

**1061 DESIGN LOADS:**

WEIR ACCESS BRIDGE  
LIVE LOAD 100psf

WIND  
ASCE 7-22  
Vult = 147 MPH, Vasd = 114 mph  
EXPOSURE C  
RISK CATEGORY I

ELECTRONIC VERSIONS OF STRUCTURAL DRAWINGS ARE THE SOLE, COPYRIGHTED PROPERTY OF TRC WORLDWIDE ENGINEERING, INC. ELECTRONIC VERSIONS OF DRAWINGS ARE NOT TO BE USED OR TRANSFERRED WITHOUT THE EXPRESS, WRITTEN PERMISSION OF TRC WORLDWIDE ENGINEERING, INC. USERS WILL SIGN A RELEASE.

SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR'S FIELD  
ENGINEER PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER.  
DRAWINGS SUBMITTED WITHOUT REVIEW WILL BE RETURNED UNCHECKED.

THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS  
UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER.

SHOP DRAWING SUBMITTALS ARE REQUIRED FOR ALL FRAMING SHOWN ON THESE DRAWINGS INCLUDING, BUT NOT LIMITED TO: CONCRETE MIXES, CONCRETE AND MASONRY REINFORCING, STRUCTURAL STEEL AND CONNECTIONS, STEEL DECK , LIGHT GAGE FRAMING, WOOD ROOF TRUSS FRAMING

STEEL SHEET PILING SHALL CONSIST OF APPROVED CONTINUOUS, INTERLOCKING PANELS WEIGHTING NOT LESS THAN 22 PSF OF WALL. A SINGLE PANEL SHALL HAVE A SECTION MODULUS OF NOT LESS THAN 18.1 IN 3 PER LINEAL FOOT OF WALL. SHEET PILING AND ACCESSORIES SHALL CONFORM TO ASTM A572 GRADE 50. BOLTS AND NUTS SHALL CONFORM TO ASTM A588.

### **3104 CONSTRUCTION JOINTS:**

**3201 REINFORCING STEEL:**

**3302 CONCRETE:**

4000 PSI FOR CONCRETE  
CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ACI  
STANDARDS AND SPECIFICATIONS.

SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE. CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1\_1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. APPLY S-4 PROTECTIVE COATING SYSTEM PER SSWMD STANDARD SPECIFICATION SECTION 09900 PROTECTIVE COATINGS. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS AND/OR CITY OF PORT ST. LUCIE CONSTRUCTION STANDARDS (MOST STRINGENT CRITERIA APPLIES). CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE TESTED,  
STATISTICAL BACK\_UP DATA AS PER CHAPTER 5 OF ACI 318.

### 3304 CONCRETE TESTING:

A)ASTM C143 \_ "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE." MAXIMUM SLUMP SHALL BE 6" INCHES.

1 AT 3 DAYS  
1 AT 7 DAYS  
2 AT 28 DAYS

### **3602 POST-INSTALLED ANCHORS:**

2. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.

4. UNLESS SPECIFIED OTHERWISE, ANCHORS SHALL BE EMBEDDED IN THE APPROPRIATE SUBSTRATE WITH A MINIMUM EMBEDMENT OF 8 TIMES THE NOMINAL ANCHOR DIAMETER OR THE EMBEDMENT REQUIRED TO SUPPORT THE INTENDED LOAD. ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCE AND/OR SPACING INDICATED IN THE MANUFACTURER'S LITERATURE.

6. ACCEPTABLE PRODUCTS ARE:

- A. EXPANSION ANCHORS FOR NON-CRACKED CONCRETE ONLY:
  - WEDGE-ALL (WA), BY SIMPSON STRONG-TIE
  - KWIK BOLT 3, BY HILTI
- B. CRACKED CONCRETE MECHANICAL ANCHORS:
  - STRONG-BOLT (STB), BY SIMPSON STRONG-TIE
  - KWIK BOLT (TZ), BY HILTI
- C. SCREW ANCHORS:
  - TITEN HD (THD), BY SIMPSON STRONG-TIE
  - HUS-H, BY HILTI
- D. ADHESIVE ANCHORS:
  - A) FOR ANCHORING INTO SOLID BASE MATERIAL (CONCRETE AND GROUT-FILLED CMU):
    - ACRYLIC-TIE (AT)
    - SET EPOXY-TIE (SET) WITH RETROFIT BOLTS (RFB), BY SIMPSON STRONG-TIE
    - HIT RE 500, BY HILTI

ROLLED SHAPES SHALL CONFORM TO ASTM A-572 OR A-992 GRADE 50 AND "THE SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. SHOP CONNECTIONS TO BE WELDED (UTILIZING E70XX ELECTRODES) AND FIELD CONNECTIONS TO BE BOLTED, UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS. STEEL SHALL RECEIVE ONE SHOP COAT AND ONE FIELD TOUCH UP COAT OF APPROVED PAINT, EXCEPT WHERE GALVANIZING IS INDICATED ON THE DRAWINGS.

