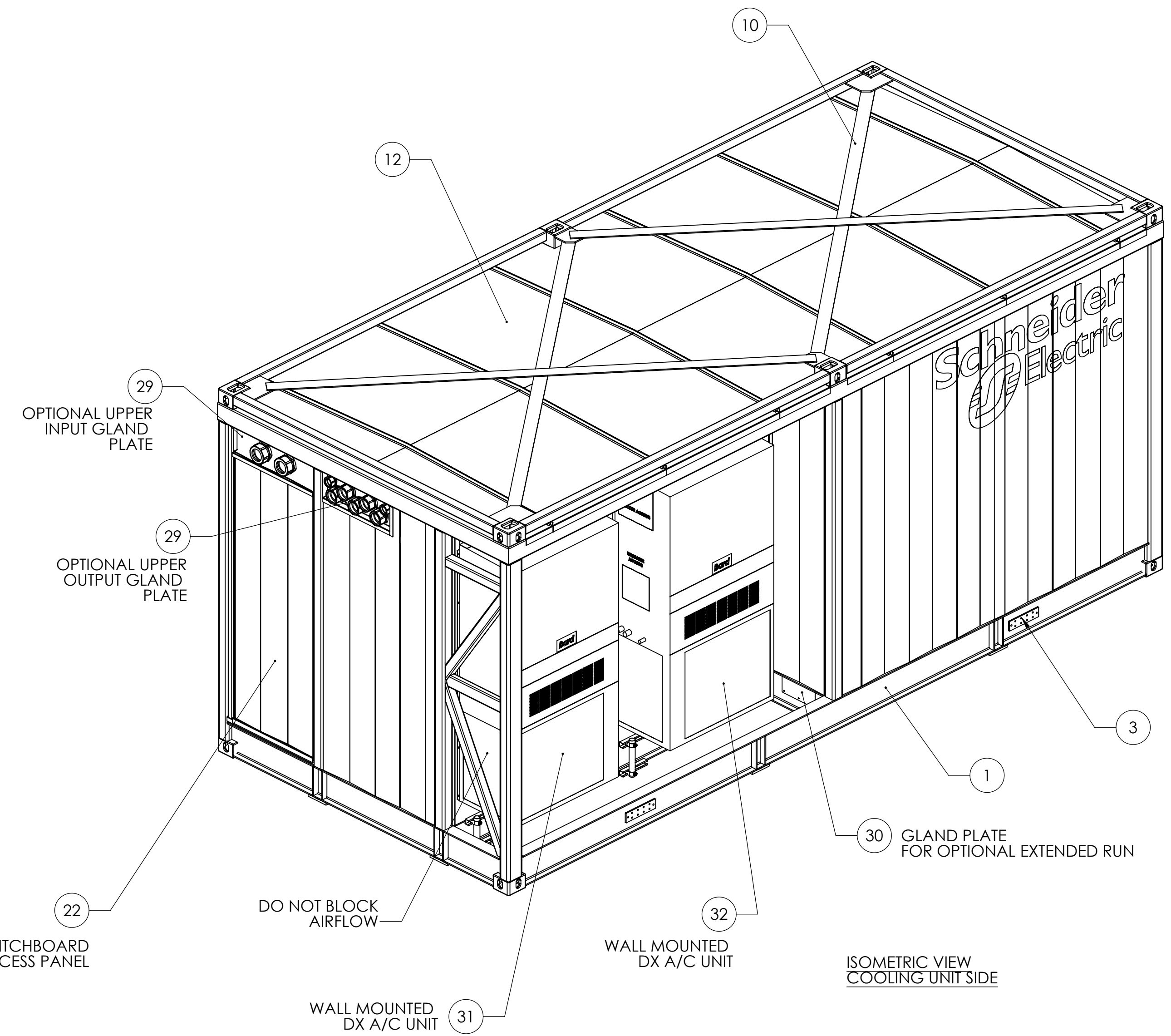


ISOMETRIC VIEW PERSONNEL DOOR SIDE



ISOMETRIC VIEW COOLING UNIT SIDE

TECHNICAL SPECIFICATION:

- Notes:**
- Num bers correspond to ballo n numbers on drawing.
 - All British or other standard materials or processes referenced below to be replaced as necessary with applicable North American standards or available products, such that it doesn't change the form or function of the product, nor affect previously performed structural analysis. Subject to Schneider Electric (=SE=) approval.

- FRAME**
1. FRAME WELDMENT ASSY
Welded structural steel construction with ISO corner castings for shipping. All externally visible components and/or exposed to the elements, including underside, to be sandblasted to SA2.5 or equivalent and finished to external paint specification. See separate detailed drawing.
2. UB BASE PLATE
3. GROUNDING PLATE
4. FLOOR JOIST:
UB203x102x23. Sandblasted to SA2.5, primed and finished to external paint specification
5. FLOOR SUPPORT:
RHS 80x40x3 members welded to floor joists, sandblasted to SA2.5, primed and finished to external paint specification
6. EQUIPMENT SUPPORT:
Structural member welded to floor joists or wall members, located and sized sufficient to support specified equipment to OSHPD certifications, and subject to =SE= approval.
7. UNDERSIDE SHEETING:
1.5 mm Galvanite / HDG Z 275 sheeting (or approved equivalent) to provide protection to the underside of the module
- ROOF**
8. ROOF RING BEAM:
RHS 150x100x5 sandblasted to SA2.5 and finished to external paint specification
9. ROOF RING MEMBER:
SHS 80x80x3 sandblasted to SA2.5 and finished to external paint specification.
10. ROOF BRACING:
Flat bar 100 x 8 sandblasted to SA2.5 and finished to external paint specification. Ensure complete coverage of paint on all roof member surfaces.
11. ROOF BRACING GUSSET PLATE:
Gusset plate sandblasted to SA2.5 and finished to external paint specification
12. EXTERNAL ROOF SKIN:
2.5 mm Galvanite / HDG Z 275 (or approved equivalent) manufactured to provide the necessary roof pitch to

- prevent ponding. Each sheet is flanged and capped or overlapped to provide a waterproof seal.
13. ROOF RAFTER:
2.5 mm Galvanite / HDG Z 275 (or approved equivalent)
To provide the necessary support for the external roof skin, insulate with 100 mm Rockwool RWA45
14. FIRE WALL:
15 mm Promated FW 1 hour rated fire wall sheet, or equivalent, attached to the roof rafters in accordance to manufacturer's instructions to maintain fire wall integrity.
15. CEILING:
1.5 mm Galvanite / HDG Z 275 (or approved equivalent) riveted thru the fire wall and into the ceiling rafters. Finish to internal wall specification.
- WALLS**
16. EXTERNAL WALL SKIN:
2.5 mm Galvanite / HDG Z 275 (or approved equivalent) finished to external paint specification. Wall skins should not dish or bow and must be flat within 10mm.
17. INSULATION:
100 mm Rockwool RWA45 insulation
18. FIRE WALL:
15 mm Promated FW 1 hour rated fire wall sheet, or equivalent, attached to the roof rafters in accordance to manufacturer's instructions to maintain fire wall integrity.
19. INTERNAL WALL SKIN:
1.5 mm Galvanite / HDG Z 275 (or approved equivalent) riveted thru the fire wall and attached to steelwork frame and wall studs. Wall skins and joints finished to aesthetic quality approved by =SE=.
20. VENTILATION:
Passive, pressure relief damper, area 110 sqin. MIN
- DOORS:**
- 1 hour fire rated, exterior, thermally insulated steel doors.
21. DOOR 1: PERSONNEL DOOR
Three point locking with panic bar and door closer. Clear opening 1005 mm x 2100 mm
22. DOOR 2: SWITCHBOARD ACCESS PANEL
Construction to match enclosure walls, 1-hr fire rating, weatherproof after installation. Tamper-proof from outside, removable from inside.
23. HANDLE: flush mount, not to extend past enclosure dimensions
- FLOOR**
24. FLOOR: 18 mm thick subfloor grade plywood screwed to floor joists with countersunk self-tapping electro zinc plated steel screws. Screws are countersunk below the floor surface 1.0 to 2.5 mm. Maintain floor flatness of 10 mm.
25. FLOOR: Anti-static PVC floor tile or approved alternate
- EXTERNAL PAINT SPECIFICATION**
- a. Zinc rich primer Interzinc 52; 75 micrometers thick
- b. Intermediate base coat Intergard 475HS; 200 micrometers thick

