



GENERAL NOTE

THE FOLLOWING NOTES APPLY UNLESS NOTED OTHERWISE - ASTM'S NOTED ARE TO BE LATEST EDITION.

1. DESCRIPTION

Building Name & Site Location - Costco Wholesale – Lee’s Summit, MO

Metal Building Supplier’s Name – Butler Manufacturing Company

Building Dept. Contact – Joe Froge
2. DESIGN CODE AND STANDARDS

Applicable Code (Edition/Name) – 2018 International Building Code (IBC)

Other documents referenced by these notes shall be the specific edition referenced by the building code specified above, or if not specified, shall be the latest edition.

Code Supplement & Date – ASCE 7-16
3. DESIGN LOADS

a. I. Roof Live Load

See snow load / 20 psf (reducible per code)

350 psf

II. Slab Live Load

125 psf at mechanical and electrical platform.

Basic ground snow load – $P_g = 20$ psf

Basic roof snow load – $P_s = 20$ psf

Importance factor – $I_s = 1.0$, snow exposure factor – $C_e = 1.0$

Drifting snow is required in the design.

Risk Category II

$S_s = 0.1$, $S_1 = 0.068$, $I_e = 1.0$, Site Class “C”, $S_{MS} = 0.087$, $S_{MS} = 0.068$.

Seismic Design Category = B

Basic Seismic Force

Resisting System(s) = Steel ordinary concentric brace frames.

CS(U/L) = 0.027, R = 3.25. Equivalent lateral force procedure was used.

Mech. & Refrigeration unit loads will be picked up at the point of the units and transferred into the lateral system.

Sprinkler lines will be braced to top of girders or top chord of steel truss, by the sprinkler contractor.

Risk Category II

Basic wind speed (3 sec. gust) $V_{100} = 109$ mph, $V_{50} = 85$ mph

Exposure C.

$K_e = 1.0$

$K_{zt} = 1.0$

IBC Load Cases per sec. 1605.2 or 1605.3.1 only $K_e = 0.85$

Importance factor 1.0.

2 psf of collateral loads was used in uplift design.

(not including mechanical units or draft curtains)

Joint 5 min plus sprinkler concentrated loads, (as an alternate, MBS may use 8 psf min. w/o specific sprinkler loads)

Frames 4 psf. Min. plus sprinkler concentrated loads.

Weight of structure.

The following special loads are to be considered:

Mechanical equipment on roof.

Sprinkler lines, canopy & other reactions as noted on structural drawings.

Included in design. Add 2 psf to frames and 4 psf to joists for gravity load case. Add 2 psf to roof for seismic design.

Excluded in design. (Engineer to cross out non-applicable information.)

All Code required load combinations are to be used in the building design.

Column reactions from these load combinations are to be given to the foundation engineer.

Lateral building drift at all points is limited to less than 1/400 & ENW drawings.

All special design requirements for the roof diaphragm indicated on the structural drawings have been complied with. Hardwall building only.
- d. Wind Load

Risk Category II

Basic wind speed (3 sec. gust) $V_{100} = 109$ mph, $V_{50} = 85$ mph

Exposure C.

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- e. Collateral Load

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- f. Dead loads

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Exposure C.

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$K_{zt} = 1.0$

IBC Load Cases per sec. 1605.2 or 1605.3.1 only $K_e = 0.85$

Importance factor 1.0.

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(not including mechanical units or draft curtains)

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The following special loads are to be considered:

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Included in design. Add 2 psf to frames and 4 psf to joists for gravity load case. Add 2 psf to roof for seismic design.

Excluded in design. (Engineer to cross out non-applicable information.)

All Code required load combinations are to be used in the building design.

Column reactions from these load combinations are to be given to the foundation engineer.

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All special design requirements for the roof diaphragm indicated on the structural drawings have been complied with. Hardwall building only.
- g. Special Loads

Risk Category II

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Column reactions from these load combinations are to be given to the foundation engineer.

Lateral building drift at all points is limited to less than 1/400 & ENW drawings.

All special design requirements for the roof diaphragm indicated on the structural drawings have been complied with. Hardwall building only.
5. VERIFICATION

Butler Mfg. is to verify all design information listed above and notify Engineers Northwest of any discrepancies prior to metal building design.

OSHA STANDARDS
THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROVISIONS OF THE CURRENT OSHA STANDARDS. THE GENERAL CONTRACTOR SHALL REVIEW THESE STRUCTURAL DRAWINGS FOR ANY NONCOMPLIANCE WITH OSHA STANDARDS, TAKING INTO ACCOUNT THE GENERAL CONTRACTOR'S MEANS AND METHODS. THE GENERAL CONTRACTOR SHALL INFORM ENW OF ANY NONCOMPLIANCE SO THE DRAWINGS MAY BE MODIFIED FOR COMPLIANCE PRIOR TO CONSTRUCTION. THE GENERAL CONTRACTOR IS TOTALLY RESPONSIBLE FOR MEANS AND METHODS AS WELL AS JOBSITE SAFETY ON THIS PROJECT.

FOUNDATION & SLABS
THE FOUNDATION WAS DESIGNED WITH AN ALLOWABLE SOIL BEARING CAPACITY OF 2500PSF, IN ACCORDANCE WITH SOILS REPORT NO. 02255162 DATED AUGUST 6, 2025 PREPARED BY TERRACON. THE SITE SHALL BE PREPARED PER SOILS ENGINEER RECOMMENDATIONS. ALL FOOTINGS AND SLABS SHALL BEAR SOLELY ON NONCOMPACTED FILL. ENGINEERED FILL AND BACKFILL IS TO BE COMPACTED PER SOILS ENGINEER RECOMMENDATIONS. THE MAXIMUM DENSITY SHALL BE DETERMINED BY SOILS ENGINEER. ALL EXTERIOR FOOTINGS TO BE FOOTED 36" MIN. BELOW FINISH GRADE. FOOTING STEP LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO VERIFY AND COORDINATE FOOTING STEPS WITH CIVIL ENGINEER TO FINISH GRADE PLANS. ADD FOUNDING STOPS AS REQUIRED. A COEFFICIENT OF FRICTION OF 0.30 BELOW FOOTINGS AND PASSIVE RESISTANCE OF 250 PCF. FOR CANTILEVERED RETAINING WALLS WITH LEVEL BACK FILL USE AN ACTIVE PRESSURE OF 40 PCF. (USE NON-EXPANSIVE GRANULAR BACK FILL PER SOILS REPORT) AND A 250 PSF SURCHARGE WHERE TRUCK TRAFFIC CAN OCCUR. SEE ARCH. AND SOILS REPORT FOR SLAB ON GRADE UNDERLAYMENT. ALL EXTERIOR SIDEWALK AND INTERIOR SLABS SHALL BEAR ON SOILS PREPARED PER AND APPROVED BY SOILS ENGINEER AND HAVE AN ALLOWABLE BEARING CAPACITY OF AT LEAST 1000 PSF.

CONCRETE
FC=4000 PSI @ 28 DAYS 5-1/2 SACKS MINIMUM CEMENT PER CUBIC YARD FOR ALL CONCRETE SLABS.
FC=3000 PSI @ 28 DAYS 5-1/2 SACKS MINIMUM CEMENT PER CUBIC YARD FOR ALL OTHER.
USE TYPE II/III CEMENT. USE TYPE III (HIGH EARLY STRENGTH) CEMENT FOR PLATFORM. FOR SPECIAL CONDITIONS ANOTHER TYPE CEMENT MAY BE REQUIRED. SUBMIT FOR APPROVAL. ULTIMATE STRENGTH DESIGN METHOD USED. MIXING AND PLACING OF ALL CONCRETE AND SELECTION OF MATERIALS SHALL BE IN ACCORDANCE WITH THE ACI CODE 318. PROPORTIONING OF AGGREGATE TO CEMENT SHALL BE SUCH AS TO PRODUCE A DENSE WORKABLE MIX WITH 4" MAXIMUM SLUMP (UNLESS SUPERPLASTICIZERS ARE USED) WHICH CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER. FOR ADMIXTURES, SEE SPECIFICATIONS. MAXIMUM WATER/CEMENT RATIO = 0.49. 3/4" CHAMFER ALL EXPOSED EDGES, UNLESS INDICATED OTHERWISE ON ARCHITECTURAL DRAWINGS. WATER CURING SHALL BE USED. AIR ENTRAIN ALL HORIZONTAL CONCRETE EXPOSED TO WEATHER WITH 3% TO 6% AIR BY VOLUME. DO NOT USE AIR ENTRAINMENT FOR INTERIOR SLABS ON GRADE. LIMIT WATER CEMENT RATIO TO 0.45 AND USE TYPE V CEMENT WHERE SOILS "WATER CONTENT EXCEEDS 0.20 PERCENT BY WEIGHT AND NO WATER TO CONCRETE AT SITE. IF INCREASED WORKABILITY IS REQUIRED, CONTRACTOR IS TO SUBMIT A MIX DESIGN THAT WILL ALLOW THE ADDITION OF A FIXED AMOUNT WATER REDUCING AGENT OR A FIXED AMOUNT OF SUPER-PLASTICIZER AT THE CONCRETE PLANT.
a. DO NOT USE FLY ASH, SLAG OR OTHER SUPPLEMENTARY CEMENTITIOUS MATERIALS IN CONCRETE EXPOSED TO VIEW INCLUDING, BUT NOT LIMITED TO, INTERIOR FLOOR SLABS, ENTRY CANOPY SLABS, LOADING DOCK SLABS AND STAIRS, STEM WALLS, LOADING DOCK WALLS, COLUMNS OR PILASTERS, AND EXTERIOR WALKS /PADS.
1. FLY ASH, SLAG AND OTHER SUPPLEMENTARY CEMENTITIOUS MATERIALS MAY BE USED ONLY IN BELOW GRADE CONCRETE SUCH AS FOOTINGS, FOUNDATION WALLS, GRADE BEAMS, AND SIMILAR CONCEALED LOCATIONS.
2. FLY ASH, SLAG AND OTHER SUPPLEMENTARY CEMENTITIOUS MATERIALS MAY BE USED IF DETERMINED THAT THE USE OF SUPPLEMENTARY CEMENTITIOUS MATERIALS WOULD IMPROVE RESISTANCE TO ALKALI-AGGREGATE REACTIVITY IN CONCRETE. OBTAIN WRITTEN APPROVAL FROM OWNER PRIOR TO USE.
ACI 308R IS TO BE FOLLOWED FOR COLD WEATHER CONCRETING. ACI 308R IS TO BE FOLLOWED FOR HOT WEATHER CONCRETING. THE TESTING LAB MUST APPROVE THE CONTRACTORS METHOD OF COMPLIANCE AND CERTIFY THEIR APPROVAL WITH EACH CONCRETE TEST CYLINDER THEY CAST. TESTING LAB TO NOTIFY THE ARCHITECT IMMEDIATELY BY FAX AND PHONE OF ANY NONCOMPLIANCE.

REINFORCING STEEL
ALL CONCRETE REINFORCING STEEL SHALL BE DEFORMED PER ASTM A615, GRADE 60 (fy=60,000 psi) LAP CONTINUOUS REINFORCING BARS 4 BAR DIAMETERS, 1'-10" MINIMUM UNLESS OTHERWISE SPECIFIED. CORNER BARS (1'-10" BEND) TO BE PROVIDED FOR ALL HORIZONTAL REINFORCEMENT. DETAIL STEEL IN ACCORDANCE WITH ACI MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCED CONCRETE STRUCTURES. WELDED WIRE FABRIC (WWF) TO CONFORM WITH ASTM A185. REINFORCING HOOKS TO COMPLY WITH STANDARD ACI HOOKS.
COVER TO MAIN REINFORCEMENT TO BE:
BOTTOM OF FOOTINGS 3 INCHES
FORMED SURFACES WEATHER & EARTH FACE 1-1/2 INCHES
FORMED SURFACES INTERIOR FACE 3/4 INCHES
SHOULD THE REINFORCING SUPPLIER AND/OR DETAILER CHOOSE TO USE SOFT METRIC, EACH AND EVERY REBAR CALL OUT MUST BE INDICATED WITH BOTH SIZES WITH THE IMPERIAL SIZE FIRST THIS. "44#13" NO EXCEPTIONS. A CONVERSION TABLE ALONE IS UNACCEPTABLE. WE WILL CHECK THE SHOP DRAWINGS TO THE IMPERIAL SIZES ONLY. IT WILL BE THE RESPONSIBILITY OF THE REINFORCING SUPPLIER AND THE GENERAL CONTRACTOR TO VERIFY THAT ALL CONVERSIONS TO METRIC SUPPLY AT LEAST THE SAME AREA OF STEEL AS THE IMPERIAL.

PRECAST WALL PANELS
PRECAST WALL PANEL SUPPLIER (W.S.) TO SUPPLY ALL PANELS TO CARRY AND DISTRIBUTE VERTICAL AND LATERAL LOADS TO THE FOUNDATIONS. W.S. TO PROVIDE WALL PANEL DRAWINGS THAT CLEARLY SHOW ALL EMBEDS, DOWELS AND SUPPORTS FOR OPENINGS. W.S. TO ACCOUNT IN THEIR DESIGN FOR THE FOUNDATION SETTLEMENTS AND DIFFERENTIAL SETTLEMENT INDICATED IN THE SOILS REPORT.

REINFORCING STEEL WELDING
USE ASTM A708 GRADE 60 (fy = 80,000 psi) FOR ANY REINFORCING THAT IS TO BE WELDED. FOLLOW PROCEDURES OF ANSI/AWS D1.4-92, "STRUCTURAL WELDING CODE - REINFORCING STEEL". USE E80XX LOW HYDROGEN ELECTRODES CONFORMING TO ANSI/AWS A5.1 OR A5.5. DO NOT WELD REINFORCING IN TEMPERATURE IS BELOW 32 DEGREES FAHRENHEIT. MAINTAIN A MINIMUM PREHEAT AND INTERPASS TEMPERATURE OF 50 DEGREES FAHRENHEIT FOR NO. 7 THROUGH NO.11 BARS. DO NOT WELD NO. 14 AND NO. 18 BARS. DO NOT WELD WITHIN 6 INCHES OF BENDS. LET BARS COOL NATURALLY TO AMBIENT TEMPERATURE AFTER WELDING, DO NOT QUENCH. USE CERTIFIED WELDERS. PROVIDE SPECIAL INSPECTION PER CODE. SUBMIT MILL CERTIFICATES.

STRUCTURAL STEEL AND MISCELLANEOUS STEEL
ALL WORK IN ACCORDANCE WITH ALSO SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS; AND THE CODE OF STANDARD PRACTICE. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:
WIDE FLANGE SHAPES ASTM A-992 (Fy=50,000 PSI)
OTHER SHAPES AND PLATES ASTM A-36 (Fy=36,000 PSI)
TUBE COLUMNS ASTM A-500, GRADE C (Fy=50,000 PSI)
WELDED STUDS ASTM A-108 (Fy=55,000 PSI)
ALL-THREAD ASTM F1554, GRADE 36 (Fy=36,000 PSI)
MACHINE BOLTS ASTM A-307
HIGH STRENGTH BOLTS ASTM A-325N (U.N.O.)
ALL STRUCTURAL STEEL BOLTED CONNECTIONS AT MECHANICAL PLATFORMS ARE ASTM A-325 TYPE N CONNECTIONS - BEARING TYPE WITH THREADS INCLUDED IN SHEAR PLANE. CONNECTIONS ARE NON-SLIP CRITICAL AND BOLTS NEED TO BE TIGHTENED "SNUG TIGHT" ONLY EXCEPT AT FRAMES. AT MECHANICAL PLATFORM FRAMES PROVIDE A325SC SLIP CRITICAL BOLTS AT CONNECTIONS PER SECTION 2/52.2 PROVIDE WASHERS AT OUTER PLYS WITH BOLTS RECEIVED. INSTALL A-325 BOLTS IN ACCORDANCE WITH "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS" (1/2/10/09). PROVIDE MINIMUM EMBEDMENT FOR ANCHOR BOLTS AS NOTED ON DRAWINGS. ALL WELDING TO CONFORM WITH AWS D1.1 "CODE FOR WELDING IN BUILDING CONSTRUCTION". WELDS NOT SPECIFIED SHALL BE 1/4" CONTINUOUS FILLET MINIMUM. ALL WELDS BY CERTIFIED WELDERS. USE FRESH 70XX ELECTRODES FOR MANUAL SHIELDED METAL-ARC WELDING OR EQUAL ELECTRODES. WELDHEAD STUDS (WHS) ARE TO BE MACHINE WELDED WITH PROPER EQUIPMENT. SEE SPECIFICATIONS FOR ITEMS TO BE GALVANIZED.

PRE-ENGINEERED METAL BUILDING SYSTEM
PROJECT DEFINITION:
THE METAL BUILDING SUPPLIER (M.B.S.) IS TO PROVIDE AND INSTALL ALL MEMBERS TO CARRY AND DISTRIBUTE VERTICAL AND LATERAL LOADS TO THE FOUNDATION.
PREREQUISITE TO FABRICATION:
THE METAL BUILDING SUPPLIER SHALL PROVIDE A LAYOUT DRAWING SHOWING MAXIMUM DOWNWARD, UPLIFT AND LATERAL LOADS USING CODE REQUIRED LOAD COMBINATIONS AT ALL FOOTING LOCATIONS AT LEAST 3 WEEKS PRIOR TO THE CASTING OF ANY FOOTING, IN ORDER TO ADJUST FOOTING SIZES IF NECESSARY TO ACCOMMODATE THE ACTUAL BUILDING LOADS. SEE "SPRINKLER SUPPORT NOTES" FOR SPRINKLER REQUIREMENTS.
COORDINATION:
THE METAL BUILDING SUPPLIER IS TO PROVIDE ROOF FRAMING PLANS FOR BUILDING DEPARTMENT REVIEW THAT CLEARLY SHOW WHICH JOISTS SUPPORT 3" AND LARGER SPRINKLER LINES, MECHANICAL UNITS, DRAFT CURTAINS AND OTHER CONCENTRATED LOADS. THE LOCATIONS OF THESE LOADS ARE TO BE COORDINATED WITH THE GENERAL AND SPRINKLER CONTRACTORS PRIOR TO SUBMITTAL. NO CHANGES FROM ARCHITECTURAL OR STRUCTURAL DRAWINGS ARE TO BE MADE WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT. SEE THE ANCHOR BOLT NOTE ON DRAWING FOUNDATION PLAN.
FINAL INSPECTION:
THE M.B.S. ENGINEER IS TO DO A FINAL INSPECTION OF THEIR STRUCTURE. THE INSPECTION IS TO INCLUDE VERIFICATION THAT THE SPRINKLER LINES, MECHANICAL UNITS, DRAFT CURTAINS AND ANY OTHER CONCENTRATED LOADS HAVE BEEN PLACED PER THE CONTRACT DRAWINGS AND THAT THE HANGERS, PLATFORMS AND LATERAL BRACING HAVE BEEN INSTALLED TO PROPERLY RESOLVE ALL THE VERTICAL AND LATERAL FORCES WITHOUT OVERSTRESSING THE STRUCTURE.
VERIFICATION:
WHEN THE BUILDING HAS BEEN COMPLETED, INCLUDING ANY NECESSARY FIXES, THE M.B.S. WILL PROVIDE THE ARCHITECT A LETTER CERTIFYING THAT THEIR STRUCTURE AS-BUILT COMPLIES WITH THEIR DRAWINGS, THE CODE UNDER WHICH THE BUILDING WAS CONSTRUCTED AND ALL EXTRA REQUIREMENTS INDICATED ON THE CONTRACT DRAWINGS. THE M.B.S. TO ACCOUNT IN THEIR DESIGN FOR THE FOUNDATION SETTLEMENTS AND DIFFERENTIAL SETTLEMENTS INDICATED IN THE SOILS REPORTS.

MASONRY
HOLLOW CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT (5050) GRADE "N" IN ACCORDANCE WITH ASTM C-90. MASONRY STRESSES USED IN DESIGN (FM = 2000 PSI) WERE FOR INSPECTED CONSTRUCTION. MASONRY UNIT COMPRESSIVE STRENGTH TO BE 2000 PSI MINIMUM ON NET AREA. ALL MASONRY TO BE ERECTED IN ACCORDANCE WITH CODE BOND ABOVE. LAP REINFORCING STEEL PER SCHEDULE ON THE DRAWINGS. ALL MASONRY TO BE RUNNING BOND LAY-UP MAXIMUM ALLOWABLE CONSTRUCTION WALL ALIGNMENT TOLERANCES (BASED ON ACTUAL DIMENSIONS) ARE AS FOLLOWS: VERTICAL - 1/4" IN 10 FT, 3/8" IN 20 FT & 1/2" MAXIMUM IN WALL HEIGHT. HORIZONTAL + 1/4" IN 10 FT, 3/8" IN 20 FT & 1/2" MAXIMUM. WALLS EXCEEDING THESE TOLERANCES MUST BE REMOVED AND REPLACED (NO EXCEPTIONS). TESTING: LABORATORY TO CHECK CONSTRUCTION DAILY TO THESE TOLERANCES. NOTE: MASONRY IS NOT TO BE CONSTRUCTED ABOVE ELEVATION 18'-8" AT MAIN BUILDING & ELEVATION 10'-0" AT TIRE CENTER UNTIL M.B.S. ROOF IS INSTALLED AND IS STRAIGHT AND TRUE AT INSIDE FACE OF MASONRY. THE MASON MUST VERIFY THE PLACEMENT OF THE VERTICAL WALL DOWELS PRIOR TO THE CASTING OF THE FOOTINGS.

MORTAR
1. MORTAR SHALL BE TYPE "S" PER ASTM C-270. MASONRY CEMENT AND MORTAR CEMENT ARE NOT TO BE USED ON THIS PROJECT.
2. SUBMIT A MORTAR MIX PER EITHER TABLE 1 OR TABLE 2 OF ASTM C-270. MIXES SUBMITTED PER TABLE 1 MUST INCLUDE THE VOLUME PROPORTIONS FOR VERIFICATION. MIXES SUBMITTED PER TABLE 2 MUST INCLUDE THE VOLUME PORTIONS ALONG WITH A MINIMUM OF 6 RECENT STRENGTH TESTS OF LAB MIXED MORTAR.
3. THE MORTAR SUPPLIER IS TO CERTIFY IN WRITING THAT THE PRE BLENDED MIX IS SUPPLIED TO THE SITE EXACTLY MEETS THE PROPORTIONS OF THE MIX ACCEPTED BY ENW FOR THIS PROJECT. THIS CERTIFICATION MUST ACCOMPANY EACH MORTAR DELIVERY TO THE SITE AND IS TO BE GIVEN TO THE TESTING LAB REPRESENTATIVE FOR THIS PROJECT.
4. MORTAR SHALL BE DELIVERED PREBLENDED TO THE SITE. SITE BLENDING IS ALLOWED ONLY WITH THAT CONTINUOUS INSPECTION BY THE TESTING LAB. MEASURING BY THE SHOVELFUL IS NOT ALLOWED.
5. SHOULD THE ABOVE REQUIREMENTS NOT BE FOLLOWED IN THEIR ENTIRETY, THE TESTING LAB IS TO VERIFY THE VOLUME PROPORTIONS BY PETROGRAPHIC ANALYSIS AND/OR PRISM TESTING OR OTHER TESTING AT ENW'S DISCRETION. THE COST OF WHICH IS TO BE BORNE BY THE GENERAL CONTRACTOR.

