

1. STRUCTURAL NOTES

1.1. ANY DISCREPANCY FOUND AMONG THE DRAWINGS, SPECIFICATIONS, THESE NOTES, AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT AND THE STRUCTURAL ENGINEER, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL ERECTION BRACING, FORMWORK AND TEMPORARY CONSTRUCTION SHORING.

1.2. BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE CONTRACTOR WARRANTS THAT:

1.2.1. THE CONTRACTOR AND ALL SUBCONTRACTORS THEY INTEND TO USE (INCLUDING AGENTS AND SUPPLIERS) HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS AND STRUCTURAL NOTES AND HAVE FOUND THEM COMPLETE AND FREE FROM AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED.

1.2.2. THE CONTRACTOR HAS CAREFULLY EXAMINED THE SITE OF THE WORK AND FROM THEIR OWN INVESTIGATIONS, THEY HAVE SATISFIED THEMSELVES AS TO THE NATURE AND LOCATION OF THE WORK, AS TO THE CHARACTER, QUALITY, AND QUANTITIES OF MATERIAL AND DIFFICULTIES TO BE ENCOUNTERED, AS TO THE EXTENT OF EQUIPMENT AND OTHER FACILITIES NEEDED FOR THE PERFORMANCE OF THE WORK AND AS TO THE GENERAL AND LOCAL CONDITIONS, AND OTHER ITEMS WHICH MAY IN ANY WAY AFFECT THE WORK OR ITS PERFORMANCE.

1.2.3. THE CONTRACTOR AND ALL WORKERS THEY INTEND TO USE ARE SKILLED AND EXPERIENCED IN THE TYPE OF CONSTRUCTION REPRESENTED BY THE DRAWINGS AND DOCUMENTS BID UPON.

1.2.4. NEITHER THE CONTRACTOR NOR ANY OF THEIR EMPLOYEES, AGENTS, INTENDED SUPPLIERS, OR SUBCONTRACTORS HAVE RELIED UPON ANY VERBAL REPRESENTATIONS ALLEGEDLY AUTHORIZED OR UNAUTHORIZED FROM THE OWNER OR THEIR EMPLOYEES OR AGENTS, INCLUDING THE ARCHITECT OR ENGINEERS, IN ASSEMBLING THE BID FIGURES.

1.2.5. THE REQUIREMENTS CONTAINED WITHIN THIS SECTION SUPERSEDE REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDING AND BRIDGES", AS WELL AS CASE DOCUMENT 982-D "A GUIDELINE ADDRESSING COORDINATION AND COMPLETENESS OF STRUCTURAL CONSTRUCTION DOCUMENTS"

1.2.6. THE CONTRACTOR AND ALL SUBCONTRACTORS THEY INTEND TO USE ARE AWARE OF AND ACKNOWLEDGE THAT CLOSE COORDINATION AMONG ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER TRADE DRAWINGS IS REQUIRED.

1.2.7. THE CONTRACTOR AND ALL SUBCONTRACTORS THEY INTEND TO USE SHALL RECOGNIZE THAT THE PROJECT CONTRACT DOCUMENTS INCLUDE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL AND OTHER TRADE DRAWINGS AND SPECIFICATIONS

1.2.8. CONTRACTOR AND ALL SUBCONTRACTORS ACKNOWLEDGE THAT CLOSE COORDINATION BETWEEN DISCIPLINES INCLUDED WITHIN THE CONTRACT DOCUMENTS IS NECESSARY. ELEMENTS THAT WILL REQUIRE CLOSE COORDINATION BY THE CONTRACTOR INCLUDE (BUT ARE NOT LIMITED TO):

- A. VERIFICATION OF ALL DIMENSIONS INDICATED ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS
- B. DETERMINATION OF ALL COLUMN LOCATIONS
- C. DETERMINATION OF TOP OF FLOOR, TOP OF STEEL, WALL PLATE AND/OR TOP OF BEAM ELEVATIONS
- D. DETERMINATION OF TOP OF FOOTING ELEVATIONS AND FOOTING STEP LOCATIONS
- E. MECHANICAL/ELECTRICAL EQUIPMENT LOCATIONS AND WEIGHTS
- F. LOCATION AND SIZE OF ALL MECHANICAL/ ELECTRICAL PENETRATIONS THROUGH WALLS AND FLOORS/ ROOFS
- G. COORDINATION WITH DESIGNERS/ SUPPLIERS OF PRE-ENGINEERED COMPONENTS (JOISTS, TRUSSES, STAIRS, ETC.)

1.2.9. THE CONTRACTOR ACKNOWLEDGES THAT TEMPORARY SHORING AND/OR BRACING MAY BE REQUIRED TO COMPLETE THE PROJECT. DESIGN AND IMPLEMENTATION OF TEMPORARY SHORING AND/OR BRACING DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

1.2.10. THE CONTRACTOR AND ALL SUBCONTRACTORS THEY INTEND TO USE SHALL MAKE CONSIDERATION FOR, AND INCLUDE MONIES FOR THE ABOVE IN THE PREPARATION OF THEIR BIDS.

1.2.11. THE CONTRACTOR SHALL NOT SCALE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATIONS NOTED ABOVE.

1.2.12. ELECTRONIC COPIES OF THE STRUCTURAL DRAWINGS (PDF'S, CAD DRAWINGS OR BIM MODELS) MAY BE PROVIDED TO THE CONTRACTOR FOR THEIR USE. THESE FILES MAY BE PROVIDED AT THE REQUEST OF THE CONTRACTOR FOR THEIR CONVENIENCE ONLY. THE CONTRACTOR AGREES THAT THESE FILES SHALL NOT SUPERSEDE INFORMATION SHOWN ON THE ORIGINAL BID/ CONSTRUCTION DOCUMENTS. THE CONTRACTOR AGREES TO HOLD THE STRUCTURAL ENGINEER HARMLESS FOR ANY ERRORS OR DISCREPANCIES CONTAINED WITHIN THESE ELECTRONIC FILES.

1.2.13. THE BID FIGURE IS BASED SOLELY UPON THE CONSTRUCTION CONTRACT DOCUMENTS AND PROPERLY ISSUED WRITTEN OR VERBAL REPRESENTATIONS.

1.3. CODES

1.3.1. ALL METHODS, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED AND ADOPTED BY THE LOCAL BUILDING AUTHORITY.

1.3.2. ALL REFERENCES TO OTHER CODES, STANDARDS AND SPECIFICATIONS, (ACI, ASTM, ETC.), SHALL BE FOR THE EDITION CURRENTLY REFERENCED BY IBC AS AMENDED AND ADOPTED BY THE LOCAL BUILDING AUTHORITY.

1.4. DESIGN CRITERIA

1.4.1. UNIFORM LOADS:

LOCATION	LIVE LOAD	DEAD LOAD
ROOF	25 PSF (SNOW*)	ACTUAL
(SOLAR READINESS ZONE **)		+4 PSF
SLAB ON GRADE	250 PSF	ACTUAL
* THIS IS NOT A GROUND SNOW LOAD		
** SOLAR READINESS ZONE PER WA STATE ENERGY CODE, COMMERCIAL PROVISIONS, CHAPTER 51-11C WAC.		
WHERE LIVE LOADS OF COMMERCIAL OR INDUSTRIAL BUILDINGS EXCEED 50 PSF, SUCH DESIGN LOADS SHALL BE POSTED IN THAT PART OF EACH STORY IN WHICH THEY APPLY		

1.4.2. CONCENTRATED LOADS: ALL MANUFACTURERS OF PRE-ENGINEERED COMPONENTS OR SYSTEMS SHALL LOCATE, COORDINATE, VERIFY WEIGHTS, ETC., OF MECHANICAL UNITS OR OTHER CONCENTRATED LOADS AND DESIGN THEIR SYSTEM FOR THESE LOADS.

1.4.3. WIND LOADS (PER IBC SECTION 1609 AND ASCE 7 CHAPTERS 26 THRU 30):

ULTIMATE DESIGN WIND SPEED (V_h):	97 MPH
RISK CATEGORY	II
WIND EXPOSURE:	B
APPLICABLE INTERNAL PRESSURE COEFFICIENT:	+/-0.18
TOPOGRAPHIC FACTOR (K_z)	1.0
COMPONENTS AND CLADDING: ULTIMATE DESIGN WIND PRESSURES TO BE USED FOR THE DESIGN OF EXTERIOR COMPONENT AND CLADDING MATERIALS IS AS FOLLOWS:	
ZONE 1	+7.3/-28.7 PSF (10 SQ FT)
ZONE 2	+7.3/-37.8 PSF (10 SQ FT)
ZONE 3	+7.3/-51.5 PSF (10 SQ FT)
ZONE 4	+18/-19.5 PSF (10 SQ FT)
ZONE 5	+18/-24.1 PSF (10 SQ FT)

1.4.4. SEISMIC LOADS (PER IBC SECTION 1613 AND ASCE 7 CHAPTERS 11 THRU 13):

RISK CATEGORY:	II
SEISMIC IMPORTANCE FACTOR (I_h):	1.0
S_s :	1.359
S_1 :	.471
SITE CLASS:	D
S_{DS} :	.906
S_{D1} :	N/A
SEISMIC DESIGN CATEGORY:	D
DESIGN BASE SHEAR:	$V=C_s \times W$
SEISMIC RESPONSE COEFFICIENT (C_s):	.1394
ANALYSIS PROCEDURE USED:	EQUIVALENT LATERAL FORCE PROCEDURE

SEISMIC FORCE-RESISTING SYSTEM	RESPONSE MODIFICATION COEFFICIENT, R	OVERSTRENGTH FACTOR, Ω_e
A. BEARING WALL SYSTEMS:		
15. LIGHT-FRAME (WOOD) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE	6 %	2 %
NOTE: TABULATED OVERSTRENGTH FACTOR HAS BEEN REDUCED IN ACCORDANCE WITH ASCE 7 TABLE 12.2-1 FOOTNOTE B FOR STRUCTURES WITH FLEXIBLE DIAPHRAGMS.		

1.5. STATEMENT OF SPECIAL INSPECTIONS

SEE STATEMENT OF SPECIAL INSPECTION AND TESTING SHEET S0.5.

1.6. SHOP DRAWINGS

1.6.1. SUBMIT SHOP DRAWINGS TO THE ARCHITECT/ENGINEER FOR THE FOLLOWING:

- A. CONCRETE MIX DESIGN SUBMITTALS
- B. REINFORCING STEEL
- C. STRUCTURAL AND MISCELLANEOUS STEEL INCLUDING WELD INSERTS AND ANCHORS
- D. PRE-ENGINEERED WOOD JOISTS/OPEN WEB JOISTS *
- E. PRE-ENGINEERED STEEL CANOPY*

* DEFERRED SUBMITTALS: PRE-ENGINEERED ITEMS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AFTER REVIEW BY THE ENGINEER OR RECORD AS A DEFERRED SUBMITTAL.

1.6.2. SHOP DRAWING REVIEW NOTES

- A. ENGINEER OF RECORD SHALL REVIEW SHOP DRAWINGS FOR GENERAL CONFORMANCE WITH THE PROJECT CONSTRUCTION DOCUMENTS (PLANS AND SPECIFICATIONS).
- B. ENGINEER OF RECORD REVIEW OF SHOP DRAWINGS SHALL NOT RELIEVE THE GENERAL CONTRACTOR OF THEIR RESPONSIBILITY FOR REVIEW OF THE SHOP DRAWINGS FOR COMPLIANCE WITH THE PROJECT REQUIREMENTS.
- C. APPROVAL OF THE SHOP DRAWINGS BY THE ENGINEER OF RECORD SHALL NOT BE CONSIDERED AS A GUARANTEE BY THE ENGINEER THAT THE SHOP DRAWINGS COMPLY WITH ALL PROJECT REQUIREMENTS.
- D. CONCURRENT SHOP DRAWING REVIEW SHALL ONLY BE PERMITTED IF APPROVED BY THE ARCHITECT/ENGINEER OF RECORD PRIOR TO THE START OF SHOP DRAWING REVIEW.

1.7. MISCELLANEOUS

- 1.7.1. VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD.
- 1.7.2. VERIFY SIZE AND LOCATION OF ALL OPENINGS IN THE FLOORS, ROOF AND WALLS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.

1.7.3. CONSTRUCTION DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS OF SECTIONS OF THIS PROJECT AS APPROVED BY THE ARCHITECT/ENGINEER.

1.7.4. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR DIMENSIONS AND LOCATIONS OF OPENINGS NOT DIMENSIONED OR SHOWN ON STRUCTURAL PLANS.

1.7.5. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND WEIGHTS OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT INCLUDING HOUSEKEEPING PADS.

1.7.6. FOR PIPES, CONDUITS, DUCTS AND MECHANICAL EQUIPMENT SUPPORTED OR BRACED FROM STRUCTURE: CONFORM TO SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. PUBLICATION "APPENDIX E: SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS." ALL BRACING AND SUPPORTS SHALL BE DESIGNED FOR SEISMIC HAZARD LEVEL (SHL) B. SPRINKLER LINE ATTACHMENTS SHALL CONFORM TO NFPA PAMPHLET 13.

1.7.7. THE STRUCTURE HAS BEEN DESIGNED TO RESIST CODE REQUIRED VERTICAL AND LATERAL FORCES AFTER THE CONSTRUCTION OF ALL STRUCTURAL ELEMENTS HAS BEEN COMPLETED. STABILITY OF THE STRUCTURE PRIOR TO COMPLETION IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THIS RESPONSIBILITY INCLUDES BUT IS NOT LIMITED TO JOB SITE SAFETY, ERECTION MEANS, METHODS, AND SEQUENCES; TEMPORARY SHORING, FORMWORK, AND BRACING; USE OF EQUIPMENT AND CONSTRUCTION PROCEDURES.

2. SITE PREPARATION/SOIL REMEDIATION

2.1. SOIL DATA

ALLOWABLE SOIL PRESSURE 3000 PSF. ALLOW 33-1/3% INCREASE FOR LOADS FROM WIND OR SEISMIC ORIGIN. SEE GEOTECHNICAL ENGINEERING REPORT BY ASSOCIATED EARTH SCIENCES, INC. DATED MARCH 12, 2018. SEE GEOTECH REPORT FOR ALL SUBGRADE PREPARATION REQUIREMENTS AS WELL AS CAPILLARY BREAK AND VAPOR BARRIER RECOMMENDATIONS.

2.1.1. RETAINING WALL DESIGN CRITERIA:

A. ACTIVE EARTH PRESSURE:	35 PCF
B. AT-REST EARTH PRESSURE:	55 PCF
C. SEISMIC EARTH PRESSURE:	12 x "H" PSF
D. PASSIVE EARTH PRESSURE:	300 PCF *
E. FRICTION COEFFICIENT:	0.35 *
* INCLUDES FACTOR OF SAFETY OF 1.5	

2.2. EXCAVATION

EXCAVATE TO DEPTH SHOWN AND TO FIRM UNDISTURBED MATERIAL. OVER-EXCAVATIONS SHALL BE BACKFILLED WITH LEAN CONCRETE (F-500-1200 PSI) OR STRUCTURAL FILL AT THE CONTRACTOR'S EXPENSE. EXERCISE EXTREME CARE DURING EXCAVATION TO AVOID DAMAGE TO BURIED LINES, TANKS, AND OTHER CONCEALED ITEMS. UPON DISCOVERY, DO NOT PROCEED WITH WORK UNTIL RECEIVING WRITTEN INSTRUCTIONS FROM THE ARCHITECT. A COMPETENT REPRESENTATIVE OF THE OWNER SHALL INSPECT ALL FOOTING EXCAVATIONS FOR SUITABILITY OF BEARING SURFACES PRIOR TO PLACEMENT OF REINFORCING STEEL. PROVIDE DRAINAGE AS NECESSARY TO AVOID WATER-SOFTENED SUBGRADE.

2.3. FILL, BACKFILL AND COMPACTION

BACKFILL AGAINST WALLS SHALL NOT BE PLACED UNTIL AFTER THE REMOVAL OF ALL MATERIAL SUBJECT TO ROT OR CORROSION. ALL FILL PLACED AGAINST RETAINING WALLS OR BASEMENT WALLS SHALL BE FREE DRAINING GRANULAR MATERIAL. STRUCTURAL FILL OTHER THAN PEA GRAVEL SHALL BE GRANULAR PLACED IN 12-INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MOD PROCTOR). PEA GRAVEL FILL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 3/8" DIAMETER.

3. STRUCTURAL CONCRETE

3.1. GENERAL

ALL CONCRETE SHALL BE HARD ROCK CONCRETE MEETING THE REQUIREMENTS OF ACI-301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS." PROPORTIONING OF INGREDIENTS FOR EACH CONCRETE MIX SHALL BE BY METHOD 2 OR THE ALTERNATE PROCEDURE GIVEN IN ACI-301. PLACE CONCRETE PER ACI-304 AND CONFORM TO ACI-604 (305) FOR WINTER CONCRETING AND ACI-605 (305) FOR HOT WEATHER CONCRETING. USE INTERIOR MECHANICAL VIBRATORS WITH 7,000 RPM MINIMUM FREQUENCY. DO NOT OVER-VIBRATE. CONCRETE SHALL BE PLACED MONOLITHICALLY BETWEEN CONSTRUCTION OR CONTROL JOINTS. PROTECT ALL CONCRETE FROM PREMATURE DRYING, EXCESSIVE HOT OR COLD TEMPERATURE FOR SEVEN DAYS AFTER PLACING.

3.2. STRENGTH

TWENTY-EIGHT DAY COMPRESSIVE STRENGTHS (f'_c) SHALL BE AS FOLLOWS WITH EXPOSURE CATEGORY AND CLASS PER ACI TABLE 19.3.1.1 GIVEN IN PARENTHESES:

SLABS ON GRADE (F0/S0/W0/C0)	4000 PSI
FOOTINGS (F0/S0/W0/C1)	3000 PSI
VERTICALLY FORMED WALLS (F1/S0/W0/C0)	4000 PSI *
* MAXIMUM W/C RATIO SHALL BE 0.55	

CONCRETE SUPPLIER TO PROVIDE TEST RECORDS PER SECTION 26.4 OF ACI 318. WHEN NO PRIOR EXPERIENCE OR TRIAL MIXTURE DATA ARE AVAILABLE, THE WATER/CEMENT RATIO FROM THE TABLE BELOW MAY BE USED, BUT ONLY WHEN SPECIAL PERMISSION IS GIVEN BY ENGINEER.

MAXIMUM ABSOLUTE WATER/CEMENT RATIO BY WEIGHT FOR CONCRETE MIXES WITHOUT TEST RECORDS SHALL BE AS FOLLOWS:

SPECIFIED COMPRESSIVE STRENGTH	NON-AIR ENTRAINMENT CONCRETE	AIR- ENTRAINMENT CONCRETE
3000 PSI	0.58	0.46
4000 PSI	0.44	0.35

3.3. MATERIALS

3.3.1. CEMENT: ASTM C150, TYPE I OR TYPE II. ENGINEER'S APPROVAL IS NEEDED FOR USE OF TYPE III CEMENT.

3.3.2. COARSE AND FINE AGGREGATE: ASTM C33.

3.3.3. WATER SHALL BE CLEAN AND POTABLE.

3.3.4. FLYASH: ASTM C618 CLASS C (CLASS F MAY BE ALLOWED IF APPROVED BY THE STRUCTURAL ENGINEER)

3.3.5. GROUND GRANULATED BLAST FURNACE SLAG (GGBS): ASTM C989 GRADE 100 OR 120. GGBS SHALL NOT BE PERMITTED UNLESS REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER. MIX DESIGNS SUBMITTED INCLUDING GGBS SHALL INCLUDE SHRINKAGE TEST RESULTS AT 28 DAYS.

3.4. ADMIXTURES

3.4.1. WATER REDUCING ADMIXTURE: ASTM C494. ADMIXTURES SHALL BE USED IN EXACT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

3.4.2. WATER REDUCING ADMIXTURES SHALL BE USED AT ALL HEAVILY CONGESTED AREAS (I.E. CONCRETE BEAMS, COLUMNS AND WALLS WITH REINFORCING SPACING OF 4" OR LESS)

3.4.3. CONCRETE USING ADMIXTURES TO PRODUCE FLOWABLE CONCRETE MAY BE USED SUBJECT TO ENGINEER'S APPROVAL.

3.4.4. AIR ENTRAINMENT: ASTM C260 AND ASTM C494 ENTRAIN 5% PLUS/MINUS 1.5% BY VOLUME IN ALL CONCRETE EXPOSED TO WEATHER.

3.4.5. NO OTHER ADMIXTURES PERMITTED UNLESS APPROVED BY THE ENGINEER.

3.5. FORMWORK AND SHORING

3.5.1. FOLLOW RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI-347).

3.5.2. ALL SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FORMWORK SUPPORTS AND SHORING SHALL BE DESIGNED TO PROVIDE FINISHED CONCRETE SURFACES AT ALL FACES LEVEL, PLUMB AND TRUE TO THE DIMENSIONS AND ELEVATIONS SHOWN. TOLERANCES AND VARIATIONS SHALL BE AS SPECIFIED.

3.6. REINFORCING STEEL:

3.6.1. DETAIL, FABRICATE, AND PLACE PER ACI-315 AND ACI-318. SUPPORT REINFORCEMENT WITH APPROVED CHAIRS, SPACERS, OR TIES.

3.6.2. DEFORMED BAR REINFORCEMENT: ASTM A615 GR 60

3.6.3. WELDABLE DEFORMED BAR REINFORCEMENT: ASTM A706 GR 60 WHERE NOTED ON STRUCTURAL DRAWINGS

3.6.4. LONGITUDINAL (VERTICAL) REINFORCEMENT RESISTING SEISMIC MOMENT AND/OR AXIAL FORCES IN SPECIAL MOMENT FRAMES, SPECIAL STRUCTURAL WALLS INCLUDING BOUNDARY ELEMENTS, COUPLING BEAMS AND WALL PIERS SHALL BE ASTM A706 GR 60. ASTM A615 GR 60 MAY BE USED IF:

- A. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED YIELD BY MORE THAN 18 KSI; AND
- B. THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRENGTH TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25; AND
- C. MINIMUM ELONGATION IN 8-INCH SHALL BE AT LEAST 14% FOR #3 THRU #6 BARS, AT LEAST 12% FOR #7 THRU #11 BARS, AND AT LEAST 10% FOR #14 THRU #18.

3.6.5. WELDED WIRE FABRIC: ASTM A185 & ASTM A82 F-65 KSI

3.6.6. HEADED SHEAR STUD REINFORCEMENT: ASTM A1044

3.6.7. EXCEPT AS NOTED SPECIFICALLY ON THE DRAWINGS, ALL CONCRETE REINFORCEMENT SHALL BE LAP-SPLICED AS INDICATED ON THE REINFORCING BAR DEVELOPMENT AND SPLICE LENGTH SCHEDULE PROVIDED ON THE STRUCTURAL DRAWINGS. NO MORE THAN 50% OF HORIZONTAL OR VERTICAL REINFORCING BARS SHALL BE SPLICED AT ANY ONE LOCATION.

3.6.8. EXCEPT AS NOTED SPECIFICALLY ON THE DRAWINGS, PROVIDE CORNER BARS TO MATCH QUANTITY AND DIAMETER OF HORIZONTAL REINFORCEMENT AND LAP WITH SPECIFIED HORIZONTAL REINFORCEMENT FOR "L". PER REINFORCING BAR DEVELOPMENT AND SPLICE LENGTH TABLES PROVIDED ON THE STRUCTURAL DRAWINGS. THESE CORNER BARS SHALL BE PLACED AT ALL CORNERS AND INTERSECTIONS IN CONCRETE FOOTINGS AND WALLS.

3.6.9. LAP WELDED WIRE FABRIC 12" OR ONE SPACING PLUS 2", WHICHEVER IS MORE.

3.7. CONCRETE COVER ON REINFORCING SHALL BE AS FOLLOWS (UNLESS SHOWN OTHERWISE):

BOTTOM OF FOOTINGS	3"
FORMED EARTH FACE AND SLAB ON GRADE	2"
WALLS, WEATHER FACE	1-1/2"
WALLS, INSIDE FACE	1"
COLUMNS TO TIES	1-1/2"
BEAMS TO STIRRUPS	1-1/2"
BOTTOM OF ELEVATED STRUCTURAL SLAB	3/4"

3.8. CONSTRUCTION OR CONTROL JOINTS

3.8.1. UNLESS NOTED OTHERWISE, LOCATION OF THE CONSTRUCTION OR CONTROL JOINTS IN SLAB ON GRADE SHALL NOT EXCEED THE DISTANCES NOTED BELOW. JOINTS SHALL BE LOCATED ON COLUMN GRIDS OR UNDER PERMANENT PARTITIONS TO THE GREATEST EXTENT POSSIBLE. ADDITIONAL JOINTS SHALL BE REQUIRED AT REINTRANT CORNERS AND CORNERS OF SLAB DEPRESSIONS OR PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR JOINT LAYOUT AT EXPOSED CONCRETE CONDITIONS. PROVIDE JOINT SEALANT PER SPECIFICATIONS - INSTALL PER MANUFACTURER RECOMMENDATIONS.

4" SLAB ON GRADE	12'-0" OC
5" SLAB ON GRADE	15'-0" OC
6" SLAB ON GRADE	18'-0" OC

3.8.2. CONSTRUCTION OR CONTROL JOINT SPACING IN WALLS SHALL NOT EXCEED 50' ON CENTER EXCEPT AS DIRECTED BY THE ARCHITECT/ENGINEER.

3.9. CONDUIT AND PIPING EMBEDDED IN CONCRETE

3.9.1. ELECTRICAL CONDUIT SHALL NOT BE PLACED WITHIN A SLAB ON GRADE BUT PLACED BELOW THE SLAB IN THE SUB-BASE.

3.9.2. NO JOISTS, BEAMS OR GIRDERS SHALL BE SLEEVED FOR PIPING OR CONDUIT EXCEPT AS NOTED ON THE STRUCTURAL DRAWINGS OR AS APPROVED BY THE ARCHITECT/ENGINEER.

3.10. GROUT FOR BEARING PLATES

THE NON-SHRINK GROUT SHALL MEET ASTM C1107 GRADE B OR EQUIVALENT (MASTERFLOW 328 BY BASF OR APPROVED EQUIVALENT). GROUT SHALL BE A PRE-PACKAGED HYDRAULIC CEMENT BASED MINERAL AGGREGATE GROUT, MIXED, PLACED AND CURED AS RECOMMENDED BY THE MANUFACTURER. COMPRESSIVE STRENGTH SHALL EXCEED 8000 PSI AT 28 DAYS.

5. METALS

5.1. STRUCTURAL STEEL GENERAL REQUIREMENTS

5.1.1. ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO AISC 360-16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", AISC 341-16 "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS" AND AISC 303-16 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" EXCEPT AS AMENDED BY THESE STRUCTURAL NOTES.

5.1.2. STRUCTURAL STEEL DETAILING REQUIREMENTS:

A. THE STRUCTURAL STEEL DETAILER SHALL HAVE A MINIMUM OF 3 YEARS OF DETAILING EXPERIENCE OF PROJECTS OF SIMILAR SIZE AND COMPLEXITY, AS WELL AS A MINIMUM OF 5 REFERENCE PROJECTS OF SIMILAR SIZE AND COMPLEXITY TO THIS PROJECT. PRIOR TO START OF DETAILING, THE STRUCTURAL STEEL DETAILER SHALL SUBMIT QUALIFICATIONS AND REFERENCE PROJECTS TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND APPROVAL. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE THAT SUBMITTALS HAVE BEEN REVIEWED AND APPROVED PRIOR TO THE START OF DETAILING. NONCOMPLIANCE WITH THESE REQUIREMENTS MAY BE CAUSE FOR DISQUALIFICATION OF THE STRUCTURAL STEEL DETAILER.

B. THE DELIVERABLES BY THE STRUCTURAL STEEL DETAILER SHALL INCLUDE A COMPREHENSIVE THREE-DIMENSIONAL COMPUTER MODEL OF THE PRIMARY STRUCTURAL STEEL FRAME. THIS MODEL SHALL BE MADE AVAILABLE TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD AT THEIR REQUEST.

C. REVISIONS OR MODIFICATIONS TO THE STRUCTURAL FRAMING BY THE STRUCTURAL STEEL DETAILER SHALL NOT BE PERMITTED WITHOUT PRIOR REVIEW AND APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD. ANY STRUCTURAL STEEL FRAMING MEMBER OR CONNECTION MODIFICATIONS MADE WITHOUT PRIOR APPROVAL MAY BE SUBJECT TO REJECTION AND RE-FABRICATION AT THE DISCRETION OF THE STRUCTURAL ENGINEER AND AT NO COST TO THE OWNER.

5.1.3. STRUCTURAL STEEL FABRICATOR REQUIREMENTS:

D. THE STRUCTURAL STEEL FABRICATOR SHALL BE CURRENTLY AISC CERTIFIED, CATEGORY STD.

E. THE STRUCTURAL STEEL FABRICATOR SHALL HAVE A MINIMUM OF 5 YEARS OF DETAILING EXPERIENCE OF PROJECTS OF SIMILAR SIZE AND COMPLEXITY, AS WELL AS A MINIMUM OF 5 REFERENCE PROJECTS OF SIMILAR SIZE AND COMPLEXITY TO THIS PROJECT. PRIOR TO START OF FABRICATION, THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT QUALIFICATIONS AND REFERENCE PROJECTS TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND APPROVAL. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE THAT SUBMITTALS HAVE BEEN REVIEWED AND APPROVED PRIOR TO THE START OF FABRICATION.

F. PRIOR TO THE START OF FABRICATION, THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT IN WRITING THE FABRICATOR'S PROJECT SPECIFIC QUALITY CONTROL/QUALITY ASSURANCE PLAN. AT A MINIMUM THE QC/QA PLAN SHALL COMPLY WITH CHAPTER N OF AISC 360-16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND INCLUDE THE FOLLOWING:

- a. THE QC/QA PLAN SHALL COMPLY WITH CHAPTER 17 OF THE IBC AND THE STATEMENT OF SPECIAL INSPECTION AND TESTING CONTAINED WITHIN THESE DRAWINGS.
- b. THE QC/QA PLAN SHALL INDICATE THE FABRICATOR'S PERSONNEL THAT SERVE AS THE FABRICATOR'S QUALITY CONTROL INSPECTOR (QC) AND THEIR LIST OF QUALIFICATIONS. THE QC SHALL BE A DESIGNATED COMPETENT PERSON NOT INVOLVED IN THE MATERIAL FABRICATION OF STRUCTURAL STEEL ON THIS PROJECT.
- c. THE QC/QA PLAN SHALL INDICATE IN-HOUSE PROCESSES FOR IDENTIFYING NON-COMPLIANCE WITH CONTRACT REQUIREMENTS, AS WELL AS TRACKING AND COMPLETING NECESSARY REPAIRS.
- G. IF THE FABRICATOR'S QC/QA PLAN IS DETERMINED TO BE NON-COMPLIANT WITH THE PROJECT REQUIREMENTS, ADDITIONAL INSPECTIONS MAY BE REQUIRED BY THE PROJECT SPECIAL INSPECTOR EMPLOYED BY THE PROJECT OWNER. THE COSTS ASSOCIATED WITH THESE ADDITIONAL INSPECTIONS SHALL BE BORNE BY THE GENERAL CONTRACTOR AND STRUCTURAL STEEL FABRICATOR.

