

Aquillion *Serve SP*

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(For Internal Use Only)

**Manchester VA Medical
Center**
Aquillion Serve SP
718 Smyth Road
Manchester, NH 03104

These Canon plans are for informational purposes only and shall not be used for any purpose other than that agreed upon between Canon and the customer. These site plans are not to be used for construction purposes.

Date: 08-02-24

Scale: Not To Scale

Planner: L.B.C.

SID / Quote:
30111444 / 182667-1

Project No.
240028436CTF

C1

Rev.	Date	Revised Sheet(s)	Int.



GENERAL NOTES

CUSTOMER / CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING UNLESS OTHERWISE NOTED.

GENERAL

- A. Canon reserves the right to change these designs and specifications without notice.
- B. The customer/contractor is responsible to ensure that all applicable federal, state, and local codes and ordinances are complied with.
- C. Prior to equipment delivery and installation, the site must be 100% complete, clean and free of dust. Customer/contractor and Canon installation project manager must complete a site walk through 1 week prior to delivery and determine acceptability for delivery.
- D. Any cabinetry that may be required to house video recorders, monitors, keyboards, or other ancillary equipment shall be supplied and installed by customer/contractor.
- E. Provide adequate ventilation within cabinetry and install axial fans on the top, side, or back of cabinets, if required.
- F. These Canon site plans do not indicate equipment requirements for items not sold by Canon such as, physiological monitors, laser cameras, injectors, etc. Specifications for those items must be obtained from the vendor and included in the design totals.
- G. Design, fabricate, and install medical gas pedestal, if required. Consult with Canon installation project manager for suitable locations.
- H. Customer/contractor shall be responsible for providing an operating phone in the control room at the time Canon equipment installation begins.
- I. Customer/contractor shall be responsible for providing adequate lighting for servicing of equipment in all areas of the installation.
- J. The customer/contractor shall be responsible for any and all costs required for the engineering and/or removal of any hazardous materials such as asbestos.
- K. Customer/contractor shall supply and install materials and other features specified in the Canon site plans. Customer/contractor shall supply and install all countertops, sinks, case work, and cabinets specified in the Canon site plans.

PLUMBING

- L. Plumbing is not required for this Canon equipment.
- M. It is recommended that a sink be provided for use by personnel.

SITE CONDITIONS

- N. Dimensions to walls and or other room features, except for noted column and beam center lines shall be from finished surfaces.
- O. CT gantry should not be installed within 10 magnetic gauss field.
- P. The window for monitoring the scan room should be in front of or on the side of the console desk. The lowest window frame should be 36" [915] above the floor for easy patient monitoring.
- Q. A door between the scan and control room is recommended.

NETWORKING REQUIREMENTS

- R. Network requirements will vary by site. Canon representative will require DICOM device information, additional I.P. addresses, and I.T. department contact information prior to installation.

TRANSPORT REQUIREMENTS

- S. Prior to equipment delivery, equipment ingress route must be checked to ensure the largest and heaviest items of equipment can be accommodated (See **2IGN2**). Contact the Canon installation project manager for site specific concerns.

[mm] 03-25-22

NETWORK REQUIREMENTS NOTES

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Due to the large data sets generated by Canon's high speed CT imaging, an optimized computer network environment is necessary to maintain fast image transfer speeds. Requirements include:

- A continuous high speed gigabit (min. 1Gbps) Ethernet network between Canon CT system and all other DICOM conforming network devices such as PACS, Vitrea, and the Canon raw data server.
- An isolated protected network that is free of broadcasting & extraneous traffic. This is to ensure network security and performance between the Canon CT system and all other DICOM conforming network devices mentioned above. This can be achieved by implementing VLAN provided and maintained by the customer or the InnerVision SP Firewall appliance offered by Canon for warranty/service contract customers.

The customer is responsible for managing the network and meeting above requirements. Canon will not be responsible for any issues arising out of the network environment. Additionally, remote maintenance of the Canon CT system is provided via a secured full-time bidirectional VPN tunnel connected between the CT system installed at the customer's facility and Canon InTouch Center located in Tustin, CA. Ancillary equipment vendors may require their own remote service connection.

03-25-22

ELECTRICAL REQUIREMENTS OF CT SYSTEM WITH SYSTEM POWER DISTRIBUTOR

Supply configuration: 3 phase DELTA or WYE
Supply voltage: 480V, 100 Amp, 60 Hz
Distribution capacity: 110 kVA
09-01-21

CANON POWER & ENVIRONMENTAL QUALITY NOTIFICATION / ASSESSMENT

CUSTOMER / CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING UNLESS OTHERWISE NOTED.

- A. For your system to perform to the reliability and quality standards you expect from Canon, it is crucial that the environment in which the system is operating meet the requirements stated within the Canon published specifications as documented in your Canon site plan. To ensure quality performance, Canon, with no cost to you, will check the temperature, humidity, and incoming power of your site prior to and after the installation of Canon equipment. Canon will provide a written report detailing the status of your site's environment and incoming power. Should any failure to meet Canon's specifications be identified pre and post installation, the facility will be required to correct them to meet Canon published specifications. Canon will provide guidance to develop solutions to any deficiencies to the environment or incoming power. However, you are responsible for correcting such deficiencies, at no cost to Canon. Failure to correct any known or discovered deficiencies may result in system repairs that are not covered by your warranty or service contract.
- 09-01-21

ELECTRICAL NOTES

CUSTOMER / CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING UNLESS OTHERWISE NOTED.

- A. These site plans are intended to depict only a concept of the electrical requirements for the Canon equipment. The design of all electrical elements must be specified by a licensed electrical engineer in accordance with Canon specification and all applicable codes.
- B. In accordance with NEC article 517-72(b), the equipment circuit breaker(s) must be located so that they shall be operable from a location readily accessible from the control area. If this is impossible or impractical, the use of a shunt trip type breaker will be necessary to satisfy this requirement. The emergency off button for the shunt trip should be located in the control area.
- C. The customer/contractor shall supply and install all circuit breakers, conduits, junction boxes, ducts, A/C power receptacles, thermostats, emergency off buttons, and 12 volt power, etc. specified herein.
- D. The Canon site plans do not specify electrical requirements for equipment not sold by Canon. These requirements must be obtained by the vendor.
- E. Canon will supply interconnecting cables for the Canon equipment. Canon will install if local trade labor permits.
- F. Except for their use in power line connections to equipment cabinets, flexible conduit shall not be used in this installation. Only factory conduit elbows shall be used.
- G. Conduits shall be provided with sweep elbows.
- H. All junction boxes and ducts that penetrate the floor shall be waterproof type and provided with gasketed waterproof covers. All floor junction boxes and duct covers shall be capable of supporting a concentrated load of 200 lbs.
- I. Grommated openings are shown for reference purposes only. Verify size and location with Canon representative. All grommated openings shall have no sharp edges.
- J. All chose and grommated openings shall have plastic/nylon bushings.
- K. All wall duct work shall have the minimum number of compartments specified in the electrical duct legend (see **E1**). Transitions such as horizontal to vertical wall duct or wall duct to junction boxes must be reviewed on an individual basis with the installation project manager. Local codes may require the use of cross-over tunnels or other such devices to maintain cable separation.
- L. All duct and conduits shall be electrically bonded as a grounding path in accordance with NEC article 517-13(b).
- M. Customer/contractor shall supply and install Greenlee nylon measuring pull string or equivalent in all conduits and closed duct work.
- N. Conduit runs shown are for reference only. All conduit runs must take the shortest most direct route possible.
- O. Conduit runs may have a maximum of (3) 90° bends.
- P. 110VAC grounded outlets shall be provided on walls near the Canon equipment for use during equipment service.
- Q. Customer/contractor must supply and install all incoming power cables from circuit breaker(s) to Canon equipment connection point. Cable type must be MTW multi-strand copper — no aluminum is permitted. Cable size must be in accordance with Canon power quality requirements. (see **E3**).
- R. Customer/contractor is to supply and install all necessary hardware to enclose incoming power cables in flexible water tight conduit from circuit breaker(s) to Canon equipment cabinet(s).
- S. Any changes in the location or type of conduit, duct work, junction boxes, etc. must be submitted in writing to the Canon installation project manager for approval.
- T. A separate circuit, fed from the facility radiology panel or a main service panel is required. Use of a sub panel with loads such as elevators, HVAC, motors, etc. is not permitted.
- U. All duct work making a 90° angle must be chamfered.
- V. Junction box sizes specified on sheet (**E1**) may be increased as needed.
- W. Fiber optic cables require a minimum radius of 4 1/2" [115]. Duct work design must accommodate this requirement.

[mm] 03-25-22

STRUCTURAL NOTES

CUSTOMER / CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING UNLESS OTHERWISE NOTED.

- A. These site plans are intended to depict only a concept of the structure required for the Canon equipment. The design of all structural elements must be specified by a licensed structural engineer in accordance with Canon specifications and all applicable codes.
- B. The customer/contractor shall field verify all existing and proposed dimensions and site conditions prior to commencing construction.
- C. The Canon installation project manager shall be notified in writing of any field conditions encountered that are contradictory to those shown in the Canon site plans.
- D. The demolition, fabrication, and erection of support structures for Canon equipment shall be performed by the customer/contractor, unless purchased through Canon in a seismic anchorage kit, (if applicable) in accordance with the design and specifications set forth by the structural engineer of record.
- E. Due to the dynamic nature of the load, both horizontal and vertical acceleration should be included in the design calculations for the support structure as well as anchoring and thru-bolting for the Canon equipment.
- F. In the interest of safety, Canon reserves the right to delay installation commencement until structural design drawings stamped by the structural engineer of record have been provided.
- G. The customer/contractor shall provide and install all anchors/hardware to anchor/attach equipment to the structure. Drop-in type anchors are preferred to anchor equipment cabinets to concrete floors on grade to accommodate service of equipment where required.
- H. The customer/contractor is to provide Canon with documentation specifying requirements of provided hardware such as torque values, washers, wet/dry installation.
- I. Canon will make connections to the customer's structure only. Installation of supports and attachments will be completed by the customer/contractor. Contractor must be available on site to install hardware as needed throughout equipment installation.
- J. The customer/contractor is responsible for pull testing of the anchors (if required).
- K. No modification or penetration of Canon provided equipment is permitted without written approval from the manufacturer.

CEILING STRUCTURAL SYSTEMS

- L. In order to avoid collision with moveable Canon ceiling mounted equipment, all ceiling fixtures such as lamps, smoke detectors, sprinklers, etc. must be flush mounted (see **1GN2**).
- UNISTRUT NOTES
- M. Ceiling Unistrut support structures to be designed by others based on specifications shown on Canon site plans (if applicable).
- N. Unistrut or equivalent channel support system to be supplied and installed by customer/contractor (if applicable).
- O. Unistrut are to be P1001 or P5001 or equivalent, mounted flush with finished ceiling.
- P. All Unistrut are to be mounted parallel and level with a maximum deviation of 1/16" [2].
- Q. Unistrut is to be capable of supporting load requirements of Canon equipment.
- R. Unistrut load requirements and design are the responsibility of the structural engineer of record.

SEISMIC NOTES

- S. Notify the Canon installation project manager if seismic anchorage, or seismic qualification/certification, of any equipment is required. This is necessary to confirm qualified equipment and any required seismic kits (if applicable) are reflected on the purchase order, in addition to providing any necessary supplemental information to assist the customer's structural engineer of record in designing a site specific anchorage solution to meet seismic anchorage/qualification/certification requirements per code.
- T. Anchorage of equipment may vary from what is described in these plans where seismic anchorage requirements must be met.
- [mm] 03-25-22

VIBRATION SPECIFICATION

0.98 m/s² (0.1 G) or less at all frequencies
Maximum amplitude: 0.1 mm or less in all directions
09-01-21

CEILING HEIGHT REQUIREMENTS

Recommended ceiling height: 9'-0" [2744]
Minimum ceiling height: 8'-2 1/2" [2500]
Higher minimum ceiling height may be required when third party ceiling mounted equipment is to be installed in the scan room. Verify additional requirements for all equipment options.
[mm] 03-25-22

SITE READINESS REQUIREMENTS FOR EQUIPMENT DELIVERY

THE FOLLOWING ITEMS ARE TO BE COMPLETED THE WEEK PRIOR TO EQUIPMENT DELIVERY DATE. INCOMPLETE ITEMS WILL RESULT IN DELAYED EQUIPMENT DELIVERY.	
Items to be Completed Prior to Equipment Delivery	Canon Site Drawing Reference
Project Kick-off - Phase 1	Sheet / Section / Detail
☐ Customer has been informed they are responsible for all state & local requirements, to include state approvals in connection with the installation and operation of the equipment, where applicable.	GN1/General Notes/B
☐ Delivery path confirmed (elevators meet size and weight capacities).	
☐ Storage space available for delivery and discussed with site.	
☐ Equipment anchoring method confirmed to be designed by customer's structural engineer and coordinated with contractor. Contractor to supply all anchor devices per drawings.	GN1/Structural Notes/G, S1, S2
☐ Occupancy/license target date received.	
☐ Facility IT contact received to start network connectivity discussion.	GN1/General Notes/R, GN1/Network Rqmts
☐ Install timeline confirmed with customer/service.	
☐ 3rd Party equipment placement and cable routing confirmed.	
☐ Laser installation scheduled, if required.	
☐ Respiratory gating installation scheduled, if required.	
Intermediate Project Completion - Phase 2	Sheet / Section / Detail
☐ HVAC installed and operational to meet Canon heat and humidity requirements.	GN2/HVAC Requirements
☐ 110V outlets available and operational (all rooms).	E1
☐ Emergency power off button installed.	E1, E3/2
☐ Control room countertop installed with grammets.	A1
☐ Ceiling installation completed (hard lid or drop in).	
☐ All room lighting installed and operational.	GN1/General Notes/I
☐ All Canon in wall/floor conduit and pathways verified before closure.	E1, E2, E3/3
☐ All Canon required electrical wireways/conduits/ junction boxes/dividers installed.	E1, E2, E3/5
☐ Wall support/backing installed as required for equipment.	
☐ Canon epoxy pad scheduled to be poured.	S1/1
☐ Floor checked for levelness.	
☐ Physicist testing and acceptance scheduled, if required.	
☐ Lead doors and lead windows installed.	
☐ All millwork installed.	GN1/General Notes/D
☐ Warning light/x-ray-on light cables installed with shut off switch labeled.	E1, E2, E3/3
☐ Canon required ceiling structures installed (CT Fluoro/Injector).	S1
☐ Laser plates installed per vendor requirements, if required.	
☐ Respiratory gating wired and installed by contractor/electrician, if required.	
Final Inspection (Minimum 5 days prior to delivery) - Phase 3	Sheet / Section / Detail
☐ Pull strings installed in conduits.	GN1/Electrical Notes/M, E2/G
☐ Network jacks available and operational. IP addresses and destination information received.	E1
☐ Permanent power available and cables pulled for PDU including direct ground.	GN1/Electrical Notes/ F, Q, R, E3/1, 2
☐ Ground conductors are same size as phase conductors.	E3/1-C, E3/2
☐ UPS wired by electricians and start up scheduled.	E3/2
☐ Electricians scheduled to connect power to PDU, (and UPS if applicable) as required.	
☐ Flooring/cove base installed.	GN1/General Notes/C
☐ Wall finishes completed.	GN1/General Notes/C
☐ Final clean, dust free.	GN1/General Notes/C
☐ Path scheduled to be cleared for delivery.	GN1/General Notes/S

03-25-22

Canon

Manchester VA Medical Center

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Project No.
240028436CTF

GN1

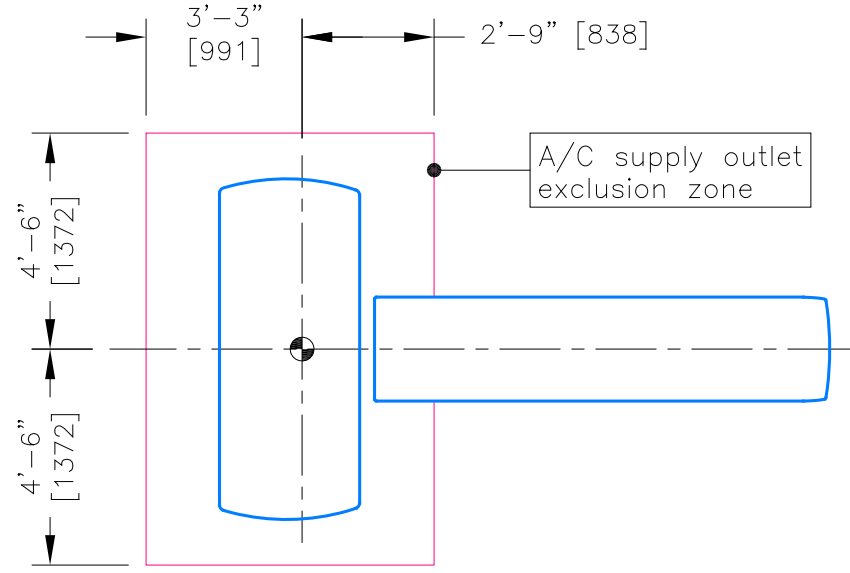
THIS SHEET IS PART OF A SET OF DRAWINGS LISTED ON SHEET C1 AND IS NOT TO BE SEPARATED FROM THE DRAWING SET

HVAC REQUIREMENTS

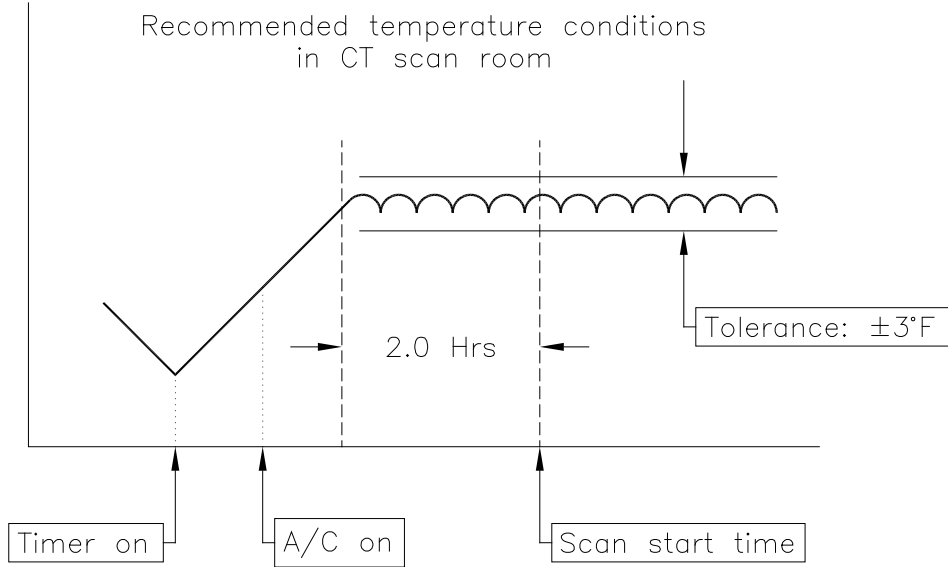
CUSTOMER TO PROVIDE THE NECESSARY HVAC REQUIREMENTS FOR THE CANON EQUIPMENT TO OPERATE PROPERLY.

Ambient temperature should be 68–74° F with equipment heat loads (see **A1**). Humidity range of 40–80% non–condensing.

