

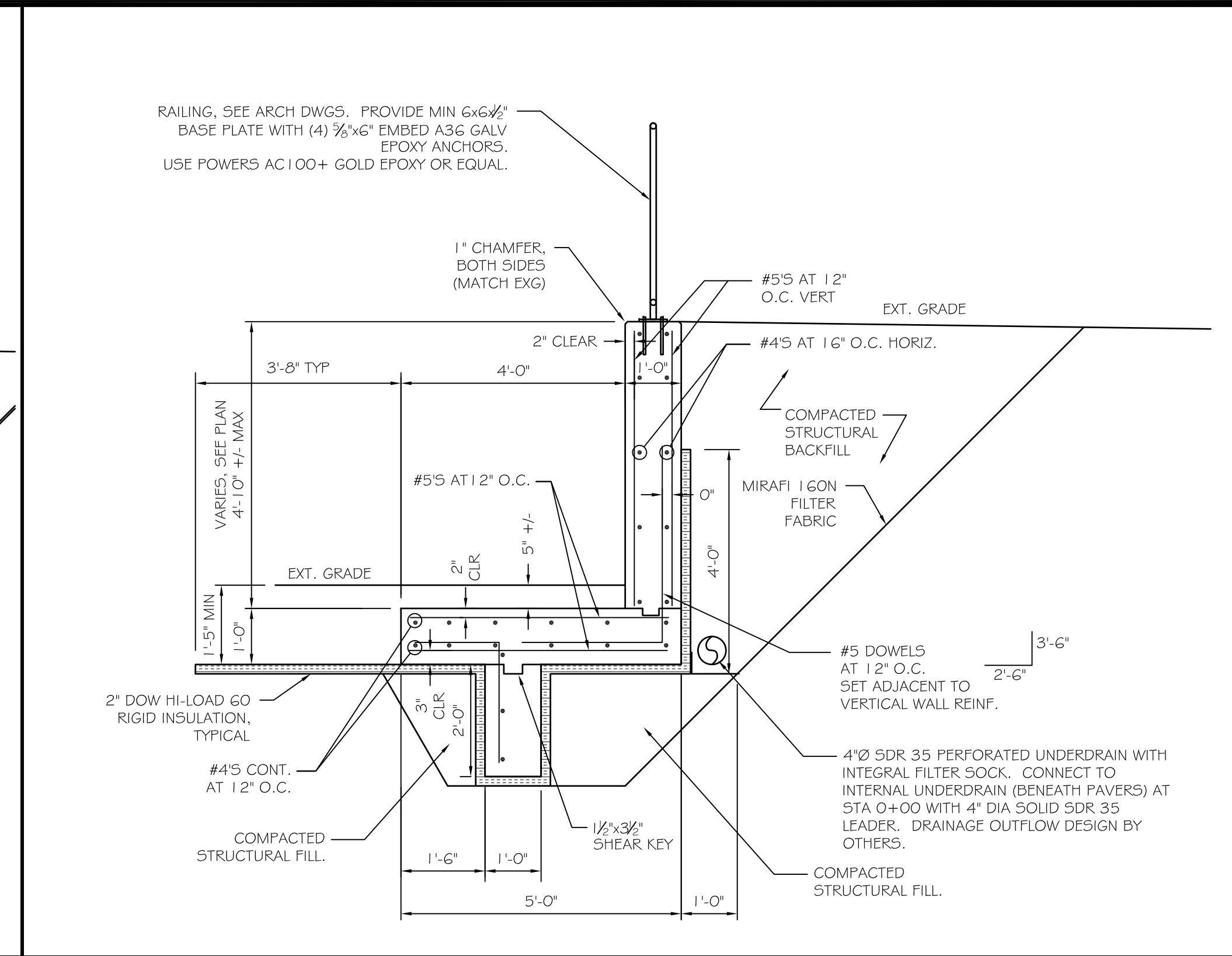
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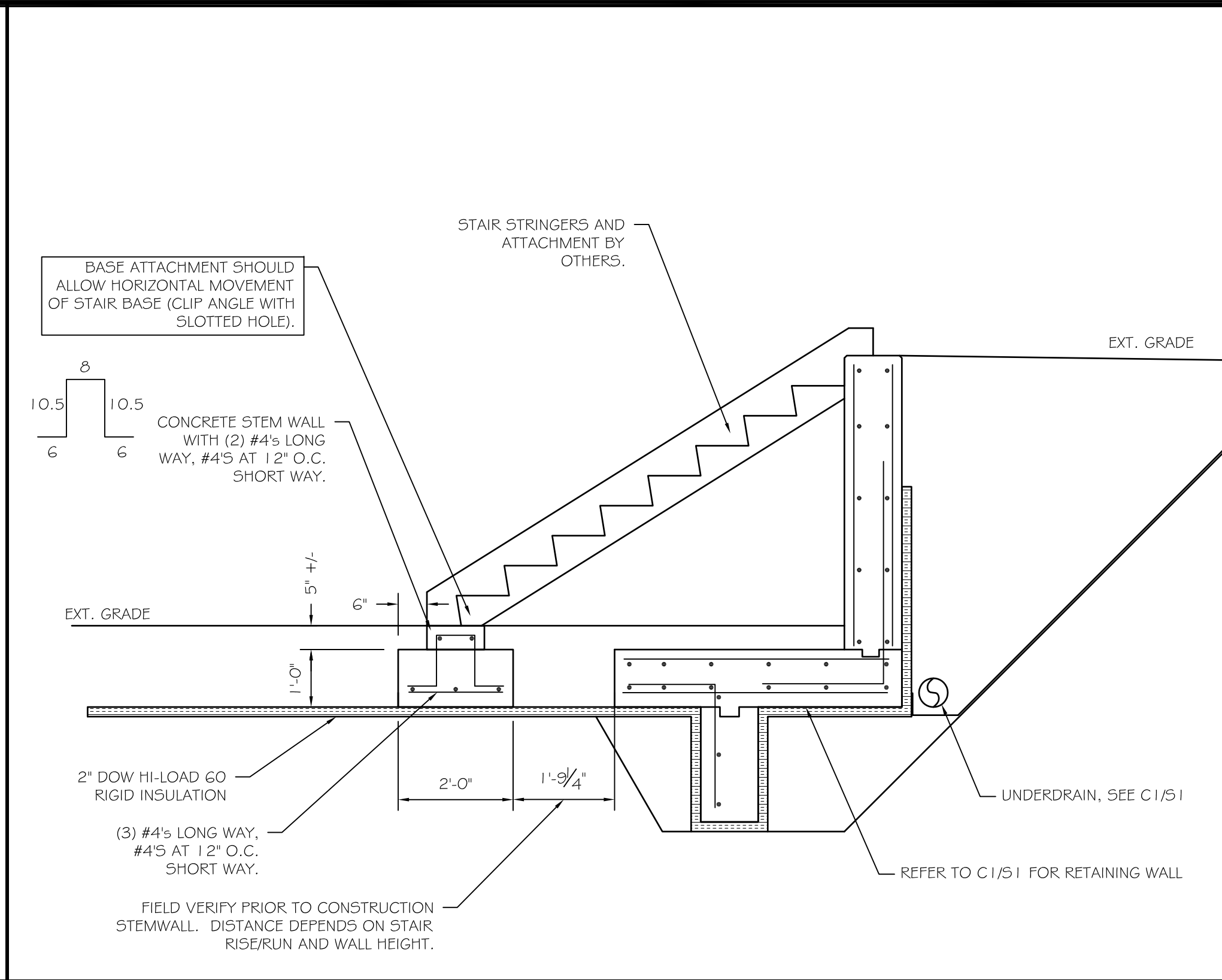
**PROJECT:** DECK AND PATIO ADDITION  
**3-5 SPRING ST, PORTLAND, ME**  
**FOR:** FOUNDATION PLAN AND DETAILS  
**ISSUED FOR PERMITTING**