CONTINUED ON SHEET S0.2

BOE
architects*

1130 Broadway
Suite 207
Tacoma, WA 98402
253.383.7762
www.boearc.com

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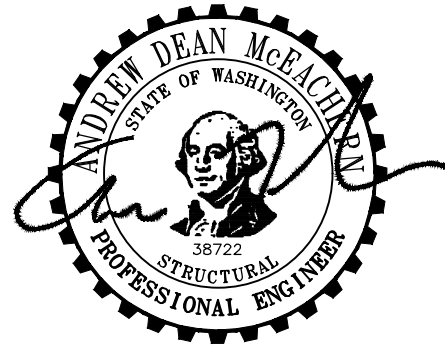
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FOR

BRUCE TITUS
AUTOMOTIVE
GROUP

GENERAL NOTES:

REVISIONS



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5.1.4. STRUCTURAL STEEL ERECTOR REQUIREMENTS:

- H. THE STRUCTURAL STEEL ERECTOR SHALL HAVE A MINIMUM OF 5 YEARS OF ERECTION EXPERIENCE OF PROJECTS OF SIMILAR SIZE AND COMPLEXITY, AS WELL AS A MINIMUM OF 5 REFERENCE PROJECTS OF SIMILAR SIZE AND COMPLEXITY TO THIS PROJECT. PRIOR TO START OF ERECTION, THE STRUCTURAL STEEL ERECTOR SHALL SUBMIT QUALIFICATIONS AND REFERENCE PROJECTS TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND APPROVAL. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE THAT SUBMITTALS HAVE BEEN REVIEWED AND APPROVED PRIOR TO THE START OF ERECTION.
- I. PRIOR TO THE START OF ERECTION, THE STRUCTURAL STEEL ERECTOR SHALL SUBMIT IN WRITING THE ERECTOR'S PROJECT SPECIFIC QUALITY CONTROL/QUALITY ASSURANCE PLAN. AT A MINIMUM THE QC/QA PLAN SHALL COMPLY WITH CHAPTER N OF AISC 360-10 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," AND INCLUDE THE FOLLOWING:
- a. THE QC/QA PLAN SHALL COMPLY WITH CHAPTER 17 OF THE IBC AND THE STATEMENT OF SPECIAL INSPECTION AND TESTING CONTAINED WITHIN THESE DRAWINGS.
- b. THE QC/QA PLAN SHALL INDICATE THE ERECTOR'S PROCESSES FOR IDENTIFYING NON-COMPLIANCE WITH CONTRACT REQUIREMENTS, AS WELL AS TRACKING AND COMPLETING NECESSARY REPAIRS.
- J. THE GENERAL CONTRACTOR AND STRUCTURAL STEEL ERECTOR SHALL BE RESPONSIBLE FOR COORDINATING SITE INSPECTIONS BY THE PROJECT SPECIAL INSPECTOR EMPLOYED BY THE OWNER. ANY ERECTION WORK PERFORMED WITHOUT THE REQUIRED SPECIAL INSPECTIONS SHALL BE REJECTED, AND THE COST OF RE-FABRICATION OR FABRICATION VERIFICATION BY THE SPECIAL INSPECTOR SHALL BE BORNE BY THE GENERAL CONTRACTOR AND STRUCTURAL STEEL ERECTOR.
- K. ANY WORK PERFORMED BY THE ERECTOR PRIOR TO REVIEW AND APPROVAL OF THE ERECTOR'S QUALIFICATIONS AND QC/QA PLAN MAY BE SUBJECT TO REJECTION AT THE DISCRETION OF THE STRUCTURAL ENGINEER.

5.2. STRUCTURAL STEEL

- 5.2.1. STEEL W SHAPES AND C & MC SHAPES 8" OR LARGER SHALL BE ASTM A992 (F_y=50 KSI).
- 5.2.2. STEEL M, S, HP AND L SHAPES SHALL BE ASTM A572 Gr. 50 (F_y=50 KSI).
- 5.2.3. STEEL PLATES THAT ARE PART OF THE SEISMIC FORCE RESISTING SYSTEM SHALL BE ASTM A572 Gr. 50 (F_y=50 KSI).
- 5.2.4. OTHER STEEL PLATES AND C & MC SHAPES SMALLER THAN 8" SHALL BE ASTM A36 (F_y=36 KSI).
- 5.2.5. STEEL PIPE SECTIONS (PIPE) SHALL BE ASTM A53 Gr. B (F_y=35 KSI).
- 5.2.6. RECTANGULAR AND ROUND HOLLOW STEEL SECTIONS (HSS) OR TUBE STEEL SECTIONS (TS) SHALL BE ASTM A500, GR. C (F_y=50 KSI).
- 5.2.7. STRUCTURAL TEES SHALL BE CUT FROM W, M OR S SHAPES TO MAKE WT, MT AND ST SHAPES.
- 5.2.8. BOLTS
- L. MACHINE BOLTS NOT SPECIFIED AS HIGH STRENGTH SHALL BE ASTM A307 GRADE A.
- M. HIGH STRENGTH BOLTS SHALL BE ASTM F3125 GRADE A325 OR GRADE A490 AS INDICATED ON STRUCTURAL DRAWINGS. ALL BOLTS SHALL BE CONSIDERED BEARING TYPE WITH THREADS INCLUDED IN SHEAR PLANE (CONNECTION TYPE N) UNLESS NOTED OTHERWISE. ALL HIGH STRENGTH BOLTED CONNECTIONS SHALL BE INSTALLED WITH NUTS CONFORMING TO ASTM A563 AND HARDENED WASHERS CONFORMING TO ASTM F436.
- N. HIGH STRENGTH BOLTS WITH TWIST OFF TYPE TENSION CONTROL MAY BE SUBSTITUTED FOR CONVENTIONAL BOLTS AND SHALL BE ASTM F3125 GRADE F1852 OR GRADE F2280, AND MAY BE USED FOR GRADE A325 OR GRADE A490 RESPECTIVELY.
- O. FULLY PRE-TENSIONED AND SLIP CRITICAL CONNECTIONS SHALL BE AT LOCATIONS NOTED ON THE STRUCTURAL DRAWINGS.
- P. AT FULLY PRE-TENSIONED AND SLIP CRITICAL CONNECTIONS WASHER TYPE INDICATING DEVICES (ASTM F959) OR TWIST-OFF TYPE TENSION-CONTROL BOLT ASSEMBLIES (ASTM F3125 GRADE F1852 OR F2280) SHALL BE USED UNLESS ALTERNATE SYSTEMS ARE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER.
- Q. ALL HIGH STRENGTH BOLTS SHALL BE INSTALLED PER THE SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS (LATEST EDITION) BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (WWW.BOLTCOUNCIL.ORG).

5.2.9. STEEL ANCHORAGE ELEMENTS:

- A. THREADED RODS SHALL BE ALL-THREAD ASTM A36 (F_y=36 KSI) UNLESS NOTED OTHERWISE.
- B. WELDED HEADED STUDS: "NELSON STUDS" SHALL BE BY NELSON STUD WELDING, INC. OR APPROVED EQUIVALENT COMPLYING WITH ASTM A108. STUDS SHALL HAVE A MINIMUM F_y OF 65 KSI.
- C. ANCHOR RODS: ANCHOR RODS SHALL BE ASTM F1554, F_y=36 KSI WITH HOOKED, HEADED OR THREADED AND NUTTED ENDS AS INDICATED. AT COLUMN LOCATIONS ANCHOR RODS SHALL BE ASTM F1554, F_y=36 KSI WITH HEADED OR THREADED NUTTED END. TACK WELD NUT TO ANCHOR ROD UNLESS NOTED OTHERWISE. WHERE NOTED, HIGH STRENGTH ANCHOR RODS SHALL BE ASTM F1554, F_y=105 KSI WITH DOUBLE NUTTED PLATE WASHER.

- D. EXPANSION ANCHORS SHALL BE CARBON STEEL AS NOTED IN THE FOLLOWING TABLE. ANCHORS IN CONCRETE SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 308.2 AND/OR ICC-ES AC108 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. ANCHORS SHALL HAVE A CURRENT CODE REPORT THAT COMPLIES WITH THE CURRENT EDITION OF THE IBC AND SHALL BE RATED FOR USE IN THE SEISMIC DESIGN CATEGORY NOTED IN THE DESIGN CRITERIA SECTION OF THESE NOTES.

EXPANSION ANCHORS IN CONCRETE	CODE REPORT
HILTI KWIK BOLT TZ	ICC ESR-1917
SIMPSON STRONG-BOLT 2	ICC ESR-3037
DEWALT POWER-STUD+ SD2	ICC ESR-2502

EXPANSION ANCHORS IN GROUT FILLED CONCRETE MASONRY	CODE REPORT
HILTI KWIK BOLT 3	ICC ESR-1385
SIMPSON STRONG-BOLT 2	IAPMO ER-240
DEWALT POWER-STUD+ SD1	ICC ESR-2966

- E. HEAVY DUTY CONCRETE/MASONRY SCREW ANCHORS SHALL BE USED IN DRY INTERIOR CONDITIONS AND SHALL BE AS NOTED IN THE FOLLOWING TABLE:

HEAVY DUTY CONCRETE/ MASONRY SCREW ANCHORS	CODE REPORT
HILTI KWIK HUS-EZ	ICC ESR-3027 (CONC) ICC ESR-3056 (CMU)
SIMPSON TITEN HD	ICC ESR-2713 (CONC) ICC ESR-1056 (CMU)
DEWALT SCREW BOLT+	ICC ESR-3889 (CONC) ICC ESR-4042 (CMU)

- F. ADHESIVE ANCHORS SHALL BE THREADED ANCHOR RODS OR REBAR DOWELS USING AN INJECTABLE ADHESIVE AS NOTED IN THE FOLLOWING TABLE. ANCHORS IN CONCRETE SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 308.4 AND/OR ICC-ES AC-308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. ANCHORS SHALL HAVE A CURRENT CODE REPORT THAT COMPLIES WITH THE CURRENT EDITION OF THE IBC AND SHALL BE RATED FOR USE IN THE SEISMIC DESIGN CATEGORY NOTED IN THE DESIGN CRITERIA SECTION OF THESE NOTES.

ADHESIVE ANCHORS IN CONCRETE (1) (2)	CODE REPORT
HILTI HIT HY-200 SAFE SET	ICC ESR-3187
SIMPSON AT-XP (3)	IAPMO ER-263
DEWALT AC200+ DUST-X	ICC ESR-4027

ADHESIVE ANCHORS IN GROUT FILLED CONCRETE MASONRY	CODE REPORT
HILTI HIT HY-270	ICC ESR-4143
SIMPSON AT-XP *	IAPMO ER-281
DEWALT AC100+ GOLD	ICC ESR-3200

(1) ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION TO SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI, OR AN APPROVED ALTERNATE WHEN SUBMITTED AND APPROVED BY THE ENGINEER. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.

(2) ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS.

(3) SIMPSON SET-XP MAY BE USED WHERE BASE MATERIAL TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT OR FOR EMBEDMENT GREATER THAN 12-INCHES FOR LONGER GEL TIME. SEE ICC ESR-2508 (CONC) AND IAPMO ER-265 (MASONRY).

- G. ADHESIVE ANCHORS IN HOLLOW BASE MATERIAL SHALL BE THREADED ANCHOR RODS WITH A SCREEN TUBE USING AN INJECTABLE TWO-COMPONENT EPOXY ADHESIVE AS NOTED IN THE FOLLOWING TABLE:

ADHESIVE ANCHORS IN HOLLOW CONCRETE MASONRY	CODE REPORT
HILTI HIT HY-270	ICC ESR-4143
SIMPSON SET-XP	IAPMO ER-265
DEWALT AC100+ GOLD	ICC ESR-3200

ADHESIVE ANCHORS IN CLAY BRICK MASONRY	CODE REPORT
HILTI HIT HY-270	ICC ESR-4144
SIMPSON SET	ICC ESR-1772
DEWALT AC100+ GOLD	ICC ESR-4105

- H. POWDER ACTUATED FASTENERS: PDF'S OR PAF'S SHALL BE A MINIMUM 0.157" DIA KNURLED SHANK FASTENER AS NOTED IN THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE. FASTENERS DRIVEN INTO STEEL SHALL BE DRIVEN SO THAT THE POINT OF THE FASTENER COMPLETELY PENETRATES THE STEEL BASE MATERIAL. AT TOPPING SLABS, PT SLABS OR SLABS WITH RADIANT HEAT TUBES EMBEDDED WITHIN THE SLAB, LIMIT THE PDF PENETRATION TO 3/4" MAXIMUM AND COORDINATE WITH TENDON/TUBE PLACEMENT AND COVER.

POWDER ACTUATED FASTENERS	CODE REPORT
HILTI X-U	ICC ESR-2269
SIMPSON PDPA	ICC ESR-2138
DEWALT CSI PIN	ICC ESR-2024

- I. CONCRETE/MASONRY SCREWS SHALL BE AS NOTED IN THE FOLLOWING TABLE:

CONCRETE/MASONRY SCREWS	CODE REPORT
HILTI KWIK CON II+	-
SIMPSON TITEN	-
DEWALT TAPPER+	ICC ESR-3068 (CONC) ICC ESR-3196 (MAS)

- 5.2.10. METAL PROTECTION: ALL STEEL EXPOSED TO WEATHER, MOISTURE, SOIL, OR AS NOTED SHALL BE GALVANIZED PER ASTM A123 OR A153 AS APPLICABLE. ALL OTHER STEEL SURFACES SHALL BE SHOP PRIMED AFTER FABRICATION.

6. CARPENTRY

DIMENSION LUMBER SHALL BE DF No. 2. SAWN LUMBER BEAMS, HEADERS AND COLUMNS SHALL BE DF No. 1 OR AS SHOWN ON THE DRAWINGS. ALL 2" NOMINAL LUMBER SHALL BE KILN DRIED (KD). EACH PIECE OF LUMBER SHALL BEAR STAMP OF WEST COAST LUMBER INSPECTION BUREAU (WCLIB) AND/OR WESTERN WOOD PRODUCTS ASSOCIATION (WWPA) SHOWING GRADE MARK.

- 6.1. PRESSURE-PRESERVATIVE TREATMENT IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1, LATEST EDITION TO THE USE CATEGORY AS FOLLOWS:

- 6.1.1. TREAT ALL WOOD IN CONTACT WITH CONCRETE, MORTAR, GROUT, MASONRY AND WITHIN 12" OF EARTH TO THE REQUIREMENTS OF USE CATEGORY UC2 (INTERIOR/DAMP).
- 6.1.2. TREAT ALL WOOD EXPOSED TO WEATHER BUT PROTECTED BY PAINT OR COVER TO THE REQUIREMENTS OF USE CATEGORY UC3A (ABOVE GROUND PROTECTED).
- 6.1.3. TREAT ALL WOOD EXPOSED TO WEATHER SUCH AS EXTERIOR DECKING, JOISTS, BEAMS, RAILINGS, ETC TO THE REQUIREMENTS OF USE CATEGORY UC3B (ABOVE GROUND EXPOSED).
- 6.1.4. TREAT ALL WOOD IN CONTACT WITH THE GROUND, SOIL OR FRESH WATER TO THE REQUIREMENTS OF USE CATEGORY UC4A (GROUND CONTACT GENERAL USE).
- 6.1.5. TREAT ALL LUMBER NOTED AS FIRE TREATED TO THE REQUIREMENTS OF USE CATEGORY UCFA (FIRE RETARDANT INTERIOR).
- 6.1.6. WHERE POSSIBLE, PRECUT MATERIAL PRIOR TO TREATMENT. ALL FIELD CUTS AND DRILLED HOLES SHALL BE FIELD TREATED IN ACCORDANCE WITH AWPA M-4.

6.2. CARPENTRY HARDWARE

- 6.2.1. MACHINE BOLTS SHALL BE ASTM A307.
- 6.2.2. PROVIDE MALLEABLE IRON WASHERS (WIM) OR HEAVY PLATE CUT WASHERS WHERE BOLT HEADS, NUTS OR LAG SCREWS BEAR ON WOOD.
- 6.2.3. NAILS SHALL BE COMMON, AMERICAN OR CANADIAN MANUFACTURER ONLY WITH MIN. DIAMETERS AS FOLLOWS:

NAIL SIZE	MINIMUM NAIL SHANK DIAMETER	MINIMUM NAIL LENGTH
8d	0.131"	2 1/2"
10d	0.148"	3"
12d	0.148"	3 1/4"
16d SINKER	0.148"	3 1/4"
16d	0.162"	3 1/2"
20d	0.192"	4"

- 6.2.4. LAG SCREWS SHALL MEET THE REQUIREMENTS OF ANSI/ASME B18.2.1. WOOD SCREWS SHALL MEET THE REQUIREMENTS OF ANSI/ASME B18.6.1.

- 6.2.5. ANCHORS AND CONNECTIONS SHALL BE SIMPSON, USP, OR ICC (INTERNATIONAL CODE COUNCIL) APPROVED. ALL FASTENERS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE SHOWN. SUBSTITUTED CONNECTIONS SHALL HAVE A TABULATED CAPACITY EQUAL TO OR GREATER THAN THE SPECIFIED CONNECTOR.

- 6.2.6. CORROSION RESISTANT HARDWARE AND FASTENERS:

- A. FASTENERS AND HARDWARE EXPOSED TO WEATHER OR IN UNHEATED PORTIONS OF THE BUILDING SHALL BE MECHANICALLY OR HOT DIPPED GALVANIZED PER ASTM B695 - CLASS 55 OR ASTM A153 - CLASS D. HARDWARE IN CONTACT WITH TREATED WOOD SHALL CONFORM TO A MINIMUM GALVANIZED COATING OF G185 OR AS NOTED BELOW.
- B. IF PRESERVATIVE TREATMENT USED IS ACZA (AMMONIACAL COPPER ZINC ARSENATE), IF THE CHEMICAL RETENTION LEVEL IS AWPA USE CATEGORY UC4A OR GREATER, OR IF THE PRESERVATIVE TREATMENT USED IS NOT KNOWN, HARDWARE SHALL BE TYPE 316L STAINLESS STEEL. FASTENERS SHALL BE TYPE 304 OR 305 STAINLESS STEEL.
- C. HARDWARE IN MARINE ENVIRONMENT SHALL BE TYPE 316L STAINLESS STEEL. FASTENERS SHALL BE TYPE 316 STAINLESS STEEL, HOT DIPPED GALVANIZED TO ASTM A153 - CLASS C, SILICON BRONZE, OR COPPER.
- D. IN THE EVENT OF A CONFLICT BETWEEN THE HARDWARE MANUFACTURER'S RECOMMENDATIONS FOR SELECTING CORROSION-RESISTANT HARDWARE AND FASTENERS, THESE NOTES, AND THE SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT SHALL BE USED UNLESS APPROVED BY THE ENGINEER.

- 6.3. MINIMUM NAILING: PER IBC TABLE 2304.10.1 FASTENING SCHEDULE.

6.4. COORDINATION AT HOLES IN WOOD STUD WALLS

- 6.4.1. PIPES IN INTERIOR NONBEARING WALLS: STUD PARTITIONS CONTAINING PIPES SHALL BE FRAMED, AND THE JOISTS SHALL BE SPACED, SO AS TO GIVE PROPER CLEARANCE FOR THE PIPING. WHERE A PARTITION CONTAINING PIPING RUNS PARALLEL TO THE JOISTS, THE JOISTS SHALL BE DOUBLED AND SPACED SO AS TO PERMIT THE PASSAGE OF SUCH PIPING AND SHALL BE BRIDGED, WHERE PIPES ARE PLACED IN, OR PARTIALLY IN, A PARTITION NECESSITATING THE CUTTING OF THE SOLES OR PLATES, A SIMPSON RPS STRAP SHALL BE FASTENED TO EACH PLATE ACROSS AND TO EACH SIDE OF THE OPENING WITH NOT LESS THAN SIX 16d NAILS.
- 6.4.2. CUTTING AND NOTCHING SAWN LUMBER: IN EXTERIOR WALLS AND BEARING PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 15 PERCENT OF ITS WIDTH. CUTTING OR NOTCHING OF STUDS TO A DEPTH NOT GREATER THAN 40 PERCENT OF THE WIDTH OF THE STUD IS PERMITTED IN NONBEARING PARTITIONS SUPPORTING NO LOADS OTHER THAN THE WEIGHT OF THE PARTITION.
- 6.4.3. CUTTING AND NOTCHING ENGINEERED LUMBER: CUTTING AND NOTCHING SHALL NOT BE PERMITTED IN ENGINEERED LUMBER (LSL) STUDS WITHOUT APPROVAL FROM THE ENGINEER OF RECORD.
- 6.4.4. BORED HOLES IN SAWN LUMBER: A HOLE NOT GREATER IN DIAMETER THAN 33 PERCENT OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD WITHOUT ENGINEERING VERIFICATION. BORED HOLES NOT GREATER THAN 60 PERCENT OF THE WIDTH OF THE STUD ARE PERMITTED IN NONBEARING PARTITIONS, PROVIDED NOT MORE THAN ANY TWO ADJACENT STUDS ARE SO BORED. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8-INCH FROM THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A NOTCH OR CUT AND SHALL NOT BE LOCATED WITHIN 8-INCHES OF THE END OF THE STUD.
- 6.4.5. BORED HOLES IN ENGINEERED LUMBER: BORED HOLES SHALL NOT BE PERMITTED IN ENGINEERED LUMBER (LSL) STUDS WITHOUT APPROVAL FROM THE ENGINEER OF RECORD.

6.5. SHEATHING (PLYWOOD/ORIENTED STRAND BOARD)

EACH SHEET SHALL BEAR THE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION; ALL SHEATHING SHALL CONFORM TO STANDARD PS 2 OR PRP-108. THICKNESS, NUMBER OF PLIES AND LAY-UP AS SHOWN. ALL PLYWOOD SHALL BE C-D INTERIOR WITH EXTERIOR GLUE OR AS NOTED ON THE DRAWINGS AND SHALL BE GROUP I OR II SPECIES. EXCEPT AS OTHERWISE SHOWN, PROVIDE THE FOLLOWING MINIMUM NAILING: PANEL EDGES 10d AT 6" ON CENTER, INTERMEDIATE SUPPORT 10d AT 12" ON CENTER. GAP SHEETS 1/8" FOR 4x8 SHEETS AND 1/4" FOR 8x8 AND LARGER SHEETS. THE MOISTURE CONTENT SHALL NOT BE GREATER THAN 15% AT TIME OF ROOFING.

6.6. GLUED-LAMINATED TIMBER

MATERIALS, MANUFACTURE AND QUALITY CONTROL PER ANSI/AITC A190 "STRUCTURAL GLUED LAMINATED TIMBER." CAMBER 1-1/2 TIMES DEAD LOAD DEFLECTION WHERE NOT INDICATED ON DRAWINGS. ALL BEAM MEMBERS SHALL BE COMBINATION 24F-V4 FOR SIMPLE SPANS AND 24F-V8 FOR CONTINUOUS OR CANTILEVERED SPANS AND HAVE EXTERIOR GLUE. ALL COLUMN MEMBERS SHALL BE 24F-V8 UNLESS NOTED OTHERWISE. ALL MEMBERS EXPOSED TO VIEW SHALL BE ARCHITECTURAL APPEARANCE GRADE UNLESS NOTED OTHERWISE. ALL MEMBERS CONCEALED FROM VIEW SHALL BE INDUSTRIAL APPEARANCE UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

- 6.6.1. ADHESIVES SHALL MEET THE REQUIREMENTS FOR WET CONDITIONS OF SERVICE.

- 6.6.2. MEMBERS SHALL BE MARKED INDICATING CONFORMANCE WITH ANSI/AITC 190.1. IN ADDITION, A CERTIFICATE OF SUCH CONFORMANCE SHALL BE PROVIDED TO THE BUYER.

6.7. MANUFACTURED STRUCTURAL WOOD MEMBERS

- 6.7.1. PARALLAM PSL POSTS AND COLUMNS SHALL BE PARALLAM 1.8E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUIVALENT. PARALLAM PSL BEAMS SHALL BE PARALLAM 2.0E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUIVALENT.
- 6.7.2. TIMBERSTRAND LSL STUDS SHALL BE TIMBERSTRAND 1.5E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUIVALENT.
- 6.7.3. MICROLLAM LVL MEMBERS SHALL BE MICROLLAM 1.9E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUIVALENT.
- 6.8. PRE-ENGINEERED OPEN WEB JOISTS AND WOOD I-JOISTS
- 6.8.1. OPEN-WEB JOISTS AND WOOD I-JOISTS SHALL BE AS MANUFACTURED BY REDBUILT, LLC OR APPROVED EQUAL.
- 6.8.2. GEOMETRY AND SPACING SHALL BE AS SHOWN. THE MANUFACTURER SHALL PROVIDE ADDITIONAL FRAMING MEMBERS AS SHOWN OR AS NECESSARY TO SUPPORT MECHANICAL EQUIPMENT, WALLS AND/OR PARTITIONS, SNOW DRIFT LOADS, ETC.
- 6.8.3. WHERE NOTED, PRECUT BLOCKING, BRIDGING, BRACING AND/OR FILLER PIECES SHALL BE FURNISHED BY THE MANUFACTURER. WHERE APPLICABLE, WIND UPLIFT BRACING SHALL BE PROVIDED BY MANUFACTURER.
- 6.8.4. DESIGN LOADS SHALL BE AS STATED IN DESIGN CRITERIA SECTION OF THESE NOTES PLUS ANY SPECIAL LOADS INDICATED ON THE DRAWINGS. UNLESS OTHERWISE NOTED, MINIMUM DESIGN LOADS SHALL INCLUDE:
- A. TOTAL DEAD LOAD OF 15 PSF (INCLUDING TRUSS/JOIST SYSTEM DEAD LOADS).
- B. BOTTOM CHORD SUPERIMPOSED DEAD LOAD OF 5 PSF (INCLUDED IN TOTAL DEAD LOAD NOTED ABOVE).
- C. MINIMUM NET UPLIFT LOAD OF 10 PSF OR AS DETERMINED USING SITE SPECIFIC "COMPONENTS AND CLADDING" WIND FORCES IN ACCORDANCE WITH THE CRITERIA NOTED IN THE DESIGN CRITERIA SECTION OF THESE NOTES, WHICHEVER IS GREATER.
- 6.8.5. PROPRIETARY COMPONENTS SHALL HAVE ICC (INTERNATIONAL CODE COUNCIL) APPROVAL.
- 6.8.6. SHOP DRAWINGS SHALL INDICATE ALL REQUIRED PERMANENT BRACING (INCLUDING BOTTOM CHORD AND WEB BRACING SYSTEM TO RESIST WIND UPLIFT FORCES).
- 6.8.7. SHOP CALCULATIONS SHALL INDICATE MEMBER STRESSES, SPECIES/ GRADES AND APPLICABLE ICC APPROVAL. CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.
- 6.8.8. UNLESS NOTED OTHERWISE, THE JOIST MANUFACTURER SHALL SPECIFY AND FURNISH CONNECTION HARDWARE NECESSARY FOR INSTALLATION OF THEIR SYSTEM.
- 6.8.9. OPEN WEB JOISTS AND I-JOISTS THAT SPAN GREATER THAN 25-FOOT SHALL BE CAMBERED.
- 6.8.10. DELIVERED COMPONENTS SHALL BE ACCOMPANIED BY FABRICATOR'S CERTIFICATE OF CONFORMANCE TO THE REFERENCED STANDARDS.

