

GENERAL STRUCTURAL NOTES

ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION, WITH WASHINGTON STATE AMENDMENTS.

DESIGN LOADS:

ROOF	
LIVE LOAD	25 PSF (SNOW)
DEAD LOAD	15 PSF
FLOOR	
LIVE LOAD	40 PSF (RESIDENTIAL)
	60 PSF (DECKS)
DEAD LOAD	10 PSF

WIND
 BASIC WIND SPEED 110 MPH (3 SECOND GUST, ULTIMATE LOAD)
 RISK CATEGORY II, EXPOSURE B, $K_z = 1.0$

SEISMIC
 EQUIVALENT LATERAL FORCE PROCEDURE
 BEARING WALL SYSTEM (LIGHT-FRAMED WALLS)
 SITE CLASS: D
 SEISMIC DESIGN CATEGORY: D
 $S_{DS} = 1.5$ - IBC FIGURE 1613.3(1)
 $S_{D1} = 1.0$, $S_{D2} = 1.0$, $R = 6.5$
 $C_s = 0.154$

INSPECTIONS:
 NO SPECIAL INSPECTIONS ARE REQUIRED. NOTIFY THE BUILDING DEPARTMENT FOR INSPECTIONS REQUIRED BY LOCAL ORDINANCE. ALL PREPARED SOIL BEARING SURFACES SHALL BE INSPECTED BY A SOILS ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL.

FOUNDATIONS:
 PLACE FOOTINGS ON NATIVE OR COMPACTED SOIL WITH 15000 PSF BEARING CAPACITY (ASSUMED). BOTTOM OF EXTERIOR FOOTINGS SHALL BE MINIMUM 1'-6" BELOW OUTSIDE FINISHED GRADE. BACKFILL WALLS WITH A WELL DRAINING MATERIAL FREE OF ORGANIC OBJECTS OR DEBRIS.

CONCRETE:
 THE SELECTION OF MATERIALS FOR AND THE MIXING AND PLACING OF ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2021 EDITION. MATERIALS SHALL BE PROPORTIONED TO PRODUCE A DENSE, WORKABLE MIX HAVING A MAXIMUM SLUMP OF 4 INCHES WHICH CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER. USE MINIMUM $F_c = 3000$ PSI WITH 5.5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE AND A MAXIMUM OF 52 GALLONS OF WATER PER 94 LB SACK OF CEMENT. ALL CONCRETE SHALL CONTAIN AN AIR ENTRAINING AGENT. THE AMOUNT OF ENTRAINED AIR SHALL BE $4\frac{1}{2}\%$ $\pm 15\%$ BY VOLUME. MAXIMUM SIZE OF AGGREGATE IS $1\frac{1}{2}$ ". ALL CONCRETE SHALL BE POURED MONOLITHICALLY BETWEEN CONSTRUCTION OR EXPANSION JOINTS UNLESS SHOWN OTHERWISE. CONCRETE PURVEYORS/SUPPLIERS DELIVERY OR BATCH TICKET TO BE ON JOB SITE FOR BUILDING INSPECTOR VERIFICATION.

REINFORCING STEEL:
 ALL REINFORCING STEEL SHALL BE MINIMUM GRADE 60 ($F_y = 60000$ PSI) DEFORMED BARS IN ACCORDANCE WITH ASTM SPECIFICATION A-615. LAP ALL SPLICES 32 BAR DIAMETERS OR 1'-6" MINIMUM UNLESS OTHERWISE SHOWN. PROVIDE ELBOW BARS (32 DIA) TO LAP HORIZONTAL STEEL AT CORNERS AND INTERSECTIONS IN FOOTINGS AND WALLS. REINFORCEMENT SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED BY APPROVED CHAIRS, SPACERS, OR TIES AND SECURED IN PLACE DURING GROUT OR CONCRETE PLACEMENT.

MINIMUM CONCRETE COVER FOR REINFORCING STEEL:

USE	PROTECTION
SLAB AND WALL BARS:	
INTERIOR FACES	$1\frac{1}{2}$ "
EXPOSED TO WEATHER OR EARTH	$1\frac{1}{2}$ " (5" AND SMALLER) 2" (6" AND LARGER)
FOOTING BARS	3"

TIMBER:
 ALL LUMBER SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

BEAMS	DF2 OR BETTER
POSTS	DF2 OR BETTER
2x FRAMING	HP2 OR BETTER

ALL 2x TIMBER SHALL BE KILN DRIED. ALL GRADES SHALL CONFORM TO "NUPA GRADING RULES FOR WESTERN LUMBER", LATEST EDITION. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESURE TREATED IN ACCORDANCE WITH AUPA VI. RE-TREAT ALL CUT ENDS, NOTCHES, AND DRILLED HOLES IN ACCORDANCE WITH AUPA M4. MAINTAIN MINIMUM 6" CLEAR BETWEEN WOOD AND EXPOSED EARTH. MAINTAIN 8" CLEAR BETWEEN EXPOSED EARTH AND NON-TREATED WOOD AT EXTERIOR FOUNDATION WALLS. ALL NAILS SHALL BE GALVANIZED BOX OR COMMON NAILS. FASTENERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL IN ACCORDANCE WITH SECTION IBC 2304.10.5. ALL MINIMUM NAILING SHALL BE PER IBC TABLE 2304.10.1 UNO. MACHINE BOLTS TO BE A-307. BOLT HEADS AND NUTS BEARING AGAINST WOOD SHALL BE PROVIDED WITH STANDARD CUT WASHERS. MISCELLANEOUS HANGERS TO BE 'SIMPSON' OR ICC APPROVED EQUAL. ALL HANGERS TO BE FASTENED TO WOOD WITH PROPER NAILS AND ALL HOLES SHALL BE NAILED.

GLUED LAMINATED WOOD MEMBERS:
 GLUED LAMINATED WOOD BEAMS (GLB) TO BE IN ACCORDANCE WITH ANSI/AITC STANDARD A1901, AMERICAN NATIONAL STANDARD FOR STRUCTURAL GLUED LAMINATED TIMBER USE STRESS GRADE COMBINATION 24F-V4 ($F_b = 2400$ PSI) FOR SIMPLE SPANS AND 24F-V8 FOR CANTILEVER AND CONTINUOUS SPANS. SIMPLE SPANS SHALL BE CAMBERED ON A 3500' RADIUS UNO. GLUE SHALL BE CASEIN WITH MOLD INHIBITOR UNLESS OTHERWISE SPECIFIED. SEALER SHALL BE APPLIED TO ENDS OF ALL MEMBERS. BOTTOM LAMINATION TO BE FREE OF UNSOUND KNOTS LARGER THAN $\frac{1}{2}$ " DIAMETER. AITC STAMP AND CERTIFICATION REQUIRED.

PREFABRICATED JOISTS:
 JOISTS SHALL BE AS NOTED ON THE PLANS AND AS MANUFACTURED BY TRUSS JOIST WEYERHAEUSER OR APPROVED EQUIVALENT. JOISTS TO BE ERECTED IN ACCORDANCE WITH THE PLANS AND THE MANUFACTURER'S DRAWINGS AND INSTALLATION INSTRUCTIONS. CONSTRUCTION LOADS BEYOND THE DESIGN LOADS ARE NOT PERMITTED. PROVIDE ERECTION BRACING UNTIL SHEATHING MATERIAL HAS BEEN INSTALLED. PROVIDE SOLID BLOCKING AT CONCENTRATED LOADS FROM ABOVE AND WEB STIFFENERS PER MANUFACTURER'S DIRECTIONS. JOIST HANGERS TO BE SIZED AND PROVIDED BY THE MANUFACTURER OR SUPPLIER.

LAMINATED VENEER LUMBER (LVL):

LAMINATED VENEER LUMBER (LVL) TO BE BY TRUSS JOIST WEYERHAEUSER (MICROLAM - $F_b = 2600$ PSI, $E = 1,900,000$ PSI). MATERIAL SHALL BE DESIGNED & MANUFACTURED TO THE STANDARDS SET FORTH IN NER-481 OR CCMC REPORT NO. 08615-R. BEARING LENGTH SHALL NOT BE LESS THAN $1\frac{1}{2}$ ". DO NOT CUT OR NOTCH BEAMS WITHOUT PRIOR APPROVAL OR ENGINEER. HEEL CUTS SHALL NOT OVERHANG INSIDE FACE OF SUPPORTING MEMBER.

BEARING WALL FRAMING:

ALL DOOR AND WINDOW HEADERS NOT CALLED OUT OR OTHERWISE NOTED ON THE PLANS SHALL BE 4x8 DF2 WITH ONE CRIPPLE AND ONE STUD EACH END FOR OPENINGS 5'-0" OR LESS AND TWO CRIPPLES AND ONE STUD FOR OPENINGS MORE THAN 5'-0" WIDE. STUDS SHALL BE CONTINUOUS FROM SILL PLATE AT FOUNDATION TO TOP PLATE AT ROOF OR CEILING. ALL COLUMNS NOT CALLED OUT ON THE PLANS SHALL BE TWO (2) STUDS. SPIKE LAMINATED COLUMNS TOGETHER WITH $16d \# 12$ O.C. STAGGERED. STAGGER SPLICES AT TOP PLATES MINIMUM 48" AND NAIL WITH $16d \# 8$ O.C.

