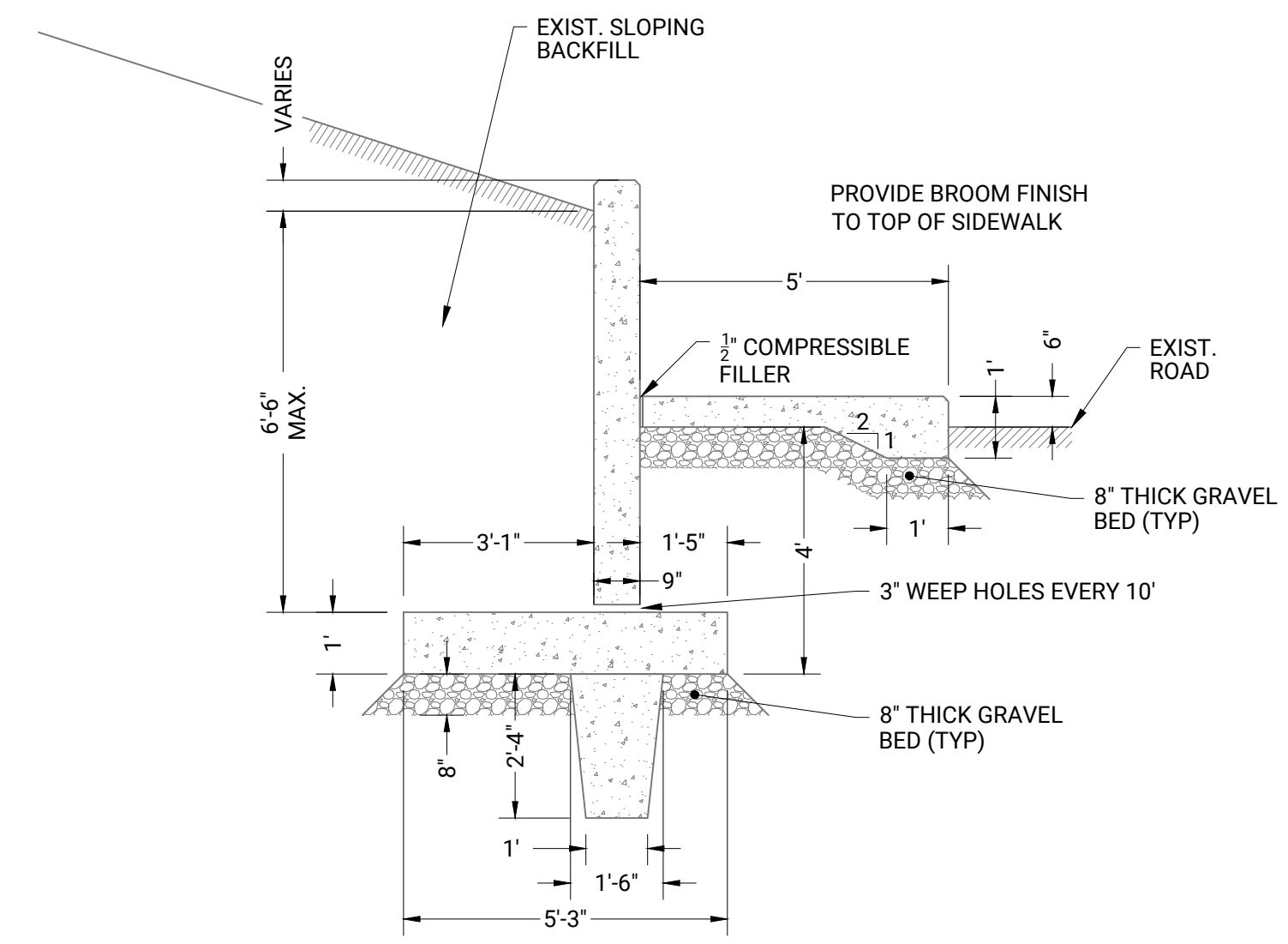
ISSUED FOR CONSTRUCTION

PROJECT NO: 021C036.00
SHEET NUMBER
S-114

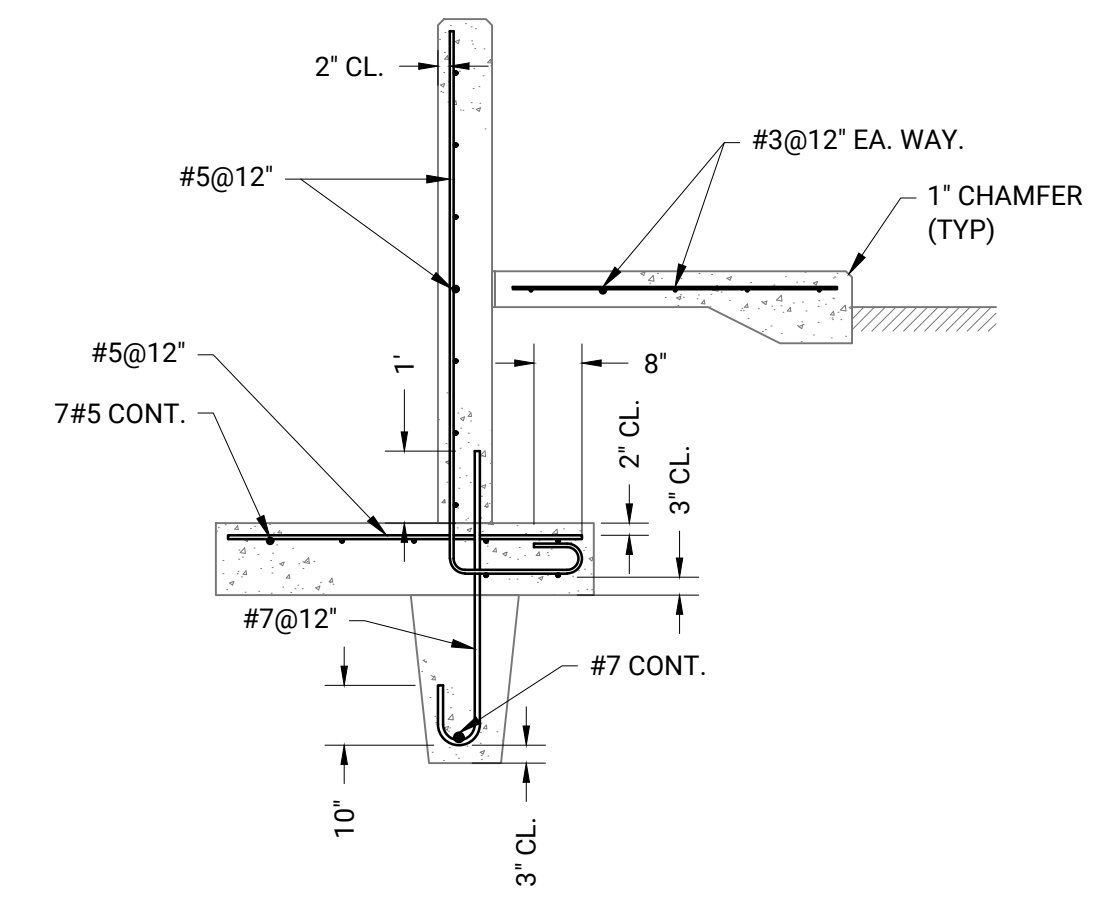
Friday, September 23, 2022 1:41:36 PM
DWG Filename: sidewalk plan and profile.dwg Layout: s-114 - sidewalk plan and profile
DWG Folder Location: Chatham MA T:\021C036.00\CAD\Drawings



