

GENERAL NOTES

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A. GENERAL
1. ALL STRUCTURAL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS, DRAWINGS, AND THE 2009 INTERNATIONAL BUILDING CODE.
2. CONTRACTOR SHALL COORDINATE STRUCTURAL WORK WITH RELATED TRADES AND WITH OTHER DESIGN DISCIPLINE REQUIREMENTS PRIOR TO MAKING SUBMITTALS. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO PERFORMING WORK.
3. REFER TO OTHER DESIGN DISCIPLINE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION REQUIRED FOR THE SUBMITTALS AND INSTALLATION OF STRUCTURES, INCLUDING BUT NOT LIMITED TO DIMENSIONS, ELEVATIONS, SLOPES, LOCATIONS OF OTHER SYSTEMS AND EQUIPMENT, OPENINGS, WALLS, STAIRS, FINISHES, COATINGS, AND OTHER NON-STRUCTURAL ITEMS. NOTES PROVIDED ON THE DRAWINGS ARE INTENDED FOR USE IN CONJUNCTION WITH PROJECT SPECIFICATIONS
4. DETAILS LABELED AS TYPICAL DETAILS ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE DEMARKED AT EACH LOCATION IN THE DRAWINGS. FOR CONDITIONS NOT SPECIFICALLY SHOWN, PROVIDE DETAILS OF A SIMILAR NATURE. VERIFY APPLICABILITY BY SUBMITTALS.
5. CONTRACTOR IS RESPONSIBLE FOR COORDINATION DETAILS AND ACCURACY OF THE WORK; FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY IN ACCORDANCE WITH GENERAL CONDITIONS AND DIVISION 1 SPECIFICATION REQUIREMENTS; AND FOR PERFORMING ALL WORK IN A SAFE AND SECURE MANNER IN ACCORDANCE WITH GOVERNING JOB SAFETY STANDARDS.
6. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE SITE, INCLUDING LOCATIONS OF ALL EXISTING STRUCTURES AND EXISTING UTILITIES ABOVE AND BELOW GROUND (AS ANY INFORMATION SHOWN IS APPROXIMATE AND NOT NECESSARILY COMPLETE.) CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO PERFORMING WORK.
7. LOADS APPLIED DURING CONSTRUCTION SHALL NOT EXCEED THE DESIGN LOADS NOTED ON THE DRAWINGS OR THE CAPACITY OF PARTIALLY COMPLETED CONSTRUCTIONS AS DETERMINED BY THE CONTRACTOR. THE STRUCTURAL ELEMENTS OF THE PROJECT AS SHOWN IN THE CONSTRUCTION DOCUMENTS HAVE BEEN DESIGNED FOR THE SPECIFIED VERTICAL AND LATERAL FORCES ACTING ON THE COMPLETED BUILDING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND PROVIDE ALL REQUIRED SHORING AND BRACING NEEDED DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF THE PARTIALLY-COMPLETED STRUCTURE AND FOR CONSTRUCTION LOADINGS THAT EXCEED THE SPECIFIED DESIGN LOADS
8. SHORING, BRACING, PROTECTING, AND MAINTAINING THE INTEGRITY OF ANY EXISTING, ADJACENT, AND/OR ONGOING PARTIALLY COMPLETED STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR.

- B. DEFERRED SUBMITTALS
1. IN ACCORDANCE WITH REQUIREMENTS LISTED BY THE DRAWINGS AND SPECIFICATIONS, DEFERRED SUBMITTALS AS DEFINED BY THE IBC ARE REQUIRED FOR THE CONDUCTANCE OF THIS PROJECT. THESE SUBMITTALS REQUIRE ACCEPTABLE REVIEW BY THE ARCHITECT AND/OR ENGINEER-OF-RECORD (EOR) AS WELL AS PRESENTATION OF REVIEWED "RECORD" SUBMITTALS TO THE A/E AT THEIR DISCRETION AND FOR THEIR ACCEPTANCE.
2. DEFERRED SUBMITTALS ARE SPECIFIED TO INCLUDE CALCULATIONS AND DRAWINGS PREPARED UNDER THE AUSPICES OF AN APPROPRIATELY LICENSED (SPECIALTY) ENGINEER. SUBMITTALS INDICATE CODE (MINIMUM) OR SPECIFIED LOAD TYPE, MAGNITUDES, AND LOCATIONS; FRAMING AND CONNECTION TYPES AND CONFIGURATIONS; INCLUDING ATTACHMENT TO PRIMARY OR BASE STRUCTURE FRAMING.
3. THE PURPOSE OF THE EOR'S REVIEW OF THE SUBMITTALS CONCERNS THAT THE SUBMITTAL DRAWINGS AND CALCULATIONS ARE PROPERLY SEALED; THAT THE LOAD CRITERIA GENERALLY CONFORM TO THE SPECIFIED DESIGN BASIS AND CODE; THAT CONNECTIONS LOADS ATTACHMENTS AND CONFIGURATIONS TO THE PRIMARY OR BASE STRUCTURE ARE COMPATIBLE WITH THE STRUCTURAL DESIGN AND CODE REQUIREMENTS.
4. THE EOR RELIES ON THE (SPECIALTY) ENGINEER'S SEAL AS CERTIFICATION THAT THE DEFERRED SUBMITTAL ITEMS COMPLY WITH SPECIFIED AND CODE CRITERIA. THE EOR IS NOT RESPONSIBLE FOR THE ADEQUACY OR EFFECTS OF THE (SPECIALTY) ENGINEER'S DESIGN. DESIGN OF TEMPORARY SHORING AND BRACING AS WELL AS TESTING AND INSPECTIONS THAT REQUIRE THE SUPERVISION OF A LICENSED ENGINEER, SUCH AS FOUNDATION SUBGRADE REVIEW, ARE NOT CONSIDERED DEFERRED SUBMITTALS.
5. DEFERRED STRUCTURAL SUBMITTAL ITEMS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
- STRUCTURAL STEEL CONNECTIONS
  - COLD FORMED METAL FRAMING, CURTAIN WALL SYSTEMS, AND SUN SHADES
  - SPECIAL-CUSTOM ELEMENTS ASSOCIATED WITH OPEN WEB STEEL JOISTS INCLUDING, BUT NOT LIMITED TO: SPECIAL-CUSTOM OPEN WEB STEEL JOISTS AND SPECIAL-CUSTOM JOIST SEATS

IN ADDITION, STRUCTURAL REQUIREMENTS ARE SPECIFIED FOR VARIOUS MISCELLANEOUS METAL, EXTERIOR WALL, EQUIPMENT, AND MEP SYSTEM COMPONENTS BY OTHER DESIGN DISCIPLINES; WHERE THE CONNECTION TO THE PRIMARY OR BASE STRUCTURE IS REVIEWED.

C. FOUNDATION RELATED EARTHWORK

1. RECOMMENDATIONS AND DESIGNS CONTAINED IN GEOTECHNICAL REPORTING AS FOLLOWS:
2. THE GEOTECHNICAL REPORTING CONTAINS SPECIFIC REQUIREMENTS PERTAINING TO GRUBBING, SITE, SUBFLOOR AND BEARING SURFACE PREPARATION AND PROTECTION, STRUCTURAL FILL AND COMPACTION REQUIREMENTS, GROUND WATER MANAGEMENT, ETC. THAT ARE NOT NECESSARILY SHOWN BY THE DRAWINGS AND SPECIFICATIONS. ALSO, IRC CHAPTER 18 "SOILS AND FOUNDATION" REQUIREMENTS APPLY, UNLESS SPECIFICALLY NOTED OTHERWISE BY THE GEOTECHNICAL REPORTING, DRAWINGS OR SPECIFICATIONS. REPORT CONFLICTS BETWEEN THE REPORTING AND THE DRAWINGS AND SPECIFICATIONS TO THE ARCHITECT PRIOR TO COMMENCING ANY AFFECTED WORK.
3. A LICENSED GEOTECHNICAL ENGINEER SHALL INSPECT AND REPORT ON ALL NATIVE SUB-GRADES FOR SLABS-ON-GRADE AND FOUNDATION PREPARED SOIL SURFACES PRIOR TO THE PLACEMENT OF ANY BACKFILL, FILL, AND FOUNDATION STRUCTURAL ELEMENTS. FOUNDATIONS AND FOOTING SHALL BEAR ON COMPETENT NATIVE SOILS OR COMPACTED STRUCTURAL FILLS IN ACCORDANCE WITH THE GEOTECHNICAL REPORTING.
4. FOOTINGS, AND SLABS CAST DIRECTLY AGAINST THE EARTH SHALL BE SIDE-FORMED AS REQUIRED TO KEEP EARTH OUT OF THE CONCRETE. COMPACT DISTURBED SOIL IN DIRECT CONTACT WITH FOUNDATIONS TO ORIGINAL BEARING CAPACITY. AS WET WEATHER OR GROUND CONDITIONS WARRANT, PLACE A MINIMUM OF 6 INCHES OF CRUSHED STONE OR 12 INCHES OF SAND-GRAVEL WRAPPED IN GEOTEXTILE FABRIC FOR SUBGRADE PROTECTION BENEATH FOUNDATIONS, DO NOT ALLOW FOR STANDING WATER ON EARTH. IF OVER-EXCAVATION OCCURS, REPLACE MATERIAL WITH BACKFILL MEASURES SPECIFIED FOR USE UNDER FOUNDATIONS, AFTER ACCEPTANCE BY GEOTECHNICAL ENGINEER.
5. UNLESS NOTED OTHERWISE, PLACE AND COMPACT BACKFILL IN EQUAL CONTINUOUS LAYERS NOT EXCEEDING A MAXIMUM OF 8" OF COMPACTED DEPTH FOR HAND-HELD COMPACTION EQUIPMENT AND A MAXIMUM OF 12" INCHES COMPACTED DEPTH FOR VIBRATORY ROLLERS. MAINTAIN OPTIMUM MOISTURE CONTENT OF BACKFILL MATERIALS TO ATTAIN COMPACTION DENSITY.
6. AT EARTH RETAINING AND FOUNDATION WALLS, BACKFILL LIFTS TO NOT EXCEED 12 INCH DIFFERENCE IN ELEVATION UNTIL FINAL ELEVATION ARE REACHED ON BOTH SIDES OF THE WALL. AT BASEMENT WALLS, DO NOT BACKFILL UNTIL GROUND FLOOR AND CONNECTED ELEVATED FRAMED LEVELS SLABS HAVE BEEN COMPLETED AND THE CONCRETE AT WALLS AND FLOORS HAS ACHIEVED FULL DESIGN STRENGTH.
7. THE CONSTRUCTION CONSIDERATIONS IN THE GEOTECHNICAL REPORTING AND PROJECT SPECIFICATIONS SHALL APPLY TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO PROOFROLLING SUBGRADES AT THE EXCAVATION AND/OR BEARING ELEVATIONS; REMOVING AND REPLACING LOOSE OR SOFT POCKETS, FILL SLOPE CONSTRUCTIONS, ETC.
8. BACKFILL REQUIREMENTS:
- A. FILL WITHIN BUILDING ENVELOPE AND EXTENDING OUTWARD AT 1:1 SLOPE TO ACCEPTABLE NATIVE SOIL CONDITIONS.  
MATERIAL: "SAND-GRAVEL", "GRANULAR", "CRUSHED STONE" WITH GEOTEXTILE WRAP (SEE SECTIONS)  
COMPACTION: 95% MODIFIED PROCTOR
- B. BACKFILL DIRECTLY BELOW INTERIOR SLAB-ON-GRADE ASSEMBLIES (12 INCHES UNLESS NOTED OTHERWISE); "CRUSHED STONE" WITHOUT GEOTEXTILE  
COMPACTION: 95% MODIFIED PROCTOR
- C. BACKFILL BELOW PAVEMENT, WALKED, ENTRY SLABS IN VICINITY OF BUILDING:  
MATERIAL: "SAND-GRAVEL", "GRANULAR", "CRUSHED STONE"; SEE SECTIONS IN LAND ARCH/CIVIL DRAWINGS  
COMPACTION: 95% MODIFIED PROCTOR
- D. BACKFILL BEHIND RETAINING WALLS AND BASEMENT WALLS, OUTSIDE BUILDING ENVELOPE AND UNDER PAVEMENT, WALKS, ENTRY SLABS:  
MATERIAL: "GRANULAR BACKFILL"  
COMPACTION: 95% MODIFIED PROCTOR
- E. BACKFILL ALONG EXTERIOR OF BUILDING AGAINST WALLS AND NOT UNDER PAVEMENT, WALKS, ENTRY SLABS:  
MATERIAL: "SUITABLE NATIVE SOIL" COVERED BY 2 FEET DEEP BY 4 FEET WIDTH OF "LESS PERMEABLE FILL"  
COMPACTION: 92% MODIFIED PROCTOR

9. BACKFILL MATERIALS: RECYCLED CONCRETE AGGREGATE TO BE USED IN WHOLE OR BLENDED WITH OTHER AGGREGATES TO ACHIEVE GRADATIONS BELOW. ONSITE MATERIALS MEETING THE FOLLOWING CLASSIFICATIONS MAY BE USED:
- A. "SAND-GRAVEL":
- | SIEVE DESIGNATION | % BY WEIGHT PASSING SIEVES |
|-------------------|----------------------------|
| 4 INCH            | 100                        |
| 1/2 INCH          | 50-85                      |
| No. 4             | 45-75                      |
| No. 100           | 10-35                      |
| No. 200           | 0-6                        |
- B. "GRANULAR":
- | SIEVE DESIGNATION | % BY WEIGHT PASSING SIEVES |
|-------------------|----------------------------|
| No. 4             | 100                        |
| No. 10            | 30-95                      |
| No. 40            | 10-60                      |
| No. 200           | 0-8                        |
- C. "CRUSHED STONE" W/ GEOTEXTILE FABRIC:
- | SIEVE DESIGNATION | % BY WEIGHT PASSING SIEVES |
|-------------------|----------------------------|
| 1 INCH            | 100                        |
| 3/4 INCH          | 90-100                     |
| 3/8 INCH          | 0-55                       |
| No. 4             | 0-10                       |
| No. 8             | 0-5                        |
- D. "SUITABLE NATIVE SOIL": ON SITE SAND OR GRAVEL REASONABLY FREE OF LOAM, SILT, CLAY, OR ORGANIC MATTER
- E. "LESS PERMEABLE FILL": GLACIAL TILL (SEE GEOTECHNICAL REPORT)
- F. "RECYCLED CONCRETE AGGREGATE" STOCKPILES ON SITE FROM DECONSTRUCTION PROJECT. SUBMIT GRADATIONS PRIOR TO ANY REQUIRED BLENDING, AS WELL AS FOR BLENDED AGGREGATES. MUST BE SUEO AS IS OR INTEGRAL WITH "SAND-GRAVEL", "GRANULAR", CRUSHED STONE" FILLS OR BACKFILLS ABOVE.
10. GEOTEXTILE FABRIC: NON-WOVEN WITH 12 LAPPED SEAMS SEE GEOTECHNICAL REPORTING FOR USE AND MEETINGS:
- GRAB STRENGTH OF 80 POUNDS MINIMUM MEETING ASTM D4632  
PUNCTURE STRENGTH OF 25 POUNDS MINIMUM MEETING ASTM D4833  
TRAPEZOID TEAR OF 25 POUNDS MINIMUM MEETING ASTM D4533  
APPARENT OPENING SIZE OF NO. 70-100 (US SIEVE) MEETING ASTM D4751
11. INSULATION AT EXTERIOR SLABS AND WALKS (NOT PAVEMENTS): EXTRUDED POLYSTYRENE, STRENGTH OF 40 PSI (UNO)AND RATED FOR UNDERSLAB/UNDERGROUND USE. STAGGER AND DO NOT TAPE BOARD JOINTS.

D. CONCRETE

1. CODES AND STANDARDS: COMPLY WITH THE PROVISIONS OF THE LATEST EDITIONS OF:
- A. ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
- B. ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE"
- C. ACI 304 "GUIDE FOR MIXING, TRANSPORTING AND PLACING CONCRETE"
- D. ACI 305 "HOT WEATHER CONCRETING"
- E. ACI 306 "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING"
- F. ACI 308 "STANDARD PRACTICE FOR CURING CONCRETE"
2. CONCRETE TESTING: THE CONTRACTOR SHALL PREPARE A SET OF 4 CYLINDERS/TEST SET TO BE TESTED AT AN INDEPENDENT LABORATORY. THE CYLINDERS SHALL BE TAKEN FROM ONE CONCRETE TRUCK AND LABELED WITH DATE, TRUCK NUMBER, AND LOCATION OF CONCRETE PLACEMENT. EACH SAMPLE SHALL ALSO BE TESTED FOR SLUMP, AIR CONTENT, AND TEMPERATURE. THE CYLINDERS SHALL BE TESTED AS FOLLOWS: 1 AT 7 DAYS; 2 AT 28 DAYS; AND A THIRD HELD FOR A 56 DAY BREAK IF REQUIRED. TEST CYLINDERS SHALL BE TAKEN AT LEAST ONCE PER PLACEMENT OR AT THE FOLLOWING INCREMENTS:
- A. WALLS AND FOOTINGS: 50 CUBIC YARDS
- B. ISOLATED FOOTINGS: 25 CUBIC YARDS
- C. SLABS: 50 CUBIC YARDS
- FIELD TESTING SHALL BE PERFORMED BY A GRADE 1 ACI (MINIMUM) FIELD TESTING TECHNICIAN.
3. SUBMIT MIX DESIGN AND EITHER TRIAL MIX DESIGNS OR HISTORIC FIELD DATA FOR APPROVAL IN ACCORDANCE WITH ACI 318, CHAPTER 5, INCLUDE TECHNICAL DATA SHEETS, GRADATIONS, AND MATERIAL VERIFICATIONS ON ALL COMPONENTS. SUBMIT MIX DESIGNS, PRIOR TO PLACEMENT OF CONCRETE, TRANSIT MIX SHALL CONFORM TO ASTM C94.
4. COMPRESSIVE MIXTURES ARE NORMAL WEIGHT CONCRETE AS DELINEATED IN TABLE BELOW; SEE 03 3000 & NOTES BELOW FOR ADDITIONAL INFORMATION. LIMIT SLUMPS TO 3" TO 5".
5. MAXIMUM AGGREGATE SIZE IN ACCORDANCE W/ ACI 301, CLEARLY NOTE LOCATION WHERE AGGREGATES GREATER THAN 1/2" MAXIMUM SIZE ARE PROPOSED FOR USE.
6. NO CHLORIDE OR OTHER UNAUTHORIZED ADMIXTURES SHALL BE USED, MAINTAIN MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) IN CONCRETE, BY WEIGHT OF CEMENT AT LESS THAN 1.00 FOR NON-EXPOSED CONCRETES AND 0.30 FOR EXTERIOR EXPOSED CONCRETES
7. WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT PLACE AND PROTECT CONCRETE IN ACCORDANCE WITH ACI STANDARDS LISTED ABOVE.
8. CONCRETE PLACEMENT MAY REQUIRE ADJUSTMENT OF REINFORCEMENT, EMBEDDED ITEMS OR ANCHOR BOLTS. REVIEW DRAWINGS IDENTIFY THESE LOCATIONS TO ARCHITECT PRIOR TO SUBMITTALS. PROVIDE ADDITIONAL SUPERVISION AT ALL STEEL TO CONCRETE CONNECTION LOCATIONS AND MODIFY PLACEMENT MEASURES TO ACCOUNT FOR CONGESTIONS.
9. COMPLY WITH ACI CODES AND PLACE CONCRETE IN A CONTINUOUS OPERATION WITHIN PLANNED JOINTS OR SECTIONS. DO NOT PERMIT COLD JOINTS TO OCCUR.
10. CURING: COVER OR WET CURE ALL ELEMENTS, BEGIN INITIAL CURING AS SOON AS FREE WATER HAS DISAPPEARED FROM EXPOSED SURFACES. WHERE POSSIBLE, KEEP CONTINUOUSLY WET FOR 72 HOURS. CONTINUE CURING BY USE OF MOISTURE RETAINING COVER. USE OF MEMBRANE-FORMING CURING COMPOUNDS IS PROHIBITED.
11. SEE 03 3000 FOR SURFACE FINISHES. NOTE EXPOSED WALL REQUIREMENTS IN SPECIFICATIONS.
12. PROVIDE CONTROL AND CONSTRUCTION JOINTS BY DETAIL AND SPECIFICATION REQUIREMENTS. SHOW LOCATION ON REINFORCING SUBMITTAL FOR COORDINATION WITH FLOORING, EQUIPMENT AND OTHER CONTRACTOR REQUIREMENTS.
13. SLABS SAW-CUT CONTROL JOINTS AS SOON AS CONCRETE HAS HARDENED ENOUGH TO WALK ON SURFACE WITHOUT DAMAGING CONCRETE AND NO MORE THAN 4 HOURS AFTER FINAL TROWEL. JOINT SPACING SHALL, UNLESS NOTED OTHERWISE, NOT EXCEED 36 TIMES THE SLAB THICKNESS OR 18 FEET
14. WALLS CONTROL JOINTS: NOT EXCEEDING 20 FEET AND AT EACH INTEGRAL PILASTER, CONSTRUCTION JOINTS AT 80 FEET OF MAXIMUM SPACING.
15. HEADED STUD ANCHORS, DEFORMED BAR ANCHORS (DBA'S), AND OTHER EMBEDDED ITEMS AS SPECIFIED FOR STRUCTURAL STEEL. ALL WELDS FOR STUDS AND DBA'S SHALL BE AUTOMATICALLY WELDED WITH MANUFACTURER'S EQUIPMENT AND RECOMMENDATIONS FOR FLUX FILLED HEADS.
16. CONCRETE MIXES AS SCHEDULED AND:
- A. SLUMP: 3-5" BEFORE ADDITION OF WATER REDUCER, 6-8" AFTER ADDITION OF WATER REDUCER
- B. ALL CONCRETE NORMALWEIGHT

CONCRETE MIXTURES				
APPLICATION	STRENGTH	CEMENTITIOUS MATERIALS	MAX W/C	AIR CONTENT
INTERIOR INDIVIDUAL FOOTINGS COMBINED FOOTINGS	4,000 PSI @ 28 DAY	40% FA OR GGBFS (MAX.)	0.50	N/A
INTERIOR SLABS-ON-GRADE, INTERIOR SLABS-ON-DECK	3,500 PSI @ 28 DAY	25% FA OR GGBFS (MAX.)	0.55	<3%
EXTERIOR WALLS, PIERS, & FOOTINGS EXCEPT AS NOTED	4,500 PSI @ 28 DAY	15% FA OR GGBFS (MAX.)	0.45	6% +/- 1.5%
EXTERIOR SLABS-ON-GRADE	5,000 PSI @ 28 DAY	15% FA OR GGBFS (MAX.)	0.40	6% +/- 1.5%
INTERIOR PIERS	4,000 PSI @ 28 DAY	25% FA OR GGBFS (MAX.)	0.50	N/A

E. CONCRETE REINFORCEMENT

1. SHOP DRAWINGS SHALL BE PROVIDED PRIOR TO START OF CONCRETE PLACING AND BE IN ACCORDANCE WITH:
- A. ACI 301
- B. ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
- C. ACI SP-66 "ACI DETAILING MANUAL"
- D. CRSI MSP "MANUAL OF STANDARD PRACTICE"
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- SHOW ALL SLABS IN PLAN AND ALL WALLS IN ELEVATION WITH OPENINGS AND PENETRATIONS SHOWN BASED ON MEP COORDINATION SUBMITTALS AND ARCHITECTURAL REQUIREMENTS. SUBMIT PROPOSED CONTROL AND CONSTRUCTION JOINTS FOR REVIEW ON REINFORCING SUBMITTALS
2. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60, STEEL BARS PER ASTM A305, UNLESS NOTED OTHERWISE.
3. WHERE SPECIFICALLY SHOWN ON THE DRAWINGS, WELD REINFORCING BARS IN ACCORDANCE WITH AWS/D1.4 PRE-QUALIFIED JOINT, ELECTRODE 9E90 LOW HYDROGEN) AND PROCESS REQUIREMENTS INCLUDING COORDINATED WITH MILL CERTIFIED CARBON EQUIVALENT. ALTERNATIVELY, ASTM A706, GRADE 60 MAY BE SUBSTITUTED, INDICATE MATERIAL AND WELDING REQUIREMENTS ON SUBMITTAL. DO NOT WELD AT LOCATIONS NOT DETAILED, UNLESS SUBMITTED AND REVIEWED BY ARCHITECT.
4. FIELD BENDING OR REINFORCEMENT SHALL CONFORM TO ACI 301, INCLUDING PRE-HEAT REQUIREMENTS.
5. WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185 WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 70,000 PSI. LAP ONE CROSS WIRE SPACING PLUS 2". SUPPORT MESH ON CHAIRS PER CRSI W/ #4 AT 4'-0"oc, EACH WAY.
6. PROVIDE MINIMUM CONCRETE COVER TO REINFORCEMENT AS FOLLOWS, UNLESS OTHERWISE NOTED:
- A. BOTTOM OF FOOTINGS, GRADE BEAMS, AND SLABS-ON-GRADE: 3"
- B. SIDES OF FOOTINGS AND GRADE BEAMS: 2"
- C. FOUNDATION WALLS, FROST WALLS, RETAINING WALLS, PIT WALLS: 2"
- D. EXTERIOR WALLS (EXPOSED TO WEATHER): 2"
- E. FACES OF WALLS OTHER THAN THOSE NOTED ABOVE: 3/4"
- F. FOUNDATION PIERS: 2" TO TIES
- G. ALL FACES OF BEAMS AND COLUMNS: 1-1/2" TO TIES
- H. TOP AND BOTTOM OF ELEVATED SLABS: 3/4"
- I. TOPPING SLAB: 3/4"
- J. SLAB-ON-DECK: 3/4" FROM DECK, 3/4" FROM TOP SURFACE
7. ALL LAPS SHALL BE FULL TENSION LAPS (CLASS B SPLICE) UNLESS SPECIFICALLY NOTED OTHERWISE. DOWELS SHALL MATCH SIZE AND SPACING OF MAIN REINFORCEMENT, UNLESS OTHERWISE NOTED.
8. HEADED STUD ANCHORS, DEFORMED BAR ANCHORS (DBA'S), AND OTHER EMBEDDED ITEMS AS SPECIFIED FOR STRUCTURAL STEEL. ALL WELDS FOR STUDS AND DBA'S SHALL BE AUTOMATICALLY WELDED WITH MANUFACTURER'S EQUIPMENT AND RECOMMENDATIONS FOR FLUX FILLED HEADS.
9. CHAIRS AND SPACERS SHALL BE PLACED TO ADEQUATELY SUPPORT REINFORCING DURING PLACEMENT. FOREIGN MATERIALS SUCH AS WOOD, CLAY BRICK OR OTHER UNSUITABLE SUPPORTS SHALL NOT BE USED TO SUPPORT REINFORCING. SET WIRE TIES SO ENDS ARE DIRECTED INTO CONCRETE WHERE CONCRETE WILL BE EXPOSED. DO NOT USE CONCRETE SUPPORTS OR PUDDLING FOR SLABS UNLESS SUBMITTED AND ACCEPTABLY REVIEWED.

F. CONCRETE FORMWORK

1. CONCRETE FORMS SHALL BE CLEAN AND FREE FROM DEBRIS. IF FORMS ARE COATED WITH A VEGETABLE BASED (SOY) RELEASE AGENT, WHICH SHALL NOT STAIN CONCRETE OR ABSORB MOISTURE OR IMPAIR NATURAL BONDING OF CONCRETE.
2. COORDINATE WITH REINFORCING SUBMITTAL FOR OPENING AND ADDITIONAL REQUIREMENTS. SUBMIT, BEFORE FRAMING OPENINGS IN STRUCTURAL ELEMENTS WHICH ARE NOT INDICATED ON DRAWINGS.
3. PROVIDE BRACING TO ENSURE STABILITY OF FORMWORK FOR PLACEMENT OPERATIONS, DO NOT REMOVE FORMS OR BRACING UNTIL CONCRETE HAS GAINED SUFFICIENT STRENGTH TO CARRY ITS OWN WEIGHT AND IMPOSED LOADS.
4. ALL WALL SIDES AND SLAB EDGES EXPOSED TO VIEW AND PIT WALLS ON BOTH SIDES TO HAVE CLASS A - CLASS OF SURFACE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

G. POST-INSTALLED ANCHORS INTO CONCRETE AND MASONRY

1. WHERE A MANUFACTURER'S ANCHORS IS SPECIFICALLY CALLED OUT ON THE DRAWINGS, IT SHALL BE CONSIDERED THE DESIGN BASIS FOR THE REQUIRED ANCHOR. ALTERNATES MEETING OR EXCEEDING ANCHOR SYSTEM DEMANDS, INCLUDING, BUT NOT LIMITED TO CAPACITY, LADING, EDGE DISTANCE, SUBSTRATE THICKNESS FOR CONNECTION ELEMENTS AND BASE MATERIAL SHALL BE SUBMITTED FOR PROPOSED USE PENDING ACCEPTABLE REVIEW. SUBMIT ICC-ES CODE REPORTS.
2. ADHESIVE ANCHORS, WHERE NOT SPECIFICALLY DETAILED, SHALL BE:
- A. FOR CONCRETE AND CONCRETE MASONRY: HILTI HIT-HY150 MAX OR HIT-HY-200
- B. FOR EXISTING BRICK MASONRY: HILTI HIT-HY-70
- INSTALL IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS. USE 1/8 INCH DIAMETER AT MINIMUM EMBEDMENT UNLESS OTHERWISE INDICATED BY DETAIL. SEE NOTE 1.
3. EXPANSION ANCHORS, WHERE NOT SPECIFICALLY DETAILED, SHALL BE:
- A. FOR CONCRETE: HILTI KWIK BOLT TZ
- B. FOR MASONRY: HILTI KWIK BOLT 3.
- INSTALL IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS. USE 1/8 INCH DIAMETER AT MINIMUM EMBEDMENT UNLESS OTHERWISE INDICATED BY DETAIL. SEE NOTE 1.
4. SCREW TYPE ANCHORS: WHERE NOT SPECIFICALLY DETAILED, SHALL, FOR CONCRETE AND MASONRY: SIMPSON ITTEN-HD INSTALL IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS. USE 1/8 INCH DIAMETER AT MINIMUM EMBEDMENT UNLESS OTHERWISE INDICATED BY DETAIL. SEE NOTE 1.

