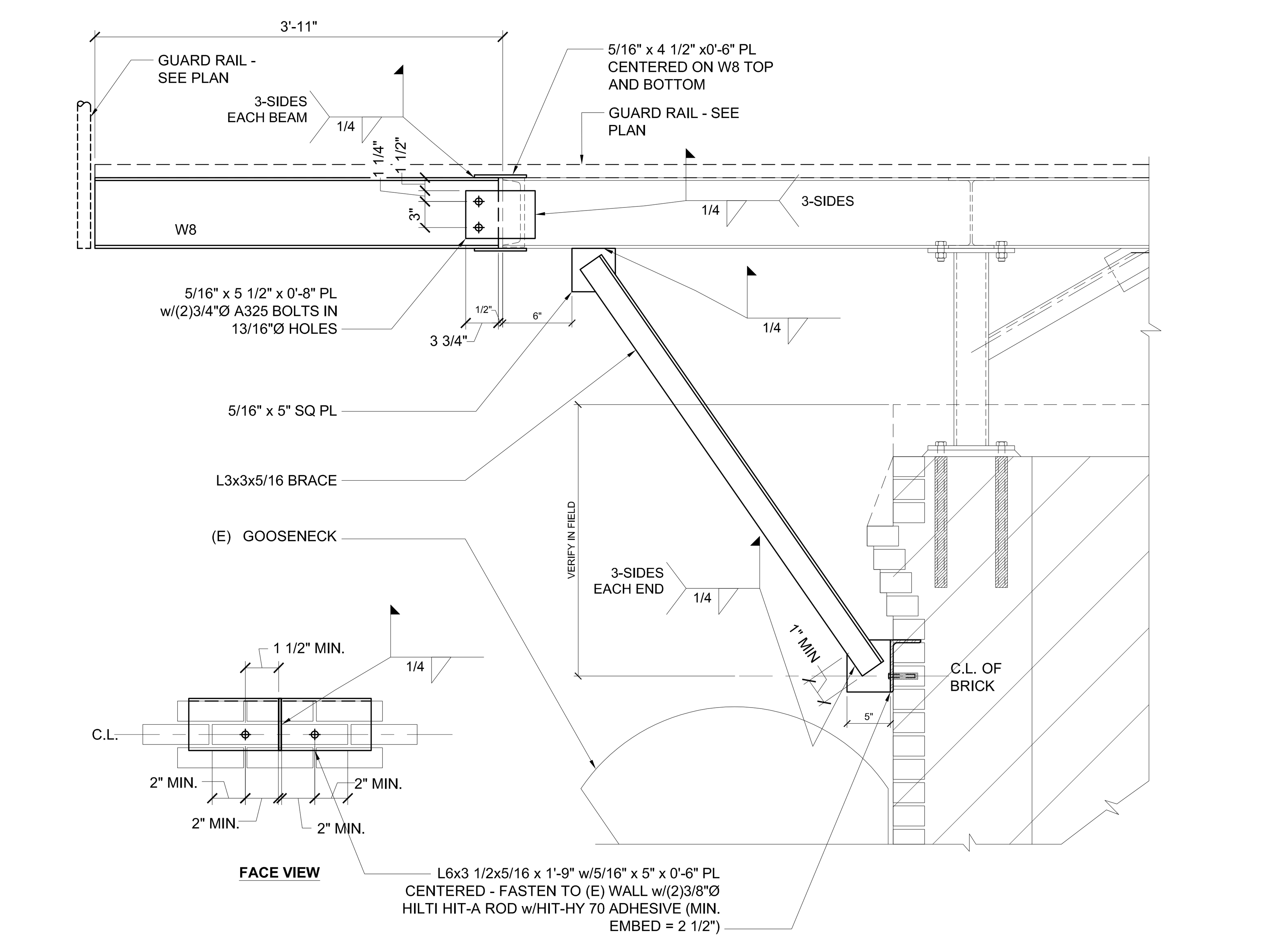
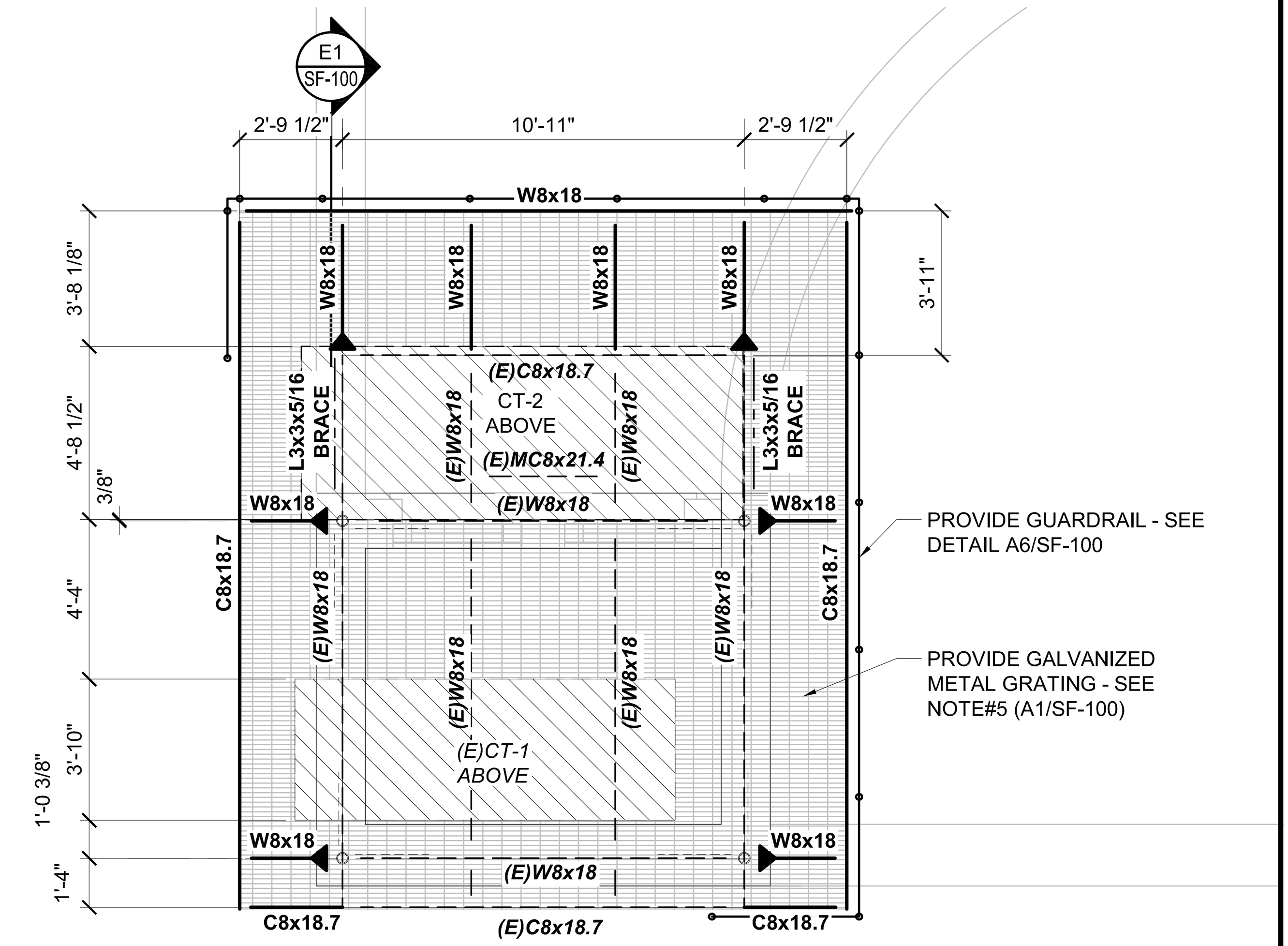
