

# GENERAL STRUCTURAL NOTES

## BASIS OF DESIGN

- Governing Building Code: International Residential Code 2012
- Risk Category: II
- Floor Live Loads
  - Uniformly Distributed Loads
  - Residential: 40 psf
  - Concentrated Loads, all areas: 2000 lbs
- Roof Live Load\*
 

(\*Not concurrent with Roof Snow Load)

  - Ground Snow Load:  $P_g = 265 \text{ psf}$
  - Flat Roof Snow Load:  $P_f = 167 \text{ psf}$
  - Snow Exposure Factor:  $C_e = 0.9$
  - Thermal Factor:  $C_t = 1.0$
  - Snow Load Importance Factor:  $I_s = 1.0$
- Wind Load
  - Basic Wind Speed (3 Second Gust): 115 mph
  - Wind Exposure: C
  - Internal Pressure Coefficient: ± 0.18
- Seismic Design Criteria
  - Mapped Spectral Response Accelerations
    - Short Period Acceleration:  $S_s = 0.816$
    - Site Class (Soil Profile): B
    - Spectral Response Coefficients
      - Short Period Acceleration:  $S_{DS} = 0.544$
      - Seismic Importance Factor:  $I_s = 1.0$
      - Seismic Design Category: D
      - Effective Structural Seismic Weight: W
      - Basic Seismic Force Resisting System
        - Response Modification Coefficient:  $R = 5.0$
        - System Over-Strength Factor:  $O_1 = 2.5$
        - Deflection Amplification Factor:  $C_d = 3.0$
      - Design Base Shear:  $C_s = 0.109$
      - Analysis Procedure: Equivalent Lateral Force
  - Serviceability Criteria
    - Deflection Limits
 

	Live/Snow	Total
Floor	L/360	L/240
Roof	L/360	L/240
Perimeter	L/600 (1/2" max)	-
    - Interstory Seismic/Wind Drift:  $\Delta_u < 0.02h$  (h = story height)

## CONCRETE

- Materials unless noted otherwise:
  - Normal Weight Aggregates: ASTM C 33
  - Light Weight Aggregates: ASTM C 330
    - Light Weight Concrete shall not exceed 110 pcf (± 3 pcf)
  - Fly Ash, Class F Pozzolan: ASTM C618
  - Reinforcing Steel: ASTM 615 Grade 60 (60 ksi)
  - Deformed Bar Anchors (DBA): ASTM A496
  - Headed Stud Anchors (HSA): ASTM A108
  - Anchor Bolts: See steel and/or wood section(s) of general notes.
  - Admixtures: All entraining admixtures shall comply with ASTM C 260 (when used). Calcium chloride shall not be added to the concrete mix. Unreinforced concrete slabs on grade may have calcium chloride not exceeding one percent.
  - Cement complying with ASTM C-159 shall be used for all concrete. See table of concrete properties for cement type.
  - No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.

CONCRETE USE	EXPOSURE CLASSIFICATIONS	CEMENT TYPE	(MIN) F'C (psi)	(MAX) w/cm RATIO	(MAX) FLYASH PERCENT	(MIN) AIR CONTENT PERCENT	(MAX) AGG. SIZE	(MAX) SLUMP
Interior Footings	F0 S0 P0 C0 IIV	IV	3000	0.40	30	2	1"	5.00"
Exterior Footings	F2 S0 P0 C1 IIV	IV	3000	0.40	30	6	1"	5.00"
Interior Slabs on Grade	F0 S0 P0 C0 IIV	IV	3500	0.40	30	2	3/4"	5.00"
Interior Walls	F0 S0 P0 C0 IIV	IV	3000	0.40	30	2	3/4"	5.00"
Exterior Walls above Grade	F1 S0 P0 C1 IIV	IV	4000	0.40	30	5	3/4"	5.00"
Exterior Walls below Grade	F2 S0 P0 C1 IIV	IV	4000	0.40	30	6	3/4"	5.00"

- The contractor shall be responsible for the design, detailing, care, placement and removal of all formwork and shores.
  - Supporting forms and shores shall not be removed until structural members have acquired sufficient strength to safely support their own weight and any construction load to which they may be subjected. In no case, however, shall forms and shores be removed in less than 24 hours after concrete placement.
  - Suspended slabs shall be re-supported after form removal until concrete reaches its 28-day specified compressive strength.

- Reinforcement shall have the following concrete cover:
 

Clear Cover	Clear Cover
4.1. Cast-in-place Concrete <ol style="list-style-type: none"> <li>Cast against and permanently exposed to earth: 3"</li> <li>Formed concrete exposed to earth or weather: #5 thru #18 bars: 2" #5 and smaller bars: 1 1/2"</li> <li>Concrete not exposed to weather or in contact with ground: Slabs, Walls, Joists; #11 Bars and Smaller: 3/4" Beams, Columns: Primary Reinforcement, Ties, Stirrups, Spirals: 1 1/2"</li> </ol>	3"

- Construction Joints and Control Joints:
  - All horizontal and vertical construction joints, including bottom of footings and foundation walls, shall be intentionally roughened to a full amplitude of approximately 1/4".
  - Instal construction or control joints in slabs on grade at a spacing not to exceed 30 times the slab thickness in any direction, unless noted otherwise. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. Control joints may be installed by either:
    - Saw cut with depth of 1/4" the thickness of the slab
    - Tooled joints with depth of 1/4" the thickness of the slab
  - Construction joints shall not exceed a distance of 125'-0" on center in any direction.
- Construction
  - Use chairs or other support devices recommended by the CRSI to support bar and tie reinforcement bars and WWF prior to placing concrete. WWF shall be continuously supported at 36" on center maximum. Reinforcing steel for slabs on grade shall be adequately supported on precast concrete units. Lifting the reinforcing off the grade during placement of concrete is not permitted.
  - Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
  - All embeds and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
  - No pipes, ducts, sleeves, etc. shall be placed in structural concrete unless specifically detailed or approved by the structural engineer. Penetrations through walls when approved shall be built into the wall prior to concrete placement. Penetrations will not be allowed in footings or grade beams unless detailed. Piping shall be routed around these elements and footings stepped to avoid piping.
  - Reinforcing bars shall not be welded unless specifically shown on drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for DBAs or HSAs.
  - Top of concrete columns shall be flush (± 1/4") with bottom of supported cast-in-place members.
- Detailing:
  - Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings.
    - Do not splice stirrups and ties. Do not splice vertical bars in retaining walls unless specifically shown.
    - Splices may be made with mechanical splices capable of 125% tension capacity of the bars being spliced. Mechanical splices shall be the positive connecting type coupler and shall meet all ACI requirements. Use "coldweld", "Lertion" Standard Couplers, "Bar-Lock" or equal with Internal Protection. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.
  - At joints provide reinforcing dowels to match the member reinforcing, unless noted otherwise.
  - At all discontinuous control or construction slab on grade joints, provide (2) #4 x 48".
  - Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing.
  - All vertical reinforcing shall be doweled to footings, or to the structure below with the same size and spacing as the vertical reinforcing for the element above. Dowels extending into footings shall terminate with a 90° standard hook and shall extend to within 4" of the bottom of the footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings.
  - See details for reinforcing around miscellaneous openings (8" to 36" wide). For openings wider than 36", contact the engineer. All rebar that interrupt reinforcing shall be reinforced the same as an opening.

- Weld Filler Metal
  - Shielded Metal Arc Welding: AWS A5.1, low-hydrogen only
    - Low-hydrogen restrictors do not apply when welding steel steels in accordance with AWS D1.3, including attaching these steels to structural members.
  - Gas-Metal Arc Welding: AWS A5.18
  - Flux-Cored Arc Welding: AWS A5.20
    - E7XT-4 or E7XT-11 electrodes are not permitted.
    - Intermixing of welds made from self-shielded welding electrodes with gas-shielded electrodes is not allowed in seismic critical welds, unless tested in accordance with AWS D1.8, annex B. The Field Erector Contractor is responsible for verifying intermingling of self-shielded and gas-shielded welding will not occur, or alternatively, the welding procedure is qualified by testing.
  - E70 class electrodes only, unless noted otherwise. E60 class electrodes may be used for welding steel floor and roof decks. All electrodes to be low hydrogen.
- Non-Shrink Grout: ASTM C1107 Grade B
  - Non-shrink grout shall be prepackaged, non-metallic and non-sagging.
  - Furnish certified independent test data to Structural Engineer.
  - Fluid Consistency (flow cone) = 20 to 30 seconds
  - Compressive Strength in 28 days = 7,500 psi

- Structural Detailing
  - Provide full depth web stiffener plates at each side of all beams at all bearing points. Stiffener plates shall be the thickness called out below unless noted otherwise. Stiffeners shall be welded on both sides of the plate-to-flange and plate-to-web interfaces. Do not weld into the web-to-flange fillet region of the member.
 

FLANGE WIDTH	STIFFENER THICKNESS	WELD SIZE
Less than 8 1/2"	3/8"	3/8"
8 1/2" to 12 1/2"	1/2"	1/2"
12 1/2" to 16 1/2"	5/8"	5/8"
16 1/2" to 20 1/4"	3/4"	3/4"

- Bolting and Fasteners
  - Ordinary steel-to-steel connections, simple span framing, and beam/girder-to-bearing plates are the standard connection used throughout the design drawings, unless noted otherwise:
    - A325N bolts or tension-controlled bolts.
    - Tighten these fasteners to a "snug tight" condition.
    - Where a steel-to-steel connection is not shown, provide a standard AISC framed connection of one half the total uniform load capacity of the beam for the span and steel specified.
  - Pre-tensioned connections are shown on the structural design drawings. They join steel-to-steel connections, unless noted otherwise:
    - A325M or A325X bolts or tension-controlled bolts.
    - Pre-tension these fasteners as required by AISC "Specification for Structural Joints Using ASTM A325 or A325M" bolts.
  - Slip Critical connections (SC) are shown on the structural design drawings. They join steel-to-steel connections in Seismic Load-Resisting Systems (SLRS).
  - Fasteners and washers shall not be reused. Scrap dirty, rusted, or water-contaminated bolt assemblies.
- Welding
  - All intersecting steel shapes which are not bolted shall be connected by a fillet weld all around, unless noted otherwise. Where fillet weld sizes are not shown, they shall be 1/4" less than the thinnest of the connected parts for thicknesses 1/2" and larger. Fillet welds on plates less than 1/2" shall be of the same size as the thinnest of the connected parts.
  - Field weld symbols indicate welds that may be performed in the field. The general contractor shall coordinate shop and field welds between the fabricator and erector.
- Reduced Beam Sections
  - Cutback of the reduced flange sections of beams used in SLRS is restricted to mechanically guided thermal cutting processes. Freehand cutting is not permitted.
  - Flange caps shall meet the requirements of AISC 338.
  - Repair of gages, notches, mill irregularities, shall conform to the requirements of the AISC and AWS provisions.
- Weld Access Holes and Temporary Attachments
  - Fabricate beam copes and weld access holes using the geometry described in AISC 360 Section 11.6.
  - Runoff tabs are to be removed unless noted otherwise.
- Backup Bars: Remove backup bars from all beam bottom flange connections in demand critical welds, unless noted otherwise. Backgauge the root and weld to sound metal. Reweld the gouged area and add a 3/8" reinforcing fillet weld.
- Protected Zones: No connections, other than those on the design drawings, shall be made within the protected zone of the SLRS as identified in AISC 341.
- Locate headed studs, welds, miscellaneous metal, etc. outside of the protected zone.
- Paint the protected zones with bright paint before and after fire coating operations to identify them.

- Welding of Reinforcing Steel or Bolts
  - Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors, structural bolts, or headed stud anchors.
  - Do not weld anchor bolts, including "tack" welds.
  - Headed Stud Anchor and Deformed Bar Anchor welding shall conform to the manufacturer's specifications.

## WOOD

- Materials
  - Dimension Lumber and Timbers (Sawn Lumber)
    - All dimensioned lumber shall comply with USDOC PS20.
    - Visually graded dimension lumber shall be Douglas Fir-Larch #2 or better.
    - Visually graded timbers (5" x 5" and larger) shall be Douglas Fir-Larch #1 or better.
    - Machine stress rated (MSR) lumber shall be 1600N-1.6E or better.
    - End jointed lumber may be used interchangeably with solid sawn members of the same species and grade with written approval from the engineer.
  - Wood Structural Panel Sheathing
    - Wood sheathing shall be APA rated sheathing Exposure 1 unless noted otherwise and shall conform to the requirements for its type in USDOC PSI or USDOC PS2. The panels must be identified by the trademarks of the approving testing and inspection agency.
    - Wood sheathing minimum thicknesses, span ratings, and nailing requirements shall be as indicated in the Roof and Floor Sheathing Schedule, unless noted otherwise.
 

	Roof	Floor	Wall
	1/2" (32/16)	3/4" (40/20)	1/2" (48/24)
			1/2" (32/16)
    - Nails or other approved fasteners used to connect sheathing to the structure shall be driven such that their head or crown is flush with the surface of the sheathing. Do not overdrive fasteners.
- Prefabricated Wood J-joists
  - J-joists shall comply with ASTM D9505
  - All prefabricated wood joists shall be as called out on plan and manufactured by the following: BCI: Manufactured by Boise Cascade.
  - J-joists of equal design properties as those called for on plan, including depth, stiffness and flange width may be substituted with written approval from the Engineer.
  - Handle, store and install all wood J-joists per the manufacturer's guidelines.
  - DO NOT cut or notch flanges.
  - Holes cut in the webs of the J-joists shall be per the manufacturer's guidelines.
- Structural Glued Laminated Timber (GLT)
  - Structural glued laminated timber shall be manufactured and identified as required in ANSI A190.1 and ASTM D3737.
    - Glulam beams shall be the following species and combination number:
      - Simple-Span Glulam Beams: Douglas-fir 24F-V4 1.8E
      - Continuous-Span and Cantilevered Glulam Beams: Douglas-fir 24F-V8 1.8E
    - Hybrid combination glulams with equivalent design properties may also be used with written approval from the Engineer.
    - Appearance of members shall be Framing or Industrial appearance.
    - Camber: unless otherwise noted on the drawings, all stock glulam beams shall be cambered to industry standard 3500'-0" radius. Stock beams with zero camber are acceptable where available.
  - Laminated Veneer Lumber (LVL), Laminated Strand Lumber (LSL), and Rim Board
    - LVL, LSL and Rim Board shall comply with ASTM D5456.
    - All LVL shall be a minimum of 1 1/2" thick with the following minimum properties, U.N.O.:  $F_t = 2600 \text{ psi}$ ;  $E = 1.9x10^6 \text{ psi}$ ;  $F_c = 285 \text{ psi}$ ;  $E = 1555 \text{ psi}$ ;  $F_v = 2510 \text{ psi}$ ;  $F_{vw} = 750 \text{ psi}$
    - All LSL shall be a minimum of 1 1/4" thick and shall have the following minimum properties, U.N.O.:  $F_t = 1700 \text{ psi}$ ;  $E = 1.3x10^6 \text{ psi}$ ;  $F_c = 400 \text{ psi}$ ;  $F_v = 1075 \text{ psi}$ ;  $F_v = 1400 \text{ psi}$ ;  $F_{vw} = 680 \text{ psi}$
    - All Rim Boards shall be a minimum of 1 1/2" thick and shall have the following minimum properties, U.N.O.:  $F_t = 1130 \text{ psi}$ ;  $E = 0.8x10^6 \text{ psi}$ ;  $F_c = 355 \text{ psi}$ ;  $F_v = 1415 \text{ psi}$
    - Handle, store and install all LVL, LSL, and Rim Boards per the manufacturer's guidelines.
    - Connect multiple members together per the manufacturer's guidelines and as shown in the details.
    - Where discrepancies exist between the manufacturer's guidelines and the details shown in these plans, use the more stringent of the requirements.

- Nails with properties less than those listed above shall not be used without prior written approval from the Engineer.
  - Nails shall have round (full) heads. Nails with "T", Brad, finish or casing heads are not permitted.
  - Deformed shank nails shall have either a helical (screw) or an annular (ring) shank.
- Bolts
  - Anchor Bolts: ASTM F1554 Grade 36 (or A307 Grade A/C or A36)
    - All anchor bolts connecting the sill plate to the concrete foundation shall have a PL1/2"x3"x3" washer between the sill plate and the nut and have a minimum 7" embedment into concrete.
  - Connection Bolts: ASTM A307 Grade A/C or A36
    - All bolted connections shall have a standard cut or larger washer on both sides of the connection (between the head and the wood member and between the nut and the wood member).
- Connection Hardware
  - Fasteners in contact with pressure-treated or fire-treated wood shall be hot-dipped zinc-coated galvanized or stainless steel.
  - All wood in contact with concrete, masonry or soil shall be preservative treated or redwood.
  - General framing and carpentry shall be connected as per "THE MINIMUM NAILING SCHEDULE" unless noted otherwise.
  - Provide rim board or solid blocking at all joist, rafter, and truss bearing points U.N.O. Where blocking is used, it shall be at least 2" (nominal) thick, full depth of joist and shaped to match slope of blocked member.
    - Rim board or blocking between joists shall be nailed to the wood plate at the top of the wall with one Simpson "A35" Framing anchor per each piece of blocking. Fill all holes in the framing anchors with 8 x 1 1/2" nails (12 nails per A35), unless shown otherwise on the drawings.
  - Provide approved bridging at 8'-0" on center maximum between joist or rafter end supports where both the top and bottom chord of the member are not braced with sheathing or wall board.
  - Build-up beams of 2x members shall be connected together as shown in the details.
  - Where a built-up beam connection is not shown in the details, built-up beams shall be connected as follows:
    - Members 12" or less in depth shall be spiked together with not less than 16d spikes at 12" on center, staggered.
    - Members more than 12" shall be connected together with 1/2" diameter bolts at 24" on center, staggered. Bolts shall be placed one-quarter of the depth of the member from the top and bottom of the member.
  - All bearing and shear walls shall have a minimum of 2 top plates. Splices in top plates shall be made as shown in the top-plate splice schedule.
    - Where a top-plate splice is not shown in the details, top plates splices shall be staggered a minimum of 4'-0" from the nearest splice in adjoining top plate and spiked together with a minimum of (20) 16d nails between splices unless noted otherwise.
  - Provide a double joist under parallel partitions.
  - Do not cut or notch any wood stud greater than 25% of its width. Do not bore a hole in any wood stud greater in diameter than 40% of its width. Bored holes shall be centered in the stud whenever possible. In no case shall the edge of any bored hole be nearer than 1" to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.
  - Bored holes up to 60% of the stud width are allowed provided that an additional stud is placed adjacent to the stud to be bored, that the bored hole is centered in the stud, and no more than two successive sets of studs are so bored.

## PREFABRICATED WOOD TRUSSES

- Prefabricated metal plate wood trusses shall be designed, signed, and sealed by a Professional Engineer registered in the same state as the project location. They shall be designed to support the concentrated and uniform loads shown on the plans, unbalanced and sliding snow loads, and the following uniform loads:
 

Dead Load (Top Chord):	60 psf
Dead Load (Bottom Chord):	60 psf
Live or Snow Load (Top Chord):	167 psf
Live Load (Bottom Chord):	40 psf
Max Total Load:	287 psf

Does not occur concurrently with top chord live load.

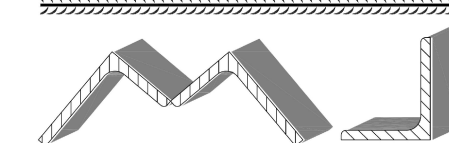
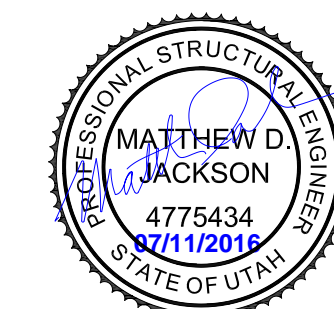
Loads listed above do not include drifting, unbalanced, or sliding snow. Designs shall include an additional 9 psf Dead Load at all overhail framing locations. A dead load no greater than 8 psf shall be assumed for the design of trusses and attachments for wind uplift.

Coordinate the truss design with mechanical equipment, fire sprinkling systems and hanging walls supported by the trusses. Provide additional trusses as necessary.

- The deflection of all prefabricated wood trusses shall be limited to the following values:
  - Live Load: Span/360
  - Total Load: Span/240
  - No stress increase is allowed for snow loads.
  - All truss-to-truss connections shall be designed and provided by the truss manufacturer.
  - Design, handling, erection, stability, and permanent bracing of metal plate connected wood trusses shall be in accordance with ANSI/TPI-1 National Design Standard for Metal Plate Connected Wood Truss Construction and the Truss Plate Institute publications entitled "Commentary and Recommendations for Bracing Wood Trusses" and "Commentary and Recommendations for Handling and Erecting Wood Trusses."
  - Steel Connector Plates: All steel gusset plates shall be galvanized and shall have a current ICCBO approval. Values established by the approved ICCBO report must be indicated on the shop drawings.
    - The minimum size for any connector shall be 8 in<sup>2</sup>.
    - All steel gusset plates shall be located on the joint as the stresses require and shall provide a minimum bite of 2.5" on all tension members.
  - Plates shall be pressed or rolled into member to obtain full penetration without crushing the outer surfaces of wood.
  - All steel plate dimensions shall be increased by 10% above that required by analysis. Duration of load stress increases for steel connector plate design are not allowed.
  - Submit a copy of the ICCBO report for the connector plate used.
  - No wane, knots, skips, or other defects shall occur in the plated contact area or scarfed area of web members. Plates shall be centered with one required each side of wood truss.
  - The truss shall be handled and stored in a manner to prevent moisture from being absorbed by the wood.
  - Shop Drawings: Complete calculations and shop drawings including all member forces, stresses, duration factors, lumber grades, dimensions, truss-to-truss connections, metal plate sizes and locations, and applied loads shall be submitted and reviewed by the engineer before fabrication. Each connector shall be dimensioned on the shop drawings as to its exact size and location at the joint.

## POST-INSTALLED ANCHORS

- Follow all ICC Evaluation Report and manufacturer's requirements and recommendations for post-installed anchor installation. Where conflicts may exist, the most stringent requirement applies.
  - All holes in hollow, brick, or stone masonry shall be performed in the "rotary-only" mode with the hammer function off.
  - Follow manufacturer and ICC evaluation report requirements for installation temperature of adhesive anchors. Adhesive anchors shall not be installed or cured outside of approved temperature ranges.
- Adhesive anchors in concrete shall be
  - HIT RE-500 SD by Hilti (ESR-2322) - normal weight concrete only
  - SET-XP by Simpson (ESR-2508)
  - PE1000+ by Powers Fasteners (ESR-2583) - 1/2" to 1" diameter only
- Adhesive anchors in grouted masonry shall be
  - HIT HY-150 MAX by Hilti (ESR-1967)
  - SET by Simpson (ESR-1772)
- Mechanical (Expansion) anchors
  - Mechanical anchors in concrete shall be
    - Kwik Bolt TZ by Hilti (ESR-1917)
    - Strong-Bolt by Simpson (ESR 1771)
    - TruBolt+ by ITW Redhead (ESR-2427)
- The Contractor may submit, for review and approval, the manufacturer's ICC evaluation report of alternate anchor systems. The alternate method shall provide minimum capacities equal to or greater than those in the above noted anchors. The alternate method shall be approved by the engineer of record prior to the substitution.
- Special inspection shall be performed according to the requirements of the ICC evaluation report, per section 1704.13 of the IBC.



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01 JUNE 2016

## REVISIONS

NO.	DATE	DESCRIPTION

A NEW DESIGN FOR . . .  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

UP WALLS  
DESIGN

1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

S101

# GENERAL STRUCTURAL NOTES

## DEFERRED SUBMITTALS

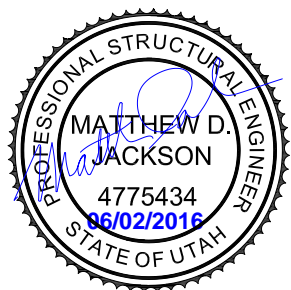
- Items requiring deferred submittals that are listed below are to be designed and fabricated by the manufacturer according to specifications given in structural and architectural drawings.
  - Prefabricated Wood I-Joists (by wood I-joist manufacturer)
  - Prefabricated Roof Trusses (by roof truss manufacturer)
  - Concrete Mix Designs (by concrete supplier)
- These deferred submittals shall first be submitted to the project architect and/or engineer for review and coordination. Upon completion of the architect/engineer review, a submittal to the city shall be made (for city review and approval). The city submittal shall include a letter stating that the architect/engineer review has been performed and that the plans and calculations for the deferred submittal items are found to be acceptable (e.g., with regard to geometry, load conditions, etc.) with no exceptions.
- The final submittal shall be signed and sealed by a Professional Engineer licensed in the state in which construction will occur and shall be available at the jobsite throughout construction.

## LEGEND OF MARKS AND ABBREVIATIONS

ALT	Alternate	INT	Interior
ARCH	Architect	JST	Joist
		JSTs	Joists
BLDG	Building	K	Kip(S) = 1000 Pounds
BLK	Blocking	klf	Kips Per Lineal Foot
BN	Boundary Nail	kSF	Kips Per Square Foot
BOTT	Bottom		
BRG	Bearing	LB	Pounds (#)
BTWN	Between	LSL	Laminated Strand Lumber
BYND	Beyond	LVL	Laminated Veneer Lumber
		MAS	Masonry
CANT	Cantilever	(MAX)	Maximum
CSS	Center of Gravity of Strand	MECH	Mechanical
C J	Control Joint	MEZZ	Mezzanine
CJP	Complete Joint Penetration	MFR	Manufacturer
CL	Center Line	(MIN)	Minimum
CLR	Clear	MISC	Miscellaneous
CMU	Concrete Masonry Unit	MTL	Metal
COL	Column	(N)	New
CONC	Concrete		
CONT	Continuous	oc	On Center
CS	Coil Strap	OPNG	Opening
		OPP	Opposite
DB	Deck Bearing	OSB	Orientated Strand Board
DBA	Deformed Bar Anchor		
DBL	Double	PCF	Pounds per Cubic Foot
DIM	Dimension	PERP	Perpendicular
DWG	Drawing	PL	Plate
		plf	Pounds per Lineal Foot
(E)	Existing	PRE-FAB	Prefabricated
EA	Each	psf	Pounds per Square Foot
ELEC	Electrical	psi	Pounds per Square Inch
EMBED	Embedment	PT	Post Tension
EN	Edge Nail	PT/DF	Pressure Treated Douglas Fir
EQ	Equal		
EQUIP	Equipment	RD	Roof Drain
EXT	Exterior	REINF	Reinforce/Reinforcement/Reinforcing
		REQD	Required/Requirements/Requiring
FD	Floor Drain	RTU	Roof Top Unit
FND	Foundation		
FLR	Floor	SCHED	Schedule
FTG	Footing	SCW	Seismic Critical Weld
FRT	Fire Retardant Treatment	SIM	Similar
		STD	Standard
gp	Gage	STIFF	Stiffener
GALV	Galvanized	STL	Steel
GLB	Glued Laminated Beam	STRUCT	Structural
GSN	General Structural Notes		
		T&G	Tongue and Groove
HD	Hold-down	TEMP	Temperature
HDR	Header	TYP	Typical
HORIZ	Horizontal		
HSA	Headed Stud Anchor	U.N.O	Unless Noted Otherwise
HSS	Hollow Structural Section	VERT	Vertical
		w/	with
ICBO	International Conference of Building Officials	WWR	Welded Wire Reinforcement
IBC	International Building Code	WP	Working Point

## QUALITY ASSURANCE PLAN/SPECIAL INSPECTION REQUIREMENTS

- Special Inspection.
  - Special inspections are required for construction conforming to IBC Chapter 17. The owner, or owner's agent, shall employ one or more approved agencies to perform inspections during construction of the types listed in IBC Section 1705 in addition to those inspections indicated in IBC Section 1704.
    - See IBC Section 1704.2 for exceptions.
  - Special Inspector Responsibilities.
    - The special inspector shall provide written documentation to the building official demonstrating their competence, experience and training.
    - The special inspector shall keep records of the inspections and provide the inspection reports to the building official and engineer of record.
    - Reports shall indicate if the inspected work was or was not completed according to the approved construction documents.
    - All discrepancies shall be brought to the immediate attention of the contractor for correction. If discrepancies are not corrected, they shall be brought to the attention of the building official and engineer of record prior to completion of that phase of work.
    - A final report detailing inspections and any corrections required shall be submitted to the building official at a predetermined time.
  - Contractor Responsibilities.
    - Construction for work requiring a special inspection shall remain accessible and exposed until completion of the required special inspections.
  - Structural Observations.
    - Where required by IBC Section 1704.5.1 and 1704.5.2 the owner shall employ a registered design professional to perform the structural observations as defined in IBC Section 202.
      - Prior to commencement of observations, the observer shall submit a written statement identifying the frequency and extent of the structural observations to the building official.
      - At the conclusion of the work, the observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies which have not been resolved.
    - Structural observations for seismic resistance shall be provided for structures assigned to seismic design category D, E, or F when required by the building official.
    - Structural observations for wind resistance shall be provided where Vasd determined by IBC Section 1609.3.1 exceeds 110 mph and when required by the building official.
  - Required Verification and Inspection.
    - Inspection of fabricators
      - The special inspector shall verify the fabricator maintains detailed fabrication and quality control procedures that provide a basis for the inspection and control of workmanship and the fabricator's ability to conform to the construction documents and referenced standards. The inspector shall review the procedures for completeness and accuracy.
        - Special inspections shall not be required where the fabricator is approved in accordance with IBC Section 1704.2.5.2.
      - Items indicated as QC shall be inspected by the fabricator's or erector's Quality Control Inspector, as applicable, in accordance with AISC 360 Sections N5.4, N5.6 and N5.7 to ensure work is according to the construction documents.
        - For QC inspection, the construction documents shall be approved shop drawings and erection drawings, and applicable codes and standards.
      - Items indicated as QA shall be inspected at the fabricator's plant and shall be scheduled by the Quality Assurance Inspector such that interruption of the work is minimized.
        - QA inspection of the erected steel system shall be conducted at the project site and shall be scheduled to minimize work delays.
        - The QAI shall review the material test reports and specifications as listed in AISC 360 Section N3.2 for compliance with the construction documents.
        - QA inspections shall be performed by the QAI, in accordance with AISC 360 Sections N5.4, N5.6 and N5.7.
        - Tasks in the special inspection tables for the QAI shall be performed to ensure accordance with the construction documents.
        - Concurrent with the submittal of reports to the building official, engineer of record or owner, the QAI shall submit inspection reports and non-destructive testing reports to the fabricator and erector.
      - Where a task is noted to be both QA and QC, it is permitted to allow coordination between the QAI and the QCI such that the inspection is performed by one party. Where QA relies on QC, the approval of the building official or engineer of record is required.
    - Non-Destructive Testing of Welded Joints
      - Ultrasonic testing (UT), magnetic particle testing (MT), penetrant testing (PT) and radiographic testing (RT), where applicable, shall be done by QA in accordance with AWS D1.1/D1.1M. Acceptance criteria shall be in accordance with AWS D1.1/D1.1M for statically loaded structures, unless otherwise designated in the design drawings or the project specifications.
      - Thermally cut surfaces of access holes shall be tested by QA using MT or PT, when the flange thickness is greater than 2" for built up shapes. Any crack, regardless of size and location is unacceptable.
      - When required by AISC 360 Appendix 3, Table A-3.1, welded joints requiring weld soundness to be established by RT or UT shall be tested by QA. Reduction in the rate of UT is prohibited.
      - The rate of UT is permitted to be reduced if approved by the engineer of record or the building official. Where the initial rate of UT is 100%, the non-destructive testing rate for an individual welder or welding operator is permitted to be reduced to 25%, provided the number of welds containing unacceptable defects divided by the number of welds completed is 5% or less of the welds tested. A sampling of at least 40 completed welds for a job shall be made prior to a reduction evaluation. When evaluating continuous welds over 3 feet in length where the effective throat is 1" or less, each 12" portion of the weld shall be considered as one weld. When evaluating continuous welds over 3 feet in length where the effective throat is 1" or greater, each 6" portion of the weld shall be considered as one weld.
      - For structures in Risk Category II, where the initial rate for UT is 10%, the non-destructive testing rate for an individual welder or welding operator shall be increased to 100% if the number of welds containing unacceptable defects divided by the number of welds completed exceeds 5% of the welds tested. A sampling of at least 20 completed welds shall be made prior to increasing the UT rate. When the reject rate, after sampling at least 40 completed welds, has fallen to 5% or less, the rate of UT shall be returned to 10%. When evaluating continuous welds over 3 feet in length where the effective throat is 1" or less, each 12" portion of the weld shall be considered as one weld. When evaluating continuous welds over 3 feet in length where the effective throat is 1" or greater, each 6" portion of the weld shall be considered as one weld.
      - All non-destructive testing performed shall be documented. For shop fabrication, the non-destructive testing shall identify the tested weld by piece mark and location in the piece. Tests in the field shall identify the location in the structure, mark and piece location.
        - When a weld is rejected, the record shall indicate the location of the defect and the reason for rejection.
    - Wood Construction
      - Inspection of prefabricated wood elements and assemblies shall be in accordance with item A above.
      - Inspection of high load diaphragms shall verify panel sheathing material, thickness, nail size, number of fastener lines, the spacing between fasteners and the nominal size of framing members and adjoining panel edges.
      - For metal plate connected wood trusses spanning 60 feet or greater, the inspector shall verify the temporary installation of restraint/bracing and the permanent restraint/bracing are installed in accordance with the approved truss submittal package.
  - Inspection for Wind Resistance
    - Special inspection for wind resistance is required when structure is in Exposure Category C or D, where Vasd as determined in accordance with IBC Section 1609.3.1 is 110 mph or greater.
    - Structural wood
      - Continuous special inspection of field gluing for elements of the main wind-force resisting system.
      - Periodic special inspection for nailing, bolting, anchoring and other fastening of components within the main wind-force resisting system, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs.
      - Special inspection is not required for shear walls and diaphragms where fastener spacing is greater than 4" on center.
    - Wind resisting components
      - Periodic special inspection is required for roof cladding and wall cladding.
  - Inspection for Seismic Resistance
    - Special inspection for seismic resistance are required for the following:
      - Structures assigned to Seismic Design Category C, D, E or F in accordance with IBC Section 1075.11.1 through 1705.11.3.
      - Structures assigned to Seismic Design Category C, D, E or F in accordance with IBC Section 1705.11.4.
    - Structural wood
      - Continuous special inspection of field gluing for elements of the seismic-force resisting system.
      - Periodic special inspection for nailing, bolting, anchoring and other fastening of components within the main wind-force resisting system, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs.
      - Special inspection is not required for shear walls and diaphragms where fastener spacing is greater than 4" on center.



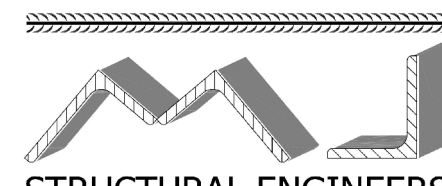
01 JUNE 2016

### REVISIONS

NO.	DATE	DESCRIPTION

A NEW DESIGN FOR :  
**LOT 37 POWDER MOUNTAIN**  
 WEBER COUNTY, UT  
 LOT 37 POWDER MOUNTAIN  
 WEBER COUNTY, UT

**UP WALLS**  
**DESIGN**  
 1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

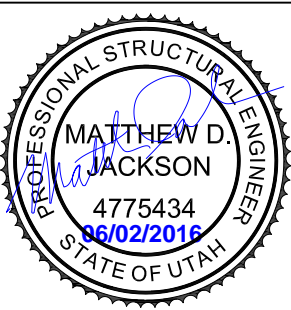


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SALT LAKE CITY, UT 84123

S102

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REVISIONS

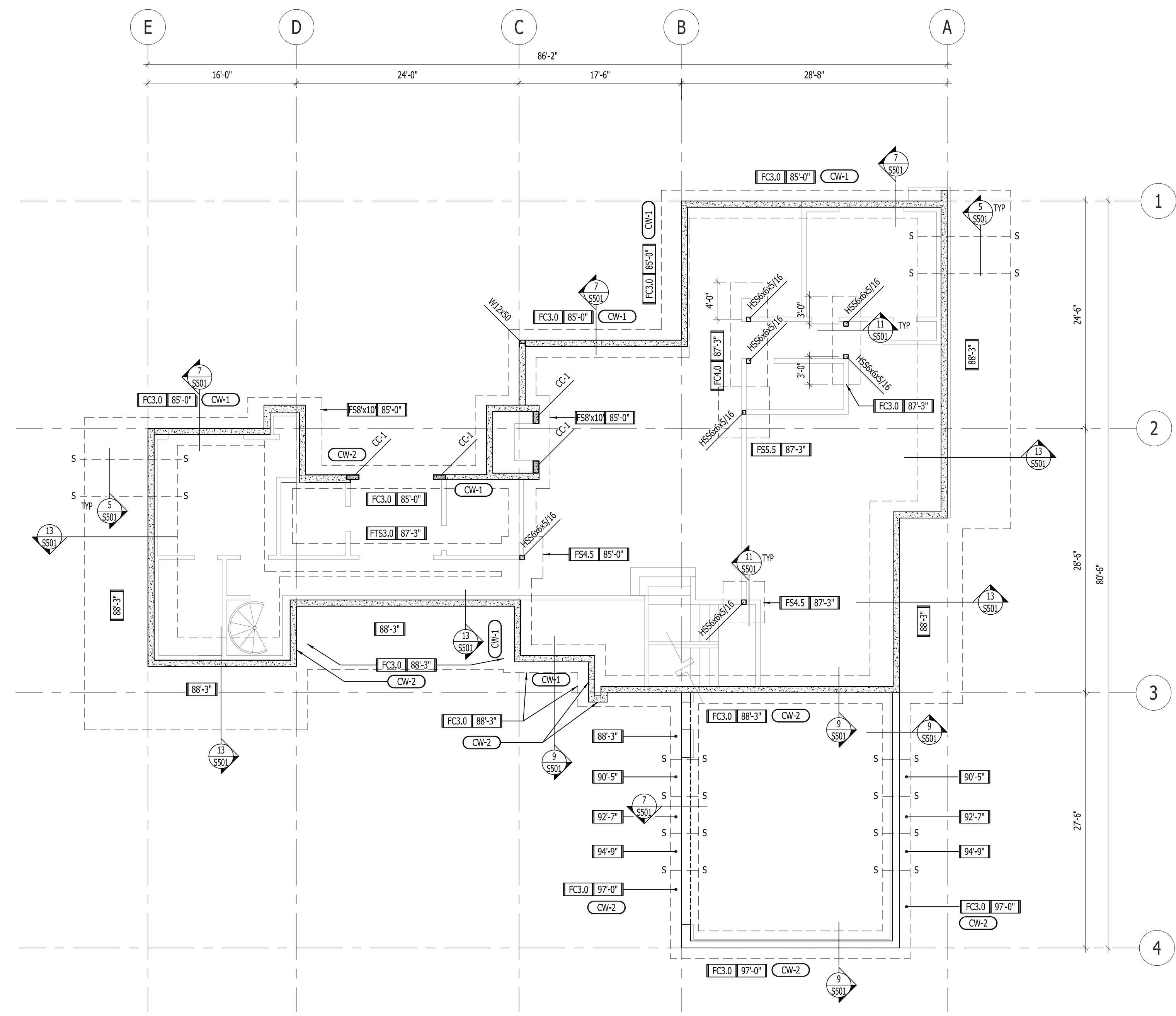
THE ABOVE DRAWINGS AND SPECIFICATIONS AND THE SEAL, SIGNATURE AND PROPERTY OF MATTHEW D. JACKSON, REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF UTAH, ARE HEREBY AUTHORIZED TO BE REPRODUCED IN ANY MANNER FOR THE PROJECT DESCRIBED HEREIN. ANY OTHER REPRODUCTION OR USE OF THESE DRAWINGS WITHOUT THE WRITTEN CONSENT OF POWDER MOUNTAIN STRUCTURAL ENGINEERS IS STRICTLY PROHIBITED. THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF POWDER MOUNTAIN STRUCTURAL ENGINEERS AND SHALL REMAIN THEIR PROPERTY. ANY REPRODUCTION OR USE OF THESE DRAWINGS WITHOUT THE WRITTEN CONSENT OF POWDER MOUNTAIN STRUCTURAL ENGINEERS IS STRICTLY PROHIBITED. THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF POWDER MOUNTAIN STRUCTURAL ENGINEERS AND SHALL REMAIN THEIR PROPERTY. ANY REPRODUCTION OR USE OF THESE DRAWINGS WITHOUT THE WRITTEN CONSENT OF POWDER MOUNTAIN STRUCTURAL ENGINEERS IS STRICTLY PROHIBITED.

