

GENERAL STRUCTURAL NOTES AND SPECIFICATIONS

DESIGN CRITERIA:

- DESIGNED UNDER THE PROVISIONS OF THE NORTH CAROLINA BUILDING CODE (NCBC) 2018.
- SEE PRE-ENGINEERED METAL BUILDING (PEMB) DESIGN AND CONSTRUCTION DOCUMENTS FOR DESIGN LOADS.
- DESIGN LOADS:

PEMB LIVE LOADS:	
MIN. ROOF LIVE LOAD	= 20 PSF
COLLATERAL HANGING LOAD	= 3 PSF
LIVE LOADS:	
OFFICE FLOOR LIVE LOAD	= 50 PSF + (15 PSF PARTITION)
CORRIDORS ABOVE FIRST FLOOR	= 80 PSF
FIRST FLOOR SLAB ON GRADE	= 100 PSF
STAIR LIVE LOAD	= 100 PSF
SNOW LOADS:	
DESIGN GROUND SNOW LOAD, P _g	= 15 PSF
SNOW EXPOSURE FACTOR, C _e	= 1.0
SNOW IMPORTANCE FACTOR, I _s	= 1.0
THERMAL FACTOR, C _t	= 1.0 (1.2 USED FOR PARTIALLY ENCLOSED NEAR LOADING DOCK)
FLAT ROOF SNOW LOAD, P _f	= 10.5 PSF (12.6 PSF USED FOR PARTIALLY ENCLOSED NEAR LOADING DOCK)
UNIFORM DESIGN SNOW LOAD	= 15 PSF

WIND LOAD (ULTIMATE):	
DESIGN WIND VELOCITY: V _{3S}	= 116 MPH
RISK CATEGORY:	= II
EXPOSURE:	= B
INTERNAL PRESSURE COEF.	= ±0.18 (±0.55 USED FOR PARTIALLY ENCLOSED NEAR LOADING DOCK)

SEISMIC LOAD (ULTIMATE):	
SEISMIC SITE CLASSIFICATION:	D
SEISMIC DESIGN CATEGORY:	B
RISK CATEGORY:	II
SEISMIC IMPORTANCE FACTOR,	I _e = 1.0

DESIGN EARTHQUAKE:	
S _s	= 17.3 % g
S ₁	= 8.3 % g
S _d	= 18.4 % g
S _{d1}	= 13.3 % g

FOR SELF-SUPPORTING 2ND FLOOR ONLY: SEISMIC ANALYSIS PROCEDURE:	
LATERAL FORCE RESISTING SYSTEM:	EQUIVALENT LATERAL FORCE PROCEDURE WITH DYNAMIC CHARACTERISTICS
RESISTANCE	STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC
RESPONSE MODIFICATION COEFFICIENT, R	= 3
DEFLECTION AMPLIFICATION FACTOR, C _d	= 3
SEISMIC RESPONSE COEFFICIENT, C _s	= 0.062
SEISMIC BASE SHEAR = 5.4 KIPS ULTIMATE	

- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER TRADES DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL COMPARE AND VERIFY STRUCTURAL DRAWINGS AND SPECIFICATIONS w/ ARCHITECTURAL AND ALL OTHER TRADES DWGS, SPECIFICATIONS, AND REQUIREMENTS AND REPORT ANY DISCREPANCY TO THE STRUCTURAL ENGINEER AND DESIGN TEAM PRIOR TO DEMOLITION, FABRICATION, AND/OR INSTALLATION OF ANY STRUCTURAL MEMBERS.
- NO LOADS IN EXCESS OF DESIGN LOADS LISTED SHALL BE PLACED ON ANY AREA DURING CONSTRUCTION UNLESS ADEQUATE SHORING OR OTHER METHOD IS APPROVED TO SUPPORT THE EXCESSIVE LOADS. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE UNTIL PERMANENT BRACING IS COMPLETED.
- ALL NOTES ON STRUCTURAL DRAWINGS SHALL BE ASSUMED TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATIONS.
- SECTIONS AND DETAILS ARE TO BE USED IN ALL SIMILAR LOCATIONS UNLESS OTHERWISE SHOWN BY OTHER DETAILS AND/OR SECTIONS.
- SEE ARCHITECTURAL DRAWINGS FOR WEATHERPROOFING DETAILS.
- THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION OF CONSTRUCTION OF THE PROJECT AND THEN, ONLY TO SUPPORT THE DESIGN LOADS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION AND FOR THE ADEQUACY OF THE STRUCTURE TO SUPPORT LOADS OCCURRING DURING CONSTRUCTION. FURNISH ALL TEMPORARY BRACING, SHORING, AND/OR SUPPORT AS REQUIRED.
- CHECK ALL DIMENSIONS AGAINST THE REQUIREMENTS OF OTHER CONTRACT DOCUMENTS. RESOLVE APPARENT INCONSISTENCIES IN THE CONTRACT DOCUMENTS WITH THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH WORK.
- PROMPTLY NOTIFY THE ENGINEER OF ANY STRUCTURAL MEMBER CALLED OUT ON THE ARCHITECTURAL, MECHANICAL, PLUMBING, OR ELECTRICAL DRAWINGS THAT IS NOT IDENTIFIED ON THE STRUCTURAL DRAWINGS. DESIGN OF THESE MEMBERS WILL BE PROVIDED AS NECESSARY BY THE STRUCTURAL ENGINEER UPON NOTIFICATION.
- WHERE CONFLICT EXISTS AMONG THE VARIOUS PARTS OF THE ENTIRETY OF THE STRUCTURAL SUBMITTAL (CONTRACT DOCUMENTS, STRUCTURAL DRAWINGS, GENERAL NOTES, SPECIFICATIONS, SECTIONS, ETC.) THE STRICTEST REQUIREMENTS, AS INDICATED BY THE STRUCTURAL ENGINEER, SHALL GOVERN, U.N.O.

PRE-ENGINEERED METAL BUILDING SYSTEM NOTES:

- PRE-ENGINEERED METAL BUILDING SYSTEM TO BE DESIGNED AND FABRICATED TO MEET THE INDICATED LOAD REQUIREMENTS IN ADDITION TO DEAD LOAD OF STRUCTURE AND BUILDING COMPONENTS. COORDINATE WITH MECHANICAL CONTRACTOR FOR LOCATIONS, SIZES, AND WEIGHTS OF ANY MECHANICAL EQUIPMENT TO BE SUPPORTED BY PEMB FRAMING. ENSURE THAT DEFLECTIONS OF METAL BUILDING STRUCTURAL ELEMENTS DO NOT INHIBIT THE PERFORMANCE OF SUPPORTED ROOF AND EQUIPMENT.
- METAL BUILDING FABRICATOR SHALL PROVIDE SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN NORTH CAROLINA TO THE A/E OF RECORD FOR APPROVAL BEFORE FABRICATION BEGINS. SUBMITTAL SHALL INCLUDE CLEARLY TABULATED COLUMN BASE REACTIONS.
- CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS ON PLAN AND ALL COORDINATION WITH ARCHITECTURAL/CIVIL/PRE-ENGINEERED METAL BUILDING REQUIREMENTS.
- ANCHOR BOLTS SHALL BE IN CONFORMANCE WITH ASTM F1554, GRADE 36 STANDARD.
- PRIOR TO CONCRETE PLACEMENT, CONTRACTOR SHALL CONFIRM THAT FOUNDATION REACTIONS FROM METAL BUILDING SUPPLIED DO NOT EXCEED DESIGN VALUES OF FOUNDATIONS SHOWN ON PROJECT DRAWINGS. SOME ADJUSTMENT OF FOUNDATIONS MAY BE NECESSARY IF METAL BUILDING REACTIONS EXCEED DESIGN VALUES.
- FOUNDATION DESIGN ASSUMES PINNED BASE COLUMNS, UNLESS NOTED OTHERWISE. CONFIRM THIS CONDITION MATCHES METAL BUILDING FRAME REACTIONS.

SPECIAL INSPECTIONS:

- SPECIAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 17 OF THE 2018 NORTH CAROLINA BUILDING CODE. AN APPROVED SPECIAL INSPECTION AGENCY SHALL BE PROVIDED BY THE OWNER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL INSPECTION PROCEDURES WITH THE OWNER AND THE OWNER'S AGENT. A FINAL REPORT OF INSPECTIONS DOCUMENTING COMPLETION OF ALL WORK SHALL BE SUBMITTED TO THE CODE OFFICIAL.
- SPECIAL INSPECTIONS FOR STRUCTURAL STEEL FRAMING SHALL MEET REQUIREMENTS OF SECTIONS 1705.2 AND TABLE 1705.2.3.
- SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION SHALL MEET REQUIREMENTS OF SECTION 1705.3 AND TABLE 1705.3.
- SPECIAL INSPECTIONS FOR SOILS SHALL MEET REQUIREMENTS OF SECTION 1705.6 AND TABLE 1705.6.
- SPECIAL INSPECTIONS FOR STRUCTURAL FABRICATED ITEMS SHALL MEET REQUIREMENTS OF SECTION 1705.10.

SUBMITTALS FOR APPROVAL:

COLD-FORMED STEEL FRAMING:

- PRODUCT DATA:** FOR EACH TYPE OF PRODUCT.
- SHOP DRAWINGS:**
 - INCLUDE LAYOUT, SPACINGS, SIZES, THICKNESS, AND TYPES OF COLD-FORMED STEEL FRAMING; FABRICATION; AND FASTENING AND ANCHORAGE DETAILS, INCLUDING MECHANICAL FASTENERS.
 - INDICATE REINFORCING CHANNELS, OPENING FRAMING, SUPPLEMENTAL FRAMING, STRAPPING, BRACING, BRIDGING, SPLICES, ACCESSORIES, CONNECTION DETAILS, AND ATTACHMENT TO ADJOINING WORK.
 - CALCULATIONS SHALL BE PREPARED, SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

CONCRETE:

- PRODUCT DATA:** FOR EACH TYPE OF PRODUCT.
- DESIGN MIXTURES:** FOR EACH CONCRETE MIXTURE.
- STEEL REINFORCEMENT SHOP DRAWINGS:** PLACING DRAWINGS THAT DETAIL FABRICATION, BENDING, AND PLACEMENT.

STRUCTURAL STEEL:

- PRODUCT DATA:** FOR EACH TYPE OF PRODUCT.
- SHOP DRAWINGS:** SHOW FABRICATION OF STRUCTURAL STEEL COMPONENTS.

STEEL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING FABRICATION OF STRUCTURAL STEEL COMPONENTS FOR APPROVAL WITH PLACEMENT DRAWINGS, AND CONNECTION DETAILS. CONNECTION CALCULATIONS SHALL BE PREPARED FOR MOMENT CONNECTIONS, AND NON-STANDARD ATYPICAL CONNECTIONS NOT DETAILED IN DRAWINGS. CALCULATIONS TO BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF VIRGINIA.

STEEL STAIR:

- PRODUCT DATA:** FOR METAL GRATING STAIRS.
- SHOP DRAWINGS:** INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS FOR ALL STAIR COMPONENTS (INCLUDING BUT NOT LIMITED TO: STAIR STRINGERS, GRATING, TREADS AND OTHER MANUFACTURED ITEMS) AND RAILING / POST COMPONENTS.
- DELEGATED-DESIGN SUBMITTAL:** FOR STAIRS, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

STEEL RAILINGS:

- PRODUCT DATA:** FOR THE FOLLOWING:
 - MANUFACTURER'S PRODUCT LINES OF MECHANICALLY CONNECTED RAILINGS.
 - RAILING BRACKETS.
 - GROUT, ANCHORING CEMENT, AND PAINT PRODUCTS.
- SHOP DRAWINGS:** INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.
- DELEGATED-DESIGN SUBMITTAL:** FOR RAILINGS, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

STEEL JOIST FRAMING:

- PRODUCT DATA:** FOR EACH TYPE OF JOIST, ACCESSORY, AND PRODUCT.
- SHOP DRAWINGS:**
 - INCLUDE LAYOUT, DESIGNATION, NUMBER, TYPE, LOCATION, AND SPACING OF JOISTS.
 - INCLUDE JOINING AND ANCHORAGE DETAILS; BRACING, BRIDGING, AND JOIST ACCESSORIES; SPLICE AND CONNECTION LOCATIONS AND DETAILS; AND ATTACHMENTS TO OTHER CONSTRUCTION.

STEEL DECKING:

- PRODUCT DATA:** FOR EACH TYPE OF DECK, ACCESSORY, AND PRODUCT INDICATED.
- SHOP DRAWINGS:**
 - INCLUDE LAYOUT AND TYPES OF DECK PANELS, ANCHORAGE DETAILS, REINFORCING CHANNELS, PANS, CUT DECK OPENINGS, SPECIAL JOINING, ACCESSORIES, AND ATTACHMENTS TO OTHER CONSTRUCTION.

PRE-ENGINEERED METAL BUILDING:

- PRODUCT DATA:** FOR EACH TYPE OF METAL BUILDING SYSTEM COMPONENT.
- SHOP DRAWINGS:** INDICATE COMPONENTS BY OTHERS. INCLUDE FULL BUILDING PLAN, ELEVATIONS, SECTIONS, DETAILS AND ATTACHMENTS TO OTHER WORK.
- SAMPLES:** FOR UNITS WITH FACTORY-APPLIED FINISHES.
- DELEGATED-DESIGN SUBMITTAL:** FOR METAL BUILDING SYSTEMS.
 - INCLUDE ANALYSIS DATA INDICATING COMPLIANCE WITH PERFORMANCE REQUIREMENTS AND DESIGN DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

DIVISION 3:

CONCRETE NOTES:

- ALL DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL, FORM WORK, MIXING, HANDLING, PLACING, FINISHING, AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH CURRENT EDITIONS OF ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI-315) AND ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI-318).
- CONCRETE SHALL CONFORM TO ASTM C94. MINIMUM STRENGTH AT 28 DAYS SHALL BE 3000 PSI FOR FOOTING CONCRETE AND 4000 PSI FOR ALL OTHER CONCRETE. FOR CONCRETE OTHER THAN SLABS ON GRADE, MAXIMUM WATER-TO-CEMENT RATIO SHALL BE 0.60 WITH MAXIMUM SLUMP OF 4 INCHES. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4 INCH, AND ALL AGGREGATES SHALL CONFORM TO ASTM C533.
- ELEVATED CONCRETE SLABS SHALL HAVE FF = 25, MINIMUM. CONCRETE SLABS ON GRADE SHALL BE FINISHED TO THE FOLLOWING TOLERANCES:

	FF=25	FL=20
MINIMUM LOCALIZED:	FF=15	FL=10
- EXTERIOR CONCRETE SHALL BE AIR ENTRAINED, AIR CONTENT TO BE BETWEEN 5 AND 7 PERCENT BY VOLUME.
- ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 (S1), NEW BILLET STEEL DEFORMED BARS, GRADE 60. UNLESS NOTED OTHERWISE, ALL REINFORCING BAR SPLICES SHALL BE ACI CLASS B TENSION LAP SPLICES, U.N.O. WELDED WIRE FABRIC (W.W.F.) SHALL MEET ASTM A1064. MINIMUM W.W.F. LAP AT SPLICES SHALL BE 8 INCHES.
- THE FOLLOWING CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT NEAREST THE DESCRIBED SURFACE, UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER:	#6 OR LARGER BARS: 2 IN.
	#5 OR SMALLER BARS: 1-1/2 IN.
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS:	#11 BAR AND SMALLER: 3/4 IN.
- SEE S3.0 FOR CONSTRUCTION JOINTS DETAILS IN SLABS ON GRADE. W.W.F. DOES NOT EXTEND THROUGH CONSTRUCTION JOINTS IN SLABS ON GRADE.
- UNLESS NOTED OTHERWISE, SLABS ON GRADE SHALL HAVE EITHER CONSTRUCTION JOINTS OR SAW CUT JOINTS SPACED SO THE JOINTS FORM PANELS IN THE SLAB WITH NO SLAB PANEL GREATER THAN 144 SQUARE FEET NOR MORE THAN 12 FEET IN ANY ONE DIRECTION. INSTALL SAW CUT CONSTRUCTION JOINTS AS SOON AS THE SLAB IS CAPABLE OF BEING SAWN WITHOUT RAVELING, BUT IN NO CASE LATER THAN 8 HOURS AFTER FINAL FINISHING BEGINS. CONTRACTOR TO SUBMIT ONE PLAN SHOWING CONSTRUCTION AND CONTROL JOINT LAYOUT FOR ALL SLABS ON GRADE.
- INTERIOR SLAB CONCRETE SHALL RECEIVE A STEEL TROWEL FINISH. IMMEDIATELY FOLLOWING FINISHING, THE CONCRETE SHALL BE PROTECTED FROM PREMATURE OR EXCESSIVE DRYING, TEMPERATURE EXTREMES AND INJURY.
- CAST SIX CYLINDERS OF EACH CONCRETE POUR. TEST TWO CYLINDERS SEVEN DAYS AFTER CASTING AND TWO 28 DAYS AFTER CASTING. HOLD TWO CYLINDERS FOR POSSIBLE TEST UNTIL 60 DAYS AFTER CASTING. DISPOSE OF CYLINDERS IF TEST IS NOT REQUESTED. SEND REPORTS TO ARCHITECT, CONTRACTOR AND STRUCTURAL ENGINEER.

TRC ENGINEERS, INC. REVIEW

THESE PLANS HAVE BEEN SUBJECTED TO TECHNICAL AND QUALITY REVIEWS BY:

CHRISTOPHER G. HERNDON, PE CWI		03/14/25
NAME: PRINTED	SIGNATURE	DATE
PROJECT ENGINEER		
CHRISTOPHER G. HERNDON, PE CWI		03/14/25
NAME: PRINTED	SIGNATURE	DATE
PROJECT MANAGER		
JASON A. JUDY, PE		03/14/25
NAME: PRINTED	SIGNATURE	DATE
QUALITY REVIEWER		

DIVISION 5:

STEEL FRAMING NOTES:

- STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL BE FABRICATED FROM ASTM A992 STEEL. HOLLOW STRUCTURAL SECTIONS (HSS) SHALL BE FABRICATED FROM ASTM A500, GRADE C STEEL. STRUCTURAL STEEL CHANNELS SHALL BE FABRICATED FROM A992 STEEL. STRUCTURAL STEEL ANGLES AND PLATES SHALL BE FABRICATED FROM ASTM A572, GRADE 50 STEEL.
- HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F3125, GRADE A325. NUTS FOR HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A563 DH. WASHERS FOR HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F436. ANCHOR BOLTS SHALL BE ASTM F1554. WELDS SHALL BE MADE WITH E70XX, LOW HYDROGEN ELECTRODES BY WELDERS CERTIFIED FOR THE WELDS SPECIFIED. ALL WELDS SHALL MEET AWS D1.1 STANDARDS. SLAG SHALL BE REMOVED FROM ALL STRUCTURAL WELDS.
- STRUCTURAL CONNECTIONS OF STEEL MEMBERS SHALL BE FABRICATED TO RESIST SHEAR, MOMENT, AND/OR AXIAL FORCE VALUES INDICATED ON THE PLANS OR SECTIONS UNLESS SPECIFIC CONNECTIONS ARE SCHEDULED OR DETAILED. WHERE CONNECTION VALUES ARE NOT INDICATED, CONNECTIONS SHALL BE FABRICATED TO RESIST 1/2 THE TOTAL ALLOWABLE UNIFORM LOAD CAPACITY OF THE BEAM AT THE INDICATED SPAN IN SHEAR ONLY, IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION OR SHALL BE FABRICATED TO RESIST 1/2 THE TOTAL ULTIMATE UNIFORM LOAD CAPACITY OF THE BEAM AT THE INDICATED SPAN IN SHEAR ONLY, IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION LOAD AND RESISTANCE FACTOR DESIGN (LRFD).
- ALL STEEL BEAMS SHALL BE INSTALLED WITH MILL CAMBER UP.
- HIGH STRENGTH BOLTS SHALL BE SNUG TIGHT UNLESS NOTED OTHERWISE AS SLIP-CRITICAL (S.C.) OR FULLY TIGHTENED (F.T.) ON DRAWINGS.
- ALL COLUMN CAP AND BASE PLATES SHALL BE WELDED TO COLUMNS. ALL COLUMN BASE PLATES SHALL BE SHIMMED LEVEL AND GROUTED WITH NON-SHRINK GROUT.
- STRUCTURAL STEEL STAIRS, LINTELS, AND SHELF ANGLES TO HAVE 1 SHOP COAT OF PAINT, MINIMUM 1.5 MILS DRY FILM THICKNESS.
- STAIR STRINGERS, GRATING, TREADS AND OTHER MANUFACTURED ITEMS SHALL BE DESIGNED BY FABRICATOR AND SUBMITTED TO THE A/E FOR APPROVAL.
- ALL STAIR STRINGERS, GRATINGS, TREADS AND ALUMINUM CONNECTIONS AND SUPPORTS SHALL BE DESIGNED FOR A LIVE LOAD OF 100 PSF UNIFORM LOAD OR A CONCENTRATED LIVE LOAD OF 1000 LB, WHICHEVER PRODUCES THE GREATER STRESS AND REACTIONS. THE 1000 LB LOAD SHALL BE PLACED AT ANY REASONABLE LOCATION ON THE STRUCTURE THAT PRODUCES THE GREATEST STRESS. DEFLECTION DUE TO LIVE LOAD SHALL NOT EXCEED L/480 OR 1/4".
- PROTECT STRUCTURAL STEEL ITEMS BELOW GRADE WITH MINIMUM 3 COATS OF ASPHALTIC PAINT OR 3" CLEAR COVER OF CONCRETE ENCASEMENT.
- ALL STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED.

METAL DECK NOTES:

- ALL METAL DECK AND INSTALLATION SHALL COMPLY WITH AISI "SPECIFICATION FOR THE DESIGN OF COLD FORMED STRUCTURAL MEMBERS" AND SDI "SPECIFICATIONS AND COMMENTARY FOR STEEL ROOF DECK". ALL DECK SHALL BE MINIMUM 2-SPAN CONDITION.
- METAL FLOOR DECK MATERIALS SHALL CONFORM TO ASTM A853 GRADES 50 MIN. METAL FLOOR DECK SHALL BE VULCRAFT 9/16" THICK, 24 GAGE, OR EQUAL. DECK SHALL BE GALVANIZED (G60 U.N.O.). FASTENING: FASTEN DECK TO SUPPORTS WITH 30-4 PATTERN WELDS w/ WELDED WASHERS & AT SIDELAPS WITH (2) - #10 TEK SCREWS EQUALLY SPACED.

