

## STRUCTURAL DESIGN CRITERIA

## BUILDING CODE

PG-18-10  
2012 INTERNATIONAL BUILDING CODE

## GRAVITY LOADS

1. ROOF LIVE LOADS:  
A. UNIFORMLY DISTRIBUTED ROOF LIVE LOADS:  
EXISTING 7TH FLOOR (ROOF).....20 PSF  
EXISTING 3RD FLOOR POD ROOF.....20 PSF  
EXISTING 1ST FLOOR POD ROOF.....20 PSF  
ORDINARY FLAT PITCHED ROOF.....20 PSF  
CONCENTRATED FLOOR LIVE LOADS:  
ORDINARY FLAT PITCHED ROOF.....300 LBS

2. FLOOR LIVE LOADS:  
A. UNIFORMLY DISTRIBUTED FLOOR LIVE LOADS:  
EXISTING 4TH-6TH FLOORS.....60 PSF  
EXISTING 3RD FLOOR.....150 PSF  
EXISTING 1ST & 2ND FLOORS.....100 PSF  
CLINICAL & SUPPORT SERVICES.....80 PSF  
CONCENTRATED FLOOR LIVE LOADS:  
CLINICAL & SUPPORT SERVICES.....600 LBS

3. EXISTING DEAD LOADS:  
EXISTING FLOORS.....25 PSF  
EXISTING FLOORS.....49 PSF  
EXISTING STEEL FRAMING (PER STORY).....12 PSF  
EXISTING CEILING AND MISC. (PER STORY).....25 PSF  
PARTITION WALLS (PER STORY).....25 PSF

4. EQUIPMENT WEIGHTS:  
RAHU-1.....8,800 LBS  
ADDITION FLOOR MOUNTED  
EQUIPMENT/ CABINETS.....3,000 LBS  
ADDITION CEILING MOUNTED  
EQUIPMENT.....1,000 LBS  
SPECT CT GANTRY.....4,500 LBS  
SPECT CT TABLE.....1,000 LBS

## SNOW LOADS

GROUND SNOW LOAD, Pg = 10 PSF (Ct=1.0)

## WIND LOADS (ASCE 7-10)

DESIGN WIND SPEED (3 SEC GUST) = 120 MPH  
RISK CATEGORY = IV  
MWFRS EXPOSURE = C  
GcP = ± 0.18

## SEISMIC CRITERIA (IBC 2012/ASCE 7-10)

RISK CATEGORY = IV  
SEISMIC DESIGN CATEGORY = D  
SITE CLASS = D  
SEISMIC LEVEL = MODERATE-HIGH  
Ss = 0.494 g  
S1 = 0.160 g  
SDS = 0.463 g  
SD1 = 0.231 g  
SEISMIC FORCE RESISTING SYSTEM:  
EXISTING STEEL MOMENT FRAMES AND BRACED FRAMES  
WITH ADDED DEMAND CAPACITY RATIO LESS THAN 10%  
IN ACCORDANCE W/ IBC 3403.4 EXCEPTION  
FOR PURPOSES OF CALCULATING DEMAND-CAPACITY  
RATIOS, THE DEMAND CONSIDERS LATERAL FORCES IN  
ACCORDANCE WITH SECTIONS 1609 AND 1613 USING THE  
FOLLOWING SEISMIC PARAMETERS:  
STEEL SPECIAL CONCENTRICALLY BRACED FRAMES, R = 6  
STEEL SPECIAL MOMENT FRAMES, R = 8  
RESPONSE MODIFICATION COEFFICIENT, R = 6  
SEISMIC RESPONSE COEFFICIENT, Cs = 0.099  
SEISMIC IMPORTANCE FACTOR, I = 1.50  
ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE  
DESIGN BASE SHEAR:  
EXISTING STRUCTURE, V = 5129 K  
EXISTING STRUCTURE w/ ADDITION, V = 5187 K (1.1% INCREASE)

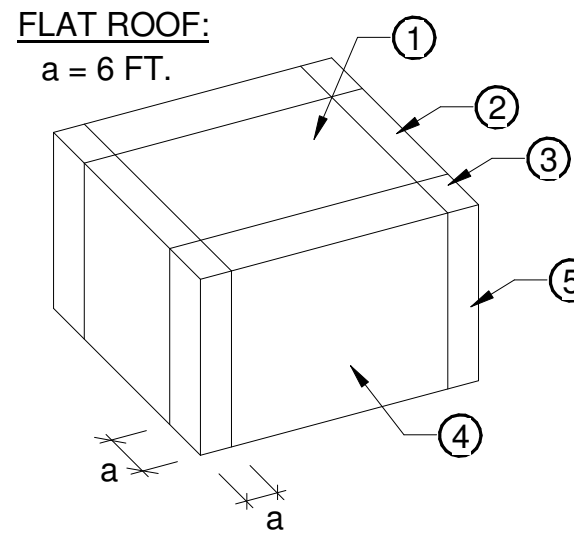
## COMPONENTS &amp; CLADDING WIND

PRESSURES (PSF)  
(METHOD 1 CHAPTER 30)

	ZONE	AREA (SF)	+ P	- P
ROOF	①	10	16.6	-41.0
		20	16.0	-39.9
		50	16.0	-38.6
	②	100	16.0	-37.5
		10	16.6	-68.9
OVER-HANG	②	10	16.0	-61.5
		50	16.0	-51.8
		100	16.0	-44.5
	③	10	--	-61.9
		20	--	-60.8
WALLS	③	50	--	-59.4
		100	--	-58.3
		10	16.6	-103.6
	④	20	16.0	-85.9
		50	16.0	-62.3
OVER-HANG	④	100	16.0	-44.5
		10	--	-101.9
		20	--	-51.0
	⑤	50	--	-51.0
		100	--	-29.1
WALLS	⑤	10	41.0	-44.5
		20	39.1	-42.6
		50	36.7	-40.2
	⑤	100	34.8	-38.3
		500	30.6	-34.1
WALLS	⑤	10	41.0	-55.0
		20	39.1	-51.3
		50	36.7	-46.4
	⑤	100	34.8	-42.6
		500	30.6	-34.1

## FLAT ROOF:

a = 6 FT.



## STRUCTURAL ABBREVIATIONS

(#)	QUANTITY	L	ANGLE
AB	ANCHOR BOLT	LO	LOW
ABV.	ABOVE	LBS.	POUNDS
ADD.	ADDITIONAL	LG.	LONG
AF	ABOVE FINISHED FLOOR	LL	LIVE LOAD
ARCH.	ARCHITECTURAL	LLV	LONG LEG VERTICAL
BFF	BELOW FINISHED FLOOR	LLH	LONG LEG HORIZONTAL
BP	BASE PLATE	LSL	LAMINATED STRAND LUMBER
BRG.	BEARING	LVL	LAMINATED VENEER LUMBER
C	CHANNEL	MAX	MAXIMUM
CJ	CONTROL JOINT	MIN.	MINIMUM
CLR.	CLEAR	M.O.	MASONRY OPENING
CONC.	CONCRETE	O.C.	ON CENTER
COL	COLUMN	PC.	PIECE
DIA. or Ø	DIAMETER	PL.	PLATE
DIAG.	DIAGONAL	PLF	POUNDS PER LINEAR FOOT
DL	DEAD LOAD	PSF	POUNDS PER SQUARE FOOT
E.F.	EACH FACE	PSI	PARALLEL STRAND LUMBER
ELEV.	ELEVATION	P.T.	PRESSURE TREATED
E.S.	EACH SIDE	R.B.E.	RAFTER BEARING ELEVATION
E.W.	EACH WAY	REINF.	REINFORCEMENT
FIN. FLR.	FINISHED FLOOR	SJ	SAW JOINT
FT. or '	FEET	SYP	SPRUCE/PINE/FIR
FTG.	FOOTING	SYF	SOUTHERN YELLOW PINE
GALV.	GALVANIZED	T&B	TOP & BOTTOM
GA	GAUGE	TBR	TO BE REMOVED
GB	GRADE BEAM	T.O.S.	TOP OF STEEL
HI	HIGH	T.O.F.	TOP OF FOOTING
HORIZ.	HORIZONTAL	T.O.J.	TOP OF JOIST
HSS	HOLLOW STRUCTURAL SECTION	U.N.O.	UNLESS NOTED OTHERWISE
IN. or "	INCH	VERT.	VERTICAL
JST.	JOIST	W.P.	WORK POINT
K	KIPS	WF	WIDE FLANGE
KSI	KIPS PER SQUARE INCH	WL	WIND LOAD
		WWF	WELDED WIRE FABRIC
		W/	WITH

## GENERAL STRUCTURAL NOTES

## GENERAL REQUIREMENTS

1. WHERE A SECTION OR DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY TO ALL SIMILAR CONDITIONS.
2. COORDINATE ALL LIMITS AND DEPTHS OF DEPRESSIONS FOR FLOOR FINISHES WITH ARCHITECTURAL DRAWINGS AND SCHEDULES. LIMITS SHOWN ON STRUCTURAL DRAWINGS ARE SCHEMATIC.
3. THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. DO NOT SCALE DRAWINGS. FOLLOW DIMENSIONS SHOWN ON PLANS.
5. CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN HEREIN WITH ARCHITECTURAL PLANS, SECTIONS, AND DETAILS PRIOR TO CONSTRUCTION OR MATERIAL PURCHASE AND SHALL NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND ELEVATIONS NOT SHOWN HEREIN.
6. DIMENSIONS INDICATED RELATIVE TO EXISTING STRUCTURE ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION OR MATERIALS PURCHASE. CONTRACTOR SHALL NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES.
7. DISSIMILAR METALS MUST BE SEPARATED BY A COATING SUCH AS ECK CORROSION COATING OR APPROVED EQUIVALENT OR NEOPRENE GASKET MATERIAL TO PREVENT GALVANIC ACTION.

## STRUCTURAL SPECIAL INSPECTIONS

1. SPECIAL STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED ON THIS PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE 2012 INTERNATIONAL BUILDING CODE (IBC). THE FOLLOWING DOCUMENTS HAVE BEEN PREPARED FOR THIS PROJECT AS A PART OF THESE CONSTRUCTION DOCUMENTS:
- A. STATEMENT OF SPECIAL INSPECTIONS
- B. SCHEDULE OF SPECIAL INSPECTIONS
- C. STATEMENT OF SPECIAL INSPECTIONS REQUIREMENTS FOR WIND RESISTANCE
- D. STATEMENT OF SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE
2. SPECIAL STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED BY AN AGENCY SELECTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER OF RECORD. THE AGENCY SHALL MEET ALL OF THE REQUIREMENTS FOR APPROVAL INDICATED IN 2012 IBC SECTION 1703.1. SPECIAL INSPECTORS SHALL BE QUALIFIED PERSONS WHO SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE CONTRACTOR SHALL COORDINATE THE INSPECTION SERVICES IN ACCORDANCE WITH THE PROGRESS OF THE WORK. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO THE INSPECTOR TO ALLOW PROPER SCHEDULING OF PERSONNEL.
4. ALL REPORTS AND SHOP CERTIFICATION OF SPECIAL INSPECTIONS TO BE PERFORMED ON THE PREMISES A FABRICATOR'S SHOP SHALL BE SUBMITTED TO THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISTRIBUTING THESE REPORTS TO THE SPECIAL INSPECTOR, THE ARCHITECT, AND THE ENGINEER OF RECORD IN A TIMELY MANNER. THE COSTS OF THE SPECIAL INSPECTOR'S SERVICES SHALL BE PAID FOR BY THE OWNER.
5. SPECIAL INSPECTIONS REPORTS AND A FINAL REPORT IN ACCORDANCE WITH 2012 IBC SECTION 1704.2.4 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE TIME THAT PHASE OF THE WORK IS APPROVED FOR OCCUPANCY.
7. REPORTS THAT INDICATE THAT THE WORK WAS PERFORMED AND CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WORK NOT IN CONFORMANCE SHALL BE IDENTIFIED IN THE REPORT AND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR.
8. A FINAL REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS, INCLUDING ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL, THE ARCHITECT, AND THE ENGINEER OF RECORD PRIOR TO COMPLETION OF THE STRUCTURAL SYSTEMS BUT AT A FREQUENCY NOT TO EXCEED 60 DAYS.

## POST-INSTALLED REBAR, ANCHORS AND FASTENERS

1. THE BELOW PRODUCTS ARE THE DESIGN BASIS FOR THIS PROJECT:

2. PRODUCT DIAMETER AND EMBEDMENT SHALL BE AS SHOWN IN THE DETAILS.
3. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPI).
4. CONTRACTOR SHALL CONTACT MANUFACTURER'S REPRESENTATIVE FOR PRODUCT INSTALLATION TRAINING AND A LETTER SHALL BE SUBMITTED TO THE ENGINEER OF RECORD INDICATING THAT TRAINING HAS TAKEN PLACE.
5. REFER TO THE PROJECT BUILDING CODE AND/OR EVALUATION REPORT FOR SPECIAL INSPECTIONS AND PROOF LOAD REQUIREMENTS.
6. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE LISTED BELOW MAY BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD FOR REVIEW. SUBSTITUTIONS WILL ONLY BE CONSIDERED FOR PRODUCTS HAVING A RESEARCH REPORT RECOGNIZING THE PRODUCT FOR THE APPROPRIATE APPLICATION UNDER THE PROJECT BUILDING CODE. SUBSTITUTION REQUESTS SHALL INCLUDE CALCULATIONS THAT DEMONSTRATE THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE EQUIVALENT PERFORMANCE VALUES OF THE DESIGN BASIS PRODUCT. FOR ANCHORING INTO CONCRETE:
- A. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS.
- B. DESIGN BOND STRENGTH HAS BEEN BASED ON CRACKED CONCRETE. ACI 355.4 TEMPERATURE CATEGORY B, AND INSTALLATIONS INTO DRY HOLES DRILLED USING A HAMMER DRILL INTO CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS.
- C. ADHESIVE ANCHORS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2 WHERE INDICATED ON THE CONTRACT DOCUMENTS.
- D. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.9.2.4.
- E. PRE-APPROVED PRODUCTS INCLUDE:  
SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-263)

## CAST-IN-PLACE REINFORCED CONCRETE

1. THE FOLLOWING ACI STANDARDS (LATEST EDITION) APPLY:

- A. ACI 318 - CODE  
B. ACI 315 - DETAILING  
C. ACI 301 - SPECIFICATIONS  
D. ACI 304 - PLACING  
E. ACI 347 - FORMWORK  
F. ACI 211.1 - MIX PROPORTIONING  
G. ACI 305 - HOT WEATHER CONCRETING  
H. ACI 306 - WINTER CONCRETING  
I. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (145 PCF) WITH MIXES MEETING THE FOLLOWING CRITERIA:

STRUCTURAL ELEMENT	28 DAY COMPRESSIVE STRENGTH	MAX AGGREGATE SIZE	MAX W/C RATIO	MAX SLUMP
ELEVATED SLABS & BEAMS	3000 PSI	#67	0.65	4"

## REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60, UNLESS NOTED OTHERWISE.
2. REINFORCING STEEL TO BE WELDED SHALL BE ASTM A706
3. ALL WELDED WIRE FABRIC SHALL BE ASTM A185, 70 KSI MINIMUM YIELD STRENGTH.
4. NO REINFORCING SHALL BE CUT IN FIELD.
5. ADDITIONAL REINFORCING AND THAT QUANTITY OF REINFORCING OCCURRING AT OPENINGS SHALL BE PLACED EQUALLY EACH SIDE OF OPENINGS AS DETAILED.
6. HOOKS IN REINFORCING ARE IN ADDITION TO LENGTH SHOWN.
7. REINFORCING IS TO BE SUPPORTED IN FORMS AND SPACED WITH WIRE BAR SUPPORTS ACCORDING TO CRSI "PLACING REINFORCING BARS" UNLESS NOTED OTHERWISE.
8. WHERE REINFORCING BARS ARE NOTED AS CONTINUOUS, THE FOLLOWING REQUIREMENTS APPLY:
- A. THE TERMINATION OF ALL CONTINUOUS REINFORCING BAR RUNS SHALL BE A STANDARD HOOK UNLESS NOTED OTHERWISE.
- B. SPLICES IN CONTINUOUS TOP BARS SHALL OCCUR OVER PARALLEL CMU WALLS OR AT THE CENTER OF THE CLEAR SPAN.
- C. SPLICES IN CONTINUOUS BOTTOM BARS SHALL OCCUR OVER PERPENDICULAR CMU WALLS OR CENTERED OVER COLUMNS.
9. MINIMUM REINFORCING STEEL CLEAR COVERS ARE AS FOLLOWS:
- A. CONCRETE CAST DIRECTLY AGAINST EARTH: 3"
- B. INTERIOR SLABS: 3"
- C. INTERIOR BEAMS AND COLUMNS: 1 1/2"
- D. EXTERIOR BEAMS AND COLUMNS: 2"
- E. EXTERIOR SLABS: 1 1/2"
- F. SLABS ON GRADE: 1 1/2" FROM TOP