FOUNDATION PLAN NOTES

- SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, SLABS, AND FLOOR DRAINS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- SEE ARCHITECTURAL DRAWINGS AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL UNO.
- ALL WOOD FRAMING AT BUILDING PERIMETER WALLS (STUDS, SHEATHING, SILL PLATES, TOP PLATES, BLOCKING, AIM, HEADERS, ETC.) SHALL BE FIRE TREATED. SEE SPECIFICATIONS FASTENERS, (NAILS, BOLTS, HANGERS, CLIP ANGLES, HARDWARE, ETC.) IN CONTACT WITH FIRE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.
- SEE FOOTING AND FOUNDATION DETAILS FOR BURIED PIPES RUNNING PARALLEL AND PERPENDICULAR TO FOOTINGS.
- FOR TYPICAL CONSTRUCTION AND CONTROL JOINTS IN FLOOR SLABS SEE GSN & FOOTING AND FOUNDATION DETAILS.
- FOR LOCATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS, SEE GSN & FOOTING AND FOUNDATION DETAILS.
- FOUNDATION WALLS TO BE REINFORCED AS SHOWN IN SCHEDULES AND DETAILS.
- SEE GENERAL STRUCTURAL NOTES AND FOOTING AND FOUNDATION DETAILS FOR FILL BENEATH FOOTINGS.
- ALL EXTERIOR WALLS, CORRIDOR WALLS AND PARTY WALLS ARE SHEAR WALLS. SEE SHEAR WALL SHEATHING SCHEDULE, SHEATH PER SW-1, TYPICAL UNLESS NOTED OTHERWISE.
- STRAP OPENINGS IN SHEAR WALLS, SEE SHEAR WALL SCHEDULE.

MARKS AND SYMBOLS

	SECTION MARK
	SHEET NUMBER
	FTG DESIGNATION TOP OF FTG ELEVATION * = LOCATE TOP OF FTG TO PROVIDE MINIMUM FROST PROTECTION, SEE GSN
	CONT FTG TAG, SEE SCHED
	SPOT FTG TAG, SEE SCHED
	THICKENED SLAB FTG TAG, SEE SCHED
	CONC WALL, SEE PLAN AND SCHED
	MAS WALL, SEE PLAN AND SCHED
	WOOD COL, SEE SCHED
	STL COL, SEE SCHED
	CONC WALL TAG, SEE SCHED
	MAS WALL ON TOP OF CONC WALL, SEE SCHED
	MAS WALL ON TOP OF CONC WALL, SEE SCHED
	CONTROL JOINT, SEE FTG AND FND DETAILS AND GSN
	STL COL TAG, SEE PLAN AND SCHED
	FTG STEP, SEE DETAILS
	MAS COL TAG, SEE SCHED
	INDICATES DEPRESSED SLAB, SEE ARCH



1 FOOTING AND FOUNDATION PLAN  
SCALE: 1/8" = 1'-0"

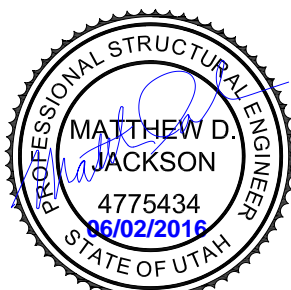
A NEW DESIGN FOR :  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

UP WALLS  
DESIGN  
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708



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A NEW DESIGN FOR :  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

A NEW DESIGN FOR :

UP WALL  
DESIGN  
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

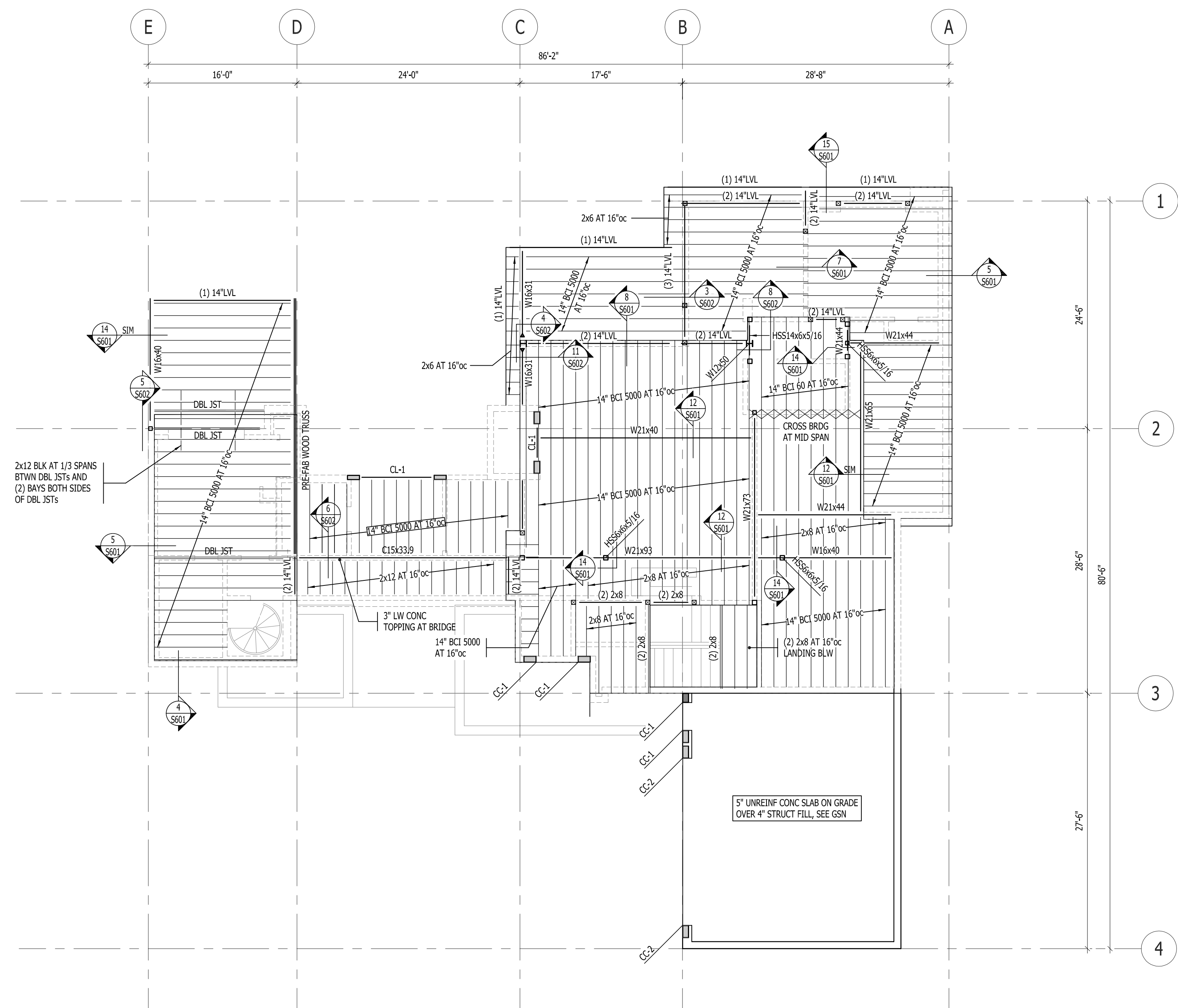
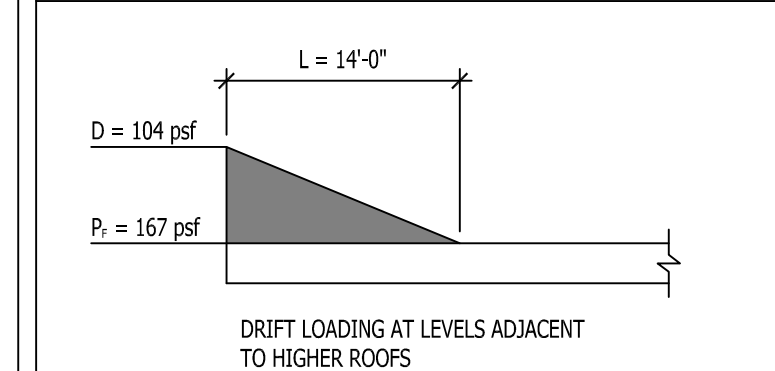
### FLOOR FRAMING PLAN NOTES

- SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
- VERIFY ALL FLOOR OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL DRAWINGS.
- SEE FLOOR FRAMING DETAILS FOR FRAMING AROUND ALL OPENINGS.
- ALL SHEATHING SHALL HAVE STRENGTH AXIS (FACE GRAIN) PERPENDICULAR TO FRAMING MEMBERS UNLESS OTHERWISE SPECIFIED. REFER TO SCHEDULE FOR SHEATHING TYPE AND NAILING REQUIREMENTS.
- ALL WOOD FRAMING AT BUILDING PERIMETER WALLS (STUDS, SHEATHING, SILL PLATES, TOP PLATES, BLOCKING, HEADERS, ETC.) SHALL BE FIRE TREATED. SEE SPECIFICATIONS FASTENERS, (NAILS, BOLTS, HANGERS, CLIP ANGLES, HARDWARE, ETC.) IN CONTACT WITH FIRE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.
- SEE THE MINIMUM NAILING SCHEDULE FOR CONNECTIONS NOT SPECIFICALLY DETAILED.
- SEE DETAILS FOR PIPE PENETRATIONS THROUGH WOOD WALL TOP PLATES.
- FOR BUILT UP BEAMS AND COLUMNS, SEE DETAILS.
- IF TIE DOWN POST AND FULL HEIGHT BEARING POST OCCUR AT THE SAME LOCATION, USE LARGER OF POSTS SPECIFIED.
- SEE DETAILS FOR TYPICAL BEARING STUDS AND KING STUDS AT WALL OPENINGS.
- DO NOT RUN FLOOR JOIST CONTINUOUS ACROSS UNIT SEPARATION WALLS, PARTY WALLS.
- ALL EXTERIOR WALLS, CORRIDOR WALLS AND PARTY WALLS ARE SHEAR WALLS. SEE SHEAR WALL SHEATHING SCHEDULE. SHEATH EXTERIOR WALLS PER SW-1 NAILING AND SHEATHING SPECIFICATIONS TYP. UNLESS OTHERWISE NOTED AT THESE LOCATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY BRACE WALLS, BEAMS, TRUSSES, ETC. AS NECESSARY.
- IF THE TYPICAL WOOD FLOORS SHALL HAVE A SUB-FLOOR OF LIGHTWEIGHT CONCRETE OR GYPCRETE (NOT TO EXCEED 1") WITH THE UNIT WEIGHT NOT TO EXCEED 110 PCF.
- COORDINATE THE LOCATION OF THE STRUCTURAL ELEMENTS SHOWN WITH THE DIMENSIONS ON THE ARCH DRAWINGS AND THE LAYOUT OF ALL MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT.
- SEE DETAILS FOR CONNECTION OF NON-BEARING WALLS TO FLOOR OR ROOF FRAMING.

### MARKS AND SYMBOLS

- SECTION MARK SHEET NUMBER
- FLOOR SHEATHING DIRECTION, SEE THE FLOOR SHEATHING SCHEDULE FOR THICKNESS, SPAN RATING AND NAILING REQUIREMENTS
- INDICATES WALL BELOW, ALL EXTERIOR WALLS AND CORRIDOR WALLS ARE SHEAR WALLS, UNLESS OTHERWISE NOTED
- MAS WALL, SEE PLAN
- STL COL, SEE SCHED
- WOOD COL, SEE SCHED, SEE WOOD BM SCHED FOR REQUIRED LOCATIONS
- BRG WALL TAG, SEE INTERIOR BRG WALL SCHED ON THIS SHEET
- WOOD BM TAG, SEE SCHED
- STL BM TAG, SEE SCHED

### SNOW DRIFT LOADING DIAGRAM



1 MAIN FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"

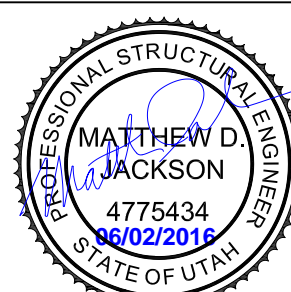


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A NEW DESIGN FOR :  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

A NEW DESIGN FOR :  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

UP WALL  
DESIGN  
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

S204

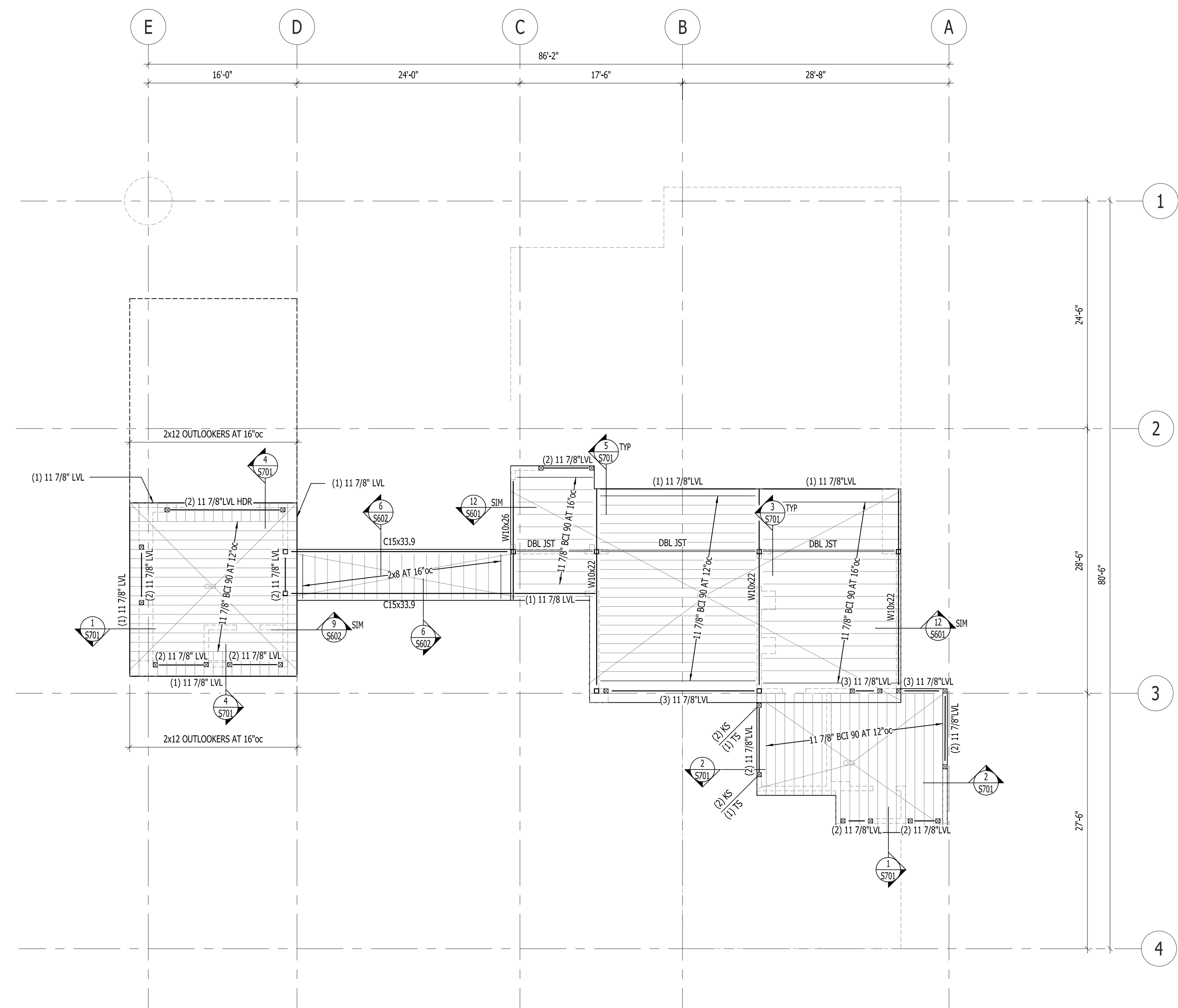
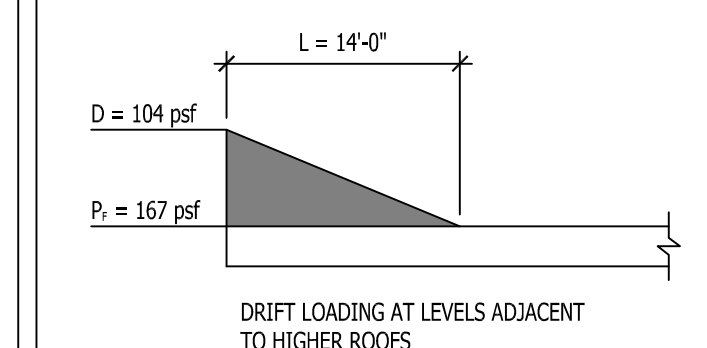
### ROOF FRAMING PLAN NOTES

- SEE ARCHITECTURAL PLANS FOR ALL DIMENSIONS.
- VERIFY ROOF SLOPES, OVERHANGS, PLATE ELEVATIONS, PARAPET ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL CEILING ELEVATIONS AND SOFFIT ELEVATIONS AND DETAILS.
- ALL ROOF SHEATHING SHALL HAVE FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS U.N.O. REFER TO SCHEDULE FOR SHEATHING TYPE AND NAILING REQUIREMENTS.
- ALL WOOD FRAMING AT BUILDING PERIMETER WALLS (STUDS, SHEATHING, SILL PLATES, TOP PLATES, BLOCKING, RIM, HEADERS, ETC.) SHALL BE FIRE TREATED, SEE SPECIFICATIONS FASTENERS, (NAILS, BOLTS, HANGERS, CLIP ANGLES, HARDWARE, ETC.) IN CONTACT WITH FIRE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.
- SEE THE MINIMUM NAILING SCHEDULE FOR CONNECTIONS NOT SPECIFICALLY DETAILED.
- SEE DETAILS FOR PIPE PENETRATIONS THROUGH WOOD WALL TOP PLATES.
- FOR BUILT UP BEAMS AND COLUMNS, SEE DETAILS.
- IF TIE DOWN POST AND FULL HEIGHT BEARING POST OCCUR AT THE SAME LOCATION, USE LARGER OF POSTS SPECIFIED.
- SEE DETAIL FOR TYPICAL BEARING STUDS AND KING STUDS AT WALL OPENINGS.
- ALL EXTERIOR WALLS, CORRIDOR WALLS AND PARTY WALLS ARE SHEARWALLS. SEE SHEAR WALL SHEATHING SCHEDULE. SHEATH EXTERIOR WALLS PER SW-1 NAILING AND SHEATHING SPECIFICATIONS TYP. UNO. HOLD DOWNS ARE NOT REQUIRED AT THESE LOCATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY BRACE WALLS, BEAMS, TRUSSES, ETC. AS NECESSARY DURING CONSTRUCTION.
- TRUSS MANUFACTURER TO LOCATE PANEL POINT AT KICKER BEARING LOCATION AND DESIGN FOR 140 LB POINT LOAD AT THAT LOCATION.
- CONTRACTOR SHALL COORDINATE LOCATIONS OF RTUS AND OTHER MECHANICAL UNITS.

### MARKS AND SYMBOLS

- SECTION MARK SHEET NUMBER
- ROOF SHEATHING DIRECTION, SEE THE ROOF SHEATHING SCHEDULE FOR THICKNESS, SPAN RATING AND NAILING REQUIREMENTS
- INDICATES WALL BELOW, ALL EXTERIOR WALLS AND CORRIDOR WALLS ARE SHEAR WALLS, UNO, SEE SHEARWALL SCHED
- WOOD COL, SEE SCHED, SEE WOOD BM SCHED FOR REQUIRED LOCATIONS
- BRG WALL TAG, SEE INTERIOR BRG WALL SCHED ON THIS SHEET
- WOOD BM TAG, SEE SCHED
- INDICATES DISTANCE OF PARAPET BRACING
- HATCH INDICATES 5" LIGHTWEIGHT CONCRETE CURB, SEE ARCH

### SNOW DRIFT LOADING DIAGRAM

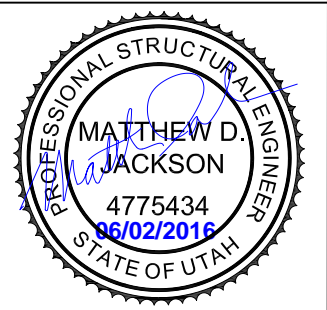


**1 ROOF FRAMING PLAN**  
SCALE: 1/8" = 1'-0"

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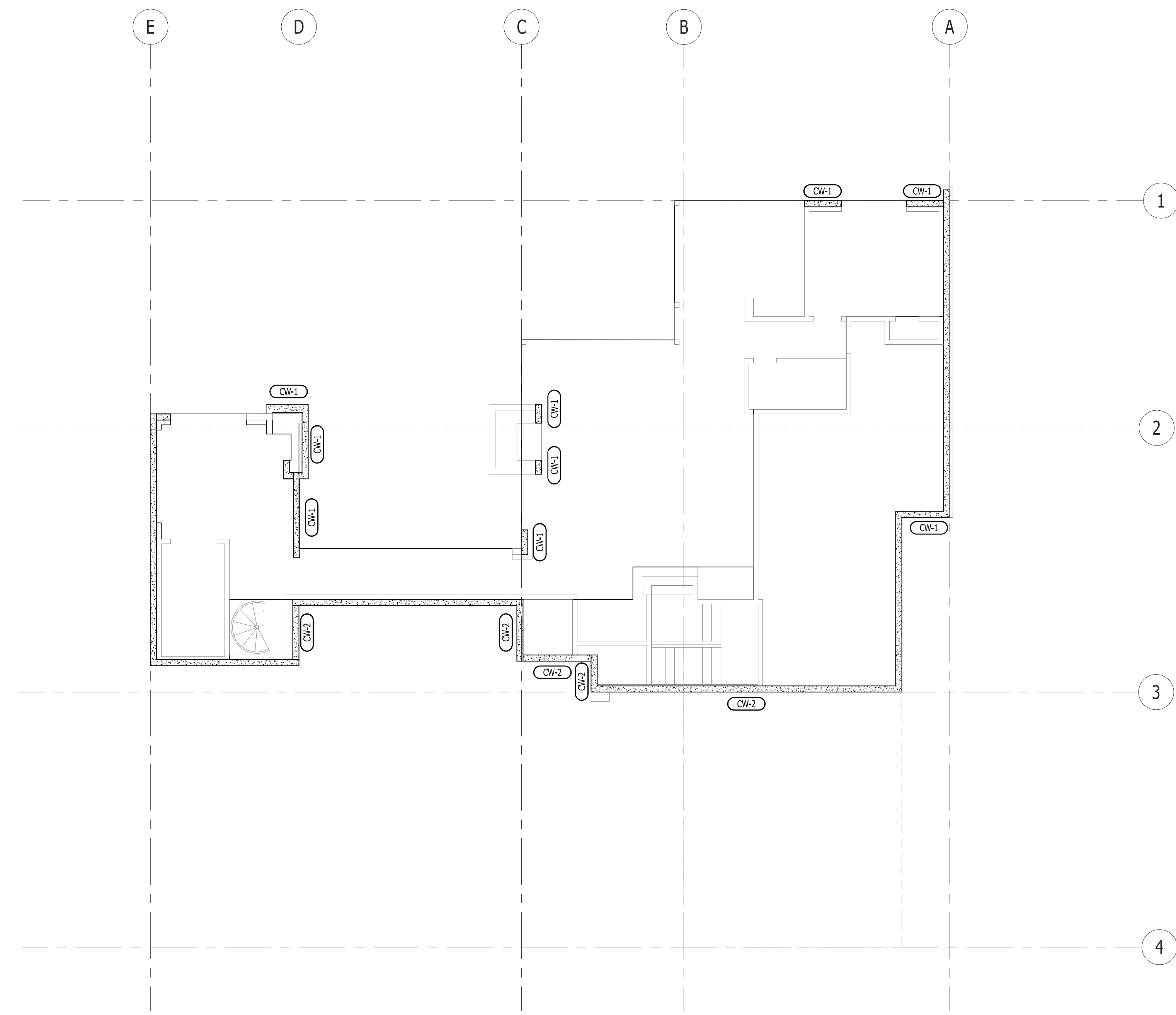
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### FOUNDATION PLAN NOTES

- SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
- COORDINATE LOCATION OF DEPRESSED SLABS, SLOPED SLABS, AND FLOOR DRAINS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- SEE ARCHITECTURAL DRAWINGS AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL UNO.
- ALL WOOD FRAMING AT BUILDING PERIMETER WALLS (STUDS, SHEATHING, SILL PLATES, TOP PLATES, BLOCKING, AISH, HEADERS, ETC.) SHALL BE FIRE TREATED. SEE SPECIFICATIONS FASTENERS, (NAILS, BOLTS, HANGERS, CLIP ANGLES, HARDWARE, ETC.) IN CONTACT WITH FIRE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.
- SEE FOOTING AND FOUNDATION DETAILS FOR BURIED PIPES RUNNING PARALLEL AND PERPENDICULAR TO FOOTINGS.
- FOR TYPICAL CONSTRUCTION AND CONTROL JOINTS IN FLOOR SLABS SEE GSN & FOOTING AND FOUNDATION DETAILS.
- FOR LOCATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS, SEE GSN & FOOTING AND FOUNDATION DETAILS.
- FOUNDATION WALLS TO BE REINFORCED AS SHOWN IN SCHEDULES AND DETAILS.
- SEE GENERAL STRUCTURAL NOTES AND FOOTING AND FOUNDATION DETAILS FOR FILL BENEATH FOOTINGS.
- ALL EXTERIOR WALLS, CORRIDOR WALLS AND PARTY WALLS ARE SHEAR WALLS. SEE SHEAR WALL SHEATHING SCHEDULE, SHEATH PER SW-1, TYPICAL UNLESS NOTED OTHERWISE.
- STRAP OPENINGS IN SHEAR WALLS, SEE SHEAR WALL SCHEDULE.

### MARKS AND SYMBOLS

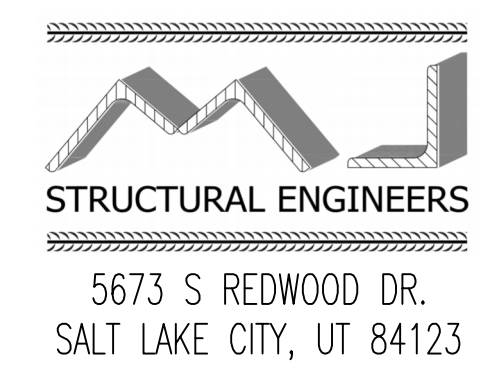
- SECTION MARK
- SHEET NUMBER
- FTG DESIGNATION  
TOP OF FTG ELEVATION  
\* = LOCATE TOP OF FTG TO PROVIDE MINIMUM FROST PROTECTION, SEE GSN
- CONT FTG TAG, SEE SCHED
- SPOT FTG TAG, SEE SCHED
- THICKENED SLAB FTG TAG, SEE SCHED
- CONC WALL, SEE PLAN AND SCHED
- MAS WALL, SEE PLAN AND SCHED
- WOOD COL, SEE SCHED
- STL COL, SEE SCHED
- CONC WALL TAG, SEE SCHED
- MAS WALL ON TOP OF CONC WALL, SEE SCHED
- CONTROL JOINT, SEE FTG AND FND DETAILS AND GSN
- STL COL TAG, SEE PLAN AND SCHED
- FTG STEP, SEE DETAILS
- MAS COL TAG, SEE SCHED
- INDICATES DEPRESSED SLAB, SEE ARCH



1 LOWER FLOOR SHEARWALL PLAN

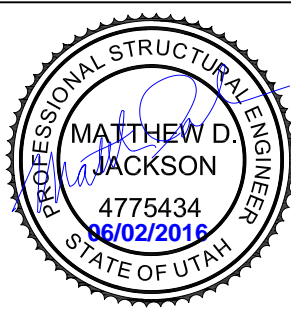
A NEW DESIGN FOR :  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

UP WALLS  
DESIGN  
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708



S205

5673 S REDWOOD DR.  
SALT LAKE CITY, UT 84123



01 JUNE 2016

REVISIONS

THE ABOVE DRAWINGS AND SPECIFICATIONS AND THE SEAL, DESIGN AND PROFESSIONAL ENGINEER'S SIGNATURE SHALL BE KEPT WITH THE PROJECT AT ALL TIMES AND SHALL BE AVAILABLE FOR INSPECTION BY THE LOCAL, STATE AND FEDERAL AGENCIES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE AND FEDERAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE AND FEDERAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE AND FEDERAL AGENCIES.

A NEW DESIGN FOR :  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

A NEW DESIGN FOR :  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

UP WALL  
DESIGN  
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

S206

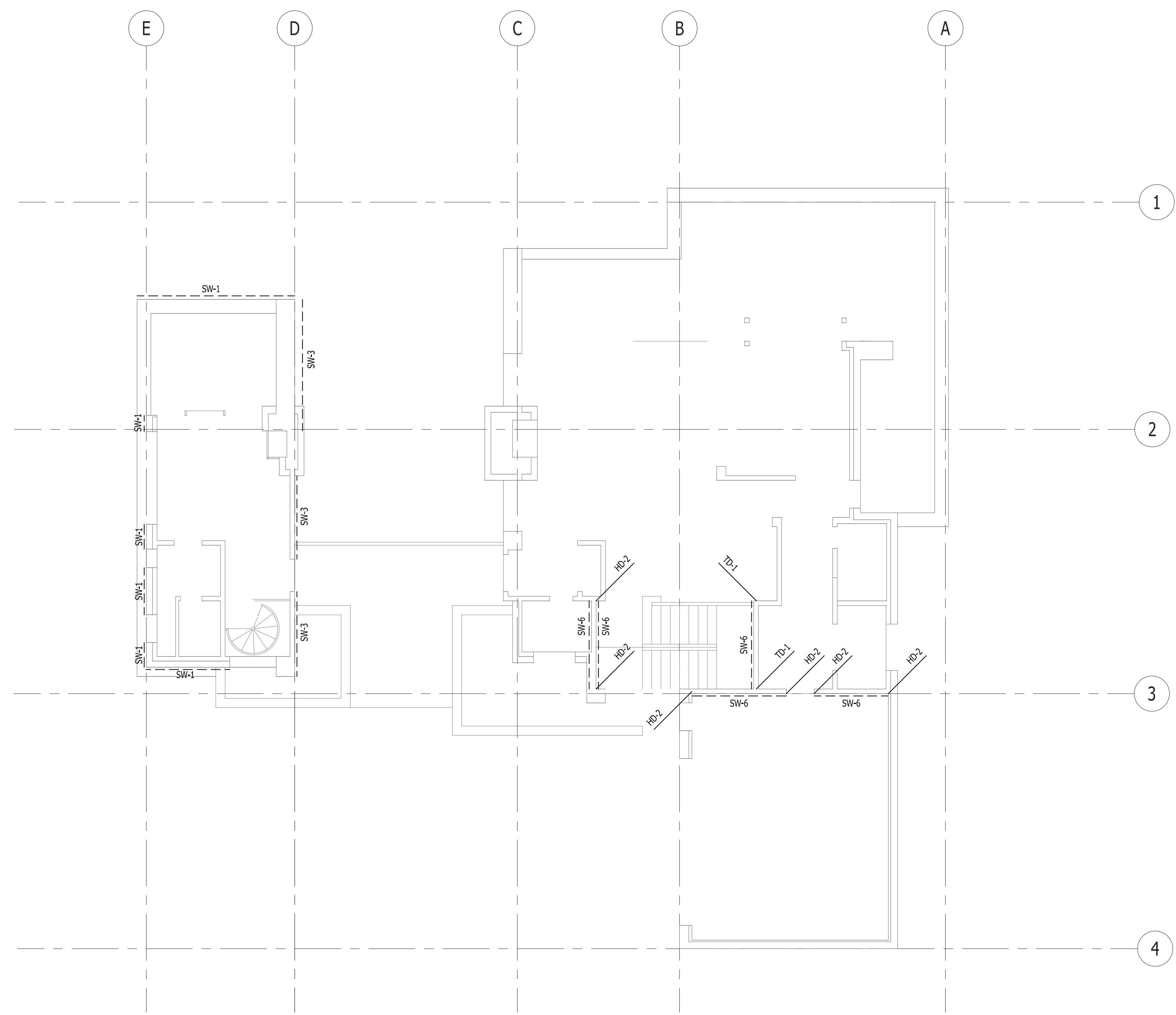
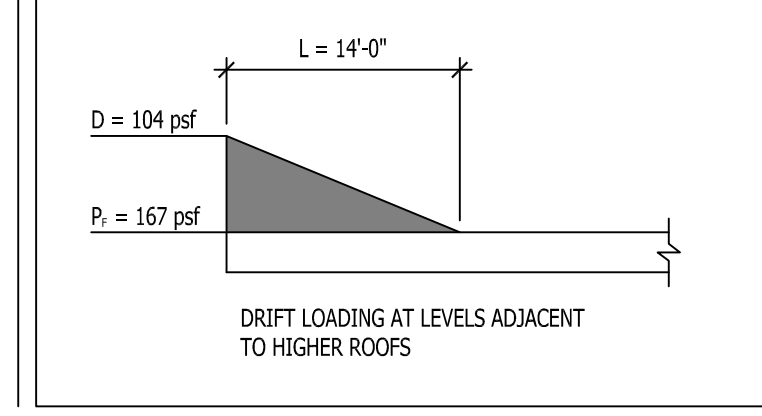
### FLOOR FRAMING PLAN NOTES

- SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
- VERIFY ALL FLOOR OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL DRAWINGS.
- SEE FLOOR FRAMING DETAILS FOR FRAMING AROUND ALL OPENINGS.
- ALL SHEATHING SHALL HAVE STRENGTH AXIS (FACE GRAIN) PERPENDICULAR TO FRAMING MEMBERS U.N.O. REFER TO SCHEDULE FOR SHEATHING TYPE AND NAILING REQUIREMENTS.
- ALL WOOD FRAMING AT BUILDING PERIMETER WALLS (STUDS, SHEATHING, SILL PLATES, TOP PLATES, BLOCKING, HEADERS, ETC.) SHALL BE FIRE TREATED. SEE SPECIFICATIONS FASTENERS, (NAILS, BOLTS, HANGERS, CLIP ANGLES, HARDWARE, ETC.) IN CONTACT WITH FIRE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.
- SEE THE MINIMUM NAILING SCHEDULE FOR CONNECTIONS NOT SPECIFICALLY DETAILED.
- SEE DETAILS FOR PIPE PENETRATIONS THROUGH WOOD WALL TOP PLATES.
- FOR BUILT UP BEAMS AND COLUMNS, SEE DETAILS.
- IF TIE DOWN POST AND FULL HEIGHT BEARING POST OCCUR AT THE SAME LOCATION, USE LARGER OF POSTS SPECIFIED.
- SEE DETAILS FOR TYPICAL BEARING STUDS AND KING STUDS AT WALL OPENINGS.
- DO NOT RUN FLOOR JOIST CONTINUOUS ACROSS UNIT SEPARATION WALLS, PARTY WALLS.
- ALL EXTERIOR WALLS, CORRIDOR WALLS AND PARTY WALLS ARE SHEARWALLS. SEE SHEAR WALL SHEATHING SCHEDULE. SHEATH EXTERIOR WALLS PER SW-1 NAILING AND SHEATHING SPECIFICATIONS TYP. U.N.O. HOLD DOWNS ARE NOT REQUIRED AT THESE LOCATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY BRACE WALLS, BEAMS, TRUSSES, ETC. AS NECESSARY.
- THE TYPICAL WOOD FLOORS SHALL HAVE A SUB-FLOOR OF LIGHTWEIGHT CONCRETE OR GYPCRETE (NOT TO EXCEED 1") WITH THE UNIT WEIGHT NOT TO EXCEED 110 PCF.
- COORDINATE THE LOCATION OF THE STRUCTURAL ELEMENTS SHOWN WITH THE DIMENSIONS ON THE ARCH DRAWINGS AND THE LAYOUT OF ALL MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT.
- SEE DETAILS FOR CONNECTION OF NON-BEARING WALLS TO FLOOR OR ROOF FRAMING.