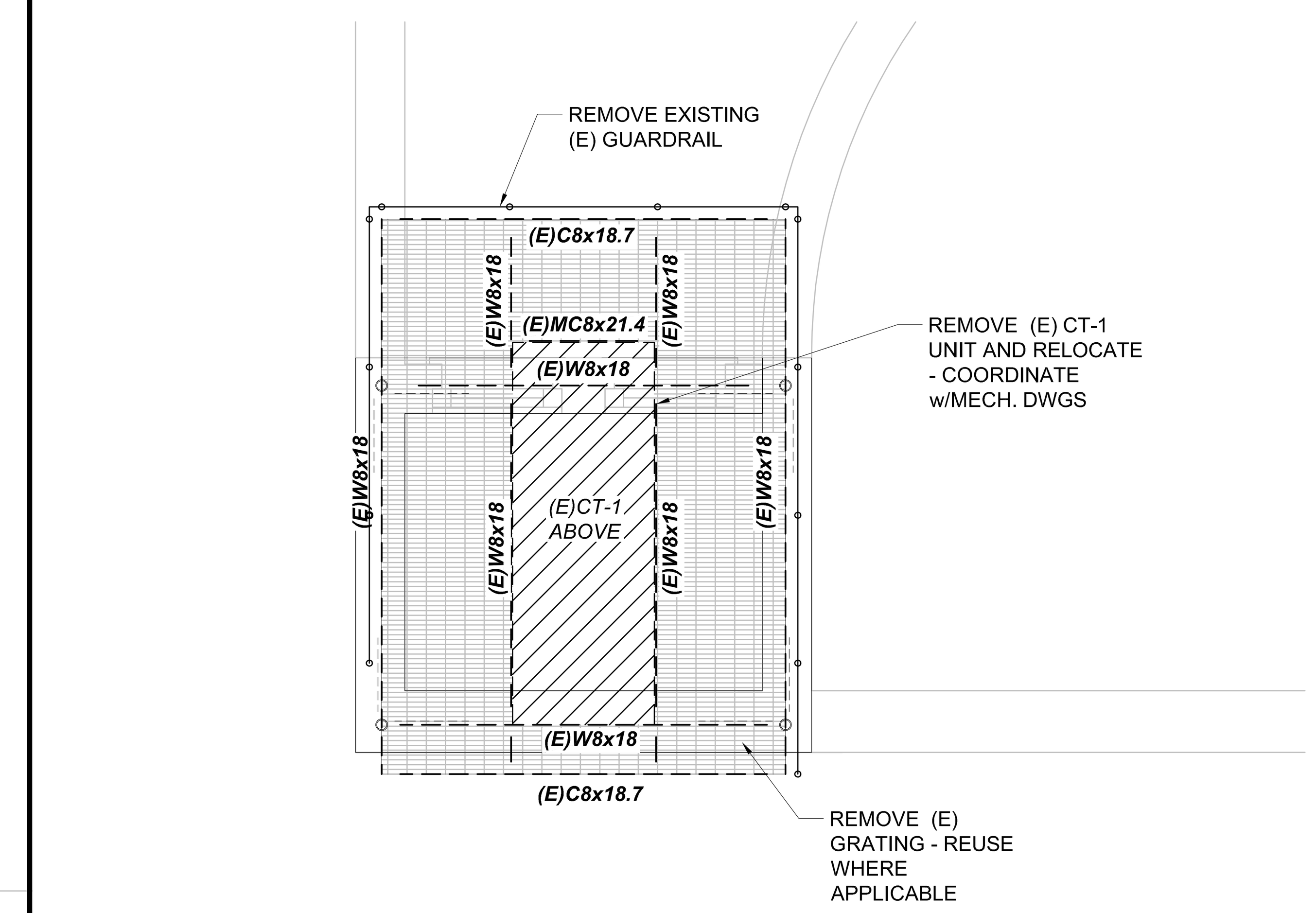


