



5/12/2024

7663 BEI NEW ADDITION

7663 85TH/ PL SE
MERCER ISLAND, WA 98040

JOB # 2024023

Table with columns: DATE, DESCRIPTION, REV.

Drawn By: Drawing Title:

STRUCTURAL NOTES

Sheet S1.0

WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING^a

Table with columns: Edges (inches), Intermediate supports (inches). Rows for 30, 31, 32.

OTHER EXTERIOR WALL SHEATHING. Rows for 33, 34.

WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING

Table with columns: Edges (inches), Intermediate supports (inches). Rows for 35, 36, 37.

PANEL SIDING TO FRAMING. Rows for 38, 39.

INTERIOR PANELING. Rows for 40, 41.

For S1: 1 inch = 25.4 mm. a. Nails spaced at 6 inches at intermediate supports where spans are 48 inches or more. b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafter shall be permitted to be reduced by one nail.

ROOF

Table with columns: DESCRIPTION OF BUILDING ELEMENTS, NUMBER AND TYPE OF FASTENER, SPACING AND LOCATION. Rows 1-7.

WALL

Table with columns: DESCRIPTION OF BUILDING ELEMENTS, NUMBER AND TYPE OF FASTENER, SPACING AND LOCATION. Rows 8-20.

DRYPACK

DRYPACK SHALL BE 5,000 PSI NON-SHRINK GROUT, FIVE STAR OR EQUIVALENT. INSTALL DRYPACK UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED.

ANCHORS

USE OF DRILLED CONCRETE ANCHORS, INCLUDING EXPANSION BOLTS AND ADHESIVE ANCHORS, WHERE NOT SPECIFIED IN THESE DOCUMENTS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER, ARCHITECT AND THE BUILDING INSPECTOR

EXPANSION BOLTS: EXPANSION BOLTS IN SOLID CONCRETE SHALL BE WEDGE-TYPE ANCHORS MADE OF CARBON STEEL. BOLT SIZE, SPACING AND EMBEDMENT LENGTH SHALL BE AS DESIGNATED IN THESE DRAWINGS. BOLTS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS WITH INSPECTION PER SCHEDULE. EXPANSION BOLTS SHALL BE SIMPSON STRONG BOLT 2 OR APPROVED EQUAL. A CURRENT ICBO OR ICC REPORT SHALL BE SUBMITTED FOR ALTERNATES.

ADHESIVE ANCHORS: ADHESIVE OR EPOXY TYPE ANCHORS IN SOLID CONCRETE SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. ANCHOR SIZE, SPACING AND EMBEDMENT LENGTH SHALL BE AS DESIGNATED IN THESE DRAWINGS. ADHESIVE SHALL BE SIMPSON SET 3G. A CURRENT ICBO OR ICC REPORT SHALL BE SUBMITTED FOR ALTERNATES.

THREADED RODS SHALL BE CONFORM WITH F1554, GRADE 55. DOWELS SHALL CONFORM WITH ASTM A615, GRADE 60. ALL ADHESIVE (EPOXY) BOLTS SHALL HAVE I.C.C. RATING FOR MATERIAL INTO WHICH INSTALLATION TAKES PLACE. ANCHORS AT EXTERIOR LOCATIONS SHALL BE HOT DIPPED GALVANIZED.

WOOD

SAWN LUMBER: STRUCTURAL SAWN LUMBER SHALL BE KILN DRIED AND BE OF THE SPECIES AND GRADE NOTED BELOW OR BETTER:

Table with columns: USE, GRADE, FB (PSI). Rows for WALL STUDS, PLATES, PLANKS, JOISTS, RAFTERS, 6X BEAMS, 6X POSTS.

GLUED LAMINATED MEMBERS: GLUED LAMINATED MEMBERS SHALL EACH BEAR AN AITC IDENTIFICATION MARK AND BE ACCOMPANIED BY AN AITC CERTIFICATE OF CONFORMANCE. ONE COAT OF END SEALER SHALL BE APPLIED IMMEDIATELY AFTER TRIMMING EITHER SHOP OR FIELD. MEMBERS SHALL BE VISUAL GRADED WESTERN SPECIES INDUSTRIAL, ARCHITECTURAL OR PREMIUM GRADE WITH STRENGTH AS FOLLOWS:

Table with columns: SYMBOL SPECIES, FB (PSI), E (PSI). Rows for GLB 24F-V4 DF/DF, 2400/1850 psi, 1,800,000.

ALL WOOD CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG TIE COMPANY (OR APPROVED EQUAL), AND OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS. ALL WOOD CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE TRIPLE ZINC G-185 GALVANIZED (1.85 OZ/SQ FT COATING).

MINIMUM WOOD NAILING REQUIREMENTS: UNLESS OTHERWISE NOTED ON THE DRAWINGS, TYPICAL WOOD FRAMING SHALL BE FASTENED PER IBC 2018 TABLE 2304.10.1.

BATED SHEATHING: STRUCTURAL PANELS SHALL BEAR THE APA TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION. SHEATHING SHALL BE AS FOLLOWS:

SHEAR WALL SHTG MIN. 7/16" 32/16 MIN. C-D INT APA WITH EXTERIOR GLUE (CDX) ROOF SHTG MIN. 15/32" 32/16 MIN. C-D INT APA WITH EXTERIOR GLUE (CDX) SUB FLOOR SHTG MIN. 3/4" 48/24 T&G MIN. C-D INT APA WITH EXTERIOR GLUE (CDX)

SHEATHING SHALL BE ORIENTATED OVER THE SUPPORTS AS SHOWN ON THE DRAWINGS. SHEAR WALL SHEATHING SHALL BE BLOCKED AT ALL PANEL EDGES AS SHOWN IN THE SHEAR WALL SCHEDULE.

PREMANUFACTURED OPEN WEB WOOD TRUSSES: TRUSSES SHALL BE DESIGN BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF WASHINGTON, WHO IS REGULARLY ENGAGED IN THE DESIGN OF PLATE-CONNECTED WOOD TRUSSES. TRUSS DESIGN SHALL BE ACCORDANCE WITH IBC SECTION 2303.4.

Table with columns: ROOF TRUSSES, TOP CHORD, BOTTOM CHORD, TOTAL. Rows for 105 PSF, 5 PSF, 20 PSF.

IN ADDITION TO DEAD LOADS, THE DESIGN SHALL INCLUDE THE LIVE, WIND, SNOW AND SNOW DRIFT LOADS AS IDENTIFIED IN THE "DESIGN LOADS" SECTION OF THESE DRAWINGS. IN ADDITION, THE TRUSS DESIGN SHALL INCLUDE CONCENTRATED AND AXIAL LOADS SHOWN ON FRAMING PLANS AND HANGER SCHEDULES IN THESE DRAWINGS. ROOF TRUSSES SHALL BE DESIGNED FOR WIND NET UPLIFT OF 10 PSF UNLESS OTHERWISE NOTED ON THE DRAWINGS. FLOOR TRUSSES SHALL BE DESIGN FOR MAXIMUM LIVE LOAD DEFLECTION = 1/2" AND MINIMUM LIVE LOAD DEFLECTION RATIO = L/480.

TRUSSES SHALL BE FABRICATED BY A MANUFACTURER WHO IS A MEMBER OF THE TRUSS PLATE INSTITUTE. TRUSSES SHALL BE SUPPLIED WITH THE PROPER HANGERS, END CONNECTIONS, BRIDGING, BRACING TO PROVIDE LATERAL STABILITY OF ALL TRUSS MEMBERS, AND TIE-DOWN CONNECTIONS TO BEAMS AND TOPS OF WALLS. TRUSSES SHALL BE SUPPLIED WITH TAPERED HARDWOOD SHIMMING SO THAT EVERY CHORD BEARS ON THE FULL WIDTH OF EVERY SUPPORT, WITHOUT NOTCHING THE TRUSS MEMBERS. THE TRUSS MANUFACTURER IS RESPONSIBLE FOR ENSURING THE BEARING SEAT DOES NOT EXCEED THE SILL PLATE CAPACITY OF THE SUPPORTING ELEMENT.

BUILDING OFFICIAL INSPECTIONS

THE FOLLOWING RECOMMENDED MINIMUM ITEMS SHALL BE INSPECTED BY A QUALIFIED INDIVIDUAL PROVIDED BY THE BUILDING OFFICIAL: -FOOTINGS BEAR ON COMPETENT NATIVE SOIL PER THE "FOUNDATIONS" SECTION ABOVE -FOOTING REINFORCEMENT -SHEAR WALL SILL PLATE ANCHORS AND WASHERS PER SCHEDULE -SHEAR WALL NAILING AND SHEAR CLIPS PER SCHEDULE -SHEAR WALL HOLD-DOWNS -VERIFY TYPE, SIZE AND GRADE OF STRUCTURAL STEEL MEMBERS AND BOLTS

SHEET INDEX

- S1.0 STRUCTURAL NOTES S2.0 FOUNDATION PLANS S2.1 FLOOR FRAMING PLANS S2.2 ROOF FRAMING PLANS S3.0 TYPICAL STRUCTURAL DETAILS S3.1 TYPICAL STRUCTURAL DETAILS S3.2 TYPICAL STRUCTURAL DETAILS S3.3 SHEAR WALL DETAILS S3.4 TYPICAL STRUCTURAL DETAILS

GENERAL NOTES

ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE 2018 EDITION.

CONTRACTOR SHALL VERIFY ALL LEVELS, DIMENSIONS AND EXISTING CONDITIONS IN FIELD BEFORE PROCEEDING WITH ANY CONSTRUCTION OR DEMOLITION. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR FIELD CHANGES.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS, EXISTING CONSTRUCTION AND SOIL EXCAVATIONS AS REQUIRED, IN A MANNER SUITABLE TO THE WORK SEQUENCE. TEMPORARY SHORING AND BRACING SHALL NOT BE REMOVED UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS AND MATERIALS HAVE ACHIEVED DESIGN STRENGTH. FOUNDATIONS WALLS GREATER THAN 4 FEET SHALL NOT BE BACKFILLED UNTIL THE FLOOR FRAMING AND ALL CONNECTIONS TO THE FLOOR FRAMING PER THESE DETAILS ARE COMPLETE.

CHANGES: NO CHANGES TO THESE STRUCTURAL DRAWINGS ARE PERMITTED WITHOUT WRITTEN CONSENT OF THE ENGINEER. CHANGES WILL BE BILLED TO THE CLIENT, OWNER OR CONTRACTOR AT THE ENGINEER'S HOURLY RATE.

SUBMITTALS: SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO ANY FABRICATION OR CONSTRUCTION FOR ALL THE FOLLOWING: STRUCTURAL STEEL, STEEL CANOPIES, GLUED-LAMINATED MEMBERS AND PRE-MANUFACTURED WOOD MEMBERS.

DESIGN DRAWINGS AND CALCULATIONS, FOR PRE-MANUFACTURED WOOD TRUSSES AND JOISTS SHALL BEAR THE SEAL AND SIGNATURE OF THE WASHINGTON STATE REGISTERED PROFESSIONAL ENGINEER WHO IS RESPONSIBLE FOR THE DESIGN, AND SHALL BE SUBMITTED TO THE ARCHITECT AND BUILDING OFFICIAL FOR REVIEW PRIOR TO FABRICATION.

DESIGN LOADS

LIVE LOADS: LIVE LOADS ARE DETERMINED IN ACCORDANCE WITH ASCE CH. 7 L = 40 PSF (RESIDENTIAL)

SNOW LOADS: SNOW LOADS ARE DETERMINED IN ACCORDANCE WITH ASCE CH. 7 WITH THE FOLLOWING FACTORS: GROUND SNOW LOAD PG = 25 PSF CT = 1.0 CE = 1.0 ROOF SNOW LOAD PS = 25 PSF IS = 1.0

WIND LOADS: WIND LOADS ARE BASED ON ASCE 7-16 CH. 28 (ENVELOPE PROCEDURE) WITH THE FOLLOWING FACTORS: EXPOSURE CATEGORY = B IW = 1.0 VELOCITY (3 SEC) = 110 MPH (ULT) KZ1 = 1.60

DESIGN WIND PRESSURED FOR DETERMINING FORCES ON COMPONENTS AND CLADDING ARE DETERMINED IN ACCORDANCE WITH ASCE 7-16 CHAPTER 30.

SEISMIC LOADS: SEISMIC LOADS ARE BASED ON THE EQUIVALENT LATERAL FORCE PROCEDURE IN ASCE 7-16 SECTION 12.8 WITH THE FOLLOWING FACTORS: RISK CATEGORY = II SS = 1.465 SITE CLASS = D S1 = 0.506 DESIGN CATEGORY = D SDS = 1.172 IE = 1.0 R = 6.5 (WOOD SHEAR WALL) CS = 0.180 (ULT.)

FOUNDATIONS

CONCRETE FOUNDATIONS SHALL BEAR ON STIFF, COMPETENT, UNDISTURBED NATIVE SOIL PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN CONFIRMATION FROM THE BUILDING OFFICIAL THAT THE NATIVE SOIL AT THIS PROJECT IS ADEQUATE TO SUPPORT THE FOLLOWING BEARING PRESSURE: ALLOWABLE BEARING PRESSURE USED FOR STRUCTURAL DESIGN = 1500 PSF.

WHERE FOOTINGS MUST BEAR ON STRUCTURAL FILL DUE TO INADEQUATE SOIL CONDITIONS, THE FILL SHALL BE MIXED AND COMPACTED IN ACCORDANCE WITH SPECIFICATIONS PROVIDED BY A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF WASHINGTON.

BOTTOM OF FOOTING ELEVATION SHALL BE LOCATED AT MINIMUM FROST DEPTH 18" BELOW TOP OF FINISHED GRADE UNLESS REQUIRED OTHERWISE BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL CONFIRM THE MINIMUM FROST DEPTH WITH THE BUILDING OFFICIAL PRIOR TO EXCAVATION.

CONCRETE

CONCRETE WORK SHALL COMPLY, IN GENERAL, WITH ACI 301 (LATEST EDITION) "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.

CONCRETE MIXES: CONCRETE MIXES SHALL CONFORM ACI 318 CH. 5. MINIMUM CONCRETE STRENGTH F'c AT 28 DAYS SHALL BE AS FOLLOWS: SLAB-ON-GRADE, CURBS AND PADS - 2500 PSI FOOTINGS - 3000 PSI WALLS, STEMS - 3000 PSI

WATER/CEMENT RATIO SHALL BE MEASURED BY WEIGHT AND SHALL BE BASED ON THE TOTAL CEMENTITIOUS MATERIAL. WATER/CEMENT RATIO SHALL BE DETERMINED BY THE SUPPLIER BASED ON STRENGTH REQUIREMENTS AND SHALL NOT EXCEED 0.55. WATER-REDUCING ADMIXTURES MAY BE INCORPORATED IN CONCRETE MIX DESIGNS, BUT SHALL CONFORM TO ASTM C 464 AND BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CAEL AND OTHER WATER-SOLUBLE CHLORIDE ADMIXTURES SHALL NOT BE USED.

REINFORCING STEEL: ALL REINFORCING SHALL BE DEFORMED BAR (REBAR) WITH BAR DIAMETERS SPECIFIED IN THESE DRAWINGS AND PROPERTIES BELOW: ALL REINFORCING UNLESS NOTED OTHERWISE - ASTM A615, GRADE 60 #3 STIRRUPS AND TIES - ASTM A615, GRADE 40 WELDED REBAR - ASTM A706, GRADE 60 GALVANIZED WELDED WIRE FABRIC - ASTM A165

REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

REINFORCING STEEL SHALL BE LAPPED AS NOTED ON THE DRAWINGS. WHERE LAP LENGTH IS NOT SHOWN, REINFORCING BARS SHALL BE LAPPED AS FOLLOWS: #5 AND SMALLER - 48 BAR DIAMETERS #6 AND LARGER - 60 BAR DIAMETERS

MINIMUM CONCRETE COVER OVER REINFORCING SHALL BE AS FOLLOWS: NONSTRUCTURAL SLAB-ON-GRADE - MID-DEPTH WALL BARS: INTERIOR FACE - 3/4" EXPOSED TO EARTH/WEATHER - 1-1/2" (#5 AND SMALLER), 2" (#6 AND LARGER) FOOTINGS: BOTTOM BARS - 3" (CAST AGAINST EARTH) TOP BARS - 1-1/2" SIDE BARS - 2"

PROVIDE SUPPORTS AS REQUIRED FOR PROPER ALIGNMENT AND CONCRETE COVER AROUND THE REINFORCEMENT. CONSULT THE CRSI MANUAL OF STANDARD PRACTICE MSP-1 FOR SPECIFIC INFORMATION.

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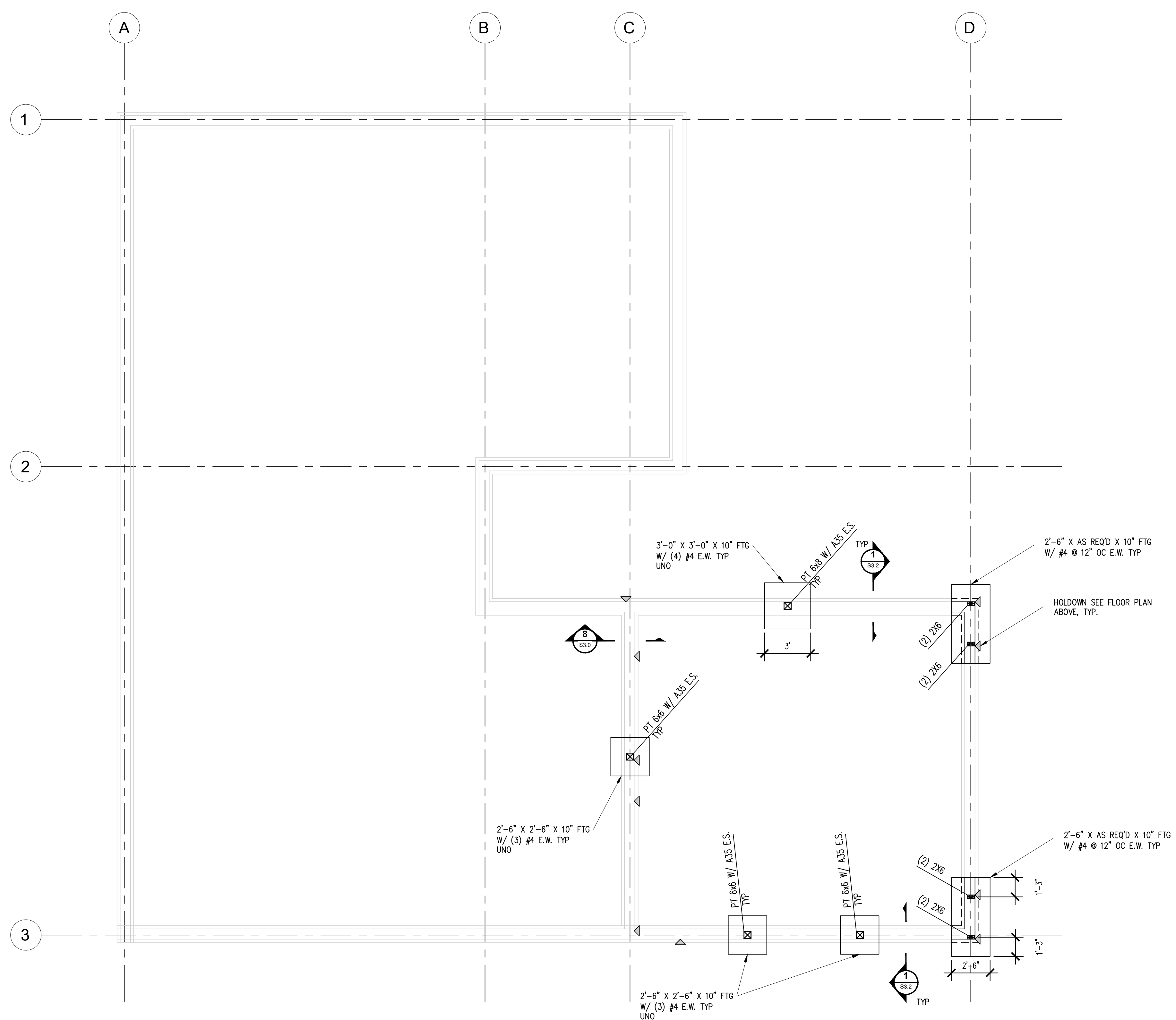
FOUNDATION PLAN
 Sheet S2.0

FLOOR PLAN LEGEND

	NEW LOAD BEARING WALL
	NEW BEAM/HEADER, U.N.O.
	NEW POST
	NEW HOLD-DOWN LOCATION
	NEW HANGER
	INDICATES SHEAR WALL AND HOLD-DOWN TYPE. SEE SCHEDULE ON SHEET S3.3
	FORCE TRANSFER SHEAR WALL SEE DETAIL 6/S3.3
	FORCE TRANSFER SHEAR WALL SEE DETAIL 5/S3.2
	EXISTING WALL TO BE REMOVED
	EXISTING WALL
	EXISTING BEAM/HEADER

PLAN NOTES:

- SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. STRUCTURAL DRAWINGS ARE SCHEMATIC. DO NOT SCALE. CONTRACTOR TO PROVIDE TEMPORARY SUPPORT FOR THE DEMOLITION.
- DIMENSIONS AND LOCATION OF EXISTING FOUNDATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- ALL LOAD BEARING WALL WITH OUT SHEAR WALL TYPE SHOULD BE TYPE A.
- ALL 4" LOAD BEARING WALL SHOULD BE 2X4 HF#2 @ 16" OC.
- ALL 6" LOAD BEARING WALL SHOULD BE 2X6 HF#2 @ 16" OC.
- ALL POST SHALL BE HF#2 U.N.O.
- ALL BEAM AND HEADER SHOULD BE HF#2 U.N.O.
- ALL SHEAR WALL DOES NOT LINE UP ABOVE, HOLDDOWN SHOULD BE CONTINUOUS AND CONNECTED TO BEAM OR FOUNDATION.
- ALL BEAM AT TOP PLATE/WALL CONNECTION SEE DETAIL 5/S3.3.
- SEE 7/S3.0, 9/S3.0 FOR STAIR CONNECTION



FOUNDATION PLAN
 24x36' SCALE 1/4" = 1'-0"



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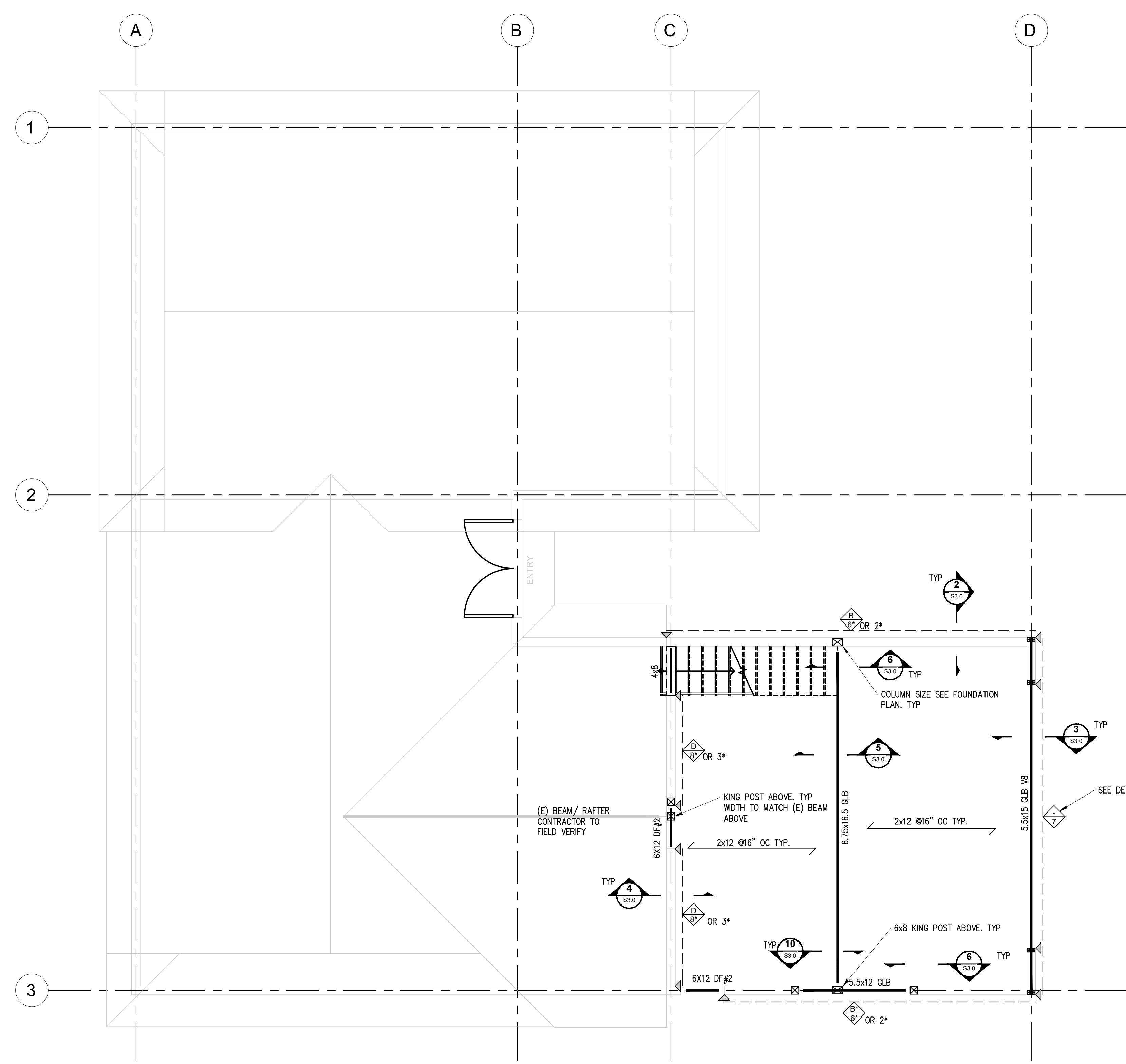
FLOOR FRAMING PLAN
 Sheet S2.1

FLOOR PLAN LEGEND

	NEW LOAD BEARING WALL
	NEW BEAM/HEADER, U.N.O
	NEW POST
	NEW HOLD-DOWN LOCATION
	NEW HANGER
	INDICATES SHEAR WALL AND HOLD-DOWN TYPE. SEE SCHEDULE ON SHEET S3.3
	FORCE TRANSFER SHEAR WALL SEE DETAIL 6/S3.3
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	EXISTING WALL TO BE REMOVED
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- ALL 4" LOAD BEARING WALL SHOULD BE 2X4 HF#2 @ 16" OC.
- ALL 6" LOAD BEARING WALL SHOULD BE 2X6 HF#2 @ 16" O.C.
- ALL POST SHALL BE HF#2 U.N.O.
- ALL BEAM AND HEADER SHOULD BE HF#2 U. N. O.
- ALL SHEAR WALL DOES NOT LINE UP ABOVE, HOLD-DOWN SHOULD BE CONTINUOUS AND CONNECTED TO BEAM OR FOUNDATION.
- ALL BEAM AT TOP PLATE/WALL CONNECTION SEE DETAIL 5/S3.3.
- SEE 7/S3.0, 9/S3.0 FOR STAIR CONNECTION



FLOOR FRAMING PLAN
 24x36 SCALE 1/4" = 1'-0"

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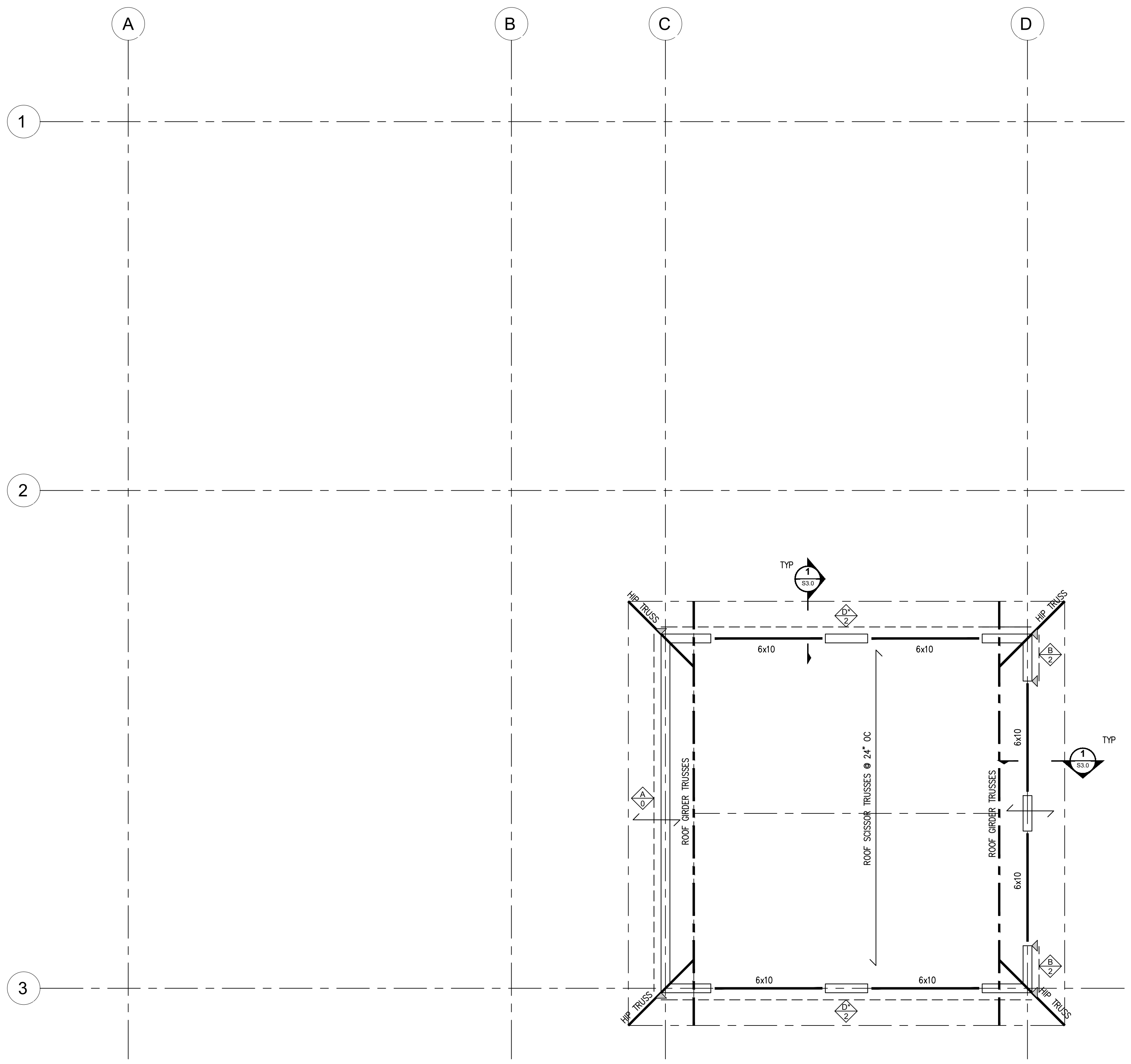
ROOF FRAMING PLAN
 Sheet S2.2

FLOOR PLAN LEGEND

	NEW LOAD BEARING WALL
	NEW BEAM/HEADER, U.N.O
	NEW POST
	NEW HOLD-DOWN LOCATION
	NEW HANGER
	INDICATES SHEAR WALL AND HOLD-DOWN TYPE. SEE SCHEDULE ON SHEET S3.3
	FORCE TRANSFER SHEAR WALL SEE DETAIL 6/S3.3
	FORCE TRANSFER SHEAR WALL SEE DETAIL 5/S3.2
	EXISTING WALL TO BE REMOVED
	EXISTING WALL
	EXISTING BEAM/HEADER

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- ALL BEAM AT TOP PLATE/WALL CONNECTION SEE DETAIL 5/S3.3.
- SEE 7/S3.0, 9/S3.0 FOR STAIR CONNECTION



ROOF FRAMING PLAN
 24x36 SCALE 1/4" = 1'-0"



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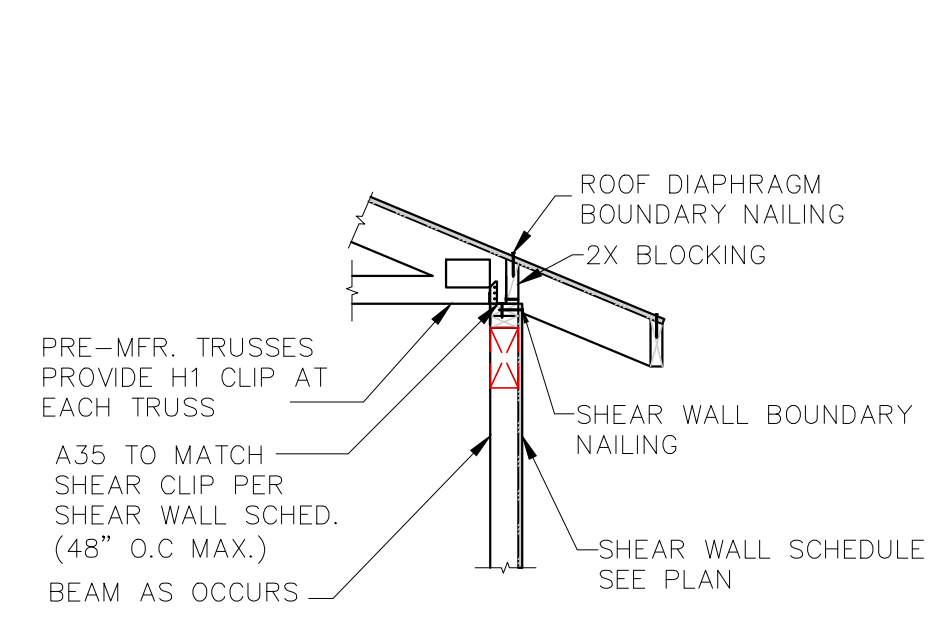
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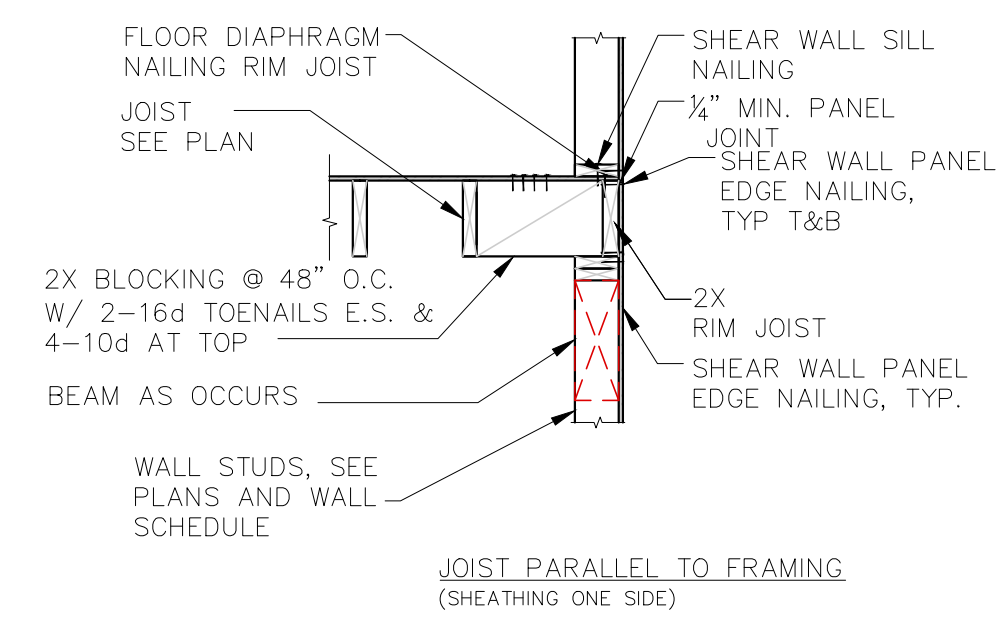
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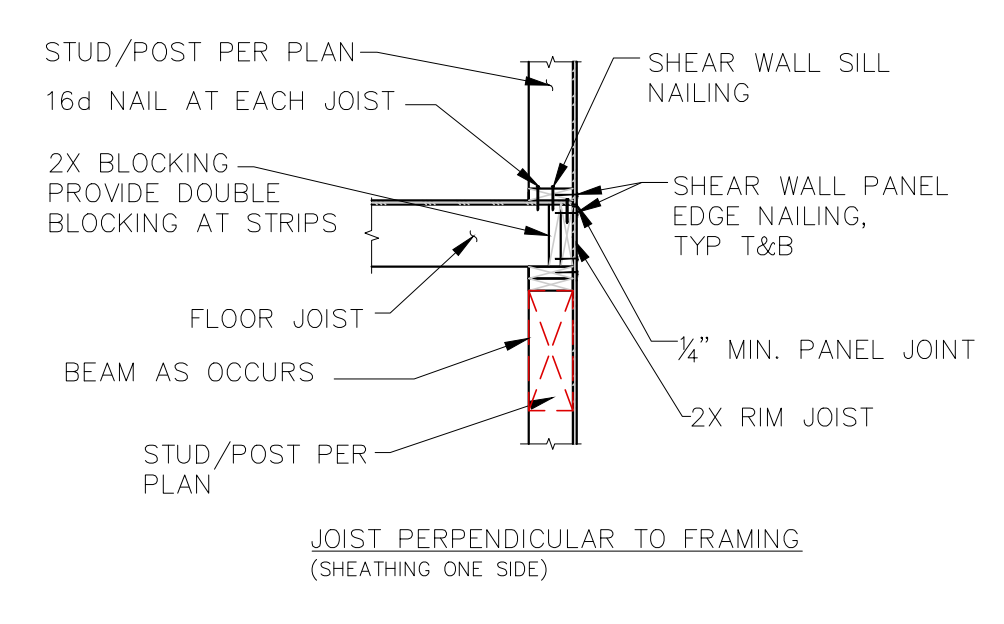
TYPICAL STRUCTURAL
 DETAILS
 Sheet
S3.0



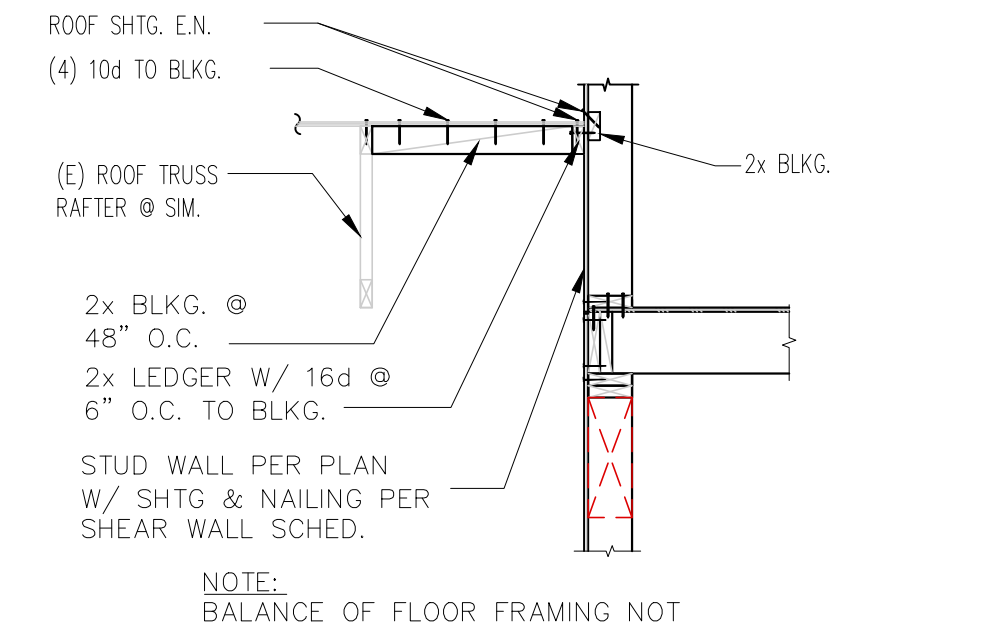
1 TYP. TRUSS PERP. TO SHEAR WALL
 S3.0 SCALE: 1/2"=1'-0"



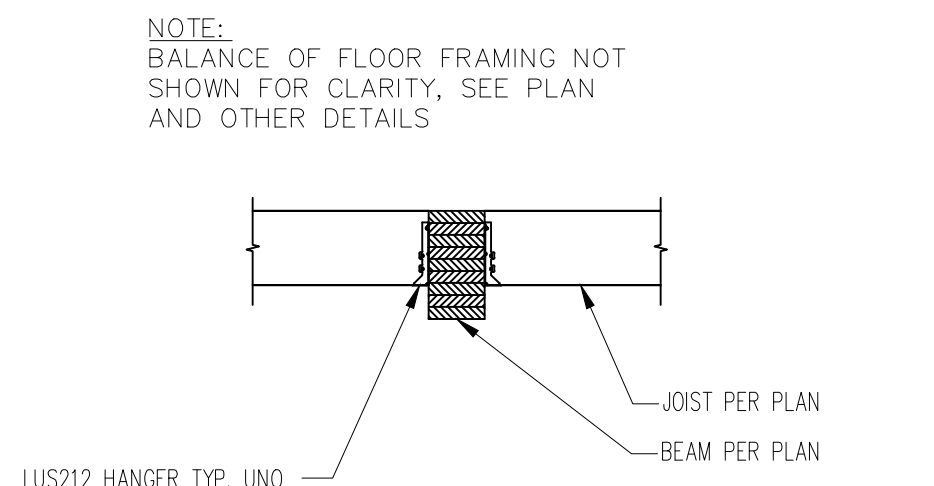
2 TYP. EXT. WALL JSTS. PARALLEL
 S3.0 SCALE: 1/2"=1'-0"



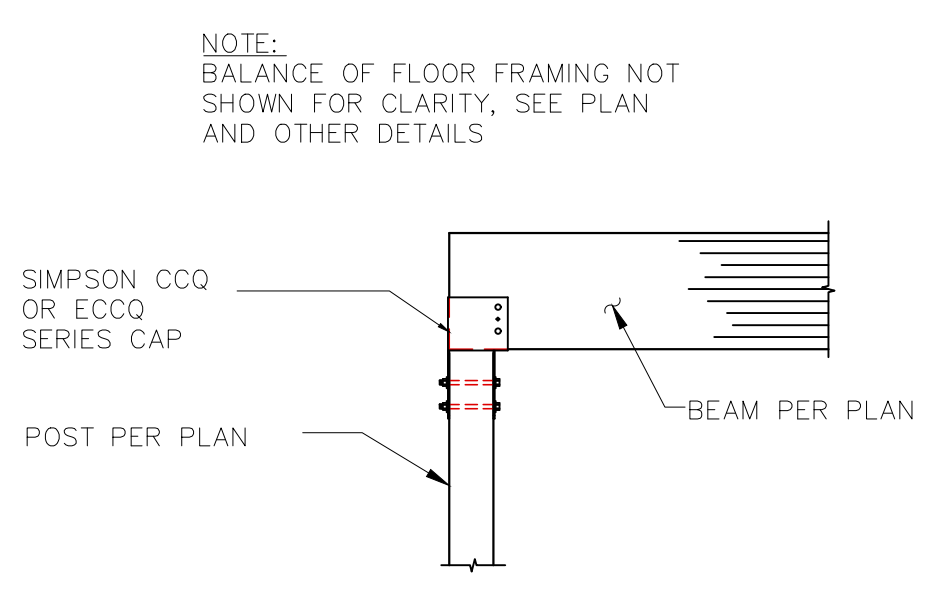
3 TYP. EXT. WALL JST. PERP.
 S3.0 SCALE: 1/2"=1'-0"



