Saint Luke's East Hospital

Rockhill Orthopedics X-Ray Renovations
120 NE Saint Luke's Blvd, Suite 200
Lee's Summit, MO 64086

ROCKHILL X-RAY RENOVATION

ARCHITECT
ACI BOLAND, INC.

1710 WYANDOTTE STREET
KANSAS CITY, MO 64108

PHONE 816.763.9600
FAX 816.763.9757

ENGINEER
IMEG Corp.

1600 BALTIMORE
SUITE 300
KANSAS CITY, MO 64108
PHONE 816.842.8437

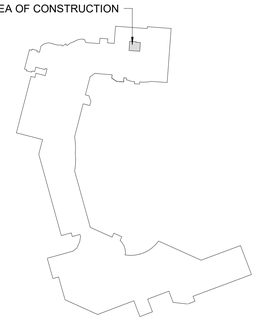
ABBREVIATIONS

AC.	ACOUSTIC/ACOUSTICAL
ADD.	ADDENDUM
ADD'N.	ADDITION
ABC	AGGREGATE BASE COURSE
AFF	ABOVE FINISH FLOOR
AGG.	AGGREGATE
A/C	AIR CONDITIONING
AL.	ALUMINUM
ALT.	ALTERNATE
A.B.	ANCHOR BOLT
&	AND
ARCH.	ARCHITECT
ASP.	ASPHALT
@	AT
ACT	ACOUSTIC CEILING TILE/PANEL
∠	ANGLE
BLKG.	BLOCKING
BSMT.	BASEMENT
BM.	BEAM
B.M.	BENCHMARK
BD.	BOARD
B.O.	BOTTOM OF
BLDG.	BUILDING
CABT.	CABINET
C.I.P.	CAST IN PLACE
C.B.	CATCH BASIN
CLG.	CEILING
CEM.	CEMENT/CEMENTITIOUS
CG.	CENTIGRAM
CM	CENTIMETER
CL.	CENTER LINE
CER.	CERAMIC
C.T.	CERAMIC TILE
CHAN.	CHANNEL
C.	CHANNEL
CLR.	CLEAR
C.O.	CLEAN OUT
CLOS.	CLOSET
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONST.	CONSTRUCTION
C.J.	CONTROL JOINT CONSTRUCTION JOINT
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
COR'G.	CORRUGATED
CTR.	COUNTER
CTSK.	COUNTERSUNK
C.M.U.	CONCRETE MASONRY UNIT
D.P.	DAMP PROOFING
DB.	DECIBEL
DIAG.	DIAGONAL
DIAM.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DWL.	DOWEL
DN.	DOWN
D.S.	DOWNSPOUT
DWG.	DRAWING
EA.	EACH
ELEC	ELECTRIC
E.W.C.	ELECTRIC WATER COOLER
EL.	ELEVATION
ELEV.	ELEVATOR
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXH.	EXHAUST
EXPAN.	EXPANSION
E.J.	EXPANSION JOINT
EXIST.	EXISTING
EXT.	EXTERIOR
FT.	FEET / FOOT
FIN.	FINISH
FIXT.	FIXTURE
FL.	FLASHING
FLR.	FLOOR
F.D.	FLOOR DRAIN
FLOR.	FLUORESCENT
FTG.	FOOTING
FND.	FOUNDATION
FR.	FRAME
F.H.C.	FIRE HOSE CAB.
FV.	FIELD VERIFY
GA.	GAUGE
GL.	GLASS / GLAZING
GD.	GRADE
G.	GRAM
GRL.	GRILLE
GRD.	GRID
GND.	GROUND
G.S.	GALVANIZED STEEL
GYP.	GYPSUM
GWB/G.B.	GYPSUM BOARD
H.R.	HAND RAIL
HDN.	HARDENER
HDW.	HARDWARE
HDWD.	HARDWOOD
HTR.	HEATER
HT.	HEIGHT
H.P.	HIGH POINT
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.B.	HOSE BIB
H.W.	HOT WATER
IN.	INCH / INCHES
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
JAN.	JANITOR
JT.	JOINT
JST.	JOIST
K.P.	KICK PLATE
LAM.	LAMINATED
LB.	POUND
LDG.	LANDING
LTH.	LATH
LAV.	LAVATORY
LG.	LENGTH
LOC.	LOCATION
LT.	LIGHT
L.W.C.	LIGHT WEIGHT CONCRETE
LVR.	LOUVER
LOC.	LOCATION
M.O.	MASONRY OPENING
MAT'L..	MATERIAL
MFR.	MANUFACTURER
MB.	MARKER BOARD
MAX.	MAXIMUM
MECH.	MECHANICAL
MTL.	METAL
M.L.	METAL LATH
M.	METER
MIN.	MINIMUM
MLDG.	MOLDING
MULL.	MULLION
N.G.	NATURAL GRADE
NOM.	NOMINAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO. / #	NUMBER
OBS.	OBSCURE
O.C.	ON CENTER
OPN'G.	OPENING
O.A.	OVERALL
O.D.	OUTSIDE DIAMETER
O.F.S.	OVERFLOW SCUPPER
O.F.D.	OVERFLOW DRAIN
O.H.D.	OVERHEAD DOOR
PTD.	PAINTED
PG.	PAGE
PLAM.	PLASTIC LAMINATE
PR.	PAIR
PNL.	PANEL
PTN.	PARTITION
d	PENNY
PL	PLATE
PLBG.	PLUMBING
PLYWD.	PLYWOOD
PT.	POINT
P.S.I.	POUNDS PER SQ. IN.
P.S.F.	POUNDS PER SQ. FT.
P.C.	PRECAST
P.L.	PROPERTY LINE
R.	RISER, RISERS
RAD.	RADIUS
R.D.	ROOF DRAIN
RB.	RESILIENT BASE
RE.	REFER TO
REG.	REGISTER
REQ'D.	REQUIRED
REV.	REVISION
RFG.	ROOFING
RGH.	ROUGH
RM.	ROOM
RND.	ROUND
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
S.C.	SEALED CONCRETE
SCR.	SCREW
SECT.	SECTION
SEL.	SELECT
SHG.	SHEATHING
SHT.	SHEET
SDG.	SIDING
SIM.	SIMILAR
SLDG.	SLIDING
SM.	SMOOTH
SPEC.	SPECIFICATION
SQ.	SQUARE
ST.	STAINED
STD.	STANDARD
S.S. / ST.STL.	STAINLESS STEEL
STRUC.	STRUCTURE
SUSP.	SUSPENDED
SW.BD.	SWITCHBOARD
SYS.	SYSTEM
T.	TREAD
T.C.	TOP OF CURB
T.G.	TEMPERED GLASS
T.O.	TOP OF
T.S.D.	TOP OF STEEL DECK
T.W.	TEACHERS WARDROBE
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
V.	VENT
VERT.	VERTICAL
V.G.	VERTICAL GRAIN
VEST.	VESTIBULE
V.C.T.	VINYL COMPOSITION TILE
VCP	VITREOUS CLAY PIPE
W.W.M.	WELDED WIRE MESH
W.C.	WATER CLOSET
W.H.	WATER HEATER
W.F.	WIDE FLANGE
W/	WITH
W/O	WITHOUT
WD.	WOOD
WDW.	WINDOW
W.W.	WINDOW WALL