- c. Finish coat Interline 878; 60 micrometers thick; white color to match RAL 9022, gloss finish
Apply paint per manufacturer's recommendations and at recommended temperatures.
- ELECTRICAL WIRING**
26. Bottom entry input wiring, with gland/access plates as required. Gland plates to be accessible from inside the enclosure.
27. Under floor wiring between main equipment
28. Convergence wiring to be enclosed in conduit and routed to aesthetic quality approved by =SE=
29. Overhead input wiring gland plate to be provided, for customer optional installation.
30. Gland plate for external battery connection to be provided where shown.
- EQUIPMENT**
31. BARD A/C UNIT, LEFT-HAND W70A1209-WX1XJXJ; 6T, DX, 4600/603, 9KW w/heater and economizer. Color, white.
Install in left-hand position per manufacturer's instructions for weather tight sealing and recommended wall attachment using Bard supplied brackets and flashing.
32. BARD A/C UNIT, RIGHT-HAND W70L2C09-WX1XJXJ; 6T, DX, 4600/603, 9KW w/heater and economizer. Color, white.
Install in right-hand position per manufacturer's instructions for weather tight sealing and recommended wall attachment using Bard supplied brackets and flashing.
33. UNISTRUT PIPE CLAMP
Stainless steel 40mm dia pipe clamps to support condensate drain pipe, Unistrut p/n P1115 or equivalent
34. CONDENSATE DRAIN PIPE
40mm dia PVC drain pipe
35. UPS: APC SYPX
Rack enclosure. Bottom entry installation per manufacturer's instructions, using manufacturer's equipment for seismic installation. (Supplied by =SE=)
36. SWITCHGEAR: Integrator design using =SE= components, or to be supplied by =SE=. To be designed such that the cabinetry does not exceed described dimensions. Bottom entry installation. Wiring to be accessible from the cabinet front, designed so that pulling underground cables is unproblematic and risk of damage to nearby components is mitigated. See equipment one-line and Bill of Materials
37. COMMUNICATIONS AND CONTROL: Integrator design using =SE= components, or to be supplied by =SE=. To be designed such that the cabinetry does not exceed described dimensions
38. FIRE SUPPRESSION: per BOM or Schneider Electric approved equivalent
39. LIGHTING: per BOM or Schneider Electric approved equivalent
40. EMERGENCY POWER OFF: per BOM or Schneider Electric approved equivalent

GENERAL WELDING NOTES:

1. ALL STEEL SURFACES TO BE DEGREASED AND SAND BLASTED TO SWEDISH STANDARD SA2.5 TO REMOVE ALL RUST, DIRT, MILL SCALE AND OTHER FOREIGN MATERIALS.
2. ALL WELD JOINTS TO BE SAND BLASTED TO REMOVE ALL WELDING FLUXES, SPATTERS, BURNT PRIMER COATINGS CAUSED BY WELD HEAT AND OTHER FOREIGN MATERIALS. ALL SURFACES TO BE COATED WITH PRIMER PAINT IMMEDIATELY AFTER SAND BLASTING.
3. ALL EXTERIOR ROOF AND WALL SKIN WELDING TO BE CONTINUOUS TO PROVIDE FOR WATERTIGHT JOINTS. WELD PROFILES SHALL MEET THE REQUIREMENTS OF AWS D1.1 SECTION 5.24. ALL WELDS SHALL BE FREE FROM CRACKS, OVERLAPS, AND THE UNACCEPTABLE PROFILE DISCONTINUITIES SHOWN IN FIGURE 5.4 OF AWS D1.1 AND SHALL BE VISUALLY INSPECTED TO THE CRITERIA OF TABLE 6.1 OF AWS D1.1

REV	DESCRIPTION	DRWN	DATE	ENGR	DATE	APPR	DATE
06	MINOR DRAWING TEXT LABELING REVISIONS	L.P.	17SEP13				
05	ADDED SPD CABINET TO SWITCHGEAR LINEUP, CHANGED FIRE CONTROL PANEL LOCATIONS	L.M.	07JUL13				
04	CHG FLOORING TO PVC, ADD XFMR MOUNTING BRKTS	L.M.	04/08/2013				
03	ADD TOP ENTRY GLAND PLATES, REMOVE DOUBLE DOORS, ADD SWITCHGEAR ACCESS PANEL	L.M.	04/04/2013				
02	BARD DX CHANGE TO SERIES 2 (SHORTER), ADDED XFMRs, SQ. D SWITCHGEAR	L.M.	03/13/2013				
01	INITIAL DESIGN	L.M.	02/12/2013				

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Schneider Electric

TITLE: MECHANICAL TOP LEVEL ASSY

DWG NO: PFMPE0250NA

ENGINEER: L. MCMAHAN

DRAWN: L. MCMAHAN

APPROVED: L. MCMAHAN

PROJECT: POWER ENCLOSURE 250KW NAM

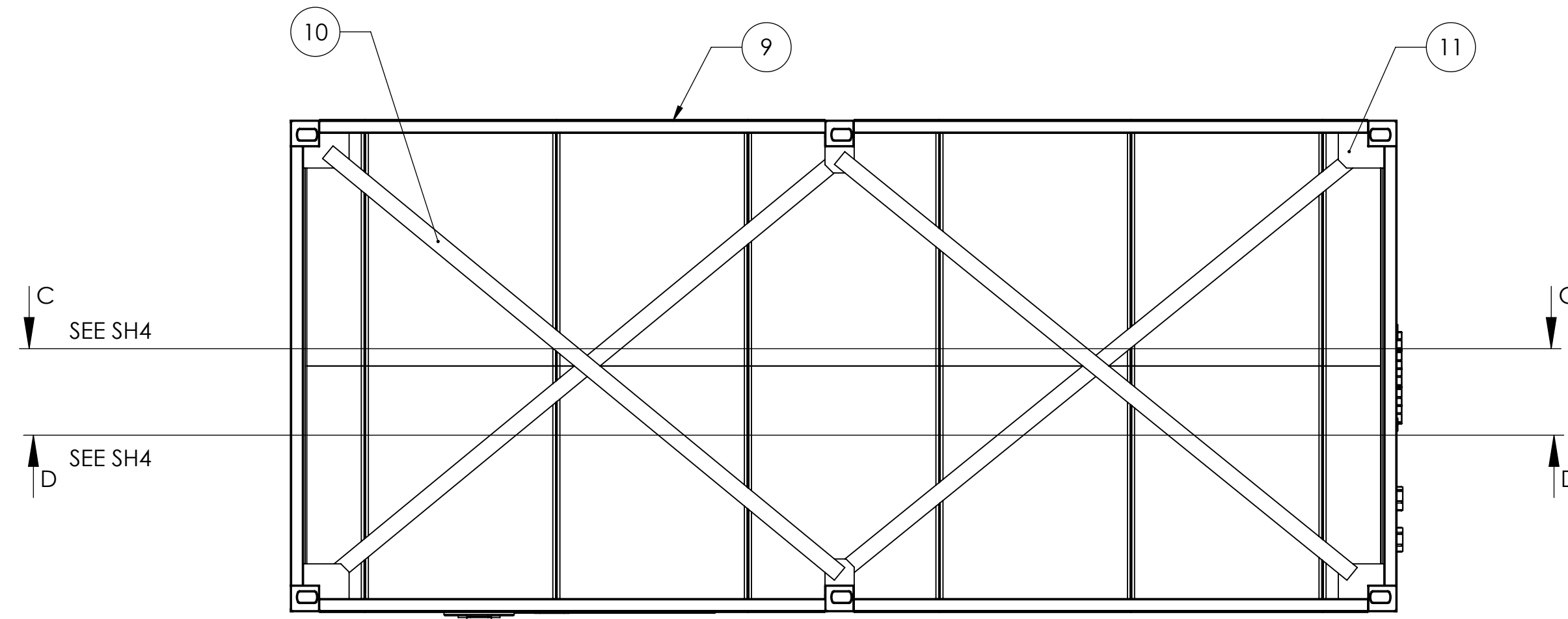
SHEET 1 OF 8

REV: 06

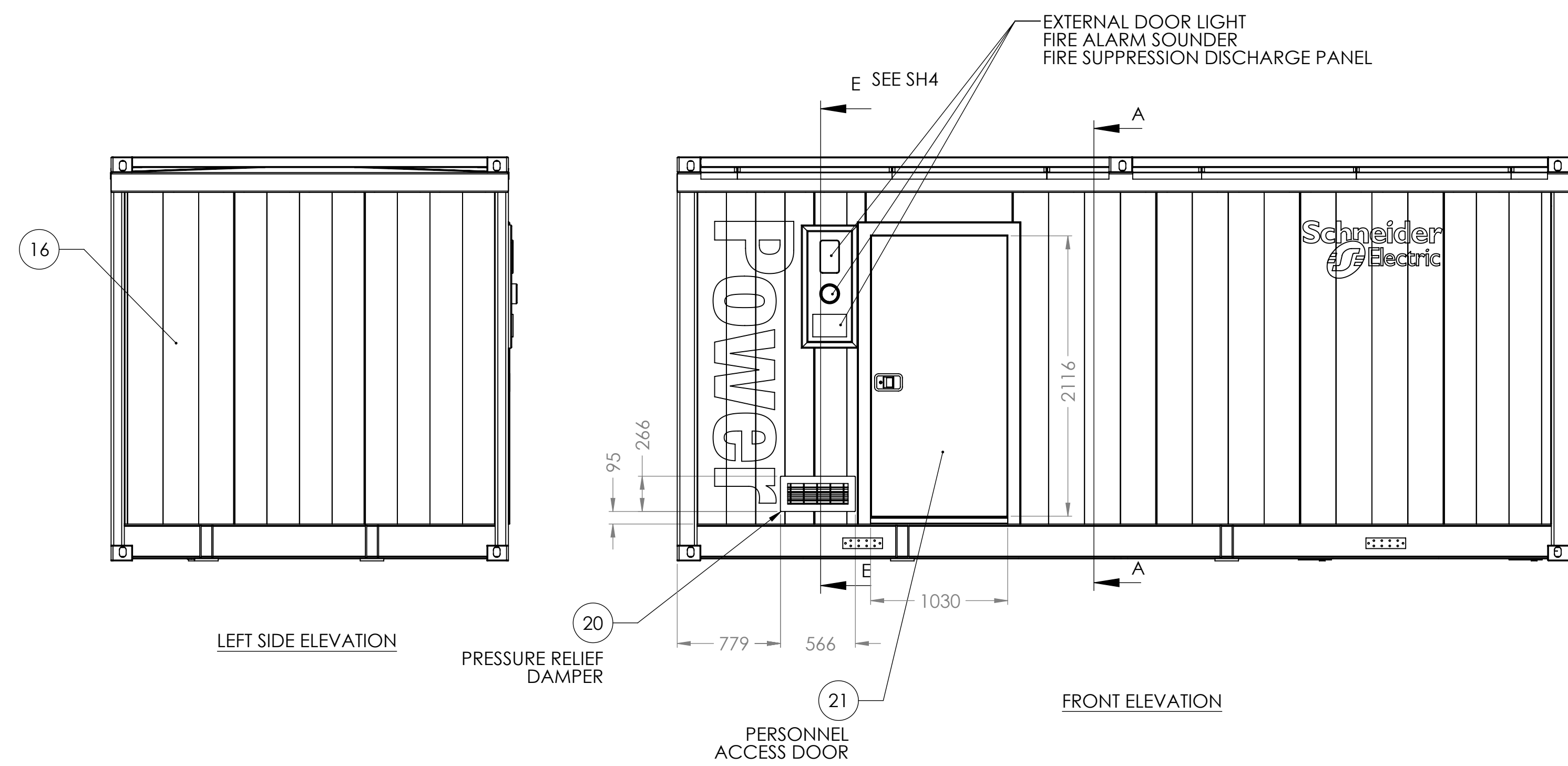
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DATE: 02/12/2013

