

Healthcare

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Final Site Preparation Support Document

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Revision History			
Note for Architects and/or Contractors: If revisions are listed, these drawings must be thoroughly reviewed so that all changes can be incorporated into your project			
Rev.	Date	Revision Descriptions	By
A	10/24/2013	A3: Added option 3 and relocated electrical cabinets per PM request.	CP
B	11/15/2013	Completed final site preparation support documents per option 3 from preliminary drawings per PM request.	CP
C	2/26/2014	A1/S2/E1: Removed walls/doors per PM's request and showed ceiling soffit.	JSC
D	9/17/2014	Changed project to a preliminary drawing. Added room move equipment for FD10 Ceiling and revised room layout per updated CAD background.	CP
E	1/26/2015	Room revised per updated CAD background and completed preliminary site preparation support documents.	CP
F	2/16/2015	A1/S1/S2/E1: Room revised and relocated system isocenter 1'-5" plan south per updated CAD background.	CP
G	5/4/2015	A1/S1/S2/E1: Added Soffit. Moved isocenter south to 8'-6". Added reverse hose for SP outlet. Resized and moved TV box.	SC

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 Remote Service Network ----- N1 - N2 Check List ----- CHK

Project

Allura FD10 Ceiling

Philips Contacts

Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com

Project Details

Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

C1

WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1

Drawn By: Sam Chong



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<div><div>General Specifications</div><div><div><div>1. Responsibility</div><div>The customer shall be solely responsible, at its expense for preparation of site, including any required structural alterations. The site preparation shall be in accordance with plans and specifications provided by Philips. Compliance with all safety electrical and building codes relevant to the equipment and its installation is the sole responsibility of customer. The customer shall advise Philips of conditions at or near the site which could adversely affect the carrying out of the installation work and shall ensure that such conditions are corrected and that the site is fully prepared and available to Philips before the installation work is due to begin. The customer shall provide all necessary plumbing, carpentry work, or conduit wiring required to attach and install products ready for use.</div></div><div><div>2. Permits</div><div>Customer shall obtain all permits and licenses required by federal, state/provincial or local authorities in connection with the construction, installation and operation of the products and related rules, regulations, shall bear any expense in obtaining same or in complying with any ordinances and statutes.</div></div><div><div>3. Radiation Protection</div><div>The customer or his contractor, at his own expense, shall obtain the service of a licensed radiation physicist to specify radiation protection. (X-Ray Tube output 150 KVp max.)</div></div><div><div>4. Asbestos and Other Toxic Substances</div><div>Philips assumes no hazardous waste (i.e., PCB's in existing transformers) exists at the site. If any hazardous material is found, it shall be the sole responsibility of the customer to properly remove and dispose of this material at its expense. Any delays caused in the project for this special handling shall result in Philips time period for completion being extended by like period of time. Philips assumes that no asbestos material is involved in this project in any ceilings, walls or floors. If any asbestos material is found anywhere on the site, it shall be the customer's sole responsibility to properly remove and/or make safe this condition, at the customer's sole expense.</div></div><div><div>5. Labor</div><div>In the event local labor conditions make it impossible or undesirable to use Philips' regular employees for such installation and connection, such work shall be performed by laborers supplied by the customer, or by an independent contractor chosen by the customer at the customer's expense, and in such case, Philips agrees to furnish adequate engineering supervision for proper completion of the installation.</div></div><div><div>6. Schedule</div><div>The general contractor should provide Philips with a schedule of work to assist in the coordination of delivery of Philips supplied products which are to be installed by the contractor and delivery of the primary equipment.</div></div><div><div>7. Extended Installation or Turnkey Work by Philips</div><div>Any room preparation requirements for Philips equipment indicated on these drawings is the responsibility of the customer. If an extended installation or turnkey contract exists between Philips and the customer for room preparation work required by the equipment represented on these drawings, some of the responsibilities of the customer as depicted in these drawings may be assumed by Philips. In the event of a conflict between the work described in the turnkey contract workscope and these drawings, the turnkey contract workscope shall govern.</div></div><div><div>8. Infection Control and Interim Life Safety Measures</div><div>Compliance with all Infection Control and Interim Life Safety Measures shall be the sole responsibility of the customer. The customer shall provide all means and methods necessary for compliance with Infection Control (IC) and Interim Life Safety Measures (ILSM) in connection with the construction and installation/operation of the products shown herein and shall bear any expenses related to same.</div></div></div><div>(12.0)</div></div>	<div><div>Minimum Site Preparation Requirements</div><div><div><div>1. Walls to be painted or covered, baseboards installed, floors to be tiled and/or covered, ceiling shall have grid tiles and lighting fixtures installed and operational.</div><div>2. Doors and windows, especially radiation protection barriers, installed and finished with locksets operational.</div><div>3. All electrical convenience, conduit, raceway, knockouts, cable openings, chase nipples, and junction boxes installed and operational.</div><div>4. Incoming mains power operational and connected to room x-ray breaker.</div><div>5. 115v convenience outlets operational.</div><div>6. All support structure correctly installed. All channels, pipes, beams and/or other supporting devices should be level, parallel, and free of lateral or longitudinal movements.</div><div>7. All contractor supplied cables pulled and terminated.</div><div>8. A dust-free environment in and around the procedure room.</div><div>9. All HVAC (heating, ventilating and air conditioning) installed and operational as per specifications.</div><div>10. Architectural features such as computer floor, wood floor, casework, bulkheads, installed and finished. When technical cabinets are installed in a closet with doors, it is suggested that the customer install a temperature alarm in the event of an air conditional failure.</div><div>11. All plumbing installed and finished.</div><div>12. Philips does not install or connect developing tanks, automatic processors or associated equipment, built in illuminators, cassette pass boxes, loading benches and cabinets, lead protective screens, panels or lead glass window and frame. This is to be done by the customer/contractor.</div><div>13. Clear door openings for moving equipment into the building must be 42" (1067mm) W x 82" (2083mm) H min. 48" (1219mm) W x 82" (2083mm) H rec., Or larger contingent on an 8'-0" (2438mm) corridor width.</div><div>14. Countertop is 30" (765mm) for seated height and 36" (915mm) for standing height.</div></div><div><div>Note</div><div>Once Philips has moved equipment into the suite and started the installation, the contractor shall schedule his work around the Philips installation team on site. It is suggested that a telephone be provided in the room to receive telephone calls. This would alleviate facility staff from answering calls for Philips personnel.</div></div><div><div>Remote Service Diagnostics</div><div>Medical imaging equipment to be installed by Philips Medical is equipped with a service diagnostic feature which allows for remote and on site service diagnostics. To establish this feature, a RJ45 type ethernet 10/100/1000 Mbit network connector must be installed as shown on plan. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. All cost with this feature are the responsibility of the customer.</div></div></div><div>(12.0)</div></div>	<div><div>HVAC Requirement for General Equipment Locations</div><div><div>Heating, ventilation, air conditioning requirement for general equipment locations must maintain temperature at 72° ± 5° Fahrenheit (22° ± 3° Celsius) and non-condensing relative humidity at 20% - 80% with 10% max. variation.</div><div>Equipment's designed airflow is from bottom to top and front to back. Please design the air handling in the rack cabinet equipment area accordingly.</div></div><div>(12.0)</div></div> <div><div><div>Electrical Requirements</div><div>Velara with PDU 4000</div><div><div>Power Output:100KW</div><div>Supply Configuration:3 phase, identical 3 wire power and ground, delta or wye 3 phase, identical 3 wire power and ground, with neutral, wye (without PDU 4000)</div><div>Nominal Line Voltage:480 VAC, 60 Hz</div><div>Branch Powe Requirement:225 KVA</div><div>Circuit Breaker:3 pole, 125 Amps</div></div></div><div>(14.0)</div></div> <div><div><div>Remote Control of Room Lighting</div><div>The control of customer lighting must incorporate an electrical isolation system such as demonstrated on Sheet ED2. Lighting scheme is the responsibility of the customer.</div></div><div>(12.0)</div></div> <div><div><div>Project Details</div><div>Drawing Number N-EAS131654 G Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move</div></div><div><div>Philips Contacts</div><div>Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com Drawn By: Sam Chong</div></div><div><div>Project</div><div>Allura FD10 Ceiling WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1</div></div></div>
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Equipment Legend				
↓	<div>A Furnished and installed by Philips B Furnished by customer/contractor and installed by customer/contractor C Installed by customer/contractor D Furnished by Philips and installed by contractor E Existing equipment to be relocated F Future G Optional item furnished by Philips</div>			
	Equipment Designation		Detail Sheet	
		Description	Weight (lbs)	Heat Load (btu/hr)
E	SP	Poly G Stand (Ceiling Version)	2387	1195 AD2
E	MSA	Angio Diagnost 7 with Pivot and Tilt	1693	205 AD2
E	MG	Velara Generator 40E Cabinet	510	2971 AD3
E	MP	Peripheral 40E Cabinet	510	2049 AD3
E	MA	Mains 40E Cabinet	710	4439 AD3
E	PBK	PDU 4000/UPS	860	2450 AD3
E	CY	Viewing/Control	126	567 AD3
E	DB	Documentation Box - Mounted on Wheels (Final location to be coordinated with customer and/or local Philips Service)	176	0 AD4
E	ATY	Exam Room Auxiliary Box	7	1.7 AD4
E	TV	Six LCD Monitor Suspension	665	1020 AD4
E	MAV	Mavig Ceiling Track w/ Radiation Shield and Mach 3 Surgical Light	167	350 AD5
E	TR	Mach 3 Transformer	17	- AD5
E	IH	Interventional Hardware	73	2424 AD5
E	VB1	Video Connection Box	2	- AD4
E	VB4	Video Connection Box	2	- AD4
E	IC	Injector Room Console	43	160 AD6
E	RIC	Injector Remote Panel	5	160 AD6
E	INJ	Medrad Universal T-Rail Bracket for Injector Head (Not shown on plan)	-	-

AL

Project Details

Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

Philips Contacts

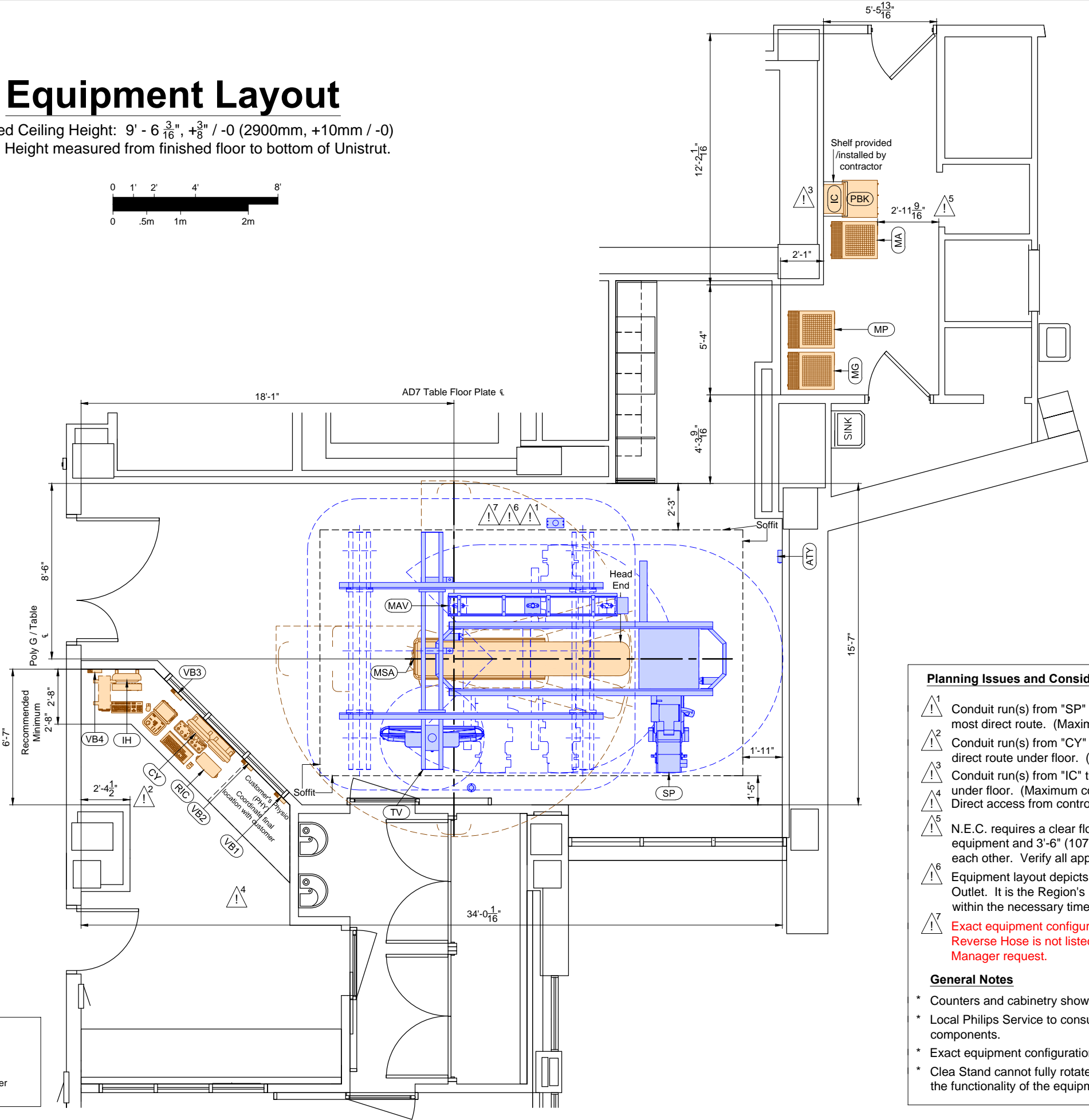
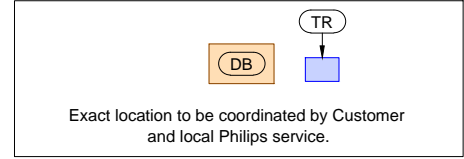
Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com
Drawn By: Sam Chong

Project

Allura FD10 Ceiling
WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1



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Planning Issues and Considerations

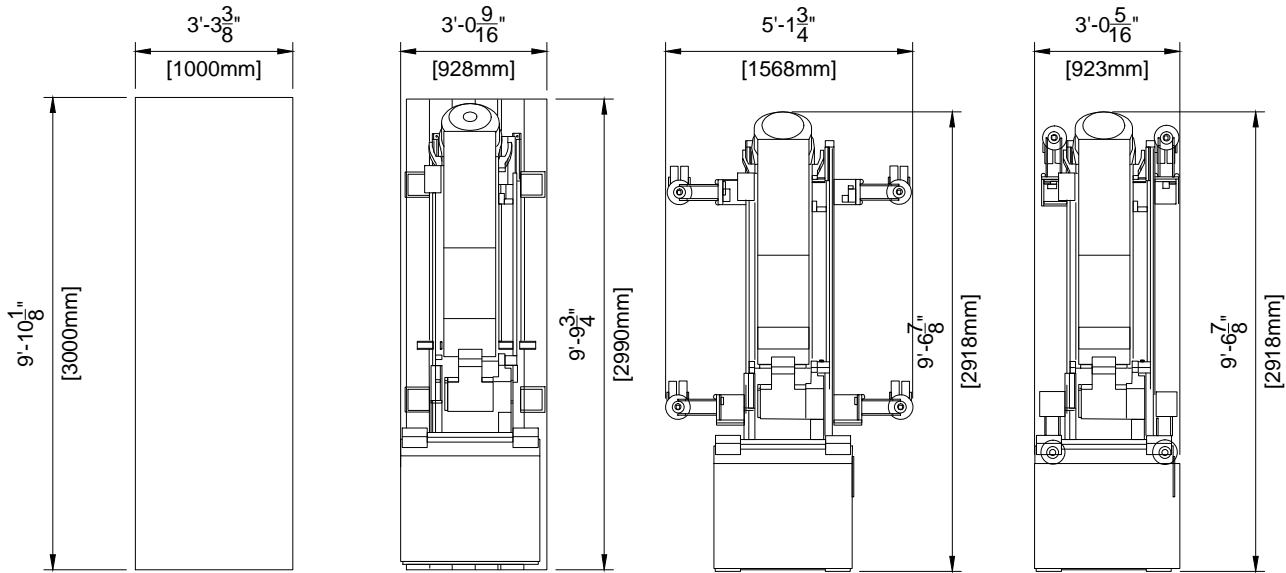
- Conduit run(s) from "SP" to "MG", "MP" and "MA" must be able to take the most direct route. (Maximum conduit length = 29', 31' and 36' respectively)
- Conduit run(s) from "CY" to "MP" and "MA" must be able to take the most direct route under floor. (Maximum conduit length = 50' and 55' respectively)
- Conduit run(s) from "IC" to "RIC" must be able to take the most direct route under floor. (Maximum conduit length = 50')
- Direct access from control area to exam room will not be available.
- N.E.C. requires a clear floor space of 3'-0" (915mm) in front of electrical equipment and 3'-6" (1070mm) in front electrical equipment when facing each other. Verify all applicable code(s) with the architect of record.
- Equipment layout depicts the Poly G Stand with the Reverse Hose Cable Outlet. It is the Region's responsibility to ensure that the order is place within the necessary time frame.
- Exact equipment configuration to be verified with local Philips Sales. Reverse Hose is not listed on order but is shown due to Philips Project Manager request.

General Notes

- * Counters and cabinetry shown to be supplied and installed by contractor.
- * Local Philips Service to consult with customer for final placement of control desk components.
- * Exact equipment configuration to be verified with local Philips Service.
- * Clea Stand cannot fully rotate in its parked position. However, this will not affect the functionality of the equipment.