LOCATION PLAN

NORTH

AREA OF CONSTRUCTION



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SHEET INDEX

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Saint Luke's East Hospital

ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

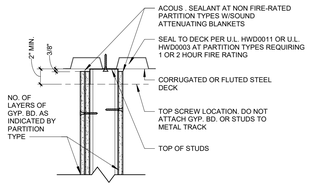
Date	07.02.2021
Job Number	3-21014
Drawn By	BRD
Checked By	GS

Revision

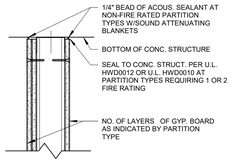
Number	Date	Description

A0.1

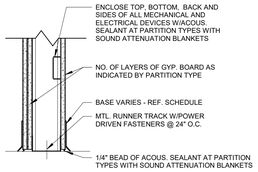
COVER SHEET



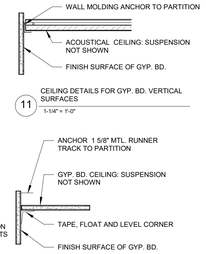
2 TOP ANCHORAGE OF PARTITION TO METAL DECK
1-1/2" = 1'-0"

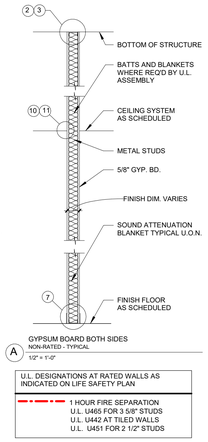


3 TOP ANCHORAGE OF PARTITION TO CONCRETE STRUCTURE SEE 3A AND 3B FOR ADDITIONAL INFORMATION
1-1/2" = 1'-0"



7 FLOOR ANCHORAGE OF PARTITION
1-1/2" = 1'-0"

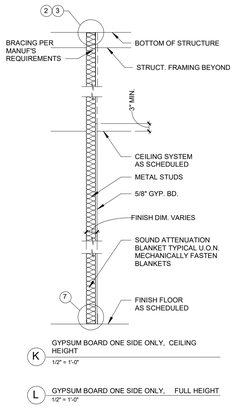




A GYPSUM BOARD BOTH SIDES
NON-RATED - TYPICAL
1/2" = 1'-0"

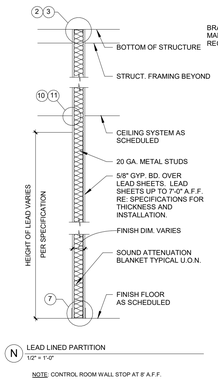
U.L. DESIGNATIONS AT RATED WALLS AS INDICATED ON LIFE SAFETY PLAN

1 HOUR FIRE SEPARATION
U.L. U465 FOR 3 5/8" STUDS
U.L. U442 AT TILED WALLS
U.L. U451 FOR 2 1/2" STUDS



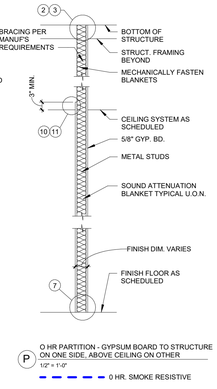
K GYPSUM BOARD ONE SIDE ONLY, CEILING HEIGHT
1/2" = 1'-0"

L GYPSUM BOARD ONE SIDE ONLY, FULL HEIGHT
1/2" = 1'-0"



N LEAD LINED PARTITION
1/2" = 1'-0"

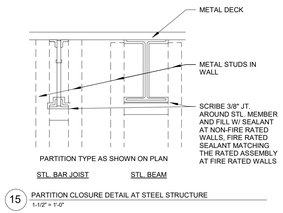
NOTE: CONTROL ROOM WALL STOP AT 8' A.F.F.



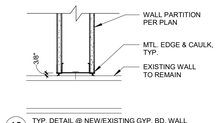
P 0 HR PARTITION - GYPSUM BOARD TO STRUCTURE ON ONE SIDE, ABOVE CEILING ON OTHER
1/2" = 1'-0"

0 HR. SMOKE RESISTIVE

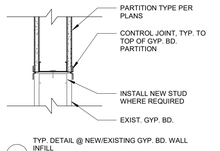
13 ONE HOUR RATED CONTROL JOINT WHI-495-PSV-0824
1-1/2" = 1'-0"



15 PARTITION CLOSURE DETAIL AT STEEL STRUCTURE
1-1/2" = 1'-0"



16 TYP. DETAIL @ NEW/EXISTING GYP. BD. WALL
1-1/2" = 1'-0"



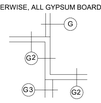
17 TYP. DETAIL @ NEW/EXISTING GYP. BD. WALL INFILL
1-1/2" = 1'-0"

PARTITION GENERAL NOTES

1. UNLESS NOTED OTHERWISE, ALL INTERIOR METAL STUDS ARE 3 5/8" THICK. REFER TO SUFFIX SCHEDULE BELOW FOR LOCATIONS OF METAL STUDS OTHER THAN 3-5/8" THICK. NOTE: STUD THICKNESS (GAUGE) MUST CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR SPAN (HEIGHT OF STUD)
2. WHERE THE PARTITION TYPE INDICATION IS SHOWN WITH A NUMERICAL SUFFIX, THE METAL STUD THICKNESS SHALL BE AS SCHEDULED BELOW:

SUFFIX	MTL. STUD THICKNESS
1	1-5/8" MTL. STUDS
2	2-1/2" MTL. STUDS
3	6" MTL. STUDS
4	8" MTL. STUDS

3. UNLESS NOTED OTHERWISE, ALL INTERIOR DRYWALL PARTITIONS INDICATED ON THE FLOOR PLAN DRAWING ARE TYPE 'A' PARTITIONS. WHERE OCCURS, RATINGS ARE AS INDICATED ON THE LIFE SAFETY PLANS.
4. ALL STUDS ARE CONTINUOUS FROM FLOOR STRUCTURE TO CEILING STRUCTURE UNLESS NOTED OTHERWISE.
5. METAL STUDS ARE SPACED @ 16" O.C. MAX., UNLESS NOTED OTHERWISE.
6. UNLESS NOTED OTHERWISE, ALL GYPSUM BOARD IS TO BE 5/8" THICK "FIRECODE".
7. THE LOCATION OF A CHANGE IN THE PARTITION TYPE IS INDICATED BY A WALL TAG.