DATE: 02/12/2013

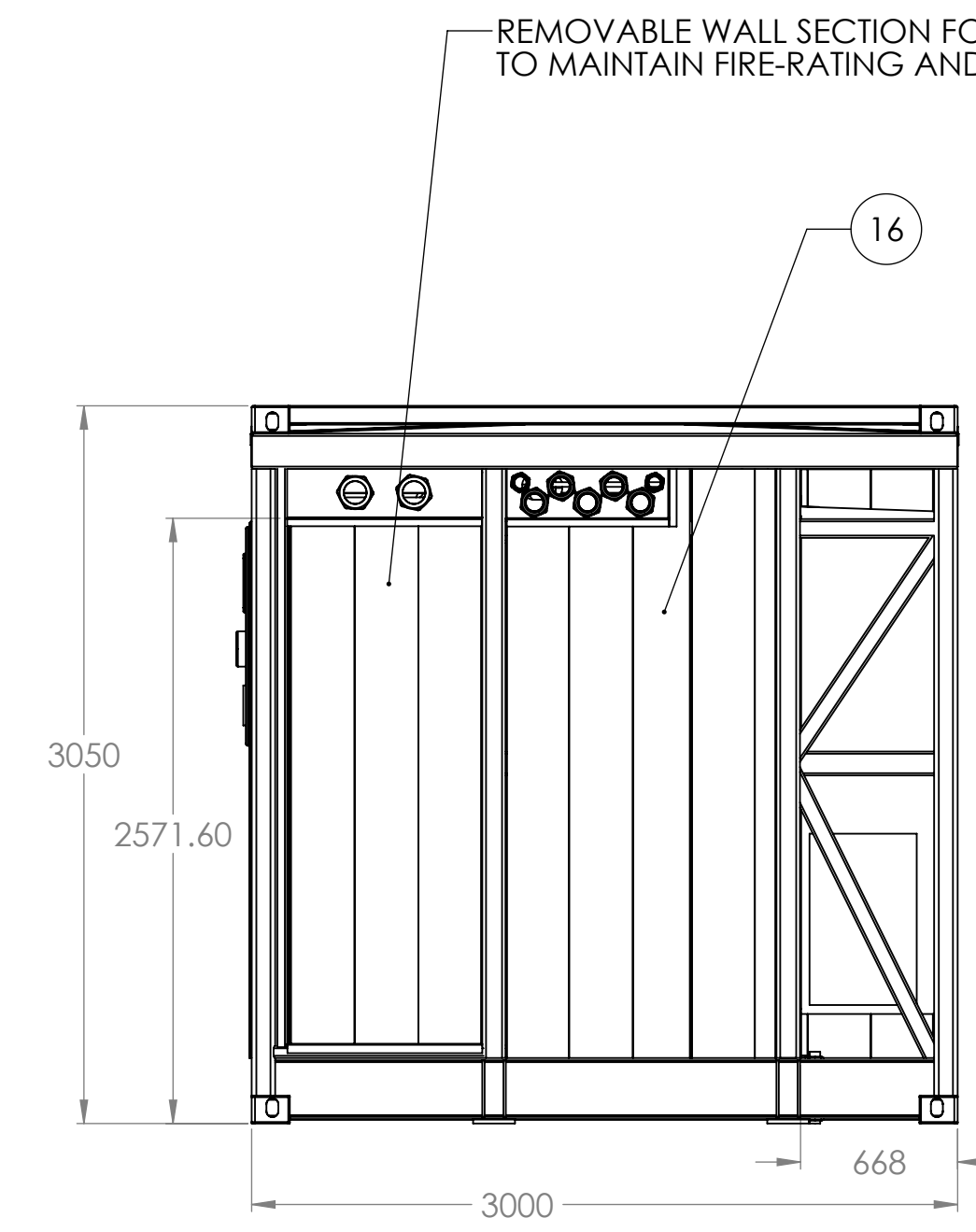


ROOF PLAN

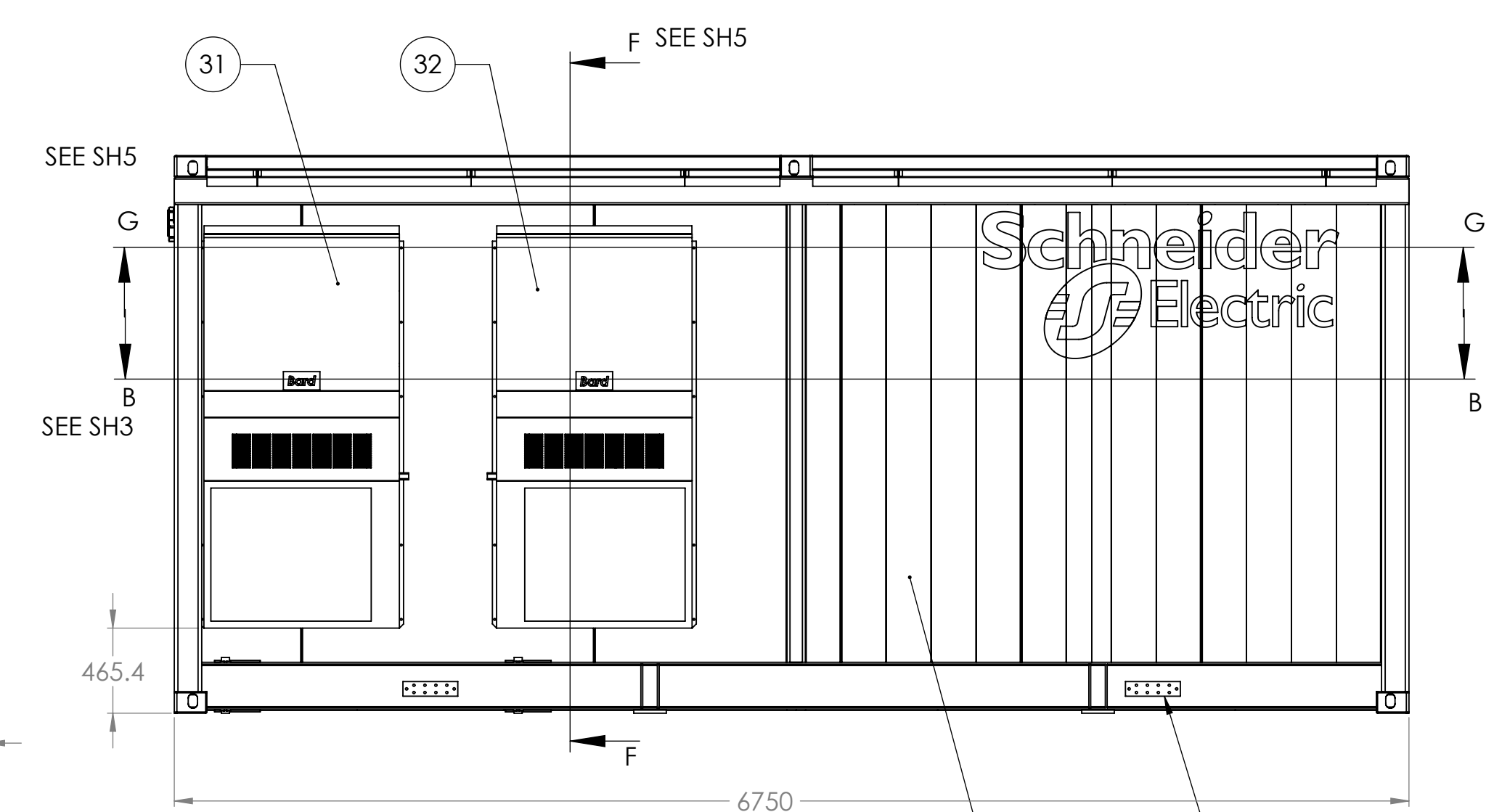


LEFT SIDE ELEVATION

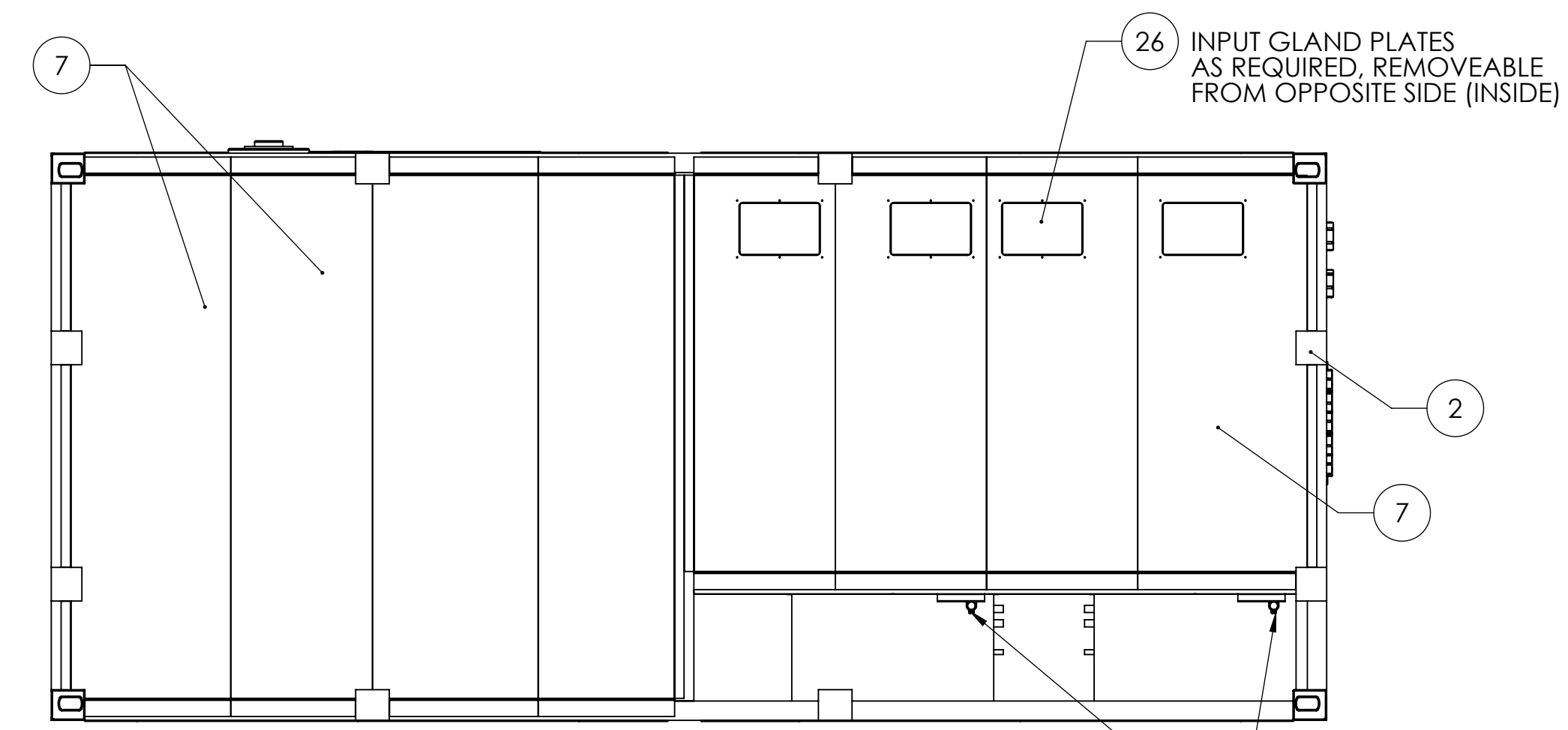
FRONT ELEVATION



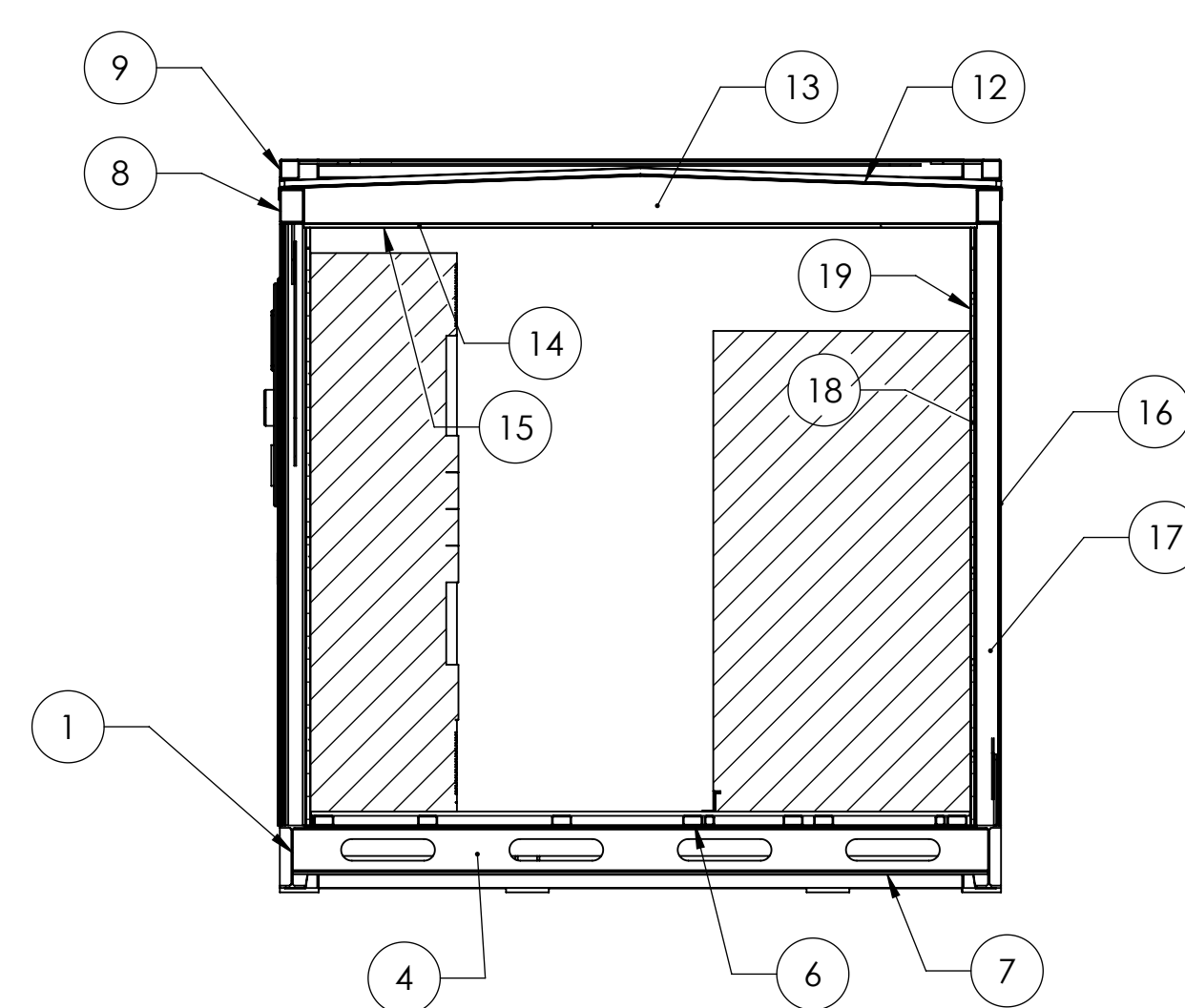
RIGHT SIDE ELEVATION



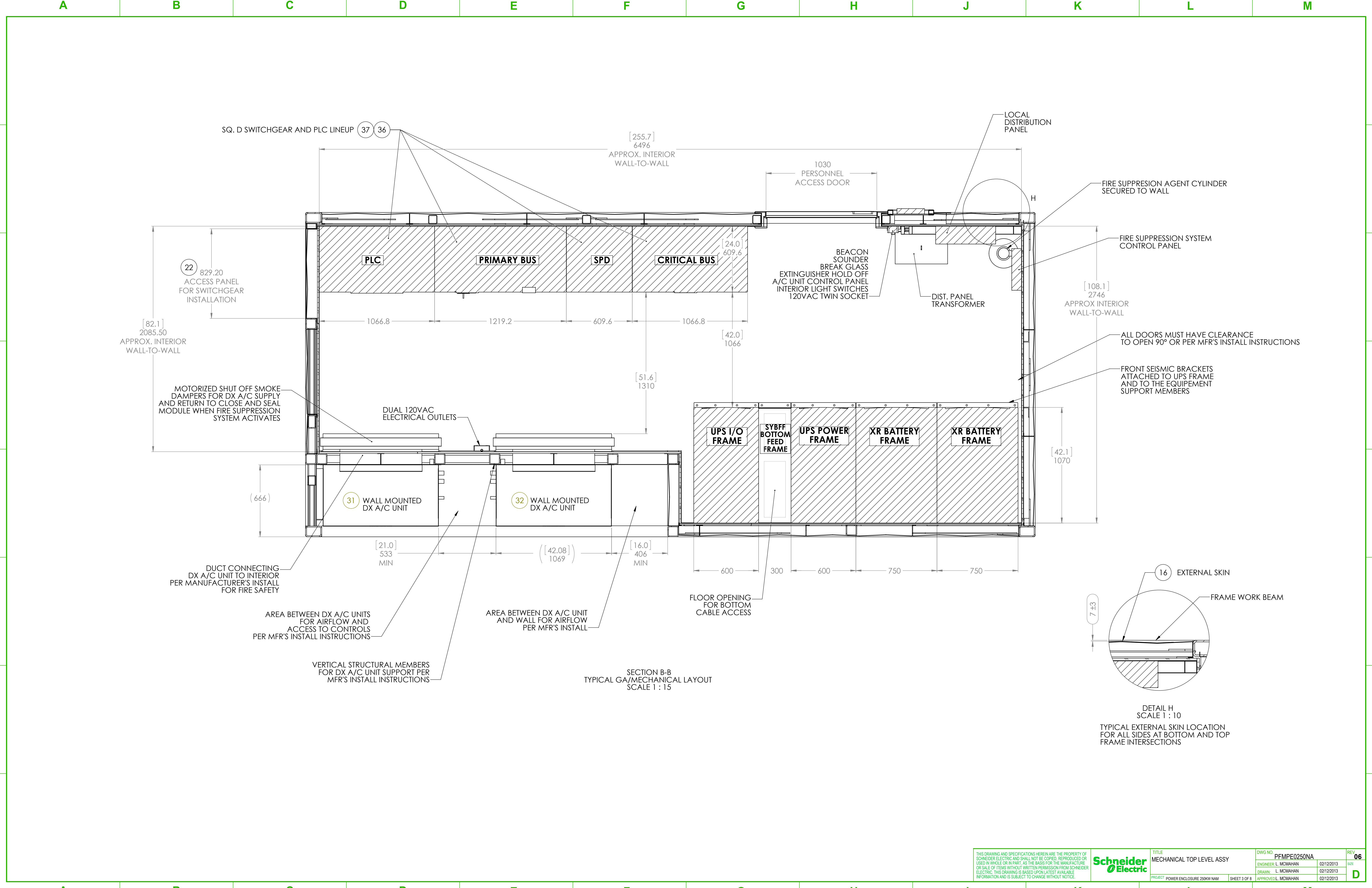
REAR ELEVATION



BOTTOM VIEW



GENERAL WELDING NOTES:
 1. ALL STEEL SURFACES TO BE DEGREASED AND SAND BLASTED TO SWEDISH STANDARD SA2.5 TO REMOVE ALL RUST, DIRT, MILL SCALE AND OTHER FOREIGN MATERIALS.
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 3. ALL EXTERIOR ROOF AND WALL SKIN WELDING TO BE CONTINUOUS TO PROVIDE FOR WATERTIGHT JOINTS.
 4. ALL WELD JOINTS TO HAVE PROPER PENETRATION WITHOUT UNDERCUTTING OR POROSITY.



SQ. D SWITCHGEAR AND PLC LINEUP (37) (36)