## STRUCTURAL STEEL

1. APPLICABLE STRUCTURAL STEEL CODES:
- A. AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 14TH EDITION
- B. AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES
2. MATERIALS:
- "W" SHAPES ASTM A992, GRADE 50
- STEEL TUBING ASTM A500, GRADE B, Fy = 46 KSI
- STEEL PIPE ASTM A500, GRADE B, Fy = 42 KSI
- ALL OTHER ASTM A36
- ANCHOR BOLTS ASTM A307
- HIGH STRENGTH BOLTS ASTM A325
- ANCHOR RODS ASTM F1554, GRADE 36
- WELDING ELECTRODES E70 SERIES
3. METAL FABRICATOR SHALL BE A CERTIFIED SHOP IN ACCORDANCE WITH THE REQUIREMENTS OF IBC 1704.2.2. ALL STEEL FABRICATION AND ERECTION SHALL BE PERFORMED BY AN APPROVED FABRICATOR OR ERECTOR SUCH THAT QUALITY ASSURANCE INSPECTIONS MAY BE WAIVED AS STATED IN AISC 360 SECTION N7.
4. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED ACCORDING TO THE LATEST EDITION OF AISC "SPECIFICATION, DESIGN, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" AND RELATED PUBLICATIONS SPECIFIED THEREIN.
5. ALL SHEAR AND TENSION TYPE BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER ASTM A563X HIGH STRENGTH BOLTS. DESIGN TORQUE TO BE DEVELOPED USING LOAD INDICATOR WASHERS OR LOAD INDICATOR TYPE BOLTS. INSTALL AS PER MANUFACTURER'S PUBLISHED INSTRUCTIONS. ALL OTHER BOLTED CONNECTIONS MAY BE MADE WITH ASTM A307 BOLTS AND WASHERS.
6. STEEL FRAMING ERECTION INCLUDING ALL BOLTED AND WELDED CONNECTIONS, BRACING, AND ANCHORAGES SHALL BE COMPLETED AND PLUMB PRIOR TO PLACEMENT OF DECK.
7. TEMPORARY BRACING OF STEEL STRUCTURAL ELEMENTS IS THE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURAL STABILITY SHALL BE MAINTAINED AT ALL TIMES DURING THE ERECTION PROCESS.
8. SUBMIT FOR REVIEW SHOP DRAWINGS OF STEEL DETAILS PRIOR TO FABRICATING STRUCTURAL STEEL.
9. ALL BRICK SHELF ANGLES SHALL BE HOT-DIPPED GALVANIZED.
10. ALL EXTERIOR ELEMENTS AND THOSE ELEMENTS NOTED TO BE GALVANIZED SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AFTER SANDBLAST CLEANING PER SSPC-SP10. USE ASTM A325 BOLTS HOT DIPPED GALVANIZED WITH GALVANIZED HARDENED WASHERS AND GALVANIZED HEAVY HEX NUTS FOR BOLTING OF GALVANIZED ITEMS.

## STEEL ROOF DECK AND NON-COMPOSITE FLOOR DECK

1. STEEL DECK REQUIREMENTS:
- A. AISI SPECIFICATIONS FOR THE DESIGN OF LIGHT GAUGE COLD FORMED STEEL STRUCTURAL MEMBERS.
- B. SDI DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS.
2. ALL ROOF DECKING SHALL BE 15C22 GAUGE (Fy = 50 KSI) NON-COMPOSITE DECK U.N.O. WITH A 4" LIGHT WEIGHT CONCRETE SLAB REINFORCED WITH 6X6- W 1.4 X W 1.4 WELDED WIRE FABRIC (WWF).
3. ALL FLOOR DECKING SHALL BE 3C22 GAUGE (Fy = 50 KSI) NON-COMPOSITE DECK U.N.O. WITH A 6 1/4" LIGHT WEIGHT CONCRETE SLAB REINFORCED WITH 6X6- W 1.4 X W 1.4 WELDED WIRE FABRIC (WWF).
4. STEEL DECK SHALL CONFORM TO ASTM A653 SQ.
5. STEEL DECK SHALL BE GALVANIZED WITH A PROTECTIVE ZINC COATING CONFORMING TO ASTM A955 WITH COATING DESIGNATION G90.
6. PROVIDE A MINIMUM END BEARING OF 2" OVER SUPPORTS. END LAPS OF SHEETS SHALL BE A MINIMUM OF 2" AND SHALL OCCUR OVER SUPPORTS.
7. ALL OPENINGS LARGER THAN 12", AND AS DETAILED, SHALL HAVE STEEL FRAMING SUPPORTING ALL EDGES. SEE DETAILS.
8. DECK SHALL BE FABRICATED SO THAT DECK RUNS CONTINUOUSLY OVER OPENINGS. THE OPENINGS SHALL NOT BE CUT UNTIL NEEDED.
9. ALL METAL DECK WELDING SHALL BE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY SPECIFICATIONS D1.3. PROVIDE WELDING WASHERS FOR ALL FLOOR DECK WELDS.
10. SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS AND OTHER PERMANENT SUSPENDED LOADS SHALL NOT BE SUPPORTED BY THE METAL DECKING.
11. SUBMIT DETAILED SHOP DRAWINGS PRIOR TO FABRICATION SHOWING LAYOUT, TYPES OF METAL DECK UNITS, CONNECTION DETAILS, ACCESSORIES AND OTHER RELATED ITEMS. PROVIDE 1/8" X 1" DEEP JOINTS IN CONCRETE SLABS ON DECK AT 15'-0" ON CENTER, MAX.

## POST-INSTALLED REBAR, ANCHORS AND FASTENERS

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- I. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. PRE-APPROVED PRODUCTS INCLUDE:
- SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-2713)
- SIMPSON STRONG-TIE "STRONG-BOLT 2" (ICC-ES ESR-3037)
- II. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN BOND STRENGTH HAS BEEN BASED ON CRACKED CONCRETE. ACI 355.4 TEMPERATURE CATEGORY B, AND INSTALLATIONS INTO DRY HOLES DRILLED USING A HAMMER DRILL INTO CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2 WHERE INDICATED ON THE CONTRACT DOCUMENTS. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.9.2.4. PRE-APPROVED PRODUCTS INCLUDE:
- SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-263)
- SIMPSON STRONG-TIE "SET-XP" (IAPMO-UES ER-2508)

CURE SCHEDULE					
BASE MATERIAL TEMPERATURE		AT-XP		SET-XP	
		GEL TIME (min.)	CURE TIME (hrs.)	GEL TIME (min.)	CURE TIME (hrs.)
14	-10	30	24	Not Recommended	
32	0	15	8	Not Recommended	
50	10	7	3	75	72
60	16	5	1	60	48
70	21	3.5	55 min.	45	24
90	32	1.3	25 min.	35	24
100	38	1	20 min.	28 +/-	24
110	43	< 1	< 20 min.	20	24

- III. POWER-ACTUATED FASTENERS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:
- SIMPSON STRONG-TIE "GAS ACTUATED PINS" (ICC-ES ESR-2811)
- SIMPSON STRONG-TIE "POWDER ACTUATED PINS" (ICC-ES ESR-2138)

## CONCRETE MASONRY

1. APPLICABLE MASONRY CODES:
- A. ACI 530-11/ASCE 5-11/TMS 402-11 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
- B. ACI 530-1.1/ASCE 6-11/TMS 602-1.1 SPECIFICATIONS FOR MASONRY STRUCTURES.
2. CONCRETE MASONRY UNITS SHALL BE LOAD BEARING TYPE CONFORMING TO ASTM C-90 HAVING A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI.
3. ALL CELLS BELOW GROUND FLOOR SLAB SHALL BE FILLED SOLID WITH CONCRETE.
4. MORTAR SHALL CONFORM TO ASTM C-270 TYPE S.
5. REINFORCED WALLS, STIFFENERS, PIERS, ETC. SHALL BE FILLED IN MAXIMUM OF 4'-0" LIFTS. FILL SHALL BE MECHANICALLY MIXED (ASTM C476 COURSE) GROUT OR REGULAR WEIGHT CONCRETE (ASTM C94) WITH MAX 1/2" COARSE AGGREGATE HAVING NOT LESS THAN 2500 PSI (MIN.) 28 DAY STRENGTH. SEE SPECIFICATIONS.
6. PLAIN END TWO CELL UNITS SHALL BE USED FOR BLOCKS THAT ARE TO HAVE CELLS REINFORCED OR FILLED. WEB SHELLS ADJACENT TO CELLS THAT ARE TO BE FILLED ARE TO BE BEDDED IN MORTAR.
7. FILL CELLS AS NOTED ON DRAWINGS WITH 3000 PSI GROUT CONFORMING TO ASTM C-476 SPECIFICALLY DESIGNED FOR FILLING CELLS.
8. VERTICAL REINFORCING TO BE LAPPED 48 BAR DIAMETERS (MINIMUM 2'-6") AT DOWELS AND SPLICES.
9. SEE ARCHITECTURAL DRAWINGS FOR THE EXTENT AND EXACT LOCATION OF MASONRY WALLS.
10. BLOCK LINTELS SHALL BE SPECIALLY FORMED U-BLOCK LINTEL OR LOW WEB LINTEL UNITS WITH REINFORCEMENT AS SHOWN OR PRECAST UNITS DESIGNED FOR THE WEIGHT OF MASONRY ABOVE AND ALL OTHER APPLIED LOADS.

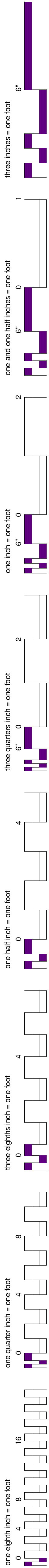
## FIELD VERIFICATION OF EXISTING CONDITIONS

1. BECAUSE EXISTING STRUCTURAL DRAWINGS ARE NOT AVAILABLE, THE DESIGN IS BASED ON BASIC FIELD MEASUREMENTS AND ASSUMED CONDITIONS. AS SUCH, THE CONTRACTOR SHALL FIELD VERIFY CONDITIONS THAT MAY AFFECT THE STRUCTURAL DESIGN. IF ANY DEVIATIONS ARE DISCOVERED BETWEEN FOUND CONDITIONS AND THE CONDITIONS SHOWN ON THE STRUCTURAL DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY. AS MODIFICATIONS MAY BE REQUIRED.
2. ITEMS REQUIRING FIELD VERIFICATION SHALL INCLUDE:
- PLAN DIMENSIONS
  - NO UNUSUAL CONDITIONS THAT ARE HEAVIER THAN CONDITIONS DERIVED FROM ORIGINAL DESIGN DRAWINGS.
  - BEAM SIZES
  - COLUMN SIZES
  - DECK THICKNESS
  - BRICK RELIEF ANGLES
  - SLAB DEPRESSIONS
3. CONTRACTOR SHALL CONTACT ARCHITECT AND ENGINEER OF SUBSTANTIAL CORROSION OF EXISTING STEEL MEMBERS AND CONNECTIONS.

100% CONSTRUCTION DOCUMENTS SUBMISSION  
FULLY SPRINKLERED

Revisions:	Date:	CONSULTANTS:	ARCHITECT/ENGINEERS:	Drawing Title <b>STRUCTURAL NOTES</b>	Project Title <b>RADIOLOGY / NUCLEAR MEDICINE IMPROVEMENTS</b>	Project Number <b>CSI-111</b>	CENTRAL ARKANSAS VETERANS AFFAIRS HEALTHCARE SYSTEM
		STRUCTURAL: THORPE ENGINEERING GROUP 321 W. CONGRESS STREET SUITE 301-C SAVANNAH, GA 31401 912.349.7603	MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION: CROWELL 101 SOUTH SPRING STREET LITTLE ROCK, AR 72201 501.372.2900	Approved: Project Director	Location <b>JOHN L. McLELLAN MEMORIAL VETERANS HOSPITAL; LITTLE ROCK, ARKANSAS</b>	Building Number <b>1</b>	
					Date <b>10/22/14</b>	Drawn <b>BTH</b>	Dwg. 1 of 6
						Checked <b>BKS</b>	

GENERAL STRUCTURAL NOTES (CONT'D.)



- COLD-FORMED STEEL FRAMING (DELEGATED DESIGN)**
- THE STRUCTURAL DESIGN, FRAMING, FABRICATION, AND ITS INSTALLATION SHALL MEET THE FOLLOWING SPECIFICATIONS AND STANDARDS UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED:
    - AI SI S100-07/SI-10: NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, WITH SUPPLEMENT 1, DATED 2010
    - AI SI S200-07: NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING – GENERAL PROVISIONS
  - COLD-FORMED MEMBERS AND CONNECTIONS SHALL BE DESIGNED AND DETAILED BY A SPECIALTY ENGINEER IN ACCORDANCE WITH THE REQUIREMENTS HEREIN.
  - DESIGN CONTRAINTS SUCH AS DEPTH AND WIDTH LIMITATIONS, MINIMUM STEEL THICKNESSES, AND CRITICAL DIMENSIONING ARE PROVIDED WITHIN THE PLANS AND DETAILS OF THE CONSTRUCTION DOCUMENTS
  - OUT-OF-PLANE DESIGN LOADING SHALL BE DETERMINED FROM THE COMPONENTS AND CLADDING WIND PRESSURE TABLE AND THE SEISMIC INFORMATION LISTED UNDER THE STRUCTURAL DESIGN CRITERIA.
  - GRAVITY LOADINGS FOR LOAD-BEARING MEMBERS ARE PROVIDED WITHIN THE PLANS AND DETAILS OF THE CONSTRUCTION DOCUMENTS.
  - THE DEFLECTION LIMITS FOR THE DESIGN MEMBERS SHALL BE AS FOLLOWS:
- | CONSTRUCTION  | DEFLECTION LIMITS |           |           |             |
|---------------|-------------------|-----------|-----------|-------------|
|               | LIVE LOAD         | SNOW LOAD | WIND LOAD | DEAD + LIVE |
| ROOF MEMBERS  | L/360             | L/360     | L/360     | L/240       |
| FLOOR MEMBERS | L/360             | --        | --        | L/240       |
| WALL MEMBERS  | --                | --        | L/240     | --          |

- THE FRAMING PROVIDER SHALL BE A SSMA CERTIFIED MANUFACTURER SPECIALIZING IN FABRICATION OF STRUCTURAL FRAMING COMPONENTS.
- THE CHEMICAL COMPOSITION, COATING, AND PROPERTIES OF THE SHEET STEEL USED TO FORM STEEL FRAMING MEMBERS AND ACCESSORIES SHALL MEET THE FOLLOWING STANDARDS:
  - ASTM A1003: STANDARD SPECIFICATION FOR STEEL SHEET, CARBON, METALLIC- AND NONMETALLIC-COATED FOR COLD-FORMED FRAMING MEMBERS

SHEET THICKNESS		GRADE	COATING
MILS	GAUGE		
33	20	STRUCTURAL GRADE 33 TYPE H (ST33H)	G60 (Z180) METALLIC
43	18	STRUCTURAL GRADE 33 TYPE H (ST33H)	G60 (Z180) METALLIC
54	16	STRUCTURAL GRADE 50 TYPE H (ST50H)	G60 (Z180) METALLIC
68	14	STRUCTURAL GRADE 50 TYPE H (ST50H)	G60 (Z180) METALLIC
97	12	STRUCTURAL GRADE 50 TYPE H (ST50H)	G60 (Z180) METALLIC
118	10	STRUCTURAL GRADE 50 TYPE H (ST50H)	G60 (Z180) METALLIC