8. THE CORRESPONDING RATED ASSEMBLIES ARE INDICATED BELOW THE PARTITION TYPES.
9. PARTITION TYPE DESIGNATIONS ARE INDICATED ON THE FLOOR PLAN DRAWINGS.
10. PARTITION TYPES DO NOT INCLUDE APPLIED FINISHES CALLED FOR IN THE ROOM FINISH SCHEDULE.
11. AT PARTITION TYPES WHERE MTL. STUDS ARE EXPOSED ON ONE OR BOTH SIDES, CUT STUD 1/4" SHORT AND SCREW BOTH SIDES TO MTL. RUNNER TRACK.

CODE SUMMARY

Project Construction Purpose: Interior replacement and addition of x-ray equipment and new x-ray room.

Project Address:
Rockhill Orthopeadics
100 NE Saint Luke's Boulevard

Code Information
2018 International Building Code
2018 International Plumbing Code
2018 International Mechanical Code
2018 International Fuel Gas Code
2018 International Fire Code
2017 National Electrical Code
2009 ICC/ANSI A117.1 as amended and adopted by the City of Lee's Summit

State of Missouri Dept. of Health & Environment references the following codes:
2012 NFPA 101 Life Safety Code (LSC)
2014 FGI Guidelines for Design & Construction of Hospitals & Outpatient Facilities

Owner Information
Saint Luke's Lee's Summit
100 NW Saint Luke's Blvd
Lee's Summit, MO 64063

Designer Information
ACI Boland Architects
1710 Wyandotte St.
Kansas City, MO 64108
Phone: (816) 763-9600
Fax: (816) 763-9757

Local Authority
Responding Fire Service: Lee's Summit Fire Department
Local Building Inspection:Lee's Summit, MO -Codes Administration Department

Type of Construction: Type 1-A ,Section 602.2
(Type 1 - 332 Sprinklered - Section 18.1.6.1)

Area of Renovation: 755+/- SF

Occupancy Group: B - Buisness - professional services - Section 304

Occupant Load:
Total 2nd floor Square Footage = 19,000SF / 100
Total Number of Occupants = 190

Required Fire Resistance Ratings (in hours)
Per NFPA 101 A.8.2.1.2:

Exterior Bearing Walls	3 HR
Interior Bearing Walls	3 HR
Primary Structural Frame	3 HR
Floor Construction	2 HR
Roof Construction	1 1/2 HR
Interior non-bearing walls	0 HR

Active Fire Safety Features:
- Fire Alarm System - The fire alarm system is specified as an addressable type system. The device type and locations are per the applicable codes as well as ADA requirements.

- Smoke Control System - All ductwork penetrating smoke rated walls will have a smoke or combination fire/smoke damper as indicated on construction documents. These dampers will close upon detection of smoke by the area smoke detectors or duct smoke detectors in the air handling units.

- Fire Sprinkler System - Specified to be per NFPA 13. The sprinkler heads are specified to be quick response type.

- Emergency Lighting and Power - Emergency lighting, life safety and critical loads will receive power from a backup generator located outside the main electrical room.

- Illuminated Exit Signs

Passive Fire Safety Features:

- Smoke Compartments no greater than 22,500 SF

CODE FOOTPRINT LEGEND

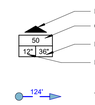
PARTITION TYPES

- 0 HR SMOKE PARTITION (SMOKE RESISTIVE)
- 1 HR SMOKE BARRIER
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR FIRE SMOKE BARRIER

AREA DESIGNATIONS

- HAZARDOUS ROOM
- EXIT ENCLOSURE
- SHAFT
- NOT IN ARCHITECTURAL SCOPE

SYMBOLS



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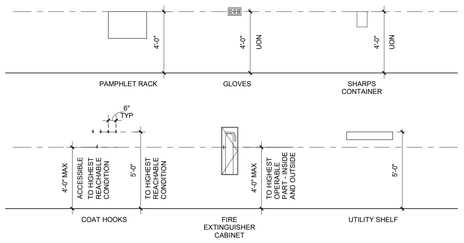

EQUIPMENT MOUNTING HEIGHTS
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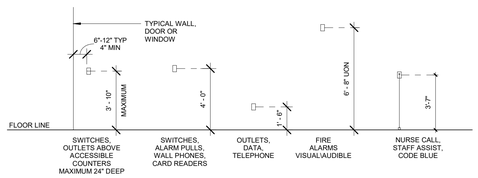

ELECTRICAL DEVICE MOUNTING HEIGHTS
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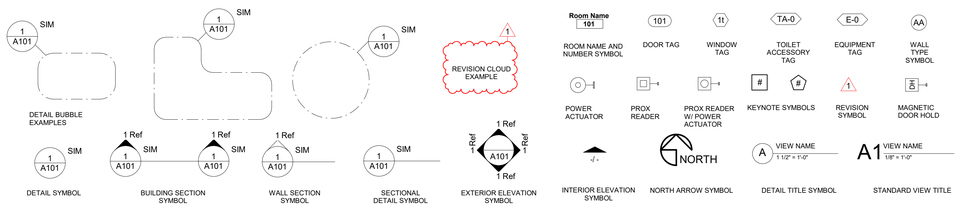

