

GENERAL STRUCTURAL NOTES

GENERAL

- 1. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH PROVISIONS OF THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC)
2. ELEVATIONS (XXX-XX) SHOWN ON PLANS ARE TO TOP OF CONCRETE, STEEL, OR WOOD DECK U.N.O.
3. ALL CONTRACTORS AND ANY SUB-CONTRACTORS SHALL VERIFY AND COORDINATE ALL DIMENSIONS AND DETAILS AS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS.
4. ALL CONTRACTORS AND ANY SUB-CONTRACTORS SHALL CONSULT ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR VERIFICATION OF LOCATION AND DIMENSIONS OF CURBS, PADS, INSERTS, SLEEVES, DRIPS, REGLETS, REVEALS, FINISHES, DEPRESSIONS, DOOR CLOSERS, AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
5. SIZE AND LOCATION OF ALL ROOF, FLOOR, AND WALL OPENINGS TO BE VERIFIED WITH MECHANICAL AND ELECTRICAL DRAWINGS AND CONTRACTORS.
6. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACTS, ERRORS, OR OMISSIONS OF THE CONTRACTOR OR ANY SUB-CONTRACTOR, OR ANY OF THE CONTRACTOR OR SUBCONTRACTORS AGENTS OR EMPLOYEES, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK.
7. THE ARCHITECT, CONTRACTOR, OWNER, AND END-USER OF THE STRUCTURE SHOULD EXPECT TO SEE SOME DEGREE OF RANDOM CRACKING IN THE SLAB-ON-GRADE.
8. MECHANICAL UNITS AND EQUIPMENT SUPPORTED BY ROOF AND ELEVATED FLOOR STRUCTURE ARE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER, AND MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR VERIFICATION OF UNIT SIZE, WEIGHT, AND LOCATION.
9. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE.
10. CONSTRUCTION DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION, WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.
11. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERRECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH THE SUPPLIERS INSTRUCTIONS AND REQUIREMENTS.
12. CONTRACTOR AND SUB-CONTRACTORS SHALL THOROUGHLY REVIEW ALL DRAWINGS AND SPECIFICATIONS PRIOR TO SUBMITTING BIDS.
13. ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE CONSTRUCTION DRAWINGS AND/OR SPECIFICATION AND/OR EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
14. CONTRACTOR SHALL REVIEW, STAMP, SIGN, AND DATE ALL SHOP DRAWINGS PRIOR TO FORWARDING TO THE ARCHITECT/ENGINEER.
15. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES ALL DEPRESSIONS, DIMENSIONS, ELEVATIONS, SLEEVES, CHASES, HANGERS, OPENING, INSERTS, ANCHORS, EQUIPMENT SUPPORTS, AND DETAILS WITH THE ENTIRE CONTRACT DOCUMENT PACKAGE.
16. THESE DRAWINGS INCLUDE SPECIFIED COMPONENTS AND PRODUCTS, I.E. EPOXY, METAL DECK.
17. THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR TO PERFORM INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE IBC AS REQUIRED BY THE BUILDING OFFICIAL.

DESIGN LOADS

Table with 2 columns: Item and Value. Includes: 1. ROOF LIVE LOAD 20 PSF, 2. FLOOR LIVE LOAD (RESIDENTIAL) 40 PSF, 3. GROUND SNOW LOAD 15 PSF, 4. ROOF SNOW LOAD 15 PSF, 5. OCCUPANCY CATEGORY II, 6. BASIC WIND SPEED (ASCE/SEI 7) 110 M.P.H. EXPOSURE B, 7. SEISMIC DESIGN CATEGORY (ASCE/SEI 7) B, SDS 0.097, SD1 0.082, D, SEISMIC FORCE RESISTING SYSTEM SHEAR WALLS

EXISTING CONSTRUCTION

- 1. FIELD VERIFY GRADES, SIZES, LOCATIONS AND CONDITIONS OF ALL ITEMS ON PLANS AND DETAILS BEFORE STARTING WORK.
2. EXISTING STRUCTURE TO REMAIN IS SHOWN SCREENED (LIGHT), EXISTING STRUCTURE TO BE REMOVED IS NOT SHOWN.
3. ALL EXISTING CONSTRUCTION AFFECTED BY DEMOLITION SHALL BE SHORED UNTIL NEW CONSTRUCTION SUPPORT MEMBERS ARE IN PLACE.

FOUNDATION

- 1. DESIGN ALLOWABLE SOIL BEARING PRESSURE OF 1,500 PSF HAS BEEN ASSUMED. ALL EXTERIOR FOOTINGS TO BE 3'-0" BELOW FINISH GRADE UNO.
2. UNLESS NOTED OTHERWISE: CENTER COLUMN FOOTINGS ON COLUMN CENTERLINES, CENTER WALL FOOTINGS ON FOUNDATION WALLS.
3. SLAB ON GRADE SHALL BE UNDERLAIN BY VAPOR BARRIER AND 6 INCHES MINIMUM OF CRUSHED ROCK OR CONCRETE.
4. BACK FILL AROUND THE EXTERIOR FOUNDATION WALLS WITH A FREE DRAINING GRANULAR MATERIAL TO THE ELEVATION OF THE ROUGH GRADE.
5. CONTRACTOR TO KEEP EXCAVATIONS DRY AND PROTECTED FROM FROST AT ALL TIMES DURING THE FOUNDATION CONSTRUCTION.