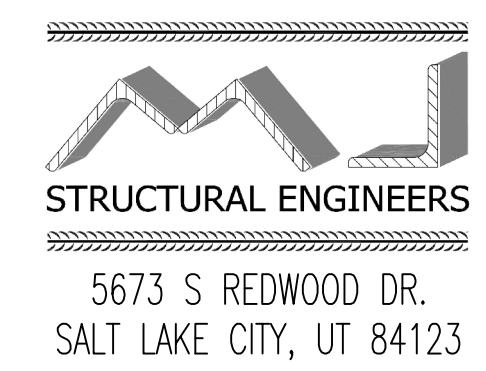
### MARKS AND SYMBOLS

- SECTION MARK SHEET NUMBER
- FLOOR SHEATHING DIRECTION, SEE THE FLOOR SHEATHING SCHEDULE FOR THICKNESS, SPAN RATING AND NAILING REQUIREMENTS
- INDICATES WALL BELOW, ALL EXTERIOR WALLS AND CORRIDOR WALLS ARE SHEAR WALLS, U.N.O, SEE SHEARWALL SCHED
- MAS WALL, SEE PLAN
- STL COL, SEE SCHED
- WOOD COL, SEE SCHED, SEE WOOD BM SCHED FOR REQUIRED LOCATIONS
- BRG WALL TAG, SEE INTERIOR BRG WALL SCHED ON THIS SHEET
- WOOD BM TAG, SEE SCHED
- STL BM TAG, SEE SCHED

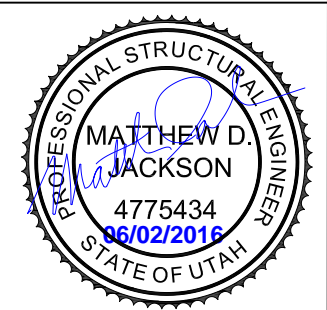
### SNOW DRIFT LOADING DIAGRAM



1 MAIN FLOOR WOOD SHEARWALL PLAN







01 JUNE 2016

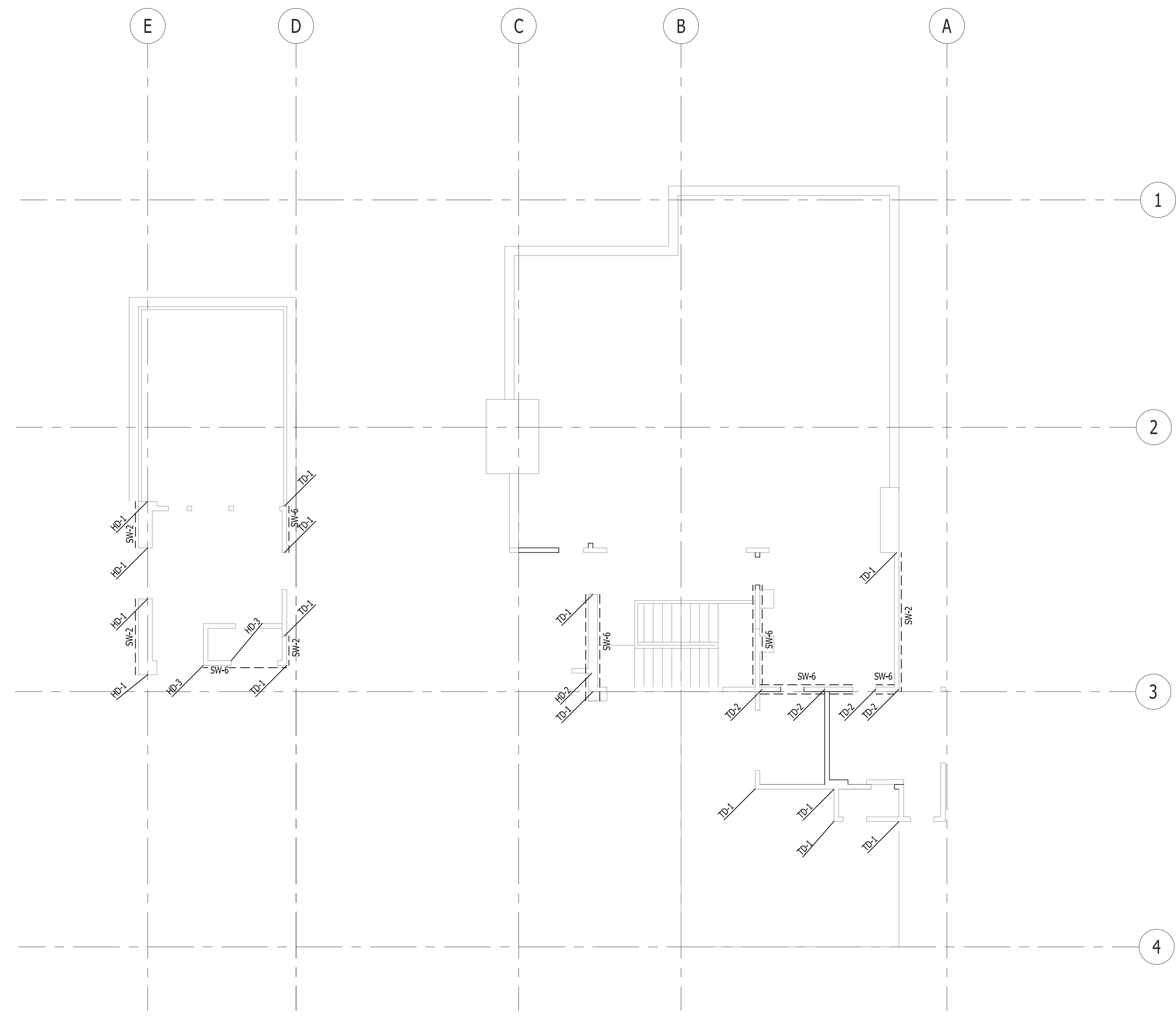
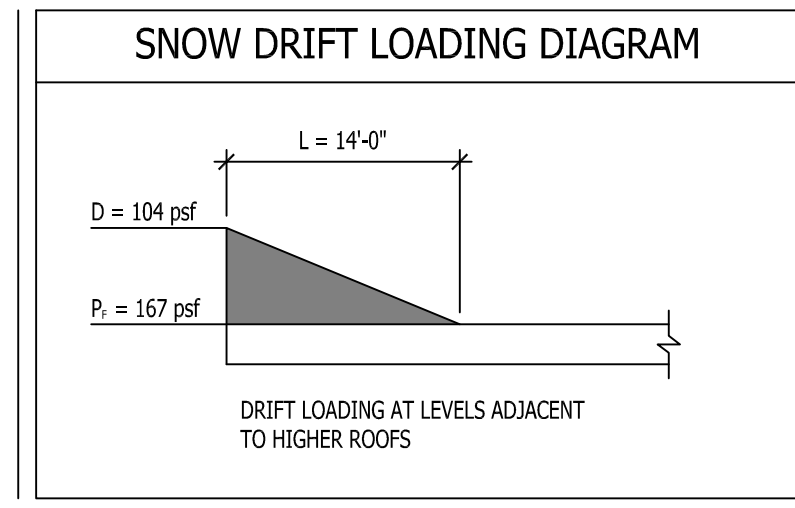
REVISIONS

THE ABOVE DRAWINGS AND SPECIFICATIONS AND THE SEAL, DESIGN AND PROFESSIONAL ENGINEER'S SIGNATURE ARE THE PROPERTY OF MDT STRUCTURAL ENGINEERS. NO PART OF THESE DRAWINGS SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF MDT STRUCTURAL ENGINEERS. ANY REPRODUCTION OR TRANSMISSION OF THESE DRAWINGS WITHOUT THE WRITTEN PERMISSION OF MDT STRUCTURAL ENGINEERS IS PROHIBITED. THE USER OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY INFORMATION FROM THE ARCHITECT AND OTHER PROFESSIONALS CONCERNING THE PROJECT. THE USER OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE ARCHITECT AND OTHER PROFESSIONALS CONCERNING THE PROJECT. THE USER OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE ARCHITECT AND OTHER PROFESSIONALS CONCERNING THE PROJECT.

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  - SEE DETAILS FOR CONNECTION OF NON-BEARING WALLS TO FLOOR OR ROOF FRAMING.

### MARKS AND SYMBOLS

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- MAS WALL, SEE PLAN
- STL COL, SEE SCHED
- WOOD COL, SEE SCHED, SEE WOOD BM SCHED FOR REQUIRED LOCATIONS
- BRG WALL TAG, SEE INTERIOR BRG WALL SCHED ON THIS SHEET
- WOOD BM TAG, SEE SCHED
- STL BM TAG, SEE SCHED



1 UPPER FLOOR SHEARWALL PLAN

A NEW DESIGN FOR :  
LOT 37 POWDER MOUNTAIN  
WEBER COUNTY, UT

UPPER WALL  
DESIGN

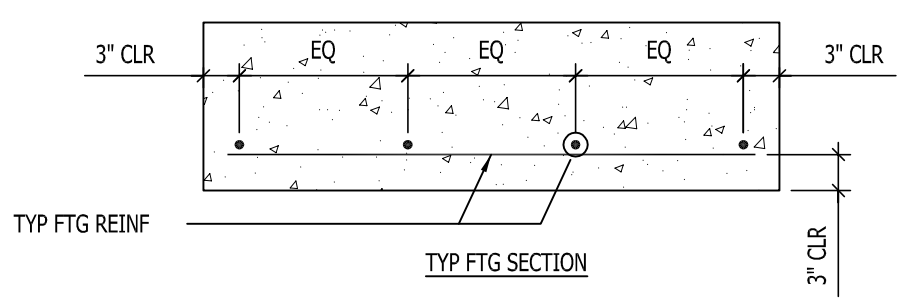
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708



S207

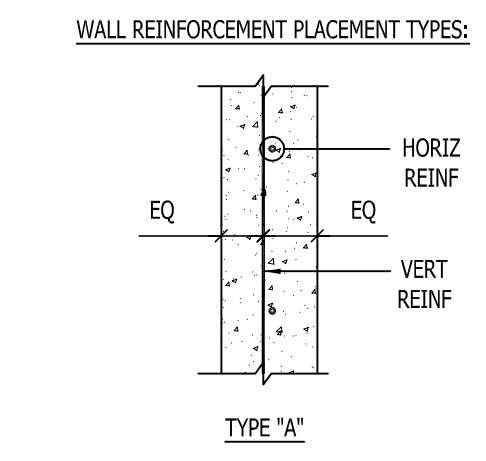
MARK	WIDTH	LENGTH	DEPTH	REINFORCING CROSSWISE				REINFORCING LENGTHWISE				REMARKS
				NO	SIZE	LENGTH	SPACING	NO	SIZE	LENGTH	SPACING	
FC3.0	3'-0"	CONT	12"	-	#5	2'-6"	14"	3	#5	CONT	EQ	
FC4.0	4'-0"	CONT	12"	-	#5	3'-6"	14"	4	#5	CONT	EQ	
FC5.0	5'-0"	CONT	16"	-	#6	4'-6"	17"	5	#6	CONT	EQ	WALL IS OFF CENTER
FS4.5	4'-6"	4'-6"	12"	4	#5	4'-0"	EQ	4	#5	4'-0"	EQ	
FS5.5	5'-6"	5'-6"	14"	6	#5	5'-0"	EQ	6	#5	5'-0"	EQ	
FS8x10	8'-0"	10'-0"	24"	10	#6	7'-6"	EQ	10	#7	9'-6"	EQ	
FTS3.0	3'-0"	CONT	12"	--	#5	2'-6"	14"	3	#5	CONT	EQ	

- NOTES:
- PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER, UNLESS NOTED OTHERWISE.
  - TOP REINFORCING, WHERE SPECIFIED, SHALL BE PLACED IN THE TOP OF THE FOOTING WITH 2" MINIMUM CONCRETE COVER.
  - IF FOOTINGS ARE EARTH FORMED, FOOTING WIDTH AND LENGTH SHALL BE 6" WIDER AND LONGER THAN SCHEDULED.
  - SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.
  - NOT ALL FOOTINGS ARE USED. SEE FOUNDATION PLAN FOR FOOTING MARKS.
  - RUN CONTINUOUS BARS IN 'C' FOOTING THROUGH INTERSECTED 'S' FOOTINGS.



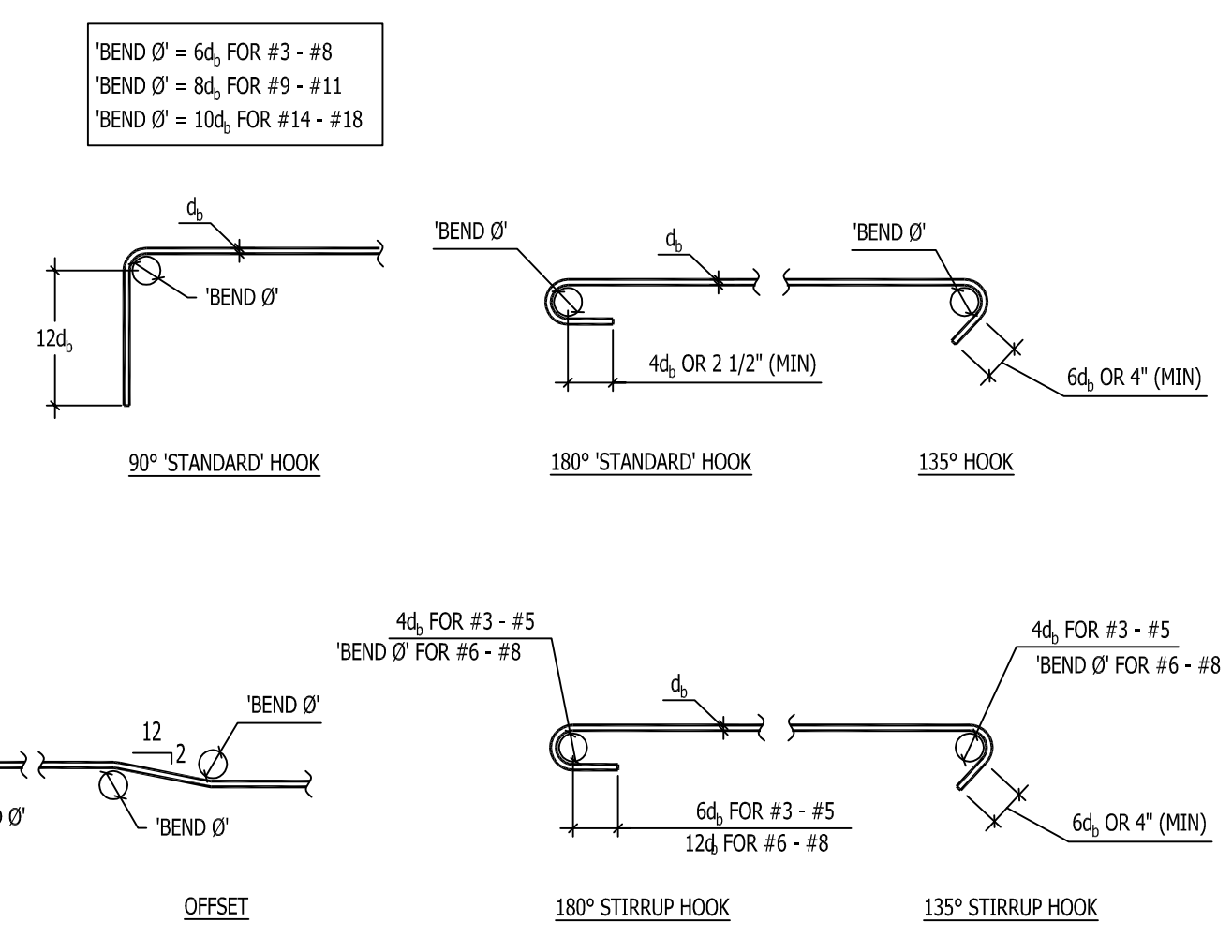
TAG	THICKNESS	REINFORCING			WALL TYPE	REMARKS
		VERTICAL	HORIZONTAL	TOP AND BOTTOM		
CW-1	8"	#4 AT 16"oc	#4 AT 15"oc	(2) #4	A	
CW-2	10"	#4 AT 16"oc	#5 AT 15"oc	(2) #5	A	

- NOTES:
- SEE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS NOT NOTED IN SCHEDULE.



TAG	TENSION BARS								COMPRESSION BARS	
	f <sub>c</sub> = 3000psi				f <sub>c</sub> = 4000psi				ALL f <sub>c</sub>	
	REGULAR		TOP		REGULAR		TOP			
	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS		
#3	17"	22"	22"	28"	15"	19"	19"	24"		12"
#4	22"	29"	29"	38"	19"	25"	25"	33"		15"
#5	28"	36"	36"	47"	24"	31"	31"	41"		19"
#6	33"	43"	43"	56"	29"	37"	37"	49"		23"
#7	49"	63"	63"	81"	42"	54"	54"	70"		27"
#8	55"	72"	72"	93"	47"	62"	62"	80"		30"
#9	62"	81"	81"	105"	53"	69"	69"	90"		34"
#10	70"	91"	91"	118"	60"	78"	78"	101"		39"
#11	78"	101"	101"	131"	67"	87"	87"	112"		43"

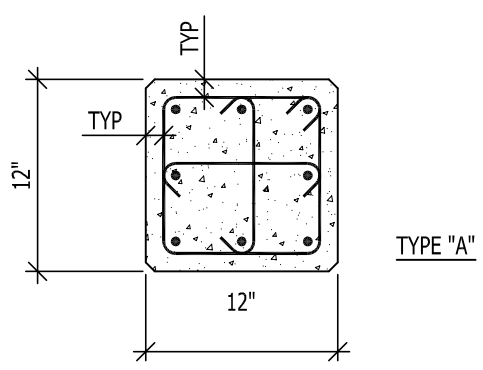
- NOTES:
- THESE NOTES SHALL BE USED FOR ALL SPLICES UNLESS NOTED OTHERWISE.
  - TOP BARS ARE CLASSIFIED AS HORIZONTAL BARS WHERE 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE REINFORCING BAR.
  - CLASS 'B' SPLICES SHALL BE USED FOR ALL SPLICES UNLESS NOTED OTHERWISE.
  - TIES AND STIRRUPS SHALL NOT BE SPLICED.
  - FOR ALL LIGHTWEIGHT CONCRETE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3.
  - FOR ALL EPOXY COATED BARS, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3 FOR TOP BARS AND 1.5 FOR REGULAR BARS.



1 CONCRETE FOOTING SCHEDULE  
 NO SCALE

TAG	PIER SIZE	REINFORCING		TYPE	REMARKS
		VERTICAL	TIES		
CP-1	18" x 18"	(4) #5	#3 AT 12"oc	A	

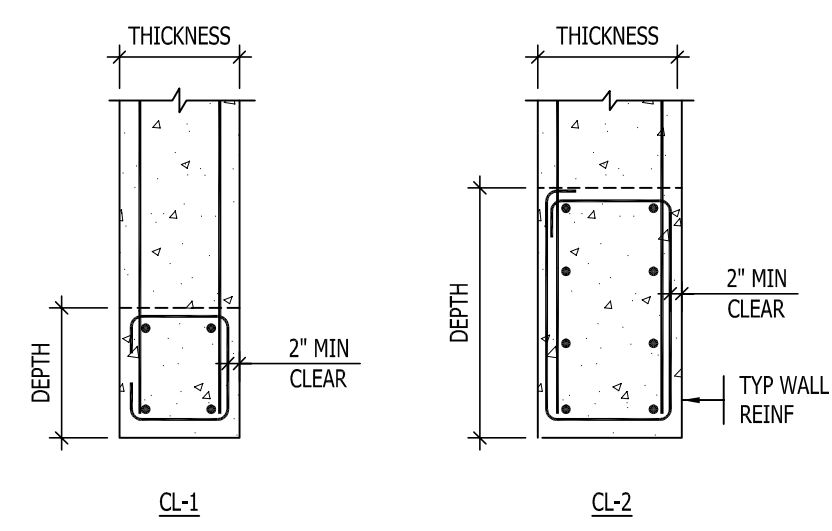
- NOTES:
- INSTALL (3) SETS OF TIES AT 3"oc AT TOP OF ALL PIERS (U.N.O.).



2 CONCRETE WALL SCHEDULE  
 NO SCALE

TAG	THICKNESS	DEPTH	REINFORCING		REMARKS
			TOP AND BOTTOM	STIRRUPS	
CL-1	8"	16"	(3) #6	#4 AT 6"oc	
CL-2	8"	27"	(3) #9	#4 AT 6"oc	

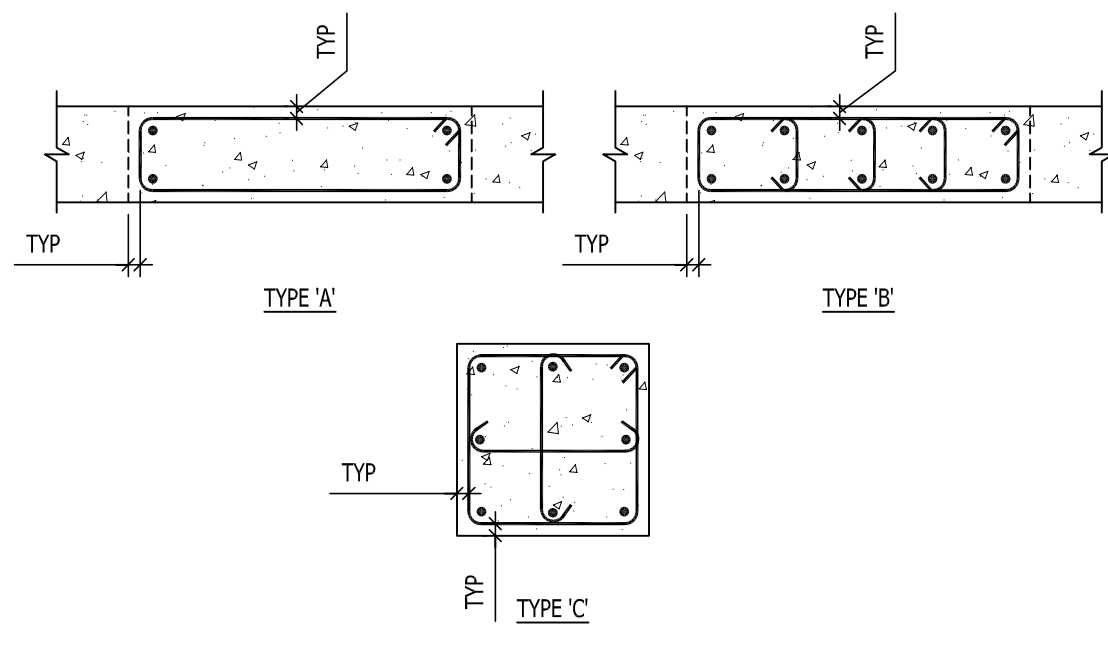
- NOTES:
- EXTEND HORIZONTAL BARS 40 BAR DIAMETERS BEYOND EDGE OF OPENING OR AS FAR AS POSSIBLE AND TERMINATE WITH A 90° STANDARD HOOK.
  - TOP BARS MAY ONLY BE SPLICED AT THE MID-SPAN OF LINTELS.
  - BOTTOM BARS MAY ONLY BE SPLICED OVER SUPPORTS OF LINTELS.
  - TIES AND STIRRUPS MAY NOT BE SPLICED.



3 CONCRETE REINFORCING LAP SPLICE SCHEDULE AND BAR BENDING DIAGRAMS  
 NO SCALE

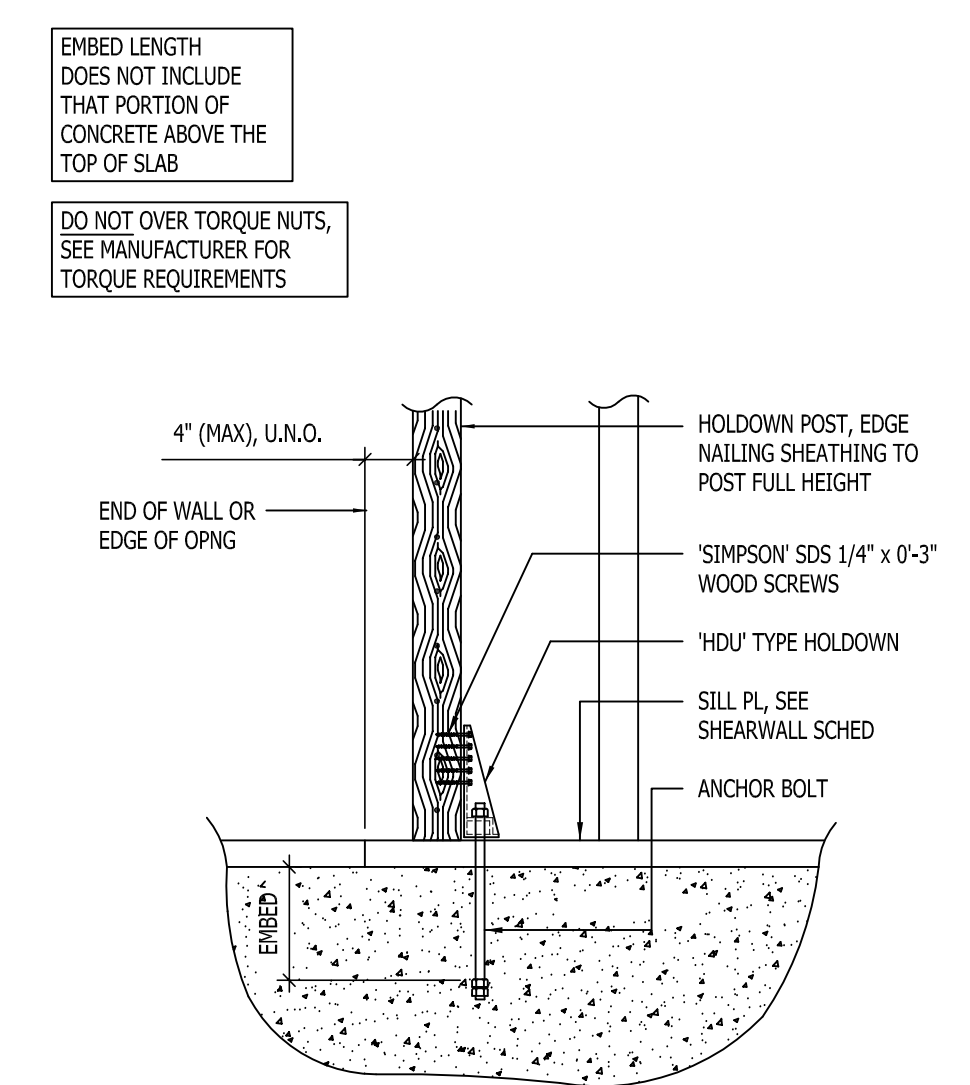
TAG	PIER SIZE	REINFORCING		TYPE	REMARKS
		VERTICAL	STIRRUPS		
CC-1	8" x 10"	(4) #6	#4 AT 6"oc	A	
CC-2	8" x 16"	(6) #6	#4 AT 6"oc	B	

- NOTES:
- INSTALL (3) SETS OF TIES AT 3"oc AT TOP OF ALL PIERS, UNLESS NOTED OTHERWISE.



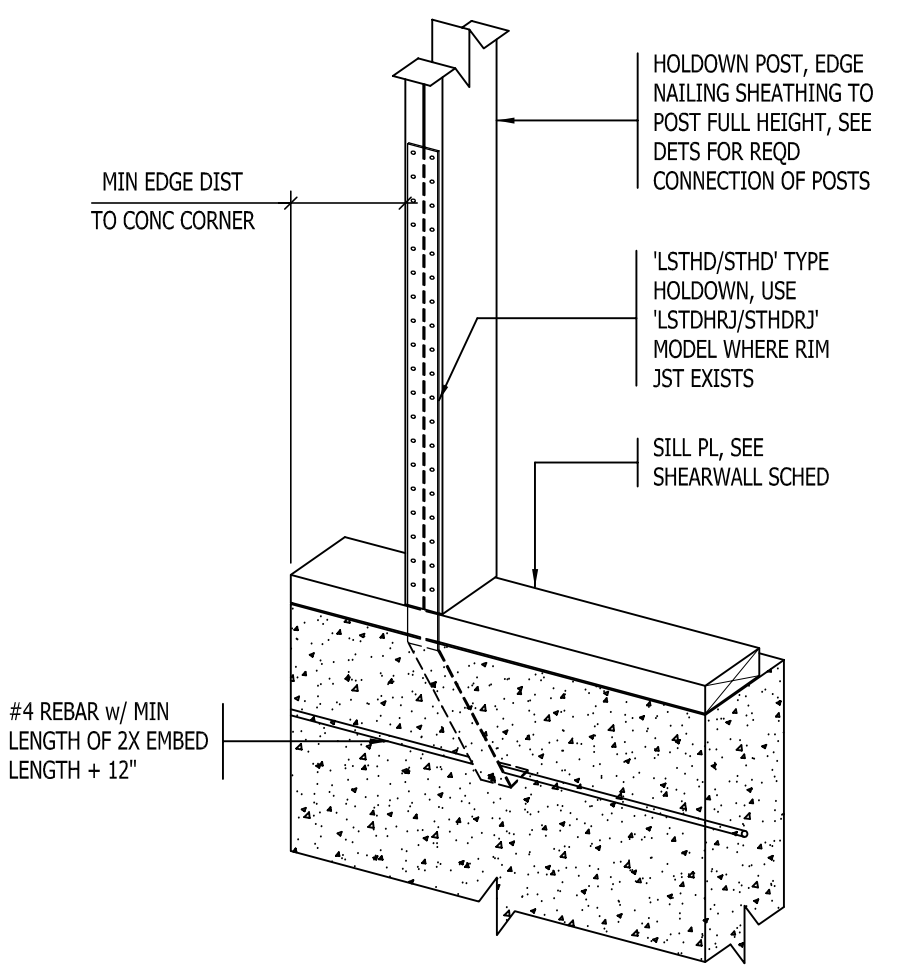
TAG	TYPE	HOLDOWN POST	'HDU' TYPE HOLDOWN SCHEDULE		EMBEDMENT DEPTH
			WOOD SCREWS 'SIMPSON' SDS 1/4" x 0'-3"	ANCHOR BOLT DIAMETER	
HD-1	HDU4	(2) 2x	(10)	5/8"	0'-10"
HD-2	HDU8	(3) 2x	(20)	7/8"	1'-2"
HD-3	HDU14	(3) 2x	(36)	1"	1'-2"

- NOTES:
- INCREASE FOOTING DEPTH WHERE EMBEDMENT LENGTH PLUS 3" IS GREATER THAN FOOTING DEPTH SPECIFIED.
  - ALL HOLDOWNS SPECIFIED ARE 'SIMPSON - STRONG TIE'. SEE GENERAL STRUCTURAL NOTES FOR SUBSTITUTIONS.
  - LAG SCREWS SHALL NOT BE USED.



TAG	HOLDOWN POST	'LSTHD/STHD' TYPE HOLDOWN SCHEDULE	
		REQD NAILS	MIN EDGE DISTANCE
STHD14 (RJ)	(3) 2x	(38) 16d	1 1/2"

- NOTES:
- INCREASE FOOTING DEPTH WHERE EMBEDMENT LENGTH PLUS 3" IS GREATER THAN FOOTING DEPTH SPECIFIED.
  - ALL HOLDOWNS SPECIFIED ARE 'SIMPSON - STRONG TIE'. SEE GENERAL STRUCTURAL NOTES FOR SUBSTITUTIONS.
  - (RJ) INDICATES 'RIM JOIST'. USE 'RJ' MODEL WHERE RIM JOIST IS PRESENT REGARDLESS OF MODEL SPECIFIED ON PLAN.



4 CONCRETE PIER SCHEDULE  
 NO SCALE

TAG	PIER SIZE	REINFORCING		TYPE	REMARKS
		VERTICAL	TIES		
CP-1	18" x 18"	(4) #5	#3 AT 12"oc	A	

- NOTES:
- INSTALL (3) SETS OF TIES AT 3"oc AT TOP OF ALL PIERS (U.N.O.).



5 CONCRETE LINTEL SCHEDULE  
 NO SCALE

TAG	THICKNESS	DEPTH	REINFORCING		REMARKS
			TOP AND BOTTOM	STIRRUPS	
CL-1	8"	16"	(3) #6	#4 AT 6"oc	
CL-2	8"	27"	(3) #9	#4 AT 6"oc	

- NOTES:
- EXTEND HORIZONTAL BARS 40 BAR DIAMETERS BEYOND EDGE OF OPENING OR AS FAR AS POSSIBLE AND TERMINATE WITH A 90° STANDARD HOOK.
  - TOP BARS MAY ONLY BE SPLICED AT THE MID-SPAN OF LINTELS.
  - BOTTOM BARS MAY ONLY BE SPLICED OVER SUPPORTS OF LINTELS.
  - TIES AND STIRRUPS MAY NOT BE SPLICED.



6 CONCRETE COLUMN SCHEDULE  
 NO SCALE

TAG	PIER SIZE	REINFORCING		TYPE	REMARKS
		VERTICAL	STIRRUPS		
CC-1	8" x 10"	(4) #6	#4 AT 6"oc	A	
CC-2	8" x 16"	(6) #6	#4 AT 6"oc	B	

- NOTES:
- INSTALL (3) SETS OF TIES AT 3"oc AT TOP OF ALL PIERS, UNLESS NOTED OTHERWISE.



7 'HDU' TYPE HOLDOWN SCHEDULE  
 NO SCALE

TAG	TYPE	HOLDOWN POST	'HDU' TYPE HOLDOWN SCHEDULE		EMBEDMENT DEPTH
			WOOD SCREWS 'SIMPSON' SDS 1/4" x 0'-3"	ANCHOR BOLT DIAMETER	
HD-1	HDU4	(2) 2x	(10)	5/8"	0'-10"
HD-2	HDU8	(3) 2x	(20)	7/8"	1'-2"
HD-3	HDU14	(3) 2x	(36)	1"	1'-2"

- NOTES:
- INCREASE FOOTING DEPTH WHERE EMBEDMENT LENGTH PLUS 3" IS GREATER THAN FOOTING DEPTH SPECIFIED.
  - ALL HOLDOWNS SPECIFIED ARE 'SIMPSON - STRONG TIE'. SEE GENERAL STRUCTURAL NOTES FOR SUBSTITUTIONS.
  - LAG SCREWS SHALL NOT BE USED.



8 'LSTHD/STHD' TYPE HOLDOWN SCHEDULE  
 NO SCALE

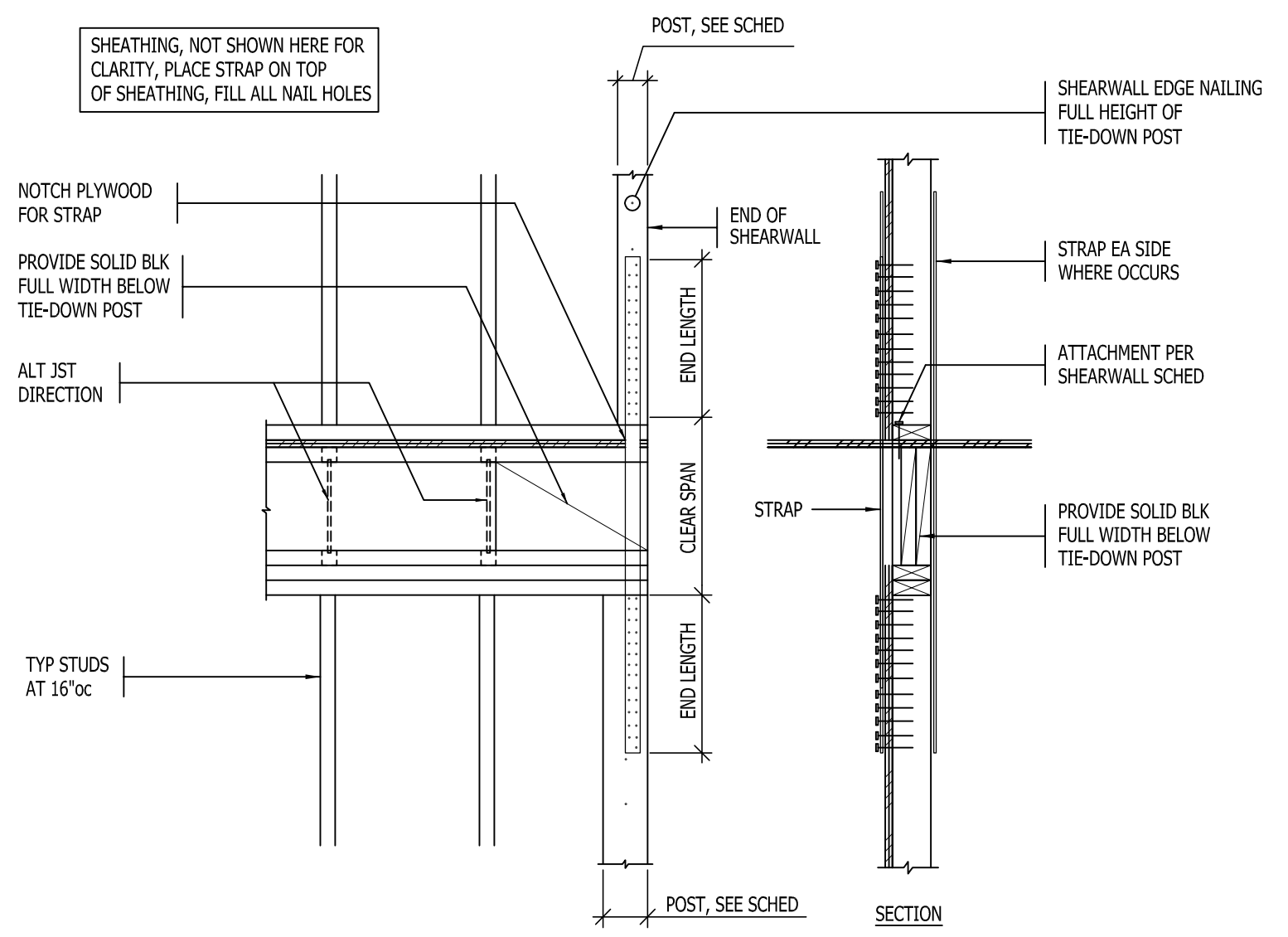
TAG	HOLDOWN POST	'LSTHD/STHD' TYPE HOLDOWN SCHEDULE	
		REQD NAILS	MIN EDGE DISTANCE
STHD14 (RJ)	(3) 2x	(38) 16d	1 1/2"

- NOTES:
- INCREASE FOOTING DEPTH WHERE EMBEDMENT LENGTH PLUS 3" IS GREATER THAN FOOTING DEPTH SPECIFIED.
  - ALL HOLDOWNS SPECIFIED ARE 'SIMPSON - STRONG TIE'. SEE GENERAL STRUCTURAL NOTES FOR SUBSTITUTIONS.
  - (RJ) INDICATES 'RIM JOIST'. USE 'RJ' MODEL WHERE RIM JOIST IS PRESENT REGARDLESS OF MODEL SPECIFIED ON PLAN.



COIL STRAP TIEDOWN SCHEDULE						
TAG	TYPE	END LENGTH	GAGE	CUT LENGTH	TOTAL FASTENERS	(MIN) POST SIZE
TD-1	CSMTC16	20"	16	CLEAR SPAN + 40"	(50) 16d	(3) 2x
TD-2	CSMT12	33"	12	CLEAR SPAN + 66"	(84) 16d	(3) 2x

- NOTES:
- MINIMUM NAIL PENETRATION INTO FRAMING, 10d = 2", 16d = 2 1/2"
  - USE COMMON NAILS. (10d DIAMETER = 0.148", 16d DIAMETER = 0.162")
  - WHERE HOLDOWN STRAP OCCURS ABOVE STEEL BEAM, WELD STRAP TO BEAM AND PROVIDE 6" MIN OF 1/8" WELD

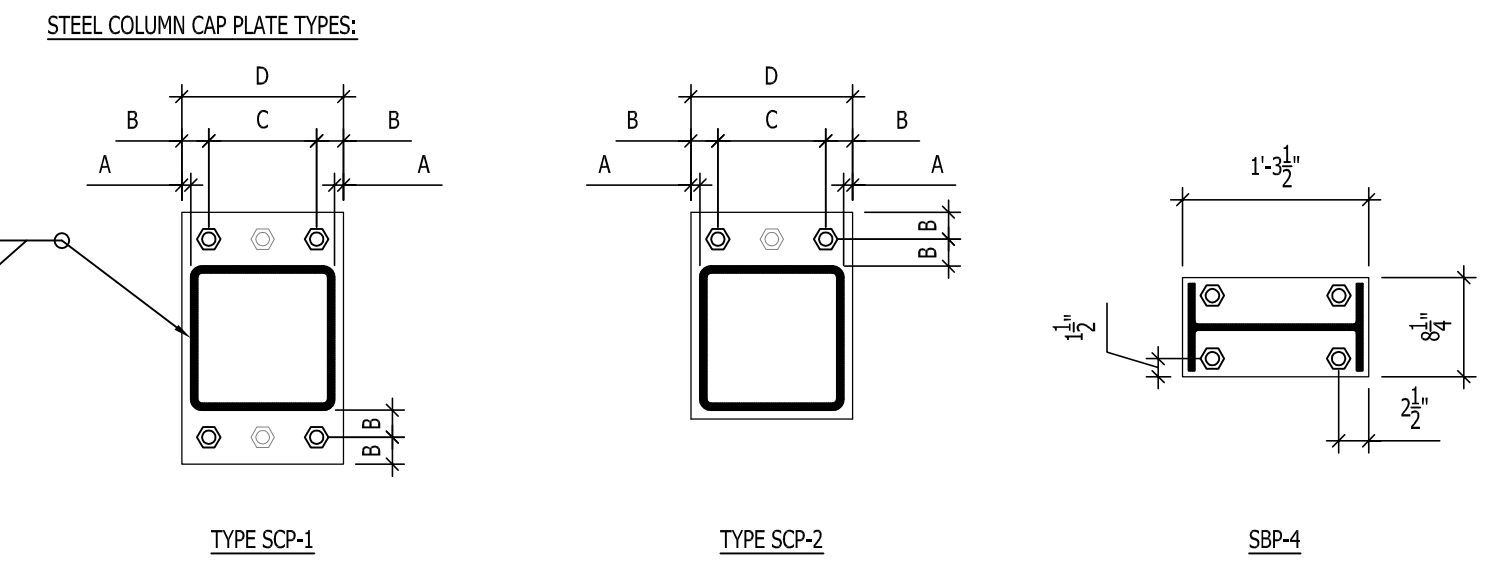
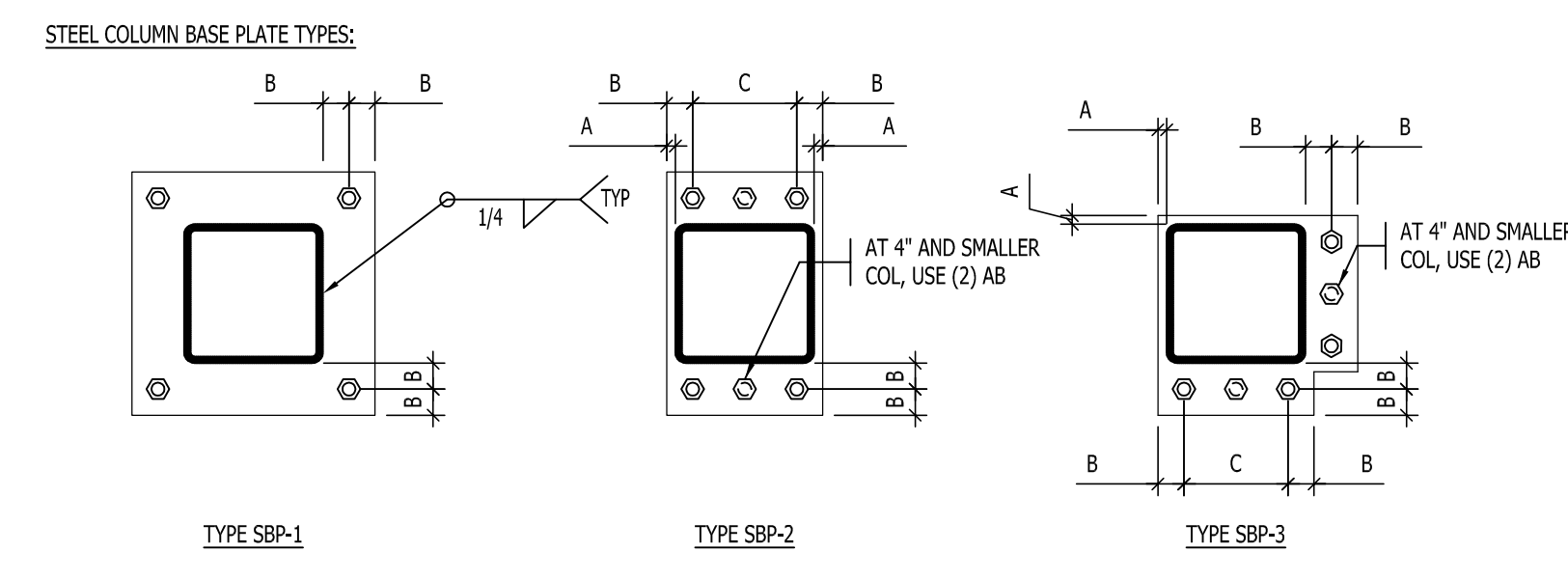


STEEL COLUMN SCHEDULE				
TAG	SIZE	STEEL BASE PLATE	STEEL CAP PLATE	REMARKS
SC-1	HSS 5x5x1/4	3/4" (SBP-2)	3/4" (SCP-2)	
SC-2	HSS 6x6x1/4	3/4" (SBP-1)	3/4" (SCP-1)	
SC-3	HSS 6x6x1/2	3/4" (SBP-1)	1/4" CAP	
SC-4	HSS 6x6x5/8	3/4" (SBP-1)	1/4" CAP	
SC-5	HSS 8x8x5/16	3/4" (SBP-1)	1/4" CAP	
SC-6	W12X50	3/4" (SBP-4)	SEE DETAILS	

- NOTES:
- UNLESS NOTED OTHERWISE ALL COLUMNS SHALL BE INSTALLED WITH (4) 3/4" ANCHOR BOLTS WITH DOUBLE NUT. PROJECT ANCHOR BOLTS 3" MINIMUM ABOVE THE TOP OF THE BASE PLATE. EMBEDMENT SHALL BE 9" MINIMUM. ALL BOLTS SHALL BE INSTALLED WITH HARDENED WASHERS BENEATH THE NUT. ANY BOLT HOLES LARGER THAN THE BOLT DIAMETER PLUS 5/16" SHALL HAVE 5/16" PLATE WASHERS INSTALLED BENEATH THE HARDENED WASHERS.
  - ALL CAP PLATE BOLTS SHALL BE 3/4" A325N BOLTS, TYPICAL UNLESS NOTED OTHERWISE.
  - ANCHOR BOLTS SHALL NOT BE WELDED (INCLUDING TACK WELDS).
  - SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.