GROUT
GROUT SHALL CONFORM TO THE VOLUME PROPORTION REQUIREMENTS OF ASTM C-476. TESTED GROUT STRENGTH SHALL BE 2,000 PSI MINIMUM AT 28 DAYS. SOLID GROUT ALL CMU BELOW FINISH FLOOR. GROUT DUAL ANY CAVITY CONTAINING REINFORCING STEEL IN LIFTS NOT TO EXCEED 4'-0" UNLESS HIGH-LIFT CODE PROCEDURES ARE FOLLOWED AND MONITORED AND REPORTED BY THE TESTING LAB.

REINFORCING STEEL SHALL BE DEFORMED BARS ASTM A615, GRADE 60 (FY=60,000 PSI). SPLICES SHALL BE PER SCHEDULE UNLESS OTHERWISE SHOWN. ALL CONNECTIONS AND BOLTS SHOWN EMBEDDED IN MASONRY ARE TO BE INSTALLED BY THE MASONS DURING THE CONSTRUCTION OF THE WALL OR PIER. PROVIDE CORNER BARS TO MATCH ALL HORIZONTAL REINFORCING.

BOLTS
ALL MASONRY BOLTS & WHS ON THIS PROJECT TO BE GROUTED IN PLACE. ALL CONNECTIONS AND BOLTS SHOWN EMBEDDED IN MASONRY ARE TO BE INSTALLED BY THE MASONS DURING THE CONSTRUCTION OF THE WALL OR PIER.

CONCRETE AND MASONRY ANCHORS (BOLTS, THREADED RODS AND REBAR DOWELS)
DRILLED IN EXPANSION ANCHORS

CONCRETE	HILTI KWIK BOLT
CMU	T22 ESR-4266
ADHESIVE ANCHORS:	HILTI KWIK BOLT 3 PER ESR-1385
CONCRETE	HILTI HIT-RE 500 V3 PER ESR-3814 AND HILTI HIT-HY 200-R PER ESR-3187
CMU	HILTI HIT-HY 270 PER ESR-4143
UNREINFORCED MASONRY	HILTI HIT-HY 270 PER ESR-4144
CAST IN PLACE ANCHORS:	CONCRETE
CONCRETE	EMBED PER PLANS AND SECTIONS
CMU	EMBED PER PLANS AND SECTIONS
SCREW ANCHORS:	CONCRETE
CONCRETE	HILTI KWIK HUS-EZ (KH-EZ) AND HUS-EZ (KH-EZ I) PER ESR-3027
CMU	HILTI KWIK HUS-EZ
	(KH-EZ) PER ESR-3056

ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF INSTALLATION PER ACI 318 – 14 SECTION 17.1.2. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY CERTIFIED PERSONNEL IN CONFORMANCE TO ACI 318 – 14 SECTION 17.8.2.2.

FOLLOW INSTALLATION PROCEDURES OF ESR REPORT AND MANUFACTURER 'S INSTRUCTIONS. PROVIDE SPECIAL INSPECTION AS NOTED AND/OR REQUIRED BY ESR REPORT. SUBSTITUTIONS ARE NOT ALLOWED UNLESS WRITTEN APPROVAL BY ENW IS RECEIVED. SUBSTITUTIONS MUST BE SUBMITTED TO ENW FOR REVIEW PRIOR TO CONSTRUCTION. PROVIDE STAINLESS STEEL OR GALVANIZED ANCHORS FOR EXTERIOR APPLICATIONS AS REQUIRED. ANCHORS RATED FOR DRY INTERIOR CONDITIONS MAY NOT BE USED FOR EXTERIOR APPLICATIONS PER ESR REPORT.

PLATFORM FLOOR DECKING
FLOOR DECKING TO BE 1-1/2 VEROCT TYPE B FORMLOK COMPOSITE DECK, ASTM A446. GRADE A, G-60.
PLATFORMS 22 GA. 1/0=.175 in4, S=+0.187 in3, S=+0.198 in3

CONNECT WITH #12 DECK TO FRAMING SCREENS AT 7' FASTENERS PER SHEET AT SUPPORTS WITH BUTTON PUNCHES AT 24" o.c. TYPICAL AT EDGES PARALLEL TO FLUTES CONNECT WITH #12 SCREWS AT 6'-0. TYPICAL, UNLESS NOTED OTHERWISE OR SECTIONS.

THE DIAPHRAGM LATERAL LOADS TO THE X-BRACE FRAMES. NOTE THE LOADING DOCK WALL IS NOT A SHEAR WALL AND IS PROVIDED WITH A SLIP JOINT PER PLANS.

LIGHT GAGE STEEL FRAMING AND DECKING (SEE DRAWINGS)

SPRINKLER SUPPORT NOTES

- THE FOLLOWING CRITERIA IS A MINIMUM LEVEL REQUIRED. THE FIRE PROTECTION DESIGNER/DRAWINGS MAY SET FORTH MORE STRINGENT REQUIREMENTS AT THEIR DISCRETION. REFER TO MBS DRAWINGS FOR THE MAXIMUM LOAD THAT THE ROOF TRUSSES CAN SUPPORT WITH A PARTICULAR TYPE OF HANGER.
- a. ALL SPRINKLER PIPE LARGER THAN 3" NOMINAL DIAMETER IS TO BE CONSIDERED A "MAIN" FOR THE PURPOSE OF THESE NOTES.
b. THE BIDS FOR BOTH THE SPRINKLER & JOISTS ARE TO INCLUDE ALL HANGERS, BRACES, ETC., AND ACCOUNT FOR THE LOADS INDICATED. FIRE PROTECTION DESIGNER IS RESPONSIBLE FOR COORDINATING THEIR DESIGN WITH THE TYPE OF SUPPORTING MEMBERS TO BE USED FOR SUPPORT OF THEIR LINES (I.E. OWL, TRUSS-FURLINS, GIRDERS, ETC.).
- a. ALL MAINS RUNNING PERPENDICULAR TO THE JOISTS ARE TO BE VERTICALLY SUPPORTED NO FARTHER APART THAN AT EVERY OTHER JOIST (I.E. 10 FEET).
b. EACH JOIST THAT IS CROSSED BY A MAIN IS TO BE DESIGNED FOR THE VERTICAL SUPPORT LOAD BASED ON SUPPORTS AT EVERY OTHER JOIST.
- ALL MAINS RUNNING PARALLEL TO THE JOISTS MUST BE:
a. PLACED MID-WAY BETWEEN TWO JOISTS & BE TRAPEZED SO EACH JOIST SUPPORTS HALF THE LOAD.
b. SITUATED AT 10'-0" O.C MAXIMUM.
- USE THE FOLLOWINGS WEIGHTS FOR SPRINKLER LATERAL DESIGN DESIGN:

PIPE SIZE	WT. PER FOOT	VERTICAL JOIST LOAD EXAMPLE:
6"	51#	GIVEN: 8" DIAMETER MAIN TRUSSES @ 5' oc
6"	32#	FIND: JOIST DESIGN LOAD
5"	24#	SOLN: 51#FT X 10' = 510#
4"	17#	ADDN. PER NFPA #13 = 25#
3-1/2"	14#	760#/HGR

- ALL HANGERS TO BE DESIGNED, SUPPLIED & INSTALLED BY THE SPRINKLER SUPPLIER.
- SPRINKLER LATERAL SWAY BRACING, FOR DESIGN CATEGORY C, D, E, F AT 90 DEGREES TO 2-1/2" NOM. DIA. & LARGER PIPE TO BE:
a. SPACED A MAXIMUM OF 40 FT. OR AS ALLOWED BY N.F.P.A. #13.
b. BRACED FROM THE MAIN TO A ROOF STRUCTURAL MEMBER WITH CONNECTIONS DESIGNED & INSTALLED BY THE SPRINKLER SUPPLIER.
c. DESIGNED FOR A LATERAL LOAD OF THE WEIGHT PER FOOT OF WATER FILLED PIPE TIMES THE SWAY BRACE SPACING, PLUS THE WEIGHT OF HANGER AND ROOFER BRANCH LINE WATER FILLED PIPE.
d. CROSS MAIN BRACING MUST BE ADEQUATELY FASTENED TO THE MAIN FRAME BEAMS.
- THE SPRINKLER DESIGNER IS TO PROVIDE THE CONTRACTOR, ARCHITECT, ENW & THE ROOF SUPPLIER WITH LOCATIONS AND LOADS OF HANGER AND SWAY BRACE ATTACHMENTS WITH THEIR DESIGN LOADS, SO THESE LOADS CAN BE DESIGNED INTO THE JOISTS, ETC.
- THE SPRINKLER CONTRACTOR/DESIGNER SHALL SUBMIT:
a. PLAN WITH LOCATIONS AND LOADS OF ALL HANGERS.
b. DETAILS AND CAPACITIES OF ALL HANGERS USED.
- THE MBS ROOF DESIGNER TO PROVIDE & INSTALL ADDITIONAL BRACES TO TAKE THE SWAY BRACE LOAD FROM THE SWAY BRACE INTO THE ROOF LATERAL RESISTING SYSTEM.

SUSPENDED CEILINGS
CEILING SYSTEM AND THEIR CONNECTIONS TO THE BUILDING STRUCTURE SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE ASTM E580 RECOMMENDATIONS AND THE ADDITIONAL REQUIREMENTS OF ASCE 7-16 SECTION 13.5.6. PROVIDE SPECIAL INSPECTION AS REQUIRED BY CODE.

SPECIAL INSPECTIONS
INSPECTIONS ARE TO BE PER THE CODE INDICATED ABOVE AND ARE TO BE BY AN INDEPENDENT TESTING LAB APPROVED PRIOR TO STARTING CONSTRUCTION BY THE BUILDING ARCHITECT. INSPECT ALL SHOP WELDING UNLESS THE SHOP IS CERTIFIED BY THE LOCAL BUILDING DEPARTMENT.
FOUNDATION: SOILS ENGINEER TO INSPECT FOOTING EXCAVATIONS AND PROVIDE COMPACTION TESTS AS NOTED ABOVE.
CONCRETE: TAKE CONCRETE CYLINDERS AS REQUIRED, VERIFY SLUMP AND STRENGTH. SPECIAL INSPECTION IS REQUIRED DURING THE TAKING OF TEST SPECIMENS AND PLACING OF ALL REINFORCED CONCRETE.

REINFORCING: VERIFY ALL REINFORCING IS PLACED IN ACCORDANCE WITH THESE DRAWINGS. CHECK FOR REQUIRED COVER, SIZE, SPACING, LAP AND GRADE. SPECIAL INSPECTION IS REQUIRED DURING THE PLACING OF REINFORCING STEEL.

CONC. EXPANSION & MASONRY ANCHORS & DRILLED-IN DOWELS: COPY OF ICC REPORT FOR ANCHORS OR ADHESIVE SYSTEM USED MUST BE AVAILABLE AT JOB SITE. VERIFY ANCHORS OR ADHESIVE SYSTEM INSTALLATION IN ACCORDANCE WITH REPORT. VERIFY CERTIFICATION OF INSTALLER FOR ADHESIVE ANCHORS.

WELDING: SPECIAL INSPECTION IS REQUIRED DURING ALL STRUCTURAL WELDING. INSPECT ALL FIELD WELDING - VERIFY CERTIFICATION OF WELDERS. CONTRACTOR SHALL PAY FOR REWELDING AND REINSPECTION OF ALL WELDS NOT MEETING SPECS. INSPECTOR SHALL NOTIFY STRUCTURAL ENGINEER OF WELDS NOT MEETING SPECS.

PRE-ENGINEERED BUILDING SYSTEM:ENGINEER FOR M.B.S. OR HIS REPRESENTATIVE TO INSPECT FINISHED BUILDING AND PROVIDE A LETTER TO THE ARCHITECT AND BUILDING DEPT. CERTIFYING THAT THE BUILDING AS CONSTRUCTED MEETS BOTH THE CONTRACT DRAWINGS AND BUILDING CODE STRUCTURAL REQUIREMENTS. LETTER TO BE STAMPED & SIGNED BY THE ENGINEER THAT STAMPED M.B.S. DRAWINGS BY THE ENGINEER.

MASONRY: VERIFY THAT UNITS HAVE MINIMUM CELL SIZE PER DRAWINGS. VERIFY REINFORCING LAP AND PLACEMENT IS PER DRAWINGS. MASONRY CONSTRUCTION SHALL HAVE SPECIAL INSPECTION PER CODE. DAILY VERIFY MASONRY TOLERANCES PER MASONRY NOTE THIS SHEET. SPECIAL INSPECTION IS REQUIRED BASED ON THE "UNIT STRENGTH METHOD" PER THE THREE STEPS NOTED BELOW. SAMPLING AND PLACING OF ALL MASONRY UNITS. PLACEMENT OF REINFORCEMENT. INSPECTION OF GROUT SPACE. IMMEDIATELY PRIOR TO CLOSING OF CLEANOUTS AND DURING ALL GROUTING OPERATIONS, THE SPECIAL INSPECTOR IS TO VERIFY THAT:
1. UNITS CONFORM TO ASTM C90 AND ARE SAMPLED AND TESTED IN ACCORDANCE WITH ASTM C140.
2. GROUT CONFORMS TO ASTM C476 AND IS SAMPLED FOR EACH 5000 SF OF WALL AND TESTED FOR STRENGTH.
3. MORTAR CONFORMS TO THE VOLUME PROPORTIONS FROM THE MASONRY SECTION. THIS MAY BE ACCOMPLISHED BY CHECKING THE CERTIFICATION FROM THE MORTAR SUPPLIER GIVEN WITH EACH BATCH OF MORTAR. PROVIDED THAT ALL THE ABOVE ARE SATISFACTORY. TESTS FOR STRENGTH ARE NOT REQUIRED).
4. SITE BLENDING OF DRY INGREDIENTS REQUIRES CONTINUOUS INSPECTION BY TESTING LAB. MIXING BY SHOVELFUL IS NOT ALLOWED IN ANY CASE.

FAILURE TO FOLLOW THESE FOUR STEPS WILL MEAN THAT PRISM TESTS WILL BE REQUIRED. THE CONTRACTOR MAY ELECT TO TAKE PRISM TESTS IN LIEU OF THE "UNIT STRENGTH PROCEDURE". TESTING LAB TO NOTIFY ENGINEERS NORTHWEST AND THE ARCHITECT BY PHONE AND FAX OF ALL NONCOMPLIANCES REGARDING MASONRY IMMEDIATELY. TESTING LAB TO SEND REPORTS TO ENGINEERS NORTHWEST AND THE ARCHITECT WITHIN 5 DAYS OF TEST.

IN ACCORDANCE WITH TABLE ON S0.3 AND REFERENCED STANDARDS. CONTINUOUS INSPECTION: SUP-CRITICAL (SC) HIGH STRENGTH BOLTED CONNECTIONS. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS. NON-DESTRUCTIVE TESTING IS REQUIRED FOR ALL COMPLETE PENETRATION WELDS - SHOP AND FIELD. MULTIPASS FILLET WELDS. SINGLE-PASS FILLET WELDS GREATER THAN 5/16-INCH. WELDING OF REINFORCING IN INTERMEDIATE AND SPECIAL MOMENT FRAMES. BOUNDARY ELEMENTS OF SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT. PERIODIC INSPECTION: VERIFY HIGH-STRENGTH BOLT IDENTIFICATION MARKINGS CONFORM TO SPECIFIED ASTM STANDARDS. REVIEW OF MANUFACTURER'S CERTIFICATE OF COMPLIANCE. INSTALLATION OF BEARING-TYPE BOLTED CONNECTIONS. SINGLE-PASS FILLET WELDS 5/16-INCH OR LESS. FLOOR AND ROOF DECK WELDS. COLD-FORMED STEEL FRAME WELDING. WELDING OF STAIRS AND RAILINGS. WELDING OF STUDS. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A-706. WELDING OF REINFORCING STEEL OTHER THAN THAT REQUIRING CONTINUOUS INSPECTION. STEEL JOINTS AND CONNECTIONS FOR COMPLIANCE WITH PLANS.

SHOP DRAWINGS
SUBMIT 4 SETS OF PRINTS (U.N.O. BY ARCHITECT) OR ELECTRONIC PDF FILES, OF SHOP DRAWINGS TO ENGINEER FOR REVIEW AFTER CONTRACTOR HAS REVIEWED & STAMPED FOR COMPLIANCE AND PRIOR TO FABRICATION FOR: STRUCTURAL STEEL, MISCELLANEOUS STEEL AND REINFORCING STEEL. WHEN SHOP DRAWING SUPPLIER MAKES A CHANGE FROM THESE DRAWINGS IT IS TO BE CLEARLY FLAGGED AND CLOUDED CHANGES NOT FLAGGED AND CLOUDED ARE TO BE CONSIDERED AS UNACCEPTABLE EVEN WITHOUT BEING COMMENTED ON IN THE SHOP DRAWING REVIEW PROCESS. THE SUPPLIER OF THE ITEM CONTAINING THE CHANGE SHALL BE RESPONSIBLE FOR CHANGING THE ITEM BACK TO AGREE WITH THESE DRAWINGS AT NO COST TO THE OWNER AT E.N.W.'S OPTION. "SHOP DRAWINGS ARE AN ERECTION AID, AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENT OVER THE SHOP DRAWINGS...".

SPECIAL CONDITIONS
CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL FIELD CHANGES PRIOR TO INSTALLATION.

NOTE TO MECHANICAL AND ELECTRICAL TRADES
CONTRACTOR SHALL SUBMIT PLANS SHOWING LOCATION, LOAD AND ANCHORAGE OF ALL HANGERS SUPPORTING ANY MECHANICAL, ELECTRICAL, PLUMBING OR SPRINKLER LOADS IN EXCESS OF 50 POUNDS. ANY ROOF MOUNTED EQUIPMENT SHALL BE INCLUDED IN THESE PLANS AND SHALL SHOW LOADS AND LOCATIONS. THESE SHALL BE SUBMITTED TO ENGINEERS NORTHWEST FOR REVIEW PRIOR TO INSTALLATION OF ANY OF THIS EQUIPMENT. SEE DETAILS ON DRAWING S5.1 FOR SUPPORTING LOADS FROM ROOF JOISTS. ALL DETAILS OF CONNECTIONS TO THE STRUCTURE FOR EQUIPMENT SHALL BE BY THE SUPPLIER OF THAT EQUIPMENT. THE BUILDING DEPARTMENT REQUIRES A SUBMITTAL FOR PLAN CHECK REGARDING THE DESIGN OF THESE DETAILS, IT IS THE RESPONSIBILITY OF THE EQUIPMENT SUPPLIER TO PROVIDE THIS SUBMITTAL.

- GENERAL BUILDING DESCRIPTION**
- THE STRUCTURE IS A BUILDING FRAME SYSTEM WITH NON-BEARING, NON-SHEAR, 2'-0" HIGH CMU WALLS. THE ROOF DECKING IS NOT PART OF THE LATERAL SYSTEM. ROOF BRACING, STRUT JOISTS AND GIRDERS FORM A HORIZONTAL TRUSS TO DISTRIBUTE LATERAL LOADS TO THE WALLS.
 - THE CMU WALLS CANTILEVER FROM THE SLAB ON GRADE UP TO ELEVATION 2'-0", AND ARE NOT ATTACHED TO THE METAL BUILDING STRUCTURE.
 - THE ONLY WALL THAT DEPENDS ON THE STEEL FRAME FOR LATERAL SUPPORT IS THE 15'-4" HIGH C.I.P. CONCRETE LOADING DOCK WALL SHOWN IN ELEVATION 1 ON DRAWING S3.3. THE BUILDING FRAME IS TO BE DESIGNED FOR THE LATERAL ANCHORAGE LOADS SHOWN ON SCHEDULE ANCHORS ON S3.2. IMPROVED BY THIS WALL.
 - THE ROOF DIAPHRAGM CHORD BEAMS SPAN FROM ROOF STRUT JOIST TO ROOF STRUT JOIST. THE STRUT JOISTS EXTEND ACROSS THE ROOF DIAPHRAGM TO PROVIDE THE CORNER CONNECTIONS. THE STRUT JOISTS ARE SHOWN

2018 IBC COLD-FORMED (STEEL LIGHT GAGE CONSTRUCTION)			
TYPE	CONTINUOUS	PERIODIC	REFERENCED STANDARD
1. MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:			
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	----	X	APPLICABLE ASTM MATERIAL STANDARDS
b. MANUFACTURER'S CERTIFIED TEST REPORTS.	----	X	
2. INSPECTION OF WELDING:			
a. COLD-FORMED STEEL DECK:			
1.) FLOOR AND ROOF DECK WELDS.	----	X	AWS D1.3
b. SCREW SIZE & SPACING, BOLTING ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE SEISMIC FOR RESISTING SYSTEMS INCLUDING DIAPHRAM, SHEARWALLS, BRACES, COLLECTORS (DRAG STRUTS) AND HOLD DOWNS.		X	IBC 1705.12.3

2018 IBC TABLE 1705.3				
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION				
TYPE	CONTINUOUS SPECIAL INSPECTIONS	PERIODIC SPECIAL INSPECTIONS	REFERENCED STANDARD ^a	IBC REFERENCE
1. INSPECT REINFORCEMENT STEEL, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	----	X	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" AND c. INSPECT ALL OTHER WELDS.	----- ----- X	X X -----	AWS D1.4 ACI 318: 26.6.4	-----
3. INSPECT ANCHORS CAST IN CONCRETE.	----	X	ACI 318: 17.8.2	-----
4. INSPECT ANCHORS POST INSTALLED IN HARDENED CONCRETE MEMBERS: ^b a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	X -----	----- X	ACI 318: 17.8.2.4	-----
5. VERIFY USE OF REQUIRED DESIGN MIX.	-----	X	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.	X	-----	ASTM C172, ASTM C31 ACI 318: 26.5, 26.12	1908.10
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-----	ACI 318: 26.5	1908.6 1908.7 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-----	X	ACI 318: 26.5.3 - 26.5.5	1908.9
9. INSPECTION OF PRESTRESSED CONCRETE FOR: a. APPLICATION OF PRESTRESSING FORCES; AND b. GROUTING OF BONDED PRESTRESSING TENDONS.	X X -----	----- -----	ACI 318: 26.10	-----
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	-----	X	ACI 318: 26.9	-----
11. VERIFY OF 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.	-----	X	ACI 318: 26.11.2	-----
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-----	X	ACI 318: 26.11.1.2(b)	-----

a. WHERE APPLICABLE, SEE ALSO SECTIONS 1705.12 SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.
b. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES, WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED. SPECIAL INSPECTIONS REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