STRUCTURAL TUBING SHALL CONFORM TO ASTM A\_500, GRADE B, FY = 46 KSI. STRUCTURAL PIPE SHALL CONFORM TO ASTM A\_53 GRADE B, TYPE E OR S, FY = 35 KSI. BEAM CONNECTIONS TO TUBE COLUMNS SHALL BE A.I.S.C. THRU-PLATE TYPE UNLESS SHOWN OTHERWISE.

BOLTED CONNECTIONS SHALL CONSIST OF MINIMUM  $\frac{3}{4}$  INCH DIAMETER  
ASTM A-325-SC HIGH STRENGTH BOLTS.

ALL STEEL SHALL BE HOT DIPPED GALVANIZED PROTECTION OR 316 STAINLESS STEEL.

SHALL BE A\_307 HOT DIPPED GALVANIZED WITH GALVANIZED WASHERS.  
OR 316 STAINLESS STEEL.

ALUMINUM GRATING PANELS SHALL BE MCNICHOLS PRESS-LOCKED  
GCM-1-175 BAR GRATING PANELS OR APPROVED EQUAL  
LIVE LOAD

**TRC®**  
**WORLDWIDE ENGINEERING INC.**  
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TO THE BEST OF MY KNOWLEDGE AND  
ABILITY, THE COMPLETED STRUCTURE  
DEPICTED ON THESE PLANS COMPLIES WITH  
THE APPLICABLE MINIMUM BUILDING CODE  
FILE NO. P23FTL020

• 301 N.W. Flagler Ave.  
 Stuart, Florida 34994  
 Phone: (772) 682-4344  
 Fax: (772) 682-4341

**CAPTEC**  
 Engineering, Inc.

Engineering Business  
 No. EB-0007857

Civil Engineering Professionals

DATE: 04.08.2024  
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DESIGNED BY: DOC  
CHECKED BY: DOC  
PROJECT No.: P23FTL020  
HORIZ. SCALE: \_\_\_\_\_  
VERT. SCALE: \_\_\_\_\_  
CADD FILE: \_\_\_\_\_

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**SCALE  
VERIFICATION**

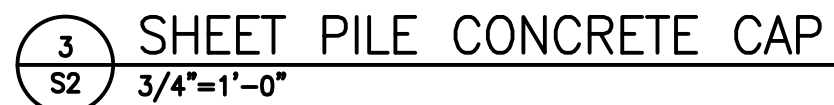
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SOLID BAR IS EQUAL  
TO ONE INCH ON  
ORIGINAL DRAWING.  
ADJUST ALL SCALED  
DIMENSIONS  
ACCORDINGLY

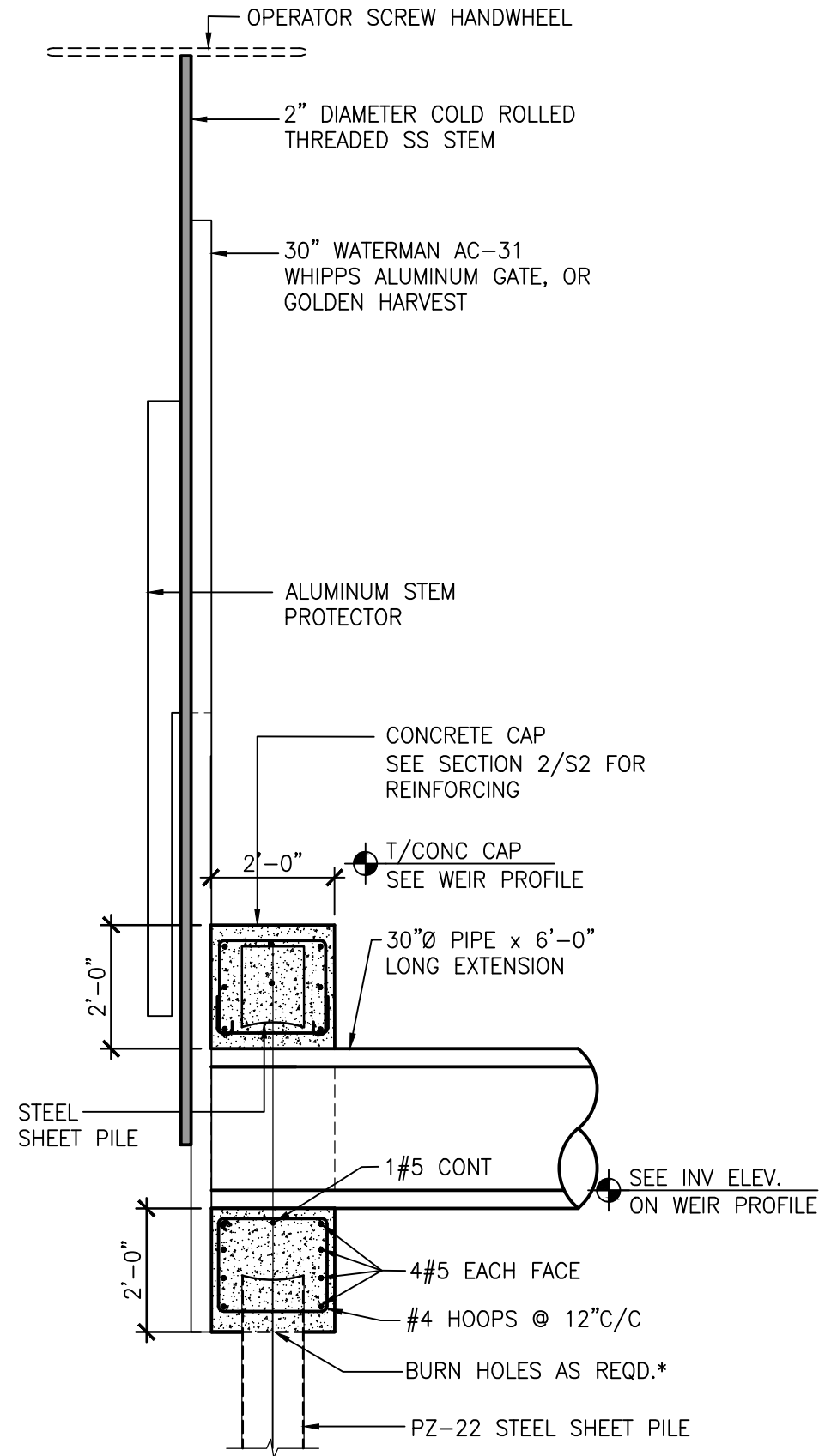
**CPBL A-16 A-17 + A-18  
WC3 REPLACEMENTS**