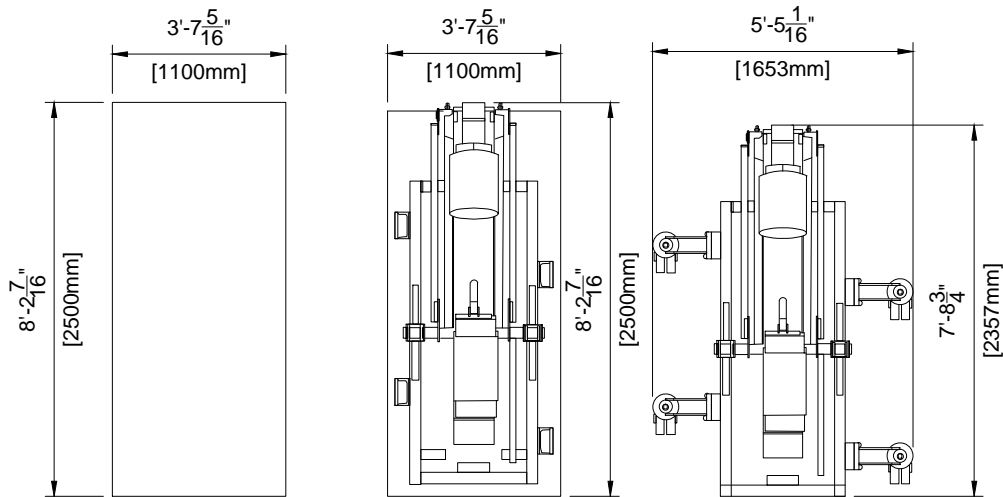
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Drawing Number	N-EAS131654 G	Allura FD10 Ceiling
Date Drawn:	5/4/2015	WM S. Middleton Memorial VA Hospital
Quote:	Room Move	Madison, WI
Order:	Room Move	Room: New Cath Lab 1

Detail - Poly Diagnost G Ceiling (L-ARM) Transport Details



Transport Possibilities				
	Crate	Pallet	Kick Wheels Wide	Kick Wheels Small
Height	57.09" (1450mm)	54.80" (1392mm)	49.25" (1251mm)	49.25" (1251mm)
Weight	2033 lbs (922 kg)	1911 lbs (867 kg)	1764 lbs (800 kg)	1764 lbs (800 kg)

Detail - Poly Diagnost G (C-ARM) Transport Details



Transport Possibilities			
	Crate	Pallet	Klick Wheels
Height	77.95" (1980mm)	75.59" (1920mm)	70.08" (1780mm)
Weight	2028 lbs (920 kg)	1907 lbs (865 kg)	1764 lbs (800 kg)

AD1

Project Details

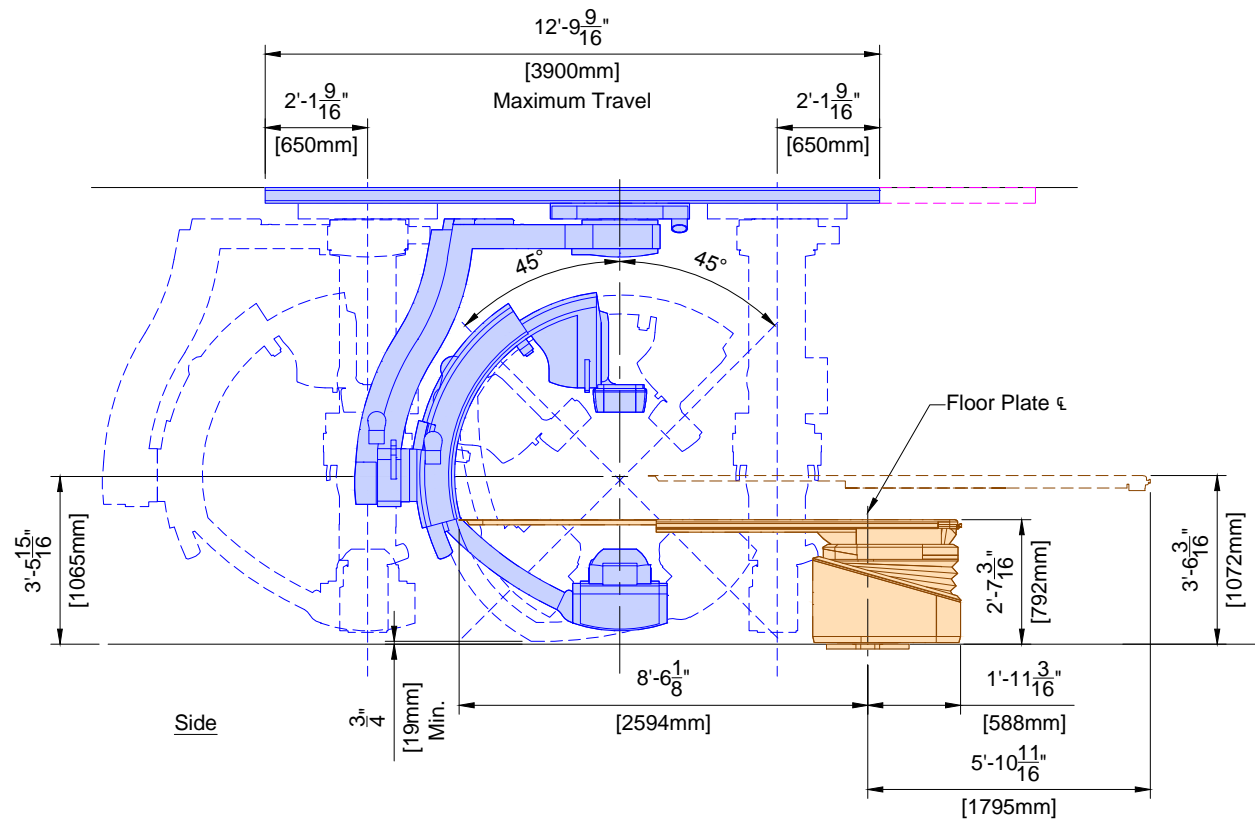
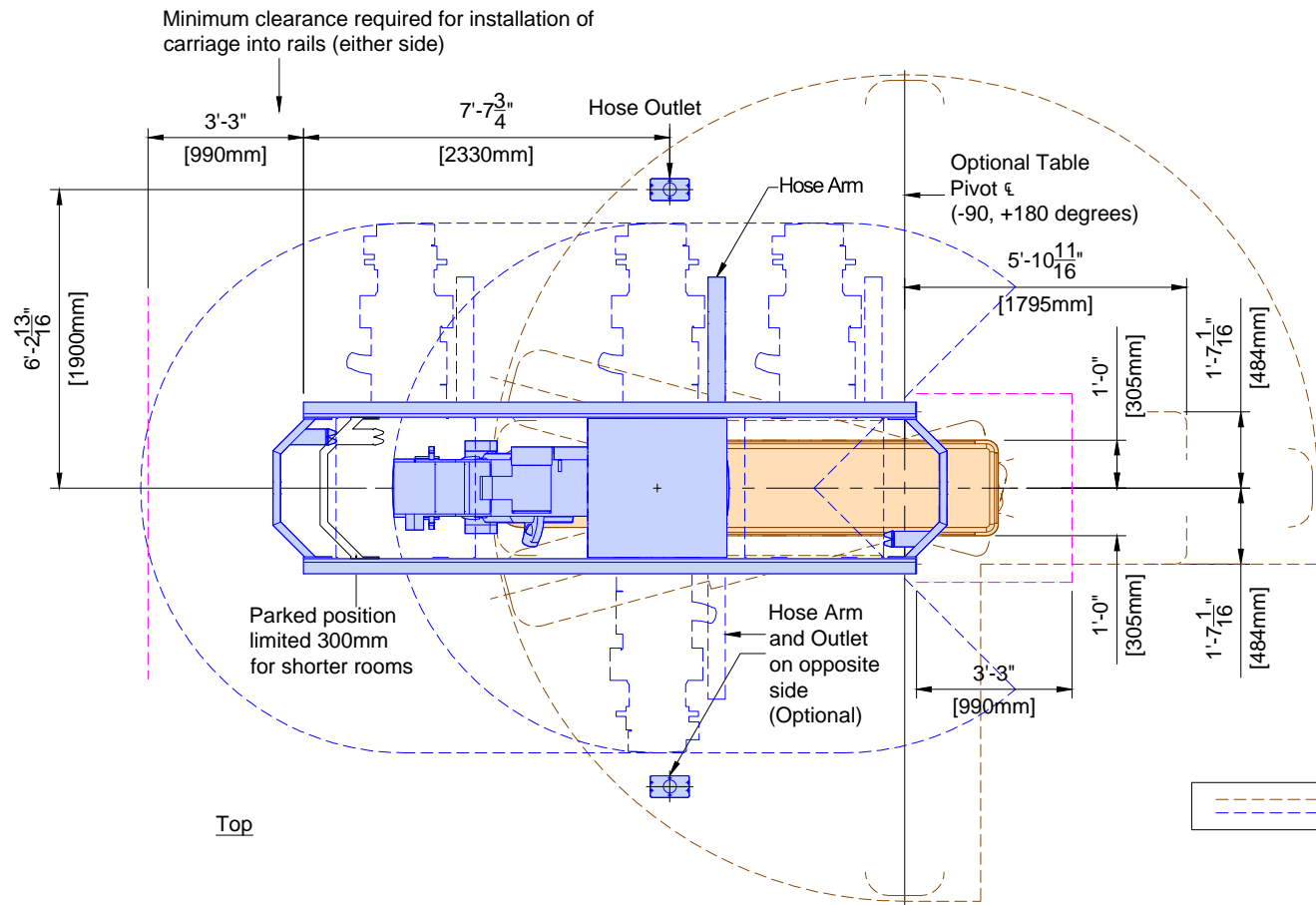
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Drawn By: Sam Chong

Project

Allura FD10 Ceiling
WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1



SP	Poly G Stand (Ceiling Version) (12.0)	
	Weight	Heat Dissipation
	2387 lbs	1195 btu/hr

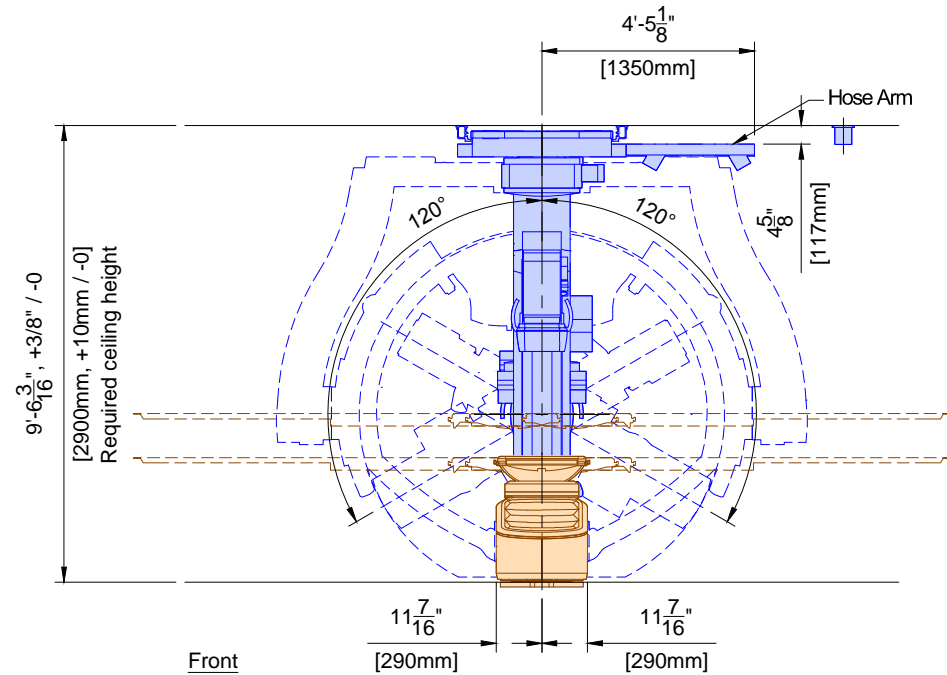
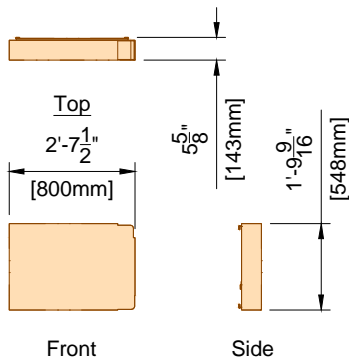
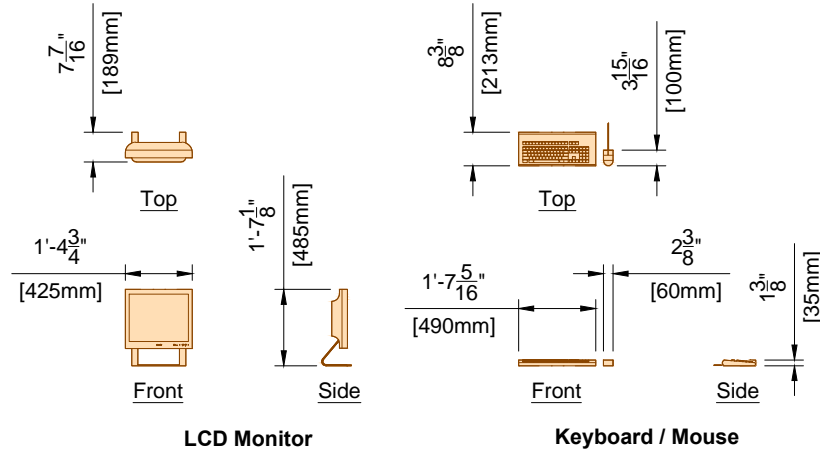
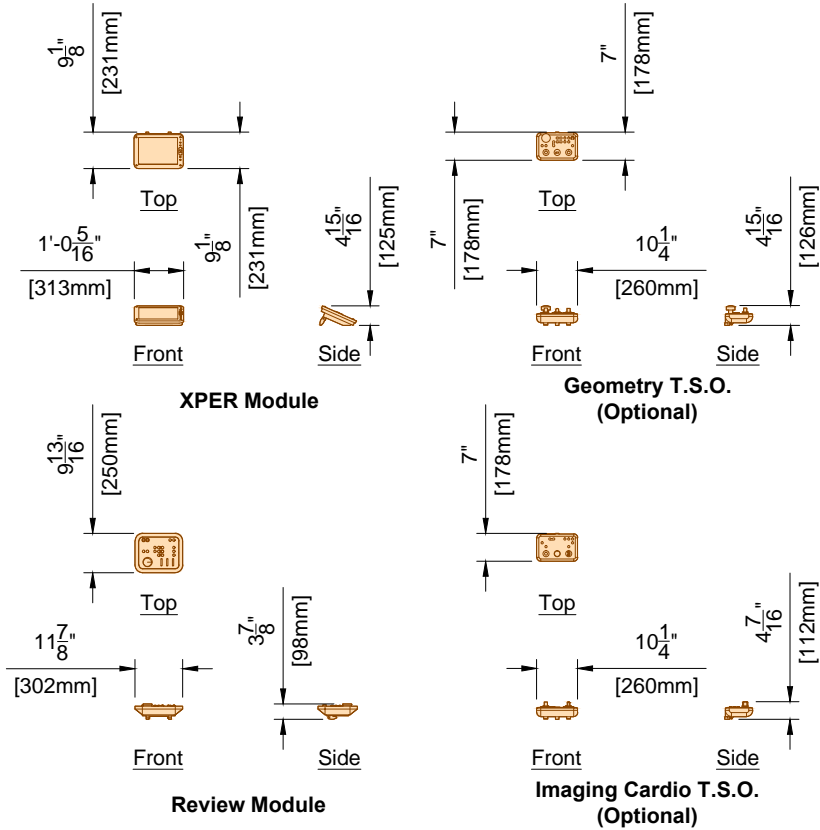


Table Pivot is optional. This allows the table to rotate -90, +180 degrees about center of table base.

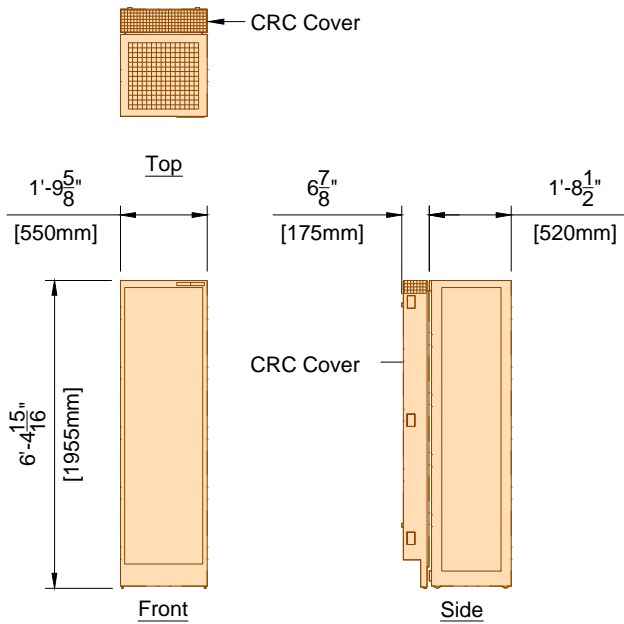
MSA	Angio Diagnost 7 (12.0)	
	Weight	Heat Dissipation
	1693 lbs	205 btu/hr

Project Details	Philips Contacts	Project	AD2
Drawing Number N-EAS131654 G	Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com	Allura FD10 Ceiling WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1	
Date Drawn: 5/4/2015	Drawn By: Sam Chong		
Quote: Room Move			
Order: Room Move			



CY	View/Control (All Components)	
	Weight	Heat Dissipation
	126 lbs	567 btu/hr

(12.0)

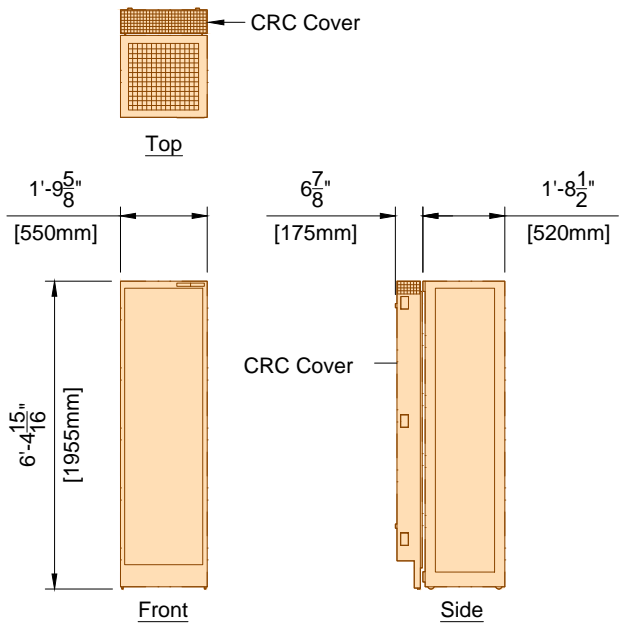


The CRC Cover must be attached to the 40E rack only, not to the wall.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

MA	Mains 40E Cabinet	
	Weight	Heat Dissipation
	826 lbs	5464 btu/hr

(12.0)

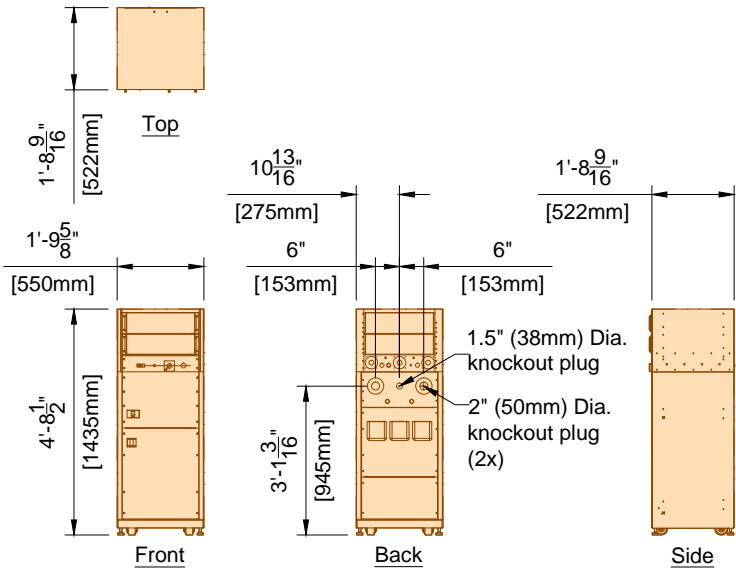


The CRC Cover must be attached to the 40E rack only, not to the wall.