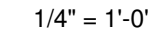
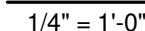
- THE FRAMING MEMBERS AND MANUFACTURING TOLERANCES SHALL MEET THE FOLLOWING STANDARDS:
  - ASTM C955: STANDARD SPECIFICATION FOR LOAD-BEARING (TRANSVERSE AND AXIAL) STEEL STUDS, RUNNERS (TRACKS), AND BRACING OR BRIDGING FOR SCREW APPLICATION OF GYPSUM PANEL PRODUCTS AND METAL PLASTER BASES
- THE FRAMING MEMBERS SHALL CONFORM TO THE FOLLOWING GEOMETRICAL REQUIREMENTS:

FRAMING TYPE	SHAPE	WEBS	FLANGES	NOTES
STUDS	STANDARD C-SHAPE	PUNCHED	STIFFENED	
TRACKS	STANDARD U-SHAPE	UNPUNCHED	STRAIGHT	STEEL THICKNESS TO MATCH MINIMUM BASE-METAL THICKNESS OF STEEL STUDS
BOX OR BACK-TO-BACK HEADERS	STANDARD C-SHAPES	UNPUNCHED	STIFFENED	

- THE FRAMING MEMBERS SHALL HAVE A LEGIBLE LABEL, STAMP, STENCIL, OR EMBOSMENT AT A MINIMUM OF 48 INCHES ON CENTER INCLUDING THE FOLLOWING INFORMATION:
  - MANUFACTURER IDENTIFICATION
  - MINIMUM UNCOATED STEEL THICKNESS
  - MINIMUM YIELD STRENGTH
  - GRADE
  - COATING
- THE FRAMING MEMBERS SHALL BE IN ONE-PIECE LENGTHS. SPlicing OF FRAMING COMPONENTS, OTHER THAN THE CONTINUOUS TRACK AT THE TOP AND BOTTOM OF WALLS, IS NOT PERMITTED. SPlicing OF TRACK USED FOR THE JAMB, HEAD, OR SILL ASSEMBLIES OF FRAMED WALL OPENINGS IS NOT PERMITTED.
- THE MANUFACTURER SHALL SUBMIT PRODUCT DATA, SHOP DRAWINGS, AND STRUCTURAL CALCULATIONS INCLUDING THE FOLLOWING:
  - PRODUCT DATA: FOR EACH TYPE OF COLD-FORMED STEEL FRAMING PRODUCT AND ACCESSORY UTILIZED FOR THE PROJECT
  - SHOP DRAWINGS INCLUDING THE FOLLOWING:
    - MEMBER LAYOUT, SPACINGS, SIZES, THICKNESSES, 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.
  - STRUCTURAL CALCULATIONS: SPECIALTY STRUCTURAL ENGINEER CALCULATIONS FOR ALL MEMBERS AND CONNECTIONS SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
- THE INSTALLATION OF MEMBERS SHALL MEET THE FOLLOWING STANDARDS:
  - ASTM C1007: SPECIFICATION FOR INSTALLATION OF LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS AND RELATED ACCESSORIES
- THE INSTALLER SHALL INSTALL TEMPORARY BRACING AND SUPPORTS TO SECURE FRAMING AND SUPPORT LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH STRUCTURE WAS DESIGNED. MAINTAIN BRACES AND SUPPORTS IN PLACE, UNDISTURBED, UNTIL ENTIRE INTEGRATED SUPPORTING STRUCTURE HAS BEEN COMPLETED AND PERMANENT CONNECTIONS TO FRAMING ARE SECURED.
- PUNCHOUTS, CUTTING, OR NOTCHING OF JOISTS, STUDS, HEADERS, AND OTHER STRUCTURAL MEMBERS SHALL NOT BE PERFORMED WITHOUT AN APPROVED DESIGN.
- THE FRAMING MEMBERS SHALL HAVE ENDS SQUARELY CUT BY SHEARING OR SAWING, BE INSTALLED PLUMB, SQUARE, TRUE TO LINE AND SECURELY FASTENED PER THE CONTRACT DOCUMENTS OR APPROVED CONNECTION DETAILS.
- INSTALL HORIZONTAL BRIDGING IN STUD SYSTEM, SPACED VERTICALLY 48 INCHES AND FASTENED AT EACH STUD INTERSECTION USING ONE OF THE METHODS BELOW:
  - COLD-ROLLED CHANNEL, WELDED OR MECHANICALLY FASTENED TO WEBS OF PUNCHED STUD WITH A MINIMUM OF TWO SCREWS INTO EACH FLANGE OF THE CLIP ANGLE FOR FRAMING MEMBERS UP TO 6 INCHES DEEP.
  - COMBINATION OF FLAT, TAUT, STEEL SHEET TRAPS OF WIDTH AND THICKNESS INDICATED AND STUD-TRACK SOLID BLOCKING OF WIDTH AND THICKNESS TO MATCH STUDS. FASTEN FLAT STRAPS TO STUD FLANGES AND SECURE SOLID BLOCKING TO STUD WEBS OR FLANGES.
  - PROPRIETARY BRIDGING BARS INSTALLED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THE SCREWS USED FOR ATTACHING FRAMING MEMBERS AND FOR ATTACHING SHEATHING TO FRAMING SHALL MEET THE FOLLOWING STANDARDS:
  - ASTM C1513: STANDARD SPECIFICATION FOR STEEL TAPPING SCREWS FOR COLD-FORMED STEEL FRAMING CONNECTIONS
  - ASTM C954: STANDARD SPECIFICATION FOR STEEL DRILL SCREWS FOR THE APPLICATION OF GYPSUM PANEL PRODUCTS OR METAL PLASTER BASES TO STEEL STUDS FROM 0.033 INCH (0.084 MM) TO 0.112 INCH (2.84 MM) IN THICKNESS
  - ASTM C1002: STANDARD SPECIFICATION FOR STEEL SELF-PIERCING TAPPING SCREWS FOR THE APPLICATION OF GYPSUM PANEL PRODUCTS OR METAL PLASTER BASES TO WOOD STUDS OR STEEL STUDS
- WELDING PROCEDURE AND PERSONNEL QUALIFICATIONS FOR ATTACHING FRAMING MEMBERS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
  - AWS D1.3: STRUCTURAL WELDING CODE – SHEET STEEL
- ANY WELDING OR ABRASION OF THE GALVANIZED COATING SHALL BE PAINT REPAIRED IN ACCORDANCE WITH ASTM A780: STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS.

100% CONSTRUCTION DOCUMENTS SUBMISSION  
FULLY SPRINKLERED

<div>Revisions:</div> <div>Date</div>		<div>CONSULTANTS:</div> <div>STRUCTURAL: THARPE ENGINEERING GROUP 321 W. CONGRESS STREET SUITE 301-C SAVANNAH, GA 31401 912.349.7603</div> <div>MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION: CROWWELL 101 SOUTH SPRING STREET LITTLE ROCK, AR 72201 501.372.2900</div>	<div>ARCHITECT/ENGINEERS:</div> <div><div>STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10228 MICHAEL C. THARPE</div><div><div>BES</div><div>DESIGN/BUILD</div></div><div>BES DESIGN/BUILD, LLC 766 Middle St, Fairhope, AL 36532 Phone: 251.990.5778 Fax: 251.990.3716</div></div>	<div>Drawing Title</div> <div>STRUCTURAL NOTES</div> <div>Approved: Project Director</div>	<div>Project Title</div> <div>RADIOLOGY / NUCLEAR MEDICINE IMPROVEMENTS</div> <div>Location JOHN L. McCLELLAN MEMORIAL VETERANS HOSPITAL; LITTLE ROCK, ARKANSAS</div> <div>Date 10/22/14</div> <div>Drawn BTH</div> <div>Checked BKS</div>	<div>Project Number</div> <div>CSI-111</div> <div>Building Number 1</div> <div>Drawing Number</div> <div>SI002</div> <div>Dwg. 2 of 6</div>	<div>CENTRAL ARKANSAS VETERANS AFFAIRS HEALTHCARE SYSTEM</div> <div><div>Department of Veterans Affairs</div></div>
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1. FLOOR DECK ALIGNMENT DEPENDENT ON DETAIL D/SF501.
2. CONTRACTOR SHALL COORDINATE SUPPORT FRAMING AND ATTACHMENTS w/ SELECTED EQUIPMENT MANUFACTURER.



Department of  
Veterans Affairs

Page 2 of 2

three inches = one foot

one and one half inches = one foot

one inch = one foot

three quarters inch = one foot

one half inch = one foot

three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot

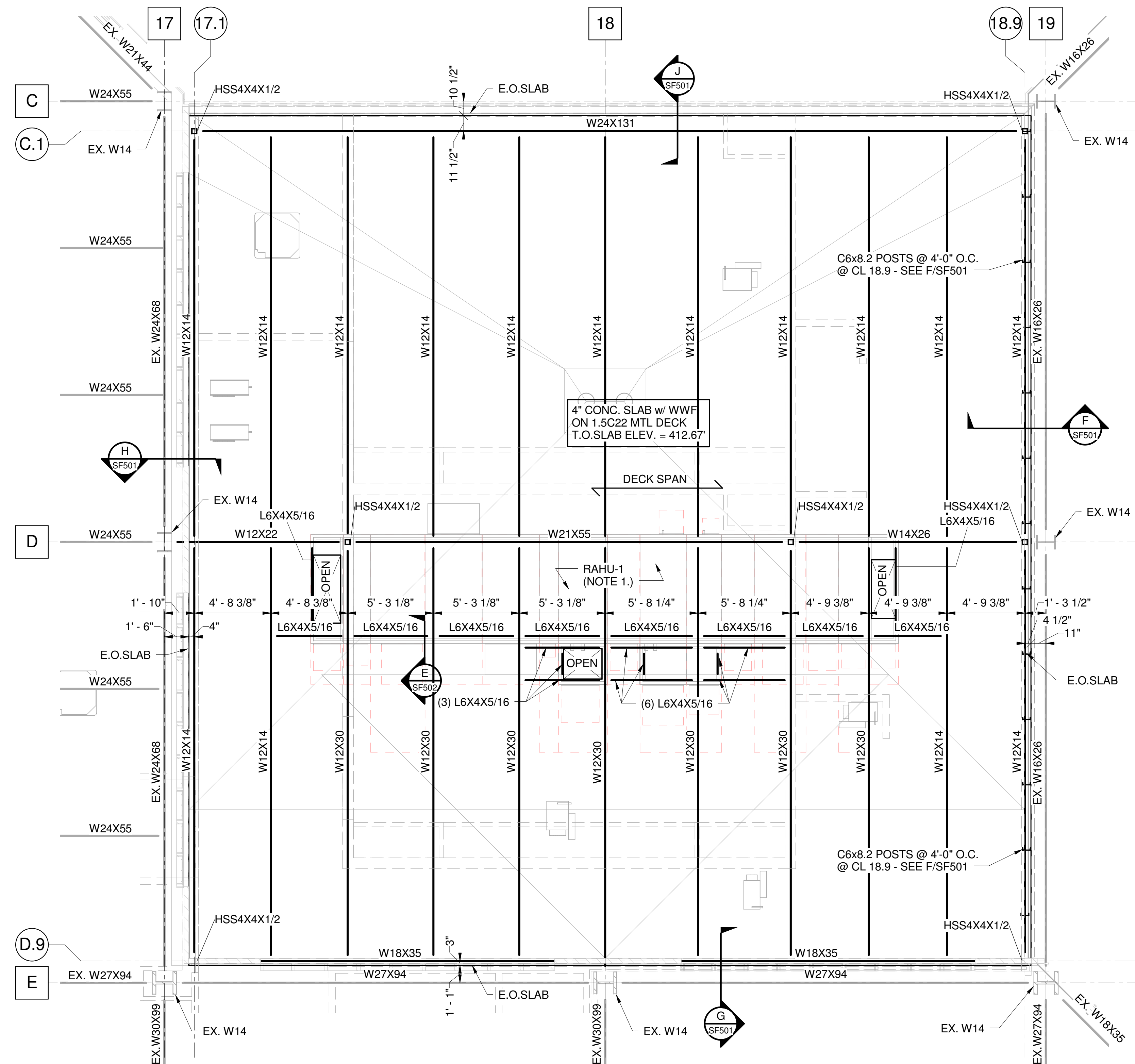
A

B

C

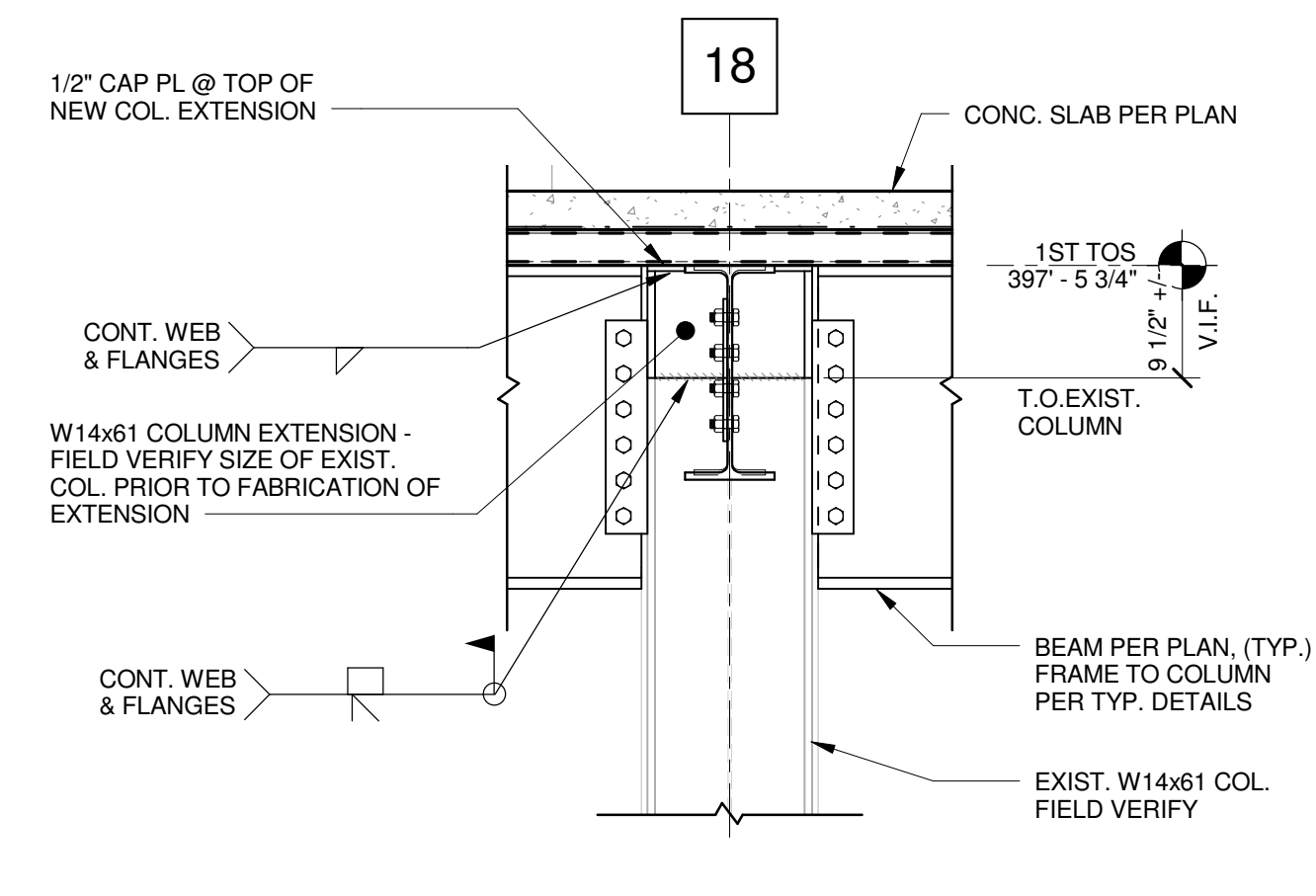
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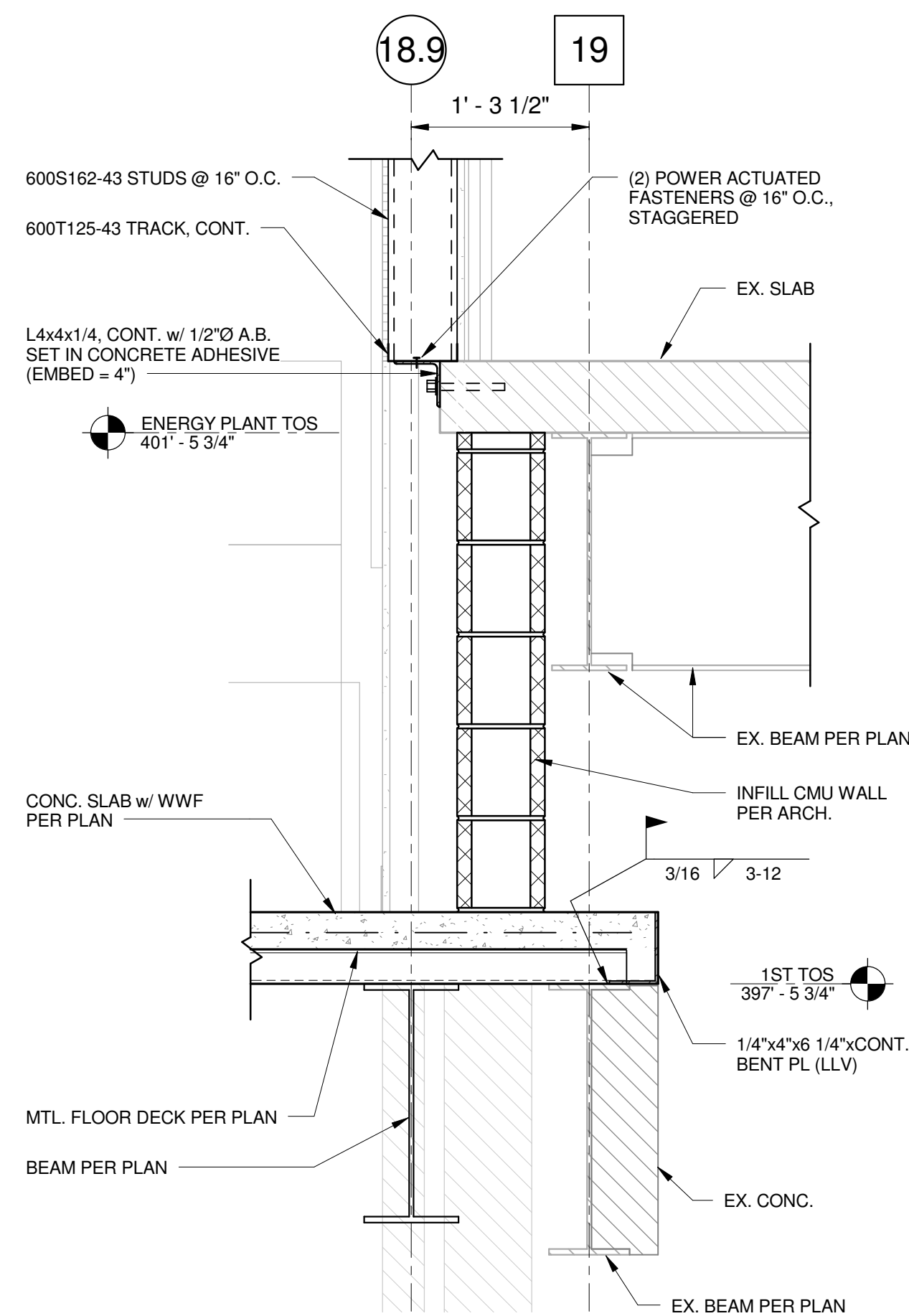