H. STRUCTURAL STEEL

1. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
- A. WIDE FLANGE SECTIONS: ASTM A572 GRADE 50 OR ASTM A992 (FY = 50 KSI)
- B. ANGLES, CHANNELS, PLATE AND OTHER HOT-ROLLED SHAPES: ASTM A36 (FY = 36 KSI)
- C. TUBES: ASTM A500 GRADE B (FY = 46 KSI)
- D. PIPES: ASTM A53 GRADE B TYPE E OR (FY = 35 KSI)
- E. BASEPLATES, CONNECTION PLATES, STIFFENER PLATES: ASTM A572 GRADE 50 (FY = 50 KSI)
- F. THREADED RODS: ASTM A572 GRADE 50
- G. ANCHOR BOLTS: ASTM F1554 GRADE 55, UNLESS NOTED OTHERWISE, WITH SUPPLEMENTARY REQUIREMENT S1 FOR WELDABILITY.
2. BOLTS, NUTS AND WASHERS: ASTM A325 TYPE 1 BOLTS (3/4" MINIMUM DIAMETER), ASTM A563 DH HEAVY HEX NUTS WITH ASTM F436 HARDENED WASHERS. PROVIDE BOLT ASSEMBLIES GALVANIZED TO ASTM A153 AT GALVANIZED STRUCTURAL MEMBERS. PROVIDE ASTM A490 BOLTS WHERE NOTED ON DRAWINGS OR WHERE NEEDED FOR SPECIFIED LOADS. DO NOT MIX BOLT SIZES BETWEEN A325 AND A490 BOLTS. HIGH STRENGTH LOAD INDICATOR BOLTS MAY BE USED AT THE CONTRACTOR'S OPTION.
3. DESIGN OF STEEL CONNECTIONS: CONTRACTOR IS RESPONSIBLE FOR DESIGN OF ALL STEEL CONNECTIONS OR PORTIONS OF CONNECTIONS NOT FULLY DETAILED IN THE CONTRACT DOCUMENTS, FOR THE SPECIFIED CONNECTION FORCES. SEE SPECIFICATIONS FOR DESIGN REQUIREMENTS. IN NO CASE SHALL LOADS BE LESS THAN 8 KIPS (WORKING).
4. SUBMITTALS FOR REVIEW
- A. SHOP DRAWINGS: INDICATE PROFILES, SIZES, SPACING, AND LOCATIONS OF STRUCTURAL MEMBERS, DECKING, OPENINGS, ATTACHMENTS, AND FASTENERS. SHOW ALL CONNECTION DETAILS. PROVIDE DESIGN OF CONNECTIONS NOT DETAILED ON DRAWINGS. INDICATE WELDED CONNECTIONS WITH AWS A2.0 WELDING SYMBOLS. INDICATE NET WELD LENGTHS
- B. EACH SHOP DRAWING SHALL BE DATED AND IDENTIFIED WITH A UNIQUE DRAWING NUMBER AND REVISION NUMBER. RESUBMITTED SHOP DRAWINGS SHALL BE GIVEN A NEW REVISION NUMBER, AND ALL CHANGES/ADDITIONS/DELETIONS FROM THE PREVIOUS SUBMISSION SHALL BE CLEARLY IDENTIFIED.
- C. ERECTION DRAWINGS SHALL INCLUDE DETAILS OF ALL FIELD WELDING AND ANY OTHER SPECIAL FIELD INSTRUCTIONS SEE SPECIFICATION SECTION 05120 AND NOTES BELOW FOR ADDITIONAL REQUIREMENTS
5. SUBMITTALS FOR INFORMATION
- A. MANUFACTURER'S MILL CERTIFICATE: CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.
- B. MILL TEST REPORTS: SUBMIT INDICATING STRUCTURAL STRENGTH, DESTRUCTIVE AND NON-DESTRUCTIVE TEST ANALYSIS.
- C. WELDERS CERTIFICATES: CERTIFY WELDERS EMPLOYED ON THE WORK, VERIFYING AWS QUALIFICATION WITHIN THE PREVIOUS 12 MONTHS.
6. DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STEEL CONSTRUCTION," 13TH EDITION, BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AND THE STRUCTURAL WELDING CODE (AWS D1.1) LATEST EDITION, BY THE AMERICAN WELDING SOCIETY.

BASIS OF DESIGN

1.	Building Code:	2009 INTERNATIONAL BUILDING CODE
2.	Dead Loads:	
a.	Roof Dead Load:	15 psf
3.	Live Loads:	
a.	Roof Live Load:	Snow Load Governs
4.	Roof Snow Load:	
a.	Ground Snow Load, Pg:	76.2 psf
b.	Flat Roof Snow Load, Pf:	65 psf
c.	Snow Exposure Factor, Ce:	1.0
d.	Snow Load Importance Factor, I:	1.1
e.	Thermal Factor, Ct:	1.1
5.	Wind Design Data:	
a.	Basic Wind Speed (3-second gust), V:	90 mph
b.	Wind Importance Factor, I:	1.1
c.	Wind Exposure:	C
d.	Internal Pressure Coefficients:	+/- 0.18
e.	Components and Cladding Wind Pressure:	per ASCE 7-05
6.	Earthquake Design Data:	
a.	Seismic Importance Factor, I:	1.25
b.	Occupancy Category:	III
c.	Mapped Spectral Response Acceleration, SS:	0.306
d.	Mapped Spectral Response Acceleration S1:	0.080
e.	Site Class:	D
f.	Spectral Response Coefficient, SDS:	0.317
g.	Spectral Response Coefficient, SD1:	0.127
h.	Seismic Design Category:	B
i.	Basic Seismic-Force-Resisting System:	ORDINARY REINFORCED MASONRY SHEAR WALLS AND STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
l.	Response Modification Factor, R:	2.0
m.	Analysis Procedure Used:	Equivalent Lateral Force Procedure
7.	Allowable Soil Bearing Pressure:	3,000 psf*

\* INFORMATION OBTAINED FROM M&W SOILS, THE GEOTECHNICAL ENGINEER OF RECORD.

THESE DRAWINGS AND SPECIFICATIONS INDICATE A PARTIALLY COMPLETED DESIGN FOR USE IN COORDINATION OF OTHER DESIGN DISCIPLINES, DEVELOPING THE DESIGN, AND FOR ESTIMATING PROJECT SYSTEM COSTS FOR USE BY THE CM (CONSTRUCTION MANAGER). IT IS UNDERSTOOD THIS MAY INCLUDE PREPARING A GMP (GUARANTEED MAXIMUM PRICE). THE GMP/GMP/ESTIMATE IS TO INCLUDE COSTS FOR ALL REMAINING DESIGN FEATURES AND COMPLETION OF SYSTEMS, INCLUDING APPROPRIATE ALLOWANCES AND CONTINGENCIES. THE CM SHOULD LIST ALL ASSUMPTIONS CONCERNING REMAINING DESIGN FEATURE AND COMPLETION OF SYSTEMS USED IN THE DEVELOPMENT OF THE GMP. A REVIEW OF THESE ASSUMPTIONS AND ESTIMATES BY THE DESIGN PROFESSIONAL IS RECOMMENDED PRIOR TO NEGOTIATING ANY BID PRICES OR A GMP.

THE CM MAY USE THE DRAWINGS FOR COST CONTROLLING RECOMMENDATIONS ON PREFERRED MATERIALS, EQUIPMENT TYPES, PROJECT FEATURES, AND SYSTEM COMPLETION BASED ON PROJECT BUDGET AND SCHEDULE, CONSTRUCTION QUALITY AND SAFETY, OWNERS PROGRAM REQUIREMENTS, AND DESIGN COMPLETENESS INCLUDING THE USE OF PERFORMANCE SPECIFICATIONS. THE DRAWINGS AND SPECIFICATIONS ARE TO BE USED WITH A WORKING CONTINGENCY - TO ALLOW FOR UNDEVELOPED PARTS OF THE DESIGN TO BE COMPLETED AND TO BE REDUCED AS THE DESIGN PROGRESSES. BECAUSE CONSTRUCTION WORK IS NOT COMMENCING PRIOR TO THE COMPLETION OF DESIGN, THE DESIGN PROFESSIONAL ASSUMES NO RISK IN THE USE OF THESE DRAWINGS AND PROHIBITS THEIR USE IN OBTAINING, NEGOTIATING, OR CONTRACTING BIDS OR CONSTRUCTION CHANGE ORDERS FOR THE PROJECT.

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Seal:

Revised

No.	Date	Description
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NEWPORT  
COMMUNITY CENTER

NEWPORT, NH

Proj. No: 18351 Drawn: JMH  
Date: 12/19/18 Chk'd: MS

GENERAL  
NOTES AND  
B.O.D.

S0.01

12/19/2018 PROGRESS - NOT FOR CONSTRUCTION



GENERAL NOTES (CONT.)

H. STRUCTURAL STEEL (CONT.)

7.

STRUCTURAL STEEL CONNECTIONS SHALL BE AS FOLLOWS:

A.

ALL CONNECTIONS UNLESS INDICATED OTHERWISE SHALL BE MADE WITH 3/4 INCH DIAMETER A325 BOLTS. AT MOMENT CONNECTIONS, 1/2" DIAMETER A325 BOLTS, DESIGNED AS TYPE "SC" SLIP CRITICAL CONNECTIONS, SHALL BE USED; AND THE USE OF FULLY-TENSIONED SLIP-CRITICAL BOLTS INSTALLED IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" IS REQUIRED AT THE FOLLOWING LOCATIONS:  
- BRACING CONNECTIONS  
- CONNECTIONS CARRYING SPECIFIED AXIAL LOADS  
- COLUMN SPLICES FOR BRACING COLUMNS  
- FLANGE AND WEB BOLTS AT MOMENT CONNECTIONS AND MOMENT SPLICES

ALL OTHER BOLTS MAY BE BEARING BOLTS (THREADS INCLUDED) TIGHTENED TO THE SNUG-TIGHT CONDITION, UNLESS NOTED OTHERWISE.

B.

THE MINIMUM NUMBER OF BOLTS IN ANY CONNECTION SHALL BE TWO 3/4 INCH DIAMETER A325 BOLTS UNLESS INDICATED OTHERWISE.

C.

STEEL CONNECTIONS CAN BE EITHER SINGLE PLATE SHEAR TAB CONNECTIONS OR DOUBLE ANGLE CONNECTIONS. STEEL CONNECTIONS ON GRID LINES CONTAINING BRACED FRAMES SHALL BE PROVIDED WITH STANDARD HOLES, (1/16" LARGER THAN BOLT DIAMETER)

D.

IN CONNECTIONS OF BEAMS AND GIRDERS, THE MINIMUM NUMBER OF BOLTS SHALL BE REQUIRED TO DEVELOP THE BEAM SHEAR "V" NOTED ON THE CONTRACT DRAWINGS -. THE PLAN NOTES SHALL ALSO BE APPLIED. IF THE BEAM SHEAR IS NOT NOTED, THE CONNECTIONS SHALL DEVELOP THE BEAM SHEAR (W=2W3) WHERE W = THE TOTAL ALLOWABLE BEAM UNIFORM LOAD BASED ON SIMPLE SPAN MOMENTS AND BRACED COMPRESSION FLANGES. (SEE AISC MANUAL OF STEEL CONSTRUCTION, BEAMS); LOADS SHOWN ARE THE SERVICE (UNFACTORED) DESIGN FORCES INDICATED ON THE DRAWINGS. ANY 1/3 ALLOWABLE STRESS INCREASE MAY NOT BE TAKEN WITH THE SPECIFIED DESIGN FORCES.

E.

CONNECTIONS OF BEAM AND GIRDERS SHALL DEVELOP THE BEAM SHEAR DESCRIBED ABOVE IN ADDITION TO AXIAL FORCES LISTED ON THE STRUCTURAL DRAWINGS. (COMPRESSION OR TENSION) DO NOT USE SINGLE PLATE CONNECTIONS FOR FRAMING WITH AXIAL LOADS.

F.

ALL MOMENT CONNECTIONS SHALL DEVELOP THE FULL MOMENT CAPACITY OF THE BEAM OR GIRDER, UNLESS INDICATED OTHERWISE.

G.

THE CONNECTION FOR DIAGONAL BRACING, VERTICAL AND HORIZONTAL, SHALL DEVELOP THE FORCE INDICATED ON THE DRAWINGS BUT NOT LESS THAN 50% OF THE AXIAL CAPACITY OF THE BRACE IN TENSION.

H.

DESIGN CALCULATIONS, SIGNED AND SEALED BY CONTRACTOR'S PROFESSIONAL ENGINEER SHALL BE SUBMITTED FOR ALL CONNECTIONS NOT FULLY DETAILED IN THE STRUCTURAL DRAWINGS.

I.

CALCULATIONS FOR STANDARD, REPETITIVE BEAM CONNECTIONS ARE TO BE SUBMITTED IN THE FORM OF SUMMARIZED CAPACITY TABLES FOR EACH TYPE OF CONNECTION USED (DOUBLE ANGLE, SHEAR PLATE, ETC.). THE TABLES ARE TO BE ACCOMPANIED BY A DETAIL CLEARLY SHOWING THE CONNECTION GEOMETRY, INCLUDING THE NUMBER, SIZE, GRADE AND TYPE (BEARING OR SLIP-CRITICAL) OF BOLTS; SIZE OF BOLT HOLES; SIZE, GRADE, AND GEOMETRY OF CONNECTION ANGLES OR PLATES; SIZE AND LENGTH OF WELDS; AND MINIMUM WEB THICKNESS FOR FULL CAPACITY. COMPUTER PRINTOUTS OF DETAILED CONNECTION CHECKS FOR EACH INDIVIDUAL PIECE (AS GENERATED BY SOME DETAILING SOFTWARE) ARE NOT ACCEPTABLE FOR THE STANDARD, REPETITIVE BEAM CONNECTIONS.

J.

CALCULATIONS FOR BRACING AND OTHER NON-STANDARD CONNECTIONS SHALL INCLUDE A DETAIL SHOWING THE CONNECTION GEOMETRY AND DESIGN FORCES, AND FULL CALCULATIONS DEMONSTRATING THE ADEQUACY OF THE CONNECTION.

K.

CONTRACTOR TO SUBMIT CONNECTION DETAILS AND CALCULATIONS IN ADVANCE OF PREPARING PIECE DRAWINGS SO AS TO STREAMLINE THE SHOP DRAWING PREPARATION AND REVIEW PROCESS. SEE SPECIFICATION SECTION 05120 FOR ADDITIONAL REQUIREMENTS.

L.

DESIGN OF STEEL CONNECTIONS FOR SHEAR SHALL INCLUDE THE EFFECTS OF ECCENTRICITY.

M.

CONTRACTOR SHALL PROVIDE STIFFENERS, WEB DOUBLER PLATES, AND OTHER REINFORCEMENT AS NECESSARY TO RESIST LOCAL EFFECTS DUE TO THE SPECIFIED CONNECTION LOADS.

N.

MOMENT CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL MOMENT CAPACITY OF THE MEMBER UNLESS NOTED OTHERWISE.

O.

SINGLE-ANGLE CONNECTIONS MAY NOT BE USED FOR BEAM CONNECTIONS.

8.

ALL STRUCTURAL SHOP AND FIELD WELDING SHALL BE MADE WITH ELECTRODES DESIGNED BY E70XX LOW HYDROGEN, IN ACCORDANCE WITH AWS D1.1, PERFORMED BY CERTIFIED WELDERS.

9.

PROVIDE 3/8" WEB STIFFENERS IN BEAMS OVER OR UNDER ALL COLUMNS OR POSTS. TWO ON EACH SIDE IN LINE WITH COLUMN FLANGES.

10.

THE MINIMUM THICKNESS OF GUSSET AND FIN PLATES SHALL BE 3/8".

11.

GROUT: NON-SHRINK TYPE, PRE-MIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE CEMENT, WATER REDUCING AND PLASTICIZING ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 7,000 PSI AT 28 DAYS AS MANUFACTURED BY FIVE STAR PRODUCTS, INC., FAIRFIELD, CT, OR APPROVED EQUIVALENT.

12.

SHOP AND TOUCH-UP PRIMER: TNE MEC SERIES FM88 OR APPROVED EQUIVALENT.

13.

TOUCH-UP PRIMER FOR GALVANIZED SURFACES: TNE MEC SERIES 37, ZINC RICH RED APPROVED EQUIVALENT.

14.

FINISH

A.

COORDINATE ALL COATINGS WITH DIVISION 9 SPECIFICATION REQUIREMENTS

B.

WHERE INDICATED, STRUCTURAL STEEL MEMBERS ARE TO BE GALVANIZED IN ACCORDANCE WITH ASTM A123. PROVIDE MINIMUM 1.25 OZ/50 FT GALVANIZED COATING. ALL MEMBERS EXPOSED TO THE EXTERIOR OR EXTENDING THROUGH AND BEYOND BUILDING ELEMENT SHALL BE GALVANIZED

15.

ERECTION

A.

ALLOW FOR ERECTION LOADS, AND FOR SUFFICIENT TEMPORARY BRACING TO MAINTAIN STRUCTURE SAFE, PLUMB, AND IN TRUE ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRACING.

B.

FIELD WELD COMPONENTS INDICATED ON DRAWINGS AND SHOP DRAWINGS.

C.

DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF ARCHITECT/ENGINEER.

D.

AFTER ERECTION, PRIME WELDS, ABRASIONS, AND SURFACES NOT SHOP PRIMED, EXCEPT SURFACES TO BE IN CONTACT WITH CONCRETE.

E.

GROUT UNDER BASE PLATES WITH PRE-MIXED NON-SHRINK GROUT WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 7000 PSI
- I. HEADED STUD AND DEFORMED BAR ANCHOR CONNECTORS
1.

STUD SHEAR CONNECTORS SHALL BE TYPE B HEADED STUDS MADE FROM ASTM A108 MATERIAL (F<sub>u</sub>=65 KSI) AND CONFORMING TO THE REQUIREMENTS OF AWS D1.1. USE 3/4" DIAMETER STUDS; UNLESS NOTED OTHERWISE. SEE DRAWINGS FOR STUD LENGTH; UNLESS NOTED OTHERWISE.

2.

DEFORMED BAR ANCHORS (DBA'S): NELSON DEFORMED BAR ANCHORS, D2L (OR ACCEPTED EQUAL) AS FOLLOWS: ASTM A 496; F<sub>y</sub> = 70ksi (MIN); F<sub>u</sub> = 80ksi (MIN); WELDED ACCORDING TO AWS D1.1, CHAPTER 7 WITH A STUD WELDING GUN.

3.

HEADED AND DEFORMED BAR ANCHORS. STUDS SHALL BE FASTENED USING AN AUTOMATIC STUD WELDING SYSTEM USING MANUFACTURERS' EQUIPMENT. MANUAL STICK WELDING OF STUDS IS PROHIBITED.
- J. CONVENTIONAL STEEL ROOF DECK
1.

ROOF DECK SIZE: SEE DRAWINGS.

2.

ROOF DECK FASTENERS: SEE DRAWINGS.

3.

DECK PANELS SHALL BE ARRANGED IN THREE-SPAN CONTINUOUS SUPPORT CONDITION WHEREVER POSSIBLE. DO NOT HAVE SINGLE-SPAN CONDITIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS; HIGHLIGHT LOCATIONS ON THE SUBMITTAL.

4.

WHERE NOT SPECIFICALLY DETAILED, PROVIDE CONTINUOUS BENT METAL CLOSURES OF 14 GAGE MINIMUM THICKNESS AT ALL ROOF OPENINGS AND ROOF EDGES. CONNECT TO ADJACENT FRAMING WITH CONTINUOUS AISI MINIMUM FILET WELD TO TOP AND BOTTOM SIDES. PROVIDE CONTINUOUS DECK CLOSURE AT ALL DECK ENDS.

5.

PROVIDE 2" MINIMUM END BEARING.

6.

ROOF DECK SHALL BE SUPPORTED AND FASTENED AT ALL EDGES (BOTH PARALLEL AND PERPENDICULAR TO RIBS), AT INTERIOR SUPPORTS PERPENDICULAR TO RIBS, AT RIDGES AND VALLEYS, AND AT OTHER LOCATIONS SPECIFIED IN THE DRAWINGS. WHERE ROOF DECK DOES NOT SIT FLAT ON TOP OF THE SUPPORTING BEAM FLANGE AT THESE LOCATIONS, PROVIDE 1/4" MINIMUM DECK SUPPORT PLATE WELDED TO THE BEAM. IF THE RIB SPACING IS SUCH THAT THE RIB MISSES THE SUPPORT PLATE, PROVIDE A 16 GAGE MINIMUM SHEET METAL CLOSURE PLATE TO SPAN THE GAP AND ALLOW FOR THE SPECIFIED FASTENING OF THE DECK TO THE SUPPORT PLATE.

7.

PROVIDE 16 GAGE MINIMUM SHEET METAL CLOSURE PLATES AT RIDGES AND VALLEYS. FASTEN TO DECK BOTH SIDES OF THE RIDGE/VALLEY AS FOR SIDELAPS.

8.

ALIGN DECK RIBS ACROSS SUPPORTING BEAMS WHERE DECK IS EXPOSED TO VIEW IN THE FINAL CONDITION.

9.

ALL METAL DECKING SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A525, G90.

10.

DELIVER DECK TO THE JOB SITE FREE FROM OIL, GREASE, ETC., AND CLEAN DECKING THOROUGHLY PRIOR TO INSTALLATION.
- K. ACOUSTICAL STEEL ROOF DECK
1.

ALL DECK SHALL BE FABRICATED AT PLANTS CERTIFIED BY THE STEEL DECK INSTITUTE (SDI). DECK SHALL BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS, NOTES, DRAWINGS, REVIEWED ERECTION LAYOUTS, AND THE SDI "MANUAL OF CONSTRUCTION WITH STEEL DECK."

12.

METAL DECKING AND FLASHING SHALL BE FABRICATED OF SHEET METAL CONFORMING TO ASTM A6. THE MINIMUM YIELD STRENGTH OF THE DECK IS 40 KSI.

K. ACOUSTICAL STEEL ROOF DECK

1.

ALL DECK SHALL BE FABRICATED AT PLANTS CERTIFIED BY THE STEEL DECK INSTITUTE (SDI). DECK SHALL BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS, NOTES, DRAWINGS, REVIEWED ERECTION LAYOUTS, AND THE SDI "MANUAL OF CONSTRUCTION WITH STEEL DECK."

2.

ROOF DECK SIZE: SEE DRAWINGS.

3.

ROOF DECK FASTENERS: SEE DRAWINGS.

4.

DECK PANELS SHALL BE ARRANGED IN THREE-SPAN CONTINUOUS SUPPORT CONDITION WHEREVER POSSIBLE. DO NOT HAVE SINGLE-SPAN CONDITIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS; HIGHLIGHT LOCATIONS ON THE SUBMITTAL.

5.

WHERE NOT SPECIFICALLY DETAILED, PROVIDE CONTINUOUS BENT METAL CLOSURES OF 14 GAGE MINIMUM THICKNESS AT ALL ROOF OPENINGS AND ROOF EDGES. CONNECT TO ADJACENT FRAMING WITH CONTINUOUS AISI MINIMUM FILET WELD TO TOP AND BOTTOM SIDES. PROVIDE CONTINUOUS DECK CLOSURE AT ALL DECK ENDS.

6.

PROVIDE 2" MINIMUM END BEARING.

7.

ROOF DECK SHALL BE SUPPORTED AND FASTENED AT ALL EDGES (BOTH PARALLEL AND PERPENDICULAR TO RIBS), AT INTERIOR SUPPORTS PERPENDICULAR TO RIBS, AT RIDGES AND VALLEYS, AND AT OTHER LOCATIONS SPECIFIED IN THE DRAWINGS. WHERE ROOF DECK DOES NOT SIT FLAT ON TOP OF THE SUPPORTING BEAM FLANGE AT THESE LOCATIONS, PROVIDE 1/4" MINIMUM DECK SUPPORT PLATE WELDED TO THE BEAM. IF THE RIB SPACING IS SUCH THAT THE RIB MISSES THE SUPPORT PLATE, PROVIDE A 16 GAGE MINIMUM SHEET METAL CLOSURE PLATE TO SPAN THE GAP AND ALLOW FOR THE SPECIFIED FASTENING OF THE DECK TO THE SUPPORT PLATE.

8.

PROVIDE 16 GAGE MINIMUM SHEET METAL CLOSURE PLATES AT RIDGES AND VALLEYS. FASTEN TO DECK BOTH SIDES OF THE RIDGE/VALLEY AS FOR SIDELAPS.

9.

ALIGN DECK RIBS ACROSS SUPPORTING BEAMS WHERE DECK IS EXPOSED TO VIEW IN THE FINAL CONDITION.

10.

METAL DECKING AND FLASHING SHALL BE FABRICATED OF SHEET METAL CONFORMING TO ASTM A6. THE MINIMUM YIELD STRENGTH OF THE DECK IS 40 KSI.

11.

ALL METAL DECK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A525, G90.

12.

DELIVER DECK TOT HE JOB SITE FREE FROM OIL, GREASE, ETC., AND CLEAN DECKING THOROUGHLY PRIOR TO INSTALLATION.

13.

ACOUSTICAL PERFORATIONS: DECK UNITS WITH MANUFACTURER'S STANDARD PERFORATED VERTICAL WEBS.

14.

ACOUSTICAL PERFORMANCE: NOISE REDUCTION COEFFICIENT (NRC) 0.60, TESTED ACCORDING TO ASTM C423.

M. CONCRETE MASONRY

1.

MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MASONRY SHALL BE F<sub>m</sub> = 1500 PSI, DETERMINED BY THE UNIT STRENGTH METHOD.

2.

CONCRETE MASONRY UNITS SHALL BE LOAD-BEARING NORMAL WEIGHT AGGREGATE CONCRETE MASONRY UNITS CONFORMING TO THE REQUIREMENTS OF ASTM C-90, GRADE N, TYPE 1 WITH MINIMUM AVERAGE NET-AREA COMPRESSIVE STRENGTH OF 1900 PSI. USE TWO-CELL HOLLOW BLOCK, NOMINAL FACE SIZE 8"x16" WITH NOMINAL THICKNESS AS SHOWN IN THE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATING REQUIREMENTS.

3.

MORTAR SHALL CONFORM TO ASTM C270 TYPE S WITH MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.

4.

GROUT SHALL CONFORM TO ASTM C476 WITH MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. GROUT BOND BEAMS AND ALL CELLS WITH VERTICAL REINFORCEMENT. USE GROUT HAVING A FLY ASH, OR OTHER NON-PORTLAND CEMENT SUPPLEMENTARY CEMENTITIOUS MATERIAL AT A REPLACEMENT RATE OF 80% MINIMUM.

5.

DEFORMED REINFORCING BARS SHALL BE ASTM A615 GRADE 60.

6.

JOINT REINFORCEMENT SHALL BE NO.9 GALVANIZED TRUSS TYPE WIRE REINFORCING TO ASTM A-82 BY DUR-O-WAL UNLESS NOTED OTHERWISE. PLACE AT 16" ON CENTER VERTICALLY, UNLESS NOTED OTHERWISE.

7.

ALL CONCRETE MASONRY UNITS SHALL BE PLACED IN RUNNING BOND. WHERE NEW MASONRY IS TO CONNECT TO EXISTING MASONRY, COURSING OF NEW MASONRY SHALL MATCH COURSING OF EXISTING MASONRY.

8.

CONCRETE BLOCK BENEATH BEAM BEARING POINTS SHALL BE FILLED SOLID WITH GROUT FOR A MINIMUM OF TWO FULL COURSES BENEATH THE BEAM AND FOR A WIDTH OF 24".

9.

CONCRETE BLOCK PLACED BENEATH GRADE SHALL BE GROUTED SOLID.

10.

TOP COURSES SHALL BE FULL COURSE AS REINFORCED AND GROUTED BOND BEAMS.

11.

PROVIDE THE FOLLOWING REINFORCEMENT IN ADDITION TO THE SCHEDULED REINFORCEMENT:

A.

ONE #5 VERTICAL CONTINUOUS FROM SUPPORT TO SUPPORT AT EACH CORNER, AT EACH SIDE OF OPENINGS, AND AT ENDS OF WALLS.

B.

ONE #5 HORIZONTAL BAR AT TOP AND BOTTOM OF WALL OPENINGS; EXTEND 24" PAST END OF OPENING

12.

LAP LENGTHS SHALL BE AS FOLLOWS FOR DEFORMED REINFORCEMENT:  
#3 - 18", #4 - 24"; #5 - 30"; #6 - 36", #7 - 42"; #8 - 48"
- O. COLD-FORMED METAL FRAMING
1.

DESIGN, MANUFACTURE, HANDLING AND ERECTION OF LIGHTWEIGHT STEEL FRAMING SHALL BE IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI) COLD FORMED STEEL DESIGN MANUAL - "SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.

2.

DESIGN OF COLD FORMED FRAMING SYSTEMS AND CONNECTIONS SHALL BE BY THE FABRICATOR. SUBMIT DESIGN CALCULATIONS BEARING THE STAMP OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF NEW HAMPSHIRE FOR REVIEW PRIOR TO COMMENCING THE WORK. MEMBER SIZES AND GAUGES INDICATED ON THE DRAWINGS SHALL BE CONSIDERED MINIMUMS. MEMBER SPACING SHALL BE CONSIDERED MAXIMUMS. DESIGN LOADINGS SHALL BE AS INDICATED IN THE CONTRACT DOCUMENTS OR AS PER THE REFERENCE BUILDING CODE, WHICHEVER IS MORE STRINGENT.

3.

COLD FORMED STEEL FRAMING MEMBERS SHALL BE FORMED FROM STEEL CONFORMING TO ASTM A653, WITH A G80 GALVANIZED COATING. MEMBERS 16 GAUGE OR HEAVIER SHALL HAVE A YIELD POINT OF AT LEAST 50 KSI. ALL OTHER MEMBERS SHALL HAVE A YIELD POINT OF AT LEAST 33 KSI.

4.

WELDING SHALL BE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) STRUCTURAL WELDING CODE (D1.1), SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURES (D1.3).

5.

SCREWS SHALL BE 5/8" LONG TYPE S-12, AS MANUFACTURED BY U.S. GYPSUM, OR EQUAL (UNLESS INDICATED OTHERWISE ON THE DRAWINGS).

6.

MEMBER DESIGNATIONS: MEMBERS ARE DESIGNATED "DEPTH-TYPE-GAUGE", FOR EXAMPLE, 6C16 INDICATES A 6" C-STUD, 16 GAUGE. TYPES ARE AS FOLLOWS:

A.

"C"= WALL STUD, 15/8" WIDE, STIFFENED FLANGES

B.

"J"= JOIST OR RAFTER, 2" WIDE, STIFFENED FLANGES

C.

"TR"= TRACK
- O. OPEN WEB STEEL JOISTS
1.

ALL JOISTS SHALL BE K-SERIES, LH-SERIES, OR DLH SERIES, AS INDICATED ON PLAN, MEETING THE REQUIREMENTS OF THE STEEL JOIST INSTITUTE AND SHALL BE FABRICATED BY A MEMBER OF THAT ORGANIZATION.

2.

ALL WORK WITH STEEL JOISTS AND JOIST GIRDERS SHALL CONFORM TOT HE STEEL JOIST INSTITUTE'S "RECOMMENDED CODE OF STANDARD PRACTICE FOR STEEL JOISTS AND JOIST GIRDERS" AS WELL AS THE "STANDARD SPECIFICATION FOR OPEN WEB STEEL JOISTS, K-SERIES; FOR LONGSPAN STEEL JOISTS, LH-SERIES; AND DEEP LONSPAN STEEL JOISTS, DLH-SERIES AND FOR JOIST GIRDERS", LATEST EDITION.

3.

PROVIDE BRIDGING THAT CONFORMS TO ALL SJJ REQUIREMENTS AS A MINIMUM. BRIDGING SHALL BE IN PLACE, WELDED OR BOLTED BEFORE PLACING ROOF DECK. END BAYS OF BRIDGING SHALL BE CROSS BRACED.

4.

PROVIDE SLOPING JOIST BEARING FOR SLOPES EXCEEDING 1/4 INCH PER FOOT.
- O. OPEN WEB STEEL JOISTS (CONT.)
5.

ALL FLOOR AND ROOF JOISTS TO BE DESIGNED AND FABRICATED WITH THE JOIST PROFILE AND CONFIGURATION TO MATCH AND ALIGN ACROSS THE WIDTH OF THE BUILDING. THIS WILL ALLOW LARGE UTILITIES TO BE INSTALLED INT EH DEPTH OF THE JOISTS. CONTACT THE ENGINEER IMMEDIATELY IF THIS CANNOT BE ACCOMPLISHED IN CERTAIN AREAS.

6.

PROVIDE A MINIMUM OF 2-1/2" OF BEARING ON STEEL BEAMS OR 4" BEARING ON CONCRETE OR MASONRY. STAGGER JOISTS IF NECESSARY TO ACHIEVE THIS BEARING.

7.

EXTEND BOTTOM CHORD OF JOISTS AT COLUMNS. CONNECT BOTTOM CHORD TO COLUMNS ONLY AFTER ALL DEAD LOAD IS APPLIED. TOP CHORD BEARING OF ALL JOISTS AT COLUMNS TO BE BOLTED.

8.

UPLIFT BRIDGING SHALL BE INSTALLED ON THE BOTTOM CHORD AT FIRST PANEL, IN ACCORDANCE WITH SJJ PARAGRAPHS 5.11, FOR UPLIFT LOADS PER ASCE 7-05.

9.

ERECTION STABILITY REQUIREMENTS OF THE STEEL JOIST INSTITUTE SHALL BE STRICTLY ENFORCED.