SHEAR WALLS:

ALL SHEAR WALL SHEATHING NAILING AND ANCHORS SHALL BE AS DETAILED ON THE DRAWINGS AND NOTED IN THE SHEAR WALL SCHEDULE. USE APA RATED SHEATHING (24/0) WITH A MINIMUM PANEL EDGE NAILING OF $8d \# 6$ O.C. UNLESS NOTED OTHERWISE. ALL SHEAR WALL NAILING SHALL BE COMMON WIRE OR GALVANIZED BOX NAILS. FASTENERS IN PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. BLOCK ALL UNSUPPORTED PANEL EDGES. DESIGNATED 3x FRAMING MAY BE (2) 2x MEMBERS FACE-NAILED WITH $16d \# 12$ O.C. STAGGERED. ALL HEADERS SHALL HAVE STRAP CONNECTORS TO THE TOP PLATE AT EACH END WHEN THE HEADER INTERRUPTS THE TOP PLATE. USE 'SIMPSON' LSTA24 CONNECTOR UNO.

FLOOR AND ROOF FRAMING:

DIMENSIONAL FRAMING MEMBERS SHALL BE FREE OF SPLITS, CHECKS, AND SHAKES. PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE LENGTH AND ALL AROUND ALL OPENINGS IN FLOORS AND ROOFS UNO. PROVIDE SOLID BLOCKING AT RIM JOISTS BELOW CONCENTRATED LOADS FROM ABOVE. APPLY $\frac{3}{4}$ " RATED SHEATHING (40/20) GLUED AND NAILED TO FLOOR FRAMING MEMBERS WITH $8d$ COMMON OR GALVANIZED BOX NAILS AT 6" O.C. AT ALL SUPPORTED EDGES AND $8d$ COMMON OR GALVANIZED BOX NAILS AT 12" O.C. AT INTERIOR SUPPORTS. APPLY $\frac{1}{2}$ " RATED SHEATHING (24/16) ON ROOF NAILED TO STIFFENERS OR RAFTERS WITH $8d$ COMMON OR GALVANIZED BOX NAILS AT 6" O.C. AT SUPPORTED EDGES AND $8d$ COMMON OR GALVANIZED BOX NAILS AT 12" O.C. AT INTERIOR SUPPORTS. LAY SHEATHING PERPENDICULAR TO FRAMING AND STAGGER PANEL EDGES.

FLOOR AND ROOF TRUSSES:

TRUSSES TO BE DESIGNED AND SUPPLIED IN ACCORDANCE WITH ANSI/TPI 1-2014. THE TRUSS CALCULATION PACKAGE SHALL BE PREPARED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF WASHINGTON. THE TRUSS ENGINEER SHALL ASSUME ALL RESPONSIBILITY FOR THE WORK OF ALL SUBORDINATES INVOLVED IN THE PREPARATION OF THE TRUSS DESIGN DRAWINGS. EACH TRUSS SHALL BE PLANT FABRICATED AND SHALL BEAR THE QUALITY CONTROL STAMP, MANUFACTURER'S NAME, DESIGN LOAD, AND MAXIMUM SPACING. ALL MECHANICAL CONNECTORS SHALL BE ICC APPROVED. LOADS SHALL BE IN ACCORDANCE WITH THE RECOMMENDED DESIGN LOADS AND IBC CHAPTER 16. MANUFACTURER SHALL PROVIDE ALL TRUSS-TO-TRUSS CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE BUILDING DEPARTMENT FOR APPROVAL AND MAINTAIN DRAWINGS ON SITE FOR INSPECTION. CONTRACTOR TO VERIFY ALL TRUSS LENGTHS PRIOR TO FABRICATION AND INSTALLATION. TRUSSES SHALL BE BRACED TO PREVENT ROTATION AND PROVIDE LATERAL STABILITY IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS AND INDIVIDUAL TRUSS DRAWINGS. NO TRUSS SHALL BE ALTERED WITHOUT PRIOR WRITTEN CONSENT OF THE TRUSS DESIGNER AND ENGINEER OF RECORD.

GENERAL CONSTRUCTION NOTES:

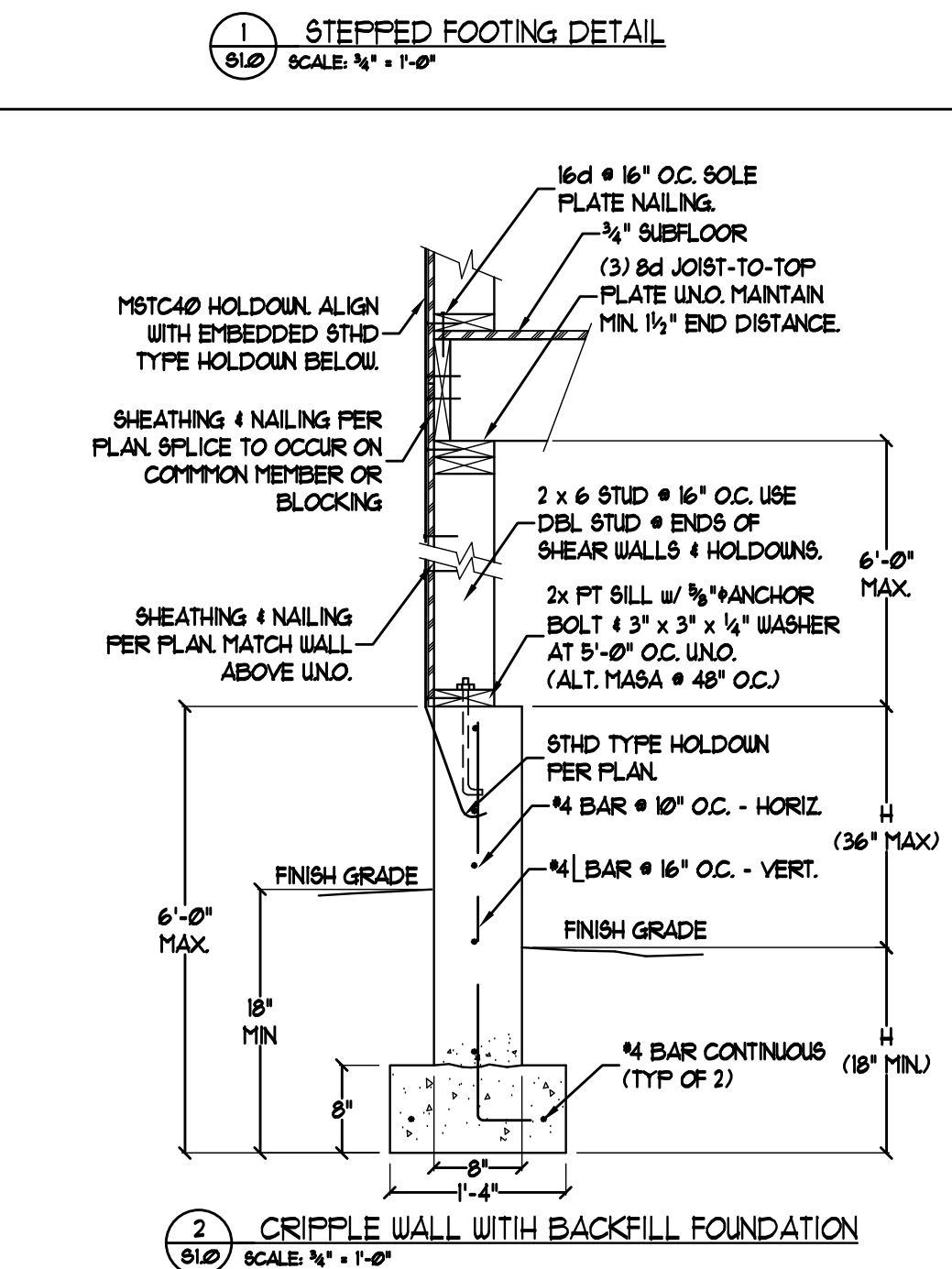
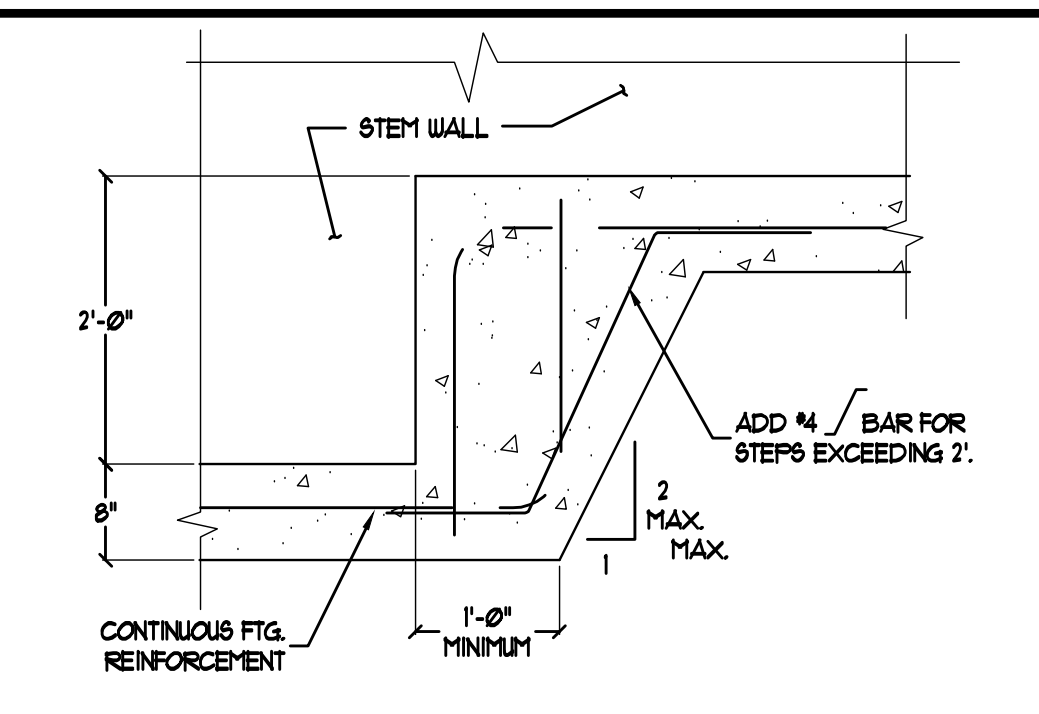
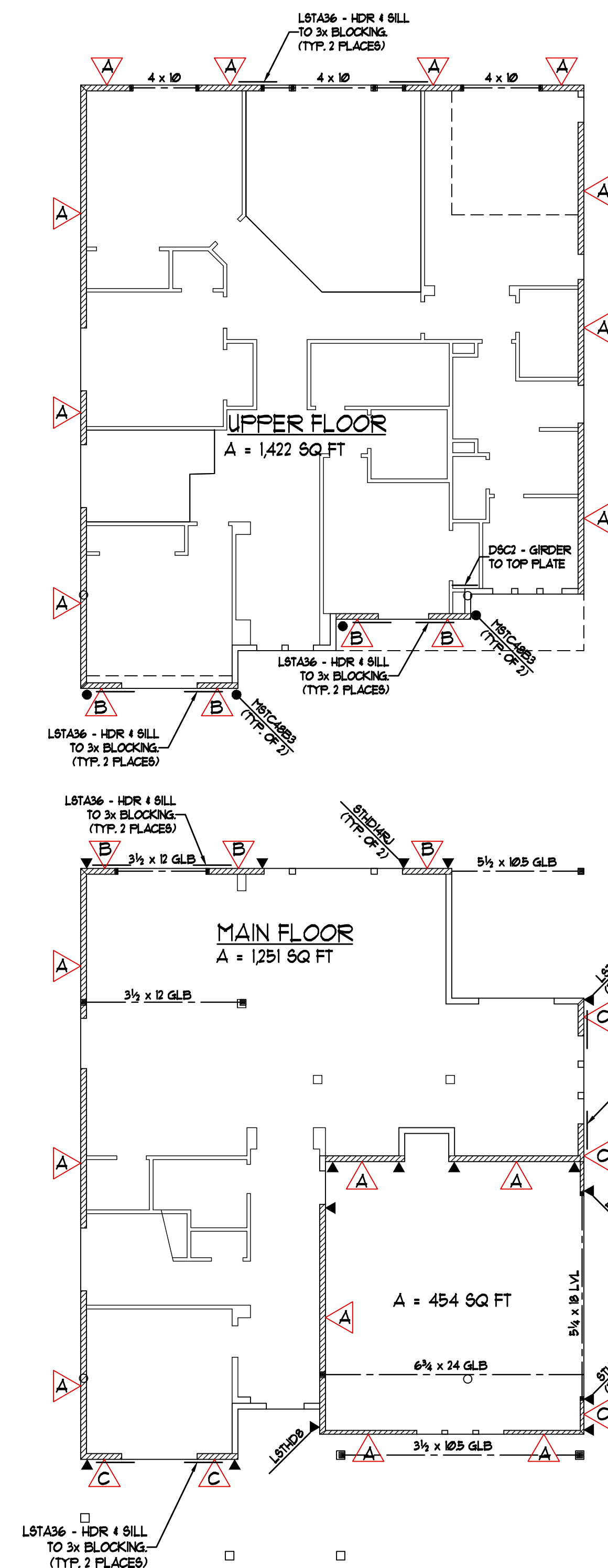
ALL CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND METHODS, TECHNIQUES, AND SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE SPECIFIED WORK. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ALL CONDITIONS AT THE JOB SITE INCLUDING BUILDING AND SITE CONDITIONS BEFORE COMMENCING WORK AND BE RESPONSIBLE FOR SAME. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS AND STIFFENERS HAVE BEEN INSTALLED. THE CONTRACTOR SHALL COORDINATE WITH THE BUILDING DEPARTMENT FOR ALL BUILDING DEPARTMENT REQUIRED INSPECTIONS. DO NOT SCALE DRAWINGS. USE ONLY WRITTEN DIMENSIONS. THE DETAILS SHOWN ARE TYPICAL AND SHALL BE USED FOR LIKE OR SIMILAR CONDITIONS NOT SHOWN. VARIATIONS AND MODIFICATIONS TO WORK SHOWN ON THE DRAWINGS SHALL NOT BE CARRIED OUT WITHOUT THE WRITTEN PERMISSION FROM THE ARCHITECT OR ENGINEER.