CAST-IN-PLACE CONCRETE

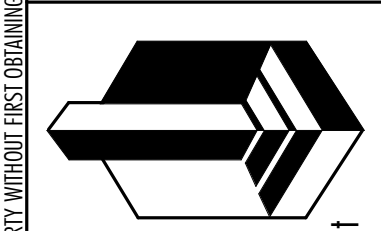
- 1. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS
FOOTINGS 3500 PSI MAX. W/C RATIO OF 0.50
INTERIOR SLABS ON GRADE 4000 PSI MAX. W/C RATIO OF 0.45
SLABS OVER STEEL DECK 3500 PSI MAX. W/C RATIO OF 0.45
EXPOSED CONCRETE SLABS AND GARAGE SLABS 4000 PSI MAX. W/C RATIO OF 0.45
FOUNDATION WALLS, WALLS, COLUMNS AND BEAMS 4000 PSI MAX. W/C RATIO OF 0.45
2. EXTERIOR EXPOSED CONCRETE SHALL HAVE 4 TO 6% ENTRAINED AIR.
3. AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.
4. NO ALUMINUM SHALL BE PLACED IN THE CONCRETE.
5. CONSTRUCTION TO BE IN ACCORDANCE WITH ACI 318-05 (R-05).
6. PIPE OR ELECTRICAL CONDUIT EMBEDDED IN CONCRETE SHALL NOT BE LARGER IN OUTSIDE DIAMETER AT ITS WIDEST (OR FITTING) THAN 1/3 THE THICKNESS OF THE SLAB OR WALL.
7. LOCATION OF ALL CONSTRUCTION AND CONTROL JOINTS SHALL BE LOCATED AND DETAILED ON SHOP DRAWINGS AND ARE SUBJECT TO ENGINEERS APPROVAL.
8. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND DIMENSION OF CONCRETE REVEALS, NOTCHES, REGLETS, DRIPS, PADS, CURBS, CHAMFERS BLOCKOUTS AT DOORWAYS, AND ALL OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.

STRUCTURAL AND MISCELLANEOUS STEEL

- 1. STEEL CONSTRUCTION MANUAL, 14TH EDITION MATERIAL SPECIFICATIONS U.N.O.
WIDE FLANGE AND S SHAPES ASTM A992, FY=50KSI
CHANNELS, ANGLES, PLATES AND BARS ASTM A36, FY=36KSI
HOLLOW STRUCTURAL SHAPES (HSS) ASTM A500 GR. B, FY=46KSI
PIPE ASTM A53, GR. B, FY=35KSI
STRUCTURAL BOLTS (U.N.O.) ASTM A325
MACHINE BOLTS (WHERE NOTED) ASTM A307
ANCHOR BOLTS AND RODS AND THREADED RODS ASTM F1554 GRADE 36KSI
HIGH STRENGTH ANCHOR BOLTS AND RODS (AS NOTED) ASTM F1554 GRADE 105KSI
HEADED OR THREADED STUD ANCHORS (H.S.A. OR T.S.A.) ASTM A108-69T
DEFORMED BAR ANCHORS (D.B.A.) ASTM A496 OR ASTM A706
WELDING ELECTRODES E70XX
NON-SHRINK GROUT (7,000 PSI) ASTM C1107, GR. A
POWDER ACTUATED FASTENER (PAF OR POF) HILTI X-U (0.157" DIA)
EXPANSION BOLTS (CONCRETE) HILTI KWIK BOLT TZ
EXPANSION BOLTS (MASONRY) HILTI KWIK BOLT 3
EPOXY ADHESIVE - CONCRETE HILTI HIT-HY 200
EPOXY ADHESIVE - MASONRY HILTI HIT-HY 70 W/ SCREEN TUBE
2. ALL STRUCTURAL STEEL ERECTION AND FABRICATION SHALL BE ACCORDING TO THE CURRENT EDITION OF AISC "SPECIFICATIONS FOR DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
3. ALL STRUCTURAL BOLTED CONNECTIONS SHALL BE ACCORDING TO THE CURRENT EDITION OF RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" FOR SNUG TIGHTENED, PRETENSIONED, OR SLIP-CRITICAL JOINTS.
4. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1.
5. COMPLETE JOINT PENETRATION (CJP) WELDING: PROVIDE BACKER BARS, RUN OFF TABS, AND ACCESS HOLES PER AWS D1.1.
6. STEEL FABRICATOR SHALL BE AN AISC CERTIFIED SHOP FOR CATEGORY 1 STEEL STRUCTURES AND SHALL MAINTAIN DETAILED QUALITY CONTROL PROCEDURES.
7. BEAMS SHALL BE FABRICATED FOR PLACEMENT OF NATURAL CAMBER UP.
8. STRUCTURAL STEEL SUPPLIER SHALL FURNISH COLUMN ANCHOR RODS.
9. HOLES IN STEEL SHALL BE DRILLED OR PUNCHED.
10. USE CONNECTIONS AS DETAILED ON PLANS.
11. ALL COLUMNS, ANCHOR BOLTS, BASE PLATES, ETC., HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE NOT BEEN INVESTIGATED FOR POTENTIAL LOADINGS ENCOUNTERED DURING STEEL ERECTION AND CONSTRUCTION.
12. PRIOR TO GROUTING, COLUMNS SHALL BE ERECTED AND ALIGNED AS TO PLUMBNESS AND ELEVATION BY MEANS OF STEEL SHIMS OR LEVELING NUTS UNDER THE BASE PLATES.
13. STRUCTURAL STEEL PERMANENTLY EXPOSED TO VIEW SHALL RECEIVE COMMERCIAL BLAST CLEANING.