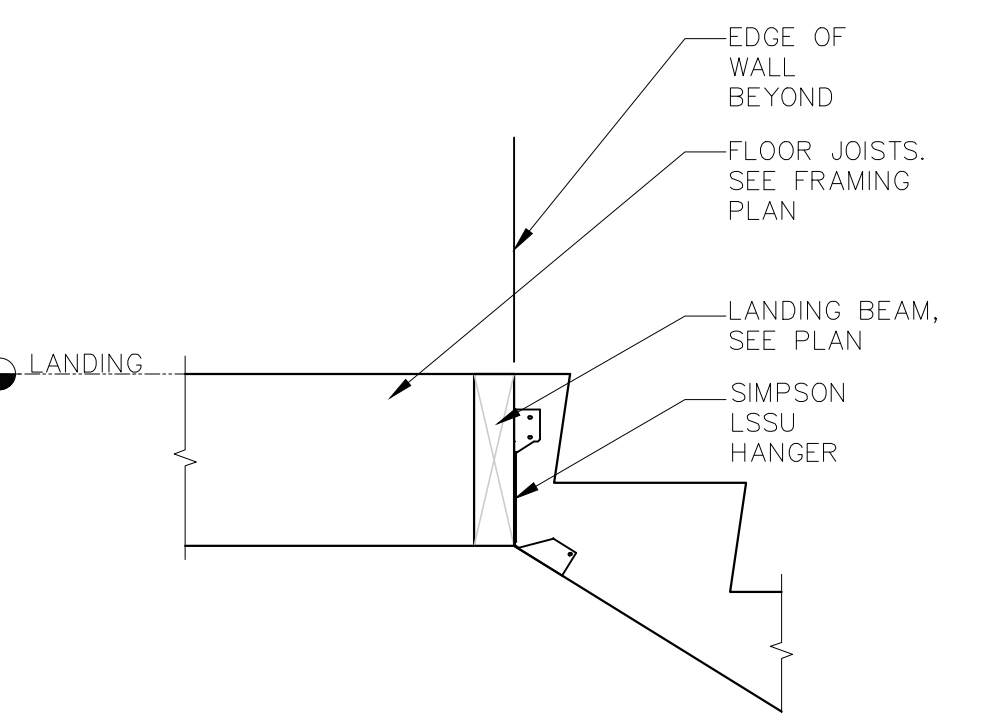
4 (E) TRUSS/RAFTER CONNECTION
 S3.0 SCALE: 3/4"=1'-0"



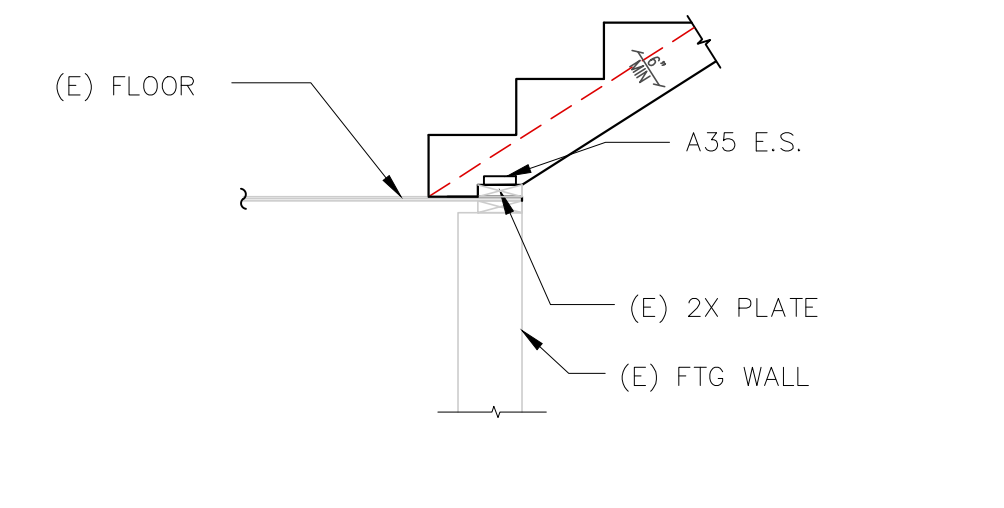
5 TYP. JOIST TO BEAM CONNECTION
 S3.0 SCALE: 3/4"=1'-0"



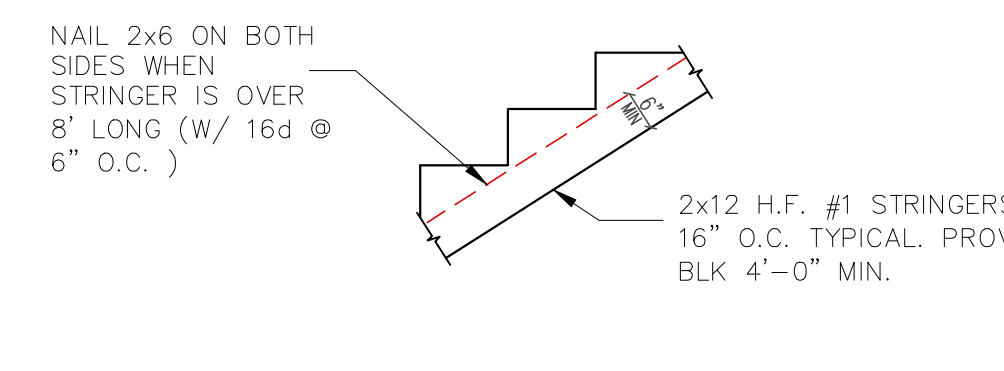
6 TYP. COL TO GLB/PSL/LVL END CONN.
 S3.0 SCALE: 1/2"=1'-0"



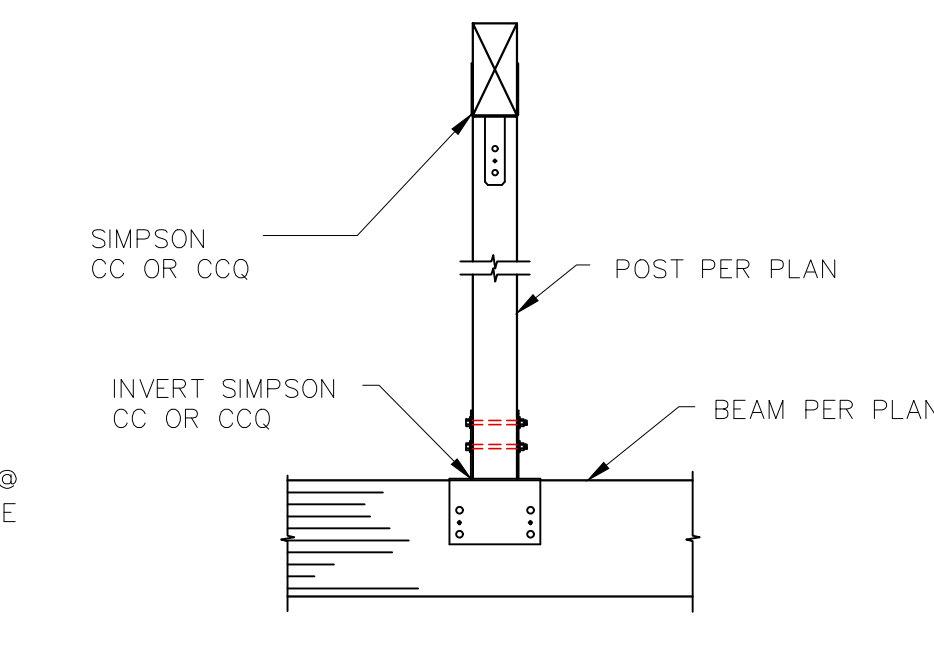
7 TYP. STAIR AT LANDING
 S3.0 SCALE: 1/2"=1'-0"