[255.7] 6496 APPROX. INTERIOR WALL-TO-WALL

1030 PERSONNEL ACCESS DOOR

LOCAL DISTRIBUTION PANEL

FIRE SUPPRESSION AGENT CYLINDER SECURED TO WALL

FIRE SUPPRESSION SYSTEM CONTROL PANEL

PLC PRIMARY BUS SPD CRITICAL BUS

24.0 609.6

BEACON SOUNDER BREAK GLASS EXTINGUISHER HOLD OFF A/C UNIT CONTROL PANEL INTERIOR LIGHT SWITCHES 120VAC TWIN SOCKET

DIST. PANEL TRANSFORMER

[108.1] 2746 APPROX INTERIOR WALL-TO-WALL

[82.1] 2085.50 APPROX. INTERIOR WALL-TO-WALL

22 829.20 ACCESS PANEL FOR SWITCHGEAR INSTALLATION

MOTORIZED SHUT OFF SMOKE DAMPERS FOR DX A/C SUPPLY AND RETURN TO CLOSE AND SEAL MODULE WHEN FIRE SUPPRESSION SYSTEM ACTIVATES

DUAL 120VAC ELECTRICAL OUTLETS

[51.6] 1310

[42.0] 1066

ALL DOORS MUST HAVE CLEARANCE TO OPEN 90° OR PER MFR'S INSTALL INSTRUCTIONS