Acoustic noise level: <= 65 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

MP	Peripheral 40E Cabinet	
	Weight	Heat Dissipation
	510 lbs	2049 btu/hr

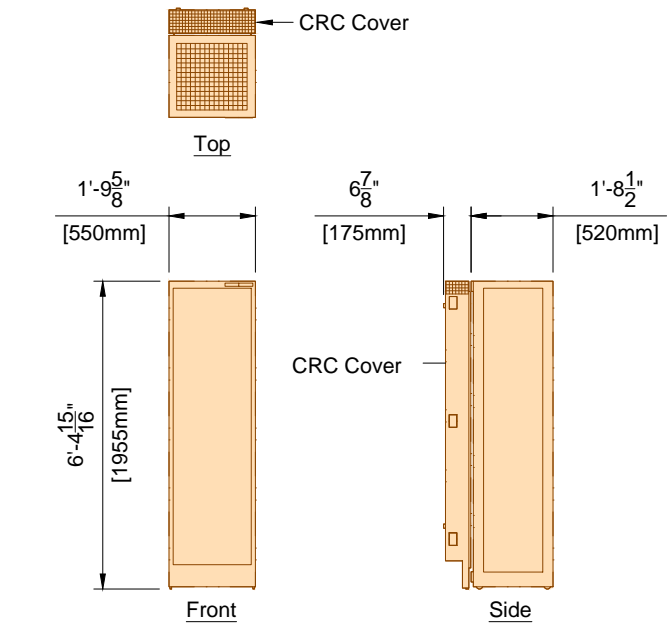
(12.0)



Acoustic noise level: <= 50 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

PBK	PDU 4000/UPS	
	Weight	Heat Dissipation
	860 lbs	2450 btu/hr

(12.0)



The CRC Cover must be attached to the 40E rack only, not to the wall.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

MG	Velara Generator 40E Cabinet	
	Weight	Heat Dissipation
	510 lbs	2971 btu/hr

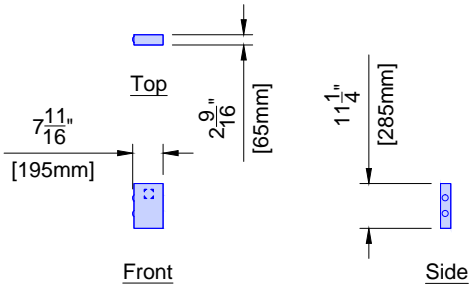
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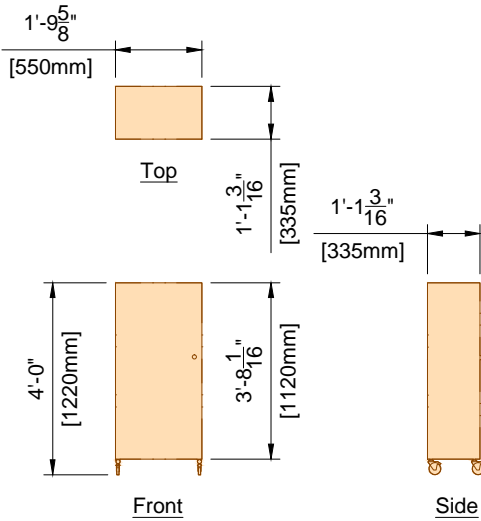
Project
Allura FD10 Ceiling
WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1

AD3



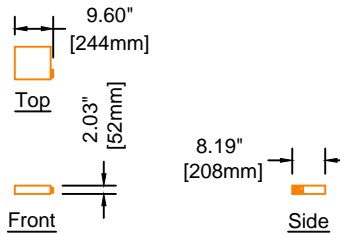
ATY	Auxiliary Box	
	Weight	Heat Dissipation
	7 lbs	1.7 btu/hr

(12.0)



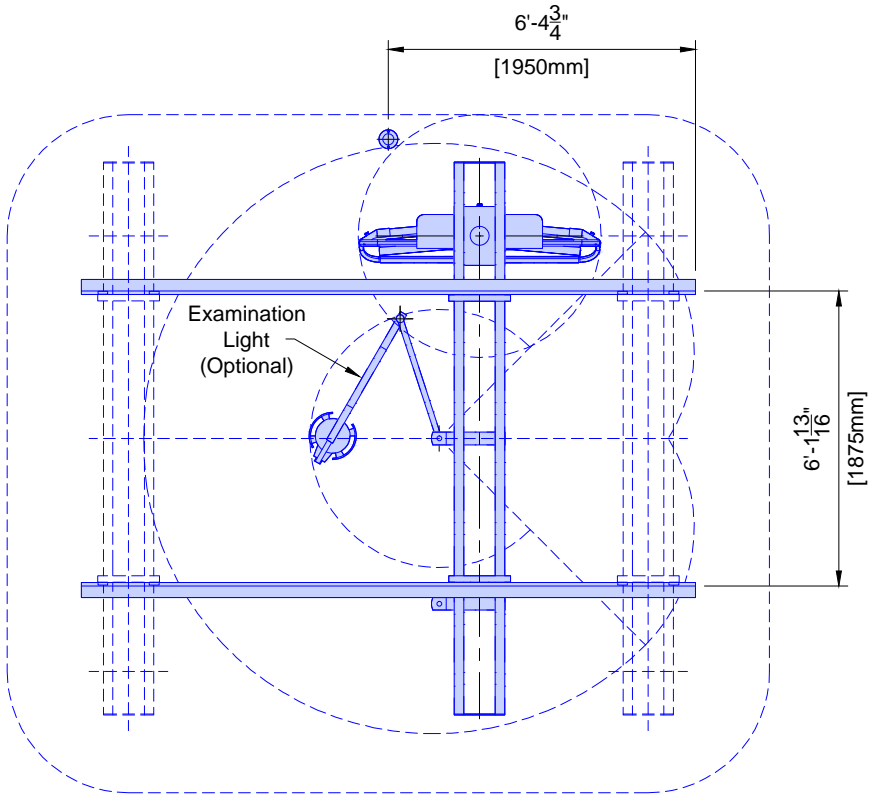
DB	Documentation Box	
	Weight	Heat Dissipation
	176 lbs	0 btu/hr

(12.0)

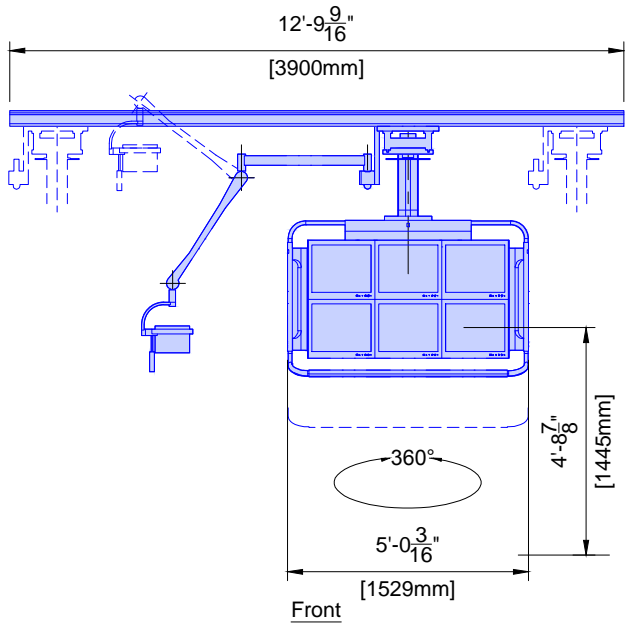


Video Connection Box		
VB1 - VB4	Weight	(0.9 kg)
	2 lbs	
	Heat Dissipation	- Btu/hr (- kcal/hr)

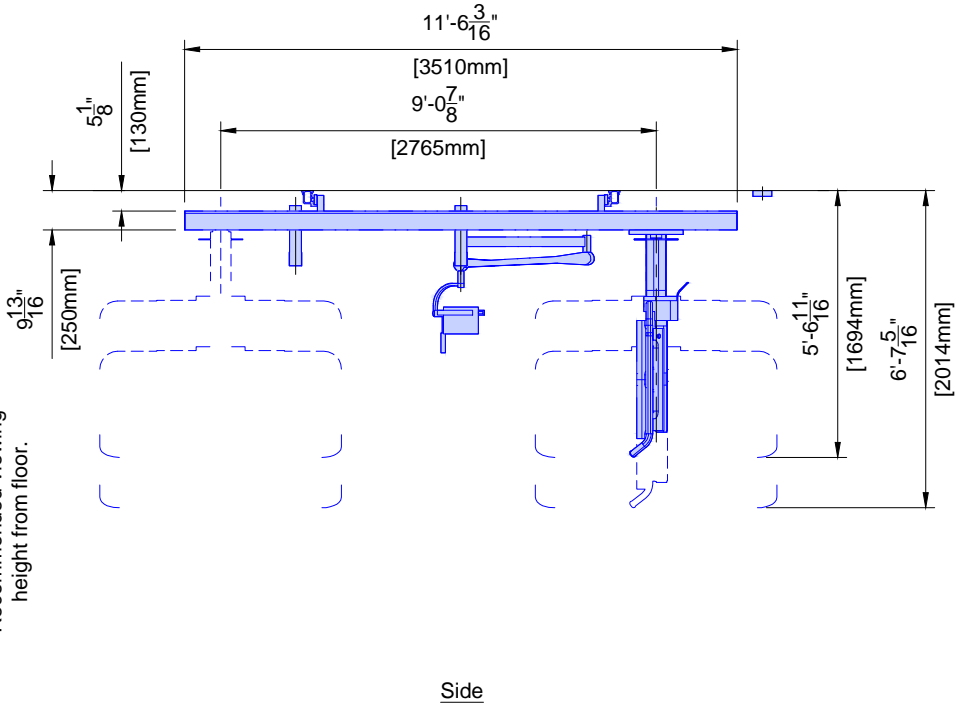
(08.0)



Bearing Forces:
(Tension) Tmax = 661 lbs/support
(Shear) Vmax = 150 lbs/support



Recommended viewing
height from floor.



For swing labs, 2700mm long ceiling rails are delivered. Maximum longitudinal column travel = 2100mm.
Weight shown is total weight including monitors, suspension, cabling, and options.

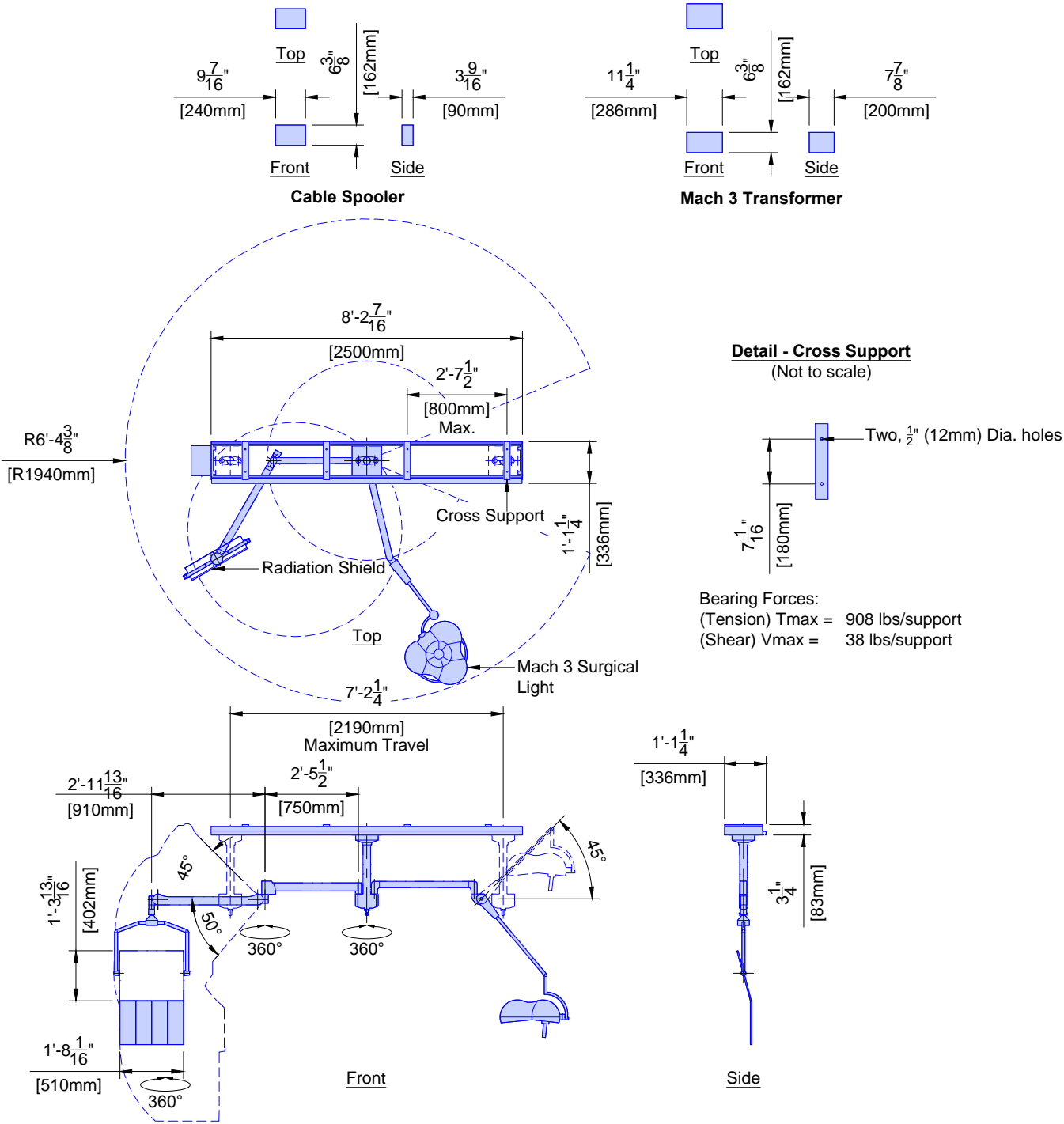
TV	Six LCD Monitor Suspension	
	Weight	Heat Dissipation
	665 lbs	1020 btu/hr

(12.0)

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		WM S. Middleton Memorial VA Hospital Madison, WI
		Room: New Cath Lab 1

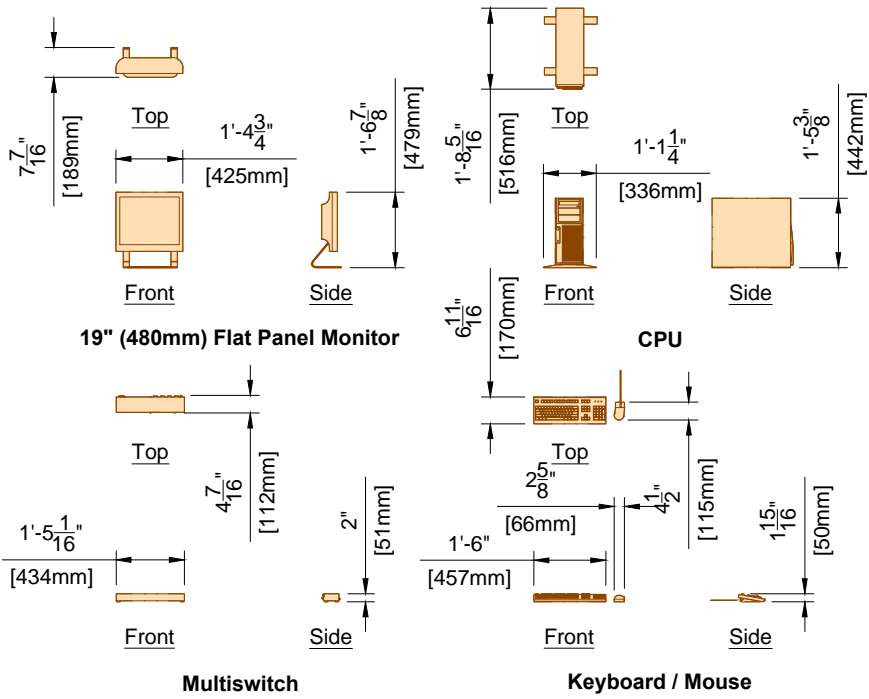
AD4

PHILIPS



Note: For Integris Systems, the post of the Rad Shield post needs to be mounted on the head-end of the table in relation to the Monitor Suspension transverse carriage.