- A. Stated ambient temperature is to be provided and maintained as specified. All calculations are to utilize Canon provided heat output specifications of equipment.
- B. A minimum of 10 air changes per hour is suggested, consult local code.
- C. Air supply ducts should not be placed directly over examination tables for patient comfort.



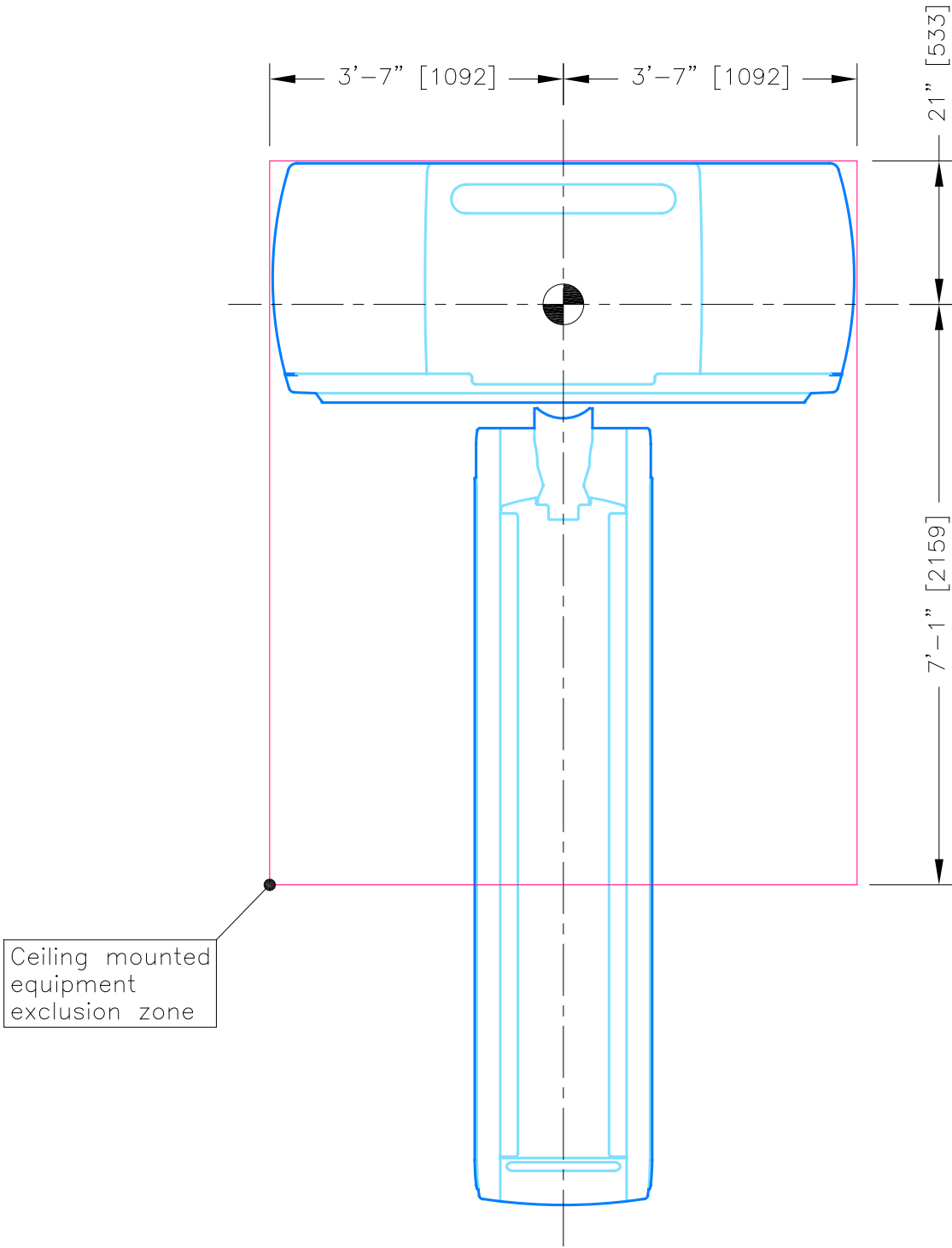
- D. Equipment in enclosed spaces such as equipment rooms, transformer closets and computer rooms must be provided with adequate ventilation.
- E. The airflow through Canon equipment cabinets is from bottom to top.
- F. Where possible, air conditioning supply outlets should be located at floor level. No air conditioning outlet should be within the exclusion zone shown above and at no time should the CT system be exposed to direct airflow.
- G. Return grilles are to be installed in the ceiling.



- H. In general, the scanning room must be provided with an independent air conditioning system. Even if the room is maintained within the permissible temperature range, gradual temperature shifts (for example, a slow increase in room temperature from morning to evening) may adversely affect system performance. Therefore, the room temperature must be kept under constant control (within ±3°F) as shown in the above figure.
- I. The air conditioning system in the scanning room must be installed so that the CT system is not exposed to direct airflow. Failure to do so may cause the temperature inside the CT system to fluctuate, possibly affecting the displayed images adversely.

[mm]

02–09–24

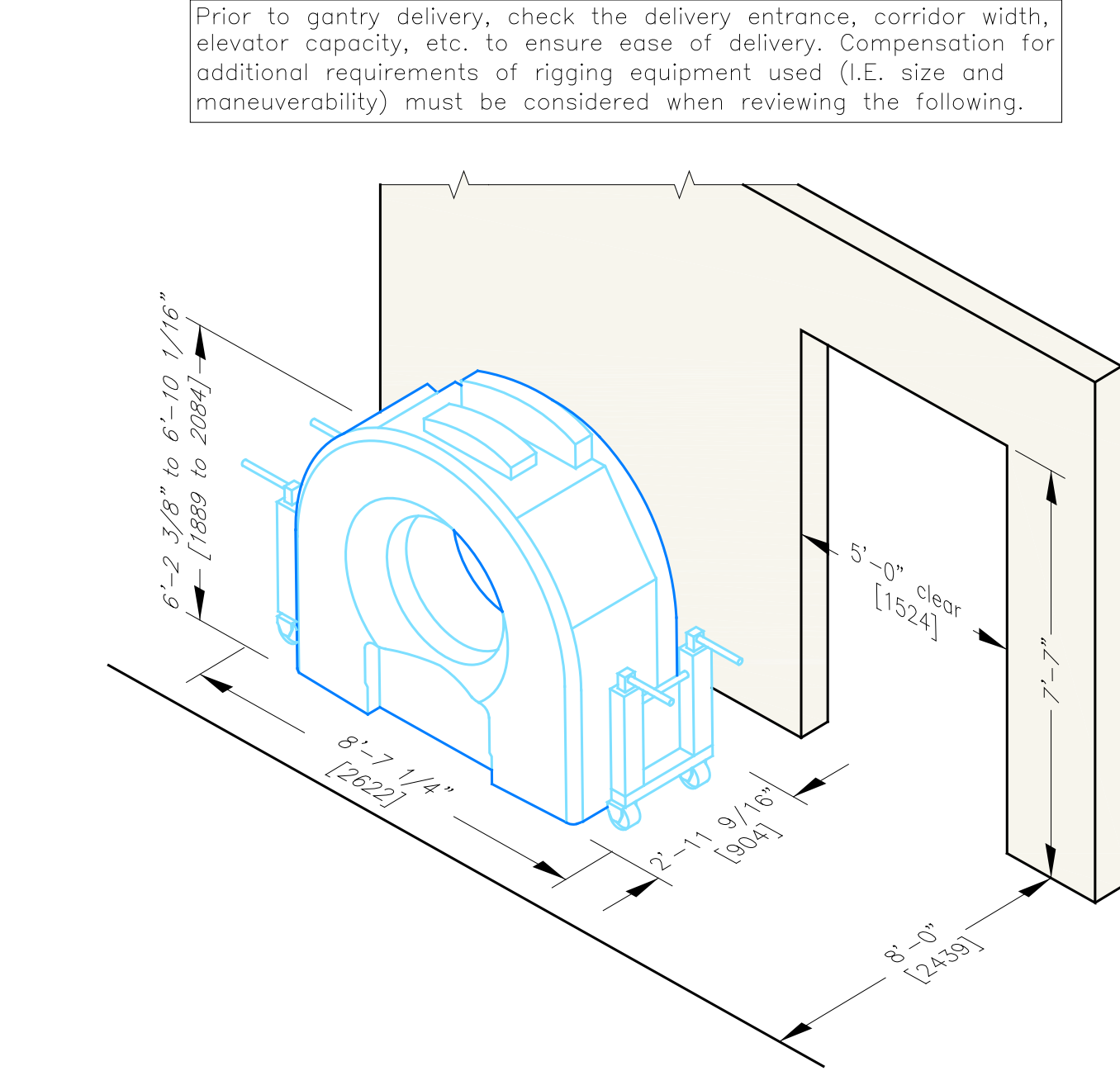


- A. Ceiling mounted equipment must be positioned to avoid interference with gantry.
- B. Equipment is to be a minimum of 10" above the raised gantry cover (see **1/A2**).
- C. Overhead counterpoise systems can be installed over gantry isocenter if the plate is mounted at a height such that the bottom of the post does not interfere with the gantry (height of gantry + 10" clearance + post length = mounting plate height above finished floor).

[mm]

02–09–24

1 CEILING MOUNTED EQUIPMENT
SCALE: 1/2" = 1'-0"



MINIMUM DELIVERY REQUIREMENTS

Minimum clearance height of entrance: 6'-3 9/16" [1919]
(6'-10 11/16" [2100] if carrying-in jig is used)

Minimum clearance width of entrance: 3'-6" [1067] (with 8'-6" [2591] corridor)

Minimum width of corridor: 6'-10" [2083] (with 5'-0" [1524] entrance)

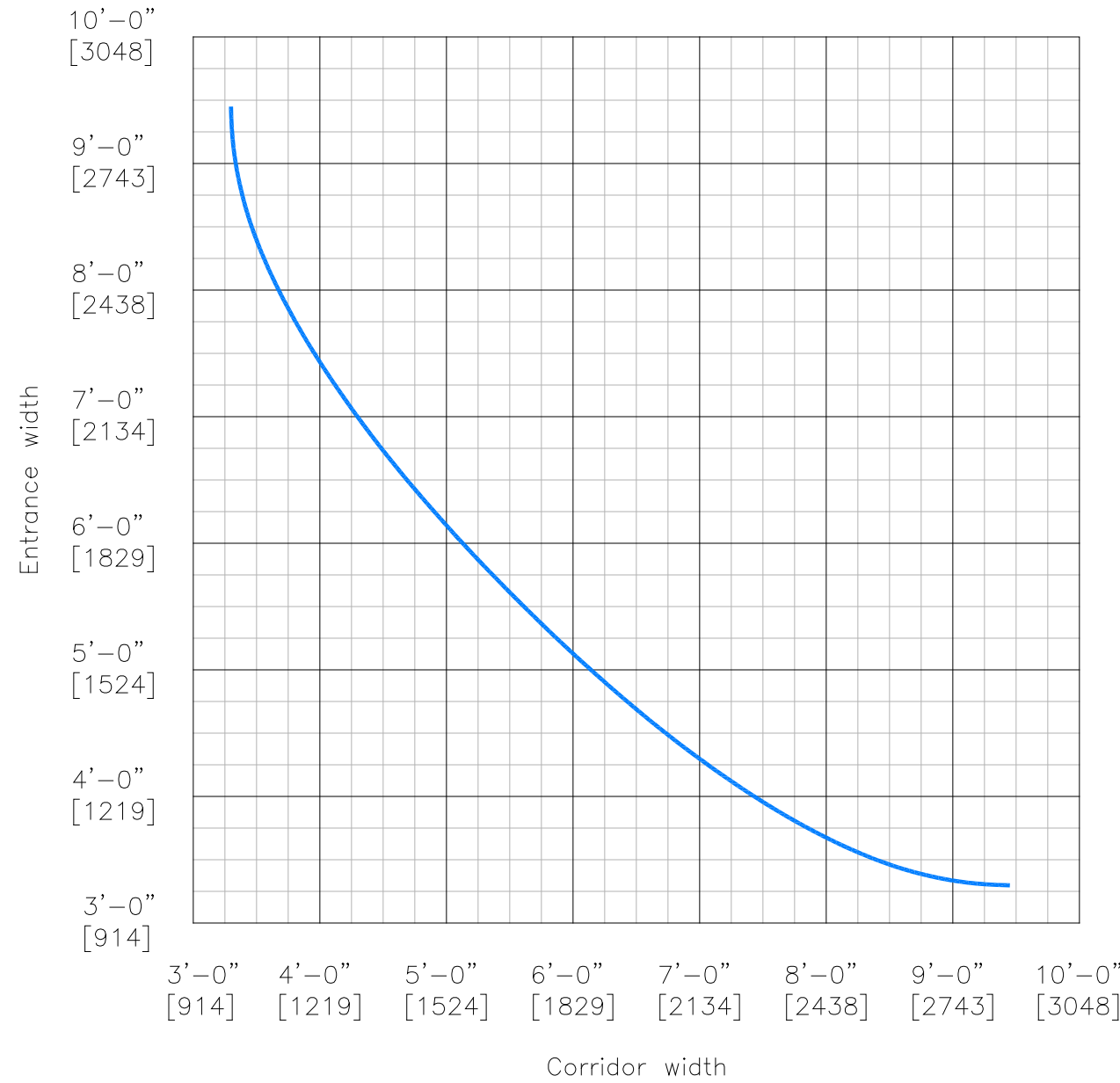
See detail **2b/GN2** for entrance and corridor clearance relationship.

[mm]

02–09–24

2a RECOMMENDED GANTRY
DELIVERY REQUIREMENTS
SCALE: NOT TO SCALE

- A. The following graph shows the approximate relationship between corridor width and entrance width when the gantry is to be brought in.
- B. Calculated assuming that the clearance between the gantry and the walls of the corridor are 2" [50].
- C. Calculated showing the bringing-in jig shown in detail **2a/GN2** (without the gantry covers).



[mm]

02–09–24

2b ENTRANCE CLEARANCE & CORRIDOR
WIDTH RELATIONSHIP DETAIL
SCALE: NOT TO SCALE

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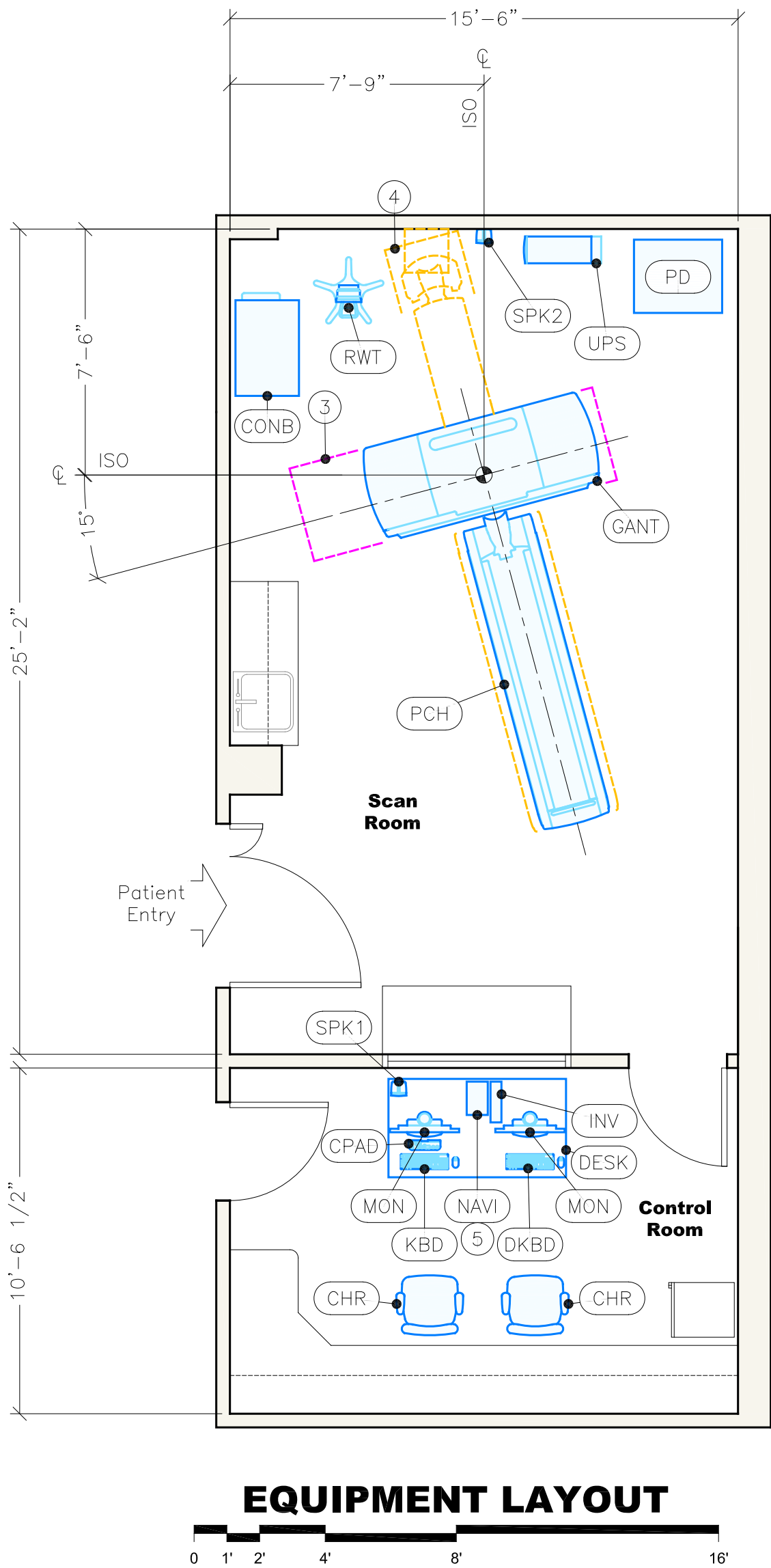
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Planner: L.B.C.