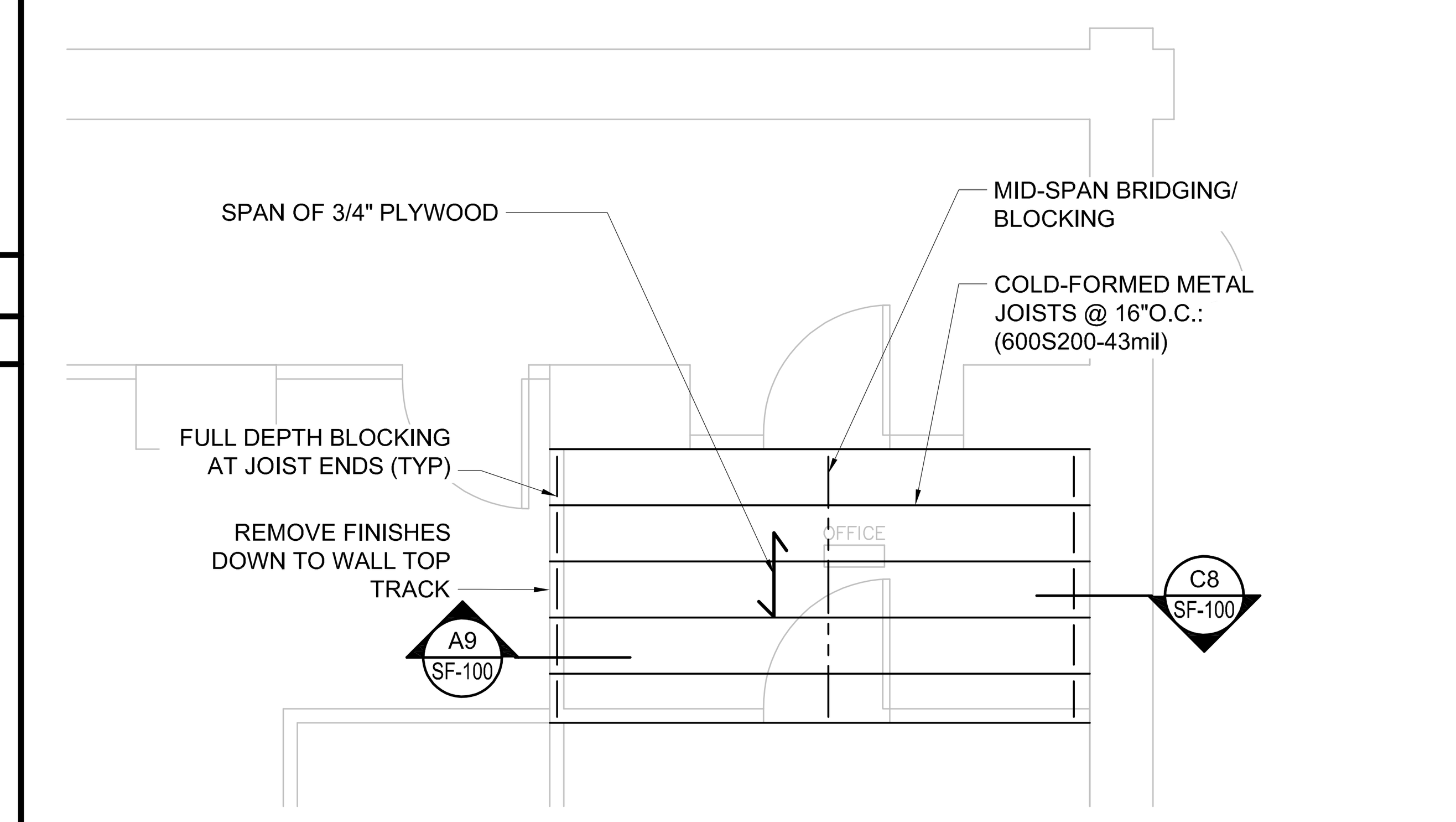
E1 DETAIL
1 1/2" = 1'-0"