SHEAR WALL SCHEDULE

MARK	MINIMUM SHEATHING (1)	SHEATHING NAILING (1)	ANCHOR BOLTS (3)	REMARKS (4, 5)
A	$\frac{1}{2}$ " CDX OR OSB	$8d \# 6$ O.C.	$\frac{3}{8}$ " $\# 60$ O.C.	$Q_{all} = 230$ PLF
B	$\frac{1}{2}$ " CDX OR OSB	$8d \# 4$ O.C.	$\frac{3}{8}$ " $\# 32$ O.C.	$Q_{all} = 350$ PLF
C	$\frac{1}{2}$ " CDX OR OSB	$8d \# 3$ O.C.	$\frac{3}{8}$ " $\# 16$ O.C.	$Q_{all} = 450$ PLF USE 3x STUDS AT ABUTTING PANEL EDGES & STAGGER NAILS
R	SEE DETAIL 12 / 52.0 FOR CONSTRUCTION			

NOTES

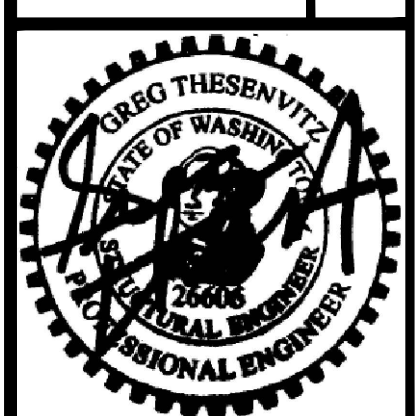
- ALL WALLS DESIGNATED 'X' ARE SHEAR WALLS. EXTERIOR WALLS SHALL BE SHEATHED WITH RATED SHEATHING (24/0) AND NAILED AT ALL PANEL EDGES (BLOCKED) PER SCHEDULE. NAILING AT T-I PANELS SHALL BE THROUGH EACH EDGE OF EACH PANEL. NAILING AT INTERMEDIATE FRAMING TO BE AT 12" O.C. NAILING NOT CALLED OUT SHALL BE PER IBC TABLE 2304.10.1 NAILING IN PRESERVATIVE TREATED LUMBER SHALL BE STAINLESS STEEL OR OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL PER ASTM A153.
- HOLDDOWS AND OTHER FRAMING HARDWARE BY SIMPSON STRONG TIE OR ICC APPROVED EQUAL TO BE USED PER PLAN. ENDS OF SHEAR WALLS SHALL USE DOUBLE STUDS MINIMUM.
- USE MINIMUM OF TWO (2) BOLTS PER SILL PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12" NOR LESS THAN 5" FROM EACH END OF EACH PIECE. EMBED BOLTS MINIMUM OF 1" INTO CONCRETE. WASHERS TO BE 3" x 3" x $\frac{1}{4}$ " PER IBC SECTION 2308.3.2 AND OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL IN ACCORDANCE WITH ASTM A153. EDGE OF PLATE WASHER TO EXTEND TO WITHIN $\frac{1}{2}$ " OF SHEATHED SIDE OF BOTTOM PLATE.
- ALLOWABLE LOADS ARE PERMITTED TO BE INCREASED 40% FOR WIND DESIGN IN ACCORDANCE WITH AFPA SDPUS TABLE 4.3A.
- DESIGNATED 3x STUDS MAY BE (2) 2x MEMBERS FACE-NAILED WITH $16d \# 12$ O.C. STAGGERED.