C4	MAV	Mavig Ceiling Track (12.0)		TR	Mach 3 Transformer (12.0)	
		Weight	Heat Dissipation		Weight	Heat Dissipation
		167 lbs	350 btu/hr		17 lbs	- btu/hr



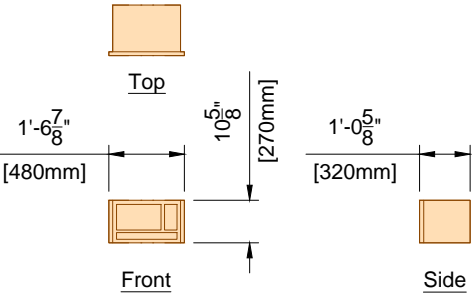
Weight shown is for all components.

IH	Interventional Hardware (12.0)	
	Weight	Heat Dissipation
	73 lbs	2424 btu/hr

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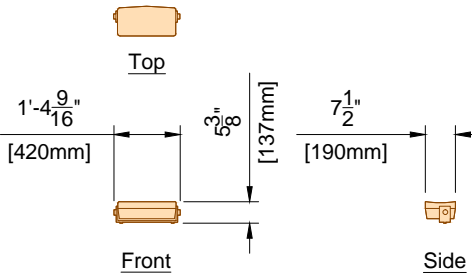
AD5

PHILIPS



IC	Injector Room Console	
	Weight	Heat Dissipation
	43 lbs	160 btu/hr

(12.0)



RIC	Injector Remote Panel	
	Weight	Heat Dissipation
	5 lbs	160 btu/hr

(12.0)

AD6

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Drawn By: Sam Chong

Project
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WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1

PHILIPS

THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.		Equipment Support Information	
		<div><div><div><div><div>1. General</div><div>The customer shall be solely responsible, at its expense, for preparation of the site, including any required structural alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and building codes. The customer shall be solely responsible for obtaining all construction permits from jurisdictional authority.</div></div><div><div>2. Equipment Anchorage</div><div>Philips provides, with this plan and specifications, information relative to equipment size, weight, shape, anchoring hole locations and forces which may be exerted on anchoring fasteners. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of equipment anchoring to floors, wall and/or ceiling of the building. Any anchorage test required by local authority shall be the customer's responsibility. Stud type anchor bolts should not be specified as they hinder equipment removal for service. Consult with Philips service prior to specifying anchor methods.</div></div><div><div>3. Floor Loading and Surface</div><div>Philips provides, with this plan and specifications, information relative to size, weight and shape of floor mounted equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings confirmation of the structural adequacy of the floor upon which the equipment will be placed. Any load test required by local authority, shall be the customer's responsibility. The floor surface upon which Philips equipment is to be placed/anchored shall be flat and level to within plus or minus $\frac{1}{16}$" (2mm) over a length of 39" (1m).</div></div><div><div>4. Ceiling Support Apparatus</div><div><div>a. Philips provides, with this plan and specifications, information relative to size, weight and shape of ceiling supported equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of structural support apparatus, fasteners and anchorage to which Philips will attach equipment. Any anchorage and/or load test required by local authority shall be the customer's responsibility.</div><div>b. Contractor to clearly mark Philips equipment longitudinal centerline on bottom of each structural support.</div><div>c. The structural support apparatus surface to which Philips equipment is to be attached, shall have horizontal equipment attachment surfaces parallel, square and level to within plus or minus $\frac{1}{16}$" (2mm) per entire span.</div><div>d. Any drilling and/or tapping of holes required to attach Philips equipment to the structural support apparatus shall be the responsibility of the customer.</div><div>e. Fasteners/anchors (i.e., bolts, spring nuts, lock and flat washers) and strip closures shall be provided by the customer.</div></div></div><div><div>5. Lighting</div><div>Lighting fixtures shall be placed in such a position that they are not obscured by equipment or its movement, nor shall they interfere with Philips ceiling rails and equipment movement or otherwise adversely affect the equipment. Such lighting fixture locations shall be the sole responsibility of the customer.</div></div><div><div>6. Ceiling Obstructions</div><div>There shall be no obstructions that project below the finished ceiling in the area covered by ceiling suspended equipment travel.</div></div><div><div>7. Seismic Anchorage (For Seismic Zones Only)</div><div>All seismic anchorage hardware, including brackets, backing plates, bolts, etc., shall be supplied and installed by the customer/contractor unless otherwise specified within the support legend on this sheet. Installation of electronic cabinets to meet seismic anchorage requirements must be accomplished using flush mounted expansion type anchor/bolt systems to facilitate the removal of a cabinet for maintenance. Do not use threaded rod/adhesive anchor systems. Consult with Philips regarding any anchor system issues.</div></div><div><div>8. Floor Obstructions/ Floor Coverings</div><div>There shall be no obstructions on the floor (sliding door tracks, etc.) in front of the Philips technical cabinets. Floor must be clear to allow cabinets to be pulled away from the wall for service. Contractor to verify with Philips the preferred floor covering installation method.</div></div><div><div>9. Safety Factors</div><div>In a worst case situation the dynamic bolt force of a floor or ceiling must be multiplied by factor 4. (static bolt force of the ceiling must be multiplied by factor 8). All safety factors are included in the bearing force values in sheet SD1.</div></div><div><div>10. Stiffness Requirements of Ceiling</div><div>Stiffness: 10,000,000 Newton/meter - 57.1 klb/in Stiffness: 20,000,000 Newtonmeter/Rad - 177,014 (klb in)/Rad The maximum deflection on the Philips rails must not exceed 0.04" (1mm) caused by the static load (weight) of the ceiling stand</div></div><div><div>11. Vibration</div><div>The maximal allowed external frequency that will not destroy the image quality of our equipment is:<div><div>a. 0 Hz till 20 Hz (frequency area of our equipment) - Displacement amplitude is smaller than 0.005mm</div><div>b. Greater than 20 Hz - Displacement amplitude is smaller than 0.01mm</div></div></div></div></div></div><div>(13.0)</div></div>	

PHILIPS

Project	Philips Contacts	Project Details
Allura FD10 Ceiling	Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com	Drawing Number N-EAS131654 G Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move
WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1	Drawn By: Sam Chong	SN

See S1 for Floor & Wall Support Layout

Notes:

1. Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor.
2. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed in this document, the anchors shall be provided by customer/contractor and installed by Philips.
3. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

See S2 for Ceiling Support Layout

Floor & Wall Support Legend			
A Furnished and installed/anchored by Philips (exceptions may exist, see Note 2) B Furnished and installed by customer/contractor and installed/anchored by customer/contractor C Installed/anchored by customer/contractor D Furnished by Philips and installed/anchored by contractor E Existing equipment to be relocated F Future G Optional			
	Item Number	Detail Sheet	
		Description	
E	F1	AD7 Universal Floor Plate	SD1
B	F2	Support in wall for Control Room Connection Box (CY)	SD3
E	F2	Anchors in wall for Control Room Connection Box (CY)	SD3

Ceiling Support Legend			
A Furnished and installed by Philips B Furnished by customer/contractor and installed by customer/contractor C Installed by customer/contractor D Furnished by Philips and installed by contractor E Existing equipment to be relocated F Future G Optional			
	Item Number	Detail Sheet	
		Description	
E	C1	2 - Philips Poly G Rails	SD1 SD2
E	C2	2 - Philips Monitor Equipment Rails	SD2
B	C3	Unistrut (P1001 or equal) - Bottom of Unistrut $\frac{1}{4}$ " (6mm) Below Finished Ceiling	SD2
E	C4	Mavig Ceiling Track	AD5

SL

Project Details

Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

Philips Contacts

Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com
Drawn By: Sam Chong

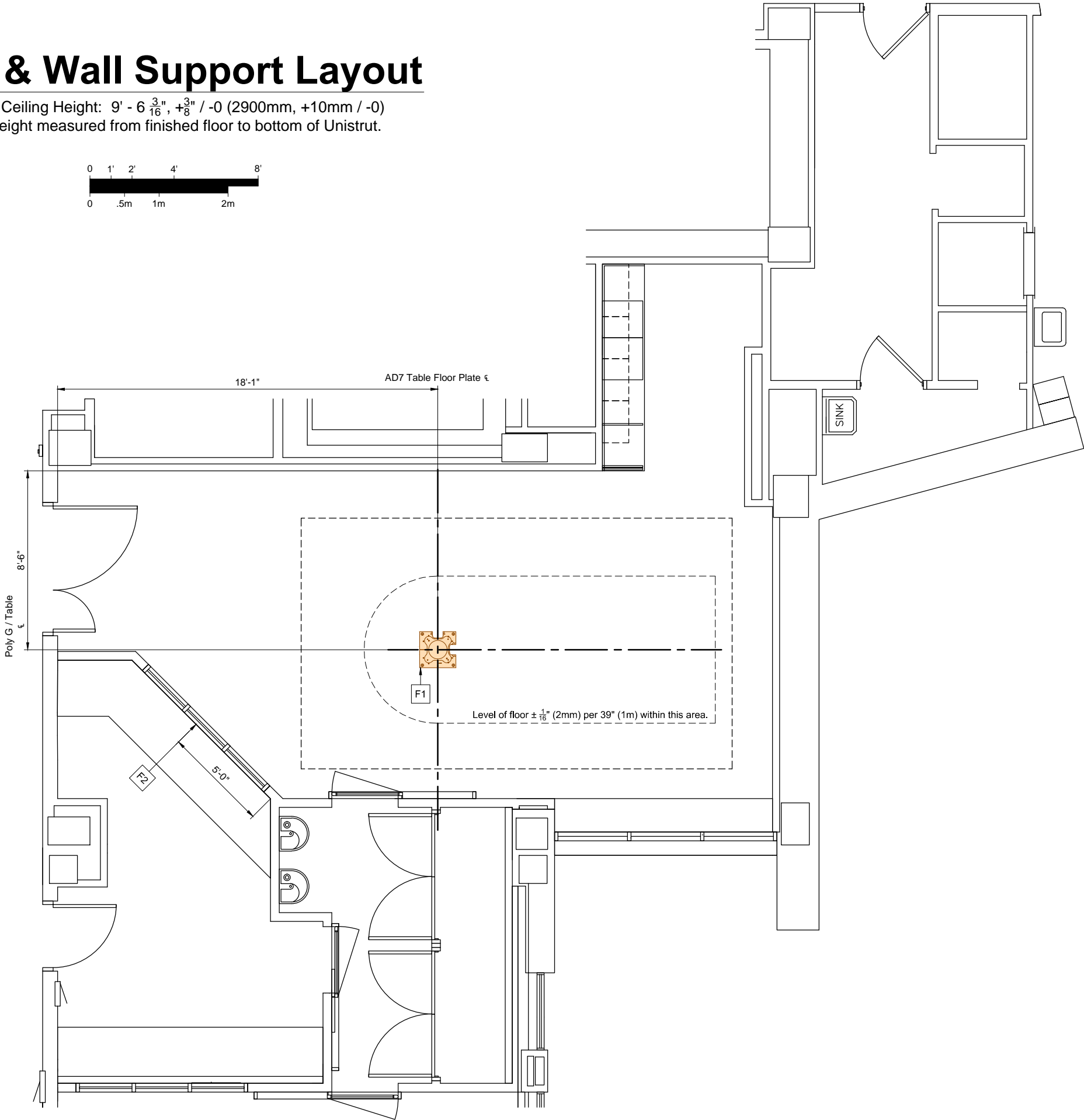
Project

Allura FD10 Ceiling
WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1



Floor & Wall Support Layout

Required Ceiling Height: 9' - 6 ³/₁₆" , +³/₈" / -0 (2900mm, +10mm / -0)
Ceiling Height measured from finished floor to bottom of Unistrut.



Refer to Floor/Wall Support Legend - Sheet SL

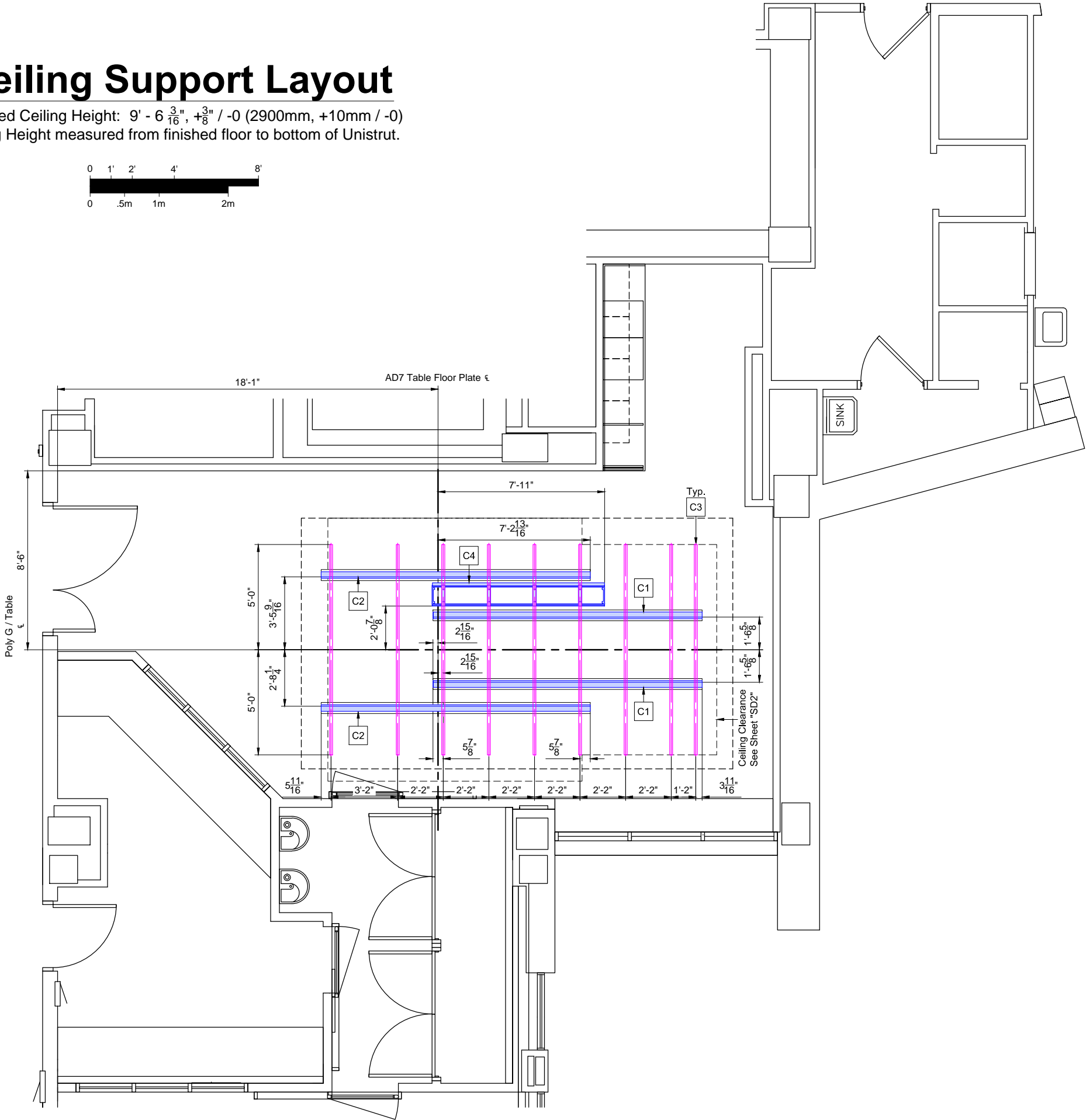
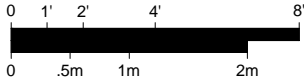
Project Details	Philips Contacts	Project
Drawing Number N-EAS131654 G	Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com	Allura FD10 Ceiling
Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move	Drawn By: Sam Chong	WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1

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THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

Ceiling Support Layout

Required Ceiling Height: 9' - 6 ³/₁₆" , +³/₈" / -0 (2900mm, +10mm / -0)
Ceiling Height measured from finished floor to bottom of Unistrut.