1 SIDEWALK WITH CURB
SCALE: $\frac{3}{8}" = 1'-0"$

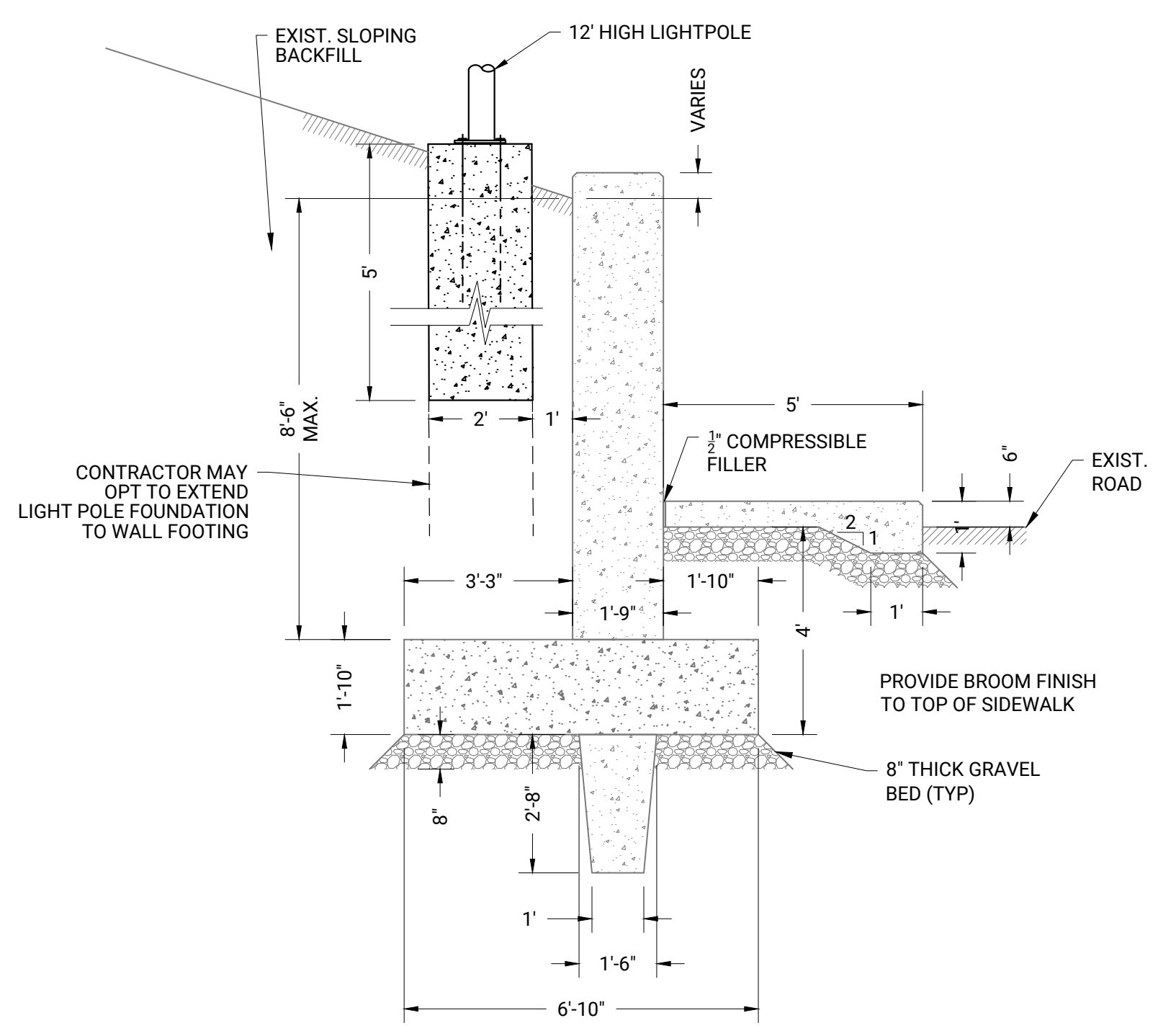


2 TYPE I CONCRETE RETAINING WALL GEOMETRY
SCALE: $\frac{3}{8}" = 1'-0"$

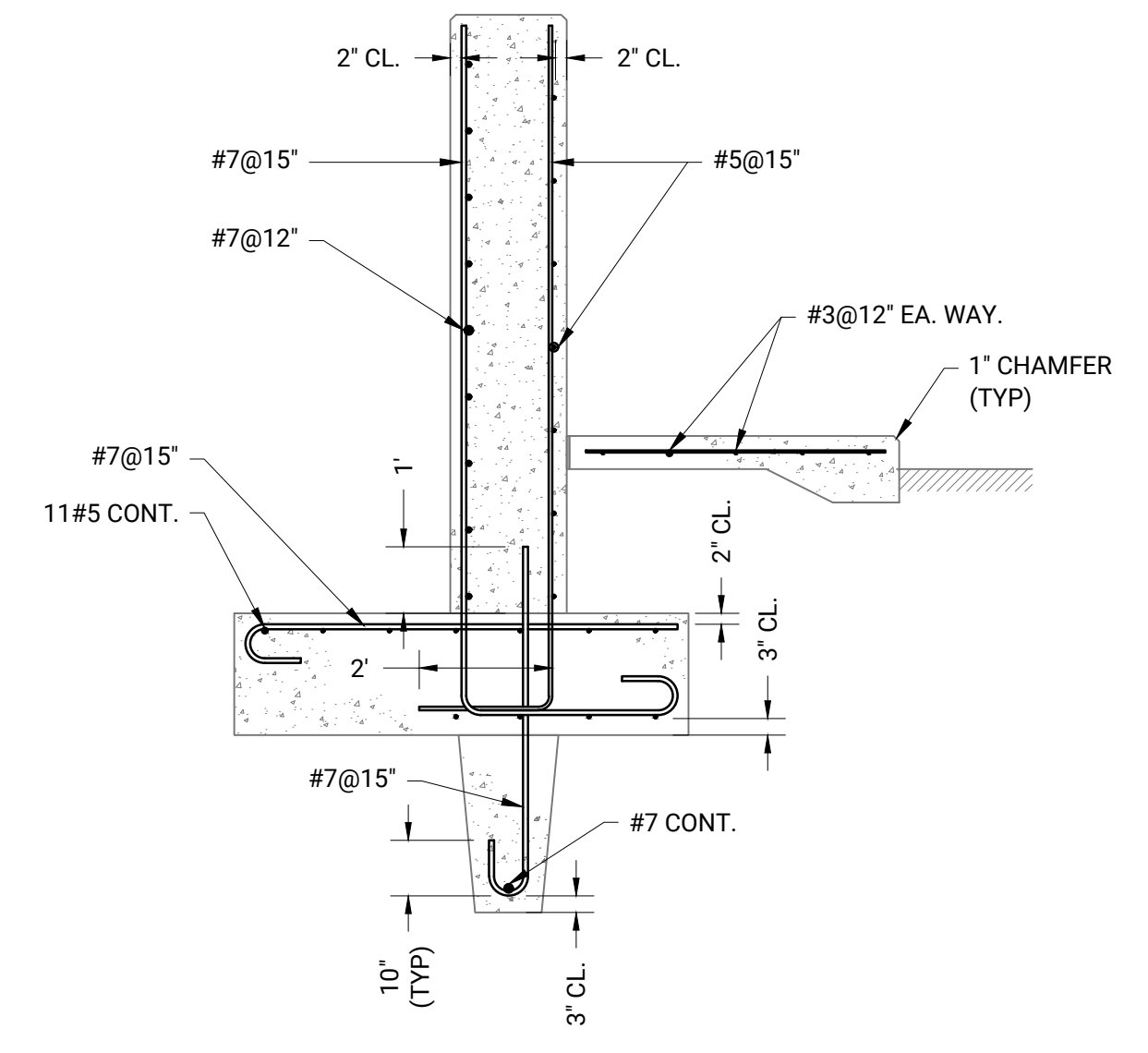


TYPE I CONCRETE RETAINING WALL REINFORCEMENT
SCALE: $\frac{3}{8}" = 1'-0"$

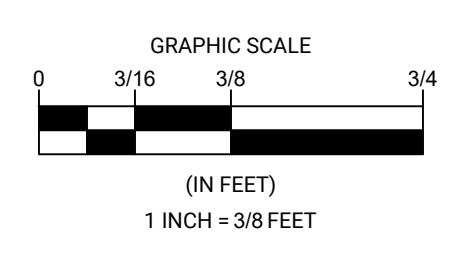
NOTE:
SEE DETAIL 3 ON DRAWING ES0.1 FOR
LIGHTING POLE SPECIFIC REQUIREMENTS.