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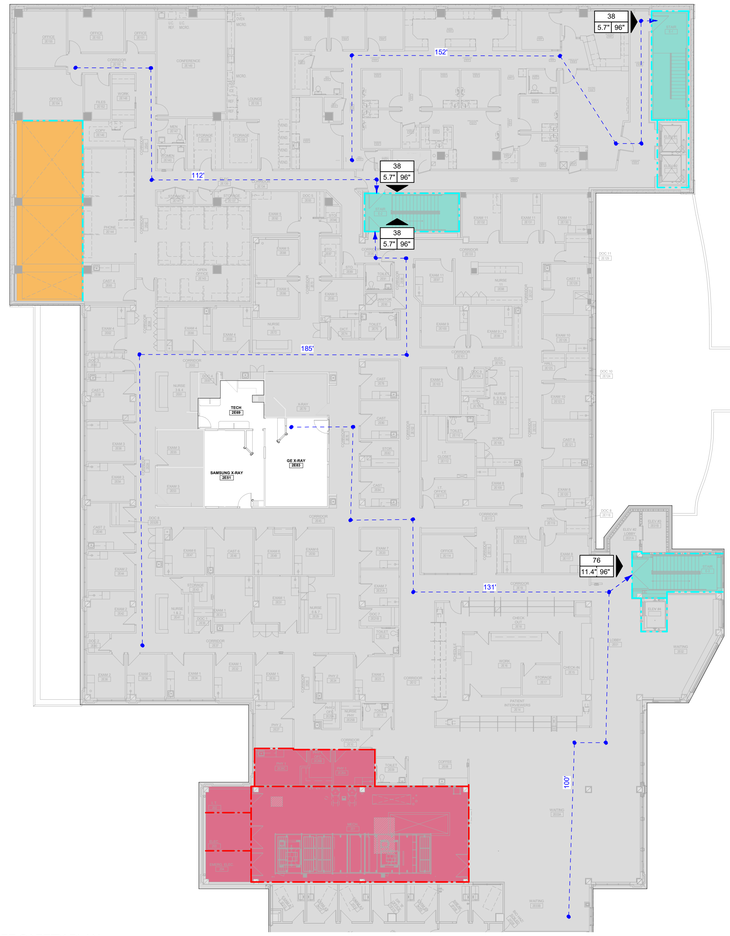

LIFE SAFETY PLAN
1/16" = 1'-0"

NORTH

**THIS DRAWING IS INTENDED TO BE PRINTED IN COLOR. USE BLACK AND WHITE COPIES AT YOUR OWN RISK.*

SAMUEL K. BECKMAN
LICENSED
6037
KANSAS
ARCHITECT

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Saint Luke's East Hospital

ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

Date	07.02.2021
Job Number	3-21014
Drawn By	BRD
Checked By	GS

Revision

Number	Date	Description

A0.2

CODE FOOTPRINT PLAN AND WALL PARTITIONS

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KEYNOTES - DEMO PLAN

NUMBER	COMMENTS
1	REMOVE EXISTING X-RAY ROOM 2E81 IN IT'S ENTIRETY
2	REMOVE EXISTING DOOR AND FRAME
3	REMOVE EXISTING X-RAY ROOM 2E83 IN IT'S ENTIRETY. SAVE ALL WALL MOUNTED ACCESSORIES
4	REMOVE AND SAVE EXISTING X-RAY EQUIPMENT
5	REMOVE EXISTING STORAGE ROOM, AND TECH ROOM. SAVE FURNITURE AND ACCESSORIES
6	REMOVE EXAM ROOM 6 AND DOC 6 IN IT'S ENTIRETY
7	REMOVE EXISTING TECH DESK AND UPPER CABINETS. SALVAGE EXISTING BASE FILE CABINET
8	REMOVE EXISTING WINDOW AND PORTION OF EXISTING WALL
9	REMOVE EXISTING FLOOR, BASE, AND CEILING TO COORDINATE WITH NEW CONSTRUCTION. PREP SUBFLOOR TO RECEIVE NEW FLOORING
10	PREP EXISTING WALLS FOR PAINT
11	REMOVE AND SALVAGE ALL WALL MOUNTED ACCESSORIES
12	REMOVE PORTION OF EXISTING WALL TO COORDINATE WITH NEW CONSTRUCTION
13	REMOVE EXISTING TECH DESK. CASEWORK AND UPPER CABINETS.
14	TEMPORARY DUST PARTITION CONSTURCTION DOOR - LOCATE AS NEEDED TO PROVIDE SAFE AND SECURE ENTRY TO SITE
15	REMOVE EXISTING DOOR AND FRAME. SALVAGE DOOR AND HARDWARE FOR NEW LOCATION

DEMOLITION LEGEND

NOT IN SCOPE

EXISTING WALL, DOOR, FRAME AND HARDWARE TO REMAIN

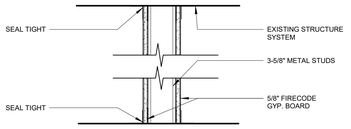
WALLS, DOORS, DOOR/WINDOW FRAMES, EQUIPMENT, FIXTURES, ETC. INDICATED BY DASHED LINES WITHIN THE AREA OF CONSTRUCTION SHALL BE REMOVED. REFER TO THIS SHEET FOR ARCHITECTURAL DEMOLITION NOTES.

DP

DUST PARTITIONS - THE CONTRACTOR SHALL MAKE EVERY EFFORT TO ENSURE THE EXISTING BUILDING TO BE COMPLETELY PROTECTED AGAINST INFILTRATION OF DUST AND MOISTURE DURING THE COURSE OF DEMOLITION/ CONSTRUCTION WITH DUST PARTITIONS ACROSS CORRIDORS AND OPENINGS THRU EXISTING WALLS. ALL CONSTRUCTION WORK CREATING ANY TYPE OF DUST THROUGHOUT THE BUILDING SHALL BE SHIELDED BY DUST PROTECTION. PROVIDE DOOR OPENING AS REQUIRED FOR EMERGENCY EGRESS.

DB

DUST BARRIERS - (2) LAYERS 6 MIL PVC W/ STUDS @ 4'-0" O.C. DUST BARRIER. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO ENSURE THE EXISTING BUILDING TO BE COMPLETELY PROTECTED AGAINST THE INFILTRATION OF DUST & MOISTURE DURING THE COURSE OF DEMOLITION/ CONSTRUCTION. PROVIDE DOOR OPENING AS REQUIRED FOR EMERGENCY EGRESS.



WHERE DUST PARTITIONS ARE TO REMAIN THROUGH CONSTRUCTION, THEY SHALL BE CONSTRUCTED OF 3-5/8" METAL STUDS WITH CONTINUOUS TOP AND BOTTOM RUNNERS. PARTITIONS SHALL EXTEND TIGHT FROM FLOOR TO THE EXISTING CEILING OR STRUCTURE ABOVE, AND COPED AROUND DUCTS, PIPES, ETC., THAT PENETRATE THE PARTITION. THE ENTIRE PARTITION SHALL BE COVERED WITH 5/8" FIRE RATED GYP. BOARD SCREWED TO STUDS, ALL JOINTS BETWEEN SHEATHING, AT WALLS, AT FLOORS, CEILINGS, AROUND PIPES, ETC., TAPED AND SEALED TIGHT TO ENSURE DUST-PROOFING.