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

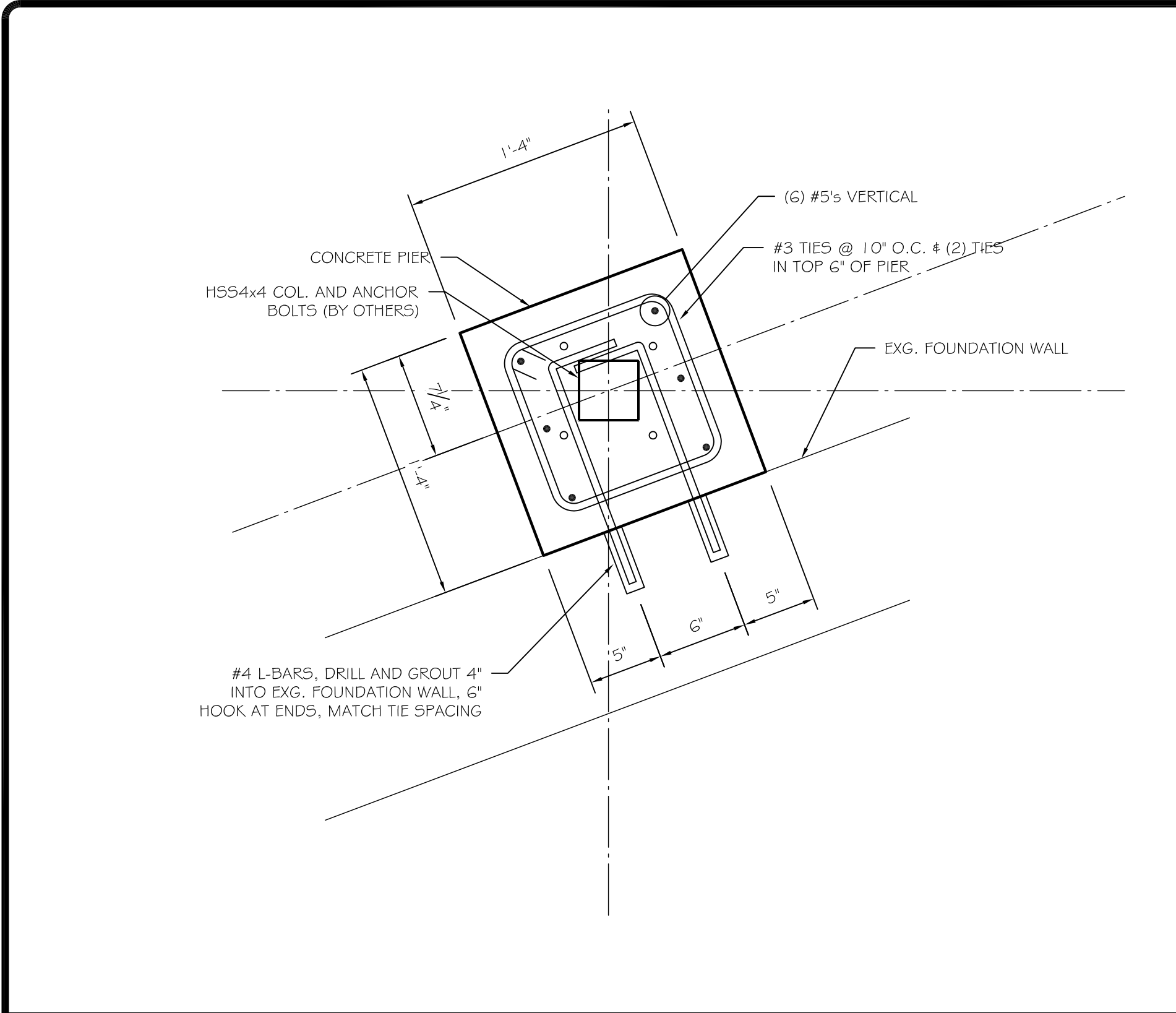
**DATE:** 6-15-17  
**SCALE:** AS NOTED  
**DESIGN BY:** ASW  
**DRAWN BY:** ASW  
**FILE #:**  
**PROJECT