2018 IBC TABLE 1705.6		
REQUIRED SPECIAL INSPECTION AND TESTS OF SOILS		
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	----	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-----	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-----	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-----
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-----	X

2018 IBC WOOD CONSTRUCTION			
SPECIAL INSPECTION OF WOOD CONSTRUCTION			
VERIFICATION & INSPECTION TASK	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA
	CONTINUOUS DURING TASK	PERIODIC DURING TASK	IBC SECTION
1. PREFABRICATED WOOD STRUCTURAL ELEMENTS SHALL BE IN ACCORDANCE WITH SECTION 1704.2.5	-----	X	1704.2.5 1705.5
2. HIGH LOAD DIAPHRAGMS DESIGNED IN ACCORDANCE WITH SECTION 2306.2 TABLE 2306.2(2), THE INSPECTOR SHALL VERIFY: a. WOOD STRUCTURAL SHEATHING TO VERIFY THE GRADE AND THICKNESS SHOWN ON APPROVED BUILDING DRAWINGS. b. THE NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES, NAIL OR STAPLE LENGTH, NUMBER OF FASTENER LINES, AND SPACING OF FASTENERS IN EACH LINE AND AT EDGE MARGING AGREES WITH APPROVED BUILDING DRAWINGS	----- -----	X X	1705.5.1 1705.5.1

2018 IBC TABLE 1705.7		
SPECIAL INSPECTIONS AND TEST OF DRIVEN DEEP FOUNDATION ELEMENTS		
TYPE	CONTINUOUS SPECIAL INSPECTIONS	PERIODIC SPECIAL INSPECTIONS
1. VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS.	X	-----
2. DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED.	X	-----
3. INSPECT DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X	-----
4. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT.	X	-----
5. FOR STEEL ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.2.	-----	-----
6. FOR CONCRETE ELEMENTS AND CONCRETE-FILLED ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3.	-----	-----
7. FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.	-----	-----

2018 IBC TABLE 1705.8		
REQUIRED SPECIAL INSPECTION AND TEST OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS		
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X	-----
2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.	X	-----
3. FOR CONCRETE ELEMENTS, PERFORM TEST AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3.	-----	-----

2018 IBC LEVEL 2 REQUIRED VERIFICATION & INSPECTION OF MASONRY CONSTRUCTION					
MINIMUM TESTS					
VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.5 B.1.b.3 FOR SELF-CONSOLIDATING GROUT.					
VERIFICATION OF f_m AND $f_{m,c}$ IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.4B PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE.					
MINIMUM SPECIAL INSPECTION					
INSPECTION TASK	FREQUENCY ^a			REFERENCE FOR CRITERIA	
	LEVEL 1	LEVEL 2	LEVEL 3	TMS 402	TMS 602
1. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
a. PROPORTIONS OF SITE-PREPARED MORTAR.	NR	P	P		ART. 2.1, 2.6A, & 2.6C
b. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES.	NR	P	P		ART. 2.4B, 2.4H
c. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	NR	P	P		ART. 3.4, 3.6A
d. PRESTRESSING TECHNIQUE	NR	P	P		ART. 3.6B
e. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	NR	C ^(b) (P ^(c))	C		ART. 2.1 C.1
f. SAMPLE PANEL CONSTRUCTION	NR	P	C		ART. 1.6D
2. PRIOR TO GROUTING VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
a. GROUT SPACE	NR	P	C		ART. 3.2D, 3.2F
b. PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES	NR	P	P	SEC. 10.8 & 10.9	ART. 2.4 & 3.6
c. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS	NR	P	C	SEC. 6.1, 6.3.1, 6.3.6, 6.3.7	ART. 3.2E & 3.4
d. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS.	NR	P	P		ART. 2.6B & 2.4G.1.b
3. VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:					
a. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS	NR	P	P		ART. 1.5
b. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION	NR	P	P		ART. 3.3B
c. SIZE AND LOCATION OF STRUCTURAL MEMBERS	NR	P	P		ART. 3.3F
d. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	NR	P	C	SEC. 1.2.1.(e), 6.2.1, & 6.3.1	
e. WELDING OF REINFORCEMENT	NR	C	C	SEC. 6.1.6.1.2	
f. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F (4.4°C)) OR HOT WEATHER (TEMPERATURE ABOVE 90°F (32.2°C))	NR	P	P		ART. 1.8C, 1.8D
g. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE.	NR	C	C		ART. 3.6B
h. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE.	NR	C	C		ART. 3.5, 3.6C
i. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	NR	C ^(b) (P ^(c))	C		ART. 3.3 B.9 & 3.3 F.1.b
4. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	NR	P	C		ART. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, & 1.4 B.4

NOTES:
(a) Frequency refers to the frequency of inspection, which may be continuous during the listed task or periodic during the listed task, as defined in the table.
NR=Not Required, P=Periodic, C=Continuous
(b) Required for the first 5000 square feet (465 square meters) of AAC masonry.
(c) Required after the first 5000 square feet (465 square meters) of AAC masonry.

2018 IBC TABLE 1705.2.3			
REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOIST AND JOIST GIRDERS			
TYPE	CONTINUOUS SPECIAL INSPECTIONS	PERIODIC SPECIAL INSPECTIONS	REFERENCED STANDARD
1. INSTALLATION OF OPEN-WEB STEEL JOIST AND JOIST GIRDERS			
a. END CONNECTIONS - WELDED OR BOLTED	-----	X	SJI SPECIFICATION LISTED IN SECTION 2207.1
b. BRIDGING - HORIZONTAL OR DIAGONAL			
1. STANDARD BRIDGING	-----	X	SJI SPECIFICATION LISTED IN SECTION 2207.1
2. BRIDGING THAT DIFFERS FROM THE SJI SPECIFICATIONS LISTED IN SECTION 2207.1	-----	X	

NOTES:
1. WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

DEFERRED SUBMITTALS STRUCTURAL COMPONENTS		
ITEM	REVIEWED BY	
	AOR	EOR
STEEL STAIRS	X	X

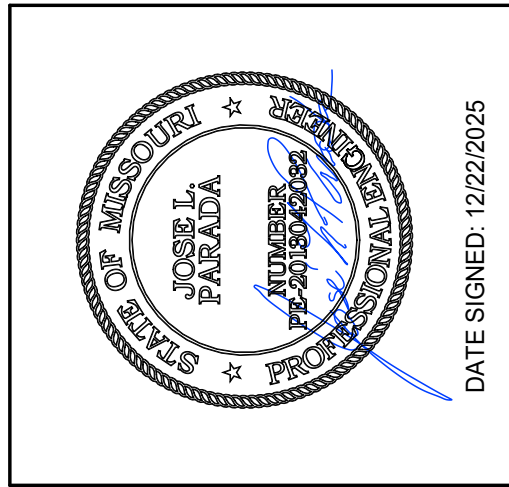
NOTES:
1. ALL CALCULATIONS PROVIDED SHALL MUST BEAR THE SEAL & SIGNATURE OF A REGISTERED ENGINEER LICENSED IN THE PROJECT STATE.
2. DEFERRED SUBMITTAL ITEMS SHALL NOT BE OTHERWISE CONSTRUCTED IN PLACE WITHOUT HAVING THE PLANS OR SHOP DRAWINGS REVIEWED AND APPROVED BY THE EOR AND THE BUILDING OFFICIAL.
3. AOR DENOTES ARCHITECT OF RECORD.
4. EOR DENOTES ENGINEER OF RECORD.

STRUCTURAL OBSERVATION PROGRAM	
STRUCTURAL OBSERVATIONS SHALL BE PROVIDED FOR THOSE STRUCTURES WHERE ONE OR MORE OF THE FOLLOWING CONDITIONS EXIST: 1. THE STRUCTURE IS CLASSIFIED AS RISK CATEGORY III OR IV. 2. THE STRUCTURE IS A HIGH-RISE BUILDING. 3. THE STRUCTURE IS ASSIGNED TO SEISMIC DESIGN CATEGORY 'E' OR 'F', AND IS GREATER THAN TWO STORIES ABOVE GRADE PLANE. 4. SUCH OBSERVATION IS REQUIRED BY THE DESIGN PROFESSIONAL RESPONSIBLE FOR THE STRUCTURAL DESIGN. 5. SUCH OBSERVATION IS SPECIFICALLY REQUIRED BY THE BUILDING OFFICIAL.	

NOTES:
1. THE STRUCTURAL OBSERVER WILL SUBMIT A FIELD REPORT TO THE BUILDING DEPARTMENT AFTER EACH VISIT ON THE FREQUENCY PRE-ESTABLISHED.
2. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE REQUIREMENT FOR SPECIAL INSPECTION, OR OTHER INSPECTIONS REQUIRED BY THE BUILDING CODE.
3. STRUCTURAL OBSERVATION MUST BE PROVIDED BY THE ENGINEER OF RECORD RESPONSIBLE FOR THE STRUCTURAL DESIGN, OR ANOTHER LICENSED ENGINEER DESIGNATED BY THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN.
ALL OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR, CONTRACTOR AND THE BUILDING OFFICIAL. THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFYING ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

NO.	DRAWING SUBMITTALS	DATE
	SUBMIT FOR PERMIT	12/23/25
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	SUBMIT FOR CONSTRUCTION	

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COSTCO LEE'S SUMMIT

SPECIAL INSPECTIONS

NEC OF HWY 291 & OLDHAM PKWY LEE'S SUMMIT, MO

JOB NO.	25063000
ENGINEER	R. ZHU
DRAWN:	L. MARTINEZ
DATE:	11.17.25
SHEET NO.	

S0.1A

2018 IBC, AISC 360-16 Table N5.4-1		
Inspection Tasks Prior to Welding		
Inspection Tasks Prior to Welding	QC	QA
Welder qualification records and continuity records	P	O
WPS available	P	P
Manufacturer certifications for welding consumables available	P	P
Material identification (type/gender)	O	O
Welder identification system[a]	O	O
Fit-up of groove welds (including joint geometry)		
· Joint preparations		
· Dimensions (alignment, root opening, root face, bevel)	O	O
· Cleanliness (condition of steel surfaces)		
· Tacking (tack weld quality and location)		
· Backing type and fit (if applicable)		
Fit-up of CJP groove welds of HSS T-, Y- and K-joints without backing (including joint geometry)		
· Joint preparations		
· Dimensions (alignment, root opening, root face, bevel)		
· Cleanliness (condition of steel surfaces)	P	O
· Tacking (tack weld quality and location)		
Configuration and finish of access holes	O	O
Fit-up of fillet welds		
· Dimensions (alignment, gaps at root)		
· Cleanliness (condition of steel surface)	O	O
· Tacking (tack weld quality and location)		
Check welding equipment	O	-
[a] The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.		

2018 IBC, AISC 360-16 Table N5.4-2		
Inspection Tasks During Welding		
Inspection Tasks During Welding	QC	QA
Control and handling of welded consumables		
· Packaging	O	O
· Exposure control		
No welding over cracked tack welds	O	O
Environmental conditions		
· Wind speed within limits	O	O
· Precipitation and temperature		
WPS followed		
· Settings on welding equipment		
· Travel speed	O	O
· Selected welding materials		
· Shielding gas type/flow rate		
· Preheat applied		
· Interpass temperature maintained (min./max.)		
· Proper position (F, V, H, OH)		
Welding techniques		
· Interpass and final cleaning		
· Each pass within profile limitations	O	O
· Each pass meets quality requirements		
Placement and installation of steel headed stud anchors	P	P

2018 IBC, AISC 360-16 Table N5.4-3		
Inspection Tasks After Welding		
Inspection Tasks After Welding	QC	QA
Welds cleaned	O	O
Size, length and location of welds	P	P
Welds meet visual acceptance criteria		
· Crack prohibition		
· Weld/base-metal fusion		
· Crater cross section	P	P
· Weld profiles		
· Weld size		
· Undercut		
· Porosity		
Arc strikes	P	P
k-area[a]	P	P
Weld access holes in rolled heavy shapes and built-up heavy shapes[b]	P	P
Backing removed and weld tabs removed (if required)	P	P
Repair activities	P	P
Document acceptance or rejection of welded joint or member	P	P
No prohibited welds have been added without the approval of the EOR	O	O
[a] When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. (75 mm) of the weld.		
[b] After rolled heavy shapes (see AISC 316-16 Section A3.1c) and built-up heavy shapes (see AISC 316-16 Section A3.1d) are welded, visually inspect the weld access hole for cracks.		

2018 IBC, AISC 360-16 Table N5.6-1		
Inspection Tasks Prior to Bolting		
Inspection Tasks Prior to Bolting	QC	QA
Manufacturer's certifications available for fastener materials	O	P
Fasteners marked in accordance with ASTM requirements	O	O
Correct fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	O
Correct bolting procedure selected for joint detail	O	O
Connecting elements, including the appropriate laying surface condition and hole preparation, if specified, meet applicable requirements	O	O
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	P	O
Protected storage provided for bolts, nuts, washers and other fastener components	O	O

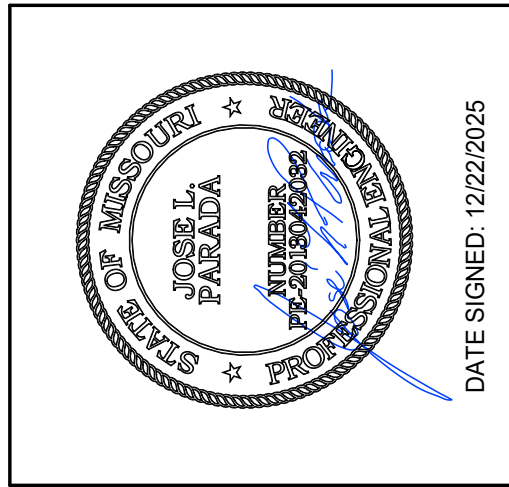
2018 IBC, AISC 360-16 Table N5.6-2		
Inspection Tasks During Bolting		
Inspection Tasks During Bolting	QC	QA
Fastener assemblies placed in all holes and washers and nuts are positioned as required	O	O
Joint brought to the snug-tight condition prior to the pretensioning operation	O	O
Fastener component not turned by the wrench prevented from rotating	O	O
Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges	O	O

2018 IBC, AISC 360-16 Table N5.6-3		
Inspection Tasks After Bolting		
Inspection Tasks After Bolting	QC	QA
Document acceptance or rejection of bolted connections	P	P

GLOSSARY OF TERMS	
PERFORM (P):	Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE (O):	Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor's risk.
DOCUMENT (DOC., OR D):	Document in a report that the work has been performed as required. This is in addition to all other required reports.
Quality assurance (QA). Monitoring and inspection tasks to ensure that the material provided and work performed by the fabricator and erector meet the requirements of the approved construction documents and referenced standards. Quality assurance includes those tasks designated "special inspection" by the applicable building code.	
Quality assurance inspector (QAI): Individual designated to provide quality assurance inspection for the work being performed.	
Quality assurance plan (QAP). Program in which the agency or firm responsible for quality assurance maintains detailed monitoring and inspection procedures to ensure conformance with the approved construction documents and referenced standards.	
Quality control (QC). Controls and inspections implemented by the fabricator or erector, as applicable, to ensure that the material provided and work performed meet the requirements of the approved construction documents and referenced standards.	
Quality control inspector (QCI). Individual designated to perform quality control inspection tasks for the work being performed.	
Quality control program (QCP). Program in which the fabricator or erector, as applicable, maintains detailed fabrication or erection and inspection procedures to ensure conformance with the approved design drawings, specifications, and referenced standards.	

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STRUCTURAL ENGINEERS

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SHEET CONTENTS: SPECIAL INSPECTIONS