E5 COOLING TOWER SUPPORT PLAN
1/4" = 1'-0"

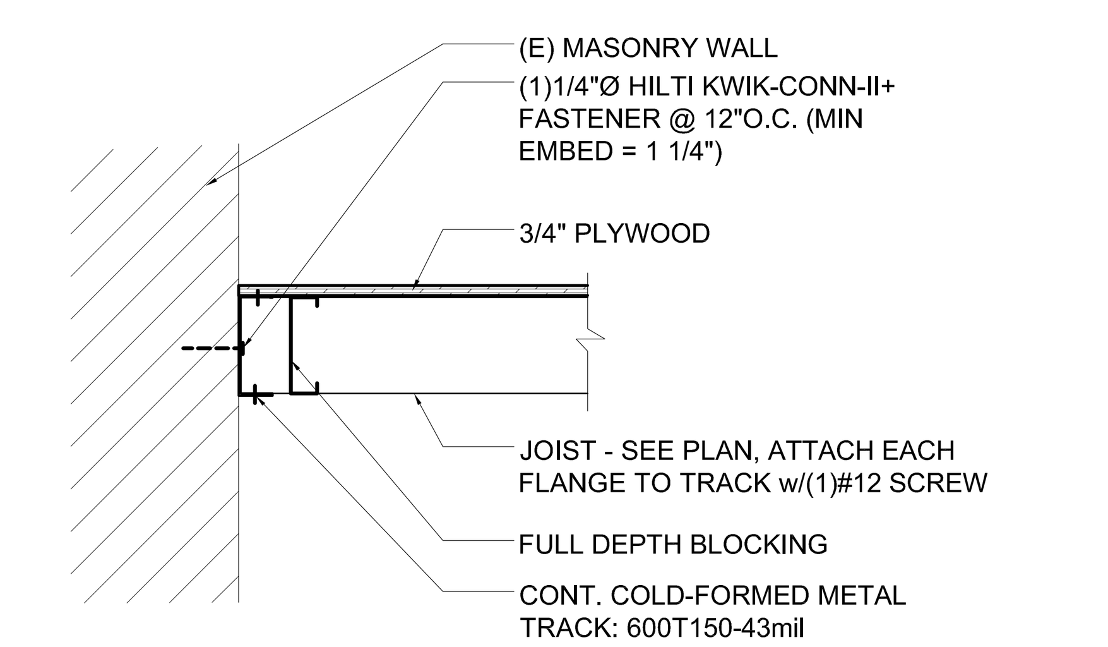


F8 COOLING TOWER SUPPORT DEMOLITION PLAN
1/4" = 1'-0"



NOTES:
1. ALIGN PLATFORM JOISTS w/EXISTING WALL STUDS BELOW
2. ATTACH PLYWOOD TO PLATFORM JOIST FLANGES w/#12 SCREWS @ 12"O.C.