FRONT SEISMIC BRACKETS ATTACHED TO UPS FRAME AND TO THE EQUIPEMENT SUPPORT MEMBERS

[42.1] 1070

UPS I/O FRAME SYBFF BOTTOM FEED FRAME UPS POWER FRAME XR BATTERY FRAME XR BATTERY FRAME

600 300 600 750 750

FLOOR OPENING FOR BOTTOM CABLE ACCESS

31 WALL MOUNTED DX A/C UNIT 32 WALL MOUNTED DX A/C UNIT

DUCT CONNECTING DX A/C UNIT TO INTERIOR PER MANUFACTURER'S INSTALL FOR FIRE SAFETY

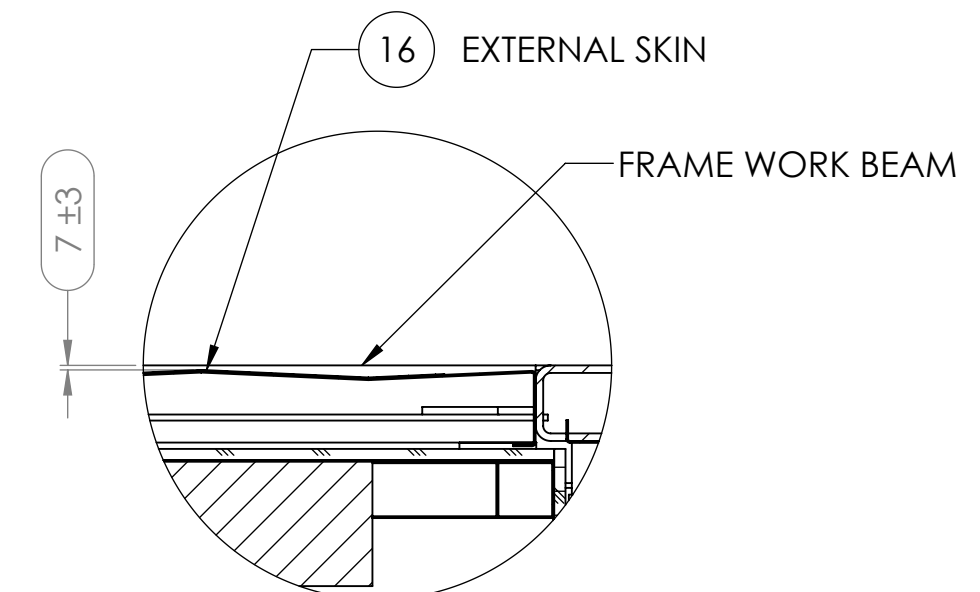
21.0 533 MIN [42.08] 1069 [16.0] 406 MIN

AREA BETWEEN DX A/C UNITS FOR AIRFLOW AND ACCESS TO CONTROLS PER MFR'S INSTALL INSTRUCTIONS

AREA BETWEEN DX A/C UNIT AND WALL FOR AIRFLOW PER MFR'S INSTALL

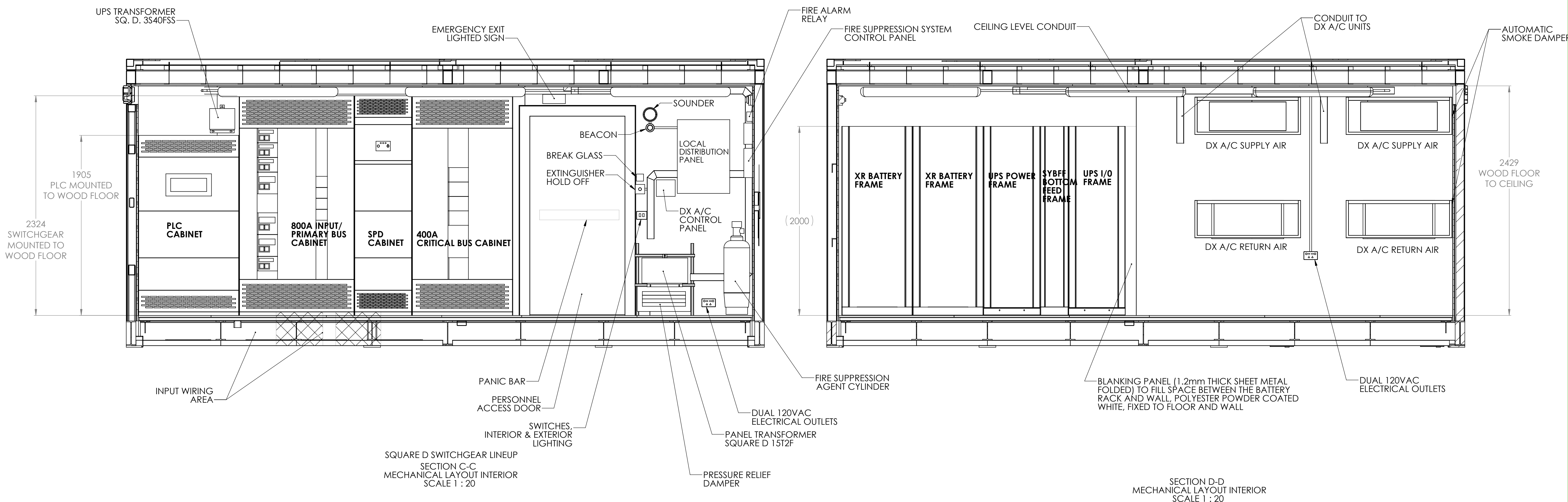
VERTICAL STRUCTURAL MEMBERS FOR DX A/C UNIT SUPPORT PER MFR'S INSTALL INSTRUCTIONS