3 TYPE II CONCRETE RETAINING WALL GEOMETRY
SCALE: $\frac{3}{8}" = 1'-0"$



TYPE II CONCRETE RETAINING WALL REINFORCEMENT
SCALE: $\frac{3}{8}" = 1'-0"$



NO.	BY	DATE	REVISIONS	
			DESCRIPTION	DATE
1				
2				
3				
4				
5				

DATE OF PREPARATION	
BY	DATE
SURVEYED	INT
DRAWN	JRB2 9/12/2022
DESIGNED	AIM 9/12/2022
CHECKED	AIM 9/13/2022

SHEET TITLE:
SIDEWALK DETAILS

ISSUED FOR CONSTRUCTION
PROJECT NO: 021C036.00
SHEET NUMBER
S-115

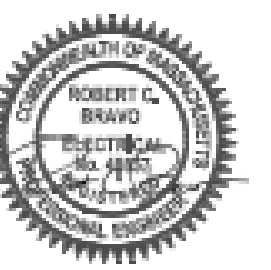
**ISSUED FOR
 CONSTRUCTION
 09/26/2022**

**CHATHAM
 FISH PIER BULKHEAD
 RESHEETING &
 SOUTH JOG
 IMPROVEMENT
 PROJECT**

54 BARCLIFF AVE
 CHATHAM, MA 02633

Notes:

North Arrow



Keyplan

Drawing Name:

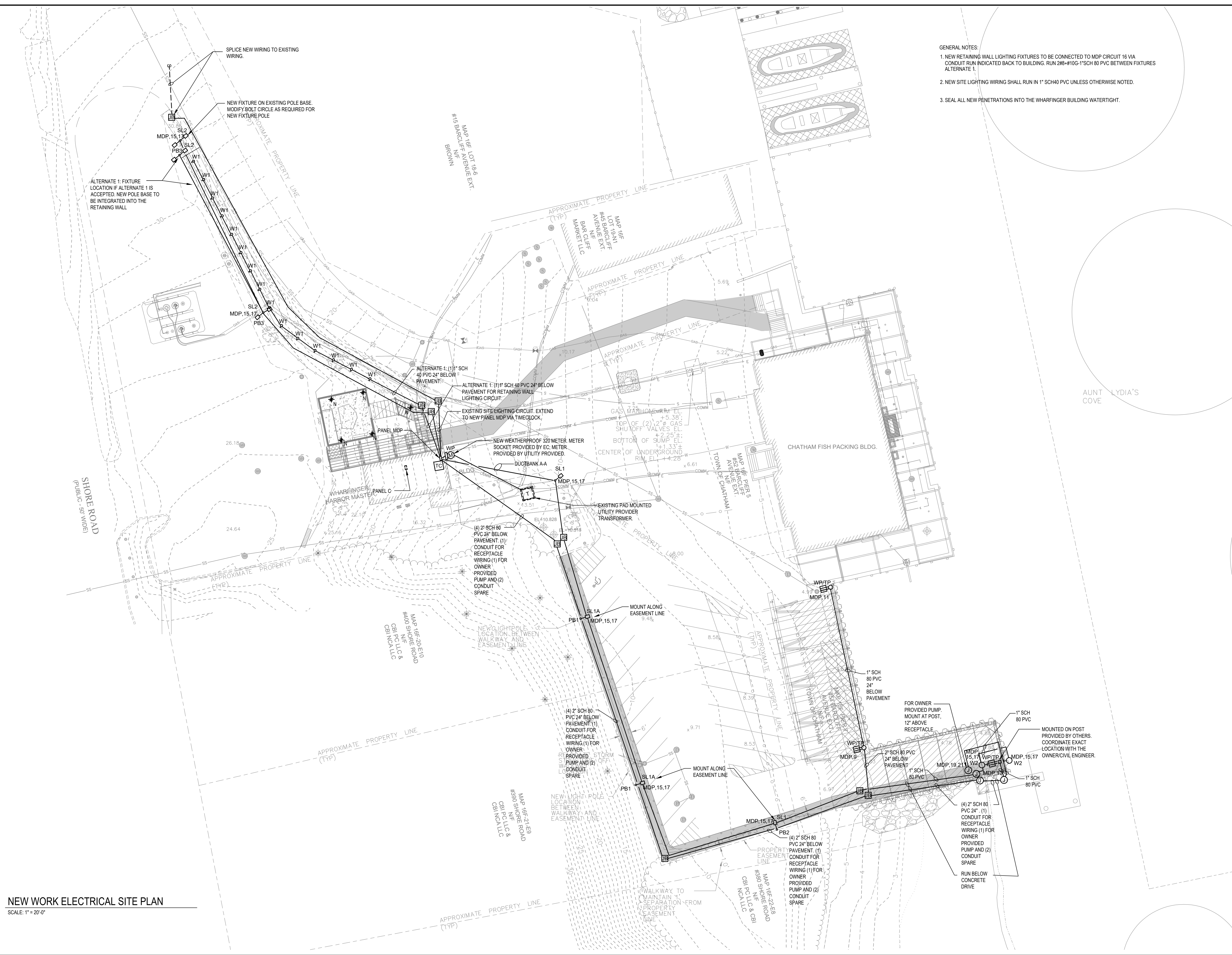
**ELECTRICAL
 SITE PLAN**

Scale: 1"=20'-0"
 Job No.: 1GV-265
 Drawn By: JGS
 Date: 9/26/2022

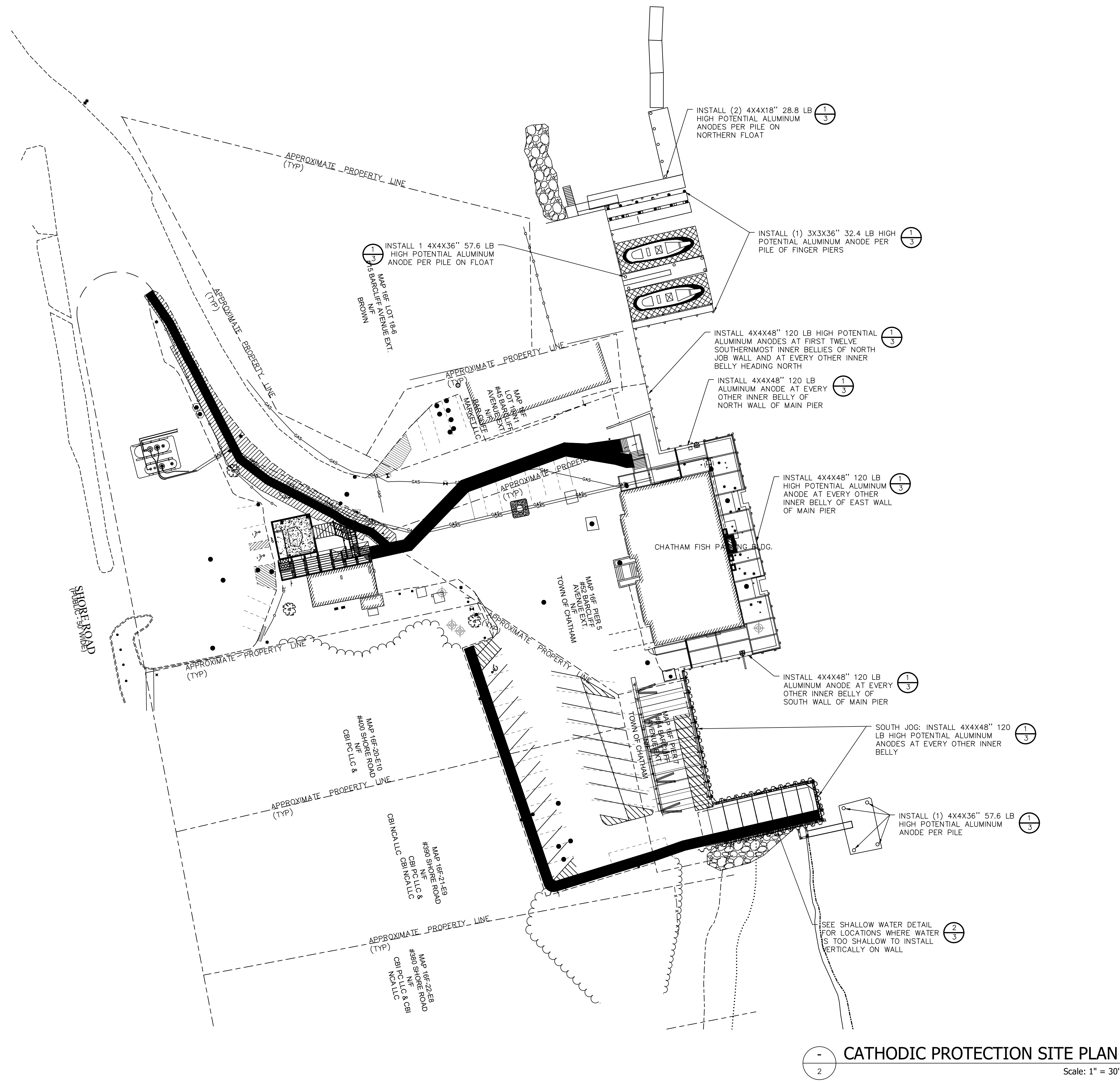
Drawing Number:
E-3

GENERAL NOTES:

1. NEW RETAINING WALL LIGHTING FIXTURES TO BE CONNECTED TO MDP CIRCUIT 16 VIA CONDUIT RUN INDICATED BACK TO BUILDING. RUN 2#8-#10G-1"SCH 80 PVC BETWEEN FIXTURES ALTERNATE 1.
2. NEW SITE LIGHTING WIRING SHALL RUN IN 1" SCH40 PVC UNLESS OTHERWISE NOTED.
3. SEAL ALL NEW PENETRATIONS INTO THE WHARFINGER BUILDING WATERTIGHT.