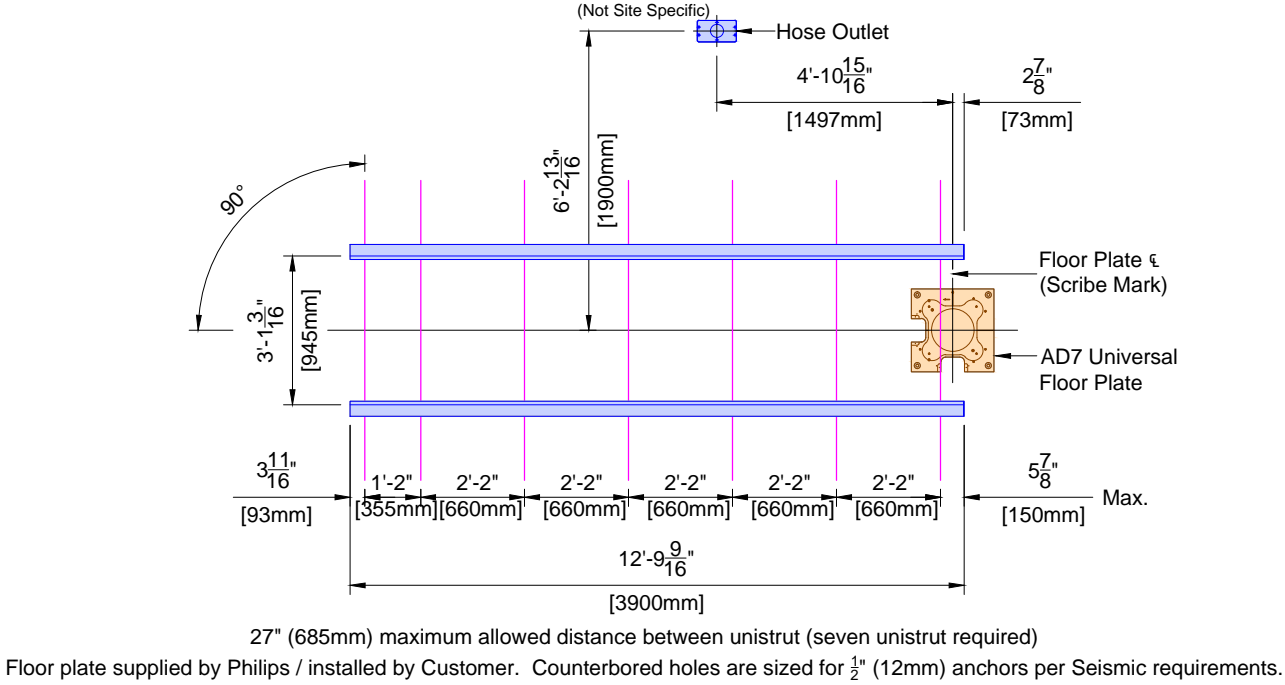


Refer to Ceiling Support Legend - Sheet SL

S2	Project Details Drawing Number N-EAS131654 G Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move	Philips Contacts Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com Drawn By: Sam Chong	Project Allura FD10 Ceiling WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1
----	--	---	--



Detail - Structural Allura FD10 (Ceiling)



Poly G

Poly G Bearing Forces:

(Tension) Tmax = 2639 lbs/support

(Shear) Vmax = 561 lbs/support

AD7 Table

Floor Plate to Floor Bolt Forces:

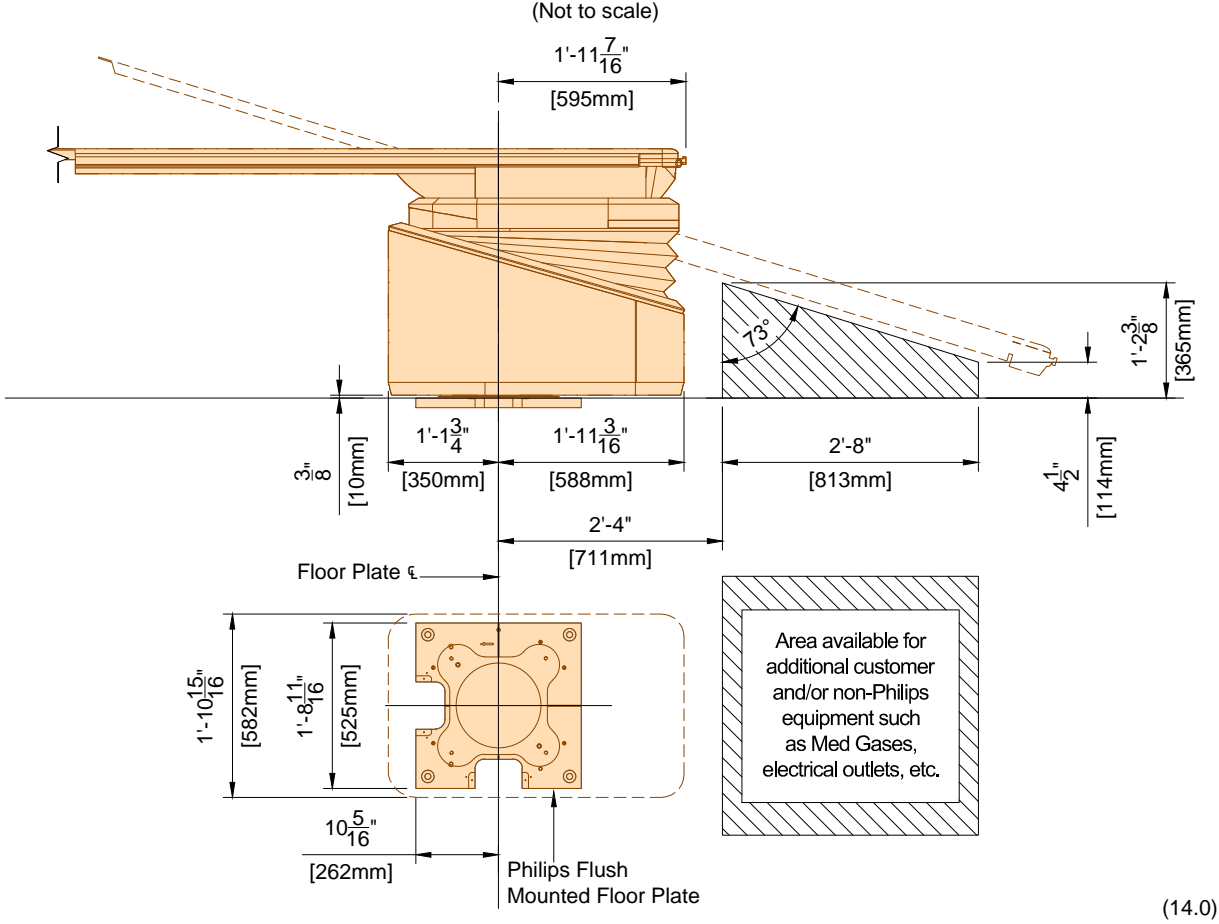
(Tension) Tmax = 1950 lbs/bolt

(Shear) Vmax = 776 lbs/bolt

Note: The bearing force shown for the Poly G is the maximum instantaneous equipment bearing load that can result from abusive use of the system. This force can occur at two locations simultaneously on the same Unistrut (or equal) rail. If seismic forces must be considered, please refer to the seismic calculation sheets provided by Philips for the specific system components.

F1 C1

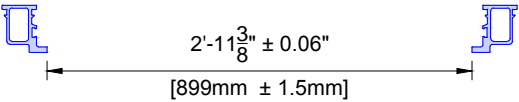
Detail - AD7 SyncraTilt/Tilt Table, Fixed/Pivot Base - Clearance Area



(14.0)

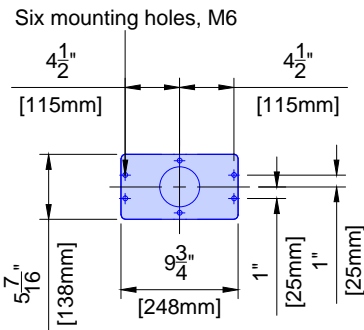
Detail - Clip Rail Spacing

(Not to scale)



Detail - Cable Hose Outlet

(Not to scale)

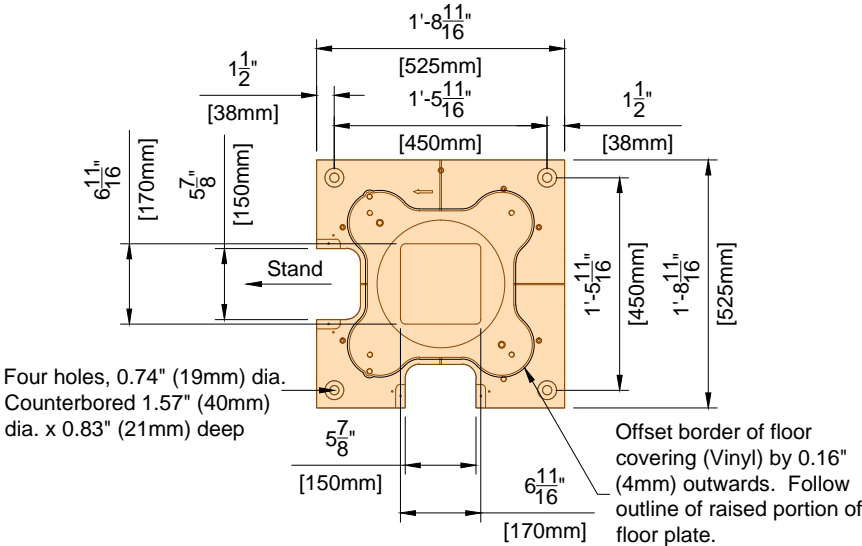


(12.0)

Detail - AD7 Universal Floor Plate - Notes for Installation

(Not to scale)

1. 1.18" (30mm) thick floor plate, flush mounted with top of slab.
2. Level within 1/16" (1.5mm) across surface of plate.



Floor plate mounting to the building:

In case threaded rods are used and the nut protrudes above the floor plate surface, DO NOT GRIND DOWN THE NUT, but follow the procedure stated below to ensure the nut is flush with the floor plate surface.

1. Use Jam nuts M16 (h=8.0mm) or (h=9.5mm)
2. Use only 1 washer.
3. Use loctite 243 instead of a lock washer.
4. Use fastening torque wrench between 40 and 50 Nm.

F1

(12.0)

Project

Allura FD10 Ceiling

WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1

Philips Contacts

Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com

Drawn By: Sam Chong

Project Details

Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

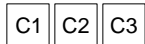
SD1

PHILIPS

(Not to scale)



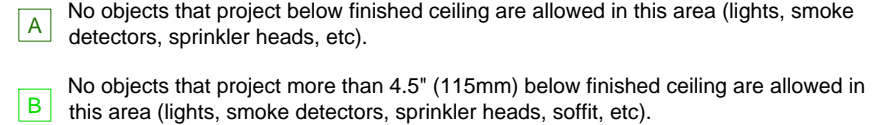
(Not to scale)



- Philips does not specify the overhead equipment support structure. Unistrut (or equal) may or may not be used. If Unistrut are used, it is up to Unistrut and the structural engineer for the project to determine which of its products are appropriate for each project.
- Finished ceiling must **NOT** be lower than the bottom of the Unistrut in order to prevent damage to the finished ceiling during the installation of clip rails. Finished ceiling height to be mounted $\frac{1}{4}$ " (6mm) above bottom of Unistrut.
- Nothing shall be attached to the Unistrut with any fastener that protrudes into the Unistrut which would interfere with positioning of the fixing block.
- Fixing blocks for Philips ceiling rails (Clip rails) are designed to be installed in P1001 Unistrut.
- The inside of the Unistrut must be clear of obstructions (including paint).
- Unistrut elements must be rigid and comply with the ceiling structure requirements. See SN sheet, line #4 "Ceiling Support Apparatus".
- Welding Unistrut may warp Unistrut and deteriorate the structural integrity of the Unistrut. Consult the Structural Engineer of Record prior to welding any Unistrut.

(12.0)

(Not site specific)



(12.0)

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THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

Project
Allura FD10 Ceiling
WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1

Philips Contacts

Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com

Drawn by: Sam Chung

Project Details

Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

SD2

2	Quote: Room Move	Drawn By: Sam Chong	Madison, WI Room: New Cath Lab 1
	Order: Room Move		

THE DRAWINGS AND RELATED INSTRUCTIONS PROVIDED BY PHILLIPS ARE ACCEPTABLE FOR USE BY THE HOSPITAL'S ARCHITECT OR ENGINEER TO USE FOR THE DEVELOPMENT OF CONSTRUCTION DOCUMENTS.

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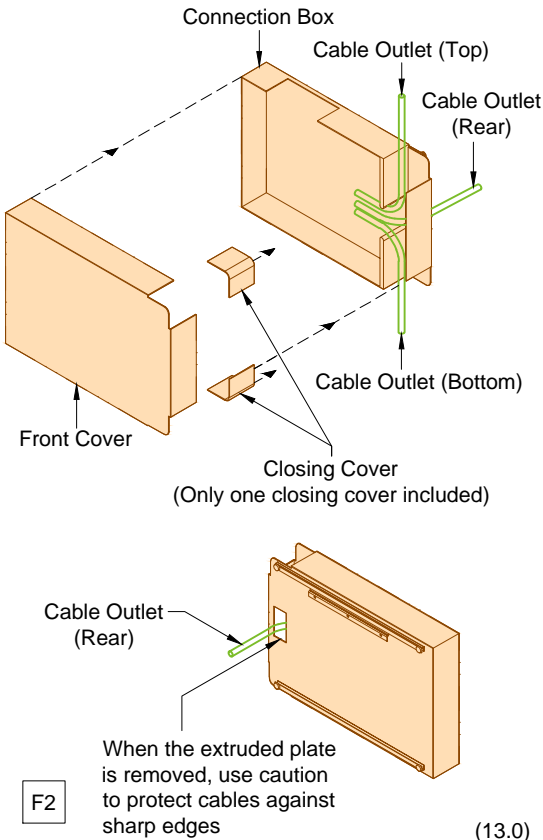
Pre-Evaluated and -Approved Anchor Reference List for Philips Installers

Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed below, the anchors shall be provided by customer/contractor and installed by Philips. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

Equipment	Option	Anchor Style (provided by Philips)	Anchor Size (provided by Philips)	Qty.	Support Size & Material (provided & installed by customer/contractor)
Mavig Ceiling Track	A	Bolts, flat washer, lock washer, spring nuts	A307 Grade or ASME Grade 5 Bolts: $\frac{3}{8}$ " (10mm) x 2" (50mm) L Spring Nuts: $\frac{3}{8}$ " (10mm)	8	Unistrut
Control Room Connection Box (IXR)	A	Round Phillips Head Self Drilling Screws	#10-16 x 1 $\frac{1}{2}$ " (38mm) L	3	Drywall with minimum 20 gauge Steel backing
	B	SPAX Multipurpose flat head screw	#10 x 1 $\frac{1}{2}$ " (38mm) L	3	Drywall with minimum 20 gauge Steel backing
	C	Toggler Snaptoggle and (round head screws)	#BA and (#10-24 x 2 $\frac{1}{2}$ " (63.5mm) L)	3	Minimum $\frac{5}{8}$ " (16mm) Drywall

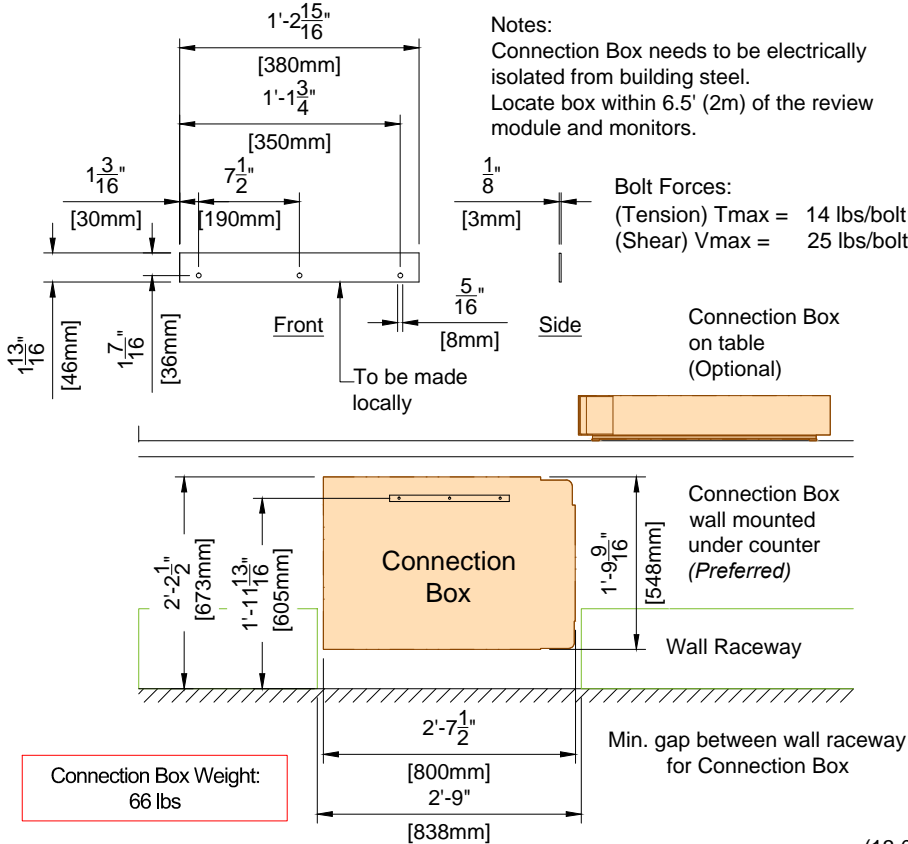
(12.0)

Detail - Connection Box - Cable Outlets
(Not to scale)



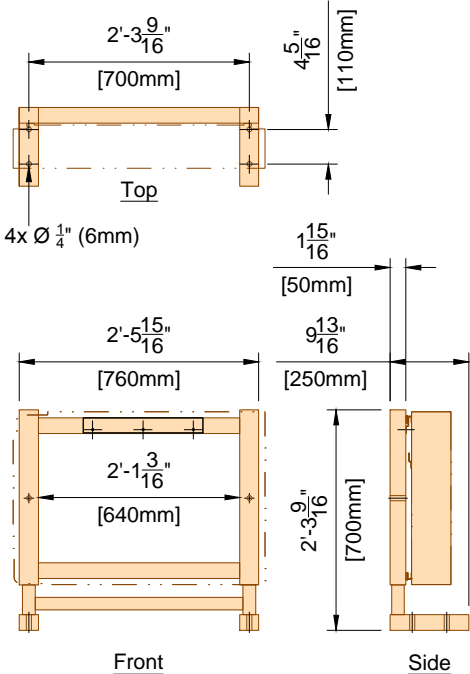
(13.0)

Detail - Connection Box - Wall Mount Template
(Not to scale)



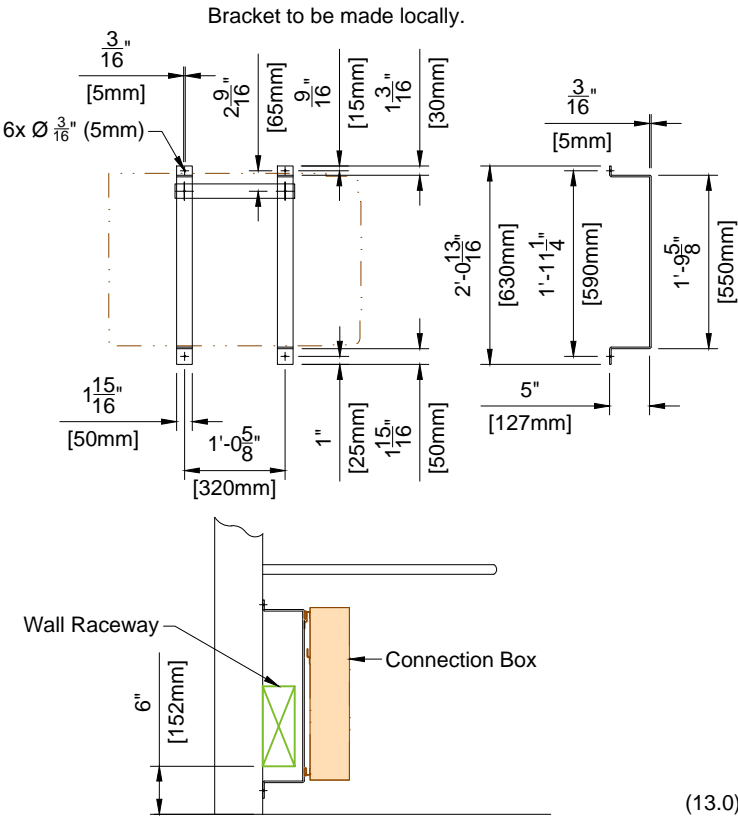
(13.0)

Detail - Connection Box Support Frame Option
(Not to scale)



(13.0)

Detail - Connection Box - Bracket Mount Option
(Not to scale)



(13.0)

Project	Allura FD10 Ceiling
Philips Contacts	Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com
Project Details	Drawing Number: N-EAS131654 G Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move
	WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1

SD3

PHILIPS

Emergency Power

Philips does not require equipment to be on emergency power. If the customer deems it necessary for the equipment to be supplied with emergency power, the following specifications must be applied:

The circuit protection for emergency power should be capable of handling a high initial surge of approximately 40 amps.