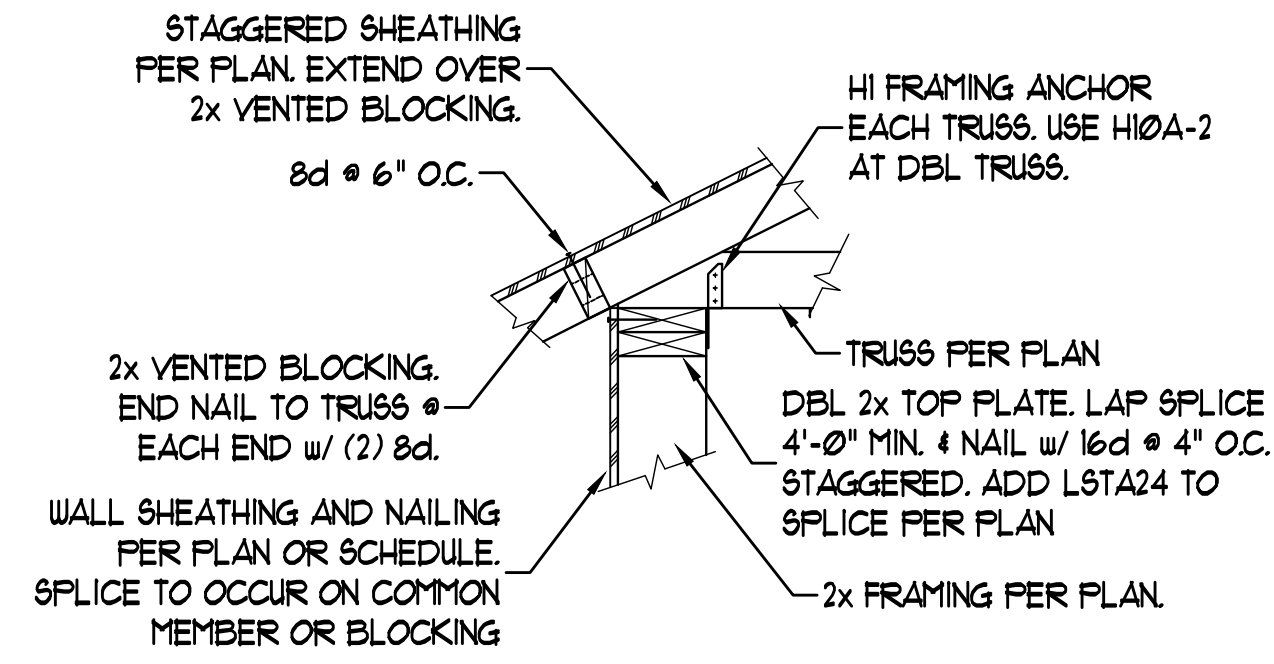
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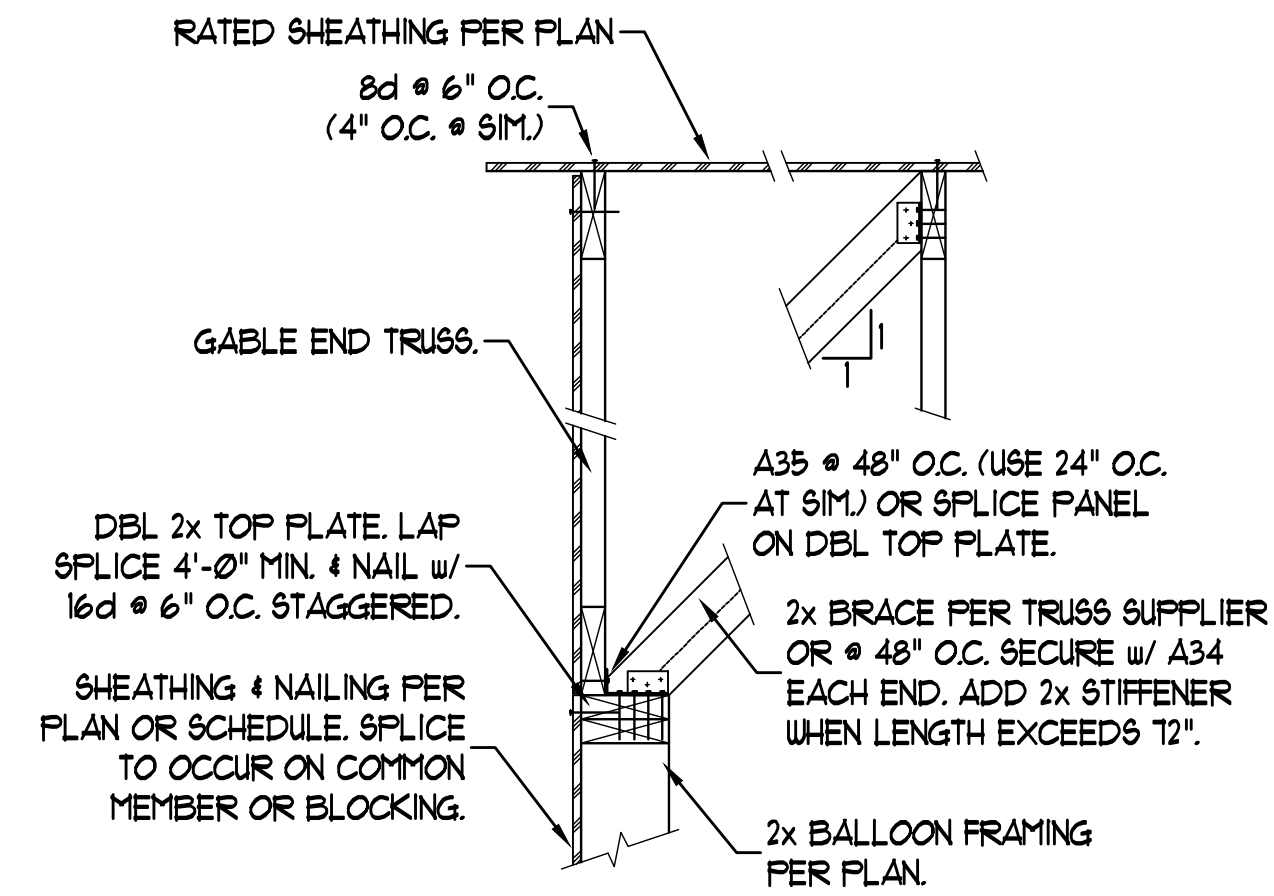
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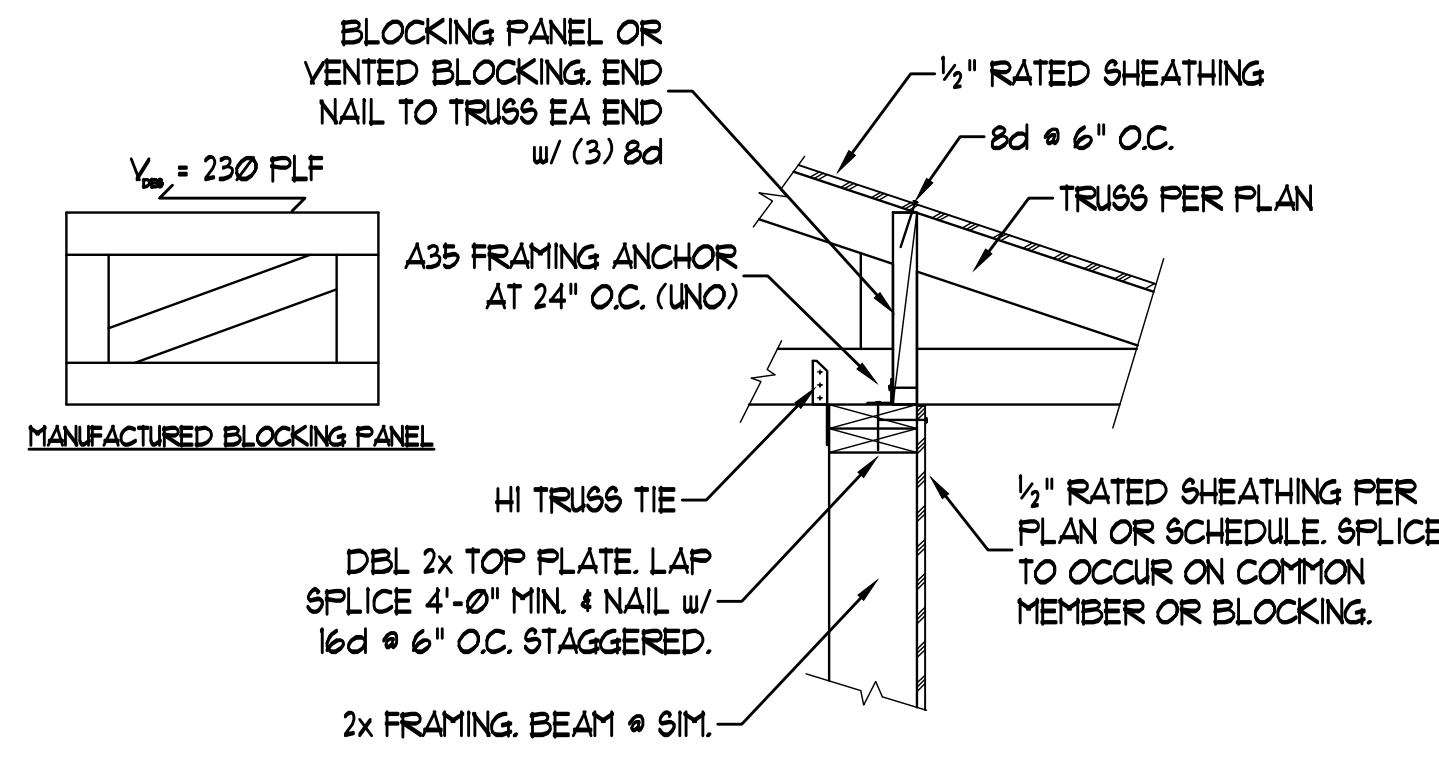
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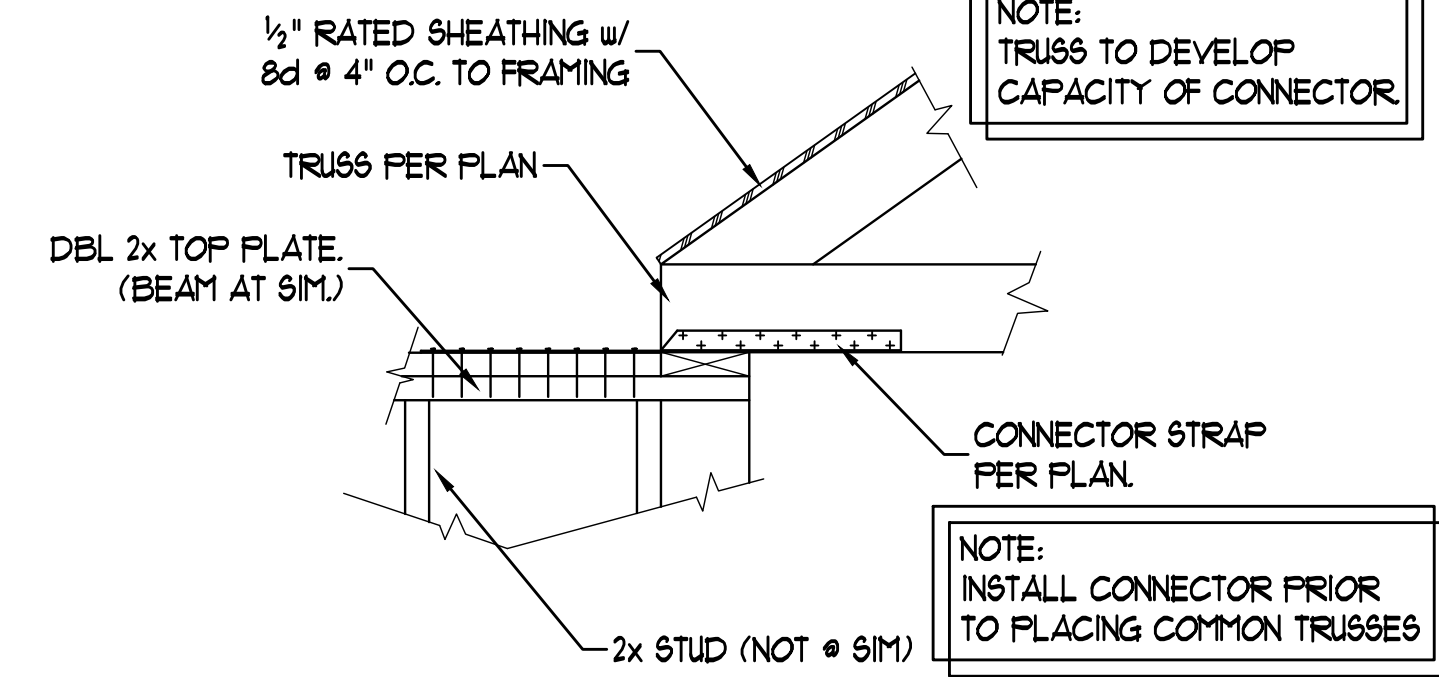
1 TYPICAL ROOF FRAMING CONNECTION
SCALE: 1" = 1'-0"