NEW WORK ELECTRICAL SITE PLAN
 SCALE: 1"=20'-0"



CATHODIC PROTECTION SITE PLAN
 Scale: 1" = 30'

REV	DATE	DESCRIPTION	DRWN	CHK'D	APP'D
3	9/26/22	ISSUED FOR CONSTRUCTION	MLC	JC	JC
2	6/29/22	ISSUED FOR BID	MLC	JC	JC
1	2/25/22	REVISION 1	MLC	JC	JC

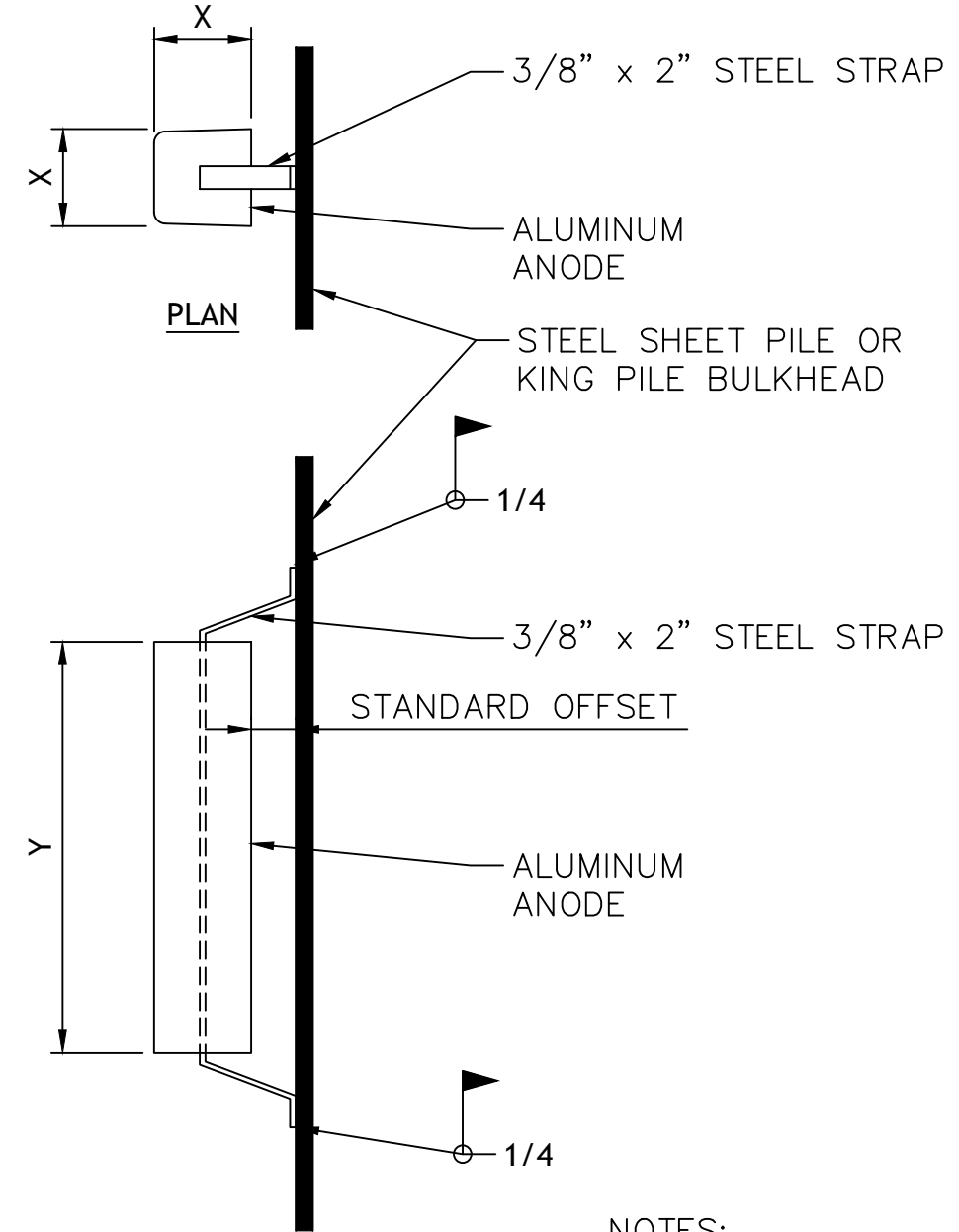


PROJECT#: 65000879

CHATHAM FISH PIER IMPROVEMENTS PROJECT
 CP SYSTEM DESIGN
 SITE PLAN

DRAWN BY: MLC	SCALE: 1" = 30'	DATE: 2022/09/26
DESIGN BY: JC	DWG NO.: CP-1	REV. 3
CHECKED BY: JC		
APPROVED BY: JC		

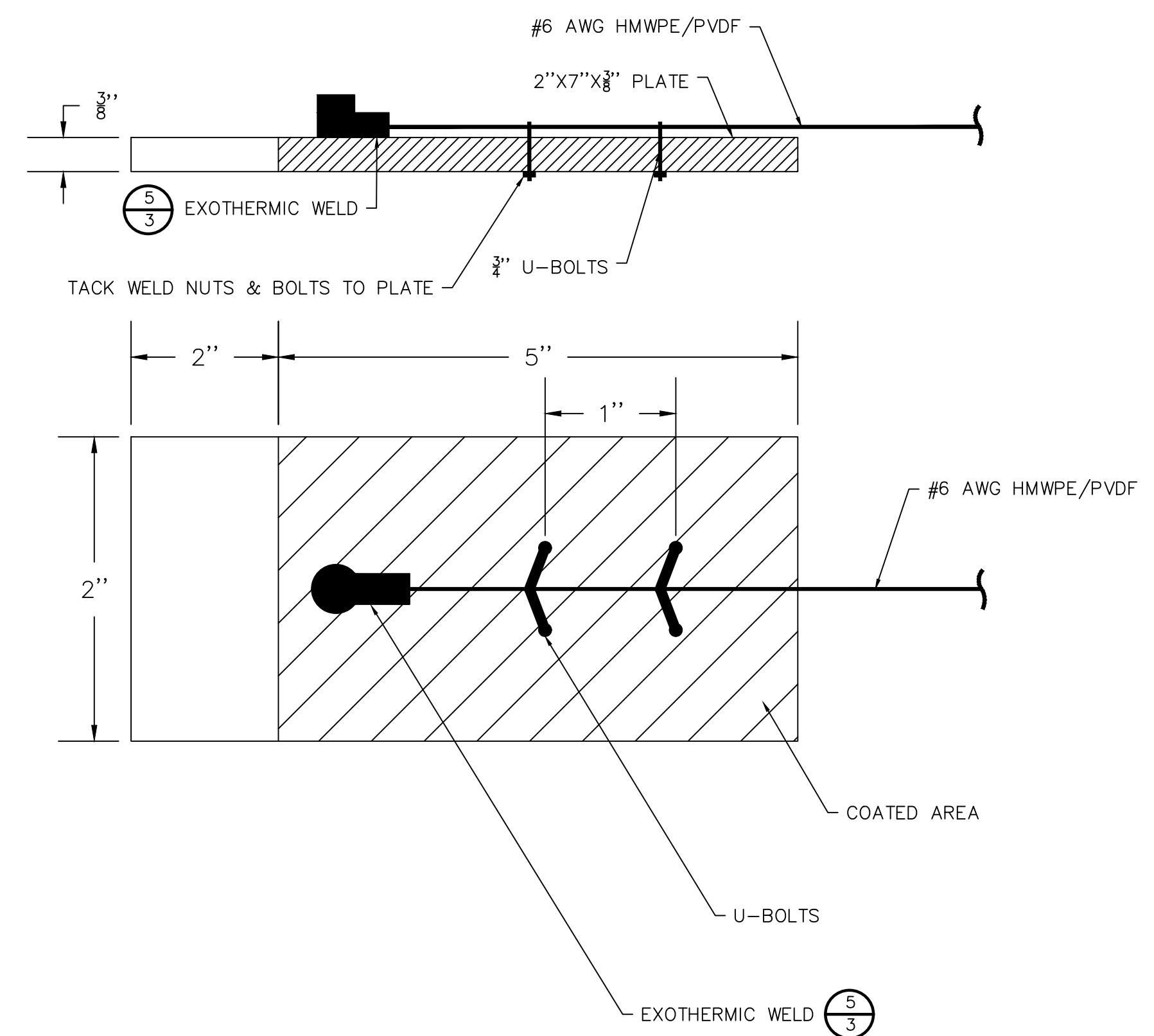
P:\PROJECTS\ACTIVA\CORROSION\CHATHAM FISH PIER\CHATHAM FISH_PIER_CATHODIC_PROTECTION_SITE_PLAN.dwg 9/23/2022 3:50:27 PM