10.

ADJUST JOIST LOCATIONS AS REQUIRED FOR DRAINS AND PLUMBING. ADD ADDITIONAL JOISTS AS REQUIRED.

11.

PROVIDE CEILING EXTENSIONS AT ALL JOISTS UNLESS NOTED OTHERWISE.

12.

JOISTS SHALL BE DESIGNED FOR ALL CONCENTRATED LOADS. JOISTS SHALL BE REINFORCED WHERE CONCENTRATED LOADS DO NOT OCCUR AT PANEL POINTS, SEE TYPICAL DETAILS.
- ABBREVIATIONS
- |        |                     |           |                        |
|--------|---------------------|-----------|------------------------|
| AB     | ANCHOR BOLT         | MC        | MOMENT CONNECTION      |
| AFF    | ABOVE FINISH FLOOR  | N.S.      | NEAR SIDE              |
| AL     | ALUMINUM            | oc        | ON CENTER              |
| B.O.F. | BOTTOM OF FOOTING   | P#        | PIER DESIGNATION       |
| C.J.   | CONTROL JOINT       | PL        | PLATE                  |
| DWG    | DRAWING             | SS        | STAINLESS STEEL        |
| E.F.   | EACH FACE           | STD       | STANDARD               |
| ELEV.  | ELEVATION           | T.O.C.    | TOP OF CONCRETE        |
| EP     | EMBED PLATE         | T.O.S.    | TOP OF STEEL           |
| EQ     | EQUAL               | T.O.SHELF | TOP OF SHELF           |
| E.S.   | EACH SIDE           | T.O.W.    | TOP OF WALL            |
| E.W.   | EACH WAY            | TYP.      | TYPICAL                |
| EX.    | EXISTING            | U.N.O.    | UNLESS NOTED OTHERWISE |
| F#     | FOOTING DESIGNATION | V.I.F.    | VERIFY IN FIELD        |
| FND    | FOUNDATION          | W.S.      | WALL STEP              |
| F.S.   | FAR SIDE            |           |                        |
- DRAWING LEGEND
- NOTE: NOT ALL SYMBOLS AND NOTATIONS USED
- |  |   |  |                              |
|--|---|--|------------------------------|
|  | NORTH ARROW                                 |  | CONCRETE                     |
|  | ELEVATION                                   |  | GROUT or FINE CRUSHED GRAVEL |
|  | TOP OF FOOTING ELEV.                        |  | GRATING                      |
|  | SECTION NUMBER<br>DRAWING WHERE SHOWN       |  | LEDGE/ROCK                   |
|  | DECK SPAN DIRECTION OR<br>GRATING DIRECTION |  | 3/4" CRUSHED STONE           |
|  | SLOPE DIRECTION, and<br>MAGNITUDE           |  | COMPACTED GRANULAR FILL      |
|  | BEAM/COLUMN SPLICE                          |  | RIGID INSULATION             |
|  | ROOF PITCH                                  |  | WOOD                         |
|  | FOOTING STEP                                |  | UNDISTURBED SUBGRADE         |
|  | OPENING                                     |  | CMU BLOCK                    |
|  | MOMENT CONNECTION                           |  | BRICK                        |
|  | GUARDRAIL/RAILING                           |  |                              |
|  | BEAM PENETRATION                            |  |                              |
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- NEWPORT, NH
- Proj. No: 18351      Drawn: Author  
Date: 12/06/18      Chk'd: Checker
- GENERAL  
NOTES
- S0.02
- 12/19/2018 PROGRESS - NOT FOR CONSTRUCTION



FOOTING SCHEDULE				
Type	Length	Width	Footing Thickness	Reinforcing (Bottom U.N.O)
F3.0	3'-0"	3'-0"	1'-0"	(3) #5 E.W.
F3.5	3'-6"	3'-6"	1'-0"	(3) #5 E.W.
F4.0	4'-0"	4'-0"	1'-0"	(4) #5 E.W.
F5.0	5'-0"	5'-0"	1'-0"	(5) #5 E.W.
F6.0	6'-0"	6'-0"	1'-0"	(5) #5 E.W. TOP AND BOTTOM

SCHEDULE OF MINIMUM LAP SPLICES						
FULL-TENSION (CLASS B) LAP SPLICES FOR NORMAL WEIGHT CONCRETE WITH $f_c = 3000$ PSI						
BAR SIZE	CASE A (CLEAR COVER ≥ 1-1/2" & CENTER-TO-CENTER SPACING ≥ 4db)		CASE B (CLEAR COVER ≥ 3/4" & CENTER-TO-CENTER SPACING ≥ 4db)		CENTER-TO-CENTER SPACING < 4db	CENTER-TO-CENTER SPACING < 4db
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS		
#3	21"	16"	21"	16"	(PER ACI 318-05)	(PER ACI 318-05)
#4	28"	22"	28"	22"		
#5	35"	27"	41"	32"		
#6	42"	32"	56"	43"		
#7	61"	47"	90"	69"		
#8	70"	54"	111"	86"		
#9	85"	66"	134"	103"		
#10	102"	79"	158"	122"		
#11 & #14	USE MECHANICAL SPLICE					
<b>NOTE:</b> *TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BENEATH THE BAR. WALL BARS (OTHER THAN DESIGNATED CHORD BARS) ARE NOT CONSIDERED TOP BARS.						

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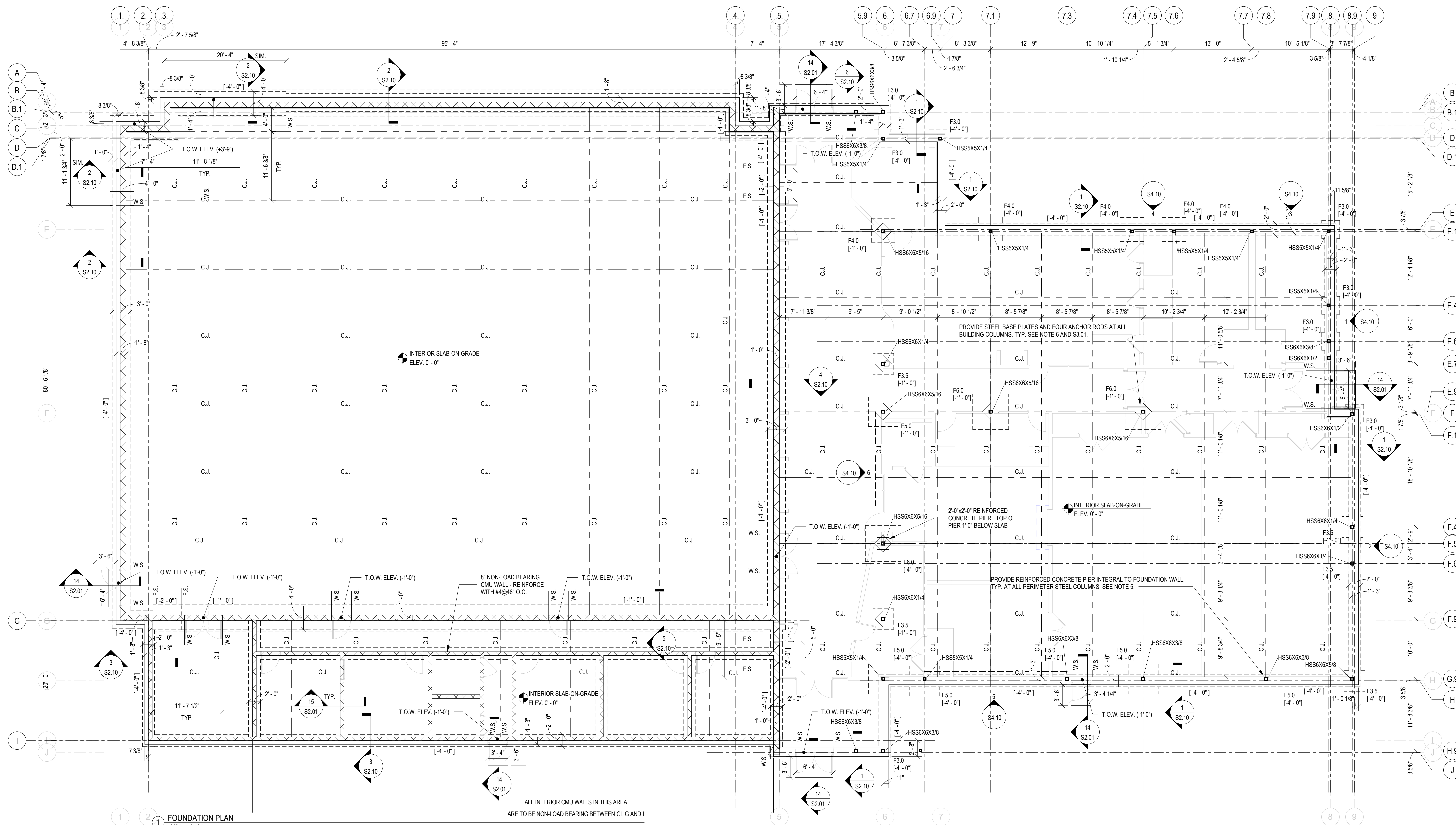
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## FOUNDATION PLAN

# S1.01



## NOTES

1. [XX'-XX"] INDICATES TOP OF FOOTING RELATIVE TO TOP OF SLAB ON GRADE ELEVATION.  
2. [XX'-XX"] INDICATES TOP OF RIVER RELATIVE TO TOP OF SLAB ON GRADE ELEVATION.  
3. TOP OF WALL IS AT ELEVATION (0'-0") U.N.O.  
4. TOP OF SHELF IS AT ELEVATION (0'-8") U.N.O.  
5. FOR PILING PROVISIONS, REINFORCED CONCRETE PILES AT PERIMETER FOUNDATION WALL SHALL BE 2'-0"x2'-0" IN  
6. CROSS SECTION AND BE REINFORCED WITH (8) #5 VERTICAL BENT BARS AND @4 TIMES AT 0' c. c. SPACING, WITH THREE  
7. #5 BARS WITHIN THE TOP 12" OF EACH PILE. PILING SHALL BE 3'-9" DIA. S.P. 5.0 N.A.  
8. FOR PILING PROVISIONS, STEEL BASE PLATES AT COLUMNS SUPPORTING GRAVITY LOAD ONLY SHALL BE 1" THK. X  
9. 15'x15". STEEL BASE PLATES AT COLUMNS WHICH ARE INCORPORATED INTO BRACED FRAMES SHALL BE 1" THK. WITH  
10. DIMENSIONS AS REQUIRED BY THE CONNECTION SPECIALTY ENGINEER FOR PROPER ATTACHMENT OF THE GUSSET  
11. PLATE.

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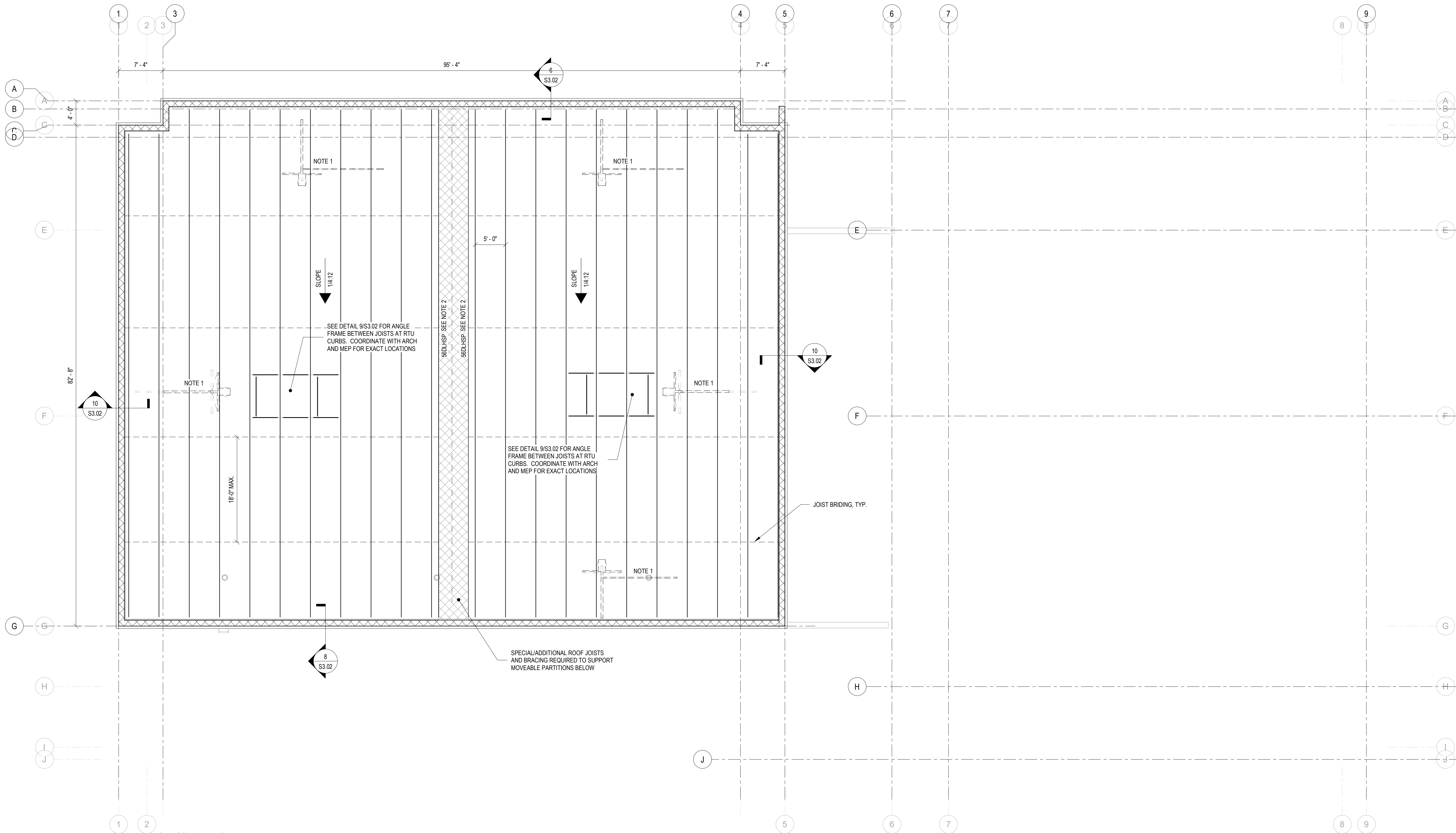
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HIGH ROOF  
FRAMING PLAN

S1.03

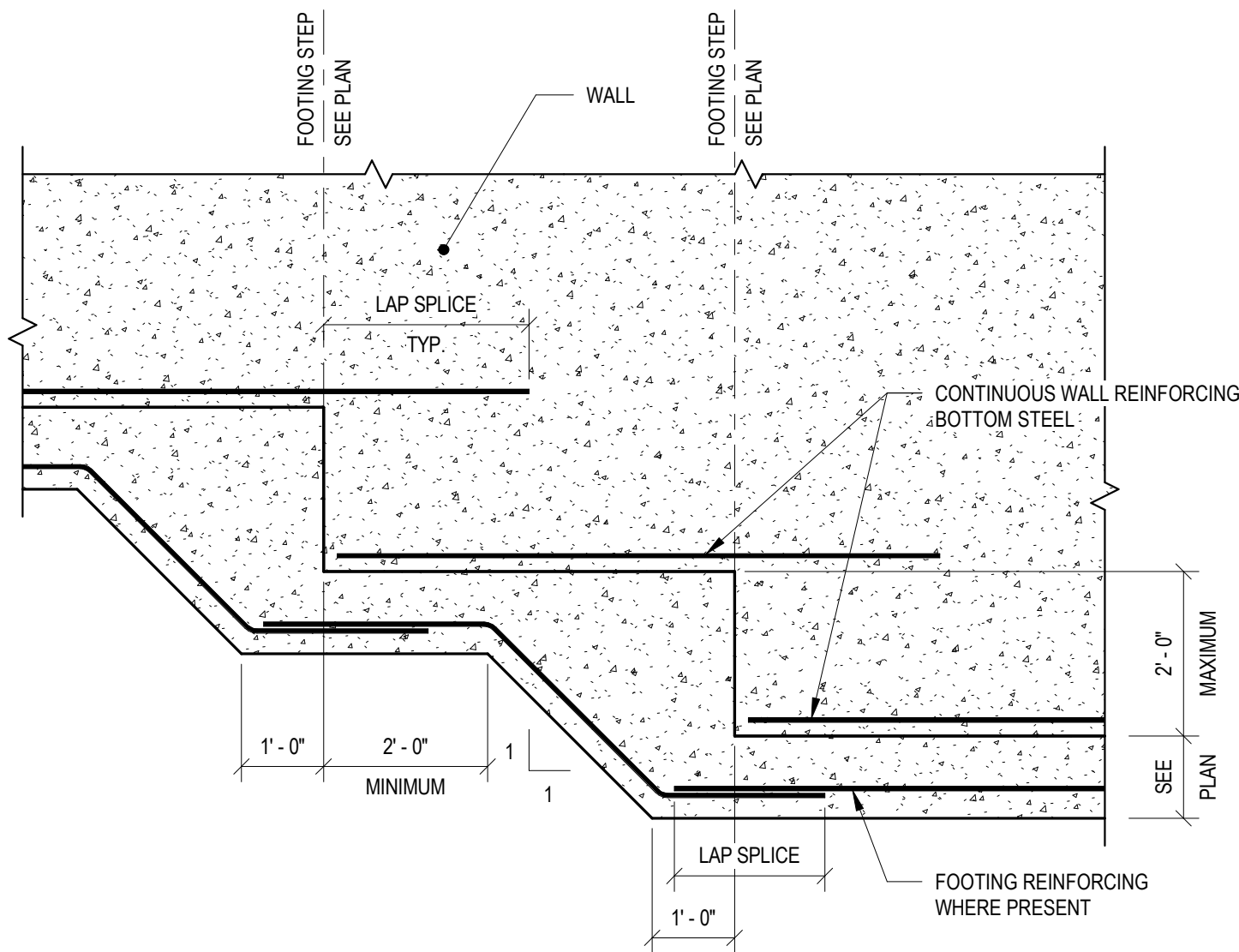


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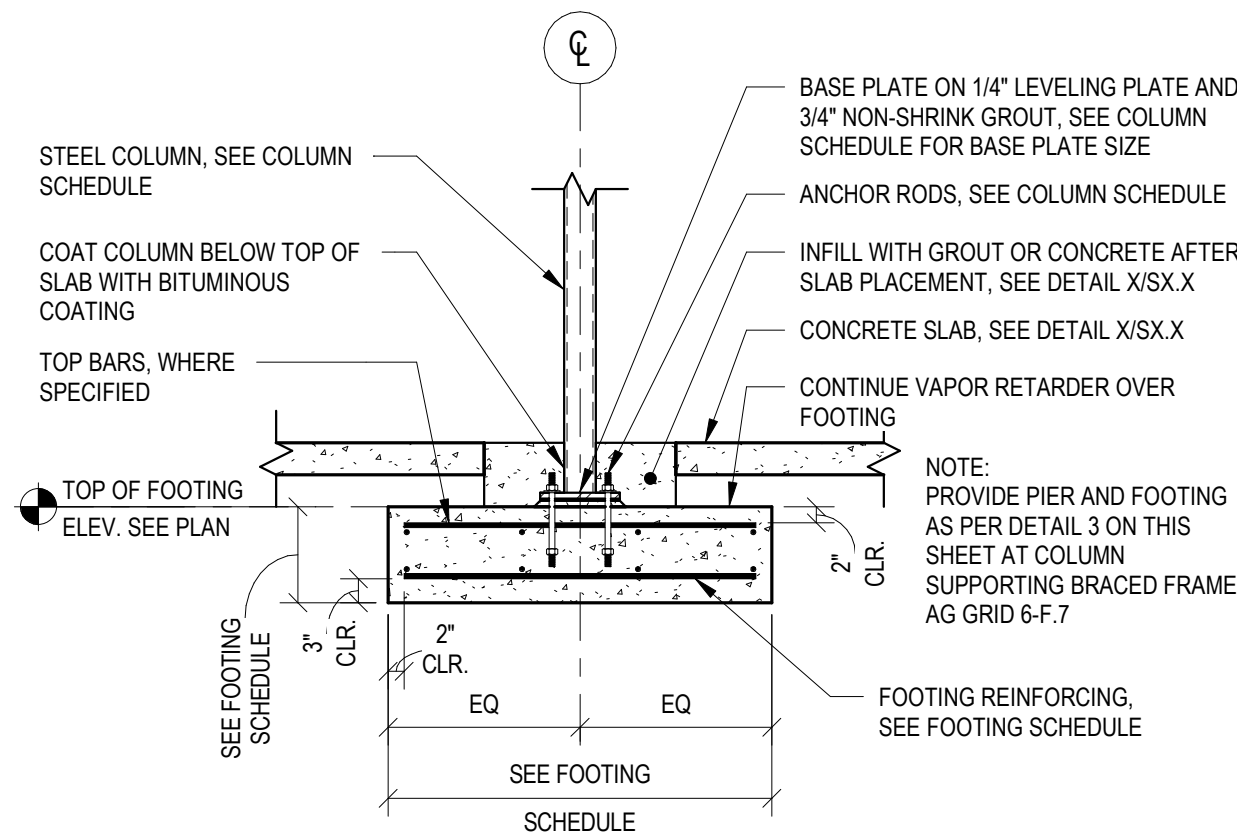
1. PROVIDE JOIST REINFORCEMENT AND SUPPLEMENTARY BRACING AS REQUIRED TO PROPERLY SUPPORT THE BASKETBALL HOOPS. DESIGN BY JOIST MANUFACTURER.
2. JOISTS SHALL BE REINFORCED AS REQUIRED TO PROPERLY SUPPORT THE MOVEABLE PARTITION WALL.
3. JOIST MANUFACTURER TO REINFORCE JOISTS AS REQUIRED TO PROPERLY SUPPORT MECHANICAL EQUIPMENT. COORDINATE WITH MEP AND ARCH.
4. PROVIDE FRAMED OPENING REINFORCEMENT AT ROOF OPENINGS AS PER DETAIL 9/S3.02. THE CONTRACTOR SHALL COORDINATE OPENING QUANTITIES, SIZES, AND LOCATIONS WITH ARCH. AND MECHANICAL.
5. ROOF DECK ABOVE GYM SHALL BE 1 1/2" TYPE B 20 GA. ACCOUSTICAL METAL ROOF DECK. 3 SPAN MINIMUM.

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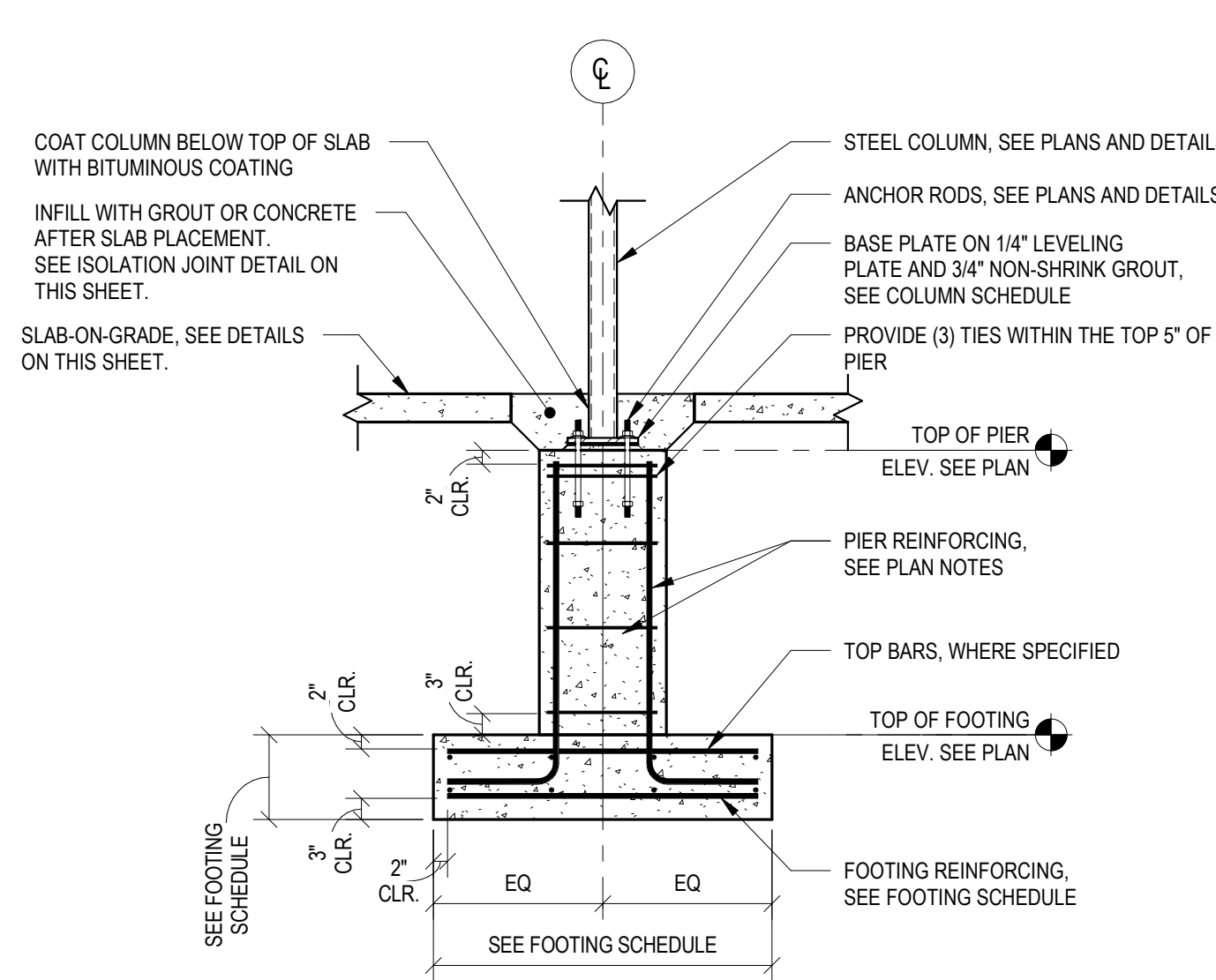




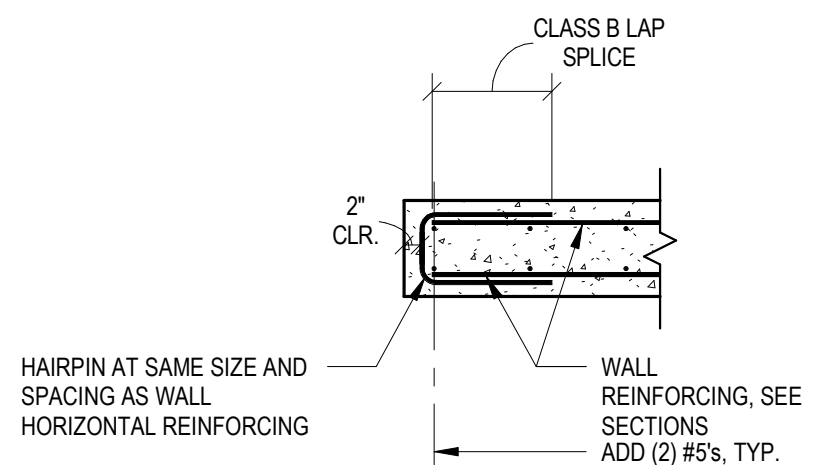
1 TYPICAL FOOTING STEP  
1/2" = 1'-0"



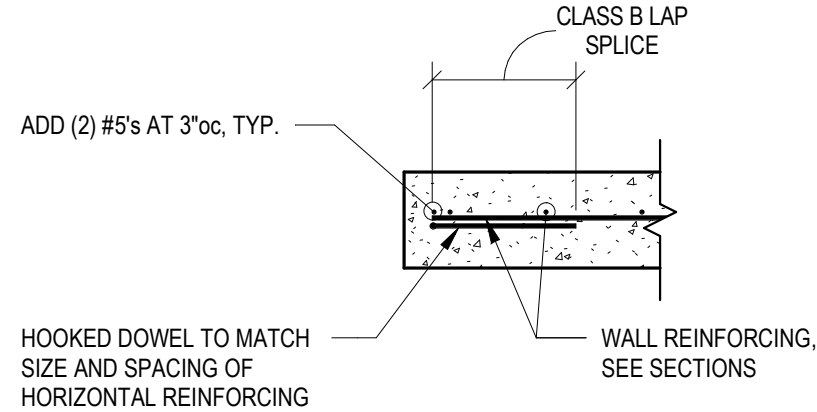
2 TYPICAL INTERIOR SPREAD FOOTING  
1/2" = 1'-0"