NUMBER:**  
**17190**  
**SHEET NO:**  
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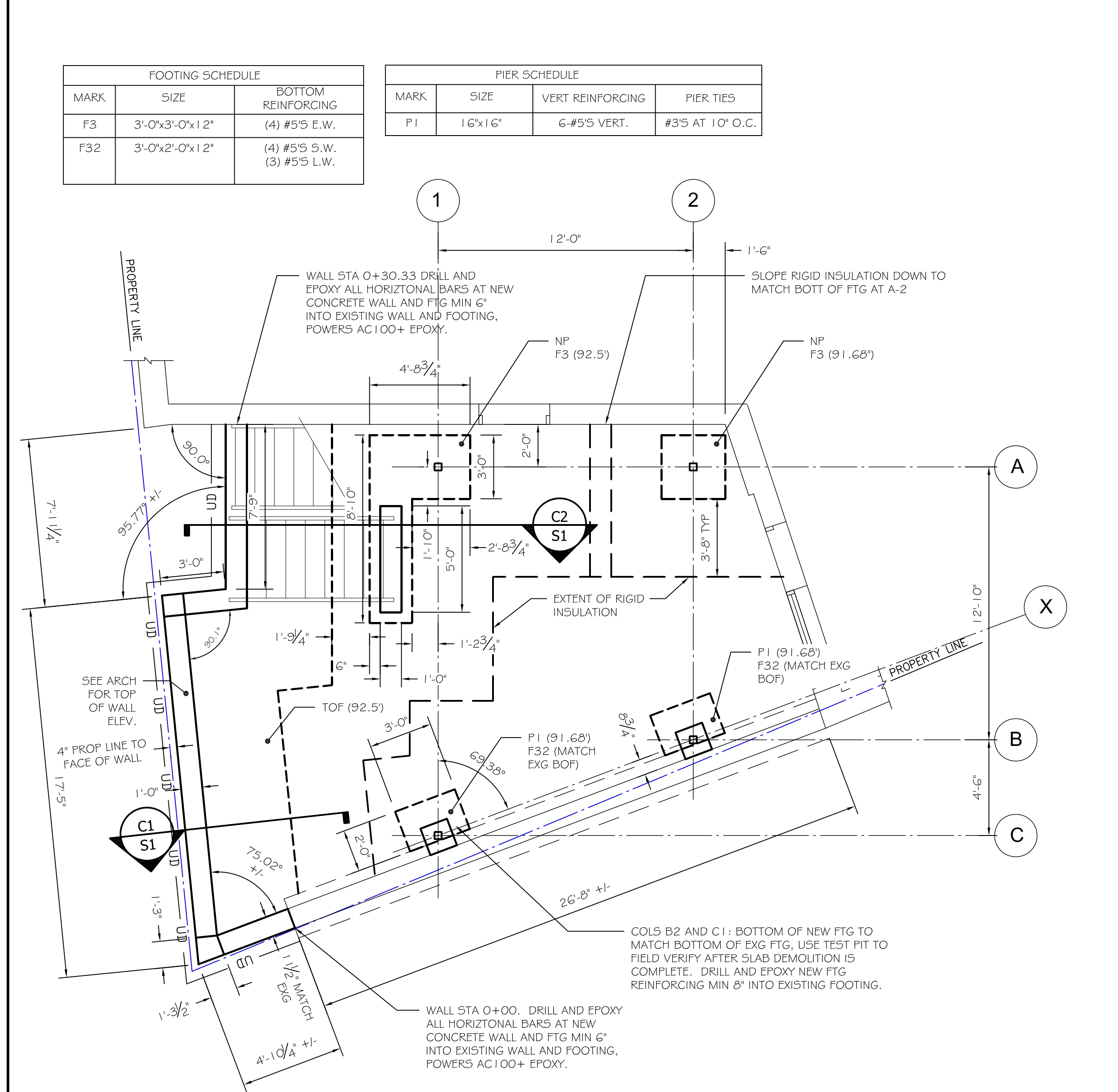
**C1** TYPICAL RETAINING WALL SECTION  
 SCALE: 1/2" = 1'-0"