ABBREVIATIONS

Table with 2 columns: Symbol and Description. Includes: @ AT, # NUMBER, AB ANCHOR BOLT, ADD'L ADDITIONAL, AESS ARCHITECTURALLY EXPOSED STRUCTURAL STEEL, ALT ALTERNATE, ARCH ARCHITECTURAL, ATTM ATTACHMENT, BLDG BUILDING, BLKG BLOCKING, BOT BOTTOM, BSMT BASEMENT, BTWN BETWEEN, CFS COLD FORMED STEEL, CJ CONTROL OR CONSTRUCTION JOINT, CJP COMPLETE JOINT PENETRATION WELD, CLR CENTERLINE, CL CLEAR, CMU CONCRETE MASONRY UNITS, COL COLUMN, CONC CONCRETE, CONN CONNECTION, CONT CONTINUOUS, COORD COORDINATE, DBA DEFORMED BAR ANCHOR, DET DETAIL, DIA DIAMETER, DIM DIMENSION, DIR DIRECTION, DFL DOUGLAS FIR-LARCH, EA EACH, EF EACH FACE, EMB EMBEDDED, EN EDGE NAILING, EQ EQUAL, EQW EACH WAY, EXIST EXISTING, EXP EXPANSION, FDN FOUNDATION, FIN FINISH, FLR FLOOR, FN FIELD NAILING, FRP FIBER-REINFORCED POLYMER, FTG FOOTING, FV FIELD VERIFY, GA GAUGE, GR GRADE, HK HOOK, HORIZ HORIZONTAL, HS HIGH STRENGTH, HSA HEADED STUD ANCHOR, HSS HOLLOW STRUCTURAL SHAPE, IBC INTERNATIONAL BUILDING CODE, ID INSIDE DIAMETER, INFO INFORMATION, LBS POUNDS, LG LONG, LLH LONG LEG HORIZONTAL, LLV LONG LEG VERTICAL, LSL LAMINATED STRAND LUMBER, LVL LAMINATED VENEER LUMBER, MAX MAXIMUM, MECH MECHANICAL, MFR MANUFACTURER, MIN MINIMUM, MTL METAL, NIC NOT IN CONTRACT, NS NON-SHRINK, OC ON CENTER, OD OUTSIDE DIAMETER, OPP OPPOSITE, OSB ORIENTED STRAND BOARD, PAF POWDER ACTUATED FASTENER, PEMB PRE-ENGINEERED METAL BUILDING PLATE, PLF POUNDS PER LINEAR FOOT, PSF POUNDS PER SQUARE FOOT, PSI POUNDS PER SQUARE INCH, PSL PARALLEL STRAND LUMBER, PT POINT, QTY QUANTITY, REINF REINFORCING, REM REMAINDER, REQ'D REQUIRED, RTU ROOF TOP UNIT, SCHED SCHEDULE, SIM SIMILAR, SLV SHORT LEG VERTICAL, SOG SLAB-ON-GRADE, SPF SPRUCE-PINE-FIR, SQ SQUARE, STD STANDARD, T&B TOP AND BOTTOM, THK THICK, TOP TOP OF FOOTING, TOM TOP OF MASONRY, TOS TOP OF STEEL, TOW TOP OF WALL, TSA THREADED STUD ANCHOR, TYP TYPICAL, VERT VERTICAL, UNO UNLESS NOTED OTHERWISE, W/ WITH, WF WIDE FLANGE, WWR WELDED WIRE REINFORCING



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RENOVATIONS TO EXISTING STRUCTURE FOR PROPOSED DAYCARE FACILITY
209 S ASH ST, PRETTY PRAIRIE, KANSAS 67570

Table with 2 columns: Field and Value. Includes: COMM. NO.: 2903-23, DRAWN BY :TC, UPDATED: , DATE: 11/9/2023, SHT, SO.0

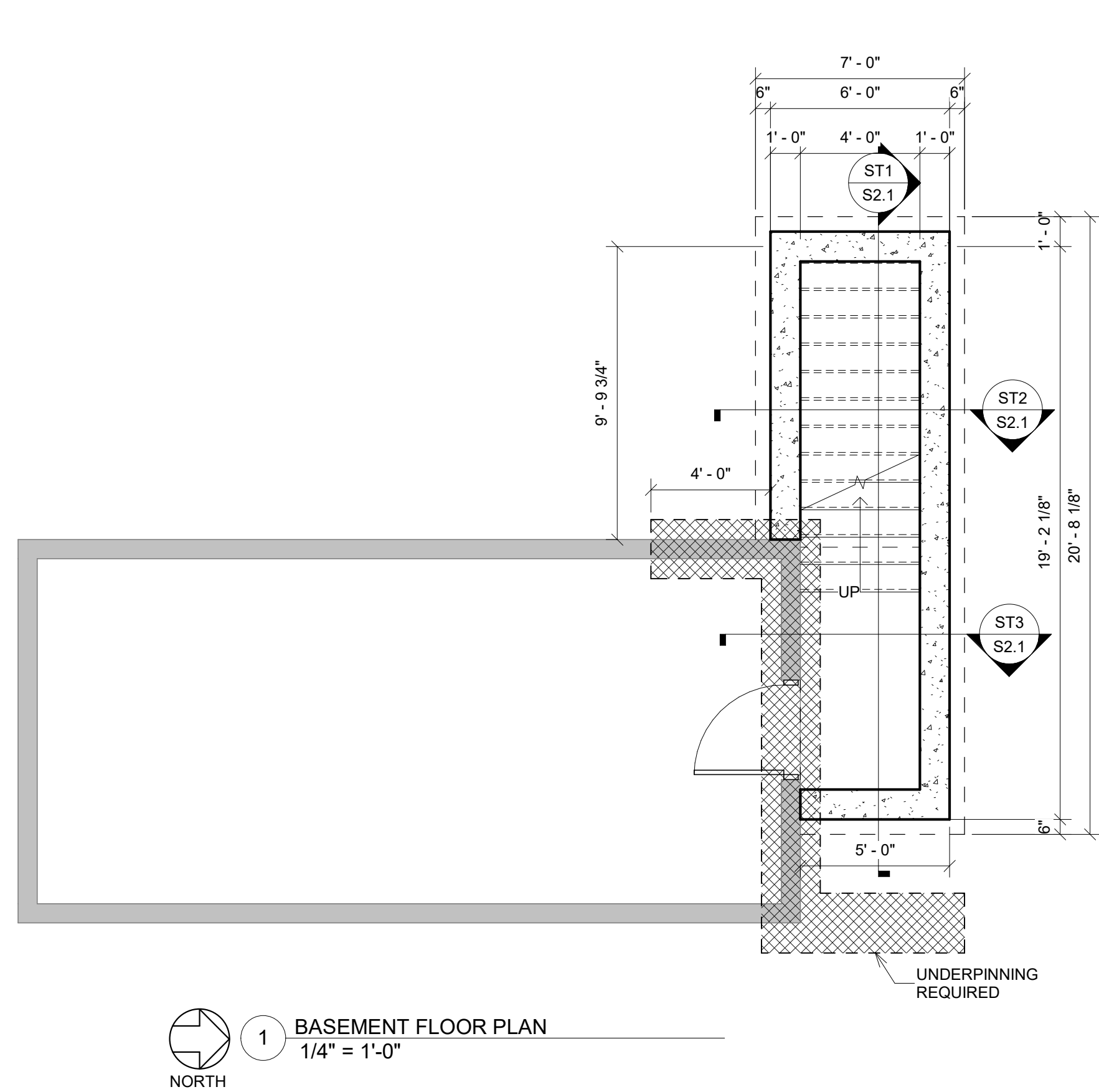
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PLAN NOTES