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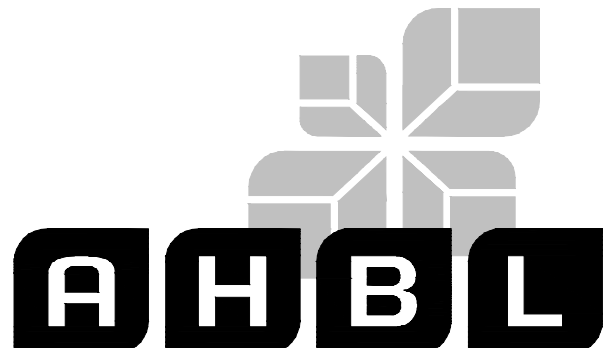
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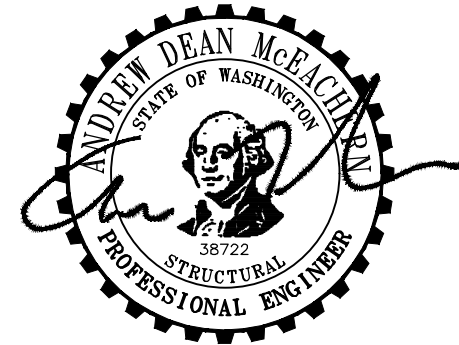
2215 North 30th Street, Suite 300 Tacoma, WA 98403
253.383.2422 TEL 253.383.2572 Fax www.ahbl.com WEB

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TYPICAL
DETAILS

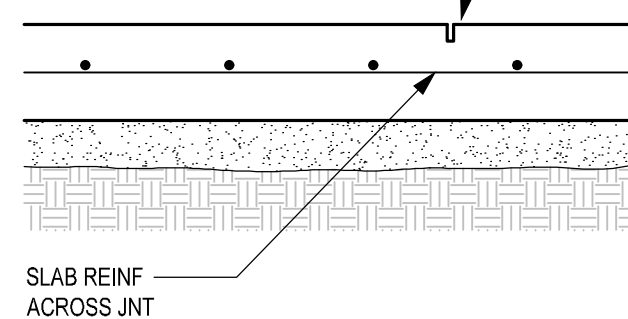
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KEY TO ABBREVIATIONS

AB	ANCHOR BOLT	L	ANGLE
ABV	ABOVE	LLH	LONG LEG HORIZONTAL
ADDL	ADDITIONAL	LLV	LONG LEG VERTICAL
ADJ	ADJACENT	LOC	LOCATION
AFF	ABOVE FINISH FLOOR	LONGIT	LONGITUDINAL
ALT	ALTERNATE	MAX	MAXIMUM
ARCH	ARCHITECTURAL ARCHITECT	MB	MACHINE BOLT
ASD	ALLOWABLE STRESS DESIGN	MECH	MECHANICAL
BEL	BELOW	MFR	MANUFACTURER
BLKG	BLOCKING	MIN	MINIMUM
BM	BEAM	MW	MALLEABLE IRON WASHER
BNDY	BOUNDARY	NS	NEAR SIDE
BOT	BOTTOM	NTS	NOT TO SCALE
BRG	BEARING	NWT	NORMAL WEIGHT
BS	BOTH SIDES	O	OVER
BTWN	BETWEEN	OC	ON CENTER
BU	BUILT UP	O.F.	OUTSIDE FACE
CIP	CAST IN PLACE	OPP	OPPOSITE HAND
CJ	CONSTRUCTION/CONTROL JOINT	OPNG	OPENING
CL	CENTERLINE	OSB	ORIENTED STRAND BOARD
CLG	CLEAR	PC	PRE-CAST
CLR	CLEAR	PDF	POWER DRIVEN FASTENERS, PAF
CMU	CONCRETE MASONRY UNIT	PAF	POWER ACTUATED FASTENERS, PDF
COL	COLUMN	PERP	PERPENDICULAR
CONC	CONCRETE	PL	PLATE
CONN	CONNECT, CONNECTION	PLF	POUNDS PER LINEAR FOOT
CONT	CONTINUOUS	PNL	PANEL
COORD	COORDINATE	PRE-ENGR	PRE-ENGINEERED
CSK	COUNTERSINK	PROV	PROVIDE
CTR	CENTER	PT	POST TENSIONED
CVR	COVER	PW	PLYWOOD
DEG	DEGREE	REF	REFERENCE
DIA	DIAMETER	REINF	REINFORCE, REINFORCEMENT
DBL	DOUBLE	REQD	REQUIRED
EA	EACH	RF	ROOF
EF	EACH FACE	SCHED	SCHEDULE
ELEV	ELEVATION, ELEVATOR	SFRS	SEISMIC FORCE RESISTING SYSTEM
EMB	EMBODIMENT	SHTG	SHEATHING
ENGR	ENGINEER	SIM	SIMILAR
EQ	EQUAL/EQUIVALENT	SIMP	SIMPSON STRONG-TIE
EQUIV	EQUIVALENT	SOG	SLAB ON GRADE
ES	EACH SIDE	SPCG	SPACING
EW	EACH WAY	SQ	SQUARE
(E)	EXISTING	STD	STANDARD
EXP	EXPANSION	STIFF	STIFFENER
EXT	EXTERIOR	SW	SHEARWALL
FDN	FOUNDATION	T&G	TONGUE AND GROOVE
FF	FINISH FLOOR	THK	THICK
FFE	FINISH FLOOR ELEVATION	THRD	THREADED
FOC	FACE OF CONCRETE	T.O.	TOP OF
FOM	FACE OF MASONRY	TOC	TOP OF CONCRETE
FOS	FACE OF STUD	TOP	TOP OF FOOTING
FS	FAR SIDE	TOPL	TOP OF PLATE
FTG	FOOTING	TOS	TOP OF STEEL
GA	GAGE	T.O.W.	TOP OF WALL
GALV	GALVANIZED	TRANSV	TRANSVERSE
GC	GENERAL CONTRACTOR	TRTD	TREATED
GL	GLUE LAMINATED	TYP	TYPICAL
GWB	GYPSON WALL BOARD	UNO	UNLESS NOTED OTHERWISE
HGR	HANGER	VEY	VERIFY
HORIZ	HORIZONTAL	VERT	VERTICAL
HSS	HOLLOW STEEL SECTION	W	WITH
HT	HEIGHT	W/O	WITHOUT
I.F.	INSIDE FACE	WF	WIDE FLANGE
INT	INTERIOR	WHS	WELDED HEADED STUD
JNT	JOINT	WP	WORK POINT
JST	JOIST	WTS	WELDED THREADED STUD
K, KIPS	KIPS=1000 LBS	WWF	WELDED WIRE FABRIC

1/8" SAWCUT x 1/5 SLAB THICKNESS (1 1/4" MIN) - SAWCUT MUST BE MADE WITHIN 4 TO 12 HOURS AFTER CONC HARDENS - BLADES SHALL NOT BE BLUNT AS TO CAUSE CHIPPING OF CONC - PROVIDE JNT SEALANT PER SPECIFICATIONS - INSTALL PER MFR RECOMMENDATIONS



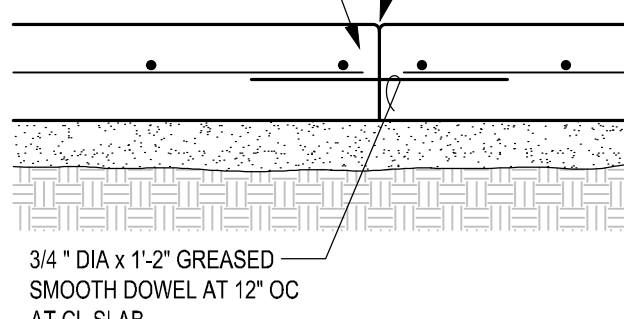
TYPICAL CONTROL JOINT

TYPICAL

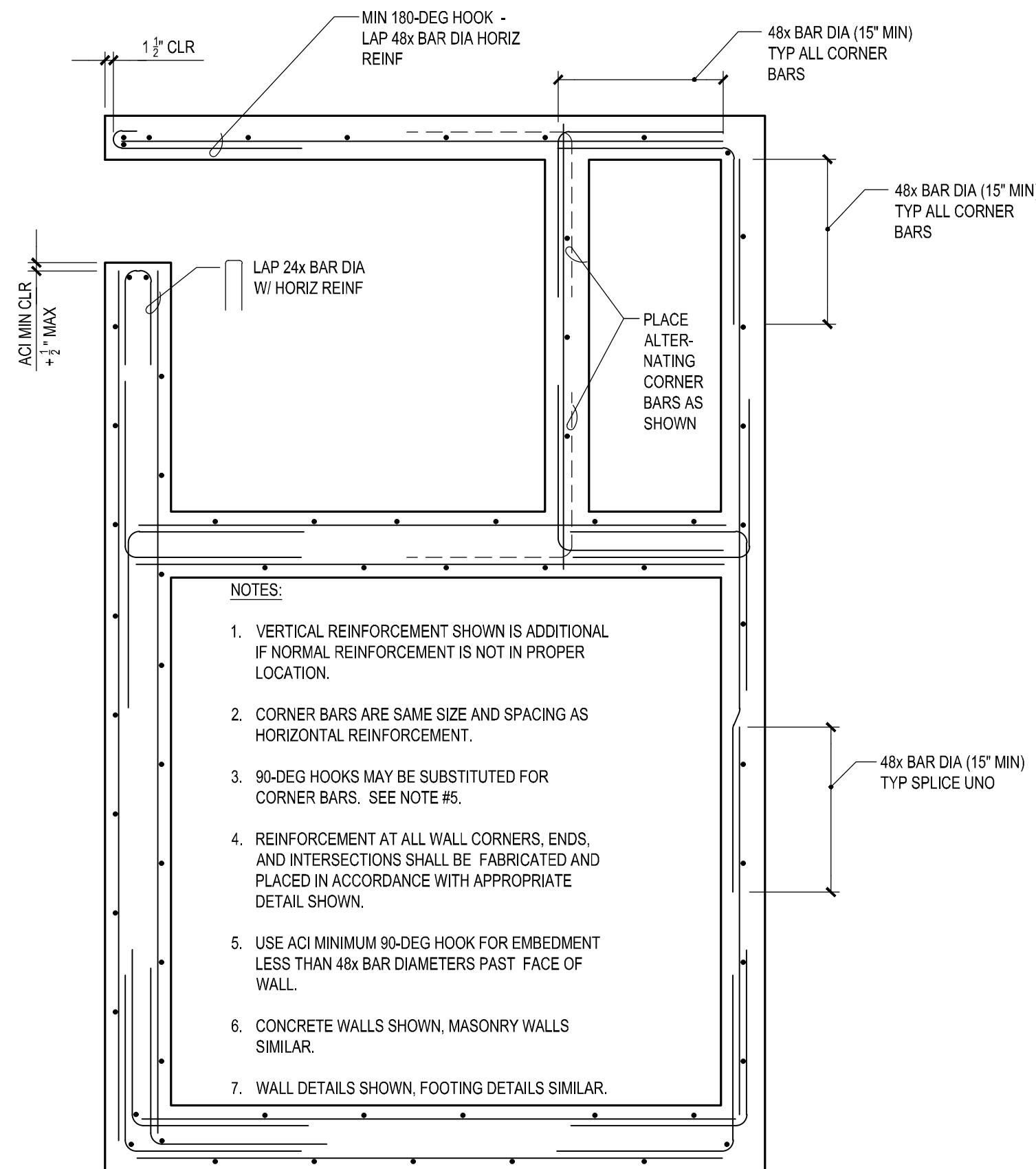
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STOP REINF AT SLAB JNT

TOOLED JNT R=1/8"



TYPICAL CONSTRUCTION JOINT

PLAN VIEW - TYPICAL
REINFORCEMENT PLACING DETAIL

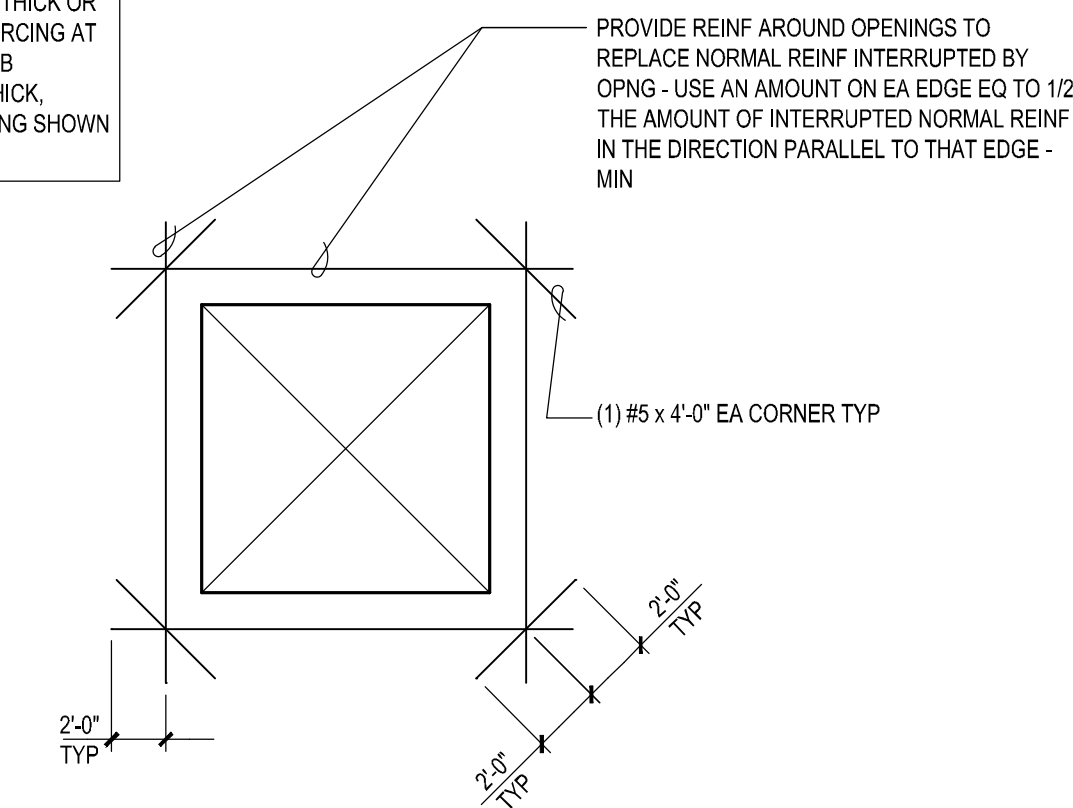
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TYPICAL REINFORCING AT OPENINGS
LESS THAN 12" IN CONC WALL OR SLAB

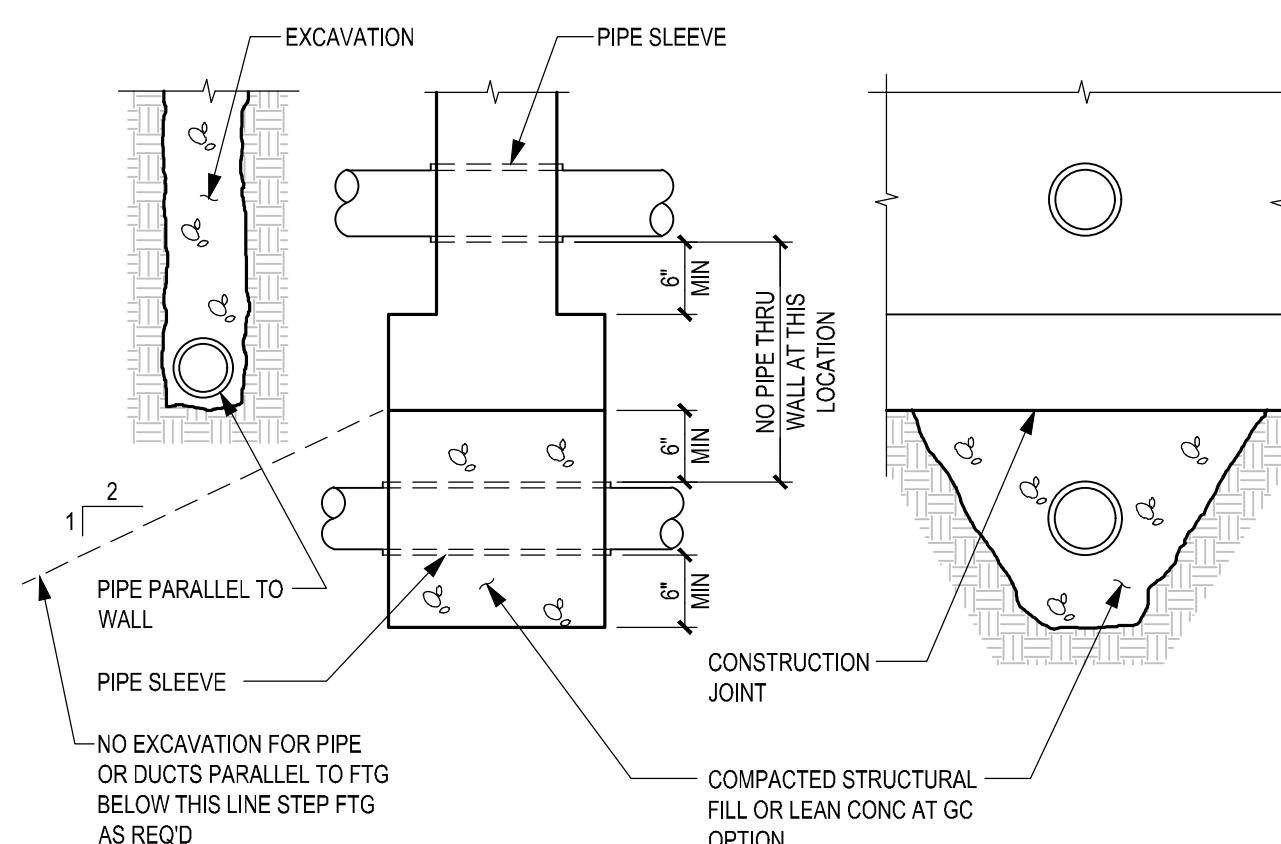
NOTE:

AT WALL OR SLAB 6" THICK OR LESS, PLACE REINFORCING AT CL - AT WALL OR SLAB GREATER THAN 6" THICK, PROVIDE REINFORCING SHOWN EACH FACE

TYPICAL REINFORCING AT OPENINGS
GREATER THAN 12" IN CONC WALL OR SLAB

TYPICAL

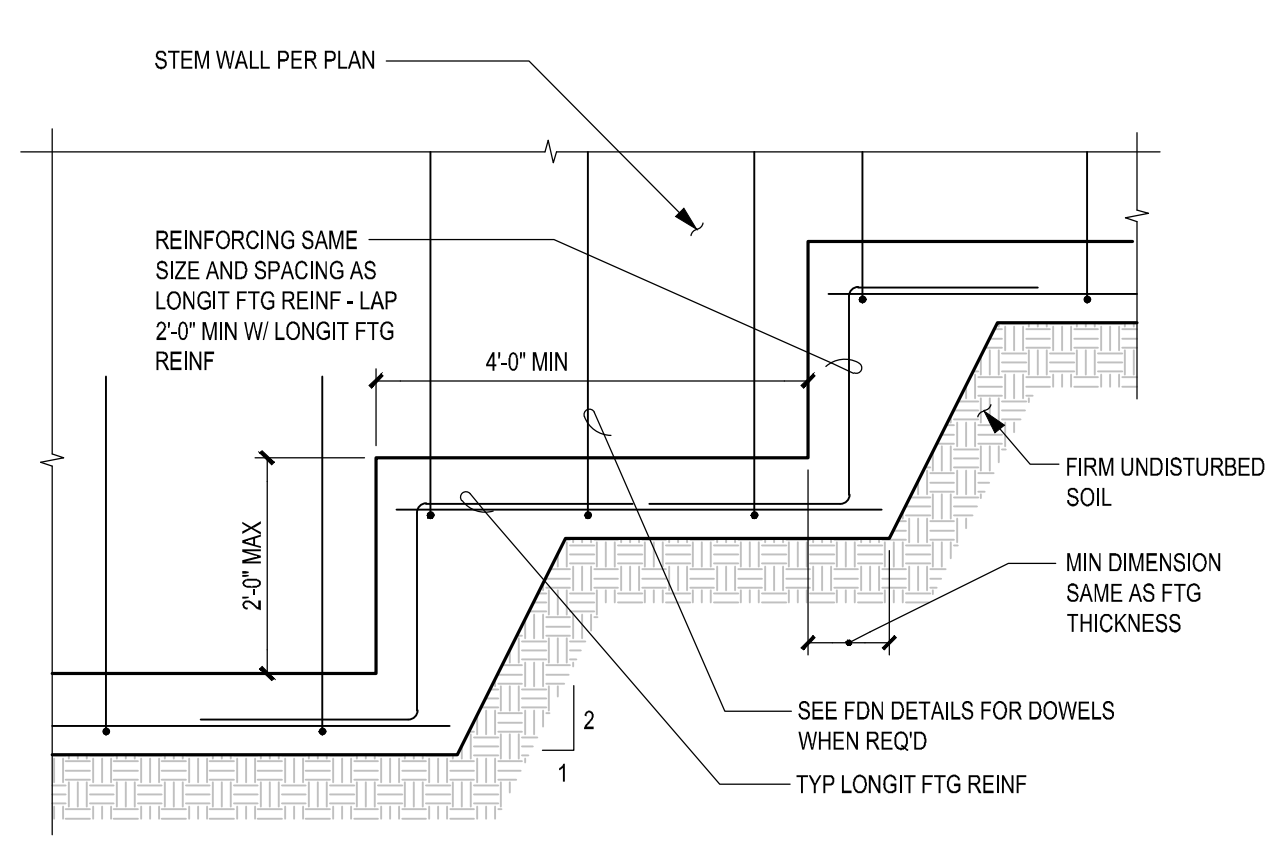
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TYPICAL DETAIL OF PIPE AT CONCRETE FOOTING

TYPICAL

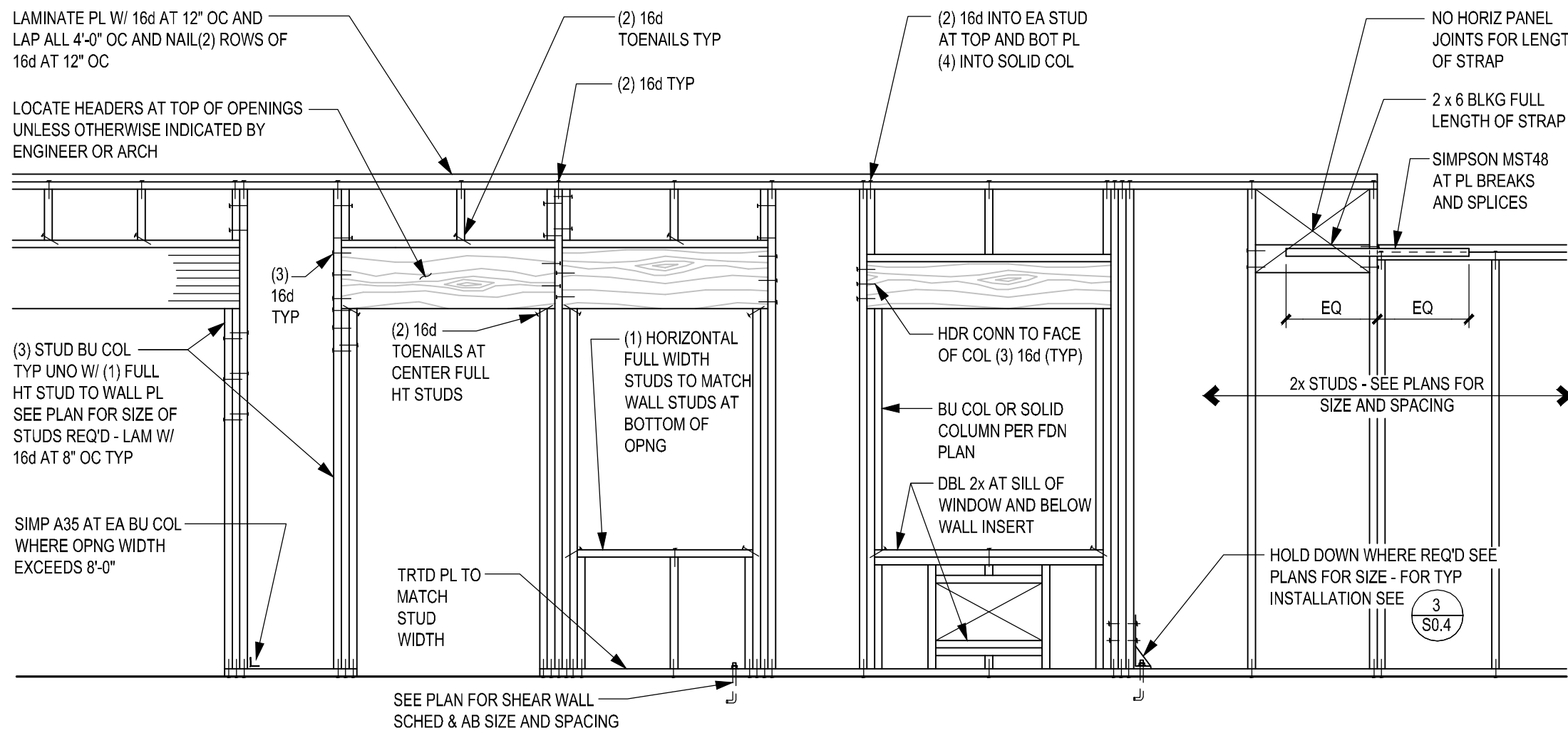
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TYPICAL STEPPED FOOTING

TYPICAL

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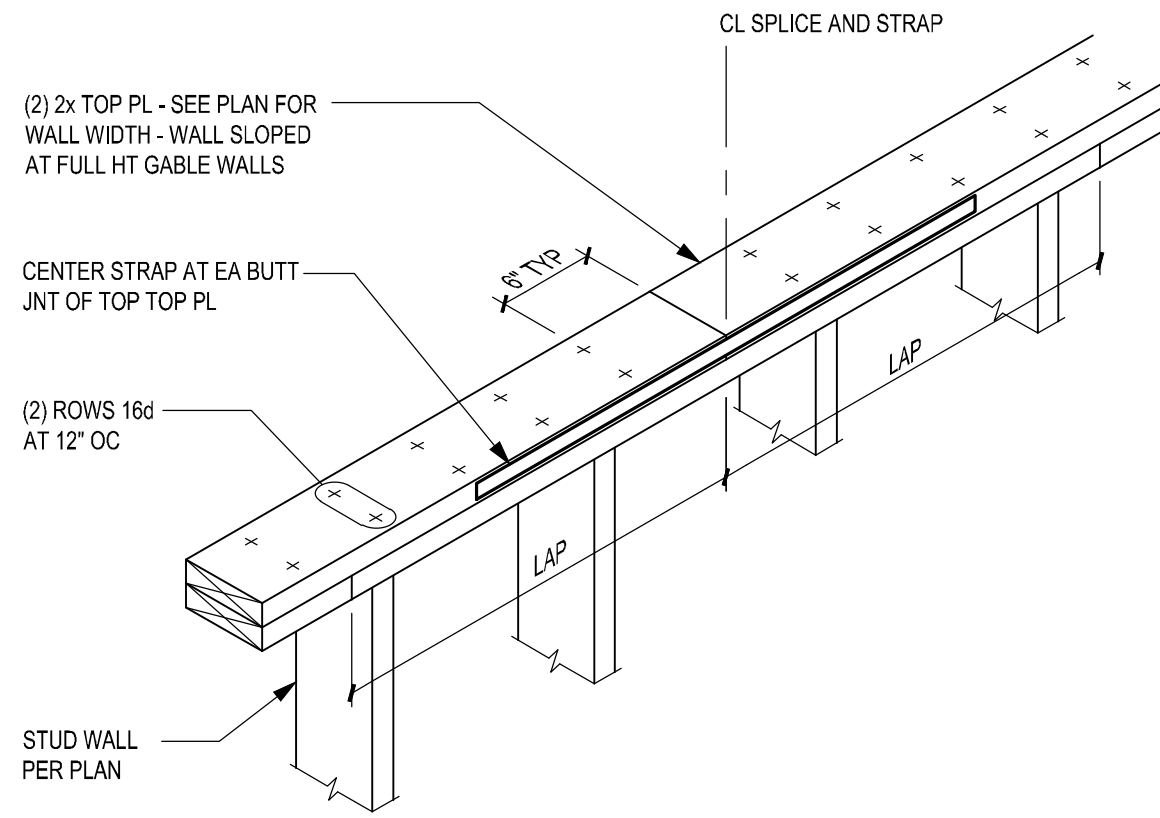


TYPICAL WOOD BEARING WALL ELEVATION

TYPICAL

NTS

1



TOP PLATE SPLICE SCHEDULE

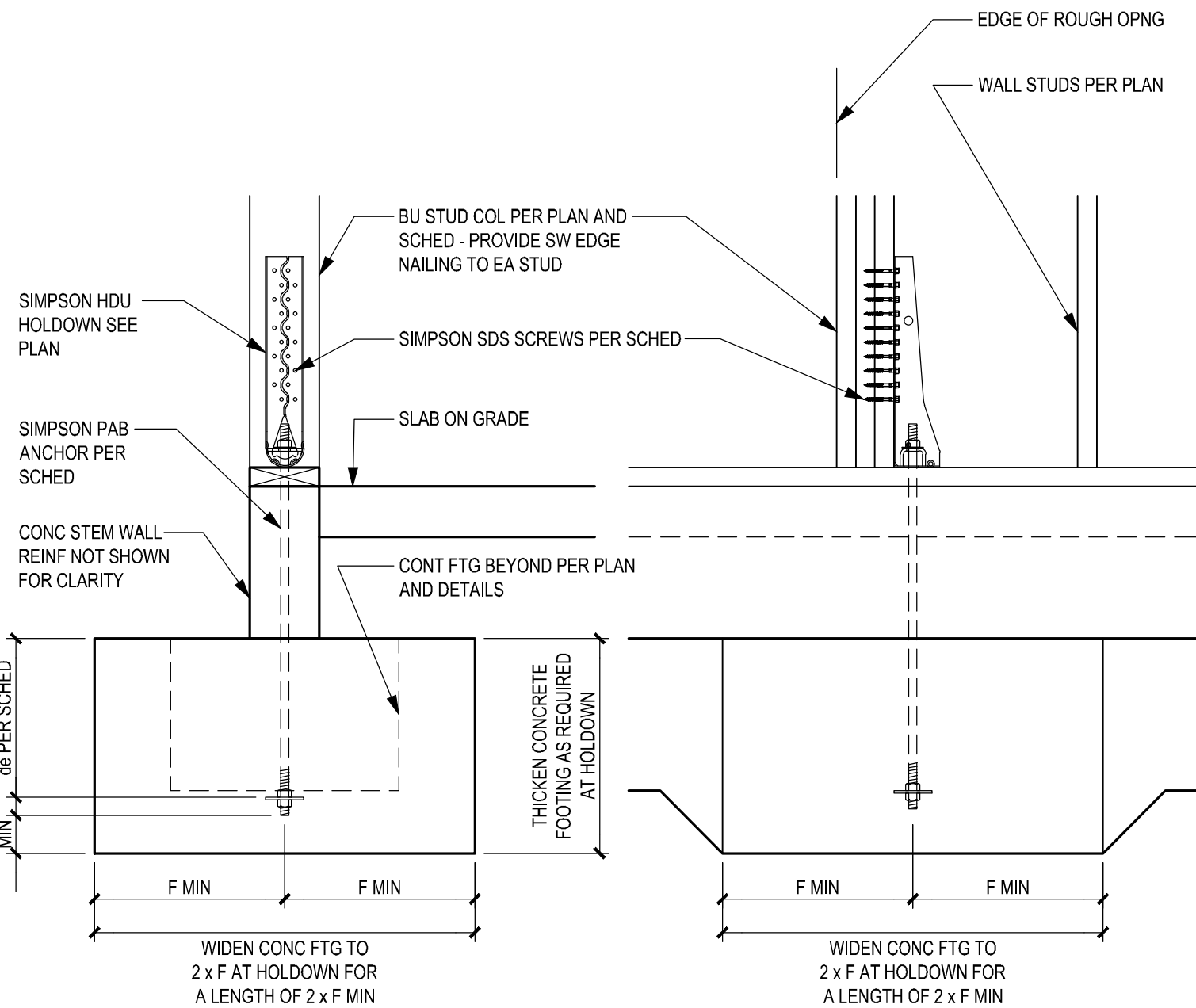
GRID LINE	LAP LENGTH	STRAP
TYPICAL	4'-0" MINIMUM	NONE
GRID A & B	6'-0" MINIMUM	SIMPSON MSTA 36

TYPICAL DOUBLE TOP PLATE SPLICE

TYPICAL

NTS

2



HOLDOWN	FOUNDATION ANCHOR	de	F	FASTENERS	MINIMUM WOOD MEMBER THICKNESS	ALLOWABLE TENSION LOAD
SIMP HDU2	SIMP PAB5	6"	9"	(6) SIMP SDS 1/4" x 2 1/2"	3"	3075#
SIMP HDU4	SIMP PAB5	6"	9"	(10) SIMP SDS 1/4" x 2 1/2"	3"	4565#
SIMP HDU5	SIMP PAB5	6"	9"	(14) SIMP SDS 1/4" x 2 1/2"	3"	5645#
SIMP HDU6	SIMP PAB7	10"	15"	(20) SIMP SDS 1/4" x 2 1/2"	4 1/2"	7870#
SIMP HDU11	SIMP PAB8	12"	18"	(30) SIMP SDS 1/4" x 2 1/2"	5 1/2"	9535#
SIMP HDU14	SIMP PAB8	12"	18"	(36) SIMP SDS 1/4" x 2 1/2"	6x6	14445#

HOLDOWN SCHEDULE NOTES:

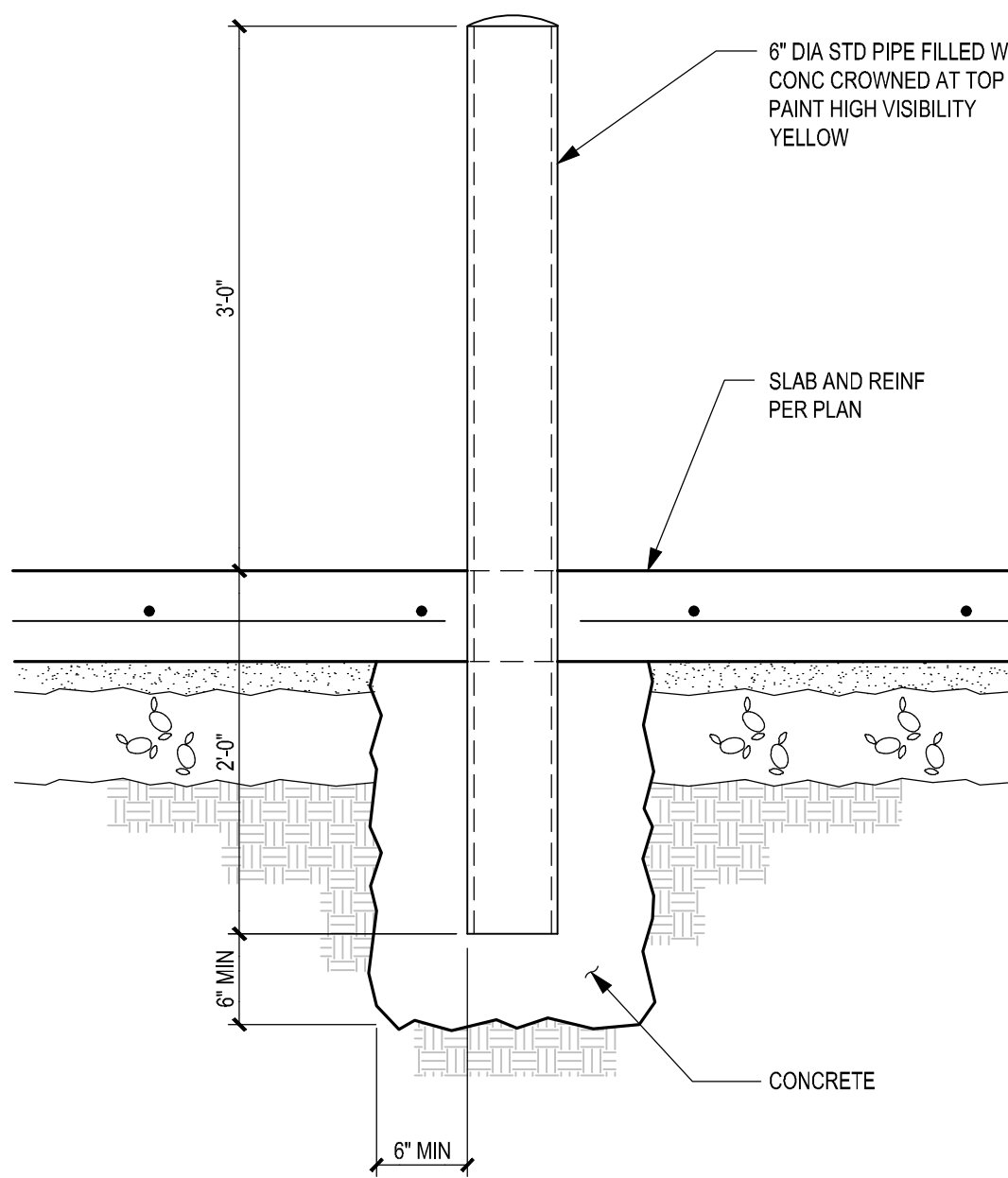
- ALLOWABLE LOADS ARE VALID FOR HOLDOWNS FLUSH OR RAISED OFF SILL PLATE.
- TABULATED LOADS MAY BE DOUBLED WHEN THE HDU IS INSTALLED ON OPPOSITE SIDES OF THE WOOD MEMBER PROVIDED EITHER THE POST IS LARGE ENOUGH TO PREVENT OPPOSING HOLDOWN SCREW INTERFERENCE, OR THE HOLDOWNS ARE OFFSET TO ELIMINATE SCREW INTERFERENCE.
- SIMPSON PAB8 SHALL USE A HEAVY HEX ANCHOR NUT.