**C2** SECTION AT STAIR  
 SCALE: 1/2" = 1'-0"



**C1** CONCRETE PIER REINFORCEMENT DETAIL  
 SCALE: 1/2" = 1'-0"



**C1** FOUNDATION PLAN  
 SCALE: 1/4" = 1'-0"

**CONCRETE NOTES**

- CODES: COMPLY WITH THE FOLLOWING LATEST EDITIONS AND CURRENT AKNOWLEDGES:
  - ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
  - ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
  - CSI "CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE"
- TESTING: SAMPLE AND TEST CONCRETE FOR WALLS AND FOOTINGS FOR AIR, SLUMP, COMPRESSIVE STRENGTH, SAMPLE AND TEST STRUCTURAL BACKFILL FOR GRADATION AND MOISTURE-DENSITY RELATIONSHIP, AND IN-SITU COMPACTION.
- SUBMITTALS: SUBMIT SHOP DWGS CONCRETE REINFORCING AND MIX DESIGN.
- MATERIALS:
  - REINFORCING STEEL: GRADE 60, ASTM G15, NEW DEFORMED BARS.
  - MIXING WATER SHALL BE POTABLE, FREE OF ANY SUBSTANCES THAT MAY BE DELETERIOUS TO THE CONCRETE OR REINFORCING STEEL.
- CONCRETE MIX:
  - WALLS AND FOOTINGS: CEMENT SHALL BE ASTM 150, TYPE II PORTLAND CEMENT -28 DAY COMPRESSIVE STRENGTH: 3000 PSI -MAX AGG. SIZE: 3/4" -AIR CONTENT: 5% + 1% BY VOLUME -MAX WATER-CEMENT RATIO: 0.50 -AGGREGATE SHALL CONFORM TO ASTM C33
  - ADMITTURS: PROVIDE ADMITTURS WHICH ARE CHEMICALLY COMPATIBLE FOR THEIR INTENDED USE. COMPLY WITH MANUFACTURERS INSTRUCTIONS FOR USE. BASE DOSAGE RATES ON CEMENT CONTENT. CALCIUM CHLORIDE IS NOT ALLOWED.
  - HIGH RANGE WATER REDUCERS (SUPER PLACERS): EQUAL TO DAKARST BY W.R. GRACE & CO., ASTM C-494
  - ACCELERATORS: EQUAL TO DAKARST BY W.R. GRACE & CO., ASTM C-404 TYPE C OR E
  - AIR ENTRAINING: EQUAL TO "DAKAVAIR" BY W.R. GRACE & CO., ASTM C-260 AND AIRMIX CORDS CRD-C-13.
- CONCRETE SURFACE COATINGS:
  - CURING COMPOUND: "SURE-SEAL" BY SONNBERG, OR EQUIVALENT.
  - BITUMINOUS DAMPROOFING: EQUAL TO DRUSH GRADE FOUNDATION COATING BY ELLCO.
- FORMS AND RELATED MATERIAL:
  - FORMS FOR CONCRETE SURFACES THAT WILL BE EXPOSED IN THE FINISHED BUILDING SHALL BE PERFORM CLASS 1, 5-B EXTERIOR TYPE CONFORMING TO U.S. PRODUCT STANDARD PS 1. FORMS FOR CONCRETE SURFACES NOT EXPOSED IN THE FINISHED BUILDING MAY BE PLATFORM OR MATCHED LINERS, FORM OIL USED ON SURFACE OF FORMS SHALL BE A NON-STAINING TYPE.
- ALUMINUM PRODUCTS:
  - NO ALUMINUM CONDUIT, PIPE, INSERTS, REGLETS, ETC. SHALL BE PLACED IN ANY CONCRETE. UNLESS COATED WITH BITUMINOUS DAMPROOFING.
  - NO EQUIPMENT MADE OF ALUMINUM OR ALUMINUM ALLOYS SHALL BE USED FOR PUMP LINES, TRIMERS OR CHUTES IN CONVEYING CONCRETE TO POINT OF PLACEMENT.
- PREFORMED EXPANSION JOINT FILLER:
  - A NON-EXTENDING AND RESILIENT BITUMINOUS TYPE JOINT FILLER, 1/2" THICK.
- EMBEDDED ITEMS:
  - EMBEDDED ITEMS SUCH AS ANCHOR BOLTS, ETC., SHALL BE INSTALLED USING A TEMPLATE AND BE SECURELY HELD IN PLACE DURING CONCRETE PLACEMENT.
- SPACERS, SUPPORTS AND FASTENERS:
  - FORM SPACERS, REINFORCING TIES AND CHAIRS, AND OTHER DEVICES NEEDED FOR PROPER SPACING, SUPPORTING, AND FASTENING REINFORCEMENT SHALL BE PROVIDED. CLAY BRICKS ARE NOT ALLOWED FOR USE AS SLAB STEEL BOLSTERS.