D8 FIRST FLOOR PLATFORM FRAMING PLAN
1/4" = 1'-0"



C8 DETAIL
3/4" = 1'-0"

1. BUILDING CODE:
   A. INTERNATIONAL BUILDING CODE - 2009 EDITION
   B. ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
2. MINIMUM LOADING REQUIREMENTS:
   A. PLATFORM SNOW LOADS:
      a. GROUND SNOW LOAD: PG = 60.0 PSF
      b. "FLAT ROOF" SNOW LOAD Pf = 50.0 PSF
   B. PLATFORM DEAD LOAD: 20.0 PSF
   C. PLATFORM LIVE LOADS:

	UNIFORM	CONCENTRATED
a. MECHANICAL (COOLING TOWER) SUPPORT	125 PSF	SEE MECH. DWG'S FOR MECH. UNIT LOADS
b. 1ST FLOOR PLATFORM	20PSF	

   D. WIND:
      a. FACTORS:

i.a. BASIC WIND SPEED:	100 MPH
ii.b. EXPOSURE CATEGORY:	"C"
iii.c. IMPORTANCE FACTOR:	1.0
iv.d. BUILDING HEIGHT:	<60'

   E. SEISMIC
      a. COEFFICIENTS:

i.a. RESPONSE SPECTRAL ACC. (0.2 SEC.)	SS = 0.314G
ii.b. RESPONSE SPECTRAL ACC. (1.0 SEC.)	S1 = 0.077G
iii.c. SOIL CLASSIFICATION:	D
iv.d. SITE COEFFICIENTS:	FA = 1.20; FV = 1.70
v.e. MAX. CONSIDERED EARTHQUAKE ACC @ 5% DAMPED DESIGN:	SDS = 0.324; SD1 = 0.123
vi.f. BUILDING CATEGORY: II - STANDARD	
vii.g. SEISMIC DESIGN CATEGORY FOR 0.1 AND 1.0 SECONDS:	B
vii.h. FUNDAMENTAL PERIOD	TA = 0.227 SEC
vii.i. SEISMIC RESPONSE COEFFICIENT	CS = 0.041
vii.j. SEISMIC BASE SHEAR:	V= 2.5 KIPS (EQUIVALENT LATERAL FORCE PROCEDURE)

3. STEEL BEAMS SHALL CONFORM TO ASTM A992, FY = 50ksi; STEEL TUBE COLUMNS SHALL CONFORM TO ASTM A500 GRADE "B", MISCELLANEOUS PLATES, SHAPES, CHANNELS, ANGLES ETC. SHALL CONFORM TO ASTM A36, FY = 36ksi. STEEL SHALL BE GALVANIZED. PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
4. HIGH STRENGTH BOLTS, NUTS AND WASHERS: REGULAR HEXAGON-HEAD BOLTS, ASTM A325, TYPE 3, ASTM A563 NUTS AND ASTM F436 FLAT WASHERS. HOT-DIP GALVANIZED. INSTALL BOLTS USING SNUG TIGHTENED METHOD PER RCSC's "SPECIFICATION FOR STRUCTURAL JOINTS".
5. GALVANIZED METAL GRATING;PROVIDE HOT DIPPED GALVANIZED METAL BAR GRATING TO COMPLY WITH NAAMM MBG531, WITH CAPACITY EQUAL TO 125 psf or 2,000 POUND CONCENTRATED LOAD AT ANY LOCATION. 1 ¼" x 3/16" BARS @ 1 3/16" O.C. ASTM A36 STEEL.
6. **GALVANIZING:** APPLY ZINC COATING BY THE HOT-DIP PROCESS TO ALL EXPOSED STEEL ACCORDING TO ASTM A 123. CLEAN AREAS WHERE GALVANIZING IS DAMAGED OR MISSING AND REPAIR GALVANIZING TO COMPLY WITH ASTM A 780.Z
7. **WELDED CONNECTIONS:** COMPLY WITH AWS D1.1 FOR TOLERANCES, APPEARANCES, WELDING PROCEDURE SPECIFICATIONS, WELD QUALITY, AND METHODS USED IN CORRECTING WELDING WORK. FIELD APPLY GALVANIZING TO WELDING AFTER COMPLETION.