## STRUCTURAL NOTES

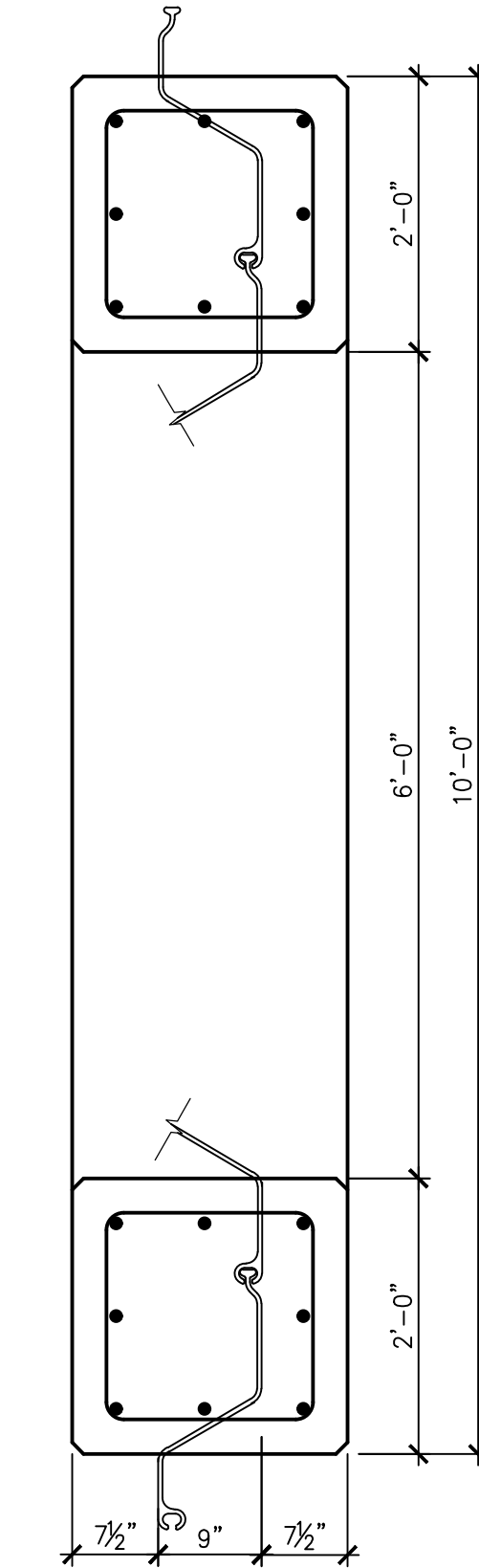
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OF