STEEL JOIST NOTES:

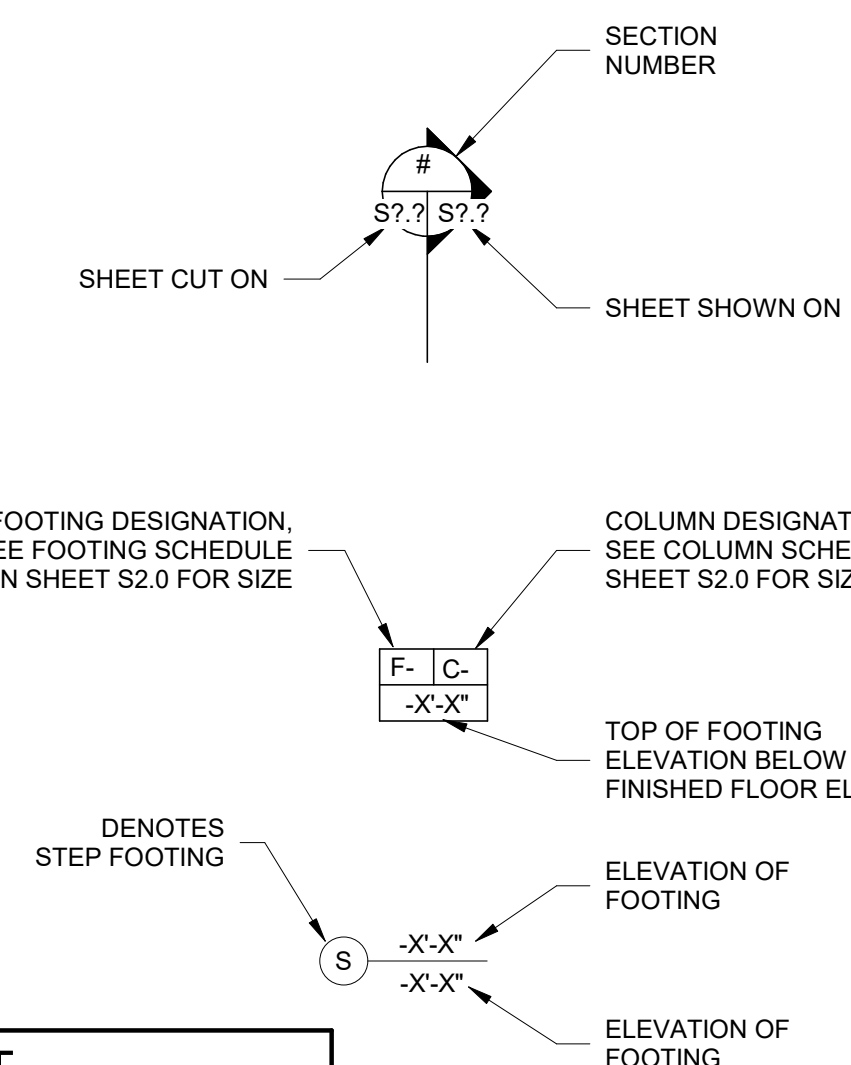
- STEEL JOISTS AND INSTALLATION SHALL COMPLY WITH THE SPECIFICATIONS AND LOAD TABLES OF THE STEEL JOIST INSTITUTE (SJI).
- JOISTS SHALL BE PAINTED, ONE STANDARD SHOP COAT.
- ADDITIONAL BRACING SHALL BE AS NOTED ON THE DRAWINGS. COORDINATE ANY SPECIAL REQUIREMENTS FOR MECHANICAL EQUIPMENT LOADS FROM ROOF TOP UNITS WITH JOIST MANUFACTURER, AND REINFORCE JOISTS AS REQUIRED FOR THE LOADS.
- JOISTS SHALL BE DESIGNED FOR A POINT LOAD OF 300 POUNDS APPLIED AT ANY POINT ALONG THE JOIST, IN ADDITION TO THE SJI TABULAR LOAD.
- JOIST BRIDGING IS NOT SHOWN BUT IS REQUIRED. PROVIDE AND INSTALL BRIDGING IN ACCORDANCE WITH SJI STANDARDS. U.N.O.
- WHERE JOIST BRIDGING IS INTERRUPTED DUE TO INTERFERENCE WITH DUCTS, ETC. INSTALL CROSS BRIDGING ADJACENT UNINTERRUPTED SPACE.
- ALL BRACING, KICKERS, AND JOIST BOTTOM CHORD EXTENSIONS SHALL BE WELDED IN PLACE AFTER ALL DEAD LOADS HAVE BEEN PLACED AT THE CONNECTED LEVEL. JOIST GIRDER BOTTOM CHORD EXTENSIONS SHALL NOT BE WELDED.

LEGEND:

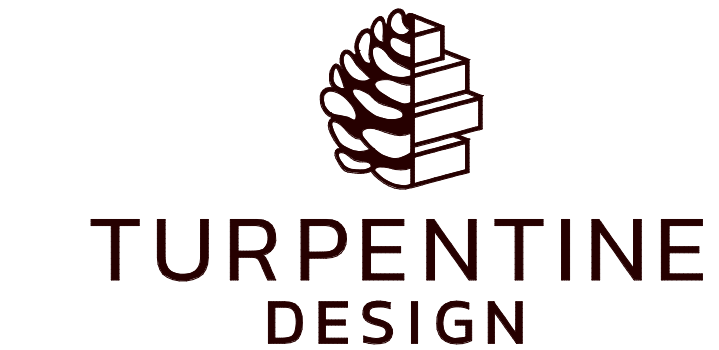
WELDED WIRE FABRIC -	
STEEL -	
CONCRETE -	
EARTH -	
POROUS FILL / GRANULAR FILL -	
CONCRETE MASONRY -	
BRICK -	
PLAN KEYNOTE -	

ABBREVIATIONS:

ADDL -	ADDITIONAL
ARCH -	ARCHITECT, ARCHITECTURAL
B. BOT -	BOTTOM
BRG -	BEARING
CANT. -	CANTILEVER
CIP -	CAST IN PLACE
CJ -	CONSTRUCTION OR CONTROL JOINT
CL -	CENTERLINE
CLR -	CLEAR
CMU -	CONCRETE MASONRY UNIT(S)
CNTR'D -	CENTERED
CONC. -	CONCRETE
CONN. -	CONNECTION
CONT. -	CONTINUOUS
DWG -	DRAWING(S)
(E) / EXIST -	EXISTING
EA -	EACH
EL. ELEV. -	ELEVATION
EOS -	EDGE OF SLAB
EOP -	EDGE OF PURLIN
EQ -	EQUAL
EQUIP. -	EQUIPMENT
E.W. -	EACH WAY
EXT -	EXTERIOR
FDN -	FOUNDATION
FOC -	FACE OF CONCRETE
FOM -	FACE OF MASONRY
FTG -	FOOTING
GA -	GAGE / GAUGE
G.C. -	GENERAL CONTRACTOR
HORIZ -	HORIZONTAL
INT. -	INTERIOR
JBE -	JOIST BEARING ELEVATION
LLH -	LONG LEG HORIZONTAL
LSH -	LONG SIDE HORIZONTAL
LLV -	LONG LEG VERTICAL
LSV -	LONG SIDE VERTICAL
LW -	LONG WAY
MANUF. -	MANUFACTURER (S)
MAX -	MAXIMUM
MECH. -	MECHANICAL
MEP -	MECHANICAL, ELECTRICAL, & PLUMBING
MIN -	MINIMUM
MSC -	MISCELLANEOUS
N.T.S. -	NOT TO SCALE
OC -	ON CENTER
PAF -	POWDER ACTUATED FASTENER
PEJ -	PREFORMED EXPANSION JOINT
PEMB -	PRE-ENGINEERED METAL BUILDING
PL -	PLATE
REQ'D -	REQUIRED
REINF -	REINFORCEMENT, REINFORCING
SH, SHT -	SHEET
SJ -	SAWCUT JOINT
SOG -	SLAB-ON-GRADE
STD -	STANDARD
STL -	STEEL
STR / STRUCT -	STRUCTURAL
SW -	SHORT WAY
T -	TOP
THR'D -	THREADED
TOP -	TOP OF FOOTING
TOS -	TOP OF SLAB
T/S -	TOP OF STEEL
TYP -	TYPICAL
U.N.O. -	UNLESS NOTED OTHERWISE
VERT -	VERTICAL
W.W.F. -	WELDED WIRE FABRIC



DRAWING LIST	
SHEET NUMBER	SHEET NAME
S0.1	GENERAL NOTES
S0.2	GENERAL NOTES
S2.0	FOUNDATION PLAN
S2.1	SECOND FLOOR FRAMING PLAN
S3.0	FOUNDATION SECTIONS & DETAILS
S3.1	FOUNDATION SECTIONS
S4.0	FRAMING SECTIONS & DETAILS
S4.1	FRAMING SECTIONS
S4.2	FRAMING SECTIONS



1007 Procure Street
Fuquay-Varina, NC 27526

919.412.9138
turpentine-design.com

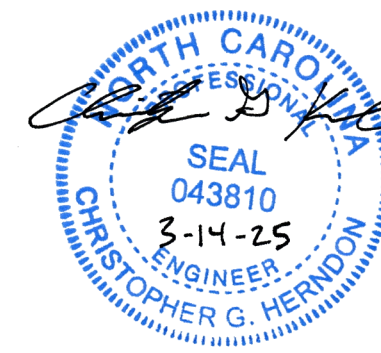


TRC ENGINEERS, INC
114 Edinburg South Drive, Suite 200
Cary, NC 27511 919-827-0864
NC Firm License # F-0591

REVISIONS

NO.	DESCRIPTION	DATE

SEALS



JWR VENTURES

NEW BUILDING

JWR VENTURES
192 JARCO DRIVE
FUQUAY-VARINA, NC 27526

OWNER
LEE REVIS

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PHASE	PERMIT SET DATE
DATE	03.14.2025
TD PROJECT #	24-024

DRAWING TITLE

GENERAL NOTES

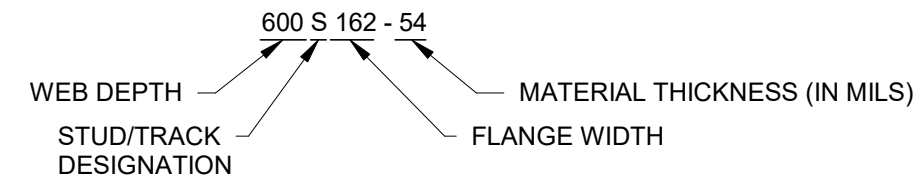
DRAWING NUMBER

S0.1

DIVISION 5 (CONT'D):

STRUCTURAL COLD FORMED METAL FRAMING NOTES:

- STUD SIZE DESIGNATION IS BASED ON THE STEEL STUD MANUFACTURERS ASSOCIATION STANDARD NOMENCLATURE. NOTATION IS AS FOLLOWS:



1 MIL = 1/1000th OF AN INCH. 43 MILS = 18 GAUGE, 54 MILS = 16 GAUGE, 68 MILS = 14 GAUGE, 97 MILS = 12 GAUGE.

- COLD FORMED STEEL STUDS, TRACK, AND BRIDGING SHALL BE FORMED FROM STEEL CONFORMING TO ASTM A653 (653M) AND SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE AISI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
- COLD FORMED STEEL STUDS AND ACCESSORIES 16 GA AND HEAVIER SHALL BE FORMED FROM STEEL HAVING A MINIMUM YIELD STRESS OF 50 KSI. ALL COLD-FORMED STEEL STUDS, TRACK, AND BRIDGING 18 GA AND LIGHTER SHALL BE FORMED FROM STEEL HAVING A MINIMUM YIELD STRESS OF 33 KSI.
- WELDS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.3 AND AISI MANUAL.
- FOR ALL NON-LOAD BEARING WALLS, UNLESS NOTED OTHERWISE, OPENINGS SHALL BE FRAMED WITH BUILT UP HEADERS USING MULTIPLE WALL STUDS AS HEADER STUDS, PROVIDING A HEADER EQUAL TO THE WIDTH OF THE WALL. ALL HEADERS CONSTRUCTED OF BUILT-UP COLD FORMED STEEL STUDS SHALL BE FABRICATED FROM UNPUNCHED MATERIAL. BEAR EACH HEADER ON A JACK STUD AT EACH END. FRAME EACH JAMB WITH A JACK STUD AND FULL HEIGHT JAMB STUDS EQUAL TO ONE-HALF OF THE NUMBER OF STUDS INTERRUPTED BY THE OPENING, PLUS ONE. ENSURE THAT JACK STUDS ARE SECURELY FASTENED TO THE SUPPORTED HEADERS, AND THAT ALL STUDS ARE SEATED AND SECURED TO BOTH TRACKS.
- AXIALLY LOADED STUDS SHALL BE SQUARELY SEATED IN BOTH TOP AND BOTTOM TRACKS. SPlicing OF AXIALLY LOADED MEMBERS IS NOT PERMITTED.
- ALL JOISTS, STUDS, AND ACCESSORIES SHALL BE OF THE TYPE, SIZE, STEEL THICKNESS, AND SPACING SHOWN ON THE CONTRACT DOCUMENTS. EXTERIOR WALL STUD ASSEMBLIES AND INTERIOR LOAD BEARING STUD WALLS SHALL HAVE CONTINUOUS BRIDGING CONNECTED TO EACH STUD AT 4'-0" O.C. (MAX). COLD-FORMED JOISTS SHALL HAVE CONTINUOUS BRIDGING CONNECTED TO EACH JOIST AT 1/3 POINTS OF THE SPAN.
- ENSURE ALL PUNCHOUTS IN STUDS ARE MINIMUM 12" FROM END OF STUD AND 12" FROM CONNECTION LOCATIONS.
- ALL SCREWED CONNECTIONS TO BE THROUGH THINNER MATERIAL INTO THICKER MATERIAL. UNLESS NOTED OTHERWISE, SPECIFIC CONNECTION REQUIREMENTS FOR COLD FORMING FRAMING ARE AS FOLLOWS:

CONDITION:

CONDITION:	CONNECTION:
STUD TO TRACK	(2) #10-16 SCREWS, OR TWO INCHES OF 1/8" FILLET WELD w/ STUD SECURELY SEATED IN TRACK
STUD TO STUD IN TRUSS OR RAFTER ASSEMBLIES	(4) #10-16 SCREWS
STUD TRACK TO STEEL	(2) HILTI 0.157"ø X-U PINS @ EACH STUD
PLYWOOD OR OSB SHEATHING TO STUD OR RAFTER	#10 WAFER HEAD SCREW @ 12" O.C. MAX.
GYPSUM BOARD SHEATHING TO STUD OR RAFTER	TYPE S BUGLE HEAD SCREWS @ 12" O.C. MAX.
EXTERIOR STUD TRACK TO CONCRETE SLAB OR FOUNDATION	(2) HILTI 0.157"ø X-U PINS THROUGH TRACK @ EACH STUD MIN. SPACING: 4" MIN. EDGE DISTANCE: 3"

MINIMUM SPACING AND EDGE DISTANCE OF ALL SCREW FASTENERS: 1/2"
MINIMUM SPACING AND EDGE DISTANCE OF ALL POWDER ACTUATED FASTENERS IN STEEL: 1"

DIVISION 31:

FOUNDATION EARTHWORK NOTES:

- FOOTING SIZES AND ELEVATIONS ARE BASED ON AN ASSUMED ALLOWABLE SAFE SOIL BEARING CAPACITY OF 2,000 PSF. FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR STRUCTURALLY COMPACTED FILL OF AT LEAST THIS WORKING SAFE CAPACITY. IF SOIL OF THIS QUALITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS MAY NEED TO BE LOWERED OR ENLARGED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER.
- WHERE FOOTING ELEVATION IS NOT NOTED OR DETAILED, TOP OF FOOTING SHALL BE 2'-0" BELOW FINISHED GRADE OR AS REQUIRED TO ACCOMMODATE UNDER-SLAB UTILITIES, AS REQUIRED BY SOIL BEARING CONDITIONS OR AS REQUIRED TO MATCH EXISTING BEARING CONDITIONS.
- FOOTINGS SHOWN ON PLAN ARE DIAGRAMMATIC ONLY. SEE FOOTING SCHEDULE FOR SIZE AND REINFORCEMENT OF EACH FOOTING.
- FOUNDATION PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH RECOMMENDATIONS MADE BY PROJECT GEOTECHNICAL ENGINEER.
- ALL STRUCTURALLY COMPACTED FILL SHALL BE OF MATERIAL CLASSIFIED CL, ML, SC, SM, SP, SW, GC, GM, OR GW ACCORDING TO ASTM D-2487, FREE FROM CLAY BALLS, TRASH, DEBRIS, OR OTHER DELETERIOUS MATTER.
- AFTER STRIPPING MATERIAL FROM AREA TO BE GRADED, REMOVE ALL UNSUITABLE MATERIAL FROM EXPOSED SUB-GRADE, SUCH AS DEBRIS, TRASH, ORGANIC MATTER, OR SOFT SOIL. SOIL SURFACES RECEIVING COMPACTED STRUCTURAL FILL SHALL BE PROOF-ROLLED WITH A LOADED DUMP TRUCK UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER. AREAS EXHIBITING EXCESSIVE PUMPING, WEAVING, OR RUTTING SHALL BE EXCAVATED AND REPLACED WITH COMPACTED STRUCTURAL FILL OR SCARIFIED, DRIED, AND RECOMPACTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING FILL.
- ALL FILL SHALL BE PLACED IN 6"-8" UNCOMPACTED LIFTS (MAXIMUM) AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D-698 (STANDARD PROCTOR). THE MOISTURE CONTENT OF FILL AT TIME OF PLACEMENT SHALL BE WITHIN +/- 2% OF THE OPTIMUM MOISTURE CONTENT DETERMINED IN THE LABORATORY. COMPACTED FILL SUB-GRADES WITH A SLOPE GREATER THAN 4H:1V SHALL BE BENCHED TO ALLOW PLACEMENT OF HORIZONTAL LIFTS.
- ALL FOUNDATION EXCAVATIONS SHALL BE OBSERVED BY THE PROJECT GEOTECHNICAL ENGINEER, AND APPROVED FOR FOOTINGS, PRIOR TO PLACING CONCRETE. ALL FOUNDATIONS SHALL BE CONCRETED PROMPTLY FOLLOWING INSPECTION.
- THE HORIZONTAL DISTANCE BETWEEN STEPS IN WALL FOOTINGS SHALL BE AT LEAST TWO TIMES THE CHANGE IN ELEVATION.
- CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING CONSTRUCTION TO DIRECT WATER AWAY FROM FOUNDATION CONSTRUCTION AREAS. ANY SUB-GRADE SOILS WEAKENED BY THROUGH SATURATION OR DISTURBANCE SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL.
- CONTRACTOR SHALL COORDINATE EXTERIOR SITE WORK, INCLUDING STEPS, WALKS, WALLS, AND FINISHED GRADES, WITH FOUNDATION WORK.
- CENTERLINE OF FOOTING = CENTERLINE OF COLUMN BASE PLATE = CENTERLINE OF ANCHOR BOLT PATTERN, UNLESS NOTED OTHERWISE.
- BACKFILL AGAINST WALLS SPANNING VERTICALLY SHALL NOT BE PLACED, WHERE POSSIBLE, UNTIL ALL FLOORS AGAINST THOSE WALLS ARE IN PLACE AND AT FULL DESIGN STRENGTH. IF FLOORS CANNOT BE PLACED BEFORE FILL, WALLS SHALL BE ADEQUATELY BRACED TO PREVENT OVERSTRESSING OR MOVEMENT.
- ALL MASONRY AND CONCRETE WALLS BELOW GRADE SHALL BE BACKFILLED ON BOTH SIDES OF WALL SIMULTANEOUSLY.

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS STRUCTURAL DESIGN (PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors:	Snow (Is)	1.0
	Seismic (Ie)	1.0
Live Loads:	Roof	20 psf
	Mezzanine	80 psf
	Floor	100 psf
Ground Snow Load:		15 psf
Wind Load:	Ultimate Wind Speed	116 mph (ASCE-7)
	Exposure Category	B

SEISMIC DESIGN CATEGORY: A B C D

Provide the following Seismic Design Parameters:

Risk Category (Table 1604.5) I II III IV
Spectral Response Acceleration Ss = 17.3 %g S1 = 8.3 %g

Site Classification (ASCE 7) A B C D E F
Data Source: Field Test Presumptive Historical Data

Basic structural system Bearing Wall Dual w/Special Moment Frame
 Building Frame Dual w/Intermediate R/C or Special Steel
 Moment Frame Inverted Pendulum

Analysis Procedure: Simplified Equivalent Lateral Force Dynamic
Architectural, Mechanical, Components anchored? Yes No

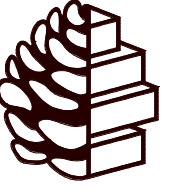
LATERAL DESIGN CONTROL: Earthquake Wind

SOIL BEARING CAPACITIES:

Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity 2,000 psf
Pile size, type, and capacity _____

2018 NC Administrative Code and Policies

Revised 6/15/2020



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1007 Procure Street
Fuquay-Varina, NC 27526

919.412.9138
turpentine-design.com

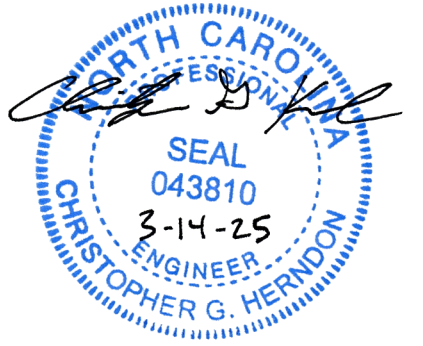


TRC ENGINEERS, INC
114 Edinburg South Drive, Suite 200
Cary, NC 27511 919-827-0864
NC Firm License # F-0591

REVISIONS

NO.	DATE	DESCRIPTION

SEALS



JWR VENTURES

NEW BUILDING

JWR VENTURES
192 JARCO DRIVE
FUQUAY-VARINA, NC 27526

OWNER

LEE REVIS

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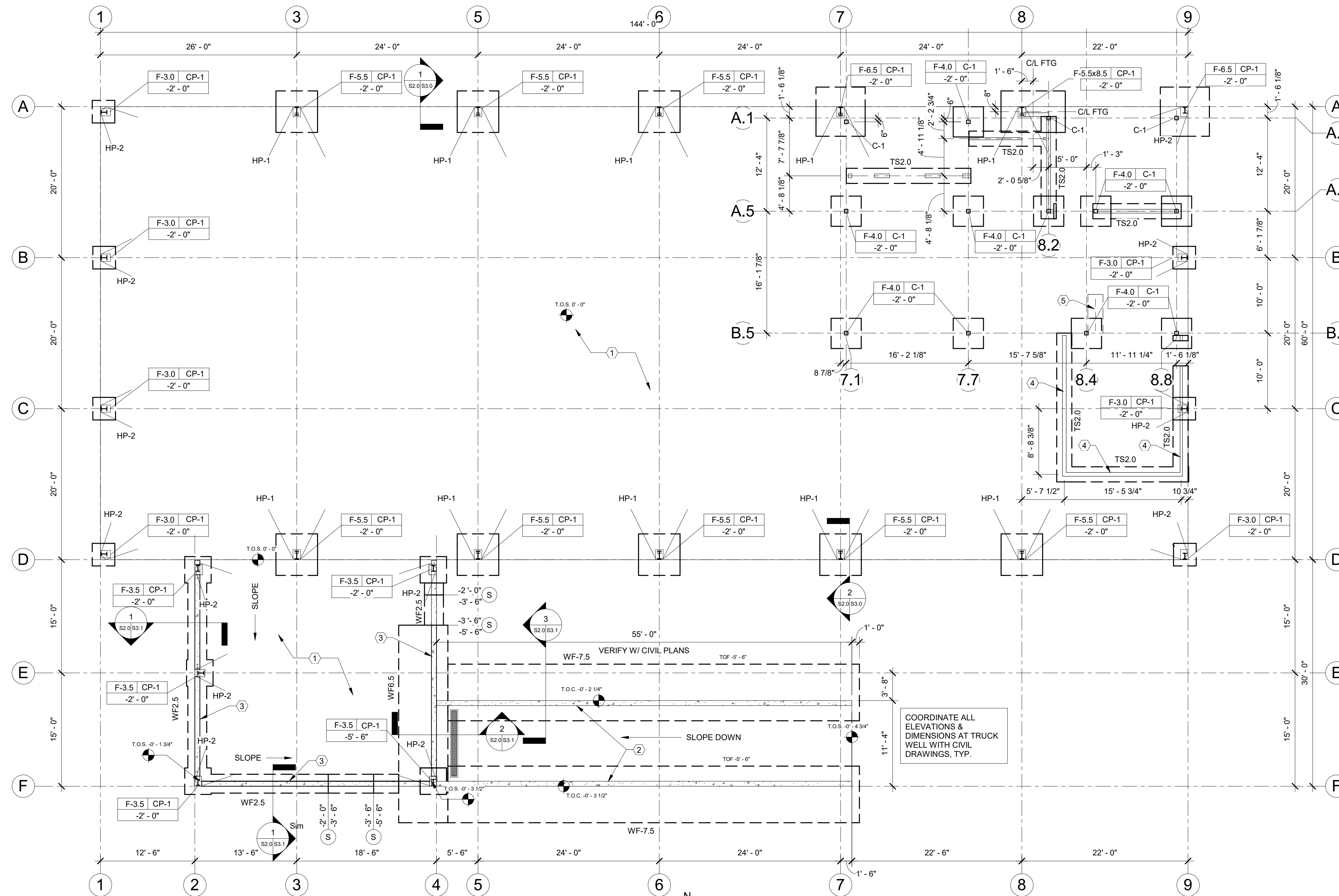
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TD PROJECT #	24-024

DRAWING TITLE

GENERAL NOTES

DRAWING NUMBER

S0.2



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

MTL BLD. COLUMN CONC. FOOTING SCHEDULE													
FOOTING MARK	FOOTING DIMENSIONS			FOOTING REINFORCING	REMARKS	FOOTING REACTIONS (KIPS) (SERVICE LEVEL)						ANCHOR BOLT REINF. CAGE	
	LENGTH	WIDTH	DEPTH			DOWNWARD	UPLIFT	HORIZONTAL		OTHER			
F-3.0	3'-0"	3'-0"	1'-0"	(3) #5 E.W. BOT.	PINNED BASE (NO MOMENT)	8.1	INT. 2.7	EXT. 1.9	OTHER 2.4	INT. 1.6	EXT. -	OTHER -	SEE CONC. COL. SCHED.
F-3.5	3'-6"	3'-6"	1'-0"	(4) #5 E.W. BOT.	PINNED BASE (NO MOMENT)	5.2	INT. 4.2	EXT. 5.0	OTHER 2.1	INT. 2.6	EXT. -	OTHER -	SEE CONC. COL. SCHED.
F-5.5	5'-6"	5'-6"	1'-6"	(6) #6 E.W. BOT.	PINNED BASE (NO MOMENT)	16.7	INT. -	EXT. -	OTHER -	INT. 7.8	EXT. -	OTHER -	SEE CONC. COL. SCHED.
F-6.5	6'-6"	6'-6"	1'-6"	(5) #6 E.W. TOP & BOT.	COMBINED FTG W/ MEZZ. COL.	16.7	INT. -	EXT. 7.6	OTHER -	INT. 7.8	EXT. -	OTHER -	SEE CONC. COL. SCHED.
F-5.5x8.5	5'-6"	8'-6"	1'-6"	(6) #6 E.W. TOP & BOT.	COMBINED FTG W/ MEZZ. COL.	16.7	INT. -	EXT. 7.6	OTHER -	INT. 7.8	EXT. -	OTHER -	SEE CONC. COL. SCHED.