BASE PL. LEGEND:  
 A = 1/2" MIN  
 B = 1 1/2" MIN  
 C = 3" MIN

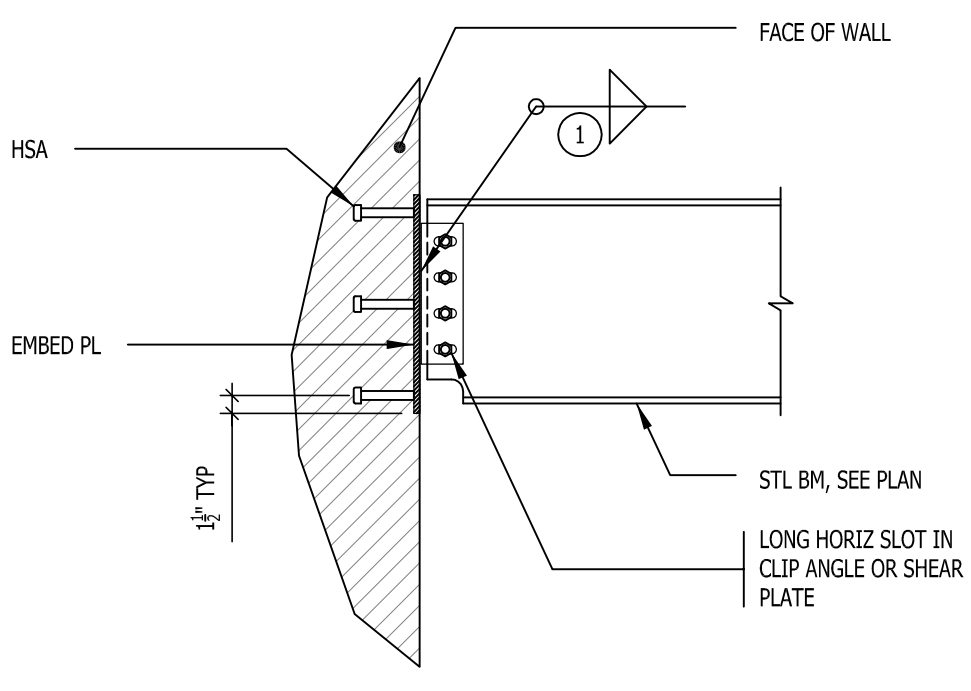
CAP PL. LEGEND:  
 A = 1/2" MIN  
 B = 1 1/2" MIN  
 C = BM OR GIRDER GAGE  
 D = BM OR GIRDER GAGE + 3" OR  
 BM OR GIRDER + 1" OR  
 COL WIDTH + 1" WHICHEVER IS GREATER



1 COIL STRAP TYPE HOLDOWN SCHEDULE  
NO SCALE

BEAM DEPTH	EMBED PLATE	ANCHORS
W8, W10, W12	12" x 1/2" x 1'-0" HIGH	(2) ROWS OF (2) 3/4" Ø x 5" HSA ((4) TOTAL)
W14 AND W16	12" x 1/2" x 1'-4" HIGH	(3) ROWS OF (3) 3/4" Ø x 5" HSA ((9) TOTAL)
W18 AND W21	14" x 1/2" x 2'-4" HIGH	(4) ROWS OF (3) 3/4" Ø x 5" HSA ((12) TOTAL)
W24	18" x 1/2" x 2'-6" HIGH	(5) ROWS OF (4) 3/4" Ø x 5" HSA ((20) TOTAL)

- 1 FILLET WELDS SHALL BE AS FOLLOWS:  
 TWO SIDES ..... PLATE THICKNESS PLUS 1/16"  
 (1/4" MIN) EACH SIDE  
 ANGLES ..... ANGLE THICKNESS MINUS 1/16"  
 (1/4" MIN)

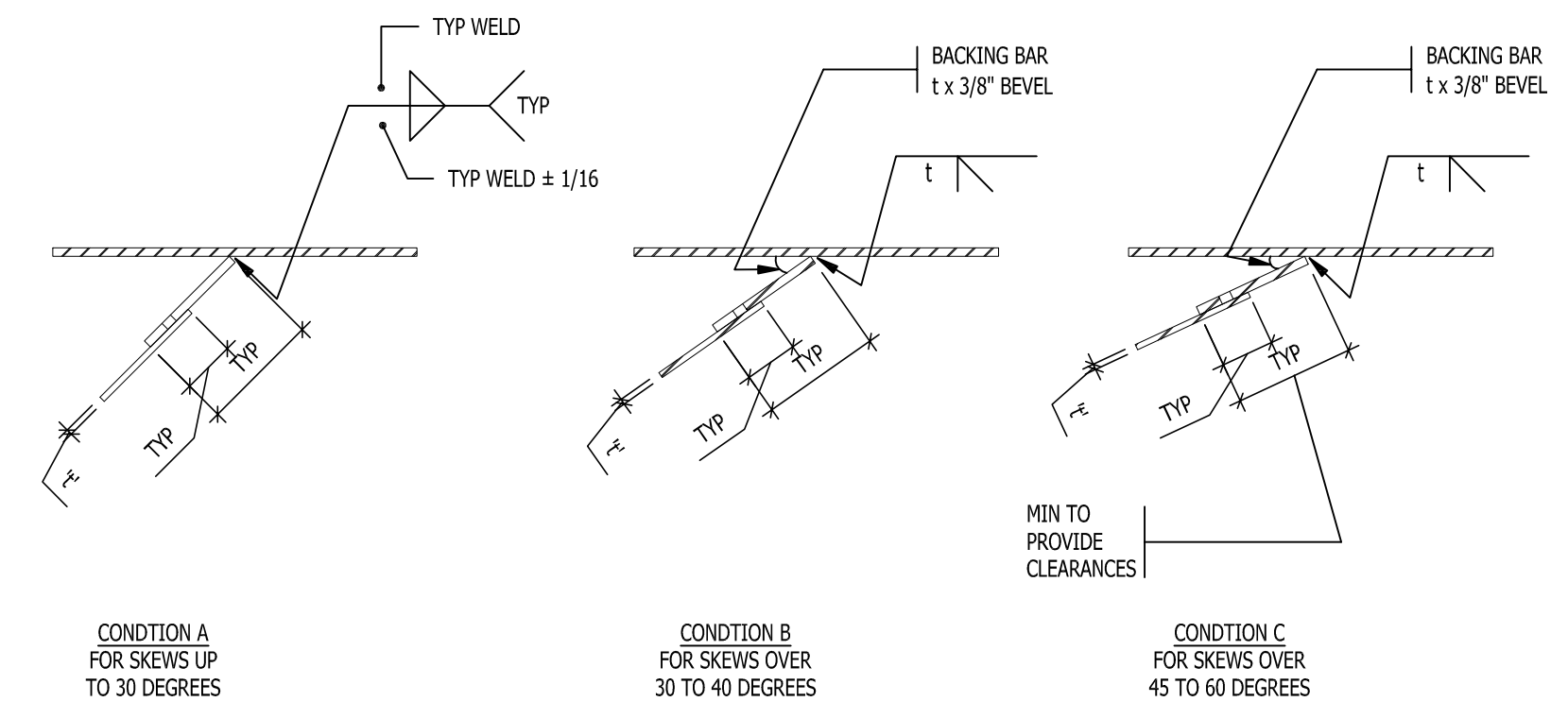
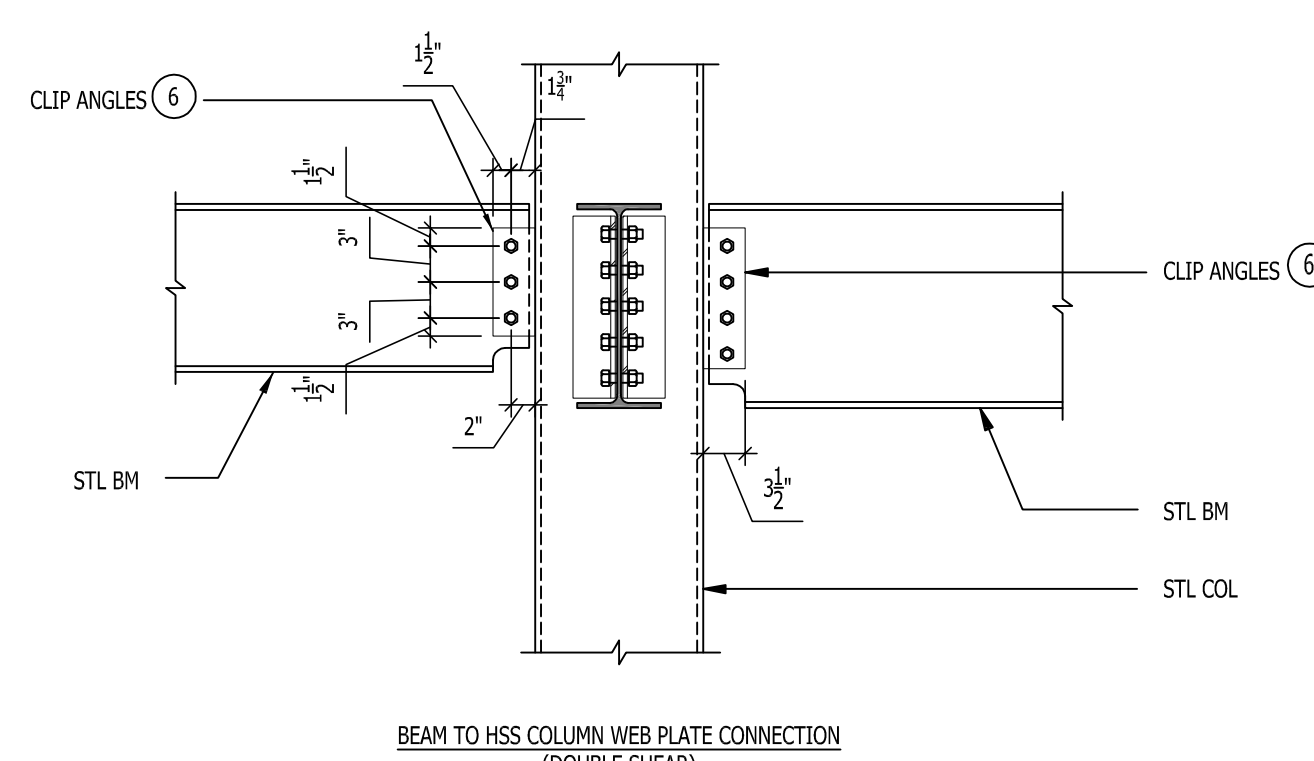
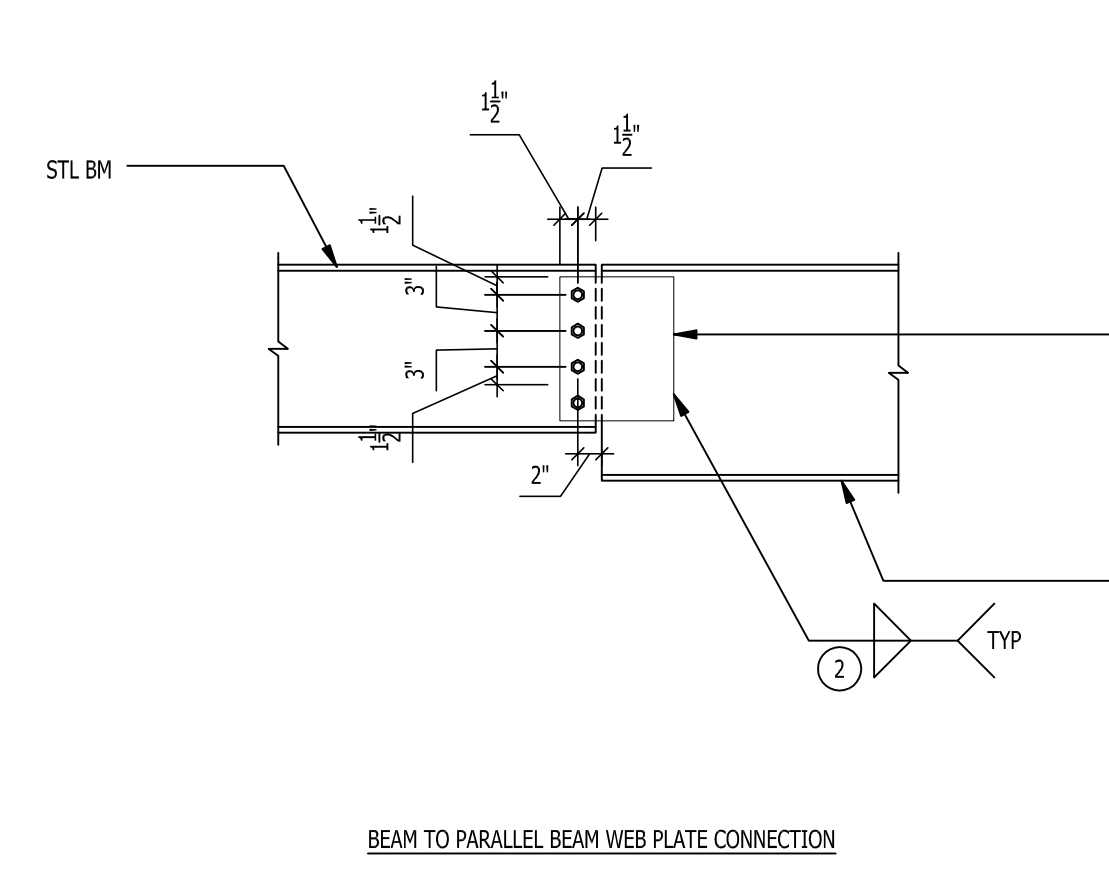
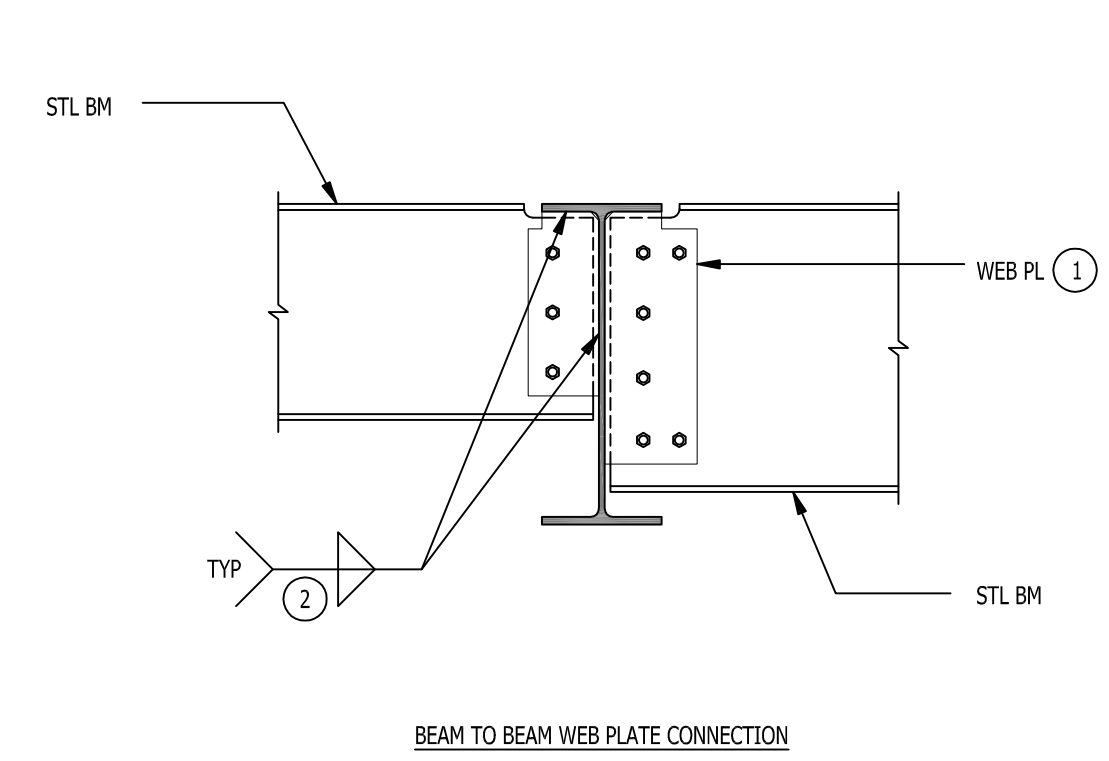
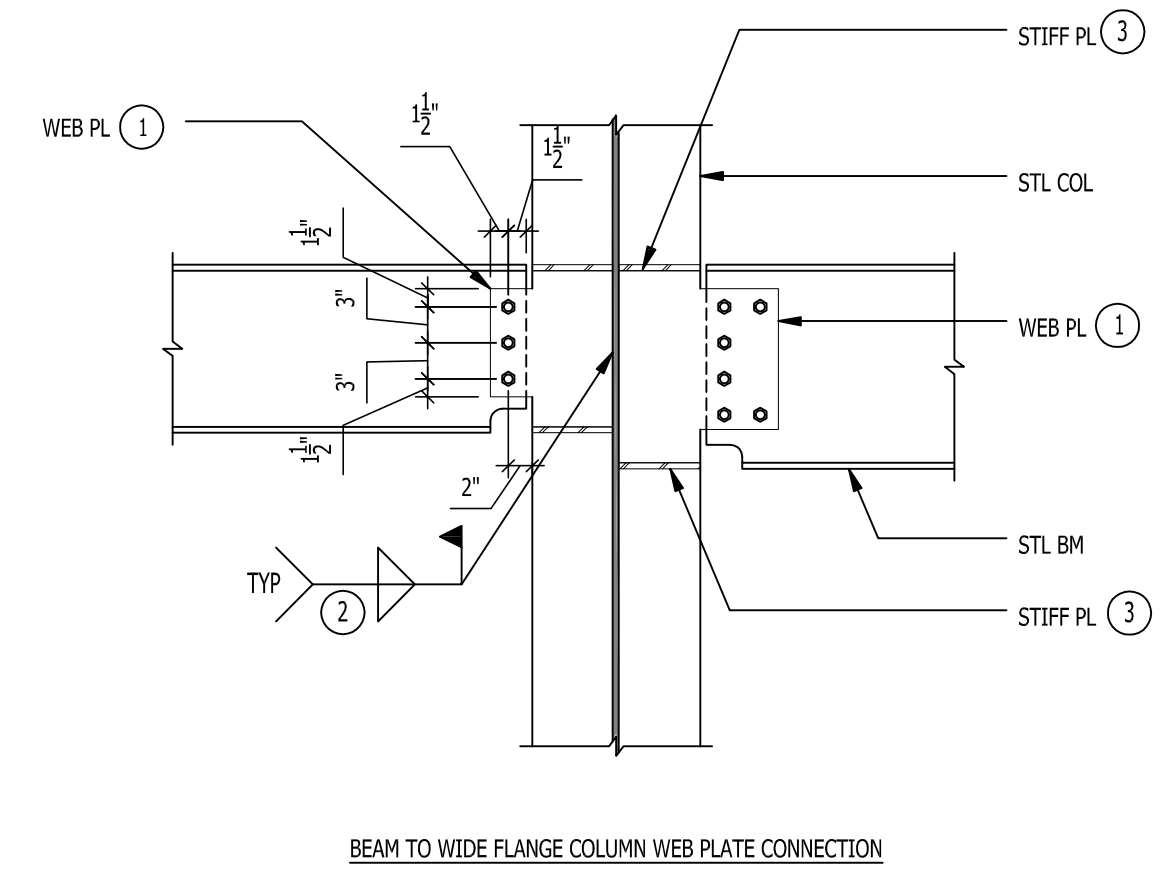
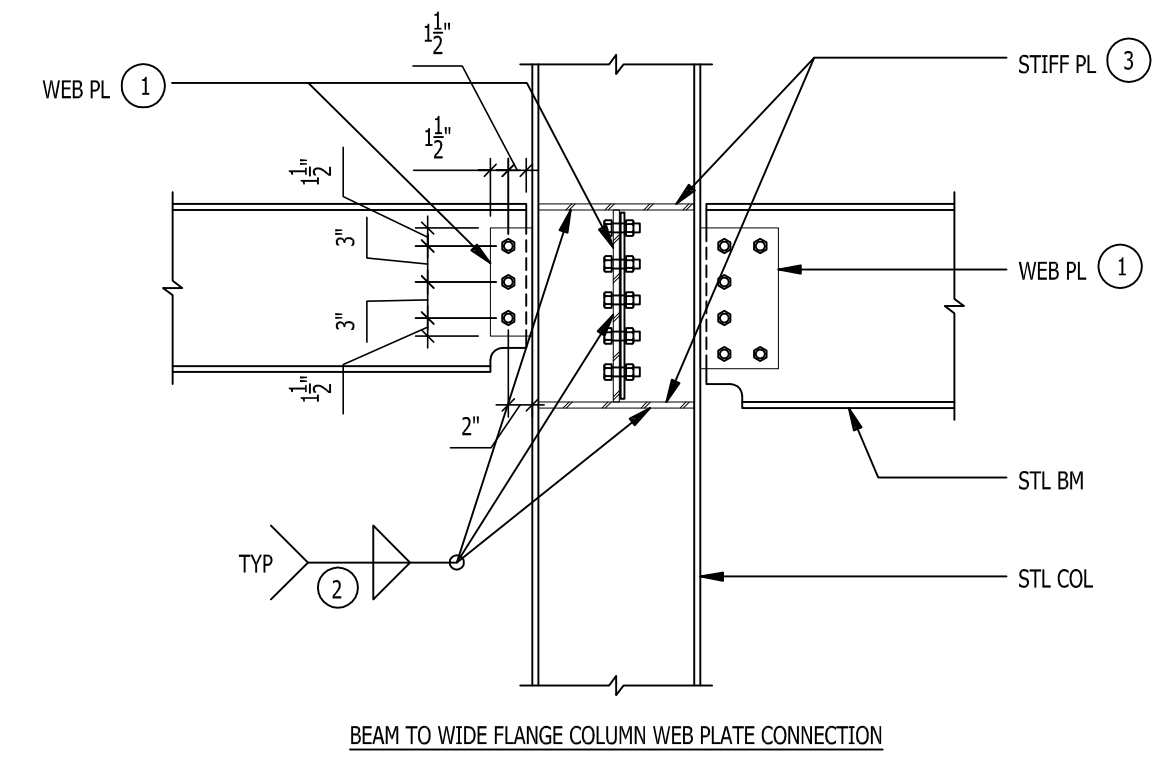


3 EMBED PLATE CONNECTION SCHEDULE  
NO SCALE

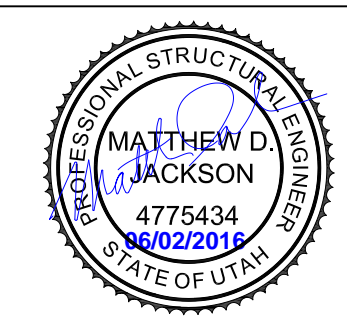
2 STEEL COLUMN SCHEDULE  
NO SCALE

MAXIMUM BEAM SIZE IN EACH BEAM DEPTH GROUP	A325N BOLTS	
	NO. PER BEAM	SIZE
W8	2	7/8"Ø
W10	2	7/8"Ø
W12	3	7/8"Ø
W14	3	7/8"Ø
W16	4	7/8"Ø
W18	5	7/8"Ø
W21	6	7/8"Ø
W24	7	7/8"Ø
W27	7	7/8"Ø
W30	8	7/8"Ø
W36	9	7/8"Ø

- BEAM WEB CONNECTION PLATES. THICKNESS EQUALS BEAM WEB THICKNESS + 1/8" (3/8" MIN).
- FILLET WELDS SHALL BE AS FOLLOWS:  
 TWO SIDES ..... 1/2 PLATE THICKNESS PLUS 1/16"  
 (1/4" MIN) EACH SIDE.  
 ANGLES ..... ANGLE THICKNESS MINUS 1/16" (1/4" MIN)
- THICKNESS EQUALS BEAM FLANGE THICKNESS OF BEAM FRAMING INTO COLUMN WEB (3/8" MIN).
- BOLT EDGE DISTANCE SHALL BE 1 1/2" MIN AT ALL EDGE. BOLT SPACING SHALL BE 3" MIN
- WHEN MORE THAN ONE ROW OF BOLTS IS NEEDED, THE FIRST ROW SHALL BE A COMPLETE ROW WITH THE REMAINDER OF THE BOLTS PLACED IN THE SECOND ROW.
- CLIP ANGLES: (2) 15x3 1/2". THICKNESS SHALL BE EQUAL TO ONE HALF THE BEAM WEB THICKNESS PLUS 1/16" (1/4" MIN). FOR (2) ROWS OF BOLTS OR SKEWED CONNECTIONS, USE BENT PLATES. WHERE COLUMN WIDTH IS SMALLER THAN THE CONNECTING CLIP ANGLES, ANGLE LEGS MAY BE REDUCED TO MATCH WIDTH OF COLUMN. USE 4x4 ANGLES AT BEAM TO CONCRETE WALL OR COLUMN CONNECTIONS.



4 TYPICAL BOLTED WEB PLATE CONNECTIONS WITH BOLT SCHEDULE (SINGLE SHEAR)  
NO SCALE



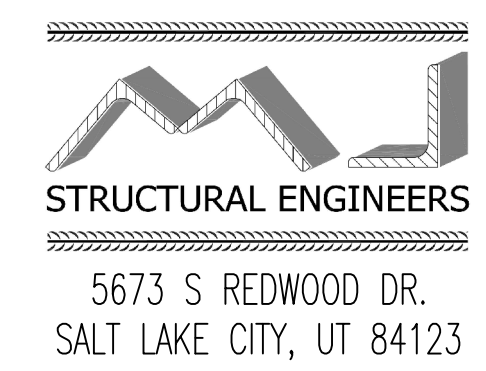
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A NEW DESIGN FOR :  
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 WEBER COUNTY, UT

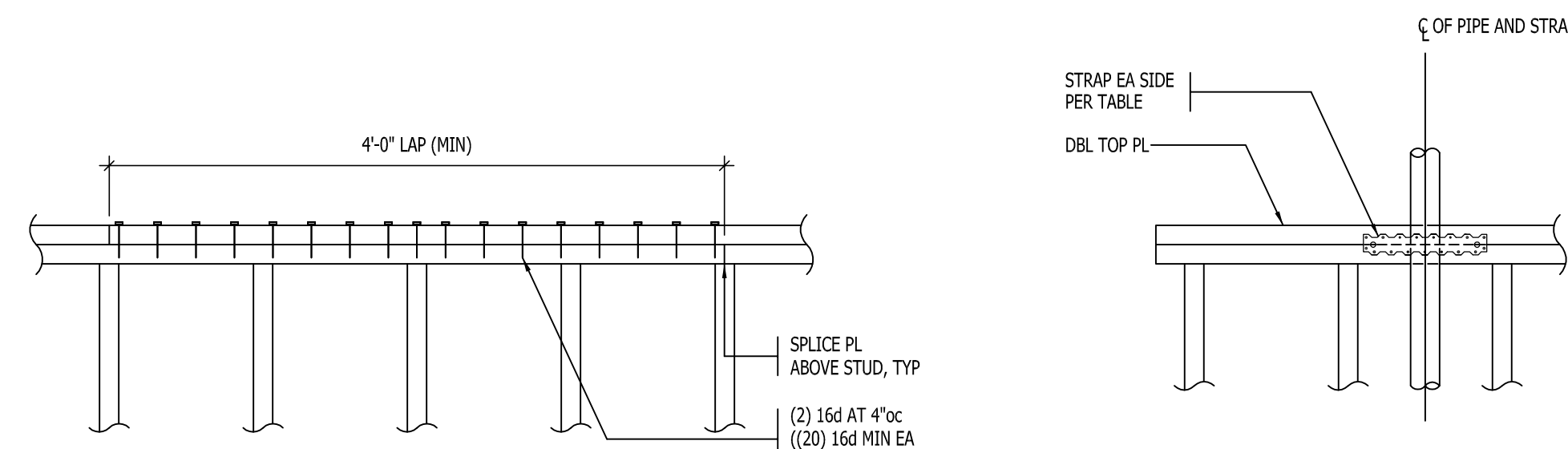
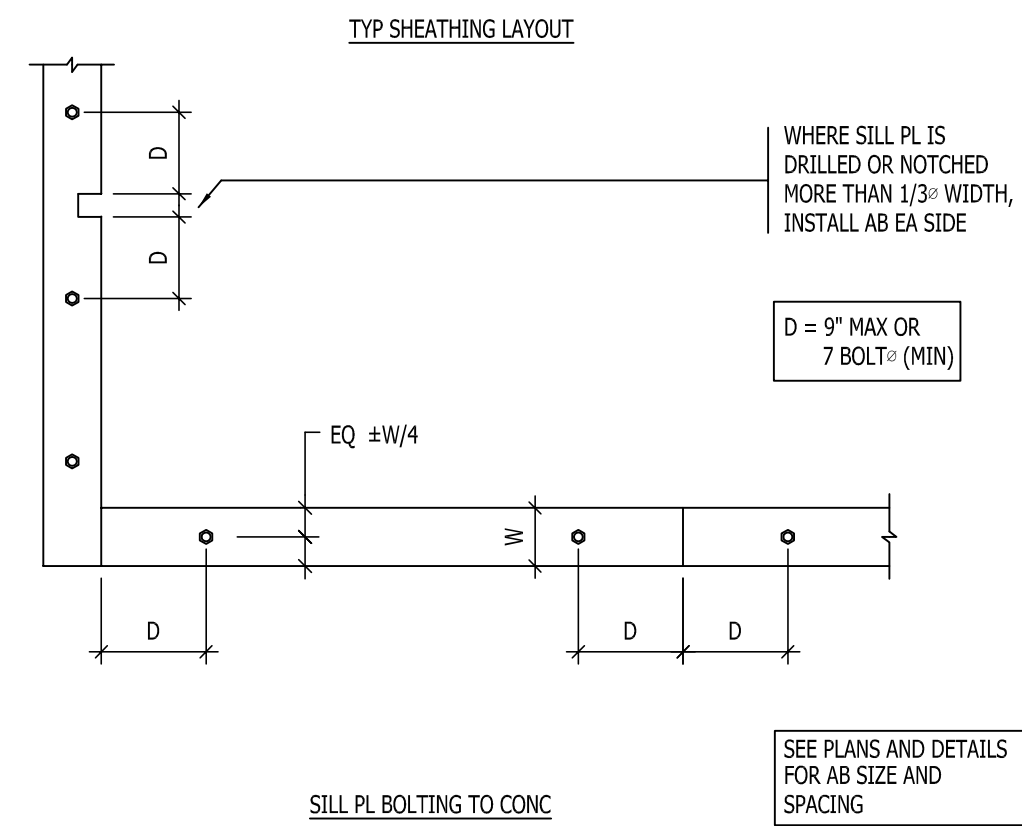
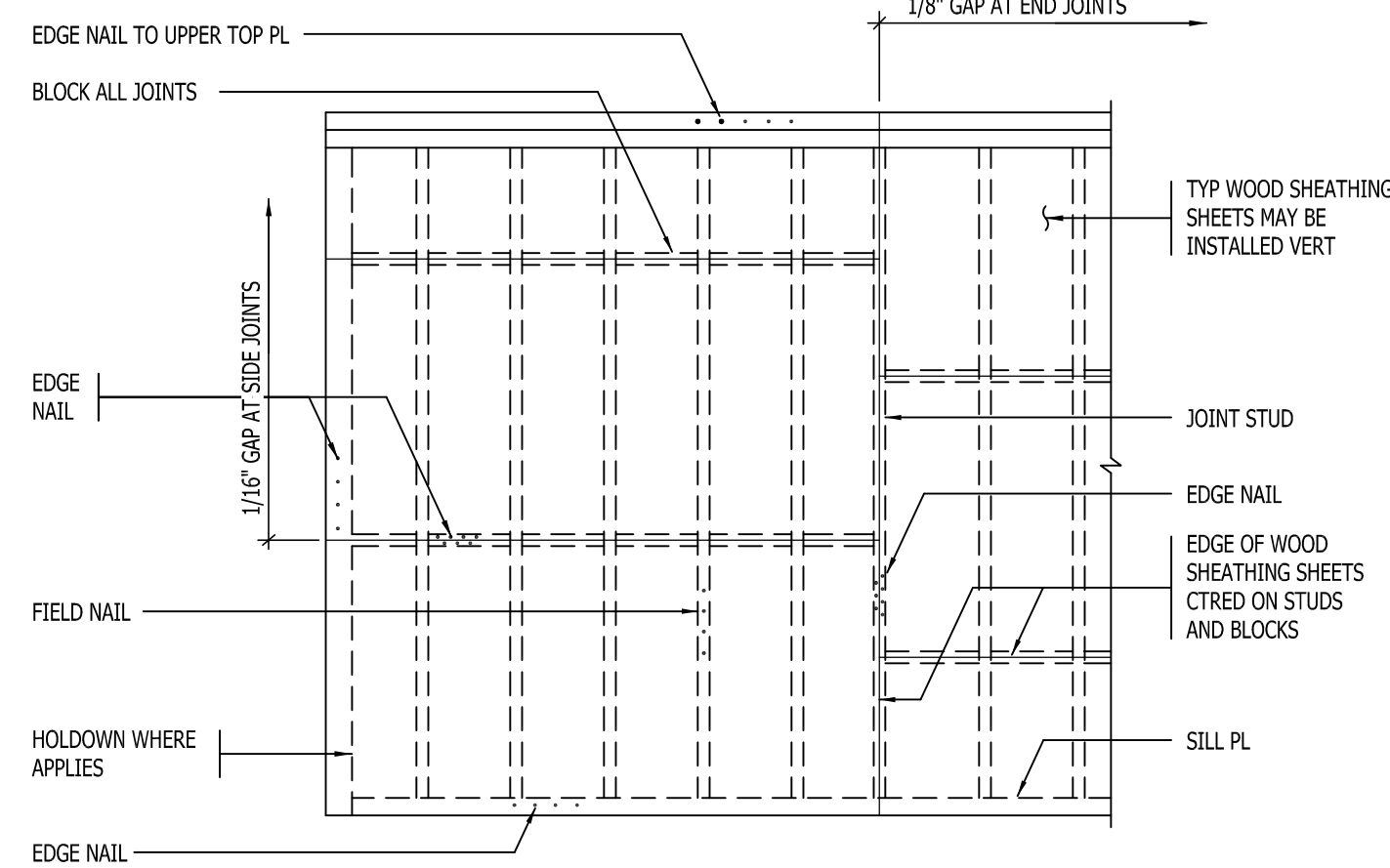
UPWALZ  
 DESIGN  
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S302

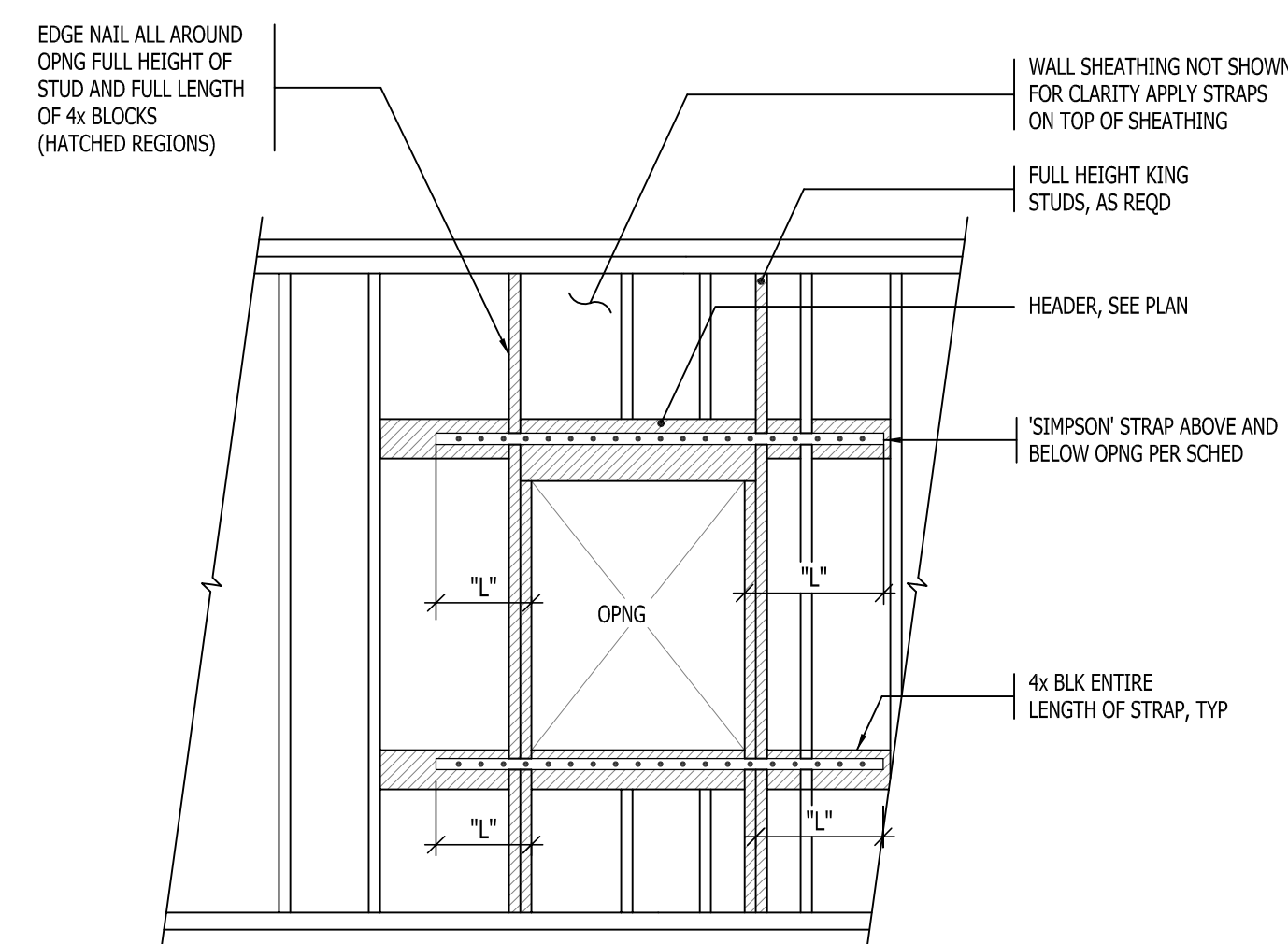
WOOD SHEATHING SHEARWALL SCHEDULE								
MARK	WOOD SHEATHING THICKNESS	SHEATHING BOTH SIDES	NAIL SIZE	EDGE NAIL	FIELD NAIL	JOINT STUD, BLOCKING, SILL	SILL NAILING TO WOOD	SILL BOLTING TO CONCRETE
SW-1	7/16"	NO	8d	6"oc	12"oc	2x	16d AT 6"oc	5/8" AT 32"oc
SW-2	7/16"	NO	8d	4"oc	12"oc	2x	16d AT 4"oc	5/8" AT 32"oc
SW-3	7/16"	NO	8d	3"oc	12"oc	2x	16d AT 4"oc	5/8" AT 24"oc
SW-4	7/16"	NO	8d	2"oc	12"oc	3x	20d AT 3"oc	5/8" AT 16"oc
SW-5	7/16"	YES	10d	4"oc	12"oc	3x	20d AT 2"oc	5/8" AT 12"oc
SW-6	15/32"	YES	10d	3"oc	12"oc	3x	20d AT 2"oc	5/8" AT 8"oc

- NOTES:
- MINIMUM NAIL PENETRATION INTO FRAMING, 8d = 1 1/2", 10d = 1 5/8"
  - USE COMMON NAILS, (8d DIAMETER = 0.131", 10d DIAMETER = 0.148")
  - STAGGER SHEATHING JOINTS ON DOUBLE SIDED WALLS (SW-5 THRU SW-8) SO THAT JOINTS ON EACH SIDE OF WALL DO NOT OCCUR AT SAME STUD.
  - ALL ANCHOR BOLTS SHALL HAVE A 3"x3"x 1/4" PLATE WASHER
  - ALL ANCHOR BOLTS SHALL HAVE A MINIMUM OF 7" EMBEDMENT INTO CONCRETE.