8 TYP. STRINGER AT LANDING
 S3.0 SCALE: 3/4"=1'-0"



9 TYP. STRINGER SECTION
 S3.0 SCALE: 3/4"=1'-0"



10 TYP. POST TO BEAM CONN.
 S3.0 SCALE: 1/2"=1'-0"

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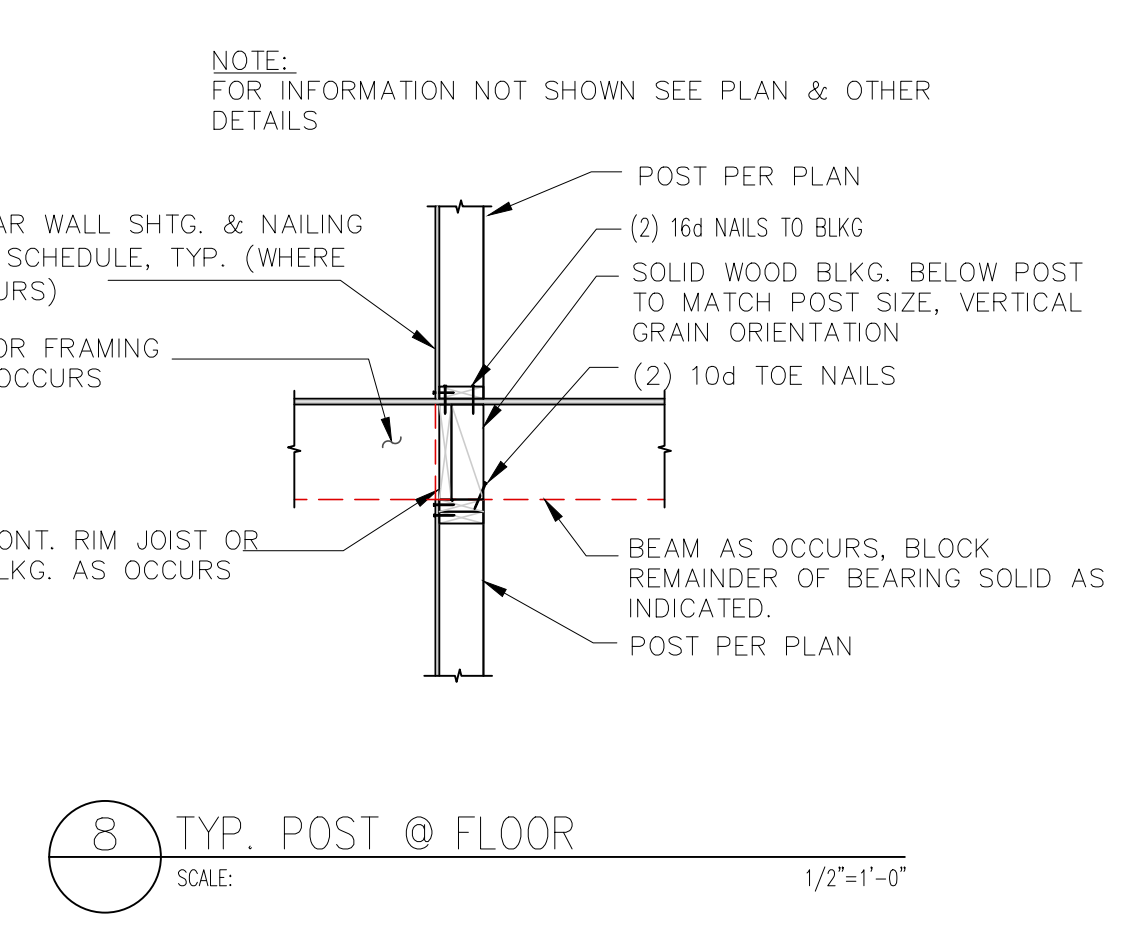
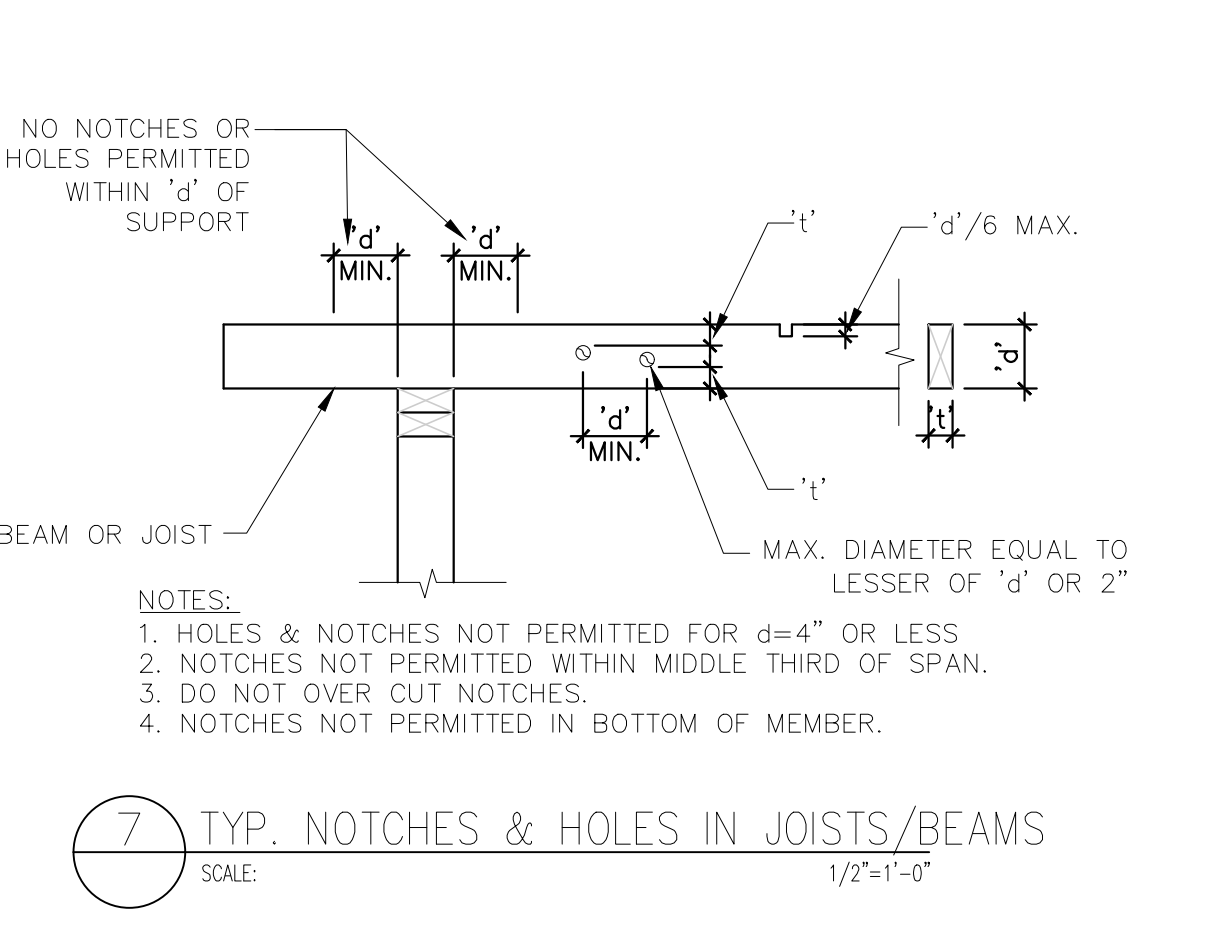
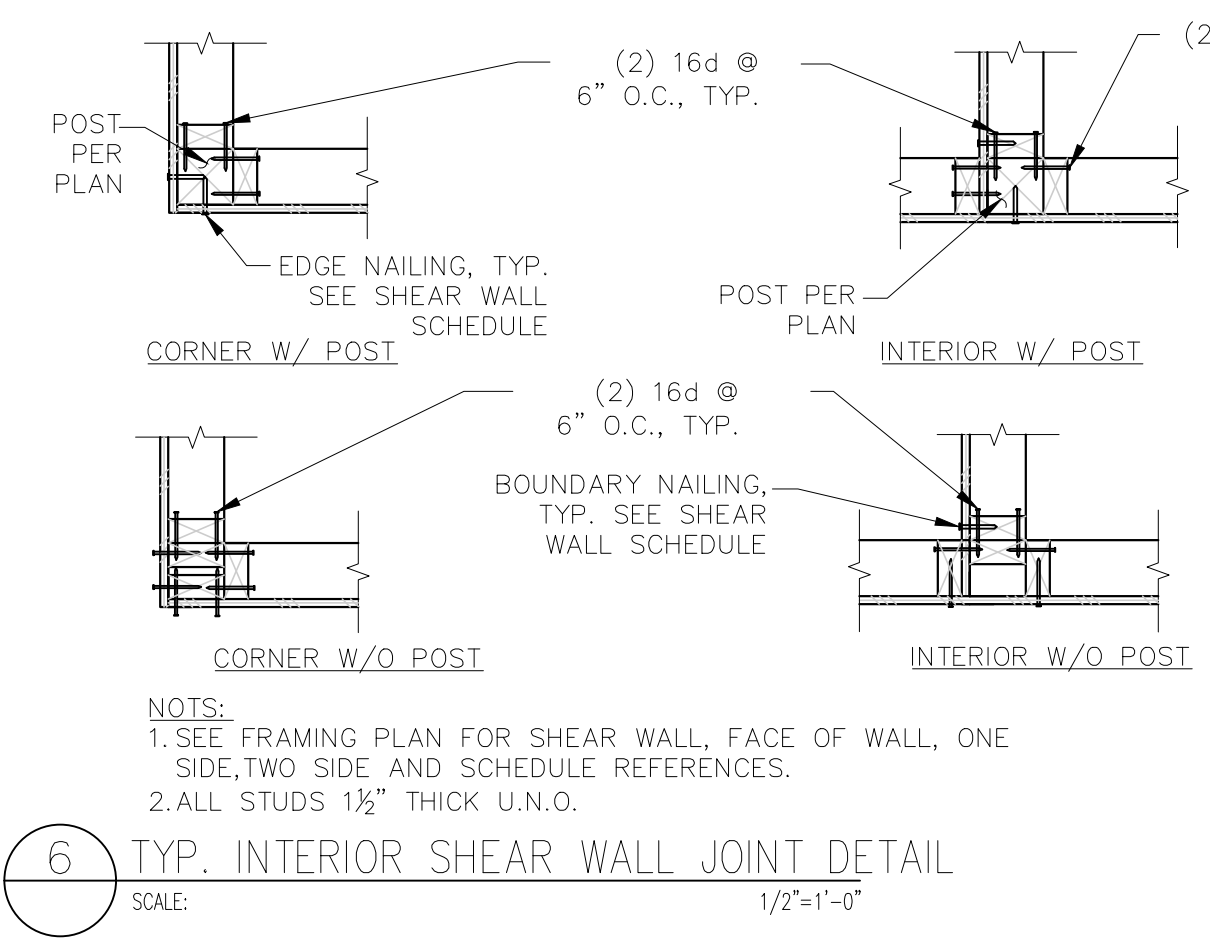
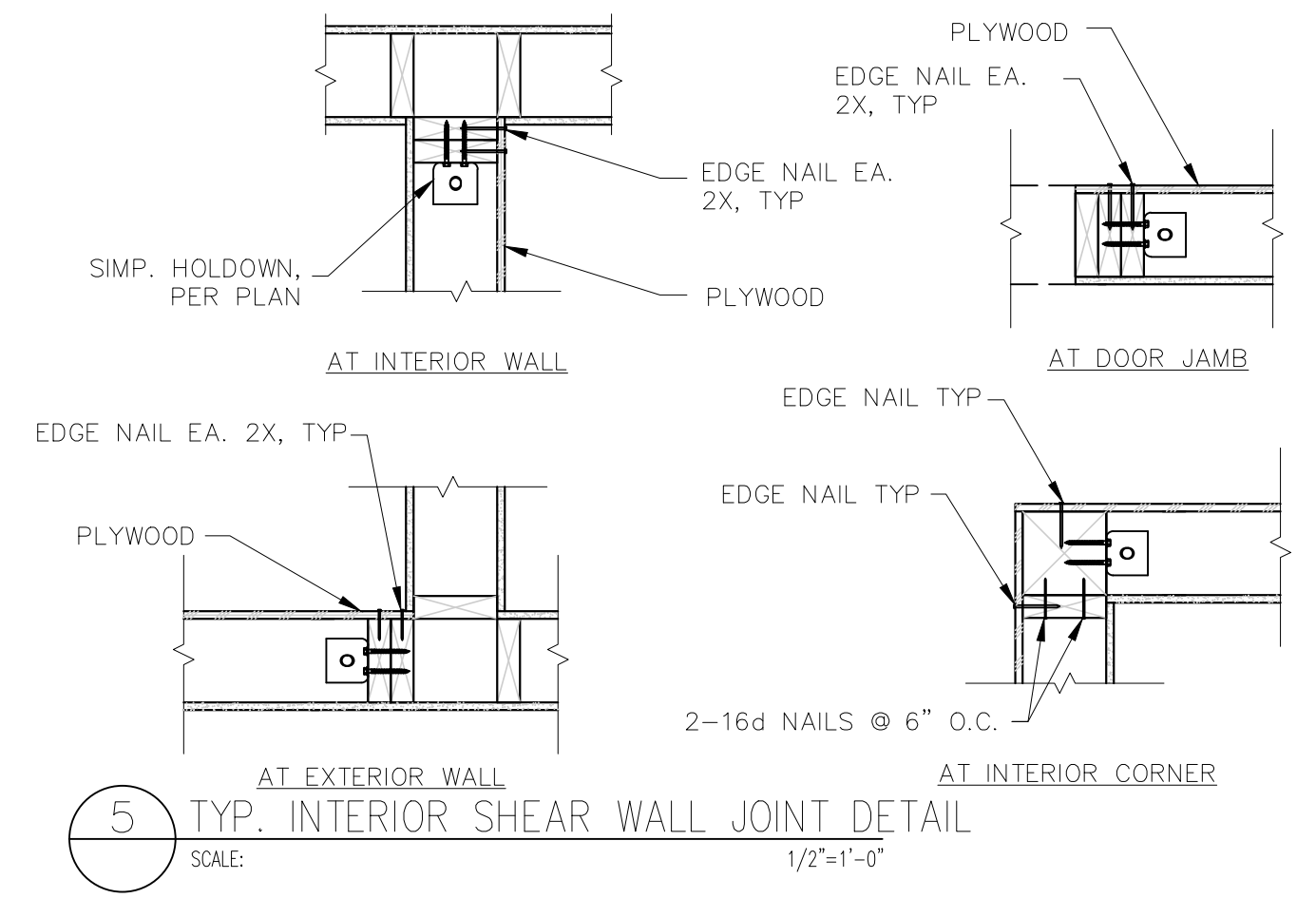
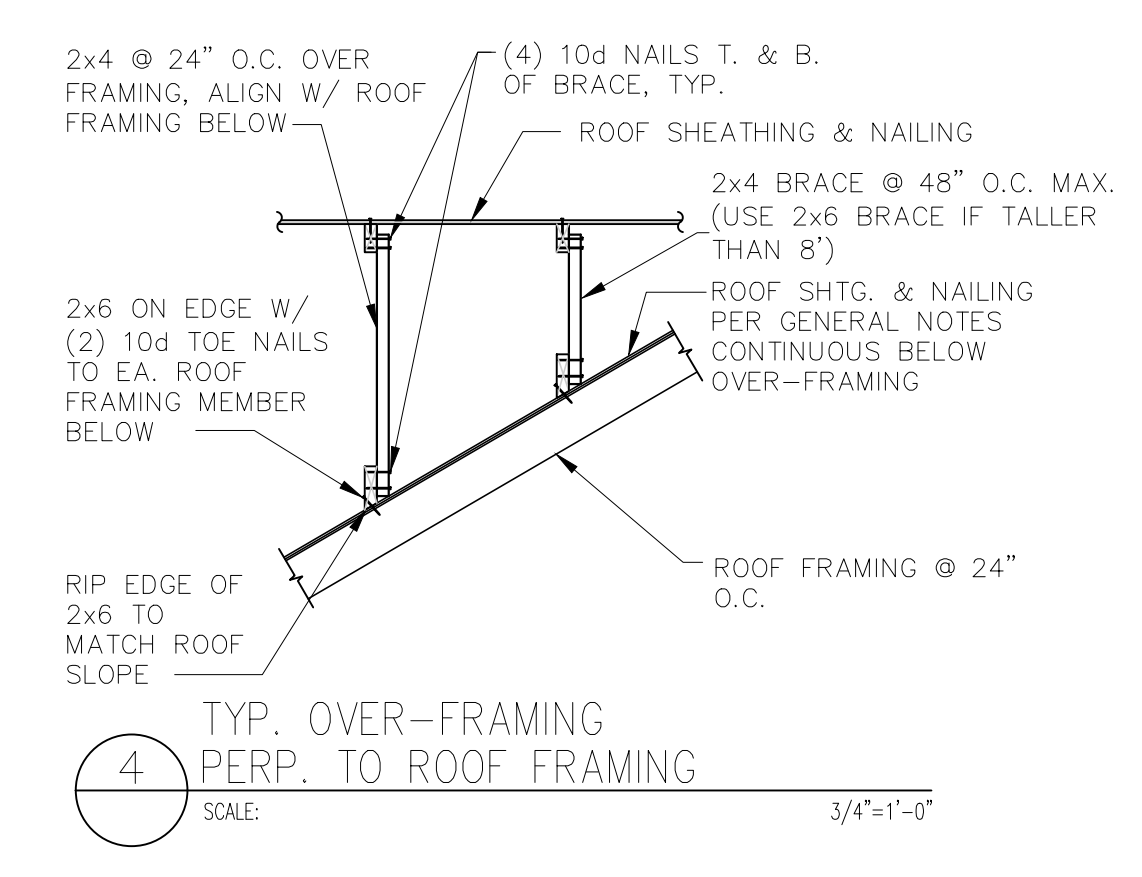
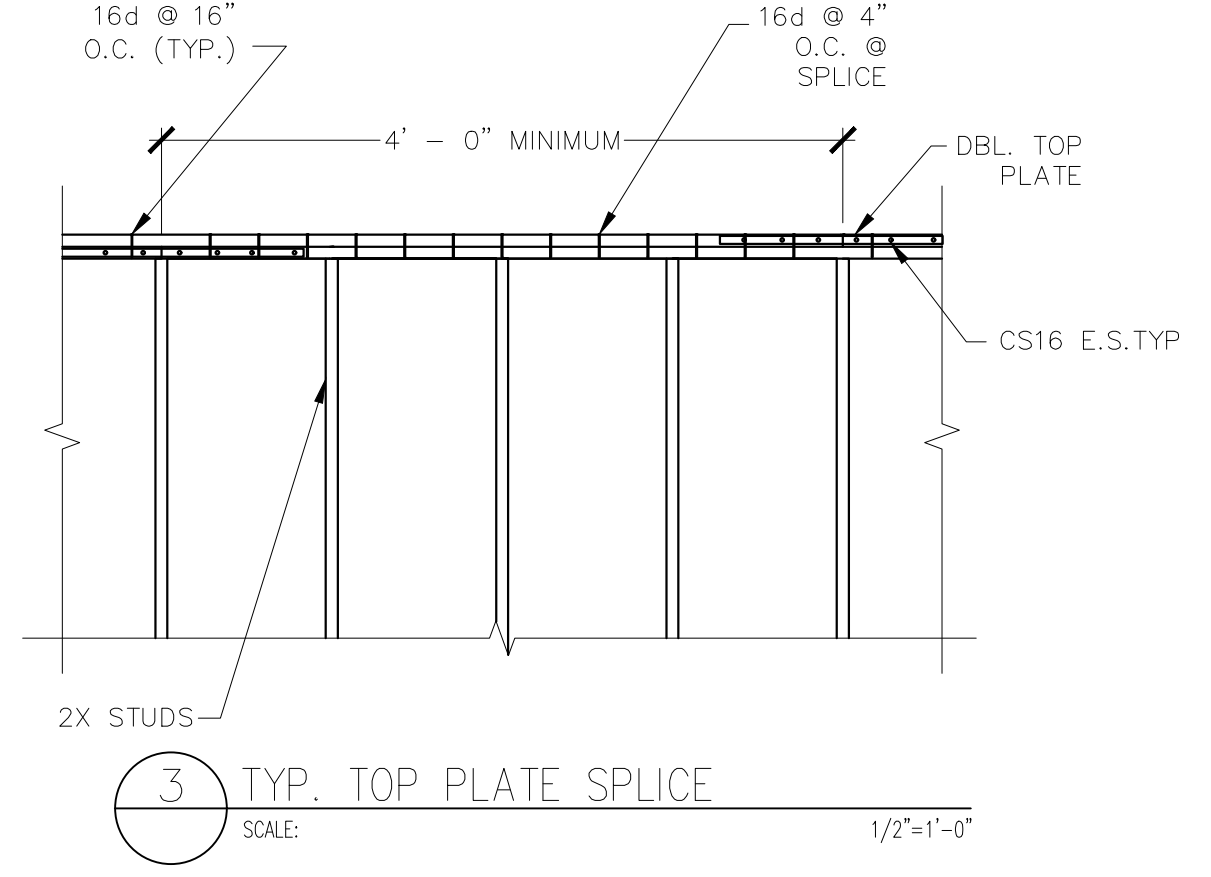
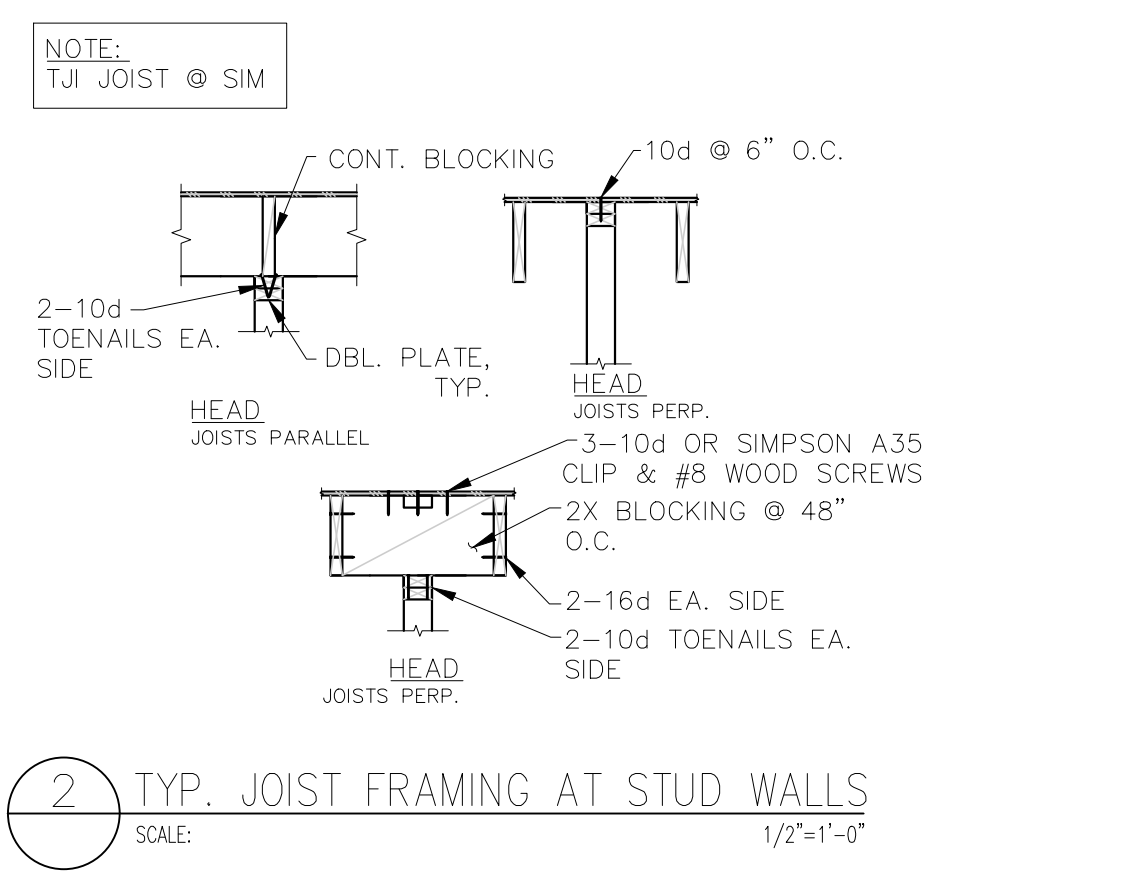
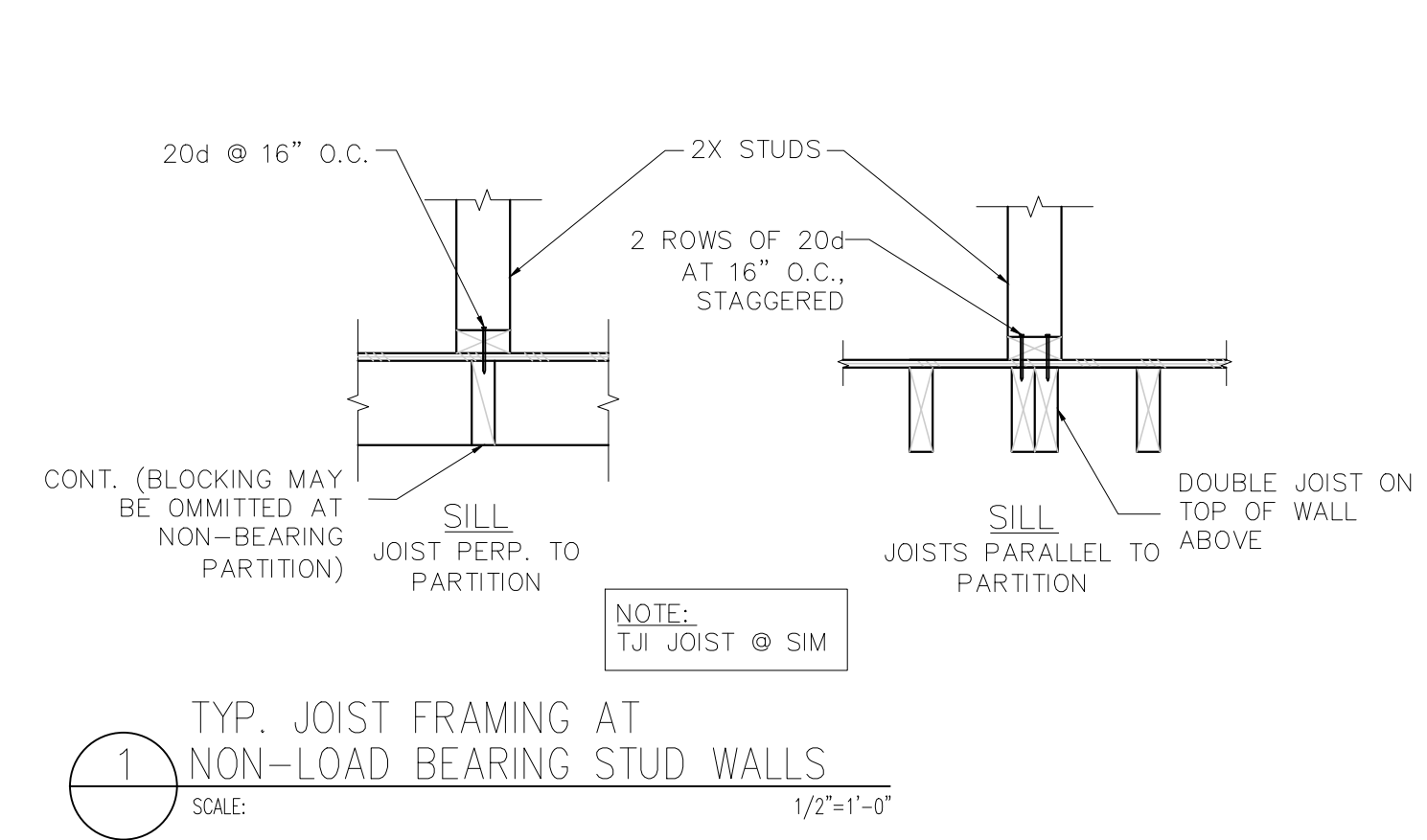


7663 BEI NEW ADDITION
7663 85TH/ PL SE
MERCER ISLAND, WA 98040

JOB # 2024023

REV	DESCRIPTION	DATE

Drawn By:
Drawing Title:
TYPICAL STRUCTURAL
DETAILS
Sheet
S3.1



F.T. ENG. & CONST. MGMT., LLC
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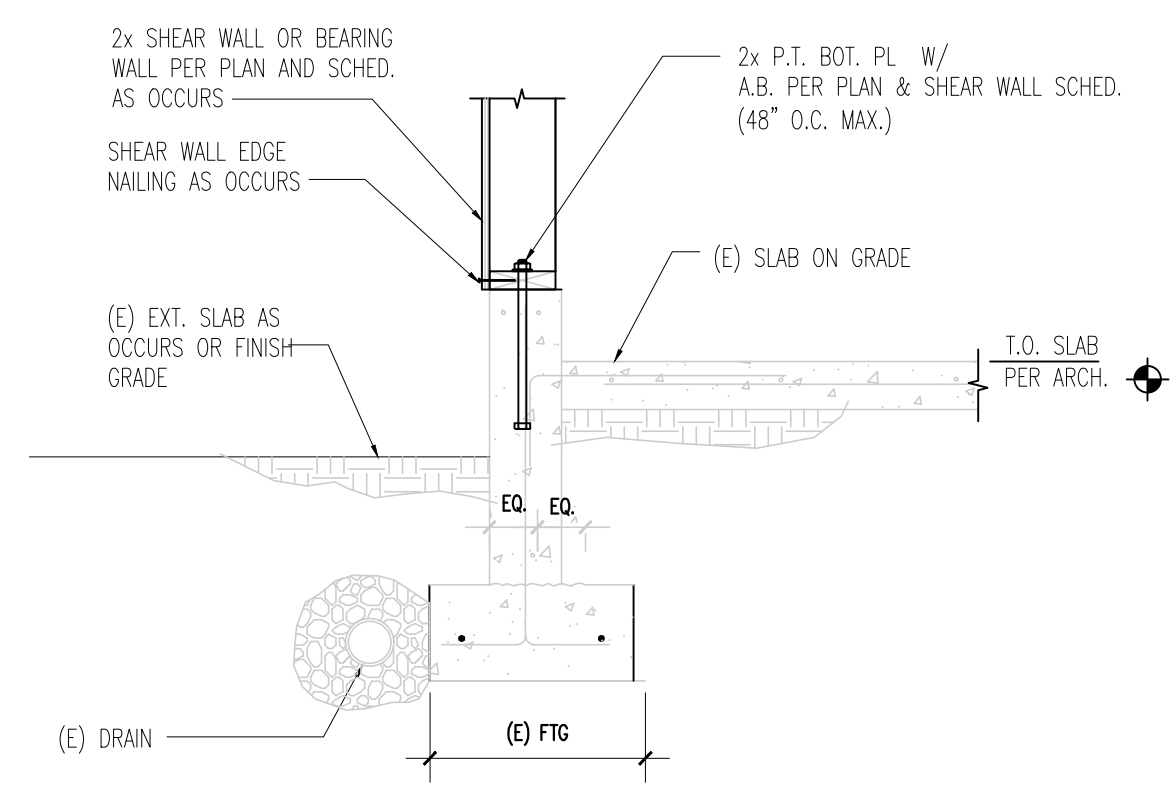