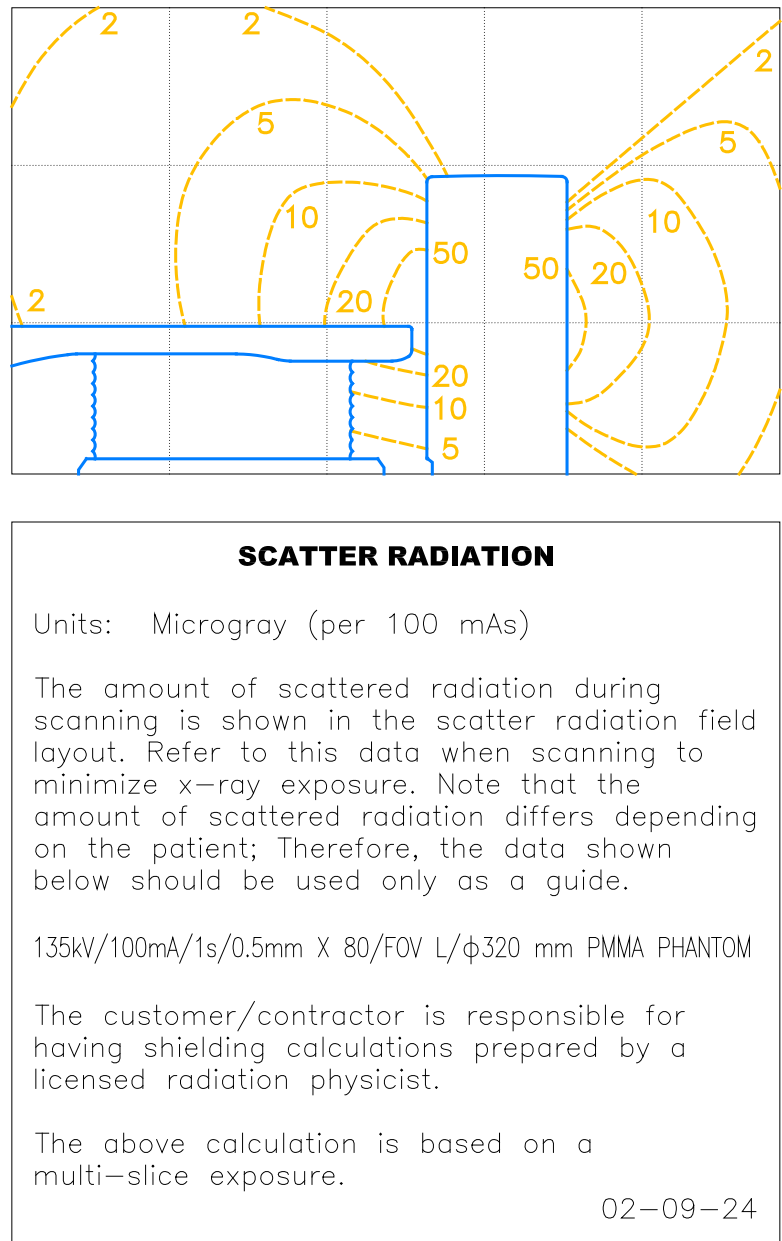
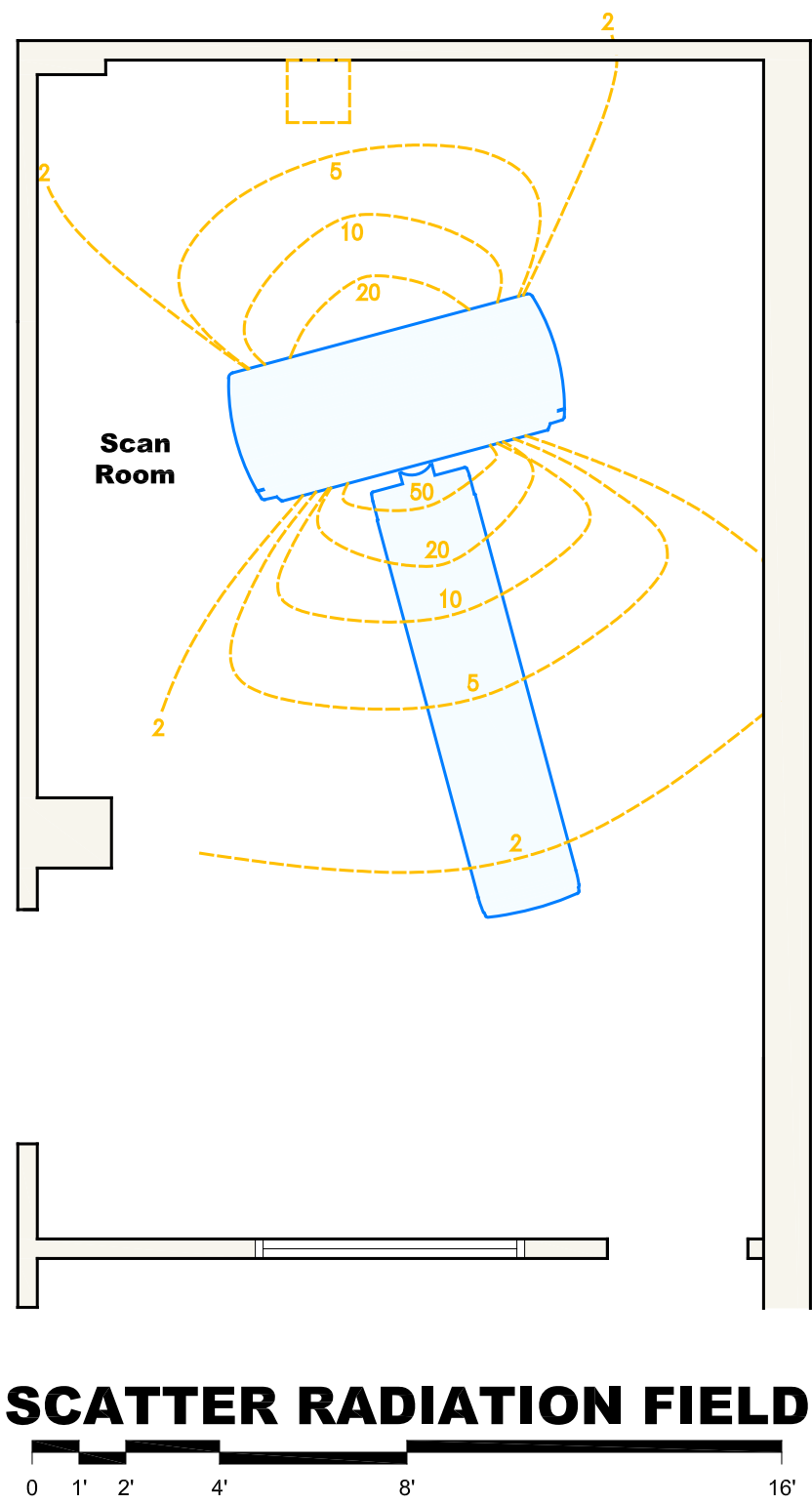
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GN2



- NOTES**
- The equipment shown in this layout must be verified with the final purchase order.
 - If Mitsubishi UPS is added to the system configuration, power specifications will need to be modified to a 480V, 200 Amp, 60Hz incoming service.
- LABELED DRAWING NOTES**
- Minimum service clearance required.
 - Area required for full extension of patient couch using attachments.
 - If desired, Navi box (NAVI) and Innervision workstation (INV) can be located on customer/contractor provided shelf under desktop/countertop.



EQUIPMENT LEGEND

ITEM	ITEM DESCRIPTION SUPPLIED AND INSTALLED BY CANON	BTU/HR	WEIGHT (LBS.)	DET. SHT.
GANT	Aquilion gantry (type F)	*	3,925	1/A2
PCH	Aquilion high capacity patient couch (extended with lateral movement)	*	1,941	1/A2
CONB	Con box (type B)	5,767	563	2/A2
NAVI	Navi box (desktop)	785	27	3/A2
MON	Console monitor (desktop)	—	—	4/A2
SPK1	Speaker (desktop)	0	5	5/A2
SPK2	Speaker (wall mounted)	0	5	5/A2
KBD	Console keyboard (desktop)	—	—	—
DKBD	Display keyboard (desktop)	0	6	—
CPAD	System control pad (desktop)	—	—	8/A2
INV	Innervision workstation (desktop)	444	17	6/A2
DESK	Desk for monitor(s) & keyboard(s)	0	221	7/A2
CHR	Chair	0	55	—

ITEM	ITEM DESCRIPTION - SUPPLIED BY CANON INSTALLED BY CUSTOMER/CONTRACTOR	BTU/HR	WEIGHT (LBS.)	DET. SHT.
PD	Power distributor (type D)	3,754	1,235	9/A2

ITEM	OPTIONAL ITEM DESCRIPTION SUPPLIED AND INSTALLED BY CANON	BTU/HR	WEIGHT (LBS.)	DET. SHT.
RWT	ECG monitor, R—Wave trigger (on a roll stand)	—	29	11/A3
UPS	Powervar ABCDEF6002—22 6kVA uninterruptible power supply	2,530	266	10/A2

Rev.	Date	Description

* AQUILION GANTRY & COUCH BTU / HOUR:	
Exom room scanning 2 patients: 15,355 BTU/HR Exom room scanning 3 patients: 16,208 BTU/HR Exom room scanning 4 patients: 17,061 BTU/HR Exom room scanning 5 patients: 17,914 BTU/HR Exom room scanning maximum: 27,639 BTU/HR	
Future growth of facility must be considered when forecasting patient numbers for A/C requirements.	
SITE PLAN APPROVAL	
In order to use this set of final site plans, a customer signature is required below. The customer's signature demonstrates acceptance of the layout shown and all stated specifications.	
Customer:	Date:
Sales:	Date:
I.P.M.:	Date:

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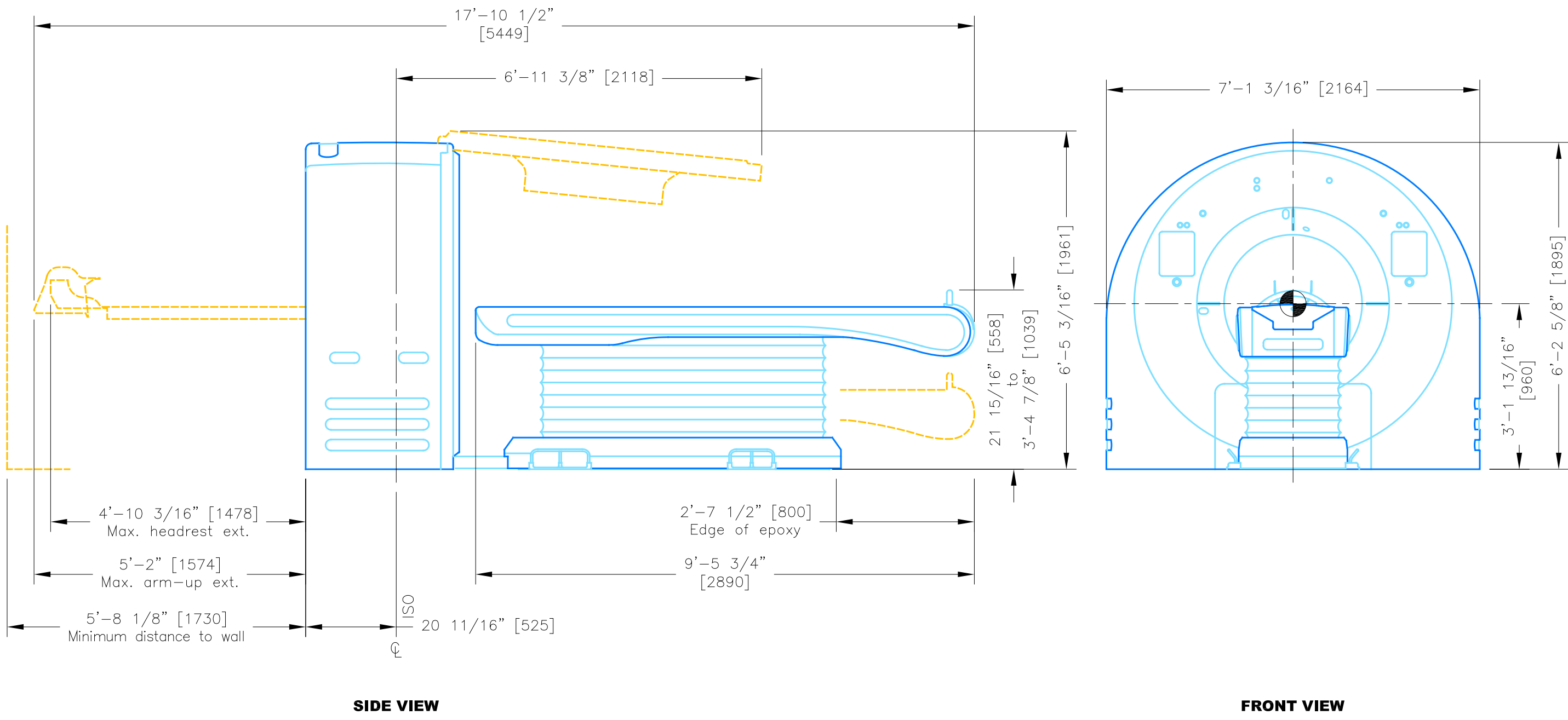
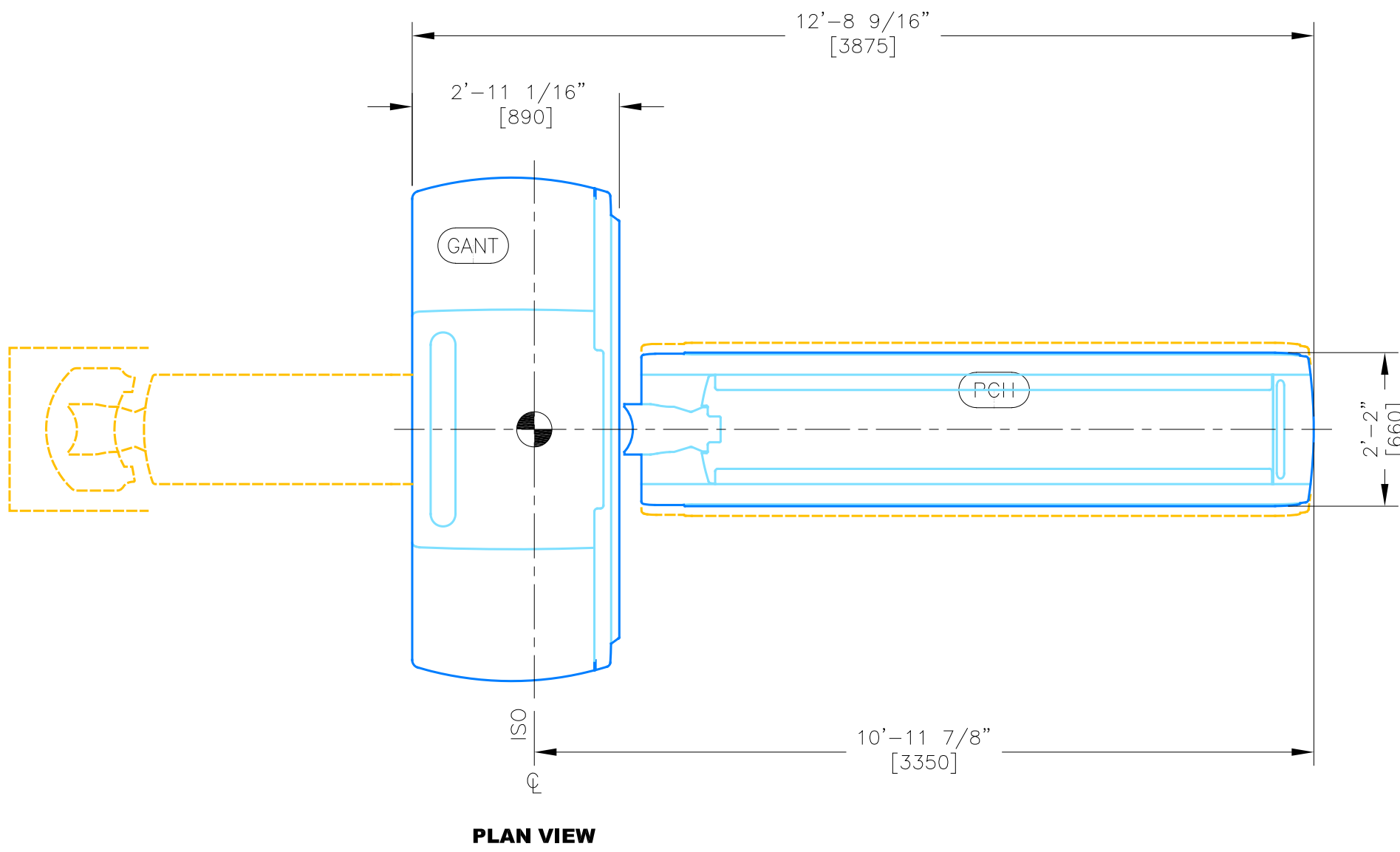
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Planner: L.B.C.

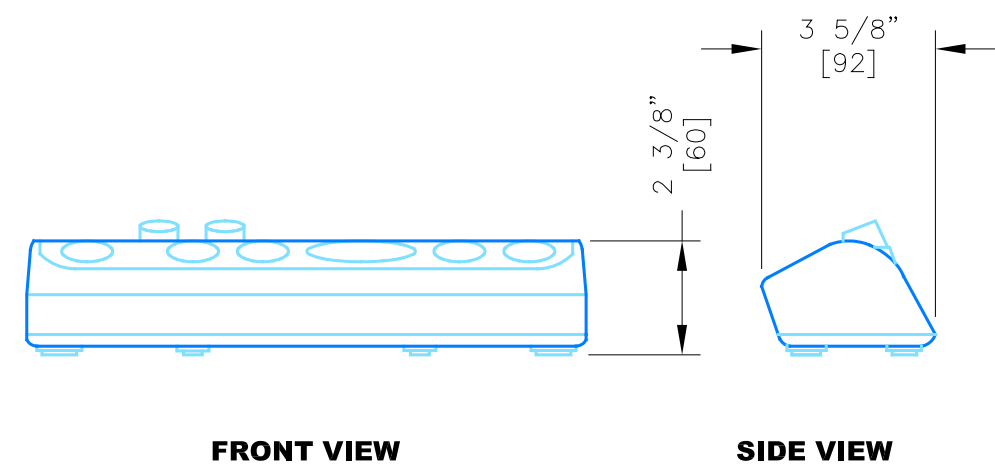
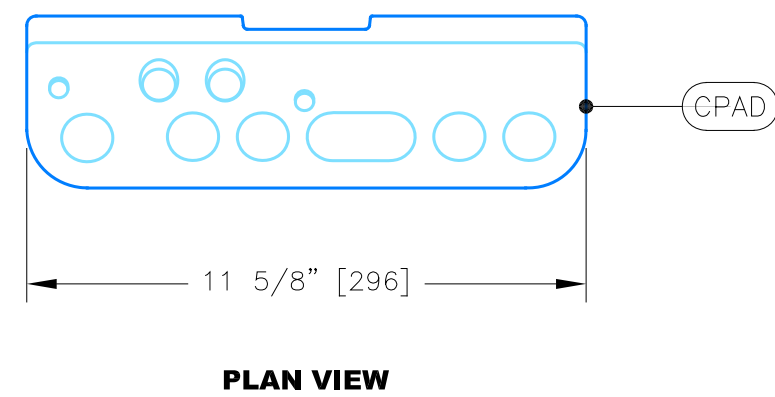
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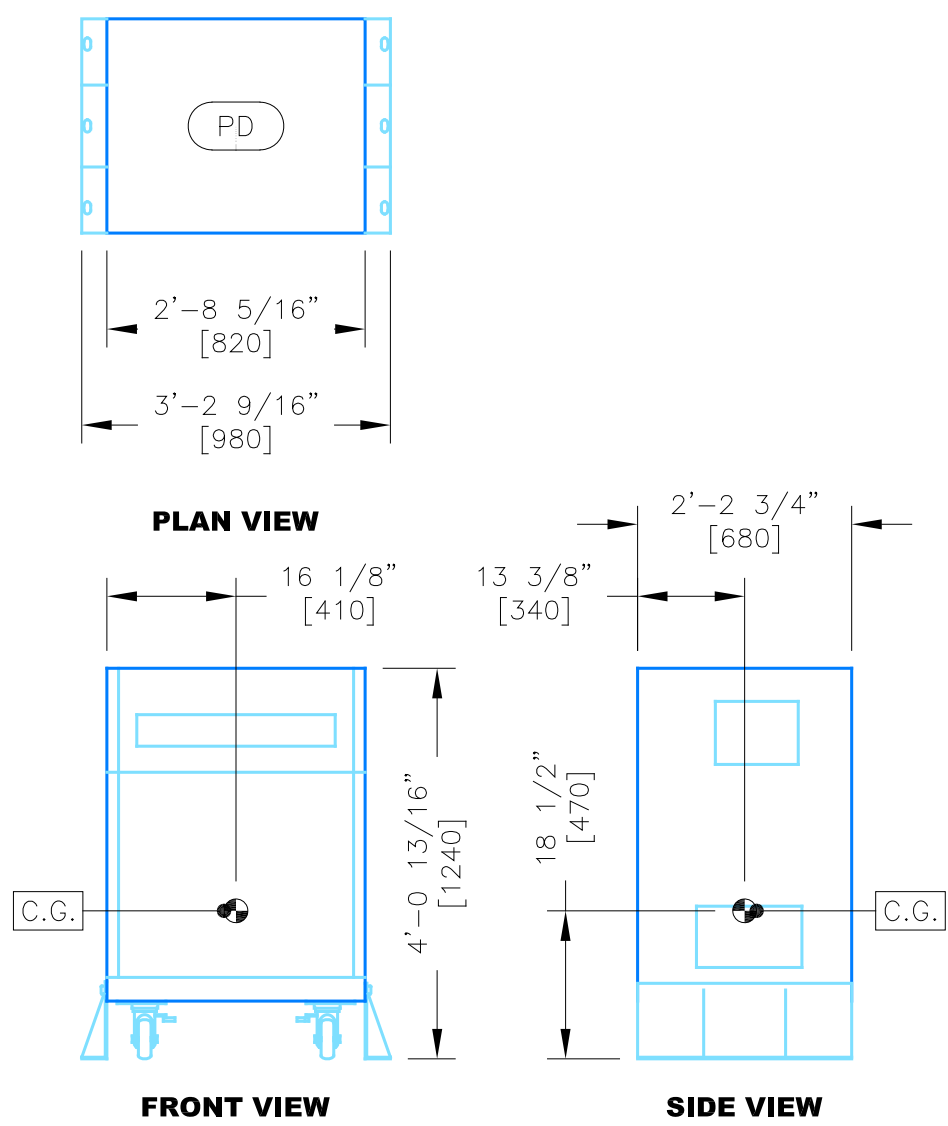
A1