CONCRETE FOOTING SCHEDULE NOTES:

- CONTRACTOR TO VERIFY PEMB COLUMN BASE REACTIONS W/ COLUMN FOOTING SCHEDULE PRIOR TO CONCRETE PLACEMENT (TYP.)
- LOADS SHOWN IN TABLE ABOVE ARE FOR THE PEMB COLUMN BASE REACTIONS ONLY. WHERE FOOTINGS ARE COMBINED TO SUPPORT MEZZANINE COLUMNS, THE MEZZANINE COLUMN LOADS ARE NOT LISTED
- ANCHOR BOLT DIAMETER, NUMBER AND LOCATION TO BE DETERMINED BY PRE-ENGINEERED METAL BUILDING MANUFACTURER. G.C. COORDINATE ANCHOR BOLT LOCATION SUBMITTAL WITH APPROVED PRE-ENGINEERED METAL BUILDING MANUFACTURER SHOP DRAWINGS.
- VERIFY ANCHOR BOLT PLACEMENT & BASE PLATE DIMENSIONS WITH ANCHOR BOLT CAGE REINFORCEMENT. CONTRACTOR SHALL COORDINATE ANCHOR BOLT CAGE DIMENSIONS WITH APPROVED PEMB SHOP DRAWINGS. ANCHOR BOLTS TO BE ENCASED INSIDE OF REBAR CAGE.
- SEE DETAIL ON S3.0 FOR ANCHOR BOLT CAGE CONFIGURATION AND FOR REQUIRED TIES AND SPACINGS.

DISCLAIMER:
CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS ON PLAN AND ALL COORDINATION WITH ARCHITECTURAL/CIVIL/PRE-ENGINEERED METAL BUILDING REQUIREMENTS.

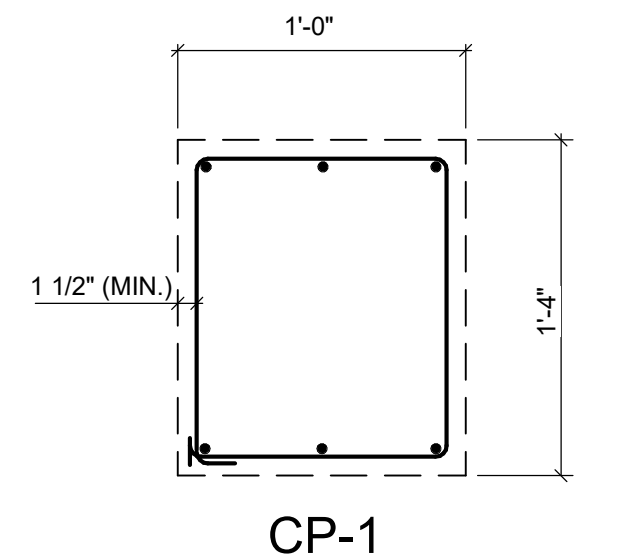
NOTE:
METAL BUILDING FABRICATOR SHALL PROVIDE SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENG. LICENSED IN NORTH CAROLINA TO THE A/E OF RECORD FOR APPROVAL BEFORE FABRICATION BEGINS.

* - HORIZONTAL REACTION IS PERPENDICULAR TO THE PERIMETER OF THE BUILDING.

INTEGRAL CONC. PIER REINF. SCHEDULE			
PIER MARK	PIER DIMENSIONS		REMARKS
	LENGTH	WIDTH	
CP-1	1'-0"	1'-4"	(6) #4 BARS W/ #3 TIES SEE NOTE AND SECTION

CONCRETE PIER SCHEDULE NOTE:

- VERIFY ANCHOR BOLT PLACEMENT & BASE PLATE DIMENSIONS WITH PIER REINFORCEMENT. ANCHOR BOLTS TO BE ENCASED INSIDE OF REBAR CAGE.
- PIER DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS. AND ARE PROVIDED TO ALLOW FOR COORDINATION OF REINFORCING STEEL DIMENSIONS. PIERS ARE INTEGRAL WITH CONCRETE PERIMETER FOUNDATION
- TOP OF PIER ELEV = FIN. FLOOR ELEV. U.N.O.

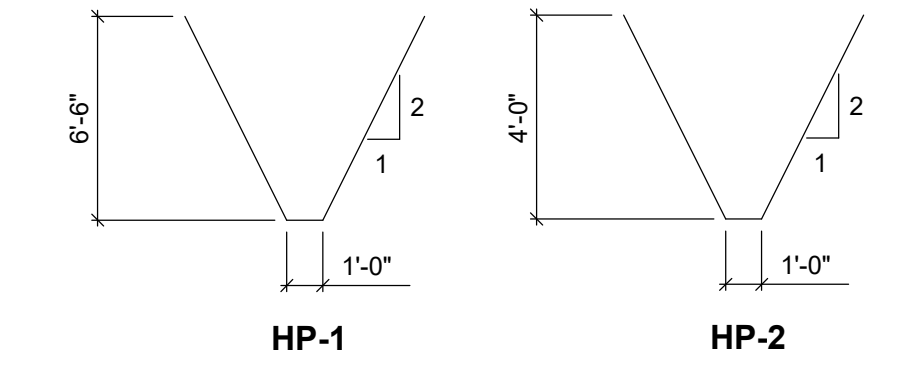


FOUNDATION PLAN GENERAL NOTES:

- SEE SHEET S0.1 & S0.2 FOR GENERAL STRUCTURAL NOTES.
- SEE SHEET S3.0 FOR TYPICAL DETAILS & SECTIONS.
- CONTRACTOR TO COORDINATE ALL DIMENSIONS, ELEVATIONS, SLOPES, EXISTING CONDITIONS, UTILITIES, AND OPENINGS WITH ALL OTHER TRADES, INCLUDING ARCHITECTURAL AND PEMB DRAWINGS PRIOR TO CONSTRUCTION, TYPICALLY.
- TOP OF FOOTING (T.O.F.) ELEVATIONS REFERENCE FINISH FLOOR (0'-0").
- STEP FOOTINGS AT UTILITY LOCATIONS TO ALLOW FOR SLEEVE ABOVE FOOTING. COORDINATE PENETRATION LOCATIONS W/ CIVIL, ARCHITECTURAL, AND PLUMBING DRAWINGS.
- UNDER SLAB PLUMBING NOT SHOWN, LOWER FOOTINGS AS NEEDED TO ALLOW PLUMBING TO PASS OVER. COORDINATE UNDER SLAB UTILITIES W/ FOOTING LOCATIONS AND DEPTH.
- (S) -X-X' -X-X' DENOTES FOOTING STEP, SEE TYPICAL DETAIL ON SHEET S3.0.
- TYPICAL PERIMETER CONSTRUCTION (U.N.O.) IS TURNDOWN CONCRETE SLAB EDGE W/ (2) #5 CONTINUOUS BARS IN BASE. ADDITIONAL REQUIREMENTS PER S0.1 & TYPICAL DETAIL ON S3.0.
- TYPICAL LAP SPLICE FOR REBAR: 48 BAR DIAMETERS.
- FOR SLAB JOINT SPECIFICS SEE TYPICAL JOINT DETAILS ON SHEET S3.0 AND JOINT SPECIFICATIONS ON SHEET S0.1.
- CONTRACTOR TO VERIFY PEMB COLUMN BASE REACTIONS W/ COLUMN CONCRETE FOOTING SCHEDULE ON THIS SHEET PRIOR TO CONCRETE PLACEMENT (TYP.)
- SLOPE SLAB-ON-GRADE TO DRAINS WHERE REQUIRED. COORDINATE DRAIN LOCATIONS WITH PLUMBING AND ARCHITECTURAL DRAWINGS.
- ANCHOR BOLT LOCATION TO BE DETERMINED BY PRE-ENGINEERED METAL BUILDING MANUFACTURER. G.C. COORDINATE ANCHOR BOLT LOCATION SUBMITTAL WITH APPROVED PRE-ENGINEERED METAL BUILDING MANUFACTURER SHOP DRAWINGS.

FOUNDATION PLAN KEYNOTES:

- 5" CONC. SLAB ON GRADE w/ 6x6 - W1.4 xW1.4 W.W.F. @ MID-DEPTH OVER 10-MIL VAPOR BARRIER OVER 4" CRUSHED STONE.
- 8" POURED CONCRETE RETAINING WALL. W/ #5 VERT. @ 1'-4" O.C. (MAX.) & #4 HORIZ. @ 1'-0" O.C. (MAX.)
- 8" POURED CONCRETE FOUNDATION WALL W/ #5 VERT. @ 1'-4" O.C. (MAX.) & #4 HORIZ. @ 1'-0" O.C. (MAX.)
- SECURE BASE TRACK TO THICKENED SLAB W/ 1/2"x 6" LONG SIMPSON TITEN HD SCREW ANCHORS W/ 3X3 PL WASHERS @ 4'-0" O.C. (MAX.)
- THICKENED SLAB AT BASE OF STAIR. G.C. COORDINATE EXTENTS AND LOCATION W/ APPROVED STAIR DRAWINGS



HAIRPIN REINFORCING NOTE:

- HAIRPINS ARE #5 BARS WITH THE DIMENSIONS NOTED ABOVE AND PLACED AT THE MID-DEPTH OF THE SLAB. SEE PLAN FOR LOCATIONS.

HAIRPIN REINFORCING

STEEL COLUMN SCHEDULE		
MARK	SIZE	BASE PLATE
C-1	HSS6X6X5/16	BP-1

STEEL BASE PLATE SCHEDULE						
PLATE MARK	PLATE DIMENSIONS			ANCHOR BOLTS		NOTES
	LENGTH	WIDTH	THICK	QUANTITY	SIZE (DIA.)	
BP-1	1'-0"	1'-0"	3/4"	4	3/4"	MOMENT BASE PLATE

CONCRETE FOOTING SCHEDULE					
MARK	DIMENSIONS			FOOTING REINFORCING	NOTES
	LENGTH	WIDTH	DEPTH		
F-4.0	4'-0"	4'-0"	1'-0"	(4) #5 E.W. TOP & BOT.	MOMENT FTG.

WALL FOOTING SCHEDULE							
MARK	DIMENSIONS			REINFORCING		NOTES	
	WIDTH	DEPTH	LONGITUDINAL QUANTITY	TRANSVERSE			
				SIZE	SPACING		
TS2.0	2'-0"	1'-0"	2	5	N/A	N/A	THICKENED SLAB
WF2.5	2'-6"	1'-0"	4	4	N/A	N/A	
WF6.5	6'-6"	1'-6"	5	5	7	1'-4"	LONG. & TRANS. REINF. TOP & BOT.
WF7.5	7'-6"	1'-6"	6	5	4	4'-0"	LONG. & TRANS. REINF. TOP & BOT.

TURPENTINE DESIGN

1007 Procure Street
Fuquay-Varina, NC 27526

919.412.9138
turpentine-design.com

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114 Edinburg South Drive, Suite 200
Cary, NC 27511 919-827-0864
NC Firm License # F-0591

REVISIONS

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JWR VENTURES

NEW BUILDING

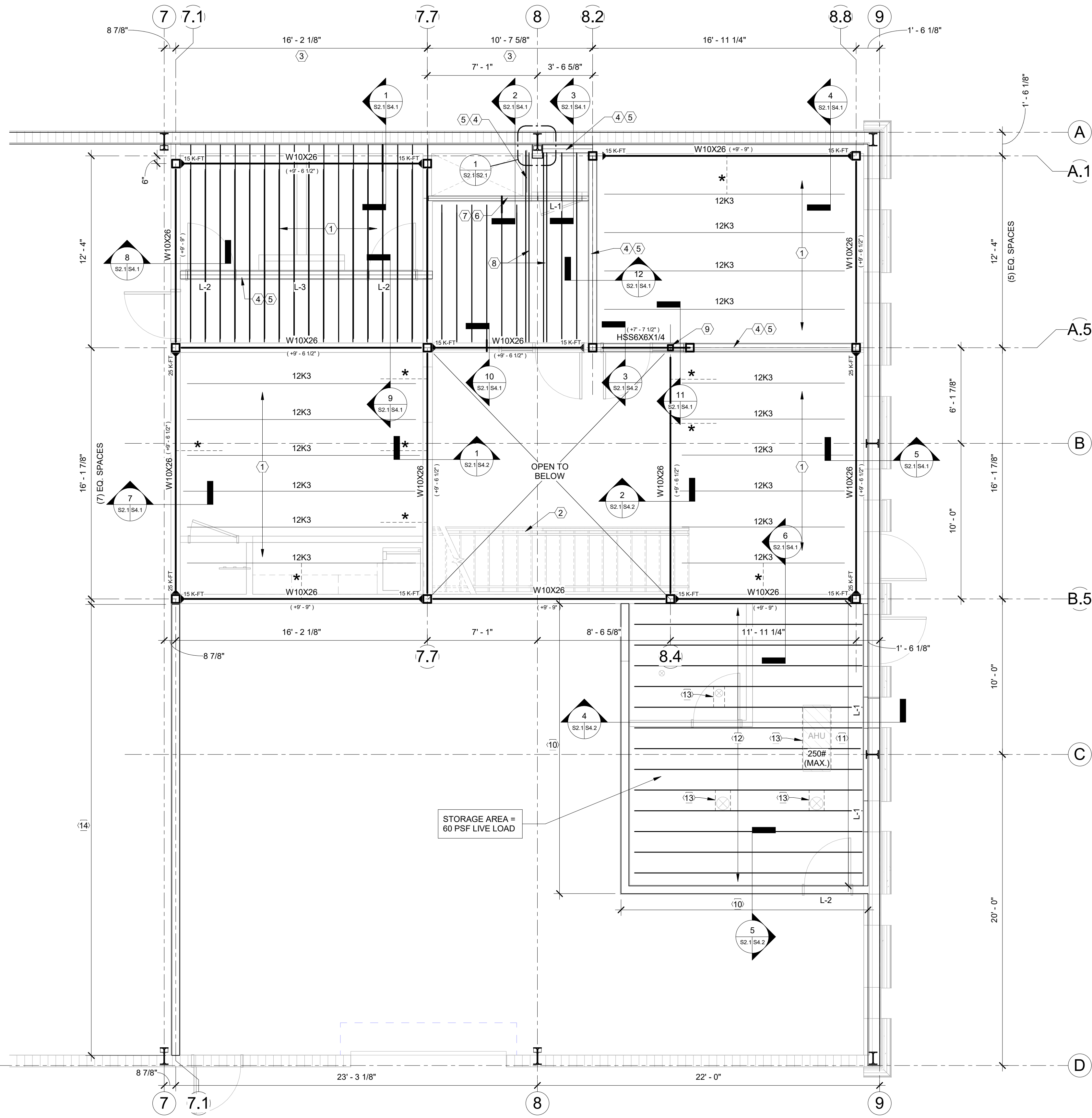
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FUQUAY-VARINA, NC 27526

OWNER
LEE REVIS

PHASE: PERMIT SET
DATE: 03.14.2025
TD PROJECT #: 24-024

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FOUNDATION PLAN

DRAWING NUMBER
S2.0



SECOND FLOOR FRAMING PLAN
 SCALE: 1/4" = 1'-0"
 PLAN

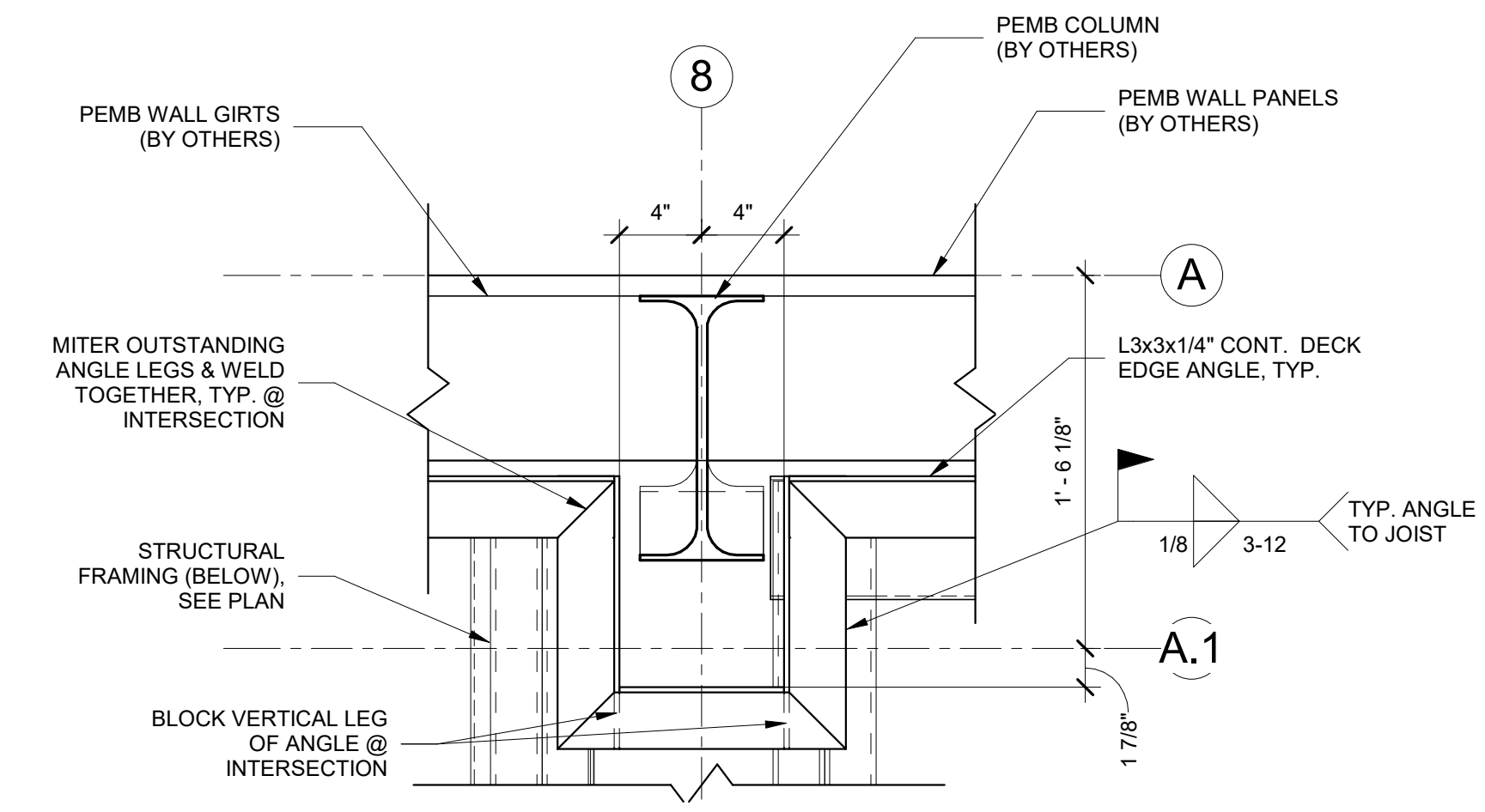
SECOND FLOOR FRAMING PLAN GENERAL NOTES:

- CONTRACTOR TO COORDINATE ALL DIMENSIONS, ELEVATIONS AND OPENINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION, TYPICAL.
- SEE SHEET S0.1 & S0.2 FOR GENERAL STRUCTURAL NOTES AND SPECIFICATIONS.
- SEE SHEET S4.0 FOR TYPICAL SECTIONS AND DETAILS.
- SECOND FLOOR FIN. FLR ELEVATION (+10'-0") U.N.O.
- ▲ DENOTES BEAM MOMENT CONNECTION IN XX FT-KIPS. MOMENTS SHOWN ARE ULTIMATE LOADS WITH A LOAD FACTOR OF 1.4. SEE SHEETS S0.1 AND S4.0 FOR ADDITIONAL INFORMATION.
- * DENOTES KICKER L3x3x1/4" FROM BEAM BOTTOM FLANGE TO JOIST TOP CHORD PANEL POINT. SEE DETAIL ON S4.0 FOR ADDITIONAL INFORMATION.

SECOND FLOOR FRAMING PLAN KEYNOTES:

- 1 - INDICATES SPAN DIRECTION 3" NORMAL WEIGHT CONCRETE WITH WELDED WIRE FABRIC 6X6 - W1.4xW1.4 ON 0.6C26 (26 GAUGE) CONFORM FLOOR DECK. SEE SHEET S0.1, DIVISION 5, "METAL DECK NOTES".
- 2 - STEEL STAIRS BY OTHERS
- 3 - 2.5K3 JOIST SUBSTITUTES @ 1'-0" O.C. (MAX.)
- 4 - CONT. HSS6x2x3/16 (LSH) ON TOP OF LOAD-BEARING, COLD FORMED WALL. TOP OF STEEL ELEVATION TO BE (+9' - 6 1/2"), U.N.O.
- 5 - INTERIOR LOAD BEARING COLD FORMED METAL FRAMED WALL. WALL TO BE FRAMED WITH 600S162-43 (6", 18 ga) STUDS @ 1'-4" O.C. (MAX.) W/ CONT. 600T125-43 (6", 18 ga) TRACKS TOP & BOT. SECURE TOP TRACK TO HSS W/ (2) ROWS OF 0.157" P.A.F.s @ 1'-0" O.C. (MAX.)
- 6 - CONT. HSS3-1/2x2-1/2x3/16 (LSH) ON TOP OF LOAD-BEARING, COLD FORMED WALL. TOP OF STEEL ELEVATION TO BE (+9' - 6 1/2"), U.N.O.
- 7 - INTERIOR LOAD BEARING COLD FORMED METAL FRAMED WALL. WALL TO BE FRAMED WITH 362S162-43 (3-5/8", 18 ga) STUDS @ 1'-4" O.C. (MAX.) W/ CONT. 362T125-43 (3-5/8", 18 ga) TRACKS TOP & BOT. SECURE TOP TRACK TO HSS W/ (2) ROWS OF 0.157" P.A.F.s @ 1'-0" O.C. (MAX.)
- 8 - DOUBLE 2.5K3 JOIST SUBSTITUTES
- 9 - HSS4x4x1/4 POST-UP ON HSS BEAM BELOW
- 10 - INTERIOR LOAD BEARING COLD FORMED METAL FRAMED WALL. WALL ALSO FUNCTIONS AS INTERIOR SHEAR WALL. WALL TO BE FRAMED WITH 600S162-54 (6", 16 ga) STUDS @ 1'-4" O.C. (MAX.) W/ CONT. 600T125-54 (6", 16 ga) TRACKS TOP & BOT. SECURE 1/2" THICK (MIN.) PLYWOOD SHEATHING TO ONE SIDE OF WALL W/ #10 SCREWS @ 6" O.C. (EDGES) & 12" O.C. (FIELD).
- 11 - INTERIOR LOAD BEARING COLD FORMED METAL FRAMED WALL. WALL ALSO FUNCTIONS AS INTERIOR SHEAR WALL. WALL TO BE FRAMED WITH 362S162-54 (3-5/8", 16 ga) STUDS @ 1'-4" O.C. (MAX.) W/ CONT. 600T125-54 (6", 16 ga) TRACKS TOP & BOT. SECURE 1/2" THICK (MIN.) PLYWOOD SHEATHING TO ONE SIDE OF WALL W/ #10 SCREWS @ 6" O.C. (EDGES) & 12" O.C. (FIELD).
- 12 - 800S162-68 (8", 14 ga) JOISTS @ 1'-4" O.C. (MAX.). PROVIDE BRIDGING BETWEEN JOISTS AT THIRD POINTS. TYP. PROVIDE 3/4" THICK FLOOR SHEATHING SECURED TO FRAMING WITH #10 SCREWS @ 6" O.C. (EDGES) & 12" O.C. (FIELD)
- 13 - PROVIDE FULL HEIGHT SOLID BLOCKING BETWEEN JOISTS @ PERIMETER OF AHU UNIT & VERTICAL DUCT PENETRATIONS THRU SHEATHING 6" OR GREATER IN DIAMETER, TYP. G.C. COORDINATE FINAL LOCATIONS & SIZES W/ MECHANICAL DRAWINGS.
- 14 - WALL TO BE FRAMED WITH 600S162-43 (6", 18 GA) STUDS @ 1'-4" O.C. (MAX.) W/ CONT. 600T125-43 (6", 18 GA) TRACKS TOP & BOT. ENSURE HORIZONTAL BRIDGING INSTALLED BETWEEN STUDS AT 48" O.C. (MAX.).