1 ANODE DETAIL
Scale: NTS

- NOTES:
1. AT EVERY SHEET PILE INTERLOCK BETWEEN SHEET PILES PROVIDE A 3-INCH LONG WELD AT TOP OF PILE.
 2. ANODES TO BE MOUNTED WITH THE BOTTOM OF THE ANODE NO MORE THAN 1 FOOT FROM THE MUDLINE.
 3. ANODES ON PIPE PILES WITH TWO ANODES SHALL BE INSTALLED 180 DEGREES FROM EACH OTHER.

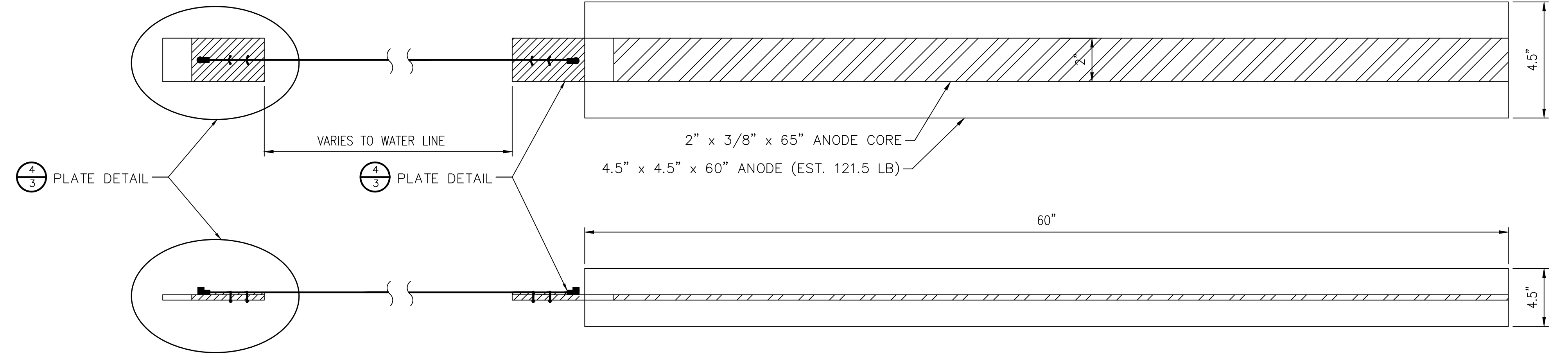
ANODE SCHEDULE			
LOCATION	X (IN.)	Y (IN.)	WEIGHT (LBS.)
SHEET PILE WALLS	5	48	1204
FLOAT PILES – TYPICAL	4	36	57.6
FINGER PIER PILES	3	36	32.4
NORTH FLOAT PILES	4	18	28.8



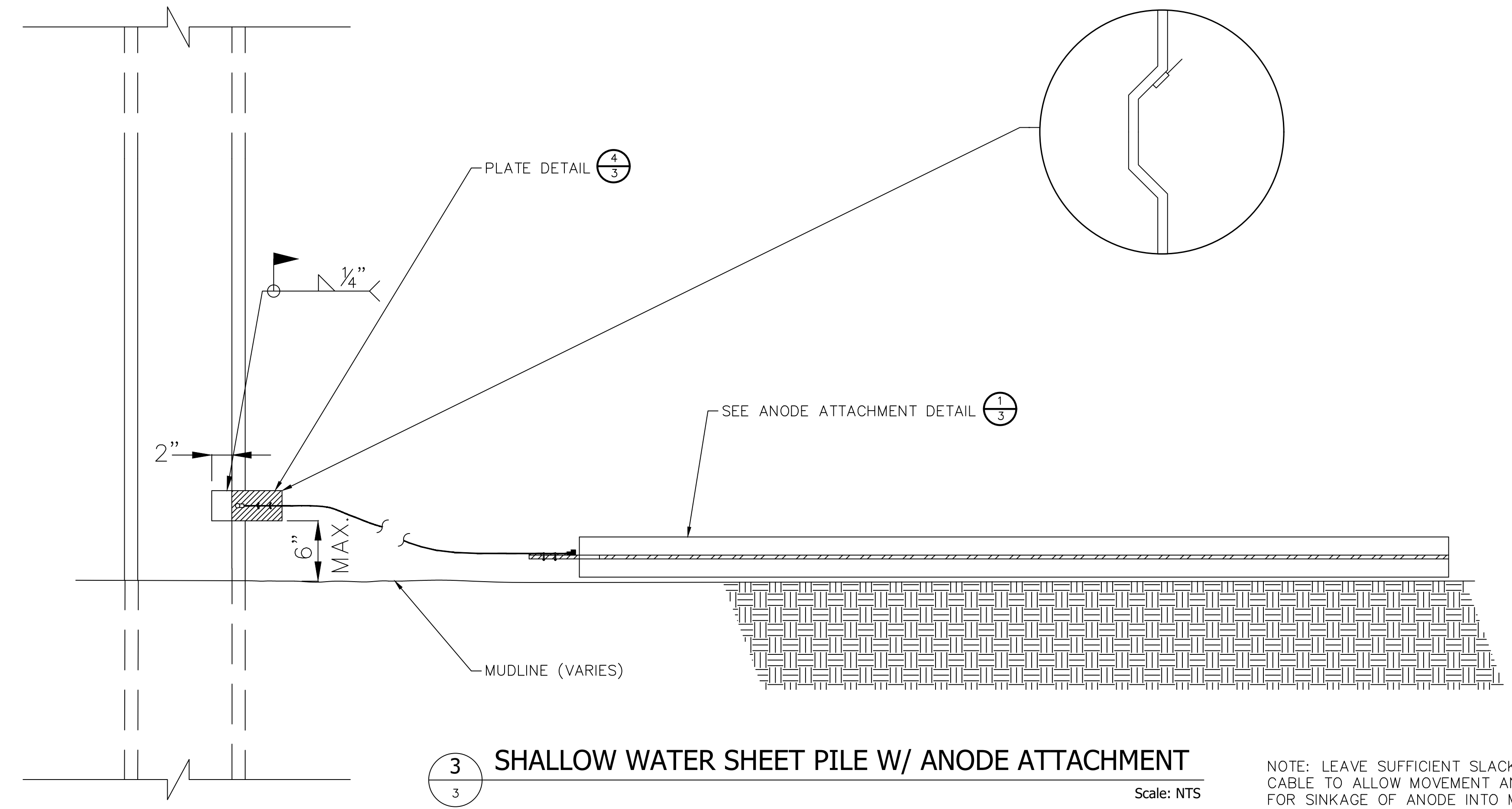
4 NEGATIVE CABLE PLATE DETAIL
Scale: NTS

NOTES:

1. PLATE ASSEMBLY SHALL BE COATED WITH TWO COATS OF "TAPE COAT" TC MASTIC OR EQUAL AND ALLOWED TO DRY COMPLETELY PRIOR TO INSTALLATION