7663 BEI NEW ADDITION
 7663 85TH/ PL SE
 MERCER ISLAND, WA 98040

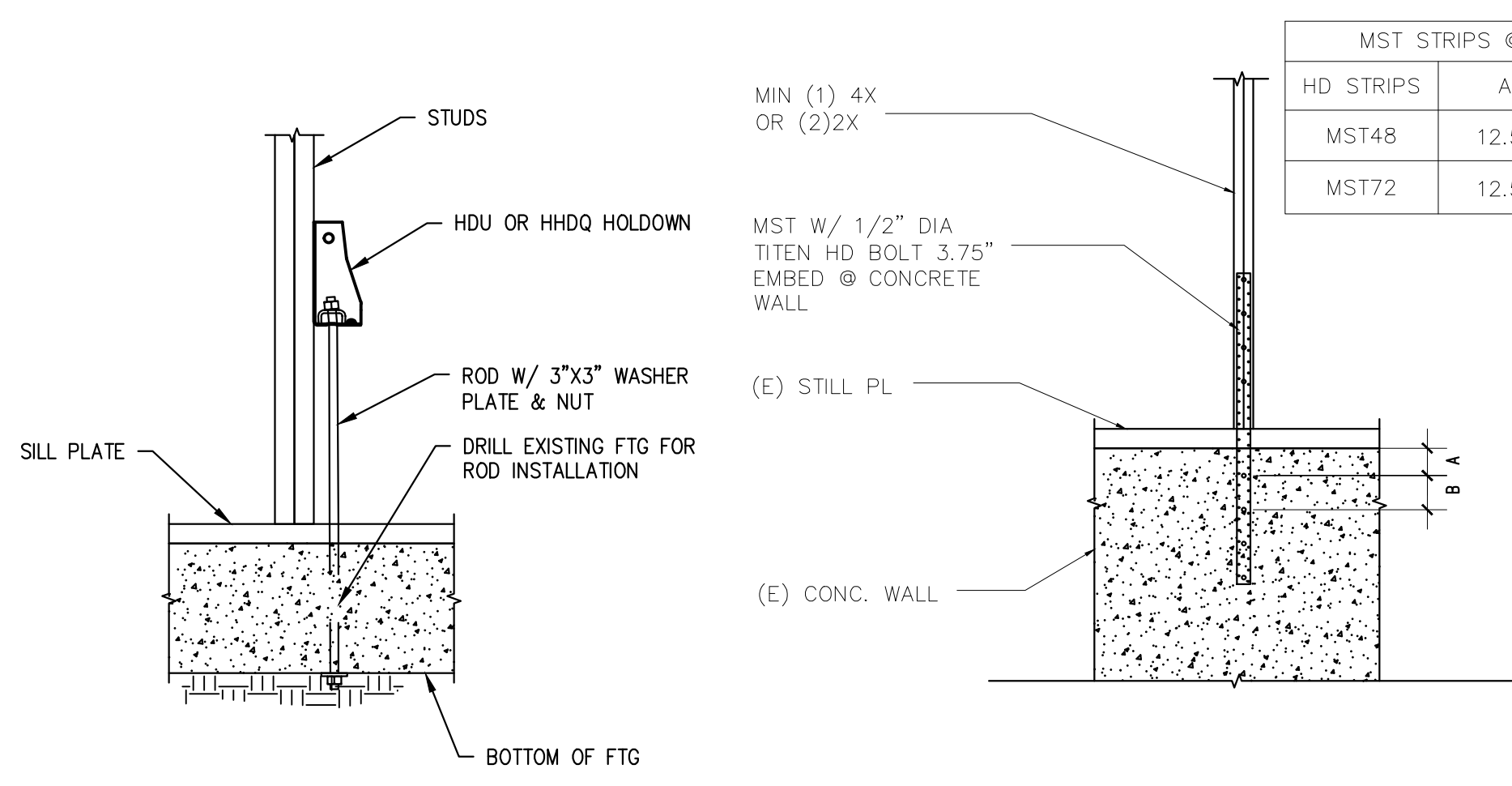
JOB # 2024023

REV	DESCRIPTION	DATE

Drawn By:
 Drawing Title:
 TYPICAL STRUCTURAL DETAILS
 Sheet S3.2



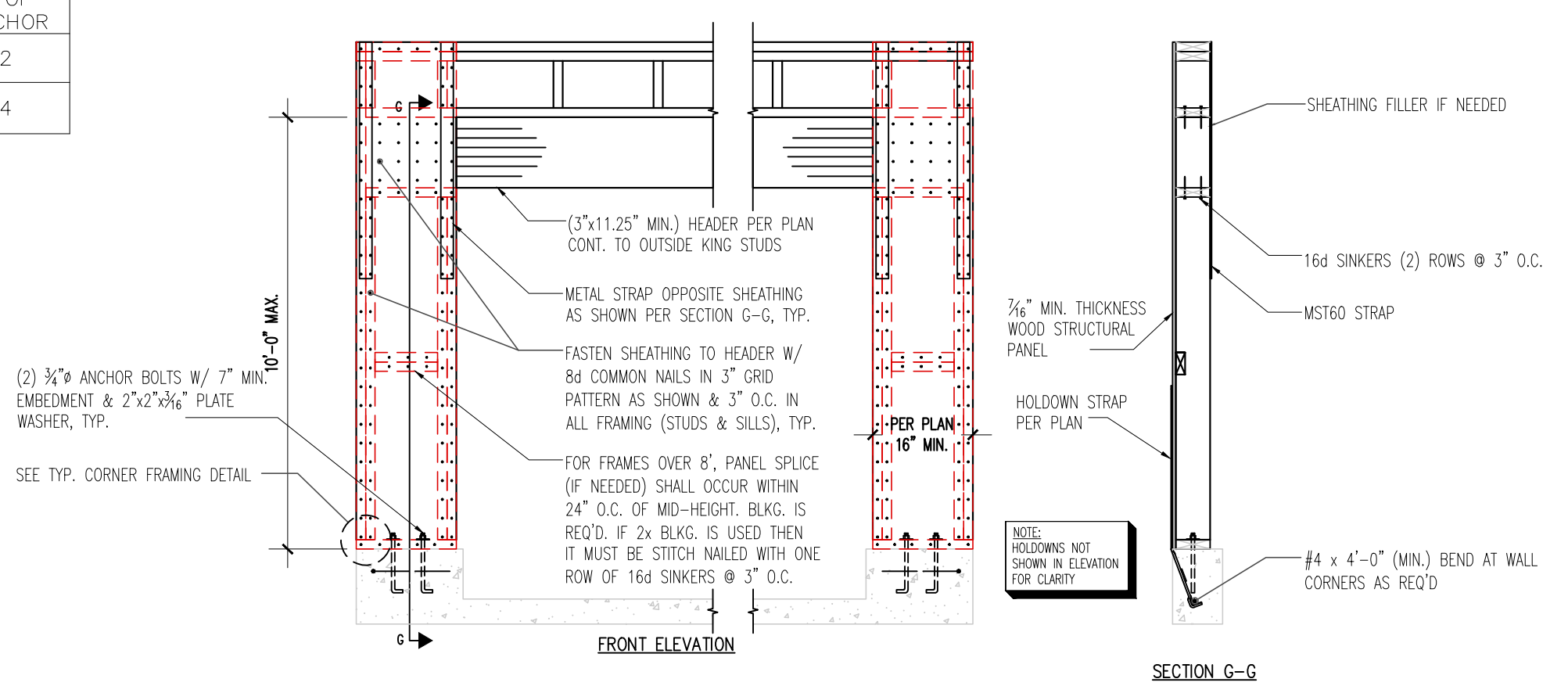
1 TYP. (E) EXT. STUD WALL FTG.
 S3.2 SCALE: 3/4"=1'-0"



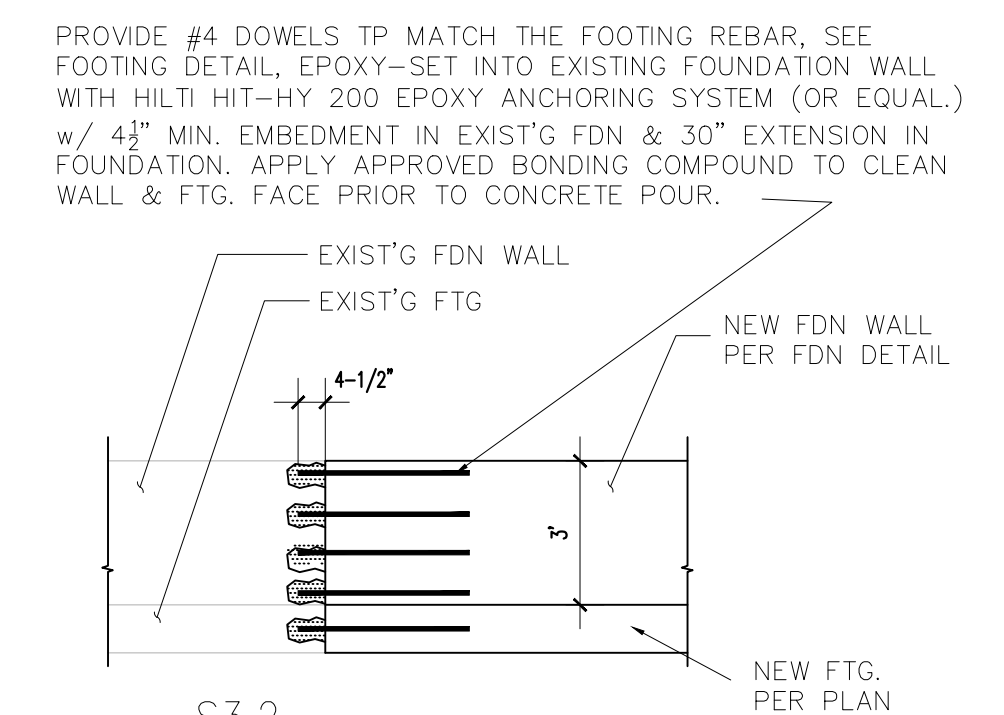
5 HOLDWORN @ EXISTING WALL FTG
 S3.2 SCALE:

MST STRIPS @ (E) CONCRETE WALL

HD STRIPS	A	B	# OF ANCHOR
MST48	12.5"	5.25"	2
MST72	12.5"	5.25"	4



6 CS PF WALL DETAILS
 S3.2 SCALE:



7 (E) FTG CONNECTION DETAIL
 S3.2 SCALE: 1/2"=1'-0"

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7663 BEI NEW ADDITION
 7663 85TH/PL SE
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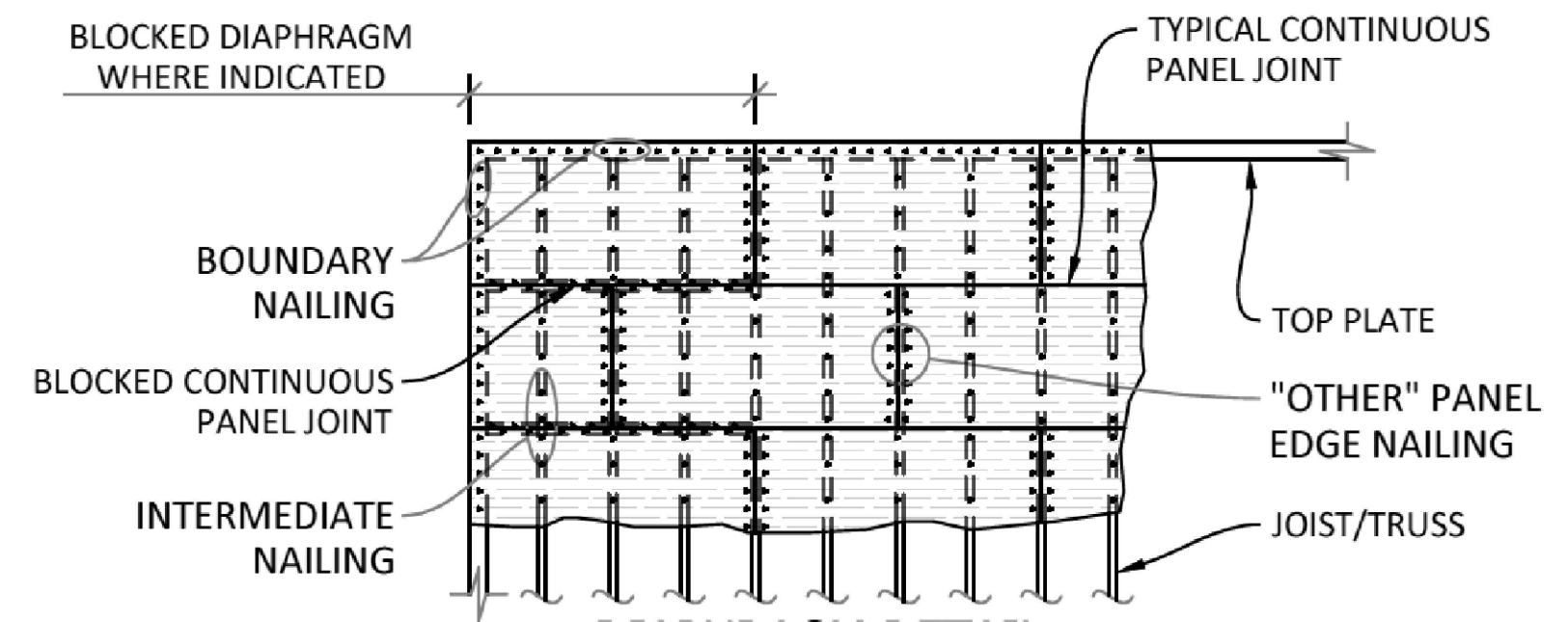
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REV	DESCRIPTION	DATE

Drawn By:
 Drawing Title:

SHEAR WALL DETAILS

Sheet
S3.3

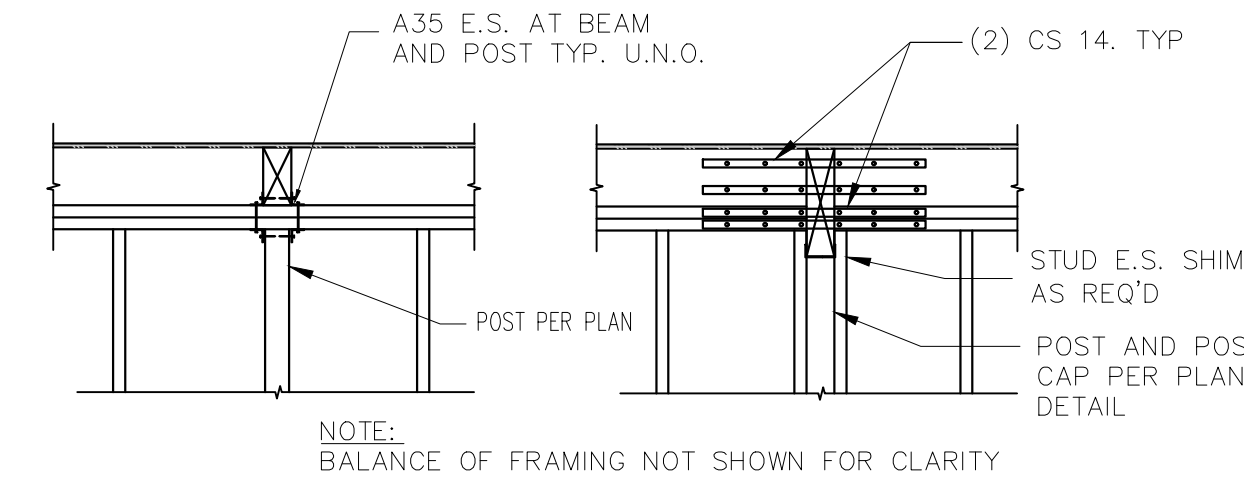


LOCATION	SHEATHING	BLKG REQD	SIZE OF NAIL	NAIL SPACING AT BOUNDARIES AND "OTHER" PANEL EDGES	NAIL SPACING AT INTERMEDIATE FRAMING MEMBERS	NAIL SPACING AT BLOCKED PANEL JOINTS
ROOF	SEE STRUCT	NO	10d	6" OC	12" OC	6" OC
SUB-FLR	NOTES	NO	10d & GLUE	4" OC	12" OC	4" OC

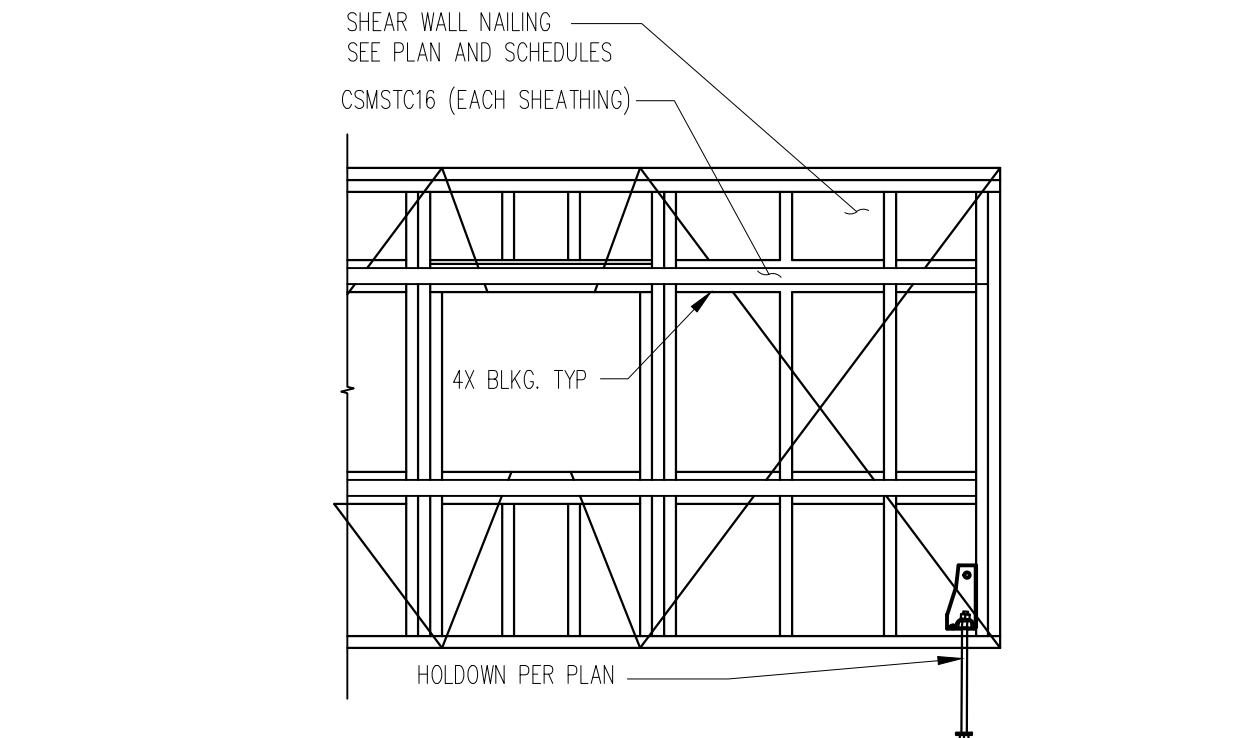
NOTE:
 *PROVIDE 1/8" GAP @ TYP. PANEL JOINT

- DIAPHRAGM NOTES**
- ALL DIAPHRAGM SHEATHING IS TO BE STAGGERED IN THE DIRECTION OF THE PLYWOOD SPAN PER DIAPHRAGM DETAIL.
 - PROVIDE BOUNDARY NAILING CONTINUOUS AROUND THE ENTIRE PERIMETER OF THE DIAPHRAGM
 - NAILS SHALL BE COMMON OR GALVANIZED BOX
 - ALL FRAMING MEMBERS SHALL BE 2x MINIMUM NOMINAL WIDTH

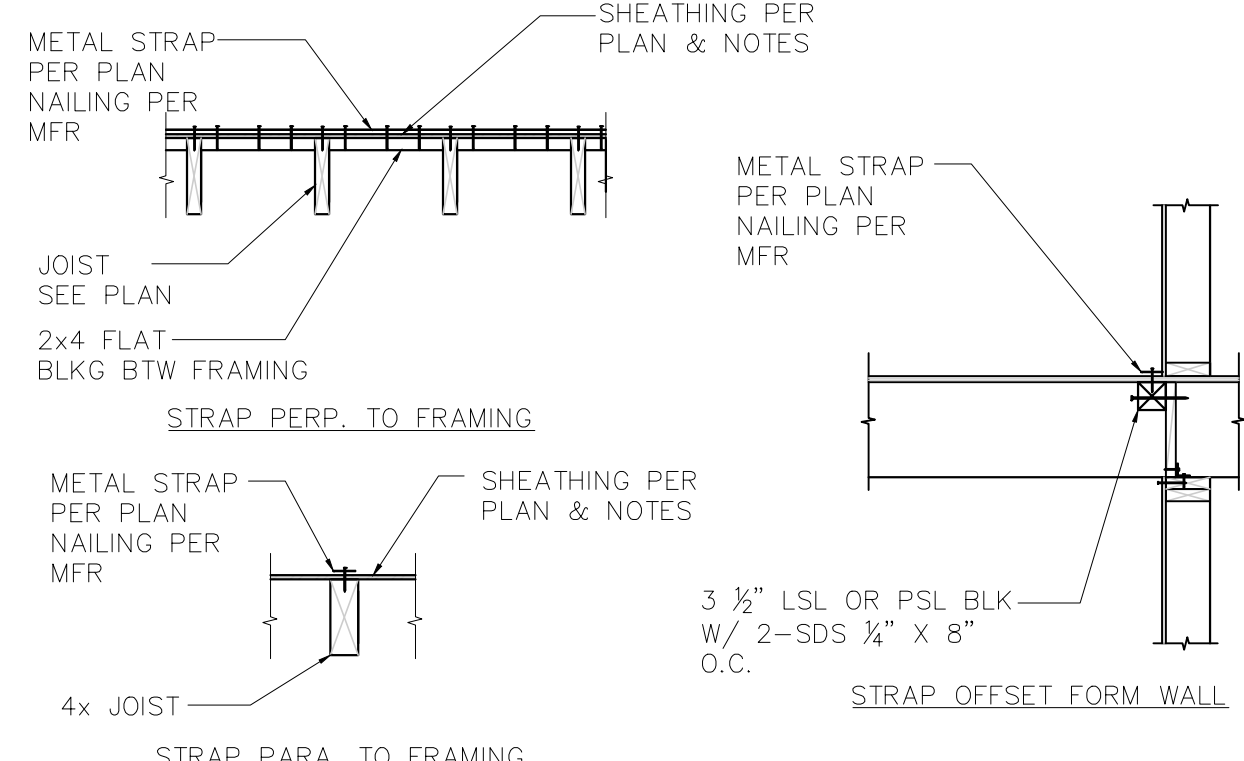
1 TYP. PLY. DIAPHRAGM NAILING
 SCALE 1/4" = 1'-0"