HOLE SIZE	STRAPS
LESS THAN 1/3 STUD WIDTH	NONE REQD
LESS THAN 2/3 STUD WIDTH	ST2122 WITH (4) 16d EACH END
OVER 2/3 STUD WIDTH	ST2215 WITH (6) 16d EACH END

TYP TOP PL SPLICE SCHED AT PIPE

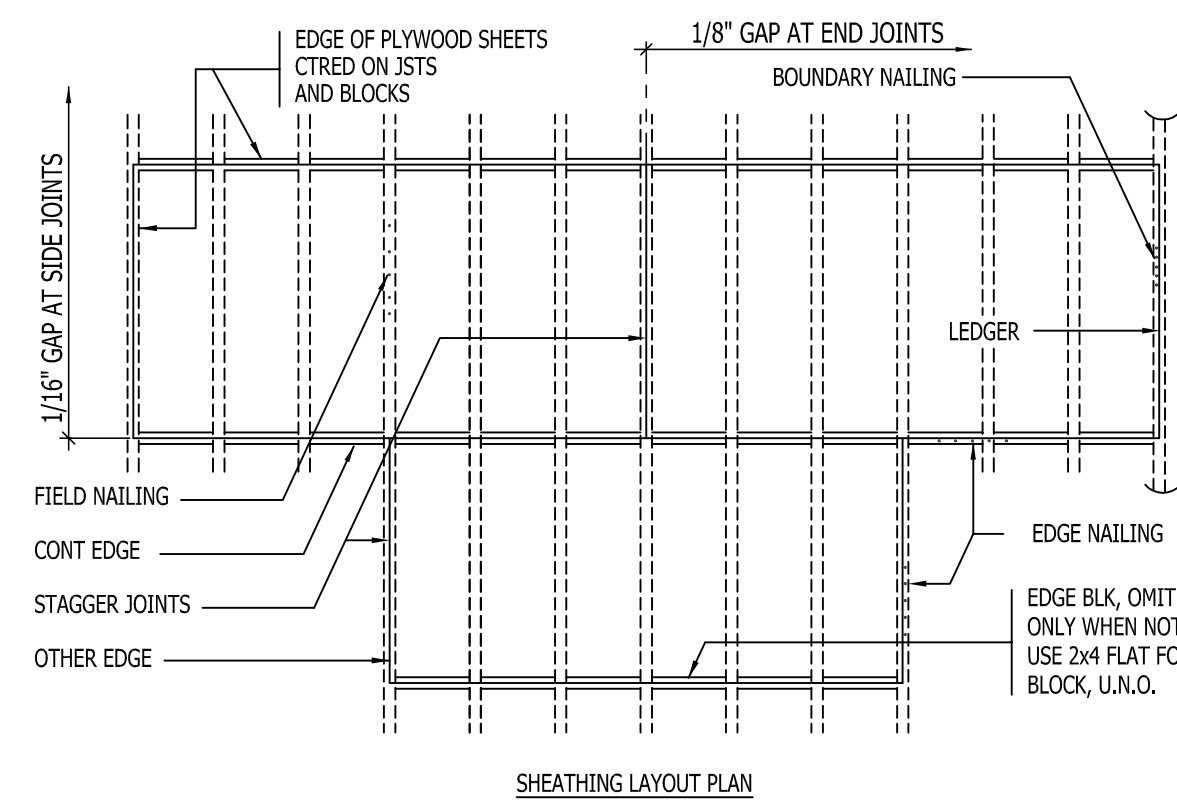


'SIMPSON' COIL STRAP	STRAP LENGTH 'L' BEYOND EACH SIDE OF OPENING	NAIL SIZE
CMSTC16	26"	16d

STRAPPING AT OPENING IN SHEARWALLS (WHERE REQD ON PLAN)

SHEATHING SCHEDULE AT ROOF AND FLOOR							
LOCATION	WOOD SHEATHING THICKNESS	NAIL SIZE	EDGE NAIL		FIELD NAIL	BOUNDARY NAIL	EDGE BLOCK
			CONT EDGE	OTHER EDGE			
ROOF	3/4"	8d	4"	4"	12"	4"	YES
FLOOR	3/4"	10d	4"	4"	12"	4"	NO

- NOTES:
- MINIMUM NAIL PENETRATION INTO FRAMING 8d = 1 1/2", 10d = 1 5/8"
  - USE SCREW SHANK NAILS AT FLOOR PLYWOOD.
  - USE COMMON NAILS, (8d DIAMETER = 0.131", 10d DIAMETER = 0.148")
  - FLOOR SHEATHING SHALL BE GLUED AND NAILED TO SUPPORTING MEMBERS.



MINIMUM NAILING SCHEDULE

CONNECTION	NAILING
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d at 1'-4"oc
BRIDGING TO JOIST, TOENAIL EACH END	(2) 8d
BLOCKING BETWEEN JOIST OR RAFTERS TO TOP PLATE, TOE NAIL	(3) 8d
RIM JOIST TO TOP PLATE, TOE NAIL	8d AT 0'-6"oc
COLLAR TIE TO RAFTER, FACE NAIL	(3) 10d
JACK RAFTER TO HIP, TOE NAIL	(3) 16d
ROOF RAFTER TO 2x RIDGE BEAM, TOE NAIL	(2) 16d
FACE NAIL	(2) 16d
JOIST TO BAND JOIST, FACE NAIL	(3) 16d
LEADER STRIP, FACE NAIL	(3) 16d
TOP PLATE TO STUD, END NAIL	(2) 16d
STUD TO SOLE PLATE, END NAIL	(2) 16d
DOUBLE STUDS, FACE NAIL	16d at 2'-0"oc
DOUBLED TOP PLATES, FACE NAIL	16d at 1'-4"oc
TOP PLATES, LAPS & INTERSECTION, FACE NAIL	(2) 16d
CONTINUOUS HEADER, TWO PIECES	16d at 1'-4"oc along ea end
CEILING JOISTS TO PLATE, TOENAIL	(3) 8d
CONTINUOUS HEADER TO STUD, TOENAIL	(4) 8d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	(3) 16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	(3) 16d
RAFTER TO PLATE, TOENAIL	(3) 8d
1" BRACE TO EACH STUD & PLATE, FACE NAIL	(2) 8d
BUILT-UP CORNER STUDS	16d at 2'-0"oc
BUILT-UP GIRDER & BEAMS	20d at 32"oc at top & bottom & staggered, (2) 20d at ends & at ea. splice

\* PLYWOOD & PARTICLEBOARD:  
 SUBFLOOR, ROOF & WALL SHEATHING (TO FRAMING)  
 1/2" AND LESS: 8d  
 19/32" - 3/4": 8d or 10d  
 7/8" - 1": 8d  
 1 1/8" - 1 1/4": 10d or 8d  
 COMBINATION SUBFLOOR-UNDERLAYMENT (TO FRAMING)  
 3/4" AND LESS: 6d  
 7/8" - 1": 8d  
 1 1/8" - 1 1/4": 10d or 8d

\* NAILS SPACED AT 6 INCHES ON CENTER AT EDGES 12" AT INTERMEDIATE SUPPORTS EXCEPT 6 INCHES AT ALL SUPPORTS WHERE SPANS ARE 48" OR MORE. REFER TO SHEARWALL SCHEDULE

- NOTES:
- NAILING SCHEDULE IS PER TABLE 2304.9.1 OF THE I.B.C. 2012.
  - NAILING REQUIREMENTS SHOWN HERE DO NOT REPLACE HARDWARE SHOWN ON THE PLANS OR DETAILS.
  - ALL NAILS USED ARE COMMON NAILS.

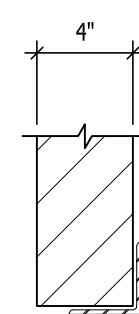
1 WOOD SHEATHING SHEARWALL SCHEDULE

NO SCALE

STEEL ANGLE LINTEL SCHEDULE (NON-STRUCTURAL)

CLEAR OPENING	SIZE OF ANGLE
UP TO 5'-0"	3 1/2" x 3" x 1/4"
5'-1" TO 7'-0"	3 1/2" x 3 1/2" x 1/4"
7'-1" TO 9'-0"	5" x 3 1/2" x 1/4"
9'-1" TO 10'-0"	5" x 3 1/2" x 5/16"
10'-1" TO 11'-0"	5" x 3 1/2" x 3/8"
11'-1" TO 12'-0"	6" x 4" x 3/8"
12'-1" AND OVER	REQUIRES SPECIAL ANALYSIS

- NOTES:
- STEEL LINTELS CARRY VENEER ONLY, WHERE FLOOR, ROOFS OR CONCENTRATED LOADS OCCUR, FURTHER ANALYSIS IS NECESSARY. PROVIDE 1" OF BEARING EACH END FOR EACH FOOT OF SPAN, MINIMUM BEARING OF 6" EA SIDE OF OPENING. USE THIS SCHEDULE UNLESS NOTED OTHERWISE.
  - LINTELS ARE TO BE GALVANIZED.



4 STEEL ANGLE LEDGER SCHEDULE

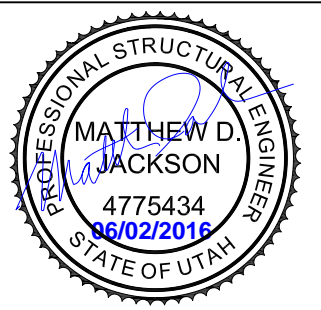
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2 SHEATHING SCHEDULE AT ROOF AND FLOOR

NO SCALE

3 MINIMUM NAILING SCHEDULE

NO SCALE



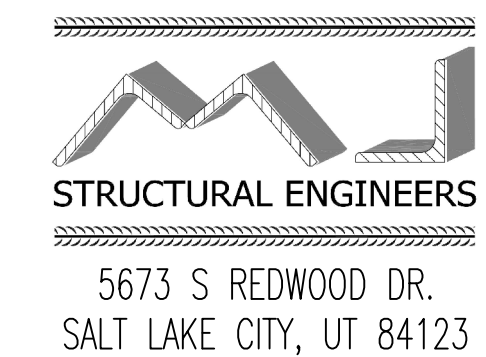
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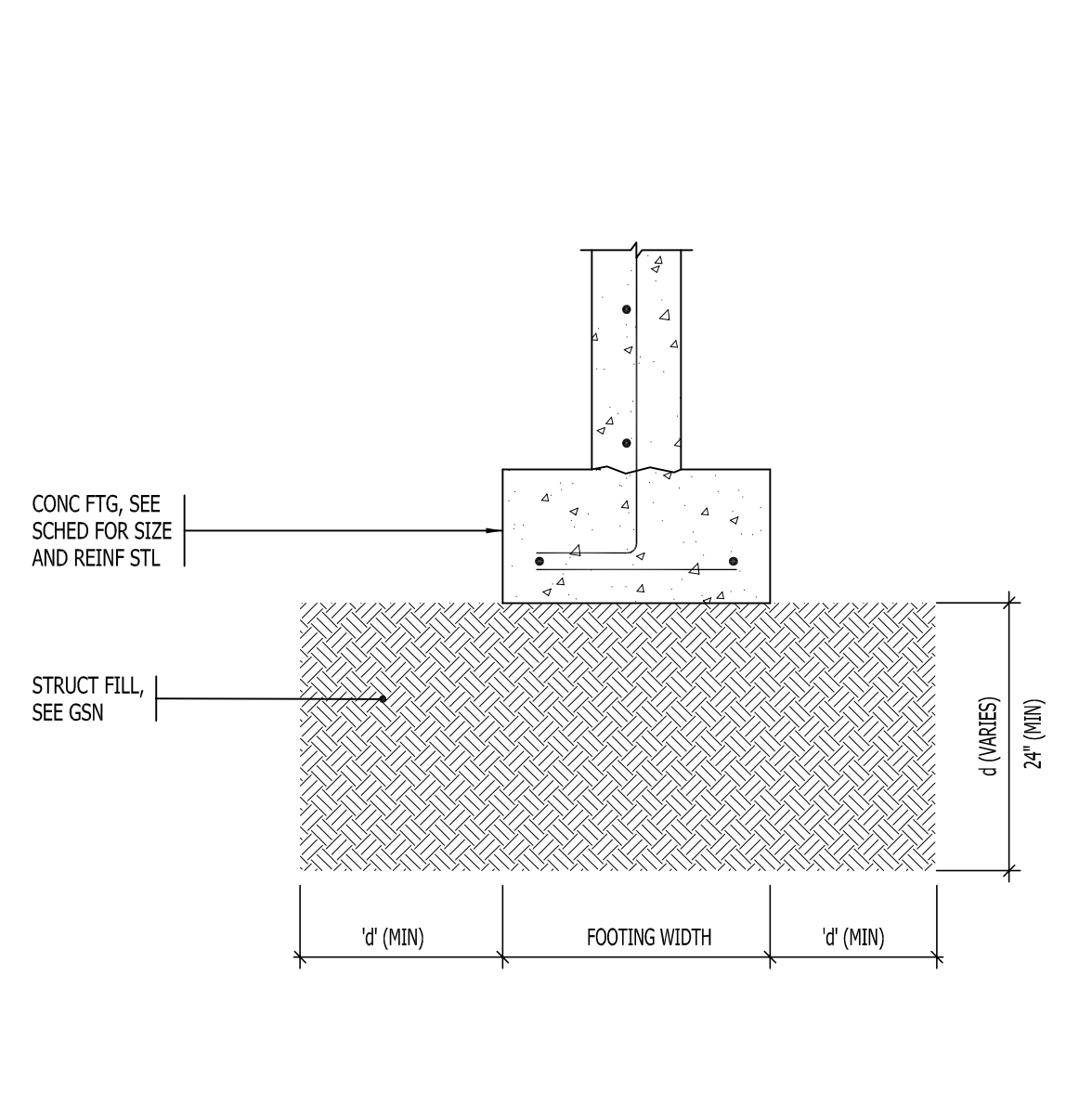
A NEW DESIGN FOR :  
 LOT 37 POWDER MOUNTAIN  
 WEBER COUNTY, UT

UP WALL  
 DESIGN  
 1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

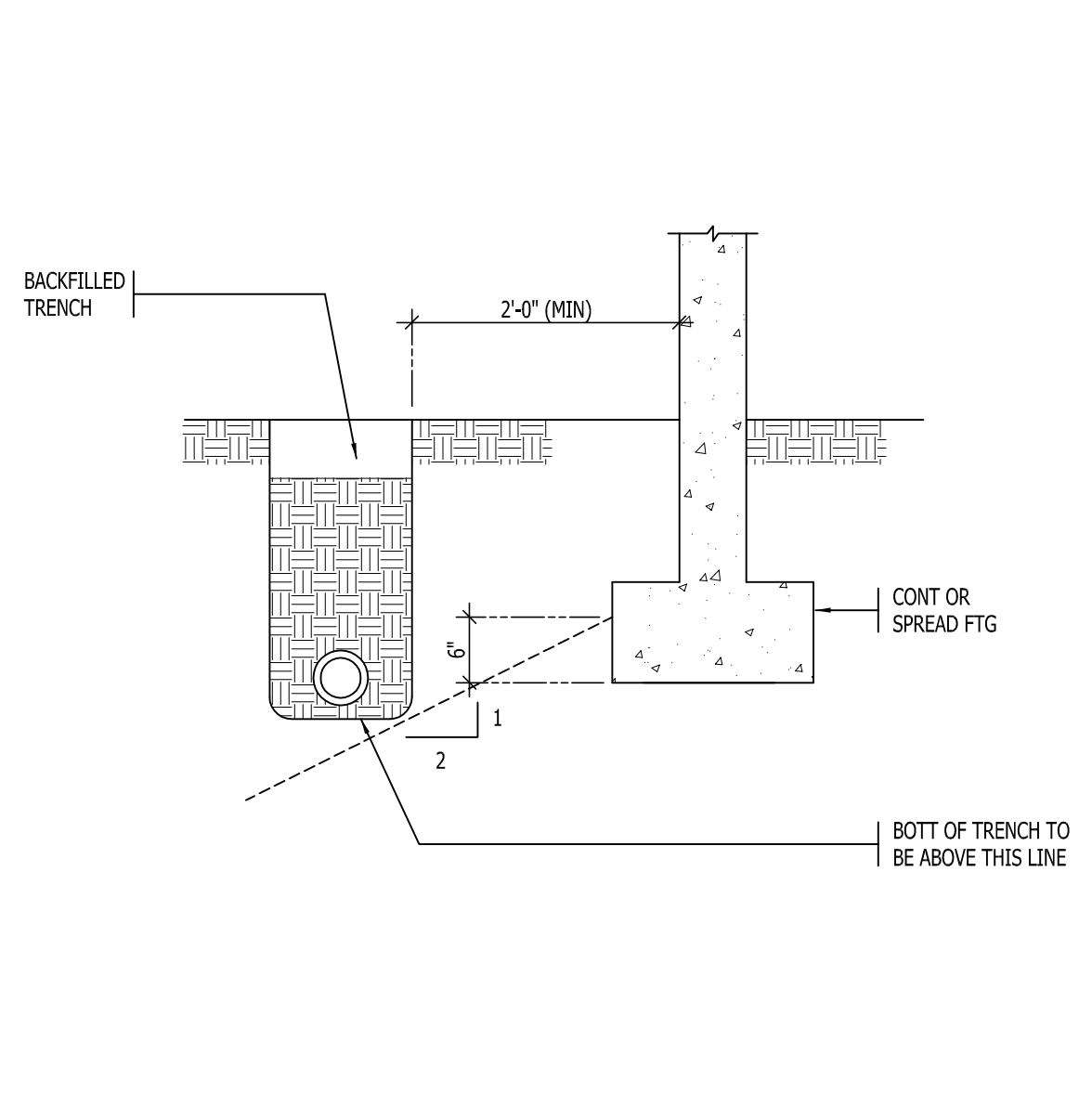


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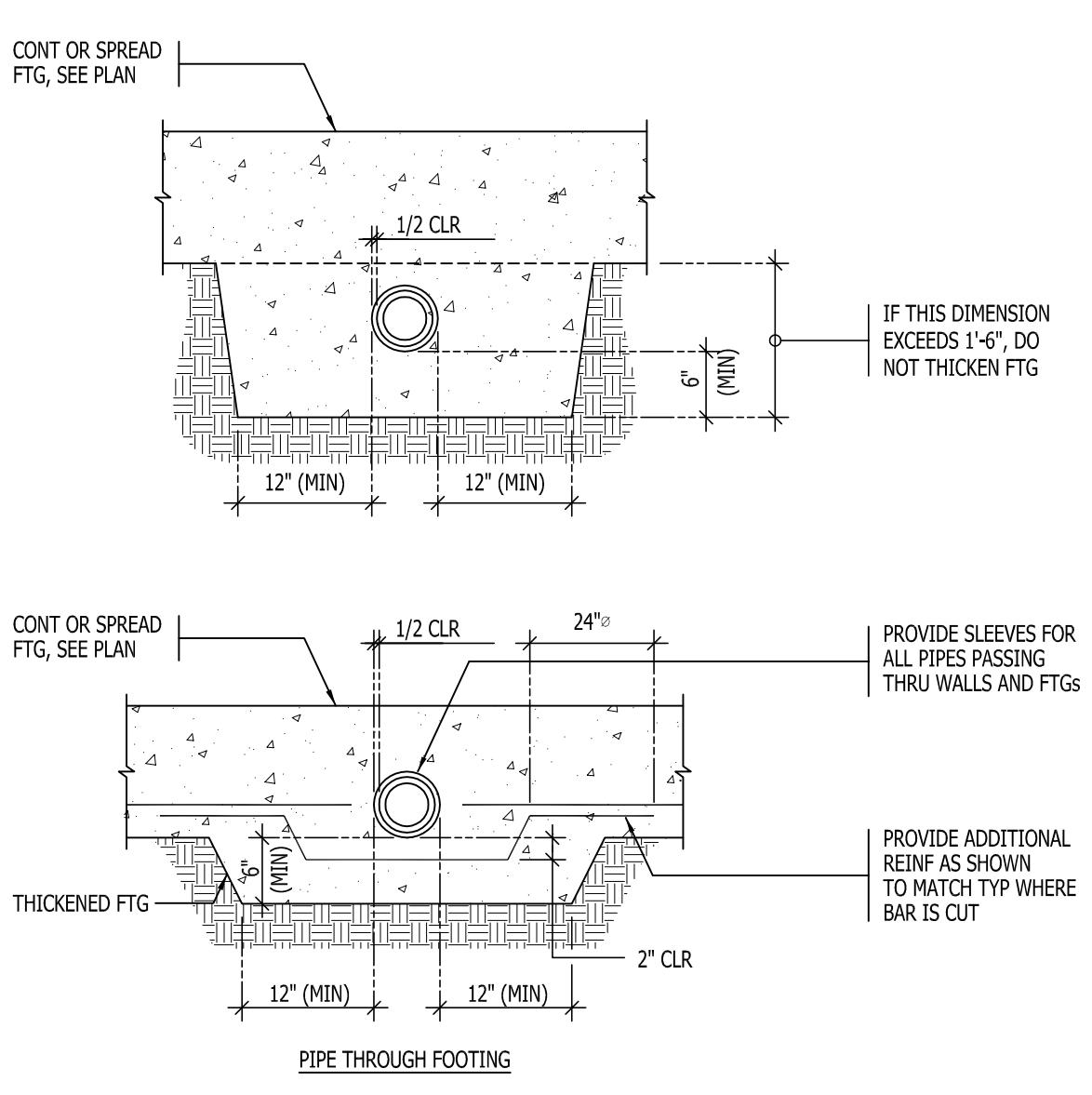
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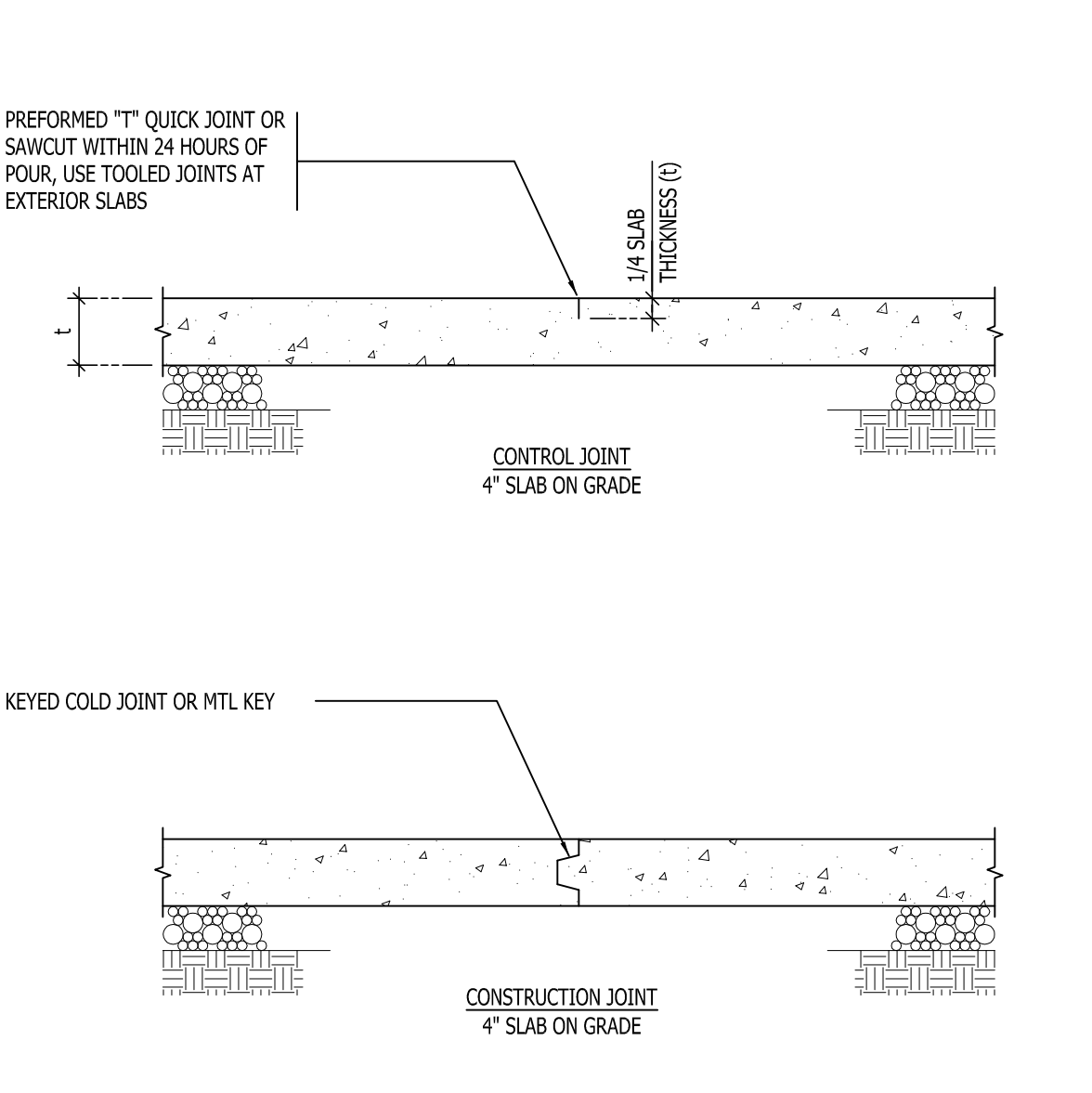
1 COMPACTED STRUCTURAL FILL NO SCALE



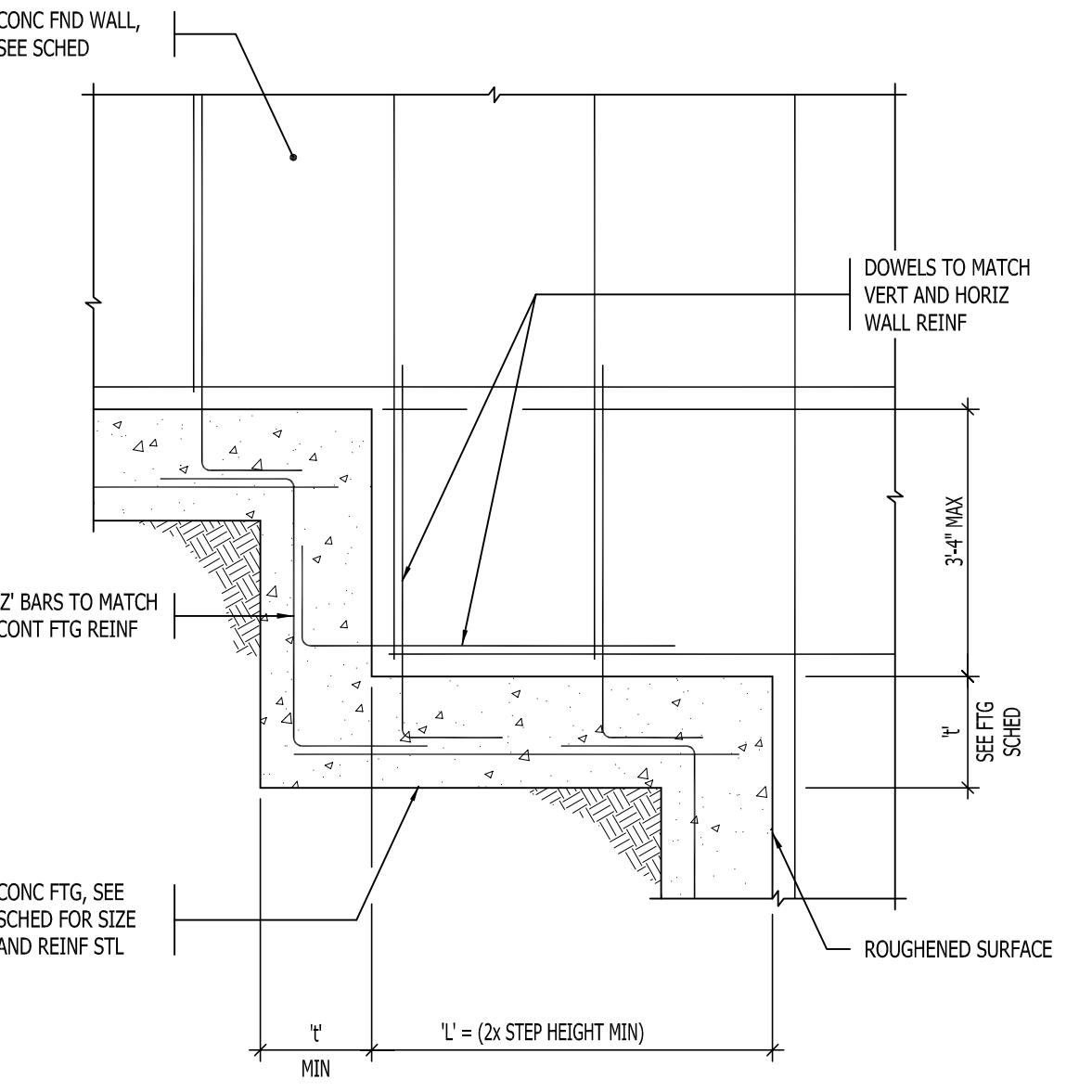
2 PIPE PARALLEL TO FOOTING DETAIL NO SCALE



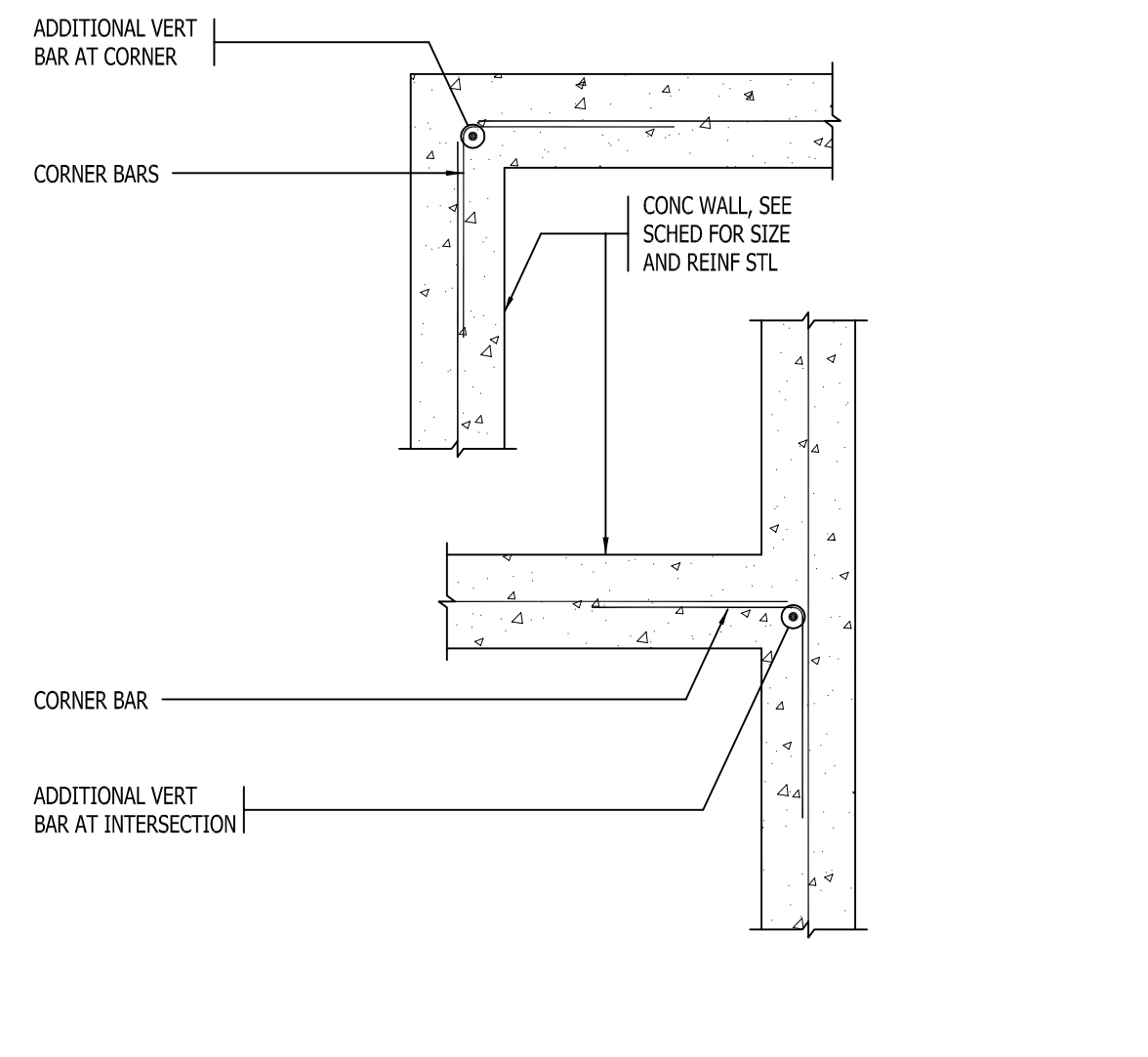
3 PIPE PERPENDICULAR TO FOOTING DETAIL NO SCALE



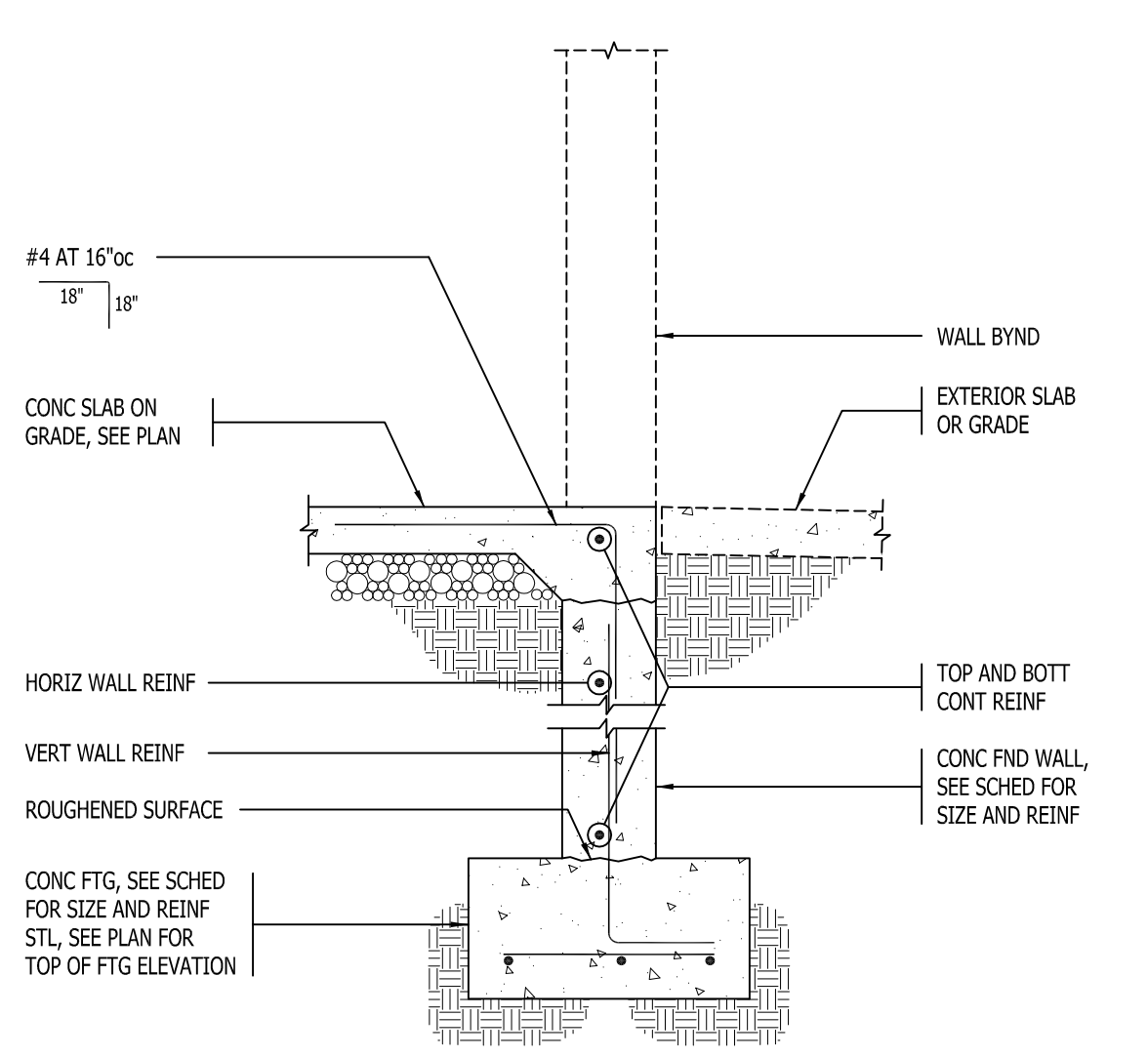
4 TYPICAL SLAB ON GRADE JOINT DETAILS NO SCALE