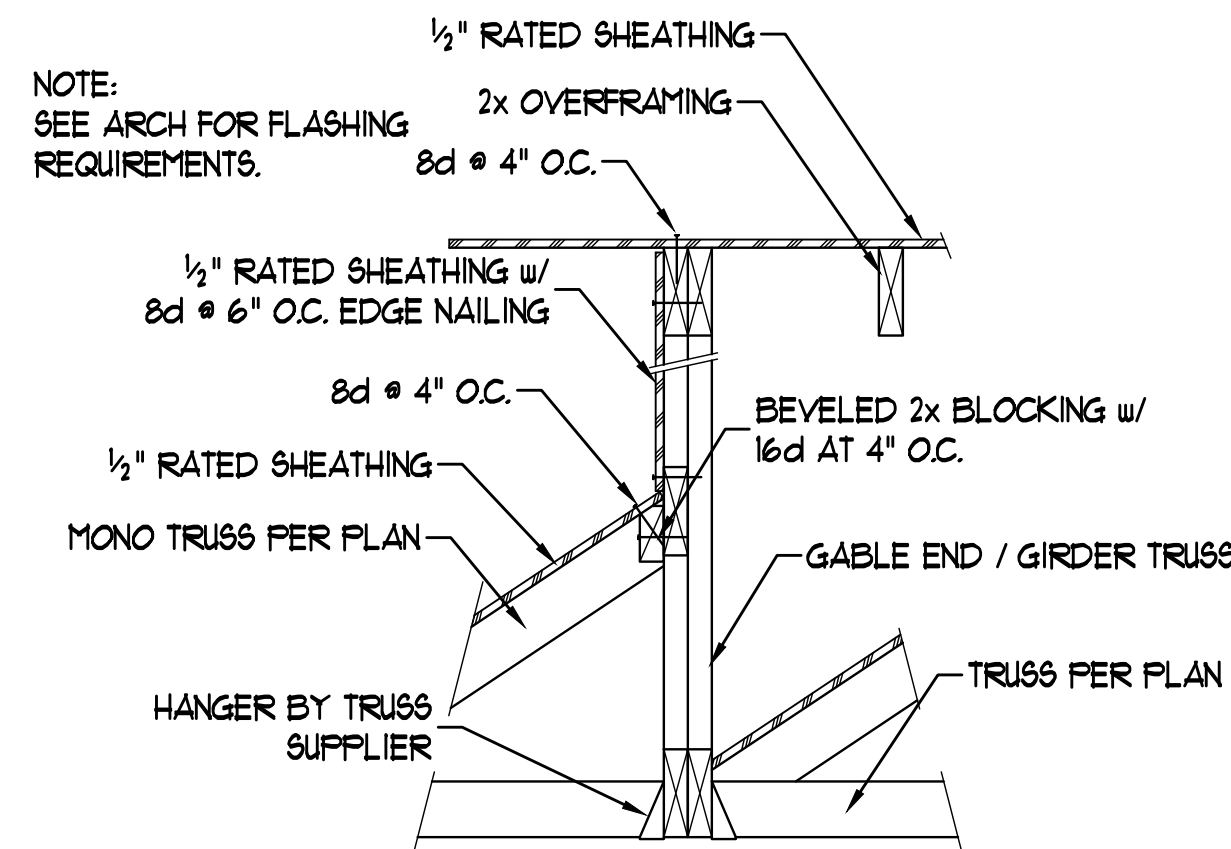
2 ROOF FRAMING @ GABLE END
SCALE: 1" = 1'-0"



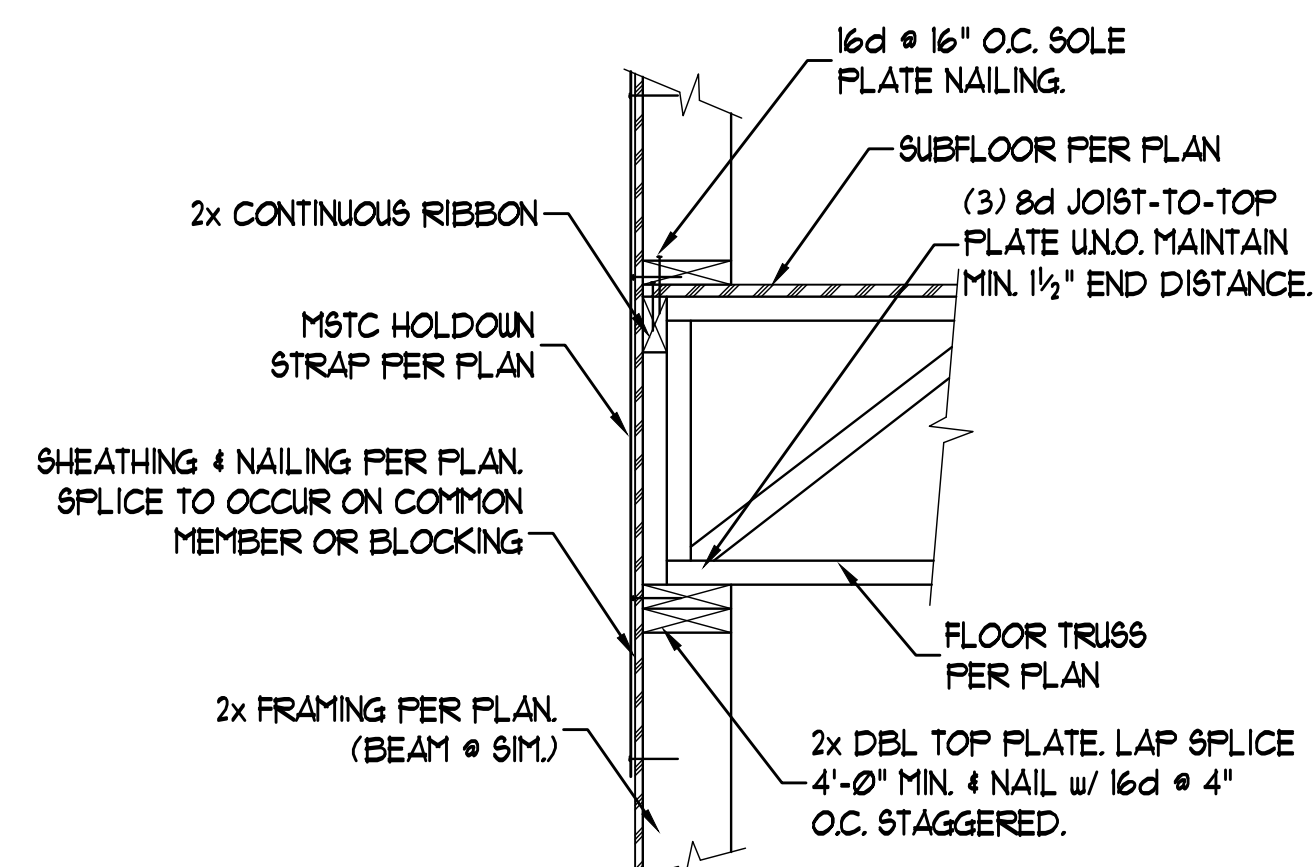
3 ROOF FRAMING CONNECTION
SCALE: 1" = 1'-0"