THE CONTRACTOR SHALL COVER AND SEAL IN A DUST-TIGHT MANNER ALL EXISTING OPENINGS, GRILLES, JOINTS AROUND DOORS AND FRAMES, ETC., WITH FIRE RETARDANT SHEET AND/OR TAPE AS APPROPRIATE WHERE SUCH OPENINGS, ETC., OCCUR IN EXISTING PARTITIONS SEPARATING EXISTING AREAS FROM CONSTRUCTION AREAS. THE CONTRACTOR SHALL MAINTAIN AND REPAIR ANY DUST BARRIERS AS DETERMINED BY, AND TO THE SATISFACTION OF, THE OWNER.

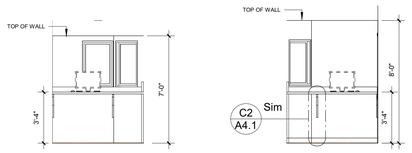
SMOKE TIGHT (NON-COMBUSTIBLE CONSTRUCTION PARTITION)
1 1/2" = 1'-0"

GENERAL DEMOLITION NOTES

1. THE OWNER SHALL VACATE THE EXISTING ROOMS AS INDICATED ON THE PLAN AND BE RESPONSIBLE FOR THE REMOVAL OF ANY EQUIPMENT WHICH IS TO REMAIN THE PROPERTY OF THE OWNER PRIOR TO ANY WORK DONE BY THE CONTRACTOR FOR THIS PORTION OF THE SEQUENCE.
2. INSTALL TEMPORARY DUST PARTITION AND/OR BARRIERS AND OTHER METHODS AS MAY BE REQUIRED/NECESSARY AS INDICATED ON THE PLAN AND AS NECESSARY TO CONTAIN DEMOLITION/ CONSTRUCTION DUST AND DEBRIS WITHIN THE AREA OF CONSTRUCTION. REFER TO DUST PARTITION "DP" ON THIS SHEET AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. IT IS THE INTENT OF THIS DEMOLITION TO REMOVE ALL EXISTING CONSTRUCTION WHICH CONFLICTS WITH THE INTENT OF THE NEW CONSTRUCTION. EVERY DEMOLITION DETAIL MAY NOT NECESSARILY BE COVERED ON THESE DRAWINGS. FIELD VERIFY THE EXTENT OF ALL DEMOLITION.
4. THE CONTRACTOR SHALL USE EXTREME CARE IN THE PROTECTION OF ALL ADJACENT AREAS FOR IT IS IMPERATIVE TO PROVIDE CONTINUOUS OPERATION OF ALL OCCUPIED AREAS DURING THE DEMOLITION, CONSTRUCTION AND RENOVATION.
5. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITHIN OCCUPIED SPACES ABOVE, BELOW AND ADJACENT TO THE WORK. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE MANAGEMENT OF THE OCCUPIED SPACES ABOVE, BELOW, AND ADJACENT TO THE WORK. TWO WEEKS PRIOR TO COMMENCING WORK. SUCH SPACES ARE TO REMAIN OCCUPIED DURING DEMOLITION AND ALL WORK SHALL BE PERFORMED IN SUCH A MANNER TO MINIMIZE DISRUPTION TO OCCUPIED SPACES. EXISTING FLOOR, WALL AND CEILING FINISHES TO REMAIN SHALL BE PROTECTED AND ANY DAMAGE DONE AS A RESULT OF DEMOLITION WORK SHALL BE REPAIRED.
6. IN AREAS SCHEDULED FOR DEMOLITION, THE CONTRACTOR SHALL REMOVE ALL ACCESSORIES. GRAB BARS, MIRRORS, SOAP AND PAPER TOWEL DISPENSERS, SHELVES, BULLETIN BOARDS, ETC., SHALL BE TURNED OVER TO THE OWNER, EXCEPT FOR RELOCATED ITEMS.
7. WHERE NEW FINISHES ARE CALLED FOR, REMOVE AND DISCARD EXISTING FLOORING, CEILINGS AND WALL COVERING THROUGH-OUT AREA DESIGNATED FOR NEW CONSTRUCTION AND PREP EXISTING FLOOR AND WALL SUBSTRATE TO RECEIVE THE INSTALLATION OF NEW FINISH AS SCHEDULED.
8. SEE NEW WORK PLAN FOR REPAIR AND PREPARATION OF ADJACENT SURFACES.
9. WHERE CEILING IS TO REMAIN, REMOVE ALL DAMAGED CEILING PANELS/ TILES AND REPLACE WITH NEW TO MATCH EXISTING.
10. REMOVE AND RETURN TO THE OWNER ALL EXISTING PLUMBING FIXTURES. CAP ALL SUPPLY AND WASTE LINES AS REQUIRED. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
11. THE CONTRACTOR SHALL PATCH TO MATCH ADJACENT SURFACES OF EXISTING WALLS. FLOOR, AND CEILINGS IN ALL AREAS THAT REQUIRE THE REMOVAL OF GENERAL MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION WORK AND OF EQUIPMENT AND FIXTURES.
12. THE CONTRACTOR SHALL PROVIDE FOR ALL NECESSARY TEMPORARY RELOCATION AND MAINTENANCE OF ALL EXISTING UTILITIES WHICH ARE CURRENTLY IN USE AND WHICH MUST BE TEMPORARILY RELOCATED DURING CONSTRUCTION OF NEW AREAS AND RENOVATION OF EXISTING AREAS.
13. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR WORK REQUIRED FOR NEW CONSTRUCTION.
14. WHERE REMOVAL OF EXISTING PARTITIONS, EQUIPMENT, ETC. DISTURBS EXISTING MECHANICAL, PLUMBING OR ELECTRICAL SERVICES, THE CONTRACTOR SHALL MAKE PERMANENT REVISIONS/PROVISIONS AS REQUIRED T MAINTAIN SERVICES AND IF NECESSARY, PROVIDE TEMPORARY SERVICES TO AREAS NOT SCHEDULED FOR DEMOLITION, RENOVATION, AND/OR NEW CONSTRUCTION.
15. WHERE EXISTING WALLS, CEILINGS, OR FLOORS ARE DAMAGED BY THE CONTRACTOR FOR ACCESS TO SERVICES AND NEW CONSTRUCTION WHICH MAY NOT BE INDICATED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE TO PATCH TO MATCH MATERIAL AND FINISHES TO ORIGINAL CONDITIONS. IF EXISTING FINISHES CANNOT BE MATCHED, THE ENTIRE WALL, CEILING, OR FLOOR SHALL BE REFINISHED TO THE NEAREST CORNER OR POSITIVE BREAKING POINT.
16. WHEN DEMOLITION CAUSES DAMAGE TO FLOOR SLAB, WALL, OR CEILING SURFACES WHICH WILL REMAIN EXPOSED IN THE FINISHED WORK, SUCH CONDITIONS SHALL BE REPAIRED AND LEVELED AS REQUIRED TO RECEIVE NEW FINISHES.
17. WHEN DEMOLITION EXPOSES DAMAGE TO FLOOR SLAB, WALL, OR CEILING SURFACES WHICH WILL REMAIN EXPOSED IN THE FINISHED WORK, SUCH CONDITIONS SHALL BE REPORTED TO THE ARCHITECT AND OWNER WITH A RECOMMENDATION FOR RESOLUTION OF THE CONDITIONS.
18. CLEAN AIR GRILLES AND LIGHT FIXTURES THROUGHOUT PROJECT AREA UPON COMPLETION OF WORK.
19. WHERE EXISTING PHONE, DATA, OR PHONE/DATA OUTLETS ARE REMOVED, THE CONTRACTOR SHALL USE EXTREME CARE IN PULLING WIRE THROUGH THE EXISTING CONDUITS, COIL AND WRAP ABOVE EXISTING CEILING FOR REUSE.
20. WHERE EXTERIOR WALLS, WINDOWS, AND/OR DOORS ARE BEING REMOVED, THE CONTRACTOR WILL BE RESPONSIBLE TO CONSTRUCT TEMPORARY PARTITIONS AS REQUIRED TO ENSURE THAT THE EXISTING BUILDINGS REMAIN WATERTIGHT, SECURE, AND WITHOUT DRAFTS DURING DEMOLITION WORK. THESE PARTITIONS SHALL REMAIN IN PLACE DURING THE NEW CONSTRUCTION WORK, OR AS REQUIRED TO MAINTAIN THIS SEPARATION.
21. PROVIDE SHORING AND BRACING AS REQUIRED DURING DEMOLITION AND NEW CONSTRUCTION.