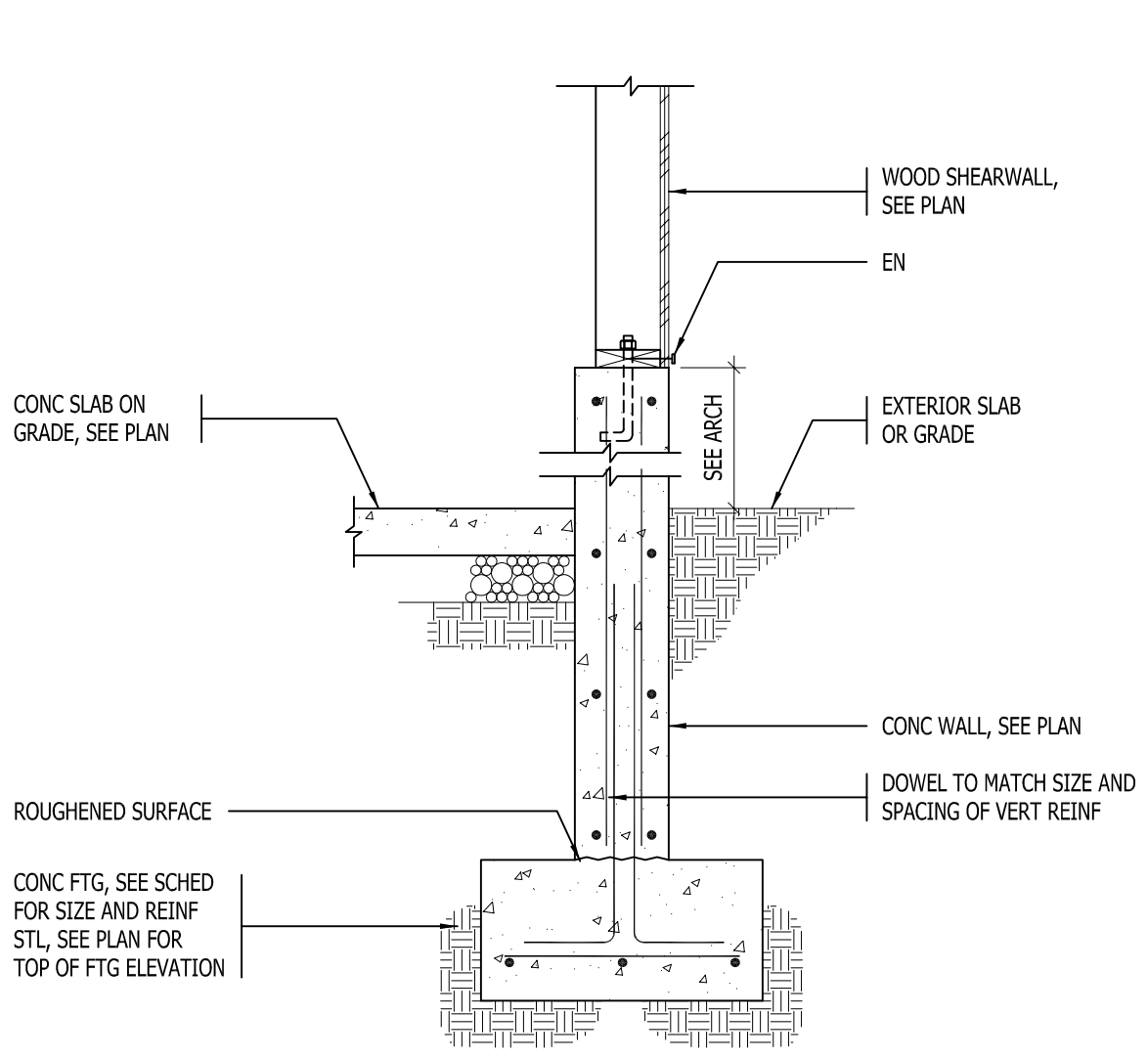
5 TYPICAL CONCRETE FOOTING STEP DETAIL NO SCALE



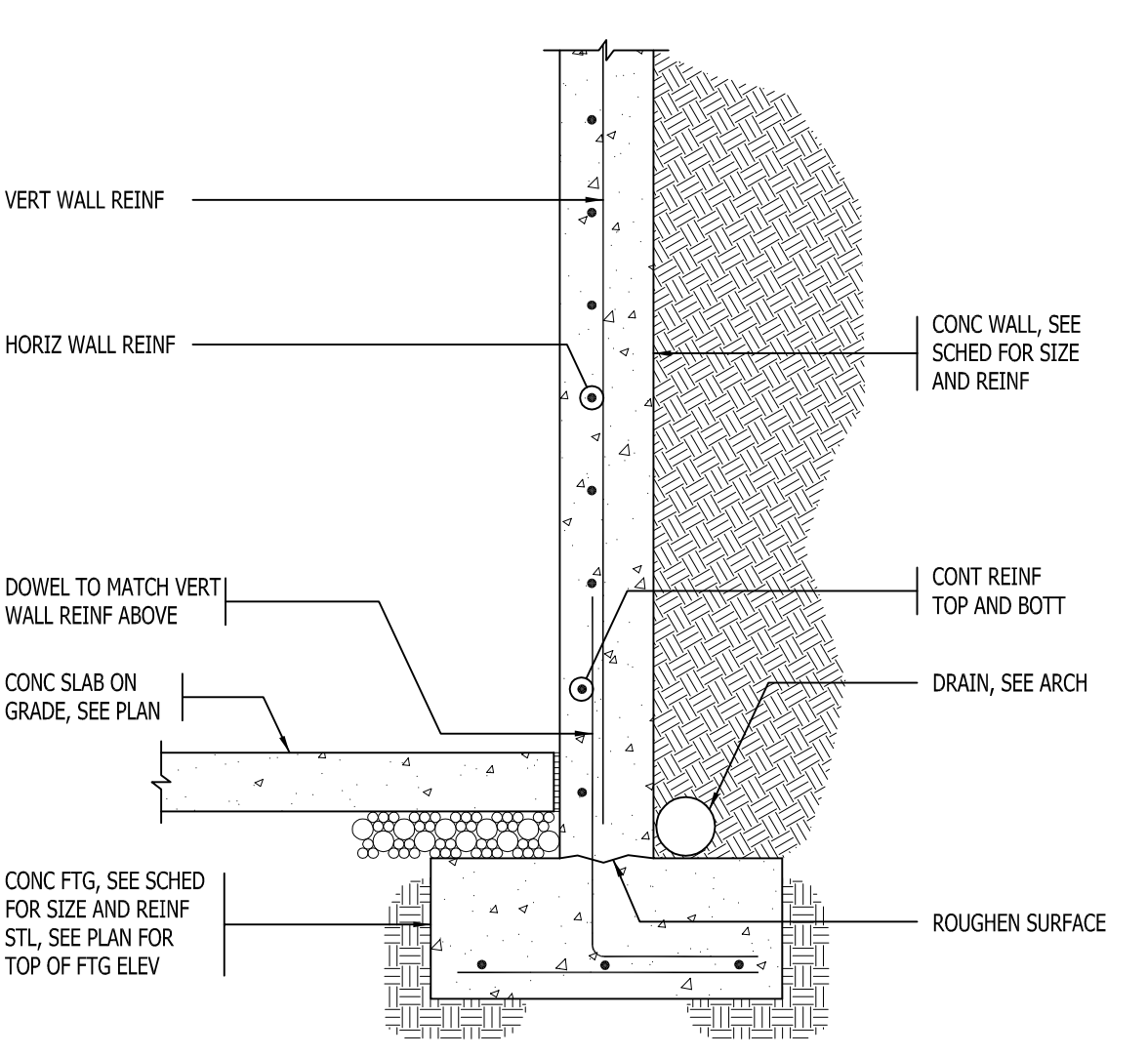
6 TYPICAL CORNER WALL REINFORCING DETAILS (PLAN VIEW) NO SCALE



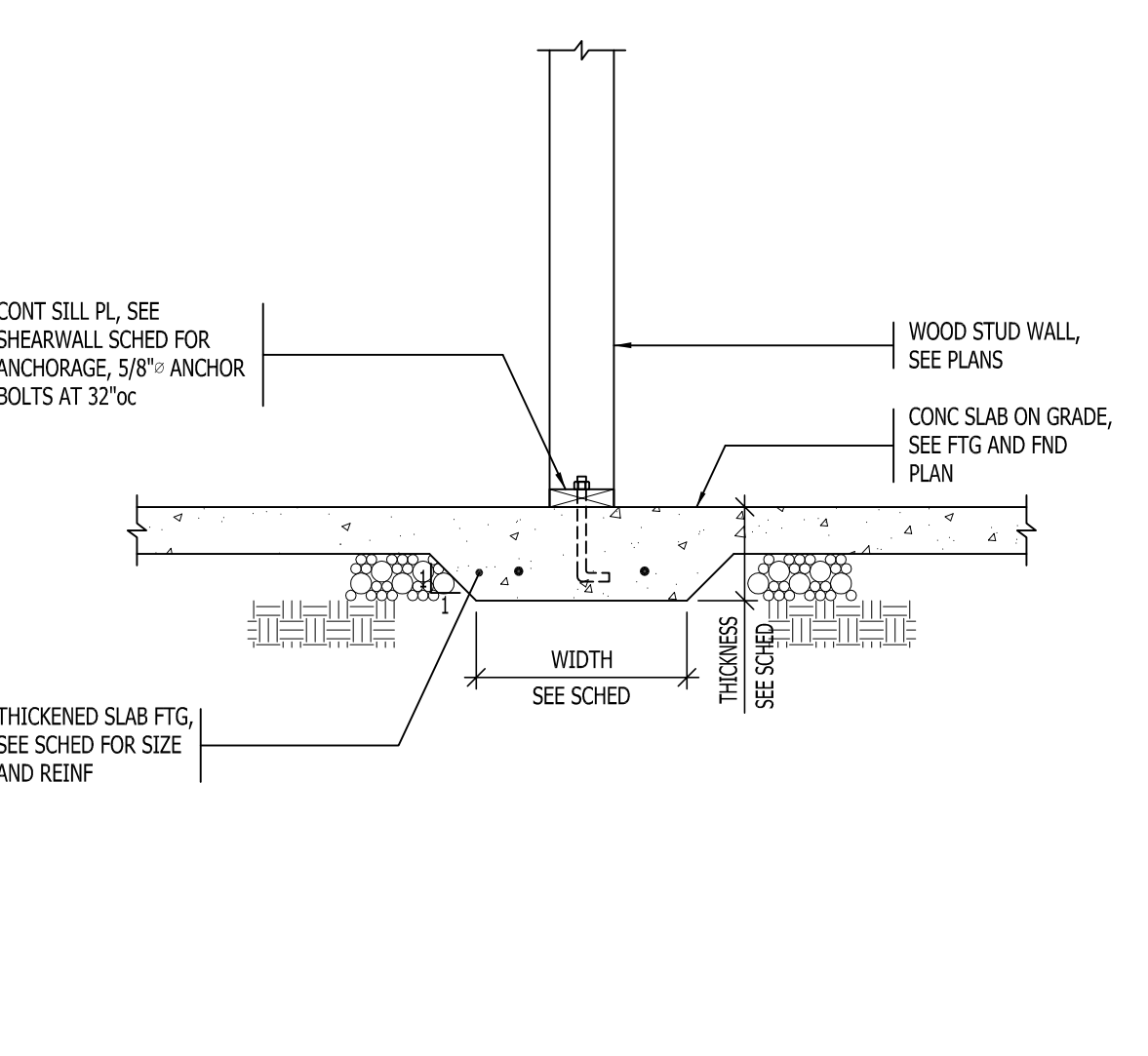
7 FOUNDATION WALL OPENING DETAIL AT DOOR NO SCALE



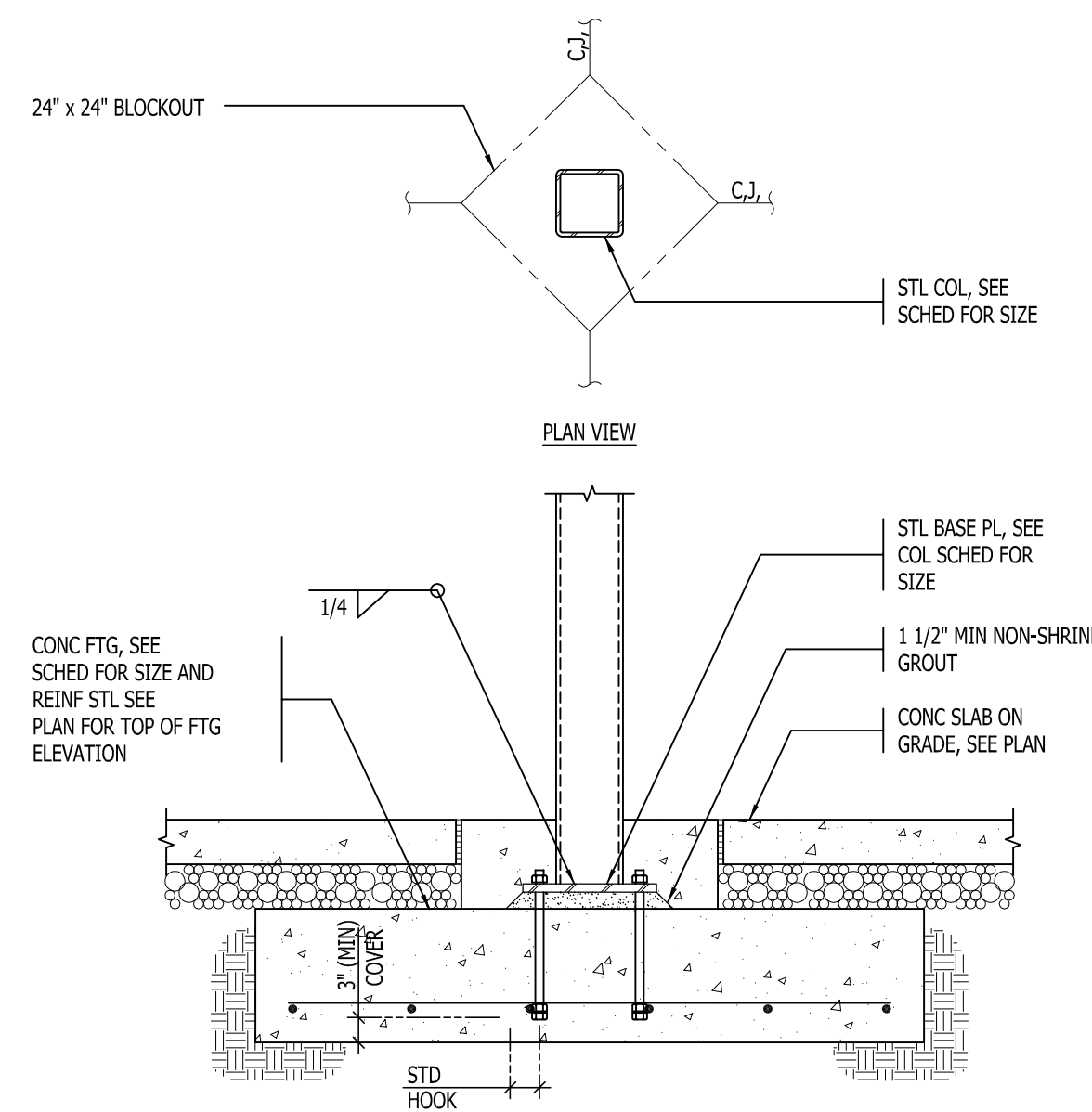
8 WOOD SHEARWALL AT CONCRETE WALL NO SCALE



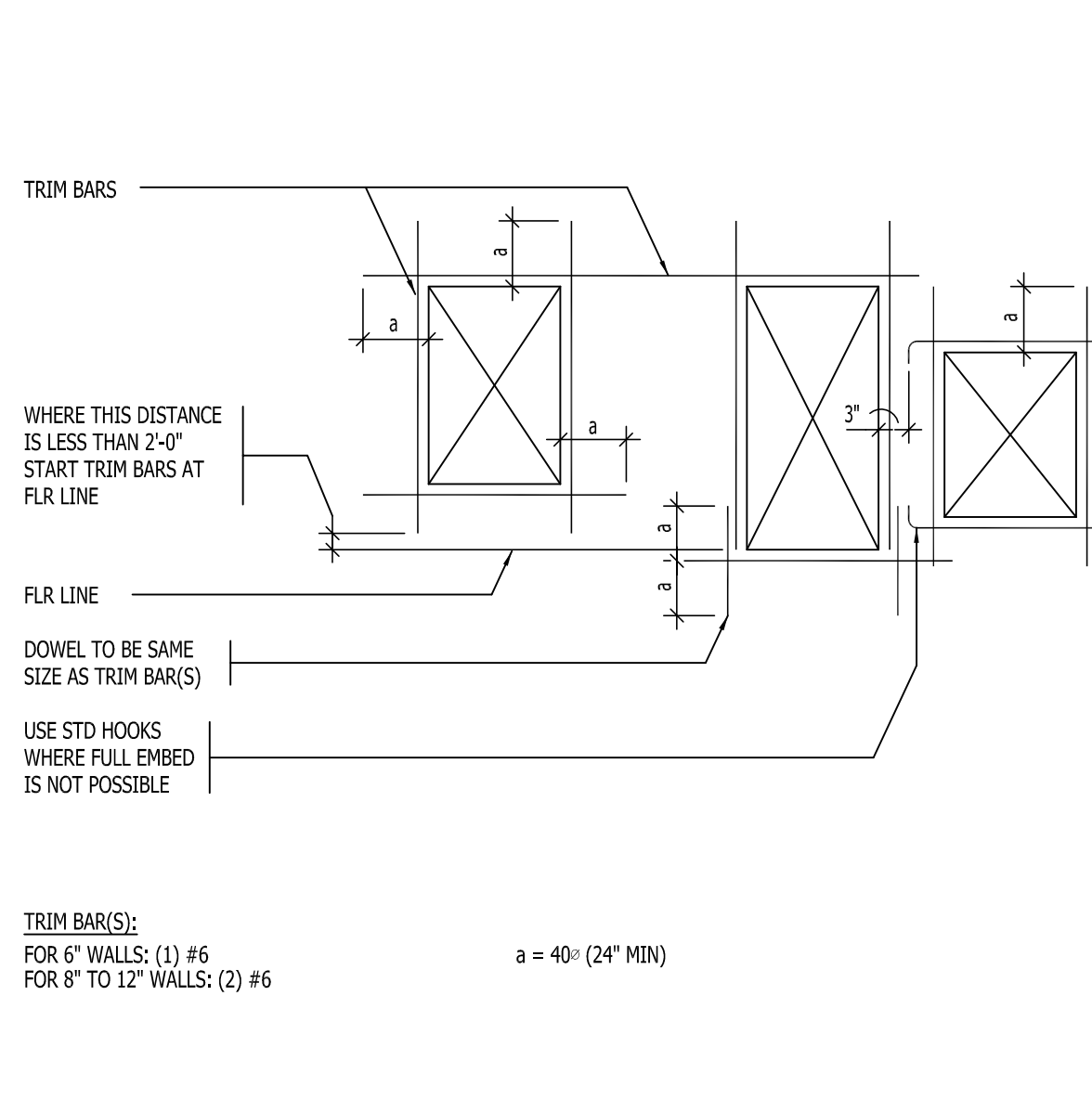
9 CONCRETE FOUNDATION WALL NO SCALE



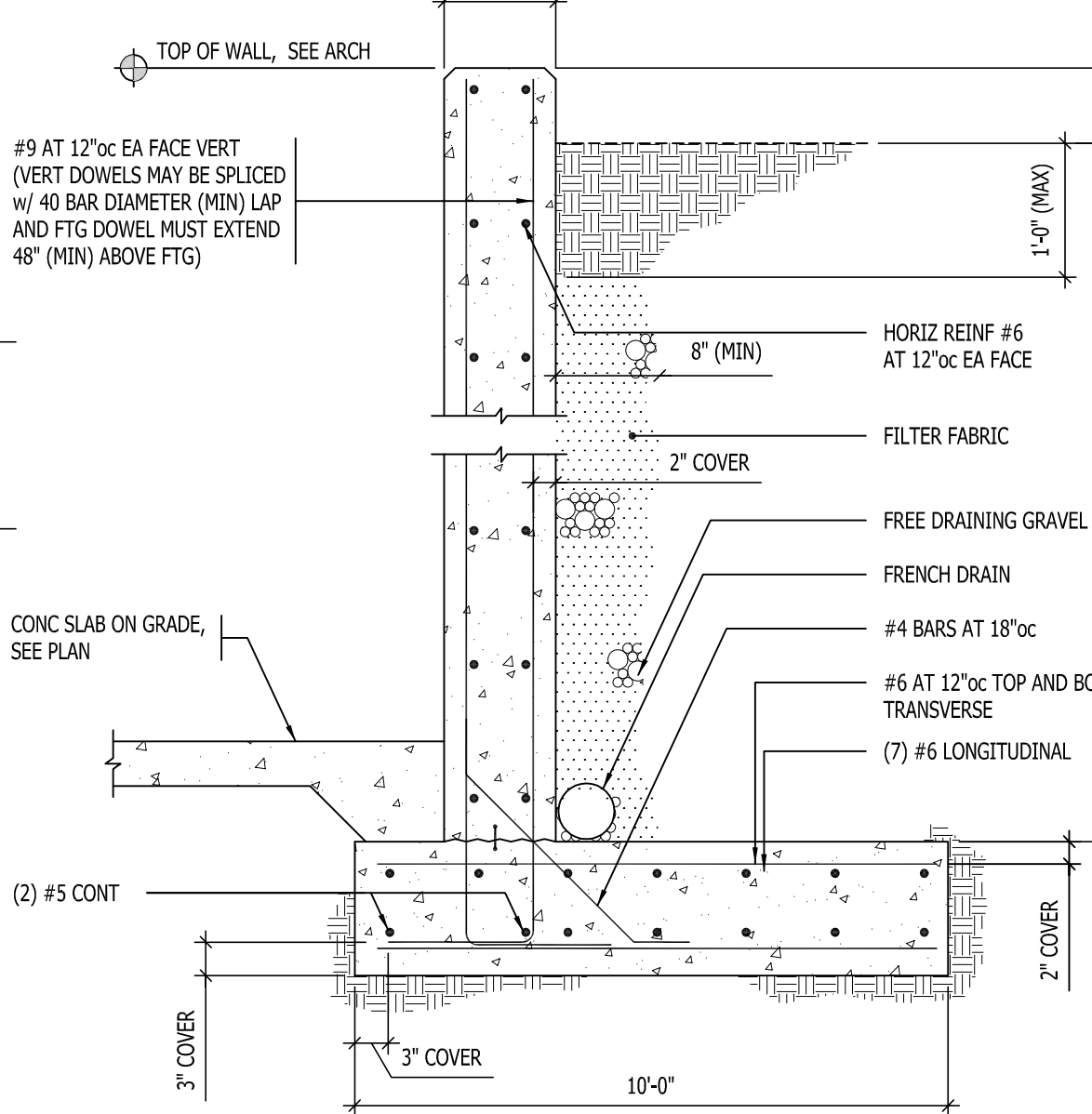
10 TYPICAL BEARING WALL AT INTERIOR FOOTING NO SCALE



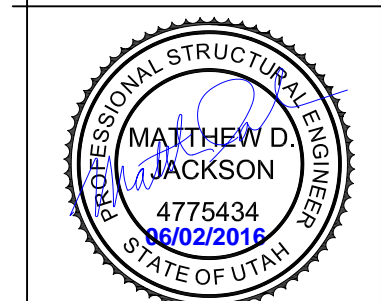
11 TYPICAL TUBE STEEL COLUMN TO CONCRETE FOOTING NO SCALE



12 TYPICAL DETAILS OF TRIM BARS AROUND MISCELLANEOUS CONCRETE WALL OPENINGS (U.N.O.) NO SCALE



13 CONCRETE FOUNDATION WALL NO SCALE



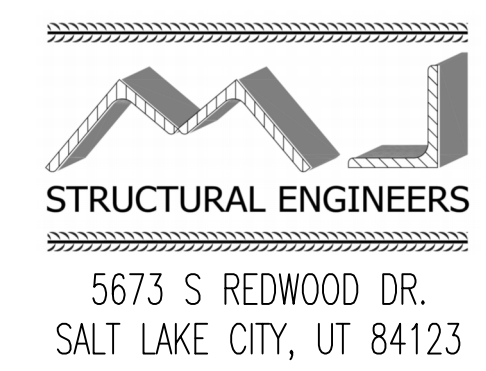
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A NEW DESIGN FOR :  
**LOT 37 POWDER MOUNTAIN**  
 WEBER COUNTY, UT

**UP WALLS**  
 DESIGN  
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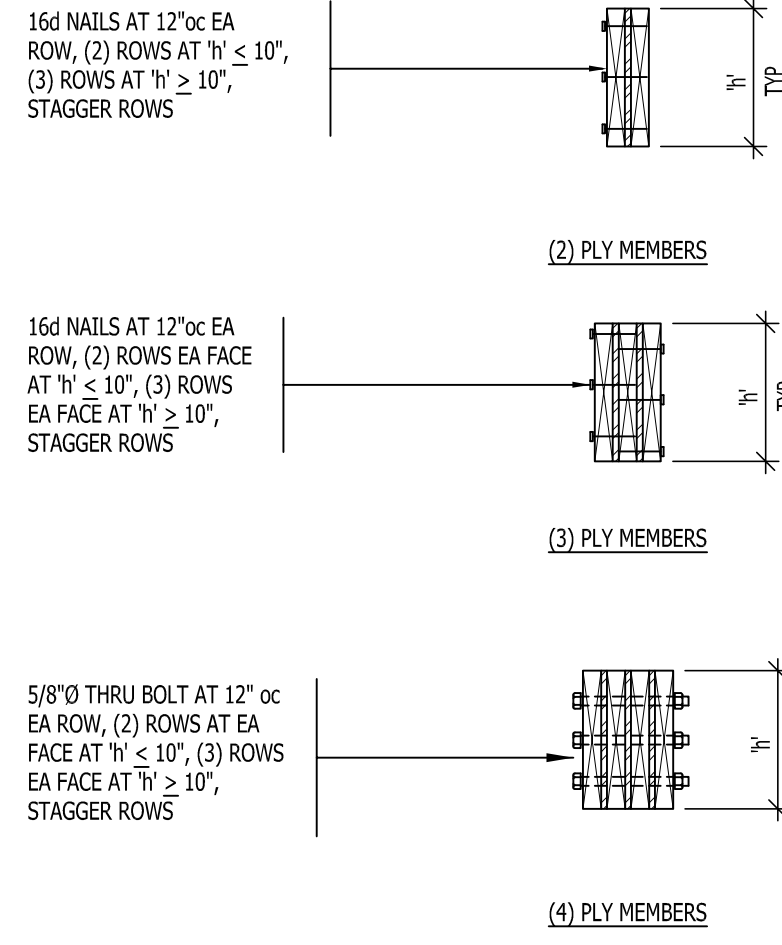
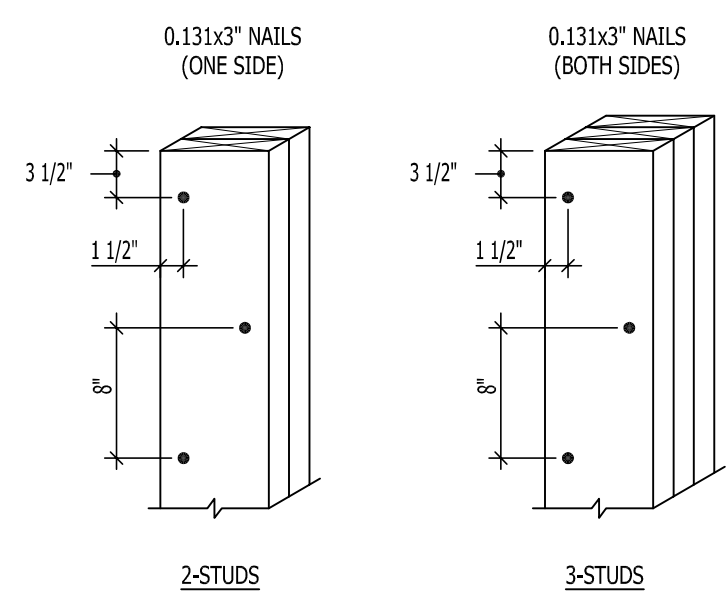
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 WEBER COUNTY, UT

UP WALL  
 DESIGN  
 1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

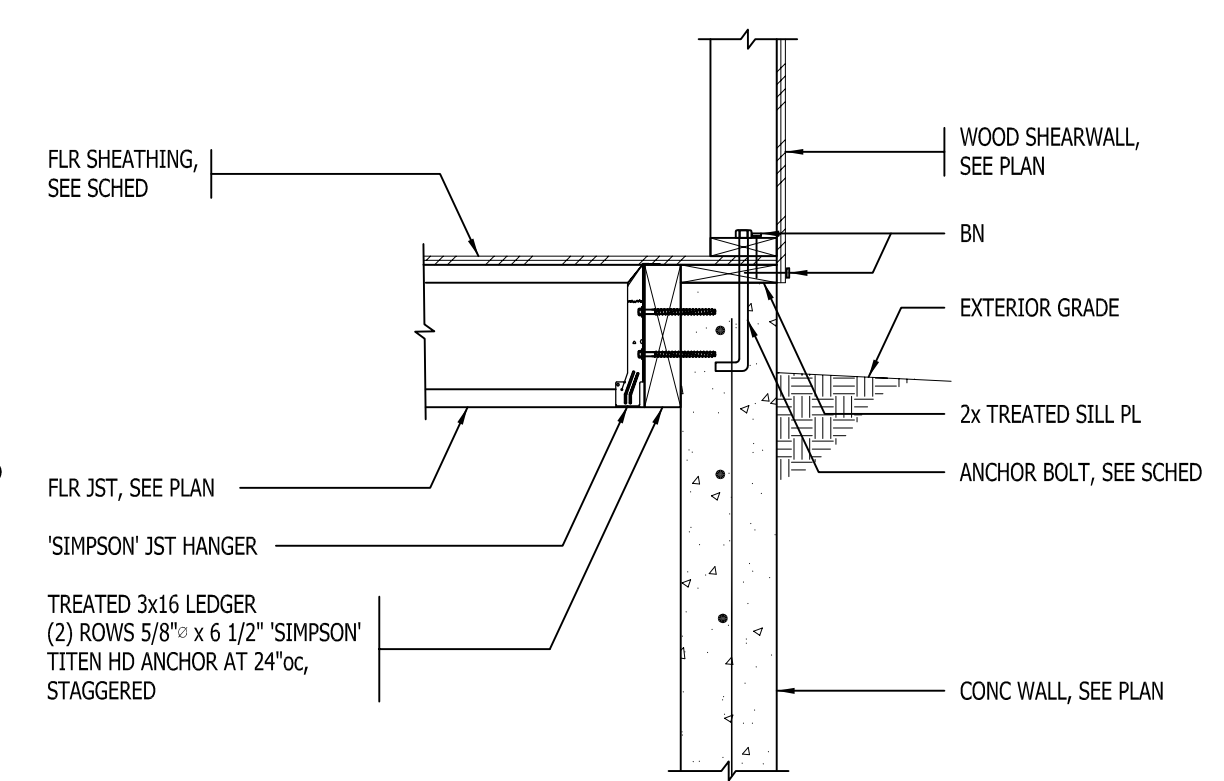
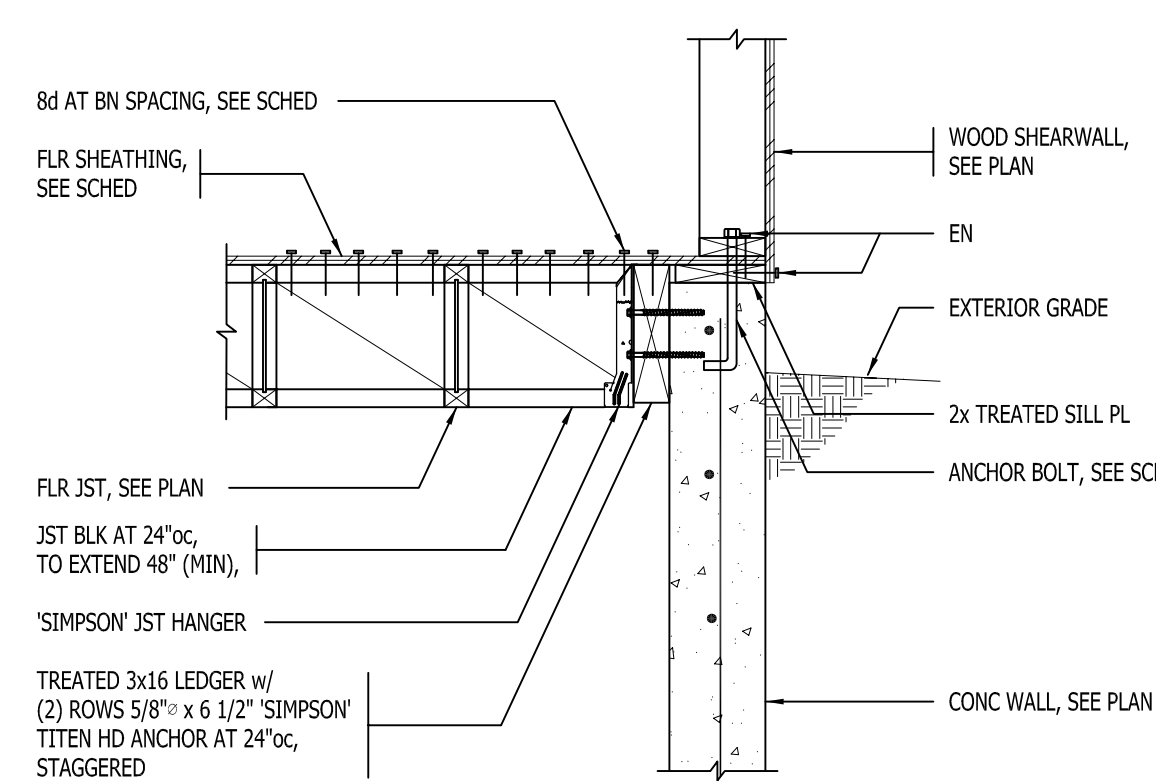
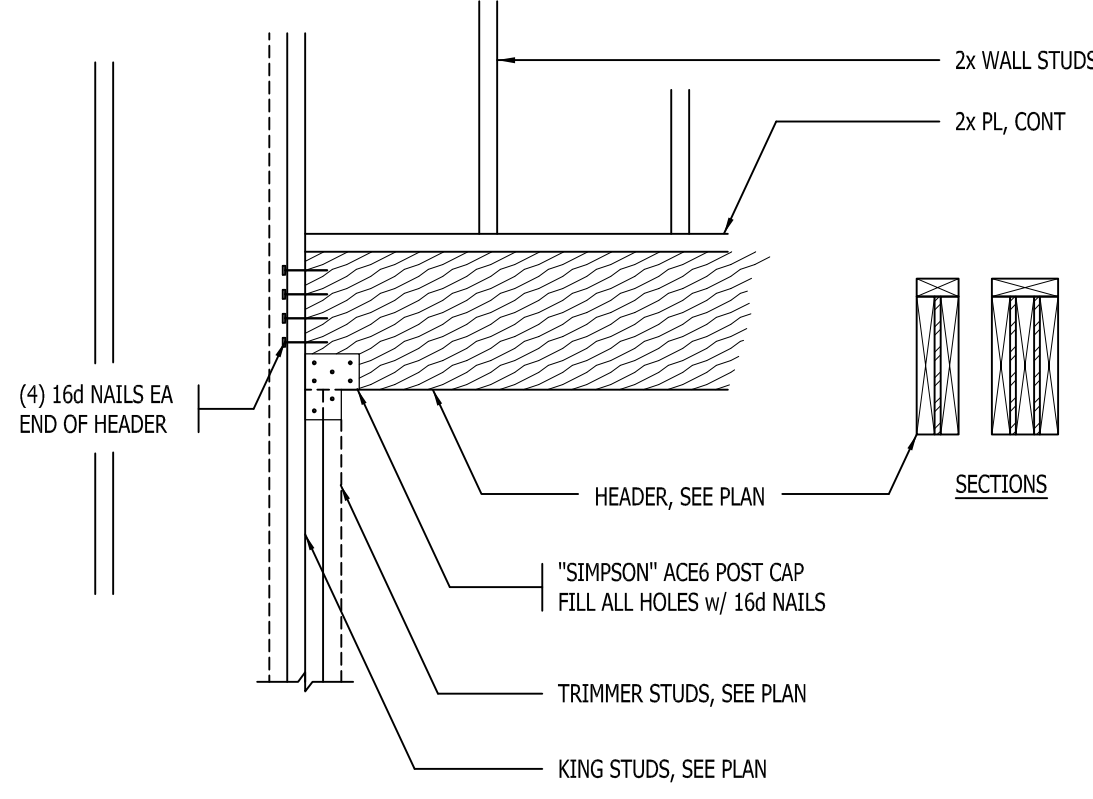
S601

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NOTE:  
 CONNECTION REQUIREMENTS  
 ARE TYP. U.A.O. IN PLANS  
 OR DETAILS

NOTE:  
 1. CONNECT MULTIPLE STUDS  
 TOGETHER PER (1/5601)  
 2. CONNECT MULTIPLE BEAMS  
 TOGETHER PER (2/5601)