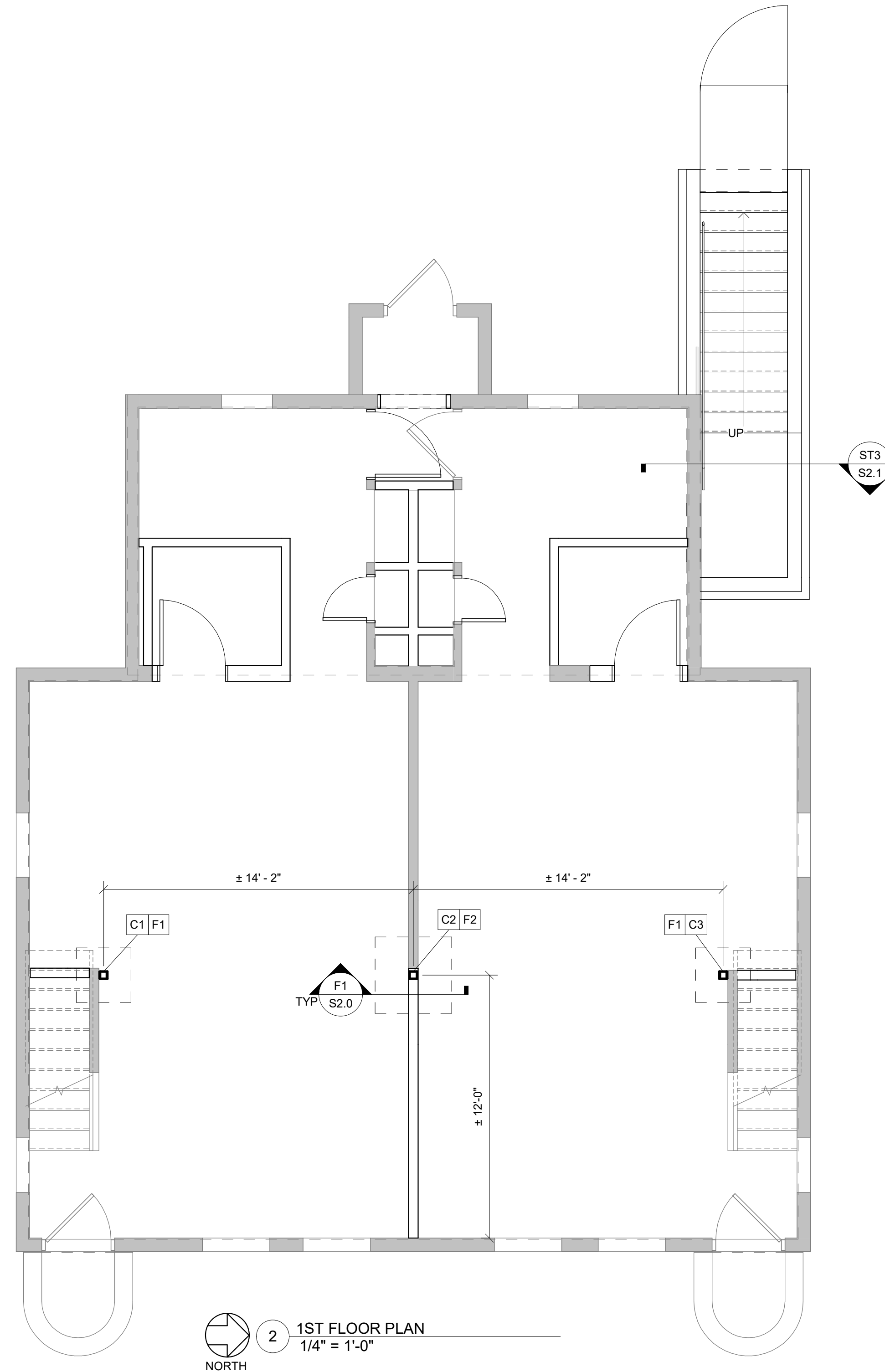
- FOR GENERAL STRUCTURAL NOTES (GSN) SEE SHEET S0.0
- DIMENSIONS SHOWN HERE APPLY TO STRUCTURAL ELEMENTS ONLY. SEE ARCHITECTURAL FOR ANY DIMENSIONS NOT NOTED HERE.
- 4" CONCRETE SLAB ON GRADE W/ 6x6 W1.4xW1.4 WWR 1.1/2" FROM TOP OF SLAB
- AT ALL SLAB RE-ENTRANT CORNERS, PROVIDE (1) #4x24"x24" CORNER BAR AND (2) #4x48" BARS
- PROVIDE (2) #4x48" BARS AT ALL NON-CONTINUOUS CONTROL JOINTS
- SLAB CONTROL JOINTS TO BE SPACED A MAXIMUM OF 10'-0" O.C. WITH A LENGTH TO WIDTH RATIO OF 1.5 MAXIMUM UNLESS SHOWN OTHERWISE ON PLAN.

COLUMN SCHEDULE						
COLUMN MARK	SIZE	BASE PLATE	ANCHOR BOLTS	CAP PLATE	CAP PLATE BOLTS	REMARKS
C1	HSS4X4X3/16	3/4"x10"x10"	(4) 3/4"Ø	1/2"x4"x7-1/2"	(2) 3/4"Ø	
C2	HSS4X4X3/16	3/4"x10"x10"	(4) 3/4"Ø	1/2"x4"x10"	(4) 3/4"Ø	
C3	HSS4X4X3/16	3/4"x10"x10"	(4) 3/4"Ø	1/2"x4"x7-1/2"	(2) 3/4"Ø	