LINTEL SCHEDULE			
MARK	BOX HEADER STUDS	TOP & BOT TRACKS	JAMB STUDS
L-1	(2) 600S162-54	362T125-43	(1) 362S162-43
L-2	(2) 600S162-68	600T125-43	(1) 600S162-43
L-3	(2) 800S162-68	600T125-43	(2) 600S162-43 (BACK-TO-BACK)



DETAIL @ PEMB COLUMN
 SCALE: 1 1/2" = 1'-0"



1007 Procure Street
 Fuquay-Varina, NC 27526
 919.412.9138
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REVISIONS

NO.	DESCRIPTION



JWR VENTURES

NEW BUILDING

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 192 JARCO DRIVE
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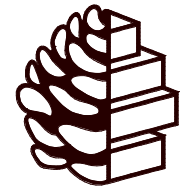
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TD PROJECT #	24-024

DRAWING TITLE
SECOND FLOOR FRAMING PLAN

DRAWING NUMBER

S2.1



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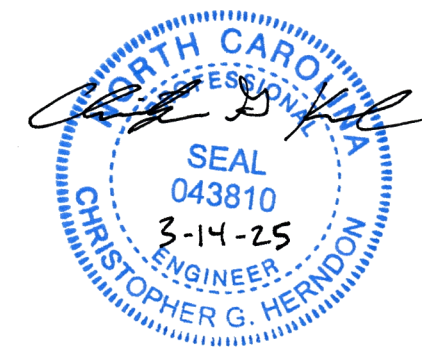


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REVISIONS

NO.	DESCRIPTION

SEALS



JWR VENTURES

NEW BUILDING

JWR VENTURES
192 JARCO DRIVE
FUQUAY-VARINA, NC 27526

OWNER
LEE REVIS

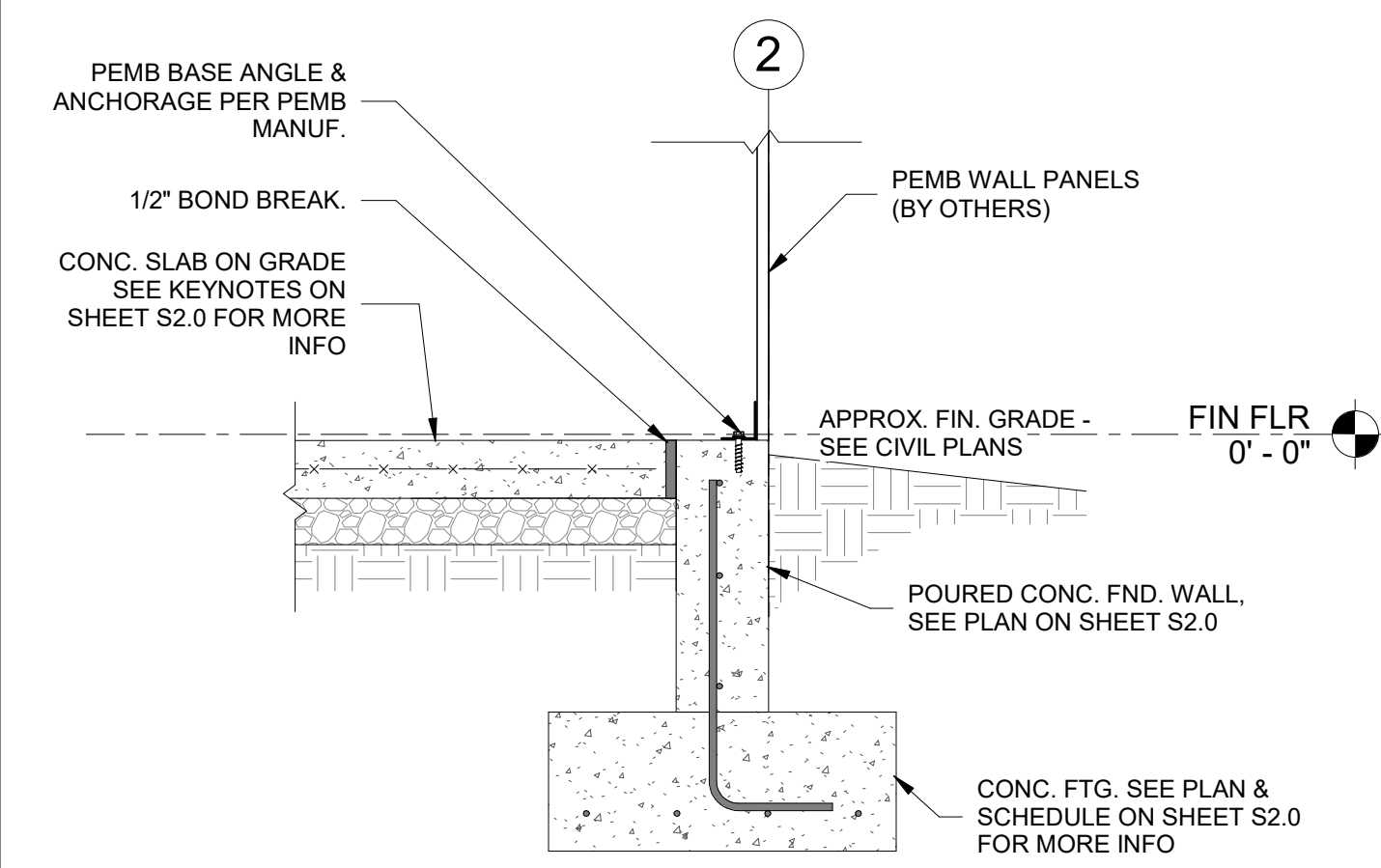
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PHASE	PERMIT SET
DATE	03.14.2025
TD PROJECT #	24-024

DRAWING TITLE
FOUNDATION SECTIONS

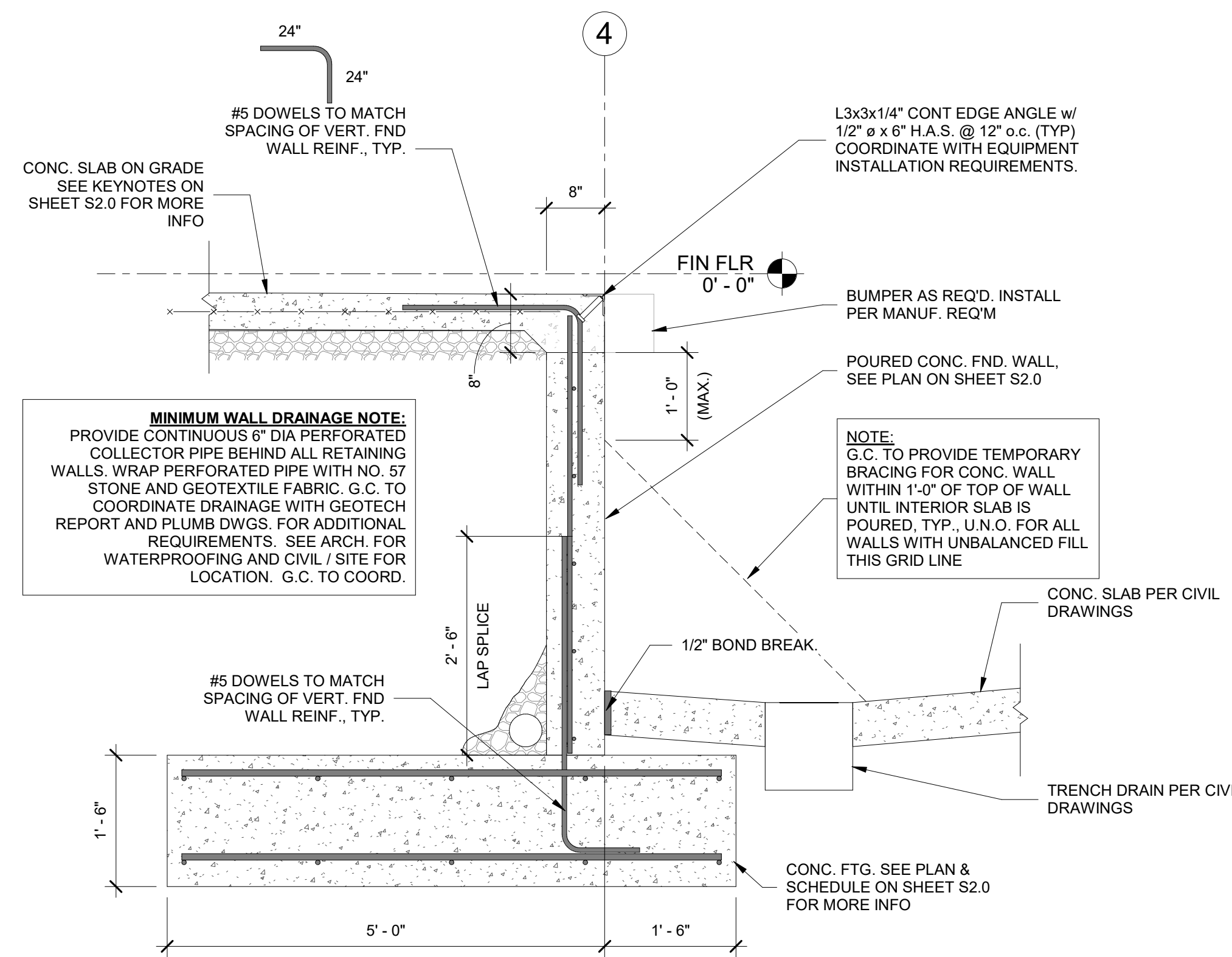
DRAWING NUMBER

S3.1



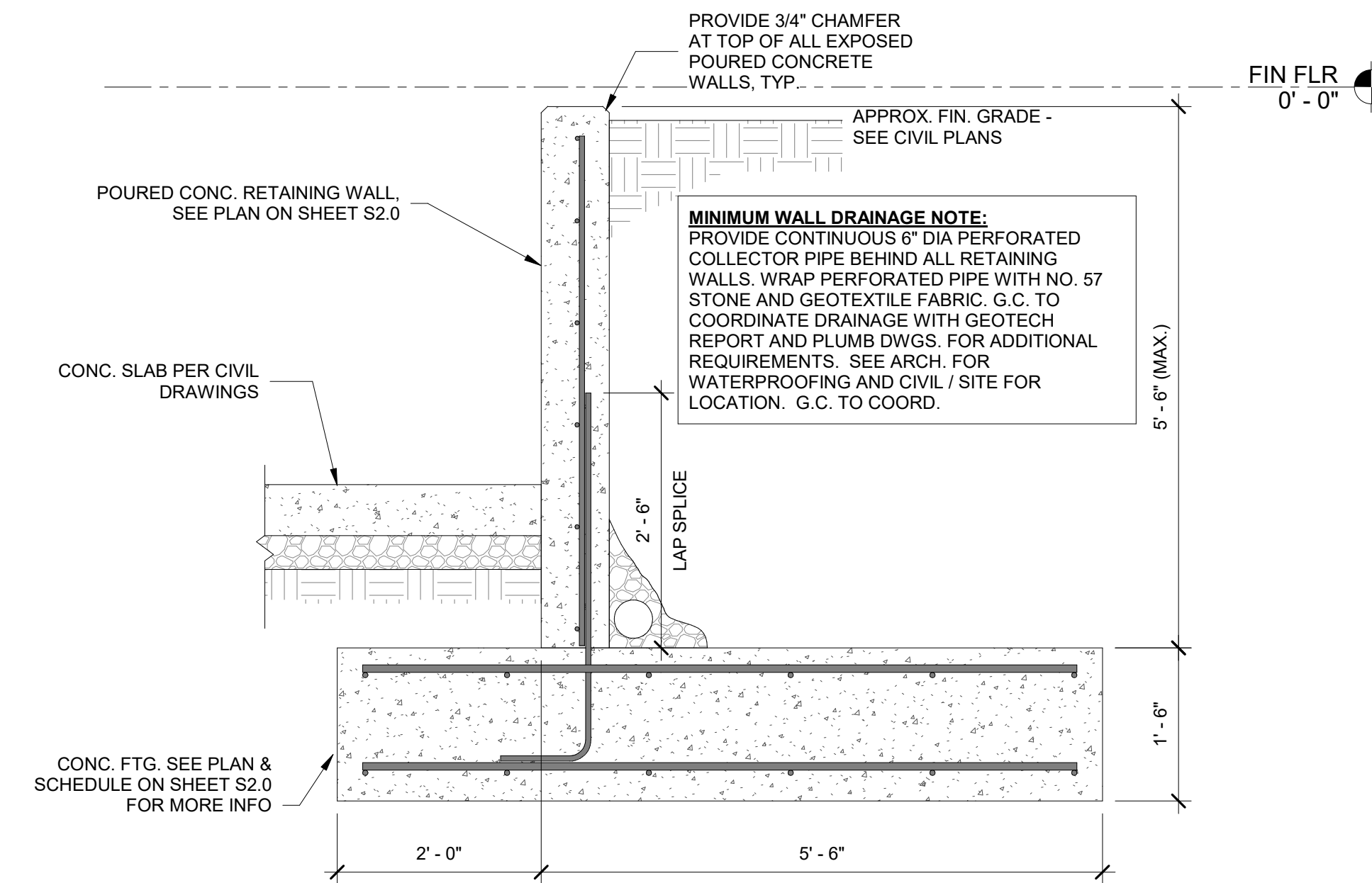
FOUNDATION SECTION

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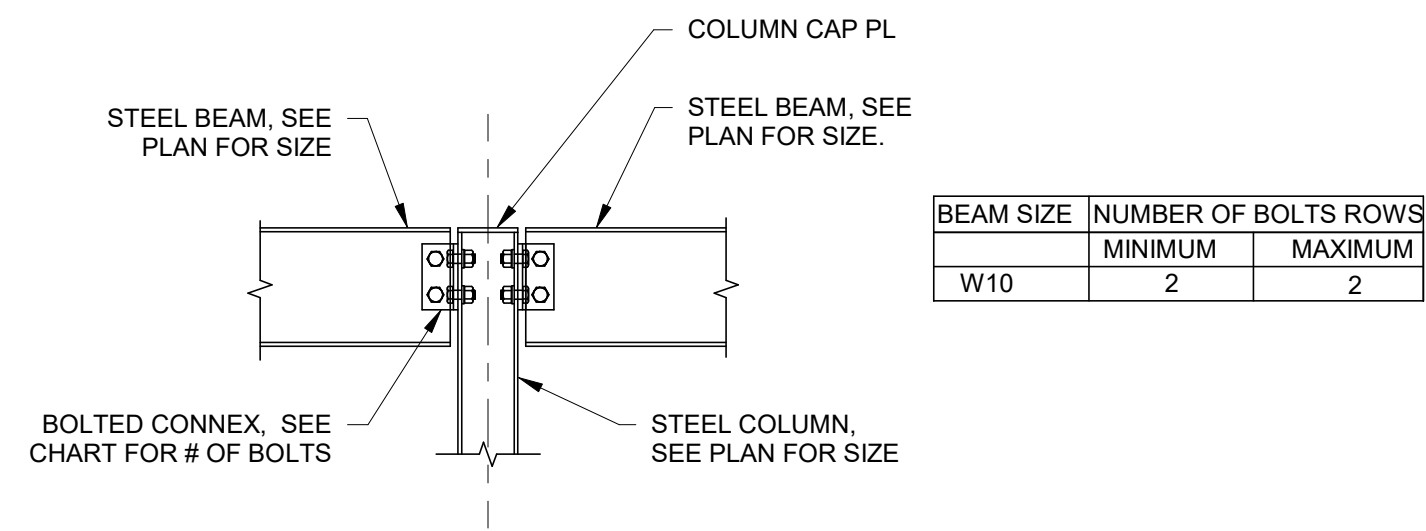
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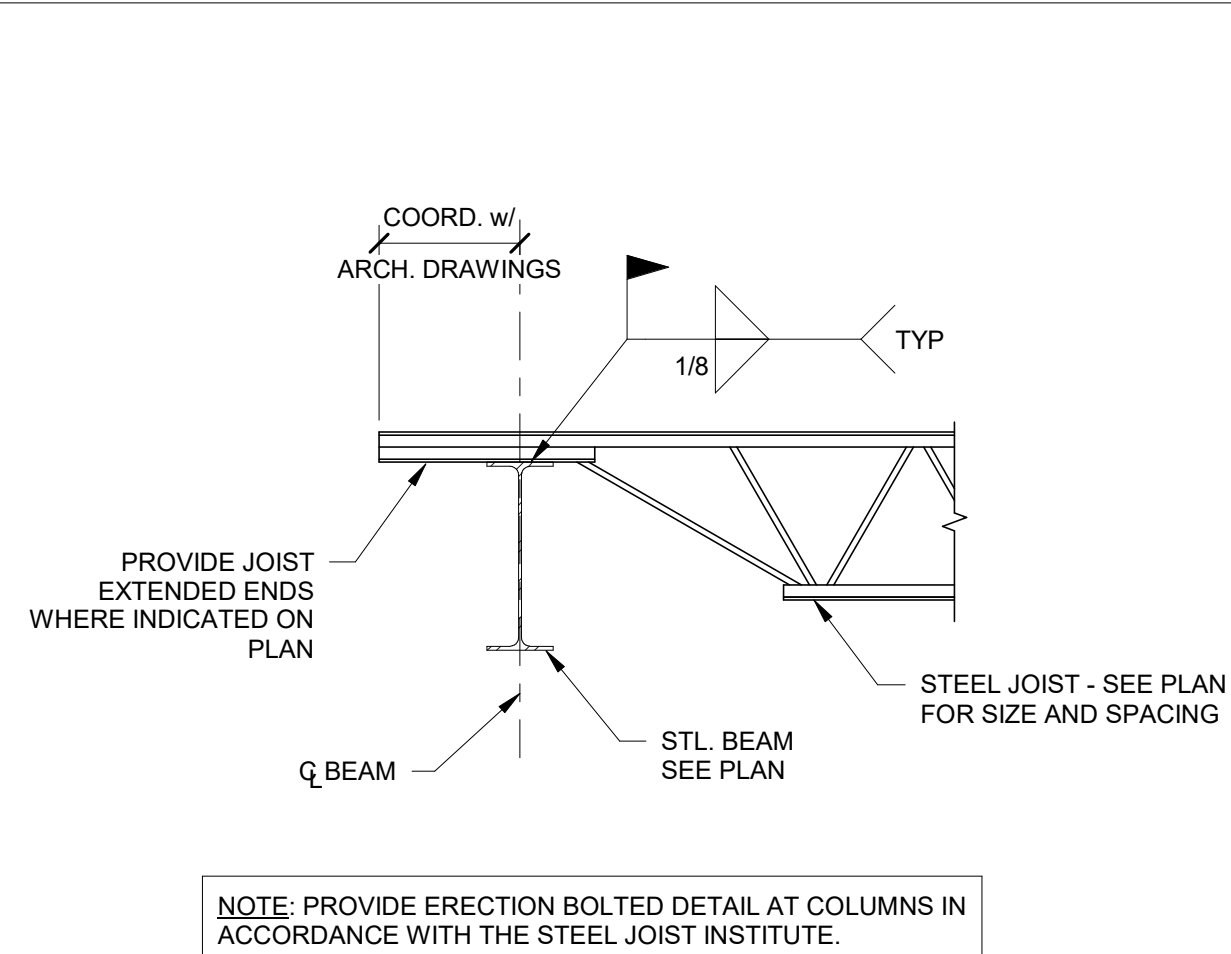
FOUNDATION SECTION

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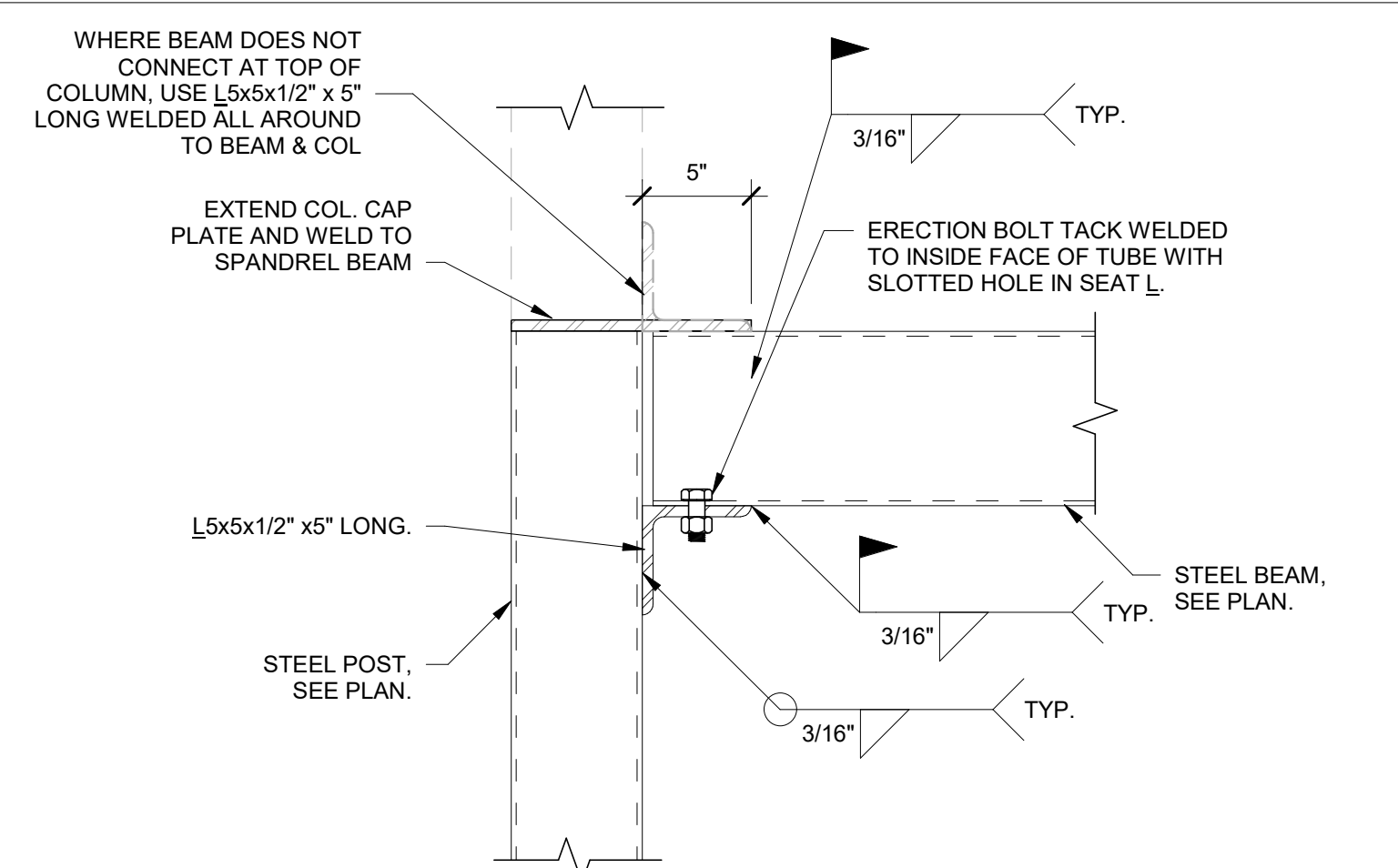
TYPICAL BEAM CONNECTION DETAILS

SCALE: 3/4" = 1'-0"