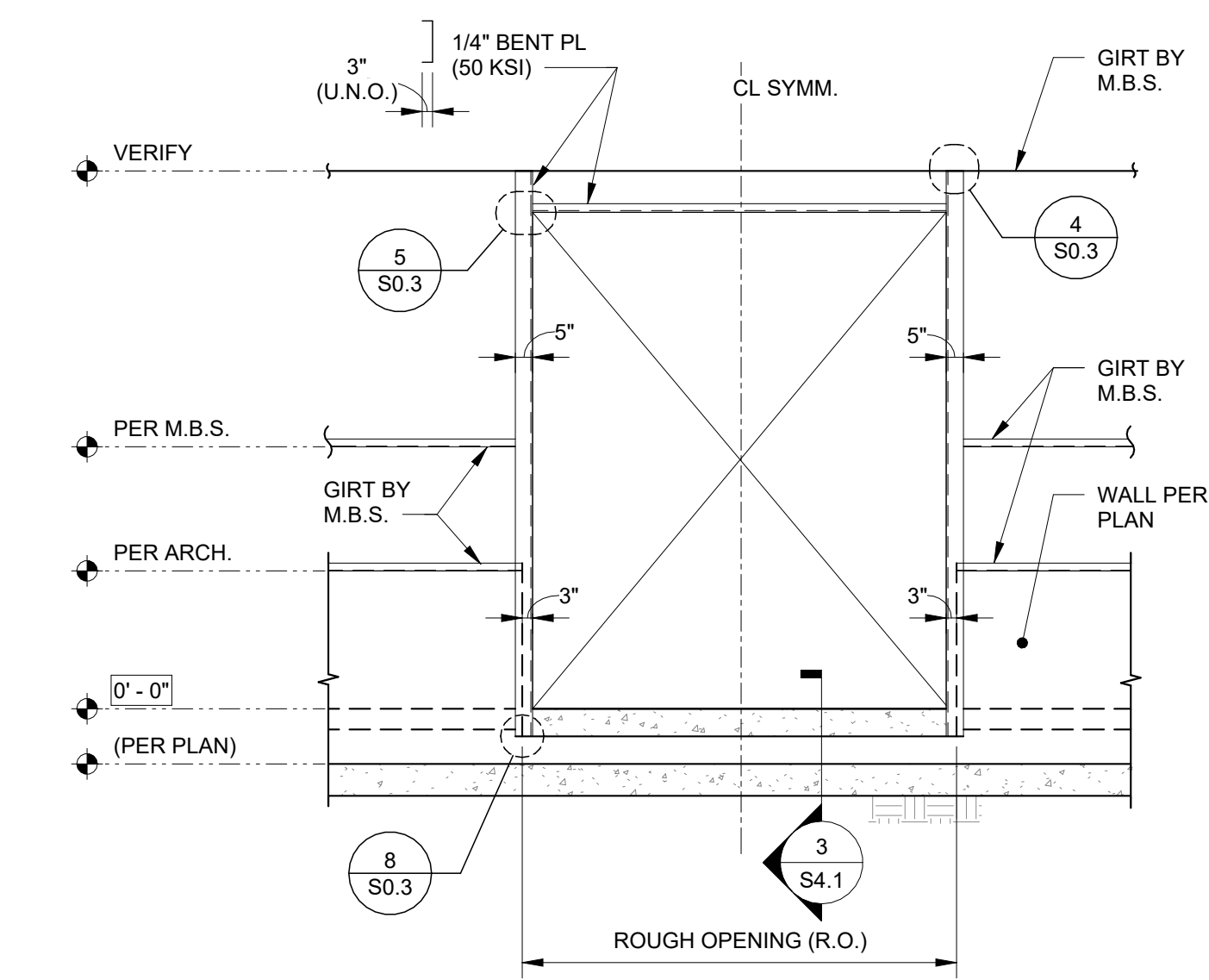
COSTCO

WHOLESALE

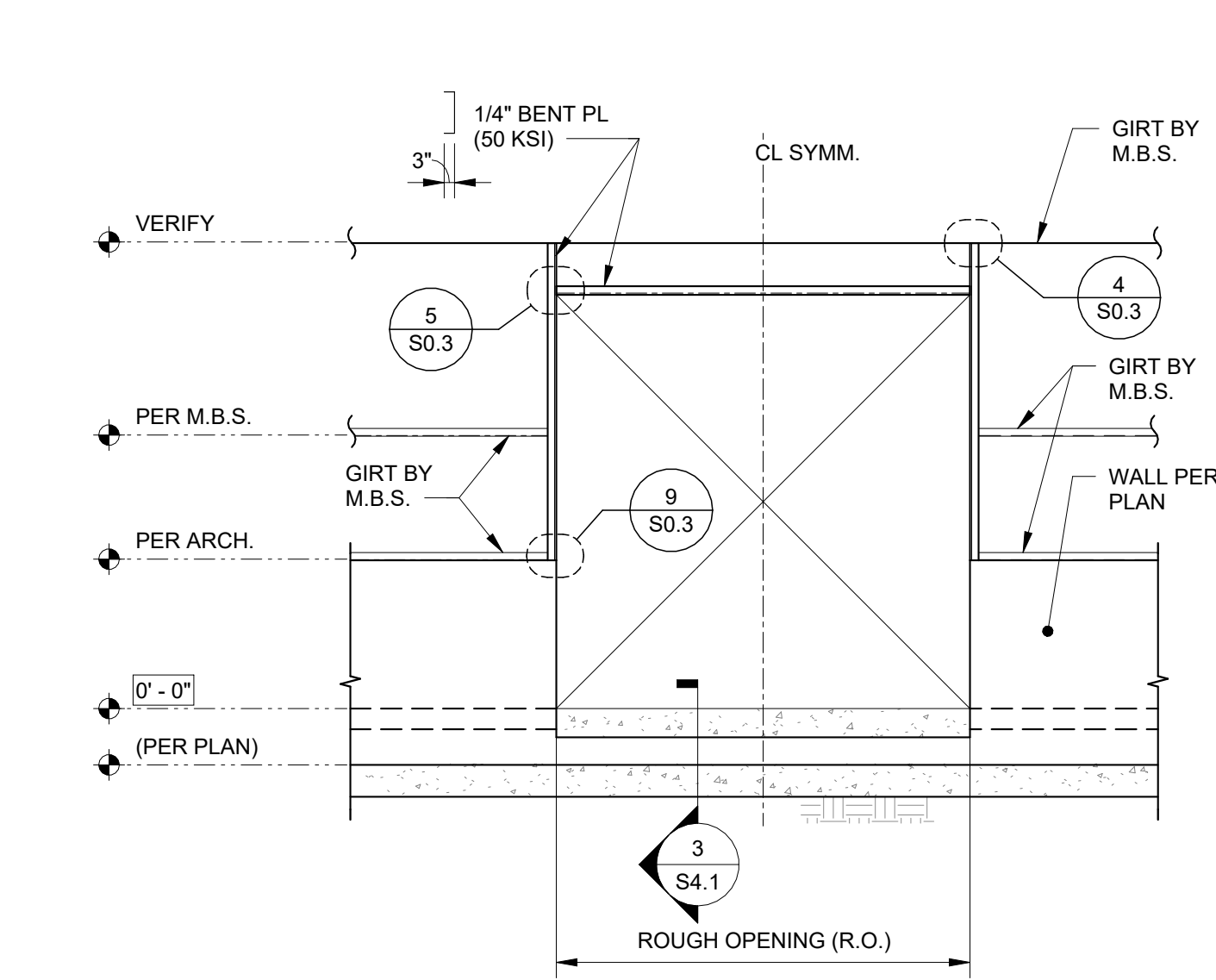
COSTCO LEE'S SUMMIT

NEC OF HWY 291 & OLDHAM PKWY LEE'S SUMMIT, MO

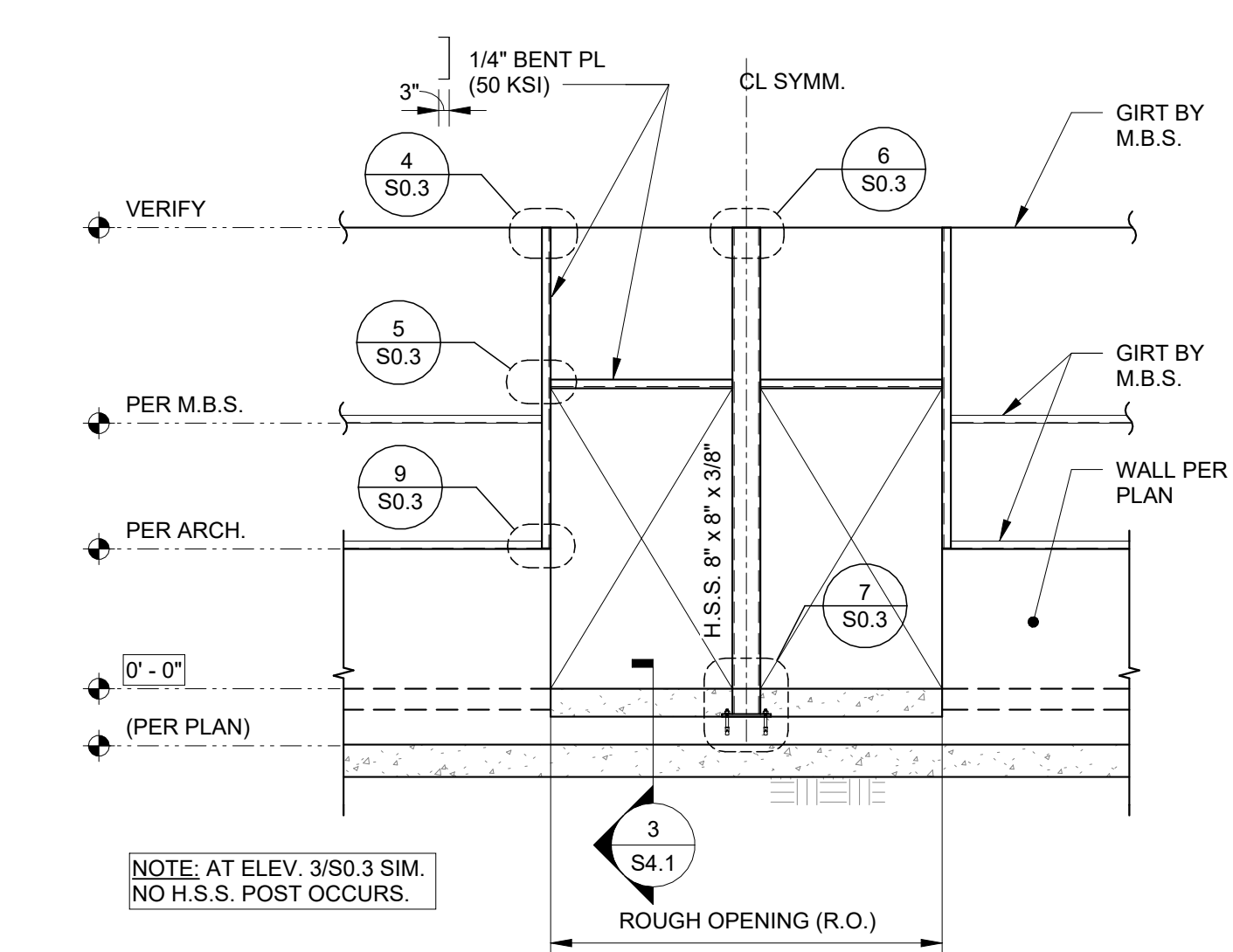
JOB NO.	25063000
ENGINEER	R. ZHU
DRAWN	L. MARTINEZ
DATE	11.17.25
SHEET NO.	
S0.1B	



1 ELEVATION
1/4" = 1'-0"

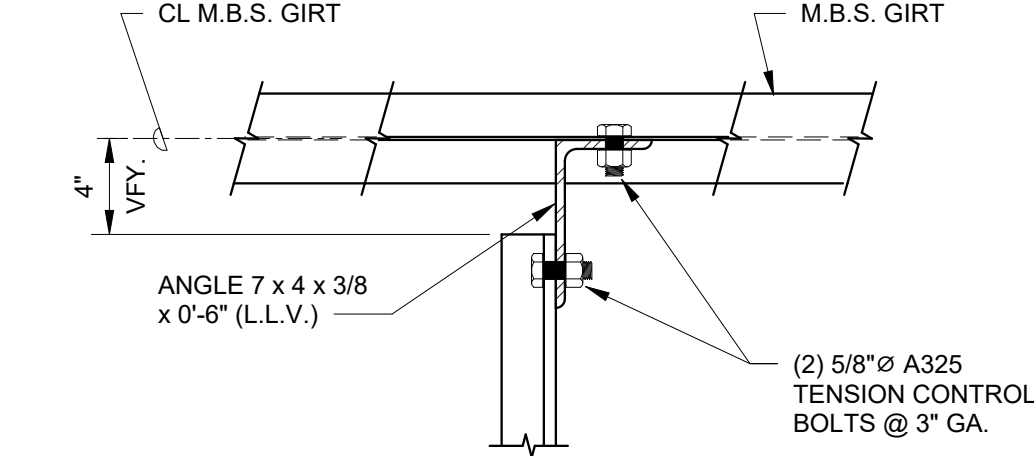


② ELEVATION
1/4" = 1'-0"

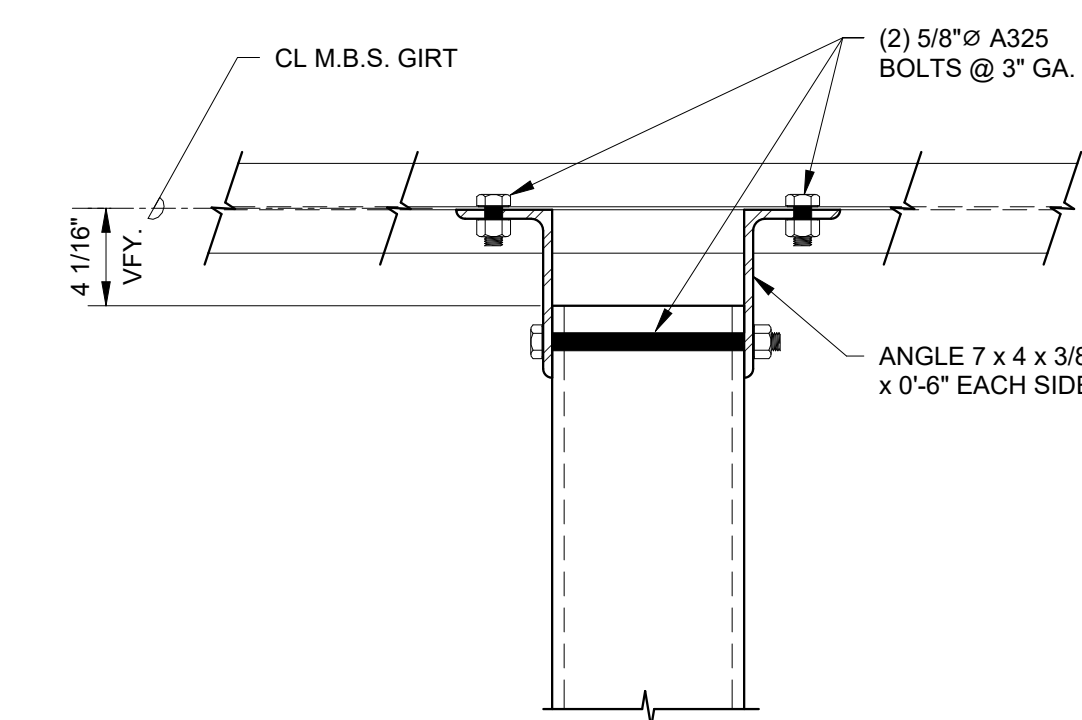


TYPICAL OPENING AT EGRESS DOORS

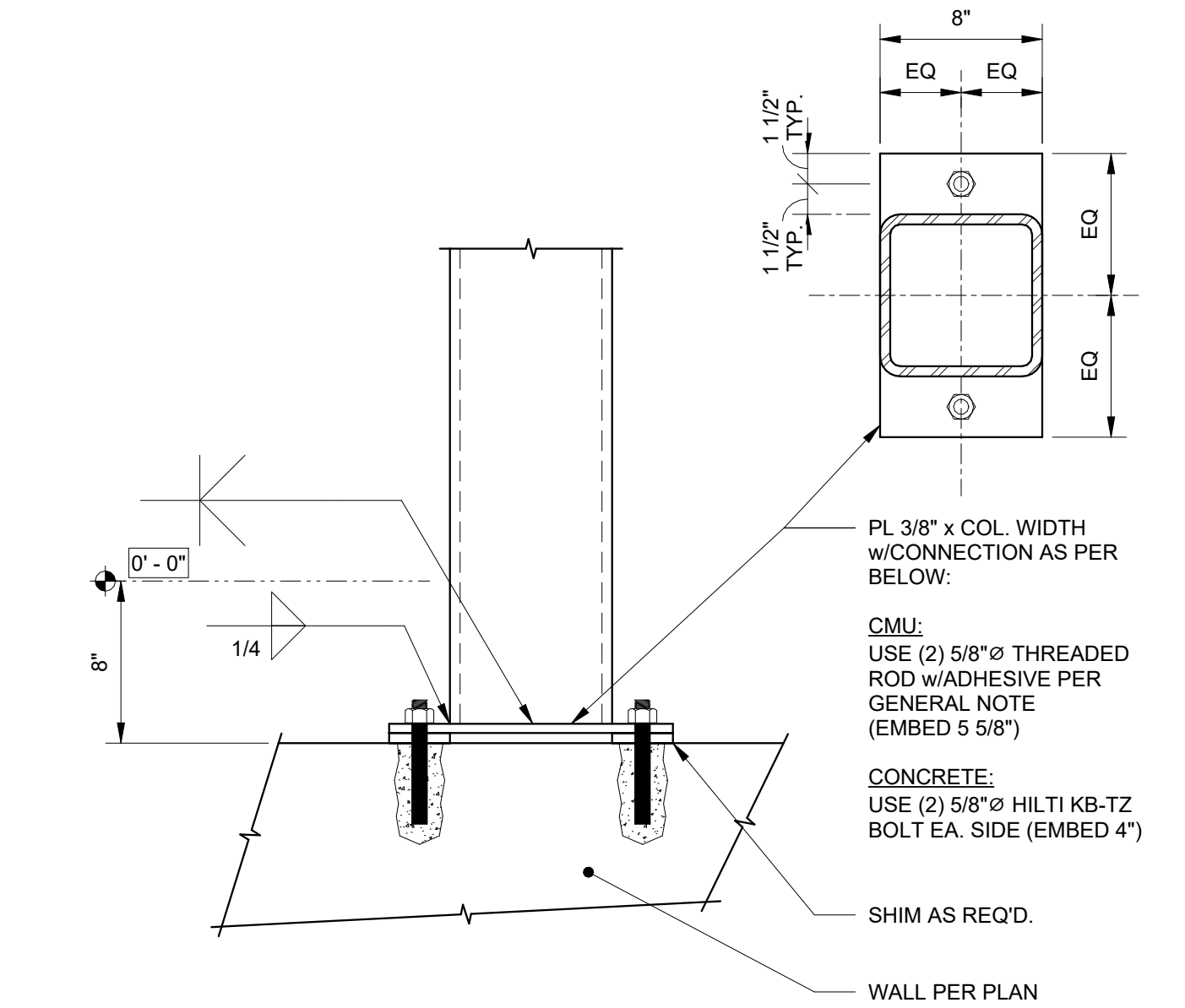
3 ELEVATION
1/4" = 1'-0"



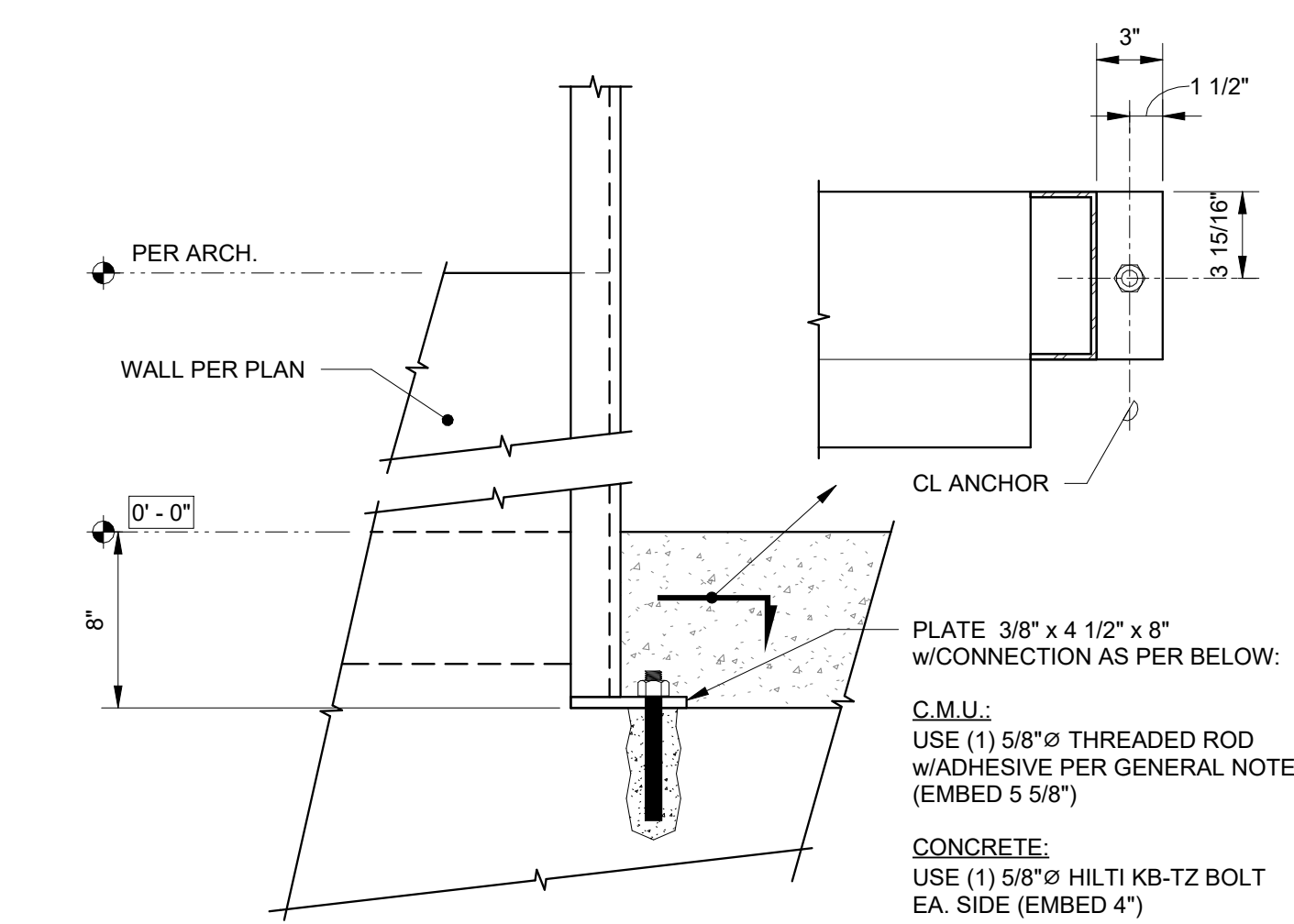
4 SECTION
1 1/2" = 1'-0"



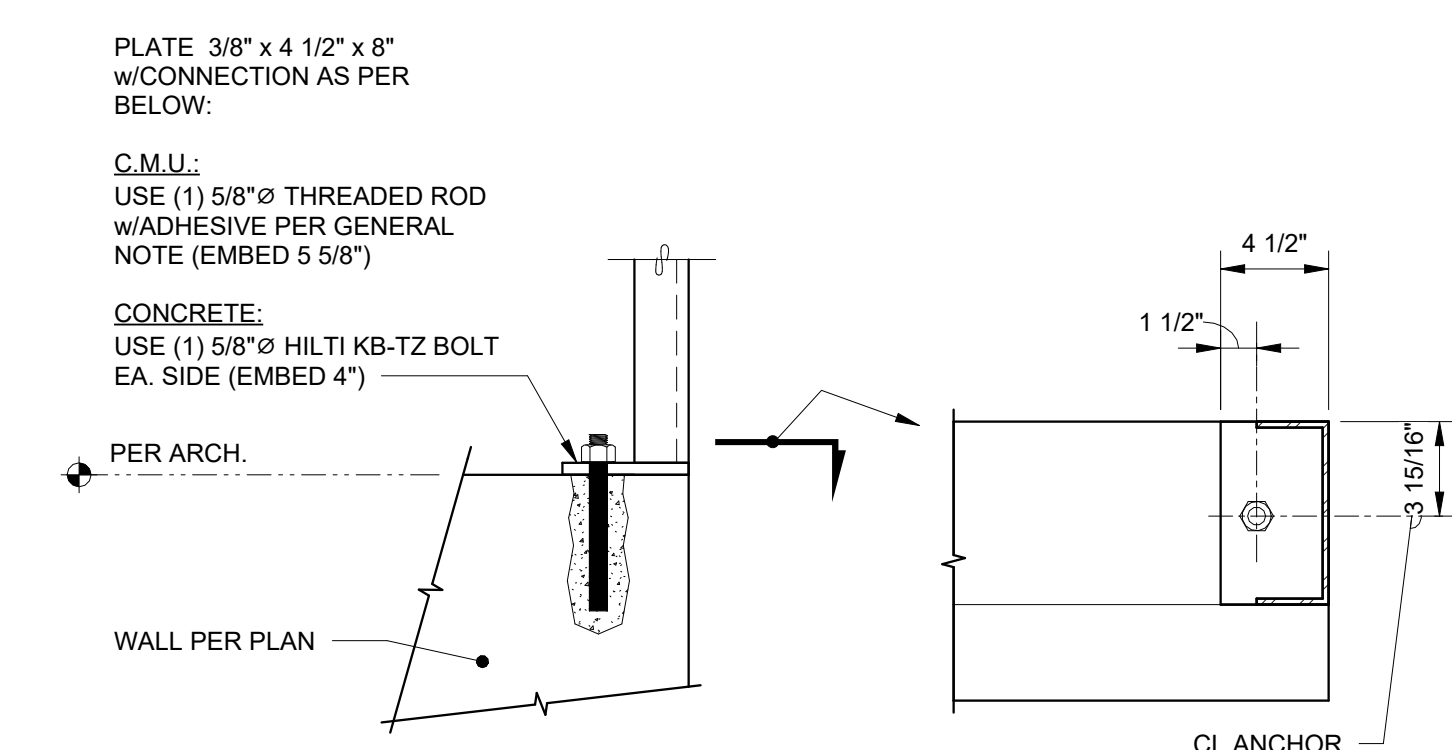
6 SECTION
1 1/2" = 1'-0"



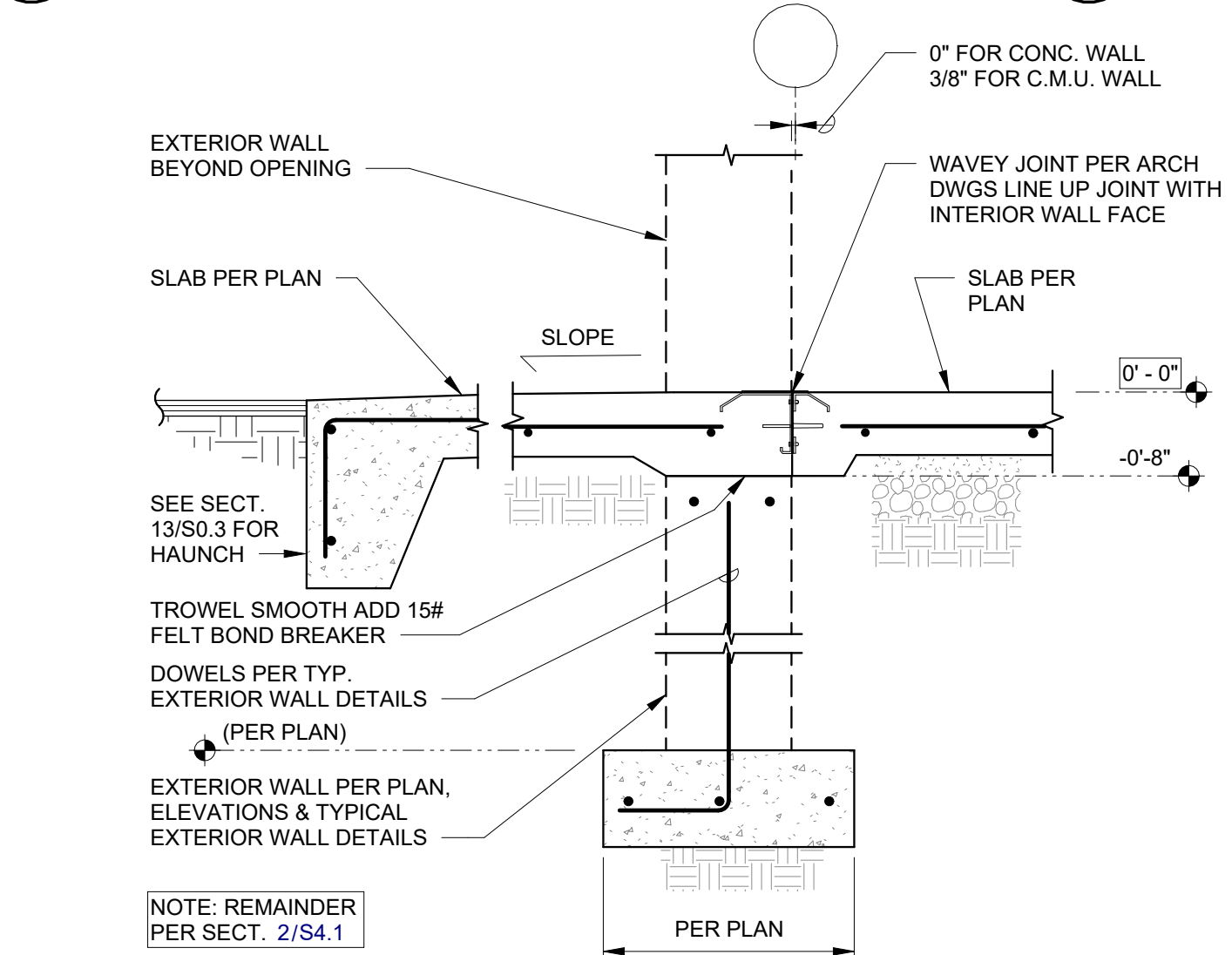
7 SECTION
1 1/2" = 1'-0"