3 TYPICAL PIER AND FOOTING  
1/2" = 1'-0"

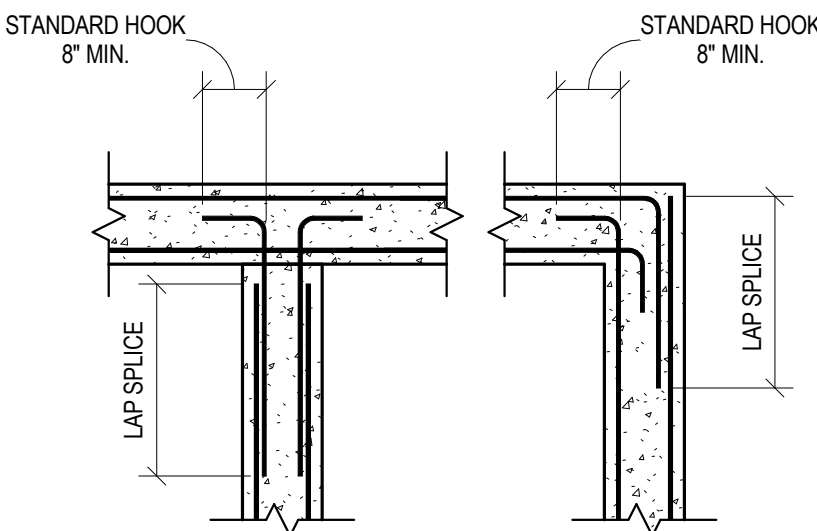


PART PLAN-DOUBLE LAYER OF REINFORCING

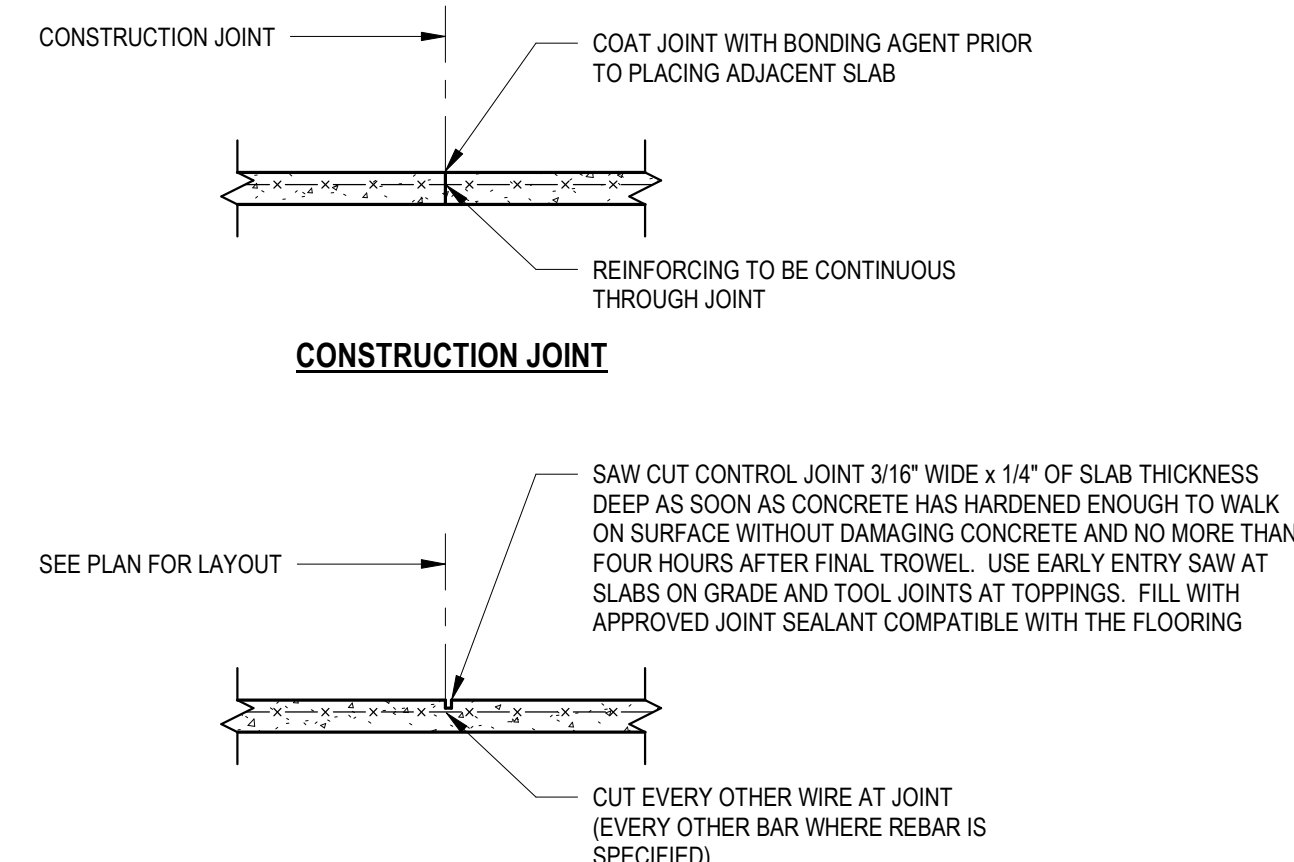


PART PLAN-SINGLE LAYER OF REINFORCING

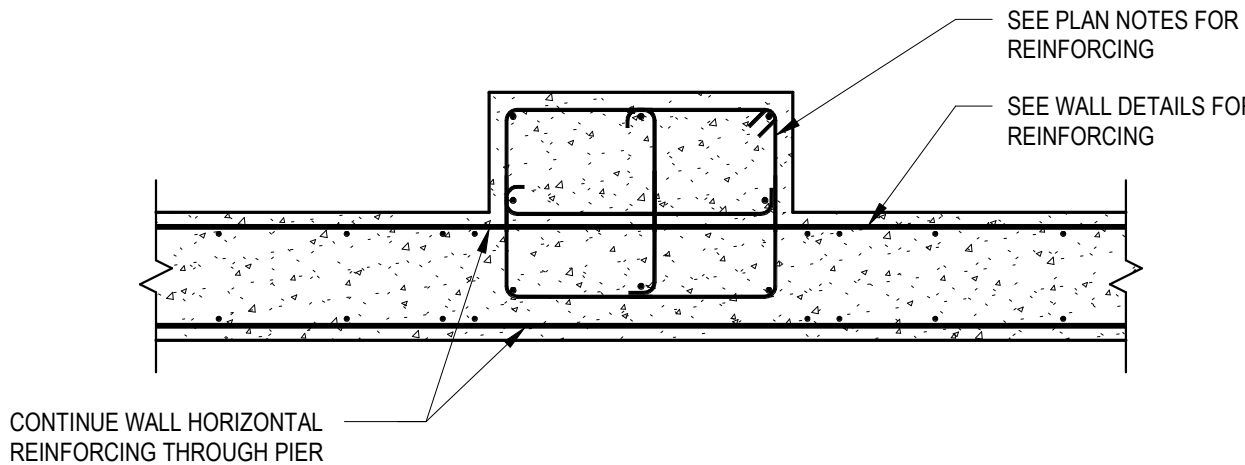
4 TYPICAL CONCRETE WALL END  
1/2" = 1'-0"



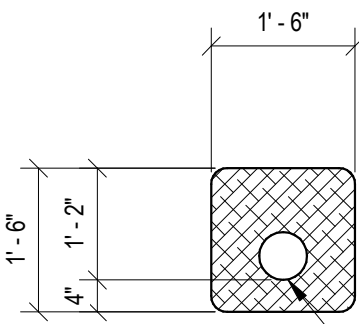
8 TYPICAL WALL CORNER REINFORCING  
1/2" = 1'-0"



7 TYPICAL SLAB-ON-GRADE JOINTS  
1/2" = 1'-0"

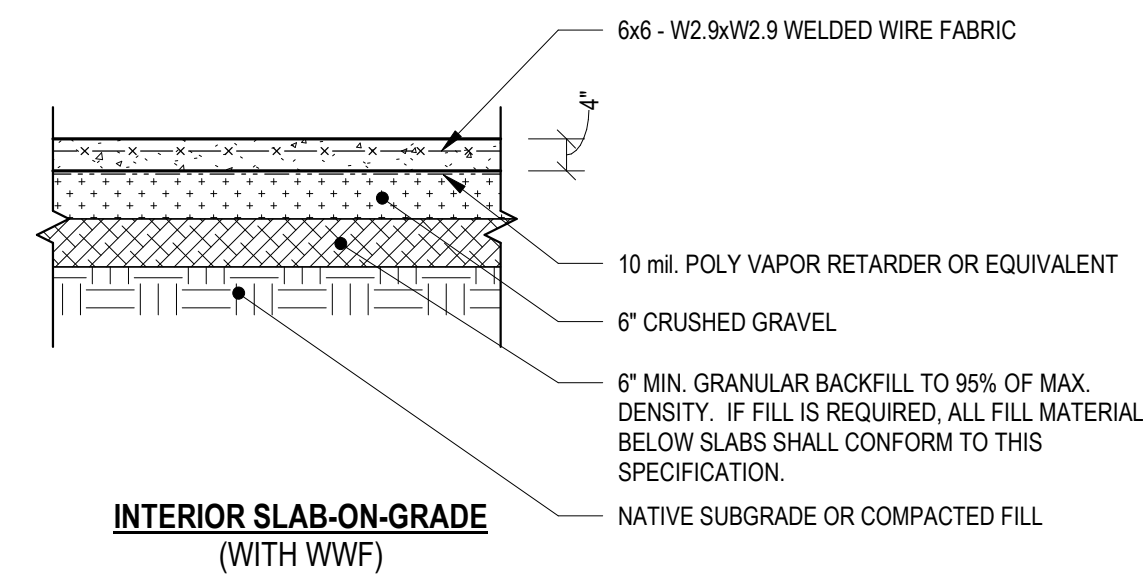
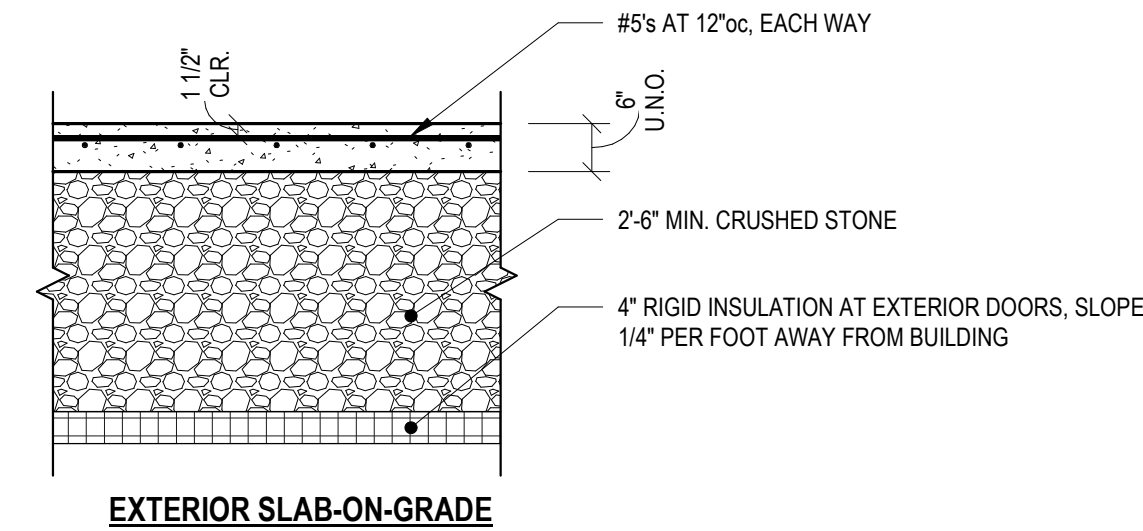


5 TYPICAL PIER EMBEDDED IN WALL  
1/2" = 1'-0"

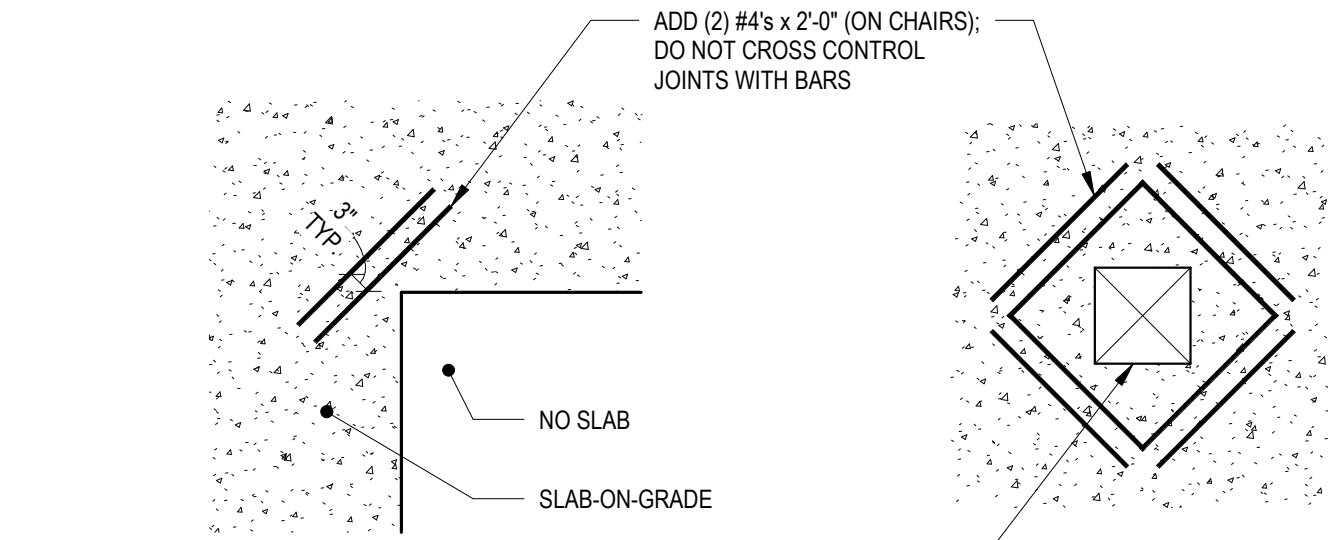


6" PERFORATED PVC DRAIN.  
PLACE IN 18" OF CRUSHED STONE.  
WRAP IN MIRAFLEX FILTER FABRIC OR EQUIVALENT. REFER TO SITE ENGINEERING DRAWINGS FOR OUTLET LOCATION AND DETAILS.  
PROVIDE CLEAN OUTS AT ALL CORNERS AND 50' MAXIMUM SPACING.  
COORDINATE WITH SPECIFICATIONS.

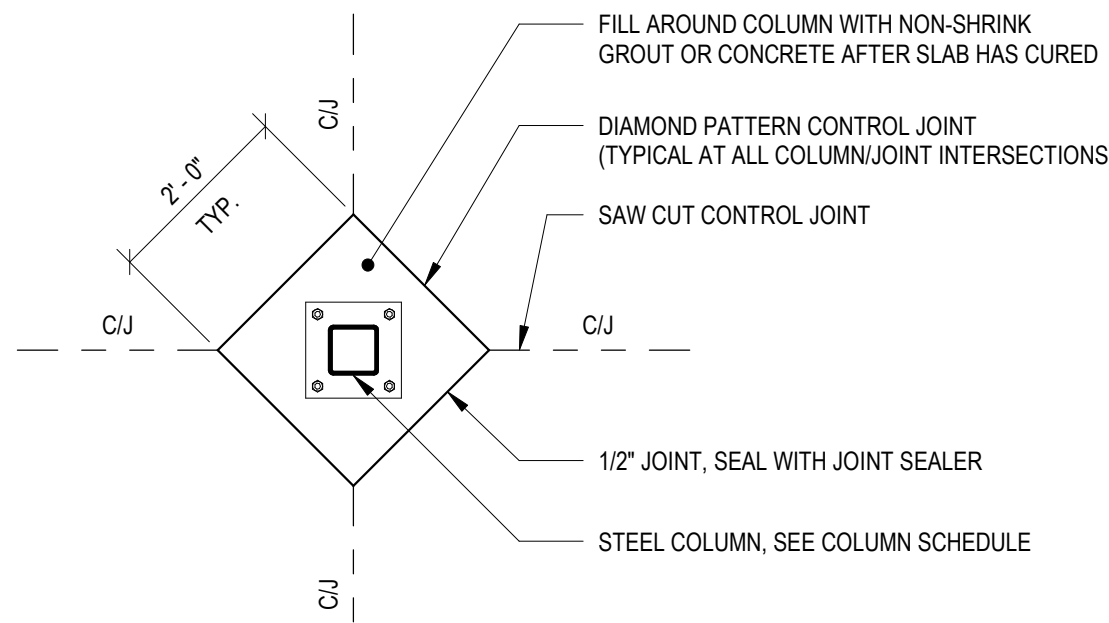
9 TYPICAL FOOTING DRAIN  
1/2" = 1'-0"



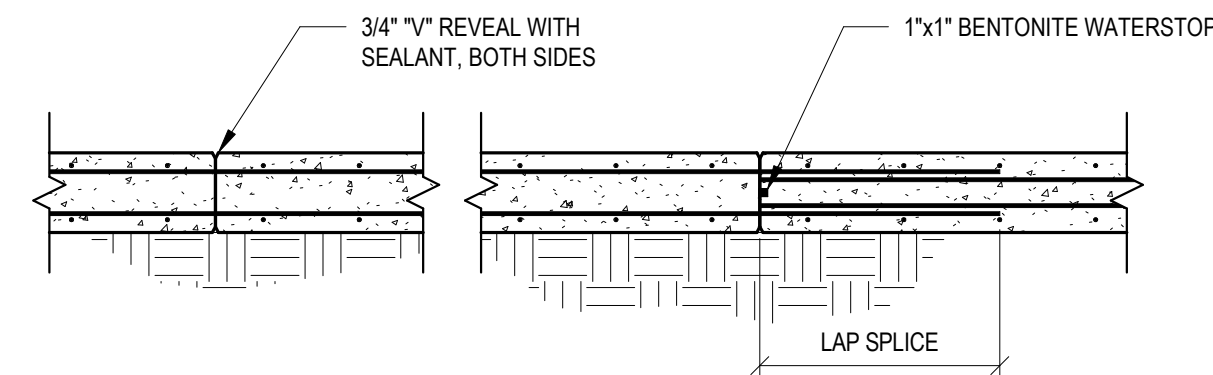
10 TYPICAL SLAB-ON-GRADE SECTIONS  
1/2" = 1'-0"



6 TYPICAL RE-ENTRANT CORNERS AT SLAB-ON-GRADE  
1/2" = 1'-0"



11 TYPICAL COLUMN ISOLATION JOINT AT SLAB-ON-GRADE  
1/2" = 1'-0"

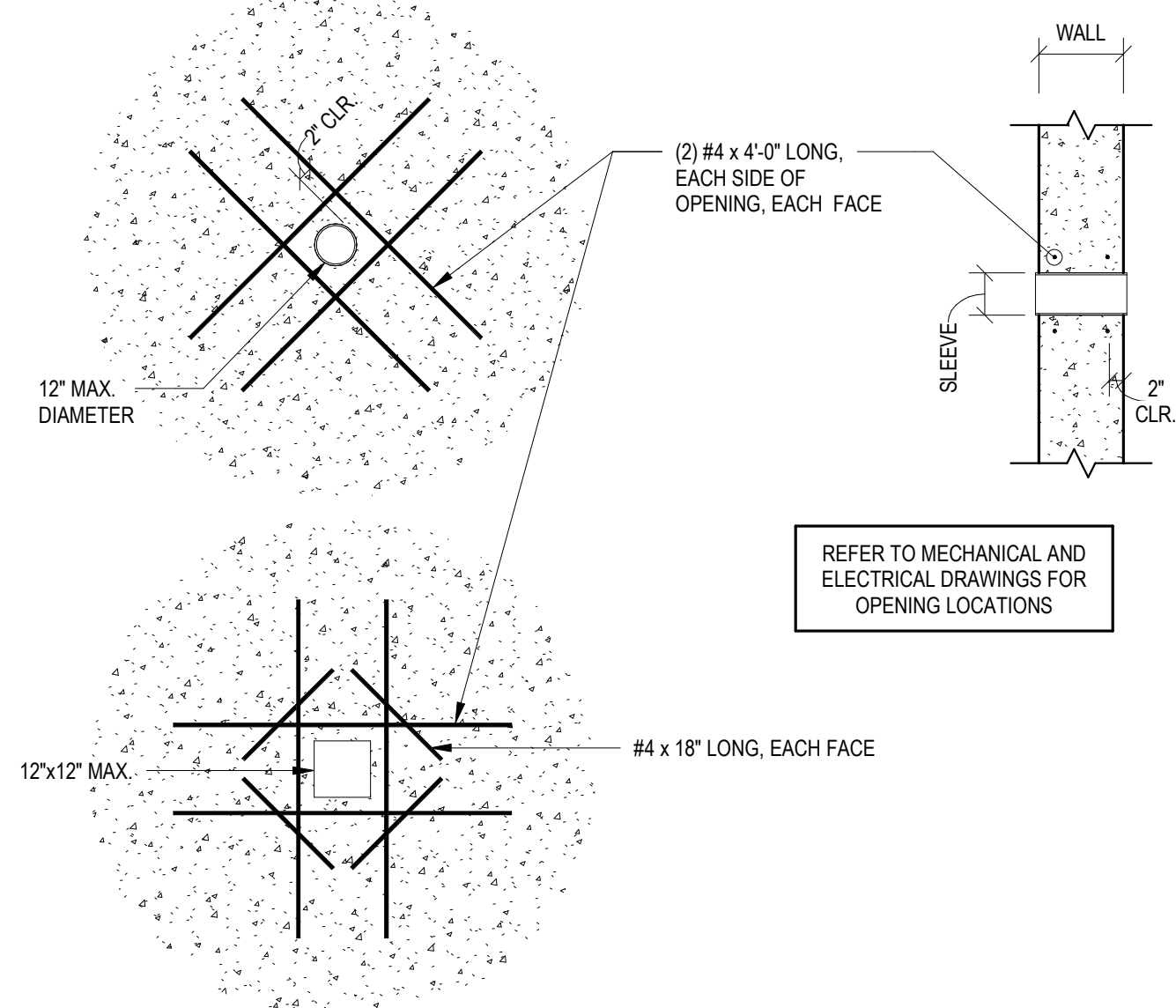


CONTROL JOINT

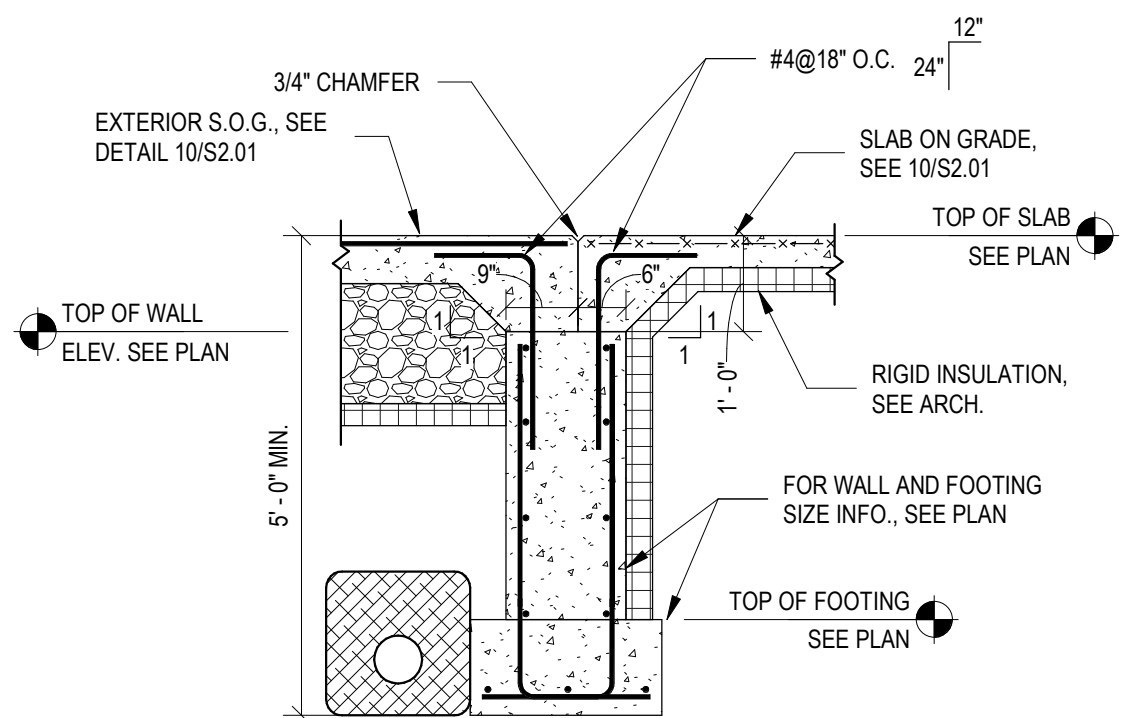
CONSTRUCTION JOINT

- NOTES:
1. MAXIMUM SPACING BETWEEN CONSTRUCTION JOINTS, OR FROM JOINT TO CORNER SHALL BE 120 FEET.
  2. MAXIMUM SPACING BETWEEN CONTROL JOINTS SHALL BE 20 FEET.
  3. NO JOINT SHALL BE WITHIN 10 FEET OF CORNER.
  4. SUBMIT LOCATIONS ON WALL ELEVATIONS OF CONCRETE REINFORCING SHOP DRAWINGS.

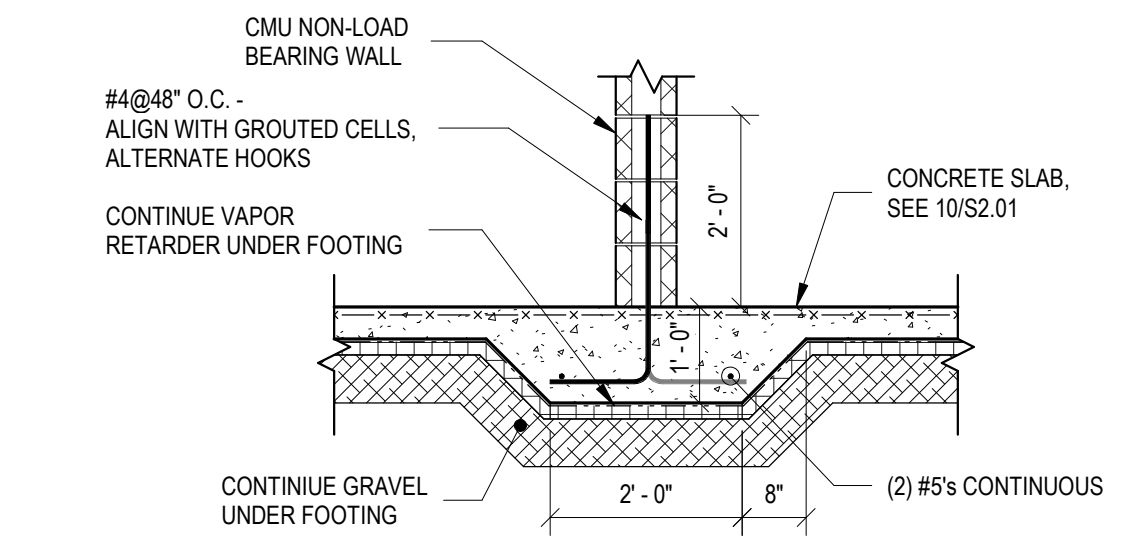
12 TYPICAL CONCRETE WALL JOINTS  
1/2" = 1'-0"



13 TYPICAL CONCRETE WALL OPENINGS  
1/2" = 1'-0"



14 TYP. WALL SECTION AT DOOR  
1/2" = 1'-0"



15 TYPICAL THICKENED SLAB-ON-GRADE AT NON-LOAD BEARING CMU  
1/2" = 1'-0"



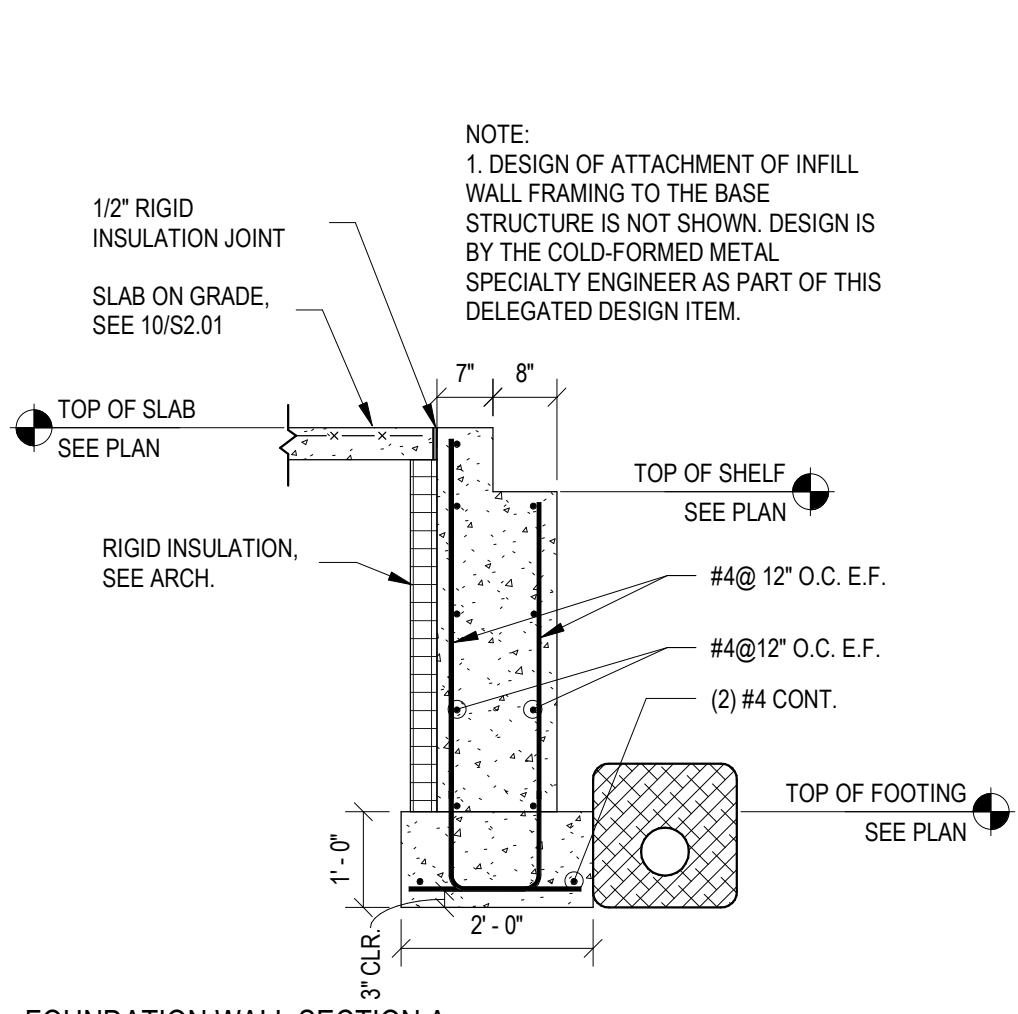
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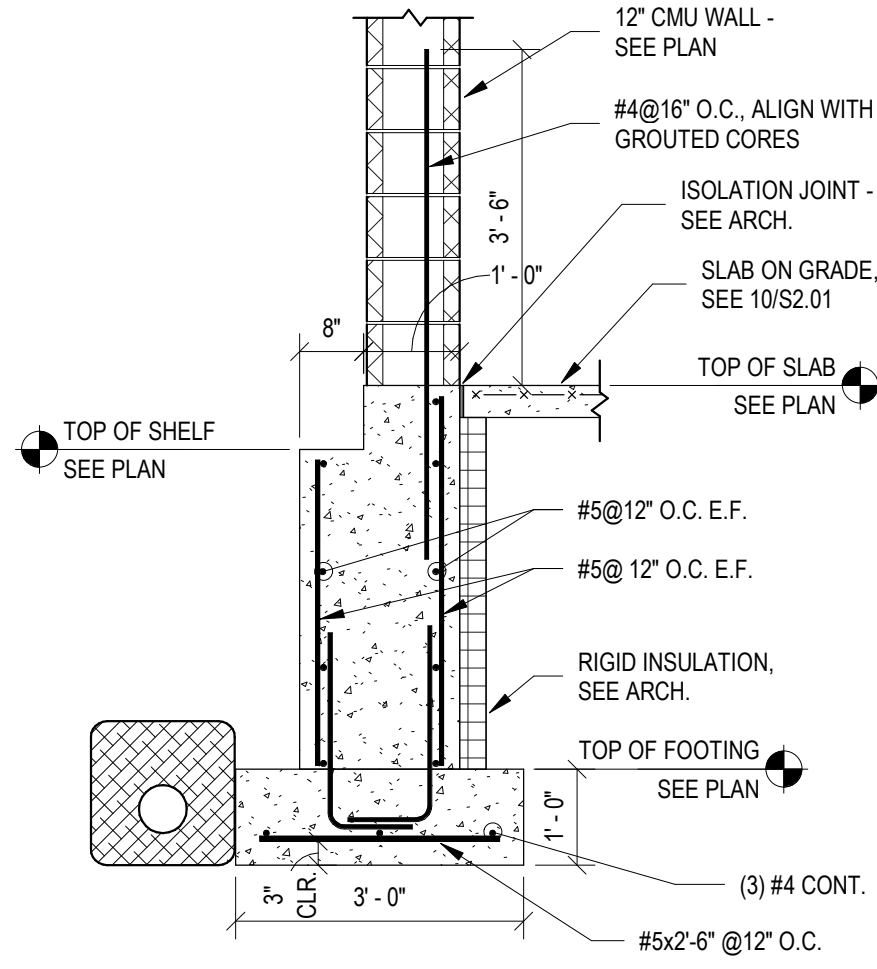
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FOUNDATION  
DETAILS