A1 STRUCTURAL NOTES
-

CONNECTIONS:

1. DETAILS ARE CONCEPTUAL ONLY AND DO NOT INDICATE THE REQUIRED NUMBER OF BOLTS OR WELD SIZES, UNLESS SPECIFICALLY NOTED OTHERWISE.
2. FIELD CONNECTIONS SHALL BE FIELD BOLTED WITH A325N HIGH STRENGTH BOLTS (U.N.O.) EXCEPT WHERE SLIP CRITICAL CONNECTIONS ARE REQUIRED AND NOTED BY A325 (SC) ON THE DRAWINGS. WASHERS SHALL CONFORM TO ASTM F436, NUTS SHALL CONFORM TO ASTM A563 PROVIDE SLIP CRITICAL (SC) CONNECTIONS AT ALL MOMENT CONNECTIONS, BRACED FRAMES, RELIEVING ANGLES AND WHERE OTHERWISE NOTED.
3. SLIP CRITICAL (S.C.) BOLTED CONNECTIONS SHALL BE CHECKED AND INSPECTED USING ONE OF THE FOLLOWING:
   A. TURN OF THE NUT
   B. CALIBRATED WRENCH
   C. ALTERNATE DESIGN FASTENER
   D. DIRECT TENSION INDICATOR
   E. ALL OTHER BOLTED CONNECTIONS SHALL BE TIGHTENED TO "SNUG TIGHT" CONDITION UNLESS NOTED OTHERWISE.
4. UNLESS NOTED OTHERWISE, CONNECTIONS SHALL BE WELDED OR BOLTED WITH ¾" DIAMETER BOLTS (BEARING TYPE, DESIGNATION N, THREADS IN SHEAR PLANE) BEAM TO COLUMN CONNECTIONS SHALL BE FULL DEPTH (BOLT SPACING 3" ON-CENTER).
5. OVERSIZE OR SLOTTED HOLES SHALL NOT BE USED FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY ENGINEER OF RECORD.
6. MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE 2.
7. WELDS INDICATED SHALL BE THE MINIMUM WELD SIZED SPECIFIED BY THE AISC MANUAL OF STEEL DESIGN (SINGLE PASS AS REQUIRED) ALL BUTT AND FULL PENETRATION WELDS SHALL BE MADE USING RUN OFF TABS THAT SHALL BE REMOVED AND GROUND SMOOTH AFTER WELD IS COMPLETED. ALL WELD BACK UP BARS SHALL BE REMOVED AND GROUND SMOOTH AFTER WELD IS COMPLETED.
8. SHOP CONNECTIONS, UNLESS NOTED OTHERWISE, SHALL BE WELDED. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BEAM CONNECTION CAPABILITIES SHALL BE CALCULATED IN ACCORDANCE WITH AISC'S "THE STEEL CONSTRUCTION MANUAL", 13TH EDITION, FOR EACH SHEAR CONNECTION PROVIDE THE GREATER OF THE FOLLOWING SHEAR CAPACITIES:
   A. BEAMS: SUPPORT A REACTION ® EQUAL TO HALF TOTAL UNIFORM LOAD CAPACITY OF BEAM FOR GIVEN SHAPE, SPAN AND STEEL SPECIFICATION (AISC) WITH EFFECT OF CONCENTRATED LOADS ACCOUNTED FOR OR THE (UNFACTORED) REACTIONS SHOWN ON PLAN, WHICHEVER IS GREATER.
9. CONNECTION DESIGN IS THE RESPONSIBILITY OF THE FABRICATOR FOR OTHER THAN THE STANDARD CONNECTIONS SHOWN HERE. CONNECTIONS CALCULATIONS SHALL BE SIGNED, SEALED BY A PE REGISTERED IN MAINE AND SUBMITTED FOR REVIEW WITH THE SHOP DRAWINGS. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. PARTIAL SUBMITTAL PACKAGES SHALL BE RETURNED.
10. ALTERNATE CONNECTIONS WILL BE ACCEPTED ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD; HOWEVER, THE ENGINEER SHALL BE THE SOLE JUDGE OF ACCEPTABILITY. THE CONTRACTOR'S BID SHALL ANTICIPATE THE USE OF THOSE SPECIFIC DETAILS SHOWN ON THE DRAWINGS. IN ANY EVENT THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF SUCH ALTERNATE DETAILS.