D3 REFLECTED CEILING PLAN
1/4" = 1'-0"

NORTH



C3 X-RAY 1 CONTROL
1/4" = 1'-0"

C2 X-RAY 2 CONTROL
1/4" = 1'-0"

A4 DEMO FLOOR PLAN
1/4" = 1'-0"

NORTH

A2 SECOND FLOOR PLAN
1/4" = 1'-0"

NORTH

REFLECTED CEILING NOTES

1. EXISTING MEPFP DEVICES SHOWN ARE BASED ON EXISTING DRAWINGS AND/OR FIELD OBSERVATIONS. THE OWNER/ARCHITECT DOES NOT GUARANTEE THE ACCURACY/LOCATION OR QUANTITY OF EXISTING DEVICES.
2. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO MEET AND COMPLETE THE REQUIREMENTS OF THE NEW CONSTRUCTION.
3. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE PATCHED, REPAIRED, AND PREP AS REQUIRED FOR NEW FINISH APPLICATION.
4. SEE FINISH SCHEDULE FOR FINISH LOCATION AND SPECIFICATIONS.
5. PAINT THE UNDERSIDE OF ALL GYPSUM BOARD CEILINGS, BULKHEADS AND SOFFITS (PT-4) UNLESS NOTED OTHERWISE.
6. HIS PLAN SHALL BE USED TO COORDINATE THE CEILING LAYOUT WITH MECHANICAL AND ELECTRICAL WORK. VERIFY THE EXACT QUANTITY REQUIRED.
7. CONTRACTOR TO REFER TO THE ELECTRICAL PLANS FOR ACTUAL LIGHTING SIZES AND FIXTURE TYPES.
8. SEE SPECIFICATIONS FOR CEILING TYPES.
9. REFER TO ARCHITECTURAL FLOOR PLANS FOR MATERIAL LEGEND OF ALL TYPES.
10. ALL CEILINGS SHALL BE 9'-0" AFF UNLESS OTHERWISE NOTED.

CEILING LEGEND

RECESSED CAN LIGHT FIXTURE RE: ELECT

2X4 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT

2X2 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT

SURFACE-MOUNTED LIGHT FIXTURE RE: ELECT

2X4 RECESSED/SURFACE PSYCHIATRIC LIGHT FIXTURE RE: ELECT

C3 GYP BOARD CEILING - PAINTED W/ CONTROL JOINTS PER SPECS

2X2/2x4 LAY-IN ACOUSTICAL CEILING

SUPPLY AIR GRILLE RE: MECH

RETURN AIR OR EXHAUST GRILLE RE: MECH

9'-0" SOFFIT HEIGHT

9'-0" CEILING HEIGHT

KEYNOTES - RCP

Number	Comments
1	MATCH ORIGINAL CEILING HEIGHT
2	EQUIPMENT RAILS SUPPORTED WITH NEW UNI-STRUT STRUCTURE ABOVE CEILING. PROVIDE DRAWINGS FROM UNISTRUT, SIGNED AND SEALED BY AN ENGINEER IN THE STATE OF MISSOURI VERIFYING SUPPORT OF NEW LOADS TO EXISTING STRUCTURE. RE: VENDOR DRAWINGS.
3	ADJUST EXISTING SPRINKLER HEADS TO MATCH NEW CEILING HEIGHT
4	NEW LIGHTS, RE: ELECT. COORDINATE LAYOUT WITH CEILING MOUNTED EQUIPMENT