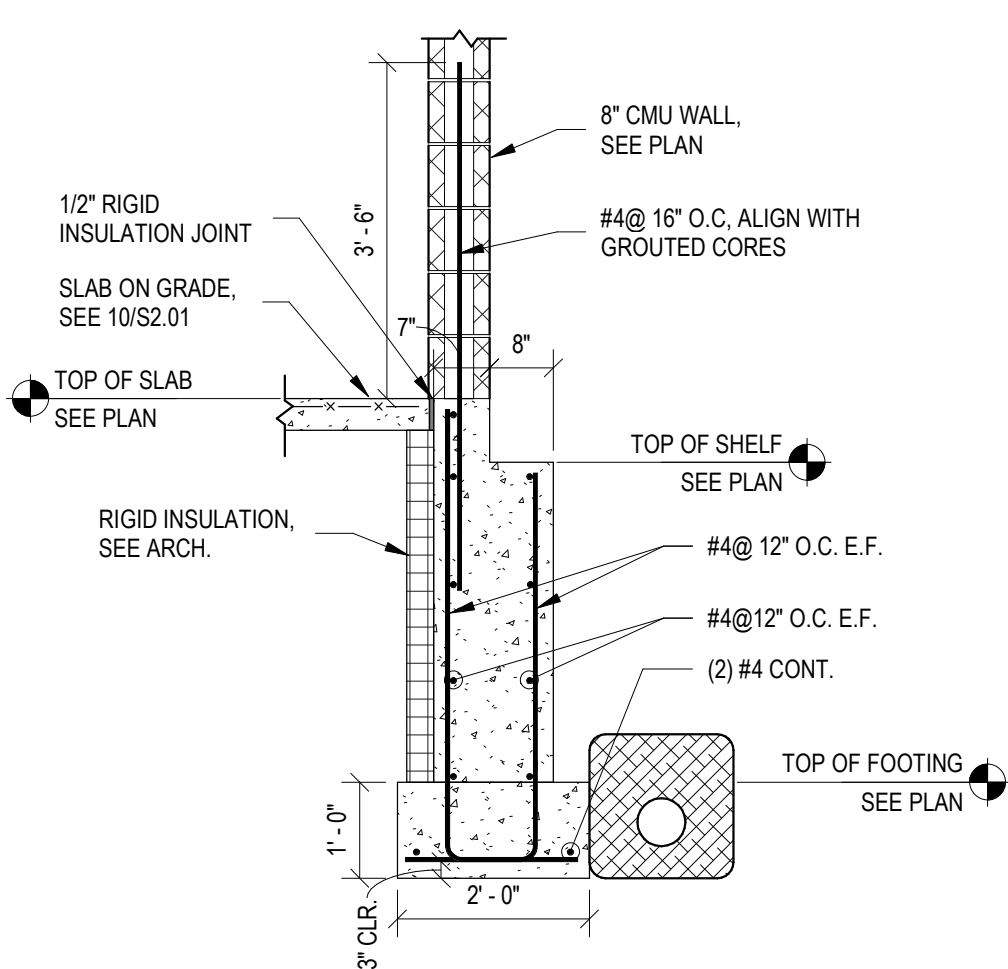
S2.10



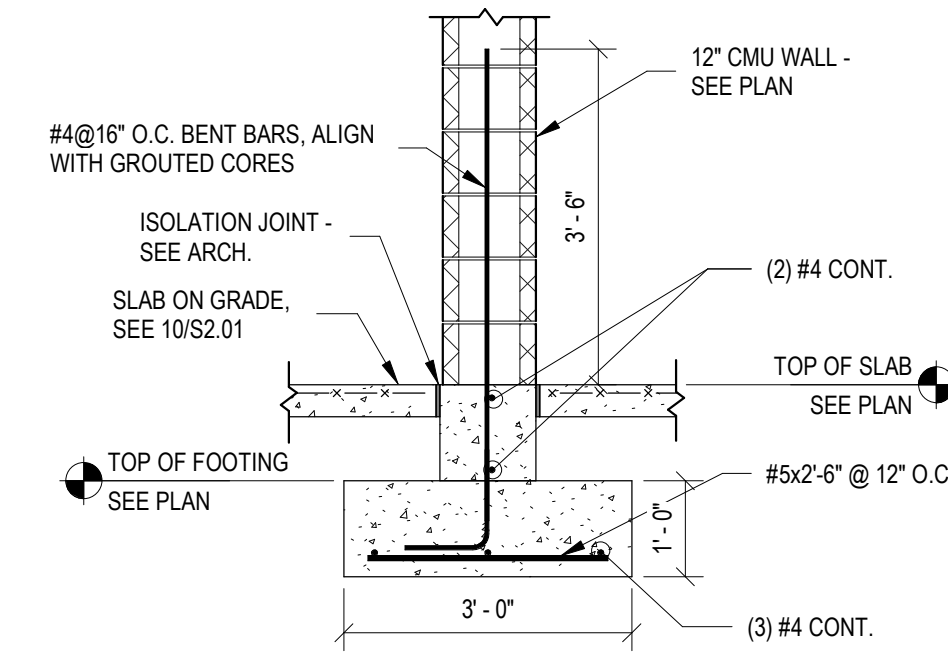
1 FOUNDATION WALL SECTION A  
1/2" = 1'-0"



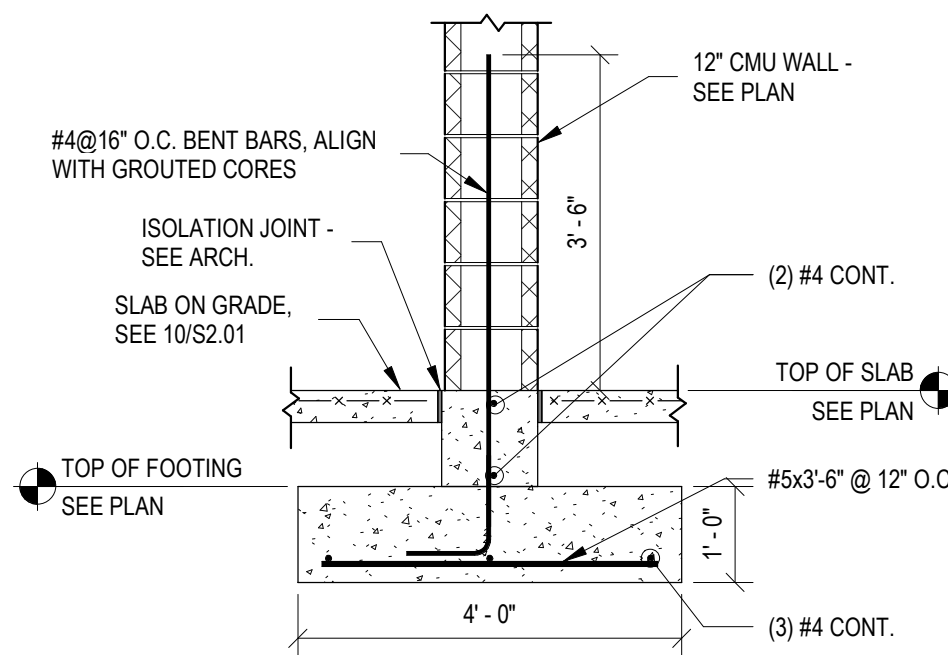
2 FOUNDATION WALL SECTION B  
1/2" = 1'-0"



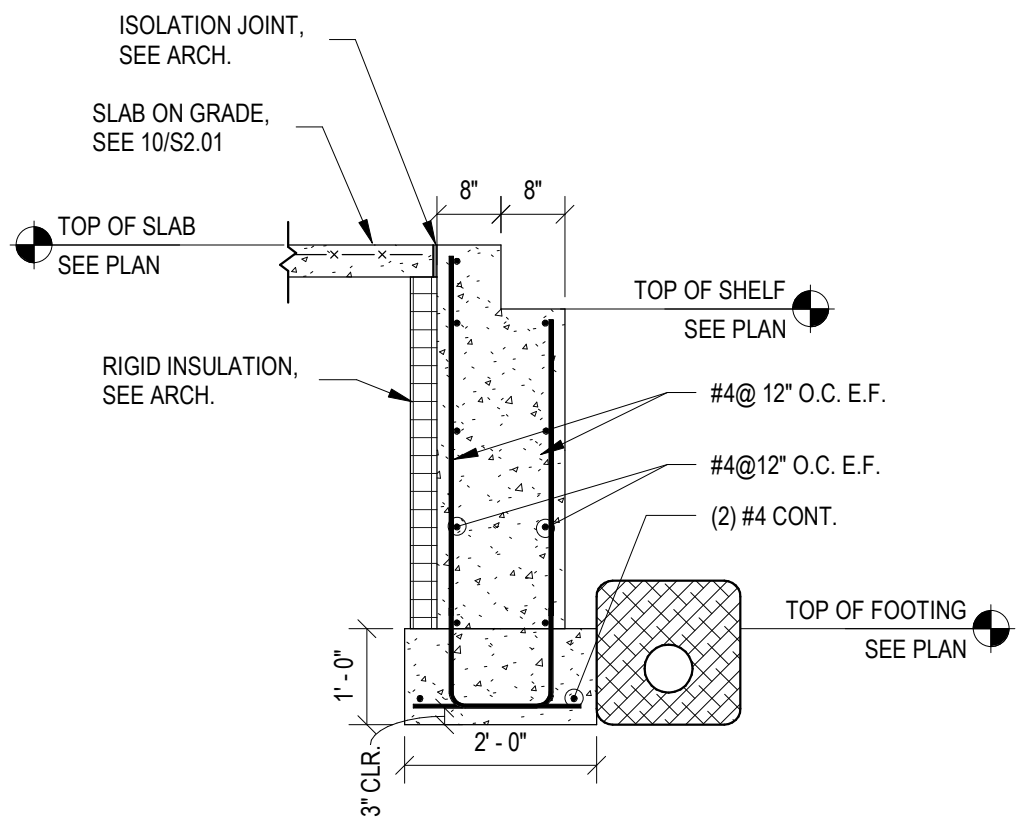
3 FOUNDATION WALL SECTION C  
1/2" = 1'-0"



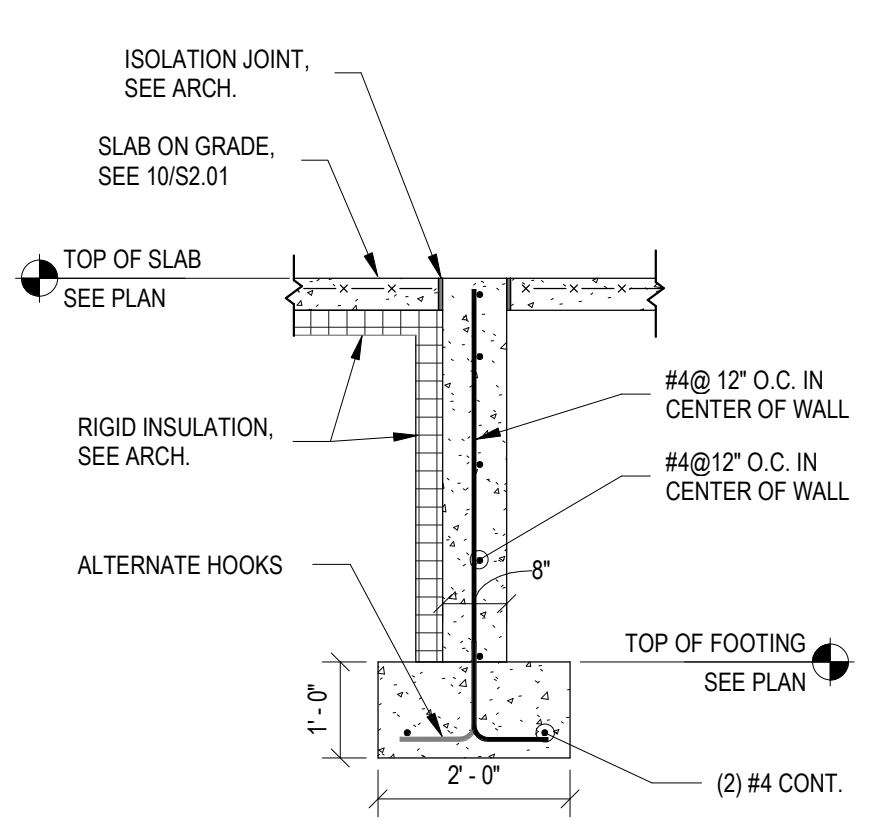
4 FOUNDATION WALL SECTION D  
1/2" = 1'-0"



5 FOUNDATION WALL SECTION E  
1/2" = 1'-0"



6 FOUNDATION WALL SECTION F  
1/2" = 1'-0"



7 VESTIBULE WALL SECTION  
1/2" = 1'-0"



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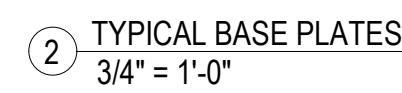
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## TYPICAL FRAMING DETAILS

## S3.01



1. ANCHOR THREADS AT THE EMBEDDED END SHALL BE STRICKEN AT TWO PLACES BELOW THE HEAVY HEX NUT.
2. UNLESS NOTED OTHERWISE, ALL NUTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC AFTER THE CONCRETE IS AT LEAST 14 DAYS OLD.
3. THE HOLE IN THE PLATE WASHER SHALL BE 1/16" LARGER THAN THE ROD DIAMETER.
4. PROVIDE TYPE 'B' ANCHOR BOLTS AT ALL COLUMNS WHICH ARE PART OF BRACED FRAMES. PROVIDE TYPE 'A' ANCHOR BOLTS AT ALL OTHER LOCATIONS.



3 MINIMUM BEAM CONNECTION SCHEDULE  
3/4" = 1'-0"

3/8" GR. 50 KSI MIN. WEB STIFFENERS, EACH SIDE

1/4" MIN

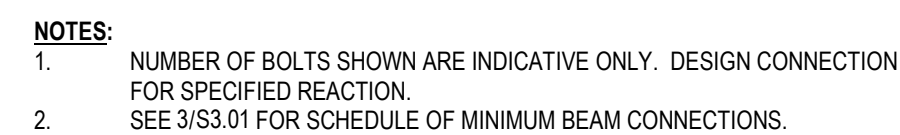
3-SIDES

W-SHAPE BEAM, SEE PLAN

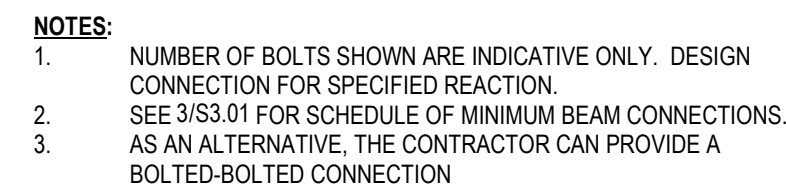
3/4" MIN. PLATE WITH (4) 3/4" dia. A325 BOLTS

STEEL COLUMN, SEE COLUMN SCHEDULE

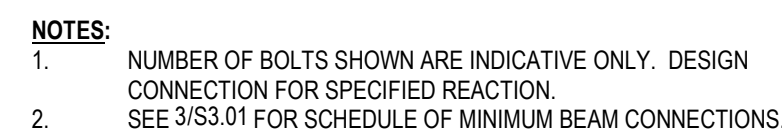
7 TYPICAL STEEL BEAM RUNNING OVER COLUMN  
3/4" = 1'-0"



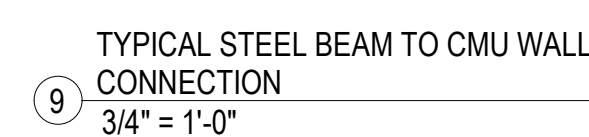
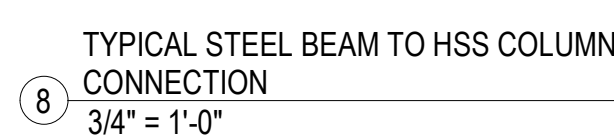
4 TYPICAL STEEL BEAM TO HSS COLUMN CONNECTION  
3/4" = 1'-0"



5 TYPICAL DOUBLE ANGLE CONNECTION  
3/4" = 1'-0"

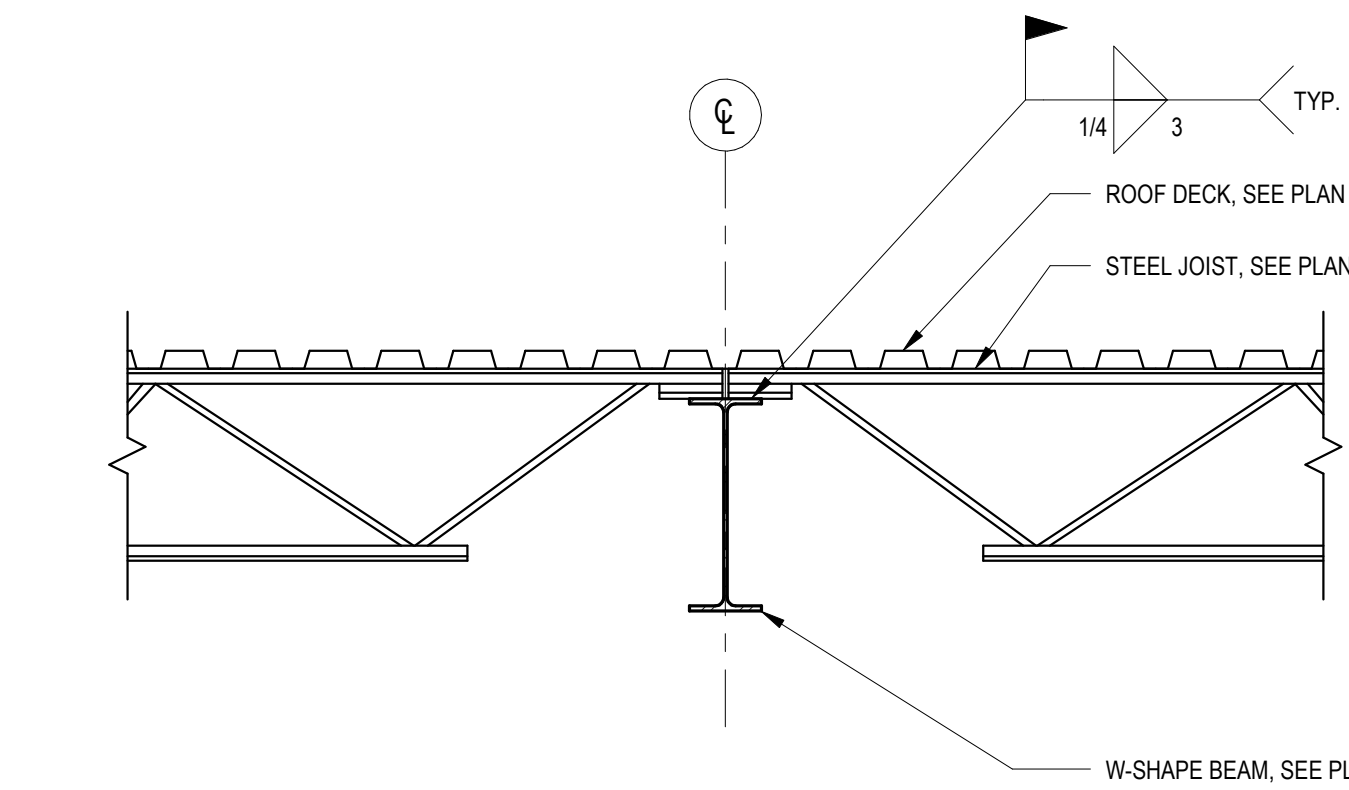


6 TYPICAL BEAM-TO-BEAM CONNECTION  
3/4" = 1'-0"

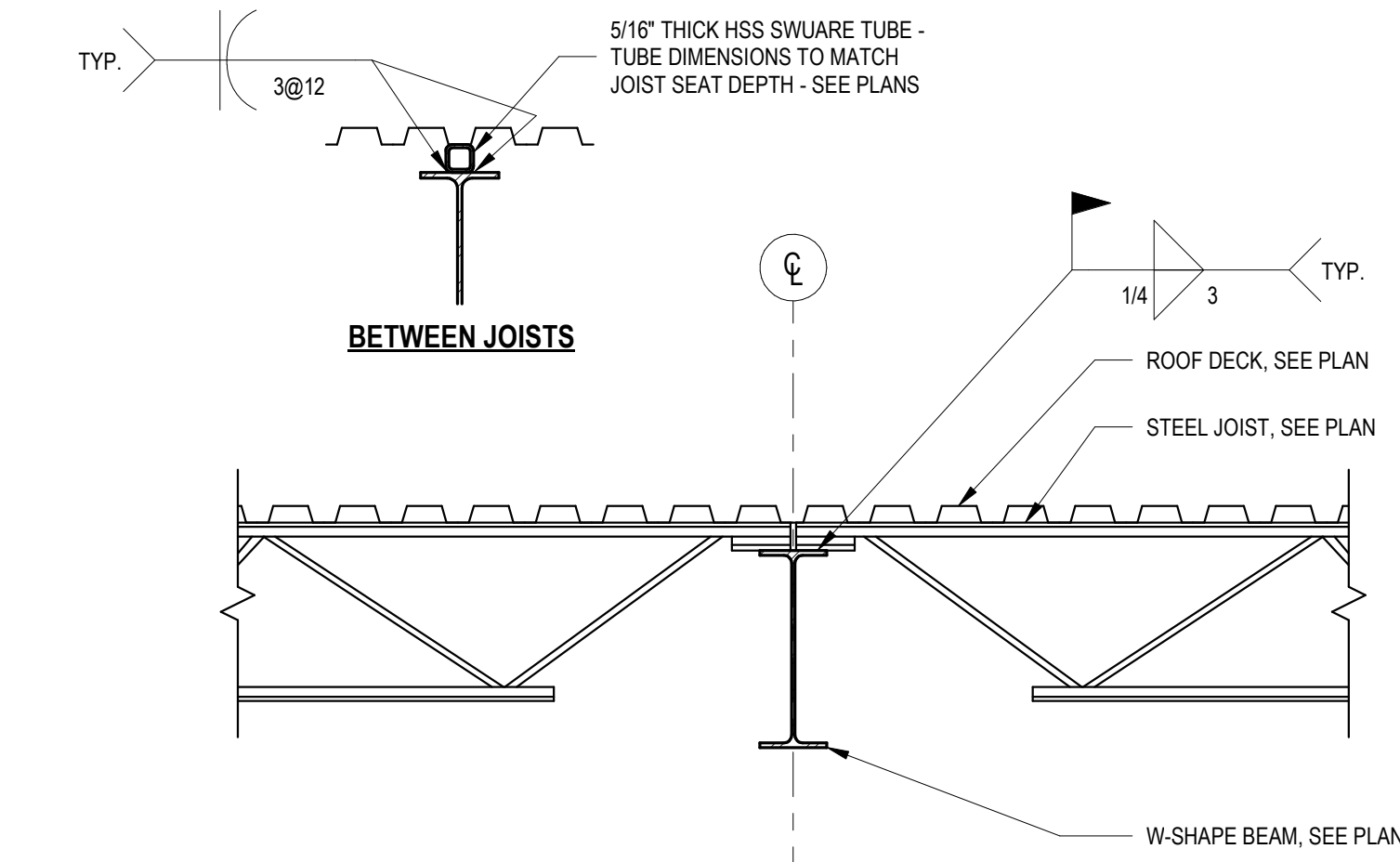


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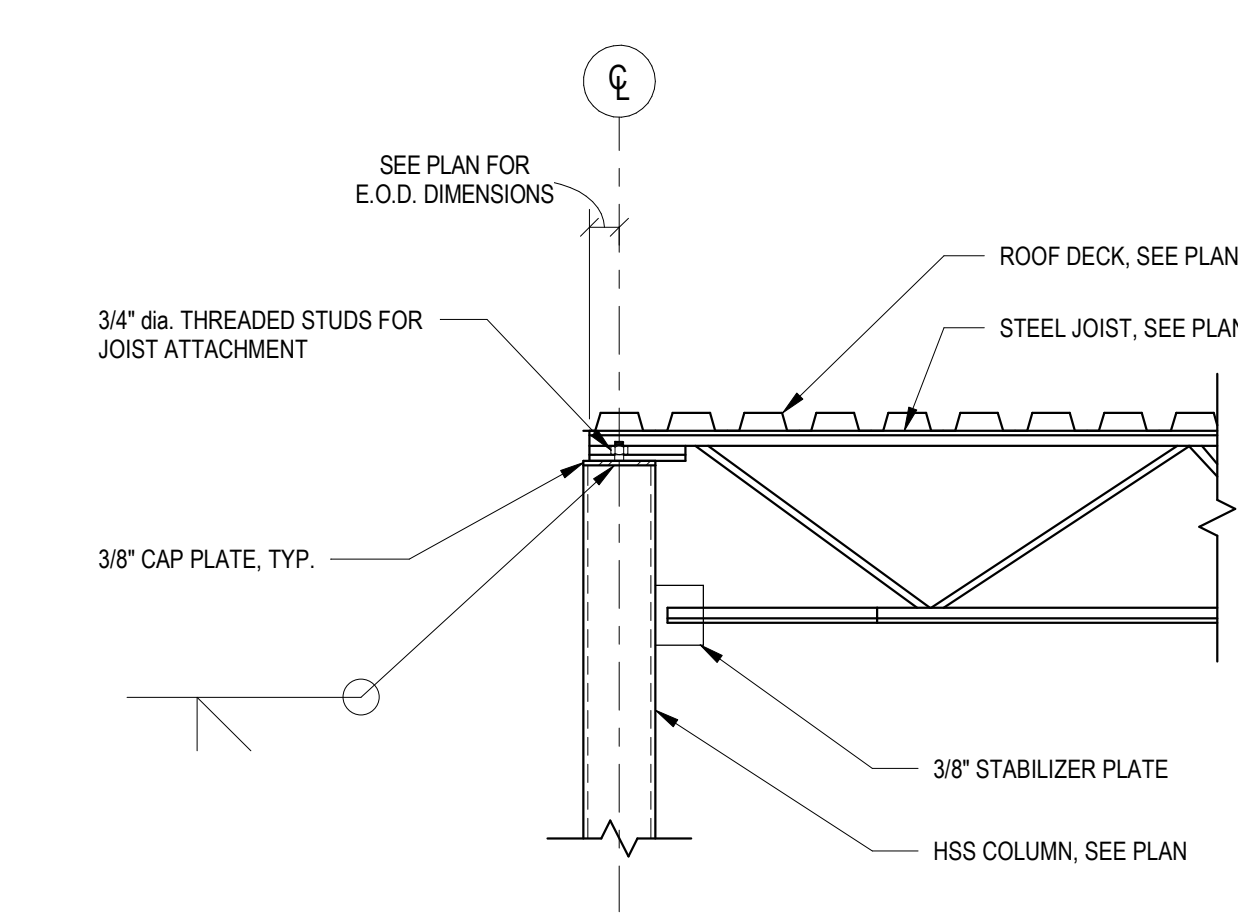




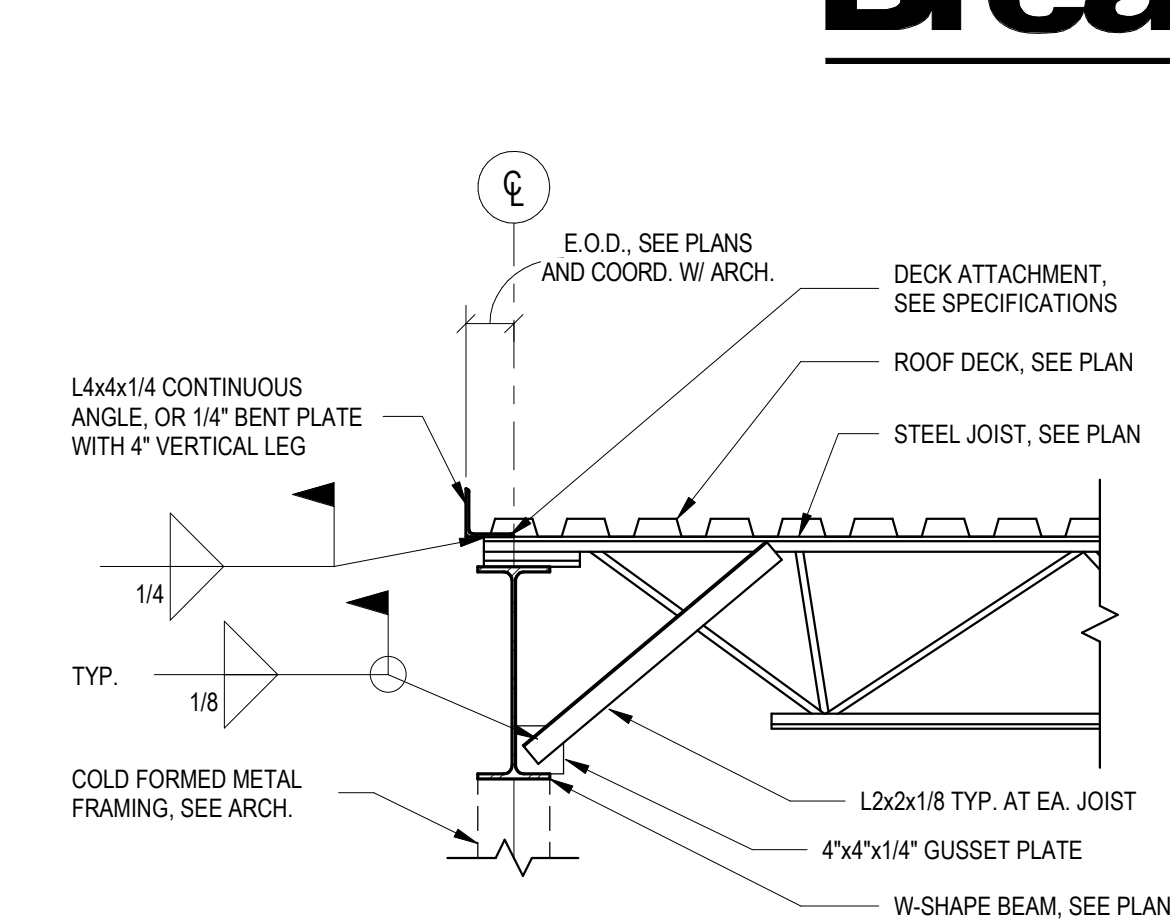
1 TYPICAL JOIST BEARING AT STEEL BEAM  
3/4" = 1'-0"