SECTION B-B TYPICAL GA/MECHANICAL LAYOUT SCALE 1 : 15



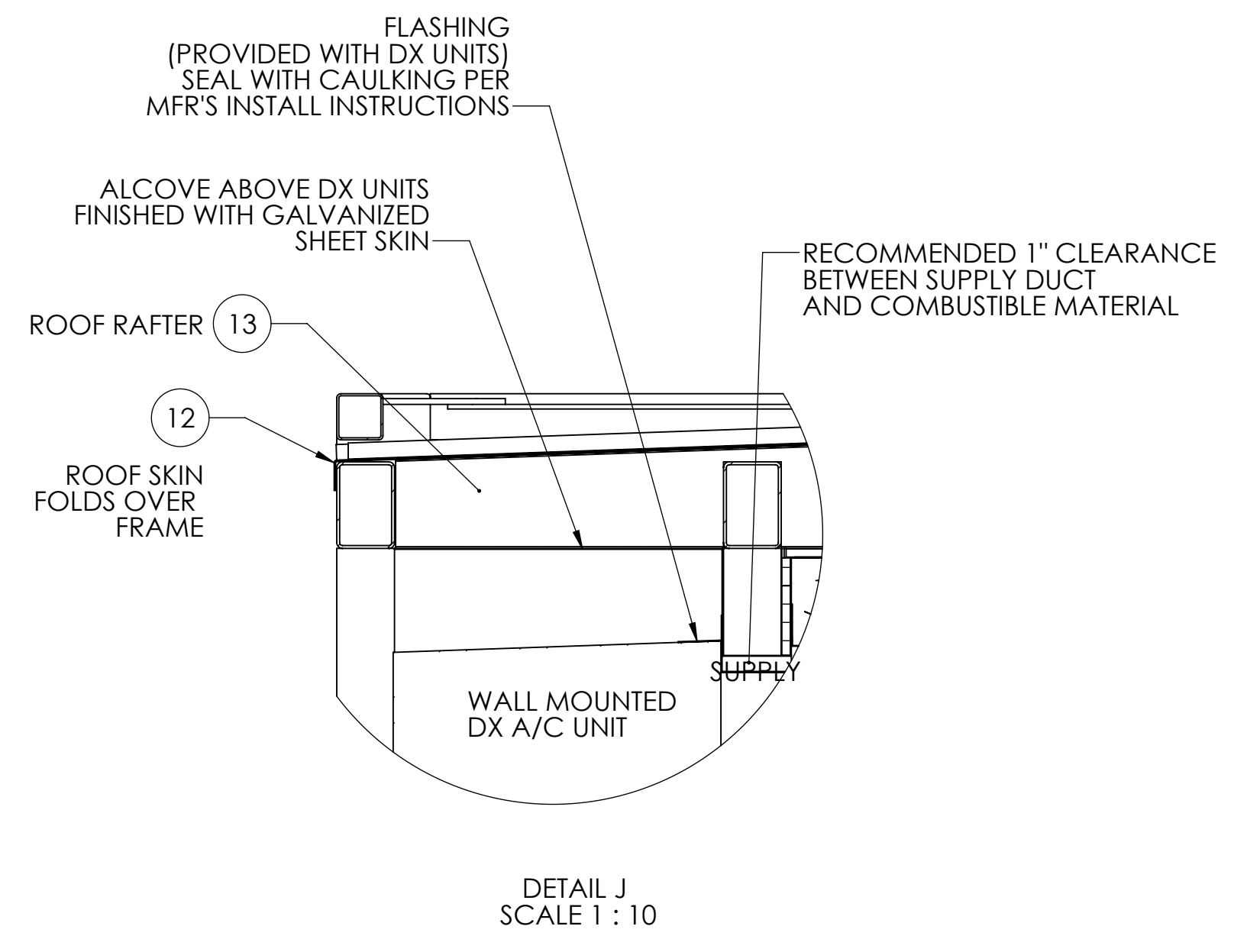
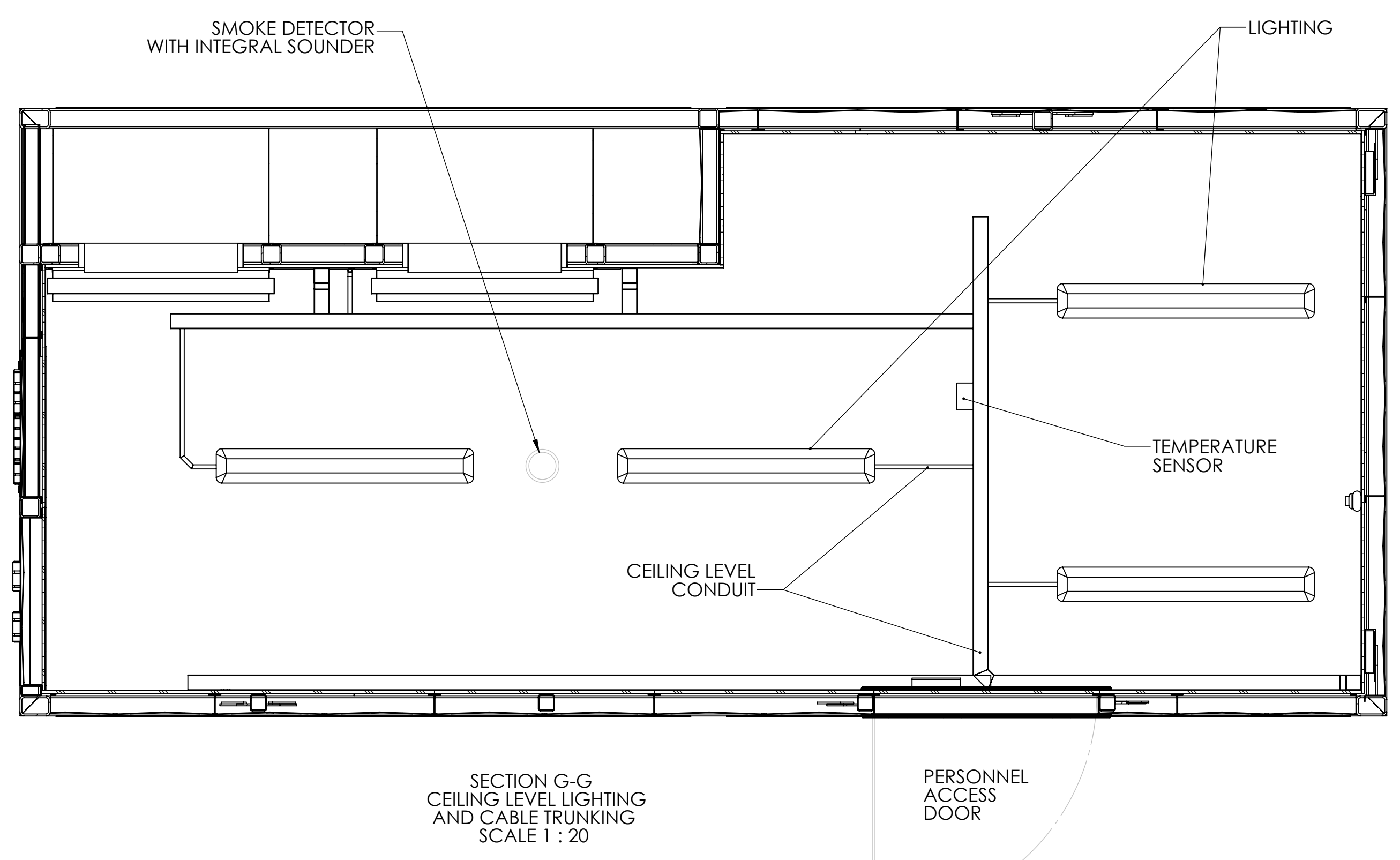
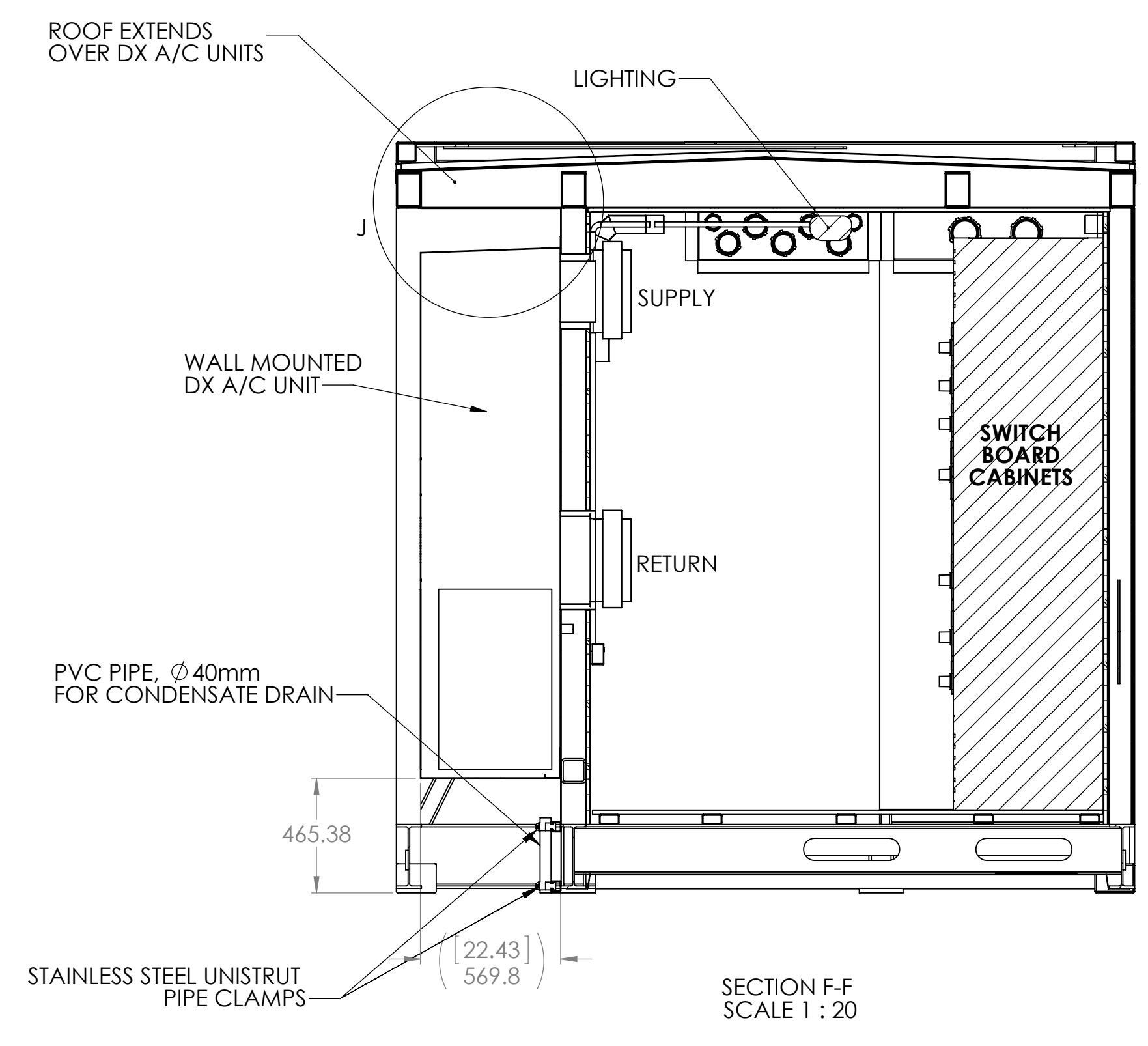