		<b>CONSULTANTS:</b>			<b>ARCHITECT/ENGINEERS:</b>		<div>Drawing Title</div> <b>LEVEL 2 FRAMING PLAN</b>		<div>Project Title</div> <b>RADIOLOGY / NUCLEAR MEDICINE IMPROVEMENTS</b>		<div>Project Number</div> <b>CSI-111</b>		<b>CENTRAL ARKANSAS VETERANS AFFAIRS HEALTHCARE SYSTEM</b>
		<b>STRUCTURAL:</b> THARPE ENGINEERING GROUP 321 W. CONGRESS STREET SUITE 301-C SAVANNAH, GA 31401 912.349.7603			<b>MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION:</b> CROMWELL 101 SOUTH SPRING STREET LITTLE ROCK, AR 72201 501.372.2900				<div>Approved: Project Director</div> <div>JOHN L. McCLELLAN MEMORIAL VETERANS HOSPITAL; LITTLE ROCK, ARKANSAS</div>		<div>Building Number</div> <b>1</b>		
<div>Revisions:</div>											<div>Date</div> <b>10/22/14</b>		
												<b>Department of Veterans Affairs</b>	

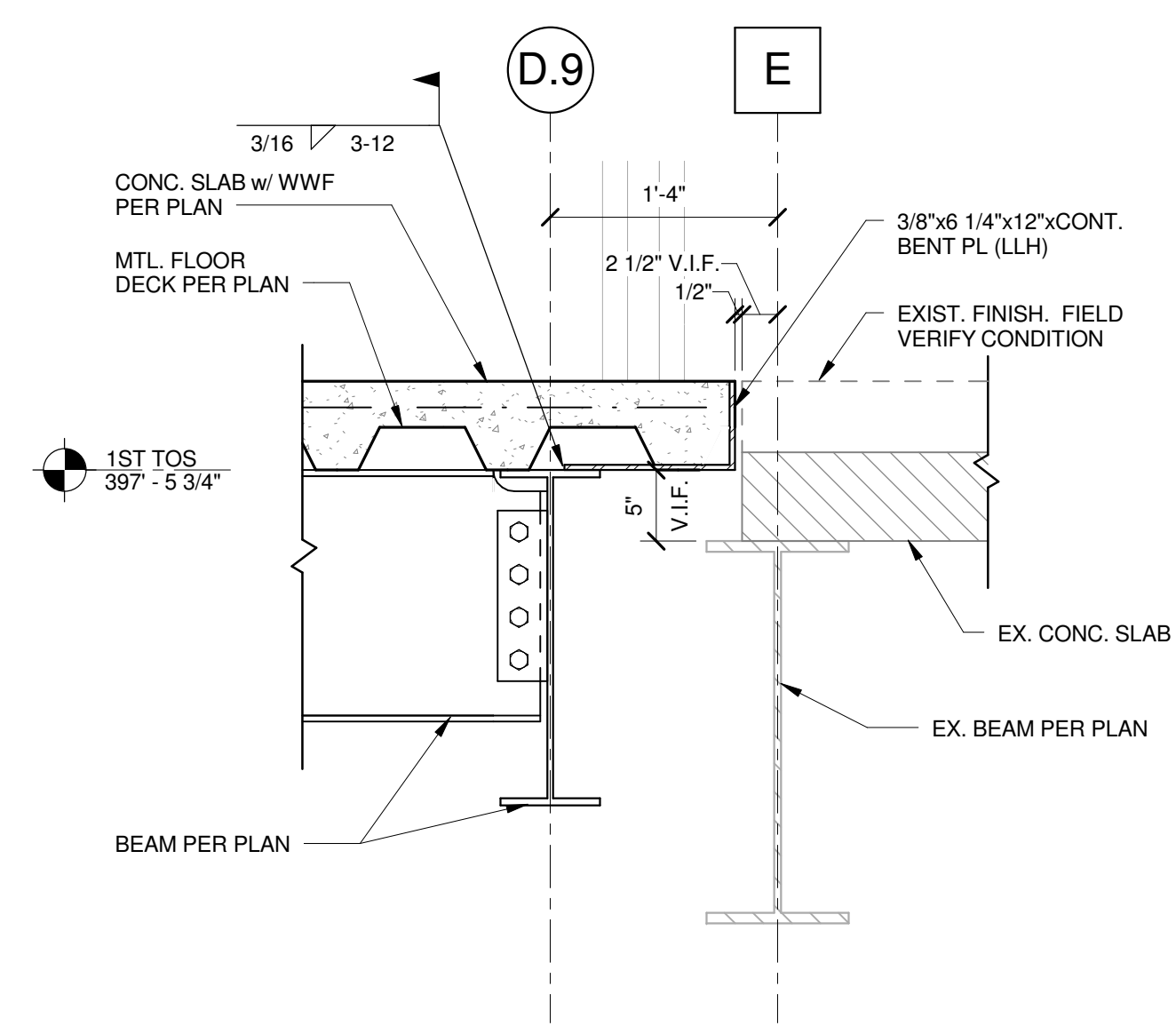
three inches = one foot  
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one quarter inch = one foot  
three eighths inch = one foot  
one eighth inch = one foot



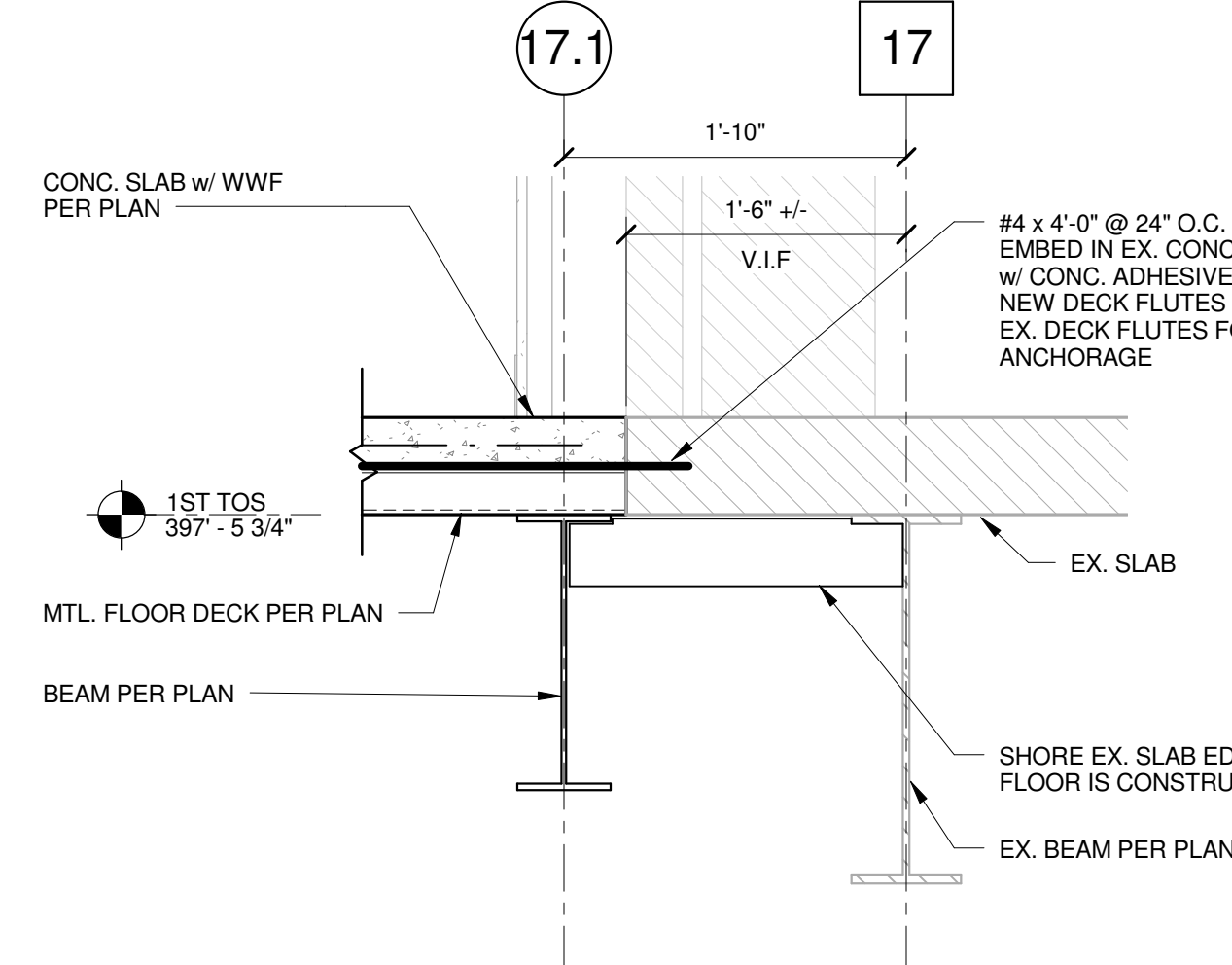
**A COLUMN EXTENSION DETAIL**  
SF501 3/4" = 1'-0"



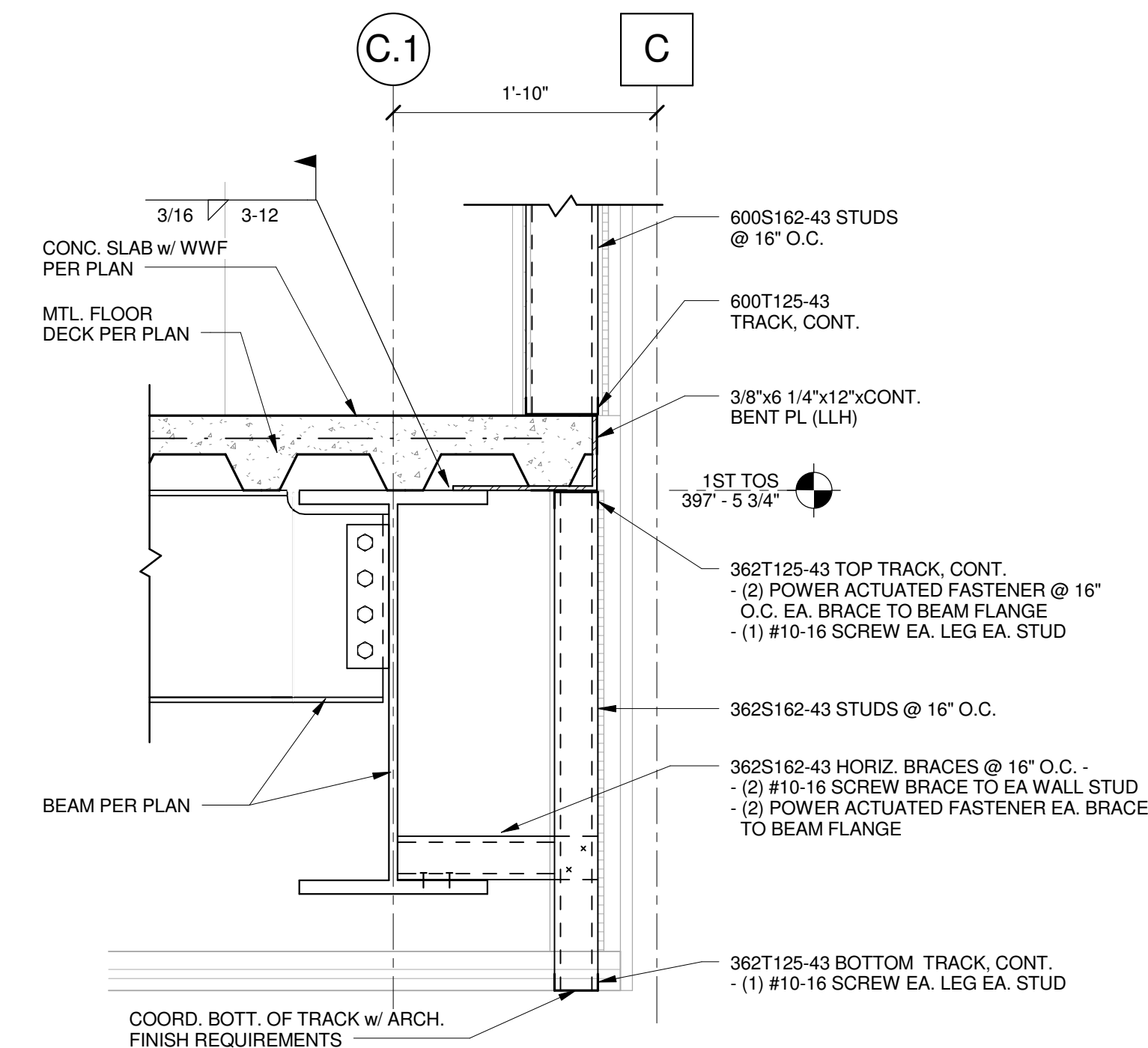
**B FLOOR FRAMING SECTION @ CL 19**  
SF501 1" = 1'-0"