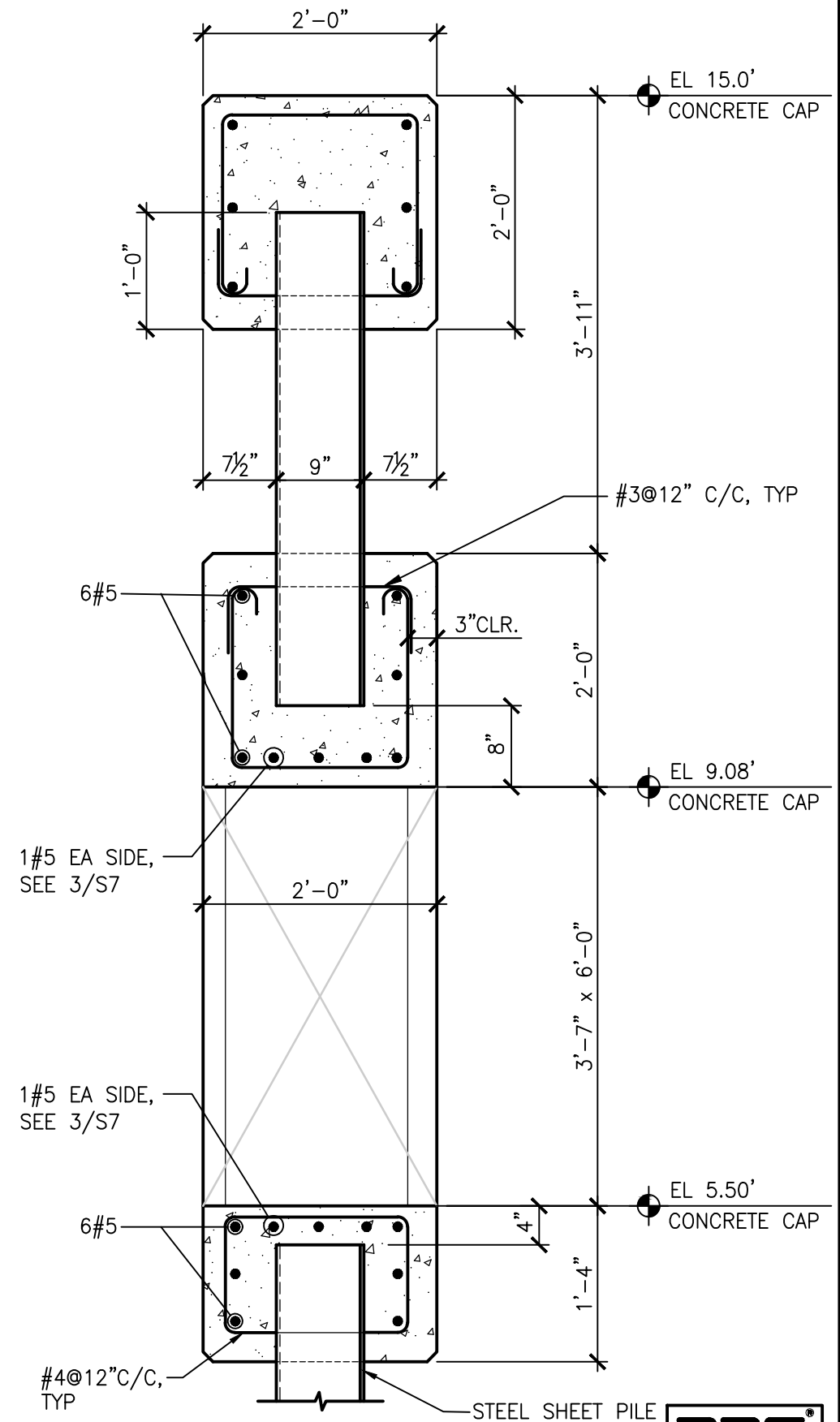
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**3**  
**S3** SECTION  
3/8"=1'-0"



**2**  
**S3** SECTION  
3/4"=1'-0"



**1**  
**S3** SECTION  
3/4"=1'-0"

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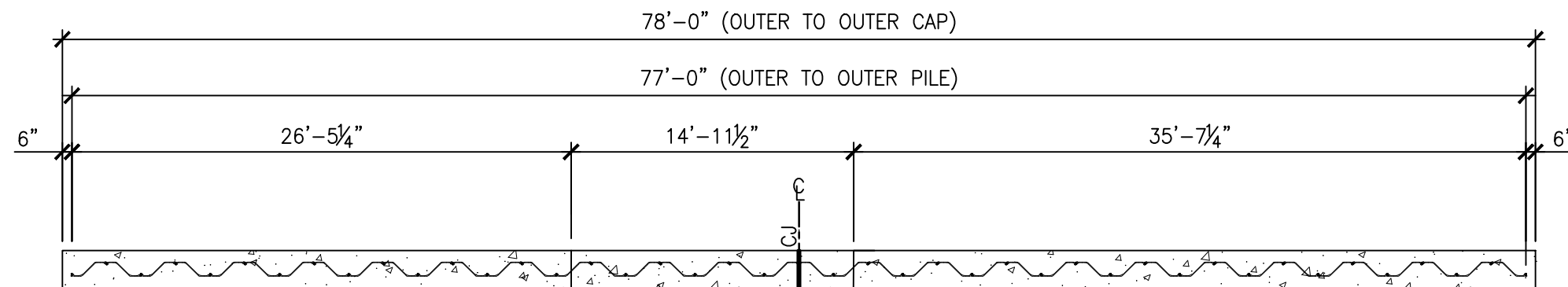
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**SECTIONS**