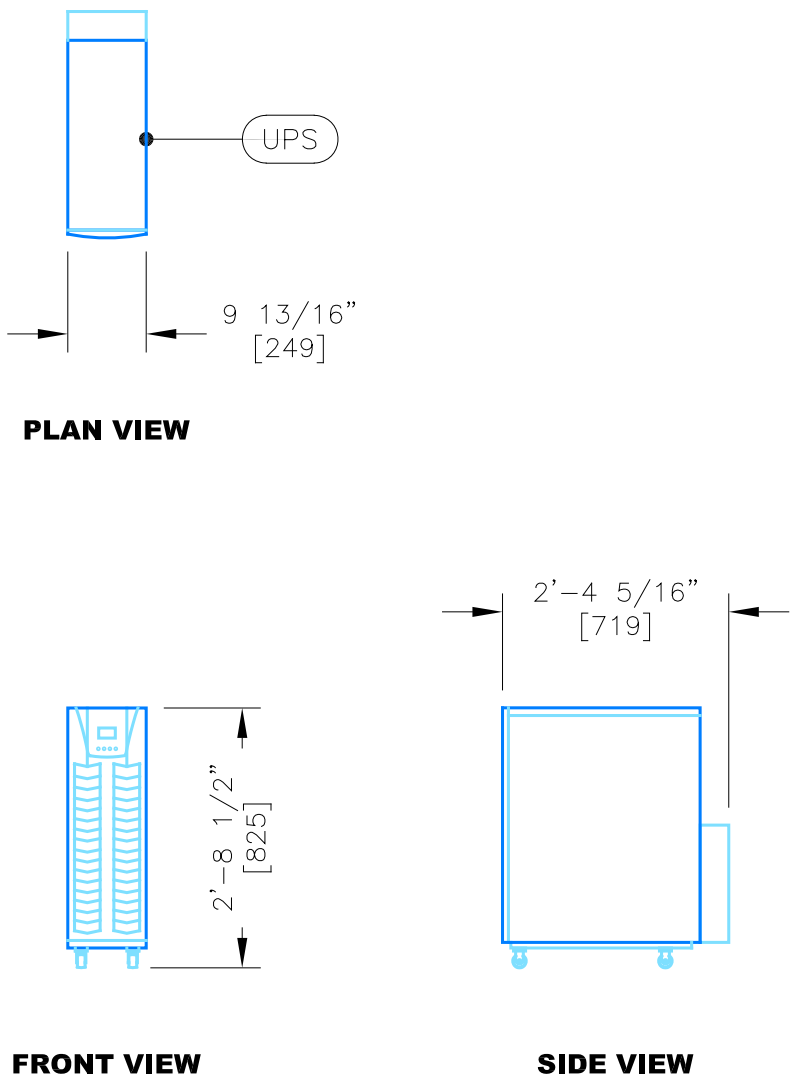
1 AQUILION CT SCANNER - GANTRY AND PATIENT COUCH
EXTENDED WITH HIGH CAPACITY AND LATERAL MOVEMENT
SCALE: 1/2" = 1'-0"



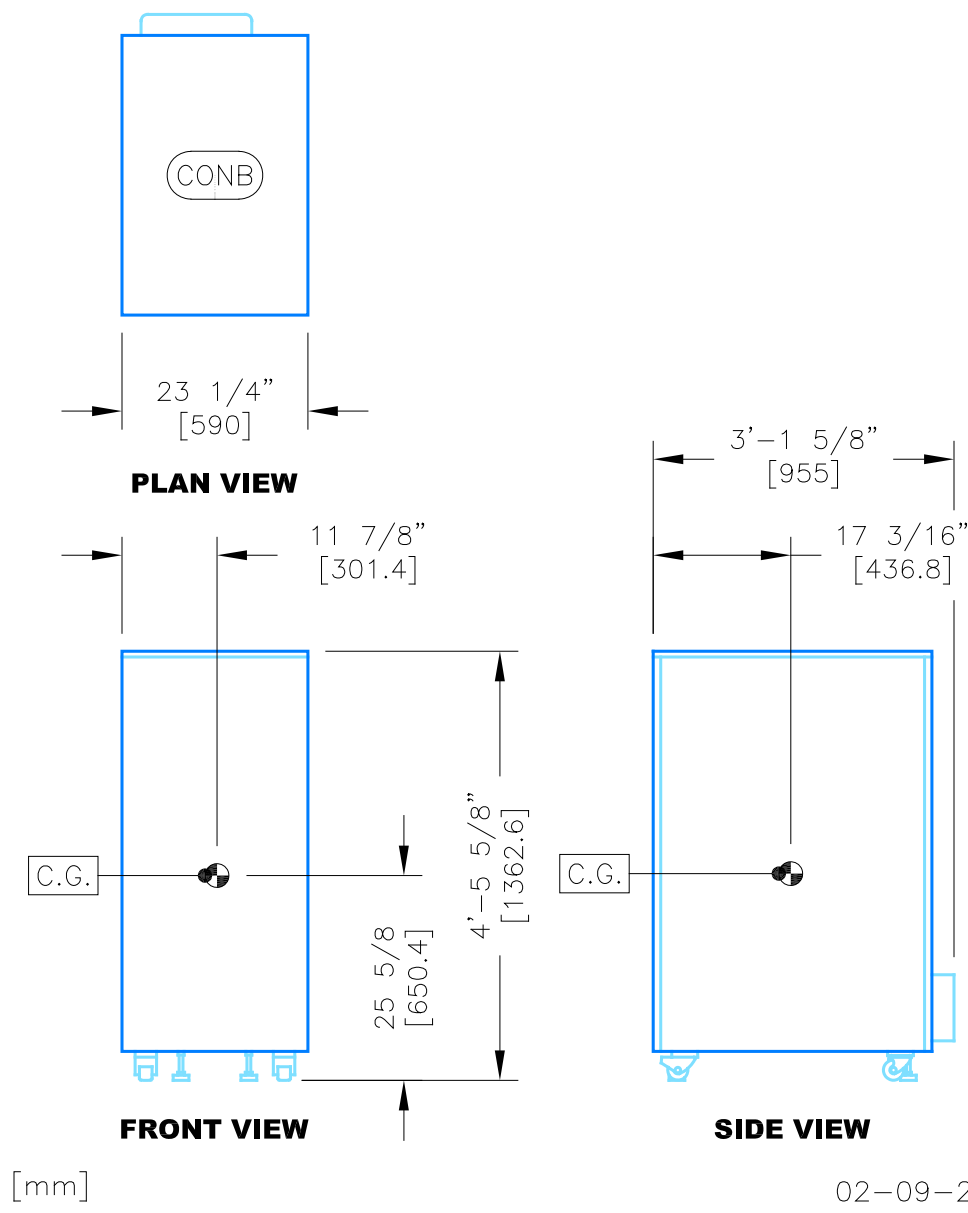
8 SYSTEM CONTROL PAD
SCALE: 3" = 1'-0"



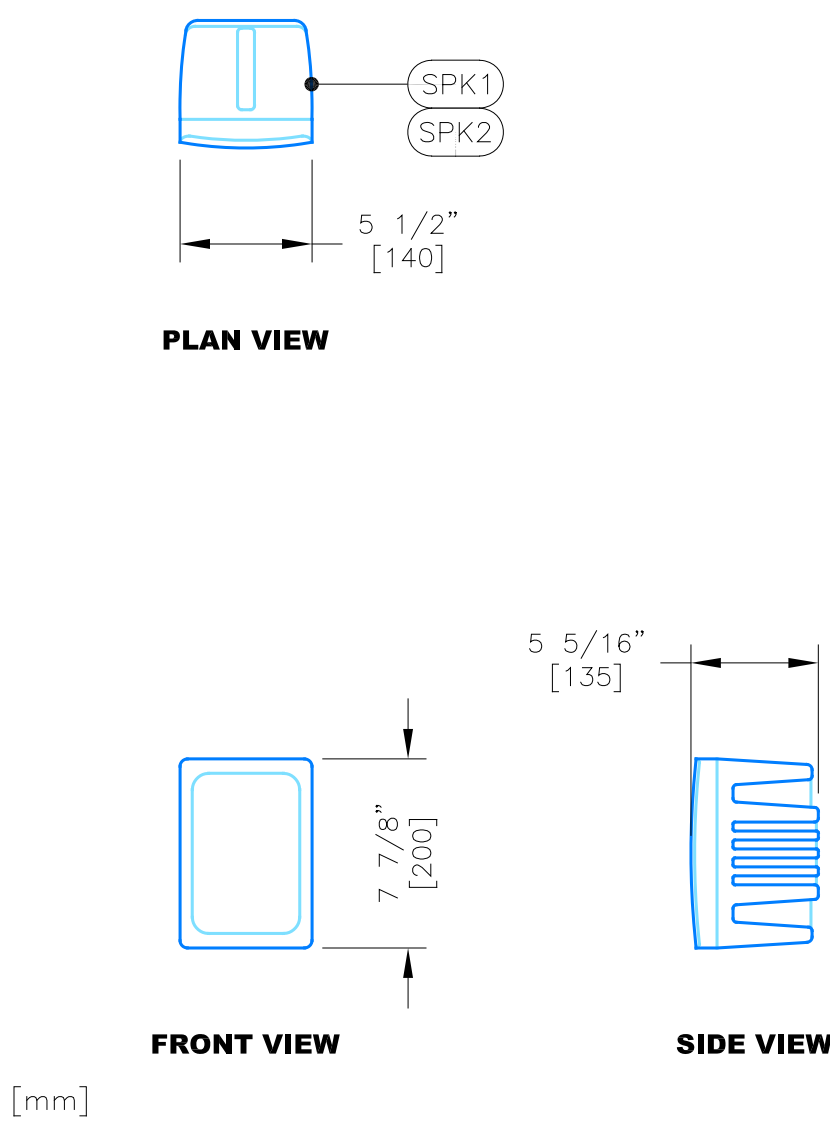
9 POWER DISTRIBUTOR
SCALE: 1/2" = 1'-0"



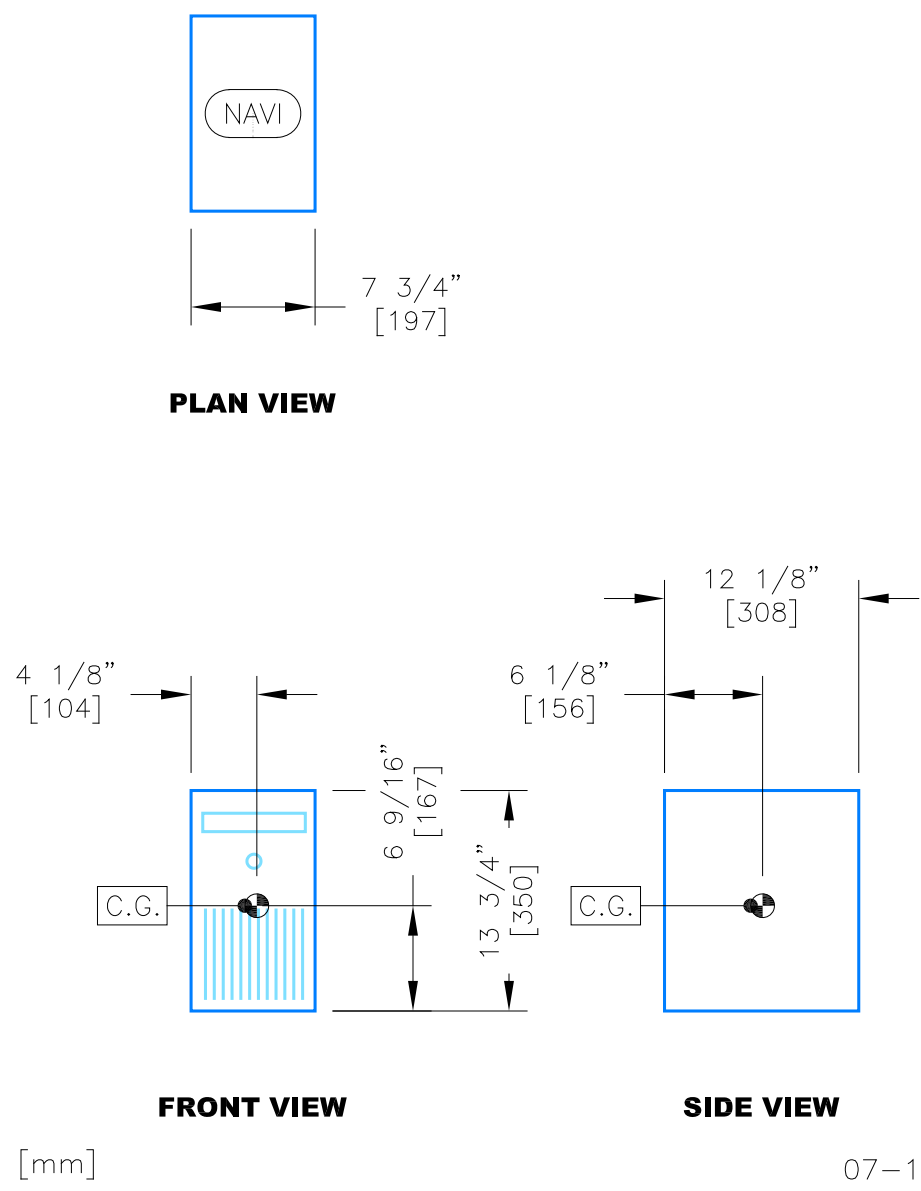
10 POWERVAR 6 kVA UPS
SCALE: 1/2" = 1'-0"



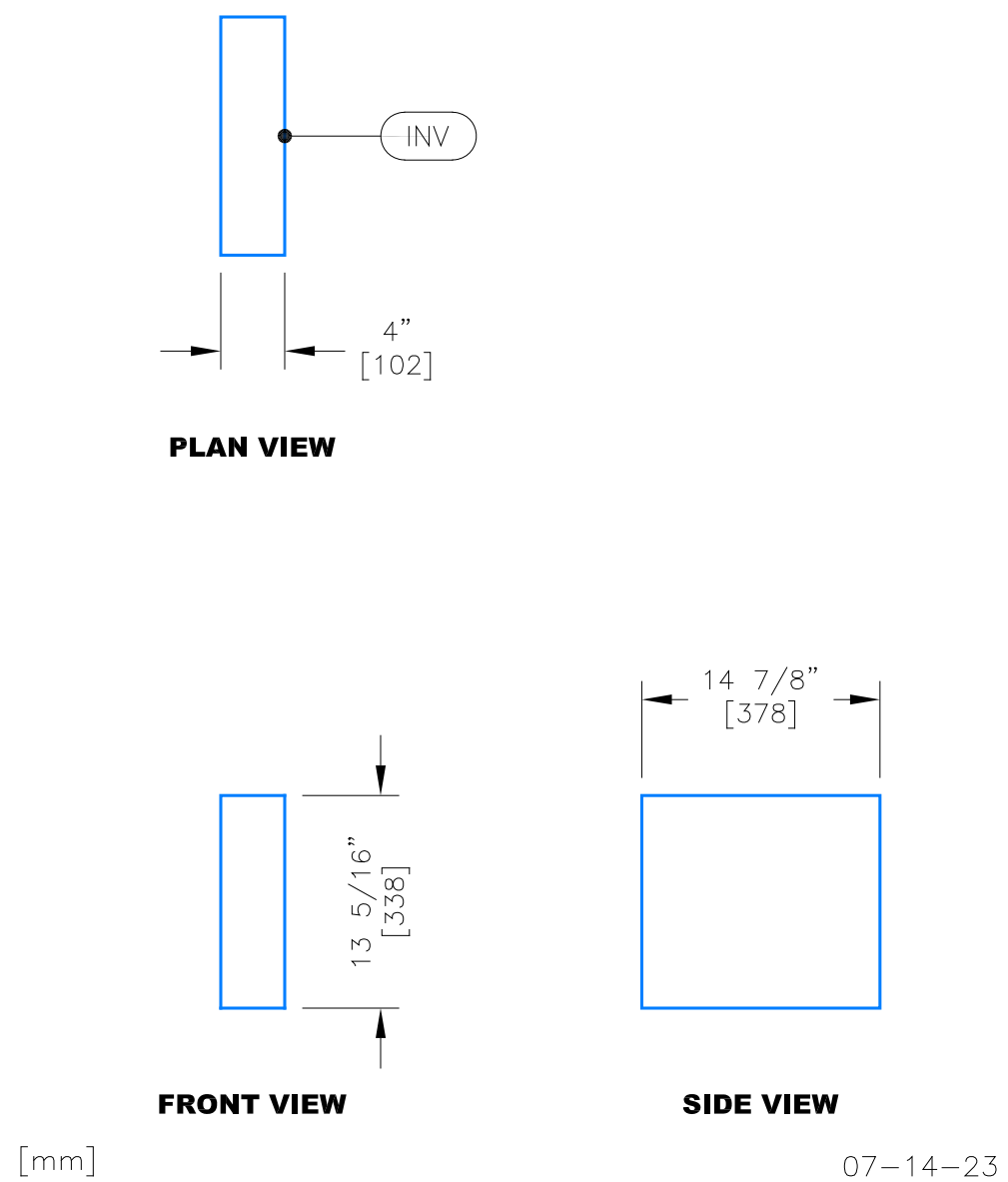
2 CON BOX
SCALE: 1/2" = 1'-0"