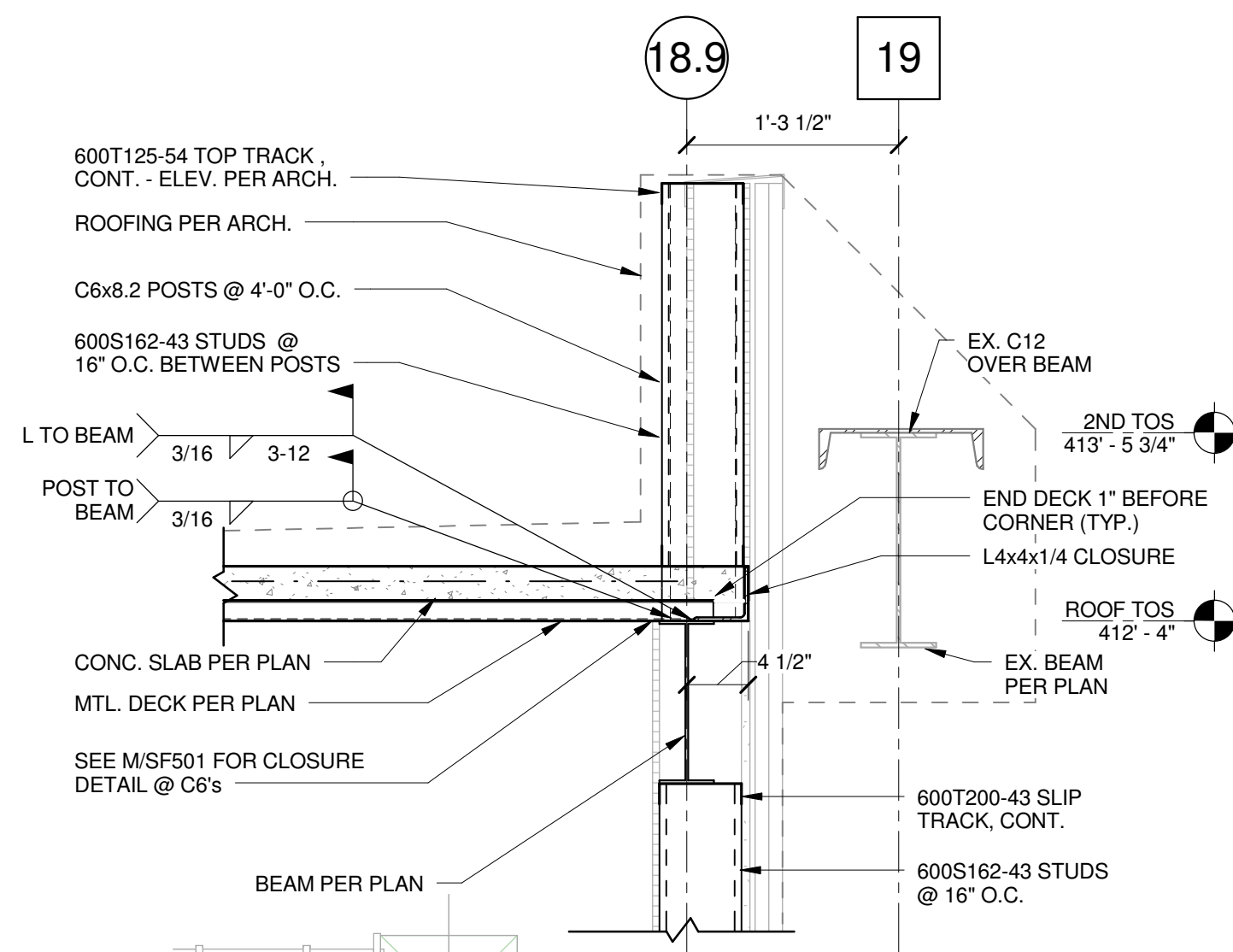
**C FLOOR FRAMING SECTION @ CL E**  
SF501 1" = 1'-0"



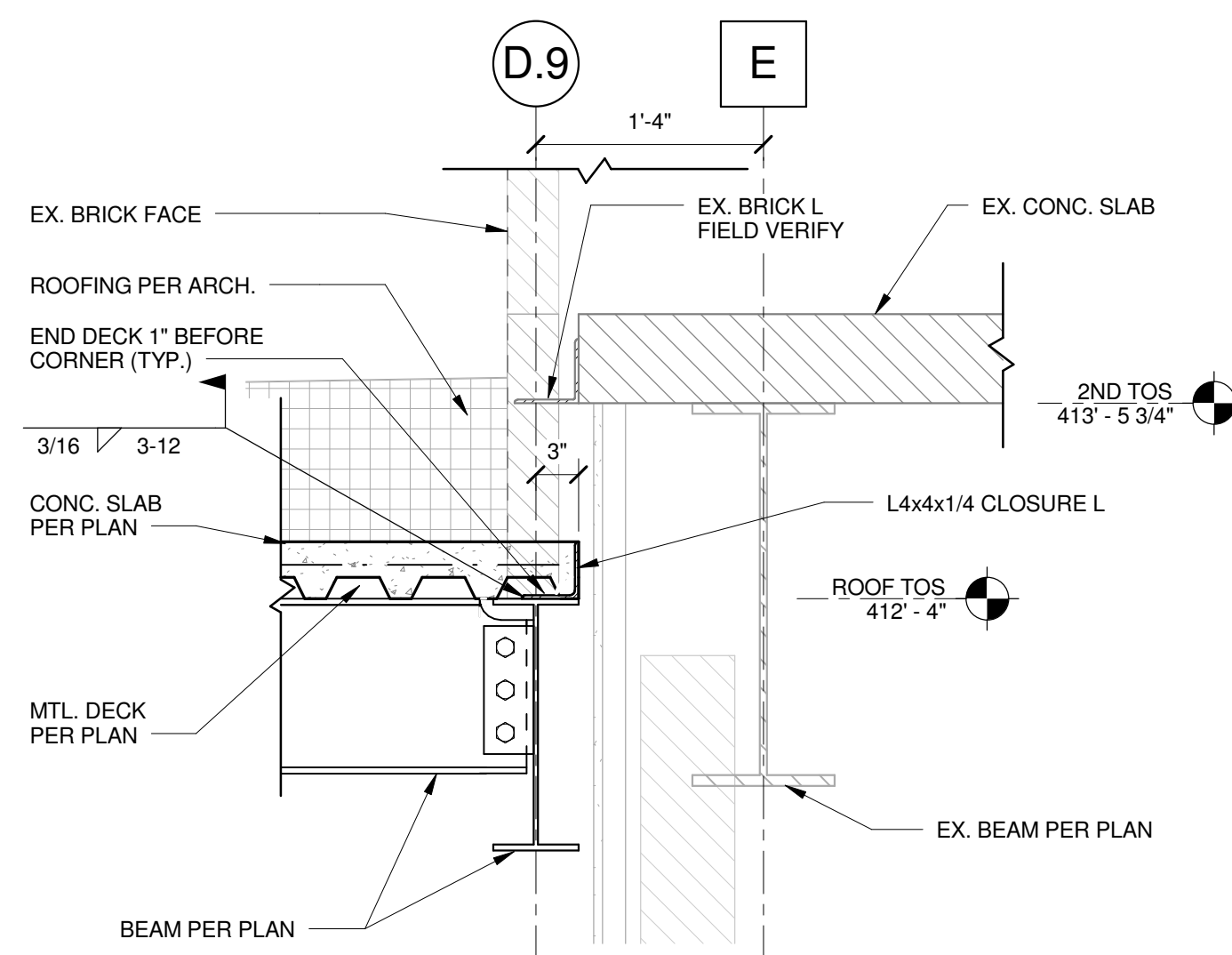
**D FLOOR FRAMING SECTION @ CL 17**  
SF501 1" = 1'-0"



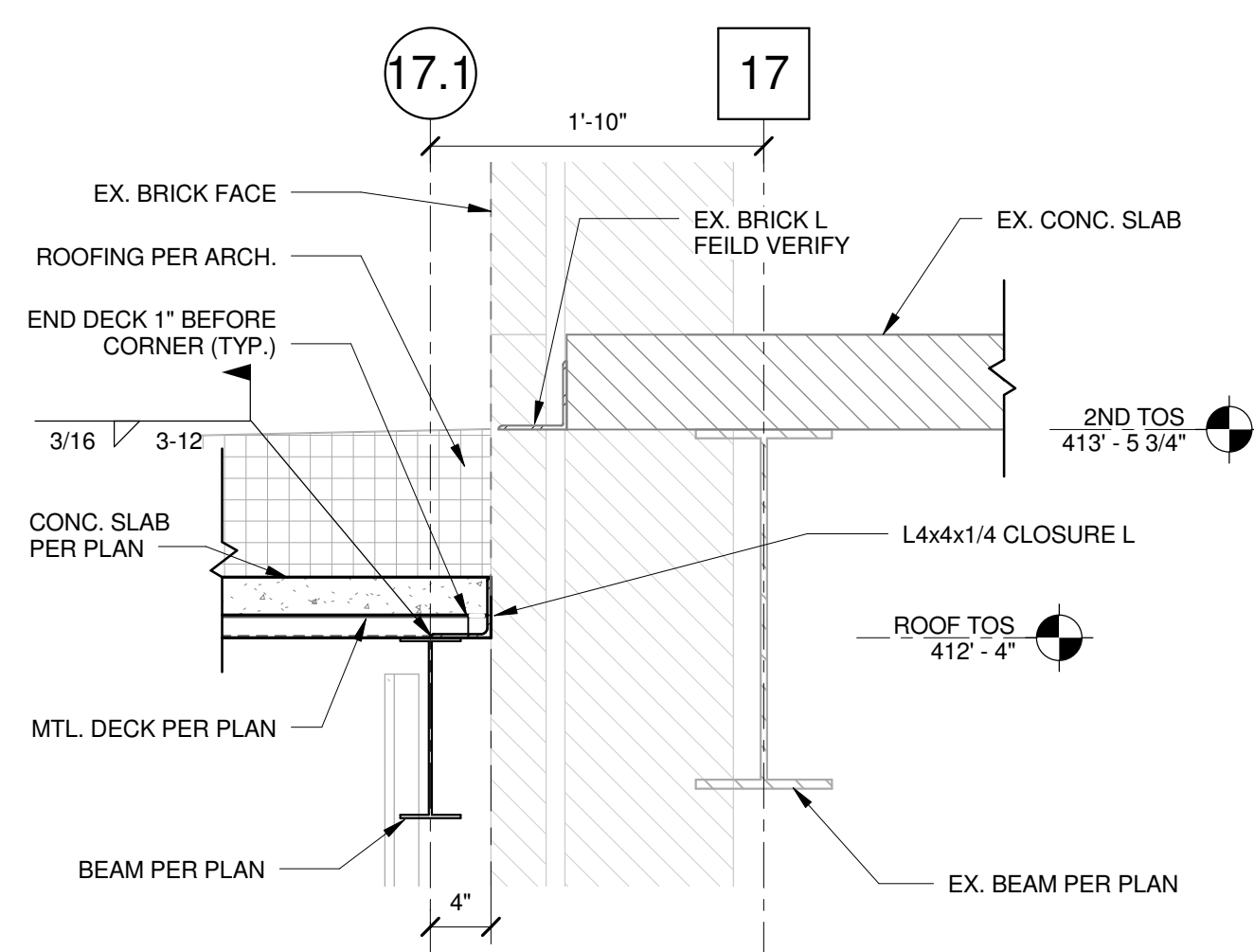
**E FLOOR FRAMING SECTION @ CL C**  
SF501 1" = 1'-0"



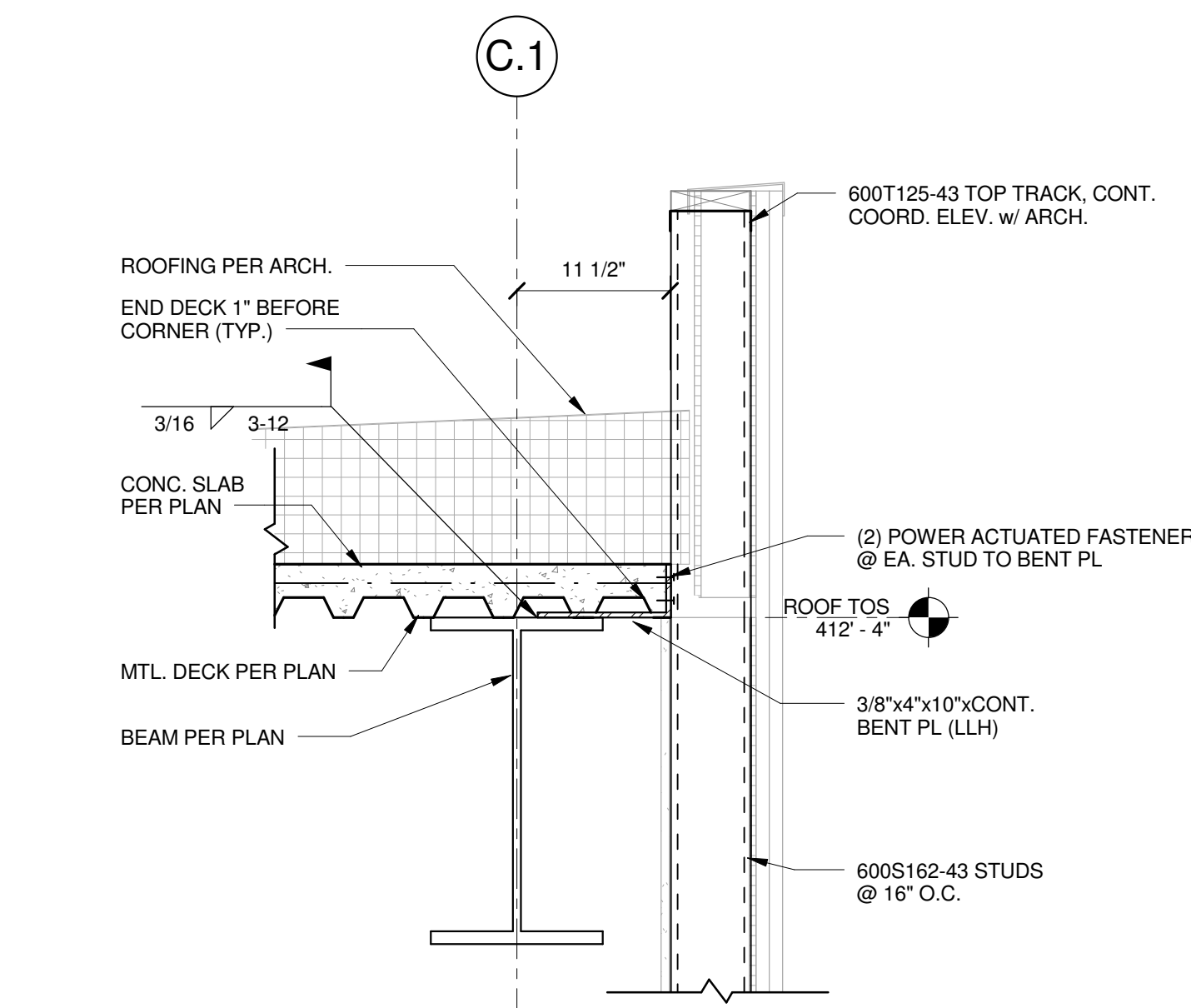
**F ROOF FRAMING @ CL 19**  
SF501 1" = 1'-0"