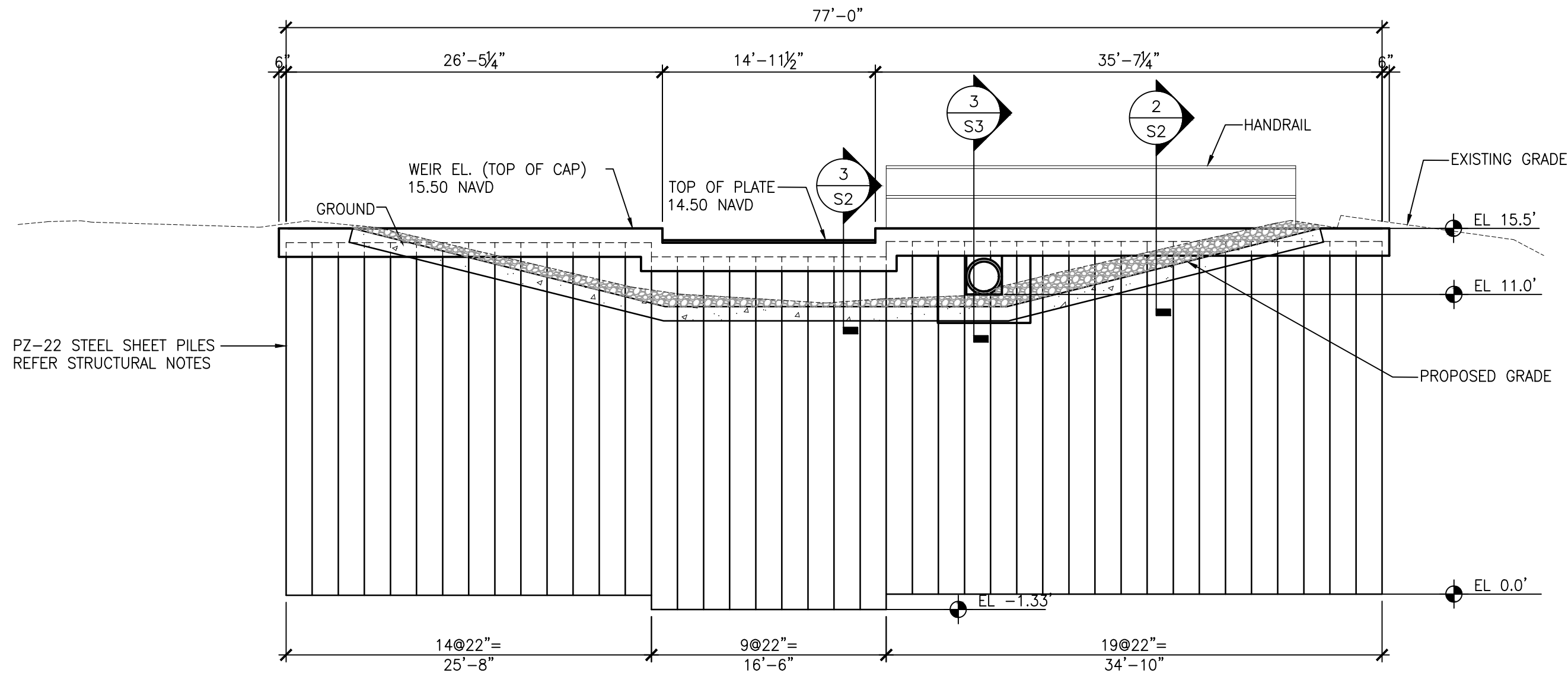
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1 A-17 WEIR PLAN  
S5 1/8"=1'-0"