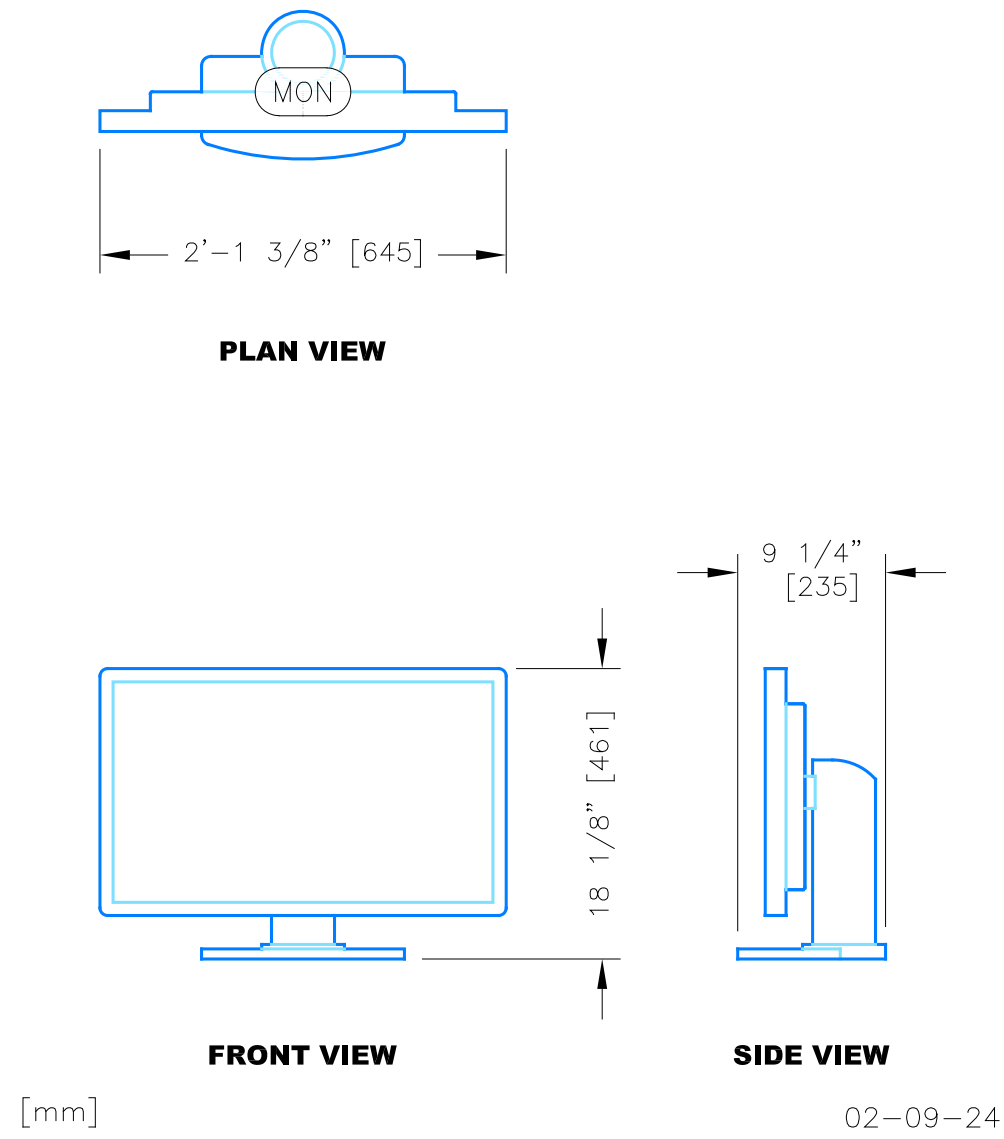
5 SPEAKER
SCALE: 1 1/2" = 1'-0"



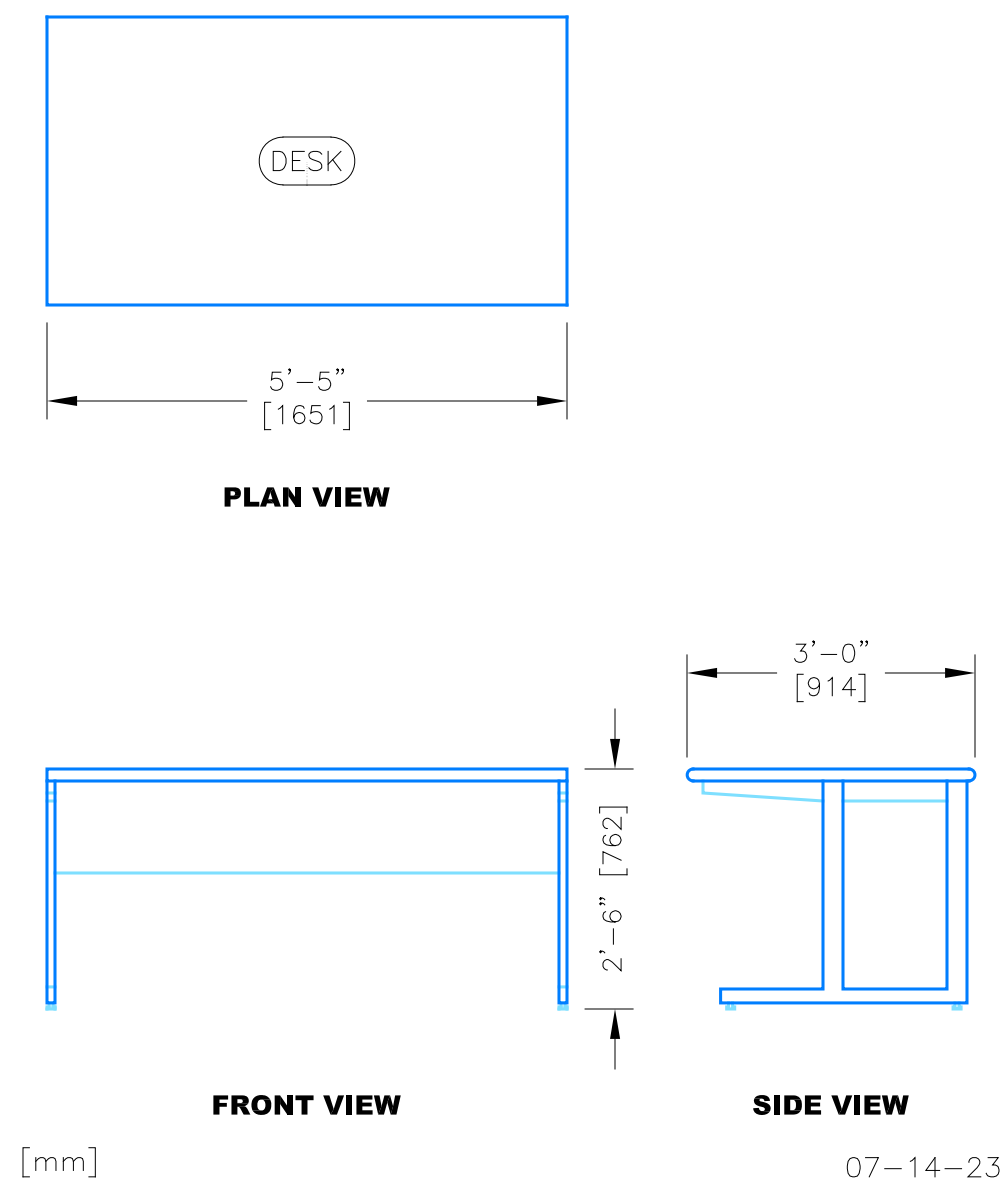
3 NAVI BOX
SCALE: 1" = 1'-0"



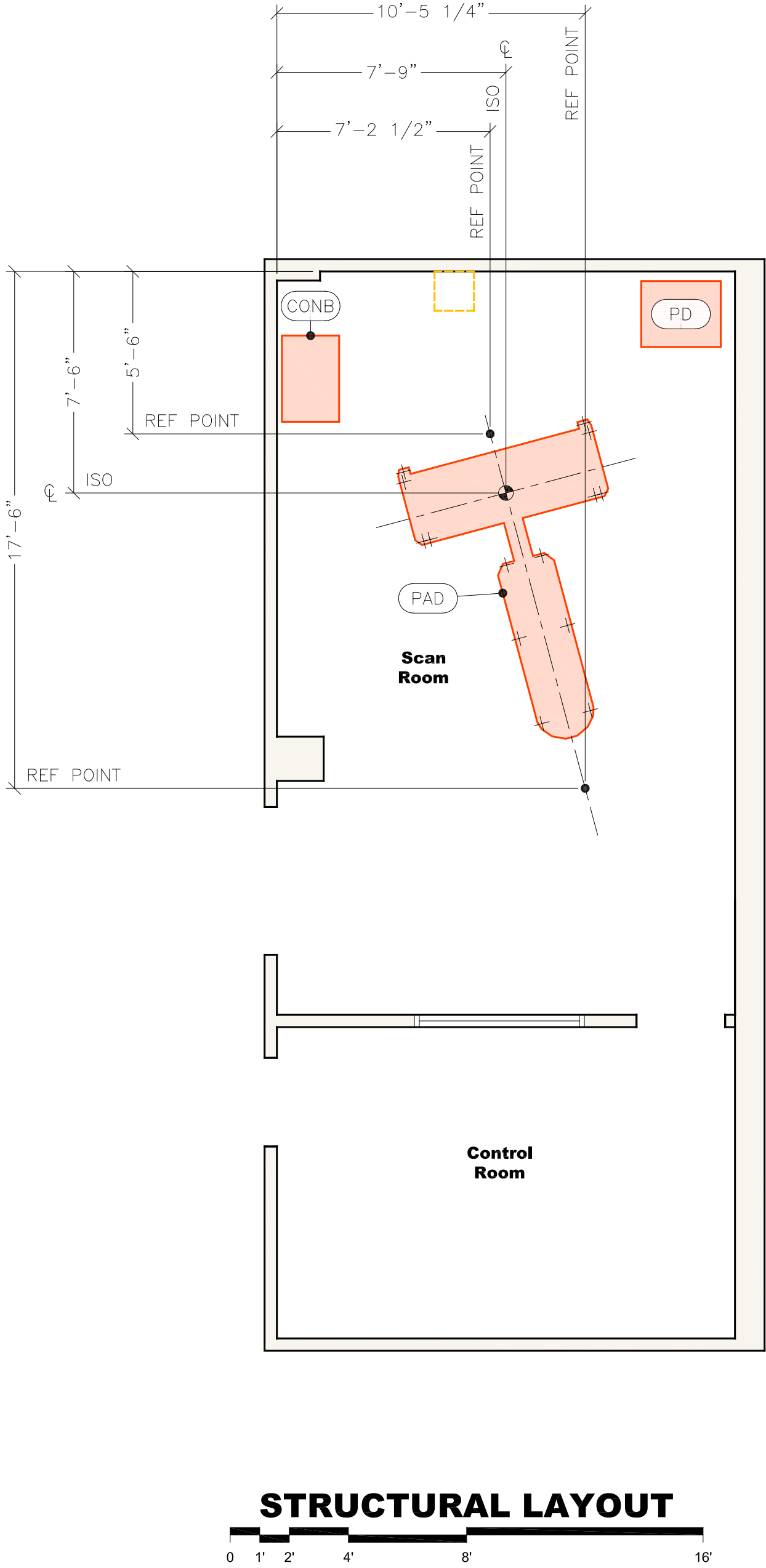
6 INNERVISION
SCALE: 1" = 1'-0"



4 CONSOLE MONITOR
SCALE: 1" = 1'-0"



7 CONTROL DESK
SCALE: 1/2" = 1'-0"



DRAWING NOTES

1. Any floor covering should be removed within the area shown in detail 1 exposing concrete prior to pouring the epoxy pad. The area from which the floor covering has been removed must be clean and free of residue.

STRUCTURAL LEGEND

ITEM	ITEM DESCRIPTION	SUPPLIED BY	INSTALLED BY	REF.
PAD	Epoxy base layout for Aquilion gantry & patient couch	Canon	Canon	1/S1
PD	Base layout for power distributor	Canon	See Detail	5/S2
CONB	Con box (without anchorage)	Canon	Canon	–

An epoxy pad must be poured to provide a level surface. An epoxy pad kit will be provided with the pre-installation materials. Contact your installation project manager for additional information.

Apply epoxy resin to the area indicated above.

(I) Epoxy resin: specific gravity 1.2
Hardener: specific gravity 1.2
Mixture ratio: per manufacturer's specifications
Curing time: 36–48 hours (at an ambient temperature of approximately 75°F)

(II) Since the epoxy resin takes 36–48 hours (depending on ambient temperature) to cure, this work must be completed before the system is to be carried in.

(III) The accuracy of the dimensions indicated in the above figure must be within the range of ±1/4" as measured with a tape measure.

05–13–24

1

EPOXY BASE DETAIL
HIGH CAPACITY WITH LATERAL

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

Canon

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Aquilion Serve SP
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Scale: 1/4" = 1'–0"

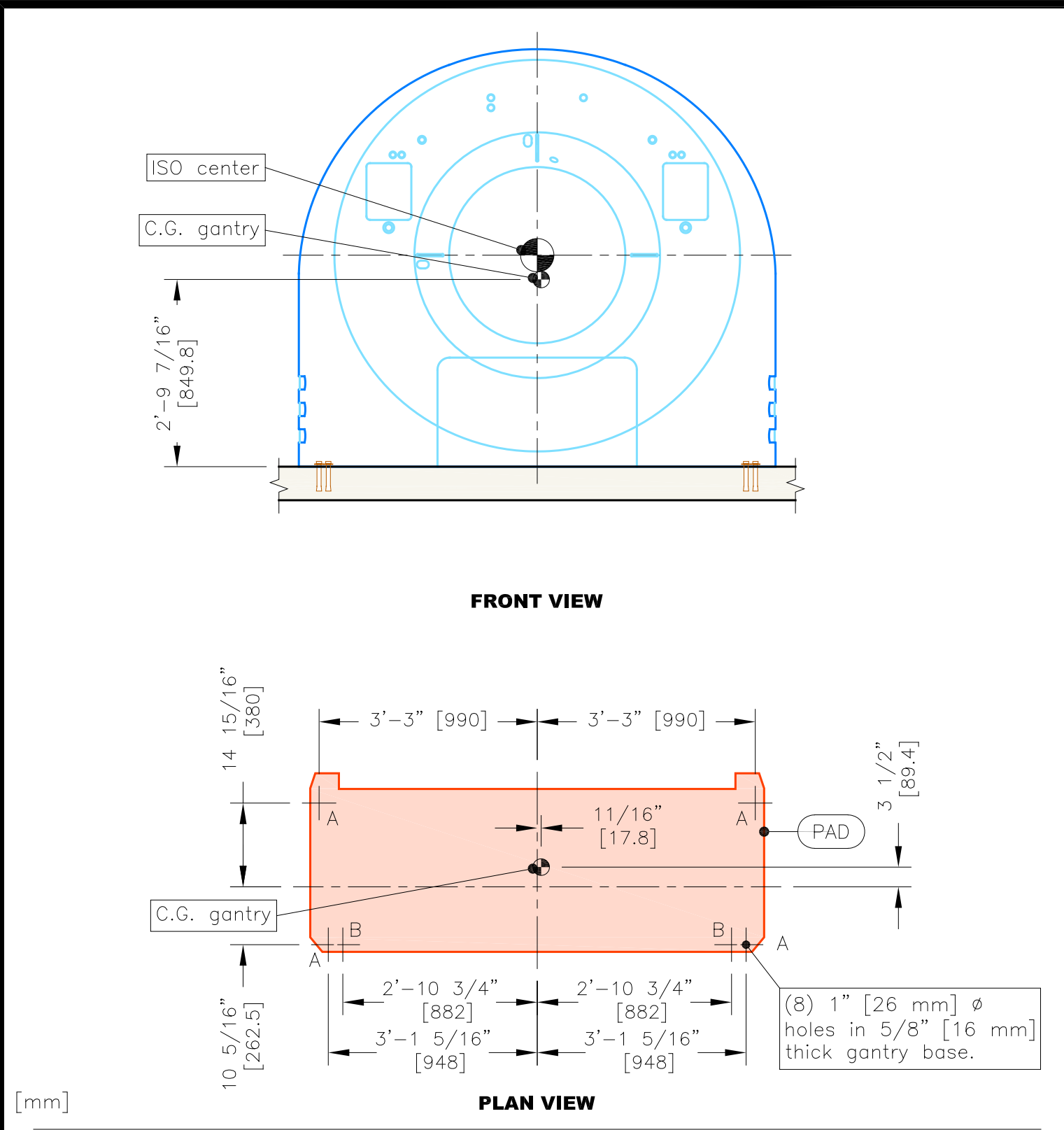
Planner: L.B.C.