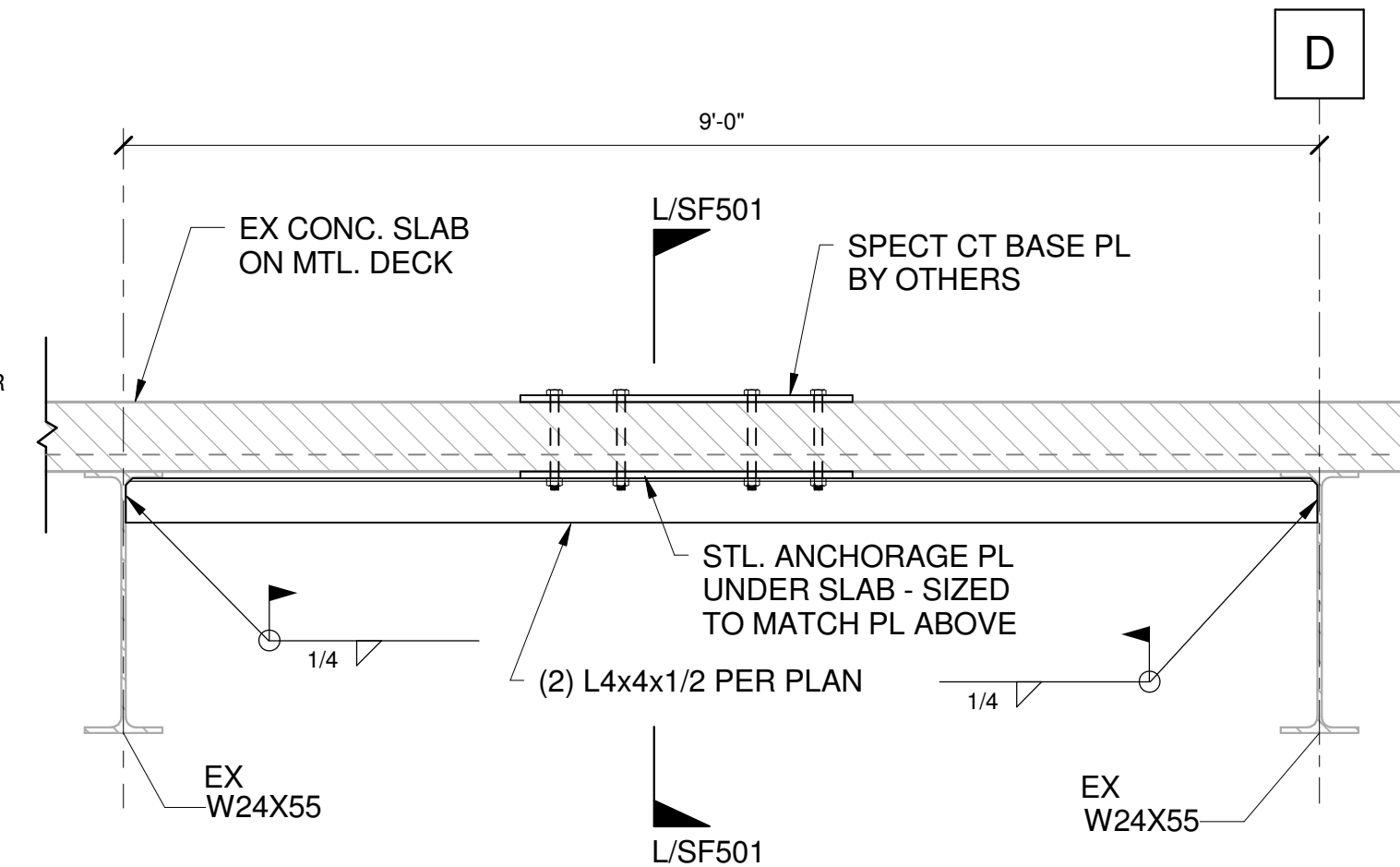
**G ROOF FRAMING @ CL E**  
SF501 1" = 1'-0"



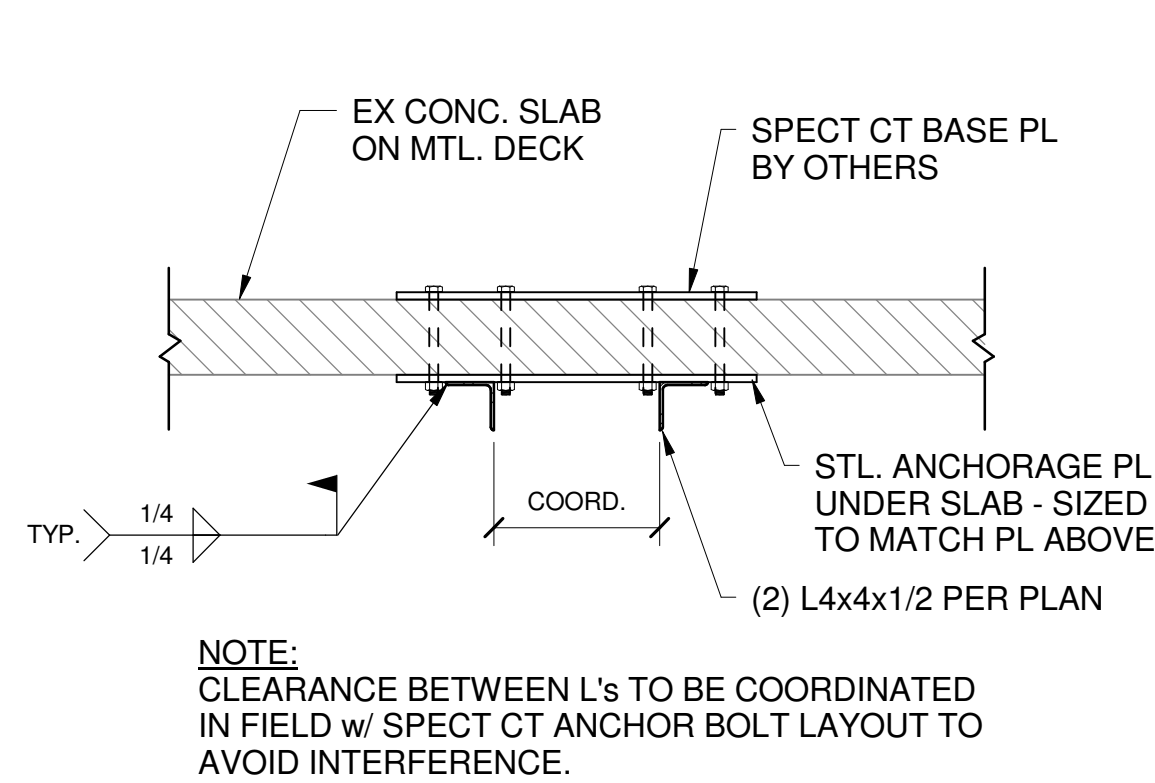
**H ROOF FRAMING @ CL 17**  
SF501 1" = 1'-0"



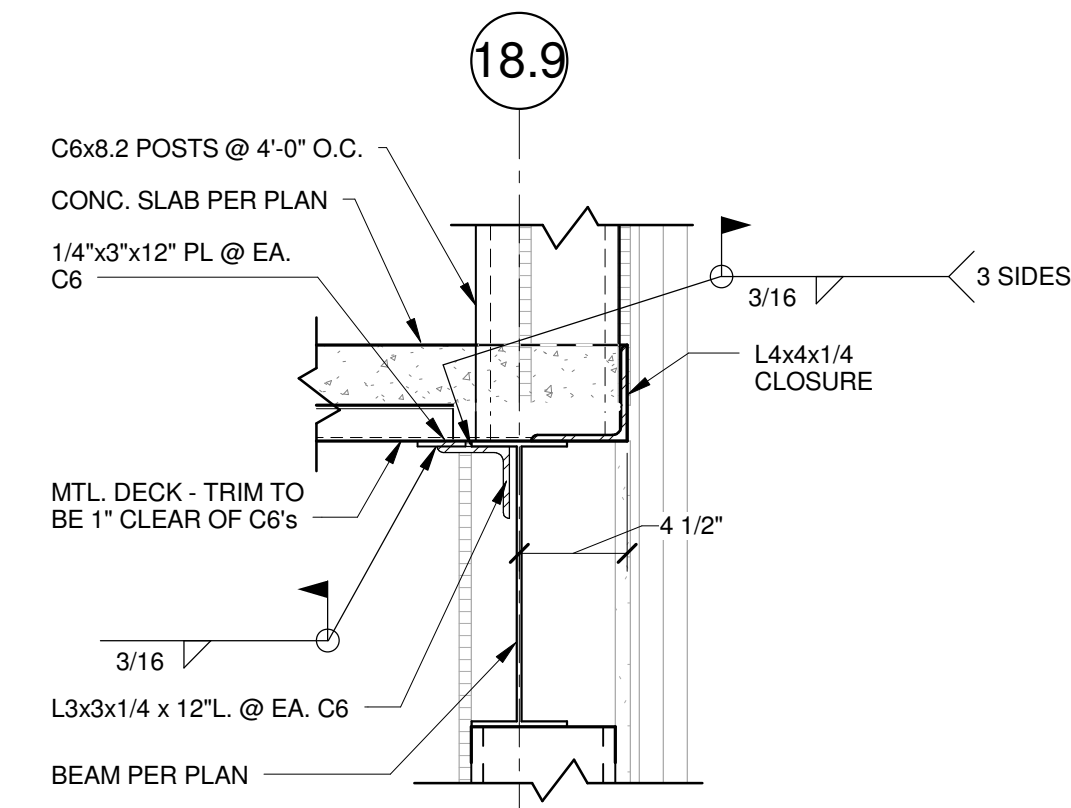
**J ROOF FRAMING @ CL C**  
SF501 1" = 1'-0"



**K SPECT CT ANCHORAGE SECTION**  
SF501 3/4" = 1'-0"



**L SPECT CT ANCHORAGE SECTION**  
SF501 3/4" = 1'-0"



**M CLOSURE INFILL DETAIL**  
SF501 1 1/2" = 1'-0"

#### CONSULTANTS:

**STRUCTURAL:**  
THARPE ENGINEERING GROUP  
321 W. CONGRESS STREET  
SUITE 301-C  
SAVANNAH, GA 31401  
912.349.7603

**MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION:**  
CROWWELL  
101 SOUTH SPRING STREET  
LITTLE ROCK, AR 72201  
501.372.2900



#### ARCHITECT/ENGINEERS:



BES DESIGN/BUILD, LLC  
766 Middle St. Fairhope, AL 36532  
Phone: 251.990.5778  
Fax: 251.990.3716

#### Drawing Title

**FRAMING DETAILS**

Approved: Project Director

Project Title  
**RADIOLOGY / NUCLEAR  
MEDICINE IMPROVEMENTS**

Location  
**JOHN L. McCLELLAN MEMORIAL VETERANS  
HOSPITAL; LITTLE ROCK, ARKANSAS**

Date  
10/22/2014

Drawn  
BTH

Checked  
BKS

Project Number  
CSI-111

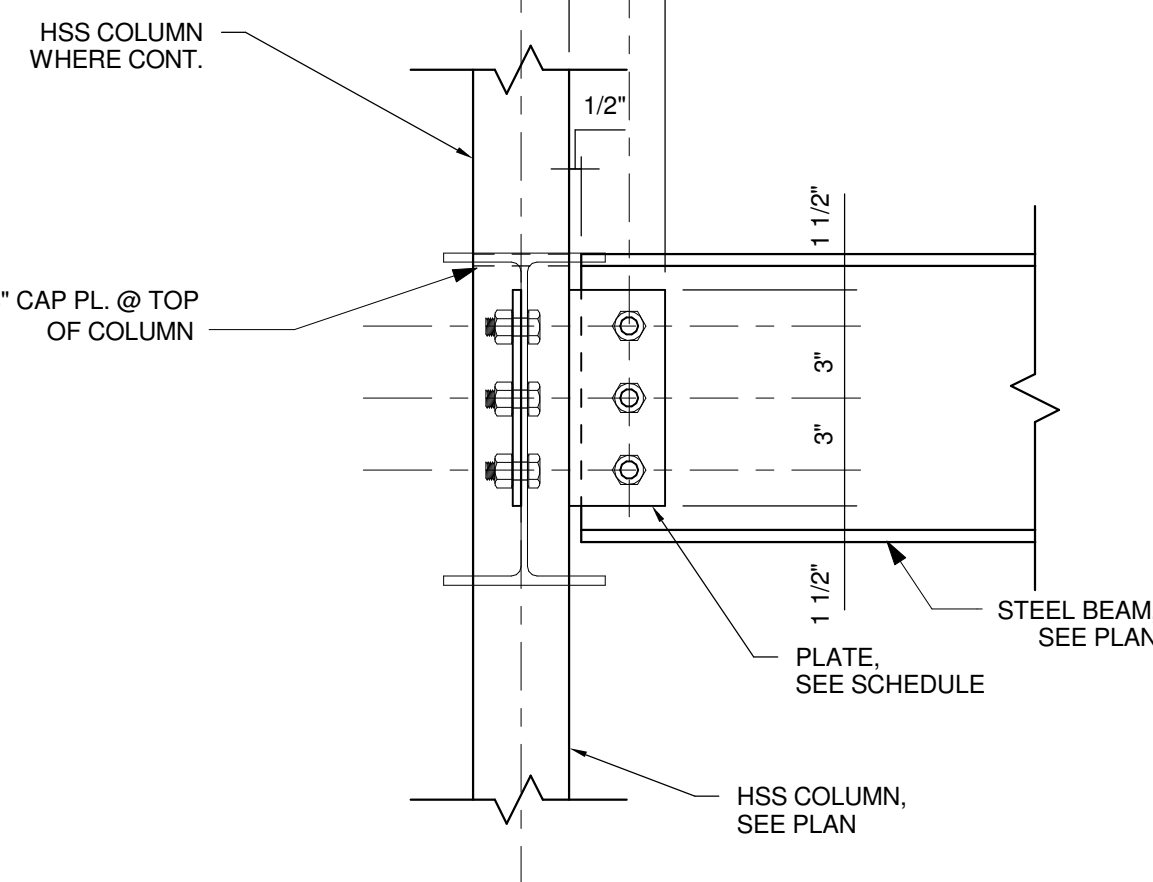
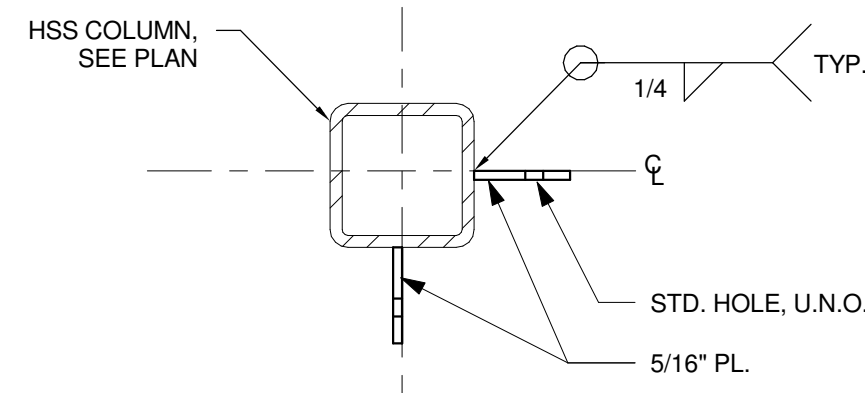
Building Number  
1