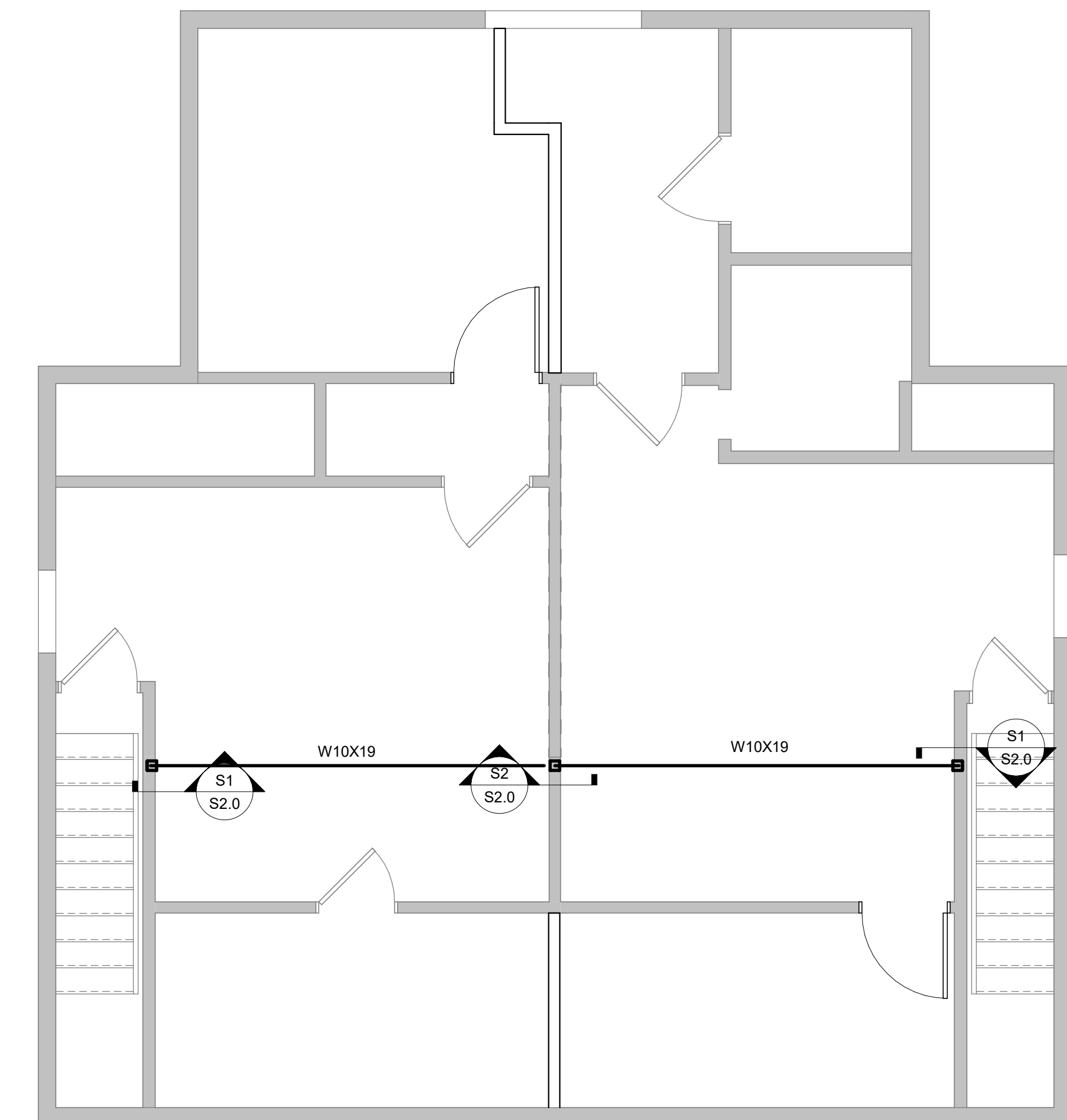
FOOTING SCHEDULE			
Mark	Size	Footing Reinforcing	Remarks
F1	2'-6" x 2'-6" x 1'-0"	#5 @ 12" O.C. EA WAY	
F2	3'-6" x 3'-6" x 1'-0"	#5 @ 12" O.C. EA WAY	



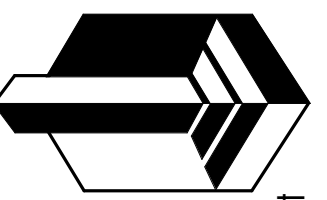
1 BASEMENT FLOOR PLAN
1/4" = 1'-0"



2 1ST FLOOR PLAN
1/4" = 1'-0"



3 2ND FLOOR PLAN
1/4" = 1'-0"