TYPICAL HOLDOWN REQUIREMENTS

TYPICAL

NTS

3



TYPICAL BOLLARD

TYPICAL

NTS

4

REINFORCING DEVELOPMENT AND SPLICE LENGTH SCHEDULE

Fc = 3000 PSI					Fc = 4000 PSI					Fc = 5000 PSI				
BAR SIZE	Ld	Lt	Lsb	Lsbt	BAR SIZE	Ld	Lt	Lsb	Lsbt	BAR SIZE	Ld	Lt	Lsb	Lsbt
#3	17	22	22	28	#3	15	19	19	25	#3	13	17	17	22
#4	22	29	29	38	#4	19	25	25	33	#4	17	23	23	29
#5	28	36	36	47	#5	24	31	31	41	#5	22	28	28	36
#6	33	43	43	56	#6	29	37	37	49	#6	26	34	34	44
#7	48	63	63	81	#7	42	54	54	71	#7	38	49	49	63
#8	55	72	72	93	#8	48	62	62	81	#8	43	56	56	72
#9	62	81	81	105	#9	54	70	70	91	#9	48	63	63	81
#10	70	91	91	118	#10	61	79	79	102	#10	54	71	71	92
#11	78	101	101	131	#11	67	87	87	114	#11	60	78	78	102
#14	93	121	-	-	#14	81	105	-	-	#14	72	94	-	-
#18	124	161	-	-	#18	108	140	-	-	#18	96	125	-	-

Fc = 6000 PSI					Fc = 8000 PSI					ALL CONCRETE STRENGTHS				
BAR SIZE	Ld	Lt	Lsb	Lsbt	BAR SIZE	Ld	Lt	Lsb	Lsbt	BAR SIZE	Lb	Lc	Lcs	-
#3	12	16	16	20	#3	11	14	14	18	#3	9	12	12	
#4	16	21	21	27	#4	14	18	18	23	#4	11	15	12	
#5	20	26	26	33	#5	17	22	22	29	#5	14	19	15	
#6	24	31	31	40	#6	21	27	27	35	#6	17	23	17	
#7	34	45	45	58	#7	30	39	39	50	#7	20	27	20	
#8	39	51	51	66	#8	34	44	44	57	#8	22	30	23	
#9	44	57	57	74	#9	38	50	50	64	#9	25	34	26	
#10	50	64	64	84	#10	43	56	56	72	#10	28	39	29	
#11	55	71	71	93	#11	48	62	62	80	#11	31	43	32	
#14	66	86	-	-	#14	57	74	-	-	#14	38	-	-	
#18	88	114	-	-	#18	76	99	-	-	#18	50	-	-	

REINFORCING DEVELOPMENT AND SPLICE LENGTH SCHEDULE NOTES:

- REINFORCEMENT DEVELOPMENT AND SPLICE LENGTHS ARE IN ACCORDANCE WITH ACI 318.
- NOTATIONS:
 - db: NOMINAL BAR DIAMETER (IN)
 - Ld: TENSION DEVELOPMENT LENGTH (IN) FOR REINFORCEMENT SATISFYING THE FOLLOWING REQUIREMENTS: SLABS AND WALLS: CLEAR SPACING GREATER THAN 2db, AND CONCRETE CLEAR COVER GREATER THAN db BEAMS AND COLUMNS: CLEAR SPACING GREATER THAN db, AND CONCRETE CLEAR COVER GREATER THAN db
 - Lt: DEVELOPMENT LENGTH OF TOP BARS IN TENSION = 1.3 X Ld (IN)
 - Lb: DEVELOPMENT LENGTH OF BARS OR DOWELS IN COMPRESSION = 22 X db (IN)
 - Lc: TIED COLUMN LAP SPLICE IN COMPRESSION = 30 X db (IN)
 - Lcs: SPIRAL COLUMN LAP SPLICE IN COMPRESSION = 22.5 X db (IN)
 - Lsb: TENSION LAP SPLICE LENGTH FOR OTHER THAN TOP BARS = 1.3 X Ld (IN)
 - Lsbt: TENSION LAP SPLICE LENGTH OF TOP BARS = 1.69 X Ld (IN)
- MULTIPLY VALUES IN THE TABLE BY 1.5 IF CLEAR SPACING OR CONCRETE COVER DO NOT MEET THE REQUIREMENTS FOR Ld IN NOTE 2.
- TOP BARS: HORIZONTAL BEAM REINFORCING WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW.
- THE DEVELOPMENT AND SPLICE LENGTHS ARE BASED ON REINFORCEMENT STRENGTH Fy = 60 KSI
- #14 AND #18 BARS SHALL NOT BE LAP SPLICED. SEE GENERAL NOTES.

SCHEDULE

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5



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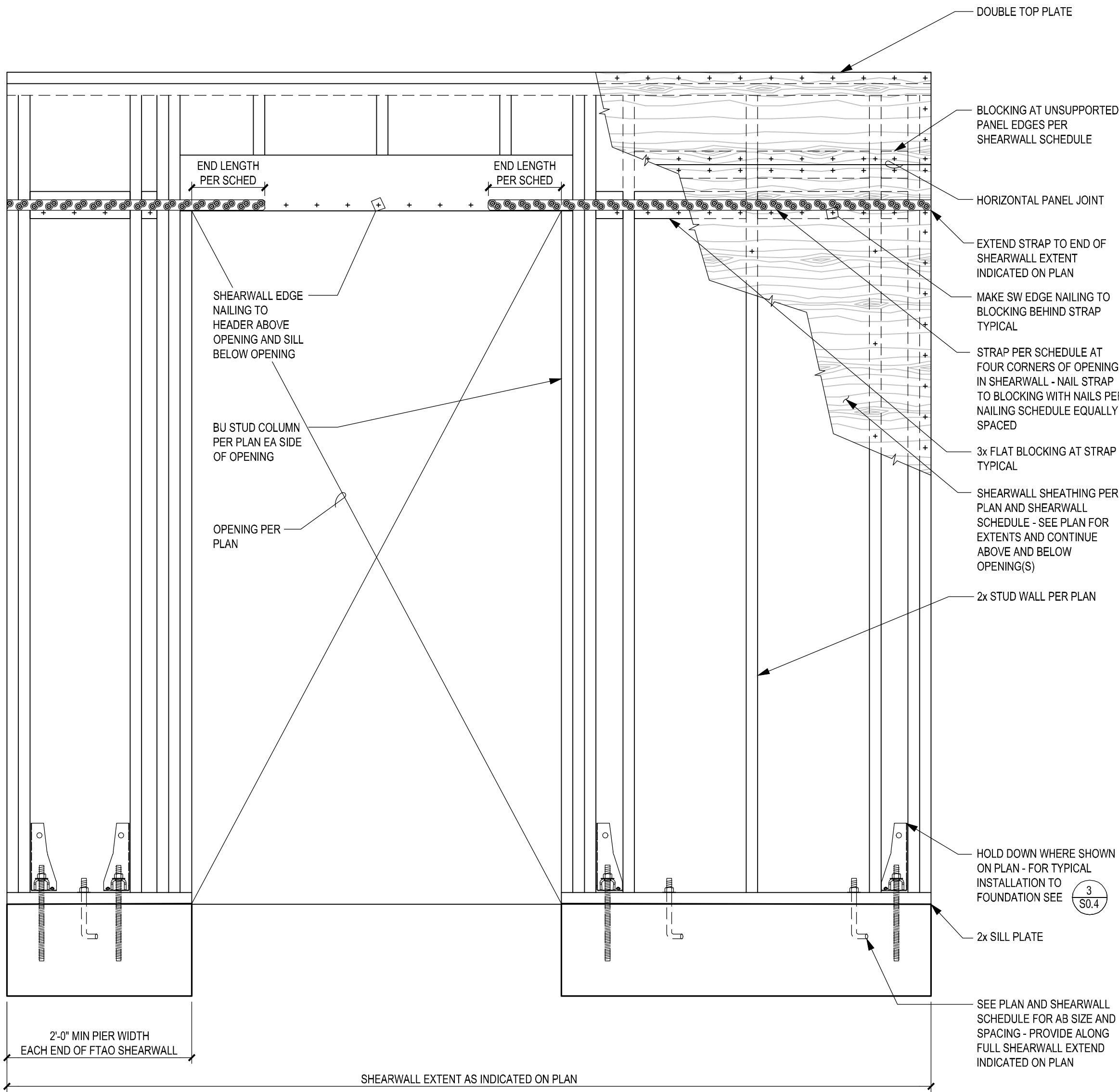
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FORCE TRANSFER SW STRAP SCHEDULE					
F	STRAP TYPE	FASTENERS	END LENGTH	LAP SPLICE LENGTH	ALLOWABLE TENSION LOAD
TYPE 1	SIMP CSHPT20	(12) 0.148" DIA x 2 1/2"	8"	8" W/ (6) NAILS THRU SPLICE	1160#

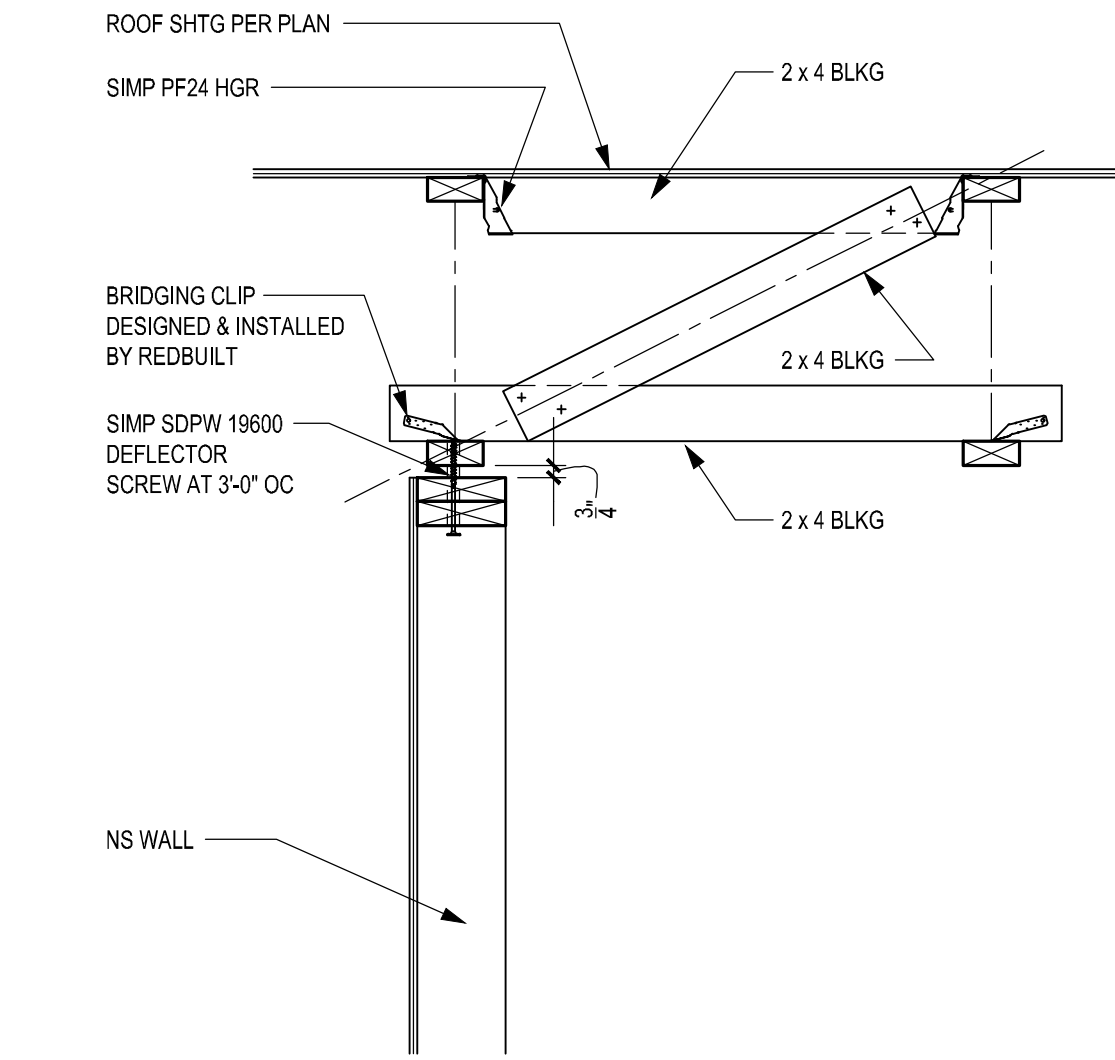
- FORCE TRANSFER SW STRAP SCHEDULE SCHEDULE NOTES:
- STRAP IS REQUIRED ON BOTH SIDES OF WALL AT DOUBLE SIDED SHEARWALLS.
 - STRAPS MAY BE SPLICED PER THE SCHEDULE.

TYPICAL FORCE TRANSFER AROUND OPENING (FTAO) SHEARWALL ELEVATION

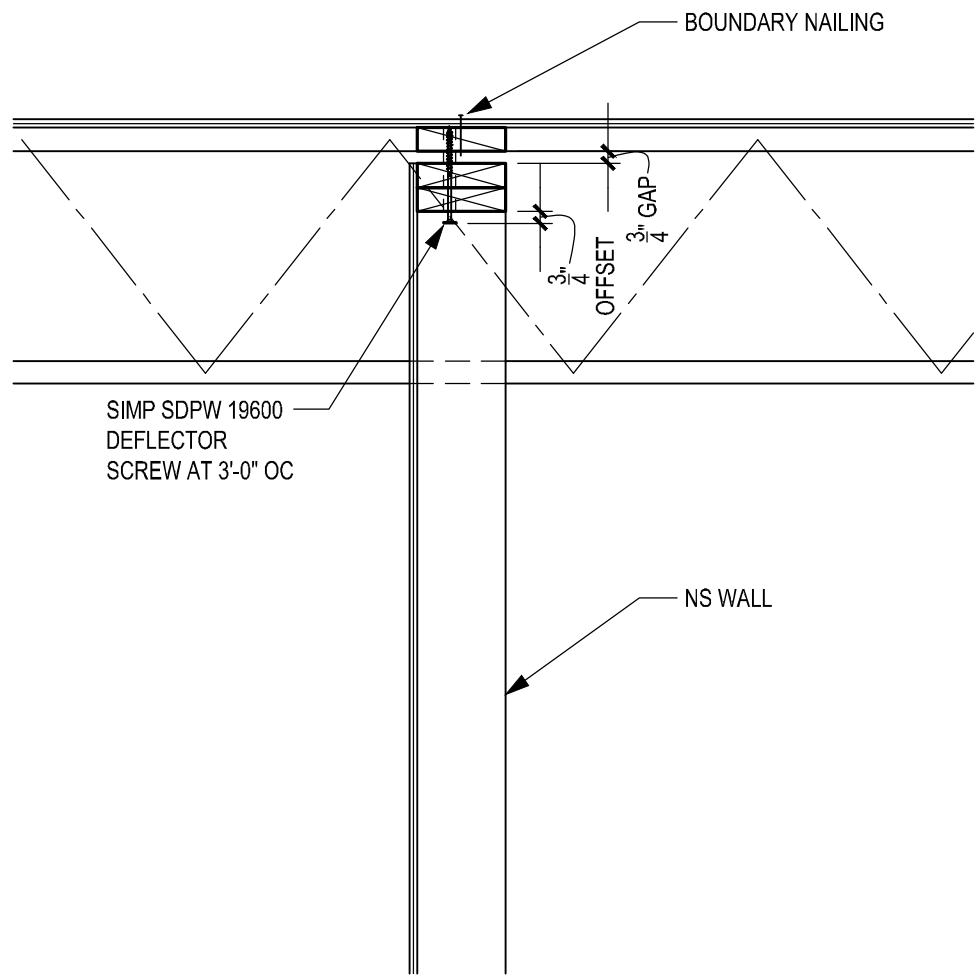
SHEARWALL FTAO

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1



CONDITION AT NS WALL PARALLEL TO AND ALIGNED UNDER JOISTS

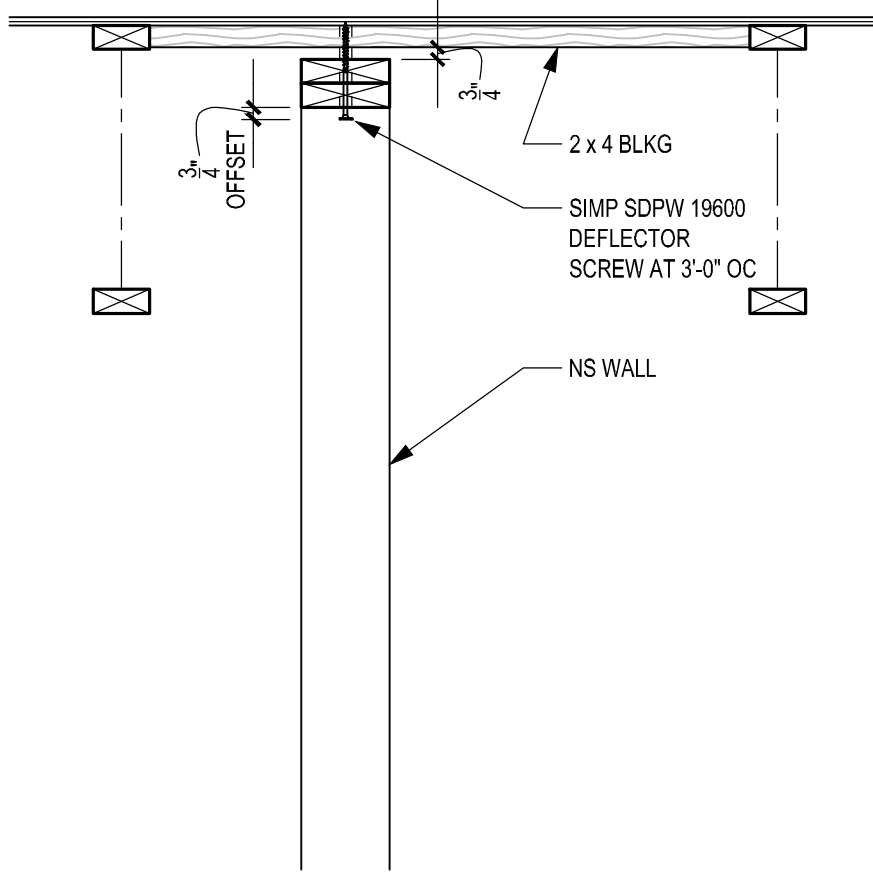


CONDITION AT NS WALL PERPENDICULAR TO JOISTS

TYPICAL

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2



CONDITION AT NS WALL PARALLEL TO AND BETWEEN JOISTS

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DRAWING SCALES: AS NOTED

DRAWING CONTENTS:
TESTING AND
INSPECTION NOTES

DRAWING NO:
S0.5



11. STATEMENT OF SPECIAL INSPECTIONS			
IBC	SI	SO	TITLE
1705.3	✓	N/R	CONCRETE CONSTRUCTION (SEE TABLE 13)
1705.5	✓	N/R	SITE BUILT WOOD CONSTRUCTION
1705.6	✓	N/R	SOILS (SEE TABLE 12A)
1705.12.2	✓	N/R	STRUCTURAL WOOD - SEISMIC FORCE RESISTING SYSTEM (SEE TABLE 18)
1705.2	✓	N/R	STEEL CONSTRUCTION (SEE TABLES 15A)

SI = SPECIAL INSPECTION
SO = STRUCTURAL OBSERVATION
✓ = ITEM IS REQUIRED
N/R = ITEM IS NOT REQUIRED

SPECIAL INSPECTIONS INDICATED ARE FOR STRUCTURAL ELEMENTS ONLY. SEE ARCH, MECH AND ELEC DRAWINGS FOR ADDITIONAL SPECIAL INSPECTIONS.

11.

11.1. INSPECTION/TESTING REQUIREMENTS:

SEE DRAWINGS, SPECIFICATIONS, AND IBC SECTIONS 110, AND CHAPTER 17.

11.2. INSPECTIONS BY THE BUILDING OFFICIAL (IBC SECTION 110):

11.2.1. FOOTING AND FOUNDATION INSPECTIONS SHALL BE MADE AFTER EXCAVATIONS ARE COMPLETE AND ANY REQUIRED REINFORCING IS IN PLACE. ANY REQUIRED FORMS SHALL BE IN PLACE PRIOR TO INSPECTION.

11.2.2. CONCRETE SLAB AND UNDER FLOOR INSPECTIONS SHALL BE MADE AFTER ALL IN SLAB OR UNDER FLOOR REINFORCING, CONDUIT, PIPING AND OTHER ANCILLARY EQUIPMENT ITEMS AND ACCESSORIES ARE IN PLACE BUT PRIOR TO CONCRETE PLACEMENT OR FLOOR SHEATHING INSTALLATION.

11.2.3. FRAMING INSPECTIONS SHALL BE MADE AFTER ALL SHEATHING, FRAMING, BLOCKING AND BRACING ARE COMPLETE AND ALL PIPES, DUCTS, ELECTRICAL, PLUMBING, ETC., ARE INSTALLED AND APPROVED PRIOR TO COVER.

11.2.4. IN ADDITION TO THE INSPECTIONS SPECIFIED ABOVE, THE BUILDING OFFICIAL IS AUTHORIZED TO MAKE OR REQUIRE OTHER INSPECTIONS OF ANY CONSTRUCTION WORK TO ASCERTAIN COMPLIANCE WITH THE PROVISIONS OF THE IBC OR OTHER LAWS ENFORCED BY THE BUILDING OFFICIAL.

11.3. STRUCTURAL TESTS AND SPECIAL INSPECTIONS (IBC CHAPTER 17):

11.3.1. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

11.3.2. STRUCTURAL TESTS AND SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE IBC AS WELL AS ANY ADDITIONAL REQUIREMENTS OF THE BUILDING OFFICIAL. OMISSION FROM THE LIST BELOW OF TESTING AND INSPECTION REQUIREMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING TESTING AND INSPECTION REQUIRED BY THE SPECIFICATIONS, THE IBC AND THE BUILDING OFFICIAL.

11.3.3. TESTING AND SPECIAL INSPECTIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE IBC FOR THE ITEMS LISTED IN THIS SECTION.

11.4. STRUCTURAL OBSERVATION

11.4.1. STRUCTURAL OBSERVATION MAY BE PERFORMED DURING CONSTRUCTION IN A MANNER AS REQUIRED TO BECOME GENERALLY FAMILIAR WITH THE IN-PLACE CONSTRUCTION.

11.4.2. STRUCTURAL OBSERVATION EXTENT SHALL BE AS INDICATED ABOVE. TIMING AND DURATION OF OBSERVATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR DURING CONSTRUCTION.

11.4.3. CONSTRUCTION OBSERVATION REPORTS AND FINDINGS SHALL NOT BE VIEWED AS A WARRANTY OR GUARANTEE BY THE STRUCTURAL ENGINEER.

11.5. SPECIAL INSPECTOR: SHALL BE CURRENTLY WABO CERTIFIED

11.5.1. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.

11.5.2. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, ENGINEER OF RECORD, ARCHITECT OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR FOR CORRECTION, THEN, IF NOT IN CONFORMANCE, TO THE PROPER DESIGN AUTHORITY AND BUILDING OFFICIAL.

11.5.3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC.

12A. REQUIRED SPECIAL INSPECTIONS AND TEST OF SOILS

IBC TABLE 1705.6		
SPECIAL INSPECTION OR TEST TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	N/R	✓
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	N/R	✓
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIAL	N/R	✓
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	✓	N/R
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	N/R	✓

12.

12.1. SPECIAL INSPECTIONS AND TESTS FOR EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS PER IBC 1705.6, AS NOTED IN TABLE 12A.

12.1.1. THE APPROVED GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS PREPARED BY THE REGISTERED DESIGN PROFESSIONALS SHALL BE USED TO DETERMINE COMPLIANCE.

13. REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

IBC TABLE 1705.3				
SPECIAL INSPECTION OR TEST TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	N/R	✓	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706 B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" C. INSPECT ALL OTHER WELDS	N/R N/R ✓	✓ ✓ N/R	AWS D1.4 ACI 318:26.6.4	
3. INSPECT ANCHORS CAST IN CONCRETE	N/R	□	ACI 318: 17.8.2	
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4A	✓ N/R	N/R ✓	ACI 318: 17.8.2.4 ACI 318: 17.8.2	
5. VERIFY USE OF REQUIRED DESIGN MIX	N/R	✓	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	✓	N/R	ASTM C 172 ASTM C 31 ACI 318:26.4, 26.12	1908.10
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	✓	N/R	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	N/R	✓	ACI 318: 26.5.3-26.5.5	1908.9
9. INSPECT PRESTRESSED CONCRETE FOR: A. APPLICATION OF PRESTRESSING FORCES B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE RESISTING SYSTEM	✓ ✓	N/R N/R	ACI 318: 26.10	
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	N/R	✓	ACI 318: 26.9	
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	N/R	✓	ACI 318: 26.10.2	
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	N/R	✓	ACI 318: 26.11.1.2(b)	

13.

13.1. CONCRETE: SPECIAL INSPECTION AND TESTING PER IBC TABLE 1705.3 AS NOTED IN TABLE 13, INCLUDING:

13.1.1. CONTINUOUS SPECIAL INSPECTION OF PRESTRESSED CONCRETE TENDON PLACEMENT, INTEGRITY OF PROTECTIVE WRAPPING, GROUTING OF BONDED PRESTRESSED TENDONS IN THE SEISMIC FORCE RESISTING SYSTEM AND APPLICATION OF PRESTRESSING FORCES.

13.1.2. CONTINUOUS SPECIAL INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.

13.1.3. CONTINUOUS SPECIAL INSPECTION OF BOLTS INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE.

13.1.4. SHOTCRETE: SEE STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

13.1.5. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE SHALL BE AS DESCRIBED IN THE RESEARCH REPORT ISSUED BY AN APPROVED SOURCE (ICC, IAPMO, ETC.).

13.1.6. CONTINUOUS SPECIAL INSPECTION FOR CONCRETE REINFORCING BARS, CONCRETE MATERIALS OR PLACEMENT OF CONCRETE FOR COMPOSITE MEMBERS.

13.2. SPECIAL INSPECTIONS AND TESTS SHALL NOT BE REQUIRED FOR THE FOLLOWING:

13.2.1. ISOLATED SPREAD FOOTINGS OF BUILDINGS THREE STORIES OR LESS ABOVE THE GRADE PLANE THAT ARE FULLY SUPPORTED BY EARTH OR ROCK.

13.2.2. CONTINUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BUILDINGS THREE STORIES OR LESS ABOVE THE GRADE PLANE THAT ARE FULLY SUPPORTED BY EARTH OR ROCK, AND THE FOLLOWING:

- A. THE FOOTINGS SUPPORT WALLS OF LIGHT-FRAME CONSTRUCTION
- B. THE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH TABLE 1809.7, AND
- C. THE STRUCTURAL DESIGN OF THE FOOTINGS IS BASED ON AN f_c OF 2500 PSI.