2 A-17 WEIR ELEVATION  
S5 1/8"=1'-0"

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1	AUG 2024			


SCALE VERIFICATION  
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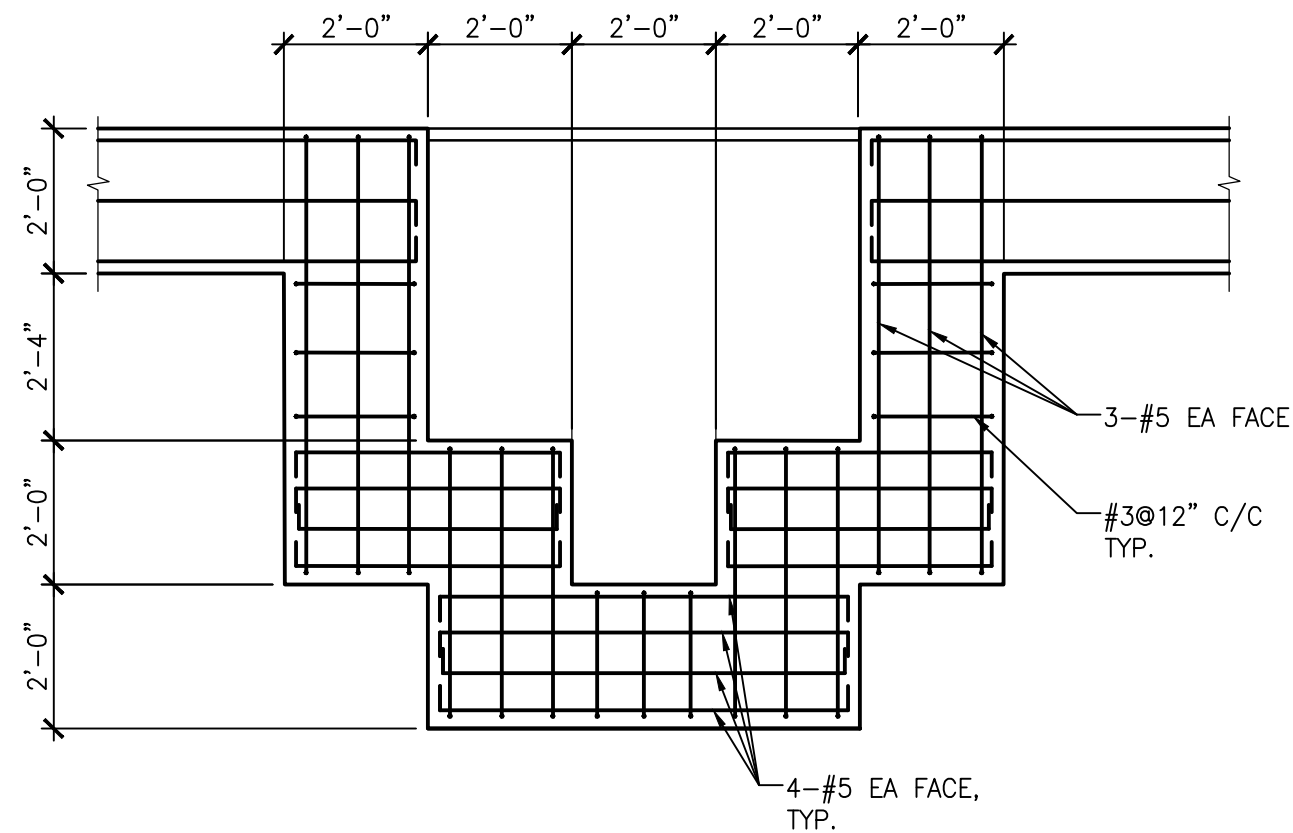
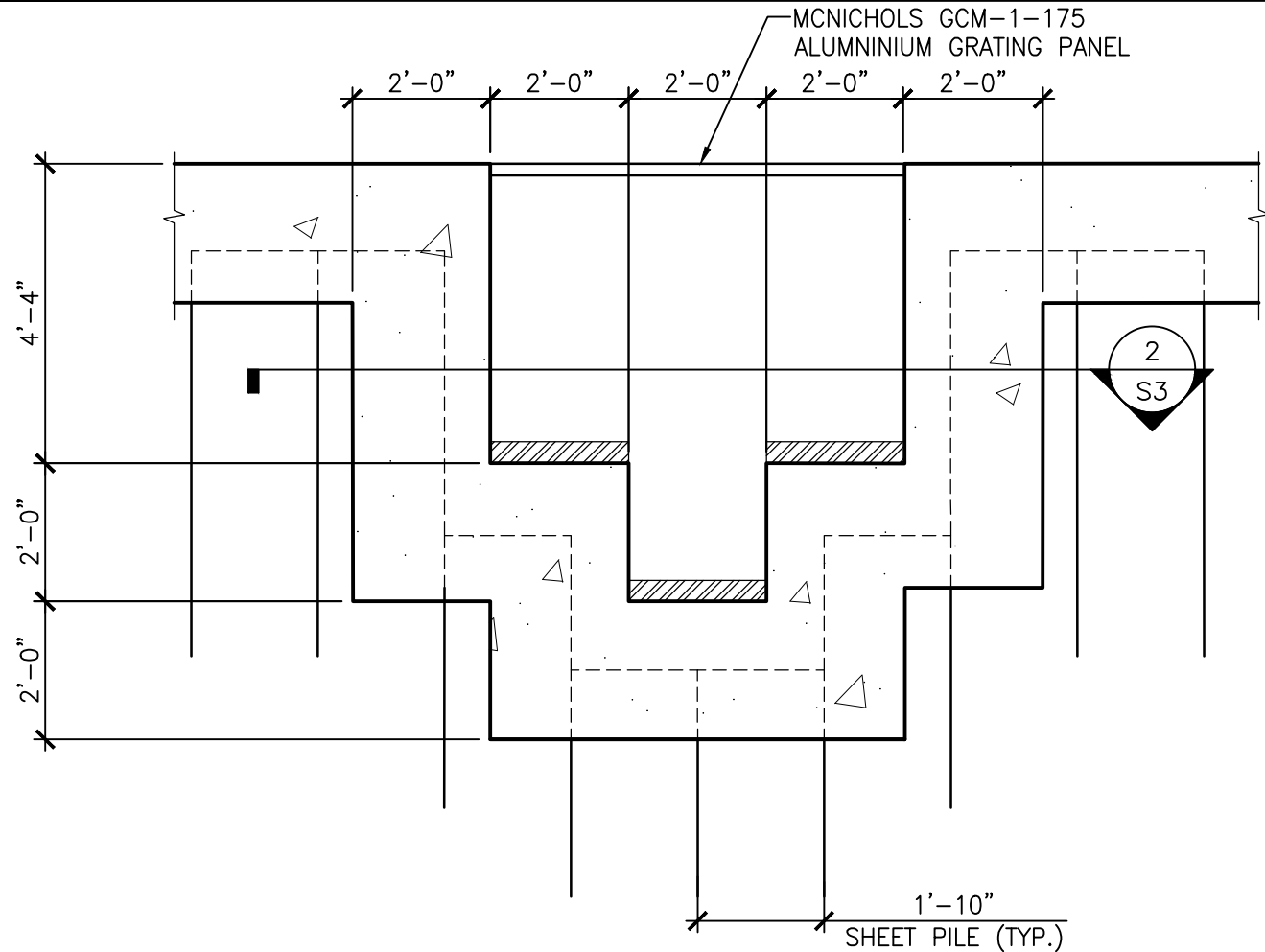
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**A-17 PLAN + ELEVATION**