A4 STRUCTURAL NOTES CONTINUED
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1. WORK SHALL BE DONE IN COMPLIANCE WITH THE LATEST EDITION OF IBC-2009.
2. THE CONTRACTOR SHALL VISIT THE SITE AT A DESIGNATED TIME APPROVED BY THE OWNER, TO VERIFY EXISTING CONDITIONS, DIMENSIONS, LOCATION OF EXISTING UTILITIES, ETC. THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES WITHOUT EXCEPTION.
3. WORK SHALL BE DONE IN AN ORDERLY AND PROFESSIONAL MANNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK TO BE DONE BY SUBCONTRACTORS, LOCAL AUTHORITIES, STATE AGENCIES AND/OR UTILITY COMPANIES WHICH MAY HAVE JURISDICTION OVER THIS PROJECT.
4. UTILITY EXTENSIONS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH STATE AND LOCAL CODES OR AS INDICATED BY THE SPECIFICATIONS.
5. EXISTING ROOF SURFACE SHALL BE PROTECTED FROM WELDING DAMAGE DURING CONSTRUCTION. REPAIRS SHALL BE PROVIDED IF DAMAGE OCCURS.
6. RE-ROOFING AT PROPOSED ROOF PENETRATIONS SHALL BE PROVIDED BY CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY EXISTING ITEMS DAMAGED BY NEW CONSTRUCTION, AND FOR ANY INCIDENTAL REPAIRS OF EXISTING FINISHED SURFACES DISTURBED BY NEW CONSTRUCTION; SUCH REPAIRS SHALL MATCH EXISTING TO THE OWNER'S SATISFACTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING, HANDLING, AND STORAGE OF ITEMS/MATERIALS TO REMAIN THE PROPERTY OF THE OWNER WITH THE OWNER'S REPRESENTATIVE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS AND TEMPORARY SHORING, PRECAUTIONS DURING BUILDING OPERATIONS, PROTECTION OF PUBLIC AND WORKERS, REMOVAL OF WASTE MATERIAL, PROTECTION OF ADJACENT PROPERTY, PROTECTION OF HAZARDOUS OPENINGS, SAFETY PRECAUTIONS, AND SANITARY PROVISIONS OF EMPLOYEES AND SUBCONTRACTORS AS REQUIRED FOR THE DURATION OF THE CONTRACT.

C6 GENERAL NOTES
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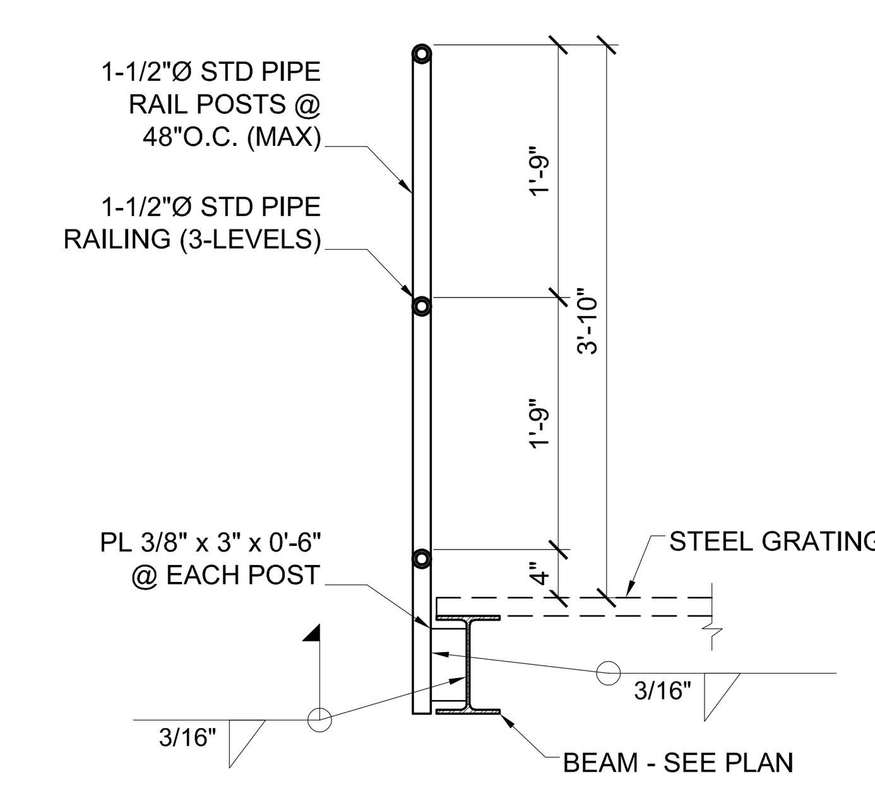