The transfer switch must be double actuator type with a minimum time delay of 400 milliseconds in both directions (utility to emergency - emergency to utility). This time is required to allow filters to dissipate their stored energy before a different mains voltage is applied. Russelectric type RMTD, Asco Series 7000 delayed transition transfer switch or equivalent is recommended.

To reduce the emergency power generator load demand, Philips equipment can be put into a lower power mode (5.5kVA fluoroscopy + 4kVA geometry) of operation by the connection of a potential free closure from the transfer switch. This potential free, normally open contact, has to be rated for 24VDC/100mA. For Philips cardio/vascular Integris equipment, the two wires from this contact have to be routed to the equipment area and connected to the System Coordinator cabinet (MA).

(12.0)

Electrical Requirement Notes for Systems with PDU

Electrical power distribution at the facility shall comply with:

Utilization voltages per ANSI C84.1 - 1982 range A.

Voltage to be supplied is 3 phase, delta or wye.

Phase conductors to be size for instantaneous voltage drop per NEC 517 - 73 and Philips recommendations.

Metal conduit shall not be used as the equipment ground conductor.

ANSI / NFPA 70 - National Electrical Code
Article 250 - Grounding
Article 517 - Healthcare Facilities
ANSI / NFPA 99 - Healthcare Facilities
NEMA standard XR9 - Power Supply Guideline for X-ray Machines

Power Quality Guidelines

1. Power supplied to medical imaging equipment must be separate from power feeds to air conditioning, elevators, outdoor lighting, and other frequently switched or motorized loads. Such loads can cause waveform distortion and voltage fluctuations that can hinder high quality imaging.
2. Equipment that utilizes the facility power system to transmit control signals (especially clock systems) may interfere with medical imaging equipment, thus requiring special filtering.
3. The following devices provide a high impedance, nonlinear voltage source, which may affect image quality:
 4. Static UPS systems, Series filters, Power conditioners, and Voltage regulators.
5. Do not install such devices at the mains supply to medical imaging equipment without consulting Philips installation or service personnel.
6. Line impedance is the combined resistance and inductance of the electrical system and includes the impedance of the power source, the facility distribution system, and all phase conductors between the source and the imaging equipment. Philips publishes recommended conductor sizes based on equipment power requirements, acceptable voltage drops, and assumptions about the facility source impedance. The minimum conductor size is based on the total line impedance and NEC requirements. Unless impedance calculations are performed by an electrical engineer, the recommended values must be used.

(12.0)

General Electrical Information

1. General

The customer shall be solely responsible, at its expense, for preparation of the site, including any required electrical alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and electrical codes, the customer shall be solely responsible for obtaining all electrical permits from jurisdictional authority.

2. Materials and Labor

The customer shall be solely responsible, at its expense, to provide and install all electrical ducts, boxes, conduit, cables, wires, fittings, bushing, etc., As separately specified herein.

3. Electrical Ducts and Boxes

Electrical ducts and boxes shall be accessible and have removable covers. Floor ducts and boxes shall have watertight covers. Ducts shall be divided into as many as three separate channels by metal dividers, separately specified herein, to separate wiring and/or cables into groups as follows: Group A: power wiring and/or cables. Group B: signal and/or data and protective ground wiring and/or cables. Group C: x-ray high voltage cables, the use of 90 deg. ells is not acceptable. On ceiling duct and wall duct use 45 deg. bends at all corners. All intersecting points in duct to have cross over tunnels supplied and installed by contractor to maintain separation of cables.

4. Conduit

Conduit point - to - point runs shall be as direct as possible. Empty conduit runs used for cables may require pull boxes located along the run. Consult with Philips. A pull wire or cord shall be installed in each conduit run. All conduits which enter duct prior to their termination point must maintain separation from other cables via use of dividers, cross over tunnels, or conduit supplied and installed by contractor from entrance into duct to exit from duct. Do not use flex conduit unless approved by Philips Service.

5. Conductors

All conductors, separately specified, shall be 75°C stranded copper, rung out and marked.

6. Disconnecting Means

A disconnecting means shall be provided as separately specified.

7. Warning Lights and Door Switches

"X-ray on" warning lights and x-ray termination door switches should be provided at all entrances to x-ray rooms as required by code.

8. Dimmer Switches

X-ray room lights should be provided with dimmer switches.

(12.0)

Electrical Notes

1. The contractor will supply & install all breakers, shunt trip and incoming power to the breakers. The exact location of the breakers and shunt trips will be determined by the architect or contractor.
2. The contractor shall supply & install all pull boxes, raceways, conduit runs, stainless steel covers, etc. Conduit/raceways must be free from burrs and sharp edges over its entire length. A Greenlee pull string/measuring tape (part no. 435, or equivalent) shall be provided with conduit runs.
3. All pre - terminated, cut to length cables, will be supplied and installed by Philips. All cables to the breakers, will be supplied and installed by the contractor, subject to local arrangements.
4. Provide and install 50mm diameter. Chase nipples between adjacent wall boxes.
5. Electrical raceway shall be installed with removable covers. The raceway should be accessible for the entire length. In case of non - accessible floors, walls and ceilings, an adequate number of access hatches should be supplied to enable installation of cabling. Approved conduits may be substituted. All raceways will be designed in a manner that will not allow cables to fall out of the raceway when the covers are removed. In most cases, this will require above - ceiling raceway to be installed with the covers removable from the top. Raceway system as illustrated on this drawing are based upon length of furnished cables. Any changes in routing of raceway system could exceed maximum allowable length of furnished cables. Conduit or raceway above - ceiling must be kept as near to finished ceiling as possible.
6. Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or National Electrical Codes, whichever govern.
7. Convenience outlets are not illustrated. Their number and location are to be specified by the customer/architect.
8. Electrical contractor shall install ground bond wires at conduit openings within wall boxes as required by national and local electrical codes. Ground bond wires and lugs shall be installed in such a way to prevent the inadvertent contact with the installed Philips equipment to maintain the Philips Equipotential Grounding Configuration and maintain patient safety. Install a #6 AWG stranded ground wire for bonding in the conduits from the Main Disconnect (CB) to the PDU and from the PDU to the MG wall box.
9. If the Philips system includes a PDU, the PDU is a "Separately Derived Source" by NEC standards, and must be ground according to NEC article 250-30.
10. Philips equipment must be electrically isolated from conduits, raceways, ducts, etc.
11. Acceptable cross-overs: Walker DuctCat. #RPD10-TUN-3C /, Square D Cat. #RSV122ST.

(14.0)

Project
Allura FD10 Ceiling

W.M. S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1

Philips Contacts
Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com
Drawn By: Sam Chong

Project Details
Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

EN

THE DRAWINGS AND RELATED INSTRUCTIONS PROVIDED BY PHILIPS ARE ACCEPTABLE FOR USE BY THE HOSPITAL'S ARCHITECT OR ENGINEER TO USE FOR THE DEVELOPMENT OF CONSTRUCTION DOCUMENTS.

Electrical Legend			
A Furnished and installed by Philips B Furnished by customer/contractor and installed by customer/contractor C Installed by customer/contractor D Furnished by Philips and installed by contractor E Existing F Future G Optional			
	Item Number	Description	Detail Sheet
B	CB	480V, 3 phase 125 AMP circuit breaker with shunt trip. Run power from breaker to "PBK", leaving an 8' (2440mm) tail at "PBK", and from "PBK" to "MG", leaving an 8' (2440mm) tail at each end. See Sheet "ED1" for power quality requirements. Location per local code or owner requirements. (Not shown on plan)	ED1
B	ST	Shunt Trip (emergency off) - Large mushroom-head button on remote control station with contacts to operate feature of "CB" (if required by local code or owner, and mandatory for VA and D.O.D installations). (Not shown on plan)	
B	GE	Ground electrode per N.E.C. 250-26, building steel preferred. (Not shown on plan)	
B	PBG	Central ground busbar mounted in a 12" (305mm) W x 12" (305mm) H x 4" (105mm) D pull box with hinged cover, surface mounted to the bottom of "WR2" when possible.	ED2
B	PBK	18" (460mm) W x 18" (460mm) H x 8" (205mm) D flanged-edge terminal wall box with removable screw-type cover plate, surface mounted 22" (560mm) A.F.F. to bottom of box, provide (1) 1 1/2" (40mm) and (2) 2" (55mm) conduits through "PBK" cover plate to PDU cabinet.	ED1
D	MP MA MG	19 1/4" (490mm) W x 67" (1705mm) H x 4" (105mm) D flanged-edge terminal wall box, surface mounted 75" (1905mm) A.F.F. to top of box. General contractor to cut top and/or bottom of box as required.	ED2
B	CY WM VB1 VB2 VB3 VB4 RIC	Grommet opening on "WR3". Approximate location shown is recommended and may be changed - verify relocation with local Philips Service.	
B	MSA	10" (255mm) W x 10" (255mm) L x 6" (155mm) D floor box, flush mounted with underside of AD7 Universal Floor Plate.	
B	SP	18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type cover plate. Provide one 3" (80mm) diameter knockout.	
B	TV	12" (305mm) W x 12" (305mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type cover plate. Provide a 2 1/2" (65mm) round cutout (Two 2 1/2" (65mm) round cutouts are required for systems with two monitor carriages - verify with local Philips Service).	
B	WR1 WR2	10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR1" is at finished floor. "WR2" is at 75" (1905mm) A.F.F. to bottom of raceway.	ED3
B	WR3	10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR3" is at finished floor. "WR3" may need to be cut at the location of the "CY" connection box.	ED3
B	R1	10" (255mm) W x 4" (105mm) D riser duct with removable screw-type cover plate, surface mounted from wall raceway to wall box.	ED3
B	PHY	Stub up point for physiological monitoring cables. Run conduit to customer's physiological console location. Contact manufacturer for power requirements, etc.	
B	ATY	Auxiliary Box - 6" (155mm) W x 6" (155mm) H x 4" (105mm) D wall box, flush mounted 70" (1780mm) A.F.F. to the bottom of the box with removable screw-type cover plate. Height and location shown are recommended and may be changed - verify height and relocation with local Philips Service.	

Electrical Legend			
A Furnished and installed by Philips B Furnished by customer/contractor and installed by customer/contractor C Installed by customer/contractor D Furnished by Philips and installed by contractor E Existing F Future G Optional			
	Item Number	Description	Detail Sheet
B	WL	Warning Light - Provide a surface or flush mounted light fixture above door to indicate when X-ray is on, if required by local code or physicist of record. See Sheet "ED2" diagram for connection details. (Not shown on plan)	ED2
B	DS	Door Switch - 120V/5A switch limited to open when door is open. Mount in upper corner on strike side of main entry door(s) (Cooper no. 1665 or equivalent), if required by local code or physicist of record. See Sheet "ED2" diagram for connection details. (Not shown on plan)	ED2
B	N1	RJ45 type Ethernet 10/100/1000 Mbit network connector with access to customer's network. Locate within 10' (3050mm) of network card. Network fiber optic and Ethernet cabling, connectors, wall boxes, patch panels, etc. are the responsibility of the purchaser. Philips assumes no responsibility for procurement, installation, or maintenance of these components.	N1
B	N2	RJ45 type Ethernet 10/100/1000 Mbit network connector. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity.	
B	IS	120V/20A dedicated duplex outlet for service in the equipment room. (Not shown on plan)	
B		120V/20A dedicated duplex outlet IH (Interventional Hardware).	
D	TR	4" (105 mm)W x 4" (105 mm)L x 2 1/2" (65 mm)D box for the transformer used for the Mach 3 Surgical Light. Location to be determined locally. Recommended location is above the ceiling near the surgical light. Verify location with local Philips Service. Hardwire 115V/20A hospital power to "TR".	AD5
B	M3	4" (105 mm)W x 4" (105 mm)L x 2 1/2" (65 mm)D ceiling box, flush mounted with removable screw-type cover plate. Recommended location is near or above the cable spooler.	
B	IC	Grommet opening on "WR2". Exact size and location to be determined by local Philips Service.	
See E1 - E3 sheets for conduit and raceway requirements.			

Project Details	Philips Contacts	Project
Drawing Number N-EAS131654 G Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move	Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com Drawn By: Sam Chong	Allura FD10 Ceiling WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1





**Refer to Electrical Legend - Sheet EL
and Raceway/Conduit - Sheet E2-E3**

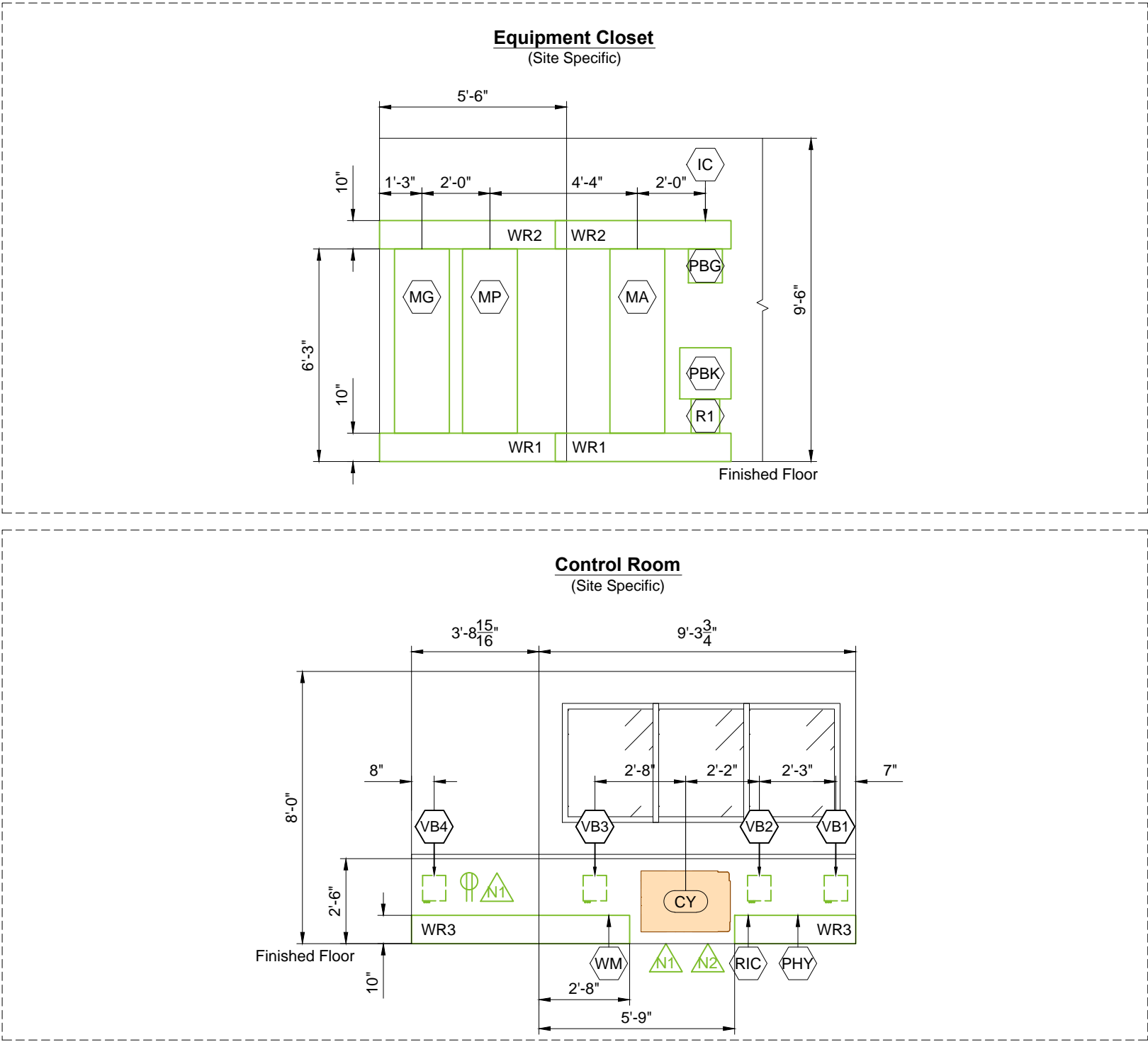
Project Details
Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

E1

1.16.14

THE DRAWINGS AND RELATED INSTRUCTIONS PROVIDED BY PHILIPS ARE ACCEPTABLE FOR USE BY THE HOSPITAL'S ARCHITECT OR ENGINEER TO USE FOR THE DEVELOPMENT OF CONSTRUCTION DOCUMENTS.

PHILIPS



Note: The use of 90 degree ells is not acceptable. Use 45 degree bends at all raceway corners. For conduit runs, use the minimum bending radius specific to the conduit diameter. The use of crossover tunnels at all applicable locations is required. The above mentioned recommendations will help to ensure the integrity of the cables and fiber optic runs.