8 SECTION
1 1/2" = 1'-0"



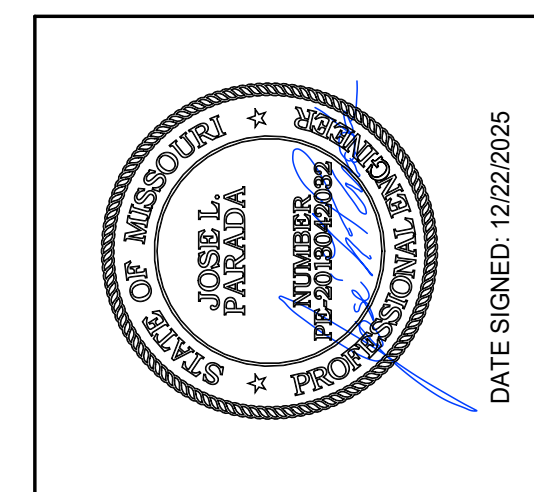
9 SECTION
1 1/2" = 1'-0"



(@ BREAD DOOR)

10 SECTION
3/4" = 1'-0"

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[illegible]

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SHEET
CONTENTS: DOOR ELEVATIONS & SECTIONS



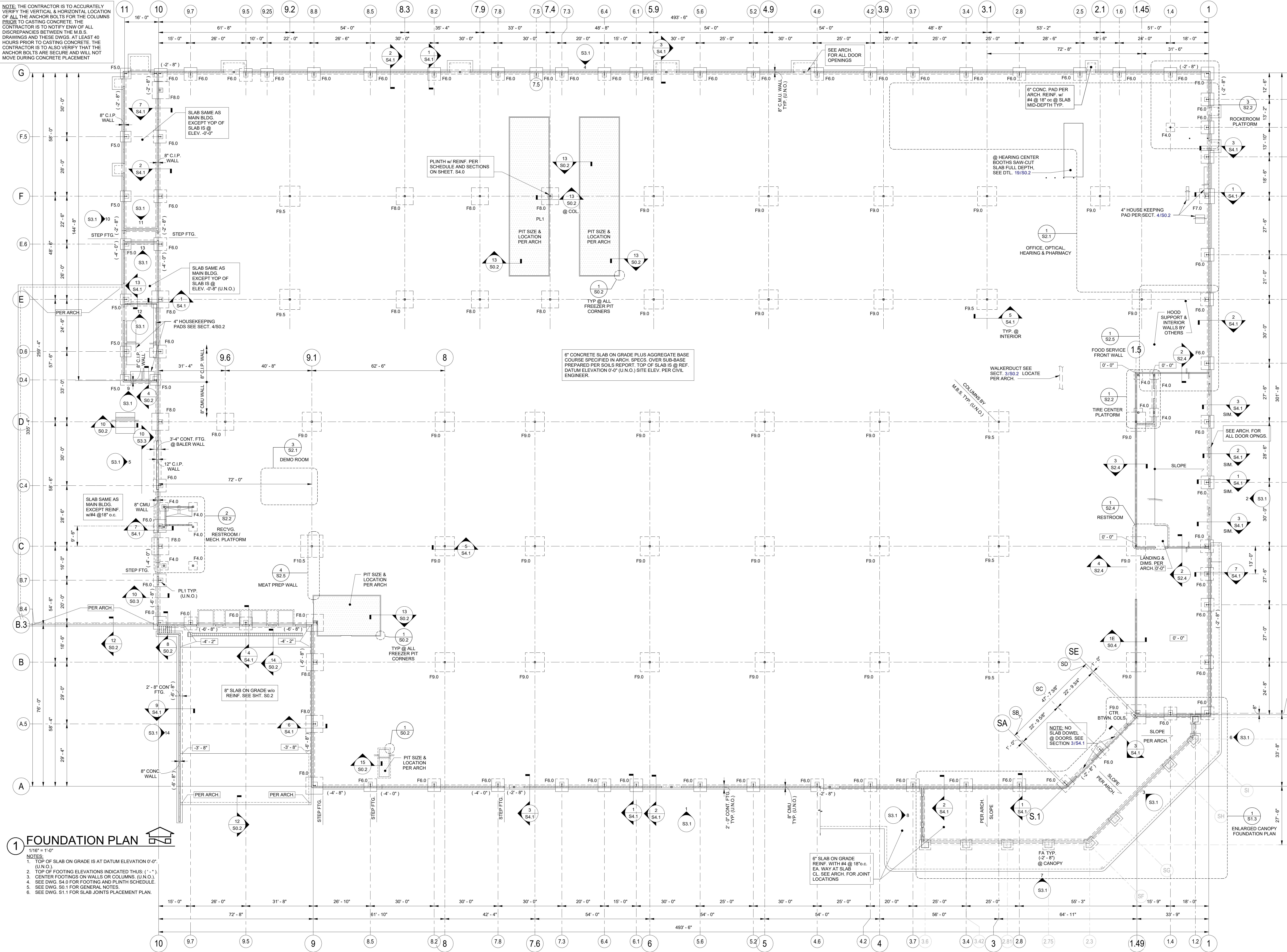
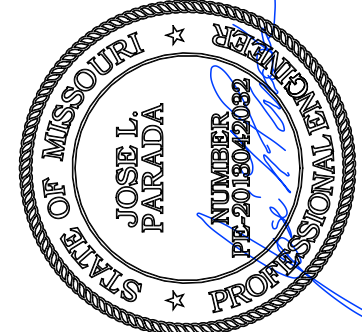
COSTCO | EE'S SUMMIT

NEC OF HWY 291 & QILDHAM PKWY | EE'S SUMMIT MO

JOB NO.	25063000
ENGINEER:	R. ZHU
DRAWN:	L. MARTINEZ
DATE:	11.17.25
SHEET NO.	

S0.3

NOTE: THE CONTRACTOR IS TO ACCURATELY VERIFY THE VERTICAL & HORIZONTAL LOCATION OF ALL THE ANCHOR BOLTS FOR THE COLUMNS PRIOR TO CASTING CONCRETE. THE CONTRACTOR IS TO NOTIFY ENW OF ALL DISCREPANCIES BETWEEN THE M.B.S. DRAWINGS AND THESE DWGS. AT LEAST 40 HOURS PRIOR TO CASTING CONCRETE. THE CONTRACTOR IS TO ALSO VERIFY THAT THE ANCHOR BOLTS ARE SECURE AND WILL NOT MOVE DURING CONCRETE PLACEMENT

[illegible]

DATE SIGNED: 12/22/2025

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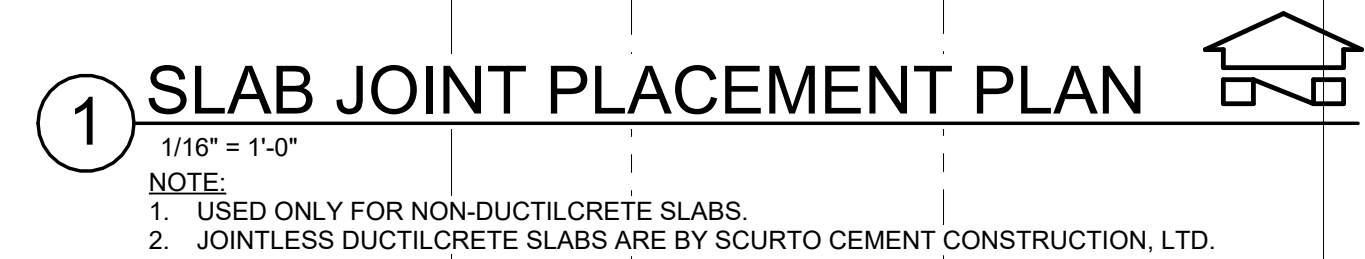


COSTCO WHOLESALE
COSTCO LEE'S SUMMIT

NEC OF HWY 291 & OLDHAM PKWY LEE'S SUMMIT, MO

SHEET CONTENTS:	FOUNDATION PLAN
NEC OF HWY	
JOB NO.	25063000
ENGINEER:	R. ZHU
DRAWN:	L. MARTINEZ
DATE:	11.17.25
SHEET NO.	

S1.0



JOB NO.	25063000
ENGINEER:	R. ZHU
DRAWN:	L. MARTINEZ
DATE:	11.17.25
SHEET NO.	

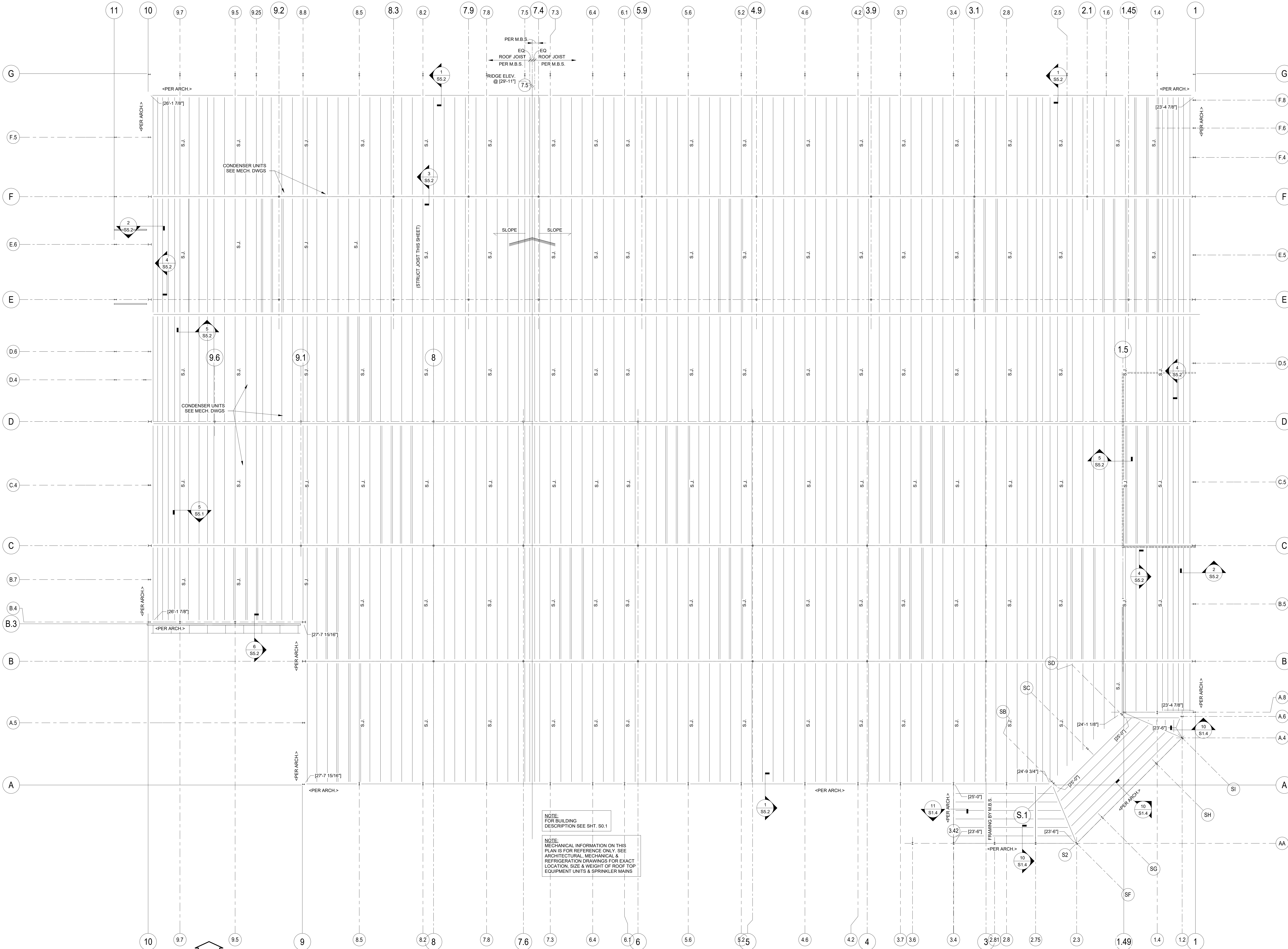
S1.1

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12/22/2025 6:15:47 PM

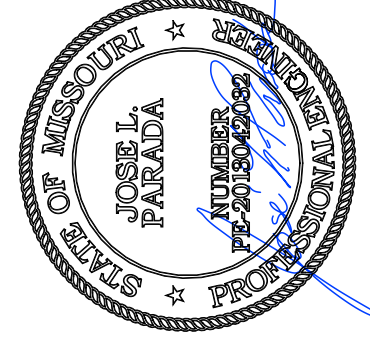
1 ROOF FRAMING PLAN

- 1/16" = 1'-0"
1. ["-.-"] INDICATES TOP OF FRAMING ELEVATION (BOTTOM OF DECK) ABOVE DATUM.
 2. < "-.-" > INDICATES TOP OF PARAPET ELEVATION ABOVE DATUM.
 3. CONTRACTOR AND TRUSS SUPPLIER TO VERIFY MUU WEIGHTS AND LOCATIONS.
 4. SEE ARCH. DWGS. FOR LOCATION & SIZES OF FIRE SPRINKLER MAINS.
 5. SEE ARCH. DWGS. FOR LOCATION & WEIGHT OF ROOF MOUNTED MECH. UNITS.
 6. ◆ INDICATES WALL BRACING BY M.B.S.



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SHEET
CONTENTS: ROOF FRAMING PLAN

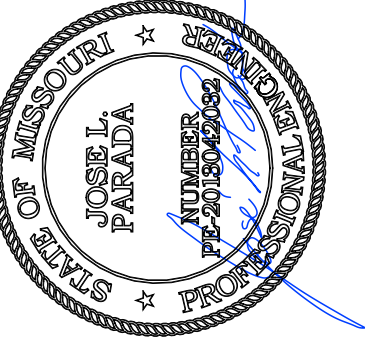
JOB NO.	25063000
ENGINEER	R. ZHU
DRAWN	L. MARTINEZ
DATE	11.17.25
SHEET NO.	

S1.2



NOTES:

1. TOP OF SLAB ON GRADE IS AT DATUM ELEVATION 0'-0". (U.N.O.)
2. TOP OF FOOTING ELEVATIONS INDICATED THUS: (' - ").
3. CENTER FOOTINGS ON WALLS OR COLUMNS. (U.N.O.)
4. SEE DWG. S4.0 FOR FOOTING AND PLINTH SCHEDULE.
5. SEE DWG. S0.1 FOR GENERAL NOTES.

[illegible][illegible]

DATE SIGNED: 12/22/2025



SHEET
CONTENTS:



COSTCO LEE'S SUMMIT
NEC OF HWY 291 & OLDHAM PKWY LEE'S SUMMIT, MO

JOB NO.	25063000
ENGINEER:	R. ZHU
DRAWN:	L. MARTINEZ
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SHEET NO.	

S1.3

WALL STUD WIDTH SCHEDULE	
MARK	STUD WIDTH
⑥	6"
⑧	8"

NOTES:

1. ALL WALLS ARE 3 5/8" UNLESS NOTED PER MARK ABOVE.
2. SEE LIGHT GAGE PARTS SCHEDULE FOR GAGE AND MINIMUM PROPERTIES.

JOIST MARK	JOIST TYPE	JOIST SPACING
J1	8" x 1 5/8" x 16GA.	48" oc
J2	8" x 1 5/8" x 16GA.	16" oc
J3	8" x 2" x 14GA.	12"oc

SCHEDULE	
	NOTES:
CREWS @ 16"oc	
CREWS @ 16"oc	1. WHERE BEAM IS USED IN WALL BOTTOM TRACK MAY BE TURNED FLANGE DOWN FOR WALL STUDS.
CREWS @ 16"oc	2. SEE LIGHT GAGE PARTS SCHEDULE FOR MINIMUM PROPERTIES AND REMAINDER OF DETAILS.
CREWS @ 16"oc	3. SEE APPLICABLE SECTIONS FOR CONNECTIONS EACH END.
@ 4"oc SEE NOTE #4	4. #12 SCREWS REQUIRED FOR ALL 12GA MEMBERS
@ 4"oc SEE NOTE #4	

PARTS SCHEDULE					
MINIMUM PROPERTIES				*APPROVED SUPPLIERS & TH	
	S(in.†)	A(in.†)	ry	SSMA I.C.C. ESR-3064P	
7	4.14	0.78	1.74	(2)1200S200 - 54 (50ksi)	
	0.43	0.37	0.37	400T125 54 (50ksi)	
2	5.07	1.68	0.61	1200S200 - 97 (50ksi)	
0	2.46	1.34	1.39	(2)800S162 - 54 (60ksi)	
5	3.00	1.45	1.67	(2)800S200 - 54 (50ksi)	
	1.16	0.59	0.31	800T125 - 54 (50ksi)	
	1.43	0.67	0.54	800S162 - 54 (50ksi)	
	1.16	0.59	0.31	800T125 - 54 (50ksi)	
	2.03	0.80	0.69	800S200-68 (50ksi)	
	0.38	0.35	0.37	362T125 - 54 (50ksi)	
	0.67	0.62	0.36	362T125 - 97 (50ksi)	
	0.38	0.35	0.37	362T125 - 54 (50ksi)	
	0.30	0.26	0.61	362S162 - 33	
	0.76	0.48	0.34	600T125 - 54 (50ksi)	
	0.76	0.48	0.34	600T125 - 54 (50ksi)	
	0.60	0.34	0.58	600S162 - 33	
	0.77	0.45	0.58	600S162 - 43	
	0.71	0.413	0.55	800S162 - 33 (33ksi)	
	1.16	0.59	0.31	800T125 - 54 (50ksi)	
	---	---	---	---	
	---	---	---	STRAP WIDTH PER WALL	
	---	---	---	BRACING SCHEDULE	
	---	---	---	STRAP WIDTH PER CEILING	
	---	---	---	BRACING SCHEDULE	
	---	---	---	---	
5	0.184	---	---	VERCO TYPE HSB-SS I.C.C. E8-2078	WHEEL TYPE HSB I.C.C. ESR- 1676
	---	---	---	HILTI	w/ 5/16" M HEAD
	---	---	---	HILTI	w/5/16" M HEAD
	---	---	---	HILTI	---
	---	---	---	HILTI	6"oc EDGES 12"oc FIELD
	---	---	---	HILTI	I.C.C. ESR-1676
	---	---	---	---	

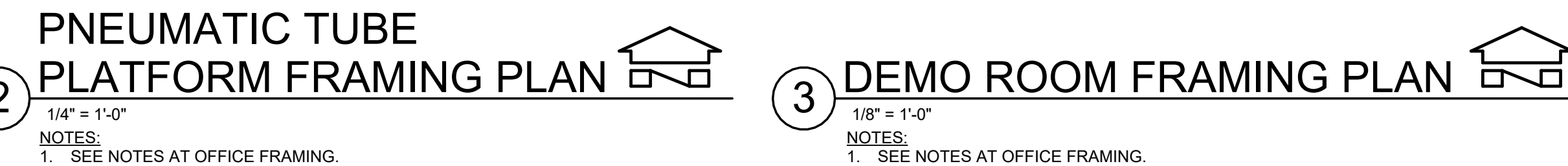
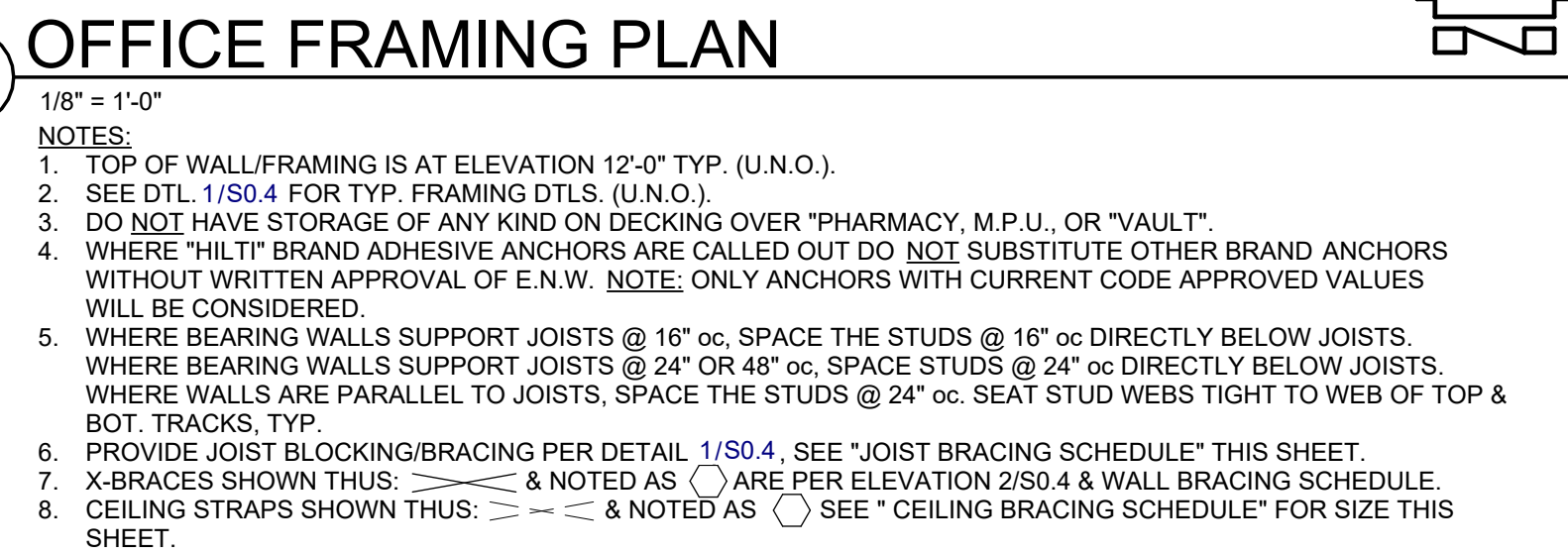
MARK	STRAP/CRC (50 x 3.1)	NUMBER OF SCREWS		
		GUSSET TO TRAP	GUSSET TO STRAP	STRAP SPLICE
A	1 1/2" x 16GA.	2	2	2
B	2" x 16GA.	3	3	3
C	3" x 16GA.	4	4	4

NOTES:
 1. SCREWS MUST BE PLACED AT LEAST 3/4" APART AND MUST BE 3/4" FROM EDGE OR END OF ALL METAL PIECES.
 2. FOR BALANCE OF INFO. SEE SECTION 1/50.4