13.2.3. NON-STRUCTURAL CONCRETE SLABS ON GRADE.

13.2.4. CONCRETE FOUNDATION WALLS CONSTRUCTED IN ACCORDANCE WITH TABLE 1807.1.6.2.

16.

16.1. REQUIRED VERIFICATION AND INSPECTION OF WOOD CONSTRUCTION:

16.1.1. SPECIAL INSPECTION OF THE FABRICATION PROCESS OF PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH IBC SECTION 1704.2.5.

16.1.2. SPECIAL INSPECTION OF SITE BUILT WOOD ASSEMBLIES SHALL BE AS FOLLOWS:

A. HIGH-LOAD DIAPHRAGMS SHALL BE INSTALLED WITH SPECIAL INSPECTION AS INDICATED IN IBC SECTION 1704.2. THE SPECIAL INSPECTOR SHALL INSPECT THE WOOD STRUCTURAL PANEL SHEATHING TO ASCERTAIN WHETHER IT IS THE GRADE AND THICKNESS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE SPECIAL INSPECTOR SHALL VERIFY THE NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES, NAIL OR STAPLE DIAMETER AND LENGTH, THE NUMBER OF FASTENER LINES, AND SPACING BETWEEN FASTENERS IS AS SHOWN ON THE CONSTRUCTION DOCUMENTS.

B. METAL-PLATE CONNECTED WOOD TRUSSES SPANNING 60-FEET OR GREATER SHALL BE INSTALLED WITH SPECIAL INSPECTION TO VERIFY THAT THE TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.

18. REQUIRED SPECIAL INSPECTION AND TESTS FOR SEISMIC RESISTANCE

SPECIAL INSPECTION OR TEST TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. STRUCTURAL WOOD IN SEISMIC DESIGN CATEGORY C, D, E OR F: A. FIELD GLUING OPERATIONS OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM B. NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE MAIN SEISMIC FORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES AND HOLDOWNS	✓ N/R	N/R ✓
3. ARCHITECTURAL COMPONENTS IN SEISMIC DESIGN CATEGORY D, E OR F: A. THE ERECTION AND FASTENING OF EXTERIOR CLADDING, INTERIOR AND EXTERIOR NON-BEARING WALLS, AND INTERIOR AND EXTERIOR VENEER B. THE ANCHORAGE OF ACCESS FLOOR	N/R N/R	✓ ✓
4. PLUMBING, MECHANICAL AND ELECTRICAL COMPONENTS IN SEISMIC DESIGN CATEGORY C, D, E OR F: A. ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY OR STANDBY POWER SYSTEMS B. ANCHORAGE OF OTHER ELECTRICAL EQUIPMENT IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY E OR F C. INSTALLATION AND ANCHORAGE OF PIPING SYSTEMS DESIGNED TO CARRY HAZARDOUS MATERIALS AND THEIR ASSOCIATED MECHANICAL UNITS D. INSTALLATION AND ANCHORAGE OF DUCTWORK DESIGNED TO CARRY HAZARDOUS MATERIALS E. INSTALLATION AND ANCHORAGE OF VIBRATION ISOLATION WHERE THE APPROVED CONSTRUCTION DOCUMENTS REQUIRE A NOMINAL CLEARANCE OF 1/4 INCH OR LESS BETWEEN EQUIPMENT SUPPORT FRAME AND RESTRAINT	N/R N/R N/R N/R	✓ ✓ ✓ ✓
5. ANCHORAGE OF STORAGE RACKS THAT ARE 8 FEET OR GREATER IN HEIGHT IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E OR F.	N/R	✓
6. SEISMIC ISOLATION SYSTEMS DURING THE FABRICATION AND INSTALLATION OF ISOLATOR UNITS AND ENERGY DISSIPATION DEVICES IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY B, C, D, E OR F.	N/R	✓

18.

18.1. SPECIAL INSPECTIONS AND TESTING FOR SEISMIC RESISTANCE:

18.1.1. SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE PER IBC 1705.12 SHALL BE REQUIRED FOR SEISMIC FORCE-RESISTING SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY B, C, D, E OR F PER TABLE 18 AND THE FOLLOWING:

A. SPECIAL INSPECTIONS OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341.

18.1.2. TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE PER IBC 1705.13 SHALL BE REQUIRED FOR SEISMIC FORCE-RESISTING SYSTEM IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F FOR THE FOLLOWING:

A. NONDESTRUCTIVE TESTING FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341.

B. SEISMIC ISOLATION SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH SECTION 17.8 OF ASCE 7.

18.1.3. SPECIAL INSPECTION IS NOT REQUIRED FOR THE FOLLOWING:

A. STRUCTURAL WOOD WHERE THE FASTENER SPACING OF THE SHEATHING IS GREATER THAN 4 INCHES ON CENTER.

B. SPECIAL INSPECTION IS NOT REQUIRED FOR ARCHITECTURAL COMPONENTS WHERE:

- a. EXTERIOR CLADDING, INTERIOR AND EXTERIOR NONBEARING WALLS AND INTERIOR AND EXTERIOR VENEER ARE 30 FEET OR LESS IN HEIGHT ABOVE GRADE OR WALING SURFACE.
- b. EXTERIOR CLADDING AND INTERIOR AND EXTERIOR VENEERS WEIGHTING 5 PSF OR LESS.
- c. INTERIOR NONBEARING WALLS WEIGHING 15 PSF OR LESS.

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FOR

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GENERAL NOTES:

REVISIONS



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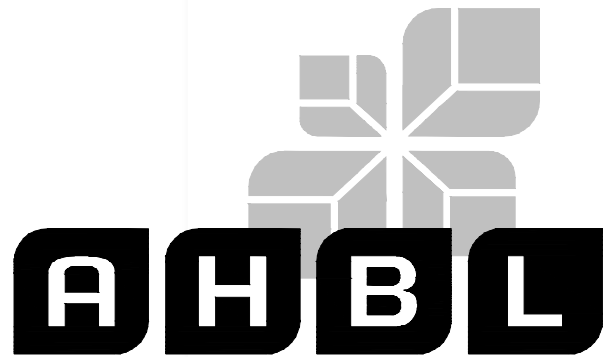
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15.A REQUIRED SPECIAL INSPECTION AND TESTS OF STRUCTURAL STEEL
CONSTRUCTION – INSPECTION OF WELDING

SPECIAL INSPECTION OR TEST TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD
AISC TABLE N5.4-1				
1.	PRIOR TO WELDING, VERIFY AND INSPECT THE FOLLOWING:	N/R	✓	
A.	WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	✓	N/R	
B.	WELDING PROCEDURE SPECIFICATIONS (WPS)	✓	N/R	
C.	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES	✓	N/R	AISC 360 A3.5
C.	MATERIAL IDENTIFICATION OF STRUCTURAL STEEL MEMBERS	N/R	✓	AISC 360 A3.1
E.	WELDER IDENTIFICATION SYSTEM	N/R	✓	
F.	FIT-UP OF GROOVE WELDS, INCLUDING JOINT GEOMETRY			
	1) JOINT PREPARATION	N/R	✓	
	2) DIMENSIONS: ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL	N/R	✓	
	3) CLEANLINESS: CONDITION OF STEEL SURFACES	N/R	✓	
	4) TACKING: TACK WELD QUALITY AND LOCATION	N/R	✓	
	5) BACKING TYPE AND FIT (IF APPLICABLE)	N/R	✓	
G.	FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- AND K-JOINTS WITHOUT BACKING, INCLUDING JOINT GEOMETRY:			
	1) JOINT PREPARATION	✓	N/R	
	2) DIMENSIONS: ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL	✓	N/R	
	3) CLEANLINESS: CONDITION OF STEEL SURFACES	✓	N/R	
	4) TACKING: TACK WELD QUALITY AND LOCATION	✓	N/R	
H.	CONFIGURATION AND FINISH OF ACCESS HOLES	N/R	✓	
H.	FIT-UP OF FILLET WELDS			
	1) DIMENSIONS: ALIGNMENT, GAPS AT ROOT	N/R	✓	
	2) CLEANLINESS: CONDITION OF STEEL SURFACES	N/R	✓	
	3) TACKING: TACK WELD QUALITY AND LOCATION	N/R	✓	
I.	CHECK WELDING EQUIPMENT	N/R	✓	
AISC 360 TABLE N5.4-2				
2.	DURING WELDING, VERIFY AND INSPECT THE FOLLOWING:			
A.	USE OF QUALIFIED WELDERS	N/R	✓	
B.	CONTROL AND HANDLING OF WELDING CONSUMABLES			
	1) PACKAGING	N/R	✓	
	2) EXPOSURE CONTROL	N/R	✓	
C.	NO WELDING OVER CRACKED TACK WELDS	N/R	✓	
D.	ENVIRONMENTAL CONDITIONS			
	1) WIND SPEED WITHIN LIMITS	N/R	✓	
	2) PRECIPITATION AND TEMPERATURE	N/R	✓	
E.	WELDING PROCEDURE SPECIFICATIONS FOLLOWED			
	1) SETTINGS ON WELDING EQUIPMENT	N/R	✓	
	2) TRAVEL SPEED	N/R	✓	
	3) SELECTED WELDING MATERIALS	N/R	✓	
	4) SHIELDING GAS TYPE AND FLOW RATE	N/R	✓	
	5) PREHEAT APPLIED	N/R	✓	
	6) INTERPASS TEMPERATURE MAINTAINED	N/R	✓	
	7) PROPER POSITION	N/R	✓	
F.	WELDING TECHNIQUES			
	1) INTERPASS AND FINAL CLEANING	N/R	✓	
	2) EACH PASS WITHIN PROFILE LIMITATIONS	N/R	✓	
	3) EACH PASS MEETS QUALITY REQUIREMENTS	N/R	✓	
G.	PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	✓	N/R	
AISC 360 TABLE N5.4-3				
3.	AFTER WELDING, VERIFY AND INSPECT THE FOLLOWING:			
A.	WELDS CLEANED	N/R	✓	
B.	SIZE, LENGTH, AND LOCATION OF WELDS	✓	N/R	
C.	WELDS MEET VISUAL ACCEPTANCE CRITERIA			
	1) CRACK PROHIBITION	✓	N/R	
	2) WELD TO BASE METAL FUSION	✓	N/R	
	3) CRATER CROSS SECTION	✓	N/R	
	4) WELD PROFILES	✓	N/R	
	5) WELD SIZE	✓	N/R	
	6) UNDERCUT	✓	N/R	
	7) POROSITY	✓	N/R	
D.	ARC STRIKES	✓	N/R	
E.	K-AREA	✓	N/R	
F.	BACKING REMOVED AND WELD TABS REMOVED, IF REQUIRED	✓	N/R	
G.	REPAIR ACTIVITIES	✓	N/R	
H.	DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	✓	N/R	
I.	NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD	N/R	✓	

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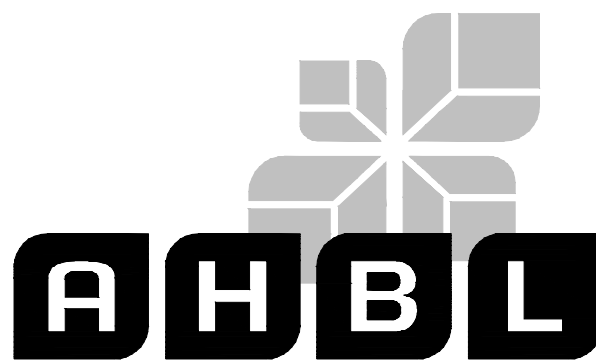
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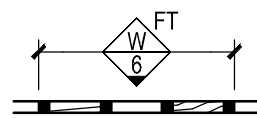
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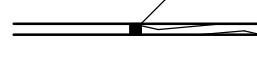
SHEARWALL - REFER TO SHEARWALL SCHEDULE ON SHEET S1.1.



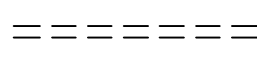
FORCE TRANSFER SHEARWALL - SHEATHING, NAILING AND BLOCKING SPECIFIED IN THE SHEARWALL SCHEDULE SHALL BE PROVIDED ABOVE AND BELOW OPENINGS FOR LENGTH INDICATED. SEE DETAIL 1 / S0.5 FOR STRAPPING AND NAILING REQUIREMENTS AT OPENINGS.



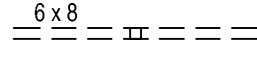
WOOD STUD FRAMED WALL ORIGINATING ON FOUNDATION OR FLOOR FRAMING PLAN ON WHICH IT IS NOTED.



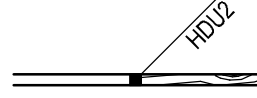
COLUMN ORIGINATING ON FOUNDATION OR FLOOR FRAMING PLAN ON WHICH IT IS NOTED.



WALL BELOW FLOOR OR ROOF FRAMING PLAN ON WHICH IT IS NOTED - SEE PLAN BELOW FOR REQUIREMENTS.



COLUMN BELOW WITH HEADER SUPPORTING FLOOR OR ROOF FRAMING ON THE LEVEL ON WHICH IT IS NOTED - SEE PLAN BELOW FOR COLUMN REQUIREMENTS.



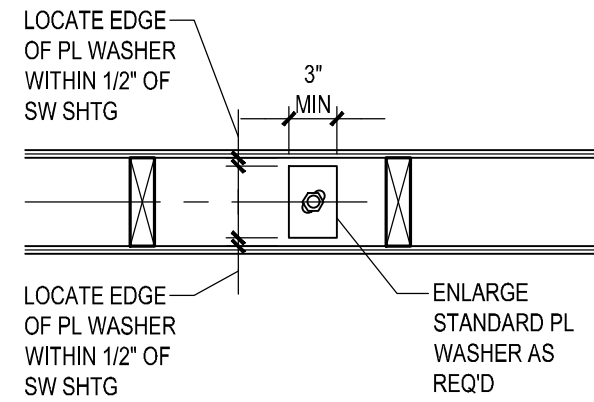
INDICATES COLUMN WITH HOLDDOWN - PROVIDE SIMPSON HOLDDOWN INDICATED.

SHEARWALL SCHEDULE

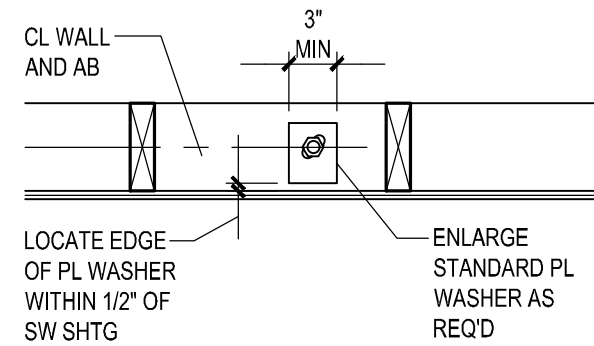
MARK	SHEATHING	NAILING		STUD SIZE AT ADJOINING PANEL EDGES	BLOCKING SIZE	FOUNDATION SILL PL ATTACHMENT	2x BOTTOM PLATE ATTACHMENT TO WOOD BELOW	LAMINATED STUDS AT VERTICAL PANEL JOINT	ASD ALLOWABLE UNIT SHEAR - SEISMIC	ASD ALLOWABLE UNIT SHEAR - WIND
		SIZE	SPACING							
1	15/32" APA RATED SHEATHING	10d COMMON (0.148" DIA x 2 1/4" MIN)	6" OC EDGES 12" OC FIELD	2x	2x FLAT OR 2x	3/4" DIA AT 48" OC	16d AT 6" OC STAGGERED	16d AT 6" OC STAGGERED	310 PLF	435 PLF

APA RATED SHEATHING SHEARWALL NOTES:

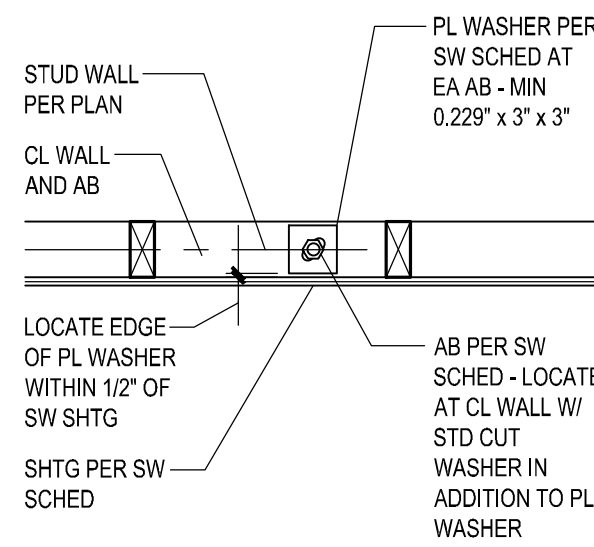
- NAILS SHALL BE COMMON FROM AN AMERICAN OR CANADIAN MFR ONLY. MINIMUM NAIL PENETRATION INTO WOOD FRAMING SHALL BE 1 1/2" FOR 10d NAILS. UNLESS NOTED OTHERWISE, NAIL DIAMETERS AND LENGTHS SHALL BE AS NOTED IN THE CARPENTRY HARDWARE SECTION OF THE STRUCTURAL NOTES. GALVANIZED NAILS SHALL BE HOT DIPPED OR TUMBLE.
- APA RATED SHEATHING MATERIAL MAY BE EITHER PLYWOOD OR ORIENTED STRAND BOARD CONFORMING TO DOC PS 1 OR PS 2. SHEATHING MAY BE ORIENTED EITHER HORIZONTALLY OR VERTICALLY.
- SHEATHING PANELS SHALL NOT BE LESS THAN 4' x 8' EXCEPT AT SHEARWALL BOUNDARIES AND CHANGES IN FRAMING. ALL PANELS EDGES SHALL BE SUPPORTED BY AND FASTENED TO FRAMING MEMBERS OR BLOCKING.
- ALL INTERIOR SHEAR WALLS HAVE BEEN DESIGNATED. ALL EXTERIOR WALLS WITHOUT DESIGNATION SHALL BE TYPE W6. WHERE THE SHEARWALL HAS BEEN DESIGNATED ON THE PLANS TO EXTEND ALONG LENGTHS OF WALLS WITH PENETRATIONS, SHEATHING AND NAILING OF THAT TYPE SHALL BE REQUIRED ABOVE AND BELOW WALL OPENINGS. OTHERWISE, SHEATHING AND NAILING ABOVE AND BELOW OPENINGS MAY BE TYPE W6.
- UNLESS NOTED OTHERWISE, THE SHEARWALL DESIGNATION APPLIES TO FULL EXTENT OF WALL BETWEEN CORNERS OF WALLS.
- SHEARWALLS SHALL RUN CONTINUOUS THROUGH BREAKS CAUSED BY INTERSECTING WALLS.
- WHEN SHEATHING IS REQUIRED ON ONE SIDE ONLY, PLACE ON THE SIDE OF THE SYMBOL. WHERE THE SHEATHING IS NOTED ON TWO SIDES OF THE WALL, STAGGER VERTICAL PANEL JOINTS SUCH THAT JOINTS ON OPPOSITE SIDES OF THE WALL DO NOT FALL ON THE SAME FRAMING MEMBER.
- NAIL SPACING INDICATED ON SCHEDULE APPLIES TO ALL STUDS, TOP AND BOTTOM PLATES AND BLOCKING. NAIL SPACINGS OF 3" ON CENTER OR LESS AT ADJOINING PANEL EDGES SHALL BE STAGGERED. NAILS SHALL BE LOCATED AT LEAST 3/8" FROM PANEL EDGES.
- PROVIDE SHEATHING EDGE NAILING TO ALL COLUMNS WITH HOLDDOWNS AND STUDS ATTACHED TO STEEL TUBE COLUMNS.
- HOT DIPPED GALVANIZED FASTENERS SHALL BE USED TO ATTACH TO ALL TREATED WOOD MEMBERS. ELECTROPLATED FASTENERS ARE NOT ACCEPTABLE.
- SPACING OF WALL STUDS SHALL BE AS NOTED ON THE PLANS. SPACING OF STUDS SHALL NOT EXCEED 24" OC.
- WHERE NOTED, THE WIDTH OF THE NAILED FACE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES SHALL BE 3" NOMINAL. TWO 2" NOMINAL FRAMING MEMBERS SHALL BE PERMITTED TO BE USED IN LIEU OF A SINGLE 3" NOMINAL MEMBER PROVIDED THE 2" NOMINAL MEMBERS ARE NAILED TOGETHER PER "LAMINATED STUDS AT VERTICAL PANEL JOINT" IN THE SCHEDULE ABOVE.
- ANCHOR BOLTS SHALL NOT BE SPACED GREATER THAN 48" OC, AND SHALL HAVE 7" MIN. EMBED. EXPANSION BOLTS SHALL HAVE 6" MIN. EMBED. SEE DETAILS FOR TYPE OF CONNECTION REQUIRED. PROVIDE A MINIMUM OF (2) ANCHOR BOLTS PER PIECE, WITH ONE ANCHOR LOCATED NOT MORE THAN 12" OR LESS THAN 4" FROM EACH END OF EACH PIECE. AT NON-SHEAR WALLS, PROVIDE SPECIFIED ANCHOR BOLTS AT 48" OC MAX. UNLESS NOTED OTHERWISE.
- FOUNDATION ANCHOR BOLTS SHALL HAVE A STEEL PLATE WASHER AT EA ANCHOR BOLT NO LESS THAN 0.229" x 3" x 3" IN SIZE. THE HOLE IN THE PLATE WASHER SHALL BE PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1 3/4". PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT. THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE FOUNDATION SILL PLATE. SLOTTED PLATE WASHERS SHALL BE A MINIMUM 3" x 4" FOR 2x6 WALLS, AND 3" x 6" FOR 2x8 WALLS.
- STANDARD CUT WASHERS MAY BE SUBSTITUTED IN LIEU OF PLATE WASHERS FOR ALL TYPE W6 WALLS LONGER THAN 10 FEET.
- FOR SHEAR WALLS FRAMED WITH ENGINEERED WOOD STUDS (LSL OR LVL), DF No.2 2x FRAMING THAT MATCHES THE DEPTH OF THE STUDS MAY BE SUBSTITUTED FOR ENGINEERED WOOD AT ALL WALL FOUNDATION SILLS AND WALL TOP PLATES, AS WELL AS BLOCKING.



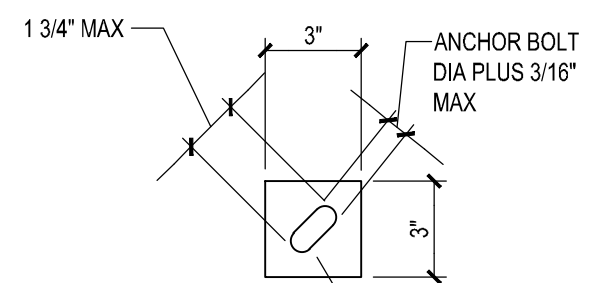
CONDITION AT WALLS SHEATHED BOTH SIDES



CONDITION AT 2x6 AND LARGER WALLS

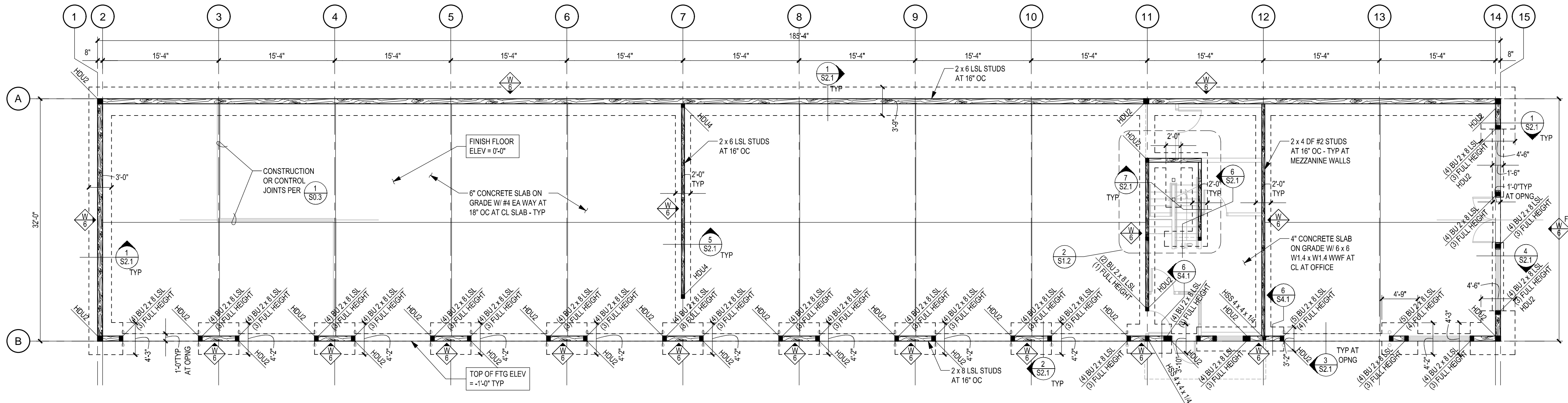


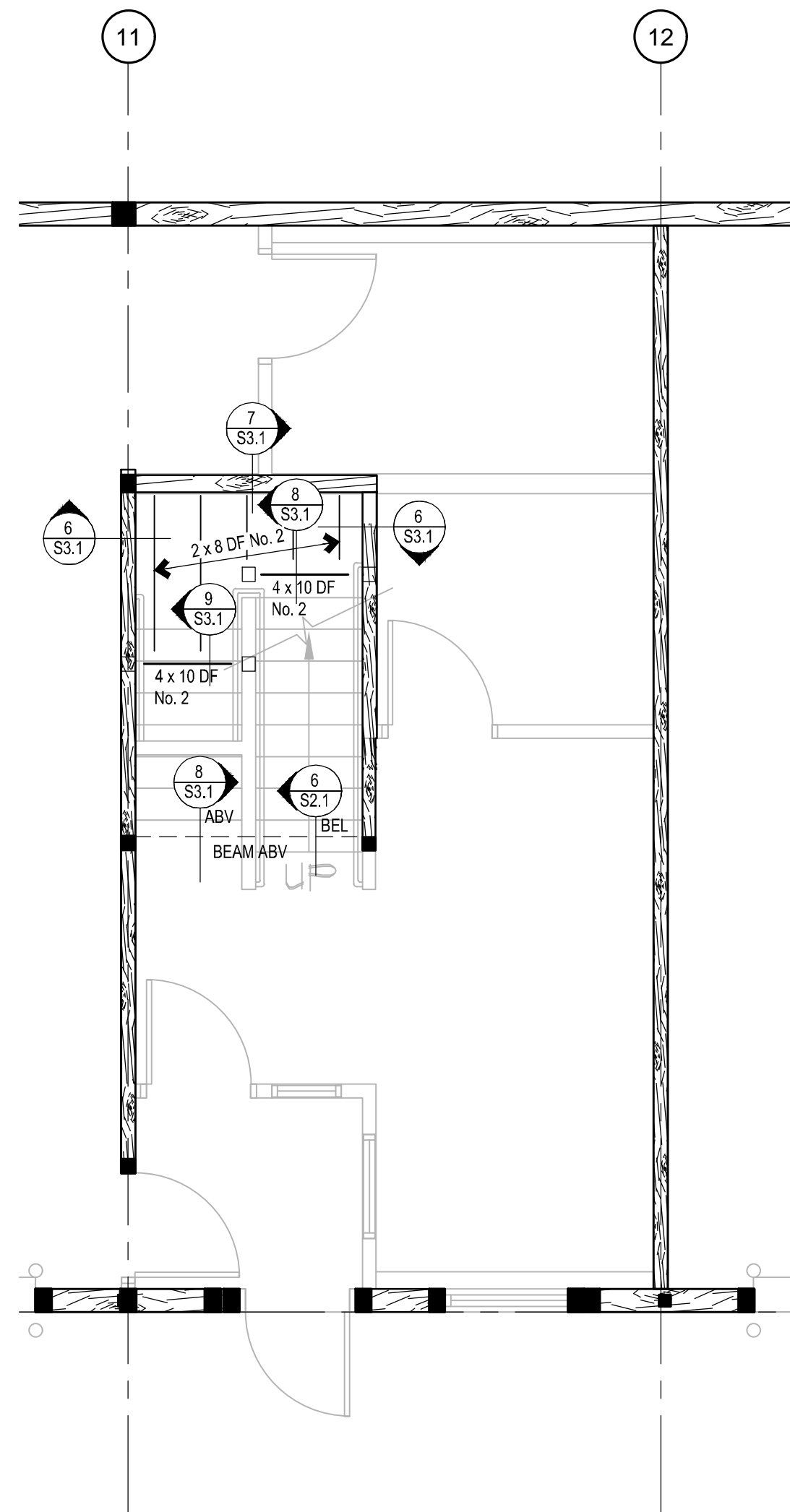
TYPICAL CONDITION



SLOTTED HOLE SIZE SHOWN IS PERMITTED PROVIDED STD CUT WASHER IS ADDED ABV SLOTTED HOLE

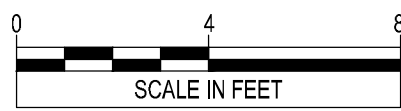
STANDARD (MINIMUM) PL WASHER



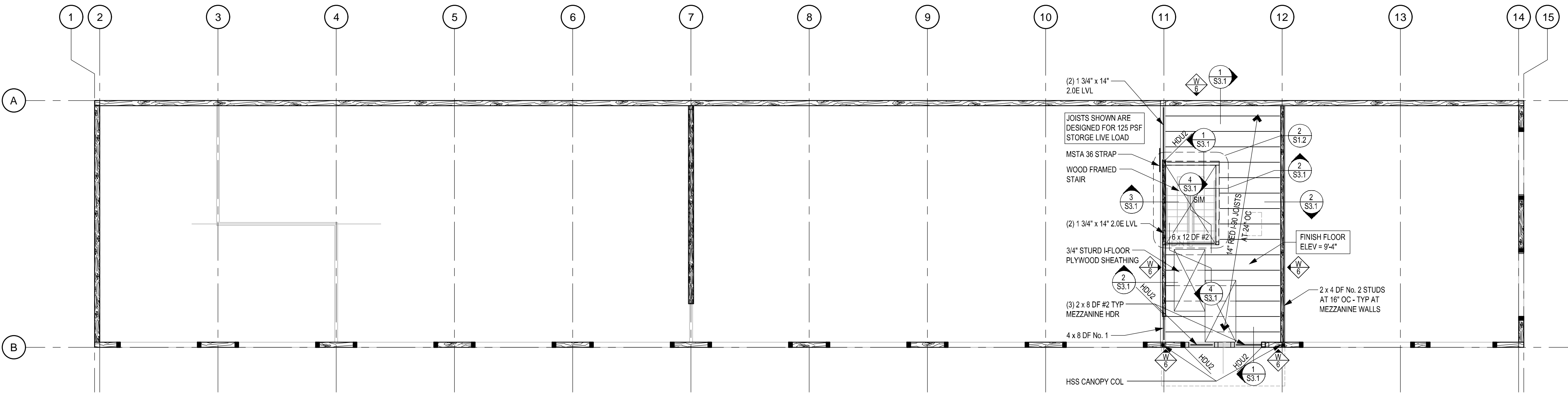


ENLARGED STAIR FRAMING PLAN

1/4" = 1'-0"

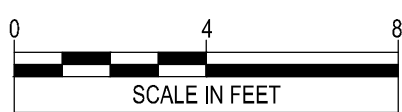


2

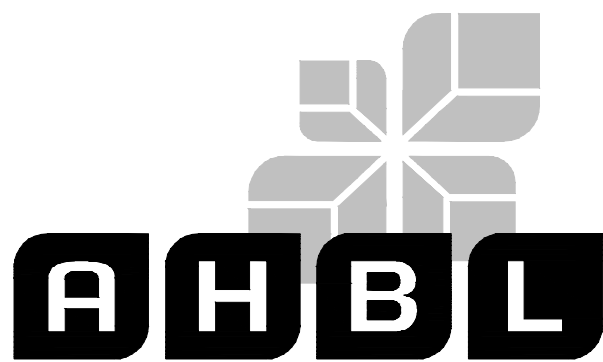
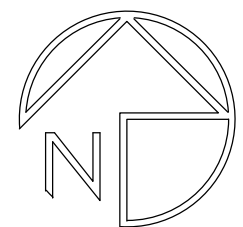


MEZZANINE FRAMING PLAN

1/8" = 1'-0"



1



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FLOOR FRAMING NOTES:

- SEE SHEET S0.1 AND S0.2 FOR STRUCTURAL NOTES. SEE SHEET S0.3 FOR TYPICAL DETAILS. SEE SHEET S0.6 FOR TESTING AND INSPECTION NOTES.
- ALL BEAMS SHALL HAVE 0" CAMBER UNLESS NOTED OTHERWISE.
- ALIGN JOISTS WITH STUDS BELOW WHERE SPACINGS ARE EQUAL.
- VERIFY ALL TOP OF BEAM AND TOP OF WALL ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
- VERIFY ALL DOOR AND WINDOW WIDTHS AND HEIGHTS WITH ARCHITECTURAL DRAWINGS.
- VERIFY SIZE AND LOCATION OF ALL MECHANICAL PENETRATIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- ALL SAWN HEADERS SHOWN SHALL BE DF No.1 UNLESS NOTED OTHERWISE.
- ALL PRE-ENGINEERED JOIST SPACINGS SHALL BE 2'-0" OC EXCEPT AS SHOWN OR NOTED.
- FLOOR JOIST TYPES AND NUMBER SHOWN ARE SCHEMATIC ONLY. JOIST MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS. ALL DRAWINGS AND CALCULATIONS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. JOIST MANUFACTURER SHALL SUPPLY ALL ENGINEERING AND CONNECTION DETAILS. ALL ENGINEERING DETAILS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT.
- JOIST MANUFACTURER SHALL PROVIDE DOUBLE JOISTS BELOW ALL PARTITION WALLS PARALLEL TO JOISTS AS INDICATED ON THE PLANS.
- ATTACH NON STRUCTURAL WALLS TO FLOOR PER DETAIL 2 / S0.5.
- UNLESS NOTED OTHERWISE, SHEATHING SHALL BE UNBLOCKED AND ORIENTED WITH LONG EDGE OF PANEL (OR FACE GRAIN IF PLYWOOD IS USED) PERPENDICULAR TO SUPPORTS. PANELS SHALL BE STAGGERED WITH OFFSET JOINTS OCCURRING OVER SUPPORTS. MINIMUM SHEATHING DIMENSION PERPENDICULAR TO SUPPORTS SHALL BE 24" UNLESS EDGES OF PANEL ARE BLOCKED.
- ATTACH FLOOR SHEATHING W/ 10d NAILS AT 6" OC AT SUPPORTED EDGES AND AT 10" OC IN FIELD.