- * **Countertop Height Guide:**
30" (765mm) for standard seated height.
36" (915mm) for standard standing height.
- * **Ensure that the wall junction boxes are mounted perpendicular to the floor.**
- * **Verify exact ceiling height of Equipment and Control Room Area.**
- * **Local Philips Service to consult with customer for final placement of control desk components.**

Project Details	Philips Contacts	
	Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com	Project Allura FD10 Ceiling WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1
Drawing Number N-EAS131654 G Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move	Drawn By: Sam Chong	

Conduit Required							
General Notes							
1. All conduit runs must take most direct route point to point. 2. All conduit runs must have a pull string.							
↓	A Conduit supplied/installed by contractor - Philips cables installed by Philips B Conduit supplied/installed by contractor - Philips cables installed by contractor C Conduits and cables supplied and installed by contractor D Conduit existing - cables supplied and installed by Philips E Conduit existing - cables supplied by Philips and installed by contractor F Conduit existing - cables supplied and installed by contractor G Optional equipment, verify with local Philips Service				* P Power (AC) D Power (DC) G Ground S Signal H High Tension C Cooling Hose A Air Supply Hose		
	Run No.	From	To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length
C	1	Power Panel	CB	1	P	Per N.E.C.	Per N.E.C.
B	2	PBK	PDU Cabinet	1	P	1 1/2"	-
B	3	PBK	PDU Cabinet	2	P	2"	-
B	4	CB	PBK	1	P	2"	50'
C	5	CB	ST	1	P	3/4"	50'
C	6	PBK	GE	1	P	3/4"	25'
C	7	PBG	Room Outlets	1	P	3/4"	-
C	8	PBG	PBK	1	G	1 1/2"	-
C	9	MA	WL	1	P	3/4"	55'
C	10	ATY	DS	1	S	3/4"	55'
A	11	ATY	MA	1	S	2 1/2"	41'
A	12	ATY	TV	1	S	3/4"	75'
A	13	SP	MG	1	H	2 1/2"	29'
A	14	SP	MG	1	P	1"	29'
A	15	SP	MG	1	S	1 1/2"	29'
A	16	SP	MP	1	S	2 1/2"	31'
A	17	SP	MP	1	P	1"	31'
A	18	SP	MP	2	C	2"	31'
A	19	SP	MP	2	C	2 1/2"	31'
A	20	SP	MA	1	S	2 1/2"	36'
A	21	MSA	MP	1	S	2 1/2"	42'
A	22	MSA	MP	1	P	1"	42'
A	23	MSA	MA	1	S	2 1/2"	42'
A	24	MSA	MA	1	P	3/4"	42'
A	25	TV	MA	1	P	2"	52'
A	26	TV	MA	1	S	2 1/2"	52'
A	27	TV	MP	1	S	2"	54'
A	28	TV	CY	1	S	3/4"	65'
A	29	CY	MP	1	S	2"	50'
A	30	CY	MA	1	P	2"	55'
See Sheet "ED2" for details.							
H.T. Cables.							
Cooling fluid hoses for tube.							
Cooling fluid hoses for detector.							
For Intercom.							

Conduit Required							
General Notes							
1. All conduit runs must take most direct route point to point. 2. All conduit runs must have a pull string.							
↓	A Conduit supplied/installed by contractor - Philips cables installed by Philips B Conduit supplied/installed by contractor - Philips cables installed by contractor C Conduits and cables supplied and installed by contractor D Conduit existing - cables supplied and installed by Philips E Conduit existing - cables supplied by Philips and installed by contractor F Conduit existing - cables supplied and installed by contractor G Optional equipment, verify with local Philips Service				* P Power (AC) D Power (DC) G Ground S Signal H High Tension C Cooling Hose A Air Supply Hose		
	Run No.	From	To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length
A	31	CY	MA	1	S	2 1/2"	55'
A	32	MA	WM	1	S	1"	82'
C	33	TV	WR3	2	S	1 1/2"	-
C	34	MSA	WR3	2	S	1 1/2"	-
C	35	MSA	PHY	1	S	2 1/2"	-
G	36	PHY	Physio Monitor	1	S	2"	33'
G	37	Third Party	Third Party	-	-	-	-
G	38	Third Party	PBG	-	G	-	-
C	39	TR	M3	1	P	3/4"	-
G	40	M3	PBG	1	G	3/4"	-
A	41	VB1	MA	1	(P)	1 1/2"	68'
A	42	VB1	MP	1	(S)	1 1/2"	68'
A	43	VB2	MA	1	(P)	1 1/2"	68'
A	44	VB2	MP	1	(S)	1 1/2"	68'
A	45	VB3	MA	1	(P)	1 1/2"	68'
A	46	VB3	MP	1	(S)	1 1/2"	68'
A	47	VB4	MA	1	(P)	1 1/2"	68'
A	48	VB4	MP	1	(S)	1 1/2"	68'
A	49	IC	MSA	1	S	2 1/2"	52'
A	50	IC	RIC	1	S	1 1/2"	50'
For optional equipment (IE. Physio Monitor/ Slave Monitor). For future options (Patient Monitoring). Verify with local Philips Service if med gas pedestal should be used. For future options (Patient Monitoring). Verify with local Philips Service if med gas pedestal should be used. Optional for remote location. For Injector, Medical Gas Pedestal, Patient Monitoring, Video Networking, etc. For Injector, Medical Gas Pedestal, Patient Monitoring, Video Networking, etc.							
For Mach 3 Surgical Light.							
For Mach 3 Surgical Light. Per local code.							
Multivision.							
Multivision.							
Multivision.							
Multivision.							
Multivision.							
Multivision.							
Multivision.							
For Table Mounted Injector.							

Project Details

Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

Philips Contacts

Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com
Drawn By: Sam Chong

Project

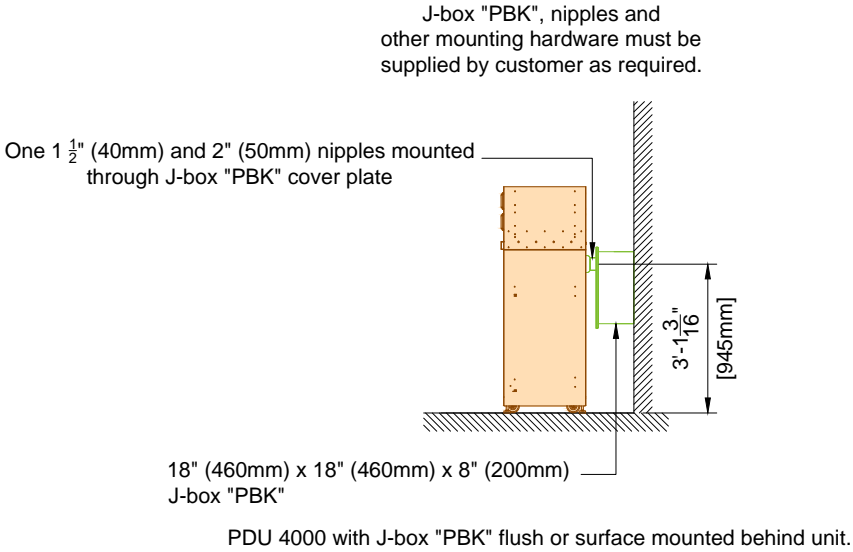
Allura FD10 Ceiling
WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1



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Detail - PDU 4000 Mounting Detail



(12.0)

Power Quality Requirements

Velara 100KW with PDU 4000

Power Output:	100KW
Supply Configuration:	3 phase, identical 3 wire power and ground, Delta or wye 3 phase, identical 3 wire power and ground, with Neutral, wye (without PDU 4000)
Nominal Line Voltage:	480 VAC, 60 Hz
Line Voltage Variation:	Voltage Variations are never to exceed ±10% when measured using 10 minute mean RMS values with a measurement window of 1 week. At least 95% of all measured 10 minute mean RMS values shall be within ±5% of the configured nominal voltage.
Line Voltage Balance:	2% maximum of nominal voltage between phases
Frequency Variation:	± 1.0 Hz
Voltage Surges:	To 110% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max.
Voltage Sags:	To 90% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max.
Line Impulses:	1000 VPK above phase-neutral RMS absolute maximum. No more than 1 impulse per hour to exceed 500 VPK.
Neutral-Ground Voltage:	2.0 volts maximum RMS value
Neutral-Ground Impulses:	No more than 1 per hour that exceeds 25 volts and 1 Mjoule
High Frequency Noise:	3.0 volts steady-state maximum. Over 3.0 volts permitted for 100 msec. maximum, 1 per hour max.
Grounded Conductor Impedance:	0.1 Ohms @ 60 hz. maximum

Branch Circuit and Wire Gauge Requirements

Velara 100KW with PDU 4000

Branch Power:	225 KVA
Max Stand by Current:	8 Amps. @ 3 mA, 110 KVP continuous
Circuit Breaker:	3 pole, 125 amperes
Maximum Instantaneous Power:	201 KVA (1000 mA @ 100 KVP)

Recommended conductor sizes for 1% impedance of branch conductors to circuit breaker (CB). Based on 20° copper conductors:

	<u>480VAC</u>
1/0 AWG	95 ft (29m)
2/0 AWG	120 ft (36.6m)
3/0 AWG	151 ft (46m)
4/0 AWG	193 ft (58.8m)
250 KCM	226 ft (68.9m)
300 KCM	271 ft (82.6m)
400 KCM	365 ft (111.3m)

Inst. Current @ CB Panel 242 A

Max. Phase-phase impedance @ CB Panel ≤ 200 mΩ

Max. Load Voltage Drop @ CB Panel 18.2 V

Percent Regulation at Maximum Load @ CB Panel 3.8%

Output Voltage PDU 4000:	480 VAC ± 10%
Max Inst. Current @ PDU output:	305 Amps
Max Phase-Phase Impedance:	≤ 200 mΩ @ PDU output
Max Load Voltage Drop:	24.4 V @ PDU output
Percent Regulation at Max. Load:	6.4% @ PDU output

Minimum copper wire size, circuit breaker to PDU: #1 - Maximum 50' (15.24m) in length.



(14.0)

Wiring and circuit sizes from source supply must meet Philips regulation requirements and must be determined by contractor to meet building conditions and local codes.

Identical 3 Phase + gnd. Size per conductor size chart

Facility Source (Δ or "Y")

Size per equipment power requirements

If required by facility or local code

Ground Electrode per NEC 250-30 (Building steel preferred)

38mm chase nipples with fittings (each input and output) Provided by Customer / Electrical Contractor

18" (460mm) x 18" (460mm) x 8" (200mm) J-box "PBK"

PDU 4000

3 Phase & Ground

Input
Out (X-ray Generator)
Mains "MA" Rack
Out (Ground Busbar)

Pull box for Ground Busbar "PBG"

"MG"

Emergency Power

Note: Conductors, destinations, and number of conduit runs from PDU to J-box "PBK" and from J-box to equipment will vary from system to system. Consult individual site plans for detailed conduit schedules.

Diagram - PDU 4000 Electrical Interface

(14.0)

Project

Allura FD10 Ceiling

Philips Contacts

Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com

Project Details

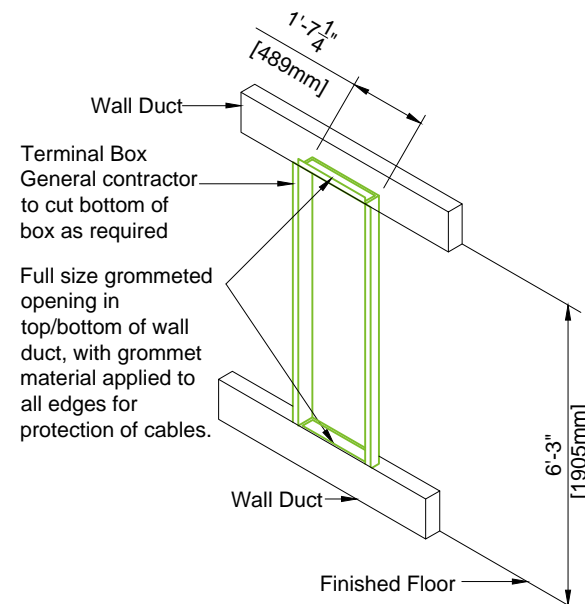
Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

ED1

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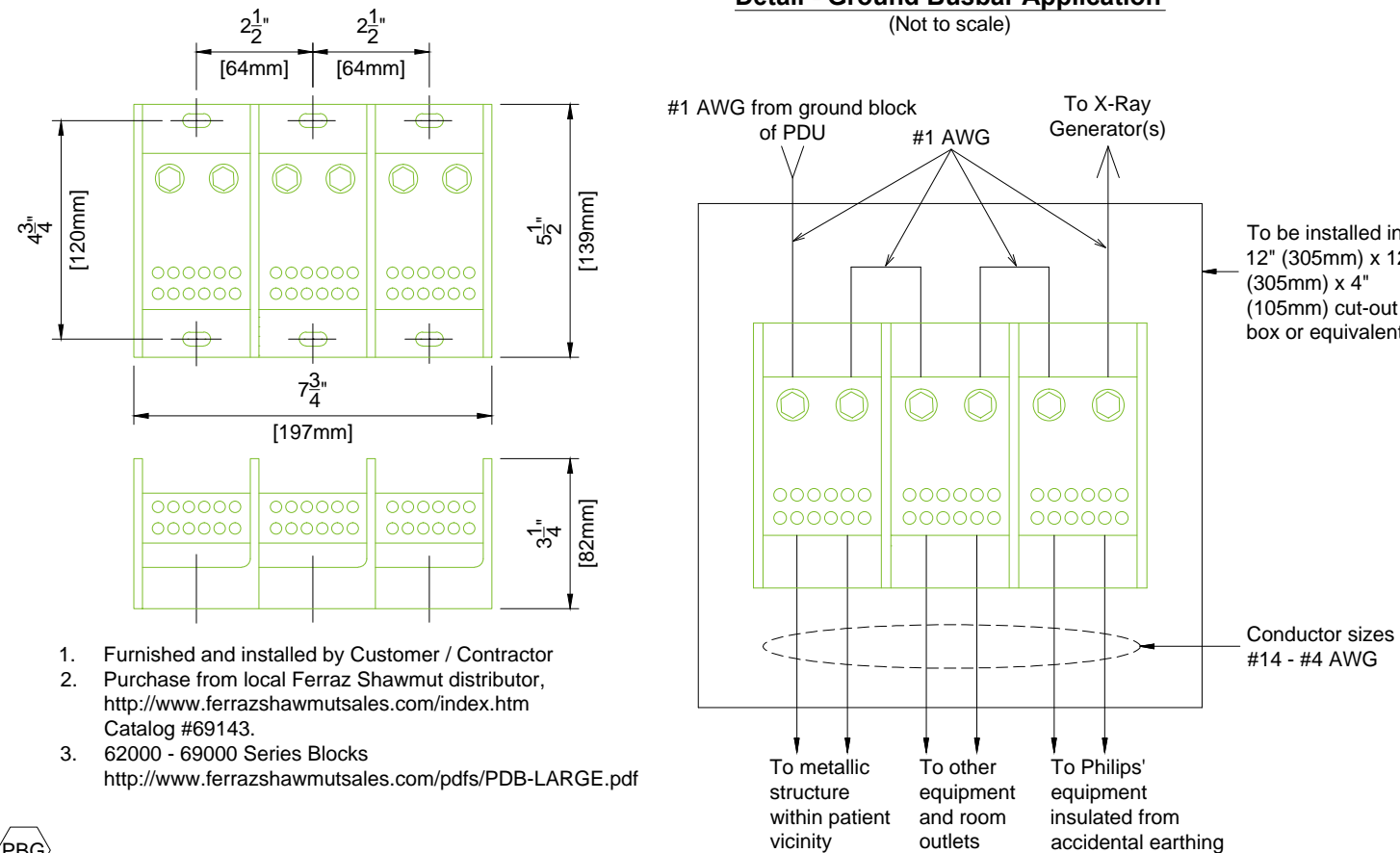
THE DRAWINGS AND RELATED INSTRUCTIONS PROVIDED BY PHILIPS ARE ACCEPTABLE FOR USE BY THE HOSPITAL'S ARCHITECT OR ENGINEER TO USE FOR THE DEVELOPMENT OF CONSTRUCTION DOCUMENTS.

(Not to scale)



(12.0)

(Not to scale)



Invasive Procedures

This equipment may be used for invasive procedures; therefore, the area to be installed is classified as critical care area per NFPA-99 and NFPA-70 (NEC). These documents specify maximum touch voltages and ground impedance in these areas.

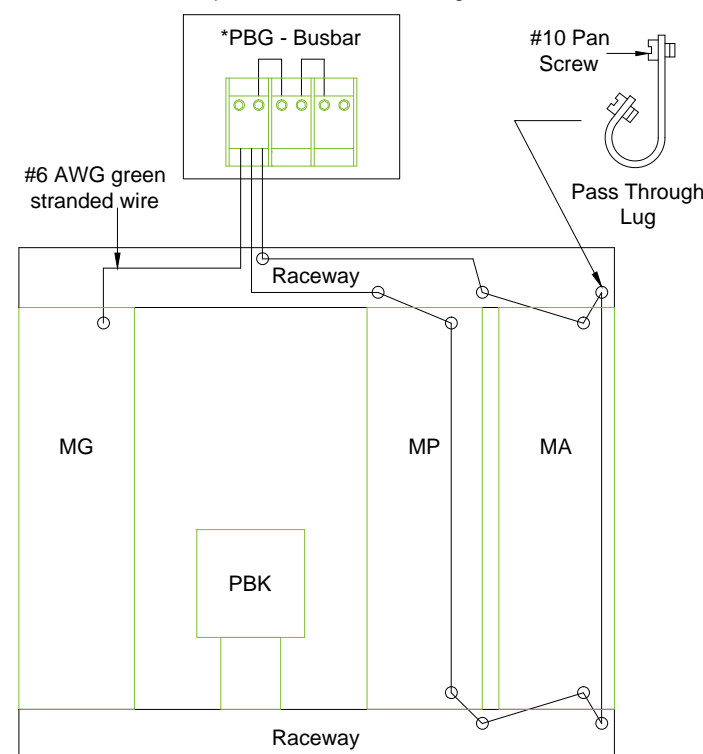
Test performed by GSSNA service require that these specifications are met by the GSSNA equipment. It is the facility's responsibility to ensure that these specifications are met by the wall outlet, facility structure, and other equipment not installed by GSSNA.

The GSSNA specified "Central Ground Busbar" serves as a ground reference for GSSNA equipment. It may also serve as the "Reference Grounding Point" of the room as defined in NFPA-99 (3-5.2.1.2) for non-PMSNA equipment.