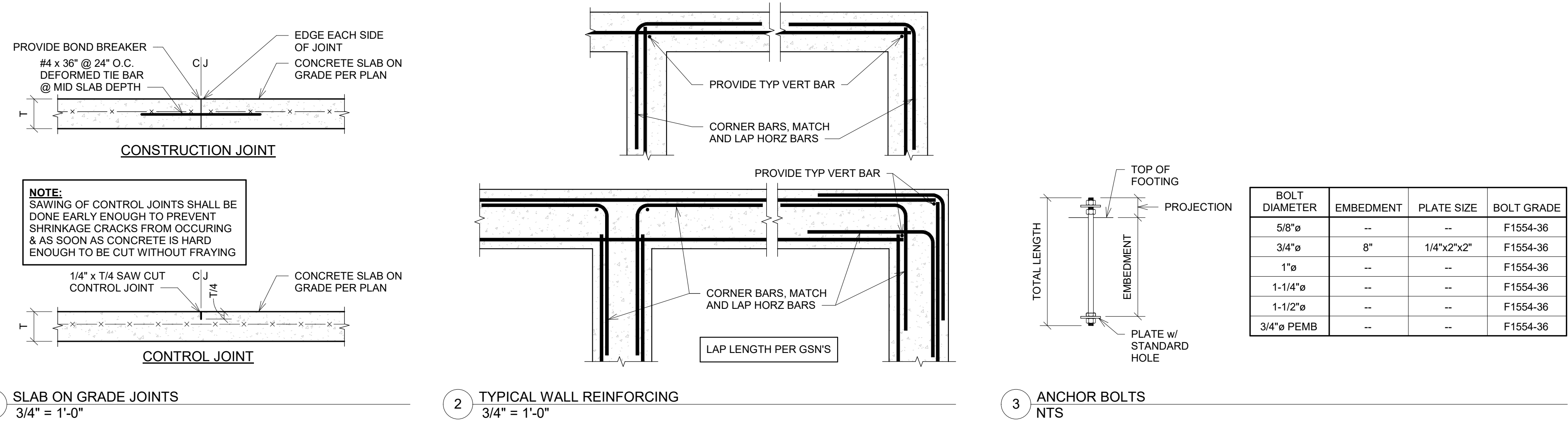


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COMM. NO.: 2903-23
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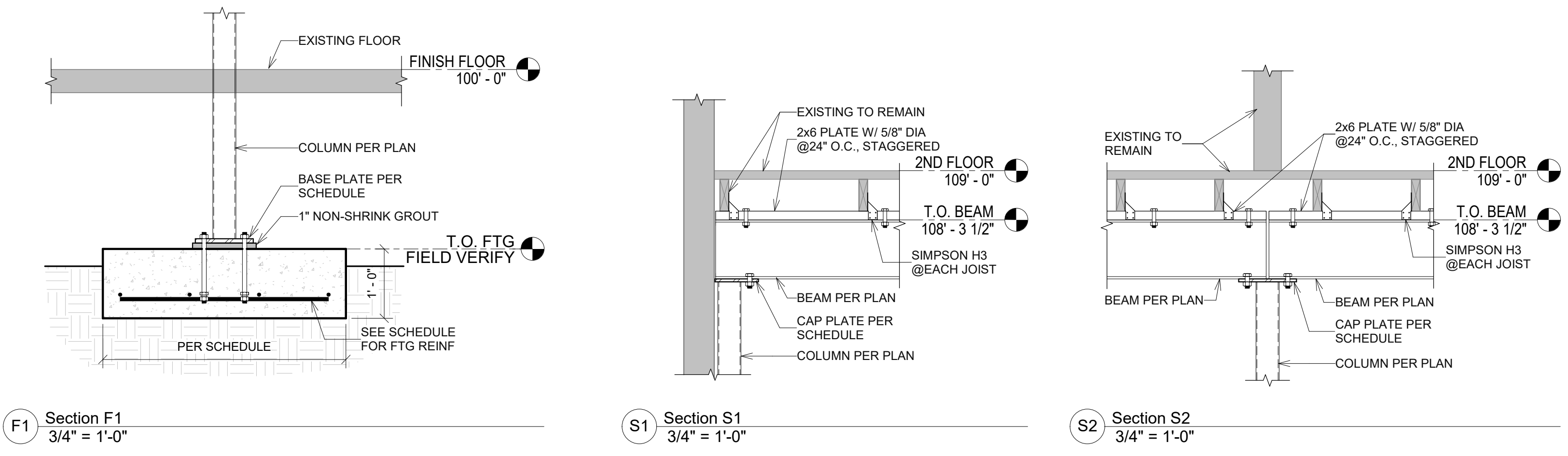
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EC PROJECT # 23197



1 SLAB ON GRADE JOINTS
3/4" = 1'-0"

2 TYPICAL WALL REINFORCING
3/4" = 1'-0"

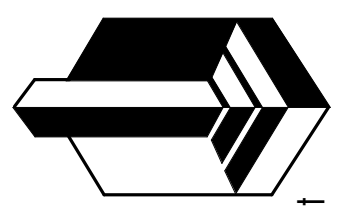
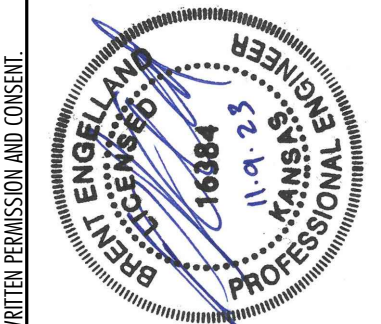
3 ANCHOR BOLTS
NTS



F1 Section F1
3/4" = 1'-0"

S1 Section S1
3/4" = 1'-0"

S2 Section S2
3/4" = 1'-0"