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PROJECT:

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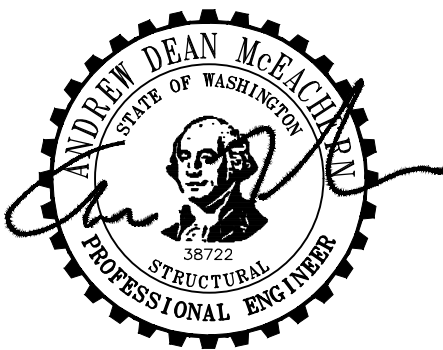
3812 S TACOMA WAY
TACOMA, WA

FOR

BRUCE TITUS
AUTOMOTIVE
GROUP

GENERAL NOTES:

REVISIONS:



DRAWING ISSUED FOR:

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DATE: 22 MAY 2023

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DRAWN BY: KJK

CHECKED BY: ADM

PLOT SCALE: 1:1

DRAWING SCALES: AS NOTED

DRAWING CONTENTS:

MEZZANINE
FRAMING PLAN

DRAWING NO:

S1.2

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FILE NAME:

XREFS:

DRAWN BY: KJK

CHECKED BY: ADM

PLOT SCALE: 1:1

DRAWING SCALES: AS NOTED

DRAWING CONTENTS:

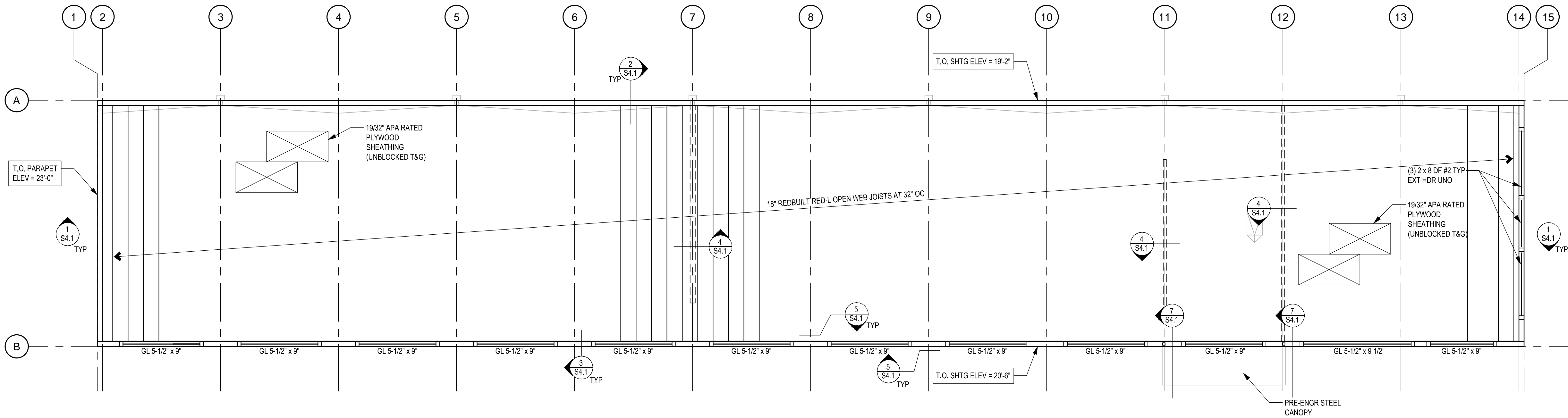
ROOF
FRAMING PLAN

DRAWING NO:

S1.3

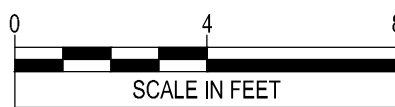
ROOF FRAMING NOTES:

- SEE SHEET S0.1 FOR STRUCTURAL NOTES. SEE SHEET S0.3 FOR TYPICAL DETAILS. SEE SHEET S0.6 FOR TESTING AND INSPECTION NOTES.
- ALL BEAMS SHALL HAVE 0" CAMBER UNLESS NOTED OTHERWISE.
- VERIFY ALL TOP OF BEAM AND TOP OF WALL ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
- VERIFY ALL DOOR AND WINDOW WIDTHS AND HEIGHTS WITH ARCHITECTURAL DRAWINGS.
- VERIFY SIZE AND LOCATION OF ALL MECHANICAL PENETRATIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- ALL SHADED AREAS ARE SHALL BE OVERFRAMING AT 24" OC BY TRUSS MANUFACTURER.
- BOTTOM CHORD ELEVATIONS MAY VARY. SEE ARCHITECTURAL DRAWINGS.
- ALL SAWN HEADERS SHOWN SHALL BE DF No.1 UNLESS NOTED OTHERWISE.
- ALIGN WOOD TRUSSES AND JOISTS WITH STUDS BELOW WHERE SPACINGS ARE EQUAL.
- ATTACH NON STRUCTURAL WALLS TO ROOF PER DETAIL 2 / S0.5.
- UNLESS NOTED OTHERWISE, SHEATHING SHALL BE UNBLOCKED AND ORIENTED WITH LONG EDGE OF PANEL (OR FACE GRAIN IF PLYWOOD IS USED) PERPENDICULAR TO SUPPORTS. PANELS SHALL BE STAGGERED WITH OFFSET JOINTS OCCURRING OVER SUPPORTS. MINIMUM SHEATHING DIMENSION PERPENDICULAR TO SUPPORTS SHALL BE 24" UNLESS EDGES OF PANEL ARE BLOCKED.
- FOR SPECIAL NOTES REGARDING PRE-ENGINEERED METAL-PLATE-CONNECTED WOOD TRUSS DESIGN, COORDINATION AND FABRICATION, SEE "PRE-ENGINEERED METAL-PLATE-CONNECTED WOOD TRUSS NOTES."
- ALL PRE-ENGINEERED WOOD TRUSS SPACINGS SHALL BE 2'-0" OC UNLESS NOTED OTHERWISE.
- ROOF JOIST TYPES AND NUMBER SHOWN SCHEMATIC ONLY JOIST MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS. ALL DRAWINGS AND CALCULATIONS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. JOIST MANUFACTURER SHALL SUPPLY ALL ENGINEERING AND CONNECTION DETAILS. ALL ENGINEERING DETAILS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT.

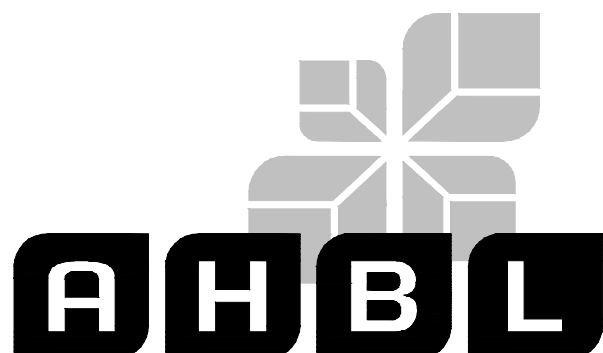
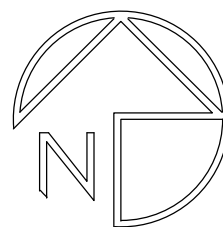


ROOF FRAMING PLAN

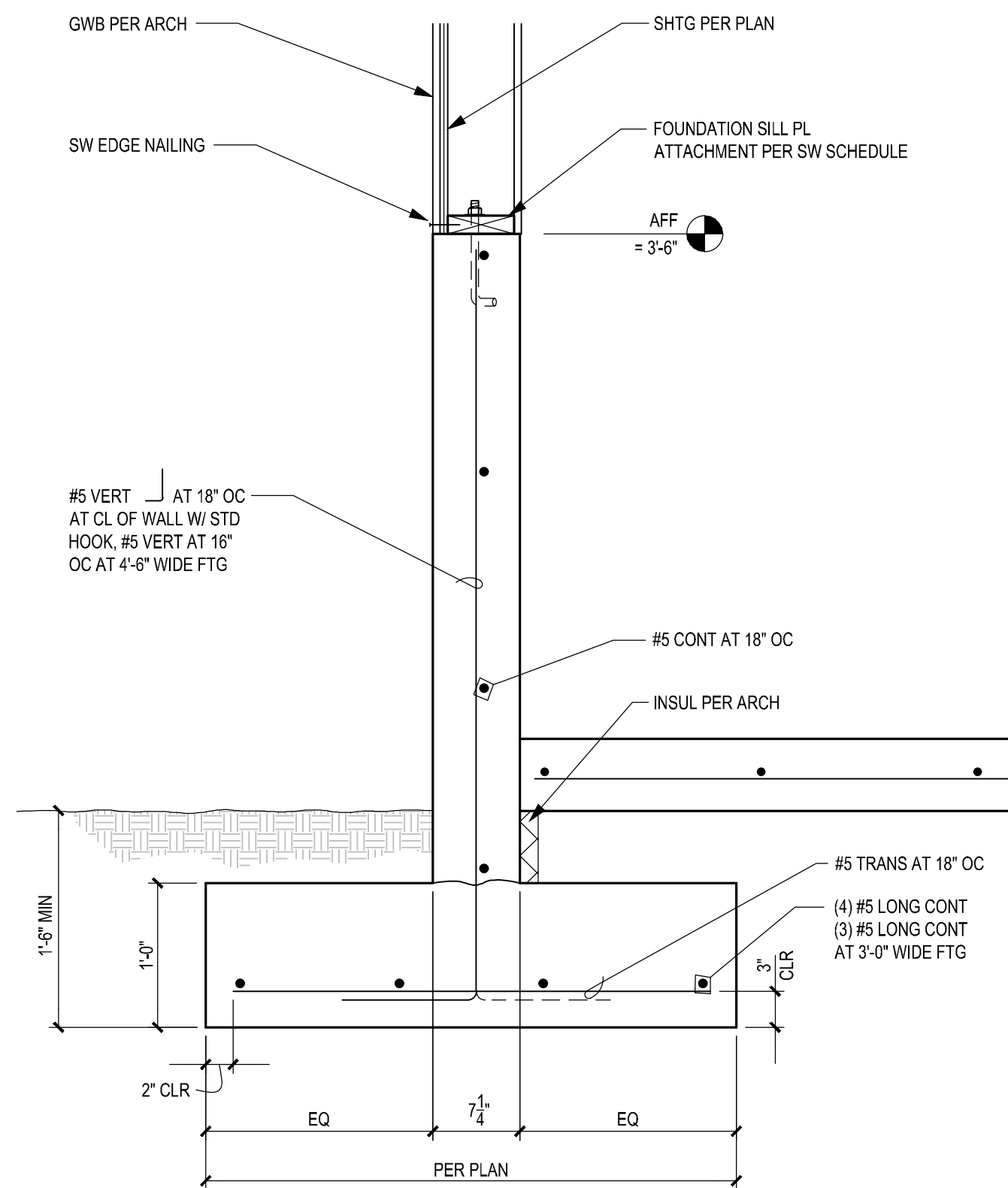
1/8" = 1'-0"



1



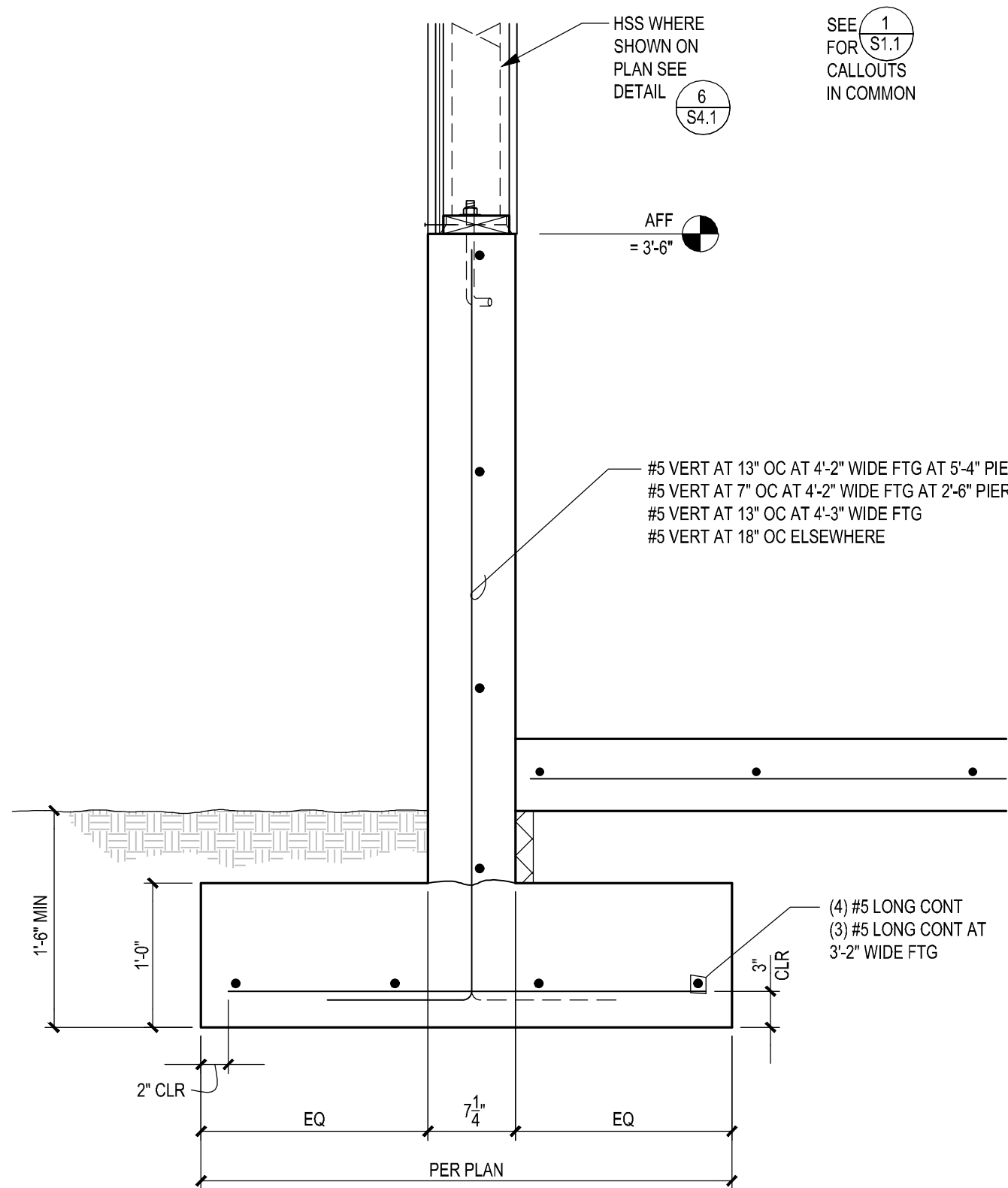
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SECTION

1" = 1'-0"

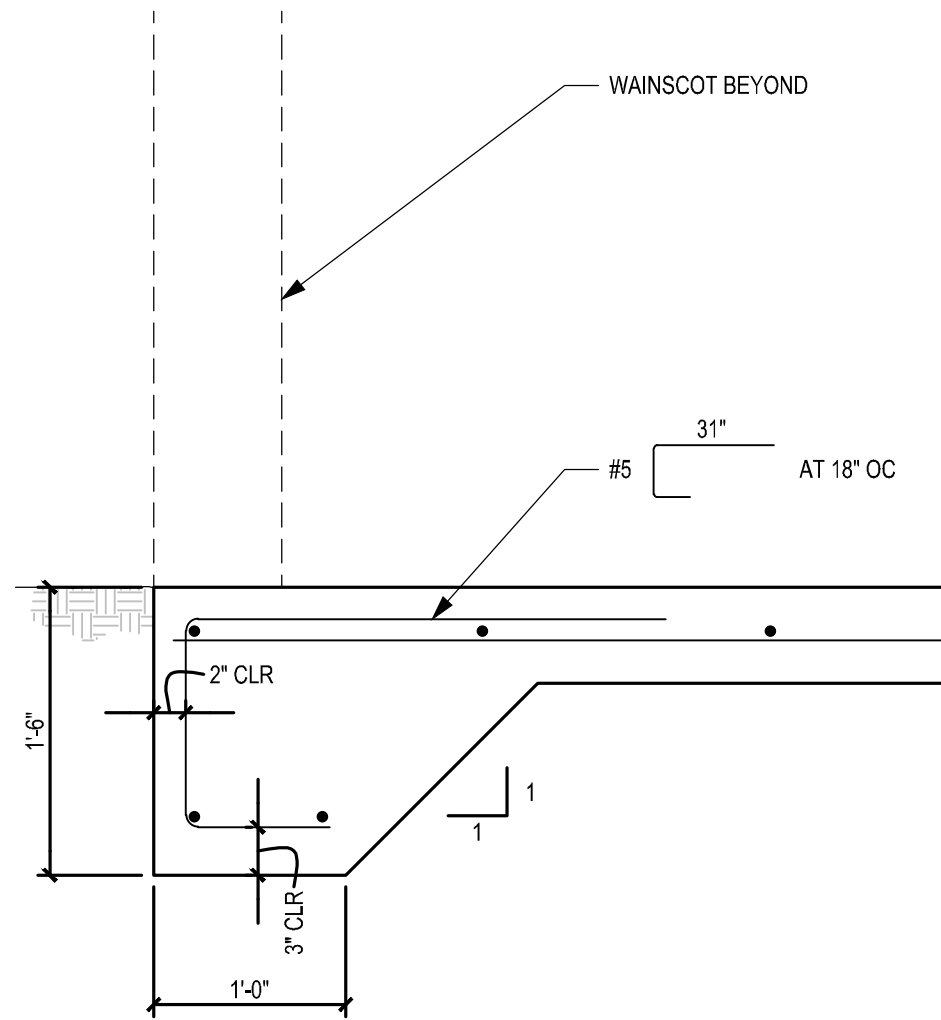
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SECTION

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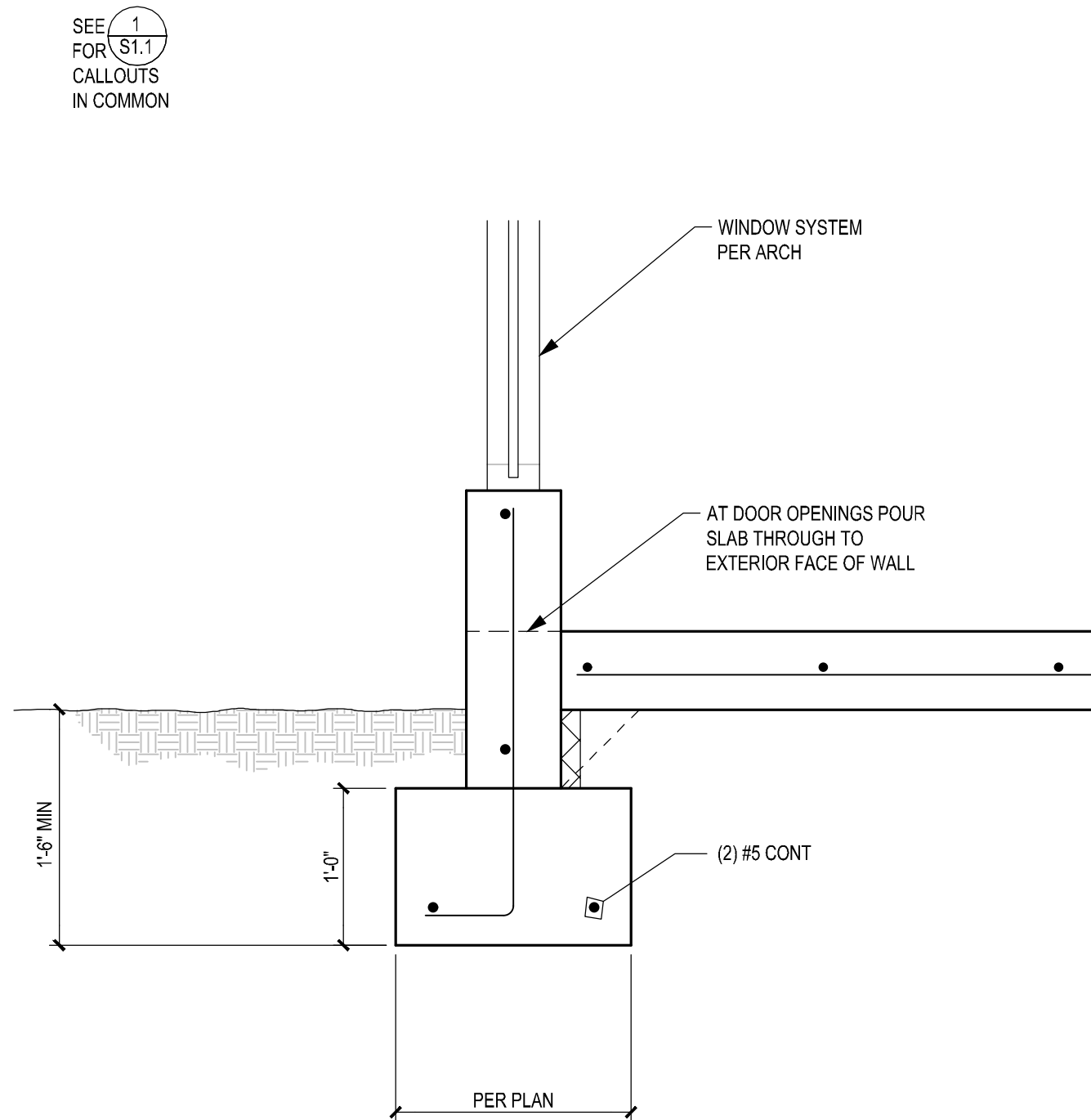
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SECTION

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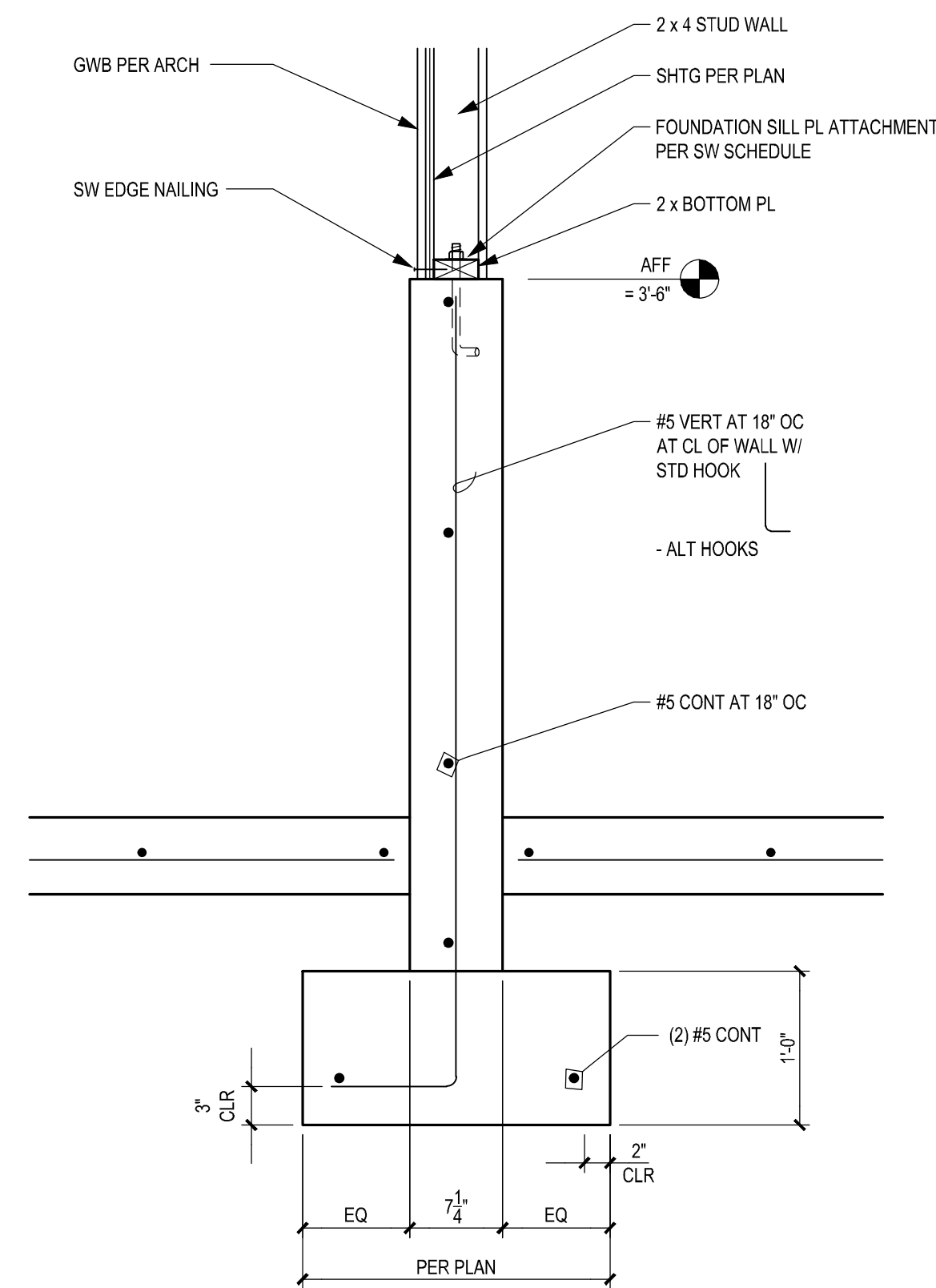
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SECTION