**CONCRETE NOTES (CONT.)**

- CONSTRUCTION PRACTICES:
  - REINFORCEMENT: COMPLY WITH REQUIREMENTS OF CRSI, LATEST EDITION.
    - MINIMUM CONCRETE COVER: 3" FOR CONCRETE CAST AGAINST SOIL; 2" FOR OTHER CONCRETE, UNLESS OTHERWISE SHOWN.
  - DEVELOPMENT AND SPLICING: PROVIDE DEVELOPMENT AND TENSION LAP SPACE LENGTHS IN ACCORDANCE WITH THE FOLLOWING, UNLESS NOTED OTHERWISE ON DRAWING:
 

DEVELOPMENT BAR SIZE	LENGTH*	CLASS C LAP SPICE
#3	12	18"
#4	15	20"
#5	18	24"
#7	21	36"
#8	24	48"

 \*INCREASE BY 30% FOR BARS SPACED <6".
  - CHAMFERS: CHAMFER ALL EXPOSED EDGES AND CORNERS OF CONCRETE, 1/4" OR 1" SIMILAR THROUGHOUT.
  - JOINTS:
    - CONSTRUCTION JOINTS: PLACE PERPENDICULAR TO THE MAIN REINFORCEMENT. CONTINUE REINFORCEMENT ACROSS CONSTRUCTION JOINTS. PROVIDE KEYWAYS AT LEAST 1/4" UNLESS OTHERWISE SHOWN. USE IN CONSTRUCTION JOINTS IN WALLS, SLABS, AND BETWEEN WALLS AND FOOTINGS. ACCEPTED DULKHEADS DESIGNATED FOR THIS PURPOSE MAY BE USED IN SLABS. PROVIDE WATERSTOP WHERE INDICATED.
    - ISOLATION JOINTS: PROVIDE IN SLABS-ON-GRADE AT POINTS OF CONTACT BETWEEN SLABS-ON-GRADE AND VERTICAL SURFACES, SUCH AS FOUNDATION WALLS, GRADE BEAMS, COLUMN PEDISTALS, AND ELSEWHERE AS NECESSARY.
    - CONTRACTION (CONTROL) JOINT: PROVIDE IN SLABS-ON-GRADE BY USING INSERTS OR BY SAW CUTTING TO A DEPTH OF 1/4" THE SLAB THICKNESS. PROVIDE A ONE PART ELASTOMERIC JOINT SEALANT TO JOINT GROOVE. A MINIMUM OF 60 DAYS AFTER SLAB PLACEMENT UNLESS OTHERWISE APPROVED.
  - CONCRETE MIXING:
    - READY-MIXED CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN ASTM C94.
    - ALL CONCRETE SHALL BE MIXED UNTIL THERE IS A UNIFORM DISTRIBUTION OF THE MATERIALS BEFORE DISCHARGE. THE MIXING SHALL BE CONTINUOUS AFTER THE WATER HAS BEEN ADDED TO THE MIX IN THE DRUM.