Printed Date:

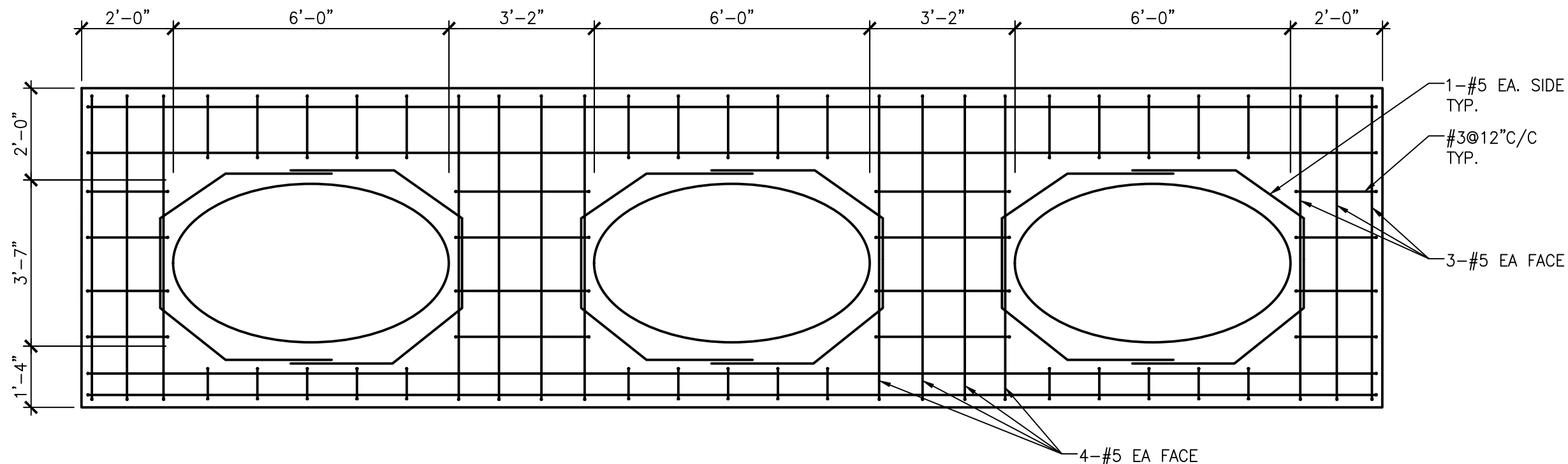
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OF 8