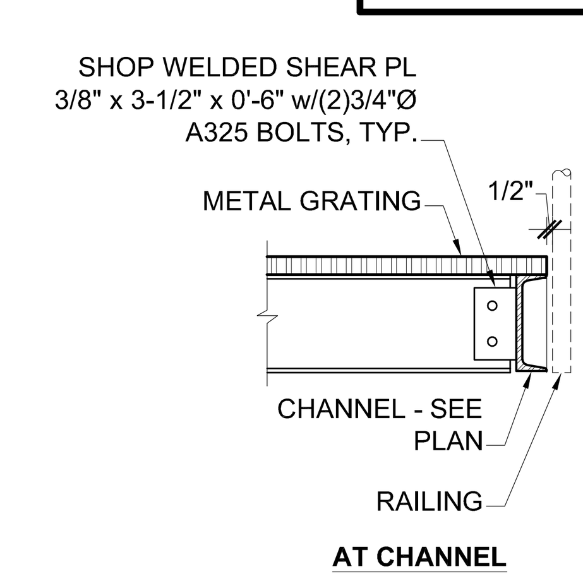

AT CHANNEL

A6 TYPICAL RAILING DETAIL
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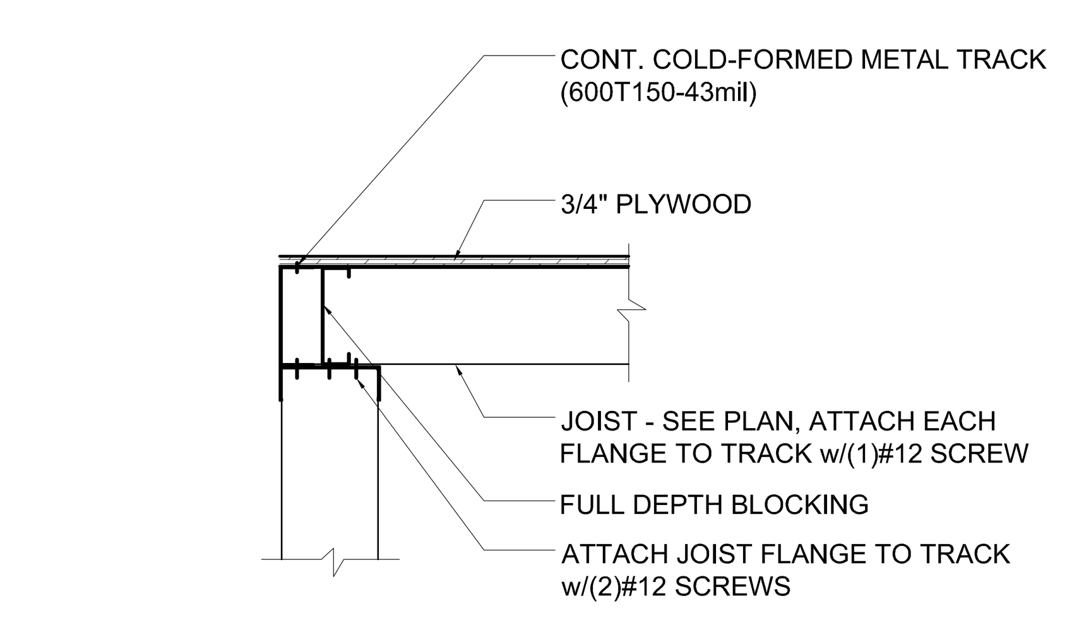

A9 DETAIL
3/4" = 1'-0"

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Allied Engineering
Structural Mechanical Electrical Commissioning

STATE OF MAINE WILLIAM P. FAUCHER #7133 LICENSED PROFESSIONAL ENGINEER

NUMBER	DATE	BY	DESCRIPTION
REVISIONS			

Date:	DECEMBER 22, 2017
Drawn By:	PED
Checked By:	JPM
Project Mgr:	ASD
Project No:	17051
Cad File:	17051S.dwg
Graphic Scale:	0 1"

STRUCTURAL ~ FRAMING PLANS AND NOTES

AIR CONDITIONING AND HEATING UPGRADES
CUMBERLAND COUNTY COURTHOUSE
142 FEDERAL STREET, PORTLAND, MAINE

SF-100