Drawing Number

**SF501**  
Dwg. 5 of 6

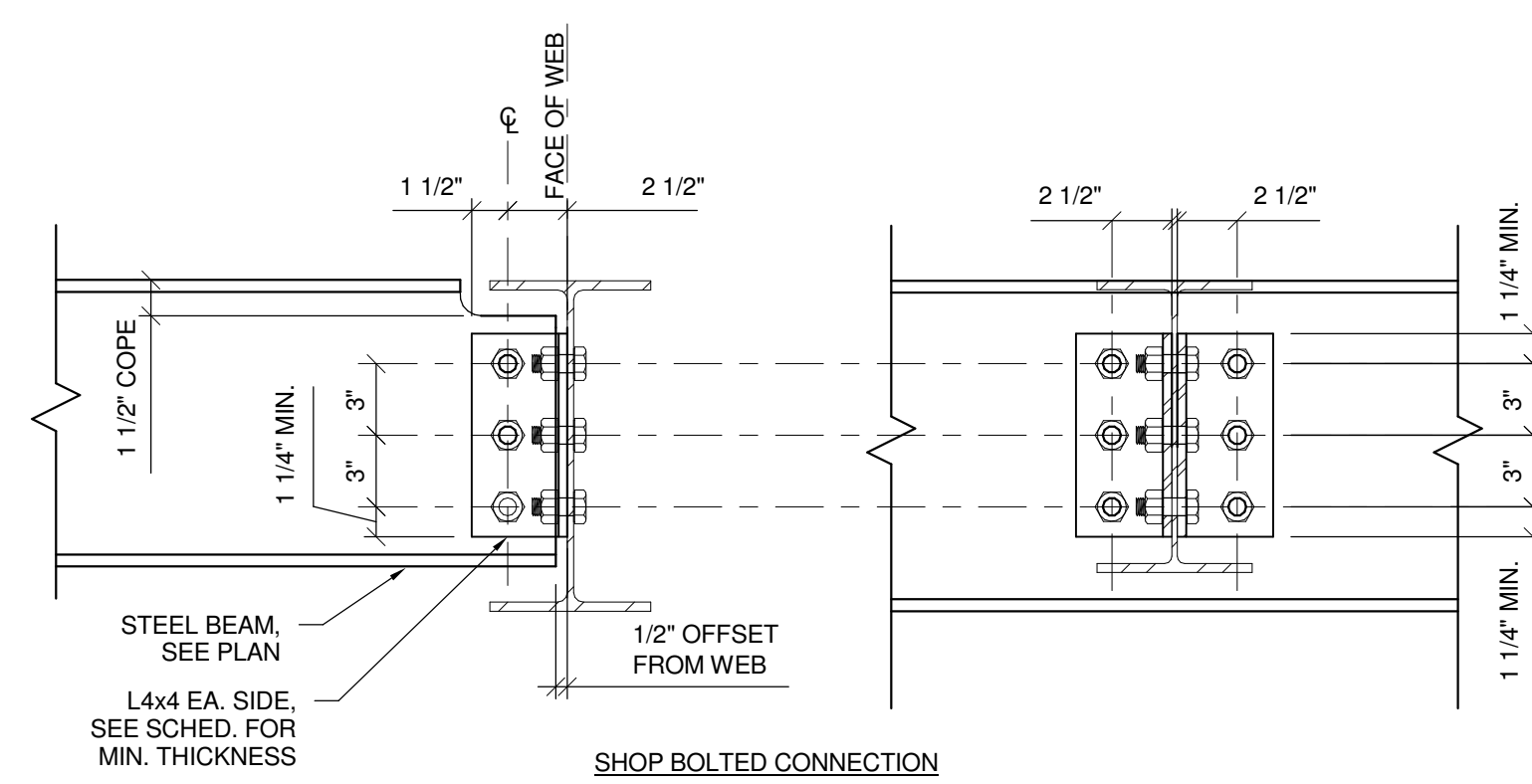
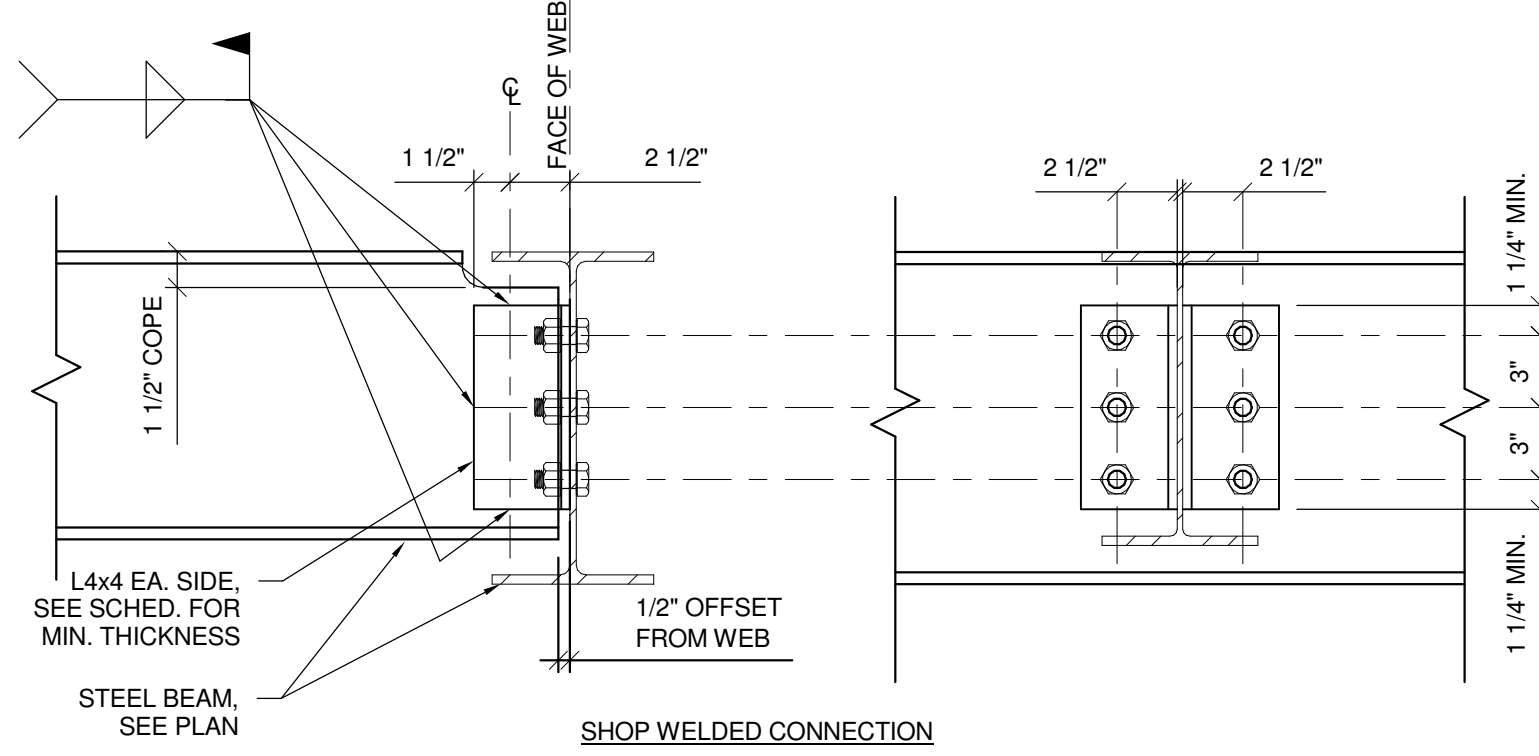
**CENTRAL ARKANSAS  
VETERANS AFFAIRS  
HEALTHCARE  
SYSTEM**





BEAM SIZE	# ROWS OF BOLTS, 'n'	MIN. PL. THICKNESS
W8, W10, C8, C9	2	1/4"
W12, W14, C12	3	1/4"
W16, W18	4	5/16"
W21, W24	5	5/16"
W27, W30, W33	6	5/16"

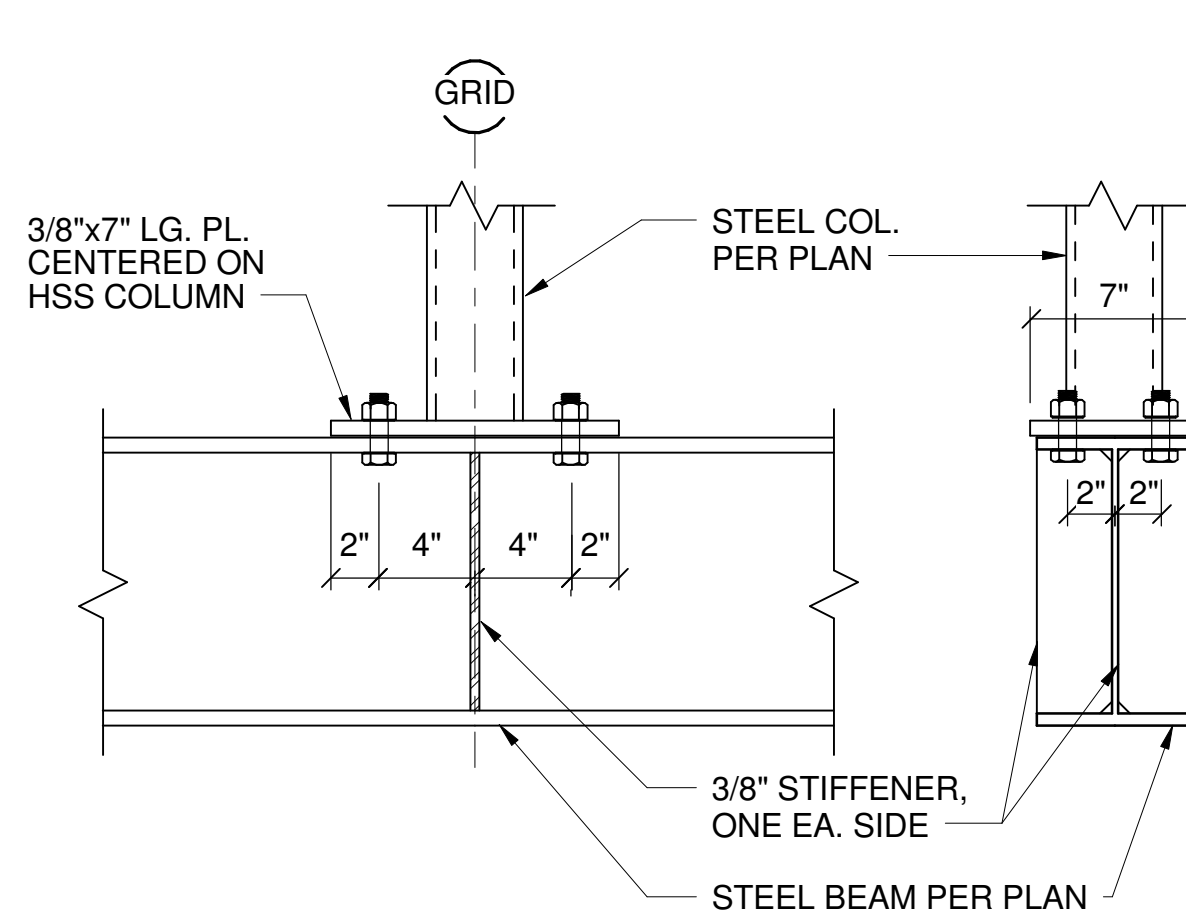
**A** TYPICAL BEAM TO HSS COL  
SF502 1 1/2" = 1'-0"



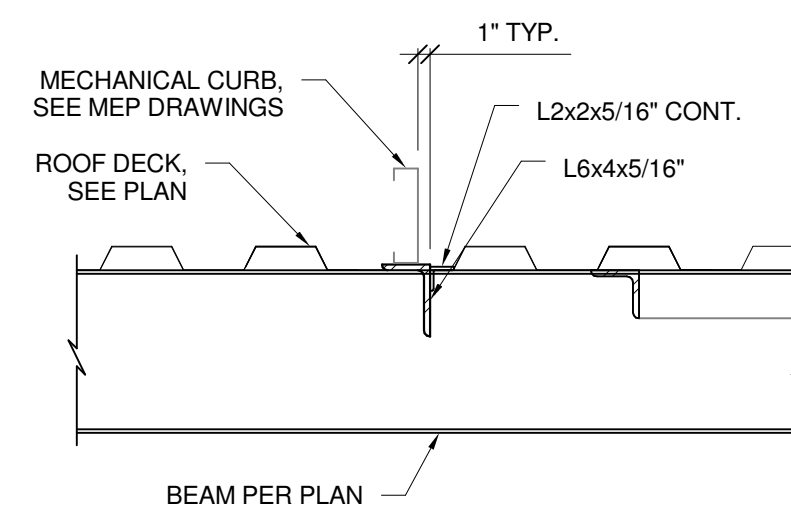
BEAM SIZE	# ROWS OF BOLTS, 'n'	MIN. L THICKNESS
W8, W10, C8, C9	2	1/4"
W12, W14, C12	3	1/4"
W16, W18	4	5/16"
W21, W24	5	5/16"
W27, W30, W33	6	5/16"

NOTE:  
DOUBLE ANGLES MAY BE SHOP WELDED OR SHOP BOLTED TO BEAM AT SUPPLIER'S OPTION.

**B** TYPICAL BEAM TO BEAM SHEAR CONNECTION  
SF502 1 1/2" = 1'-0"

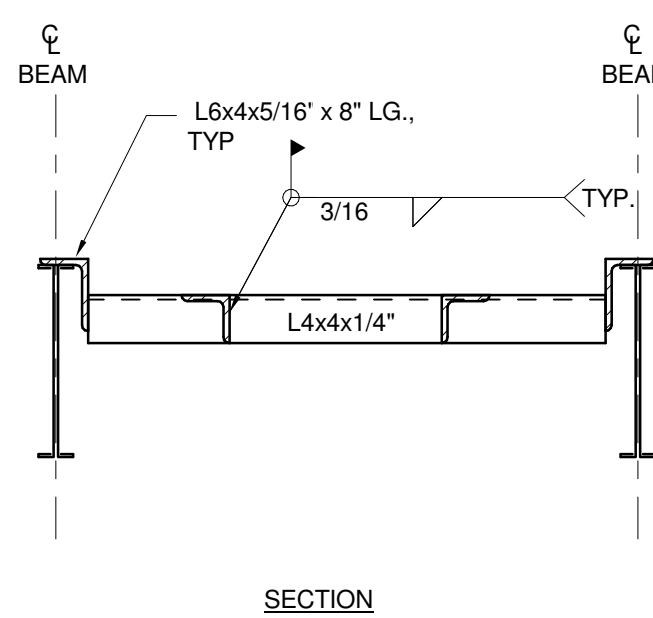
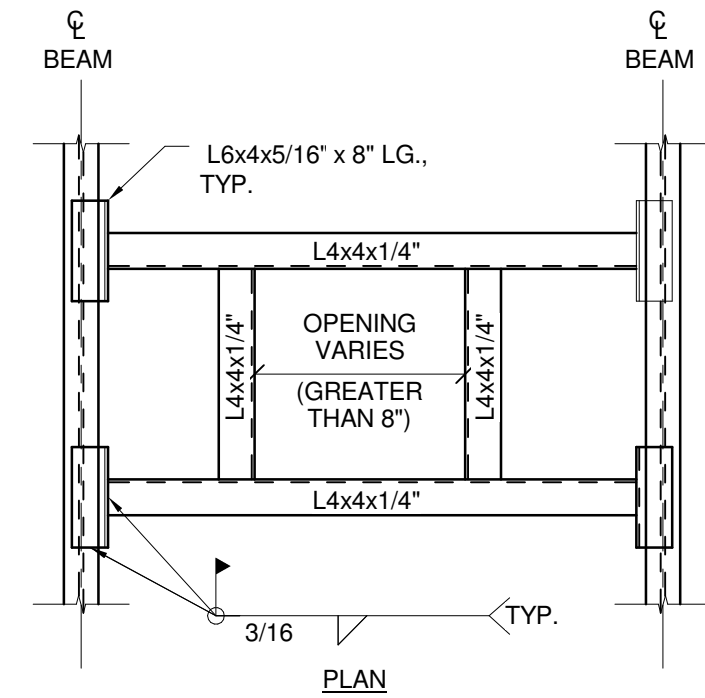


**C** POST ON STEEL BEAM FRAMING CONNECTION DETAIL  
SF502 1 1/2" = 1'-0"

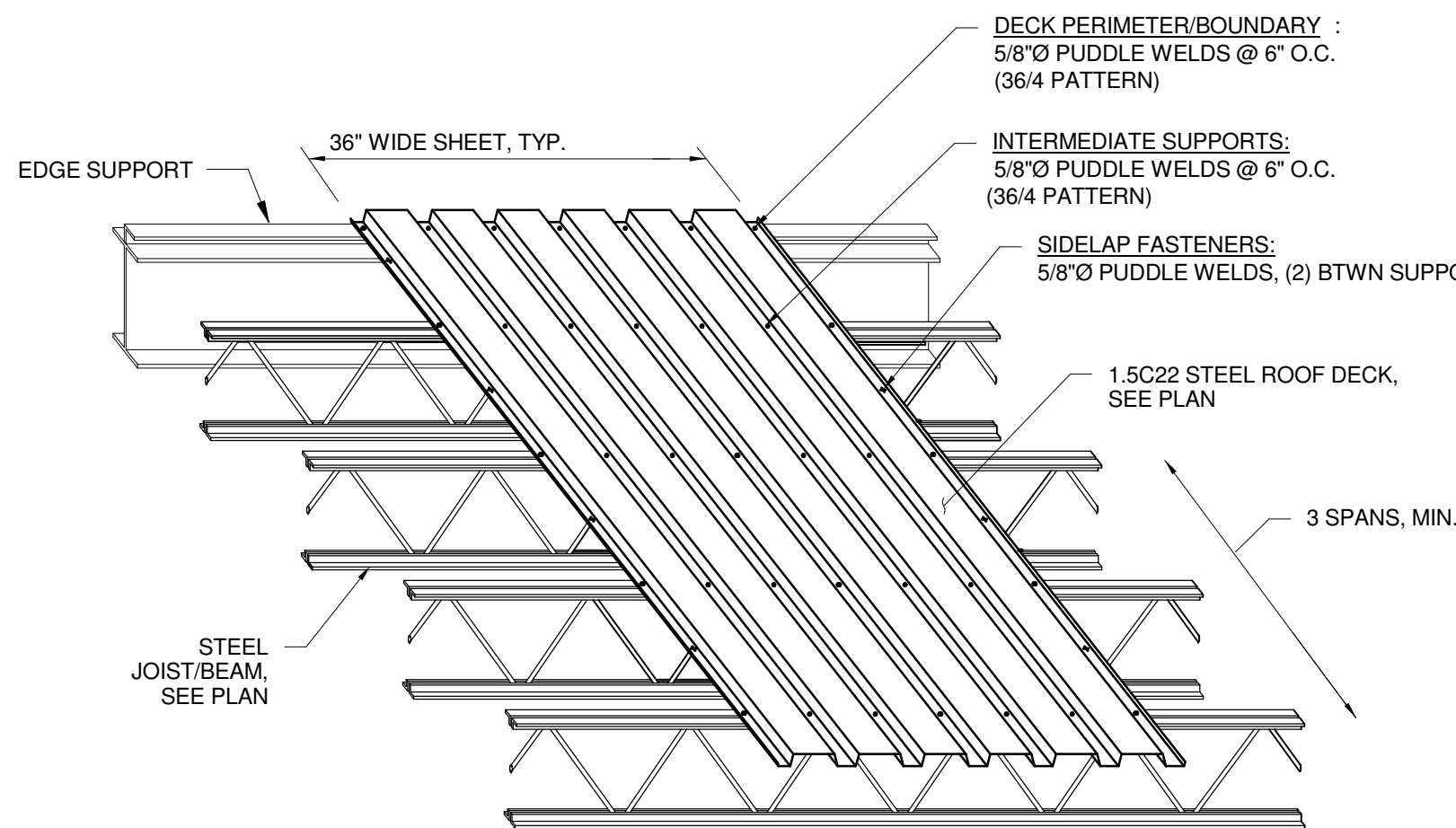


NOTES:  
1. COORDINATE EXACT LOCATIONS OF MECH. EQUIPMENT WITH MECHANICAL DRAWINGS.