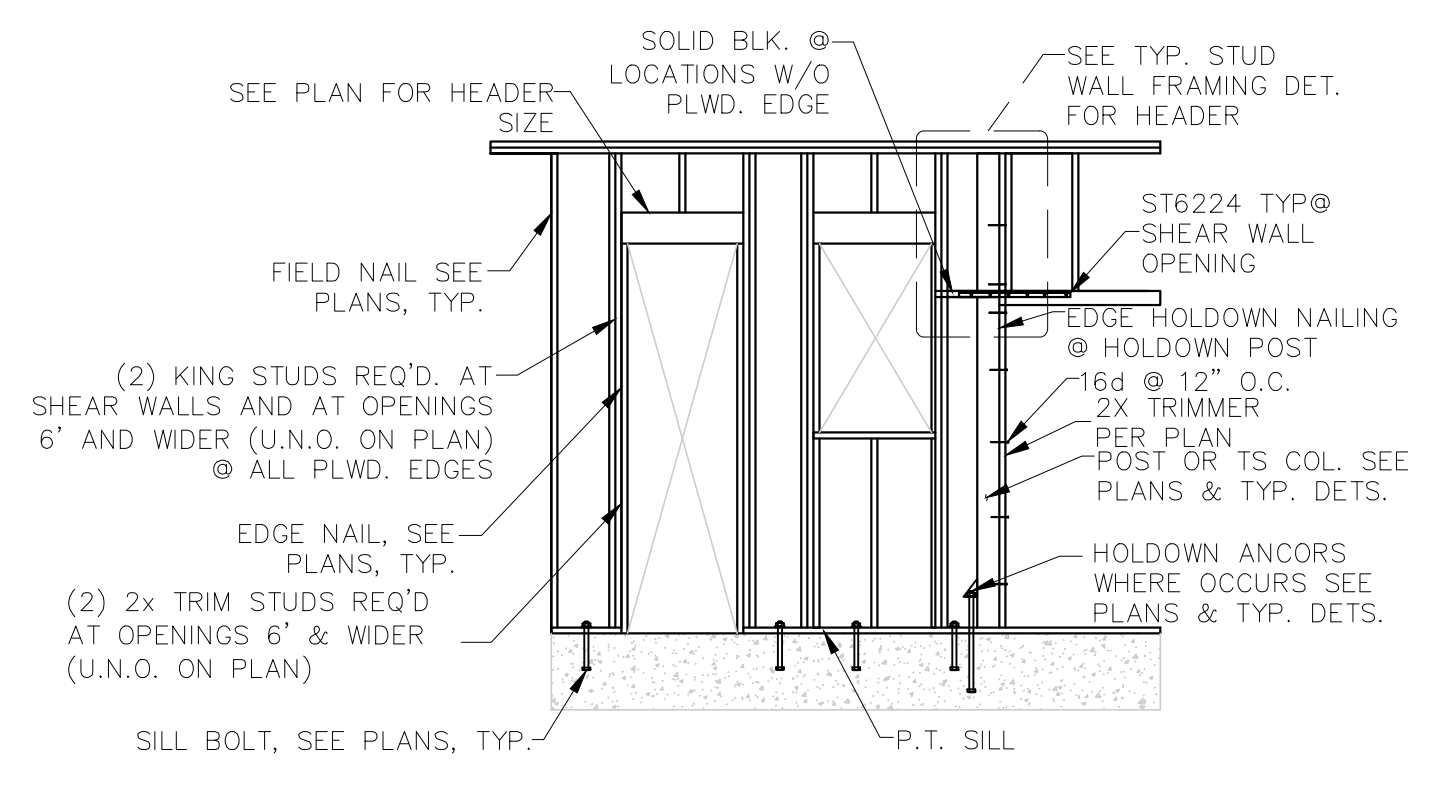
5 TYP. BEAM @ WALL CONNECTION
 SCALE NTS



6 TYP. FORCE TRANSFER SHEAR WALL
 SCALE NTS



7 TYP. COIL STRAP AT FRAMING
 SCALE NTS



WIDTH OF OPENING	8'-0"	6'-0"	4'-0"
NUMBER OF TRIMMERS	3	2	1
NUMBER OF KING STUD	4	3	2

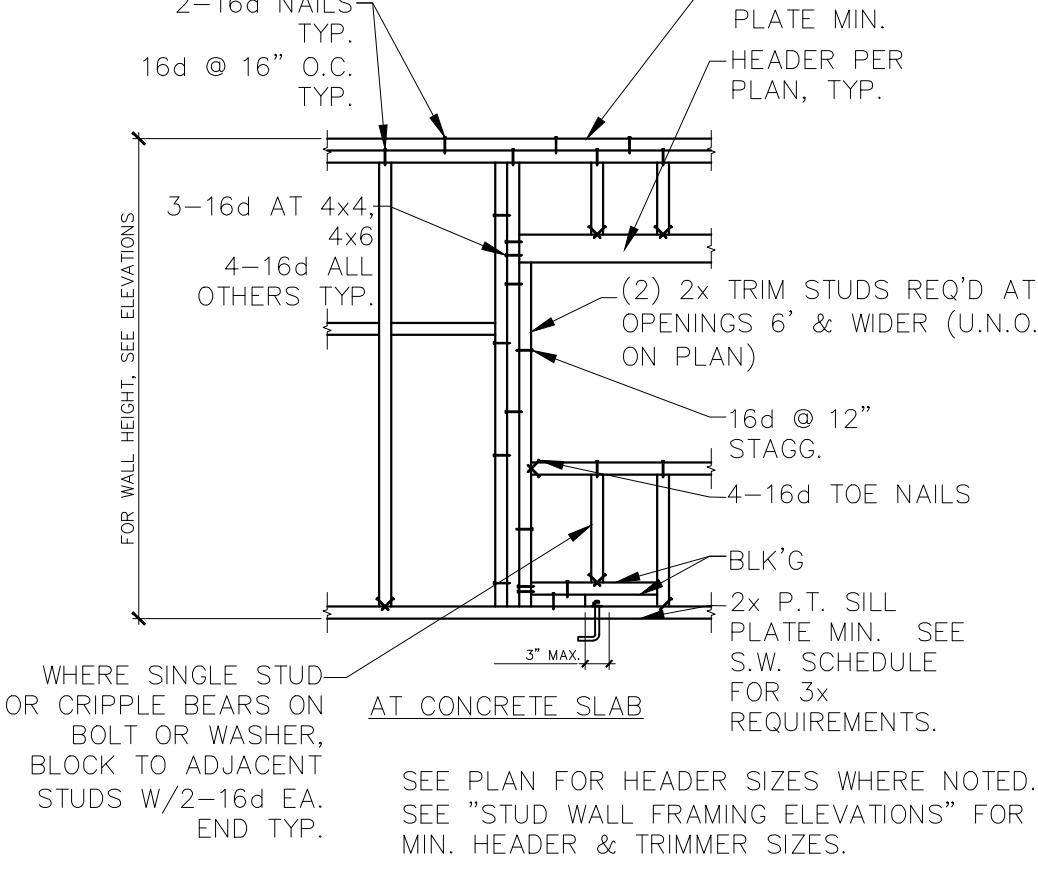
- NOTES:**
- USE 2x6 AT 16" O.C. AT ALL EXTERIOR WALLS.
 - SEE PLANS FOR SPECIAL FRAMING REQUIREMENTS.
 - HEADER SIZES SHOWN IN SCHEDULES ABOVE ARE MINIMUM HEADER SIZES, SEE PLANS FOR WHERE LARGER HEADER SIZES ARE REQUIRED.
 - IF CALLED OUT STUD HEIGHTS AT ANY GIVEN FLOOR LEVEL EXCEED LIMITATIONS, CONTACT STRUCTURAL ENGINEER FOR CLARIFICATION.
 - TRIMMERS AT 4x4 USE 1-4x4 AND 1-2x4 AND AT 3x4 USE 1-3x4 AND 1-2x4.
 - NAIL TRIMMERS TOGETHER W/ 16d NAILS @ 12" O.C. STAGGERED EACH FACE.
 - SEE PLANS FOR SHEAR WALL FRAMING REQUIREMENTS.

2 TYP. SHEAR WALL FRAMING
 SCALE NTS

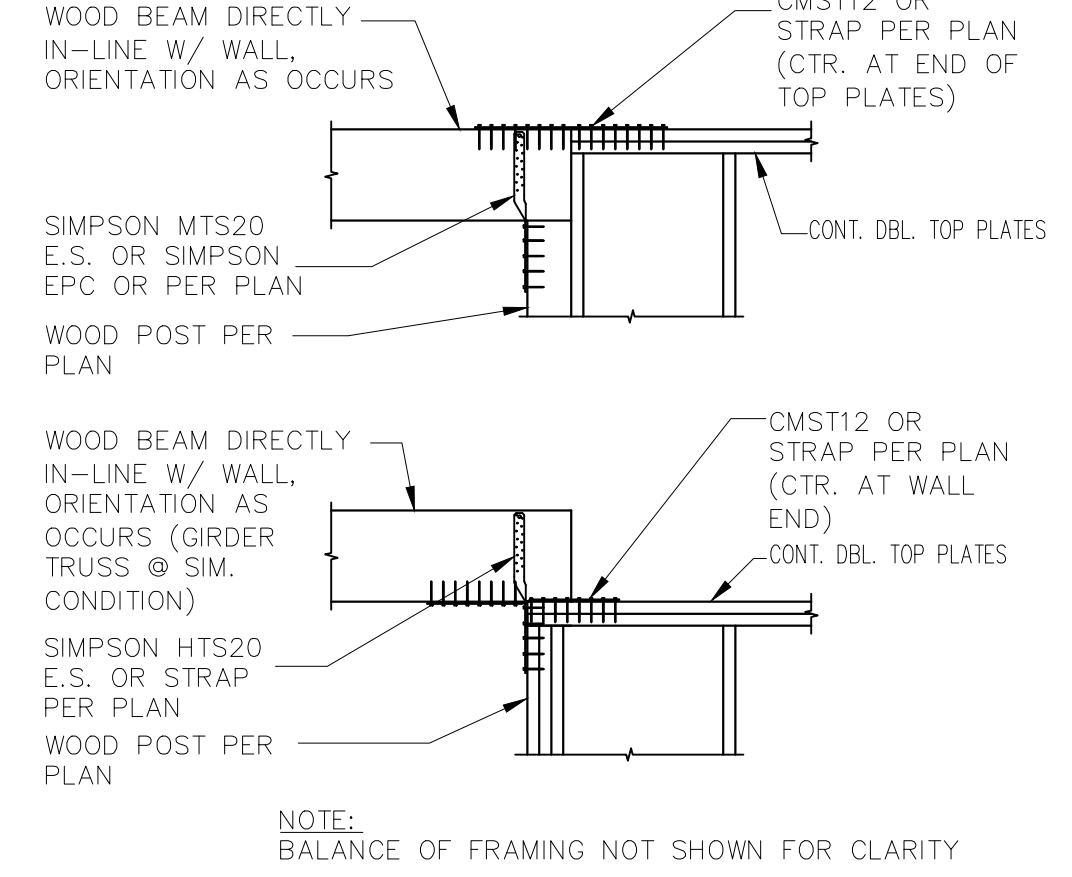
MARK	SHEATHING	SIDE	PANEL NAILING			PANEL BLOCKING	SILL PLATE	ANCHOR BOLTS (MIN. 7" EMBED)	SHEAR CLIP	VALUE (PLF)
			SIZE	EDGE	FIELD					
A	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	ONE	8d	6" O.C.	12" O.C.	2x	2x	5/8" x 10" @ 48" O.C. OR 5/8" x 8" TITEN HD	SIMPSON LTP4/A35 @ 18" O.C.	230
B	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	ONE	8d	4" O.C.	12" O.C.	3x	3x	5/8" x 12" @ 42" O.C. OR 5/8" x 8" TITEN HD	SIMPSON LTP4/A35 @ 18" O.C.	380
C	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	ONE	8d	3" O.C.	12" O.C.	3x	(2) 2x	5/8" x 12" @ 36" O.C. OR 5/8" x 8" TITEN HD	SIMPSON LTP4/A35 @ 16" O.C.	420
D	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	ONE	10d	3" O.C.	12" O.C.	3x	3x	5/8" x 12" @ 24" O.C. OR 5/8" x 8" TITEN HD	SIMPSON LTP4/A35 @ 12" O.C.	560
E	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	TWO	8d	6" O.C.	12" O.C.	3x	(2) 2x	5/8" x 12" @ 32" O.C.	SIMPSON LTP4 E.F. @ 24" O.C.	520
F	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	TWO	8d	4" O.C.	12" O.C.	3x	(2) 2x	5/8" x 12" @ 24" O.C.	SIMPSON LTP4 E.F. @ 18" O.C.	760
G	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	TWO	8d	3" O.C.	12" O.C.	3x	(2) 2x	5/8" x 12" @ 16" O.C.	SIMPSON LTP4 E.F. @ 16" O.C.	980
H	7/16" APA RATED SHEATHING WITH STUDS @ 16" O.C.	TWO	10d	3" O.C.	12" O.C.	3x	(2) 2x	5/8" x 12" @ 12" O.C.	SIMPSON LTP4 E.F. @ 12" O.C.	1,200

- NOTES:**
- SOME SHEAR WALLS LISTED MAY NOT BE USED IN THIS PROJECT. REFER TO PLAN FOR TYPES USED.
 - 8d NAIL = 2 1/2" x 0.131" COMMON OR 2 1/2" x 0.113" GALVANIZED BOX. 10d NAIL = 3" x 0.148" COMMON OR 3" x 0.128" GALVANIZED BOX.
 - IF ANCHOR BOLT SPACING IS GREATER THAN SHEAR WALL LENGTH INSTALL (1) ANCHOR BOLT WITHIN 12" OF EACH END.
 - NAIL SIZES SHOWN ARE FOR COMMON NAILS OR GALVANIZED BOX. POWER DRIVEN NAILS SHALL COMPLY WITH ESR 1539 FOR RECOMMENDED SPACING AND INSTALLATION TO COMPLY WITH THE ABOVE SHEAR WALL SCHEDULE.
 - SILL PLATE ANCHORS SHALL INCLUDE A STEEL PLATE WASHER NOT LESS THAN 0.229"x3"x3" IN SIZE PER AF&PA SDPWS SECTION 4.3.6.4.3. THE HOLE IN THE PLATE WASHER SHALL BE PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1-3/4", PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT. THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING.
 - IN SEISMIC DESIGN CATEGORY D, E, OR F, WHERE SHEAR DESIGN VALUES EXCEED 700 POUNDS PER LINEAR FOOT (350 PLF ASD), ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3-INCH NOMINAL MEMBER, OR TWO 2-INCH NOMINAL MEMBERS FASTENED TOGETHER IN ACCORDANCE WITH SECTION 2306.1 TO TRANSFER THE DESIGN SHEAR VALUES BETWEEN FRAMING MEMBERS. WOOD STRUCTURAL PANEL JOINT AND SILL PLATE NAILING SHALL BE STAGGERED IN ALL CASES.
 - WHERE PANELS ARE APPLIED TO BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6" O.C. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS. ALTERNATIVELY, THE WIDTH OF THE NAILED FACE OF FRAMING MEMBERS SHALL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED.
 - SHEAR WALL NAILING MUST BE INSTALLED SUCH THAT THE NAIL HEAD OR CROWN IS FLUSH WITH THE SURFACE OF SHEATHING. OVERDRIVEN OR OVER PENETRATED NAILS WILL NOT BE ALLOWED OR COUNTED AS APPROPRIATE NAILING.

SHEAR WALL SCHEDULE
 SCALE NTS



3 TYP. STUD WALL OPENING FRAMING
 SCALE NTS



4 TYP. TIE STRAP CONN. DETAILS
 SCALE NTS

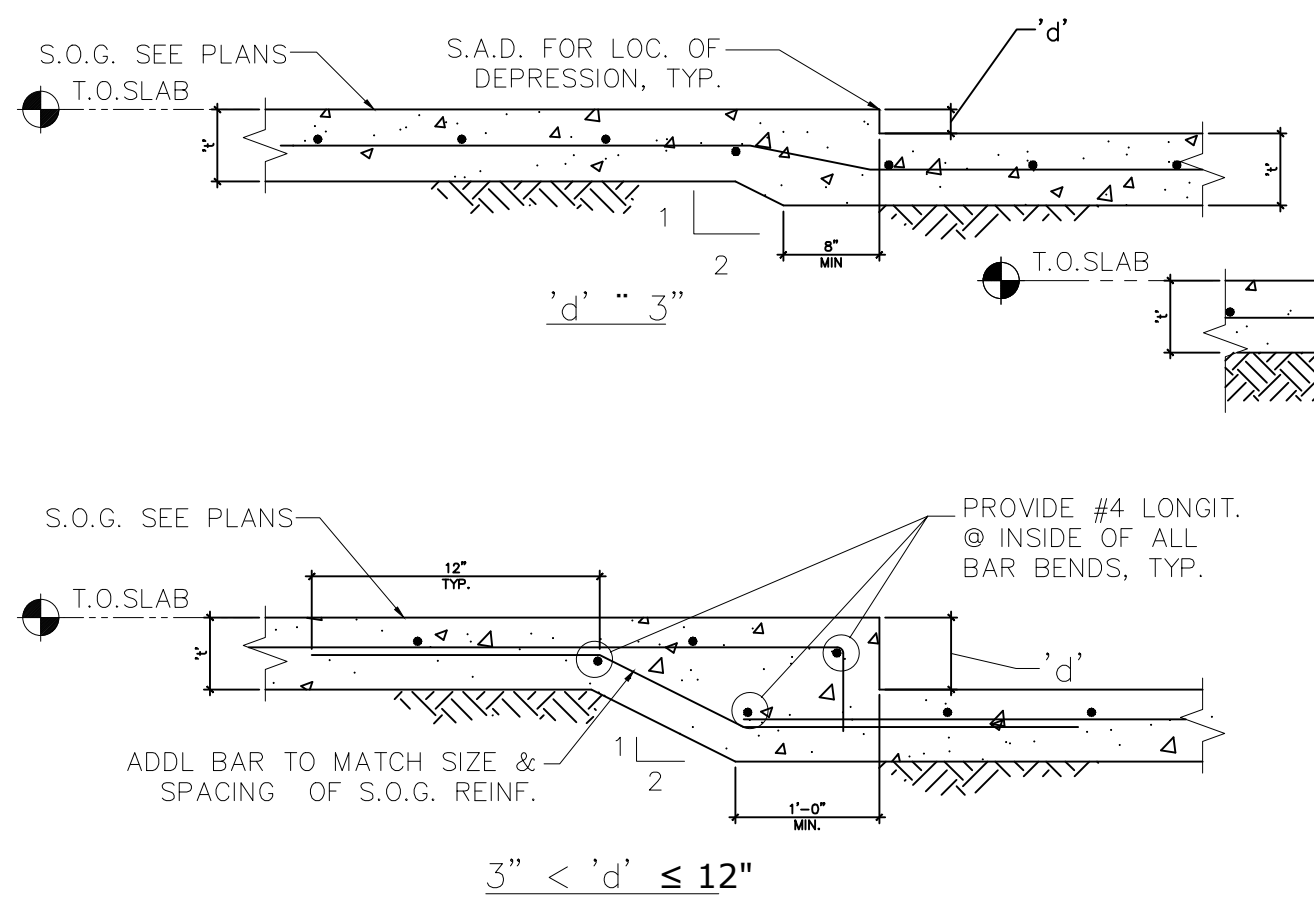
MARK	HOLDOWN	WOOD MEMBER	WOOD FASTENER	ANCHOR BOLT	ANCHOR BOLT EMBEDMENT (IN)	COMMENTS SEE NOTES BELOW	VALUE (LBS)
0	NONE REQUIRED						
1	SIMPSON MST37	(2) 2x	(22) 16d NAILS 1/2 TOP & BOT.	N/A	N/A	WRAP & NAIL STRAP TO BEAM/HEADER BELOW AS REQUIRED	2,135
2	SIMPSON MST48	(2) 2x	(32) 16d NAILS 1/2 TOP & BOT.	N/A	N/A	WRAP & NAIL STRAP TO BEAM/HEADER BELOW AS REQUIRED	3,425
3	SIMPSON MST72	(2) 2x	(68) 16d NAILS 1/2 TOP & BOT.	N/A	N/A	WRAP & NAIL STRAP TO BEAM/HEADER BELOW AS REQUIRED	6,475
4	SIMPSON CMST12	(1) 4x	(86) 16d NAILS 1/2 TOP & BOT.	N/A	N/A	WRAP & NAIL STRAP TO BEAM/HEADER BELOW AS REQUIRED 39" END LENGTH	9,215
5	SIMPSON LSTHD8 OR LSTHDBRJ	(2) 2x SEE NOTES	(24) 16d SINKERS	N/A	8"	SEE NOTES 1, 2, 3, AND 4 USE (3) 2x AT CORNERS	1,220
6	SIMPSON HDU2-SDS2.5	(2) 2x	(6) SIMPSON SDS SCREWS	5/8" DIA. SIMP. SSTB16	12-5/8"	SEE NOTES 1, 2, 3, AND 4	2215
7	SIMPSON HDU4-SDS2.5	(2) 2x	(14) SIMPSON SDS SCREWS	5/8" DIA. SIMP. SSTB20	16-5/8"	SEE NOTES 1, 2, 3, AND 4	3285
8	SIMPSON HDU5-SDS2.5	(2) 2x	(14) SIMPSON SDS SCREWS	5/8" DIA. SIMP. SSTB24	20-5/8"	SEE NOTES 1, 2, 3, AND 4	4340
9	SIMPSON HDU8-SDS2.5	(1) 4x	(20) SIMPSON SDS SCREWS	7/8" DIA. SIMP. SB7/8x24	18"	SEE NOTES 1, 2, 3, AND 4	5820
10	SIMPSON HHD011-SDS2.5	(1) 6x	(24) SIMPSON SDS SCREWS	1" DIA. A307 THREADED ROD	de = 16" W = 48"	SEE NOTES 1, 2, 3, 4 AND 5	8030
11	SIMPSON HHD014-SDS2.5	(1) 6x	(30) SIMPSON SDS SCREWS	1" DIA. A307 THREADED ROD	de = 16" W = 48"	SEE NOTES 1, 2, 3, 4 AND 5	12375
12	SIMPSON HHD14-SDS2.5	(1) 6x	(36) SIMPSON SDS SCREWS	1" DIA. A307 THREADED ROD	de = 16" W = 48"	SEE NOTES 1, 2, 3, 4 AND 5	12425

- NOTES:**
- DOUBLE STUDS ARE REQUIRED AT HOLDOWNS UNLESS NOTED OTHERWISE. DOUBLE STUDS SHALL BE LAMINATED TOGETHER WITH 16d NAILS AT 6" O.C. FULL HEIGHT (TYPICAL).
 - PROVIDE HOLDOWN NOTED WITHIN 6" FROM EACH END OF EACH SHEAR WALL SHOWN ON PLANS.
 - ADD (2) EXTRA VERTICAL DOWEL WITH STANDARD HOOK IN FOOTING AT EACH ANCHOR BOLT LOCATION.
 - ADJUST FOOTING AND STEM WALL HEIGHT TO ACCOMMODATE ANCHOR BOLT EMBEDMENT REQUIREMENTS.
 - ADJUST FOOTING AND STEM WALL HEIGHT TO ACCOMMODATE ANCHOR BOLT EMBEDMENT REQUIREMENTS.
 - SEE THREADED ROD ANCHOR DETAIL.
 - FOR EXISTING STEM WALL, DRILL AND EPOXY ANCHOR. USE A307 THREADED ROD WITH SIMPSON SET-XP EPOXY. SEE PLANS AND DETAILS FOR REQUIRED EMBEDMENT.
 - ALL HOLDOWN ANCHORS AND BOLTS SHALL BE INSTALLED IN THE CORRECT LOCATION IN THE TOP OF THE CONCRETE WALL AND SECURED TO THE FORMS PRIOR TO CONCRETE INSTALLATION. THERE IS NO PRACTICAL SOLUTION TO POST-INSTALLED HOLDOWN ANCHORS IN THE TOP OF THE 8" CONCRETE STEM WALL. NO EPOXY OR MECHANICAL ANCHOR BOLT ALTERNATIVES WILL BE OFFERED FOR MISSING OR MISPLACED EMBEDDED ANCHORS. CONCRETE FOOTINGS AND STEM WALLS MAY HAVE TO BE REMOVED AT CONTRACTOR'S EXPENSE TO MITIGATE MISPLACED, MISALIGNED, OR MISSING HOLDOWN ANCHORS OR BOLTS.