2 TYPICAL JOIST BEARING AT STEEL BEAM WITH  
AXIAL LOADS  
3/4" = 1'-0"

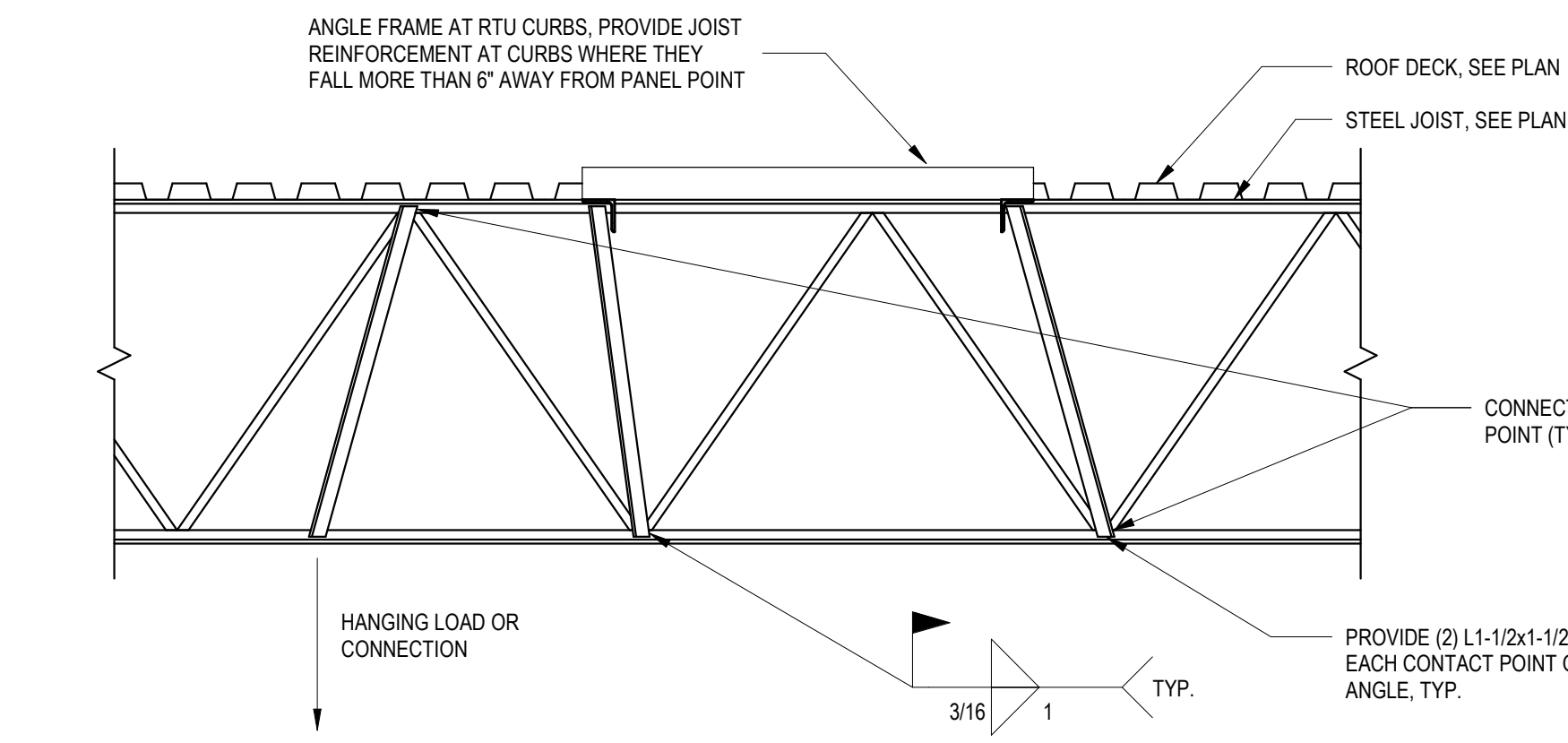


3 TYPICAL JOIST CONNECTION AT EXTERIOR  
COLUMN  
3/4" = 1'-0"

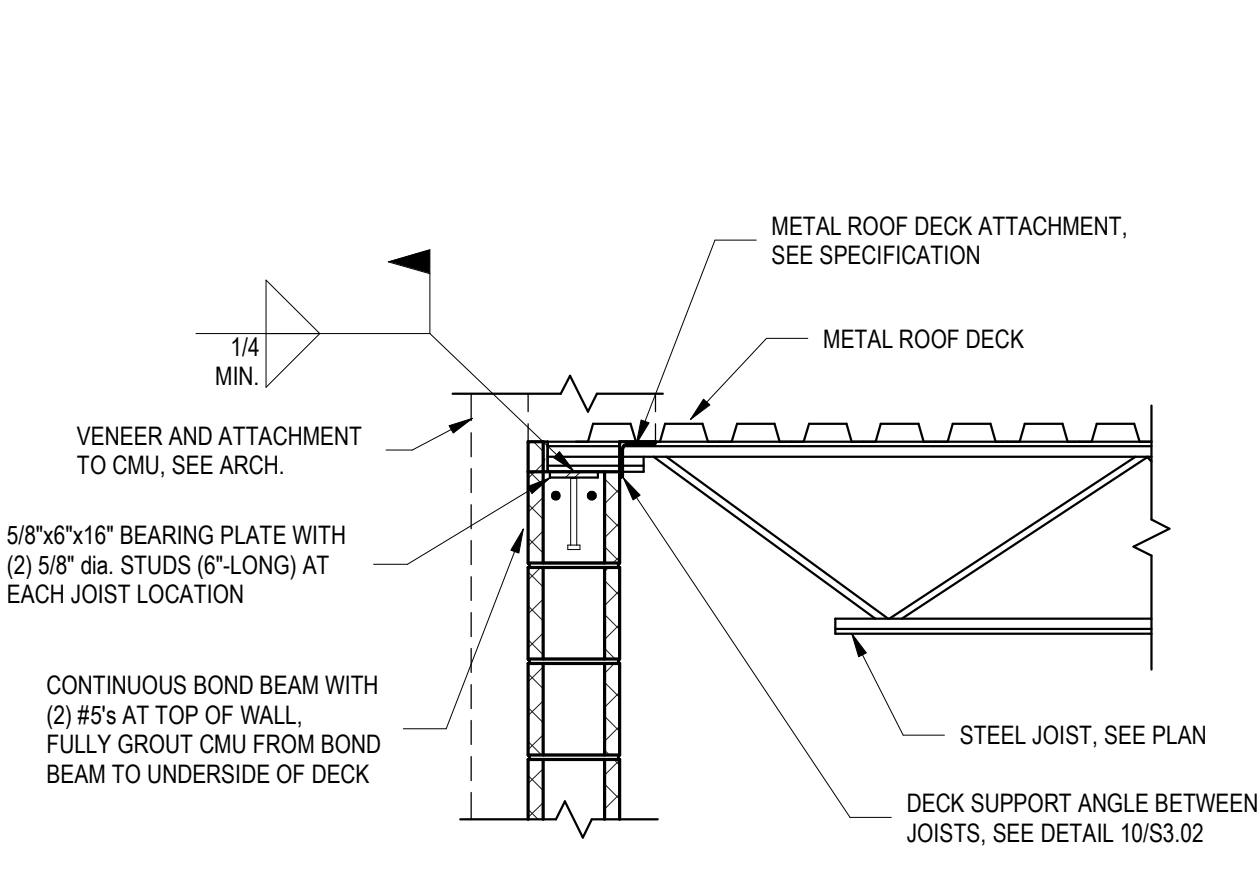


4 TYPICAL JOIST BEARING AT SPANDREL AND  
DECK EDGE  
3/4" = 1'-0"

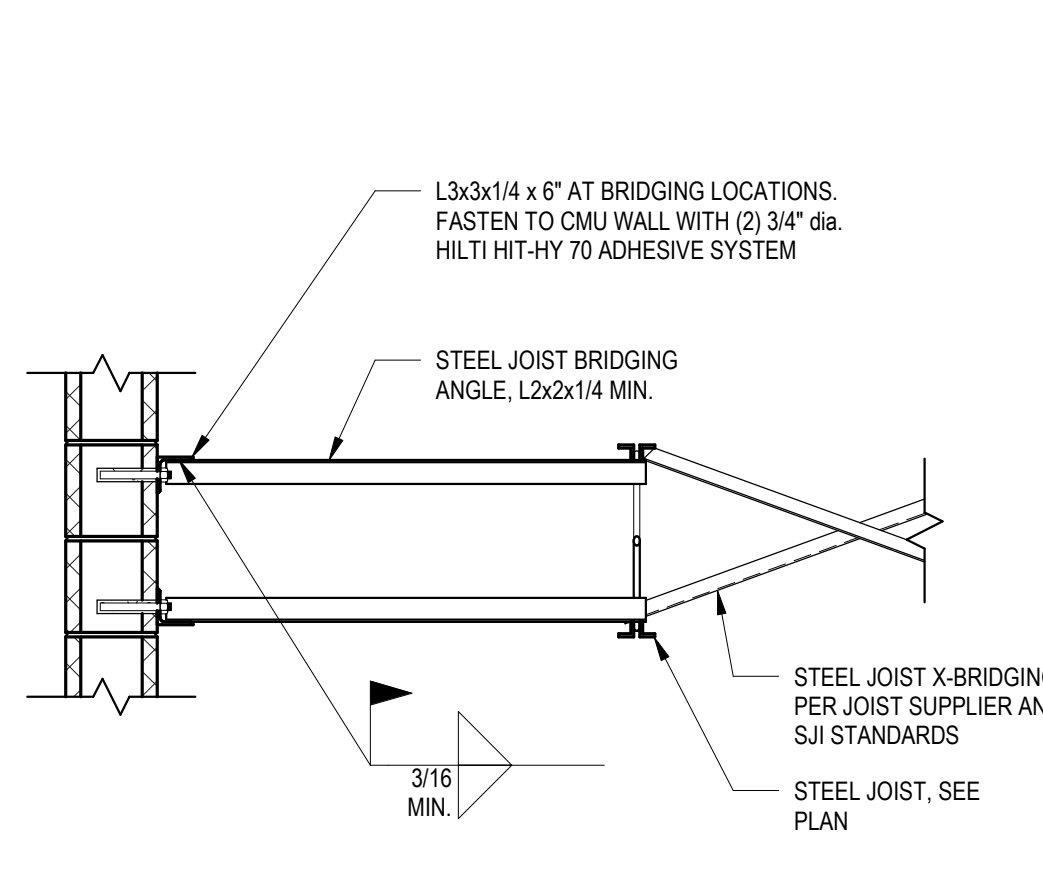
**NOTE:** PROVIDE HSS TUBES BETWEEN JOSITS ON ALL GRID LINES WHICH HAVE BEAMS WITH AXIAL LOADS.



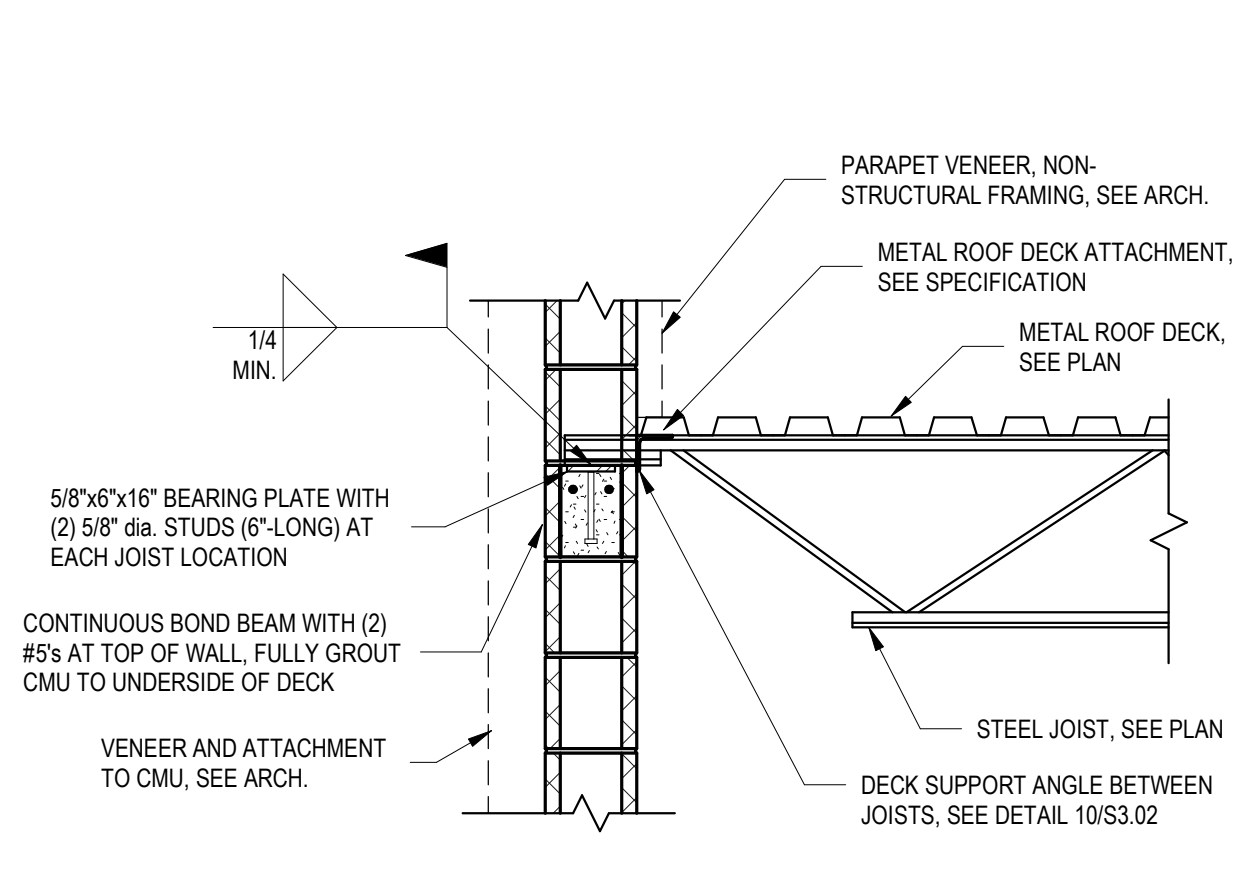
5 TYPICAL JOIST REINFORCING AT  
CONCENTRATED LOAD OR ATTACHMENT  
3/4" = 1'-0"



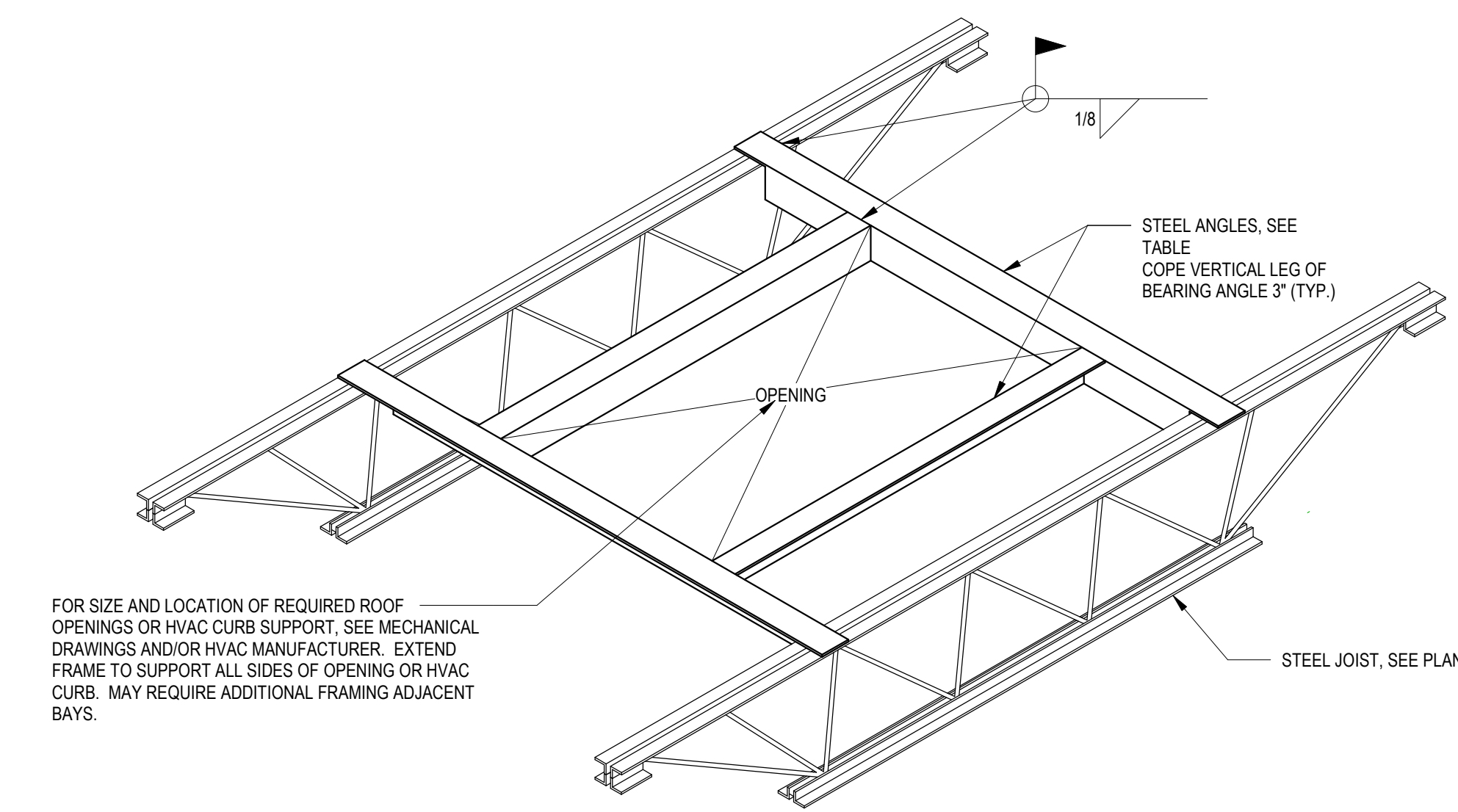
6 TYPICAL STEEL JOIST BEARING ON CMU WALL  
3/4" = 1'-0"



7 TYPICAL STEEL JOIST BRIDGING AT CMU WALL  
3/4" = 1'-0"



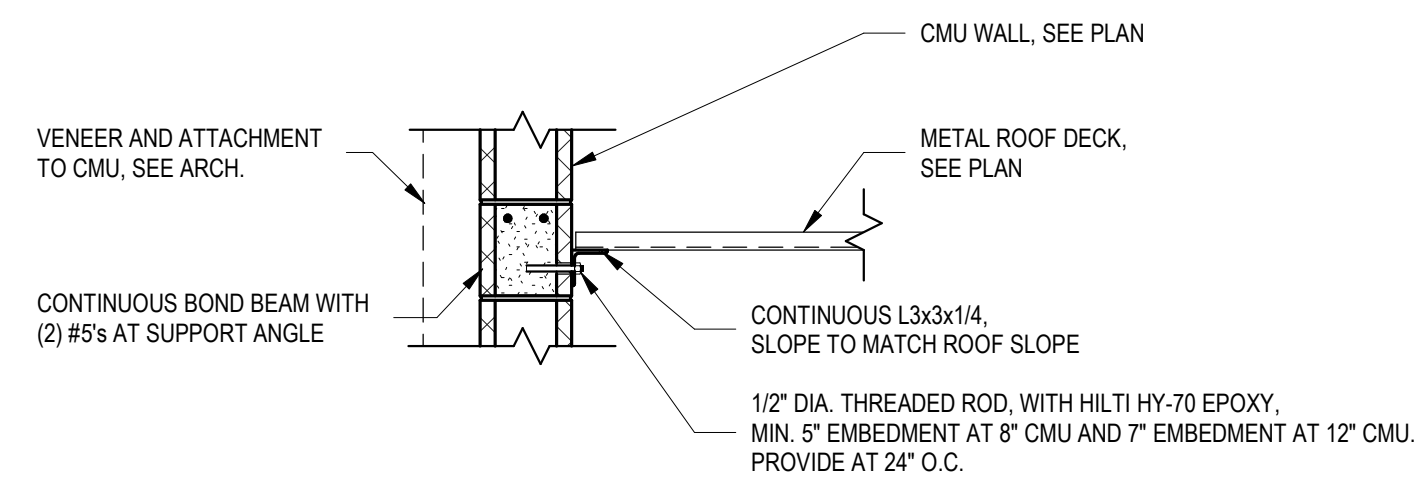
8 TYPICAL STEEL JOIST BEARING ON CMU WALL  
3/4" = 1'-0"



SPAN	ANGLE SIZE
UP TO 4'-0"	L3x3x3/16
4'-1" TO 6'-0"	L4x3x1/4 (LLV)
6'-1" TO 8'-0"	L5x3x1/4 (LLV)
8'-1" TO 10'-0"	L6x3x5/16 (LLV)

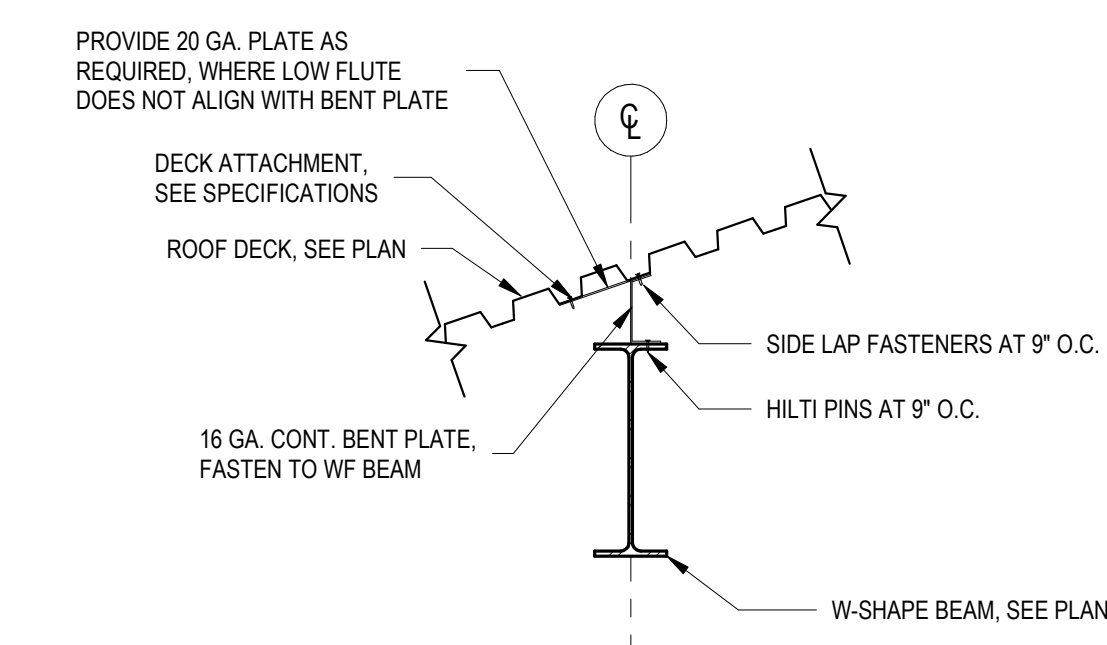
9 TYPICAL ROOF PENETRATION FRAMING AT  
STEEL JOISTS  
3/4" = 1'-0"

- NOTES:**
1. PROVIDE SIMILAR FRAMING AT ROOF DRAINS.
  2. WELD/CONNECT DECK TO ALL FRAMING AT 8"x8" MAXIMUM SPACING. COORDINATE WITH ENGINEER FOR SPECIAL DETAILS REQUIRED TO CONNECT ANGLES TO EXISTING DECK IN AN INSTALLATION OF NEW UNIT ON EXISTING ROOF FRAMING.
  3. WHEN JOIST BRIDGING CONFLICTS WITH ROOF OPENING FRAMES, STOP BRIDGING AT EACH SIDE OF OPENING, PROVIDE CROSS BRIDGING AT LAST BRIDGING SPACE EACH SIDE OF OPENING AND CONNECT ENDS OF BRIDGING TO OPENING FRAMING. ADD ADDITIONAL BRIDGING AND CROSS BRIDGING ON EACH SIDE OF OPENING ON EACH SIDE OF CUT BRIDGING AREA WITH BRIDGING EXTENDED ONE BAY BEYOND EACH SIDE OF OPENING.
  4. ANCHOR EQUIPMENT AND CURB TO MISCELLANEOUS FRAMING SHOWN AS REQUIRED FOR WIND AND/OR SEISMIC FORCES. COORDINATE WITH EQUIPMENT/CURB MANUFACTURER.
  5. ANGLE SIZES ARE PRELIMINARY. FINAL ANGLE SIZES ARE TO BE DETERMINED UPON RECEIPT OF WEIGHT INFORMATION FOR EQUIPMENT TO BE SUPPORTED BY THE ANGLES.

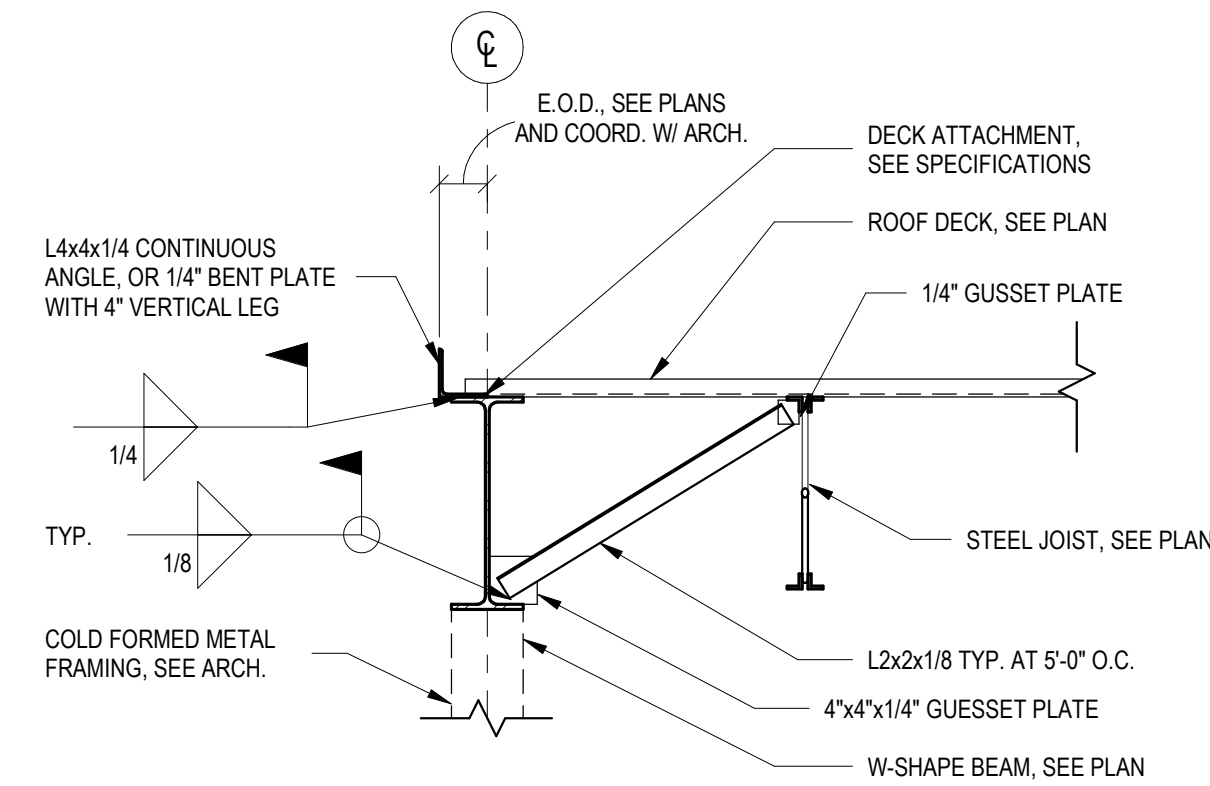


10 TYPICAL STEEL JOIST BEARING ON CMU WALL  
3/4" = 1'-0"

- NOTES:**
1. PROVIDE ADDITIONAL BOND BEAMS AS REQUIRED AT SLOPED ROOF AREAS TO ENSURE PROPER EMBEDMENT OF THREADED RODS.
  2. AT SLOPED DECK, PROVIDE CONTINUOUS 16 GAGE BENT PLATE SIMILAR TO DETAIL 11/S3.02 IN LIEU OF ANGLE.



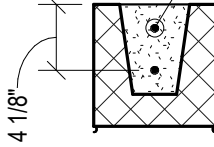
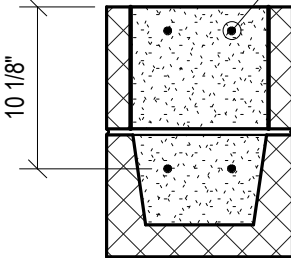
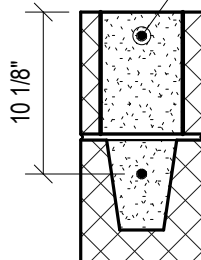
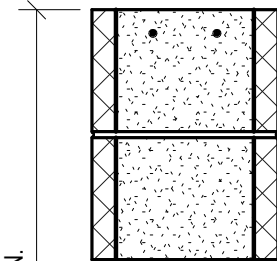
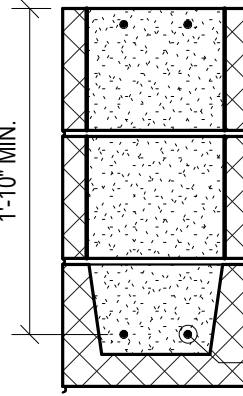
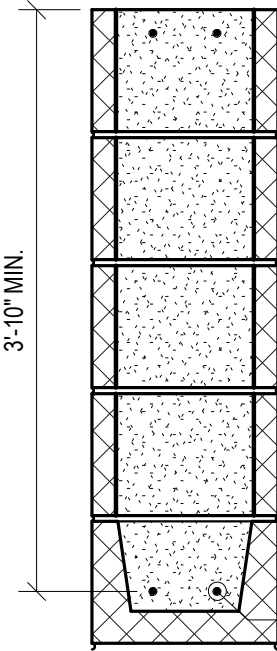
11 TYPICAL DECK BEARING AT SPANDREL  
BETWEEN JOISTS  
3/4" = 1'-0"

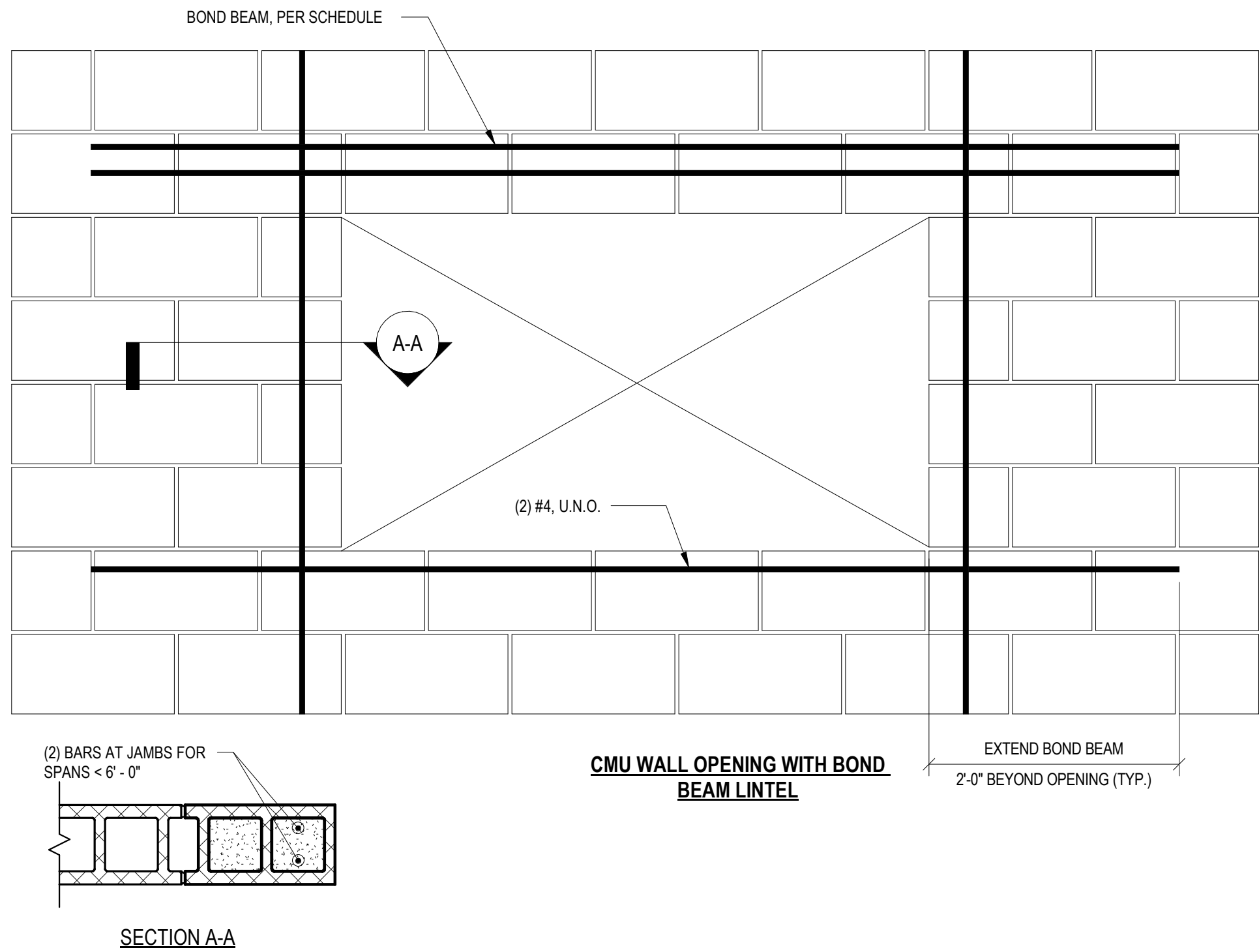


**NOTE:** PROVIDE HSS TUBES BETWEEN JOISTS ON ALL GRID LINES WHICH HAVE BEAMS WITH AXIAL LOADS.

12 TYPICAL JOIST BEARING AT SPANDREL AND  
DECK EDGE  
3/4" = 1'-0"

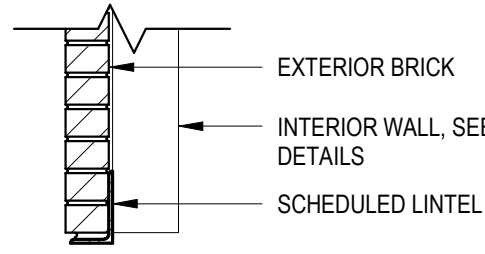


SPAN TABLE			STANDARD LINTELS	
OPENING SIZE	8" CMU	12" CMU	8" CMU	10" OR 12" CMU
0" ≤ 4' - 0"	L1	L2		
4' - 0" ≤ 6' - 0"	L3	L4		
6' - 0" ≤ 8' - 6"	L5	L5/L6		
8" CMU WALLS - NO FACE BRICK				
OPENING SIZE	8" CMU			
0" ≤ 16' - 0"				
16' - 0" ≤ 20' - 0"				
20' - 0" ≤ 24' - 0"				
24' - 0" ≤ 28' - 0"				
LINTEL NOTES:				
1. ALL MASONRY OPENINGS REQUIRE A LINTEL. PROVIDE A STANDARD LINTEL PER SPAN TABLES, UNLESS NOTED OTHERWISE ON PLANS.				
2. BOND BEAM LINTELS SHALL BE FILLED WITH 3,000 PSI GROUT.				
3. STEEL LINTELS SHALL HAVE BOTTOM PLATE BEARING 6" MINIMUM, EACH END. STEEL LINTELS BOTTOM PLATE PLATE SHALL BE 3/8" THICK AND LESS THAN ACTUAL WIDTH OF THE WALL.				
4. STEEL LINTELS SHALL HAEV 5/8" dia. x 6" HEADED ANCHOR STUDS AT 24"oc.				
5. L5 IS AT NON-LOAD BEARING WALLS ONLY. L6 IS AT GYM LOAD BEARING WALLS, AT TO BE FULLY GROUTED ABOVE OPENINGS				
			L5/L6	L4



LOOSE LINTEL SCHEDULE (4" BRICK OR 4" CMU)	
M.O. (MASONRY OPENING)	ANGLE SIZE (LLV)
≤ 3' - 8"	L3-1/2 x 3-1/2 x 5/16
3' - 8" ≤ M.O. ≤ 7' - 4"	L6 x 3-1/2 x 5/16"
7' - 4" ≤ M.O. ≤ 12' - 0"	L8 x 4 x 7/16"

- NOTES:
1. PROVIDE 8" BEARING, EACH END.
  2. COORDINATE LINTEL LOCATION LENGTH AND QUANTITY WITH ARCHITECTURAL DRAWINGS.