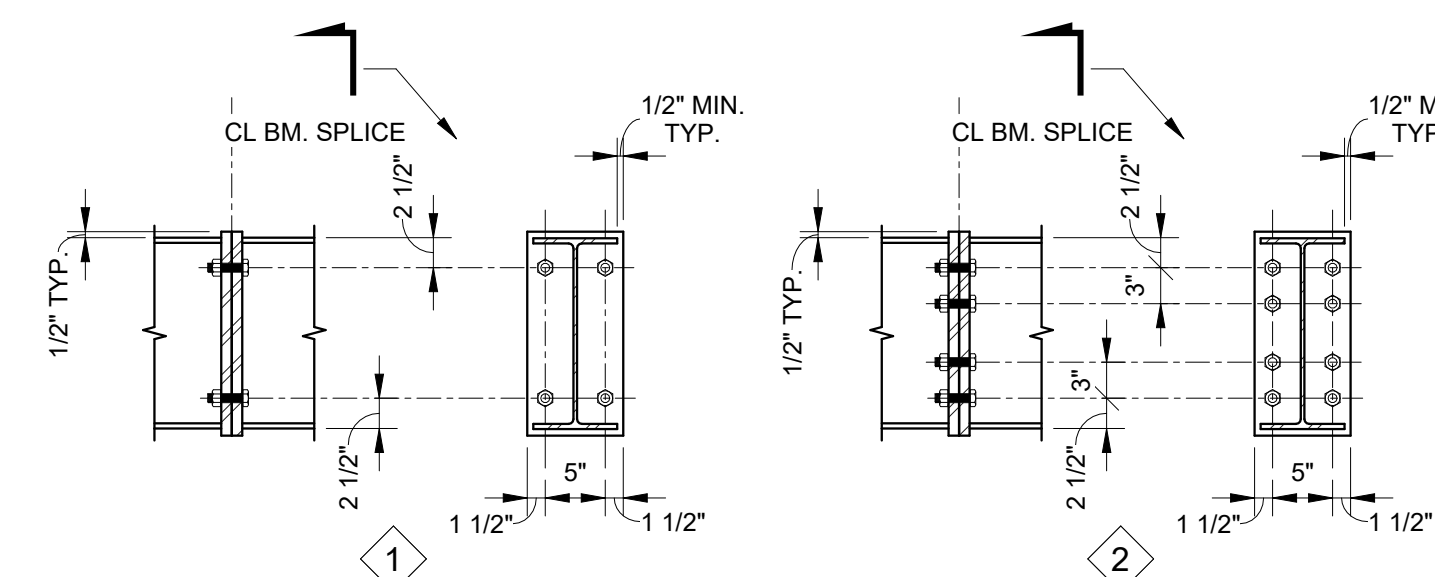
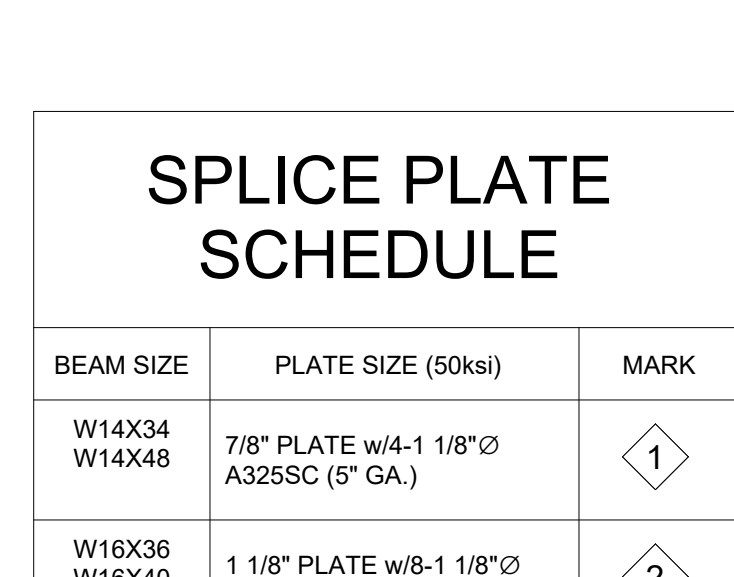
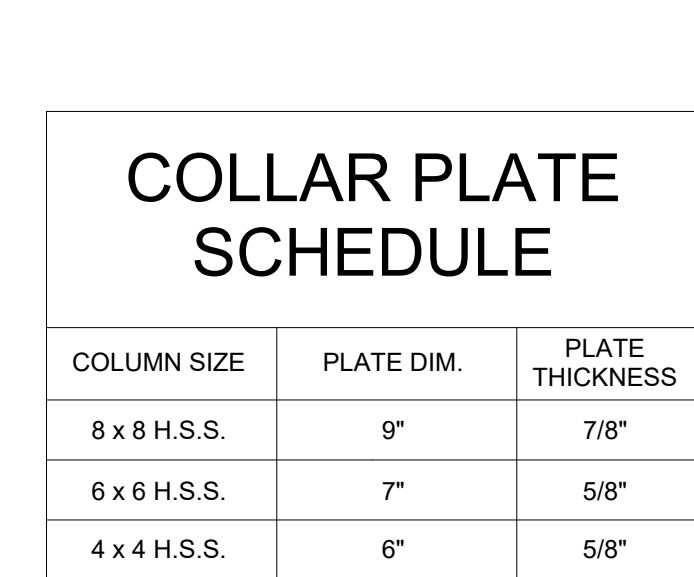
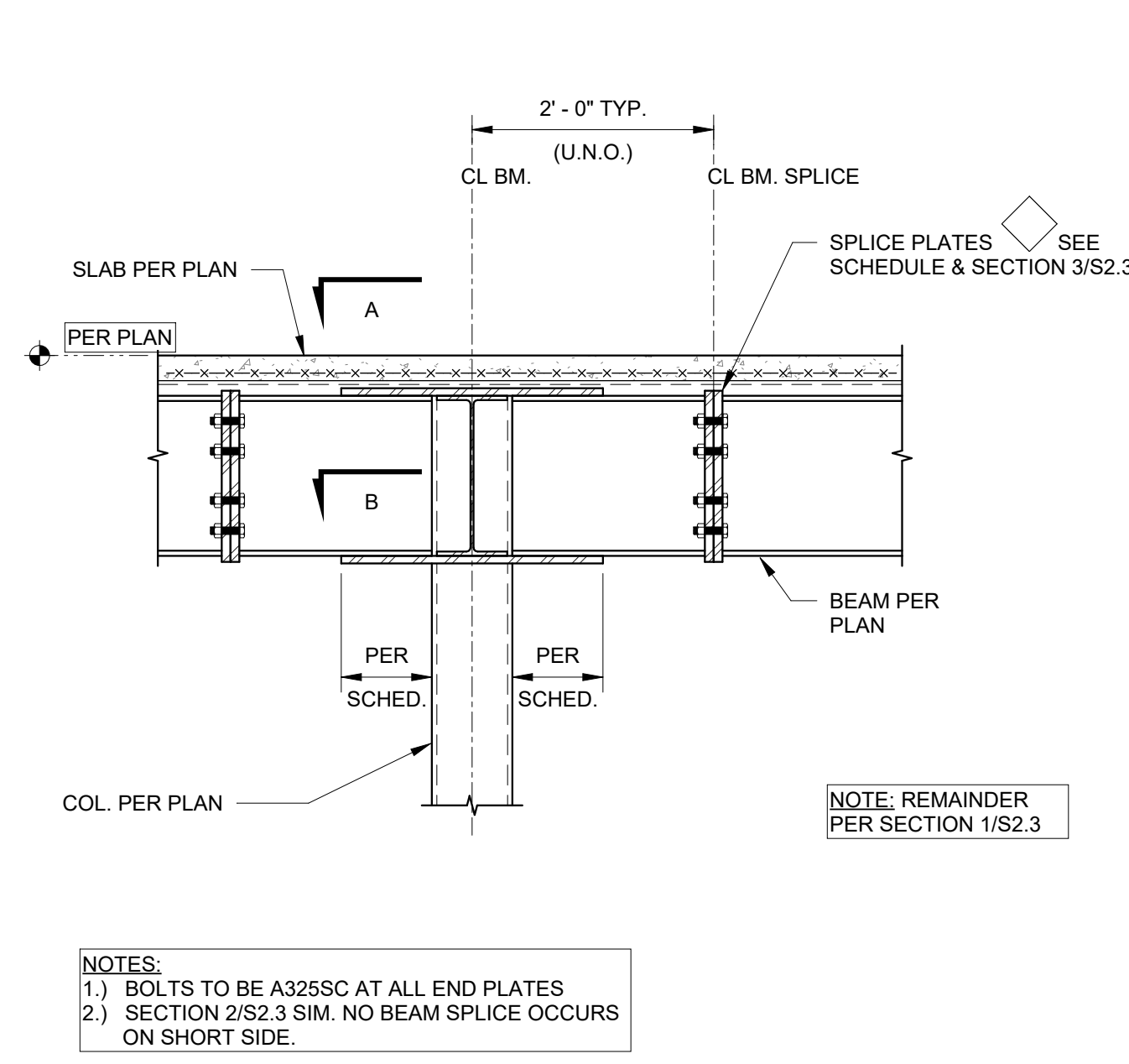
JOIST SPAN	TOP AND BOTTOM FLANGE BRACING
AND INCLUDING 10'	NONE
AND INCLUDING 14'	ONE ROW AT MID-SPAN
AND INCLUDING 18'	TWO ROWS AT THIRD SPANS
AND INCLUDING 21'	THREE ROWS AT QUARTER SPANS

16GA. FLAT STRAP ON TOP & BOT. OF JOIST. OMIT TOP STRAP R/S FOR ALTERNATE TO STRAP BRACING USE 1 1/2" CRD ON T/ASTEN TO EA. JOIST w/2 SCREWS (1 TOP & 1 BOT.)
 C/SIG AS NOTED ABOVE EXCEPT WHEN NOTED OTHERWISE ON C/SIG

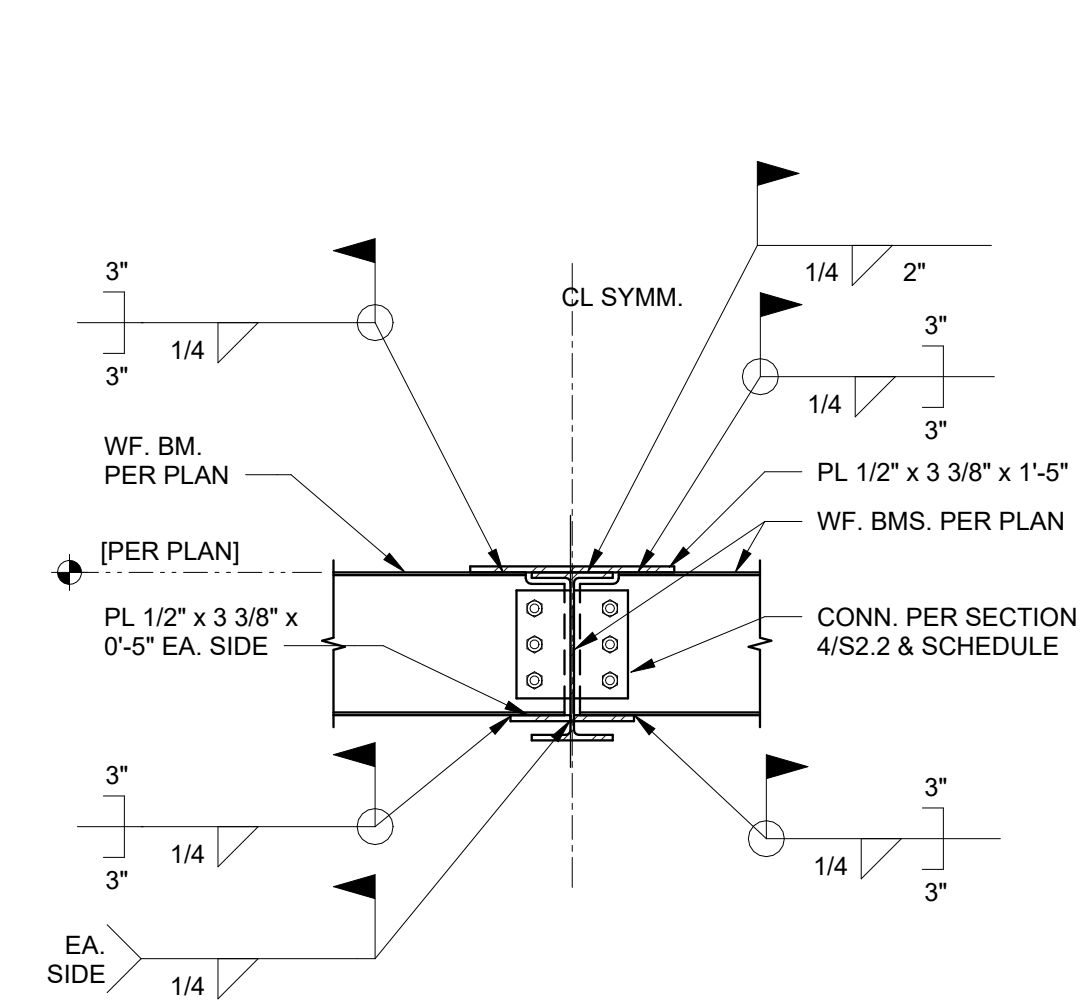
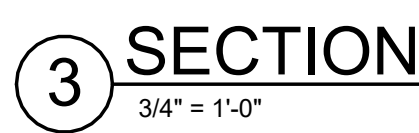
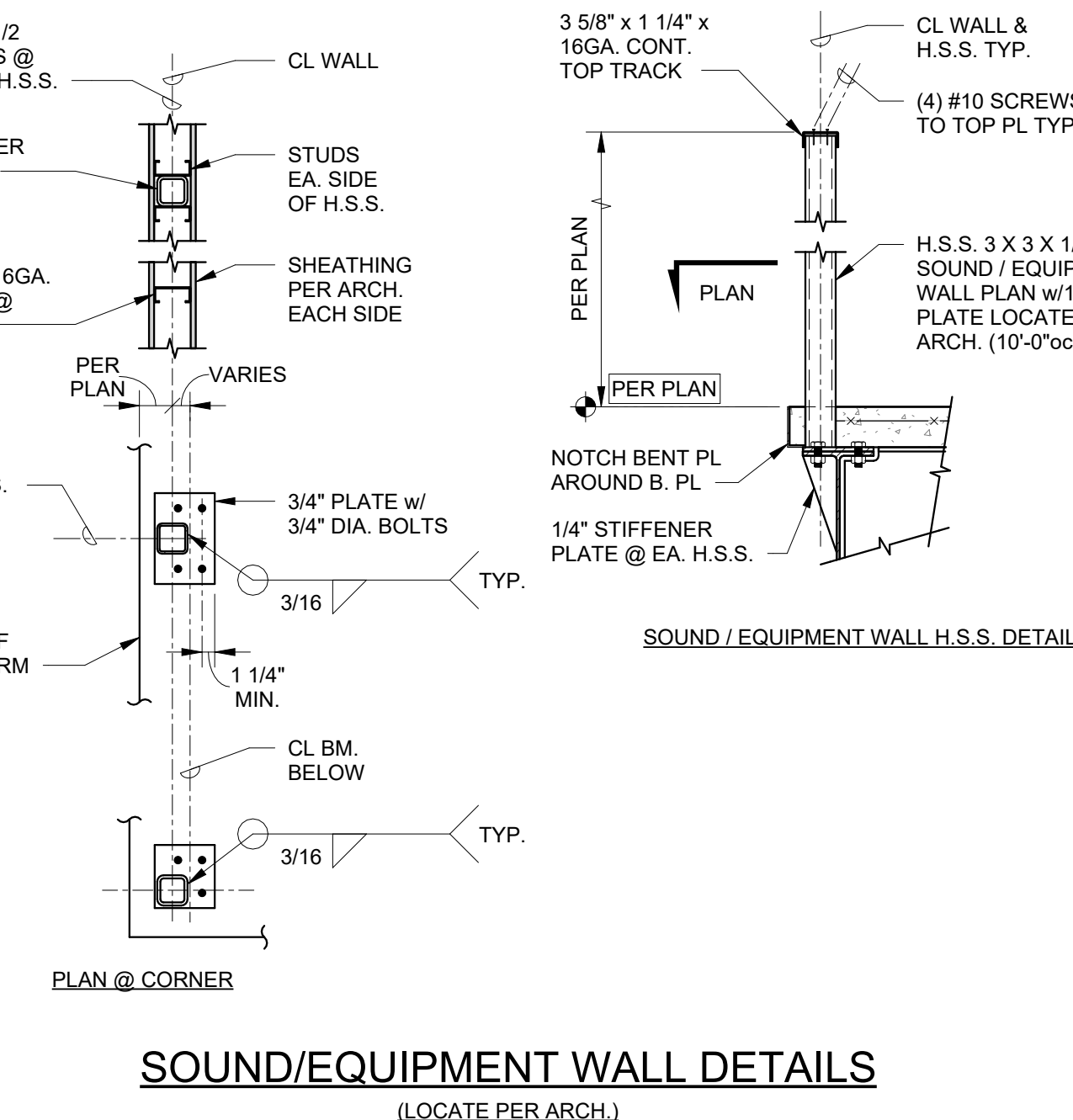
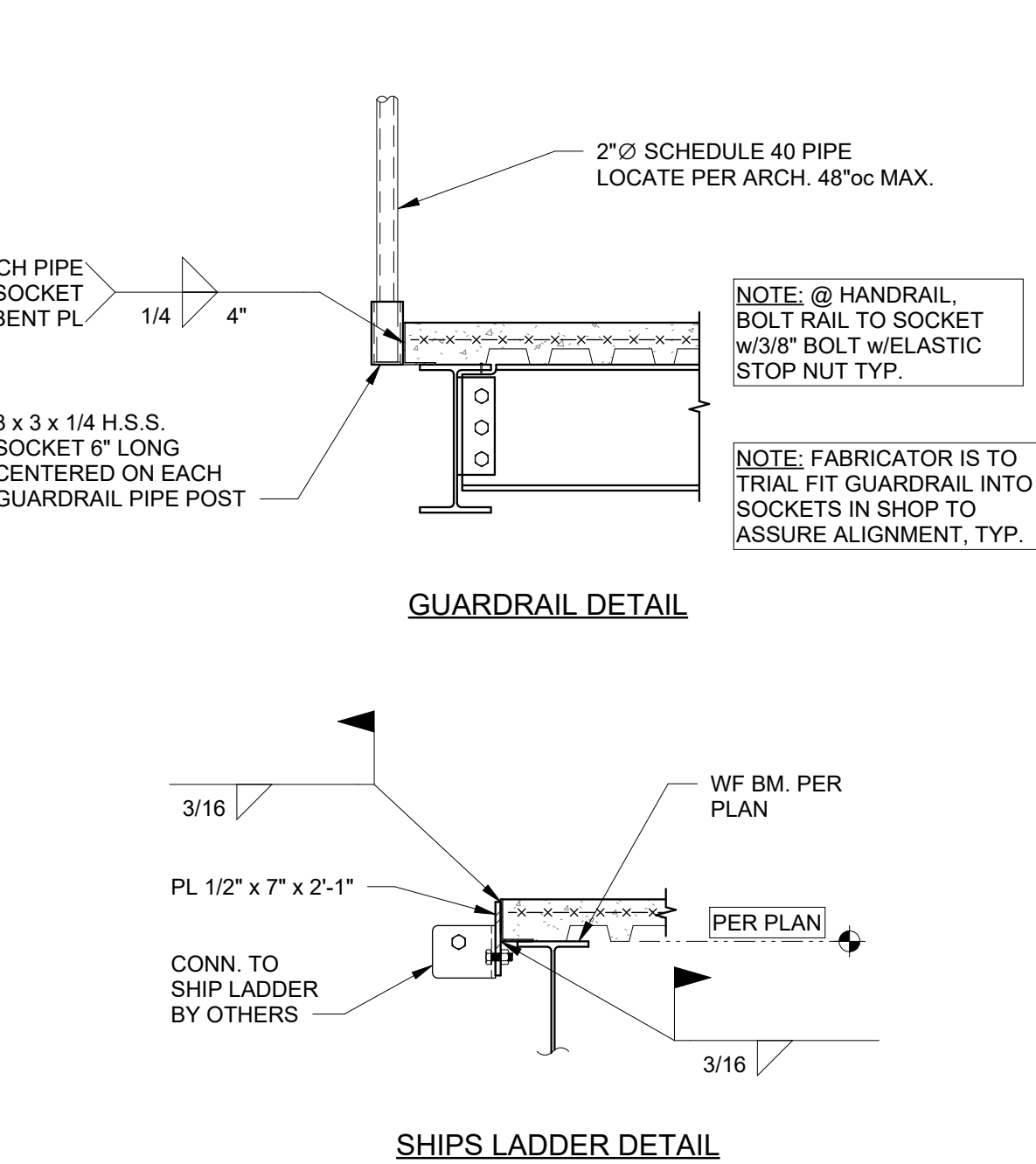
C/SIG 4 FOR DETAILS AND EXCEPTIONS.