**E** TYPICAL SUPPORT @ ROOF TOP EQUIPMENT CURB  
SF502 3/4" = 1'-0"

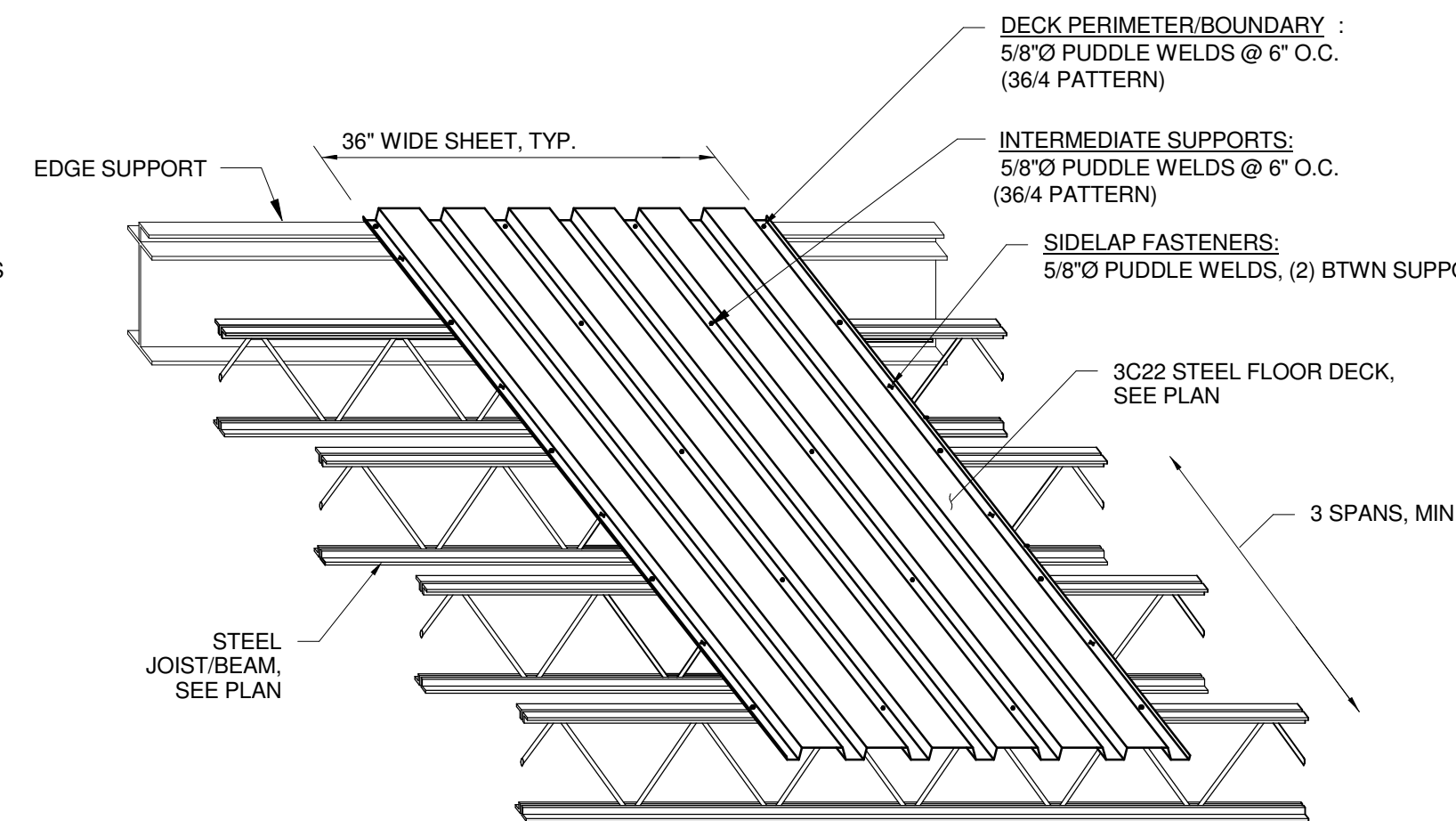


**D** TYPICAL ROOF OPENING DETAIL  
SF502 3/4" = 1'-0"



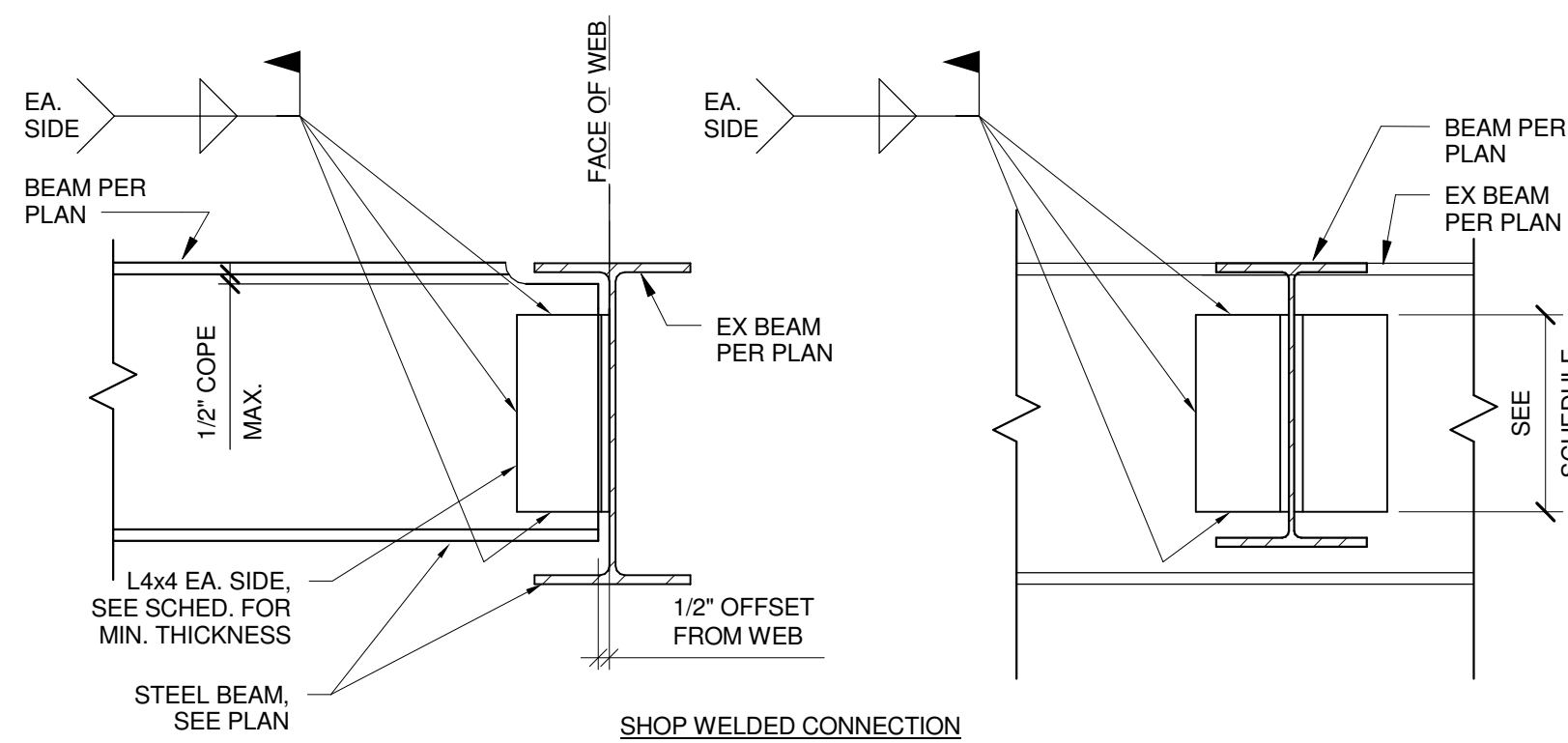
NOTES:  
1. WELD PATTERN IS SPECIFIED FOR 36" WIDE DECK PANELS; PATTERNS FOR OTHER PANEL WIDTHS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.  
2. SECURE DECK AT EACH FLUTE OR 6" O.C. MAX ALONG DECK PERIMETER AND CHANGES IN DIRECTION OF DECK FRAMING.  
3. FOR FASTENING SCHEDULE TYPE DIFFERENT FROM DETAIL SHOWN, SUBMIT MANUFACTURER'S DESIGN DATA TO SUPPORT MINIMUM HORIZONTAL SHEAR CAPACITY OF 800 POUNDS PER LINEAR FOOT FOR DECK GAUGE AND SUPPORT SPACING INDICATED ON PLAN.

**F** ROOF DECK ATTACHMENT DETAIL  
SF502 3/4" = 1'-0"



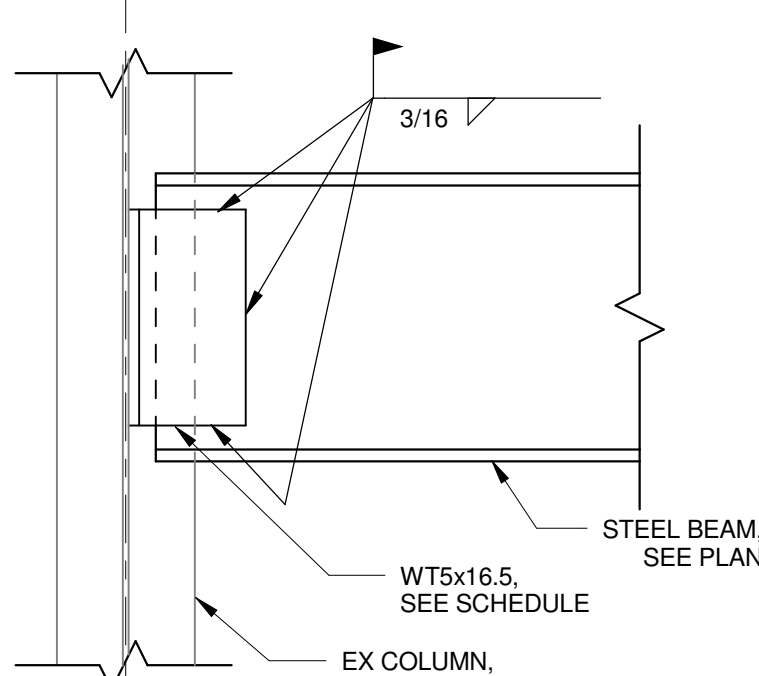
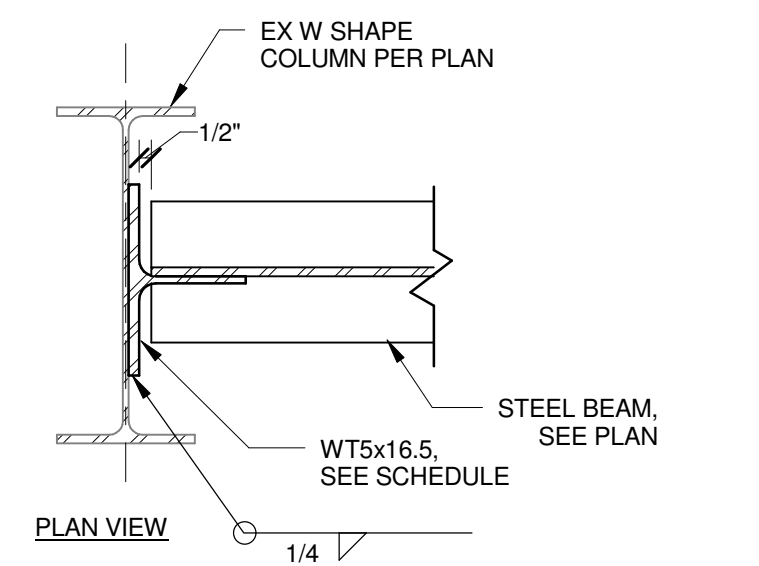
NOTES:  
1. WELD PATTERN IS SPECIFIED FOR 36" WIDE DECK PANELS; PATTERNS FOR OTHER PANEL WIDTHS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.  
2. SECURE DECK AT 12" O.C. MAX ALONG DECK PERIMETER AND CHANGES IN DIRECTION OF DECK FRAMING.  
3. FOR FASTENING SCHEDULE TYPE DIFFERENT FROM DETAIL SHOWN, SUBMIT MANUFACTURER'S DESIGN DATA TO SUPPORT MINIMUM HORIZONTAL SHEAR CAPACITY OF 800 POUNDS PER LINEAR FOOT FOR DECK GAUGE AND SUPPORT SPACING INDICATED ON PLAN.

**G** FLOOR DECK ATTACHMENT DETAIL  
SF502 3/4" = 1'-0"



BEAM SIZE	L LENGTH	MIN. L THICKNESS
W8, W10, C8, C9	6"	1/4"
W12, W14, C12	9"	1/4"
W16, W18	12"	5/16"
W21, W24	15"	5/16"
W27, W30, W33	18"	5/16"

**H** BEAM TO EXISTING BEAM SHEAR CONNECTION  
SF502 1 1/2" = 1'-0"



BEAM SIZE	WT LENGTH
W8, W10, C8, C9	6"
W12, W14, C12	9"
W16, W18	12"
W21, W24	15"
W27, W30, W33	18"

**J** BEAM TO EXISTING COLUMN CONNECTION  
SF502 1 1/2" = 1'-0"

100% CONSTRUCTION DOCUMENTS SUBMISSION  
FULLY SPRINKLERED

<b>CONSULTANTS:</b> <b>STRUCTURAL:</b> THARPE ENGINEERING GROUP 321 W. CONGRESS STREET SUITE 301-C SAVANNAH, GA 31401 912.349.7603 <b>MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION:</b> CROWWELL 101 SOUTH SPRING STREET LITTLE ROCK, AR 72201 501.372.2900		<b>ARCHITECT/ENGINEERS:</b>  BES DESIGN/BUILD, LLC 766 Middle St, Fairhope, AL 36532 Phone: 251.990.5778 Fax: 251.990.3716		<b>Drawing Title</b> <b>FRAMING DETAILS</b> <b>Approved:</b> Project Director <b>Date</b> 10/22/14 <b>Drawn</b> BTH <b>Checked</b> BKS		<b>Project Title</b> <b>RADIOLOGY / NUCLEAR MEDICINE IMPROVEMENTS</b> <b>Location</b> JOHN L. MCLELLAN MEMORIAL VETERANS HOSPITAL; LITTLE ROCK, ARKANSAS <b>Date</b> 10/22/14 <b>Drawn</b> BTH <b>Checked</b> BKS		<b>Project Number</b> CSI-111 <b>Building Number</b> 1 <b>Drawing Number</b> <b>SF502</b> Dwg. 6 of 6		<b>CENTRAL ARKANSAS VETERANS AFFAIRS HEALTHCARE SYSTEM</b> 	
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