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DATE: 04.08.2024	DRAWN BY: SEG DESIGNED BY: DDC CHECKED BY: DDC PROJECT NO.: P23FTL020 HORZ SCALE: VERT SCALE:
<b>SCALE VERIFICATION</b> 0 _____ 1 SOLID BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY	
<b>A-18 PLAN + ELEVATION</b> CITY OF PORT ST. LUCE	
Printed Date:	
JOB No.: <div style="font-size: 2em; font-weight: bold;">96</div> SHEET OF <div style="font-size: 2em; font-weight: bold;">8</div>	



1 WEIR REBAR DETAIL  
S7 3/8"=1'-0"

2 FRONT ELEVATION OF WEIR  
S7 3/8"=1'-0"



3 ADDED REINF AT ELLIPTICAL OPENING  
S7 3/8"=1'-0"

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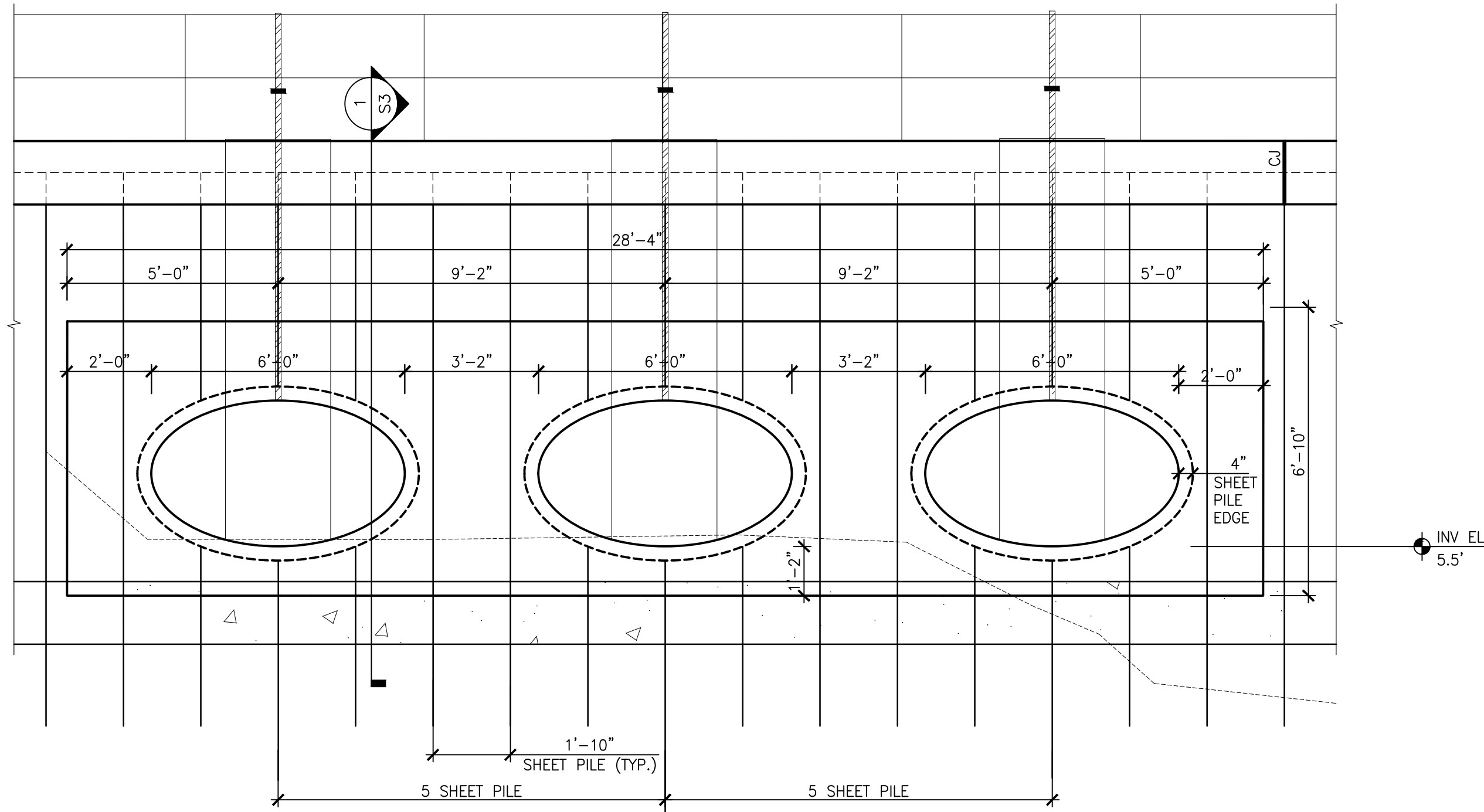
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CP8L A-16 A-17 + A-18  
WC8 REPLACEMENTS  
CITY OF PORT ST. LUCIE

**DETAILS**

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97 OF 8



1  
S8 FRONT ELEVATION OF ELIPTICAL CAP ENCASEMENT  
3/8"=1'-0"

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