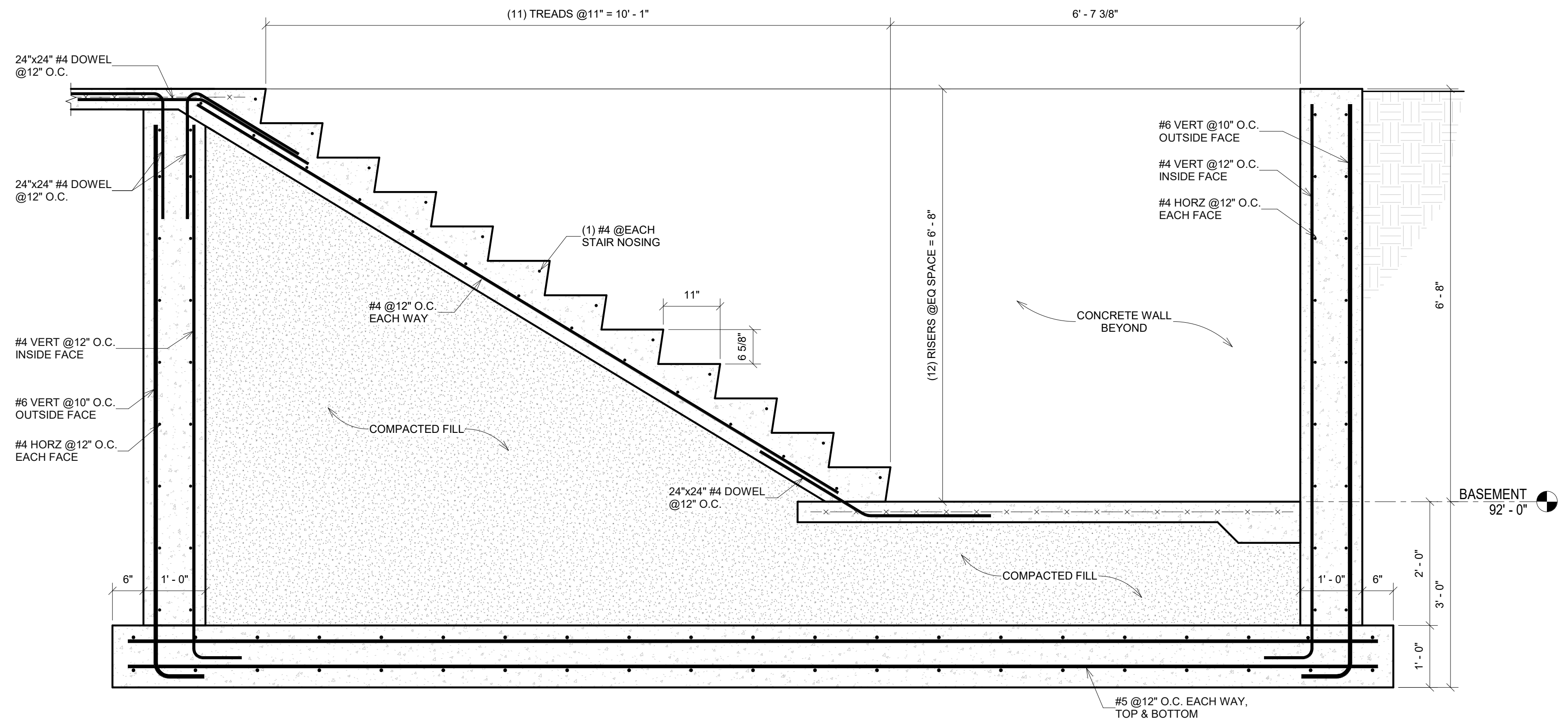
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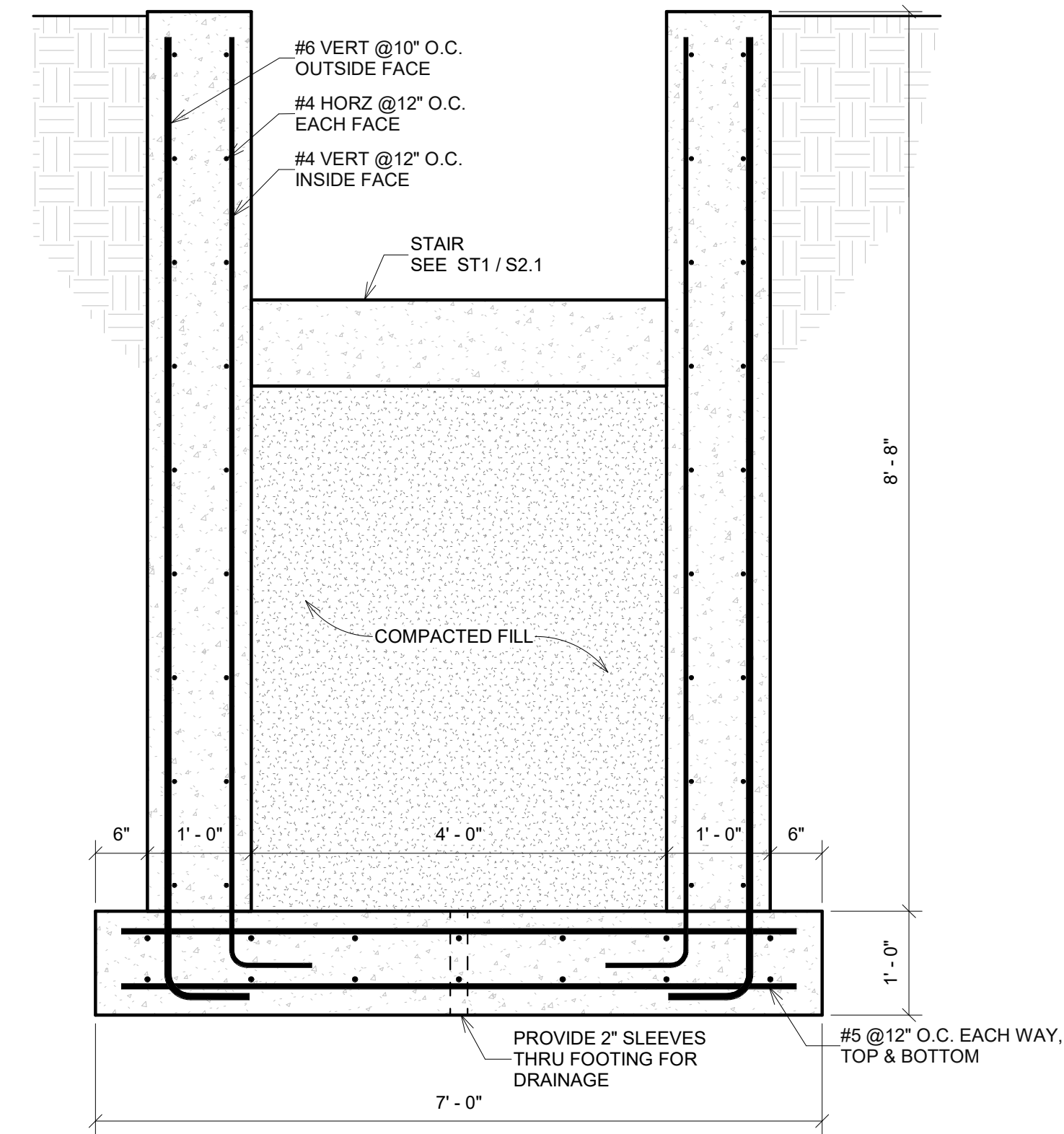
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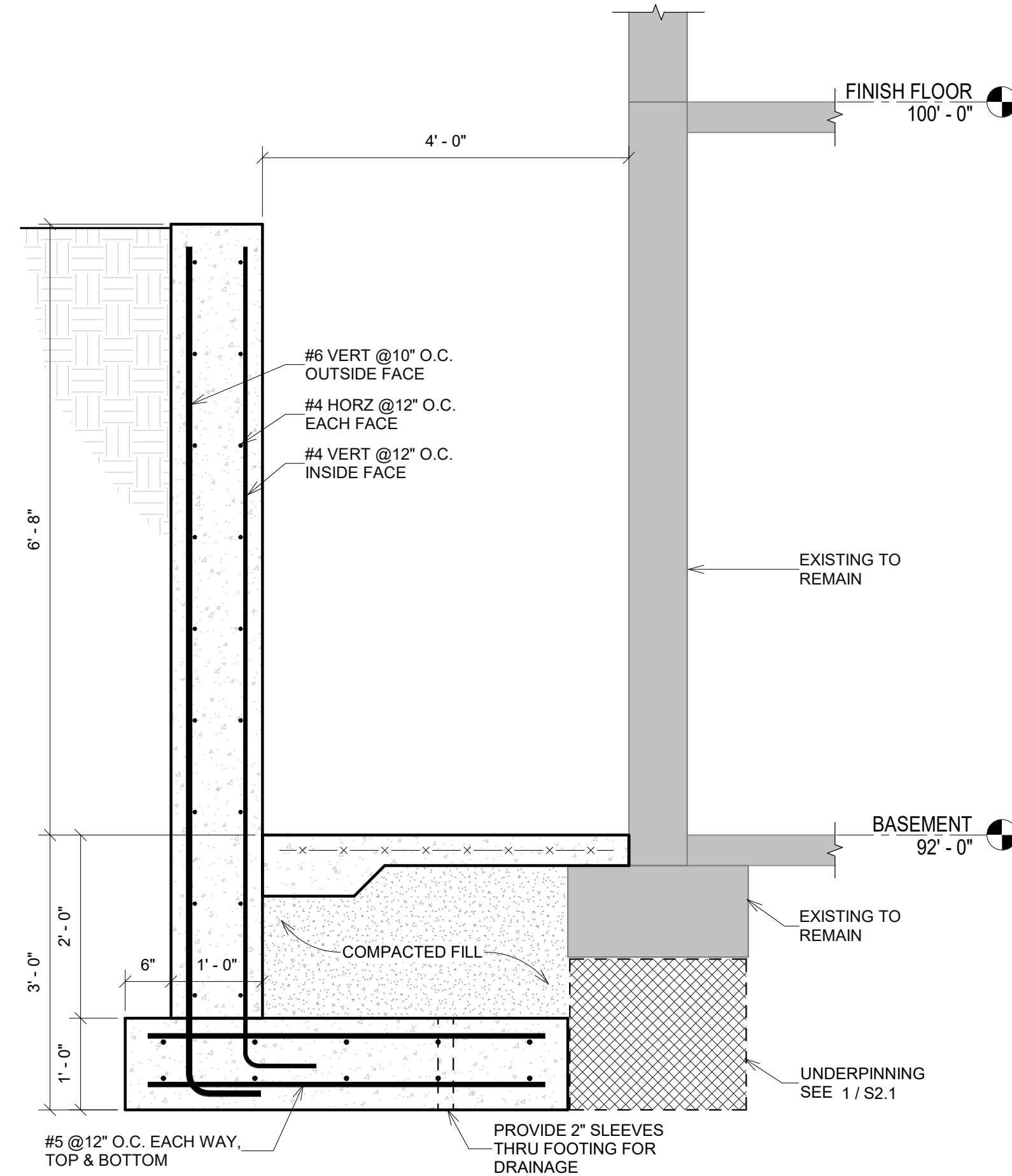
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