SID / Quote:
30111444 / 182667–1

Project No.
240028436CTF

S1

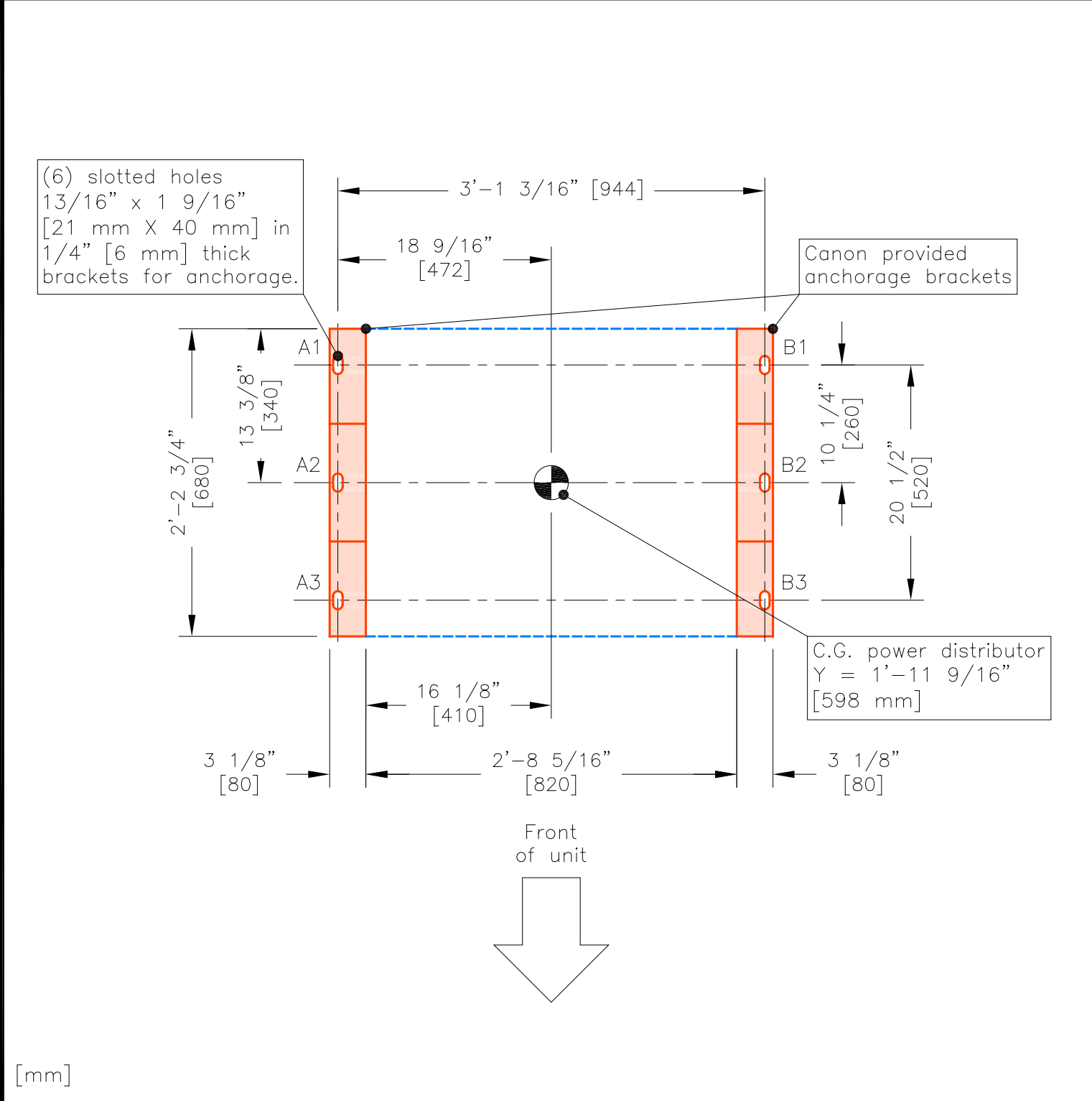
THIS SHEET IS PART OF A SET OF DRAWINGS LISTED ON SHEET C1 AND IS NOT TO BE SEPARATED FROM THE DRAWING SET



- A. The four Group A anchor locations shown must be used when anchoring the gantry. Group B anchor locations are to be used as alternate anchor locations if required.
Hardware to be supplied and installed by customer/contractor (per engineer of record).
- B. Epoxy pad thickness does not typically exceed 5/8" and is determined by floor levelness. The pad, in addition to the steel at the anchor locations, must be considered.
- C. Facilities requiring seismic qualification must utilize anchor locations specified on Canon provided seismic anchorage calculations.

1 GANTRY BASE ANCHORAGE SLAB ON GRADE

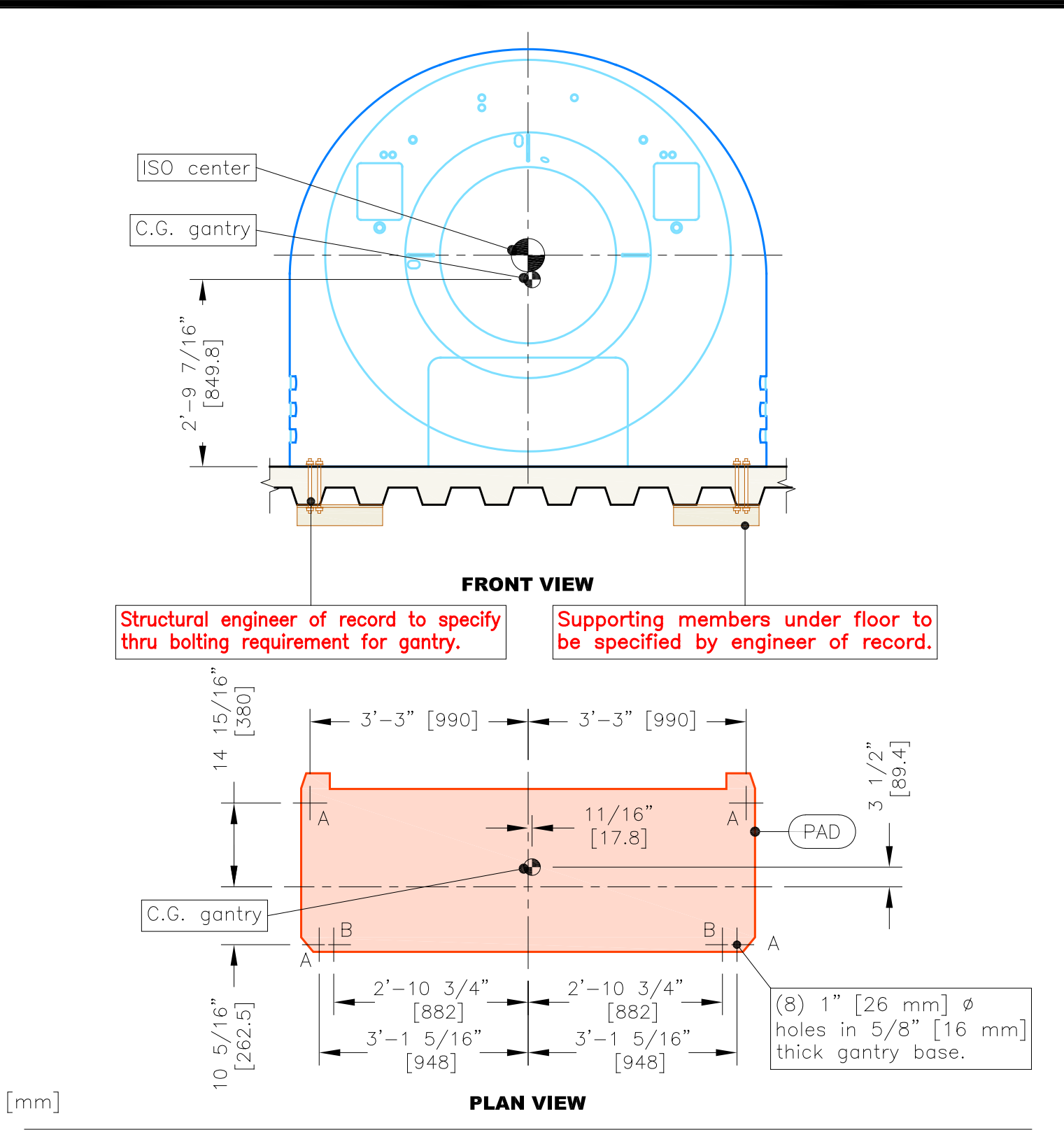
SCALE: 1/2" = 1'-0"



- A. The need to anchor the power distributor will be determined by the structural engineer of record.
- B. When anchoring power distributor (**per engineer of record**) hardware to be supplied and installed by customer/contractor. Four anchor locations minimum to be used, at each end of bracket (locations: A1, A3, B1, B3). Facilities requiring seismic qualification must utilize all six anchor locations.
- C. Facilities requiring seismic qualification must notify Canon installation project manager to ensure all installation requirements are met.

5 POWER DISTRIBUTOR TYPICAL ANCHORAGE DETAIL

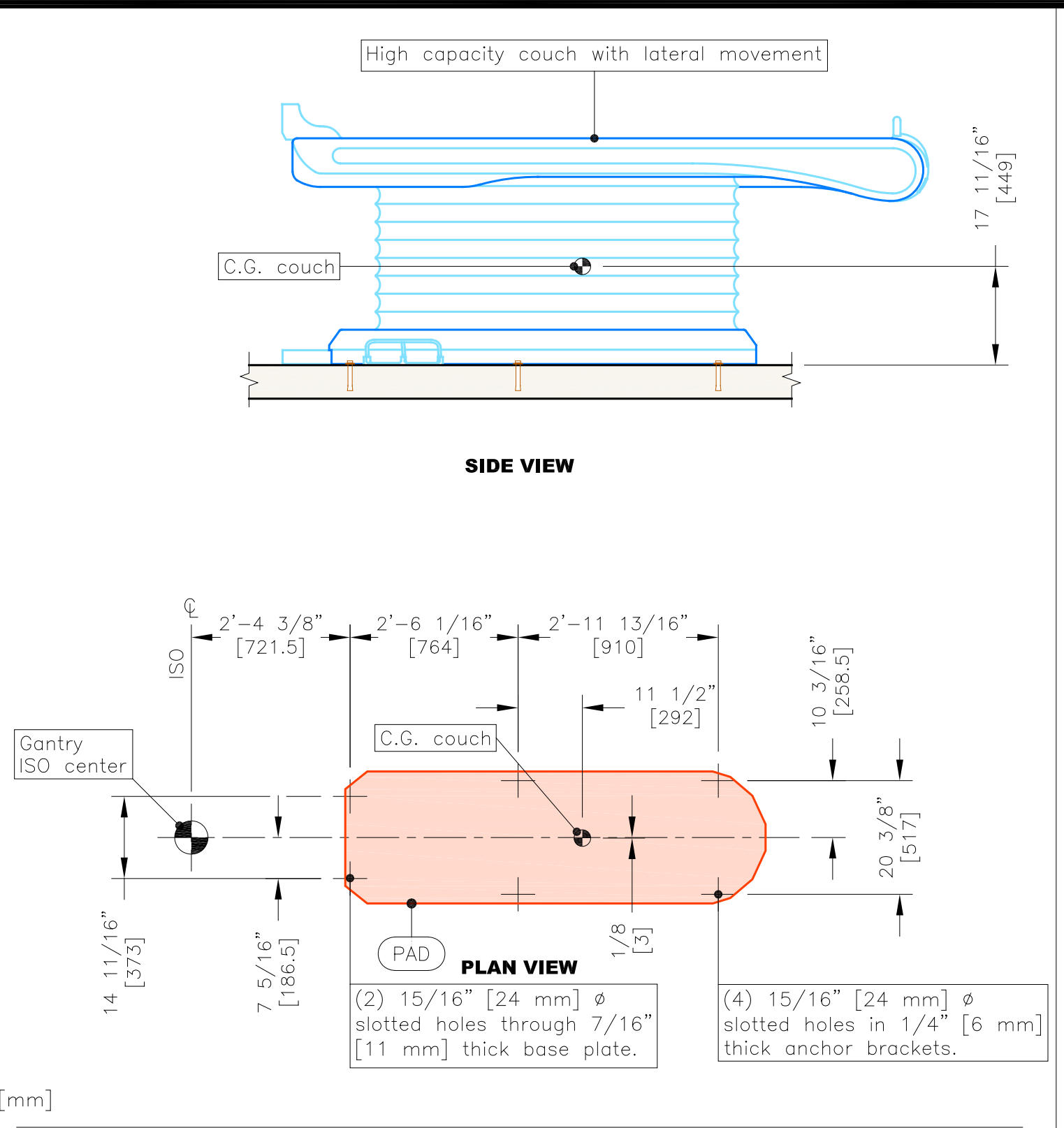
SCALE: 1" = 1'-0"



- A. The four Group A anchor locations shown must be used when anchoring the gantry. Group B anchor locations are to be used as alternate anchor locations if required.
Hardware to be supplied and installed by customer/contractor (per engineer of record).
- B. Epoxy pad thickness does not typically exceed 5/8" and is determined by floor levelness. The pad, in addition to the steel at the anchor locations, must be considered.
- C. Facilities requiring seismic qualification must utilize anchor locations specified on Canon provided seismic anchorage calculations.

2 GANTRY BASE THRU BOLTING UPPER FLOOR

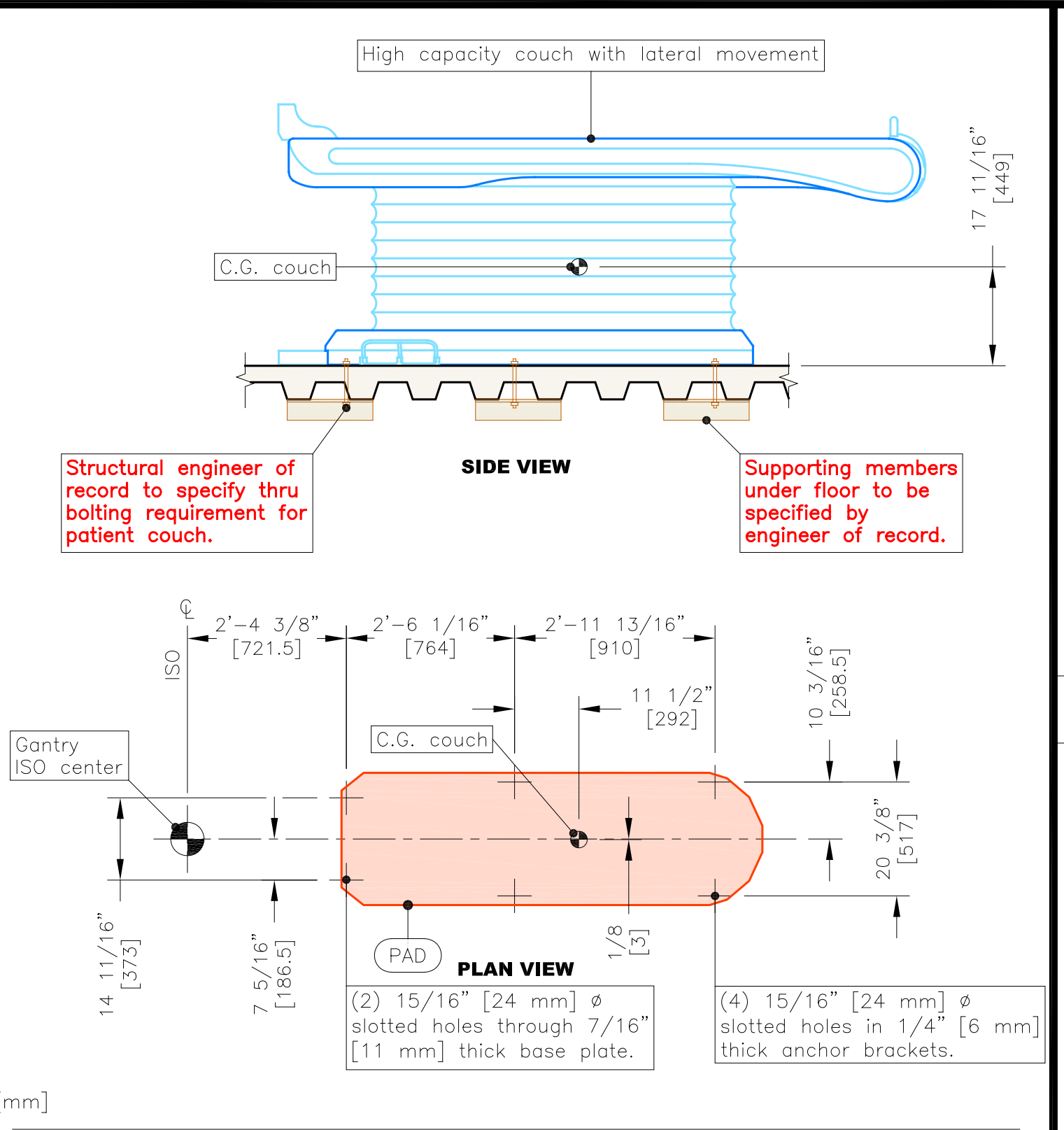
SCALE: 1/2" = 1'-0"



- A. The six anchor locations shown must be used when anchoring the patient couch.
Hardware to be supplied and installed by customer/contractor (per engineer of record).
- B. Epoxy pad thickness does not typically exceed 5/8" [16 mm] and is determined by floor levelness. The pad, in addition to the steel at the anchor locations, must be considered.
- C. Facilities requiring seismic qualification must utilize anchor locations specified on Canon provided seismic anchorage calculations.

3 PATIENT COUCH ANCHORAGE SLAB ON GRADE

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



- A. The six anchor locations shown must be used when anchoring the patient couch.
Hardware to be supplied and installed by customer/contractor (per engineer of record).
- B. Epoxy pad thickness does not typically exceed 5/8" [16 mm] and is determined by floor levelness. The pad, in addition to the steel at the anchor locations, must be considered.
- C. Facilities requiring seismic qualification must utilize anchor locations specified on Canon provided seismic anchorage calculations.

4 PATIENT COUCH THRU BOLTING UPPER FLOOR

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

Manchester VA Medical Center
Aquilion Serve SP
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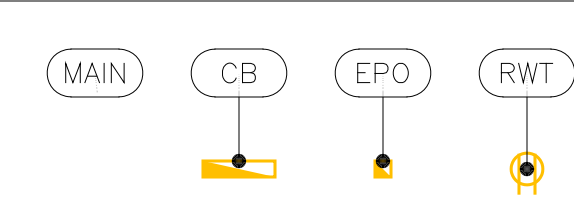
Scale: As Noted

Planner: L.B.C.

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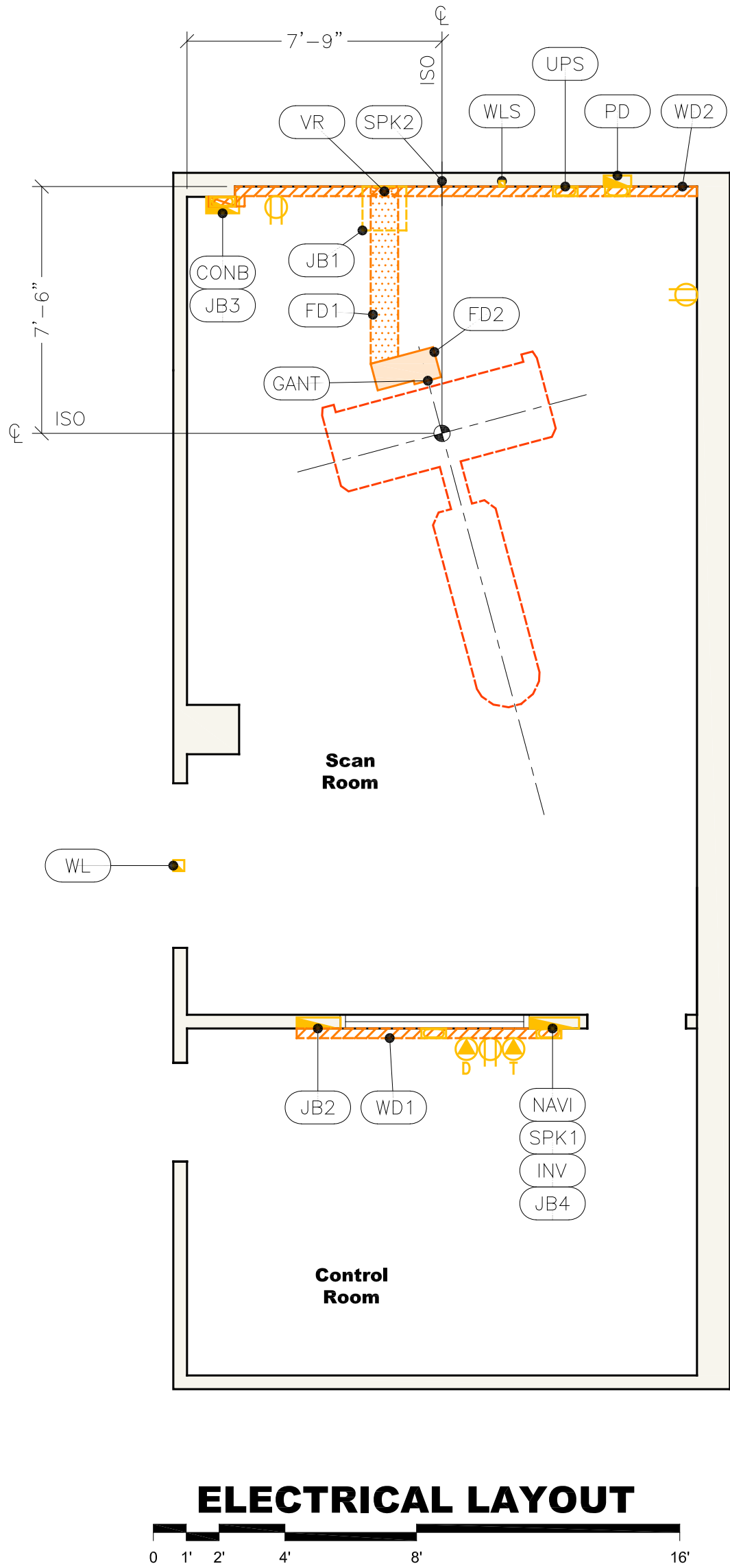
Project No.
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S2



To be located by customer/contractor.