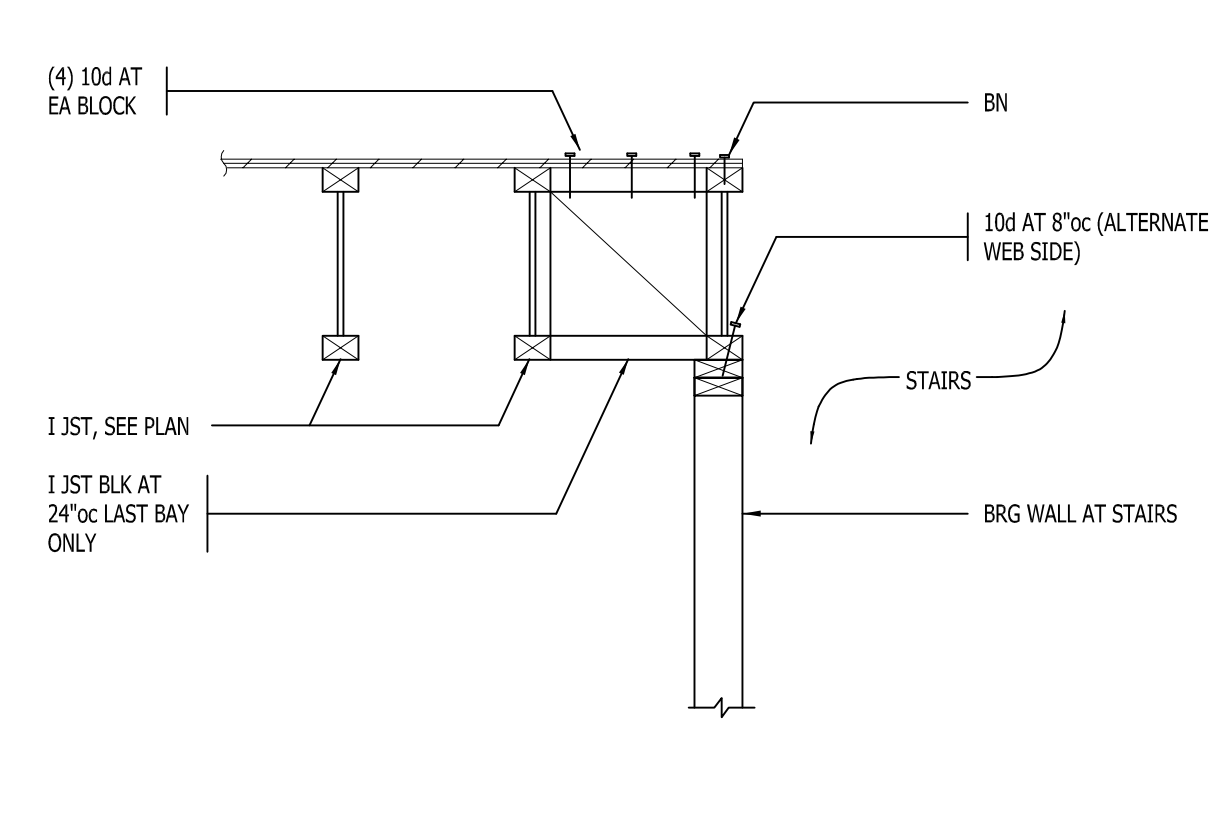
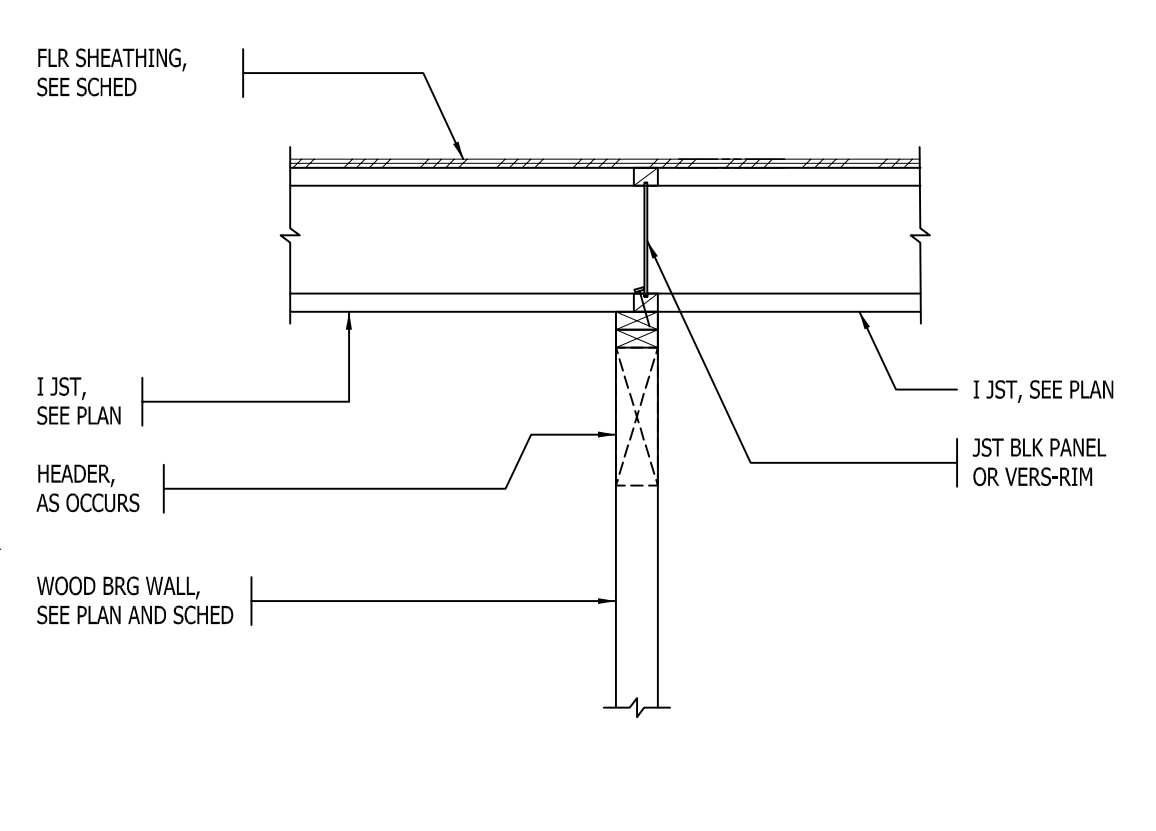
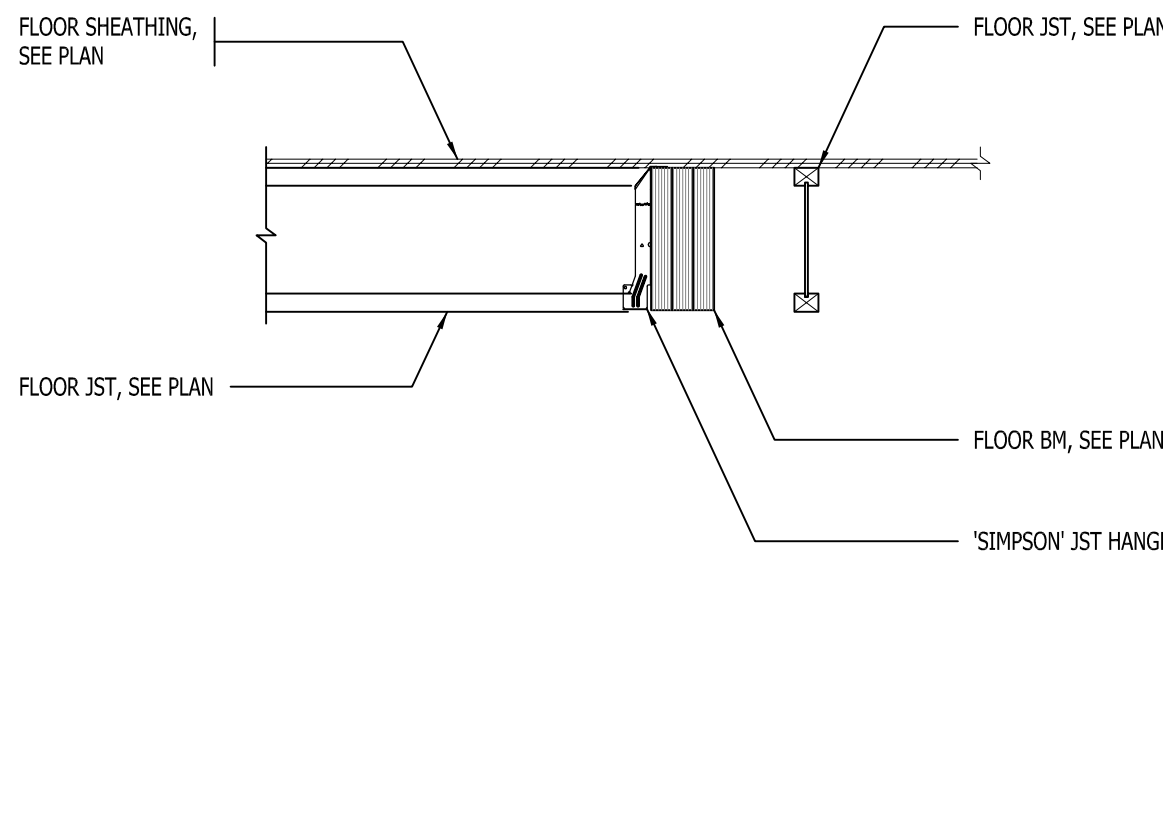
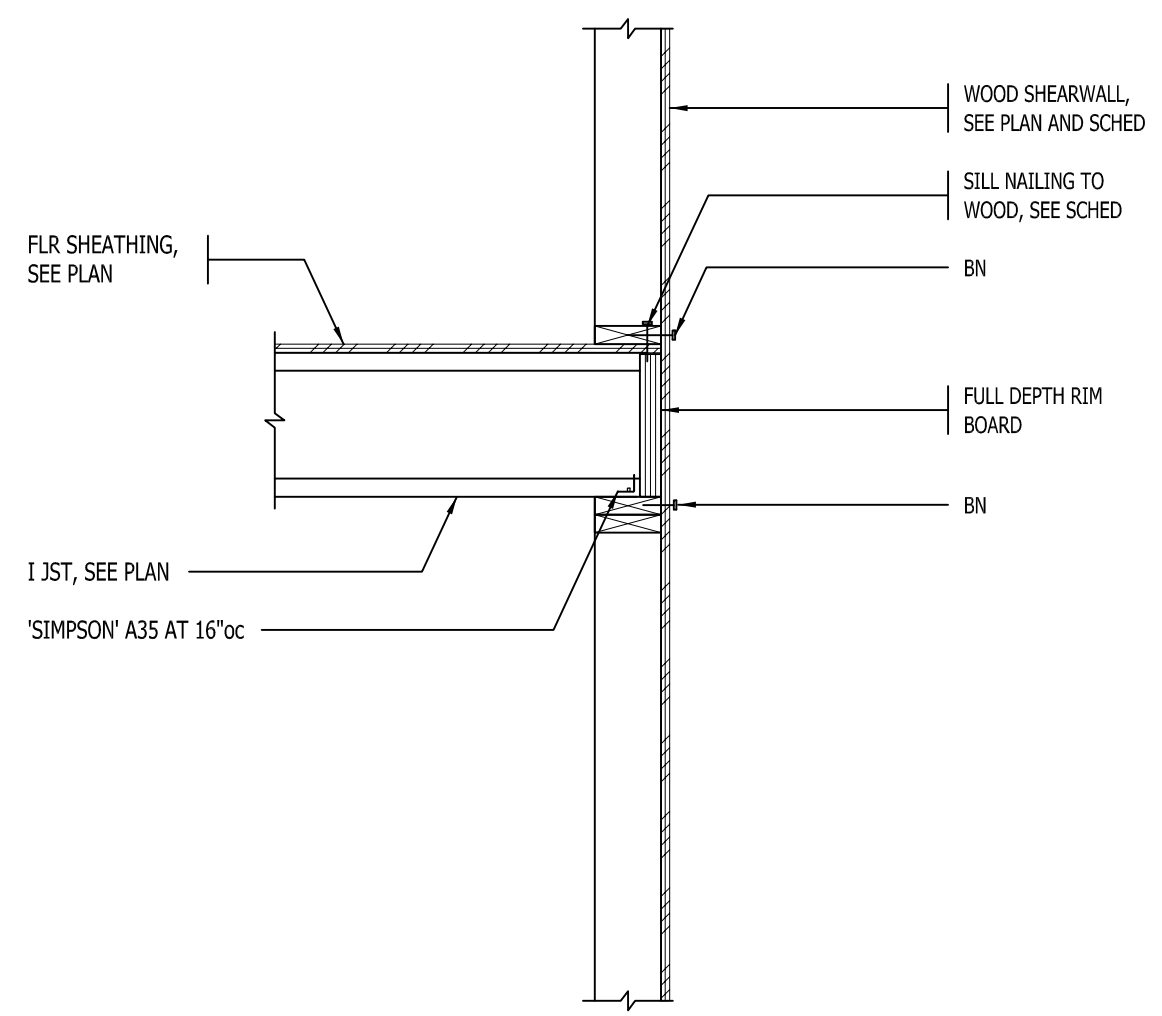
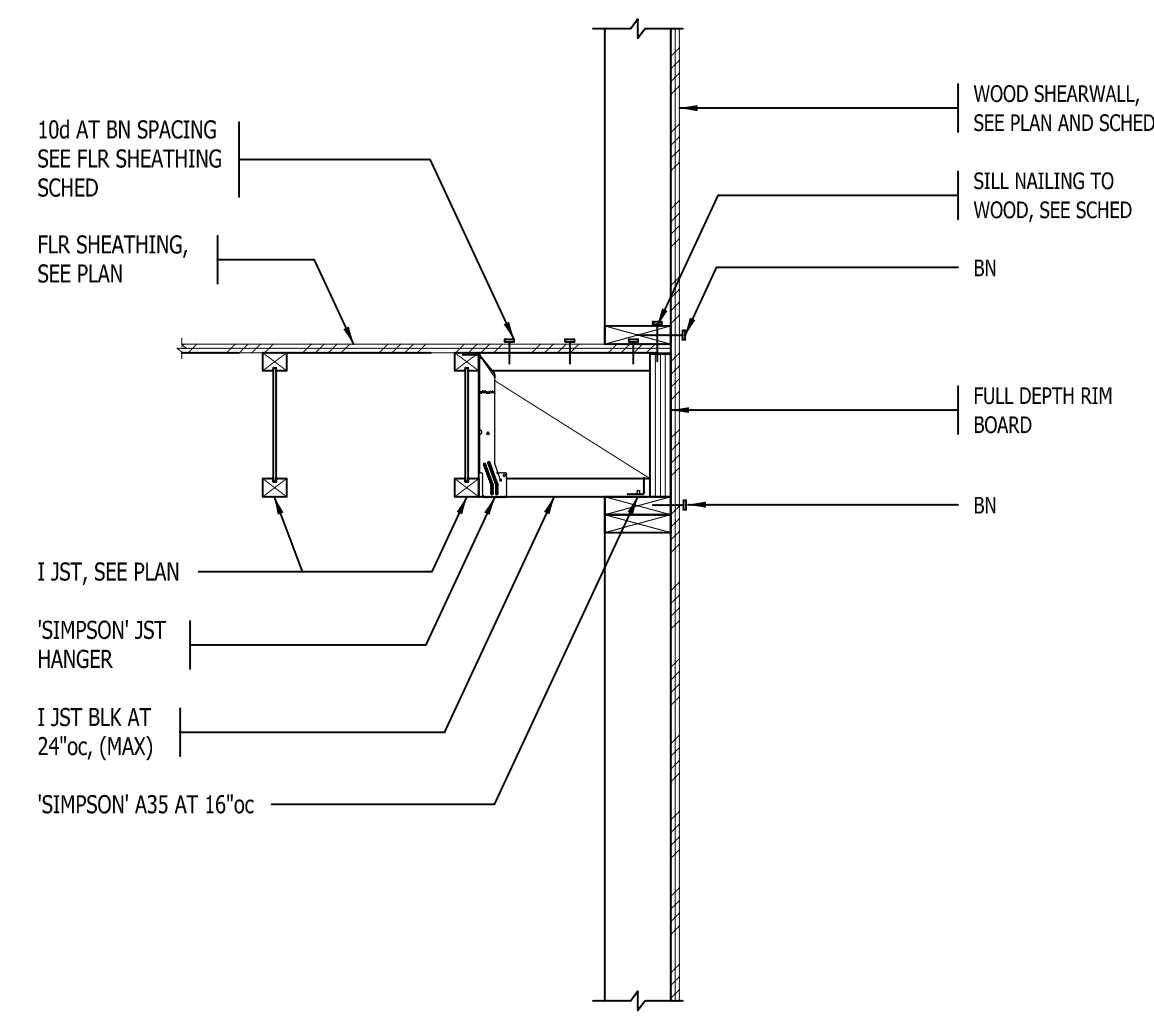
1 TYPICAL WOOD COLUMN CONNECTION NO SCALE

2 TYPICAL MULTIPLE BEAM CONNECTION NO SCALE

3 TYPICAL HEADER BEARING CONNECTION NO SCALE

4 TYPICAL FLOOR FRAMING DETAIL NO SCALE

5 TYPICAL FLOOR FRAMING DETAIL NO SCALE



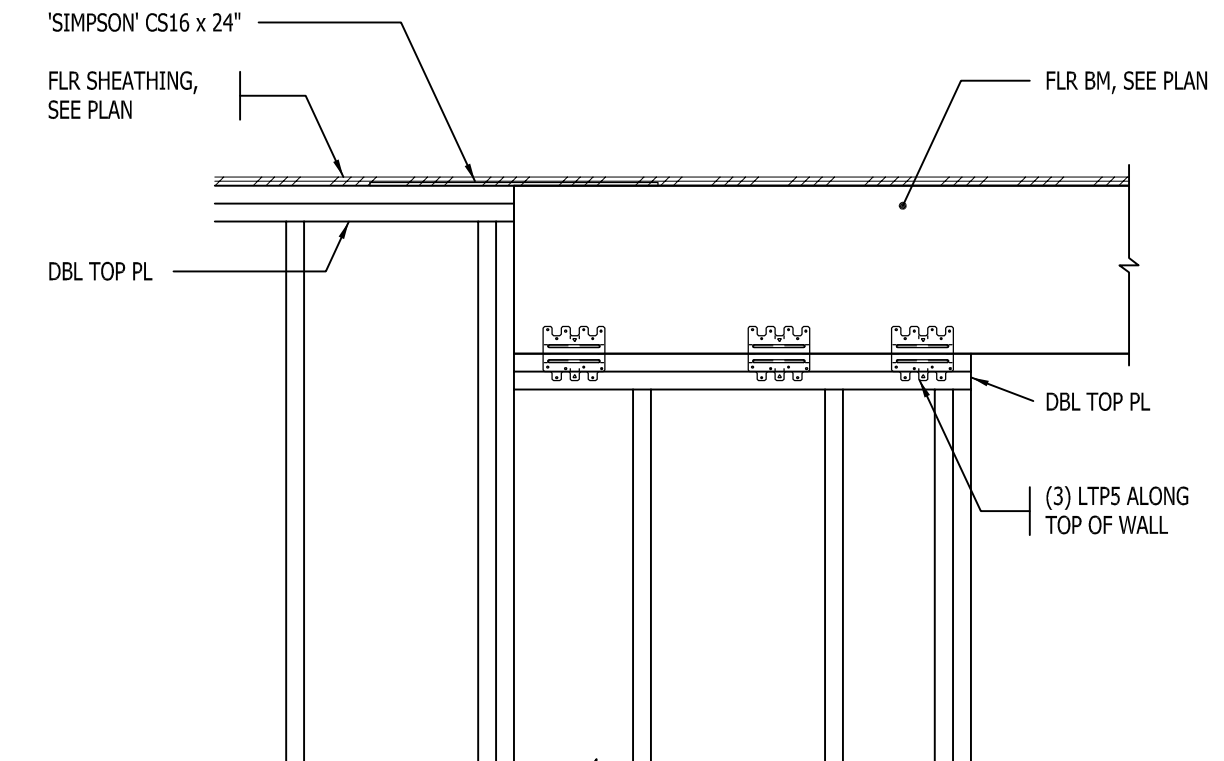
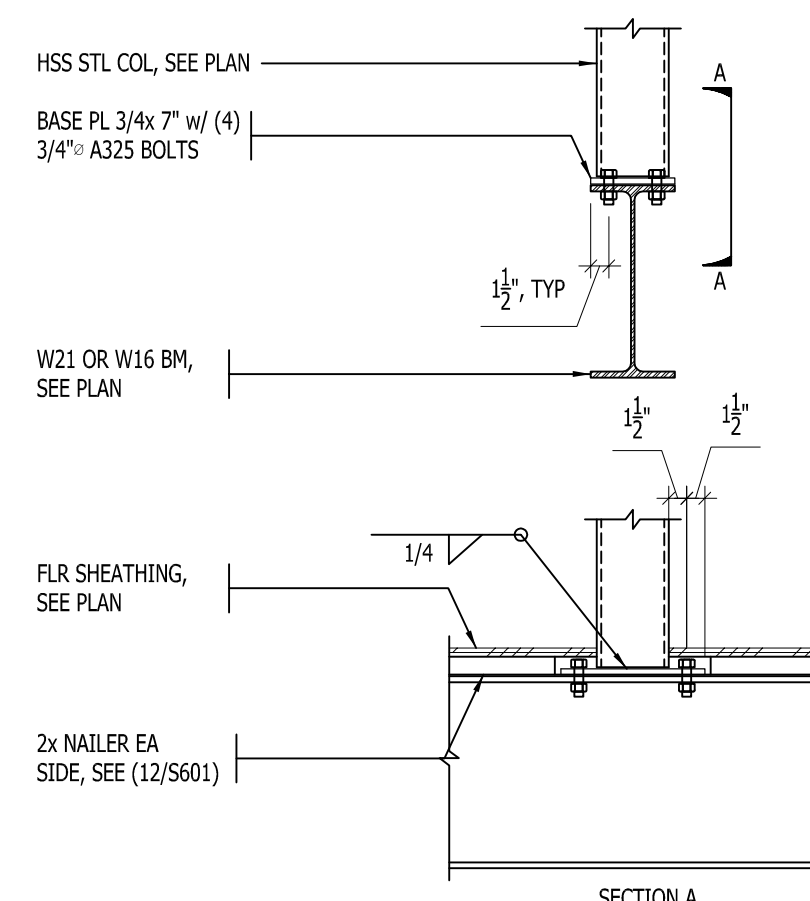
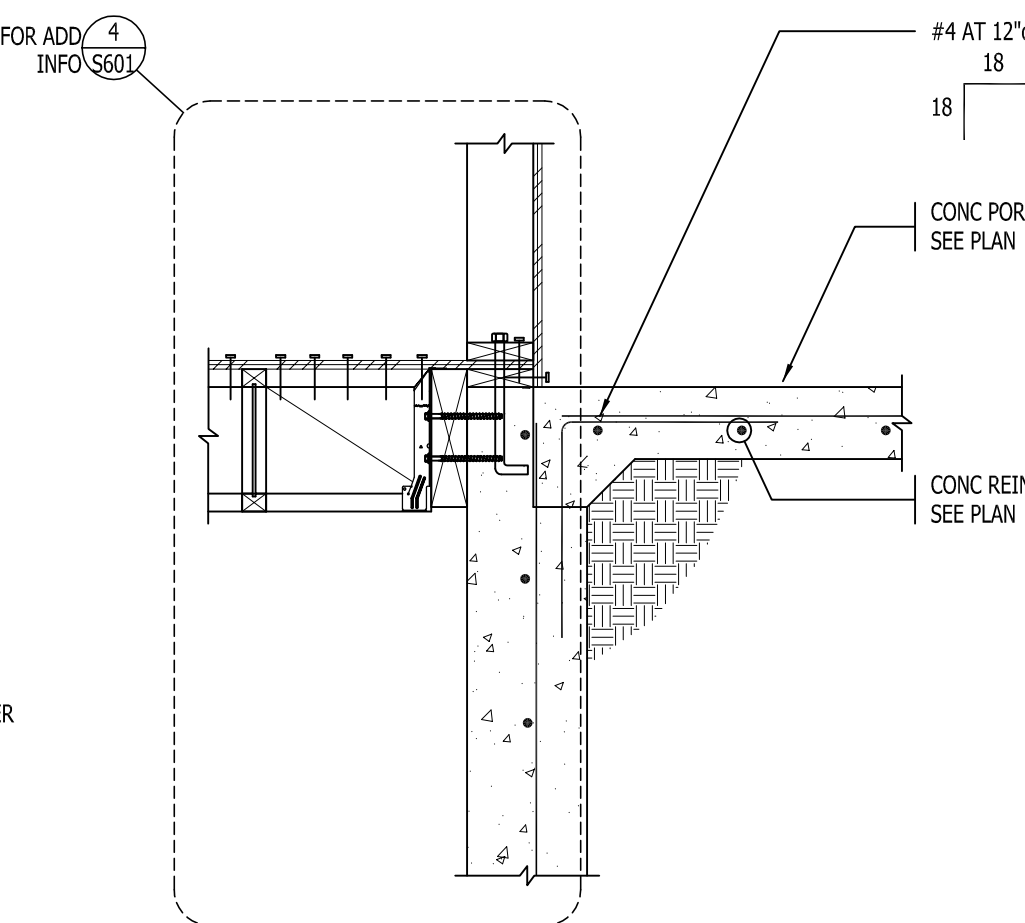
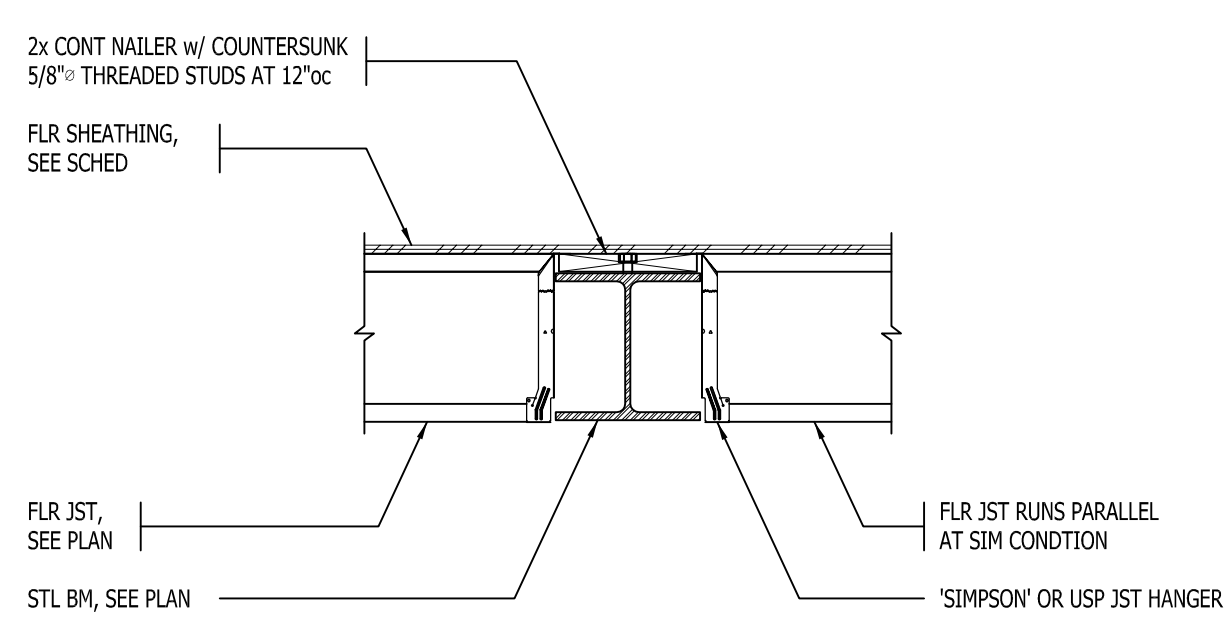
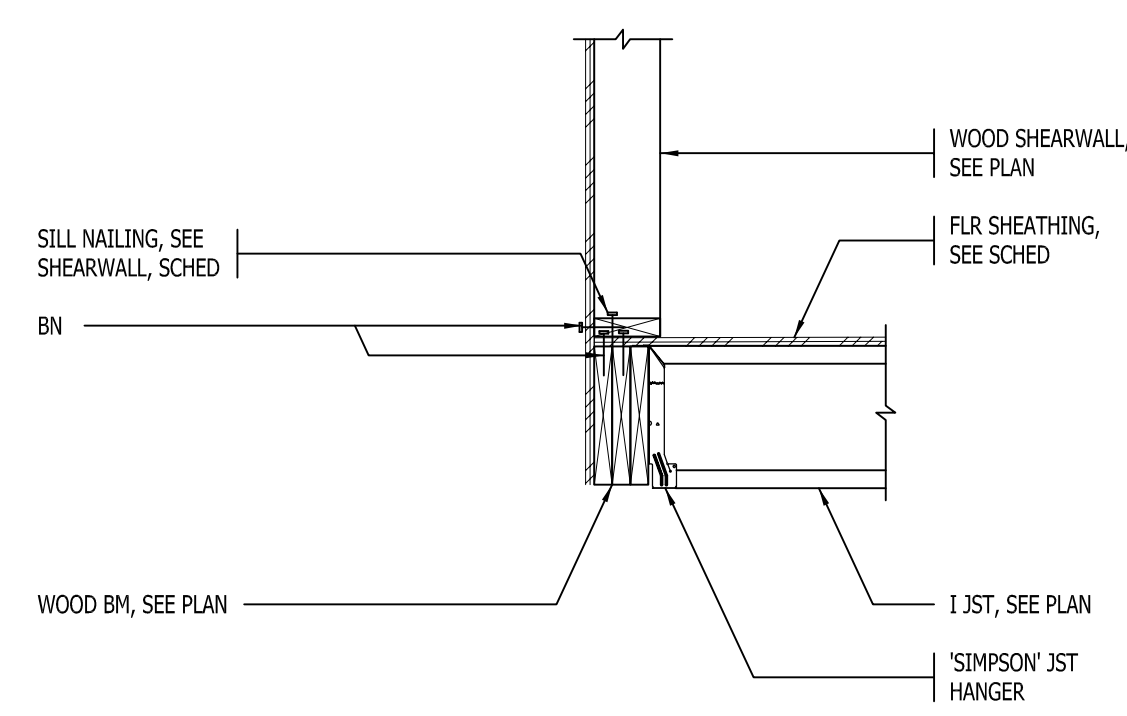
6 TYPICAL BEARING WALL PARALLEL TO JOIST NO SCALE

7 TYPICAL BEARING WALL PERPENDICULAR TO JOIST NO SCALE

8 TYPICAL FLOOR JOIST DIRECTION CHANGE AT FLUSH BEAM NO SCALE

9 TYPICAL INTERIOR BEARING WALL NO SCALE

10 SECTION AT STAIRS NO SCALE



11 TYPICAL FLOOR JOIST AT FLUSH BEAM NO SCALE

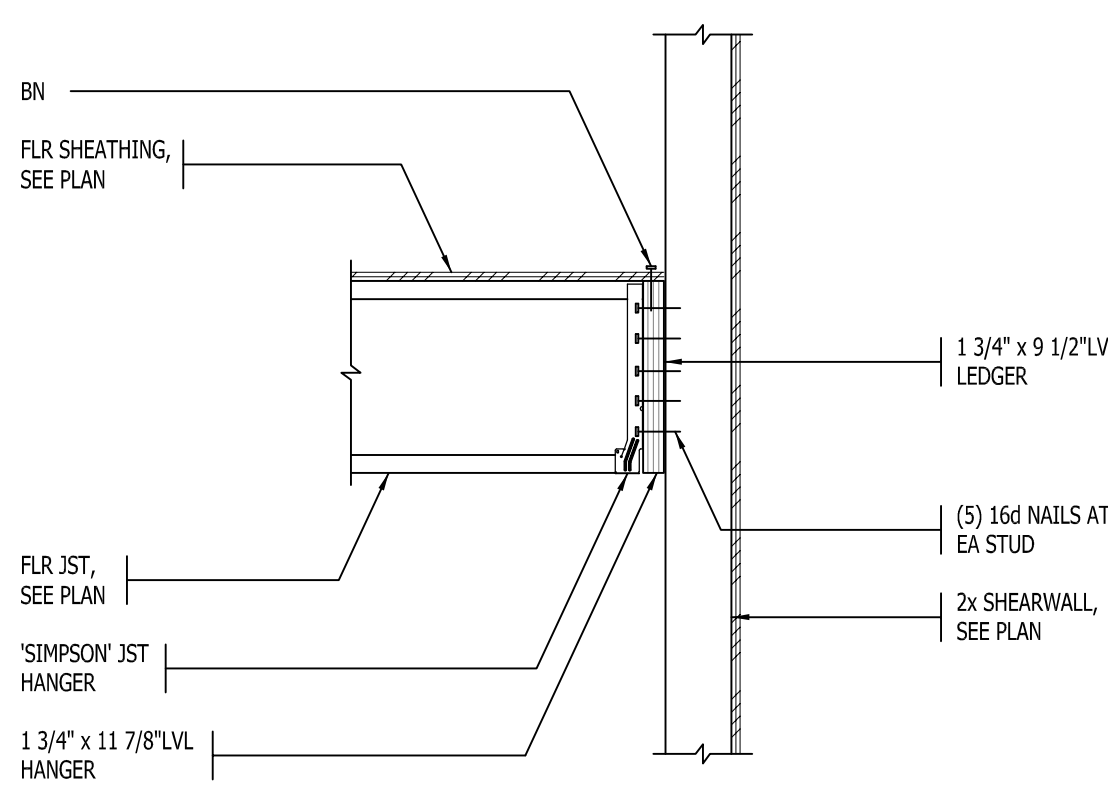
12 TYPICAL FRAMING TO STEEL BEAM NO SCALE

13 CONCRETE PORCH CAP NO SCALE

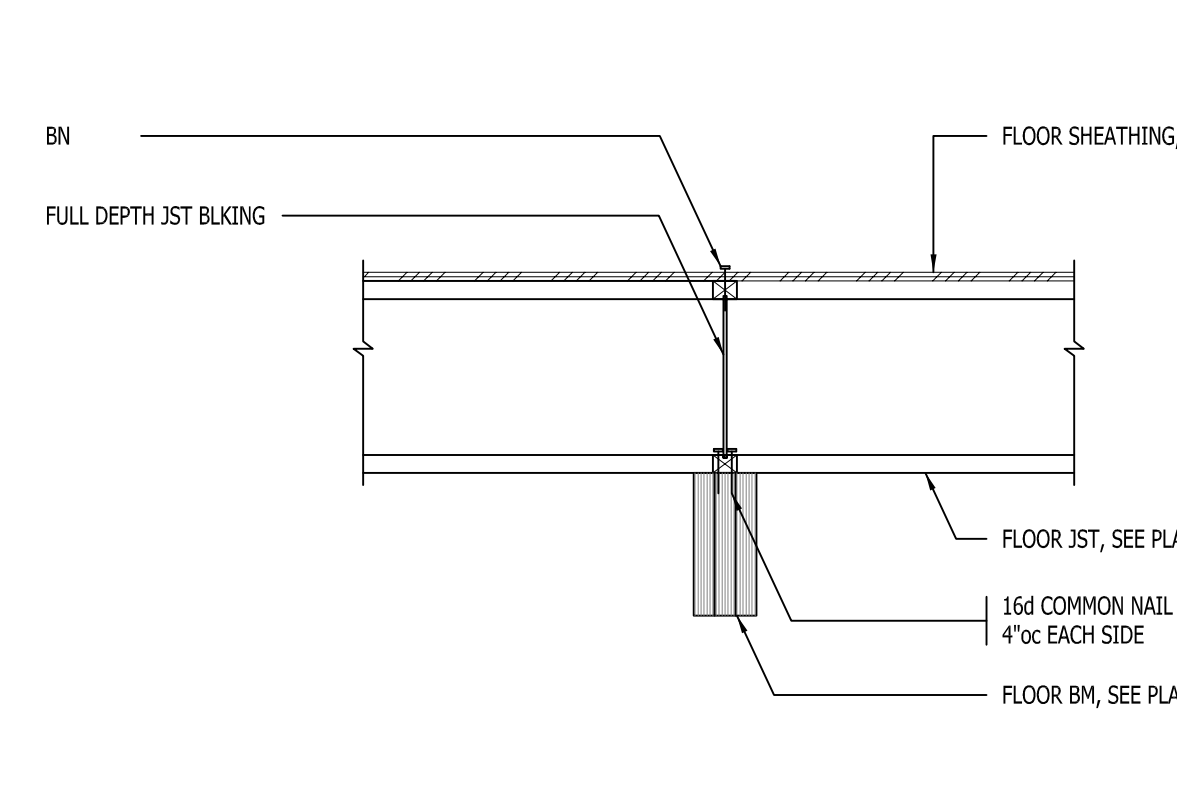
14 STEEL COLUMN SUPPORT NO SCALE

15 CANTILEVER BEAM CONNECTION NO SCALE

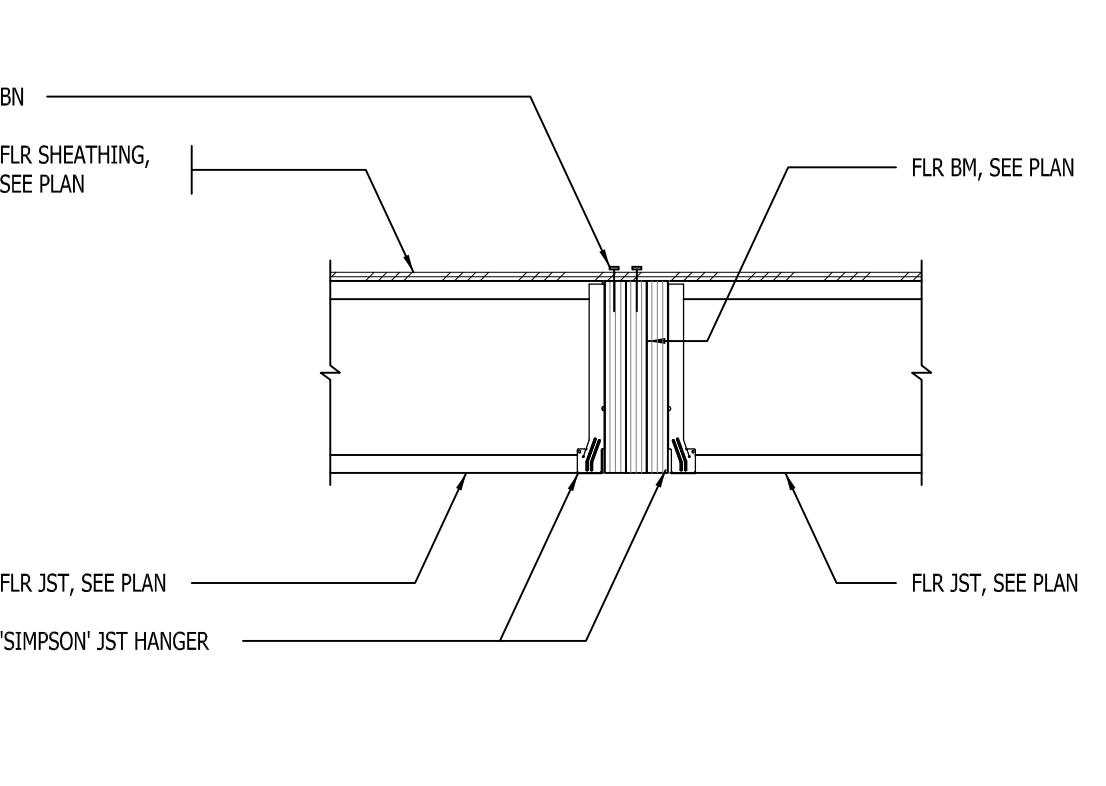
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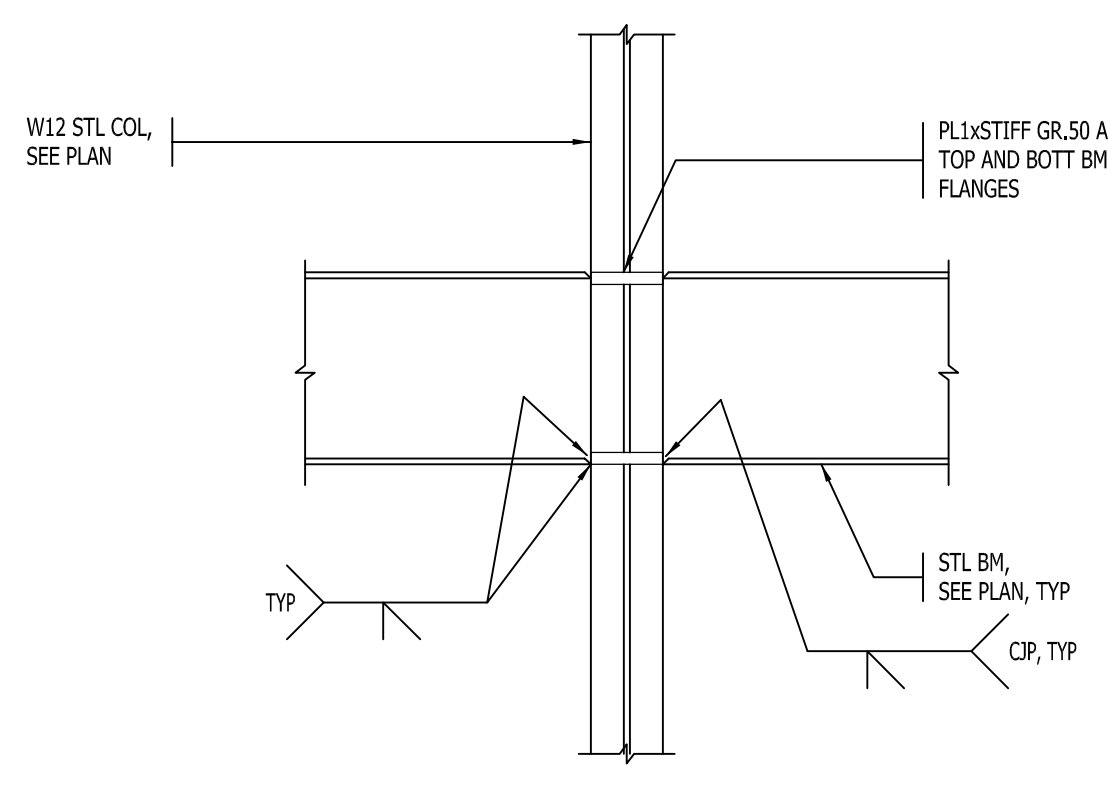
1 STAIR LANDING AT EXTERIOR WALL NO SCALE