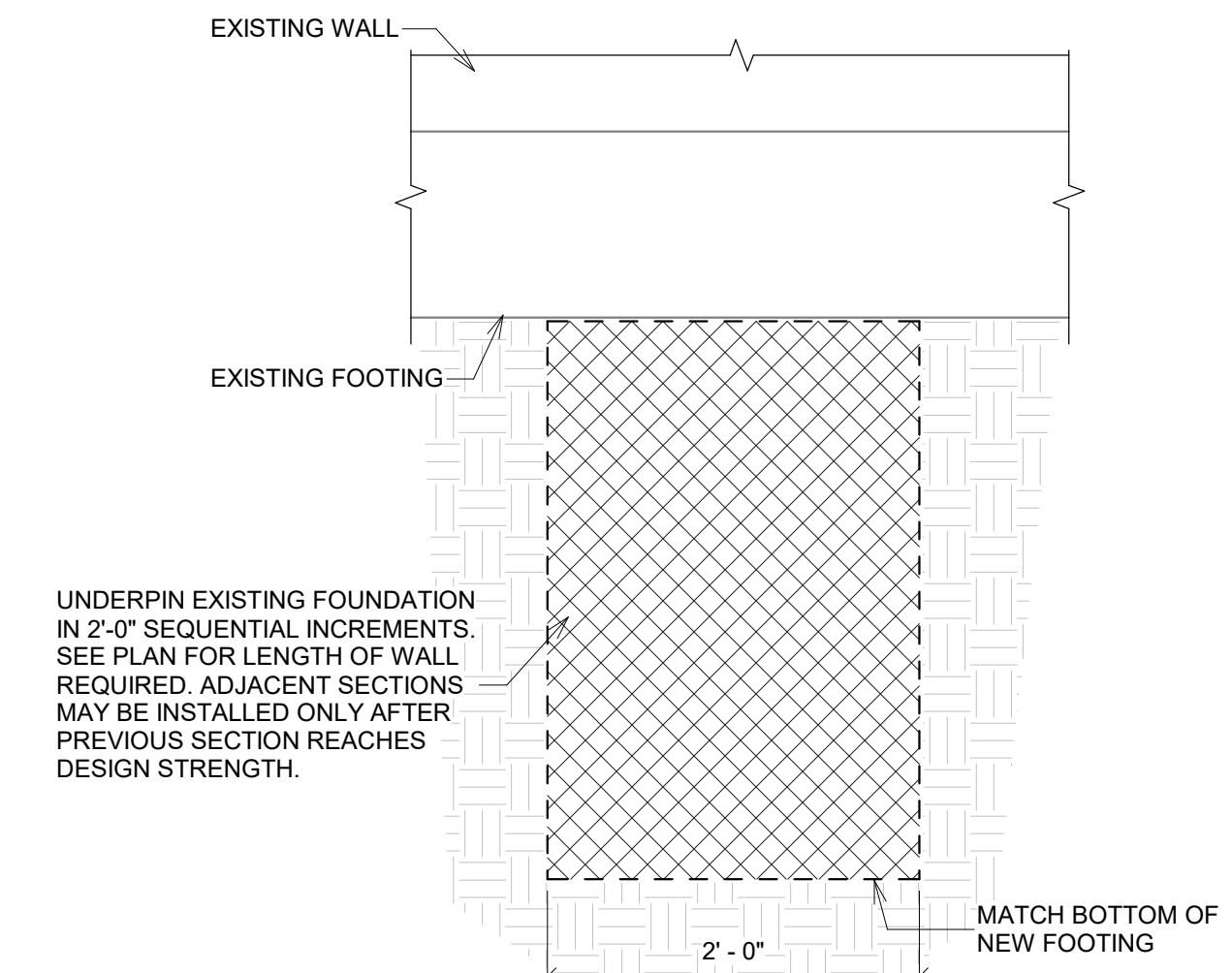
ST1 Section ST1
3/4" = 1'-0"



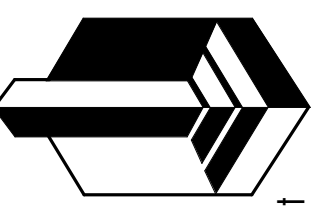
ST2 Section ST2
3/4" = 1'-0"



ST3 Section ST3
3/4" = 1'-0"



1 UNDERPINNING DETAIL
1" = 1'-0"



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