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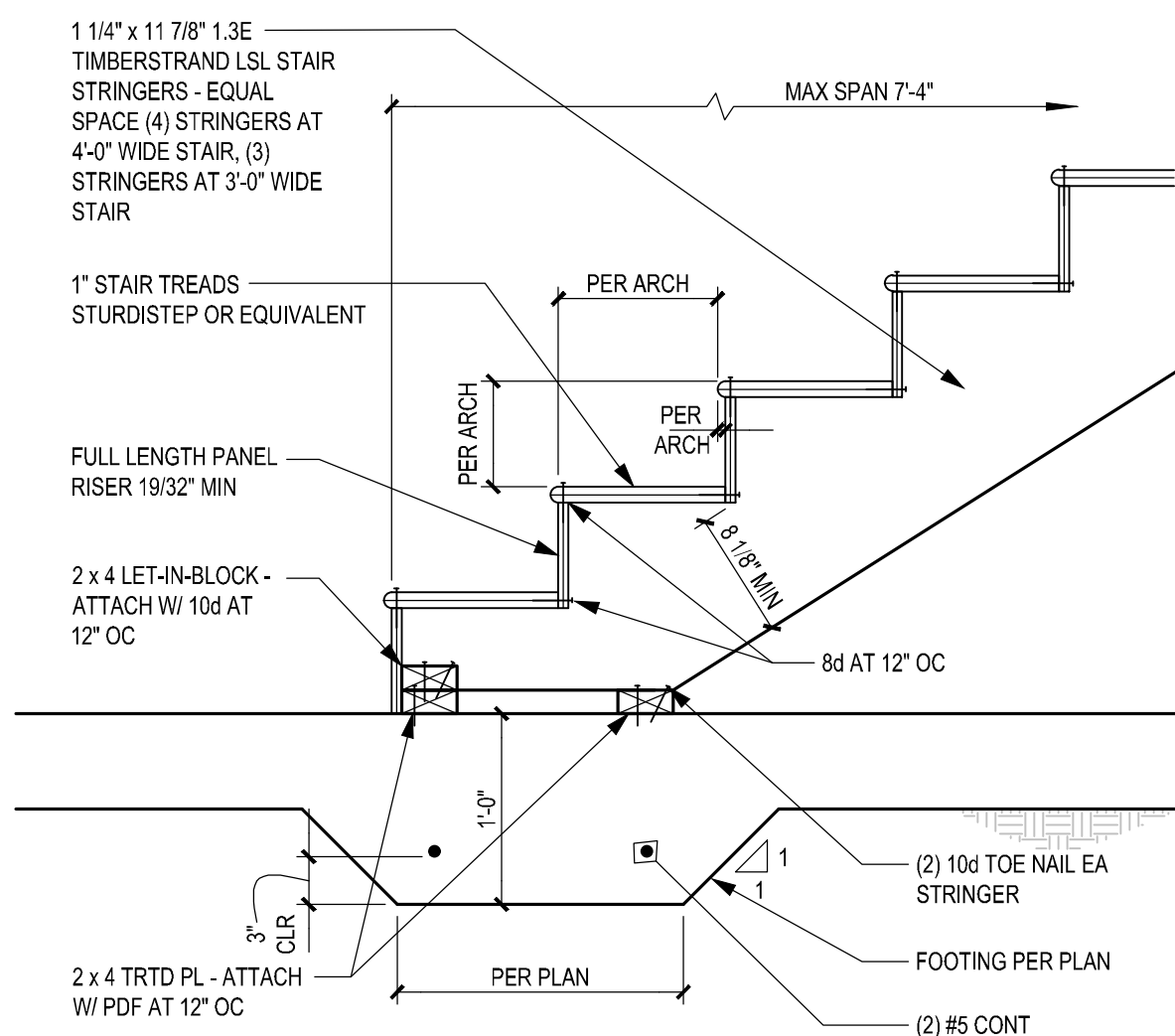
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SECTION

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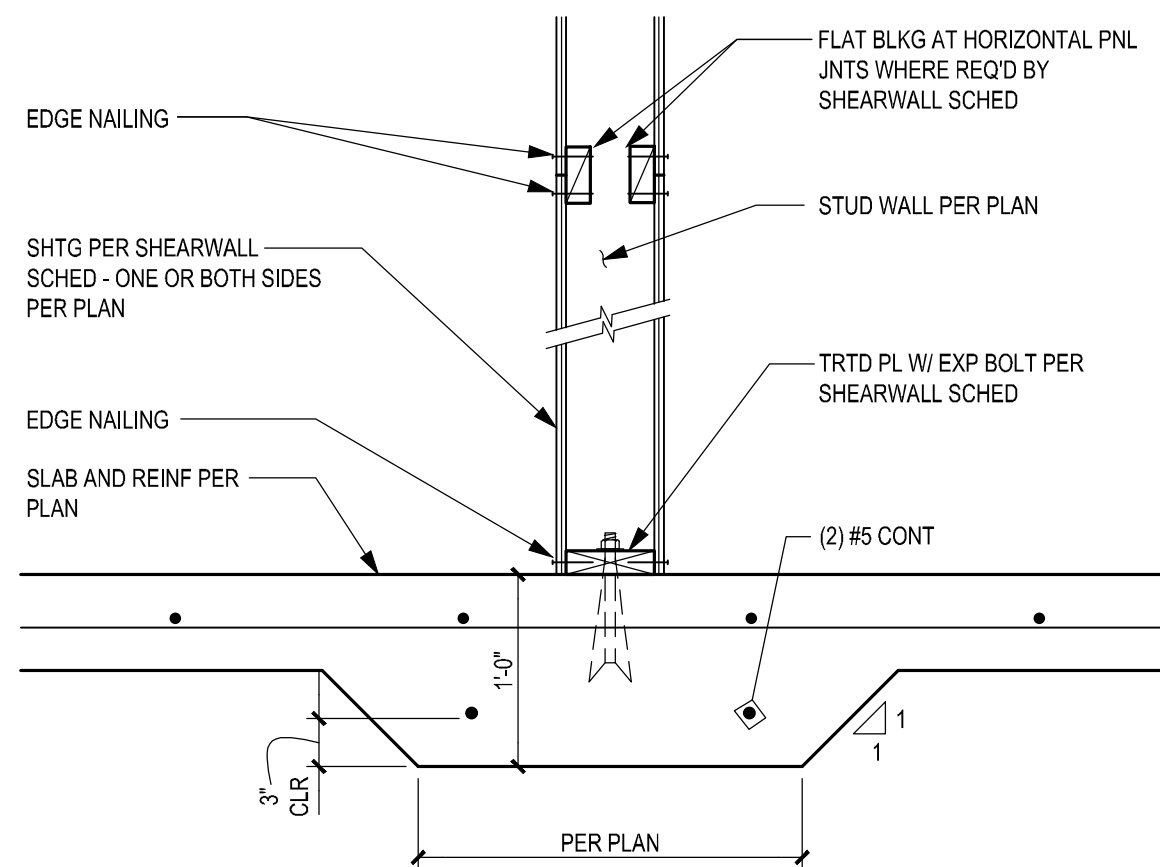
5



SECTION

1" = 1'-0"

6



SECTION

1" = 1'-0"

7



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FOR
**BRUCE TITUS
AUTOMOTIVE
GROUP**

GENERAL NOTES:

REVISIONS:



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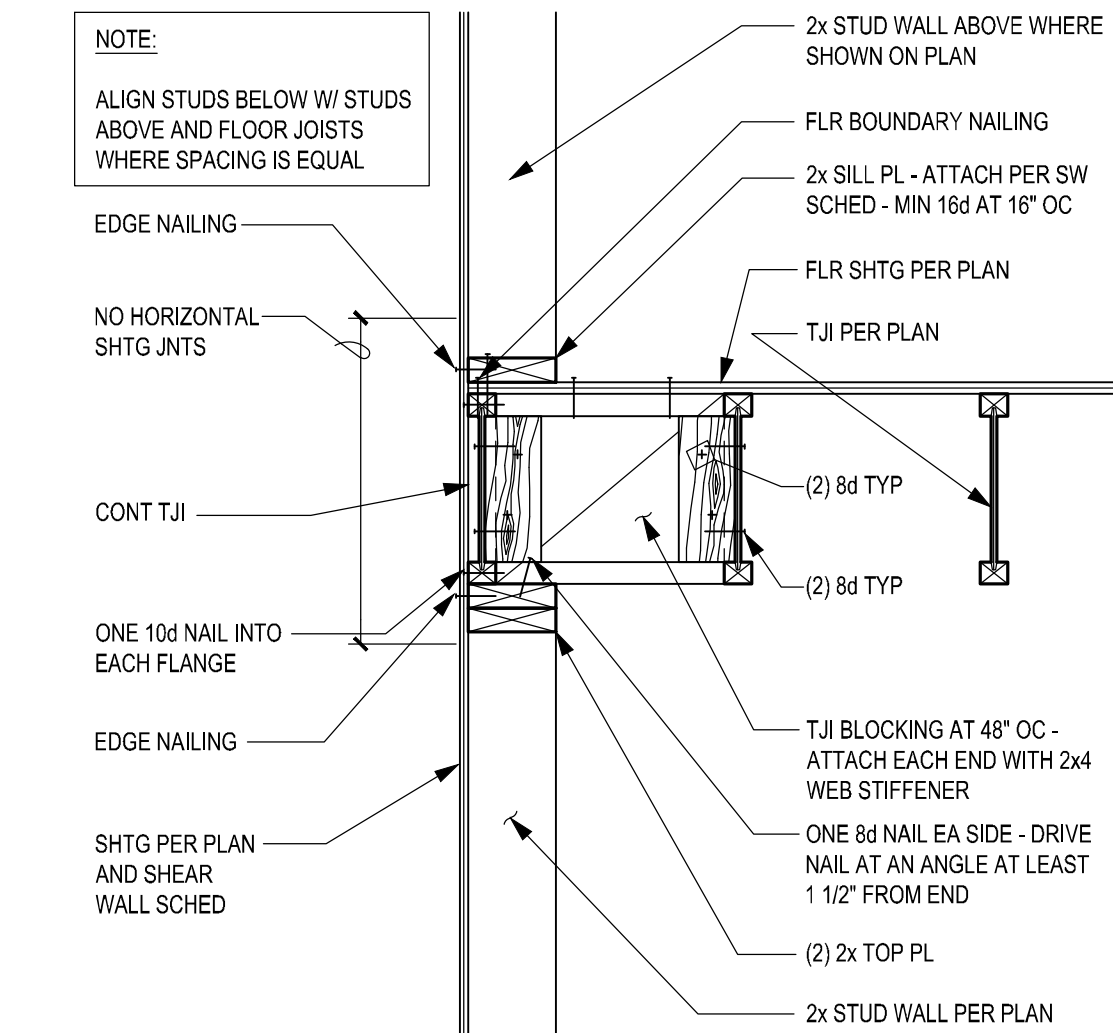
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DRAWING CONTENTS:
**FOUNDATION
DETAILS**

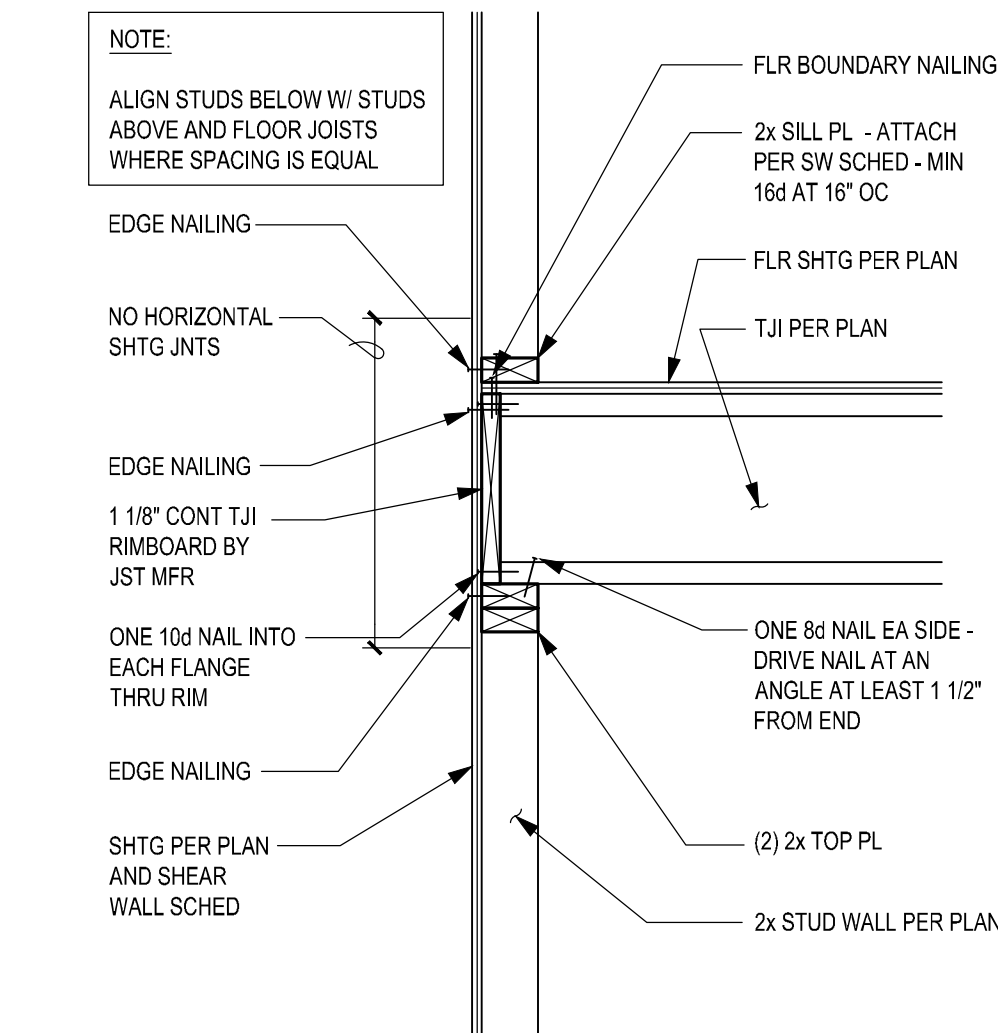
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S2.1



SECTION

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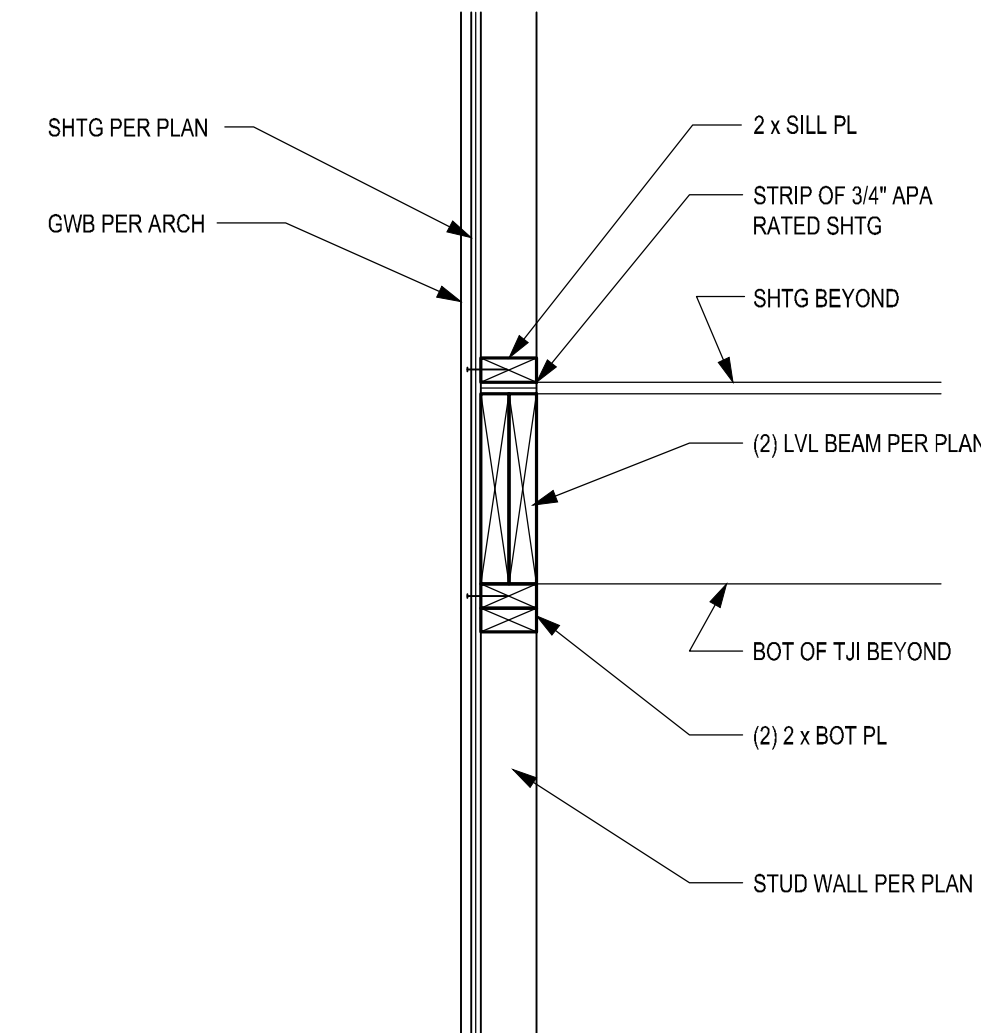
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SECTION

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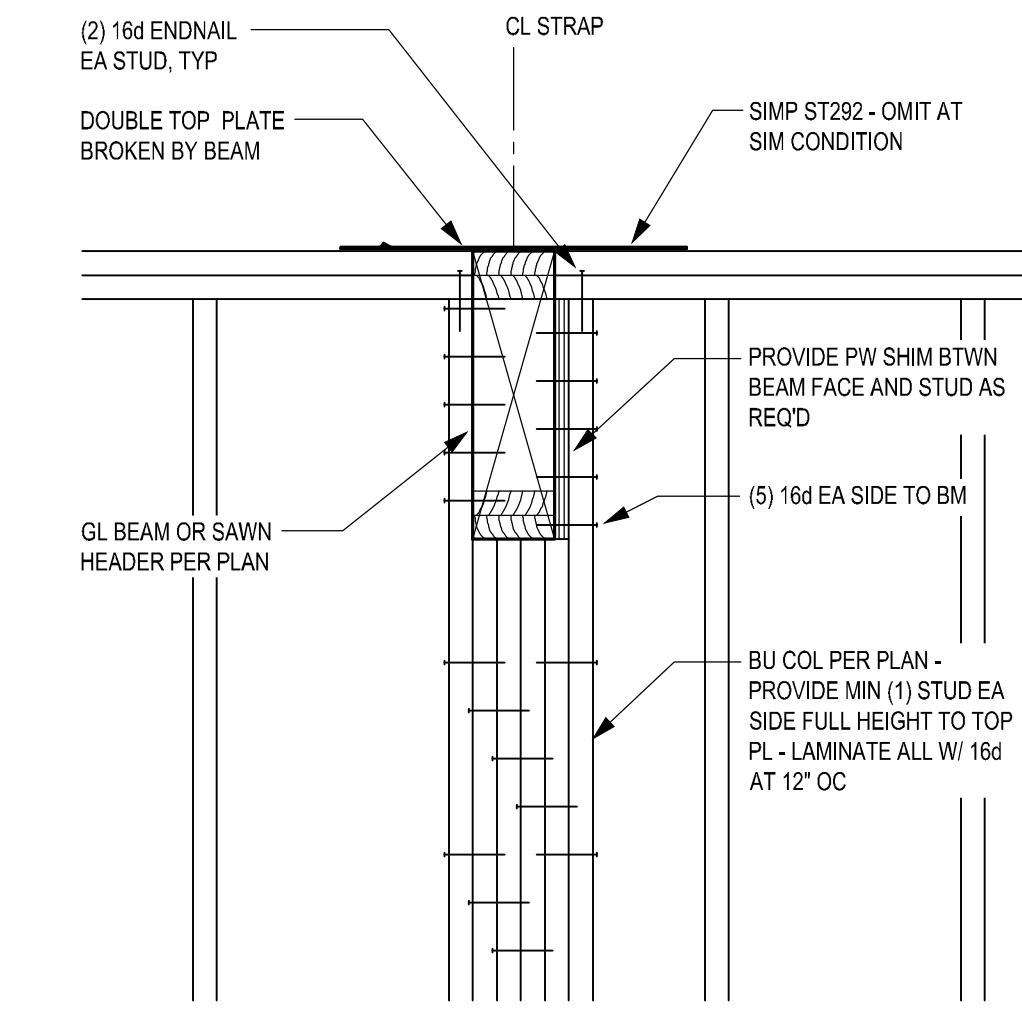
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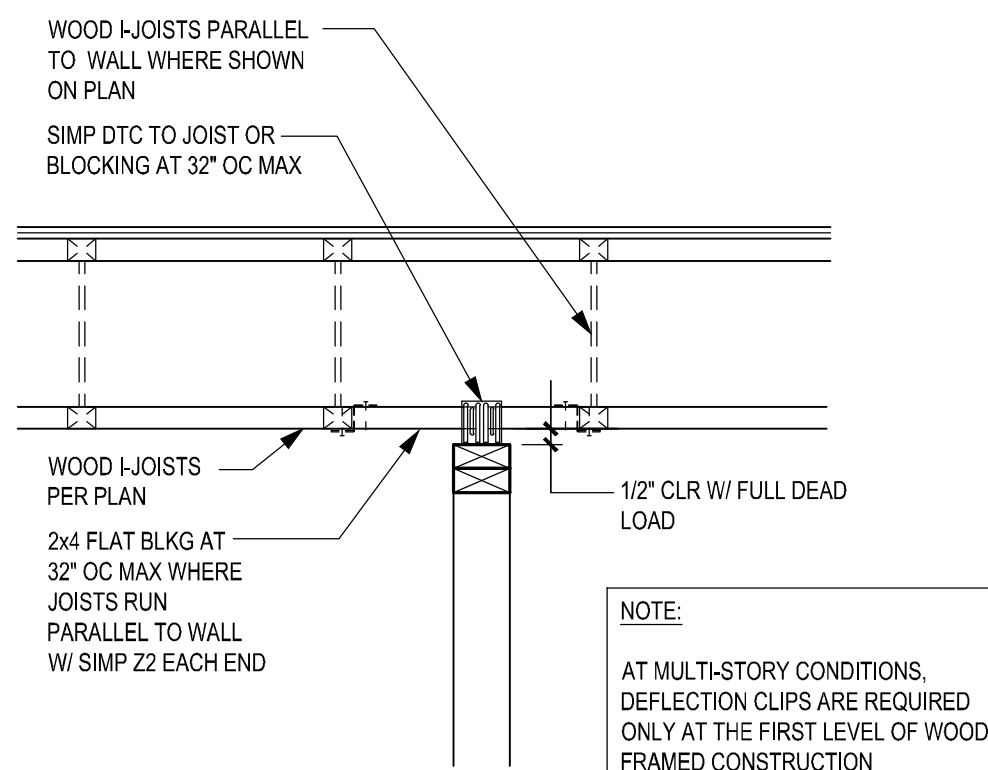
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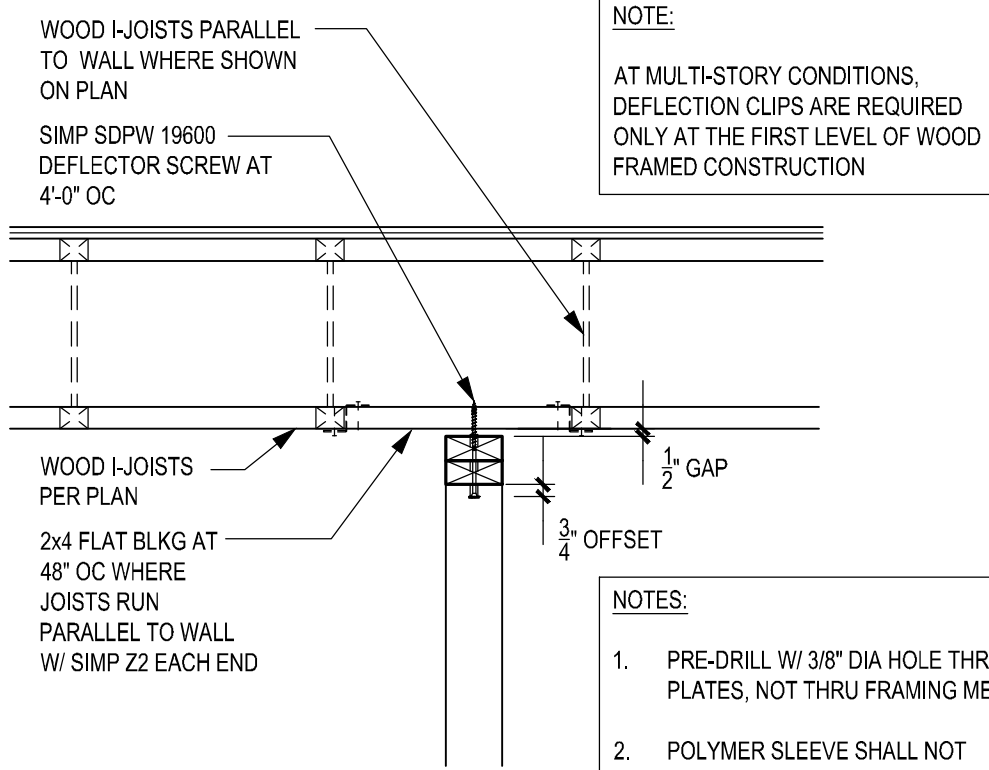
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INTERIOR NON-LOAD BEARING PARTITION WALL CONNECTION TO FLOOR JOISTS

SECTION

1" = 1'-0"

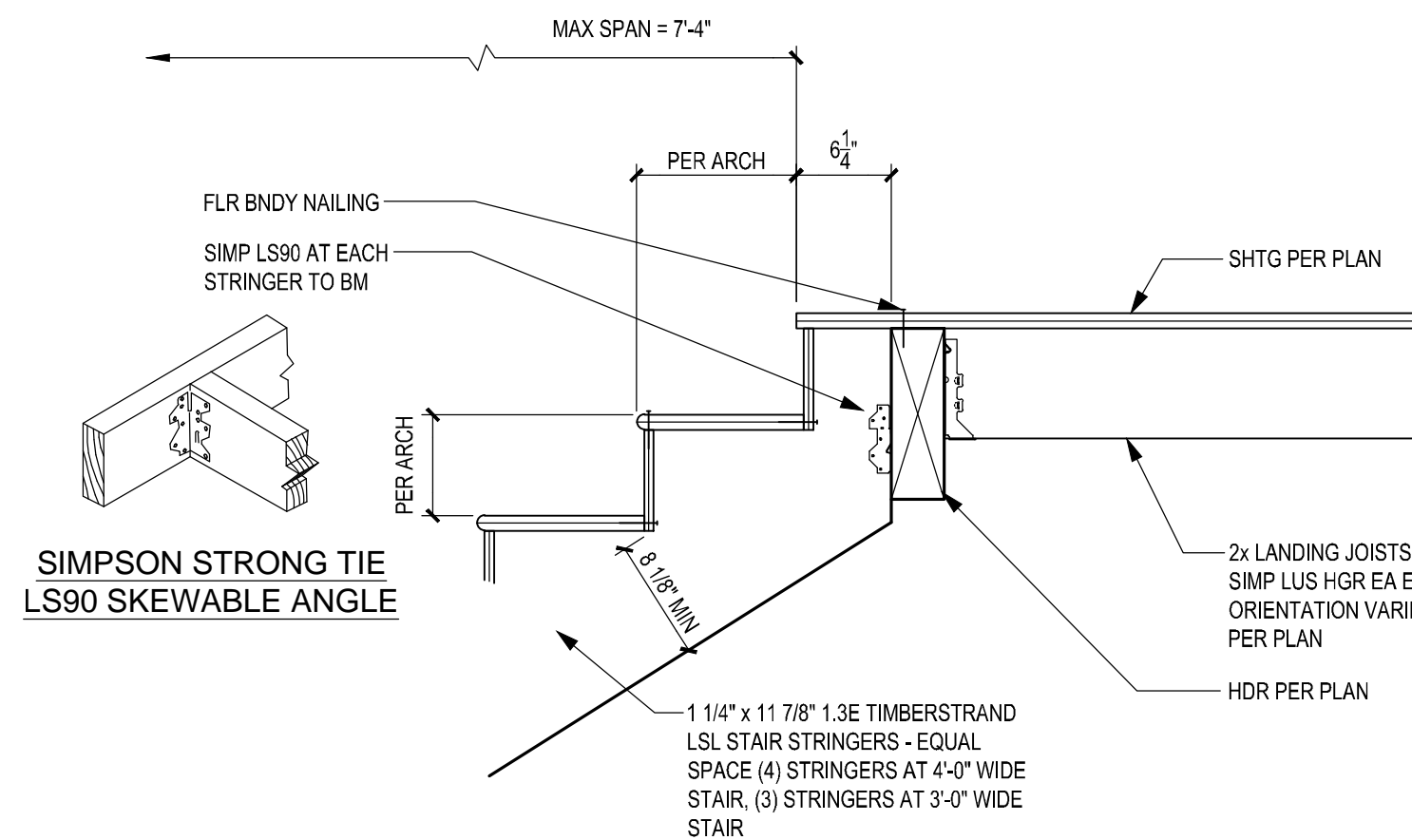


ALTERNATE SCREW CONNECTION

SECTION

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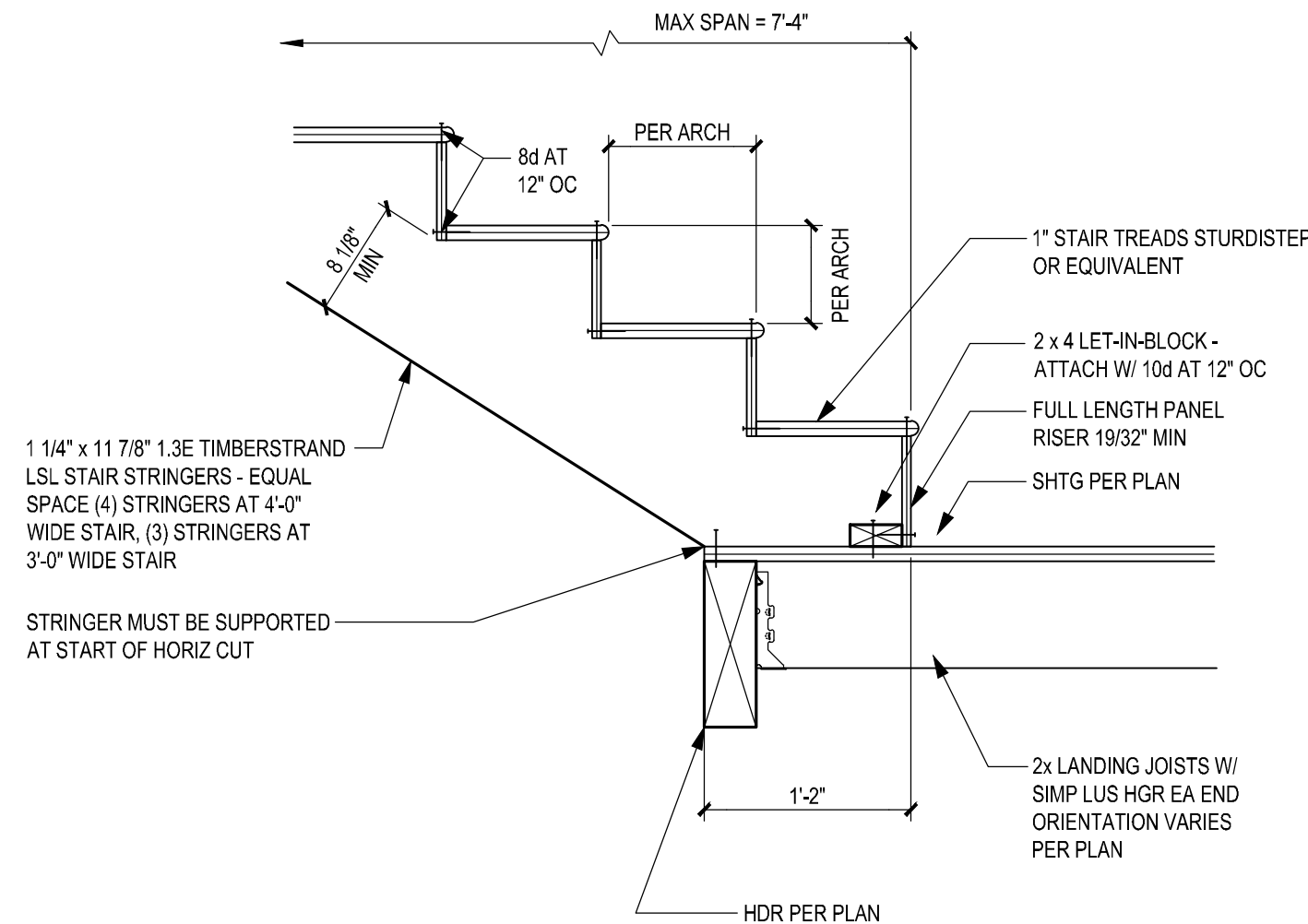
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SECTION