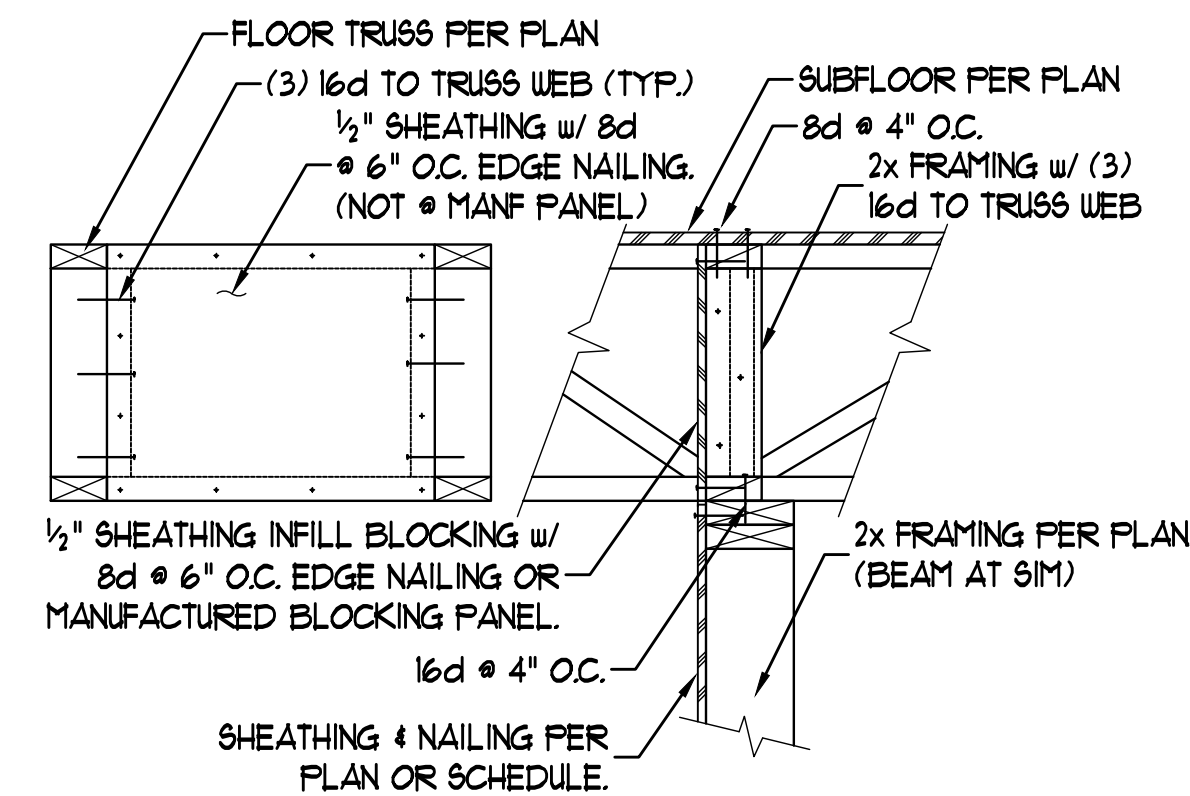
4 DRAG STRUT CONNECTION
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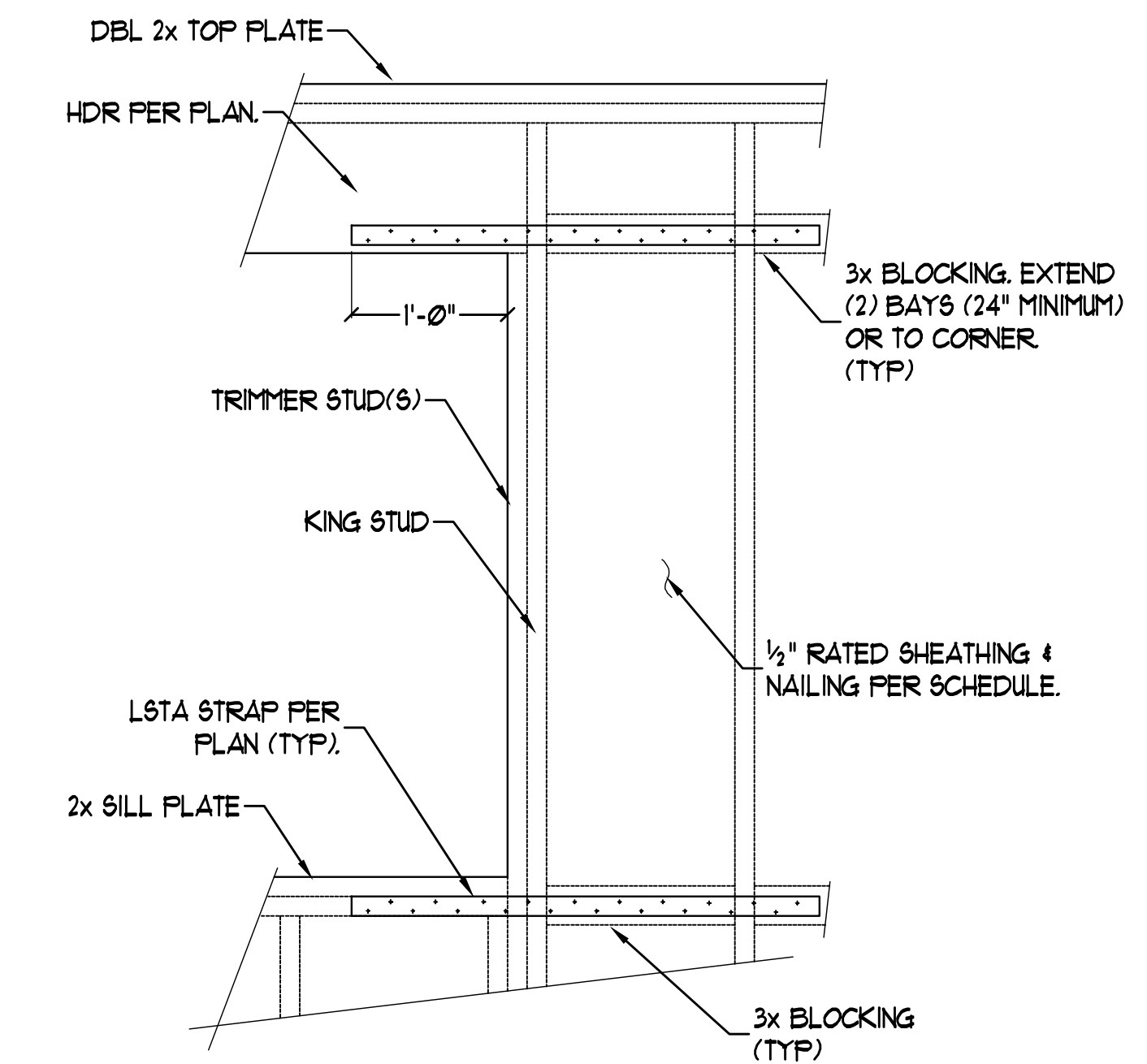
5 LOWER ROOF FRAMING @ GABLE END
SCALE: 1" = 1'-0"



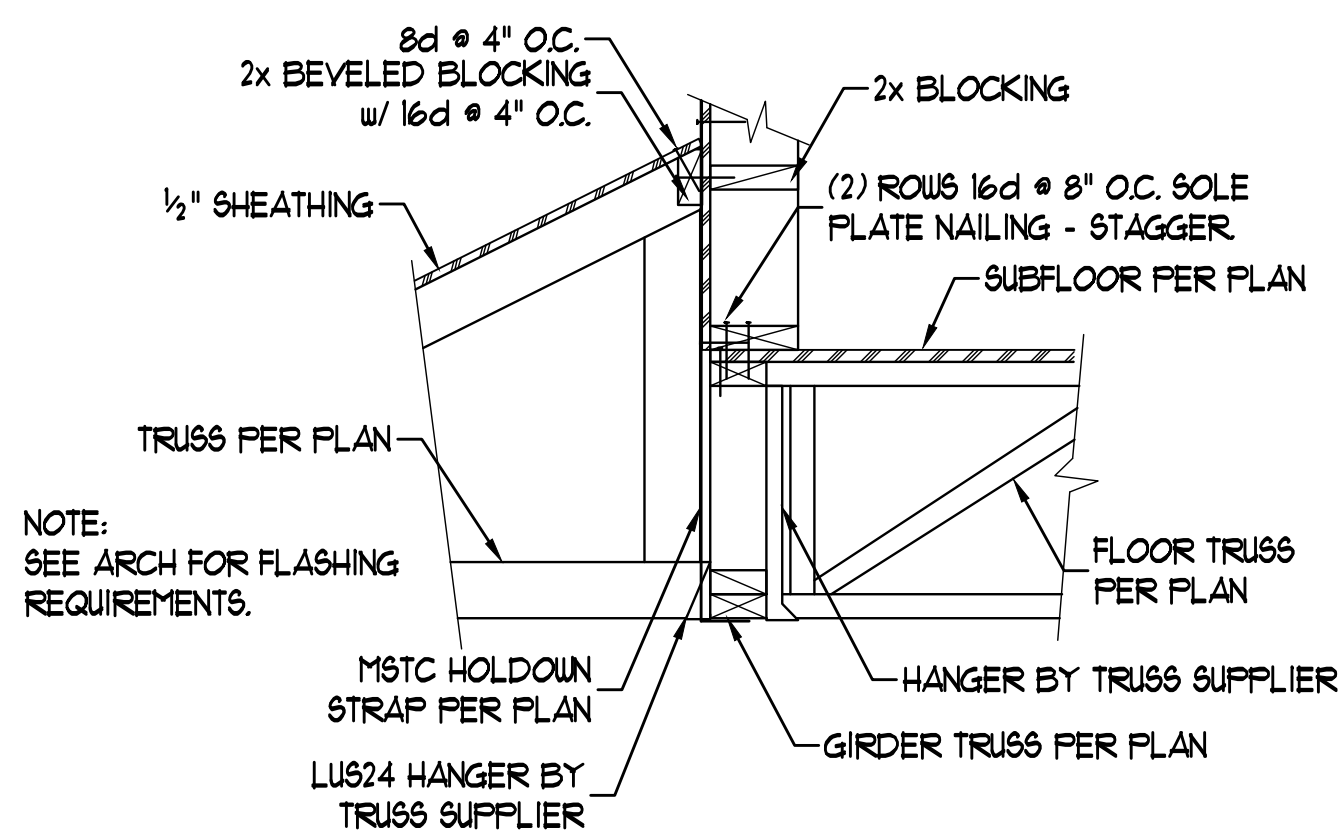
6 TYPICAL FLOOR FRAMING CONNECTION
SCALE: 1" = 1'-0"