[illegible]

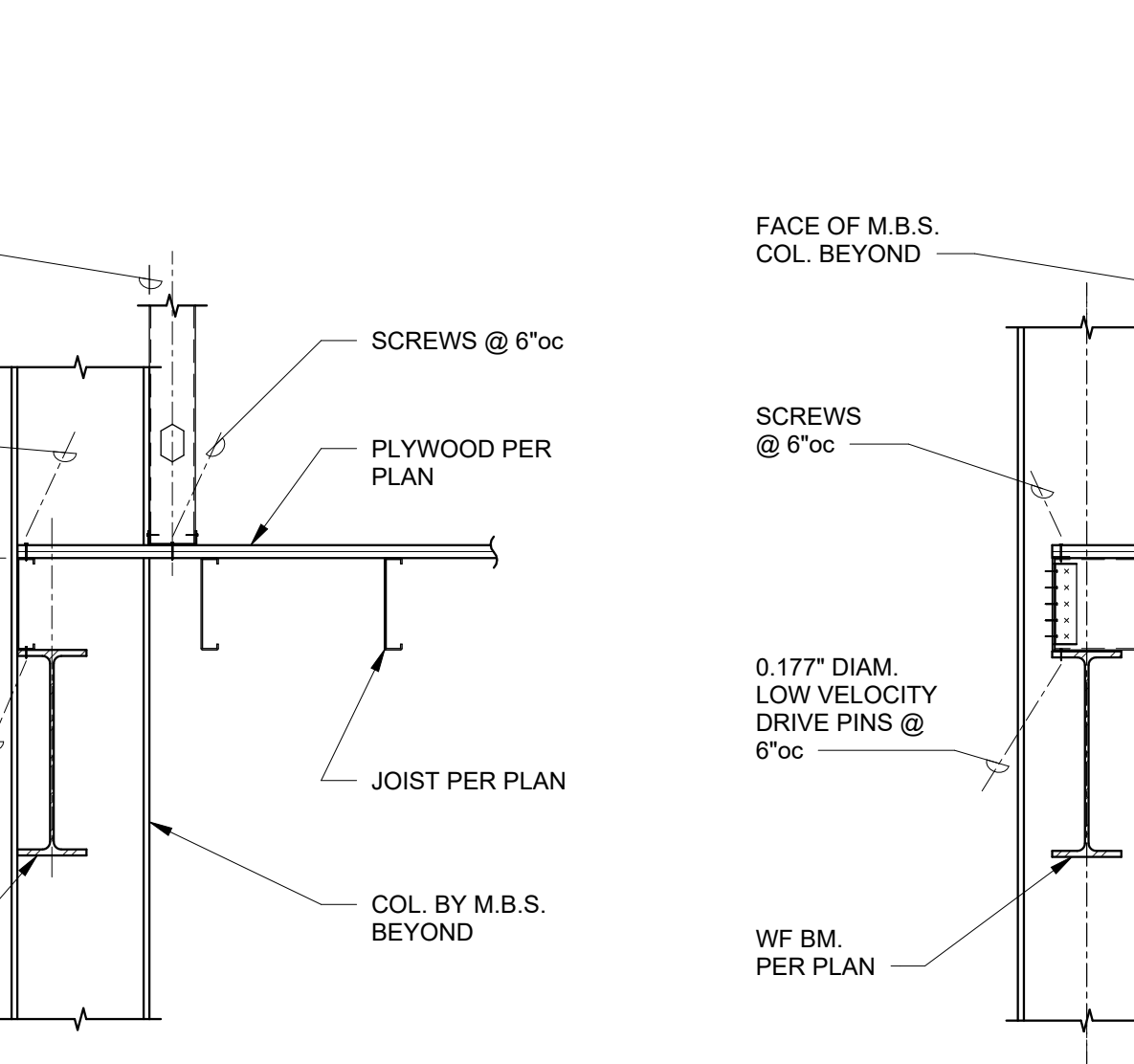
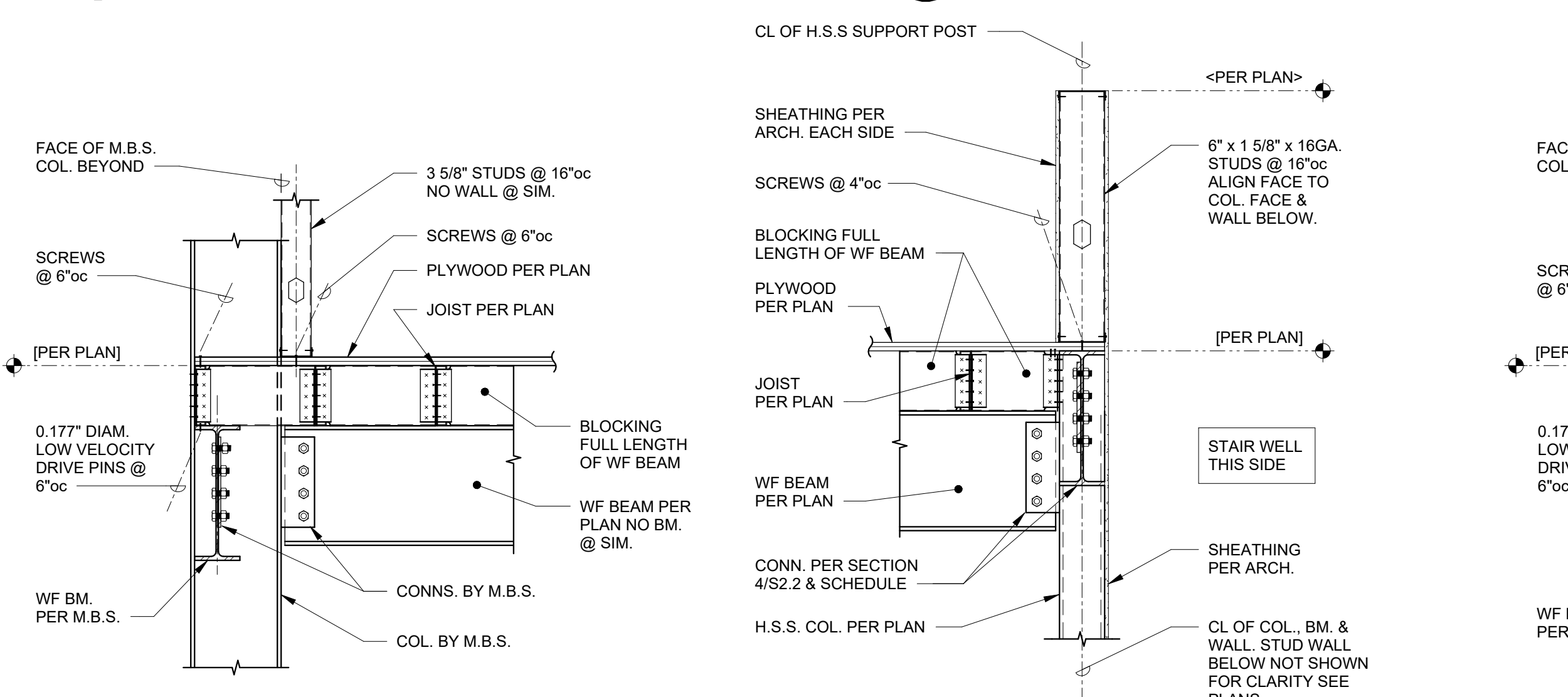
JOB NO.	25063000
ENGINEER:	R. ZHU
DRAWN:	L. MARTINEZ
DATE:	11.17.25
SHEET NO.	
S2.1	



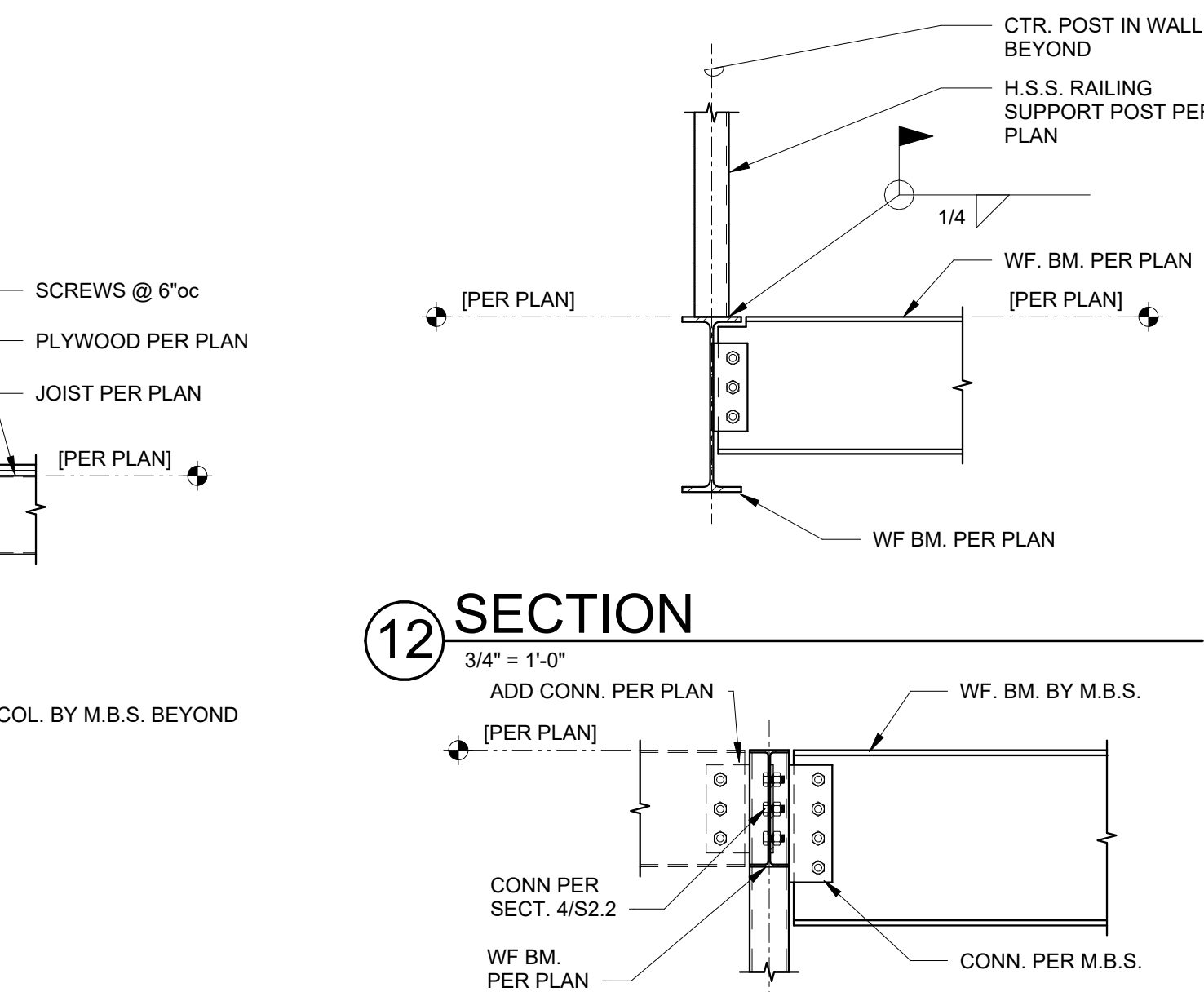
2 SECTION
3/4" = 1'-0"



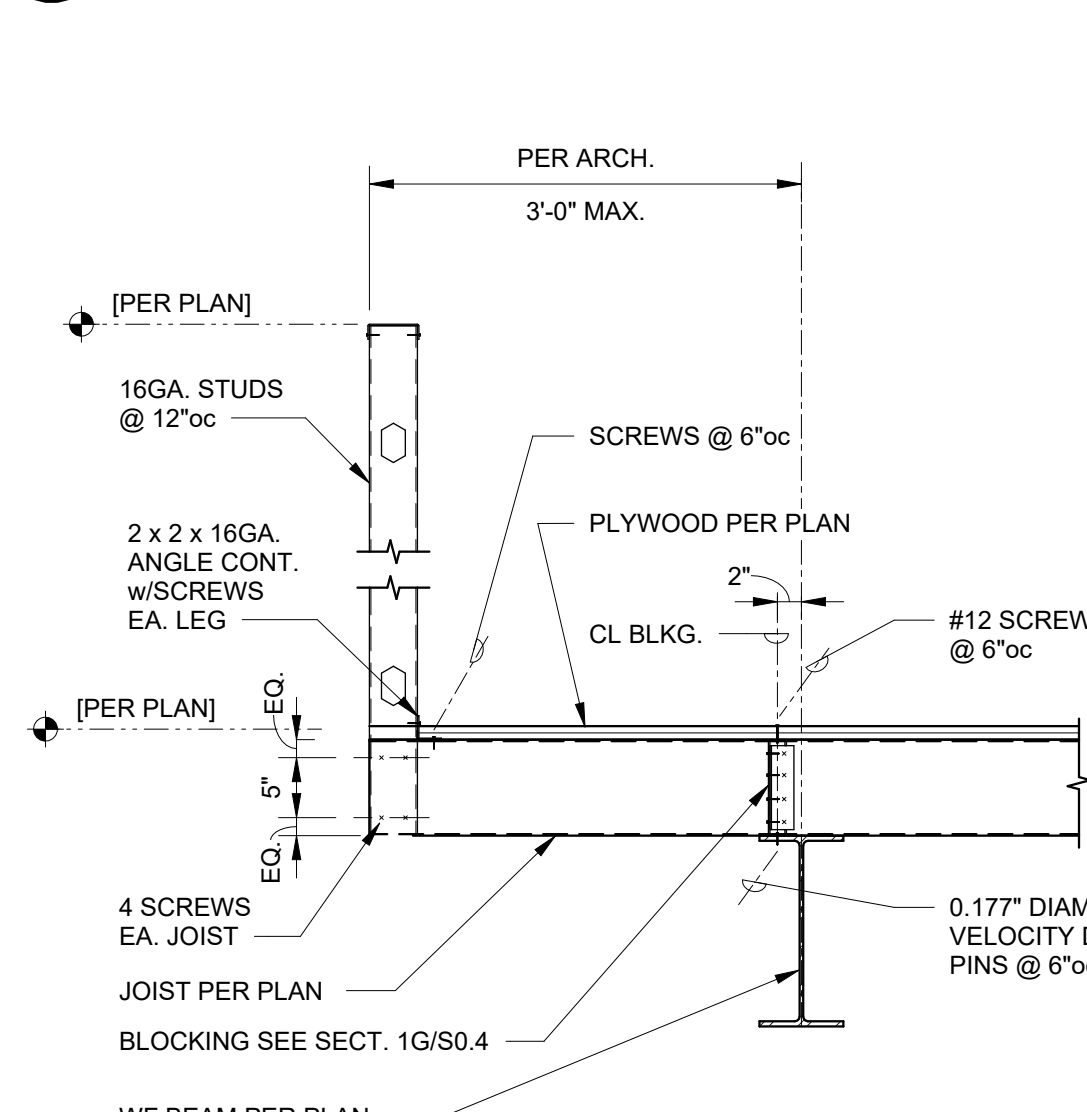
5 SECTION
3/4" = 1'-0"



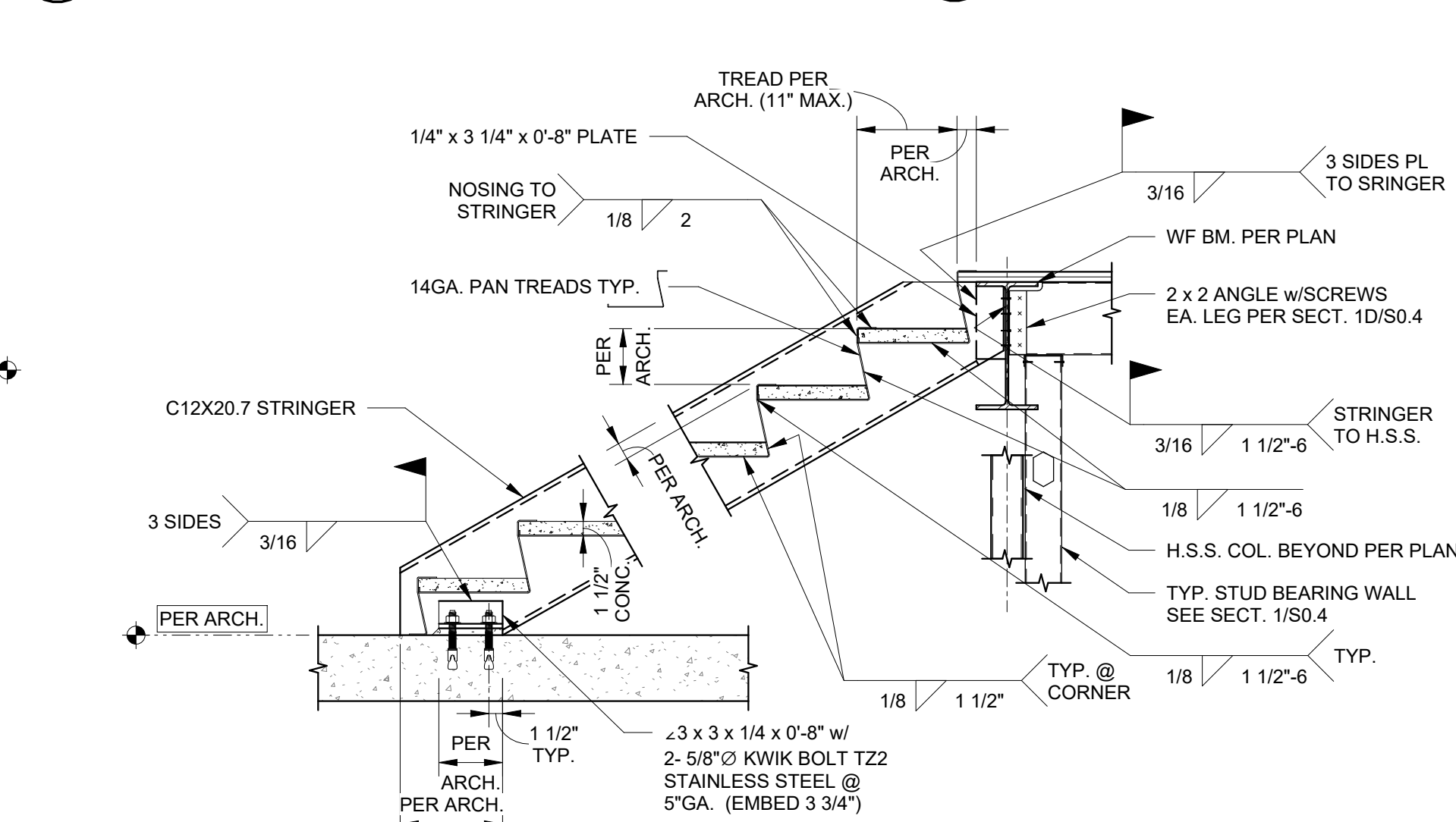
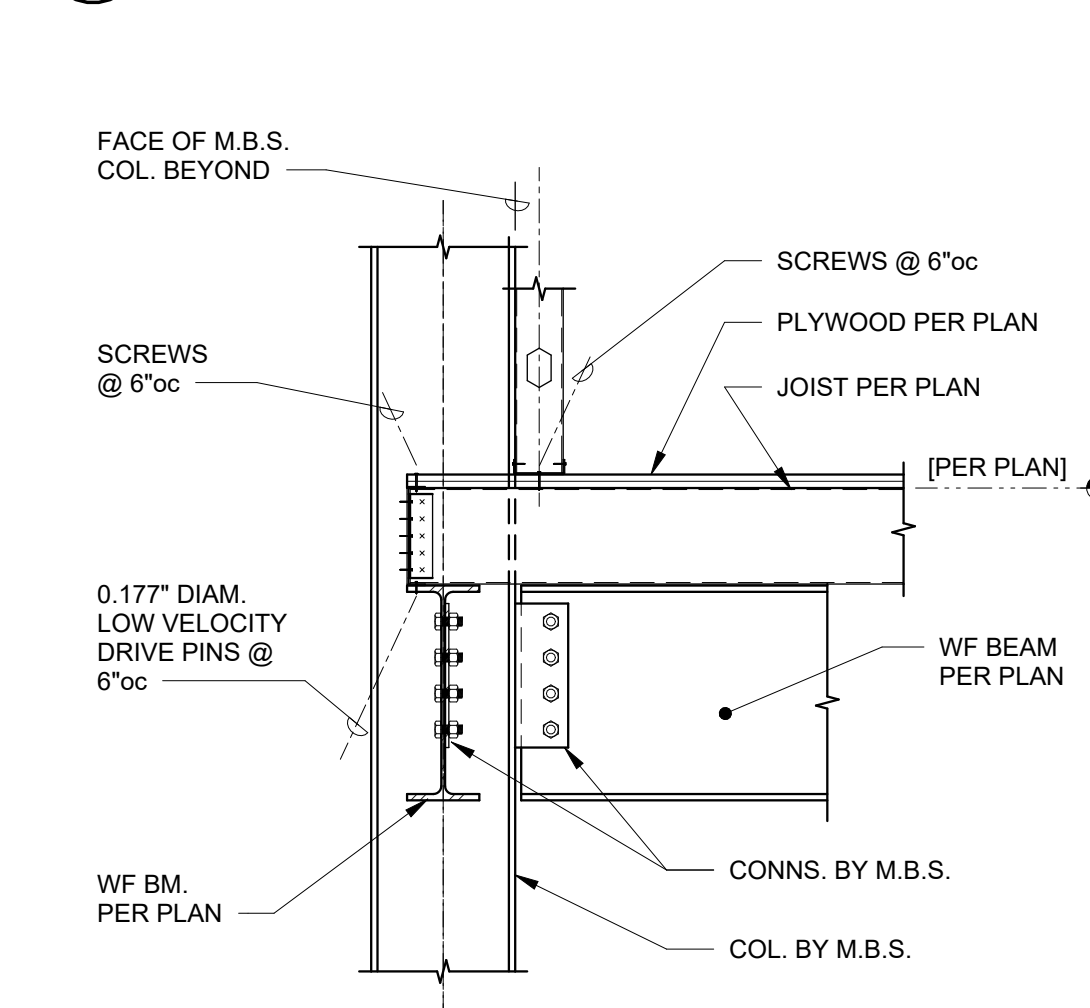
6 SECTION
3/4" = 1'-0"



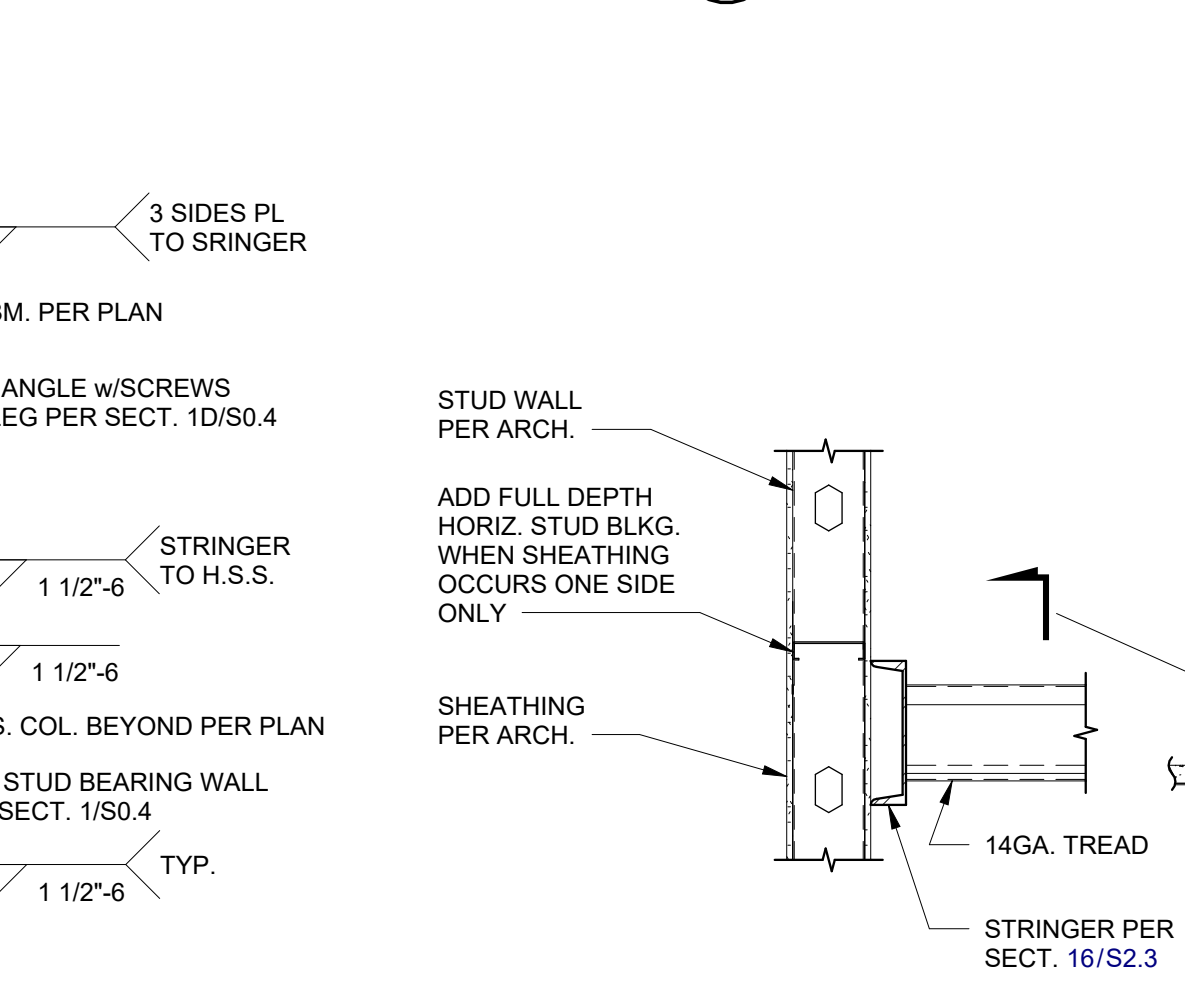
7 SECTION
3/4" = 1'-0"