HOLDOWN SCHEDULE
 SCALE NTS

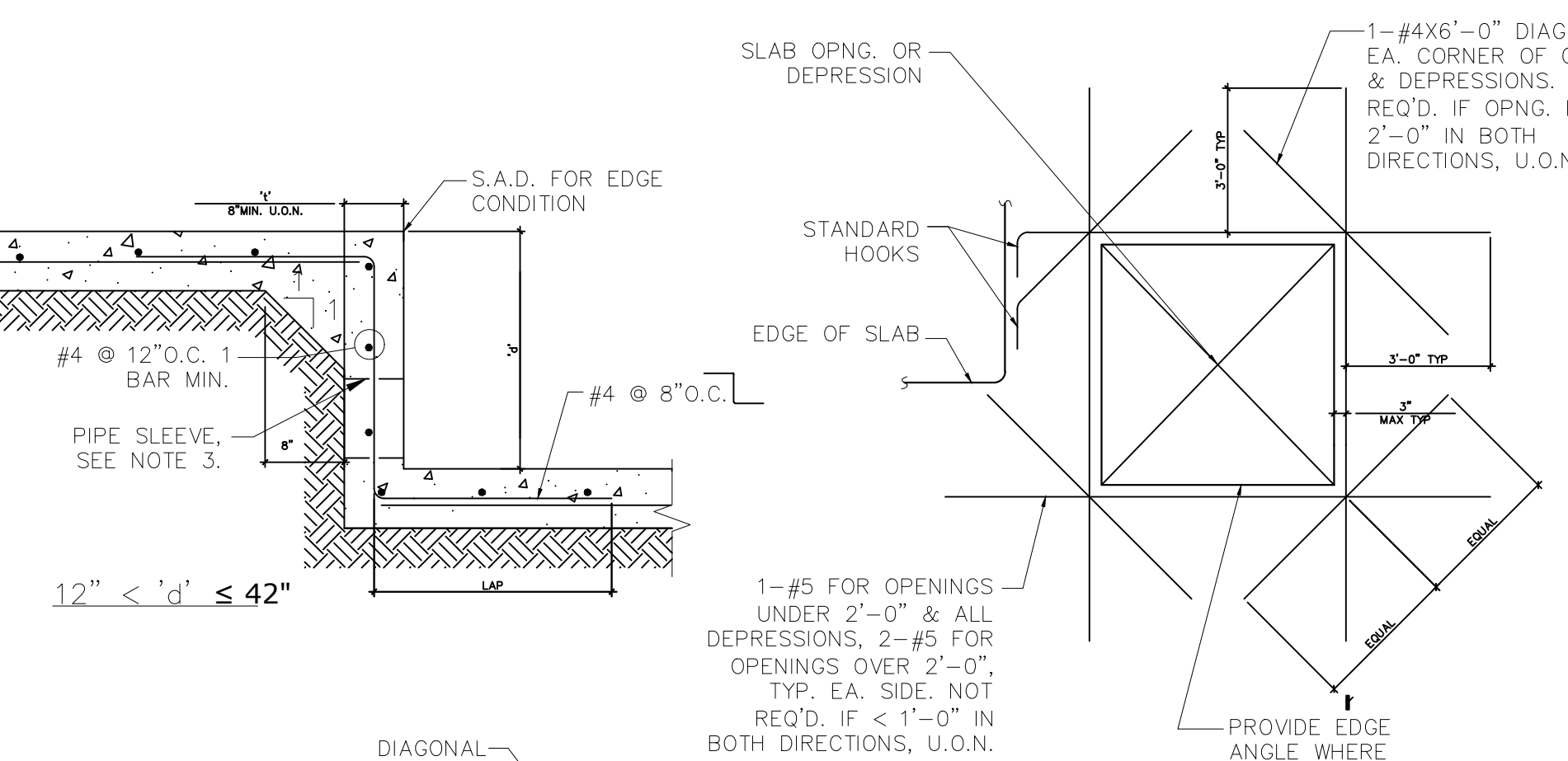


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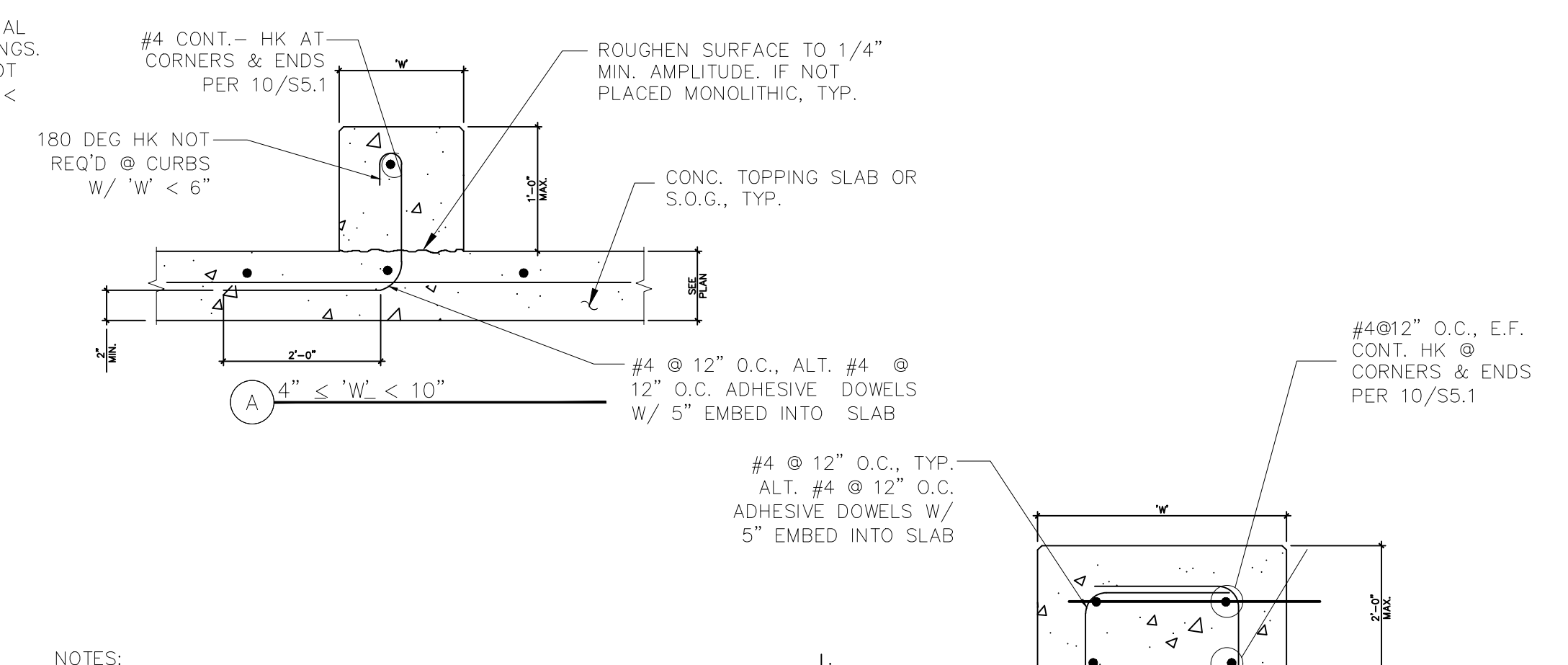
- NOTES:
- THIS DETAIL APPLIES TO ALL DEPRESSIONS AND TRENCHES IN SLAB ON GRADE OR SLAB ON SAND FILL.
 - PROVIDE 1-#5 DIAGONAL, 5'-0" LONG AT ALL INSIDE CORNERS OF DEPRESSION.
 - PIPE SLEEVES TO BE 2" LARGER THAN NOMINAL PIPE DIAMETER. MAXIMUM SLEEVE SIZE=12". MINIMUM=12" CLEAR SPACING BETWEEN ADJACENT PIPES. SEE MECHANICAL AND ELECTRICAL DRAWING FOR LOCATIONS.
 - COORDINATE LOCATION, DEPTH, EXTENT, AND EDGE EMBED CONDITIONS OF ALL DEPRESSIONS WITH ARCHITECTURAL DRAWINGS.

1 SLAB ON GRADE DEPRESSION
 SCALE: 1/2"=1'-0"



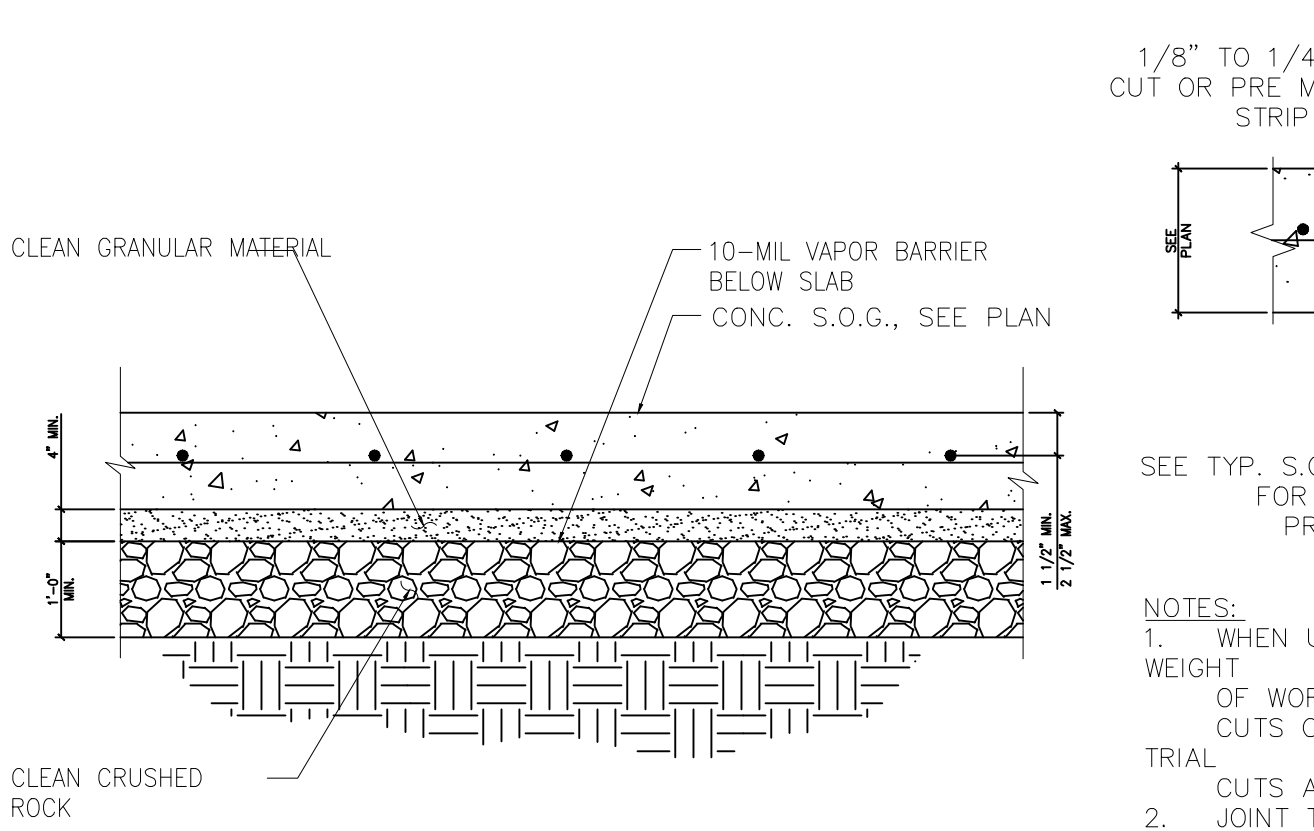
- NOTES:
- SEE ARCHITECTURAL & MECHANICAL DRAWINGS FOR CURB LOCATIONS, DIMENSIONS, CHAMFERS & INSERTS.
 - COORDINATE REINFORCEMENT LOCATIONS TO AVOID INTERFERENCE WITH INSTALLATION OF ADHESIVE DOWELS.
 - USE ALTERNATE IN DOWELS ARE NOT LOCATED IN PROPER LOCATION OF CURB IN CURB IS INSTALLED AT SLAB LOCATIONS WITHOUT DOWELS.

2 SLAB PENETRATION REINFORCING
 SCALE: 1/2"=1'-0"



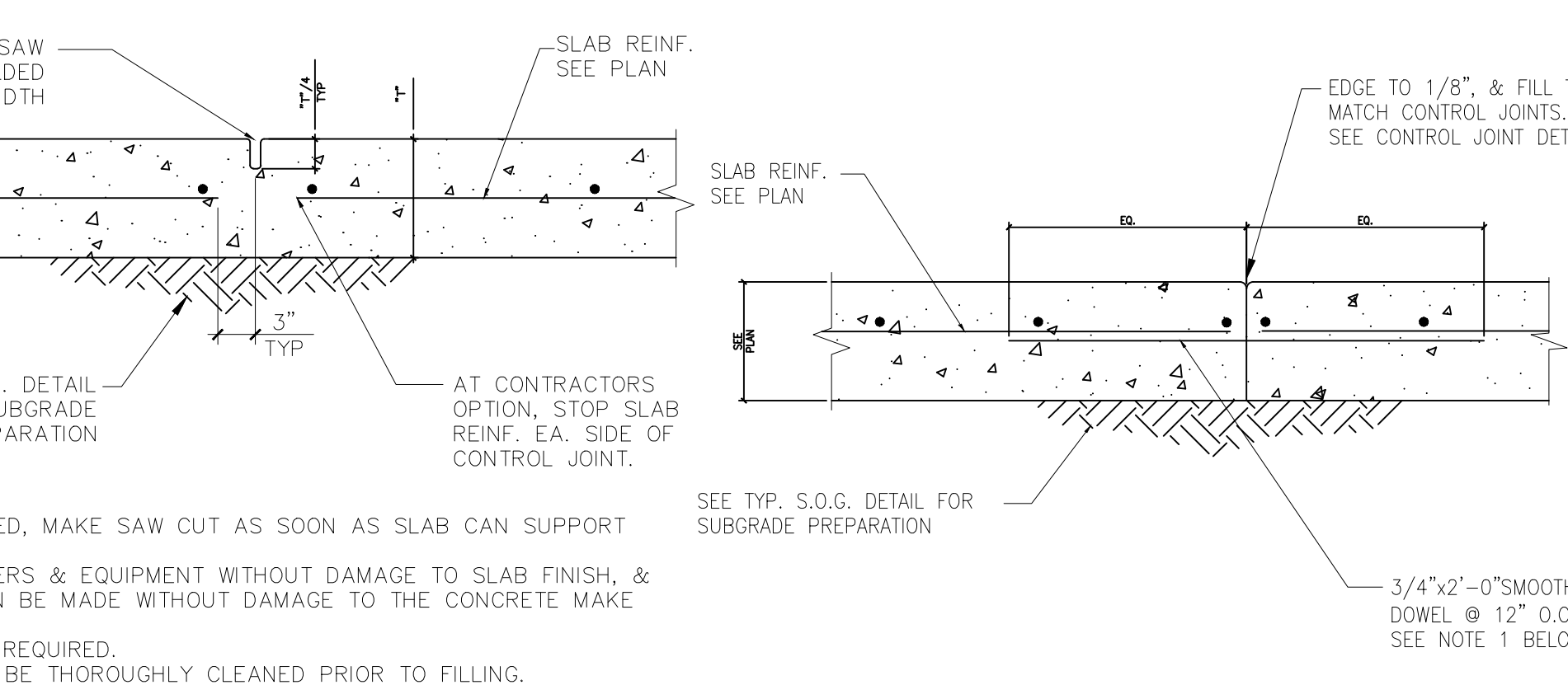
- NOTES:
- SEE ARCHITECTURAL & MECHANICAL DRAWINGS FOR CURB LOCATIONS, DIMENSIONS, CHAMFERS & INSERTS.
 - COORDINATE REINFORCEMENT LOCATIONS TO AVOID INTERFERENCE WITH INSTALLATION OF ADHESIVE DOWELS.
 - USE ALTERNATE IN DOWELS ARE NOT LOCATED IN PROPER LOCATION OF CURB IN CURB IS INSTALLED AT SLAB LOCATIONS WITHOUT DOWELS.

3 TYPICAL RAISED CURBS & PADS
 SCALE: 1/2"=1'-0"



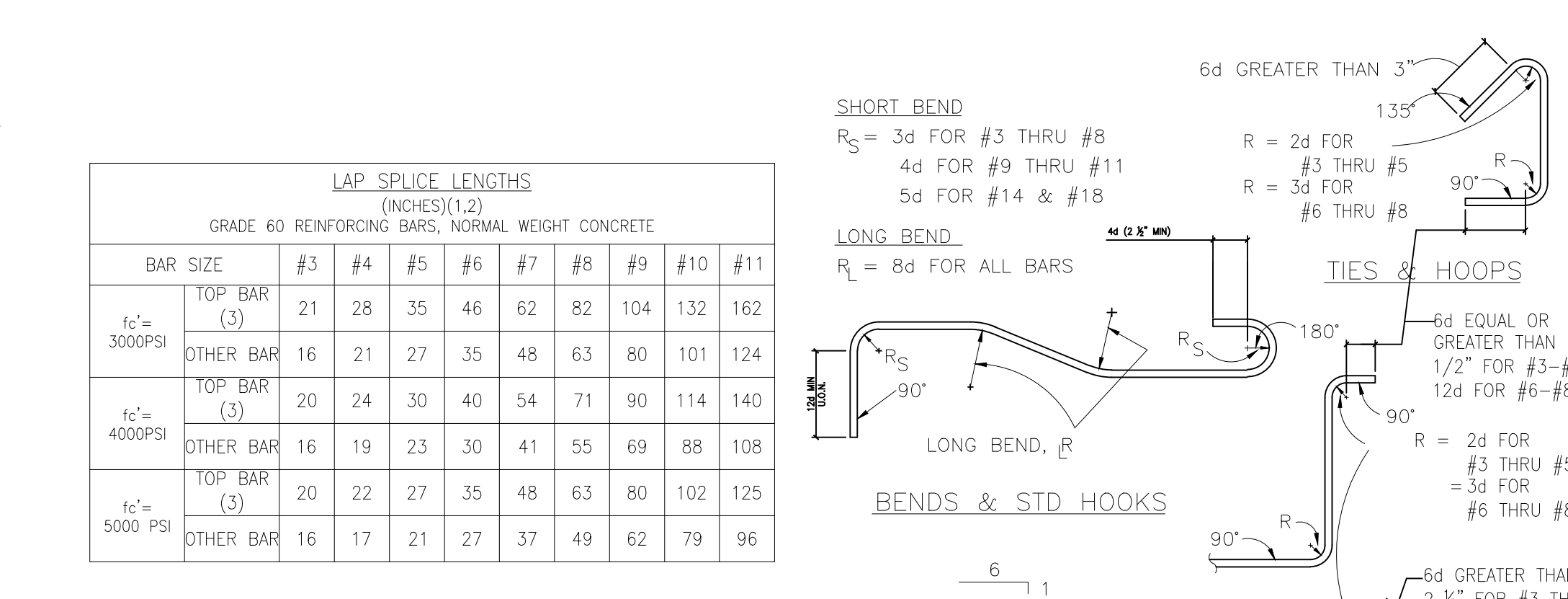
- NOTES:
- WHEN USED, MAKE SAW CUT AS SOON AS SLAB CAN SUPPORT WEIGHT OF WORKERS & EQUIPMENT WITHOUT DAMAGE TO SLAB FINISH, & CUTS CAN BE MADE WITHOUT DAMAGE TO THE CONCRETE MAKE TRIAL CUTS AS REQUIRED.
 - JOINT TO BE THOROUGHLY CLEANED PRIOR TO FILLING.
 - PROVIDE FILLER MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS & APPLY STRICTLY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - FILLER MATERIAL SHALL BE APPLIED WHEN SLAB IS UNDER PERMANENT TEMPERATURE CONTROL, SUCH AS AT THE COMPLETION OF THE BUILDING SHELL, WHENEVER POSSIBLE. IF PERMANENT TEMPERATURE CONTROL IS NOT ESTABLISHED, A MINIMUM OF 90 DAYS AFTER THE COMPLETION OF SLAB CONSTRUCTION SHALL ELAPSE PRIOR TO APPLYING THE JOINT FILLER.