    - NO CONCRETE SHALL BE PLACED IN THE FORMS MORE THAN 90 MINUTES AFTER THE WATER HAS BEEN ADDED.
    - AFTER THE MAXIMUM WATER CEMENT RATIO HAS BEEN ACHIEVED, RETEMPERING OF THE CONCRETE WILL NOT BE ALLOWED, UNLESS APPROVED BY ENGINEER.
  - CONCRETE PLACEMENT:
    - DEPOSIT CONCRETE CONTINUOUSLY IN LAYERS NOT GREATER THAN 24" OVER PREVIOUS LAYERS WHICH ARE STILL PLASTIC. AVOID COLD JOINTS. CONSOLIDATE CONCRETE BY MECHANICAL VIBRATING EQUIPMENT, SUPPLEMENTED BY HAND-SPACING, RODDING AND TAMPING. DO NOT USE MECHANICAL VIBRATORS TO TRANSPORT CONCRETE.
    - HOT WEATHER PLACING: CONCRETE WITH ACI 306, LATEST EDITION. MAINTAIN A FRESH CONCRETE TEMPERATURE OF NOT LESS THAN 50°F AND NOT MORE THAN 80°F AT THE POINT OF PLACEMENT.
  - CONCRETE CURING:
    - COMPLY WITH ACI 308, LATEST EDITION. COMPLY WITH ACI 308 FOR HOT WEATHER CONCRETING. PROVIDE A MINIMUM OF A 7 DAY CONTINUOUS MOISTURE CURE BY COVERING CONCRETE SURFACE WITH A WET ABSORPTIVE COVER. MAINTAIN SATURATED COVER CONDITION. ALTERNATIVE CURING METHODS WILL ONLY BE ALLOWED IF APPROVED BY ENGINEER. CONTRACTOR WILL SUBMIT ALTERNATIVE CURING PRODUCTS AND METHODS FOR REVIEW AND APPROVAL. ALSO, MAINTAIN CONCRETE CURING TEMPERATURE ABOVE 50°F.
    - FORMED SURFACES: CURE FORMED SURFACES WITH FORMS IN PLACE FOR ENTIRE CURING PERIOD, UNLESS ALTERNATE METHODS ARE APPROVED BY THE ENGINEER. CONTACT STRUCTURAL ENGINEER @ 207-878-1751 FOR ALTERNATIVE CURING METHODS. DURING COLD WEATHER CURING, PROVIDE CAST-IN THERMOMETERS FOR MONITORING CONCRETE CURING TEMPERATURE AT LOCATIONS AS DIRECTED BY ENGINEER. MAINTAIN A 50°F WITH USE OF INDIRECT HEAT OR INSULATIVE BLANKETS.