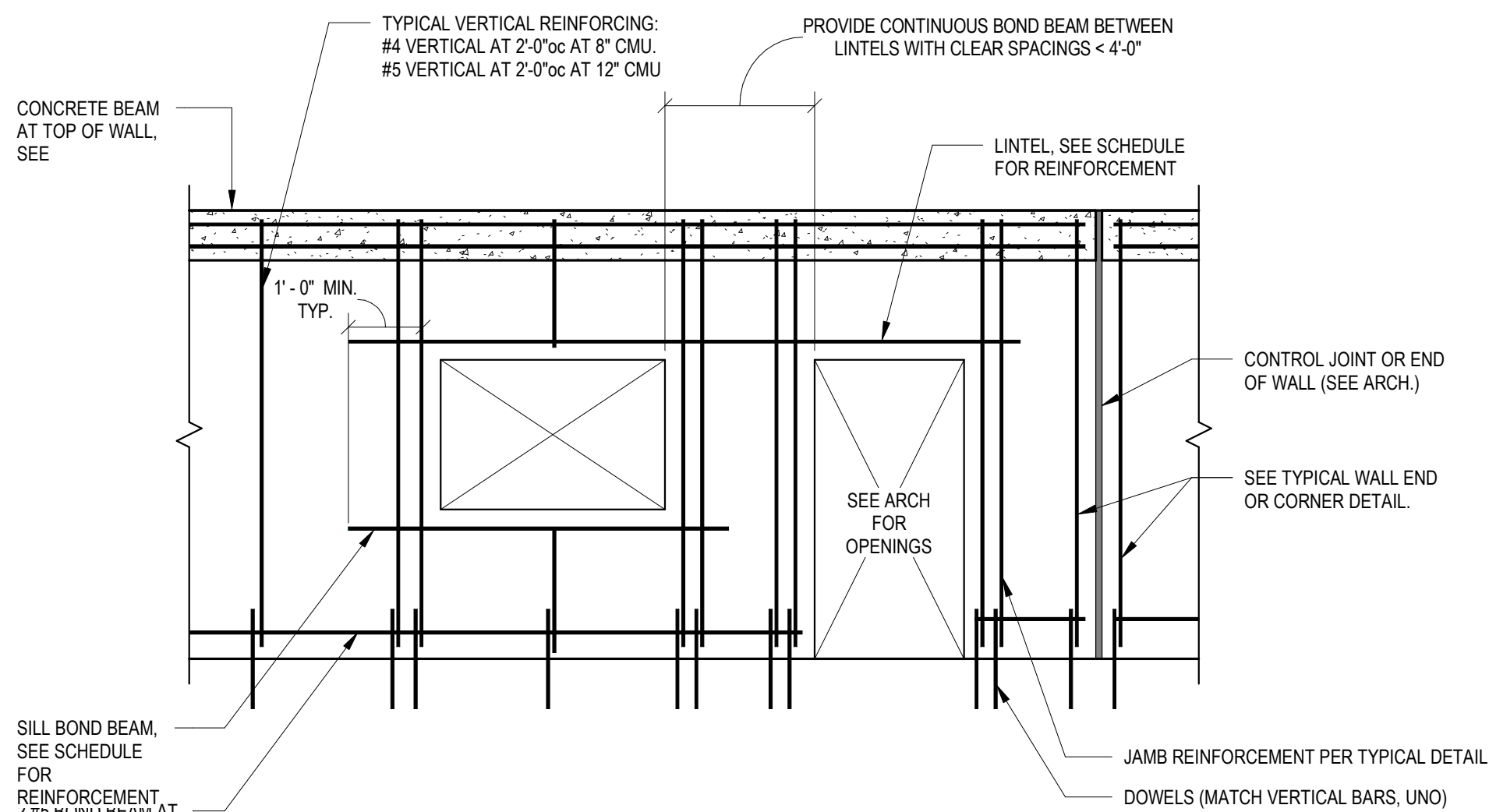


TYPICAL SECTION

- NOTES:
1. SEE ARCHITECTURALS FOR SIZE AND LOCATION OF OPENINGS.
  2. PROVIDE 1" OF BEARING AT EACH JAMB FOR EACH FOOT OF CLEAR SPAN BUT NOT LESS THAN 8".
  3. WHERE MINIMUM BEARING CAN NOT BE ACHIEVED, PROVIDE ADEQUATE CONNECTION TO ADJACENT STRUCTURAL MEMBERS OR PROVIDE SEPARATE VERTICAL SUPPORTS. SUBMIT SUCH DETAILS TO THE ARCHITECT.
  4. ALL LINTELS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
  5. FOR MASONRY OPENINGS GREATER THAN 8'-0" SEE OTHER DETAILS.
  6. BRICK HEIGHTS OVER OPENINGS GREATER THAN ONE HALF THE LINTEL SPAN SHALL BE SHORED UNTIL MORTA HAS SET AND CURED.

1 LINTEL SCHEDULE  
1" = 1'-0"

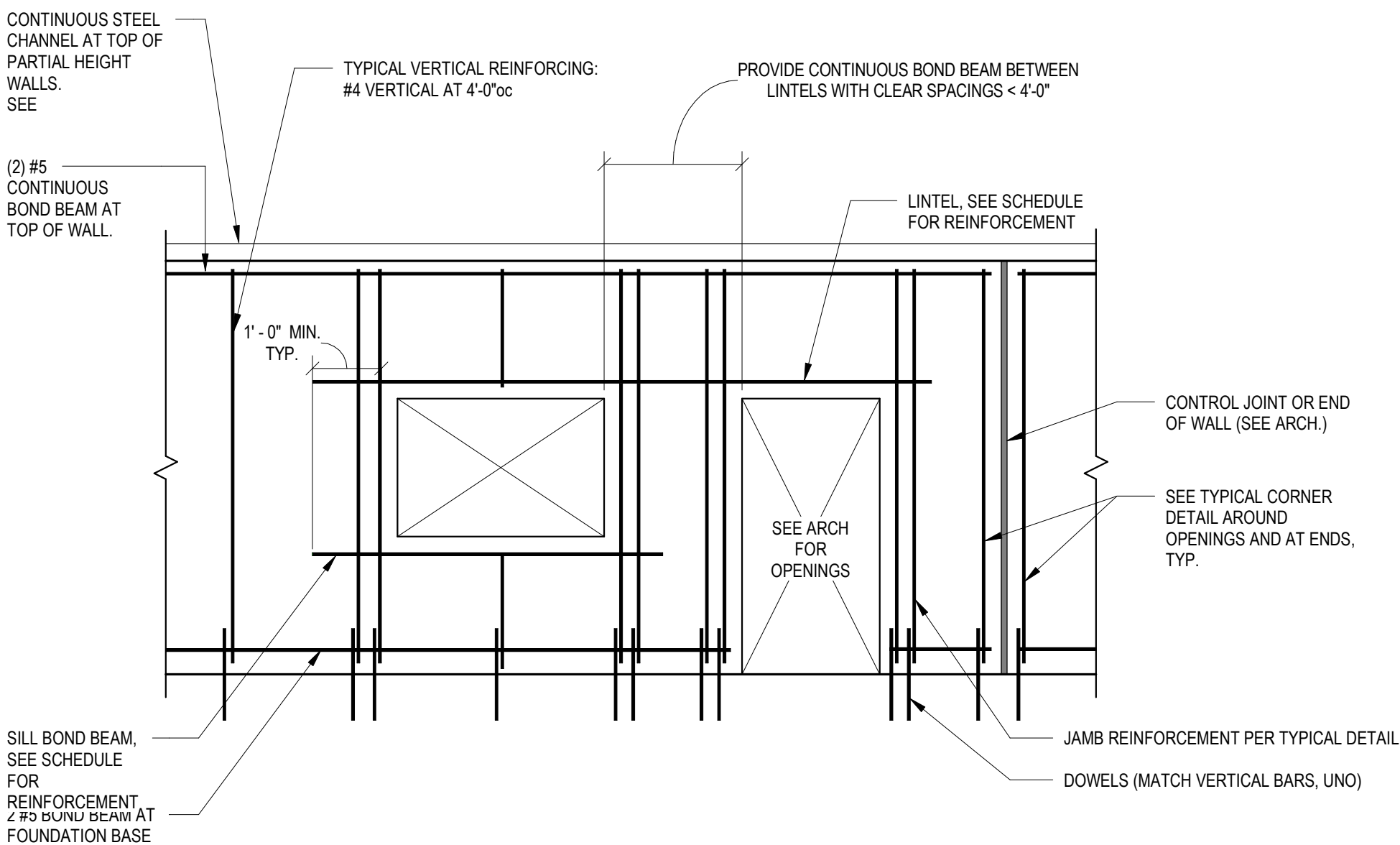
2 LOOSE LINTEL SCHEDULE  
3/4" = 1'-0"



TYPICAL EXTERIOR CMU WALL

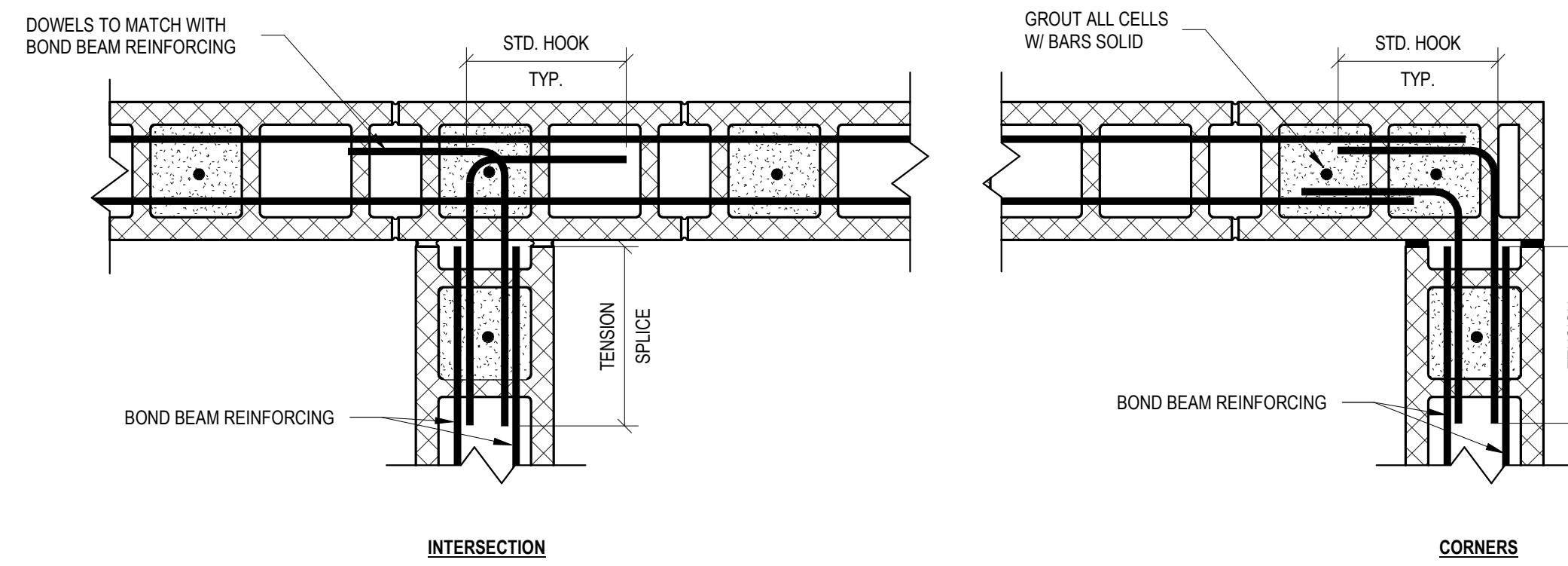
TYPICAL JAMB / WALL END	TYPICAL CORNER

- NOTES:
1. PLACE REINFORCING AT:
    - CENTER OF CELL FOR SINGLE BAR CELLS
    - 1" CLEAR FROM BOTH INSIDE FACES FROM DOUBLE BAR CELLS IN CMUAND FILL WITH GROUT AS SCHEDULED.
  2. SEE SPECIFICATIONS FOR STEEL REINFORCING REQUIREMENTS. SUBMIT ELEVATIONS OF ALL WALLS.
  3. SEE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS AND MATERIAL SPECIFICATIONS.
  4. PROVIDE L-SHAPED JOINT REINFORCEMENT AT CORNERS AND T-SHAPED JOINT REINFORCEMENT AT WALL INTERSECTIONS.
  5. USE PLASTIC BAR SPACERS FOR ALL VERTICAL REINFORCING.

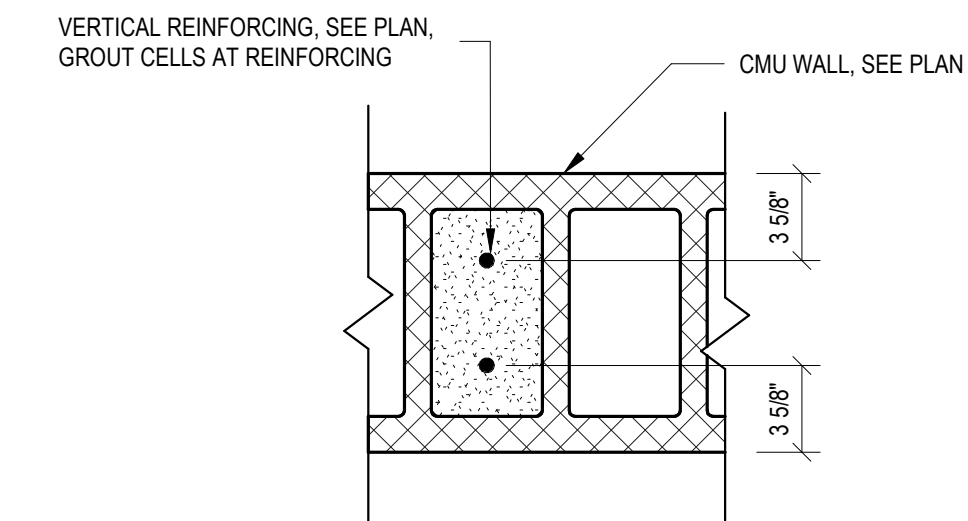


TYPICAL INTERIOR CMU WALL

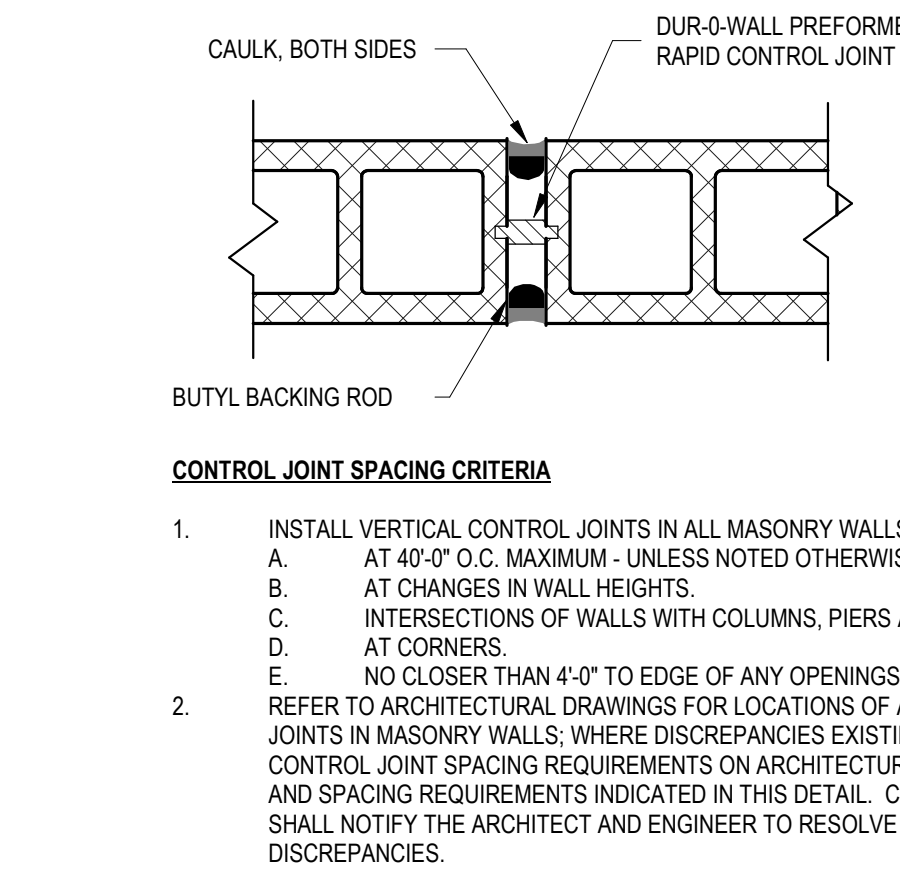
3 TYPICAL CMU WALL SCHEDULE  
1/2" = 1'-0"



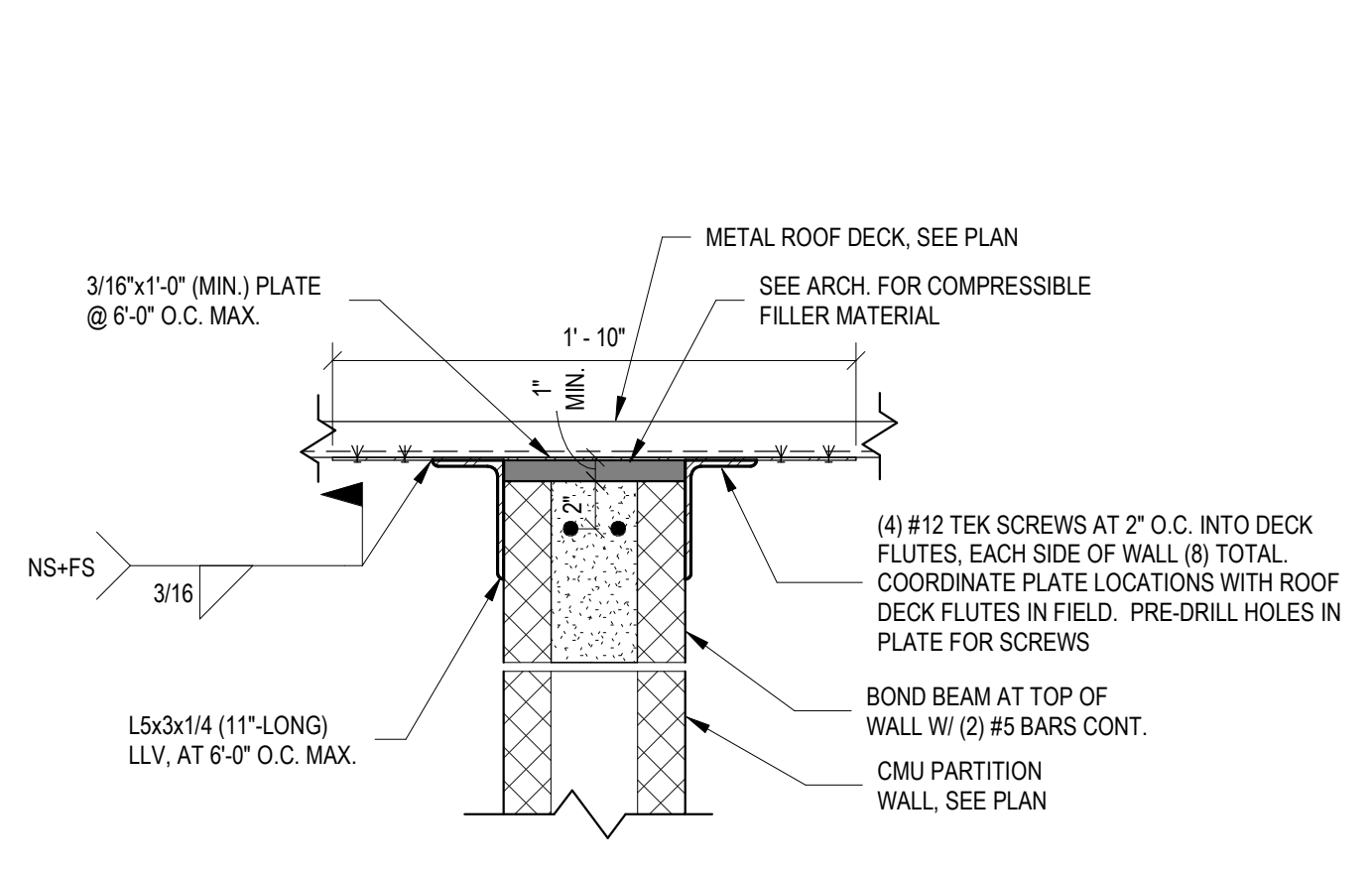
4 TYP. BOND BEAM REINF.  
1 1/2" = 1'-0"