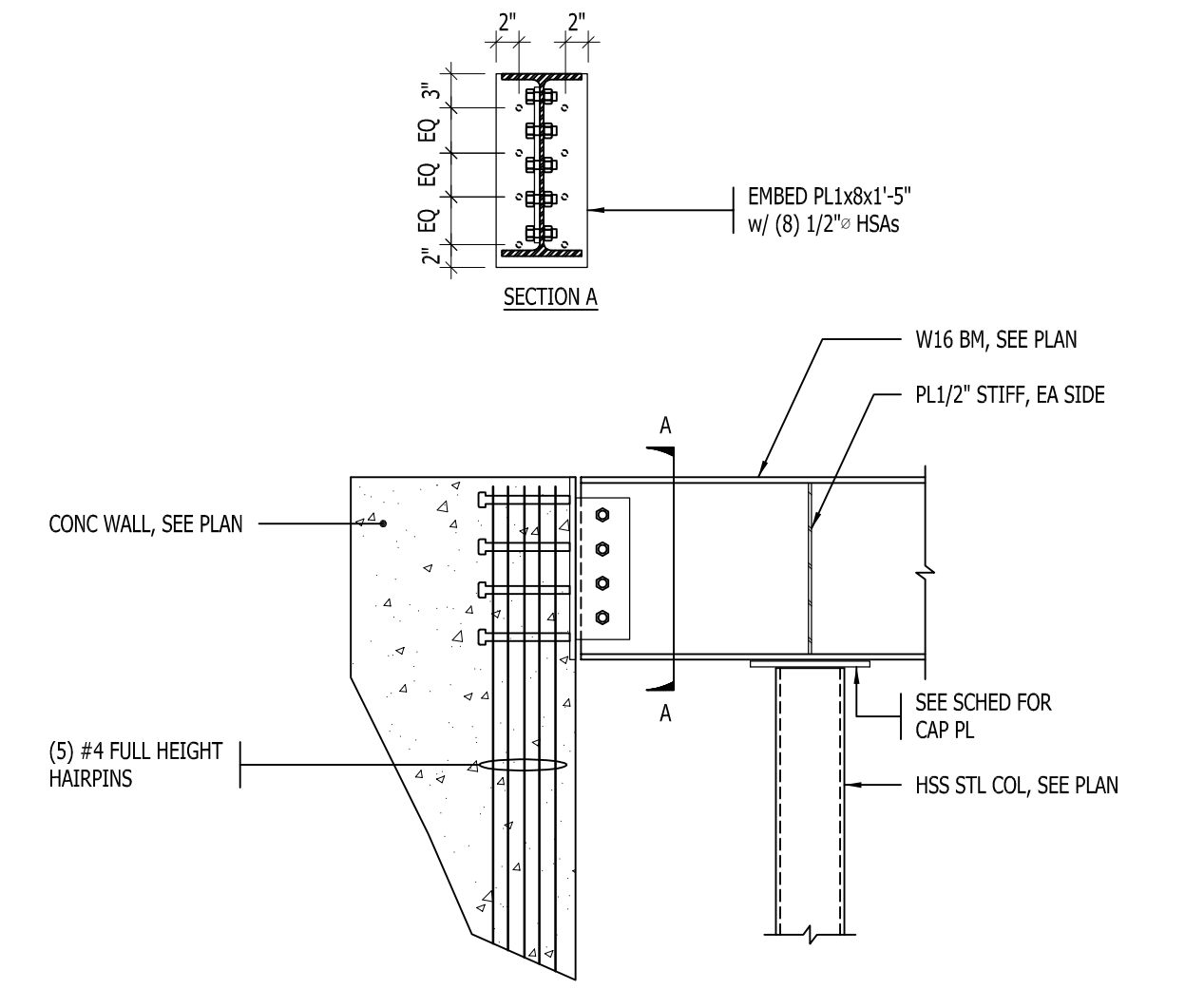
2 FLOOR JOIST AT FLOOR BEAM NO SCALE



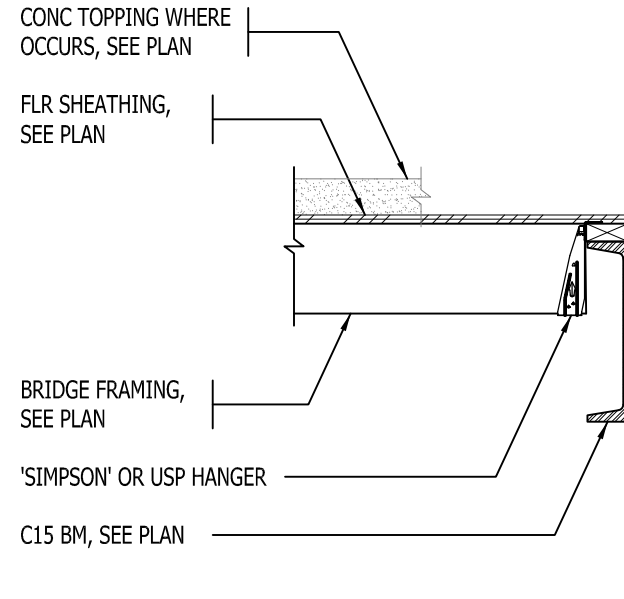
3 TYPICAL FLUSH JOIST TO BEAM CONNECTION NO SCALE



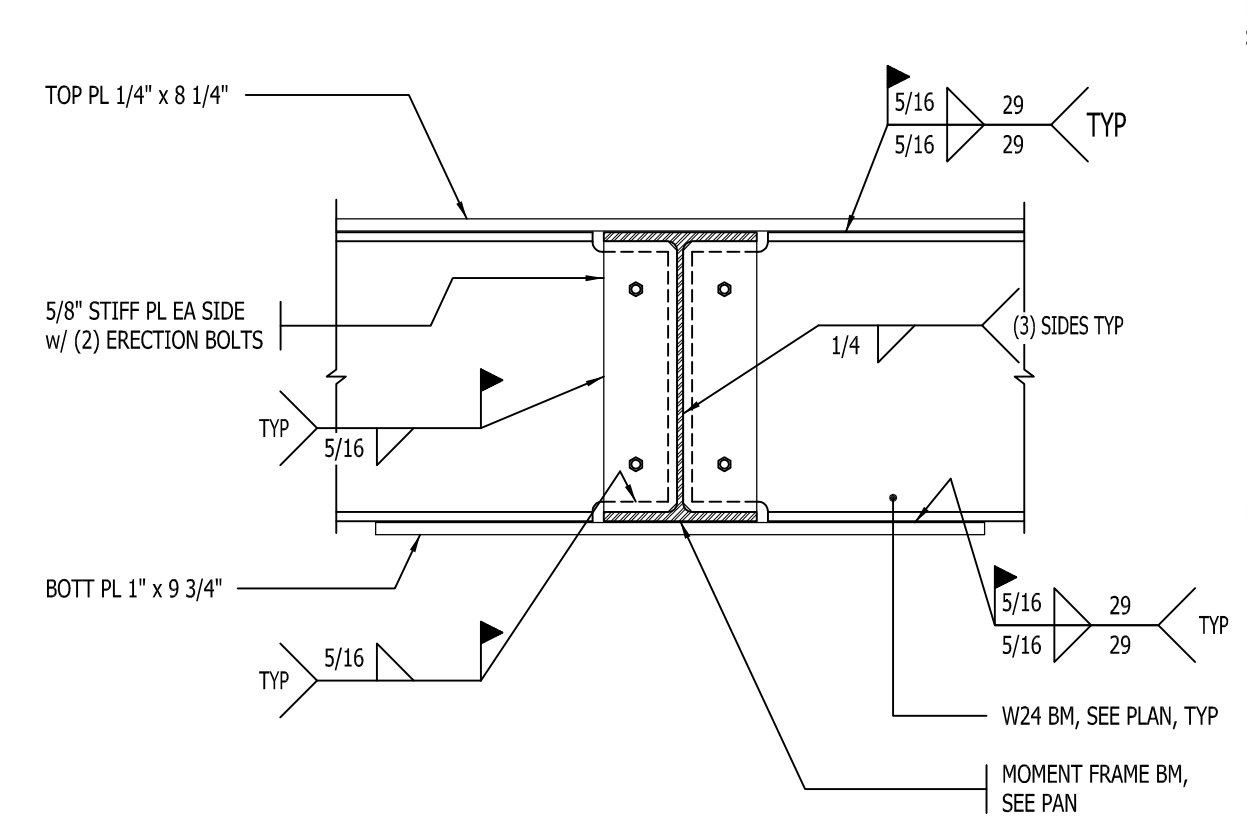
4 CANTILEVERED BEAM CONNECTION NO SCALE



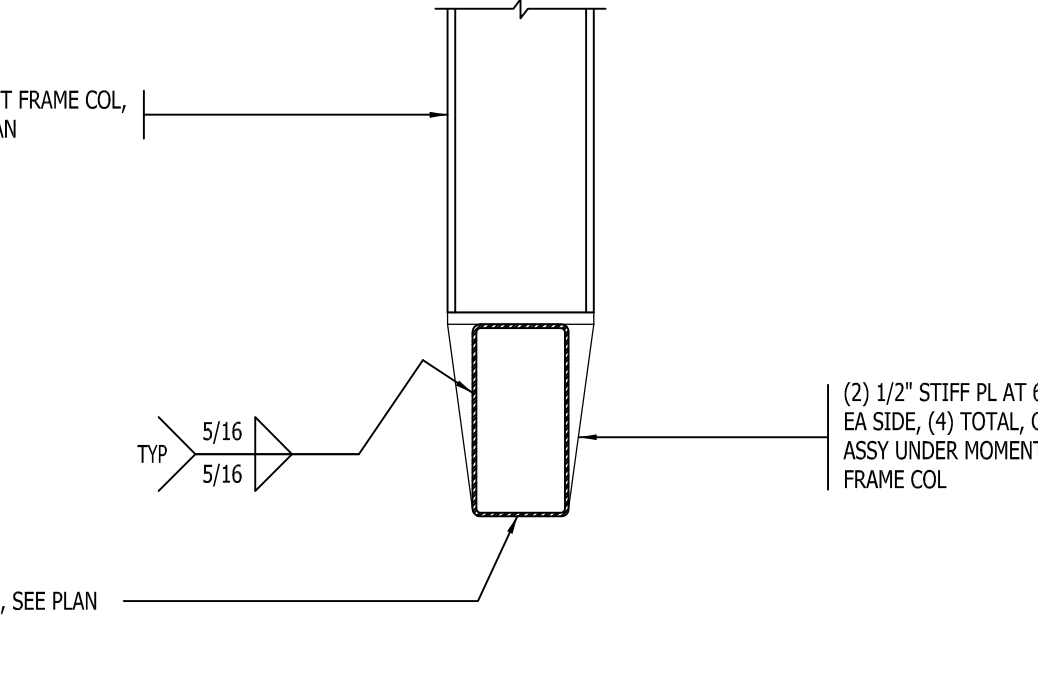
5 CANTILEVERED BEAM CONNECTION NO SCALE



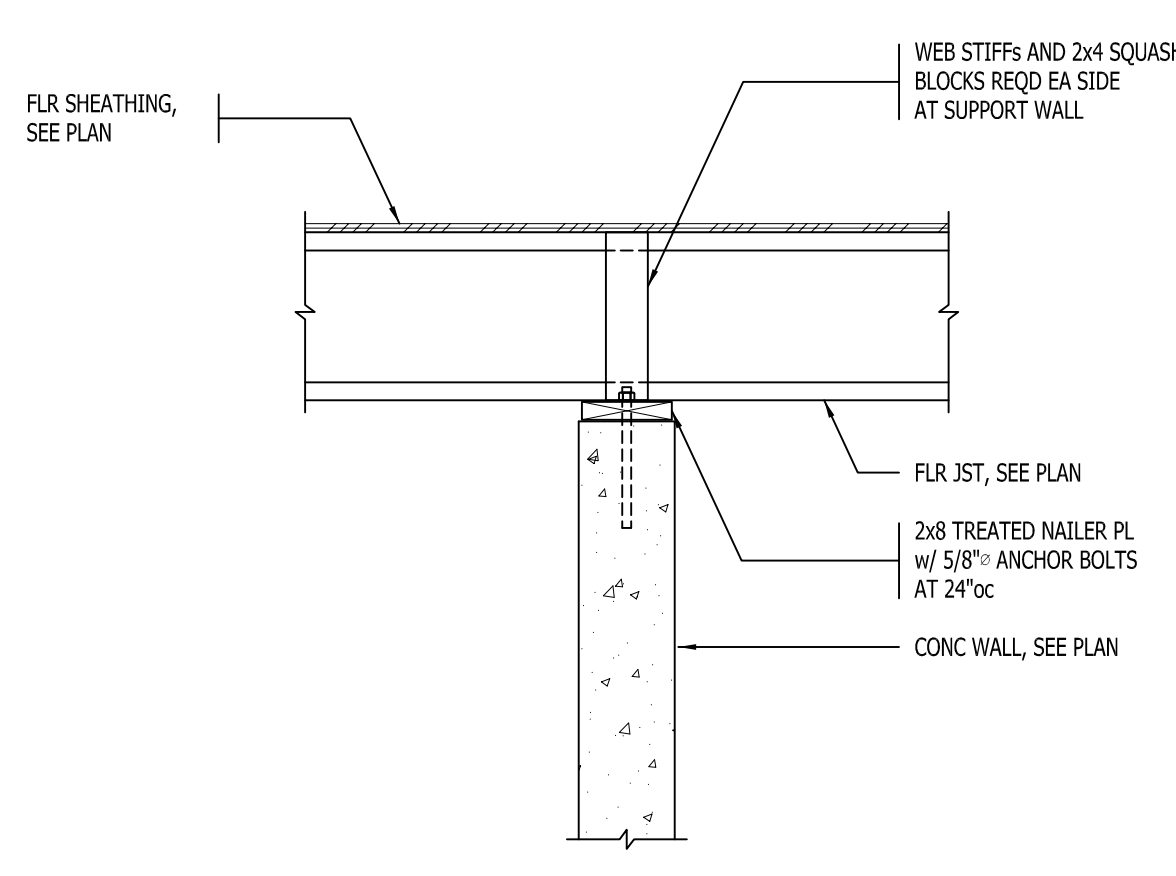
6 BRIDGE FRAMING NO SCALE



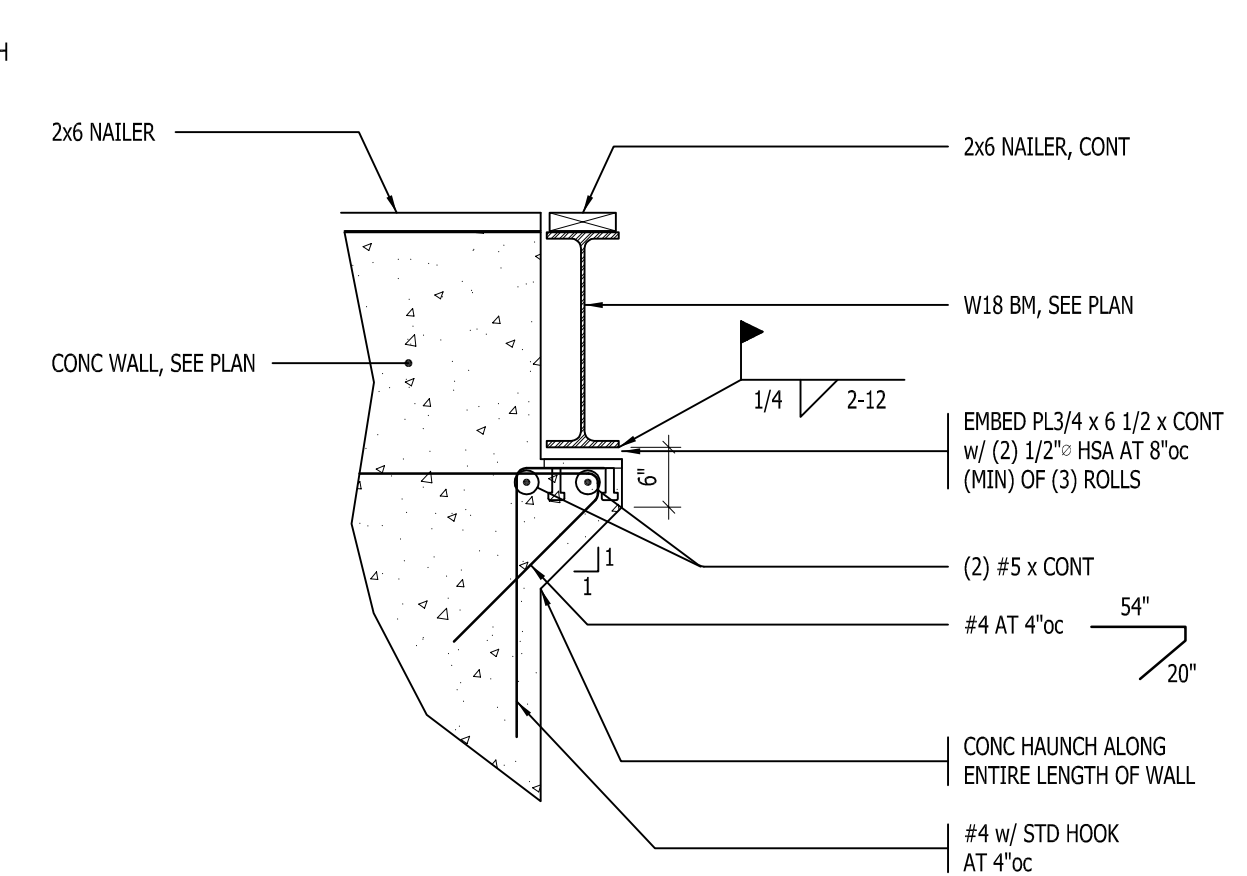
7 CANTILEVERED BEAM CONNECTION NO SCALE



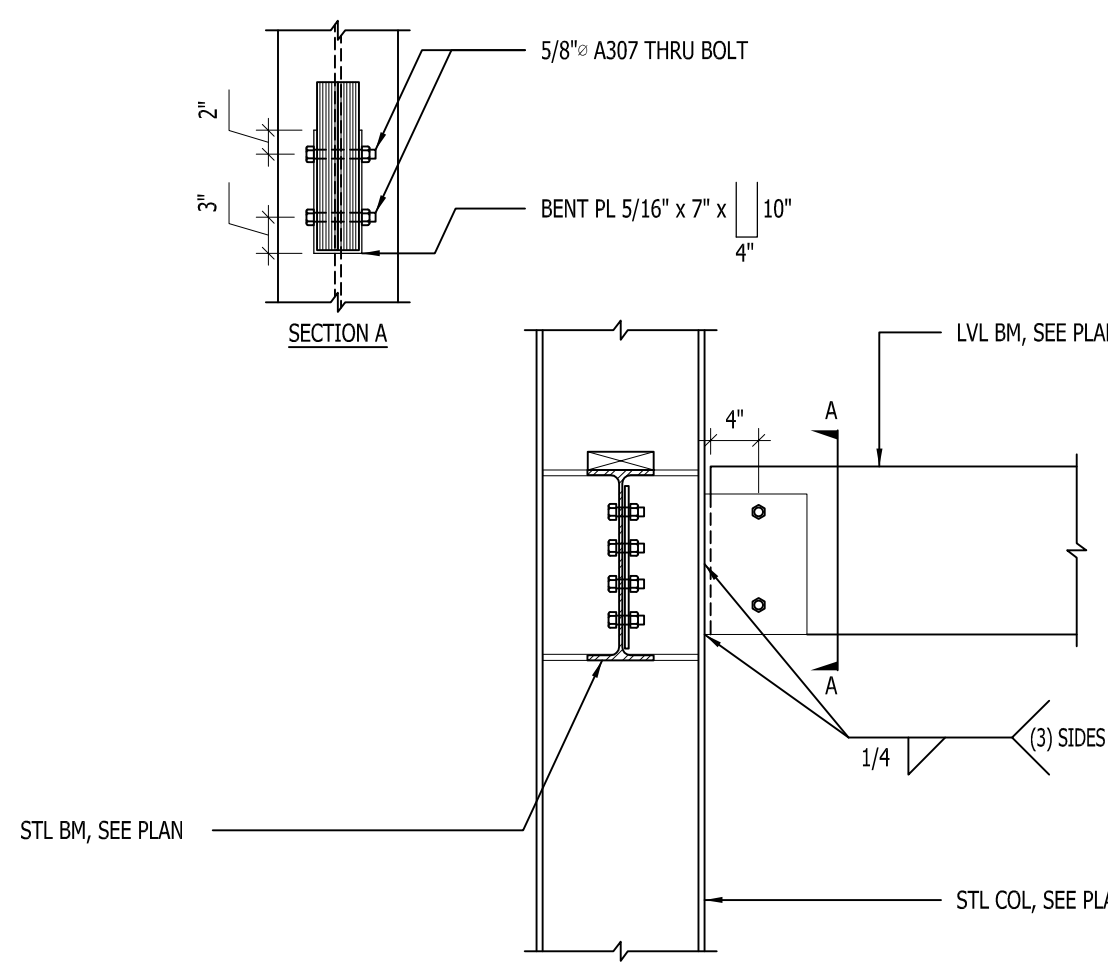
8 MOMENT FRAME SUPPORT CONNECTION NO SCALE



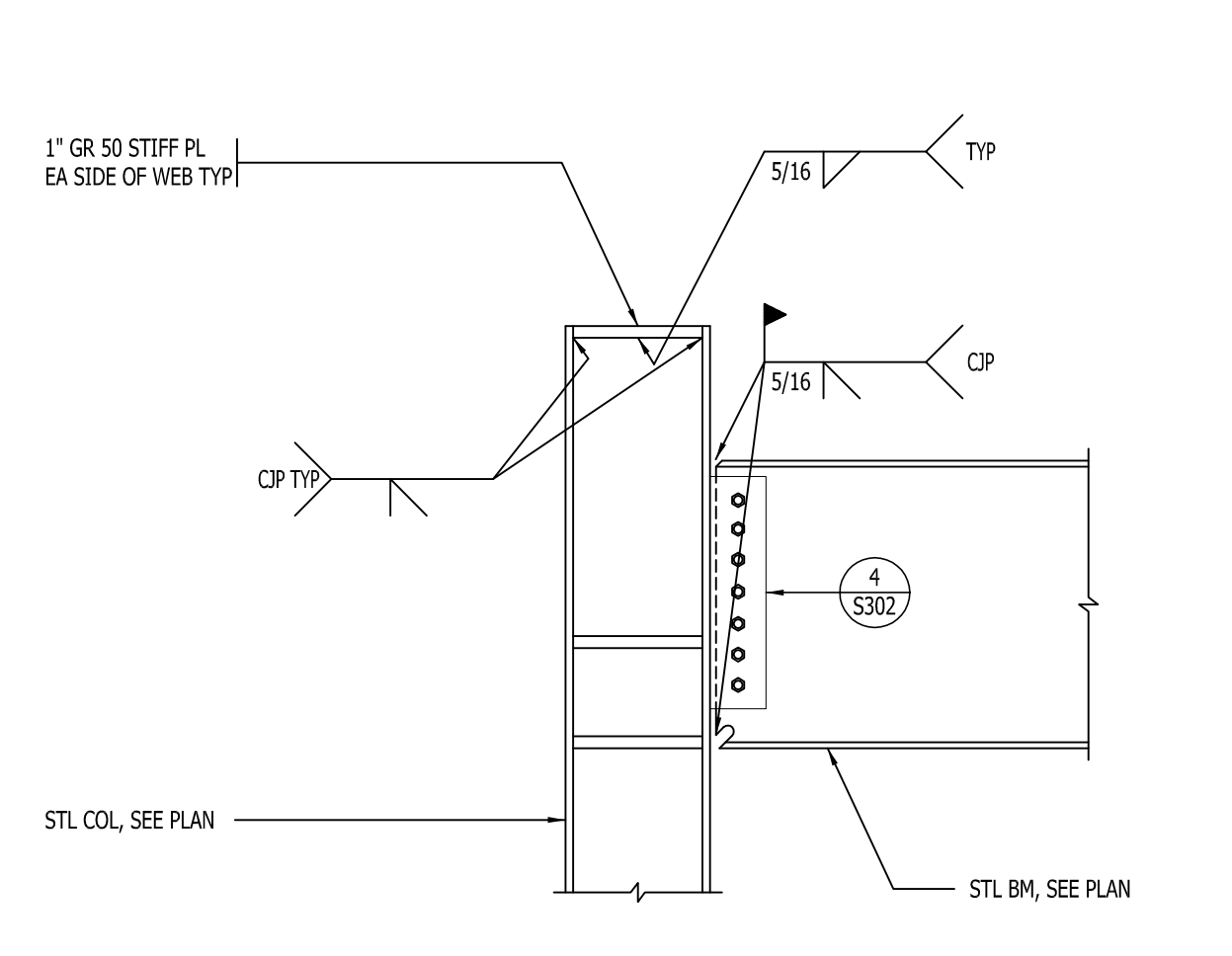
9 CANTILEVERED JOIST NO SCALE



10 CANTILEVERED BEAM CONNECTION NO SCALE



11 WOOD BEAM TO STEEL COLUMN CONNECTION NO SCALE



12 MOMENT FRAME CONNECTION NO SCALE

PROFESSIONAL STRUCTURAL ENGINEERING  
**MATTHEW D. JACKSON**  
 4775434  
 602/2014  
 STATE OF UTAH

01 JUNE 2016

REVISIONS

THE ABOVE DRAWINGS AND SPECIFICATIONS AND THE SEAL HEREAFTER AND THE SEAL HEREAFTER SHALL BE KEPT IN THE OFFICE OF THE ENGINEER AND SHALL BE AVAILABLE FOR INSPECTION BY THE PUBLIC AT ALL TIMES. THE ENGINEER SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT AND SHALL BE RESPONSIBLE FOR THE SAFETY OF THE PROJECT. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONSTRUCTION OF THE PROJECT OR FOR THE SAFETY OF THE PROJECT. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONSTRUCTION OF THE PROJECT OR FOR THE SAFETY OF THE PROJECT.

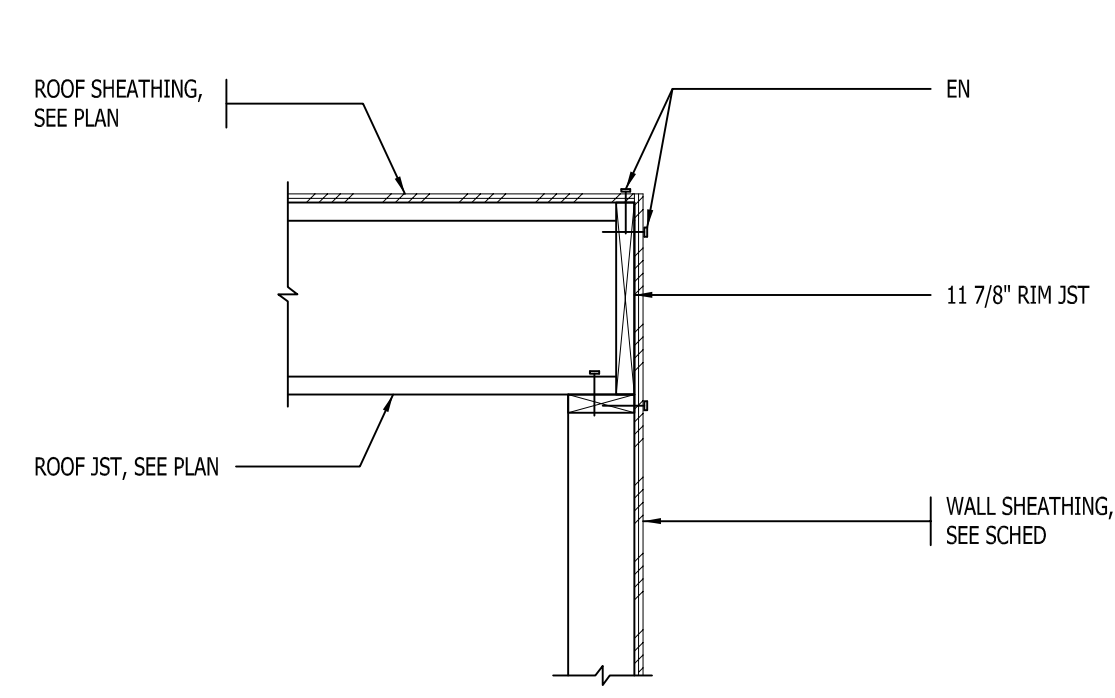
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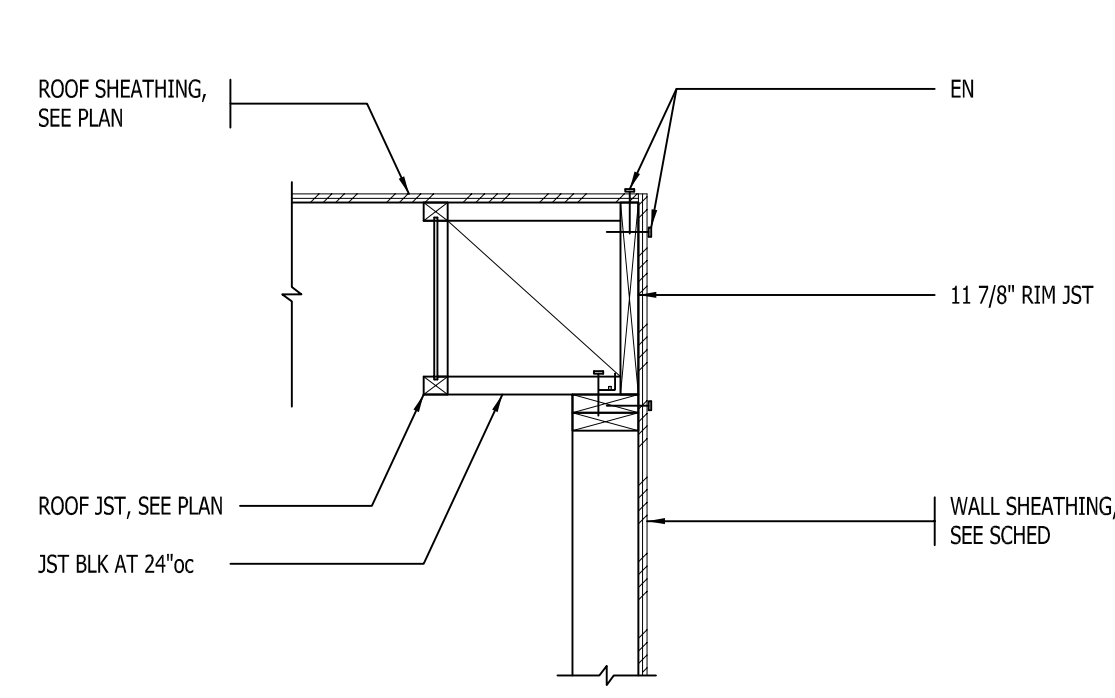
**STRUCTURAL ENGINEERS**  
 5673 S REDWOOD DR.  
 SALT LAKE CITY, UT 84123

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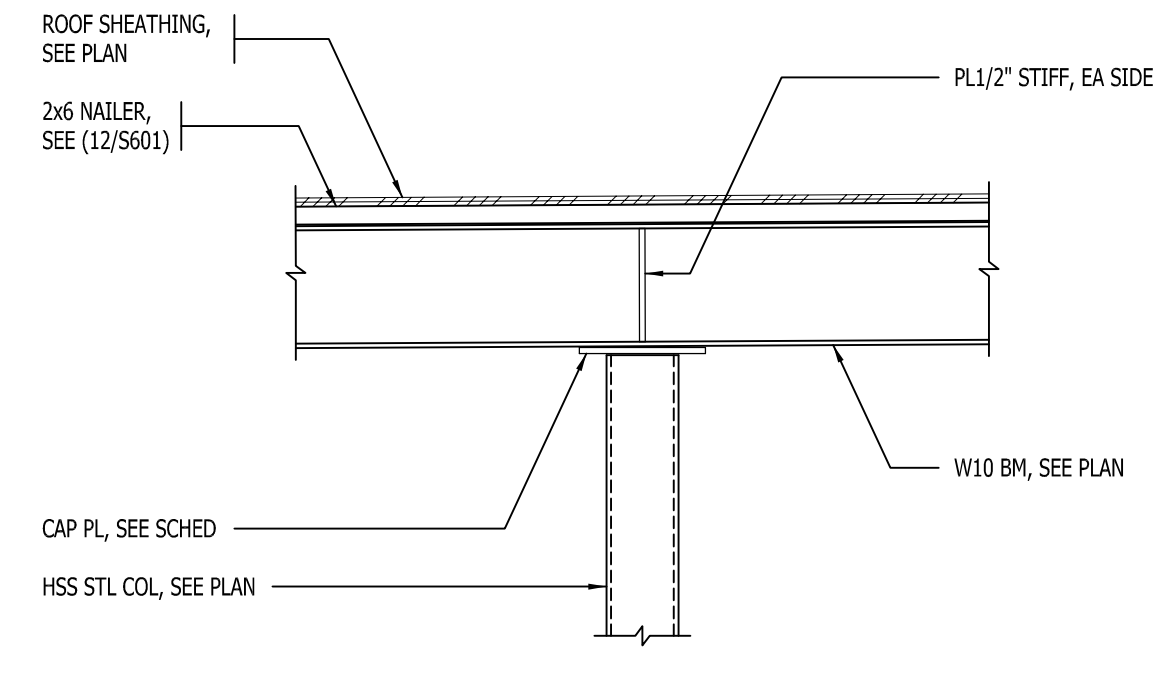
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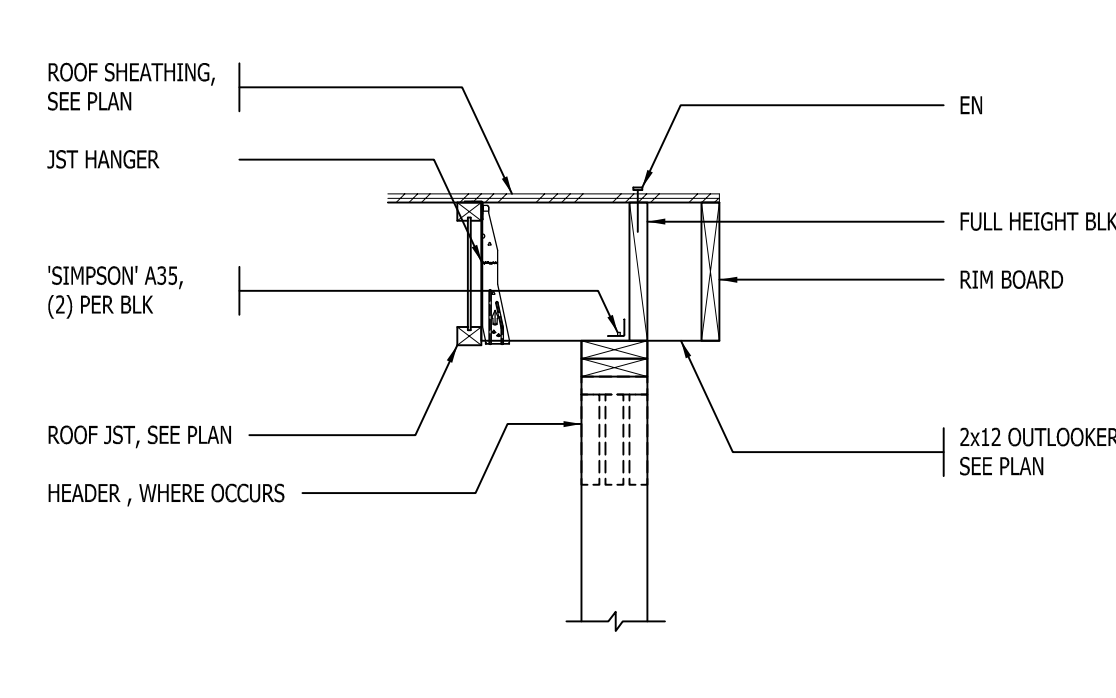
1 ROOF FRAMING NO SCALE



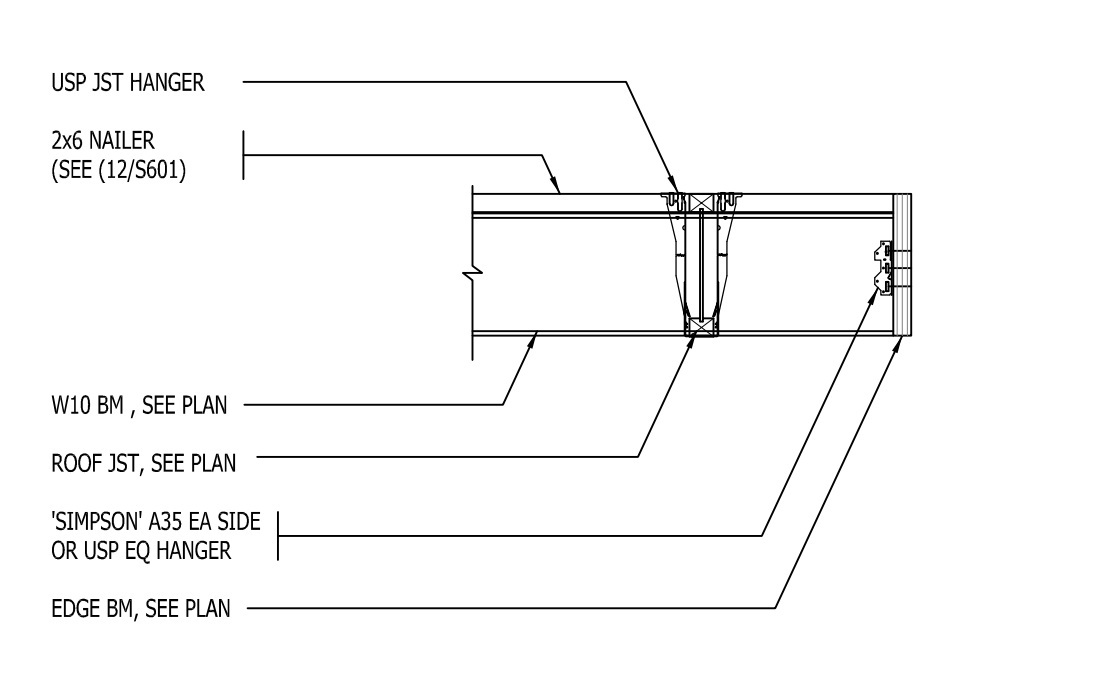
2 ROOF FRAMING NO SCALE



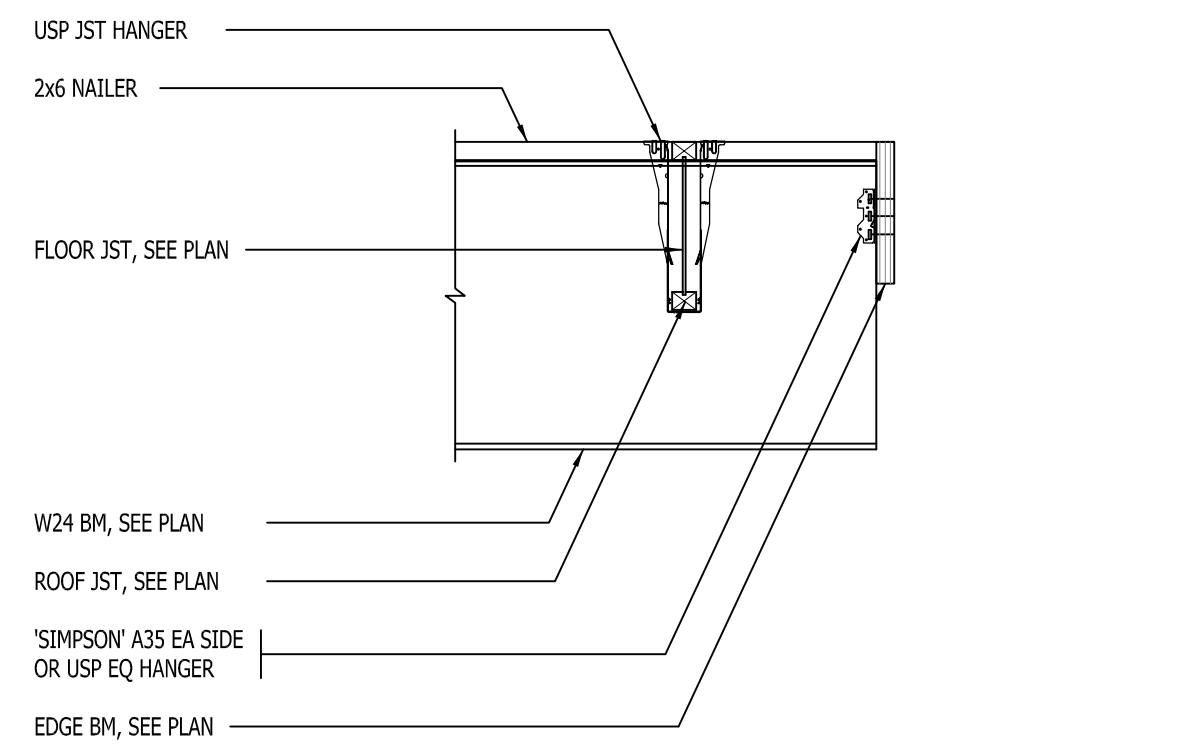
3 BEAM CANTILEVER NO SCALE



4 OUTLOOKER DETAIL NO SCALE



5 EDGE BEAM CONNECTION NO SCALE



6 EDGE BEAM FRAMING NO SCALE



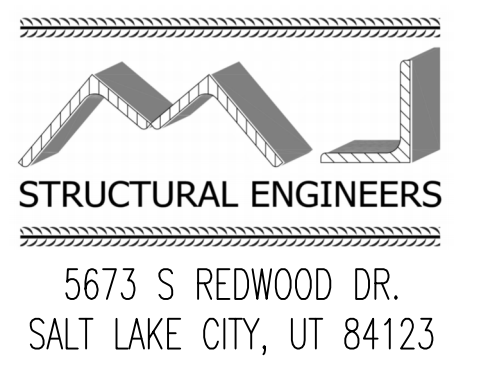
01 JUNE 2016

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