4 TYP. SUBGRADE PREP. & SLAB ON GRADE DETAIL
 SCALE: 1/2"=1'-0"



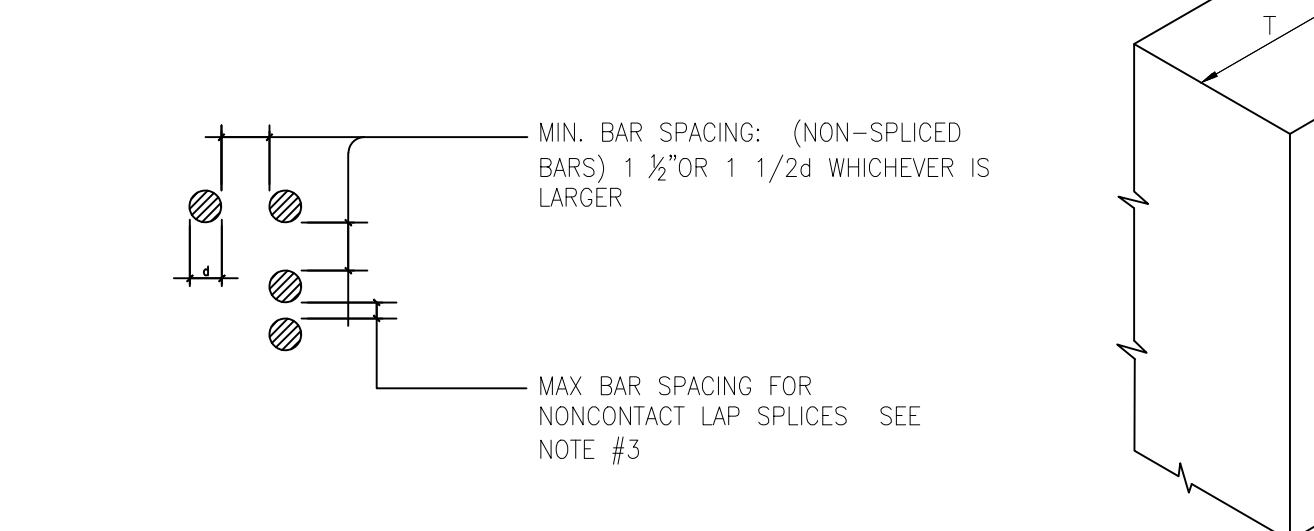
- NOTES:
- BREAK BOND BETWEEN NEW AND PREVIOUSLY POURED SLAB ON GRADE BY SPRAYING OR PAINTING EXPOSED SIDE OF KEY WITH CURING COMPOUND OR FORM OIL.
 - LONG STRIP CONSTRUCTION METHOD SHALL BE USED FOR ALL SLAB ON GRADE, UNLESS OTHERWISE APPROVED BY RESIDENT ENGINEER.
 - SUBGRADE SHALL BE FREE OF STANDING WATER AT TIME OF CONCRETE PLACEMENT.

5 CONTROL JOINTS AT SLAB ON GRADE
 SCALE: 1/2"=1'-0"



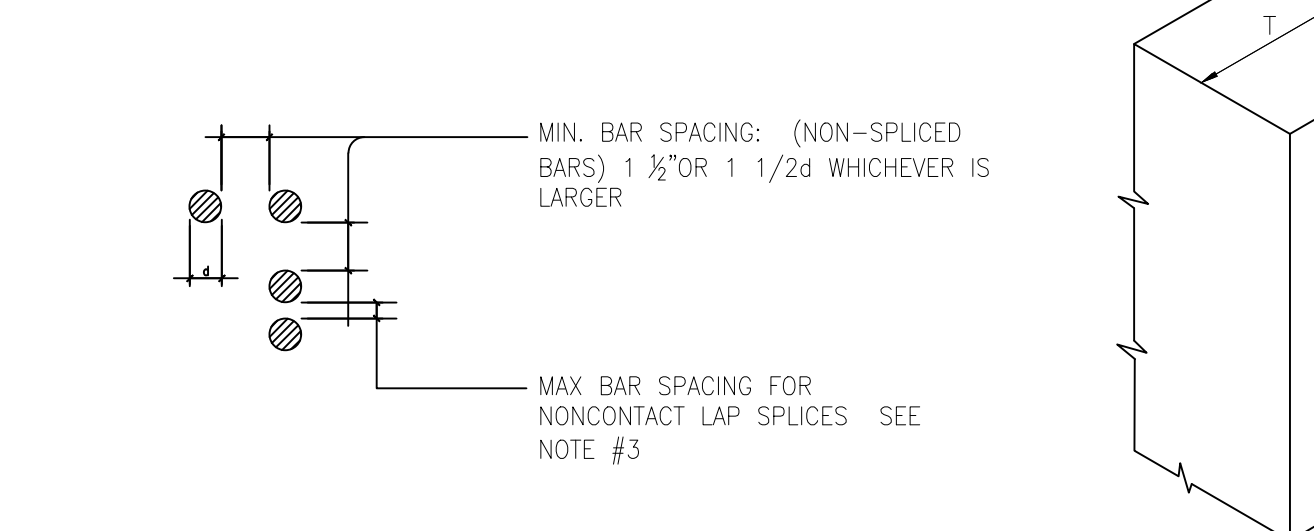
- NOTES:
- LAP SPlice LENGTHS, WHERE PERMITTED, SHALL BE IN ACCORDANCE WITH THIS TABLE UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE.
 - EMBEDMENT LENGTHS OF DOWELS SHALL BE EQUAL TO LENGTHS FOR "OTHER" BARS.
 - TOP BARS ARE HORIZONTAL BARS SO PLACED THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

6 CONSTRUCTION JOINTS AT SLAB ON GRADE
 SCALE: 1/2"=1'-0"



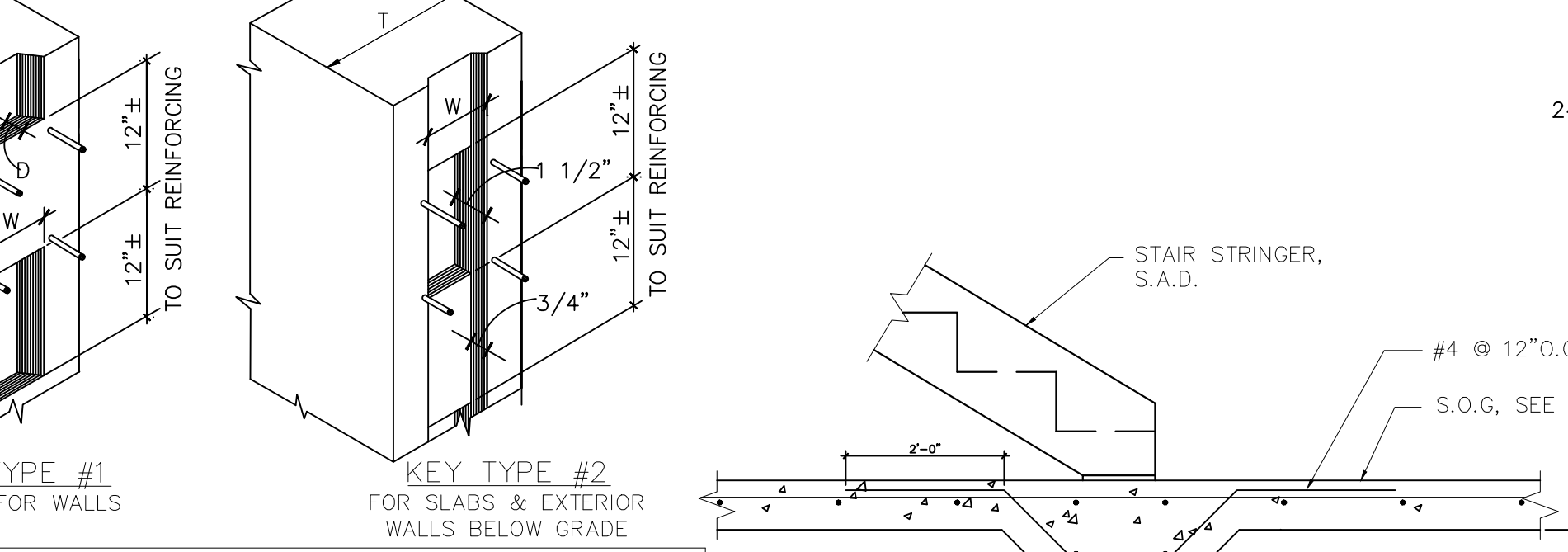
- NOTES:
- 'd' IS NOMINAL BAR DIAMETER
 - REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.

7 REINFORCING LAP SPlice TABLE
 SCALE: NTS



- NOTES:
- 'd' IS NOMINAL BAR DIAMETER
 - REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.

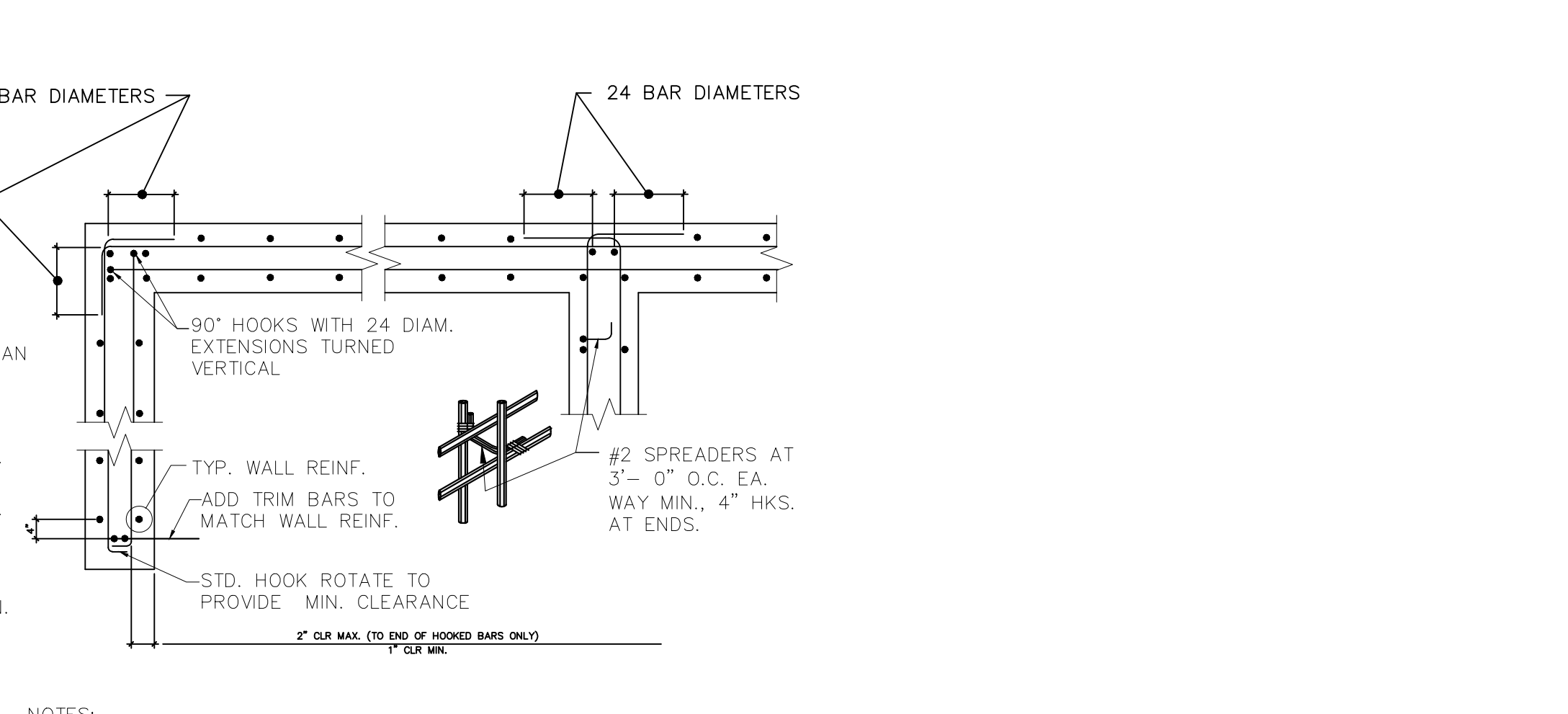
8 HOOKS AND BENDS
 SCALE: NTS



KEY SCHEDULE					
T	W	D	T	W	D
EQUAL LESS THAN 6" WALL OR SLAB	7"	1 1/2"	13"	7 1/2"	1 1/2"
7"	7"	1 1/2"	14" TO 16"	9 1/2"	2 1/2"
8" TO 12"	5 1/2"	1 1/2"	18" & OVER	11 1/4"	2 1/2"

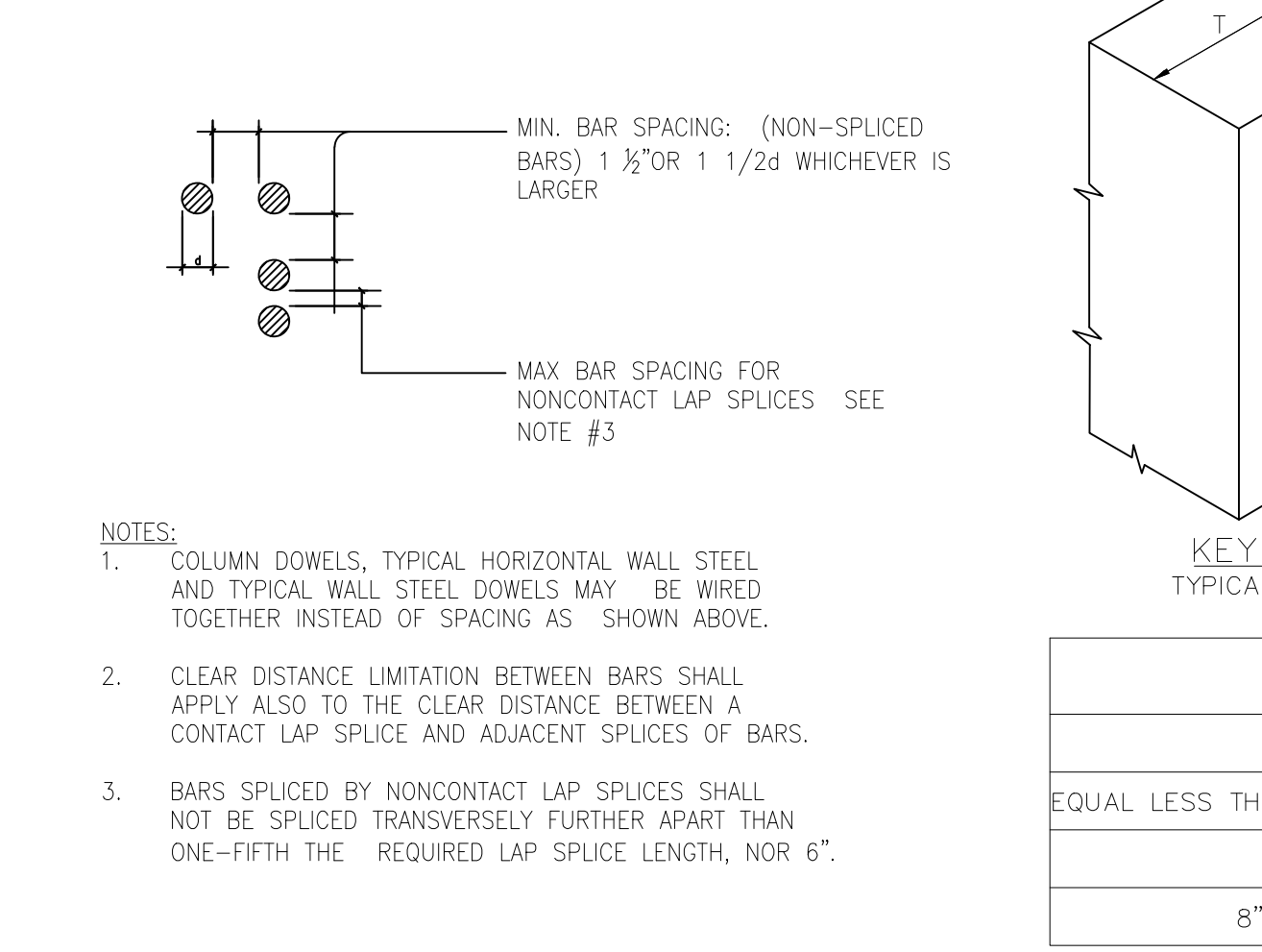
- NOTES:
- BEFORE PLACING 2ND POUR, ALL SURFACES ARE TO BE ROUGHENED TO 1/4" AMPLITUDE & THOROUGHLY CLEANED, SEE SPECIFICATIONS.
 - DETAILS APPLY TO BOTH HORIZONTAL & VERTICAL CONSTRUCTION JOINTS.

9 BAR SPACING & SLAB ON GRADE DETAIL
 SCALE: NTS



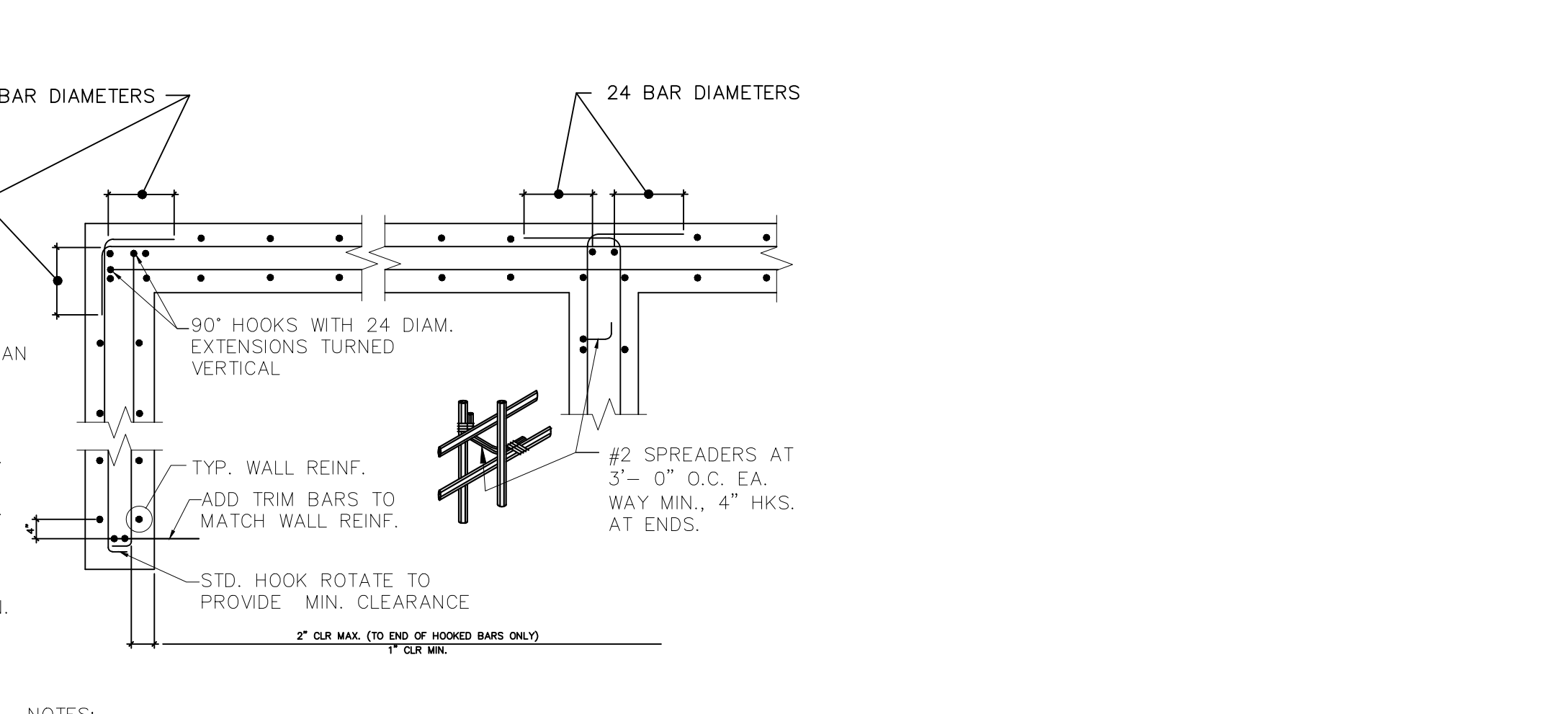
- NOTES:
- WALLS WITH SINGLE CURTAIN OF STEEL SIMILAR TO ABOVE WITH HORIZONTAL HOOKS AT CORNERS ONLY.
 - SPICES IN HORIZONTAL REINFORCEMENT SHALL BE STAGGERED.

10 CONSTRUCTION JOINTS IN WALLS & SLABS
 SCALE: 1/2"=1'-0"



- NOTES:
- BEFORE PLACING 2ND POUR, ALL SURFACES ARE TO BE ROUGHENED TO 1/4" AMPLITUDE & THOROUGHLY CLEANED, SEE SPECIFICATIONS.
 - DETAILS APPLY TO BOTH HORIZONTAL & VERTICAL CONSTRUCTION JOINTS.

11 STAIR STRINGER FOOTING
 SCALE: 1/2"=1'-0"



- NOTES:
- WALLS WITH SINGLE CURTAIN OF STEEL SIMILAR TO ABOVE WITH HORIZONTAL HOOKS AT CORNERS ONLY.
 - SPICES IN HORIZONTAL REINFORCEMENT SHALL BE STAGGERED.

12 WALL DETAIL REINF. @ CORNERS & INTER.
 SCALE: NTS