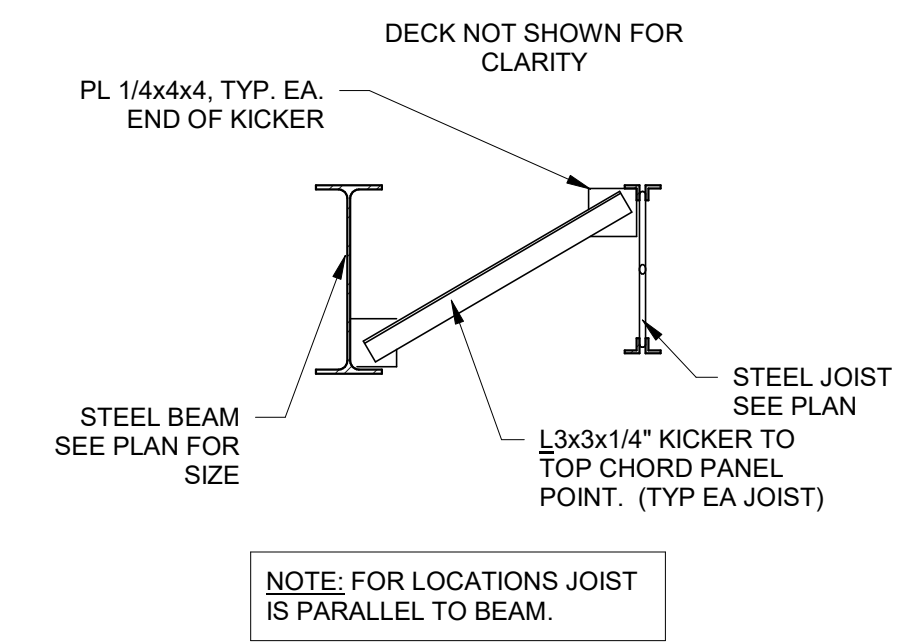
TYPICAL EXTERIOR JOIST BEARING DETAIL

SCALE: 3/4" = 1'-0"



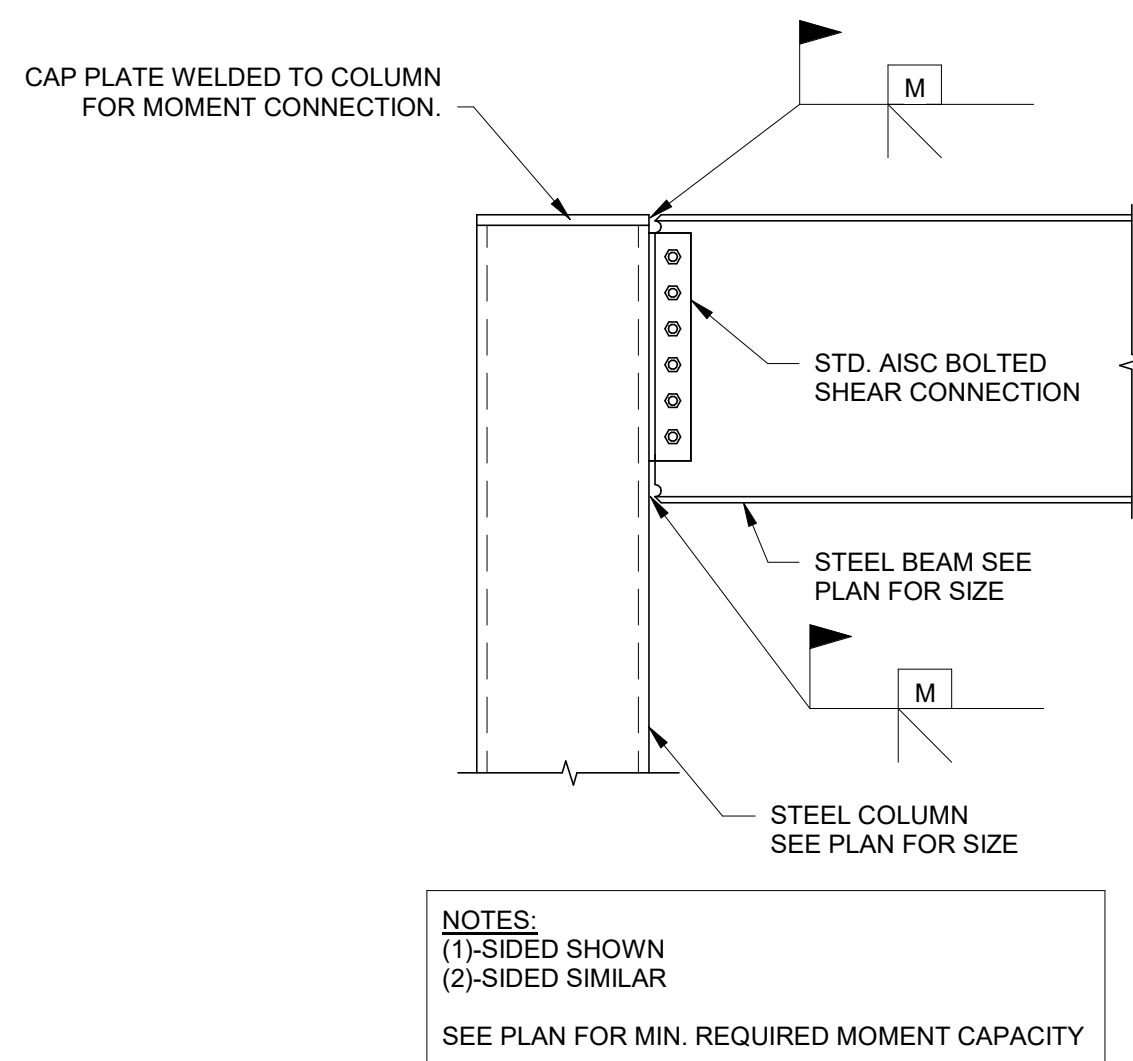
TYPICAL BEAM TO POST CONNECTION DETAIL

SCALE: 1 1/2" = 1'-0"



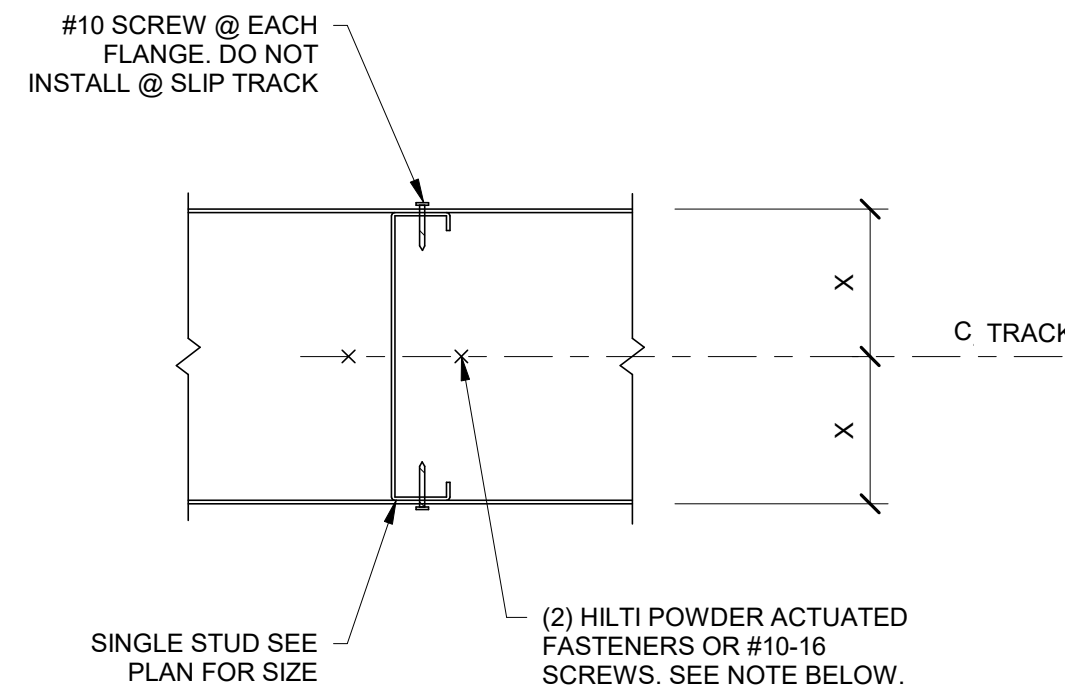
TYPICAL KICKER DETAIL

SCALE: 3/4" = 1'-0"



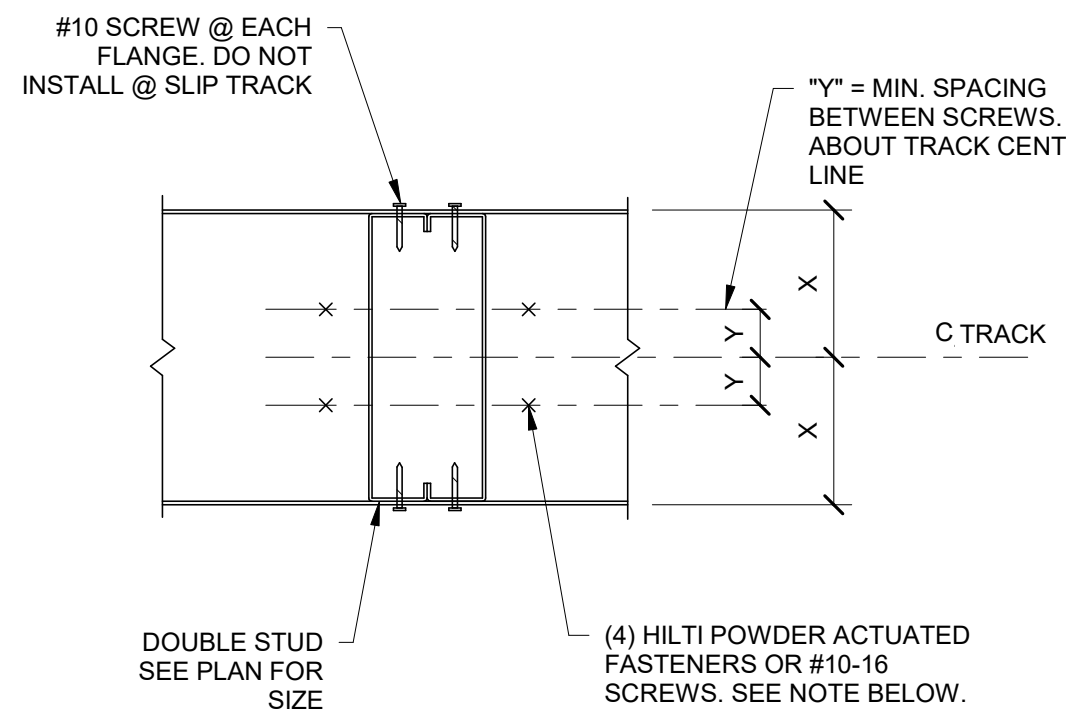
SCHEMATIC MOMENT CONNECTION DETAIL

SCALE: 3/4" = 1'-0"



SINGLE STUD

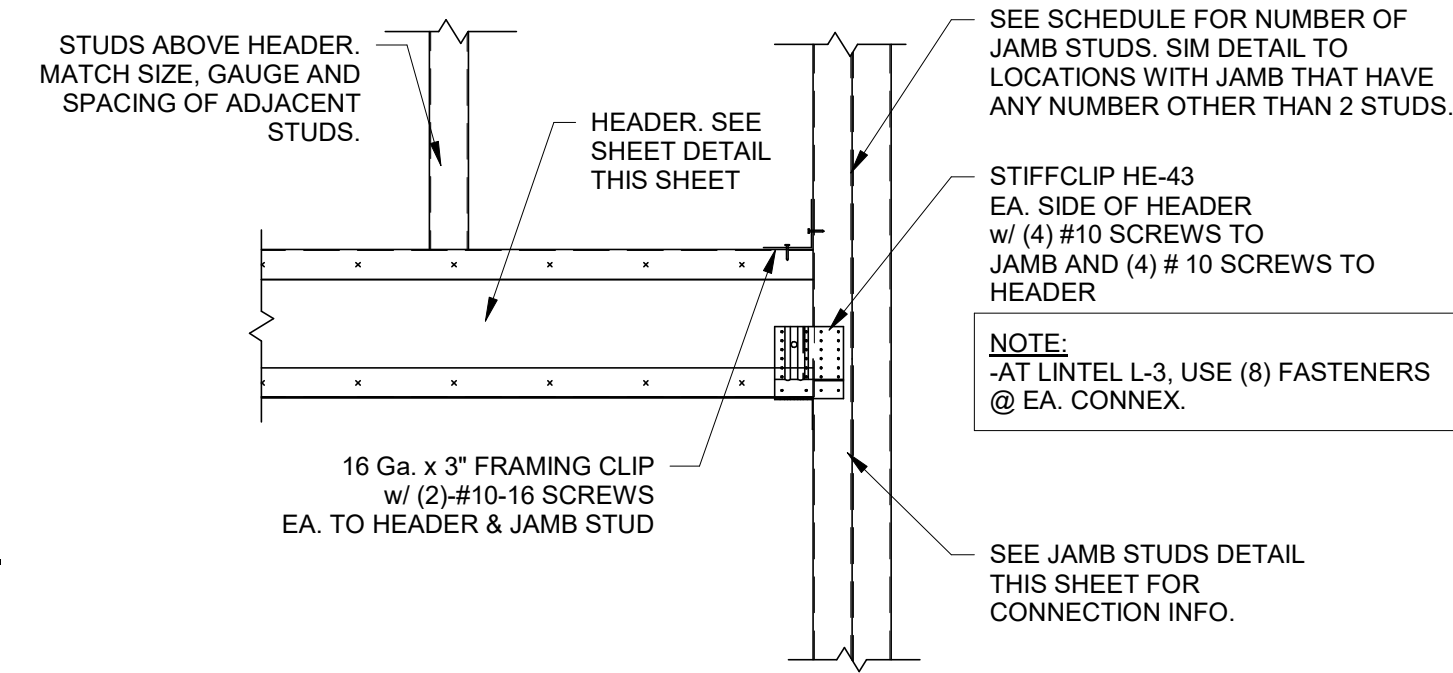
NOTE:
USE HILTI X-U ($\beta = 0.157$) AT CONNECTION TO STEEL BASE MATERIAL, U.N.O.
USE HILTI X-U ($\beta = 0.157$) MIN 1 1/4" EMBED AT CONNECTION TO MASONRY OR CONCRETE BASE MATERIAL, U.N.O.
USE #10-16 SELF DRILLING SCREWS AT CONNECTION TO LIGHT GAGE BASE MATERIAL, U.N.O.



DOUBLE STUD CONNECTION DETAIL

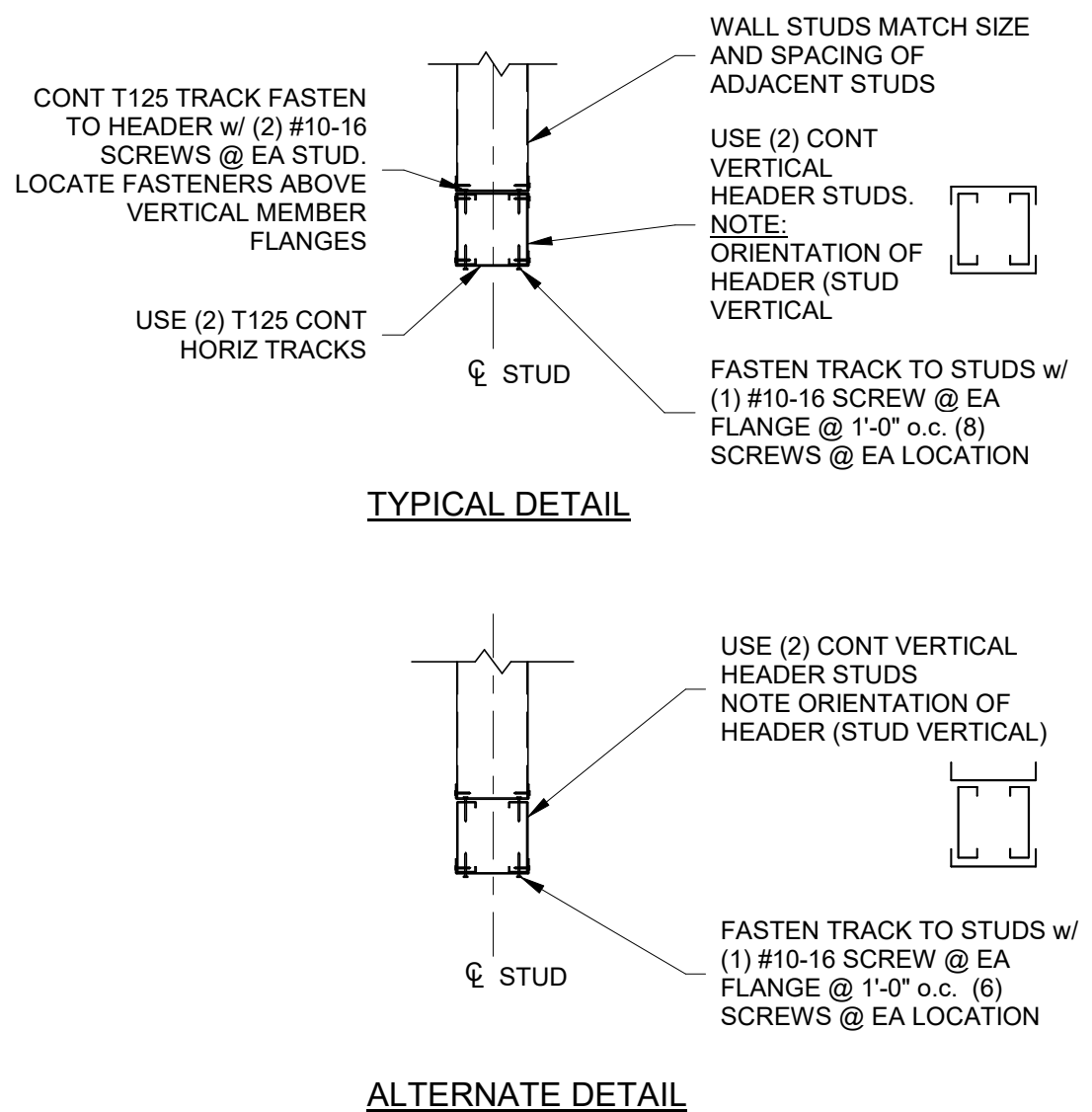
SCALE: 3/4" = 1'-0"

NOTES:
USE HILTI X-U ($\beta = 0.157$) AT CONNECTION TO STEEL BASE MATERIAL, U.N.O.
USE HILTI X-U ($\beta = 0.157$) MIN 1 1/4" EMBED AT CONNECTION TO MASONRY OR CONCRETE BASE MATERIAL, U.N.O.
USE #10-16 SELF DRILLING SCREWS AT CONNECTION TO LIGHT GAGE BASE MATERIAL, U.N.O.
FOR MORE THAN (2) STUDS ADD (2) ADDNL FASTENERS THRU THE TRACK @ EACH ADDNL STUD.



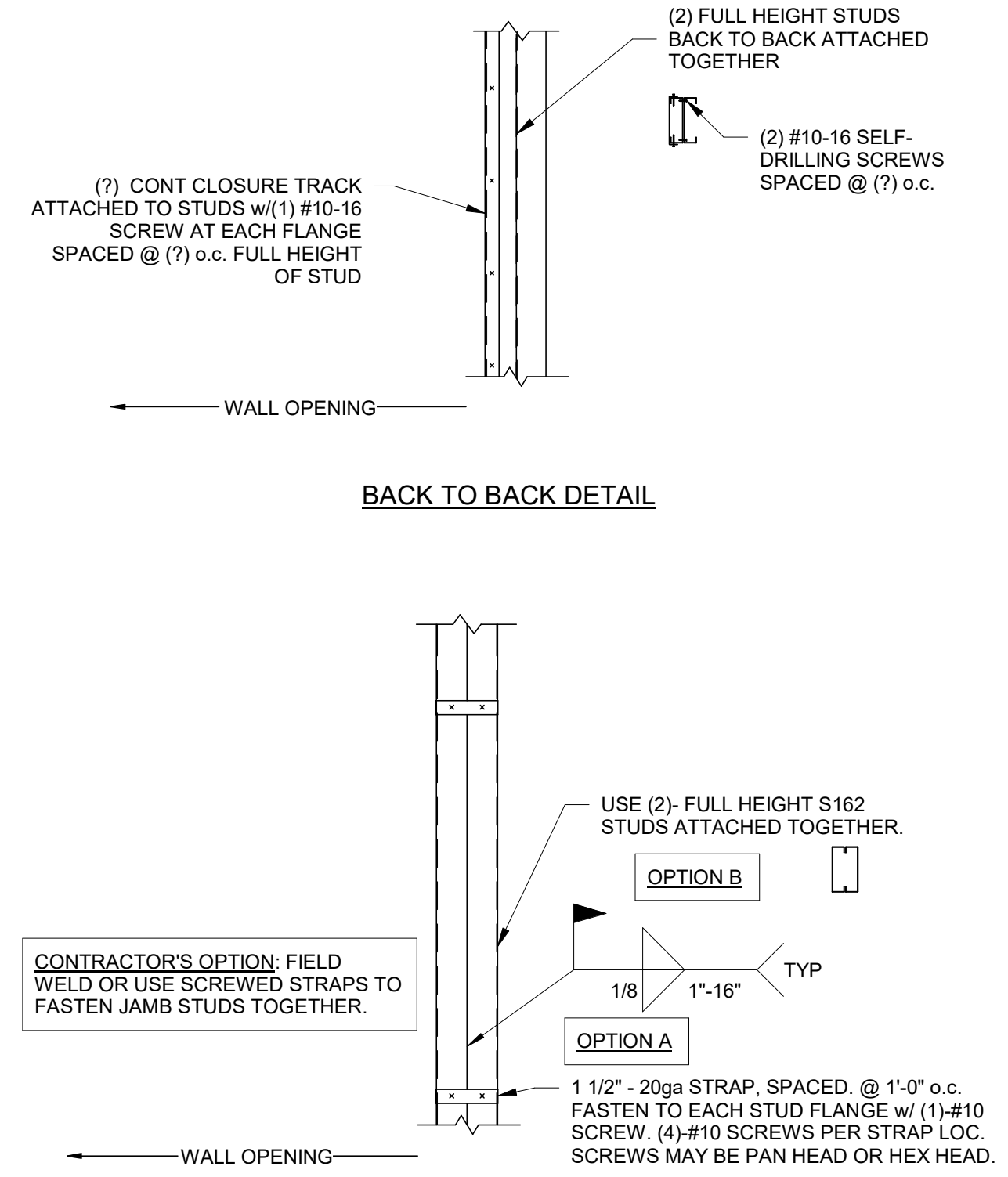
TYP HEADER END CONNEX.