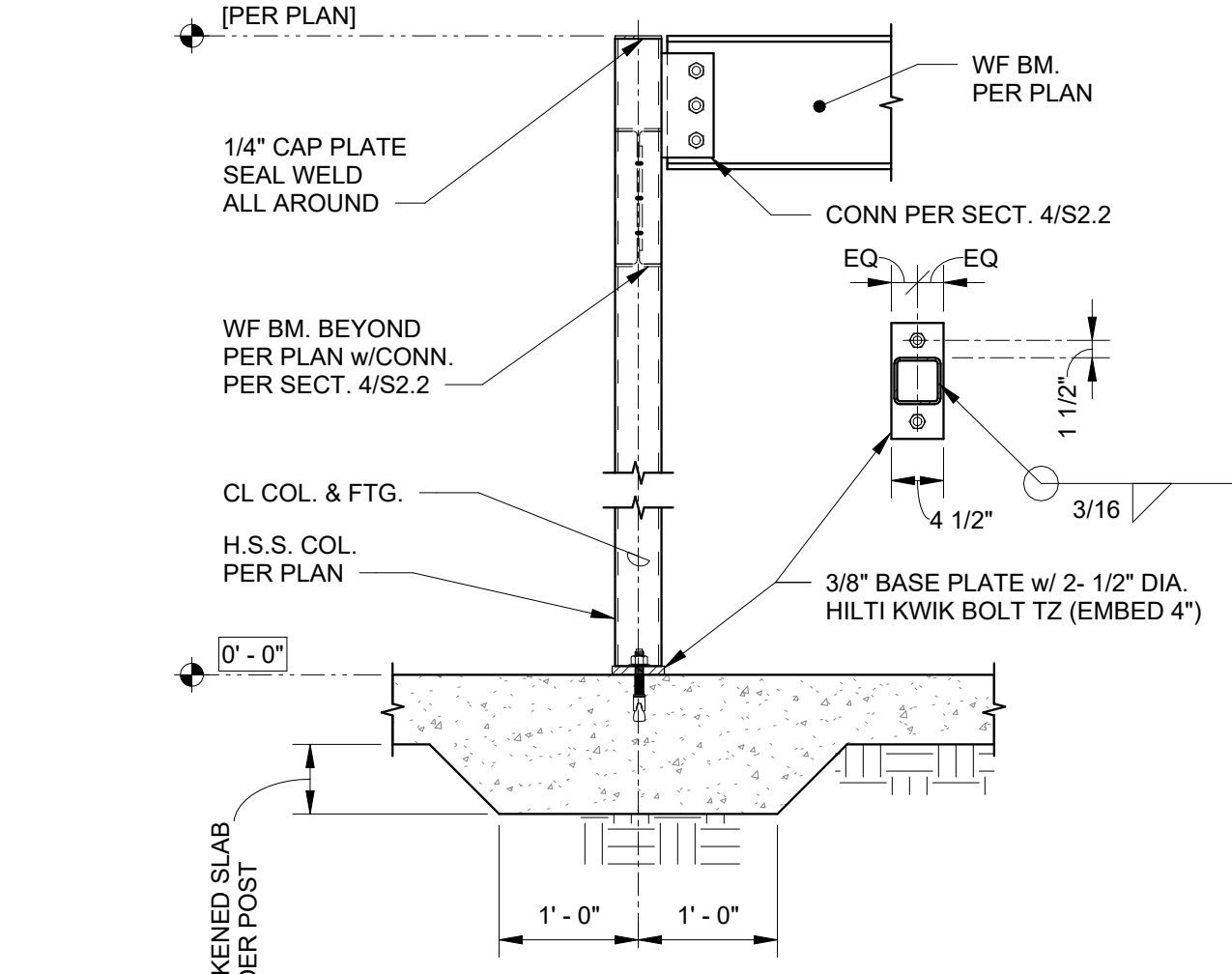
9 SECTION
3/4" = 1'-0"



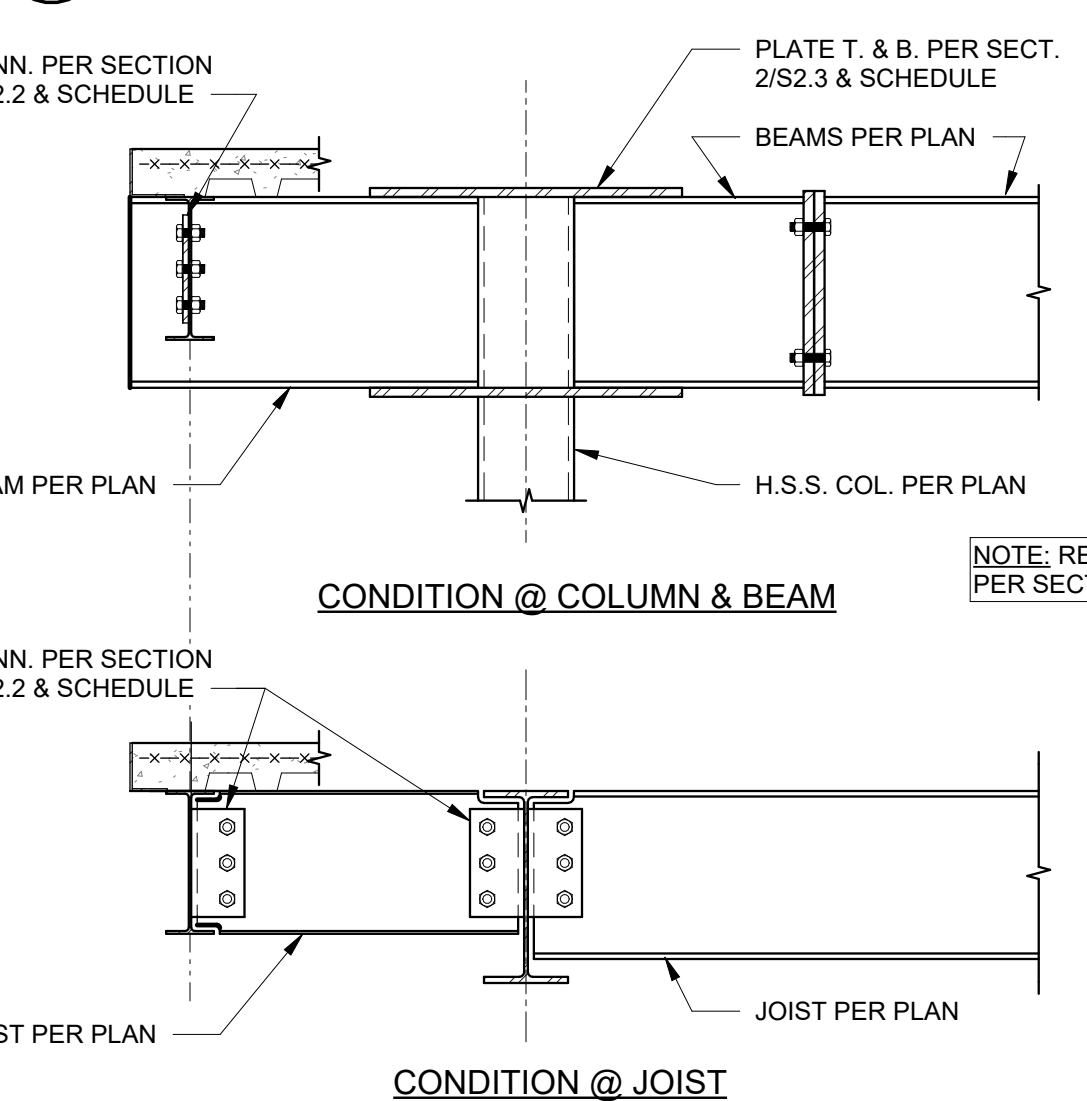
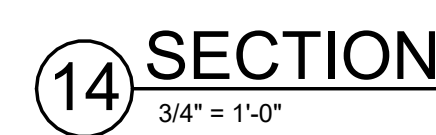
10 SECTION
3/4" = 1'-0"



11 SECTION



13 SECTION
3/4" = 1'-0"

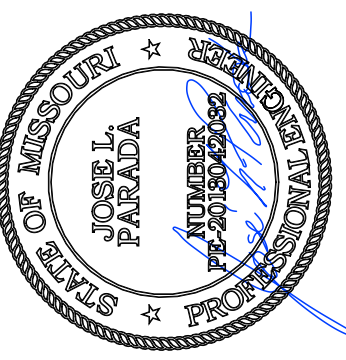


16 SECTION
3/4" = 1'-0"



18 SECTION

19 SECTION

[illegible][illegible]

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COSTCO WHOLESALE
COSTCO LEE'S SUMMIT

NEC OF HWY 291 & OLDHAM PKWY LEE'S SUMMIT, MO

JOB NO.	25063000
ENGINEER:	R. ZHU
DRAWN:	L. MARTINEZ
DATE:	11.17.25
SHEET NO.	

S2.3

[illegible]

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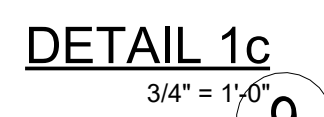
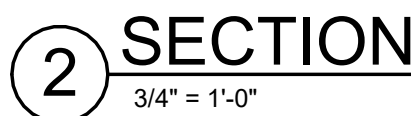
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S2.4



CONCRETE REINFORCING SPLICE SCHEDULE		
BAR SIZE	3000 PSI LAP	4000 PSI LAP
#3	20"	17"
#4	26"	23"
#5	33"	28"
#6	39"	34"
#7	57"	49"
#8	65"	56"
#9	73"	63"
#10	82"	71"
#11	91"	79"





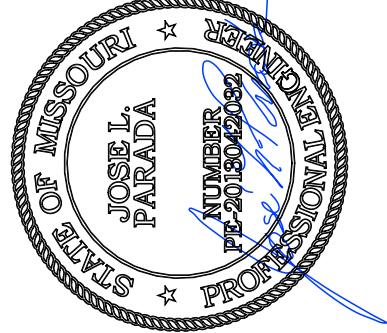
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S3.3

1 PLINTH INFORMATION
3/4" = 1'-0"

PLINTH SCHEDULE		
MARK	SIZE	COUNT
PL1	24" x 24"	86

NOTE: PL2 IS FOR THE WARM WEATHER BLDG. CONFIGURATION AND MAY NOT APPEAR ON PLAN.

[illegible]

SHEET
CONTENTS

PLINTH SECTIONS, PLINTH SCHEDULE AND FOOTING SCHEDULE

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S4.0	



1 SEC
3/4" = 1'-0"

2 SEC
3/4" = 1'-0"

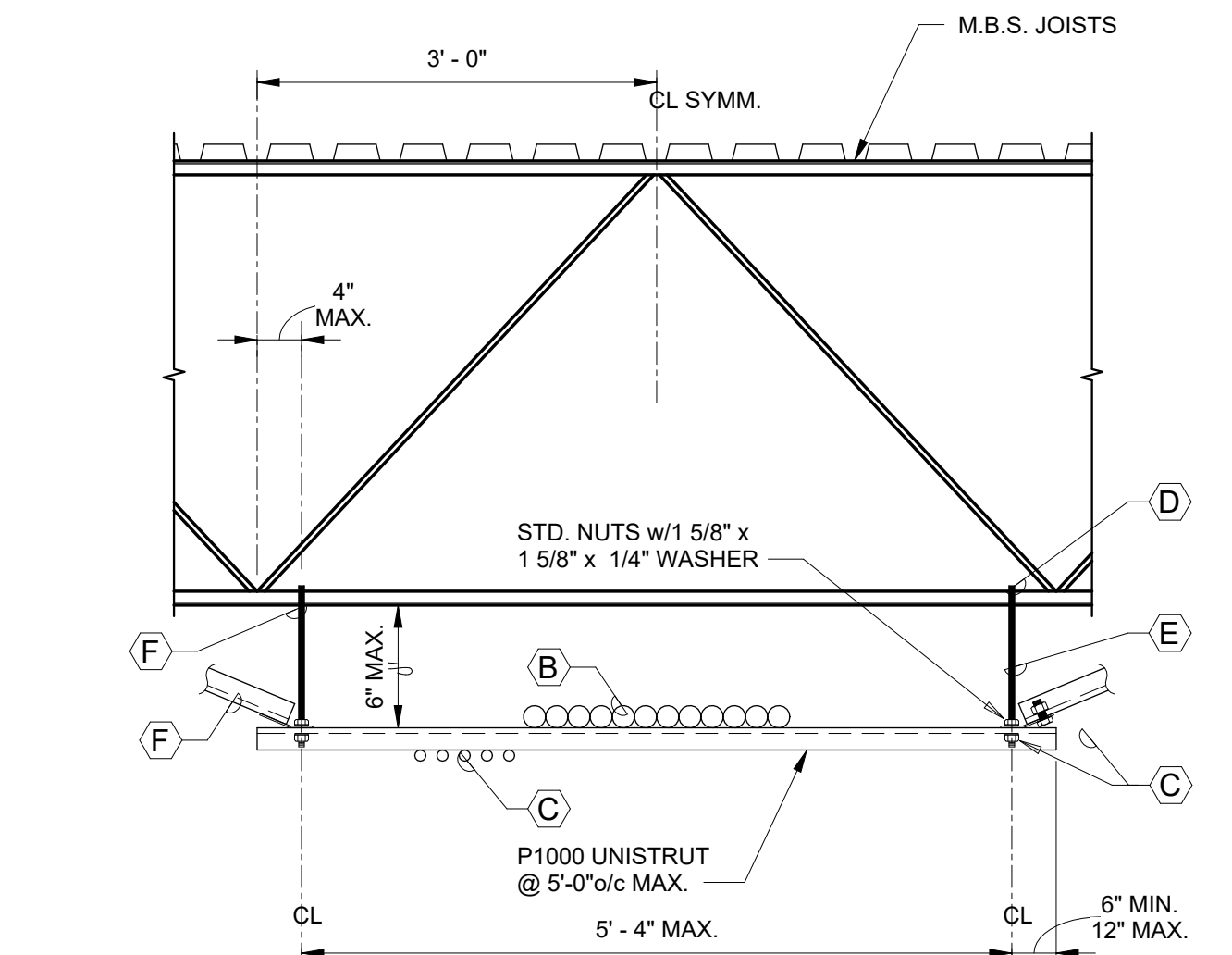
3 SEC
3/4" = 1'-0"

④ SEC
3/4" = 1'-0"

[illegible]

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S4.2



3/4" = 1'-0"

THIS WIND
SPEED APPLIES

NOTES:

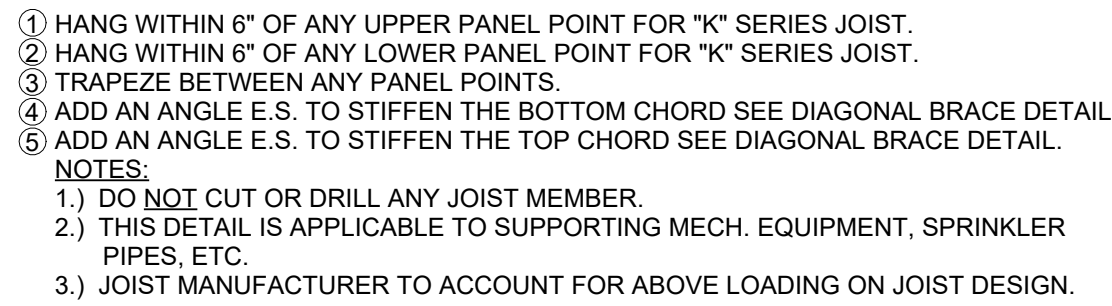
- 1.) SEISMIC DESIGN: $S_s=3.0$, $S_1=1.5$, $I_p=1.0$, $F_p=1.0W_p$ (LRFD)
- 2.) WIND DESIGN: EXPOSURE C, RISK CATEGORY II, $K_d=0.85$
- 3.) NUMBER OF HOLD DOWN ARE THE REQUIRED HOLDDOWN AT EA. LONG SIDE OF UNIT. UPLIFT LOAD SHOWN ARE LRFD FACTORED LOAD AT EACH CORNER OF UNIT.
- 4.) ANCHOR CONNECTION STRENGTH=607lbs. (LRFD).

MECHANICAL UNITS				
TONS	LENGTH	WIDTH	HEIGHT	CURB
1-6	6'-10"	3'-8"	3'-9"	1'-2"
6-10	6'-10"	3'-8"	3'-8"	1'-2"
9-15	7'-4"	4'-11"	4'-2"	1'-2"
16-30	9'-2"	9'-2"	4'-11"	1'-2"

MARK	SIZE	NOTES
(A)	BOTTOM CONNECTION TO UNISTRUT	STANDARD THICKNESS CHANNEL NUT w/ ALL-THREAD EXTEND 1/4" PAST NUT. FOR BOTTOM CONN.
(B)	REFRIGERATION LINES	MAXIMUM OF 22 REF. LINES @ 92 P.L.F. MAX. LOAD PARALLEL TO JOISTS, & 13 REF. LINES @ 70 P.L.F. MAX. LOAD PREP. TO JOISTS. SECURING REFRIGERATION PIPING TO THE UNISTRUTS IS BY OTHERS.
(C)	ELECTRICAL CONDUIT	ATTACHED ELECTRICAL CONDUIT IS NOT TO EXCEED 30 P.L.F. PARALLEL TO JOIST & 19 P.L.F. PERPENDICULAR TO JOIST
(D) *	CONNECTION TO JOISTS	XP35 SAMMY BOLT @ TRUSS PURLING. BOLT THRU DBL. ANGLE @ O.W.S.J.
(E)	ALL-THREAD HANGER RODS	3/8" A36 ALL-THREAD (TYP. I.N.O.) LOAD TO JOIST + 2500ROD @ 5-0" OC AT REF. LINES PARALLEL TO JOIST & 2500ROD @ 5-0" OC AT REF. LINES PERP. TO JOIST. HANGER ROD MUST OCCUR WITHIN 4" OF THE JOIST BOTTOM CHORD PANEL POINTS - NO EXCEPTIONS.
(F)	P1000 UNISTRUT BRACES	(IN PAIRS) w/ P1843 ADJUSTABLE HINGE CONNCS. EACH END. HINGE CONN. TO BRACE USE STD. 1/2"x 1-13 STD. CHANNEL NUT & HEX-HEAD CAP SCREW. TORQUE TO 50 FT. LBS. SPACE BRACES @ 36'-0" max. ALONG JOISTS' BRACES MUST BE PLACED PERPENDICULAR TO JOISTS (90°) BRACES TO OCCUR WITHIN 4" OF BOTTOM CHORD PANEL POINTS. USE MARK ϕ FOR BRACE TO HINGE.

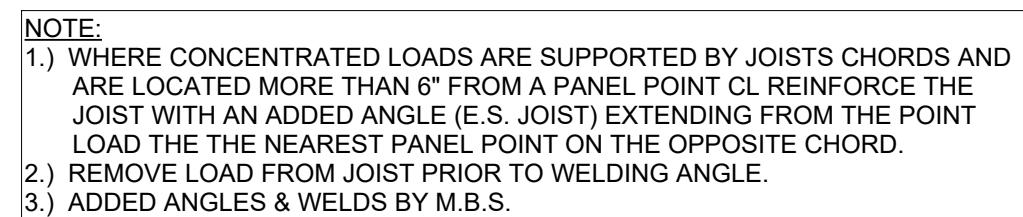
NOTE:

- 1) PROVIDE BRACES PARALLEL TO JOIST IN OPPOSING PAIRS. LOCATED BRACES AT EACH BRACE THAT IS PERPENDICULAR TO JOISTS.
- 2) THE INSTALLING CONTRACTOR SHALL SUBMIT SEISMIC BRACE ASSEMBLY COMPONENT SELECTIONS TO THE ENGINEER OF RECORD FOR REVIEW (AT LEAST 14 DAYS) PRIOR TO PURCHASE OR INSTALLATION.
- 3) COMPONENT SUBSTITUTION OF NUSG-LISTED, OSHPD PRE APPROVED SYSTEMS FROM OTHER INDUSTRIES OF ALAMO, CA, WILL BE CONSIDERED IF SUMMITED PER NOTE #2 ABOVE.
- 4) TORQUE ALL CONNECTIONS TO UNISTRUT & JOISTS TO 50FT. LBS.



(TYPICAL U.N.O. ON M.B.S. DRAWINGS) N.T.S.

$$3/4" = 1'-0"$$

$$3/4" = 1'-0"$$


(TYPICAL U.N.O. ON M.B.S. DRAWINGS) N.T.S.

$$\frac{3}{4}'' = 1'-0''$$

$$3/4" = 1'-0"$$

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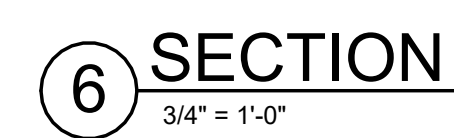
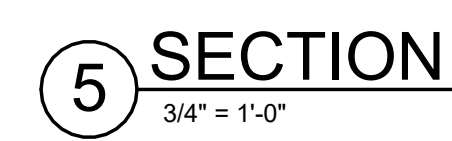
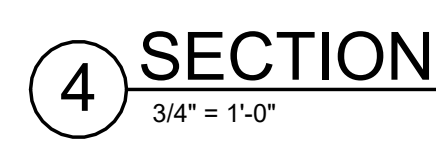
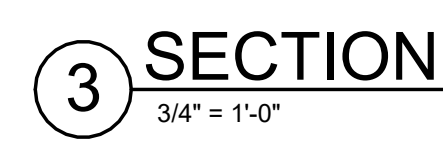
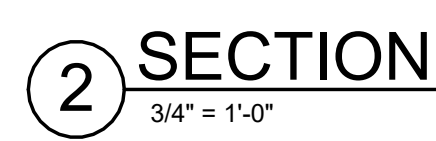
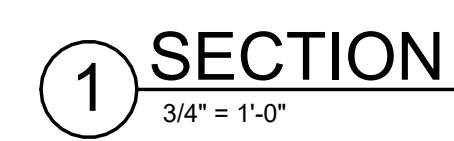


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S5.1



JOB NO. 25063000

ENGINEER: R. ZHU

DRAWN: L. MARTINEZ

DATE: 11.17.25

SHEET NO.

S5.2

SHEET
CONTENTS:

ENGINE

DRAW

DATE:

SHEET



COSTCO LEE'S SUMMIT
NEC OF HWY 291 & OLDHAM PKWY LEE'S SUMMIT, MO

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