**EARTHWORK NOTES**

- SITE WORK AND CONCRETE CONTRACTORS ARE REQUIRED TO REVIEW THE ON-SITE SUBSURFACE SOIL CONDITIONS WITH THE SEE AT THE START OF INITIAL CONSTRUCTION. SITE CONTRACTOR WILL NOTIFY SEE AFTER EXCAVATION HAS STARTED AND PRIOR TO THE PLACEMENT OF ANY STRUCTURAL FOUNDATIONS.
- REMOVE ALL TOPSOIL AND UNCONTROLLED FILL FOR THE AREAS RECEIVING BUILDING FOUNDATIONS.
- BACKFILL TO THE NECESSARY SUBGRADES REQUIRED ON THE STRUCTURAL FOUNDATION PLANS WITH CONTROLLED STRUCTURAL FILL MATERIAL MEETING THE FOLLOWING GRADATION:
 

PERCENT PASSING	SCREEN OR SIEVE SIZE
100	#10
90-100	#20
5-35	#40
0-5	#200
- PLACE CONTROLLED STRUCTURAL FILL IN UNIFORM LIFTS AND COMPACT TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D1557 "MODIFIED PROCTOR DENSITY".
- PROVIDE SITE GRADING AROUND THE PERIMETER OF THE BUILDING TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE FOUNDATION DURING AND AFTER CONSTRUCTION.
- MAINTAIN THE INTEGRITY OF NATURAL SOILS AND CONTROLLED STRUCTURAL FILL DURING CONSTRUCTION. PROTECT FOOTING AND STRUCTURE SUBGRADES AGAINST FREEZING AND EXCESSIVE WETTING. REMOVE AND REFRIG. FROZEN SUBGRADES, MOISTURE CONDITION, OR REPLACE EXCESSIVELY WET SUBGRADE MATERIALS.
- NOTIFY ENGINEER TO OBSERVE SUBGRADES PRIOR TO PLACING FOOTINGS. FOOTINGS ARE DESIGNED FOR A MIN. SOIL BEARING CAPACITY OF 2000PSF, OR FOR BEARING ON SOUND LEGGE.
- CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER IF LEGGE IS ENCOUNTERED TO DETERMINE FINNING REQUIREMENTS.
- ALL FOOTINGS SHALL EXTEND A MINIMUM OF 4'-0" BELOW EXTERIOR FINISHED GRADE, OR BE DOWELED TO LEGGE.
- PROOF ROLL SUB-GRADE PRIOR TO SLAB CONSTRUCTION. PROVIDE STRUCTURAL FILL MEETING THE GRADATION SPECIFIED HEREIN FOR FILL MATERIALS BELOW THE SLAB, MAXIMUM PERCENT PASSING 200 SIEVE = 5%.
- COMPACT CONTROLLED STRUCTURAL FILL IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND ASTM D1557. USE ONLY HAND-OPERATED EQUIPMENT ADJACENT TO WALLS. FILL BOTH SIDES OF WALLS TO EQUAL ELEVATIONS BEFORE COMPACTION.
 

DEPTH OF COMPACTION: COMPACT TO THE FOLLOWING MINIMUM DENSITIES	DENSITY
FILL AND BACKFILL UNDER STRUCTURE FOUNDATIONS	95% OF MAX.
TOP 2 FEET UNDER PAVEMENT	92%
BELOW TOP 2 FEET UNDER PAVEMENT TRENCHES THROUGH UNPAVED AREAS	90%
EMBANKMENTS	90%
PIPE BEDDING	90%
BESIDE STRUCTURE FOUNDATION WALLS, TANK WALLS AND RETAINING WALLS	90%
UNDER FEES THROUGH STRUCTURAL FILLS	90%
UNDER DRAIN FILTER SAND	90%

 MAXIMUM DENSITY: ASTM 1557, MODIFIED.  
 FIELD DENSITY TESTS: ASTM 1556 (SAND CONE), ASTM 02167 (RUBBER BALLOON), OR ASTM 02922 (NUCLEAR METHODS).
- CONTRACTOR IS REQUIRED TO CONFORM TO OSHA (29 PART 1926.650-652) SUBPART F "CONSTRUCTION STANDARD FOR EXCAVATIONS".