SCALE: 3/4" = 1'-0"



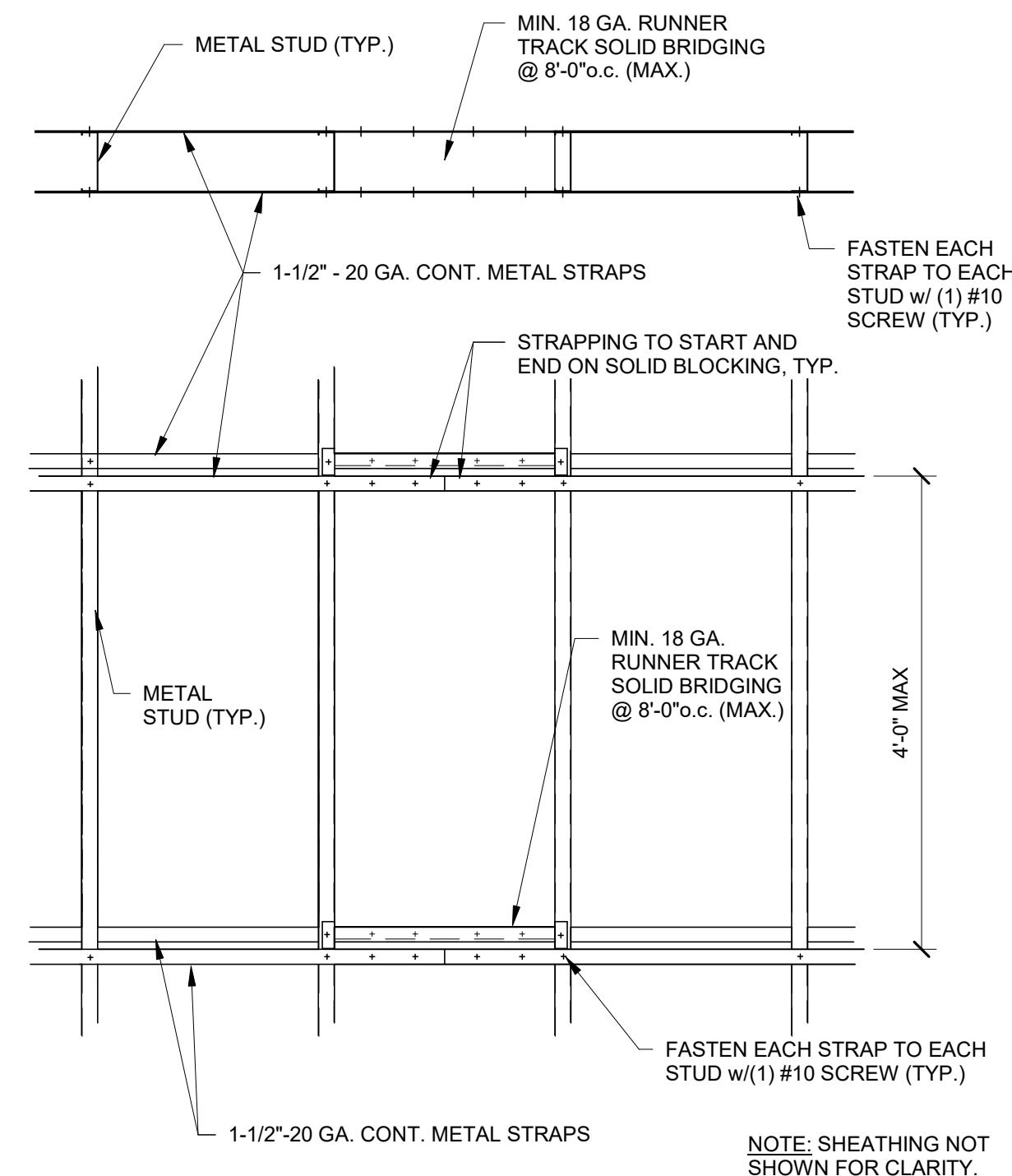
BOX HEADER DETAILS

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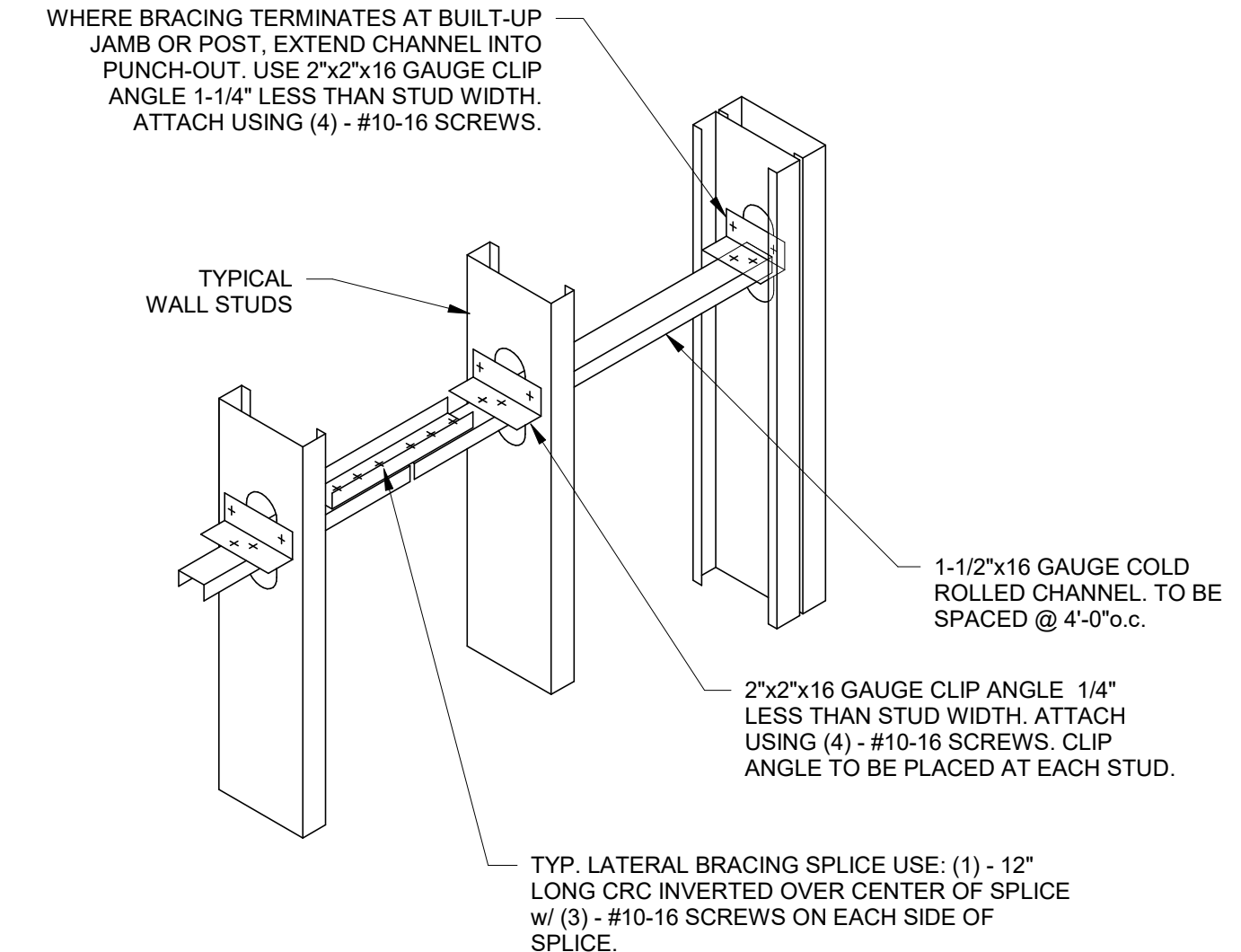
JAMB STUD DETAILS

SCALE: 3/4" = 1'-0"



TYPICAL STUD BRIDGING

SCALE: 3/4" = 1'-0"



OPTIONAL CRC STUD BRIDGING DETAIL

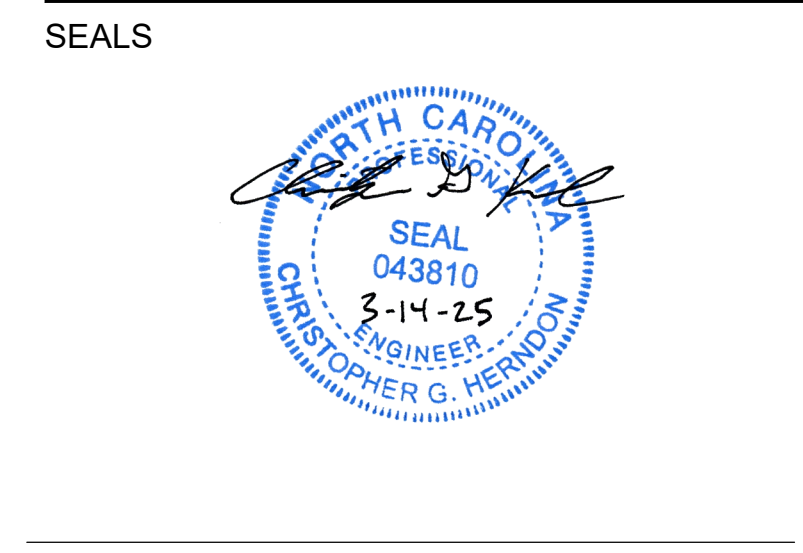
SCALE: 3/4" = 1'-0"



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REVISIONS



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NEW BUILDING

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OWNER
LEE REVIS

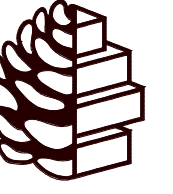
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PHASE	PERMIT SET
DATE	03.14.2025
TD PROJECT #	24-024

DRAWING TITLE
FRAMING SECTIONS & DETAILS

DRAWING NUMBER

S4.0



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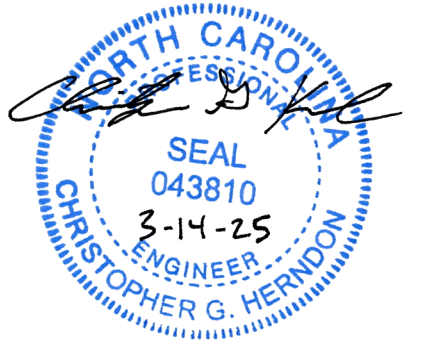


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REVISIONS

NO.	DESCRIPTION

SEALS



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NEW BUILDING

JWR VENTURES
192 JARCO DRIVE
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OWNER
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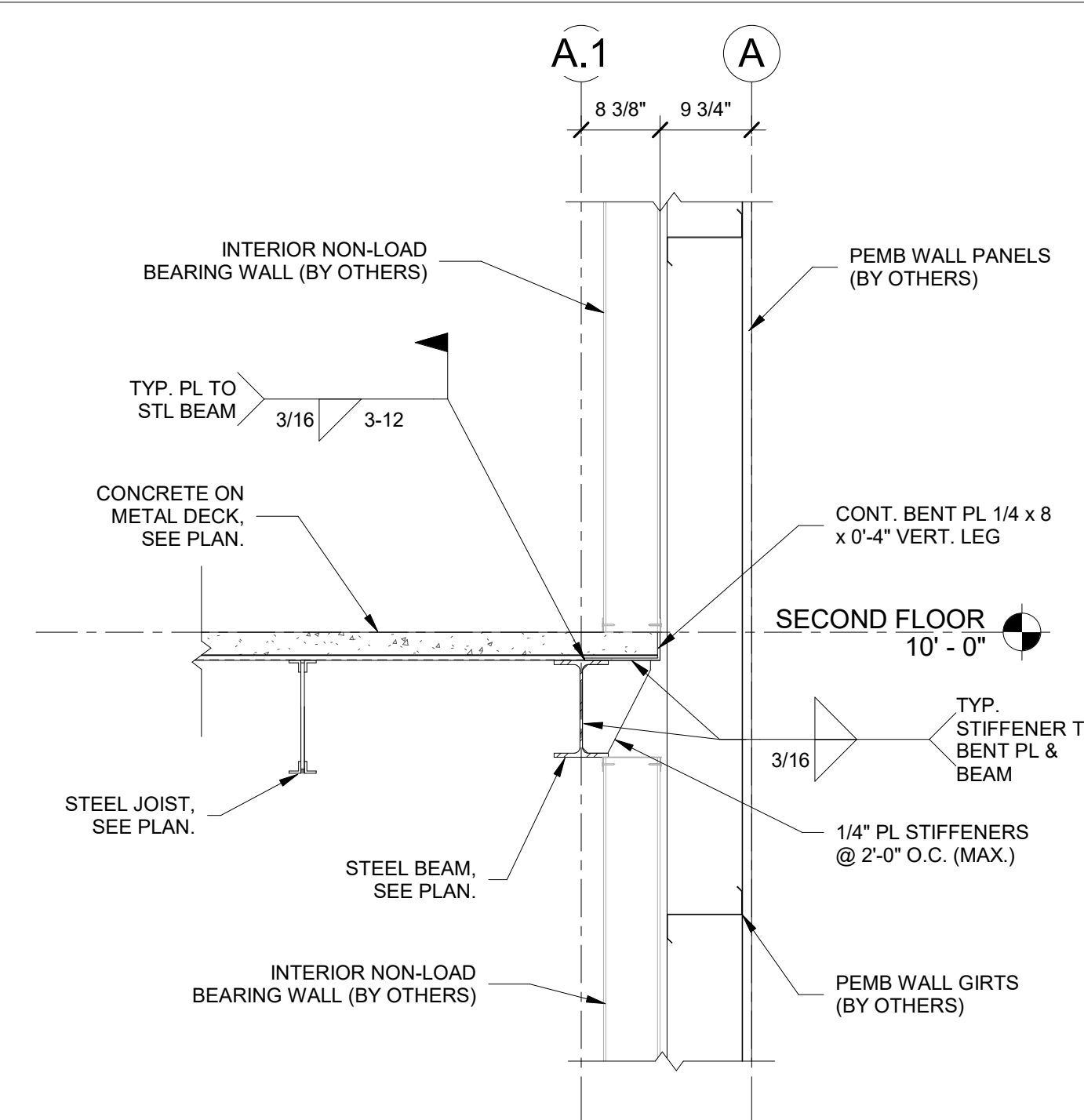
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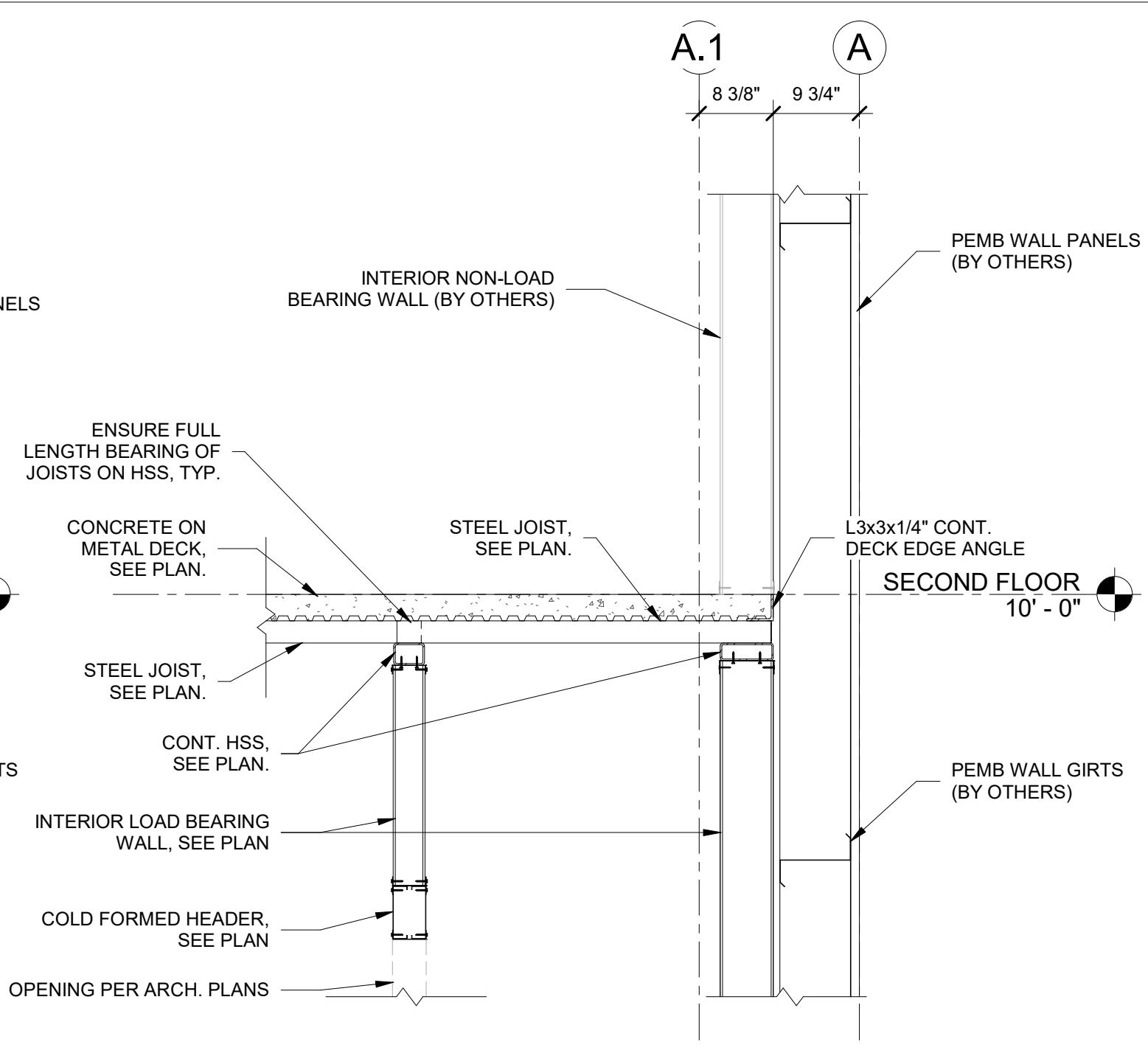
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FRAMING SECTIONS

DRAWING NUMBER

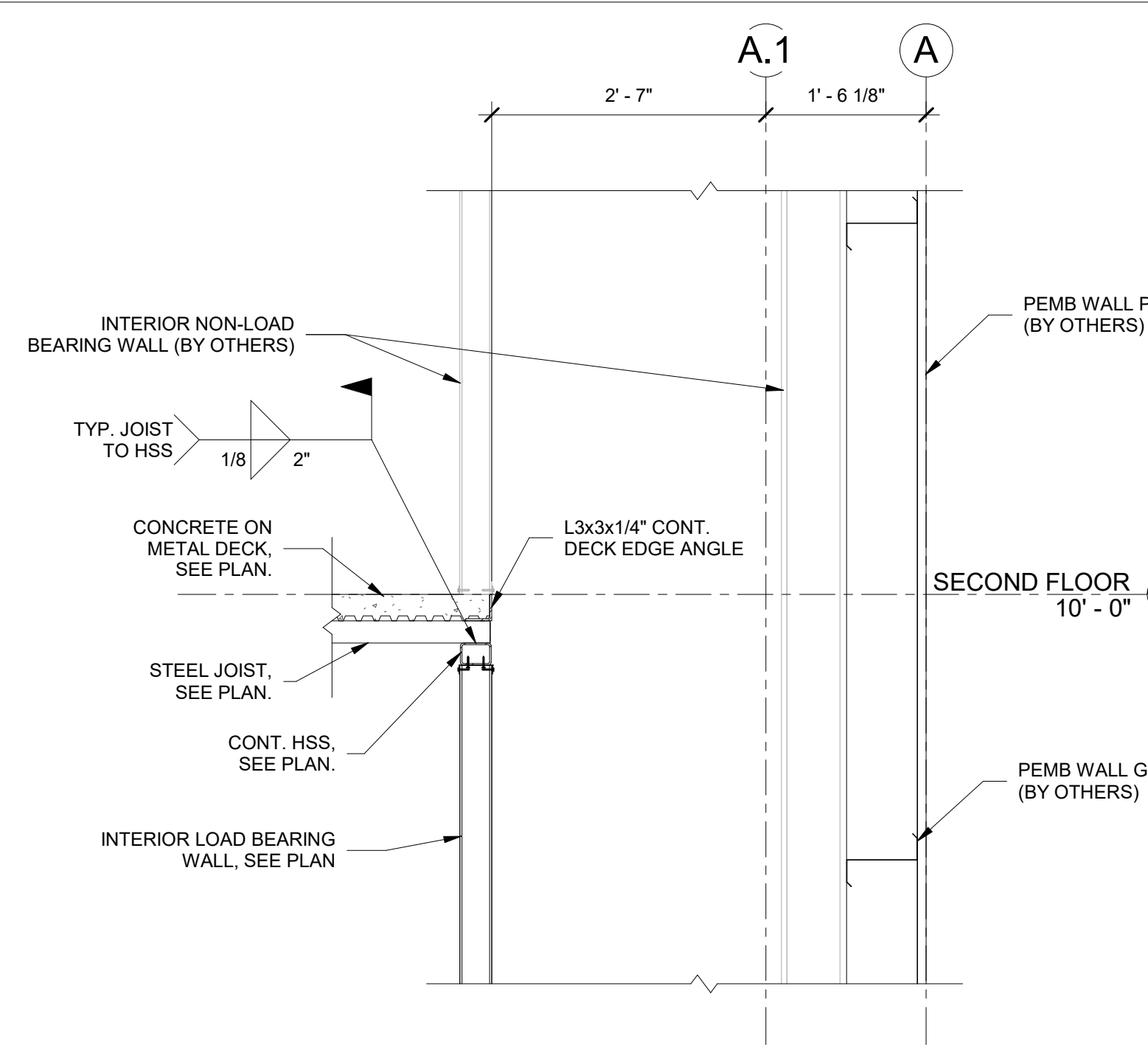
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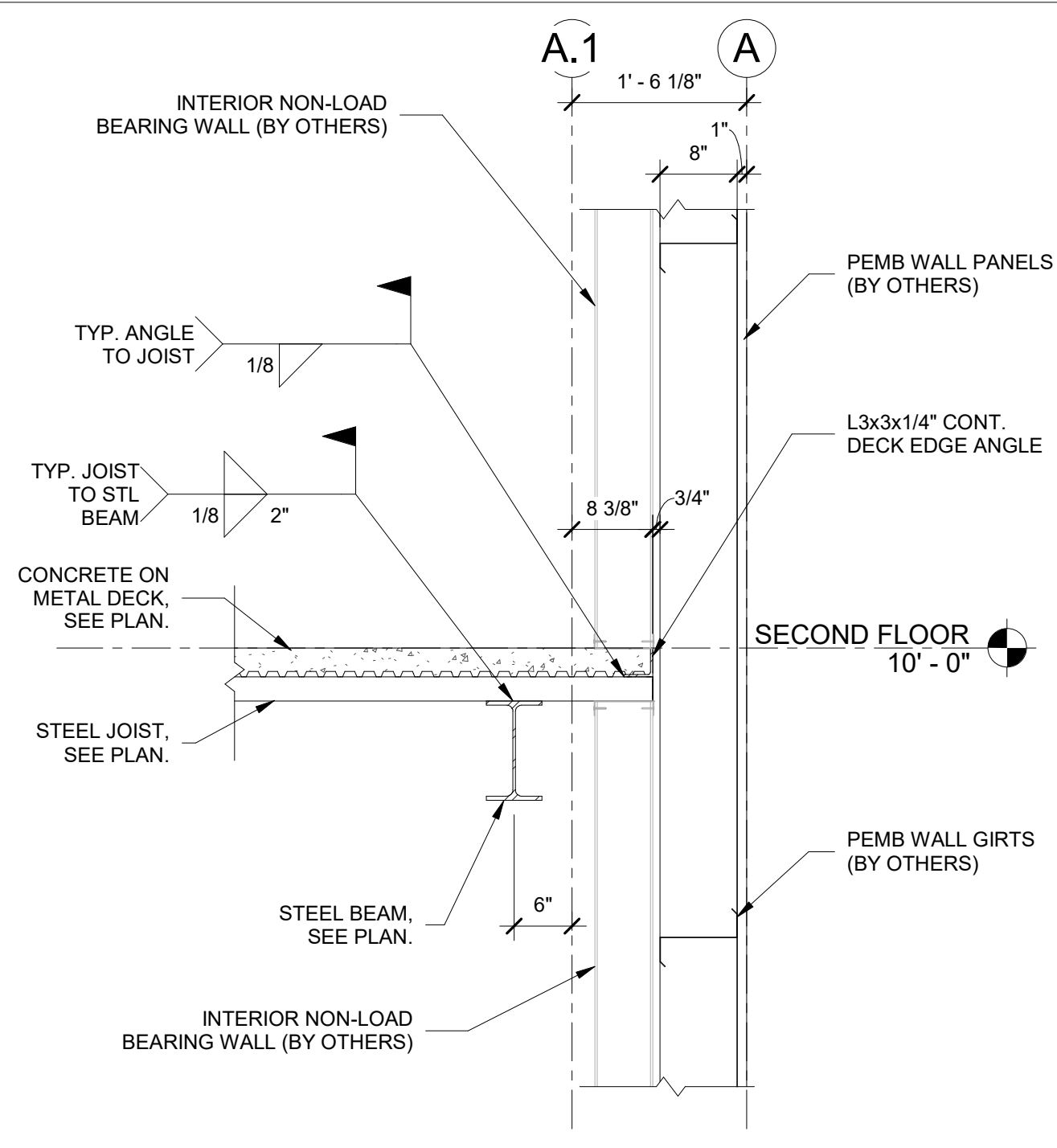
4 FRAMING SECTION
SCALE: 3/4" = 1'-0"