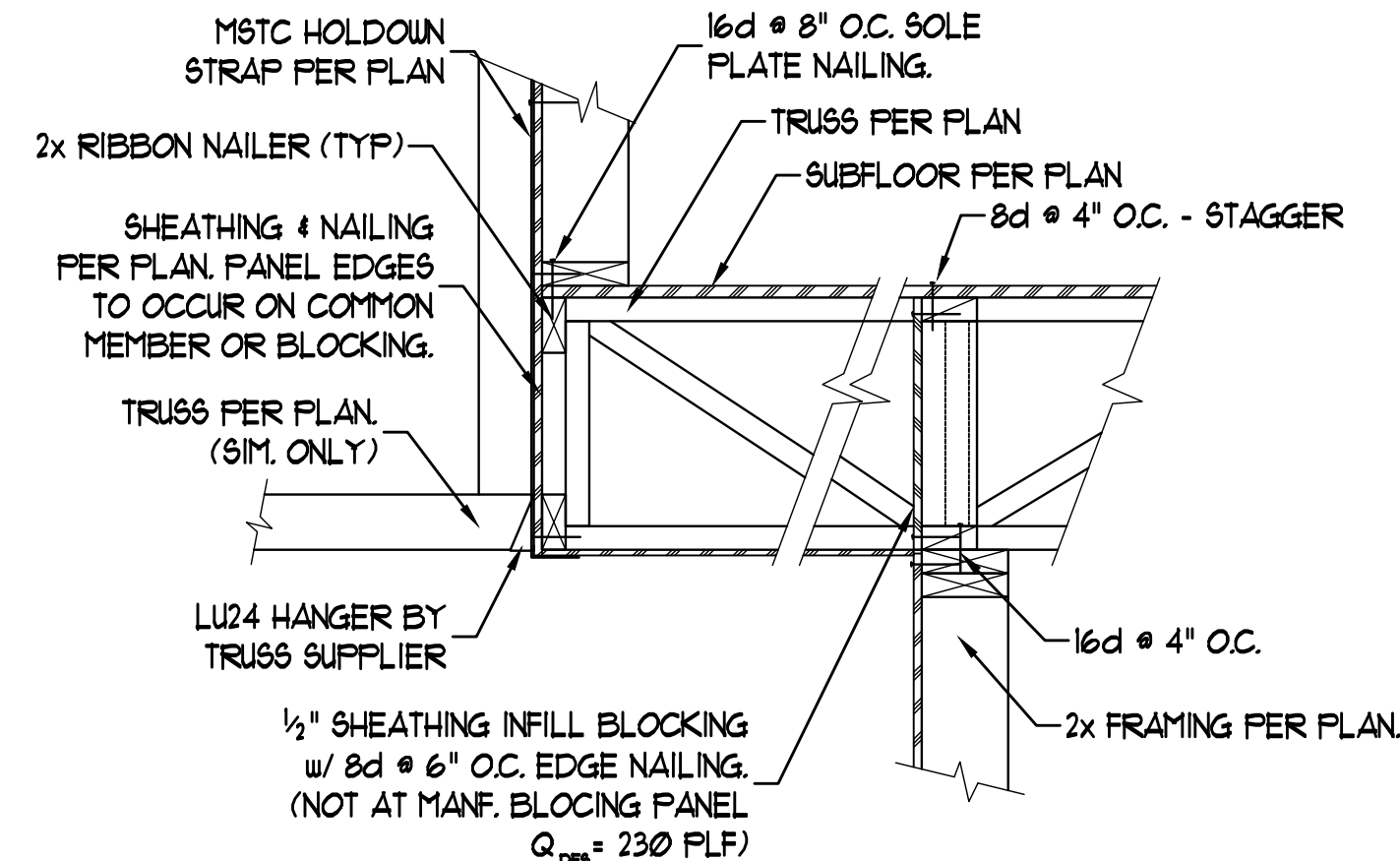
7 FLOOR FRAMING @ INTERIOR SHEAR WALL
SCALE: 1" = 1'-0"



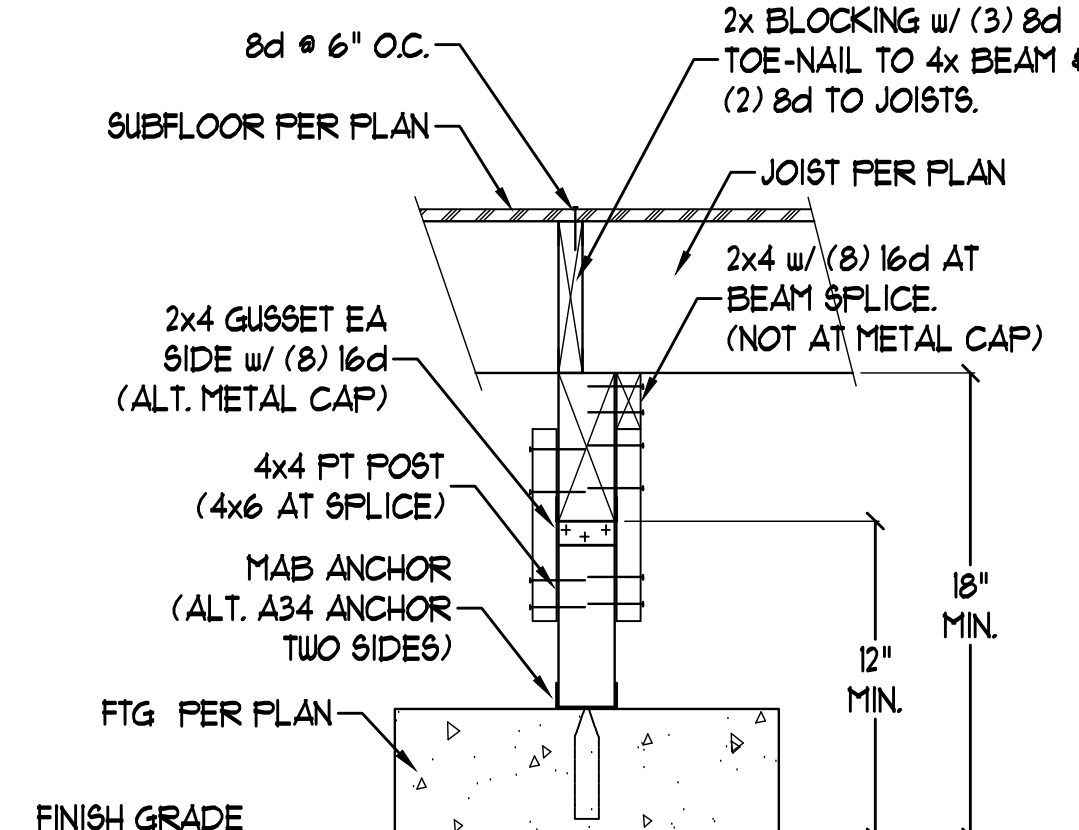
8 SHEAR WALL FORCE TRANSFER DETAIL
SCALE: 1" = 1'-0"



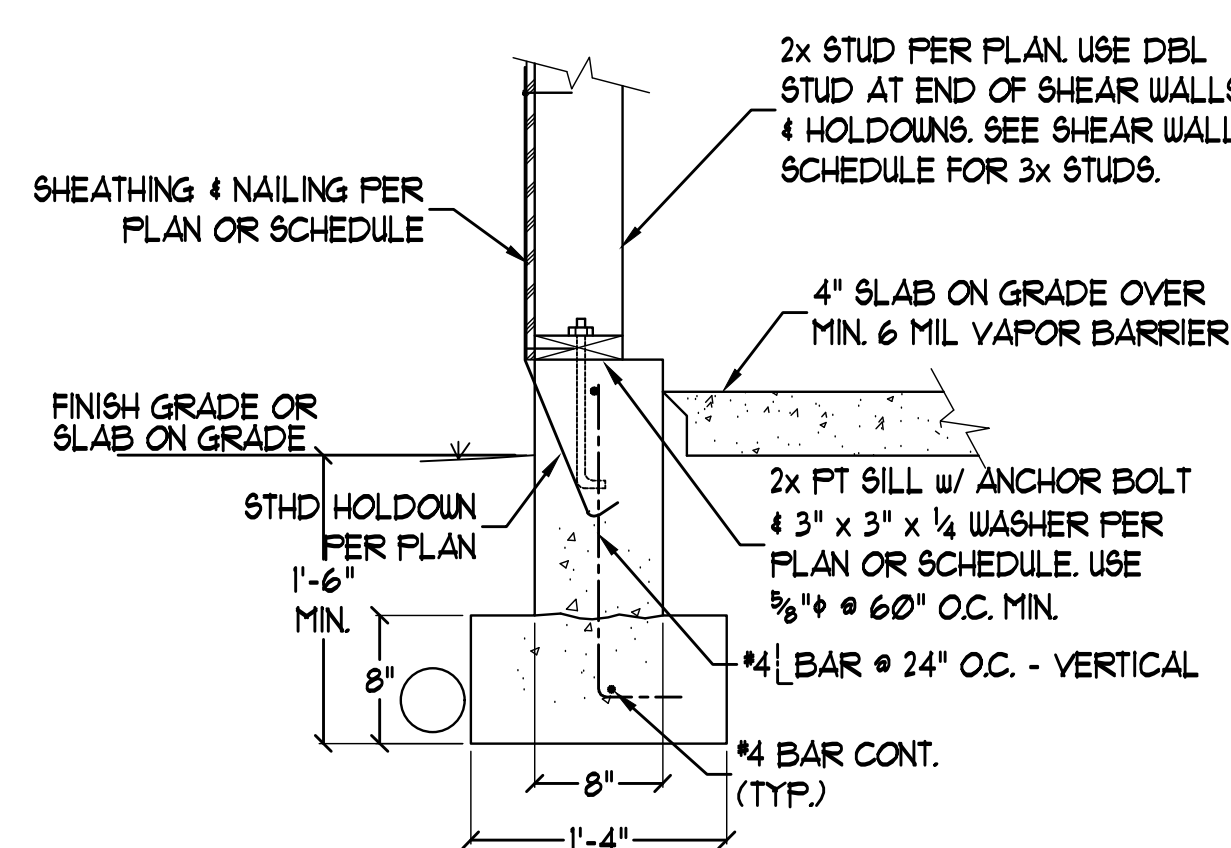
9 FLOOR FRAMING CONNECTION @ FLUSH BEAM
SCALE: 1" = 1'-0"