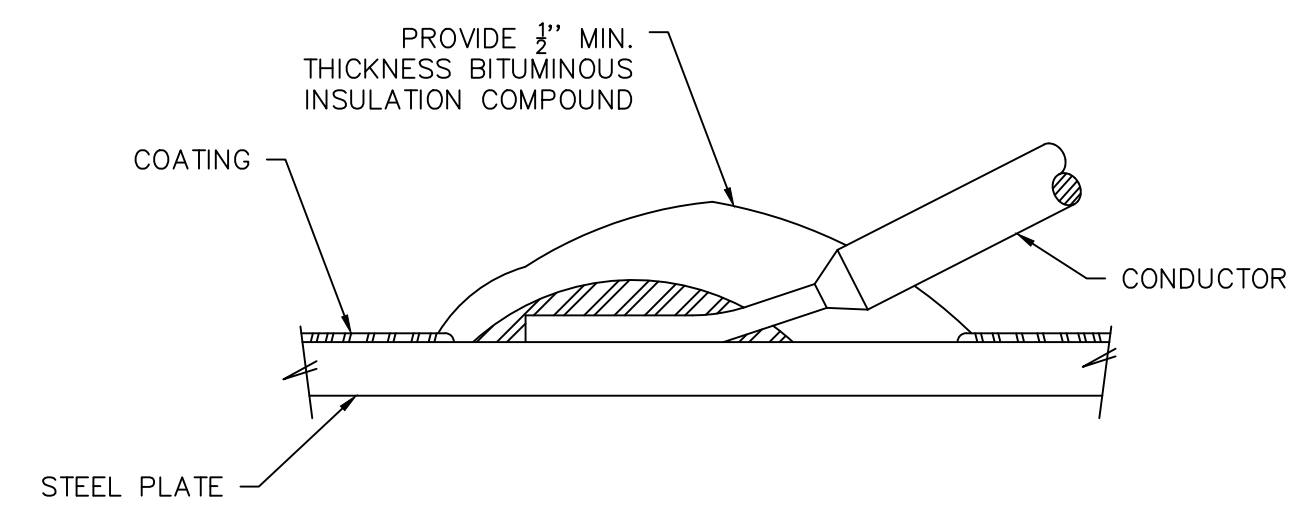


2 SHALLOW WATER ANODE ATTACHMENT DETAIL
Scale: NTS



3 SHALLOW WATER SHEET PILE W/ ANODE ATTACHMENT
Scale: NTS

NOTE: LEAVE SUFFICIENT SLACK IN CABLE TO ALLOW MOVEMENT AND FOR SINKAGE OF ANODE INTO MUD



5 EXOTHERMIC WELD
Scale: NTS

REV	DATE	DESCRIPTION	DRWN	CHK'D	APP'D
3	9/26/22	ISSUED FOR CONSTRUCTION	MLC	JC	JC
2	6/29/22	ISSUED FOR BID	MLC	JC	JC
1	2/25/22	REVISION 1	MLC	JC	JC



PROJECT#: 65000879

CHATHAM FISH PIER IMPROVEMENTS PROJECT
CP SYSTEM DESIGN
DETAILS

DRAWN BY: MLC	SCALE: NONE	DATE: 2022/09/26
DESIGN BY: JC	DWG NO.: CP-2	REV. 3
CHECKED BY: JC		
APPROVED BY: JC		

P:\PROJECTS\ACTIVA\CORROSION\CP\CHATHAM FISH PIER\CHATHAM FISH PIER_09232022.DWG, MCHAMBERG, 9/23/2022, 3:50:29 PM

PLUMBING LEGEND

GENERAL		DRAINAGE		VALVES			
	EXISTING PIPING TO BE REMOVED HEAVY LINE INDICATES NEW WORK LIGHT LINE INDICATES EXISTING WORK PIPING INTERRUPTED OR TO BE CONTINUED CAP OR END OF PIPE CONNECT TO EXISTING		IW KW KW ORL RL RL AW AV AW AV V V W W AD CO FCO FD GCO OD RD WCO	INDIRECT WASTE KITCHEN WASTE KITCHEN WASTE BURIED OVERFLOW RAINWATER / OVERFLOW STORM DRAIN RAINWATER / STORM DRAIN RAINWATER / STORM DRAIN BURIED ACID WASTE ACID WASTE VENT ACID WASTE BURIED ACID WASTE VENT BURIED SANITARY VENT SANITARY VENT BURIED SOIL / SANITARY WASTE SOIL / SANITARY WASTE BURIED AREA DRAIN CLEANOUT FLOOR CLEANOUT FLOOR DRAIN GROUND CLEANOUT OVERFLOW DRAIN / SECONDARY ROOF DRAIN P-TRAP ROOF DRAIN WALL CLEANOUT		CV PRV RPBP RPBP RPBP T&P VIV	BALANCING VALVE BALL VALVE BALL VALVE NORMALLY CLOSED BALL VALVE NORMALLY OPEN BUTTERFLY VALVE CHECK VALVE GAS COCK GATE VALVE GATE VALVE NORMALLY CLOSED MIXING VALVE (ELEVATION & PLAN) PRESSURE REDUCING / REGULATING VALVE REDUCED PRESSURE BACKFLOW PREVENTER (2" OR LESS) REDUCED PRESSURE BACKFLOW PREVENTER (ADJUSTABLE SET TURNED UP) REDUCED PRESSURE BACKFLOW PREVENTER (ADJUSTABLE SET TURNED DOWN) SOLENOID VALVE TEMPERATURE AND PRESSURE RELIEF VALVE VALVE IN VERTICAL
	CTE DN UP HC		AI EXH G HPN2	AIR INTAKE PIPING EXHAUST AIR PIPING NATURAL GAS PIPING HIGH PRESSURE NATURAL GAS PIPING		FM GH HB PG TG TP VB WH WHA	FLOW METER GROUND HYDRANT HOSE BIBB IN-LINE FILTER PIPE GUIDE / BEAM PENETRATION PRESSURE GAUGE STRAINER TEMPERATURE GAUGE TRAP PRIMER UNION VACUUM BREAKER WALL HYDRANT WATER HAMMER ARRESTOR / SHOCK ABSORBER WATER PROOF PIPE SLEEVE
ABBREVIATIONS		WATER					
AC AD AFF AFG AP ARCH BHP BT BPW BLDG CI CFM CLNG CLDI CP CS DIA DWG DF EFF EL EWC EW ES EWH ETBR ETR FFE FH FLR FT FRS GALV GC	ABOVE CEILING ACCESS DOOR ABOVE FINISH FLOOR ABOVE FINISH GRADE ACCESS PANEL ARCHITECT BRAKE HORSEPOWER BATH TUB BED PAN WASHER BUILDING CAST IRON CUBIC FEET PER MINUTE CEILING CEMENT LINED DUCTILE IRON CHROME PLATED CUP SINK DIAMETER DRAWING DRINKING FOUNTAIN EFFICIENCY ELEVATION ELECTRIC WATER COOLER EMERGENCY EYE WASH EMERGENCY SHOWER ELECTRIC WATER HEATER EXISTING TO BE REMOVED EXISTING TO REMAIN FINISH FLOOR ELEVATION FUME HOOD FLOOR FOOT FLUSHING RIM SERVICE SINK GALVANIZED GENERAL CONTRACTOR	GPM GWH HB HP HVAC ID INV L LS MAX MIN MSB N/A NC NO NTS NIC OD ORD PC POS RPM SC SH SK SPEC ST. ST. SF SWH TYP UR WC	GALLONS PER MINUTE GAS WATER HEATER HOSE BIBB HORSEPOWER HEAT, VENTILATION & AIR CONDITIONING INSIDE DIAMETER INVERT LAVATORY LAB SINK MAXIMUM MINIMUM MOP SERVICE BASIN NOT APPLICABLE NORMALLY CLOSED NORMALLY OPEN NOT TO SCALE NOT IN CONTRACT OUTSIDE DIAMETER OVERFLOW ROOF DRAIN PLUMBING CONTRACTOR PROVIDED UNDER OTHER SECTION REVOLUTIONS PER MINUTE SITE CONTRACTOR SHOWER SINK SPECIFICATION STAINLESS STEEL SQUARE FEET STEAM WATER HEATER TYPICAL URINAL WATER CLOSET	140°F-- 140°F-- CW HW HWR OD EW	NOT APPLICABLE 140°F-- 140°F-- CW HW HWR TP EW	140° HOT WATER 140° HOT WATER RETURN COLD WATER HOT WATER HOT WATER RETURN TRAP PRIMER EMERGENCY WATER W/ HEAT TRACE	

REMARKS:
① SYMBOLS WITHIN LEGEND FOR REFERENCE ONLY. ALL SYMBOLS SHOWN MAY NOT BE APPLICABLE TO PROJECT.