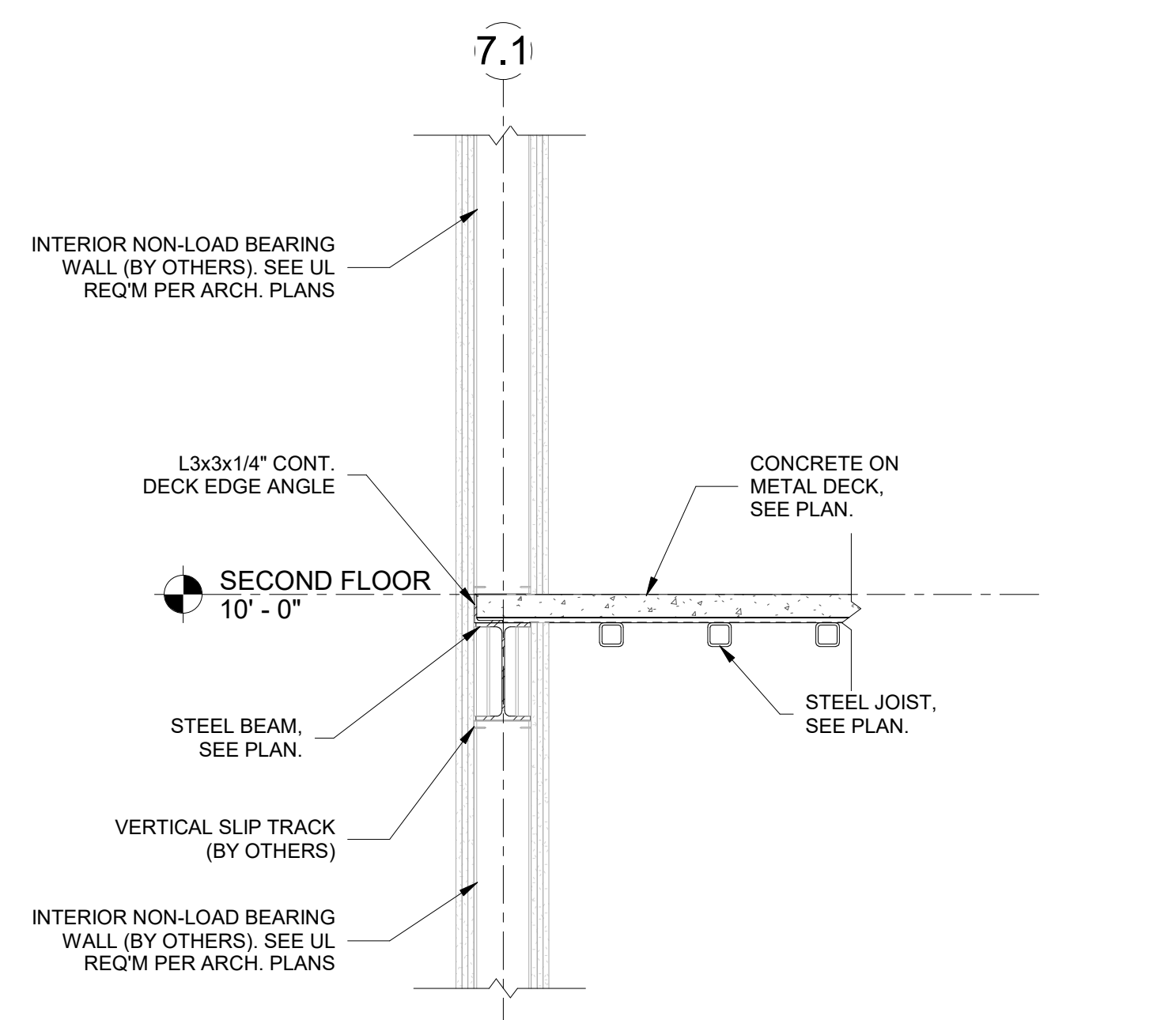
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SCALE: 3/4" = 1'-0"



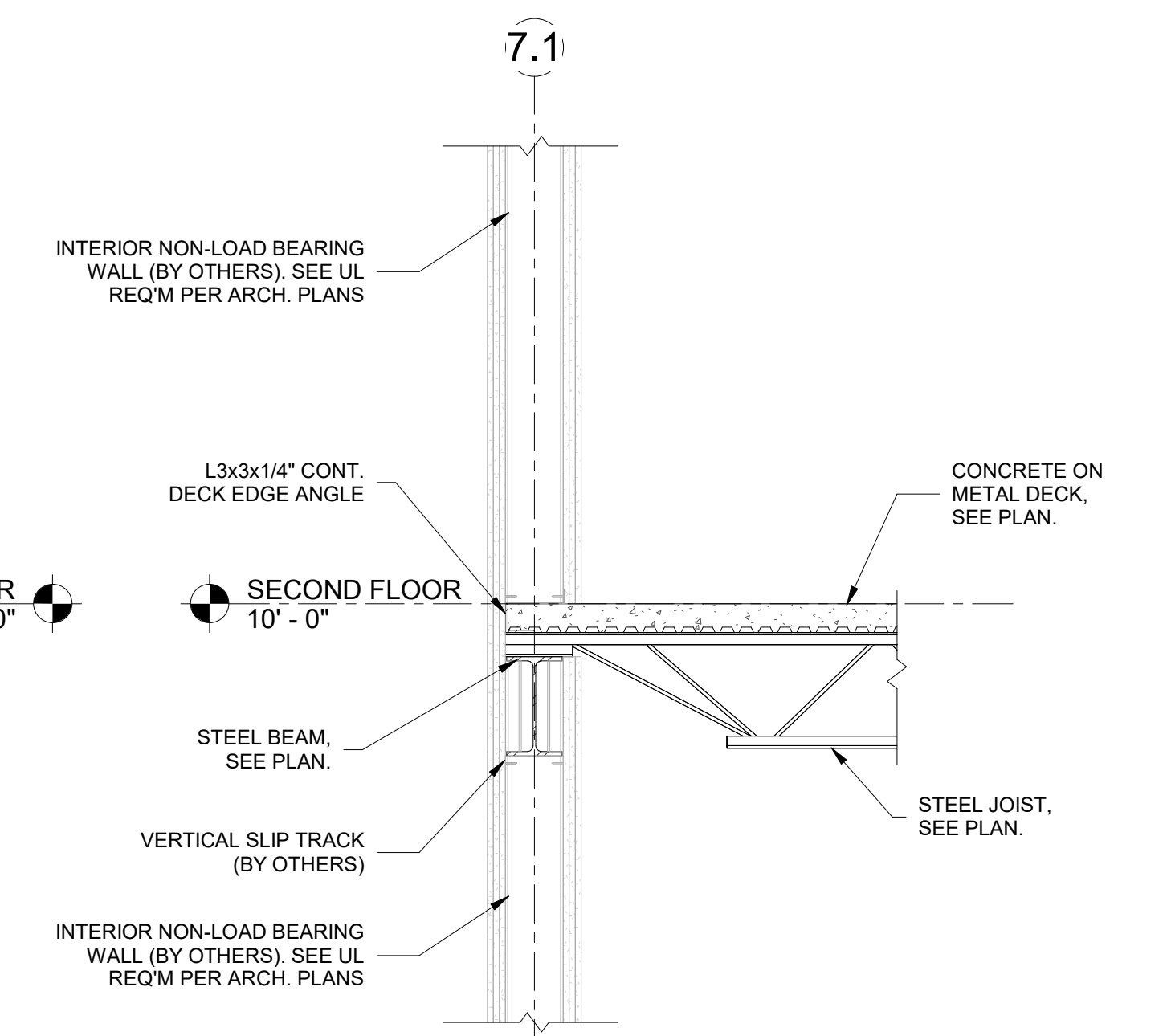
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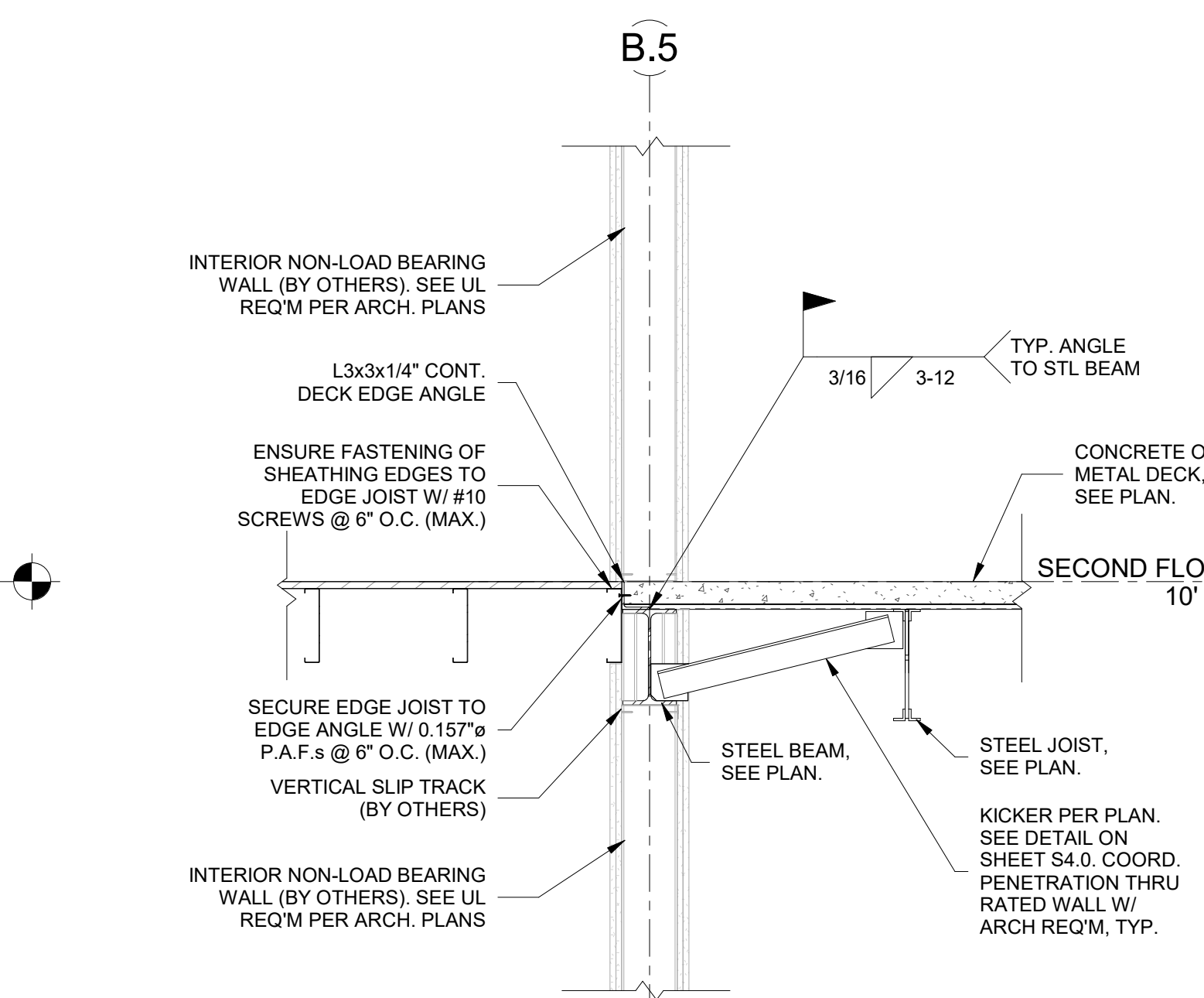
1 FRAMING SECTION
SCALE: 3/4" = 1'-0"



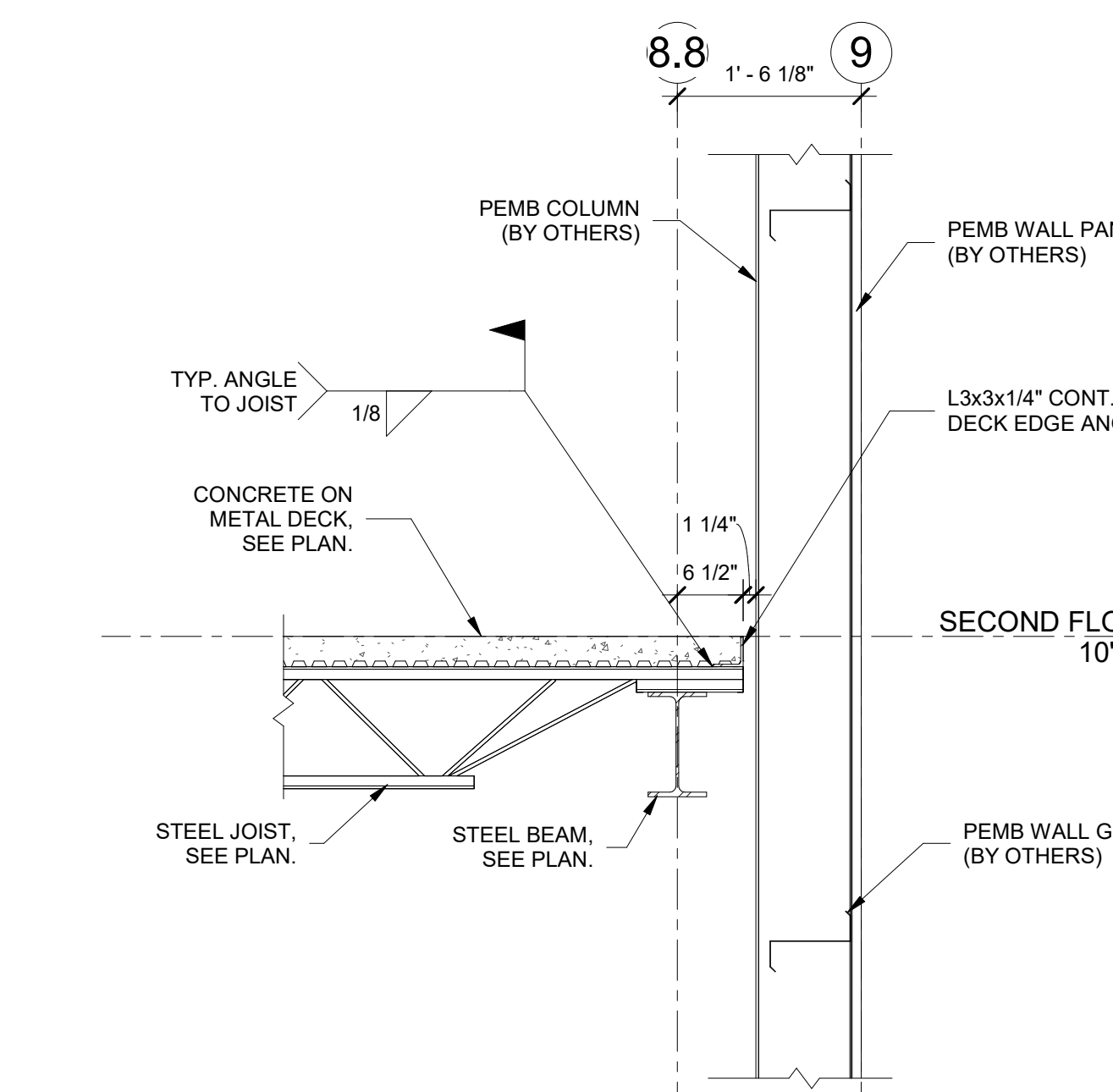
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SCALE: 3/4" = 1'-0"



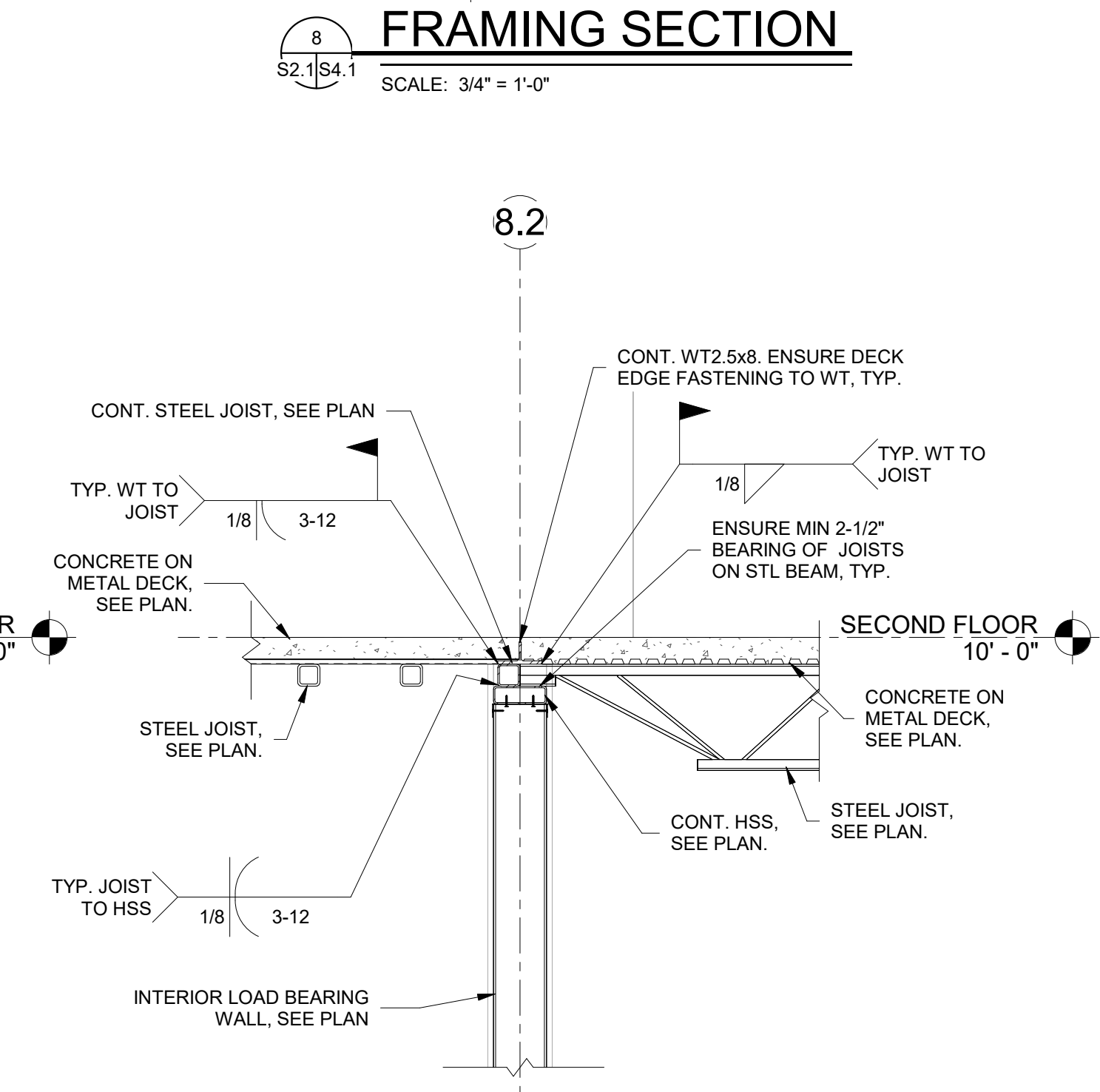
7 FRAMING SECTION
SCALE: 3/4" = 1'-0"



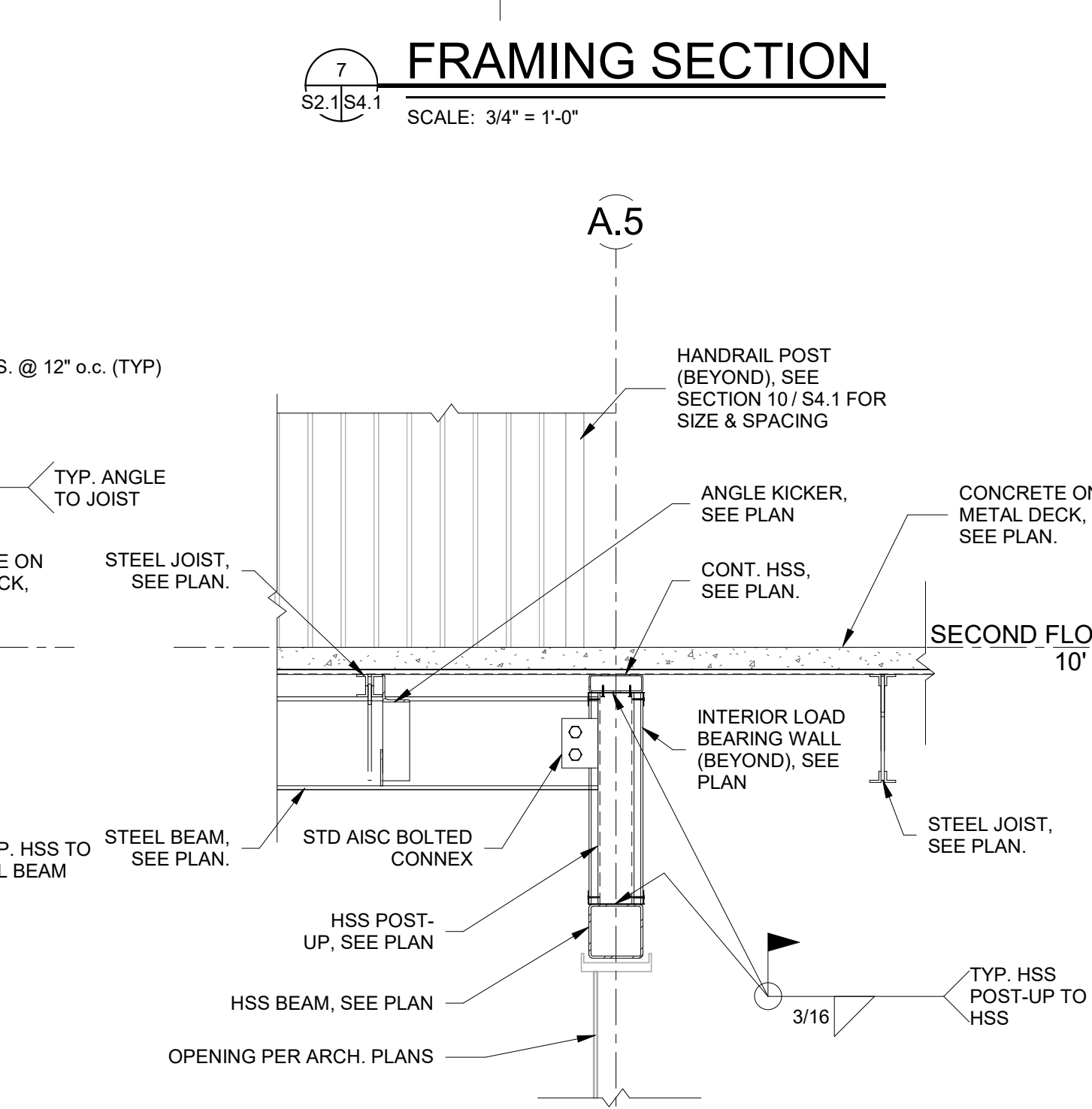
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SCALE: 3/4" = 1'-0"



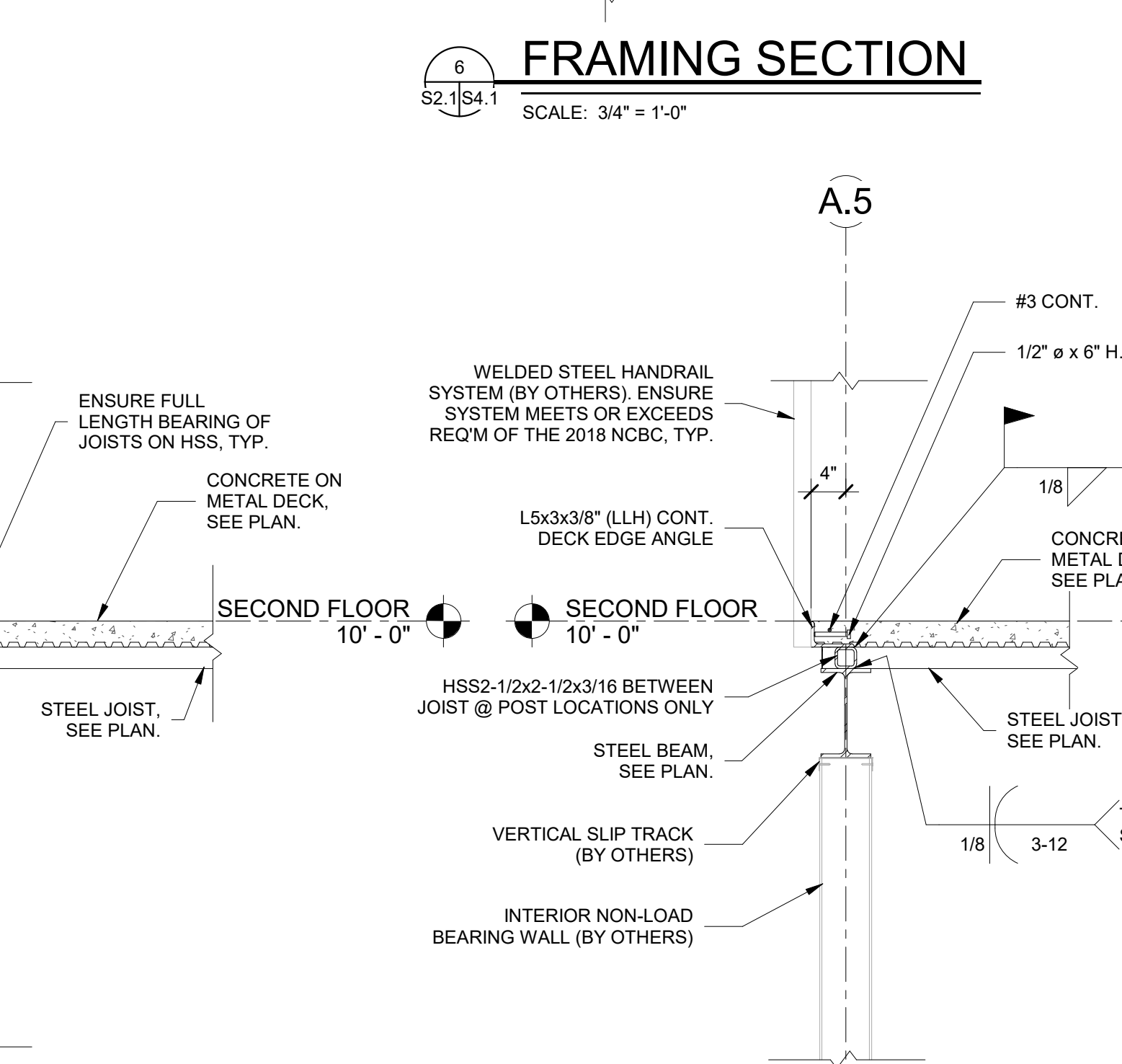
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SCALE: 3/4" = 1'-0"