Additional EPO switches to be located in adjacent rooms with Canon equipment if main EPO is not accessible (verify with local code). All EPO switches to be provided by customer/contractor.



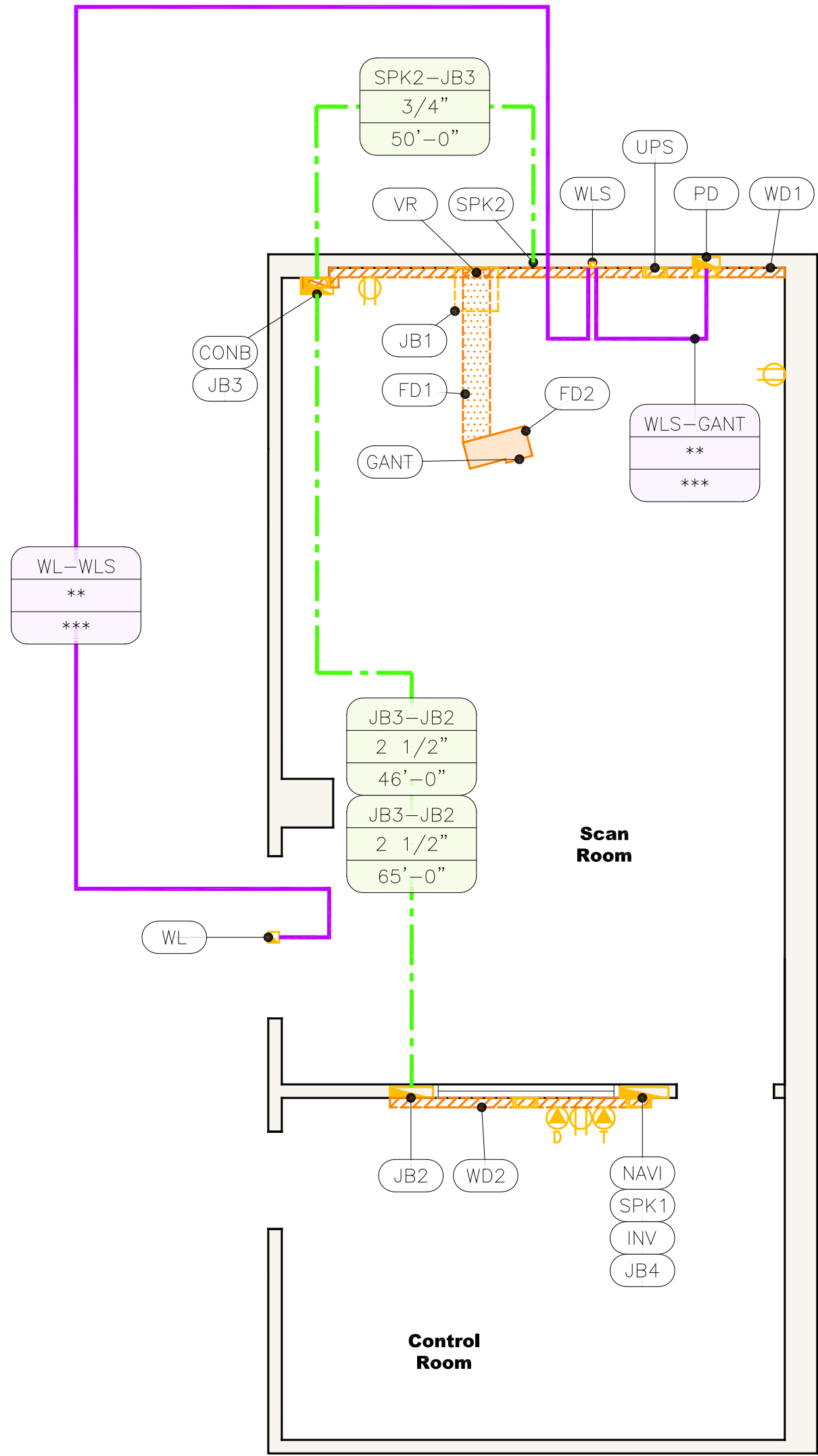
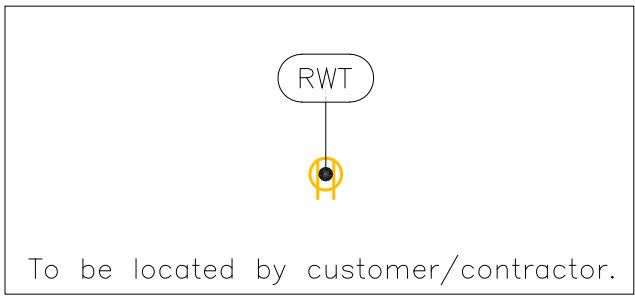
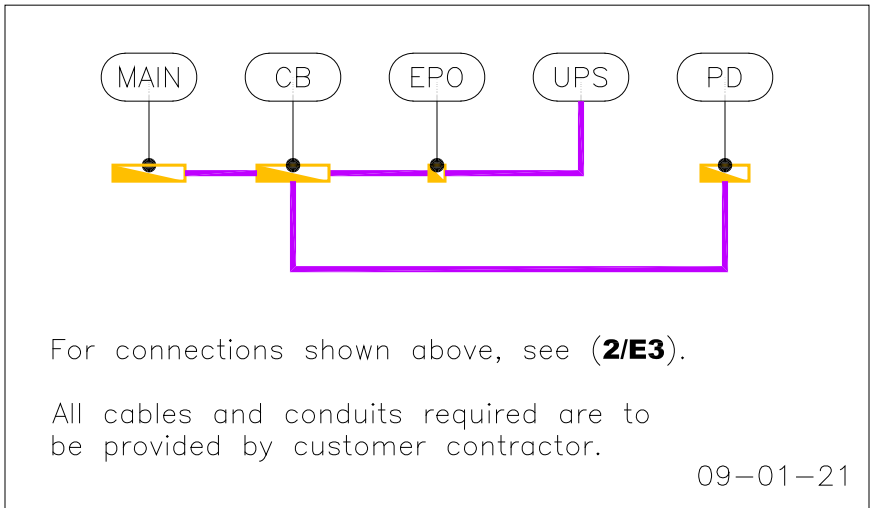
- DRAWING NOTES**
- Fiber optical cables require a minimum bending radius of 4 1/2". Duct work design must accommodate this requirement.
 - Reuse existing duct, conduits and j-boxes wherever applicable.
 - Grommets openings are shown for reference only. Verify size and location with Canon representative.
 - J-box sizes may be increased as needed.
 - Customer has the option to furr out wall to accommodate flush mounted wall duct if desired.

ELECTRICAL LEGEND		
ITEM	ITEM DESCRIPTION SUPPLIED AND INSTALLED BY CUSTOMER / CONTRACTOR	REF.
MAIN	Main Service Entrance Panel.	2/E3
CB	Three phase circuit breaker per Canon power specifications (see detail) circuit breaker location per code requirements by electrical contractor.	2/E3
EPO	4" std. j-box for remote off switch. Located by customer/contractor. DPDT, normally open mushroom head push button.	2/E3
WL	4" std. j-box for "X-RAY ON" or warning light mounted above patient entry door.	3/E3
WLS	Single-gang j-box for "X-RAY ON" or warning light switch. Final location to be determined by customer/contractor.	3/E3
PD	Existing j-box, flush mounted 11" A.F.F. to bottom of box. Open to WD2. Flex conduit from j-box/WD2 to cabinet.	2/E3
GANT	Grommets opening at the end of FD2 open to gantry cable tray.	5/E3
NAVI	Shared grommets opening with non-chafing material in WD1.	5/E3
SPK1		
INV		
CONB	Grommets opening in WD2.	5/E3
SPK2	Single-gang j-box for scan room speaker, flush mounted 58" A.F.F. to bottom of box (in procedure room).	5/E3
JB1	Existing j-box, mounted above finished ceiling.	
JB2	Existing j-box, flush mounted. Open to WD1.	
JB3	Existing j-box, flush mounted. Open to WD2.	
JB4	Existing j-box, flush mounted. Open to WD1.	5/E3
UPS	Grommets opening WD2.	5/E3
RWT	Connects to GANT.	5/E3
	110V electrical outlets for system equipment and/or service equipment. Outlets to be located in each room where system equipment is located.	
	Certified CAT6 cable with a RJ45 connector to be used for data connection for networking.	
	Dedicated phone line supplied/installed by customer/contractor.	
Manchester VA Medical Center Aquilion Serve SP 718 Smyth Road Manchester, NH 03104		

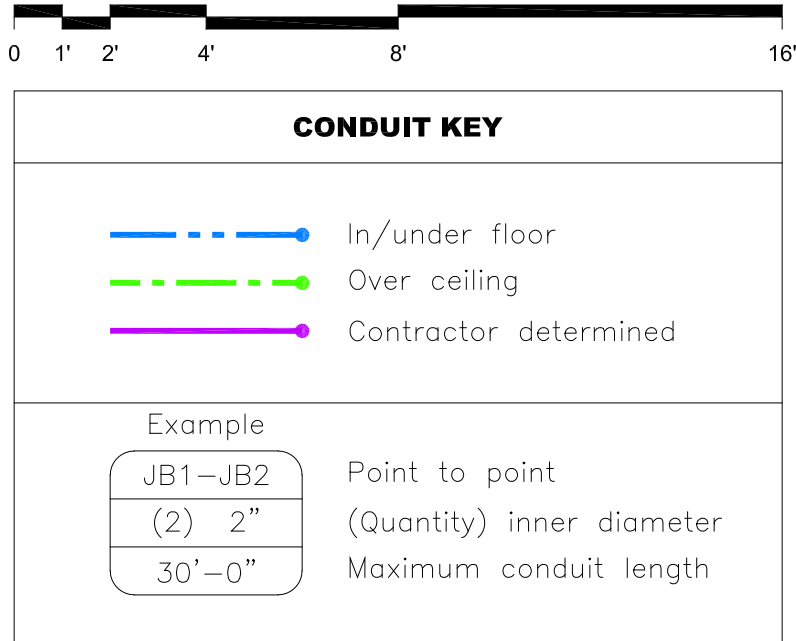
ELECTRICAL DUCT LEGEND		
ITEM	ITEM DESCRIPTION SUPPLIED AND INSTALLED BY CUSTOMER / CONTRACTOR	REF.
WD1	Existing flush/surface mounted wall duct, with (2) equally partitioned compartments throughout & removable access covers.	5/E3
WD2	Existing flush/surface mounted wall duct, with (2) equally partitioned compartments throughout & removable access covers.	5/E3
VR	Existing flush/surface mounted riser duct with (2) equally partitioned compartments throughout and removable access covers. From JB1 to FD1.	5/E3
FD1	Existing surface mounted floor duct, with (2) equally partitioned compartments throughout & removable access covers (thickness should be able to support min. of 200 lbs.) are required.	5/E3
FD2	Existing surface mounted floor duct, with (2) equally partitioned compartments throughout & removable access covers (thickness should be able to support min. of 200 lbs.) are required.	5/E3

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Date: 08-02-24
Scale: 1/4" = 1'-0"
Planner: L.B.C.
SID / Quote: 30111444 / 182667-1
Project No. 240028436CTF
E1

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CONDUIT SCHEMATIC
(PROVIDED FOR REFERENCE PURPOSES ONLY)



- NOTES
- A. Conduits supplied/installed by customer/contractor.

B. All conduit runs must take the shortest most direct route possible.

C. Conduits may have a maximum of (3) 90° bends.

D. Conduit is not to be run in such a manner that will allow cable point to point lengths to be exceeded as shown in the layout/label.

E. The measurement shown for conduit lengths are the maximum lengths allowed per this site specific layout.

F. All ground wires need to be insulated/isolated.

G. Contractor to provide pull strings in each conduit.

* Extended cables needed. Final length of conduit to be determined by Canon Rep.

** Conduit diameter to be determined by manufacturer or contractor.

*** Final length of conduit to be determined by manufacturer or contractor.

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Planner: L.B.C.

SID / Quote:
30111444 / 182667-1

Project No.
240028436CTF

POWER QUALITY REQUIREMENTS

Supply configuration: 3 phase, 3 wire + GRD
Nominal line voltage: 480 VAC
Nominal frequency: 60 Hz
Maximum power capacity: 110 kVA
Maximum momentary nominal current: 132A
Maximum momentary low-line current: 147A
Minimum recommended transformer rating: ** 150 kVA
Maximum line voltage variation: +/- 10%
Voltage fluctuation due to load variation: 5% or less
Maximum voltage imbalance: 2%
Permissible power supply impedance: .09 Ω or less
Minimum recommended circuit breaker current rating: *** 100A

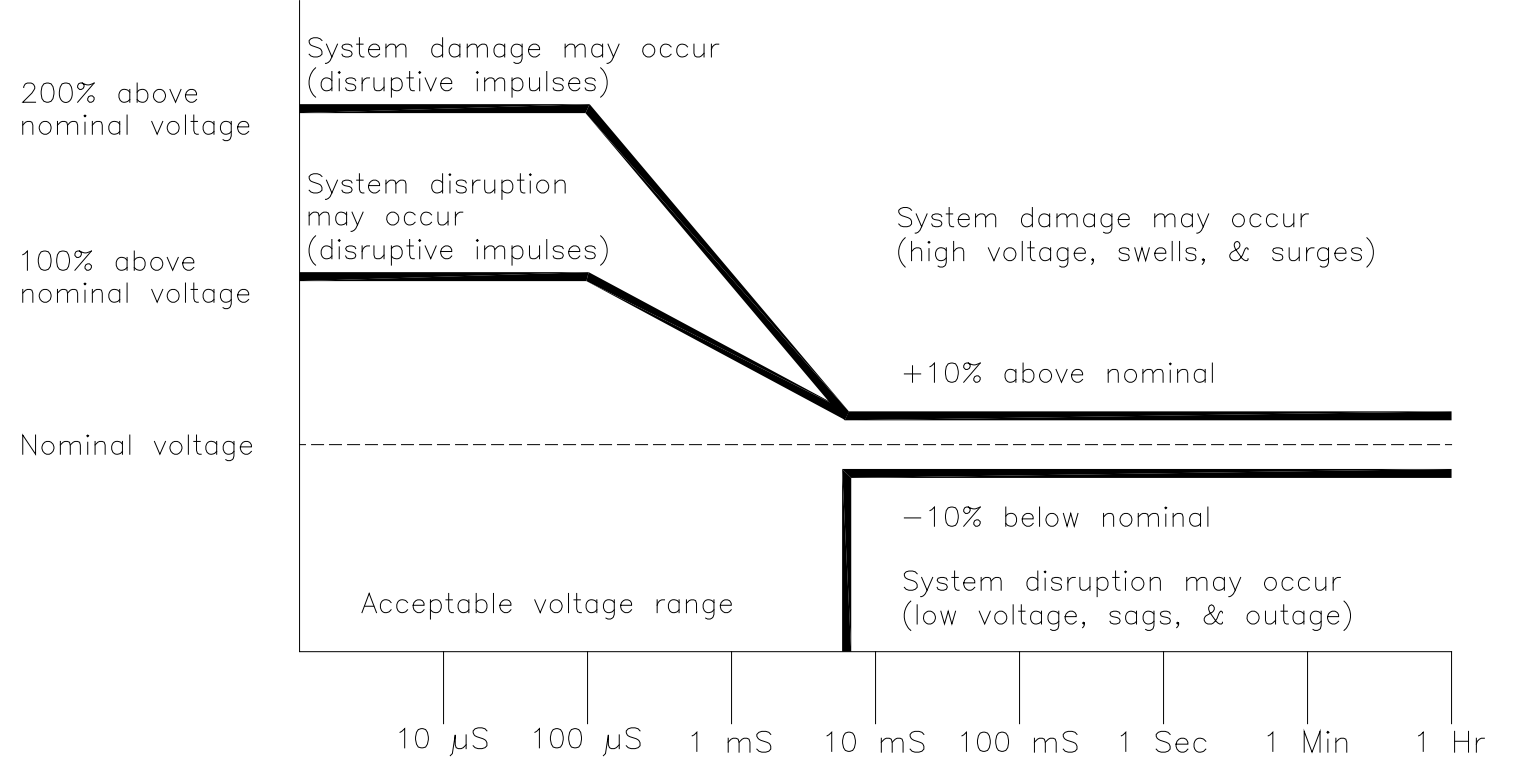
Conductor size	Conductor length *
#3 AWG	225 ft.
#2 AWG	275 ft.
#1 AWG	335 ft.
1/0 AWG	425 ft.
2/0 AWG	495 ft.
3/0 AWG	600 ft.
4/0 AWG	715 ft.
250 MCM	790 ft.
300 MCM	895 ft.

* based on low-line current and 3.0% voltage drop at 0.9PF. Confirm lug size and acceptable wire range.
** Where required/applicable. Transformer impedance and voltage drop must be considered for maximum line voltage variation.
*** Refer to site planning manual for CB trip curve requirements.