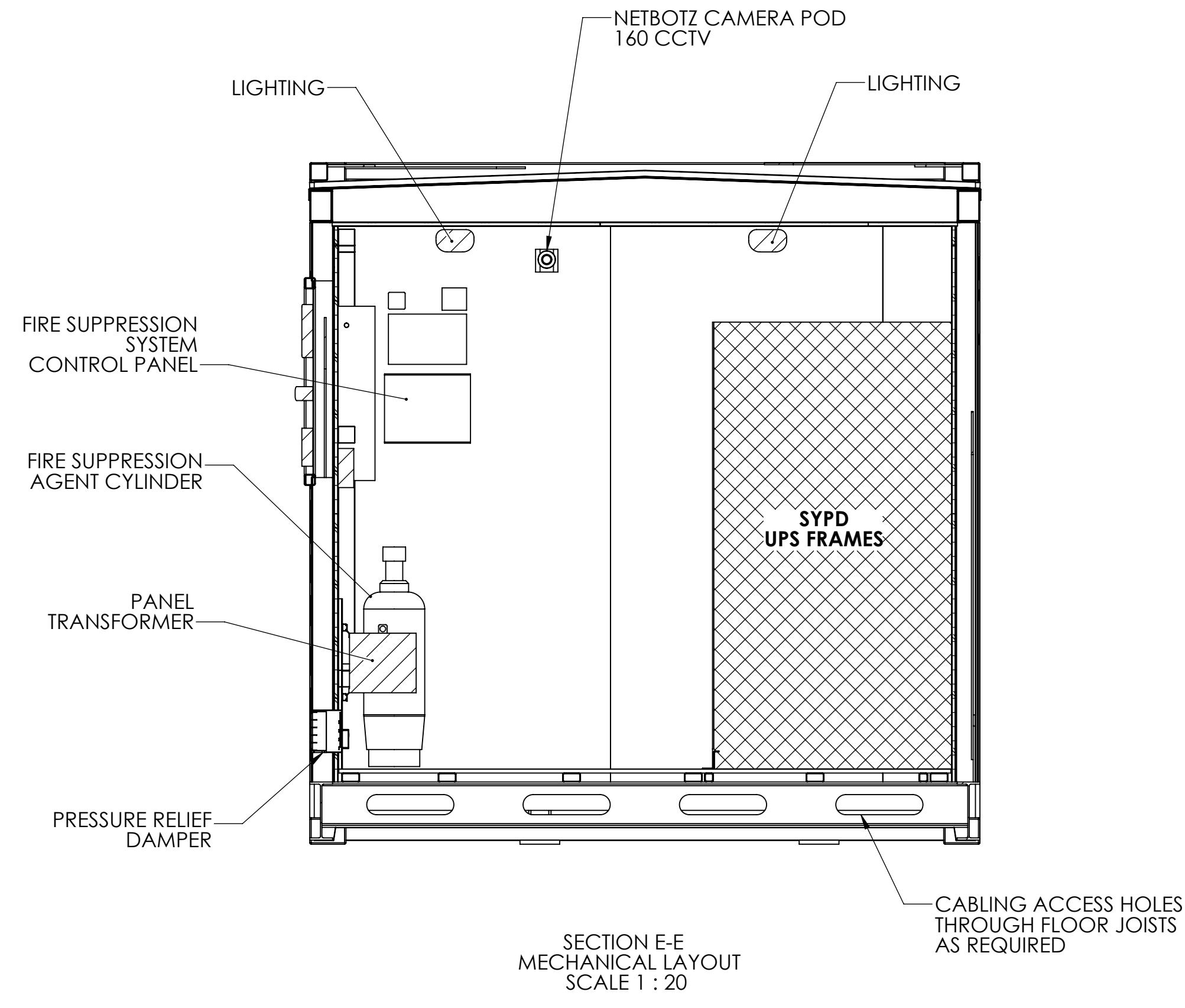
DETAIL H SCALE 1 : 10
TYPICAL EXTERNAL SKIN LOCATION FOR ALL SIDES AT BOTTOM AND TOP FRAME INTERSECTIONS