5 GYM WALL SECTION  
1 1/2" = 1'-0"

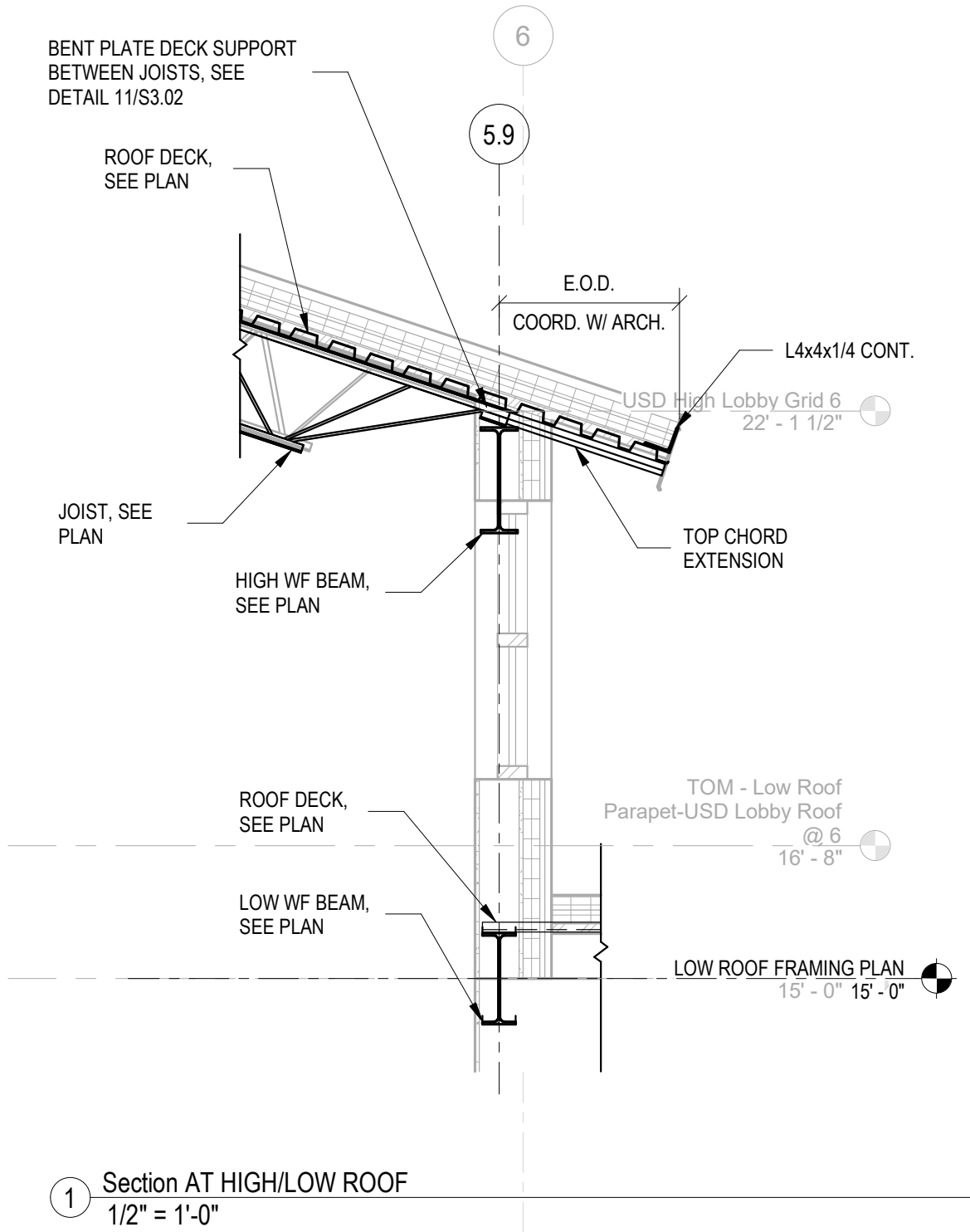


6 TYP. MASONRY CONTROL JOINT  
1 1/2" = 1'-0"



7 TYP. MASONRY PARTITION TOP SUPPORT  
1 1/2" = 1'-0"





Revised		
No.	Date	Description

NEWPORT  
COMMUNITY CENTER  
  
NEWPORT, NH

Proj. No: 18351      Drawn: Author  
Date: 12/06/18      Chk'd: Checker

FRAMING  
DETAILS



Revised		
No.	Date	Description

NEWPORT  
COMMUNITY CENTER

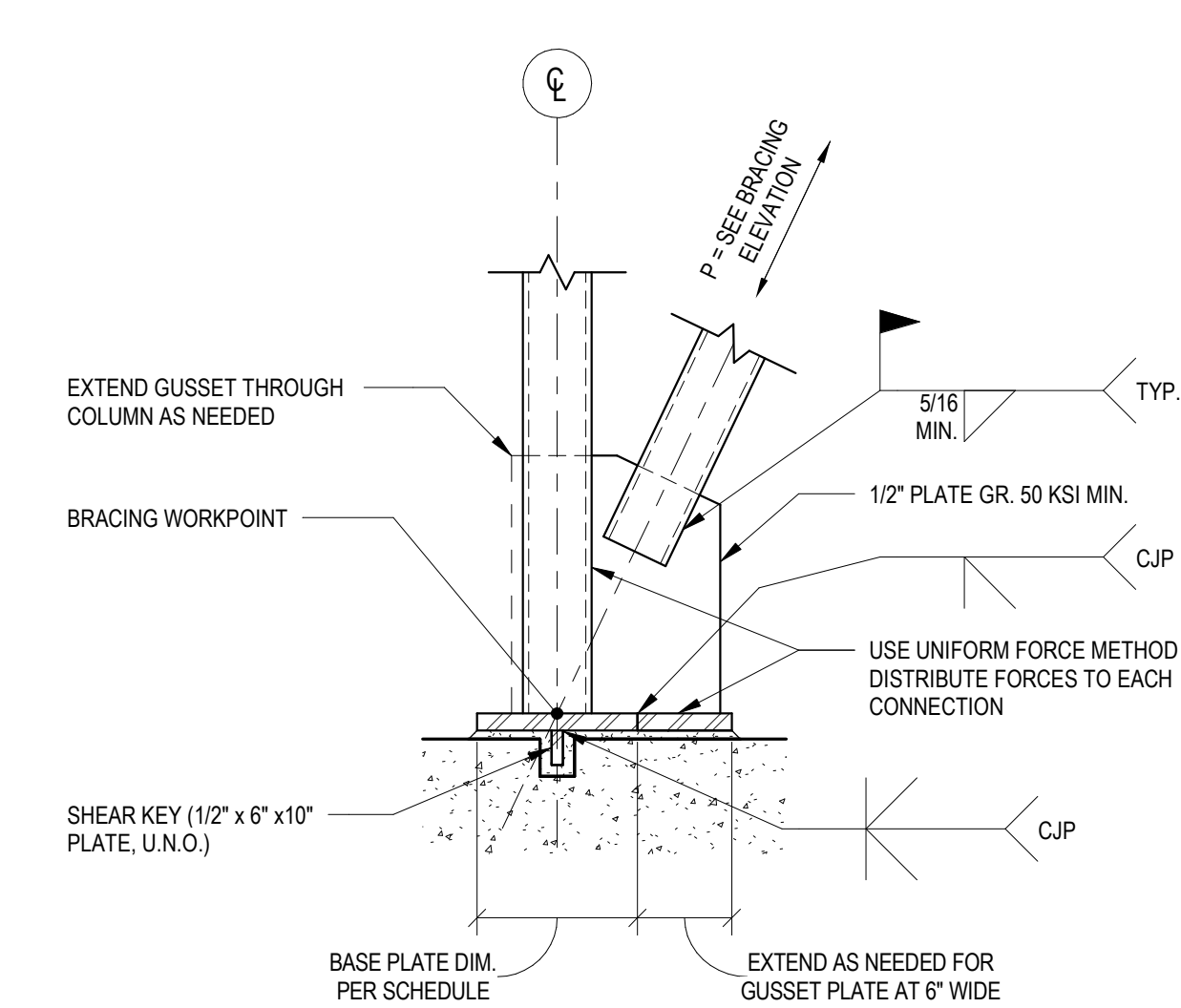
NEWPORT, NH

Proj. No: 18351      Drawn: Author  
Date: 12/06/18      Chk'd: Checker

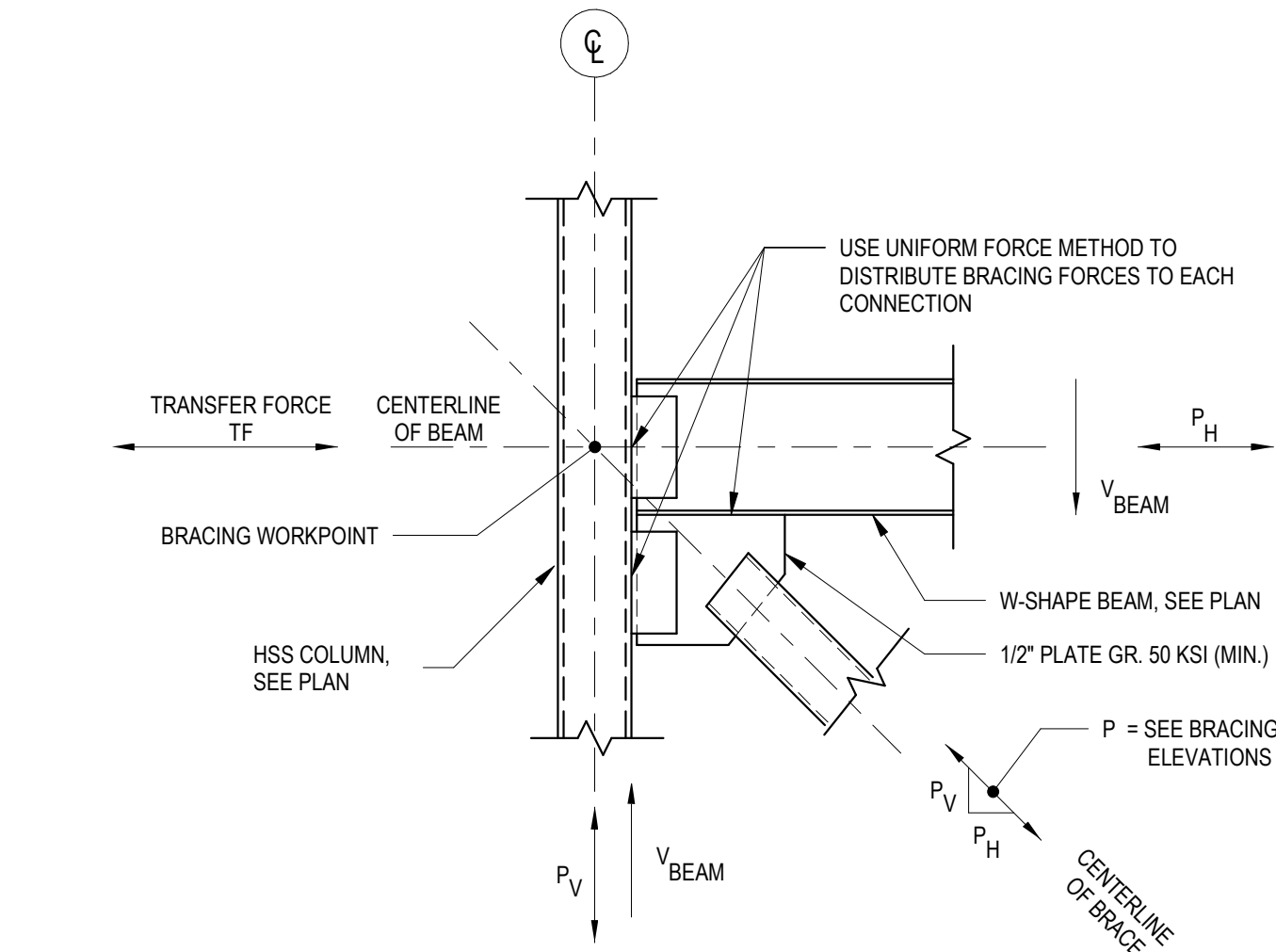
BRACING  
DETAILS

S4.01

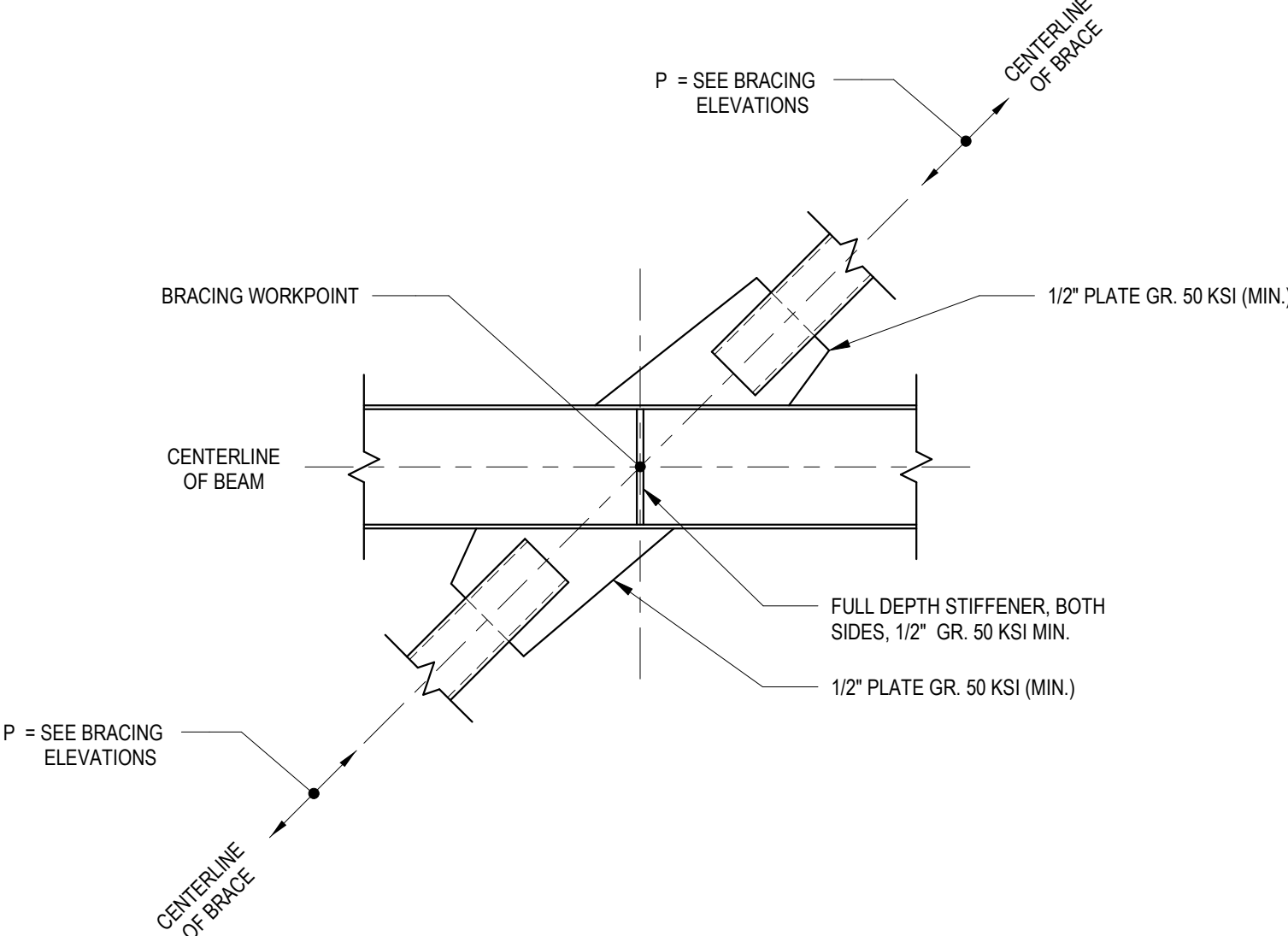
12/19/2018 PROGRESS - NOT FOR CONSTRUCTION



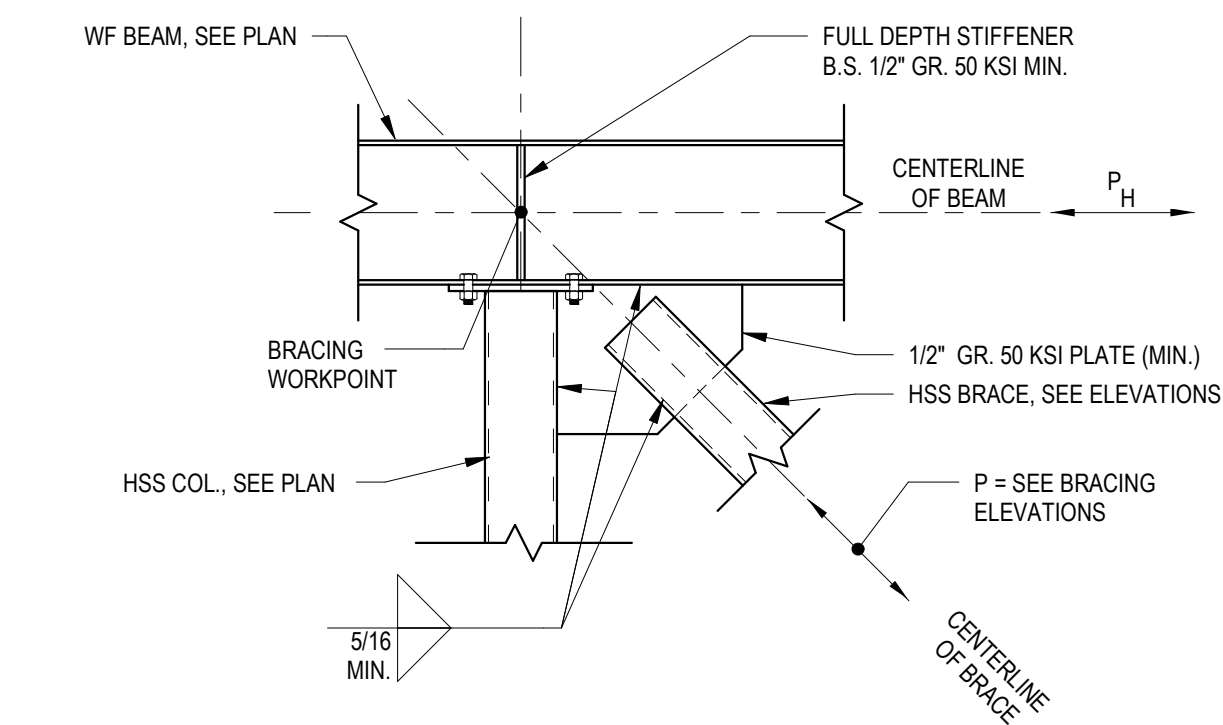
1 TYPICAL BRACING BASE PLATE CONNECTION  
3/4" = 1'-0"



2 TYPICAL BRACING CONNECTION AT HSS  
COLUMN  
3/4" = 1'-0"

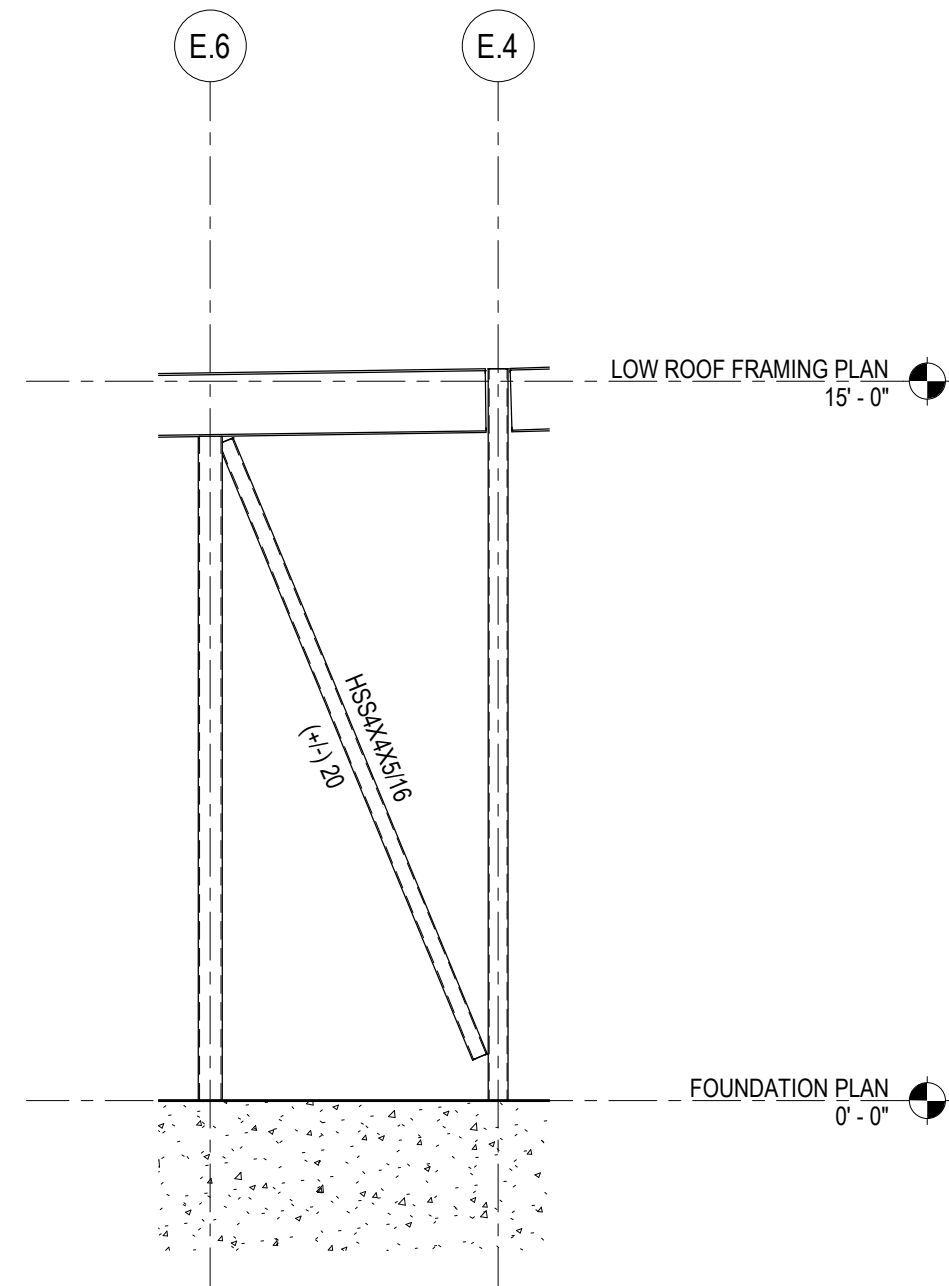


3 TYPICAL BRACING CONNECTION  
3/4" = 1'-0"



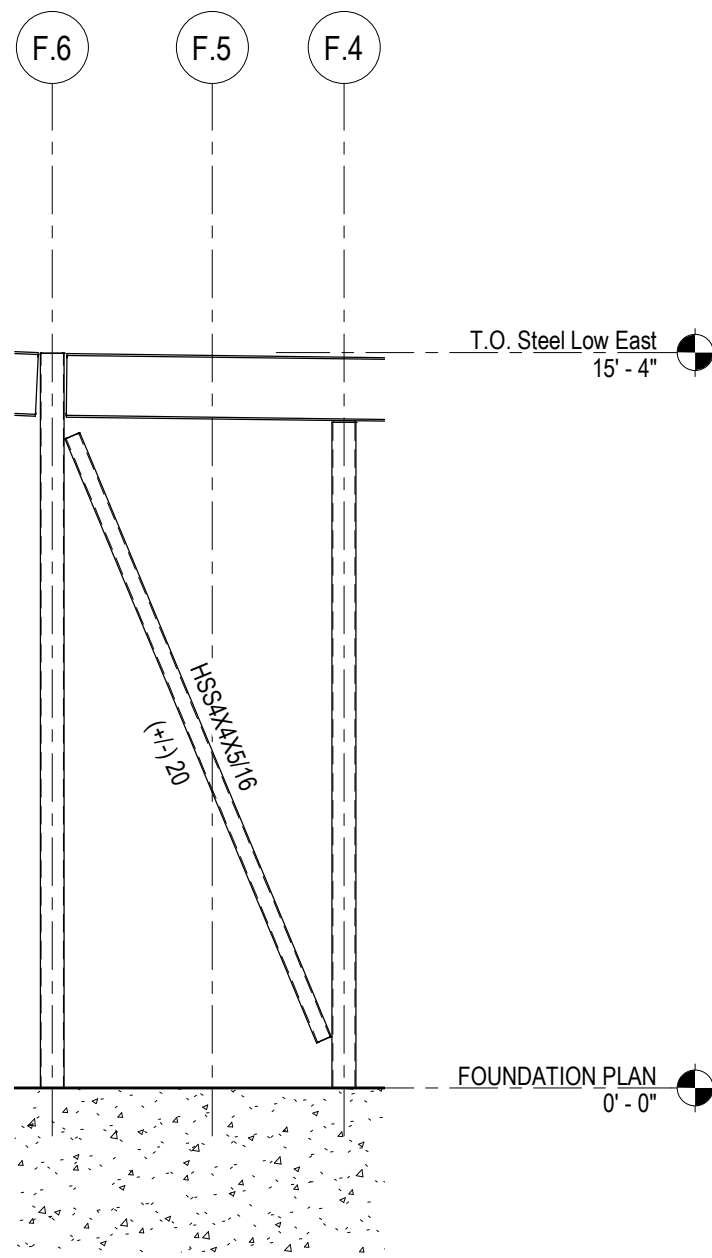
4 TYPICAL ECCENTRIC BRACING CONNECTION  
3/4" = 1'-0"





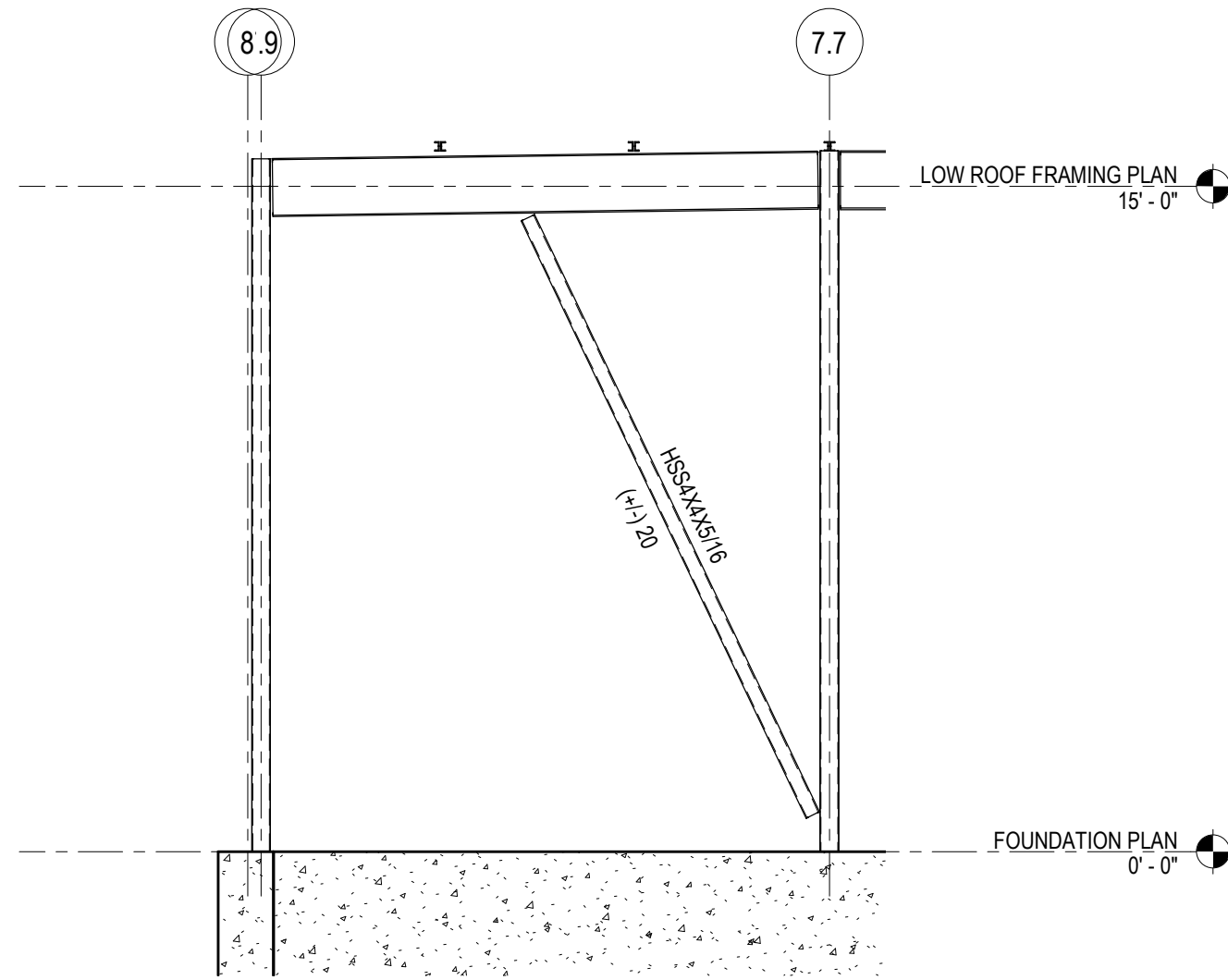
① Elevation 1 - a  
1/4" = 1'-0"

- NOTES:  
1. (+) INDICATES COMPRESSION (KIPS-ASD)  
2. (-) INDICATES TENSION (KIPS-ASD)



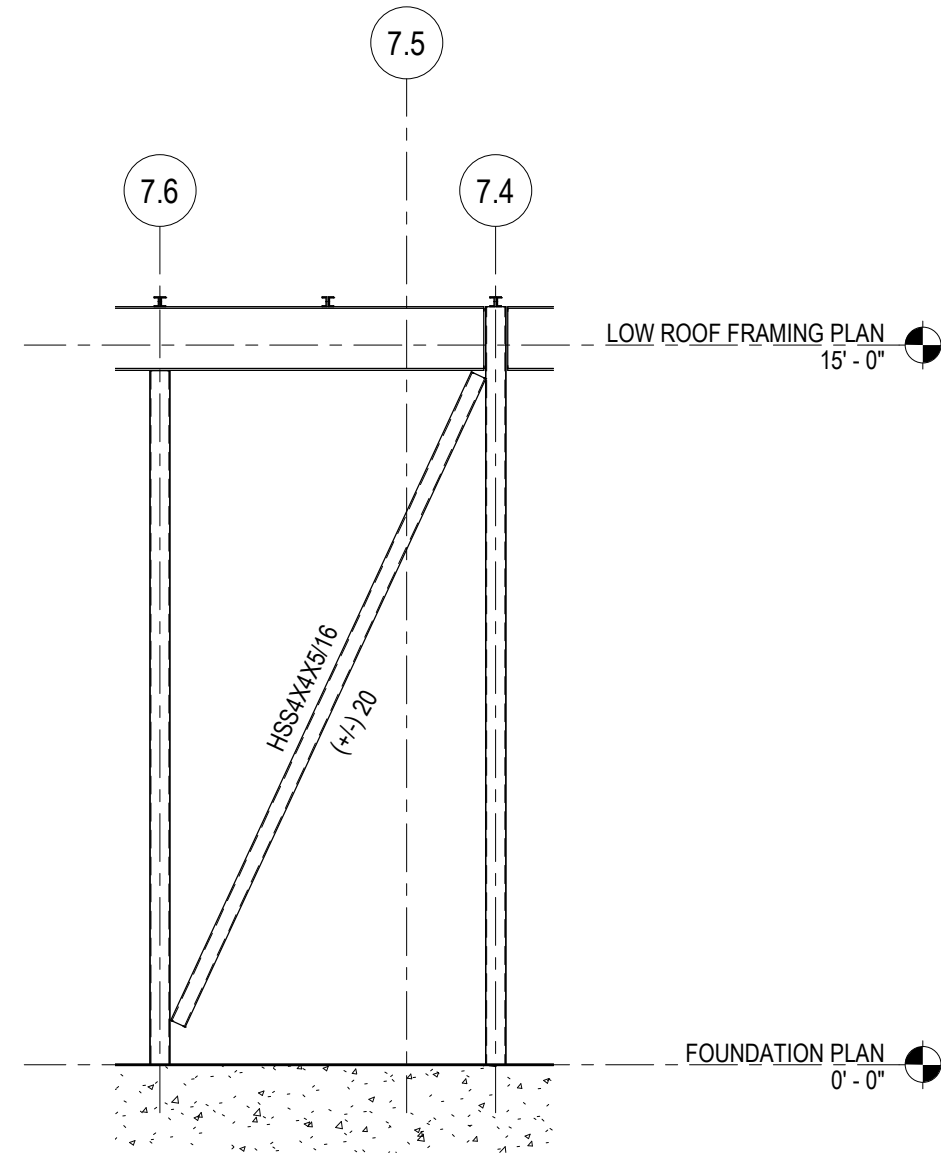
② Elevation 2 - a  
1/4" = 1'-0"

- NOTES:  
1. (+) INDICATES COMPRESSION (KIPS-ASD)  
2. (-) INDICATES TENSION (KIPS-ASD)



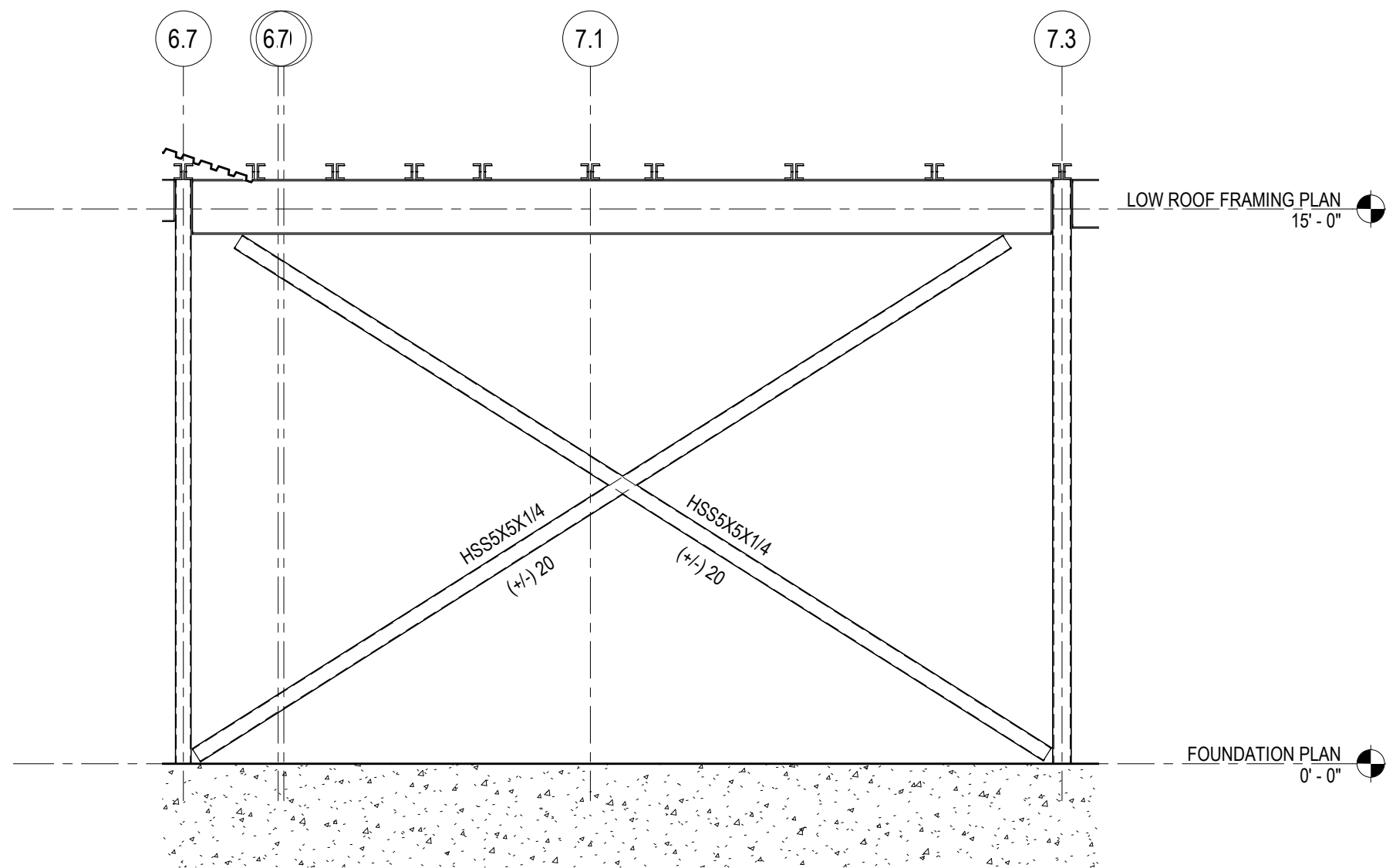
③ Elevation 3 - a  
1/4" = 1'-0"

- NOTES:  
1. (+) INDICATES COMPRESSION (KIPS-ASD)  
2. (-) INDICATES TENSION (KIPS-ASD)



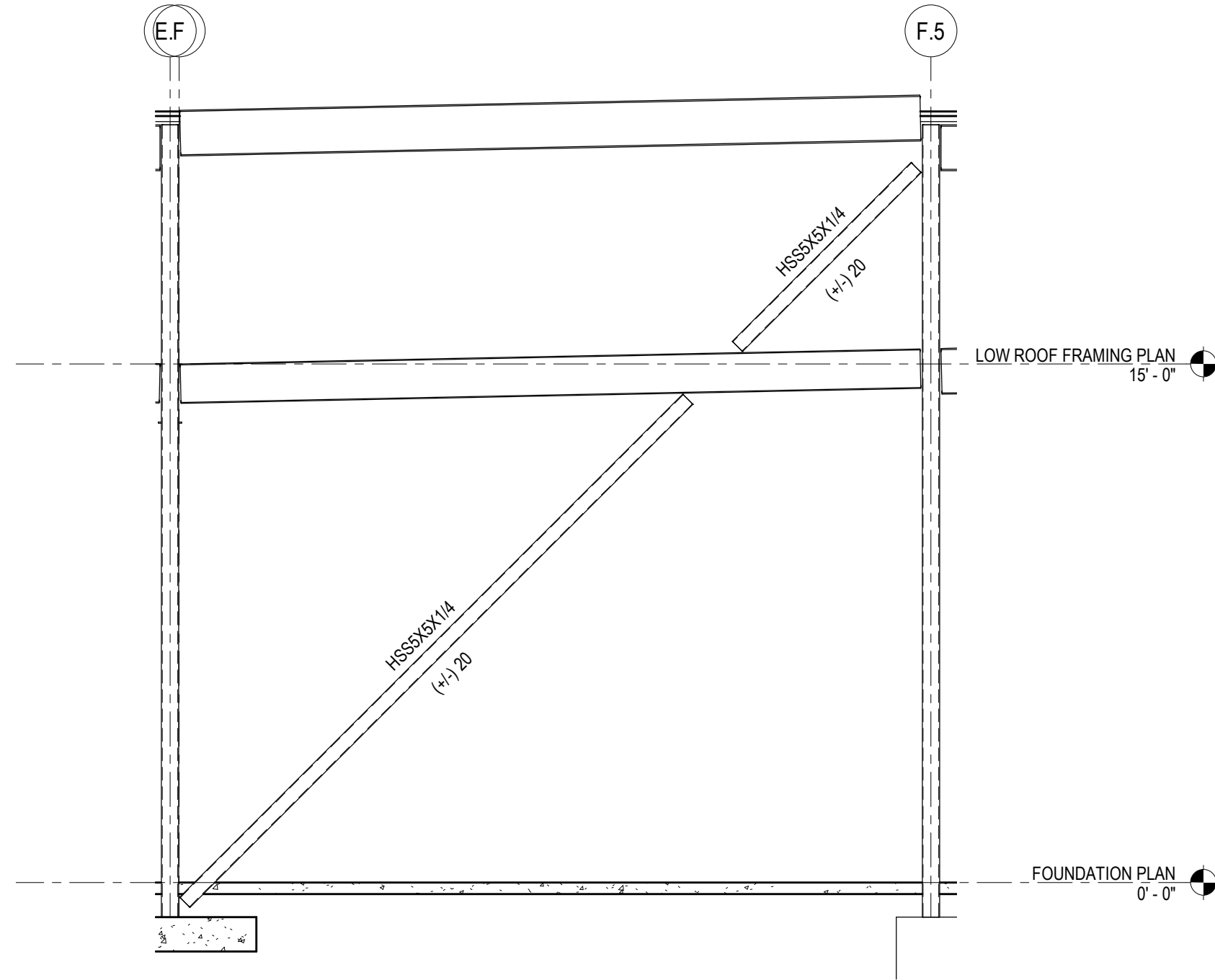
④ Elevation 4 - a  
1/4" = 1'-0"

- NOTES:  
1. (+) INDICATES COMPRESSION (KIPS-ASD)  
2. (-) INDICATES TENSION (KIPS-ASD)



⑤ Elevation 5 - a  
1/4" = 1'-0"

- NOTES:  
1. (+) INDICATES COMPRESSION (KIPS-ASD)  
2. (-) INDICATES TENSION (KIPS-ASD)



⑥ Elevation 6 - a  
1/4" = 1'-0"

- NOTES:  
1. (+) INDICATES COMPRESSION (KIPS-ASD)  
2. (-) INDICATES TENSION (KIPS-ASD)