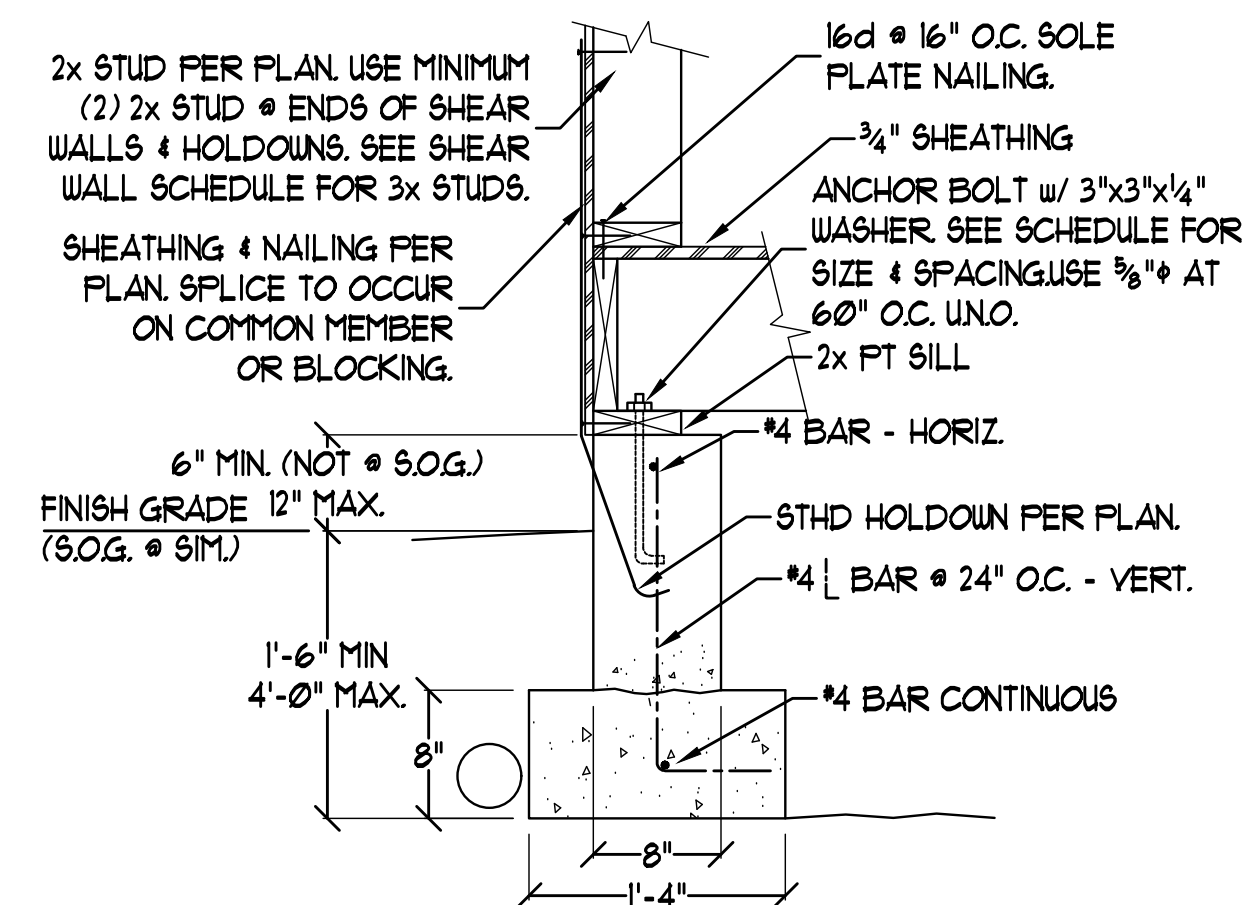
10 FLOOR FRAMING @ CANT. JOIST
SCALE: 1" = 1'-0"



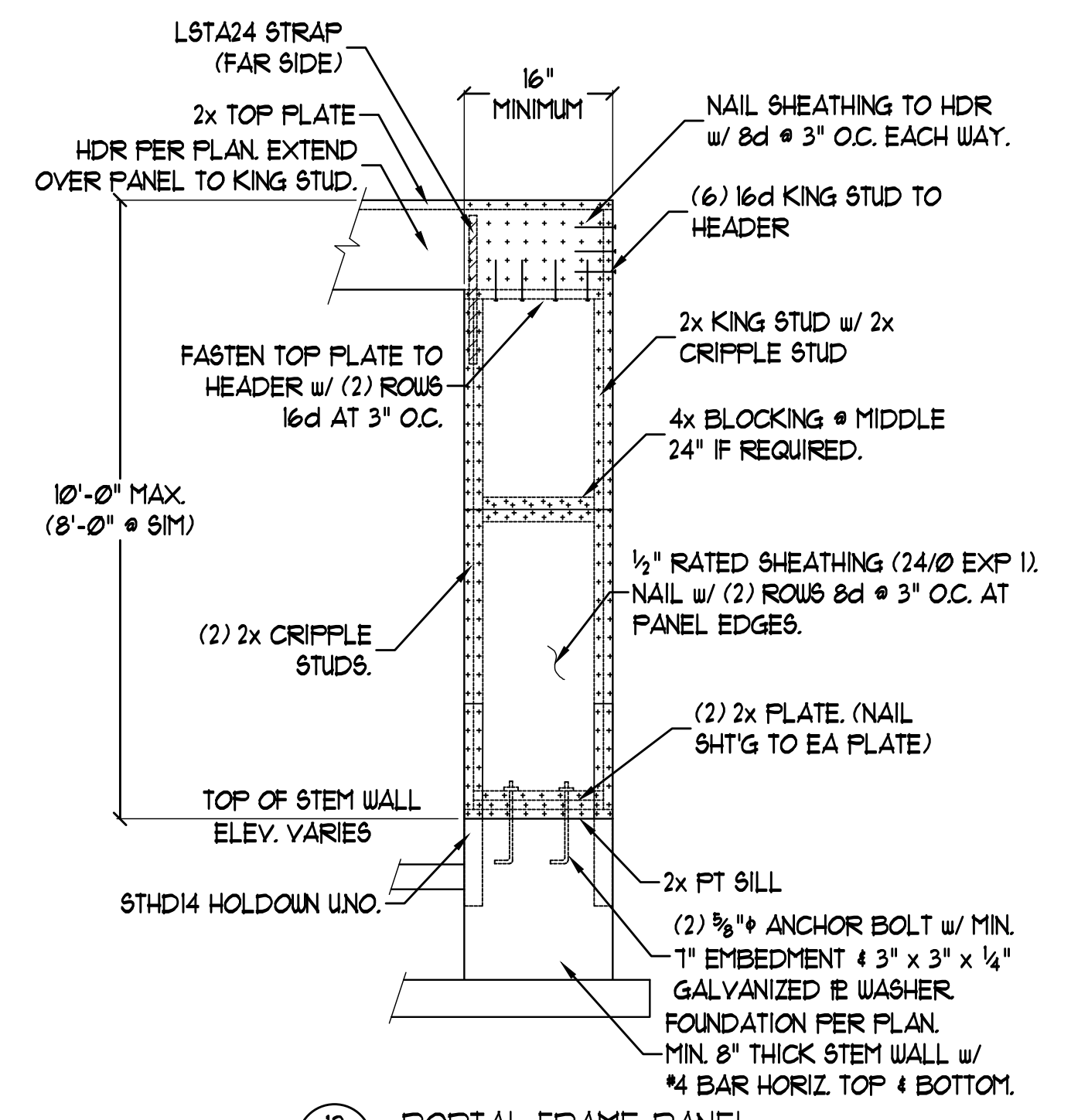
11 FLOOR FRAMING AT CRAWL SPACE
SCALE: 1" = 1'-0"



13 FOUNDATION AT SLAB ON GRADE
SCALE: 1" = 1'-0"



14 FOUNDATION AT CRAWL SPACE
SCALE: 1" = 1'-0"



12 PORTAL FRAME PANEL
SCALE: NONE

SCALE: 1" = 1'-0"
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