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	FIXTURE		WATER SUPPLY			APPURTENANCES						WASTE & TRAP	CARRIER	ADA MET	REMARKS
		MANUFACTURER	MODEL	MANUFACTURER	MODEL NO	SUPPLY	MANUFACTURER	MODEL NO	TYPE	MANUFACTURER	MODEL NO	TYPE				
HB-1	HOSE BIBB	ZURN	Z1341XL-P34-RC	--	--	--	--	--	--	--	--	--	--	--	--	MOUNTED ON WOODING PIER.

NOTE: *ALL PLUMBING FIXTURES THAT ARE ACCESSIBLE & SHALL BE INSTALLED PER ADA STANDARDS, MASS, ARCHITECTURAL BARRIERS BOARD (MAAB).
*REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS.
*REFER TO ARCHITECTURAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
*REFER TO PLUMBING FIXTURE CONNECTION SCHEDULE FOR ALL FIXTURE CONNECTION TYPES & SIZES.

PLUMBING FIXTURE CONNECTION SCHEDULE

TAG	FIXTURE	CONNECTION SIZE											FLOW / FLUSH RATE	REMARKS		
		WASTE	VENT	HOT	COLD	TW	NPCW	NPHW	IW	LW	KV	KW				
HB-1	HOSE BIBB	--	--	--	1/2"	--	--	--	--	--	--	--	--	--	--	--

NOTE: ALL PLUMBING FIXTURES ARE ACCESSIBLE & SHALL BE INSTALLED PER ADA STANDARDS, MASS, ARCHITECTURAL BARRIERS BOARD (MAAB). REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS. REFER TO ARCHITECTURAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
* GALLONS PER CYCLE (GPC) IS BASED ON A MAXIMUM FLOW RATE OF .5 GPM AND A 12 SECOND CYCLE WHICH EQUALS .10 GPC. (F.B.O.) FURNISHED BY OTHERS

GRIFFITH & VARY, INC.
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12 Kendrick Road
Wareham, MA 02571
508-295-0050 (T)
508-295-0003 (F)
www.griffithandvary.com

ISSUED FOR CONSTRUCTION
09/26/2022

CHATHAM FISH PIER BULKHEAD RESHEETING & SOUTH JOG IMPROVEMENT PROJECT
54 BARCLIFF AVE
CHATHAM, MA 02633

Notes:

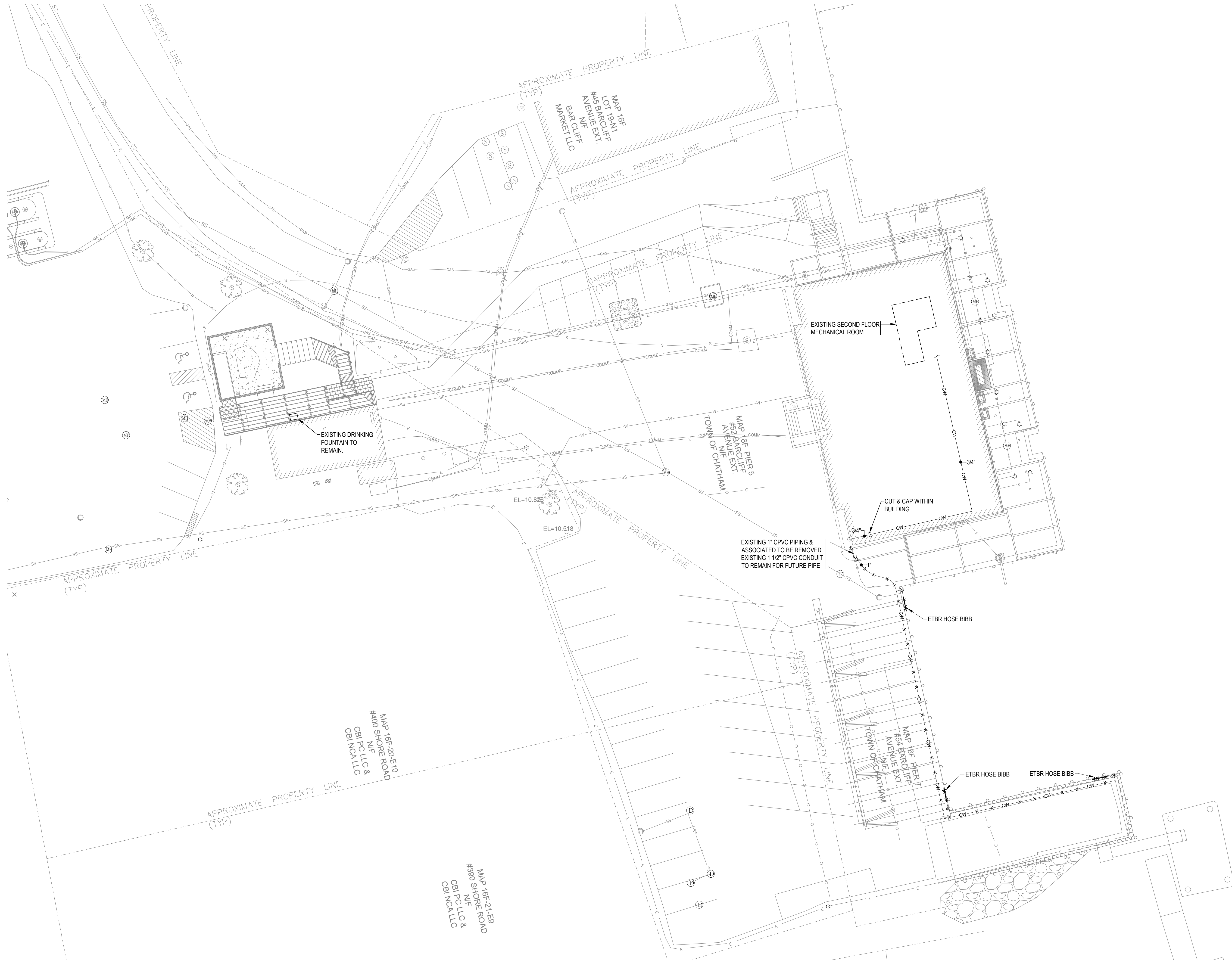
North Arrow

Keyplan

Drawing Name:
PLUMBING LEGEND AND DETAILS

Scale: NOT TO SCALE
Job No.: 1GV-265
Drawn By: SPD
Date: 9/26/2022

Drawing Number:
P-1



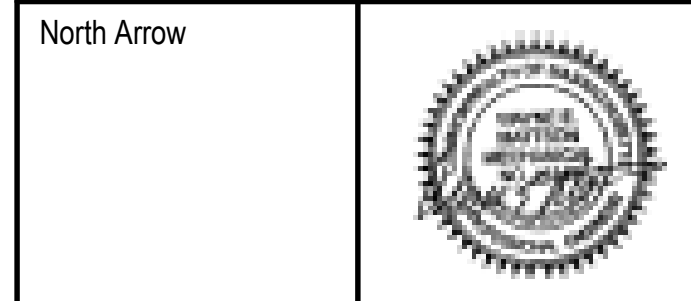
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**CHATHAM
 FISH PIER BULKHEAD
 RESHEETING &
 SOUTH JOG
 IMPROVEMENT
 PROJECT**

54 BARCLIFF AVE
 CHATHAM, MA 02633

Notes:

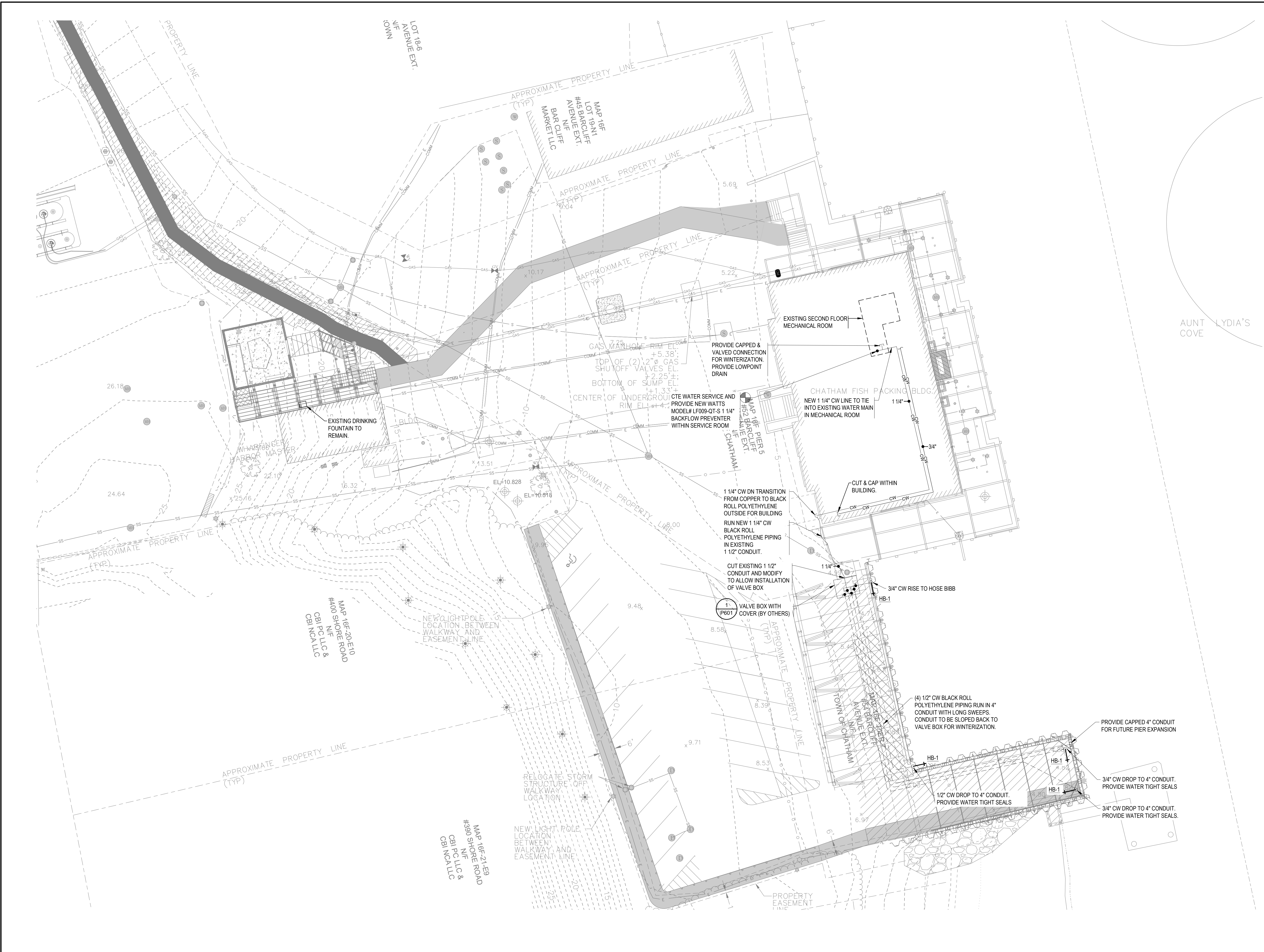


Keyplan

Drawing Name:
**PLUMBING
 DEMOLITION
 SITE PLAN**

Scale: 1/16" = 1'-0"
 Job No.: 1GV-265
 Drawn By: SPD
 Date: 9/26/2022

Drawing Number:
P-2



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 54 BARCLIFF AVE
 CHATHAM, MA 02633

Notes:

North Arrow

Keyplan

Drawing Name:
PLUMBING RENOVATION SITE PLAN

Scale: 1/16" = 1'-0"
 Job No.: 1GV-265
 Drawn By: SPD
 Date: 9/26/2022

Drawing Number:
P-3



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09/26/2022

CHATHAM
FISH PIER BULKHEAD
RESHEETING &
SOUTH JOG
IMPROVEMENT
PROJECT

54 BARCLIFF AVE
CHATHAM, MA 02633

Notes:

North Arrow



Keyplan

Drawing Name:

PLUMBING
DETAILS

Scale: NOT TO SCALE

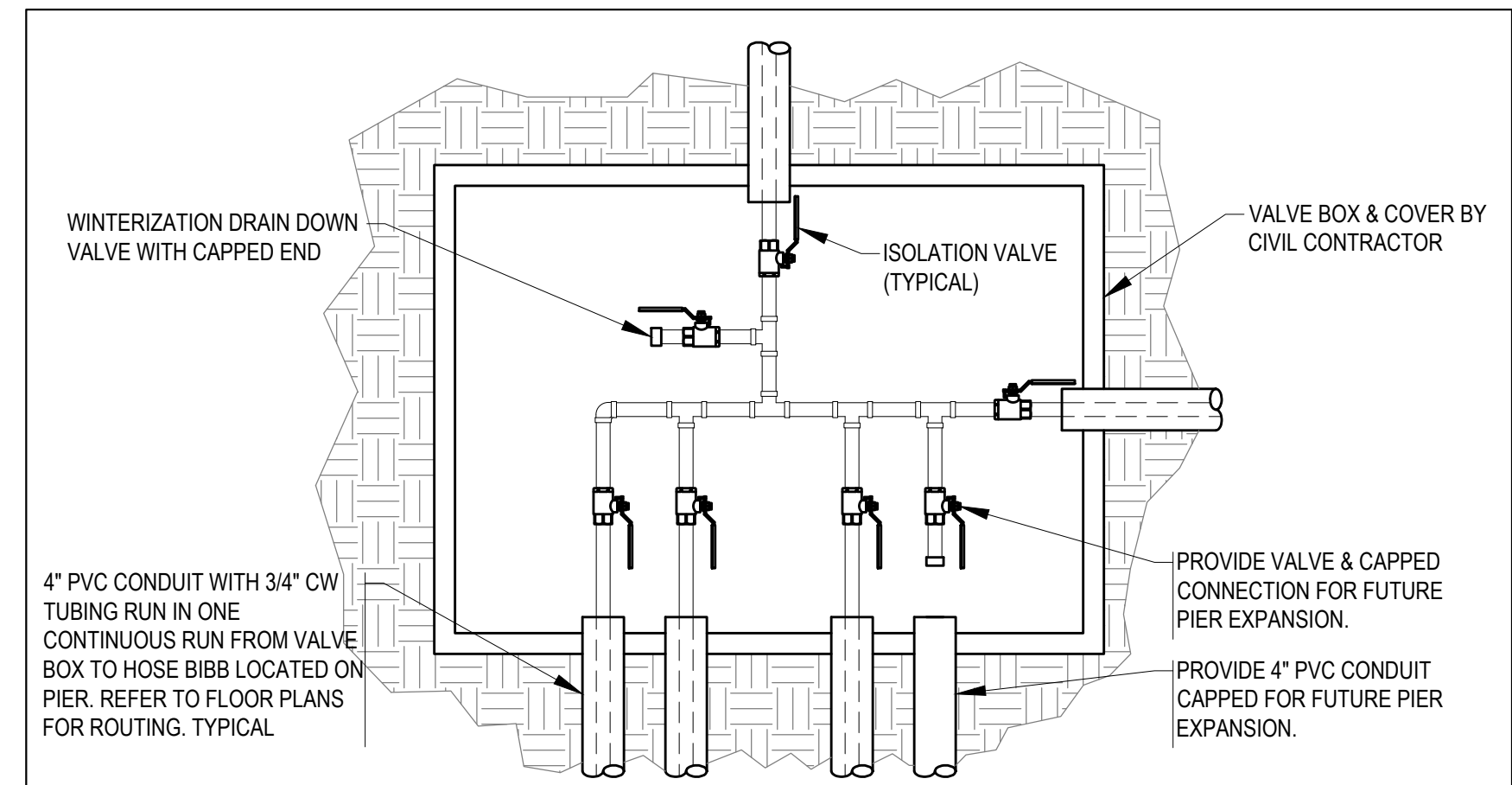
Job No.: 1GV-265

Drawn By: SPD

Date: 9/26/2022

Drawing Number:

P-4



1 RECESSED VALVE BOX

SCALE
NOT TO SCALE