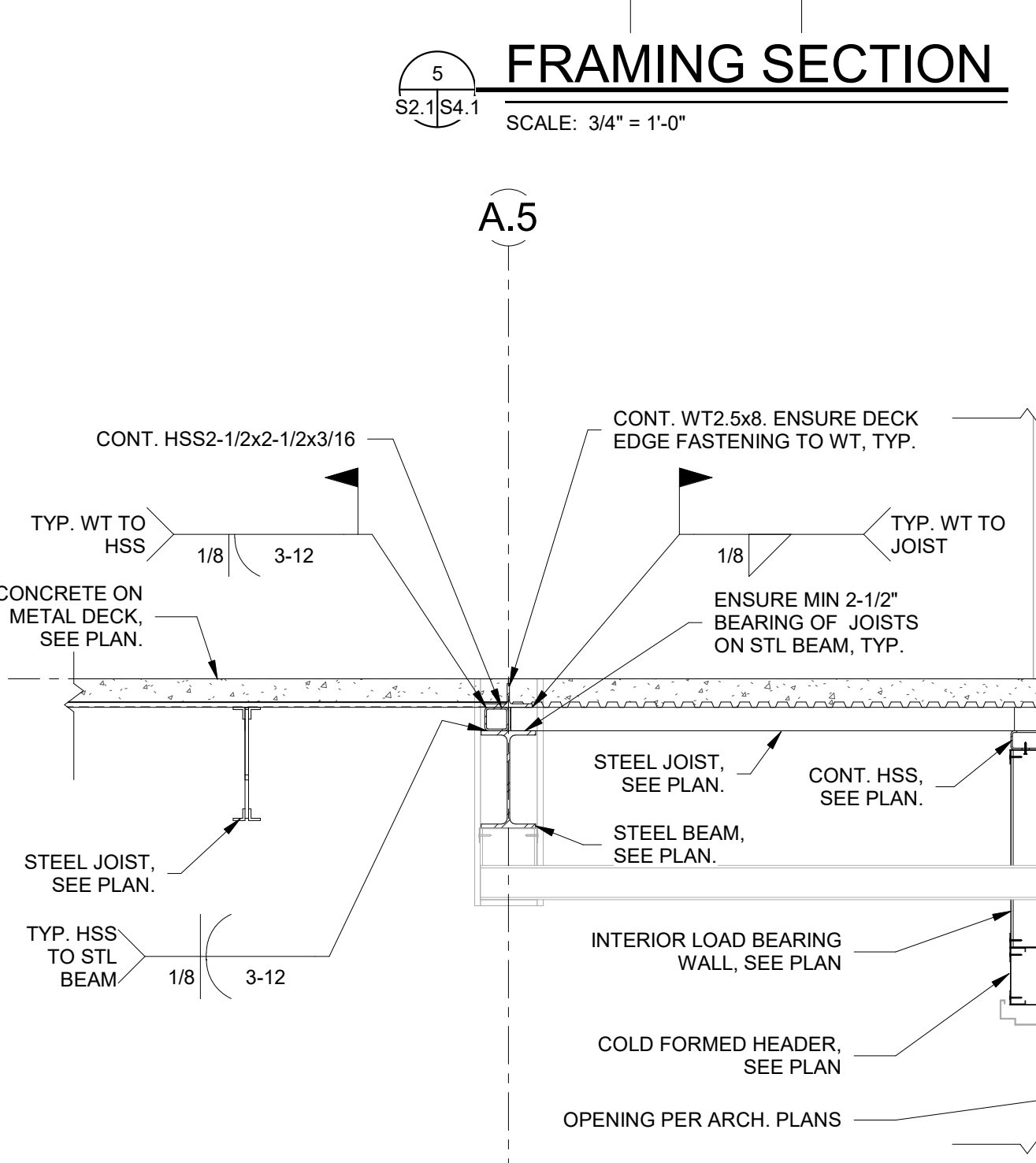
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SCALE: 3/4" = 1'-0"



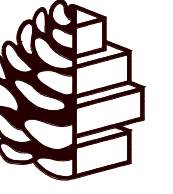
11 FRAMING SECTION
SCALE: 3/4" = 1'-0"



10 FRAMING SECTION
SCALE: 3/4" = 1'-0"



9 FRAMING SECTION
SCALE: 3/4" = 1'-0"



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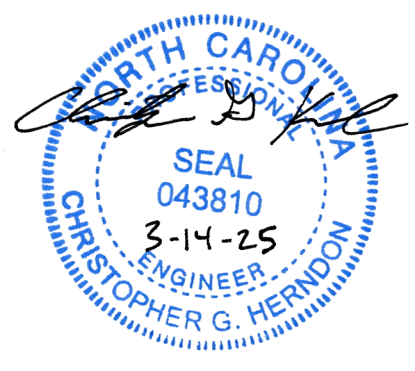


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REVISIONS

NO.	DESCRIPTION

SEALS



JWR VENTURES

NEW BUILDING

JWR VENTURES
192 JARCO DRIVE
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OWNER LEE REVIS

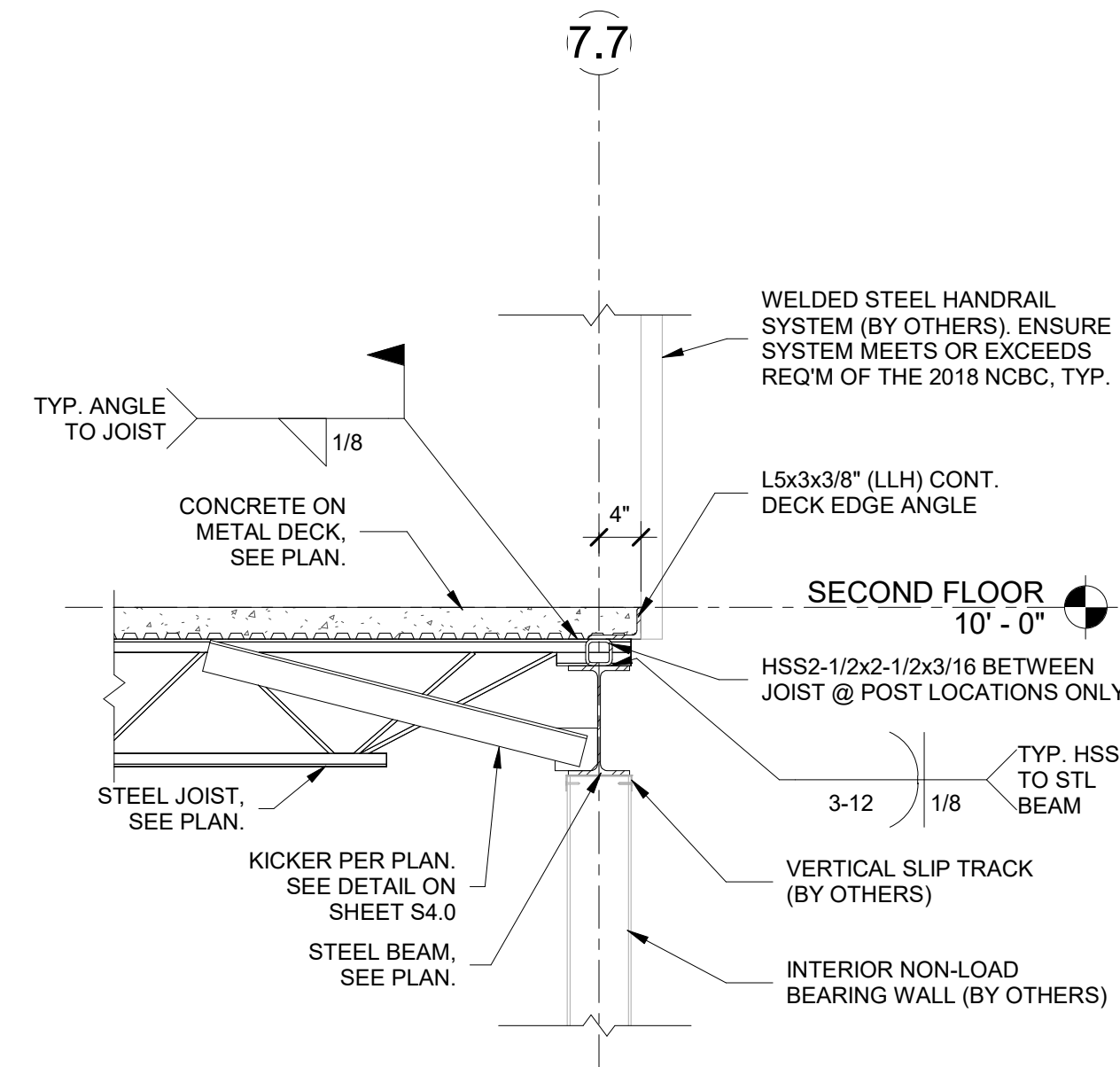
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PHASE	PERMIT SET
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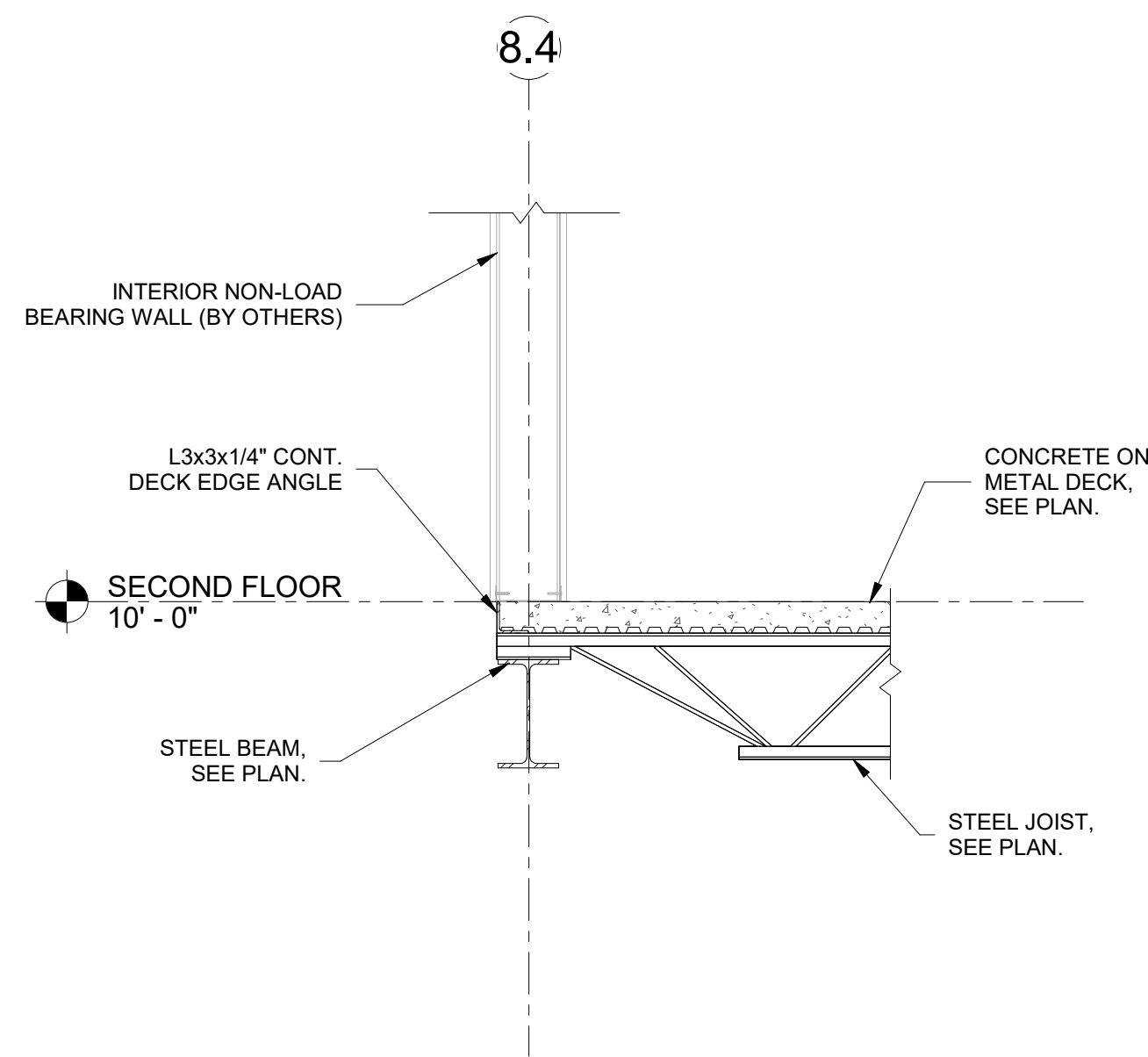
DRAWING TITLE FRAMING SECTIONS

DRAWING NUMBER

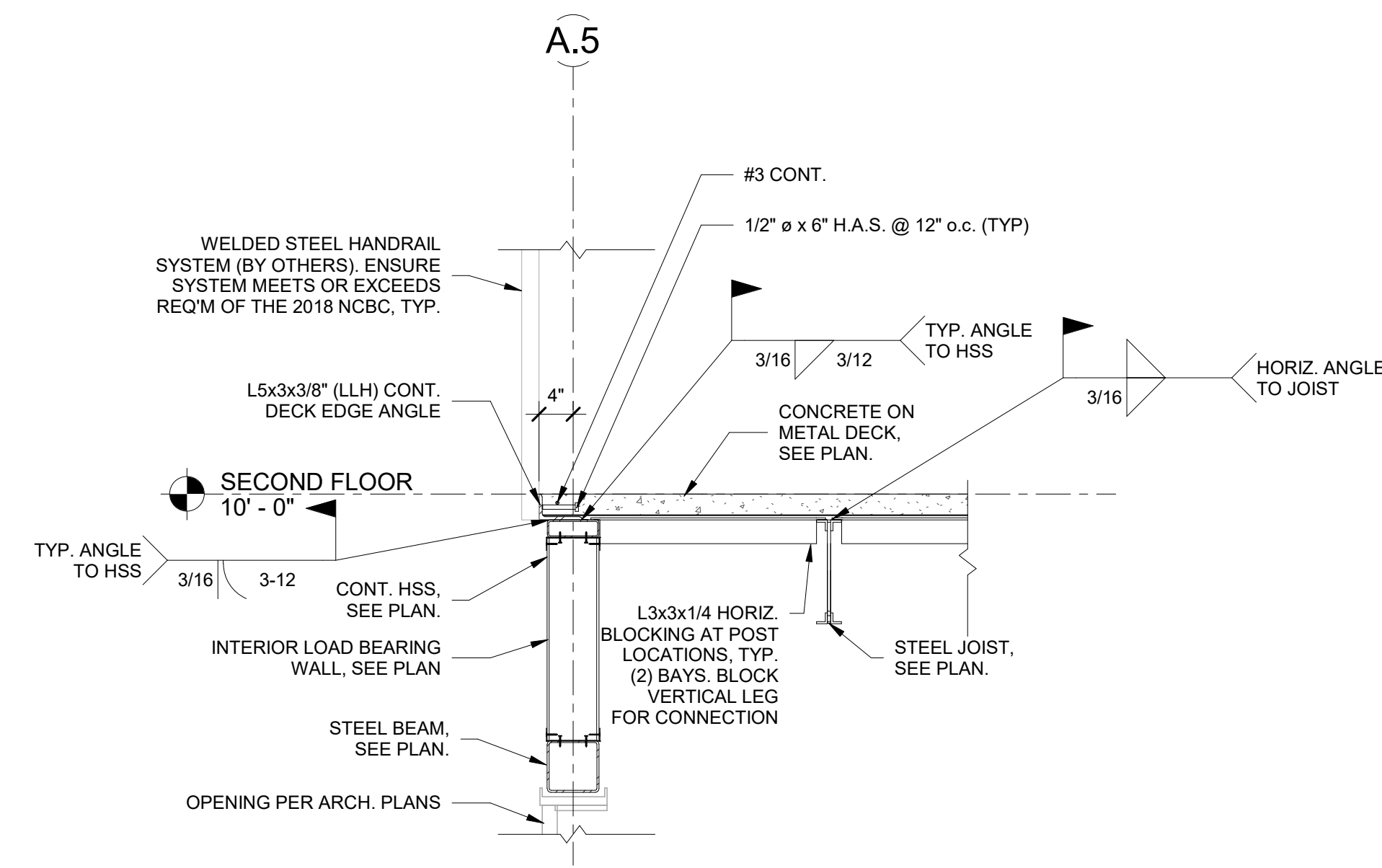
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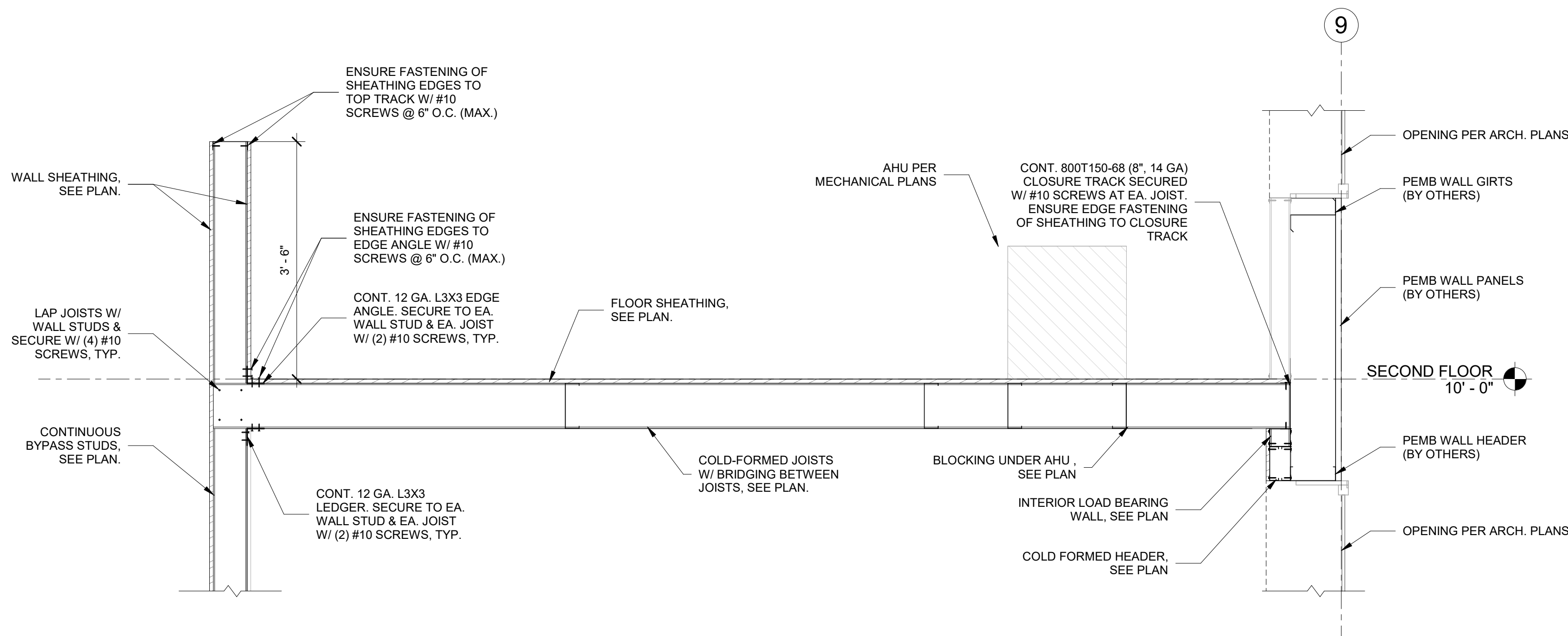
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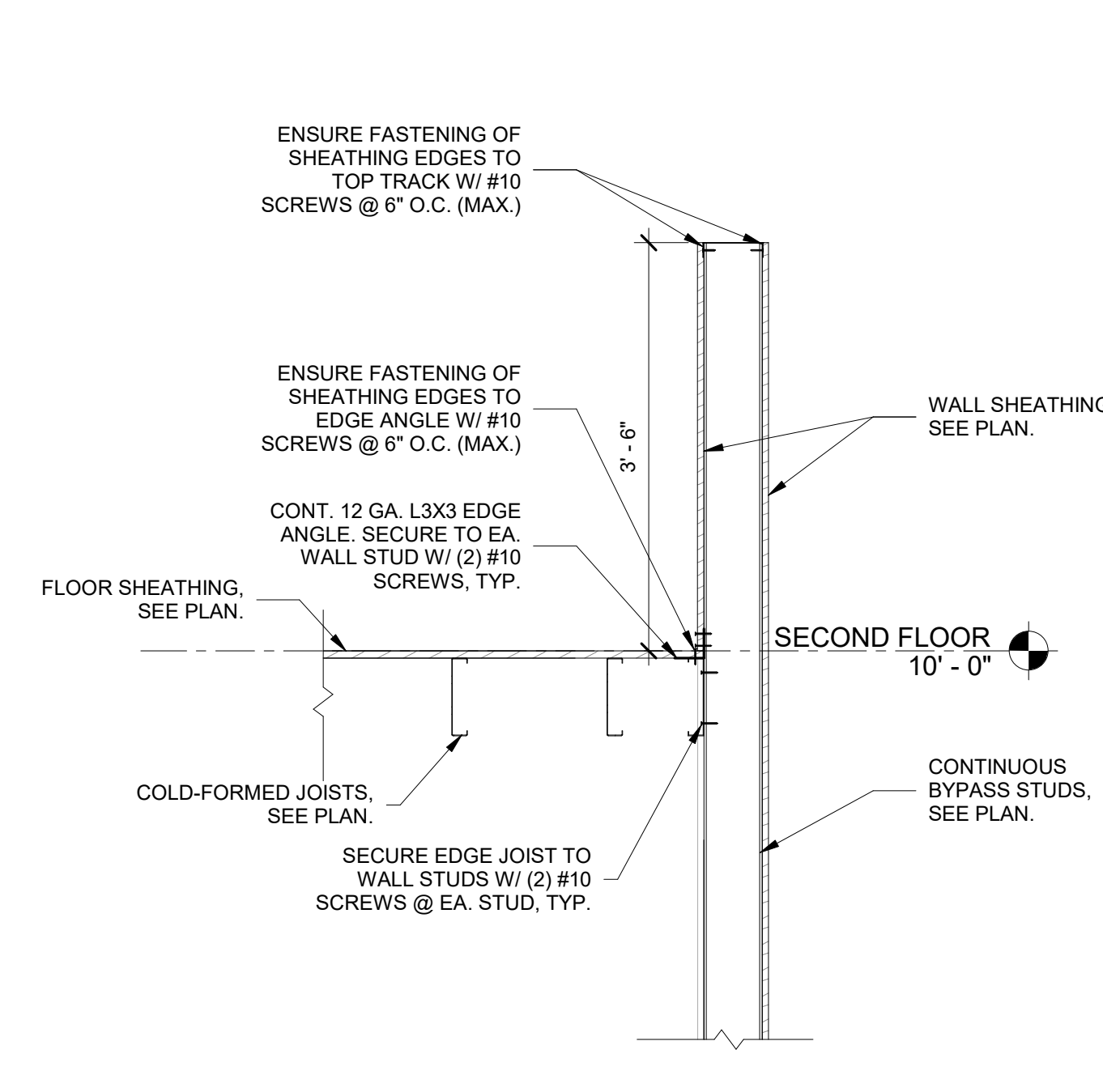
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SCALE: 3/4" = 1'-0"



3 FRAMING SECTION
SCALE: 3/4" = 1'-0"



4 FRAMING SECTION
SCALE: 3/4" = 1'-0"



5 FRAMING SECTION
SCALE: 3/4" = 1'-0"