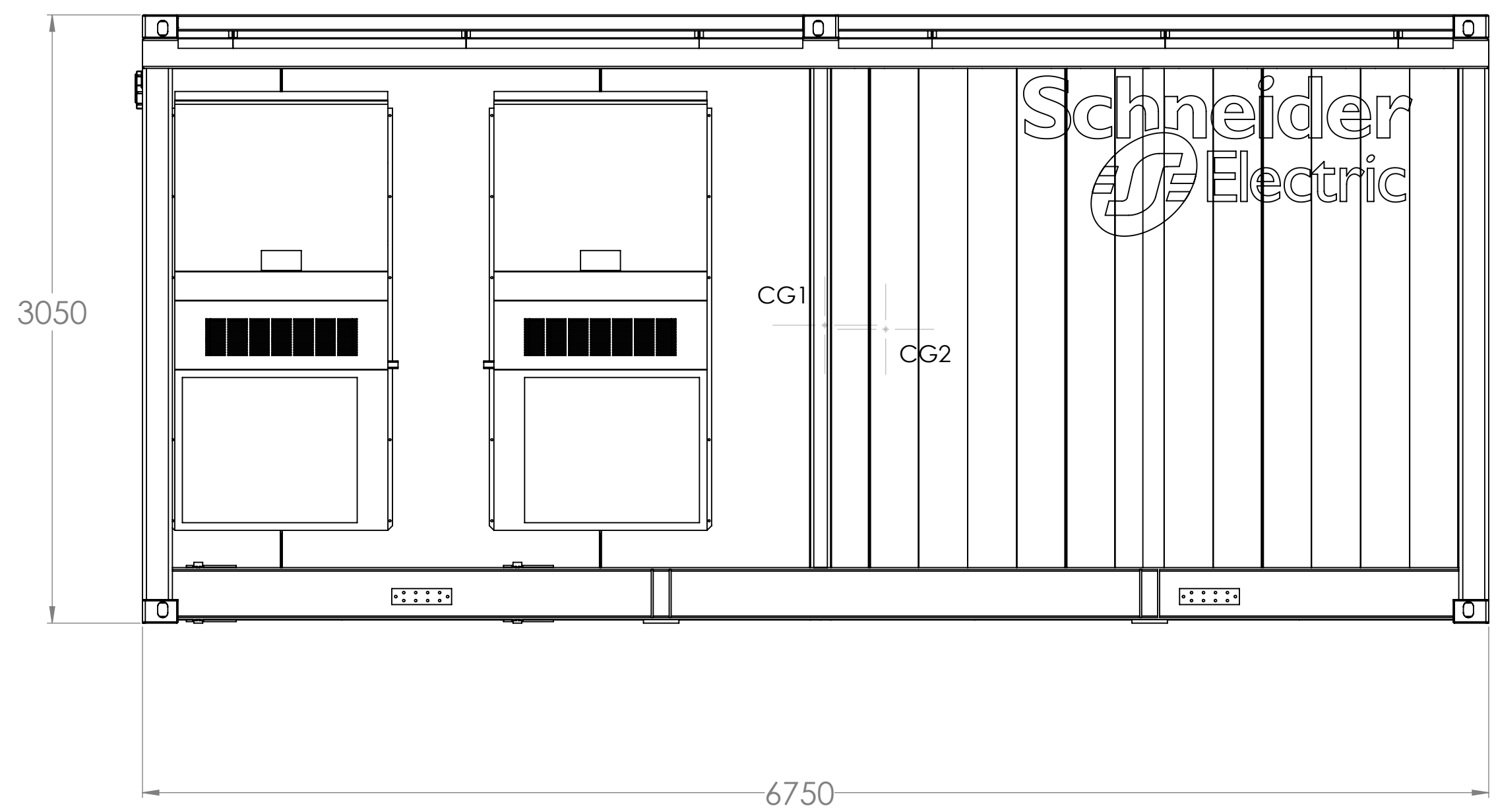
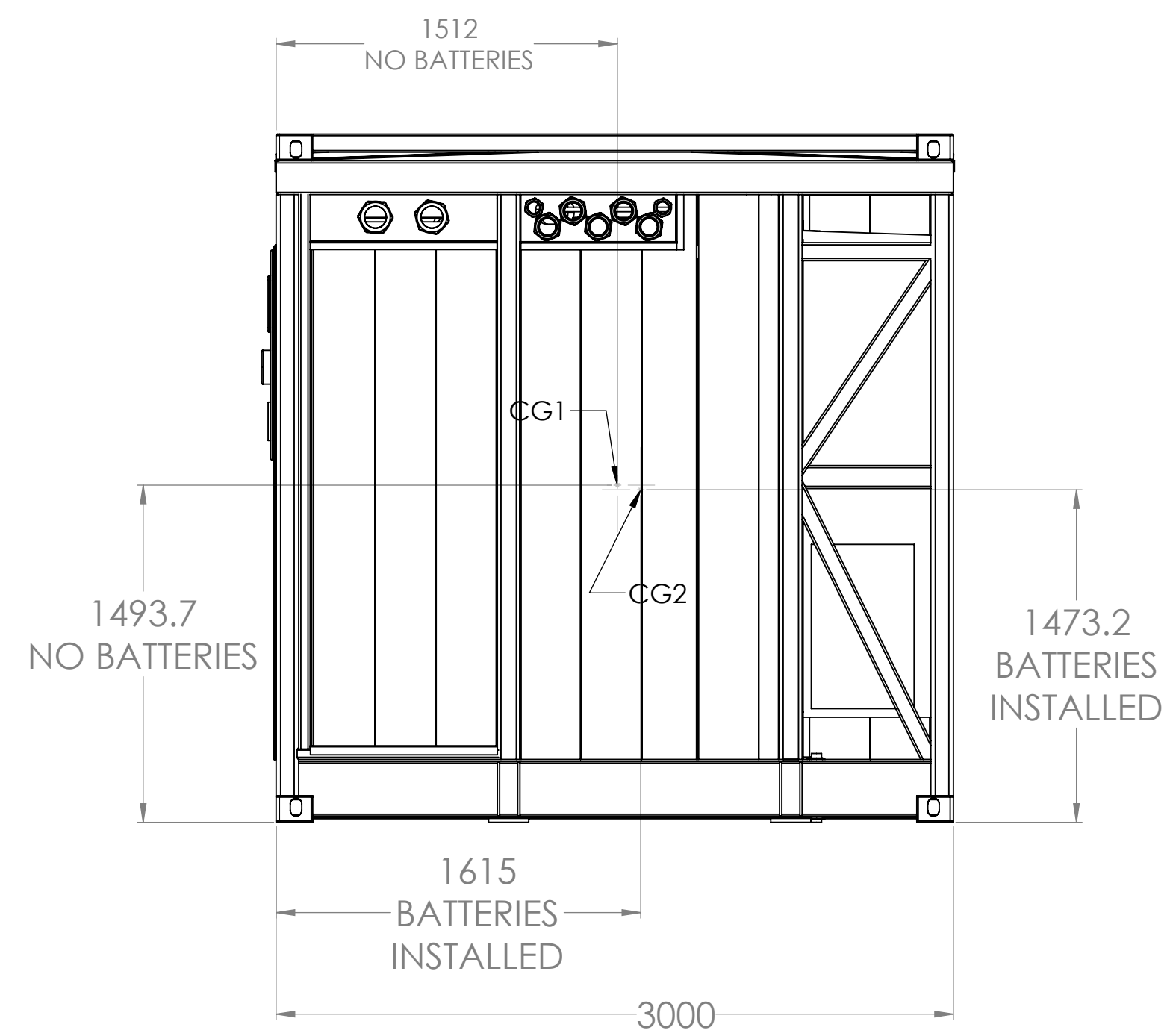
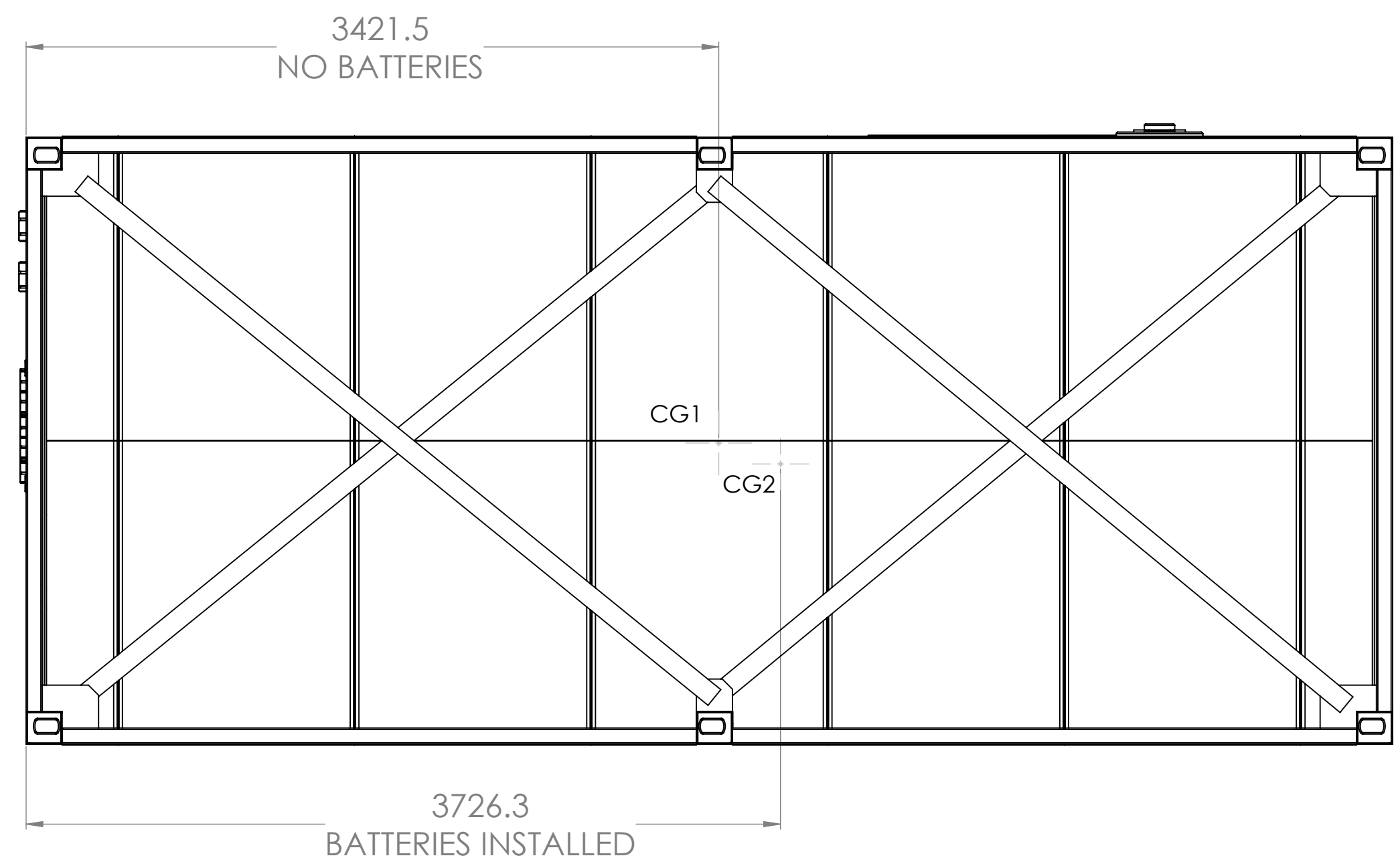
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PROJECT POWER ENCLOSURE 250KW NAM	SHEET 3 OF 8	ENGINEER L. MCMAHAN	DATE 02/12/2013	DRAWN L. MCMAHAN	DATE 02/12/2013
		APPROVED L. MCMAHAN	DATE 02/12/2013		



SQUARE D SWITCHGEAR LINEUP
SECTION C-C
MECHANICAL LAYOUT INTERIOR
SCALE 1 : 20

SECTION D-D
MECHANICAL LAYOUT INTERIOR
SCALE 1 : 20





WEIGHT, SYPX CABINETS (APPROX)

CG1 – NO BATTERIES INSTALLED:
11,328 KG (24,974 LBS)

CG2 – WITH ALL BATTERIES INSTALLED:
13,767 KG (30,350 LBS)

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TITLE
MECHANICAL TOP LEVEL ASSY
250KW POWER MODULE NAM
CENTER OF GRAVITY

DWG NO.	PFMPE0250NA	REV.	06
ENGINEER	L. MCMAHAN	DATE	02/12/2013
DRAWN	L. MCMAHAN	DATE	02/12/2013
APPROVED	L. MCMAHAN	DATE	02/12/2013

PROJECT: POWER ENCLOSURE 250KW NAM SHEET 6 OF 8