02-09-24

STANDARD POWER QUALITY NOTES

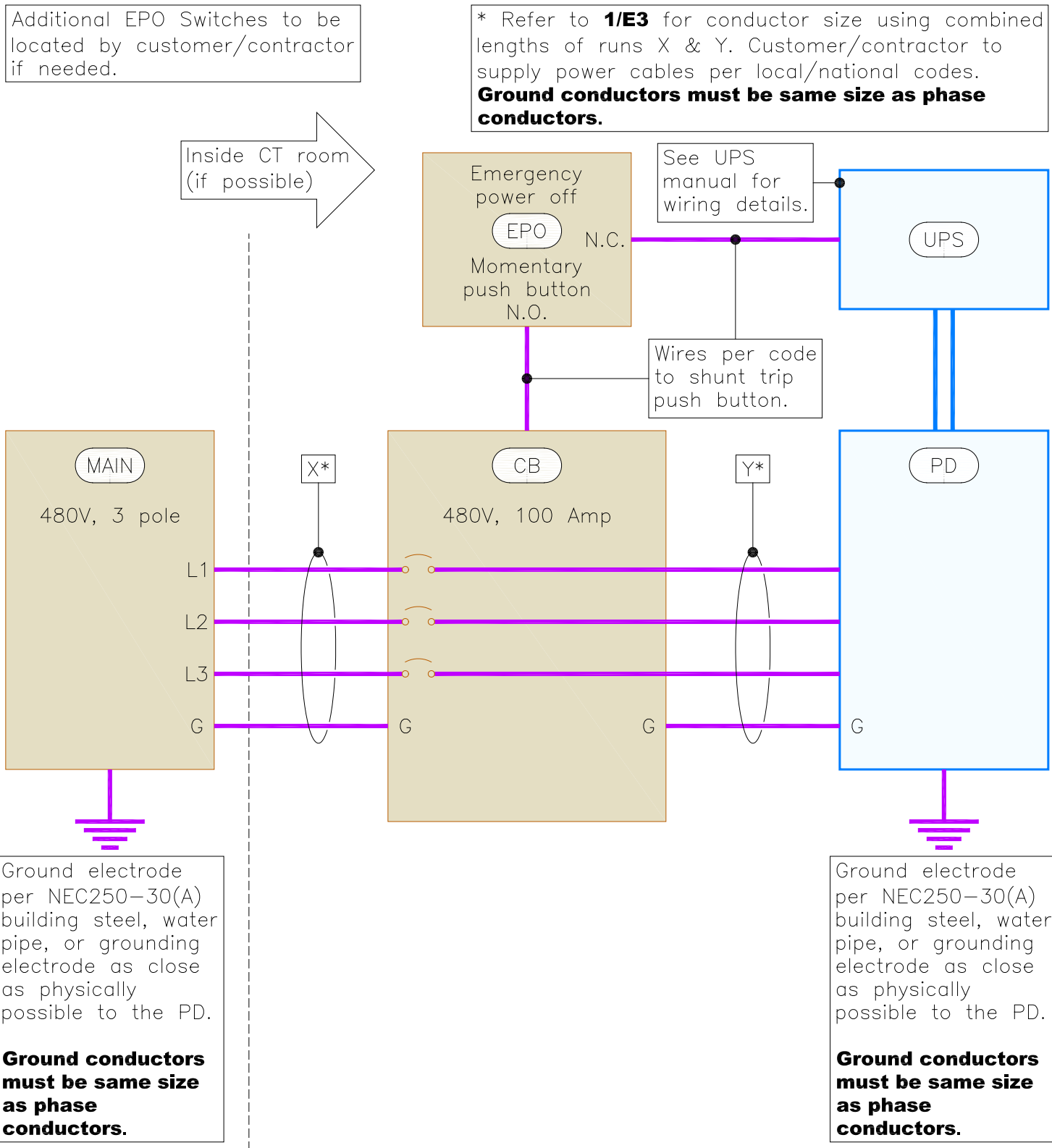
- A. Ground conductors are required to be the same size as the phase conductors unless a larger size is required by code.
B. All feeder and branch circuit conductors must be copper – aluminum is not permitted.
C. If the equipment circuit breaker is not located in the control area, a shunt trip breaker must be used in order to comply with N.E.C. 517-72(B). A push-button to operate the shunt trip must be located in the control area.
D. A separate circuit, fed from the facility radiology panel or a main service panel is required. Use of a sub panel with loads such as elevators, HVAC, motors, etc., is not permitted.
E. Devices such as uninterruptible power supplies, power conditioners, voltage regulators, and filters may be incompatible with this imaging equipment. Consult your Canon service representative prior to purchasing or installing these devices.
F. Conductor sizes 350MCM, 400MCM, 500MCM, & 600MCM may not fit in the Circuit breaker terminal.
G. If the mains are 208V or 240V and a step up transformer is required, the line impedance at the lowest voltage level must be used.
H. The systems demand (kVA) is calculated to include the maximum system kVA plus the required voltage drop and line impedance.



09-01-21

1 POWER REQUIREMENTS

SCALE: NOT TO SCALE

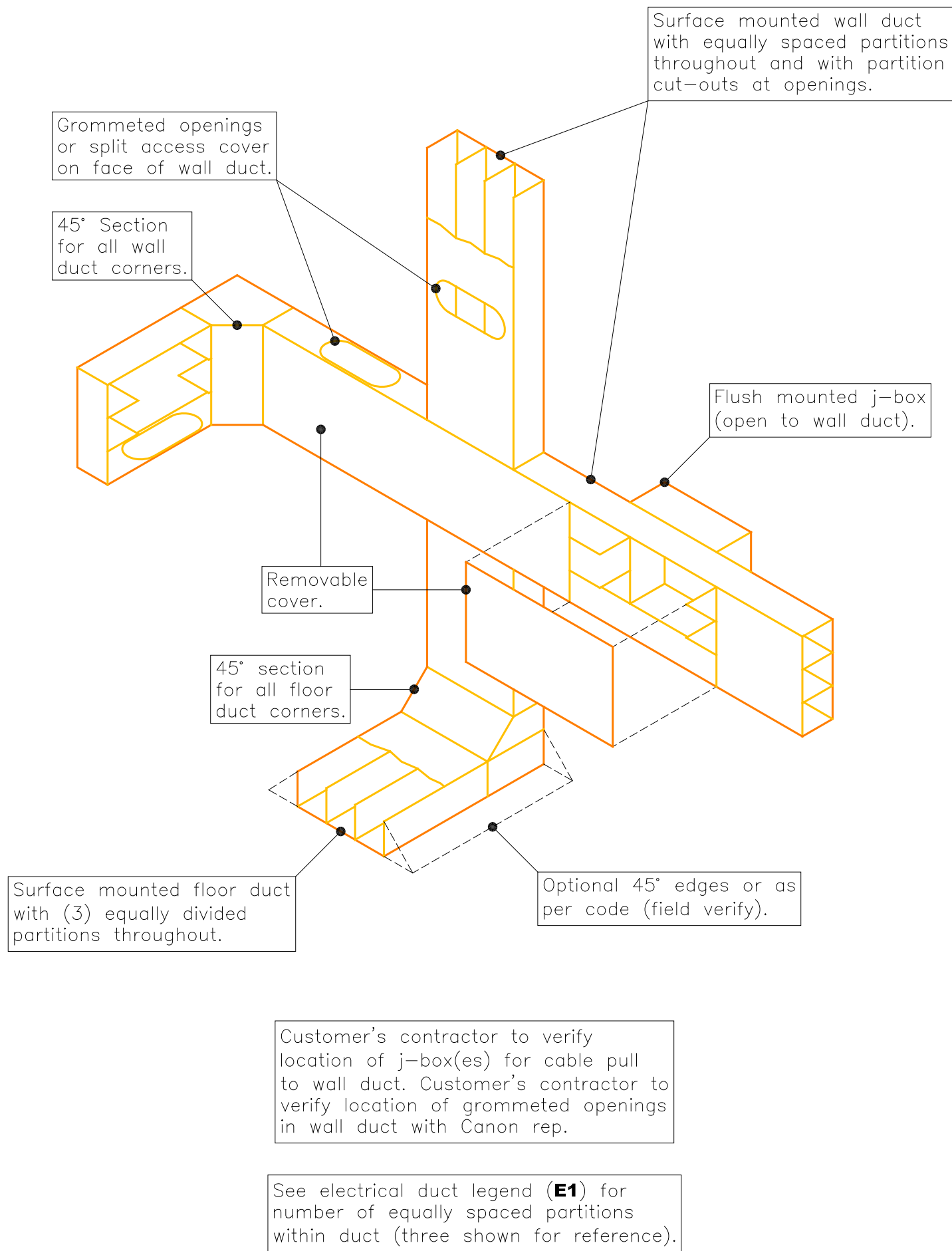


Cable Key	
	Provided & installed by customer/contractor
	Provided by Canon & installed by customer/contractor.

05-13-24

2 CB / PD WIRING DETAIL WITH POWERVAR 6kVA UPS

SCALE: NOT TO SCALE



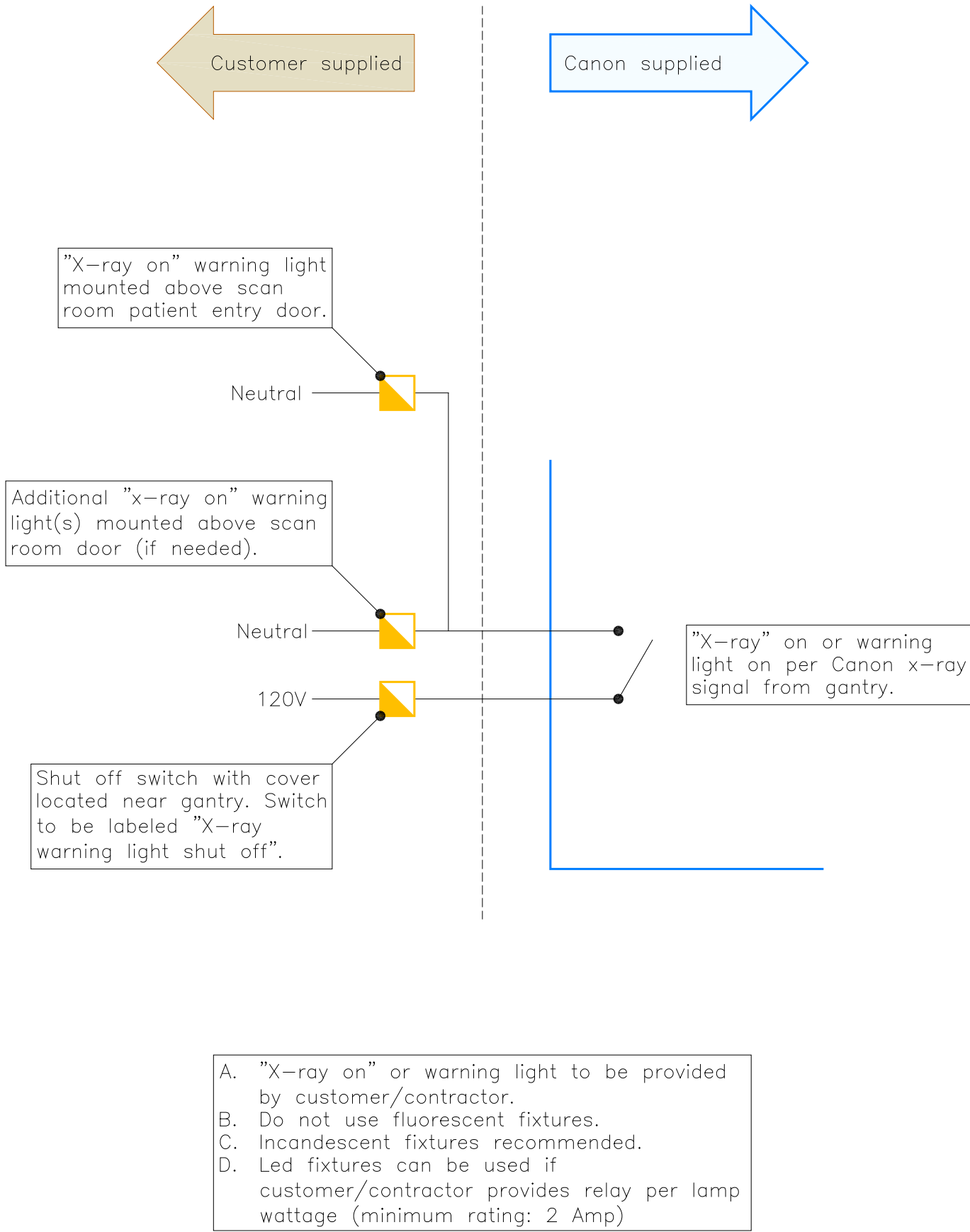
09-01-21

5 TYPICAL WALL DUCT DETAIL WITH FLOOR DUCT / J-BOX / VERTICAL RISER

SCALE: NOT TO SCALE

3 WARNING LIGHT DETAIL

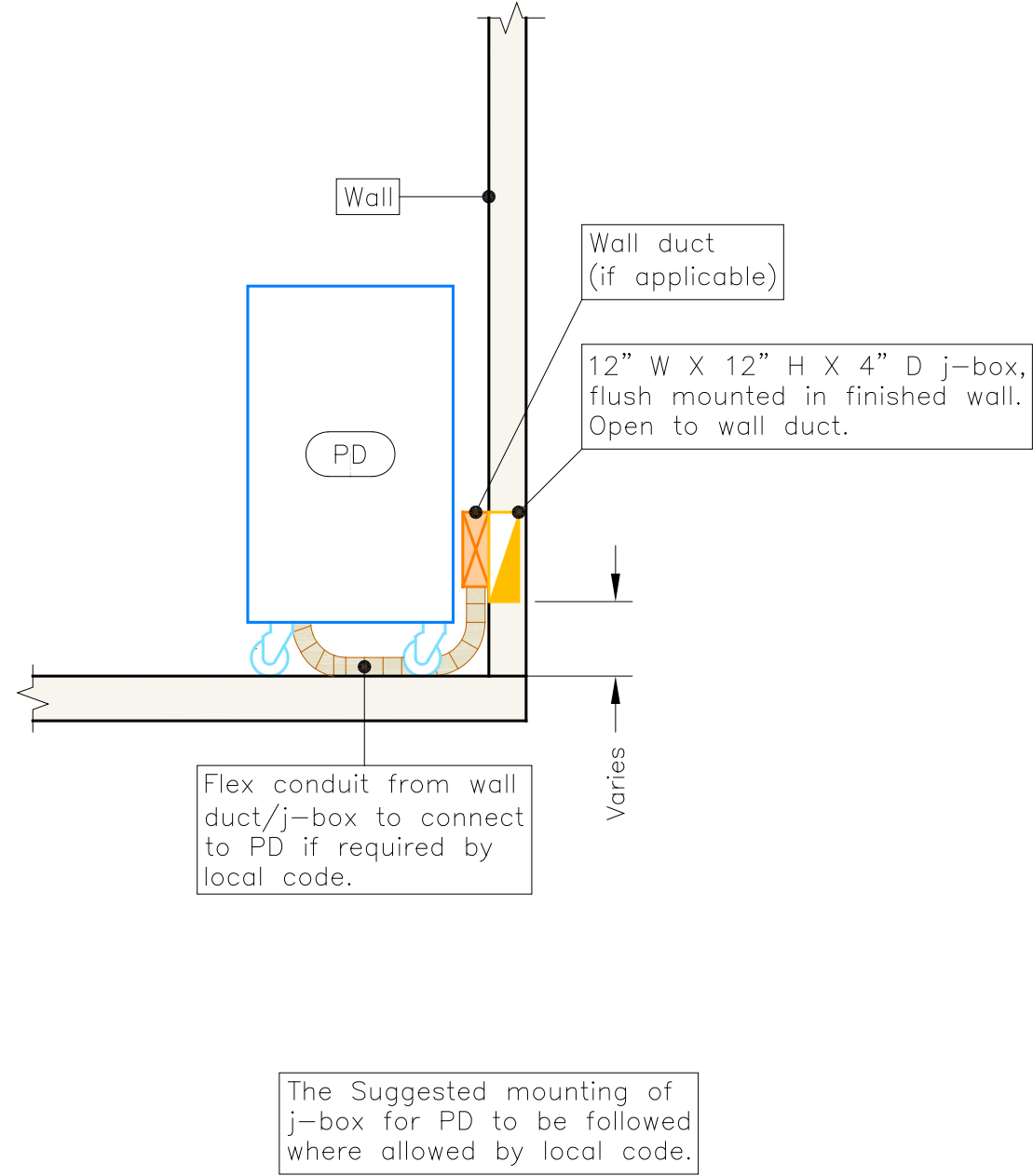
SCALE: NOT TO SCALE



09-01-21

4 TYPICAL PD J-BOX MOUNTING DETAIL

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



09-01-21

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Date: 08-02-24

Scale: As Noted

Planner: L.B.C.

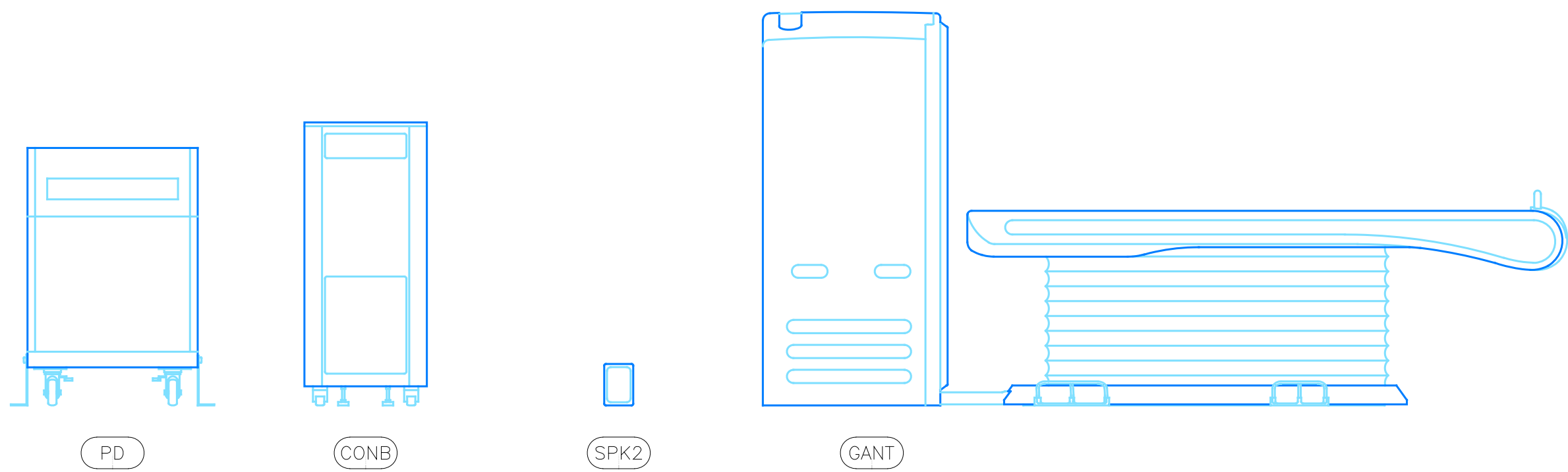
SID / Quote:
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E3

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Canon



- A. The following cable diagram is for reference only and may not contain the exact equipment shown in the attached drawing package.
- B. Installation project manager is responsible for ensuring that cable lengths meet the site conditions. The installation project manager is responsible for ordering the required cables to meet existing/proposed site conditions.
- C. All cable connections shown are maximum length and cannot be extended.
- D. Third party item connections to be verified with installation project manager.
- E. Power and signal cables must be run in separate conduit. (See **E2**).



RUN LTR.	CONNECTION (POINT TO POINT)		CABLE LENGTH (MAX. USABLE)
A	PD	GANT	75'-5" [23 m]
	PD	GANT	75'-5" [23 m]
	PD	GANT	75'-5" [23 m]
B	PD	CONB	75'-5" [23 m]
	PD	CONB	75'-5" [23 m]
C	CONB	GANT	75'-5" [23 m]
	CONB	GANT	75'-5" [23 m]
D	CONB	GANT	75'-5" [23 m]
	CONB	GANT	75'-5" [23 m]
	CONB	GANT	75'-5" [23 m]
	CONB	GANT	75'-5" [23 m]
	CONB	GANT	75'-5" [23 m]
E	CONB	NAVI	75'-5" [23 m]
	CONB	NAVI	75'-5" [23 m]
F	CONB	NAVI	75'-5" [23 m]
	CONB	NAVI	75'-5" [23 m]
	CONB	NAVI	75'-5" [23 m]
G	CONB	SPK1	116'-9" [35.6 m]
H	CONB	SPK2	54'-5" [16.6 m]
I	GANT	INV	75'-0"
J	CONB	INV	75'-0"

Int.	
Description	
Date	
Rev.	
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