1" = 1'-0"

8

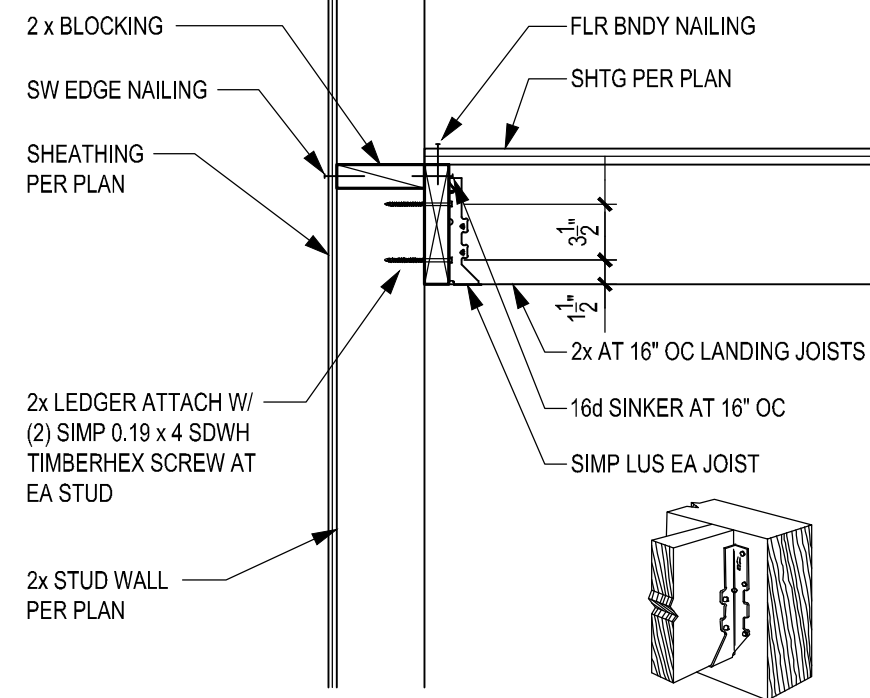
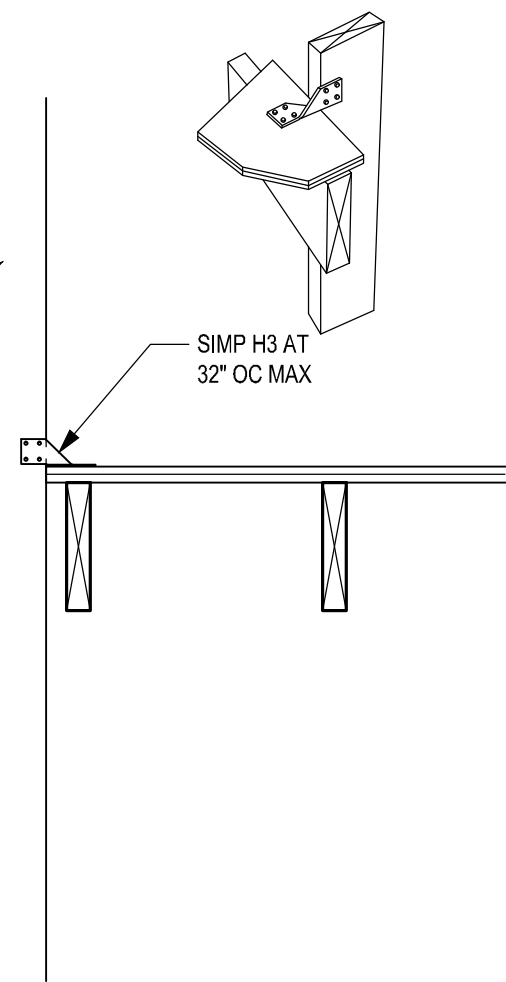


SECTION

1" = 1'-0"

9

SIMPSON STRONG TIE H3 HURRICANE TIE



SIMPSON STRONG TIE LUS28 FACE MOUNT HANGER

SECTION

1" = 1'-0"

6

7

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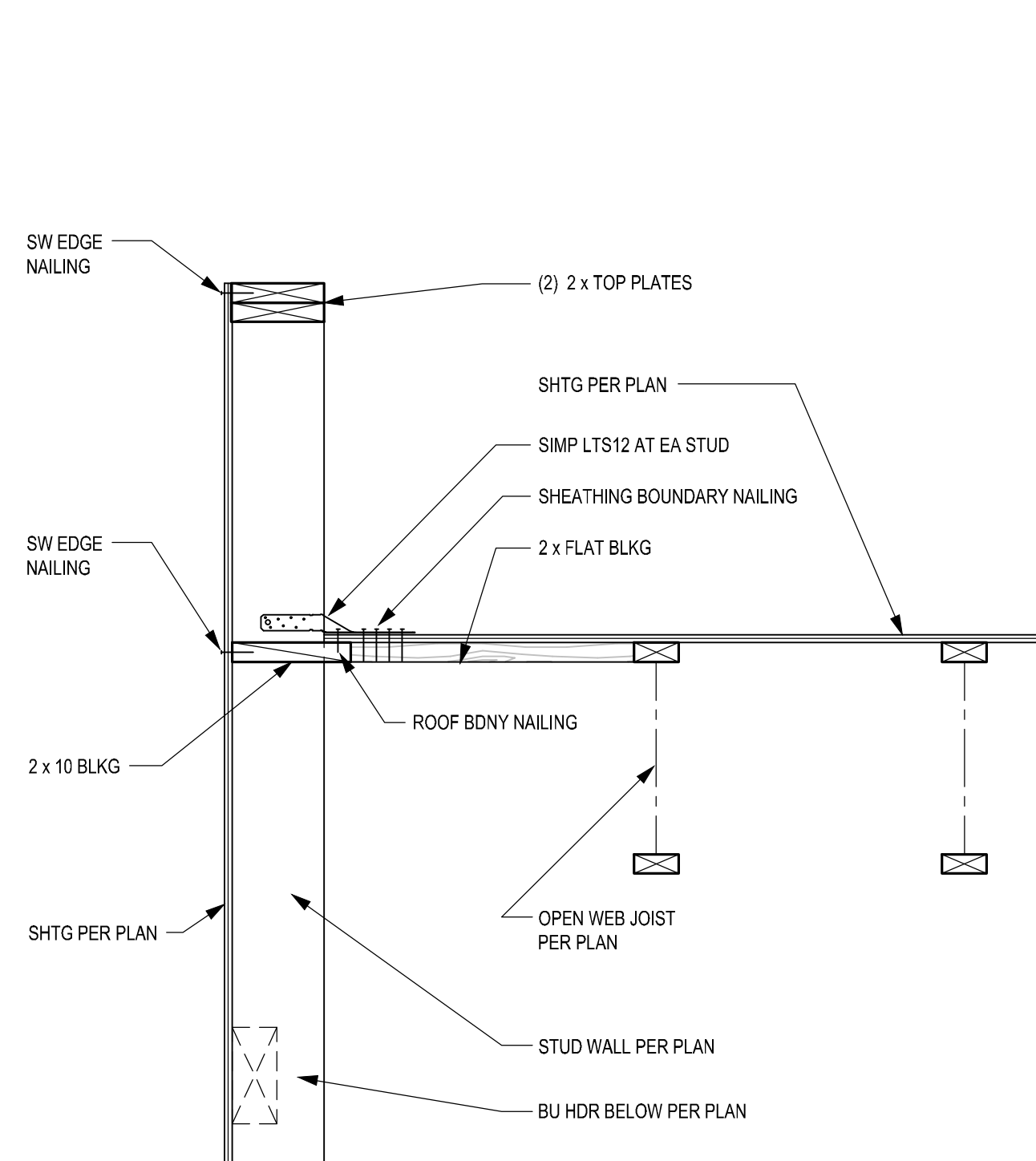
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DRAWN BY: KJK
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DRAWING SCALES: AS NOTED

DRAWING CONTENTS:
FLOOR FRAMING
DETAILS

DRAWING NO:

S3.1

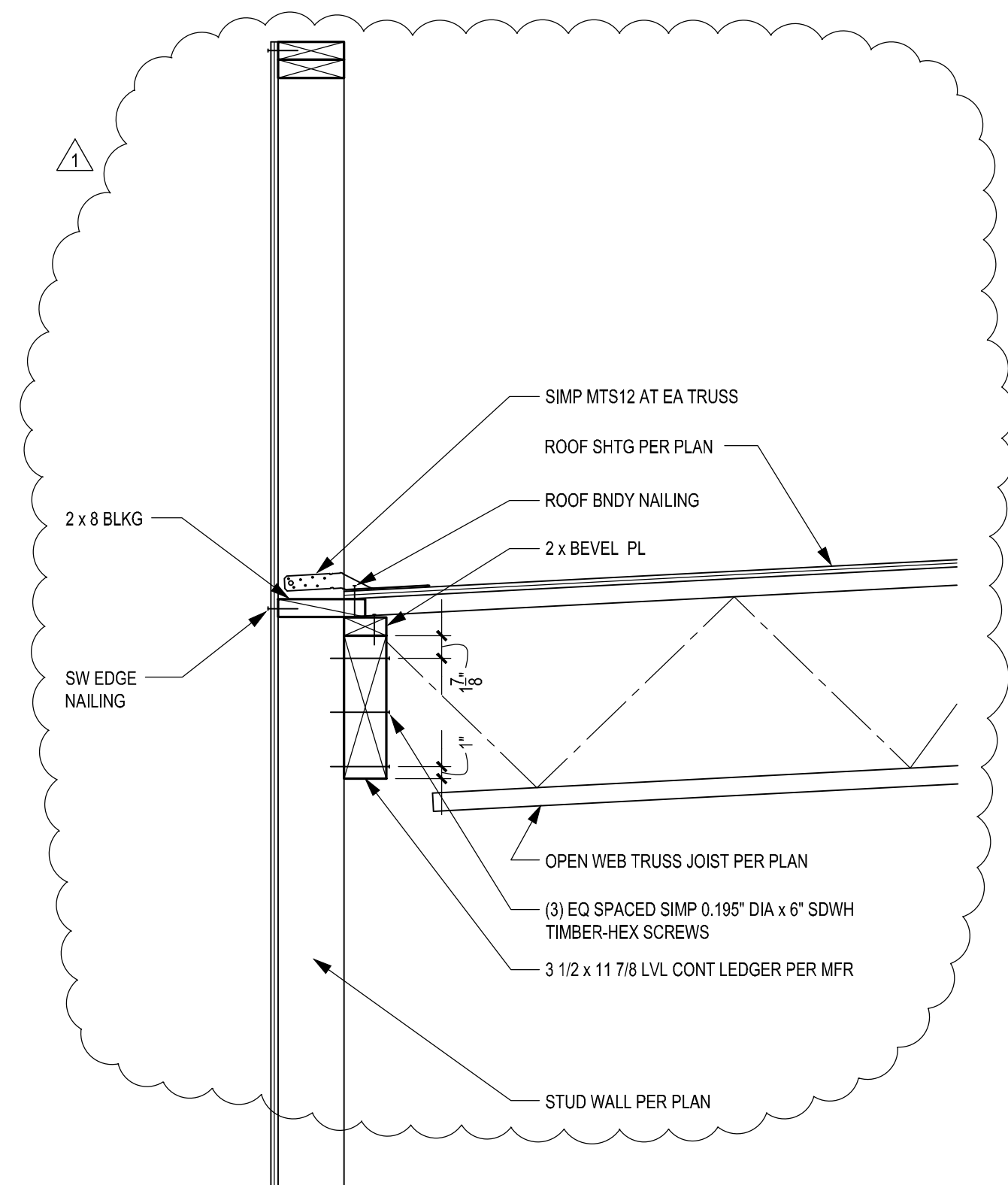




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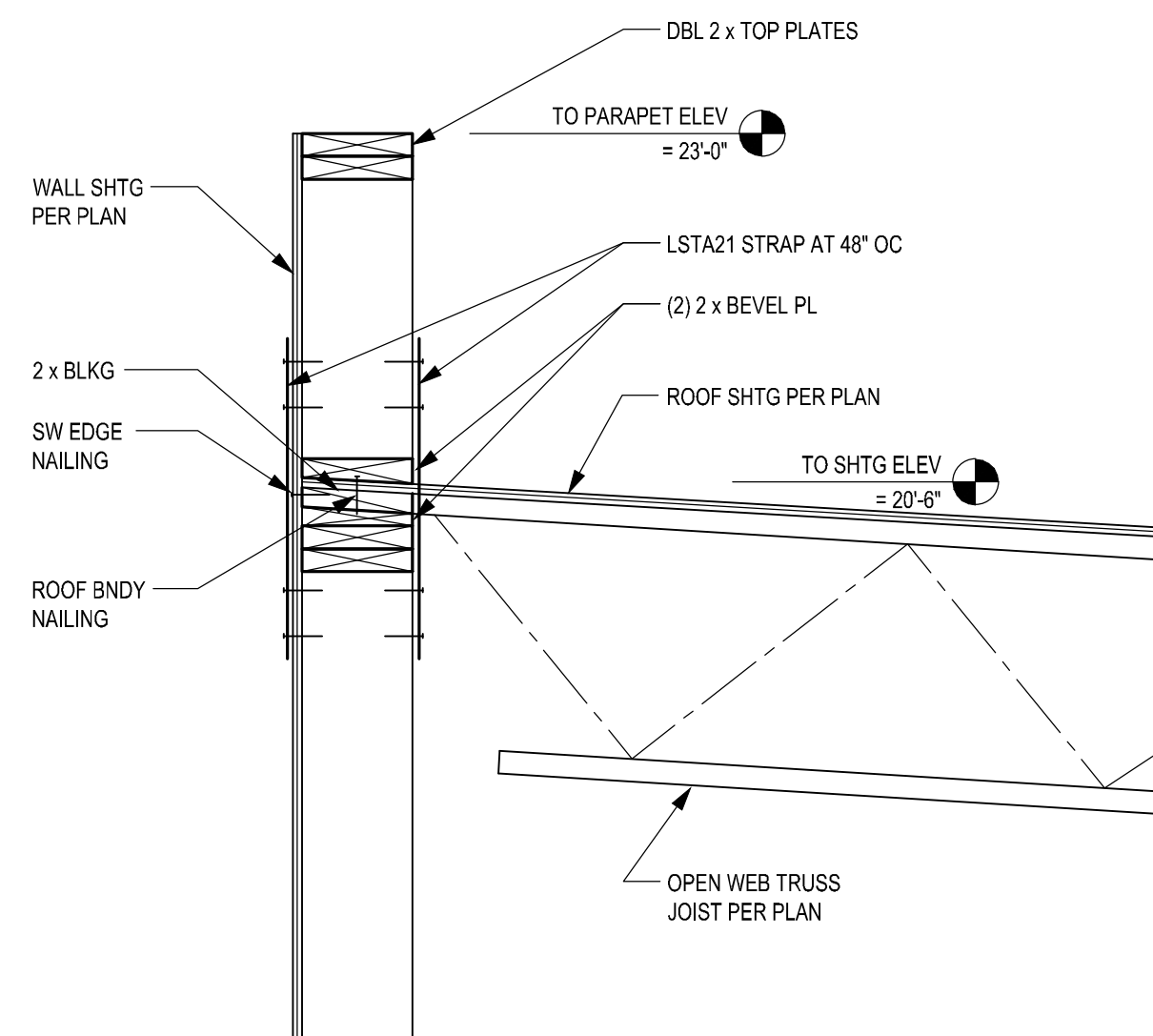
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SECTION

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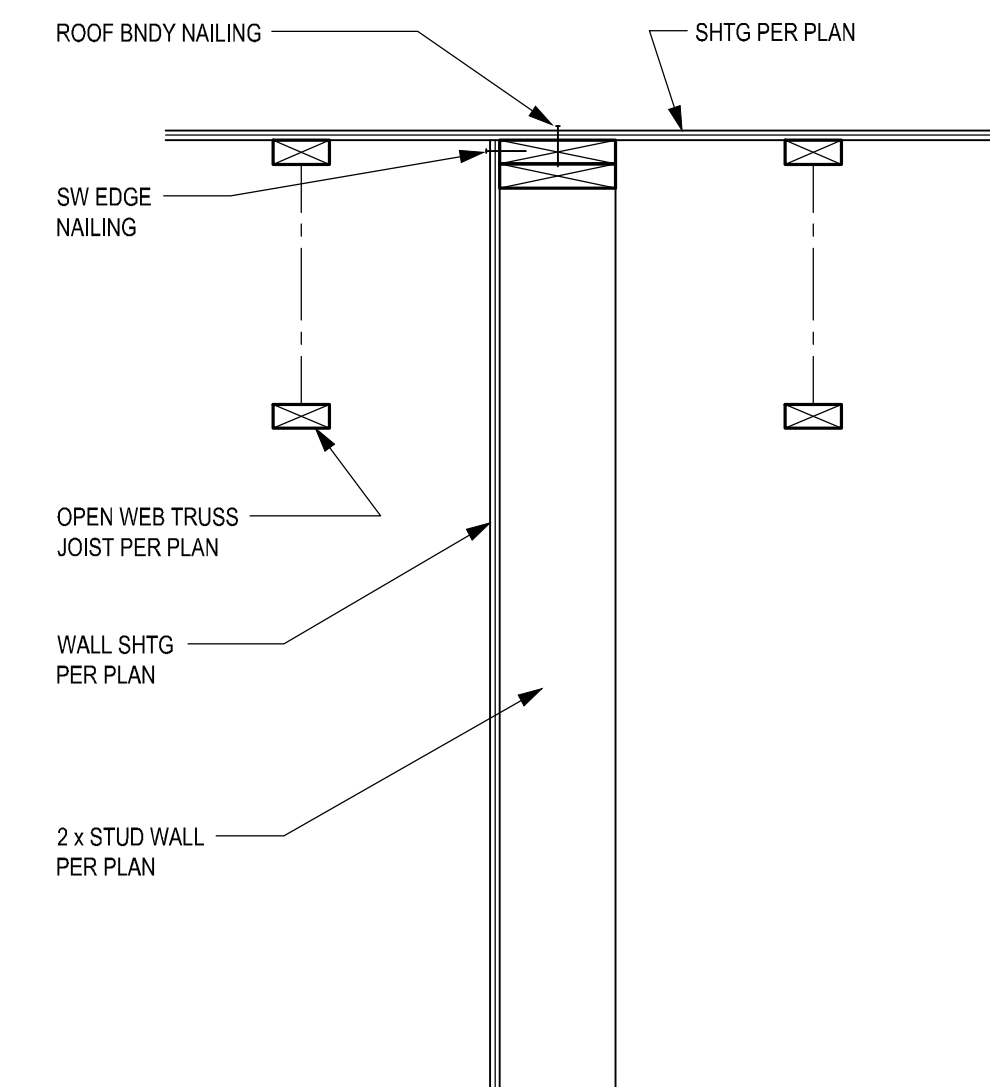
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SECTION

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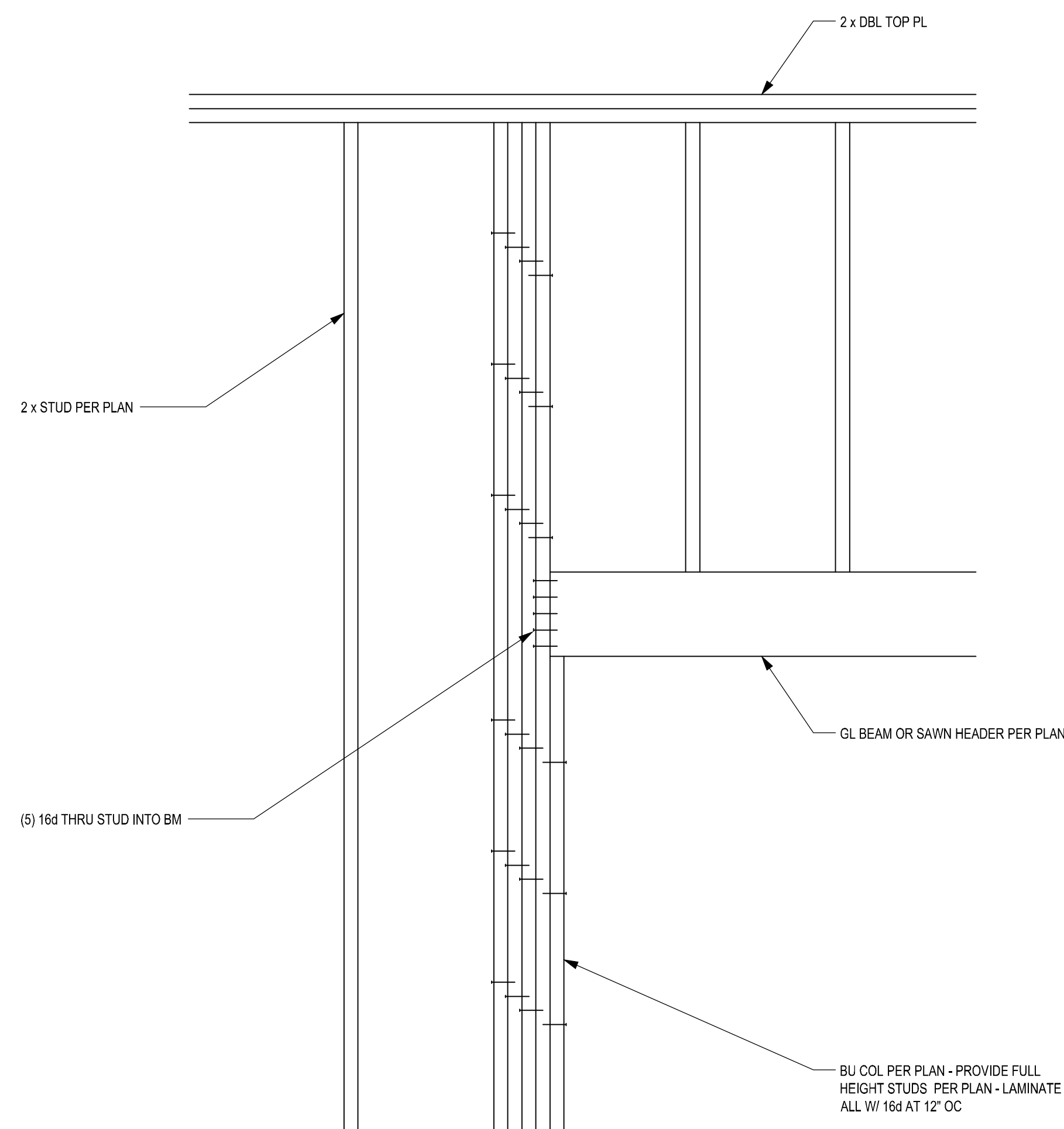
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SECTION

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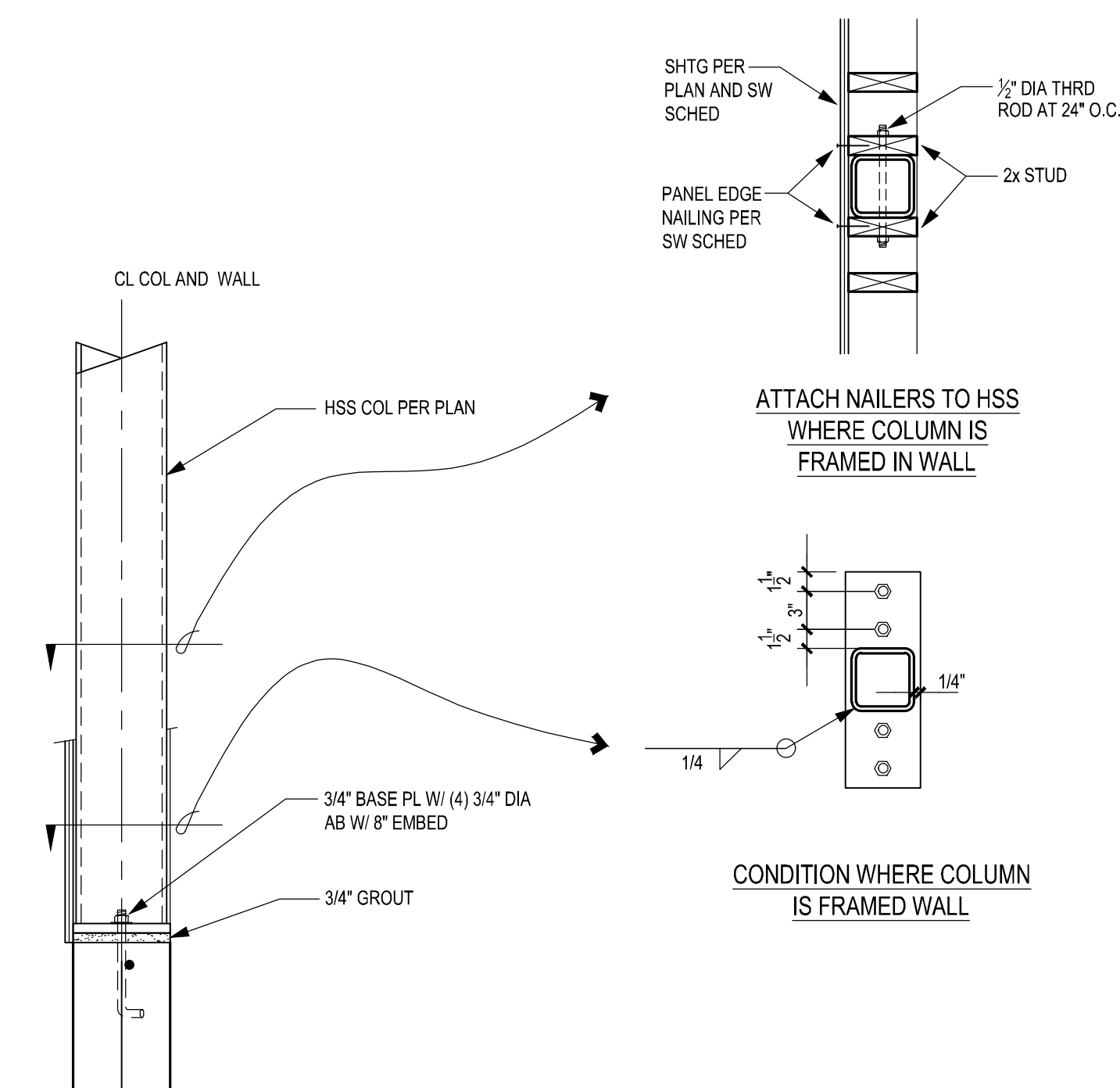
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SECTION

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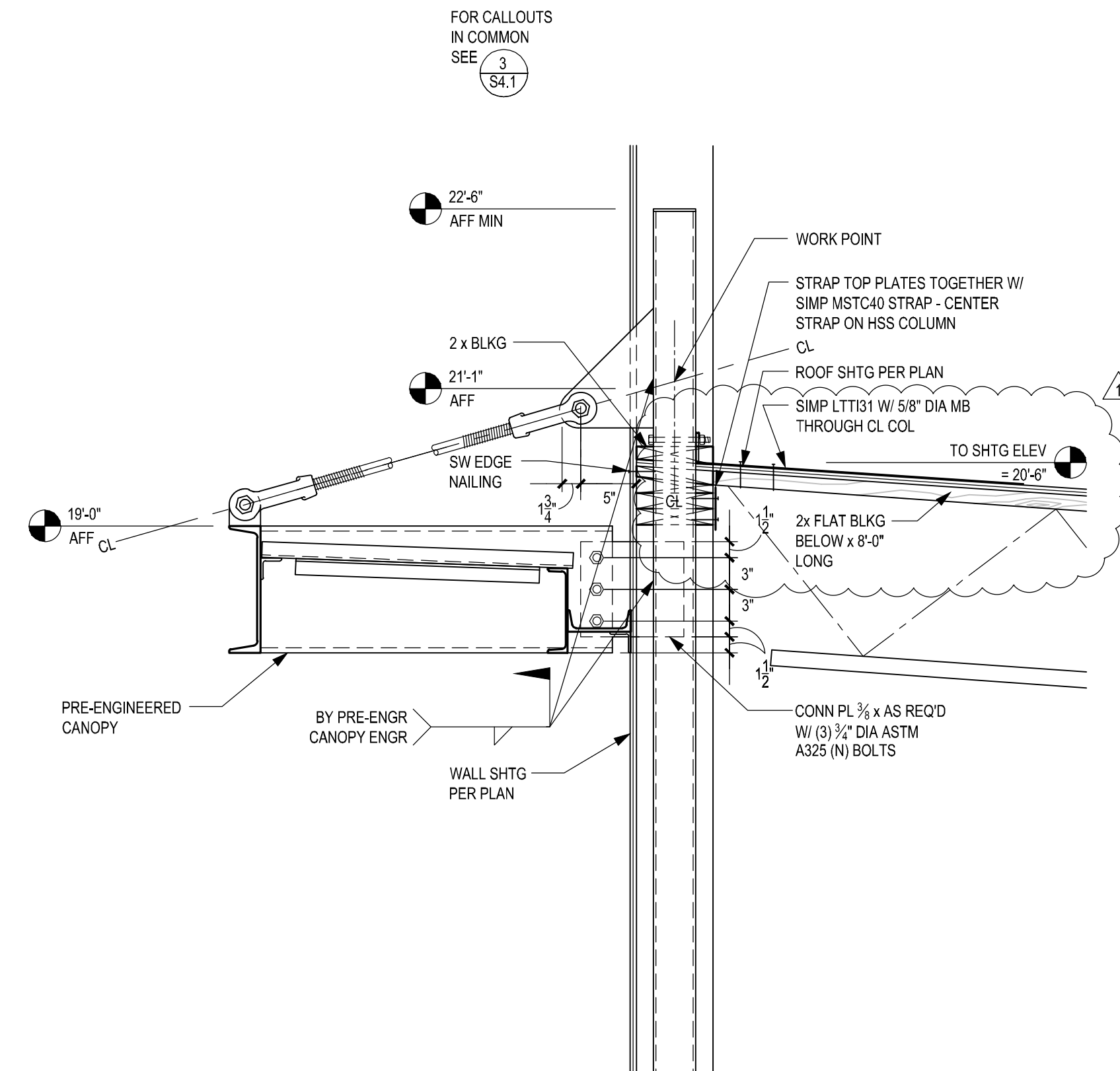
5



SECTION

1" = 1'-0"

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SECTION

1" = 1'-0"

7



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CHECKED BY: ADM
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DRAWING SCALES: AS NOTED

DRAWING CONTENTS:

ROOF FRAMING
DETAILS

DRAWING NO:

S4.1