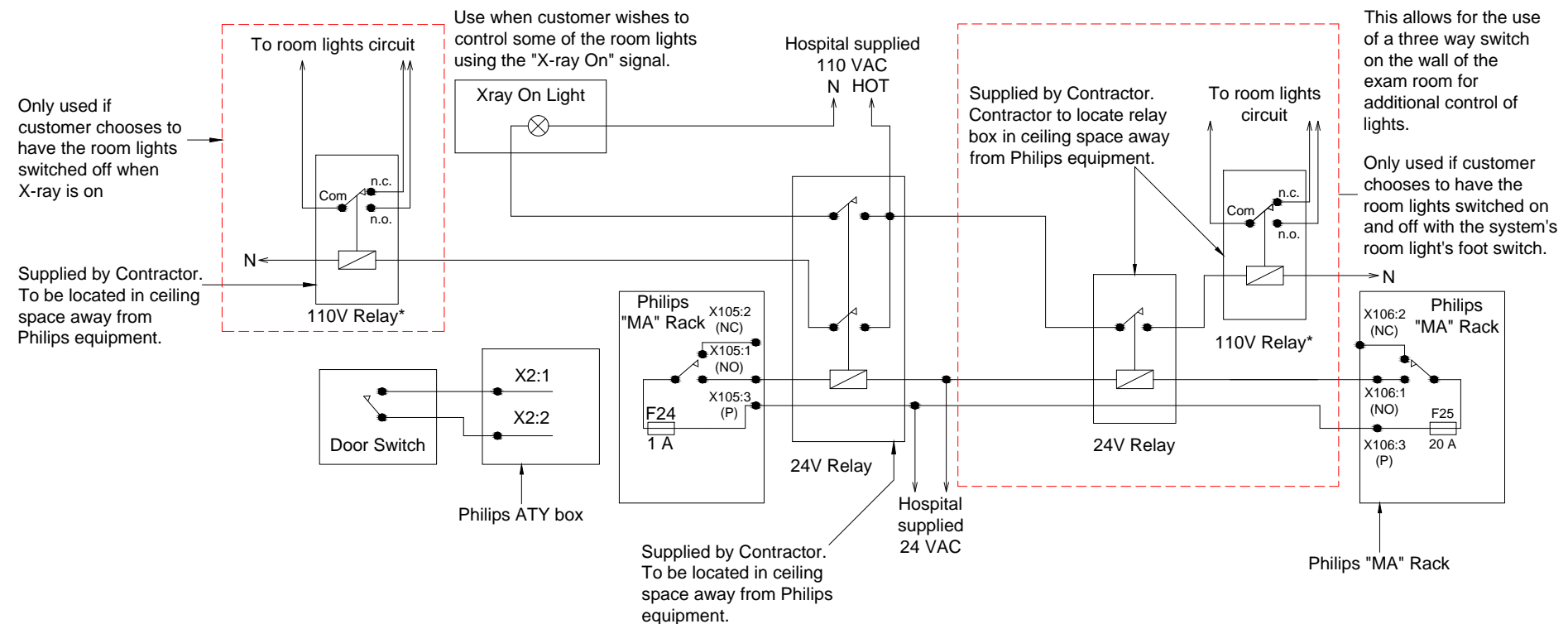
(12.0)

(Not to scale / Not site specific)

* PBG to be placed at a reachable height.



(12.0)



* The 110V relay should have heavy-duty contacts to handle the room lights current.

All items shown (except Philips items) to be supplied by Customer / Contractor.

Diagram - Typical Connection of **X-Ray On Light, Door Switch, & Room Lights**

(12.0)

Project Allura FD10 Ceiling

Phillips Contacts
Project Manager: Frank Donald

Project Details
Drawing Number
W EAS1316E1 C

ED2

Madison, WI
Room: New Cath Lab 1

THE DRAWINGS AND RELATED INSTRUCTIONS PROVIDED BY PHILIPS ARE ACCEPTABLE FOR USE BY THE HOSPITAL'S ARCHITECT OR ENGINEER TO USE FOR THE DEVELOPMENT OF CONSTRUCTION DOCUMENTS.

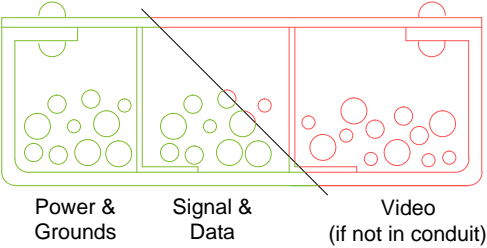
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THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

Detail - Cable Trough Divisions
(Not to scale)

- Troughs or ducts must be separated by metal barriers into three sections:
1. High Voltage (H.T.) cables to be run separated from all cables.
 2. Power cables and ground cables can be run together.
 3. Signal cables and data cables can be run together but must be separated from power cables.
 4. Video cables to be run separately from all other cables.



5. It is important that all cables are placed in the appropriate trough and at not given point do any cables from one division cross cables from another. Trough separation must be continuous from the beginning.
6. Trough or ducts: steel with steel dividers grounded to building ground.
7. Contractor to provide cable restraints in all troughs.
8. Acceptable cross-overs: Walker DuctCat. #RPD10-TUN-3C / Square D Cat. #RSV122ST.

WR1WR2WR3 R1

(12.0)

ED3	Project Details Drawing Number N-EAS131654 G Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move	Philips Contacts Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com Drawn By: Sam Chong	Project Allura FD10 Ceiling WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1

Philips Healthcare Remote Services Network (RSN)

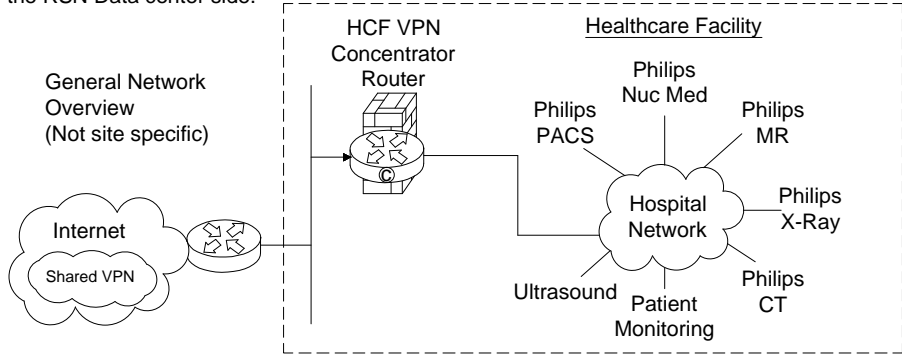
Secure broadband connection required for Philips remote technical support, diagnostics, and applications assistance

Broadband Site-to-Site Connectivity (Preferred)

This connectivity method is designed for customers who prefer a connection from the RSN Data Center to the Health Care Facility (HCF) utilizing their existing VPN equipment.

Connectivity Details:

- A Site-to-Site connection from the RSN data center's Cisco router will be established to the HCF's VPN concentrator.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE as standard, but alternative standards are also available, such as AES, MD5, SHA, Security Association lifetime and Encryption Mode.
- Every system that we will be servicing remotely will have a static NAT IP that we configure on the RSN Data center side.



Action Required by Hospital:

- Review and approve connection details.
- Complete appropriate Site Checklist.
- Configure and allow Site-to-Site access prior to setting up connectivity depending on the access criteria that the HCF decides to implement (ex: Source IP filtering, destination IP filtering, NAT assignment, etc.).
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to the designed IP provided by Philips.

Broadband Router Installed at Health Care Facility

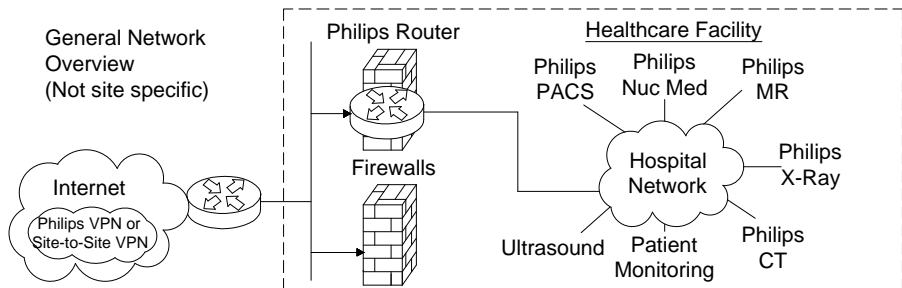
This connectivity method is designed for customers who have a dedicated high speed connection for Philips equipment.

Connectivity Details:

- An RSN Cisco 1711 or 1712 router will be preconfigured and installed at the HCF by Philips in conjunction with the HCF IT representative.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE and will be established from the RSN-DC and terminated at the RSN Router on-site.
- One to One NAT is used to limit access to Philips equipment only.
- Router Config and IP auditing is enabled for Customer IT to view via website 24/7.
- Dedicated DSL connections are also supported.

Option 1: Parallel to HCF Firewall Connectivity Method

This connectivity method is designed for customers who prefer a Philips RSN Router installed on site utilizing all the security features provided and managed by Philips.

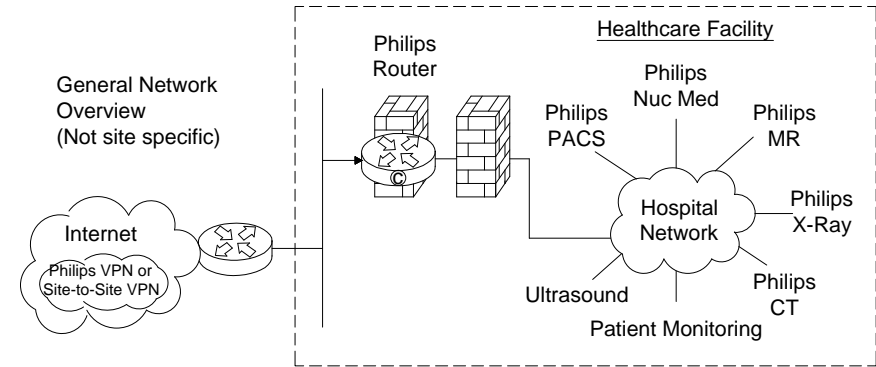


Action Required by Hospital:

- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.

Option 2: Back End Connected to the HCF Firewall Connectivity Method

This connectivity method is designed for customers who prefer a Philips RSN Router installed on site by setting up an IP-Based policy allowing access thru existing HCF Firewall to Philips equipment.

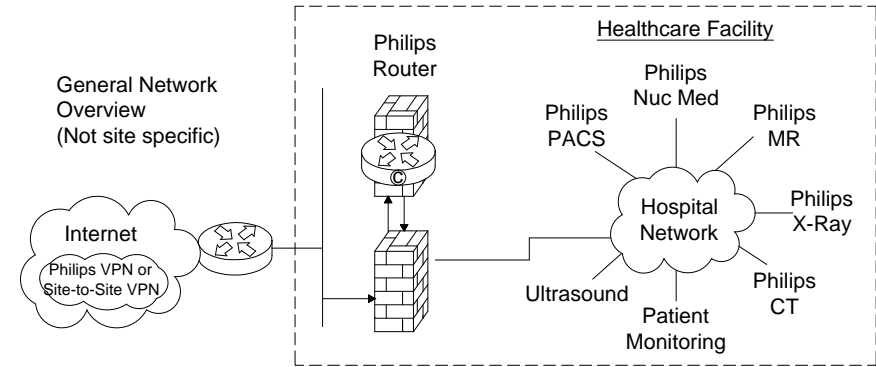


Action Required by Hospital:

- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

Option 3: Router Installed Inside the HCF's DZM

This connectivity method is designed for customers who prefer the RSN Router installed inside and existing, or new DMZ, allowing access to Philips equipment.



Action Required by Hospital:

- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface IPsec protocol communication by opening protocol 500, 50, 51, 47 and port 23 + TACACS. Traffic should be between external IP Address located on the Philips router and the RSN Data center IP address 192.68.48/24 and IP address AOSN TACAS.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

(12.0)

Project		Project	
Allura FD10 Ceiling		WM S. Middleton Memorial VA Hospital	
Project Manager: Frank Donald		Madison, WI	
Contact Number: (414) 788-3702		Room: New Cath Lab 1	
Email: frank.donal@philips.com			
Drawn By: Sam Chong			

Project Details	
Drawing Number	N-EAS131654 G
Date Drawn: 5/4/2015	
Quote: Room Move	
Order: Room Move	

N1

System Network Information

IMPORTANT NOTE: It is the customer's responsibility to coordinate with the local Philips Engineer to provide ALL required network information and install ALL required network cabling & drops according to Philips specifications PRIOR to the scheduled installation start date. Failure to do so may delay system installation and jeopardize the customer hand over date.

Allura	IP Sec []yes []no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number (5101):	
XtraVision	IP Sec []yes []no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title XtraVision:	
Port Number (3110):	
AE Title for X-Ray Mod:	
IP for X-Ray Modality:	
EP Navigator	IP Sec []yes []no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number:	
View Forum	IP Sec []yes []no
Physical Location:	
Hostname:	
MAC Address:	
IP Address	
Netmask:	
Gateway:	
AE Title:	
Port Number:	

XperIM	IP Sec []yes []no				
	Location 1	Location 2	Location3		
Physical Location:					
Hostname:					
MAC Address:					
IP Address					
Netmask:					
Gateway:					
AE Title:					
Port Number (3010):					
Remote Software Installation (RPS)					
Enable Distribution:	[]yes []no				
Enable Installation:	[]yes []no				
Dicom Printer					
	Location 1	Location 2	Location3	Location 4	
Physical Location:					
Hostname:					
IP Address					
AE Title:					
Port Number :					
PACS	Physical Location:				
	Store/ Import 1	Store/ Import 2	Store/ Export	Query/ Retrieve	Storage/ Commit
Hostname:					
IP Address					
AE Title:					
Port Number :					
PACS	Physical Location:				
	Store/ Import 1	Store/ Import 2	Store/ Export	Query/ Retrieve	Storage/ Commit
Hostname:					
IP Address					
AE Title:					
Port Number :					
Audit Trail					
Physical Location:					
Hostname:					
IP Address					
AE Title:					
Port Number :					

Time Synchronization			
Physical Location:			
Server Name:			
RIS	Physical Location:		
	Basic Local RIS	WLM	MPPS
Hostname:			
IP Address:			
AE Title:			
Max PDU Size:	16384 or		
Port Number:		[]yes []no	[]yes []no
Secure Node:		[]yes []no	[]yes []no
Encryption:			
Certificate Name:			
PPSM IHE Compatible:			[]yes []no
Time Synchronization			
Allura Xper:	20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net)		
Allura CV20:	20/21(ftp), 80(http), 4440(fsf)		
XtraVision:	20/21(ftp), 80(http), 443(https), 5660(ist/ice), 5900(vnc), 9905(lots)		
EP Navigator (R3):	20/21(ftp), 443(https), 5660(ist/ice), 9055(lots)		
EP Cockpit (R1.2):	20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net)		
CX50:			
Xper IM:			
View Forum			
Hospital Network			
	M2M Server (PRS)	Proxy	ePO Server (PRS)
Scheme (https):			
IP Address (192.68.49.50):			
Portnumber (443):			
Use Proxy Server:	[]yes []no		
IP Address			
Port Number:			
User Name:			
Password:			

(13.0)

Project Details	Drawing Number N-EAS131654 G Date Drawn: 5/4/2015 Quote: Room Move Order: Room Move	Philips Contacts Project Manager: Frank Donald Contact Number: (414) 788-3702 Email: frank.donal@philips.com Drawn By: Sam Chong	Project Allura FD10 Ceiling
			WM S. Middleton Memorial VA Hospital Madison, WI Room: New Cath Lab 1

N2



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Instructions

This form is to be used by Project Manager, Contractor and Service Engineer.

Information is used to develop and determine site ready date.

Items listed are go/no go items for delivery unless noted as delay only items.

Items identified with *** as delayed items must be completed after hours or on weekend. These items cannot be accomplished while installation is in progress. Also, these items must be completed within two days of installation start or they may stop installation.

Site Readiness Checklist

Modality: _____

Order: _____

Site Name: _____

Location: _____

Contact Name: _____

Contact Phone Number _____

- ☐ Customer site preparation verified in general against the Philips final planning drawings.
- ☐ Walls finished including painting.
- ☐ Doors installed.
- ☐ Floor leveled according to Philips drawings and specifications.
- ☐ Floors are tiled/covered finished. Flooring is covered with protective covering (scratch protection).
- ☐ Ceiling lights installed.
- ☐ Cable conduit and ductwork installed and clean. Position checked. Duct covers in place but not finally closed. Cable opening are clear, without sharp edges. Pull strings in conduit. Installation per Philips specifications.
- ☐ HVAC environmental equipment installed and working according to Philips specifications.
- ☐ Ceiling installation completed.
- ☐ Electrical preparation according to Philips specifications.
- ☐ All network cabling, drops installed according to Philips specifications (including hardcopy cameras).
- ☐ All pre-cabling identified on Philips drawings has been installed.
- ☐ Pre-move survey completed - Delivery route identified.
- ☐ Lead glass installed ***.
- ☐ X-Ray warning lights installed ***.
- ☐ Dedicated phone line for modem use***.
- ☐ Room has been cleaned ***.
- ☐ Cabinets and casework installed***.
- ☐ RSN survey completed and submitted
- ☐ Philips RSN Champion contacted.

Approved for Delivery

Project Manager

Date

Service Engineer

Date

Items Specific for the Cardio/Vascular Modality

- ☐ Unistrut installed and level according to Philips specifications.
- ☐ Floor plates installed and level according to Philips specifications.
- ☐ All cover plates have holes punched and nipples required and bushings installed.
- ☐ Emergency power requirements installed according to Philips specifications.
- ☐ Building steel ground installed to PDU.
- ☐ Room electrical grounds installed to PPC middle section.
- ☐ Conduit lengths measured according to Philips specifications.
Note: Specifications is from source box to destination box (not just conduit run length).
- ☐ Routing of ductwork and conduits must be installed according to Philips specifications.

Project Details

Drawing Number
N-EAS131654 G
Date Drawn: 5/4/2015
Quote: Room Move
Order: Room Move

Philips Contacts

Project Manager: Frank Donald
Contact Number: (414) 788-3702
Email: frank.donal@philips.com

Drawn By: Sam Chong

Project

Allura FD10 Ceiling

WM S. Middleton Memorial VA Hospital
Madison, WI
Room: New Cath Lab 1

CHK

THE DRAWINGS AND RELATED INSTRUCTIONS PROVIDED BY PHILIPS ARE ACCEPTABLE FOR USE BY THE HOSPITAL'S ARCHITECT OR ENGINEER TO USE FOR THE DEVELOPMENT OF CONSTRUCTION DOCUMENTS.