GENERAL PLAN NOTES

1. ALL WORK SHALL COMPLY WITH LOCAL CODES AND ORDINANCES AND GENERAL NOTES AS APPLICABLE.
2. DO NOT SCALE DRAWINGS
3. THE WORD "ALIGN" AS USED IN THESE DOCUMENTS SHALL SUPERSEDE ANY DIMENSIONAL INFORMATION GIVEN.
4. TYPICAL DIMENSIONS ARE TO FACE OF CONCRETE, DRYWALL, CURTAIN WALL, ETC., OR TO COLUMN CENTERLINE. DIMENSIONS AT WINDOWS ARE TYPICALLY TO FACE OF FRAME. REFER TO PLAN DETAILS FOR ADDITIONAL INFORMATION.
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING CODES AND REGULATIONS.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING PERMITS.
7. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ARCHITECT OF ANY INCONSISTENCIES OR DISCREPANCIES WITH THE PROJECT DOCUMENTS. ACCESS TO THE SITE AND/OR SPACE UNDER CONSTRUCTION DURING BIDDING AND CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER.
8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. THE SUBSTRATE SHALL BE SMOOTH AND FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISHED MATERIAL MANUFACTURERS RECOMMENDATIONS.
9. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO MEET AND COMPLETE THE REQUIREMENTS OF THE NEW CONSTRUCTION.
10. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE PATCHED, REPAIRED, AND PREP AS REQUIRED FOR NEW FINISH APPLICATION.
11. DO NOT CLOSE OR OBSTRUCT WALKWAYS, EXITS, OR OTHER FACILITIES USED BY OCCUPANTS OF BUILDINGS WITHOUT WRITTEN PERMISSION FROM AUTHORITIES HAVING JURISDICTION
12. CONDUCT ALL OPERATIONS IN A SAFE WORKING MANNER TO PREVENT DAMAGE OR INJURY TO ADJACENT SPACES, BUILDING, STRUCTURE, OTHER FACILITIES, AND PERSONS.
13. IF MATERIAL SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB, IMMEDIATELY NOTIFY ARCHTECT AND OWNER. OWNER SHALL COORDINATE WITH CONTRACTOR ON THE REMOVAL OF SUCH ITEMS. WORK MAY PROCEED AFTER HAZARDOUS MATERIAL HAS BEEN REMOVED.
14. CONTRACTOR SHALL FURNISH AND INSTALL CONCEALED FIRE-TREATED WOOD BLOCKING BEHIND ALL CABINETS, TOILET ACCESSORIES, PLUMBING FIXTURES, AND OTHER WALL MOUNTED ITEMS AS REQUIRED FOR ADEQUATE SUPPORT.
15. UPON VERIFICATION OF THE EXISTING CONDITIONS, THE CONTRACTOR SHALL DETERMINE AND RECOMMEND THE BEST ACTION TO MINIMIZE THE EXTENT OF REMOVAL WORK FOR INSTALLATION OF NEW WORK.
16. SEE FINISH SCHEDULE FOR FINISH LOCATION AND SPECIFICATIONS.
17. SEE DOOR SCHEDULE FOR DOOR SPECIFICATIONS.
18. CONFIRM FINAL MOUNTING LOCATION OF ALL OFCI EQUIPMENT.
19. SLAB MUST BE THICK ENOUGH TO EMBED GE PROVIDED ANCHORS TO 3.54". IF THIS THICKNESS ISN'T POSSIBLE, CONTRACTOR MUST PROVIDE ANCHORING SOLUTION.
20. VERIFY FLOOR LEVELNESS NOT TO EXCEED .2" OVER 10 FOOT
21. CONTRACTOR MUST VERIFY THAT THERE ARE NO ANCHORING CONFLICTS PRIOR TO INSTALL BEGINNING OF X-RAY EQUIPMENT

FLOOR PLAN LEGEND

NOT IN SCOPE

EXISTING WALL

NEW WALL

EXISTING EXPANSION JOINT

EXPANSION JOINT

EXISTING DOOR

DOOR No.

NEW DOOR

FFE SCHEDULE

TYPE MARK	DESCRIPTION	RESPONSIBILITY	COMMENTS
A5077	HAND SANITIZER	OFCI	
M1801	Computer Monitor	OFCI	NEW CONSTRUCTION

KEYNOTES - FLOOR PLAN

NUMBER	COMMENTS
1	NEW WALL INFILL, PATCH AND PAINT CORRIDOR SIDE TO MATCH ADJACENT FINISH, RE: FINISH SCHEDULE
2	NEW LEAD LINED DOOR AND FRAME AT EXISTING OPENING, RE: DOOR SCHEDULE
3	UPPER AND LOWER CASEWORK BY FURNITURE SUPPLIER
4	NEW 30" CASED OPENING WITH 7'-0" HEADER RE: FRAME TYPE 7
6	MODIFY EXISTING WALL TO MEET WALL TYPE "N" CONSTRUCTION - LEAD LINED WALL PARTITION
7	INSTALL NEW X-RAY EQUIPMENT GE OPTIMA XR646 , RE: VENDOR PLANS
8	INSTALL EXISTING X-RAY EQUIPMENT SAMSUNG GC85, RE: VENDOR PLANS
9	REINSTALL SALVAGED EQUIPMENT, ACCESSORIES, SIGNAGE, ETC AS DIRECTED BY OWNER. ENSURE IN-WALL FRT BLOCKING IS PROVIDED AS REQUIRED.
10	NEW SOLID SURFACE TECH DESK, VERIFY WITH OWNER GROMMET LOCATION
11	"X-RAY IN USE" SIGNAGE

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A2.1

FIRST FLOOR DEMO, DIMENSION, AND RCP PLAN

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GENERAL FINISH NOTES

1. SUBMIT SAMPLES OF ALL FINISHES TO ARCHITECT FOR REVIEW PRIOR TO THE ORDERING OF MATERIAL.
2. NO IRREGULARITIES OR IMPERFECTIONS SHALL BE PRESENT IN ANY OF THE MATERIAL BEING INSTALLED. IF SUCH ITEMS ARE IDENTIFIED DURING APPLICATION, WORK SHALL BE STOPPED AND THE ARCHITECT NOTIFIED.
3. PROVIDE ALL MAINTENANCE MANUALS AND WARRANTY INFORMATION FOR EACH FINISH MATERIAL TO OWNER AT COMPLETION OF THE PROJECT.
4. PAINT THE UNDERSIDE OF ALL GYPSUM BOARD CEILINGS, BULKHEADS AND SOFFITS (PT-4) UNLESS NOTED OTHERWISE.
5. FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE WORK OF FINISH APPLICATIONS.
6. ALL FINISHES SHALL BE INSTALLED AND MAINTAINED PER MANUFACTURER'S RECOMMENDATION AND INDUSTRY STANDARDS.
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. SUBSTRATE SHALL BE SMOOTH, FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISHED MATERIAL MANUFACTURERS RECOMMENDATIONS.
8. ALL MATERIAL TO COMPLY WITH FLAME SPREAD CLASSIFICATION EITHER CLASS (1) ONE OR CLASS A DEPENDING ON GOVERNING CODE IN EFFECT.
9. SMOKE DEVELOPMENT RATING < 450 FOR ALL FINISHES.

INTERIOR FINISH LEGEND

MARK	ITEM	MANUFACTURER	MODEL/ PATTERN	COLOR	SIZE	REMARKS
FLOOR						
LVT-1	LUXURY VINYL TILE	MANNINGTON	AMTICO WOOD	REGENCY WALNUT AROW8200	4-1/2" X 36"	STRAIGHT EDGE ONLY. RANDOM INSTALLATION
RSF-1	RESILIENT SHEET FLOORING	ARMSTRONG	MEDINTONE, DIAMOND 10	#H5311- NATURAL WHITE	6'-0" ROLL	WELD ROD W0288. HOMOGENEOUS FLOORING
BASE						
IB-1	INTEGRAL BASE	ARMSTRONG	MEDINTONE, DIAMOND 10	#H5311- NATURAL WHITE	6" COVE	J MOLD SCHLUTER STRIP AT THE TOP; TO BE USED WITH RSF-1
RB-2	RESILIENT BASE	ROPPE	PINNACLE	#129 DOLPHIN	4" COVE	ALL CAMPUSES- SUPPORT SERVICES SPACES
WALL						
CG-2	CORNER GUARD	C/S ACROVYN	SM-20AN-ACROVYN-4000	#658 PUMICE	3"	90 DEGREE. ABOVE BASE TO CEILING/INCLUDE ALL TRIM AND ACCESSORIES PIECES
CG-3	CORNER GUARD	C/S ACROVYN	SSM-25AN-ACROVYN-4000	#658 PUMICE	2"	END WALL. ABOVE BASE TO CEILING/ INCLUDE ALL TRIM AND ACCESSORIES PIECES
CG-4	CORNER GUARD	C/S ACROVYN	SSM-20MN-ACROVYN-4000	#658 PUMICE	3"x3	SURFACE. 135 DEGREE/ AVOVE BASE TO CEILING/ INCLUDE ALL TRIM AND ACCESSORIES PIECES
PT-1/PT-1A	PAINT / EPOXY PAINT	SHERWIN WILLIAMS	SW7036	ACCESSIBLE BEIGE	---	FIELD PAINT; EGSHELL FINISH/ EPOXY FINISH
PT-4	PAINT	SHERWIN WILLIAMS	SW7509	TIKI HUT	---	DOOR FRAME PAINT, SEMI-GLOSS FINISH
PT-8/PT-8A	PAINT / EPOXY PAINT	SHERWIN WILLIAMS	SW7621	SILVERMIST	---	ACCENT PAINT; EGGSHELL FINISH/ EPOXY FINISH
WP-2	WALL PROTECTION	C/S ACROVYN	ACROVYN-4000	#658 PUMICE	4' X 10' SHEETS; .040" THICK	TYPICAL OVERALL WALL PROTECTION UNLESS OTHERWISE NOTED
CASEWORK						
PLAM-1	PLASTIC LAMINATE	WILSONART	#7965K-12	WALNUT HEIGHTS		CUSTOM 3MM PVC DOELLKEN WALNUT HEIGHTS 8707E5. RUN VERTICALLY
SSF-1	SOLID SURFACE	CORIAN	---	CLAM SHELL	1/2", 30" X 144" SHEET, 36" X 144"SHEET	
CEILING						
ACT-1	ACOUSTIC CEILING TILE	USG	RADAR CLIMA PLUS #2210	WHITE	2' X 2'	SQUARE EDGE, DONN DX TEE 15/16" GRID SYSTEM

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CASEWORK BASE CABINETS	CASEWORK WALL CABINETS	CASEWORK COUNTERTOPS	CASEWORK SINKS	CEILING	NOTES
2E51	SAMSUNG X-RAY	RSF-1	IB-1	PT-1	PT-8	---	PT-1	---	---	SSF-1	---	ACT-1	
2E69	TECH	LVT-1	RB-2	PT-1	PT-1	---	PT-1	---	---	----	---	ACT-1	WORK STATIONS BY JA MARSHALL
2E83	GE X-RAY	RSF-1	IB-1	PT-1	PT-1	---	PT-1	---	---	SSF-1	---	ACT-1	

GENERAL ROOM FINISH SCHEDULE NOTES

A	REFER TO FINISH PLAN AND INTERIOR ELEVATIONS FOR WALL FINISHES, WALL PROTECTION, CORNER GUARDS, WINDOW TREATMENTS, FLOOR FINISH APPLICATION AND LOCATIONS
B	ALL SOLID WOOD, WOOD VENEER, AND PLASTIC LAMINATE GRAIN SHALL BE VERTICALLY ORIENTED UNLESS OTHERWISE NOTED
C	DOOR FRAMES, HOLLOW METAL WINDOW FRAMES TO BE PT-4 UNLESS OTHERWISE NOTED
D	ALL FACES AND UNDERSIDES OF SOFFITS AND HEADERS TO BE PT-1 UNLESS OTHERWISE NOTED
E	WALL EXPANSION JOINTS TO BE PT-1 UNLESS OTHERWISE NOTED
F	ALL ELECTRICAL PANELS AND METAL GRILLES SHALL BE PTD TO MATCH ADJACENT WALL SURFACE UNLESS OTHERWISE NOTED
G	ALL COLUMN SURROUND FINISHES TO MATCH ADJACENT WALL SURFACE UNLESS OTHERWISE NOTED
H	WHERE A WALL IS INDICATED TO HAVE PARTIAL OR FULL HT WALL PROTECTION, THE ENTIRE WALL IS TO BE PTD PRIOR TO WALL PROTECTION INSTALLATION
I	EXTEND ALL FINISHES BENEATH, BEHIND, AROUND ALL CASEWORK, EQUIPMENT, SIGNAGE, ETC

DOOR SCHEDULE

DOOR #	ROOM NAME	DOOR INFORMATION WIDTH	HEIGHT	ELEV.	MATL.	FRAME INFORMATION ELEV.	MATL.	GLAZING	LABEL (MIN)	HARDWARE SET	OPENING DETAIL HEAD	JAMB	REMARKS	REV #
2E51	SAMSUNG X-RAY	3'-6"	7'-0"	F	WD	1	HM	NA	--	1	A5	A5	LEAD LINED. NO LOCKS	
2E52	TECH	3'-0"	7'-0"	F	WD	1	HM	NA	--	2	A5	A5	REUSE EXISTING DOOR AND HARDWARE. NEW FRAME	
2E83	GE X-RAY	3'-6"	7'-0"	F	WD	1	HM	NA	--	1	A5	A5	LEAD LINED, NO LOCKS	

DOOR & FRAME MAT'L LEGEND:

HM = HOLLOW METAL

WD = SOLID CORE WOOD

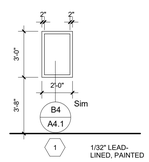
DOOR HARDWARE

HARDWARE SET 1
DOOR NUMBER: 2E51, 2E83

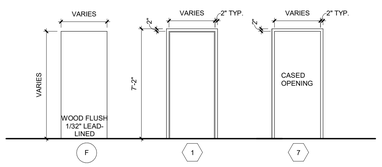
QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR.
1 EA	CONT. HINGE	112HD	AL	IVE
1 EA	PUSH/PULL	HUSL-A (LEAD LINED)	US26D	GL
1 EA	CLOSER	4041 REG	AL	LCN
1 EA	KICK PLATE	K1050 10"x40"	US32D	RO
1 EA	WALL STOP	409	U26D	RO
1 EA	SEALS	2525B	BRN	NGP

HARDWARE SET 2
DOOR NUMBER: 2E52

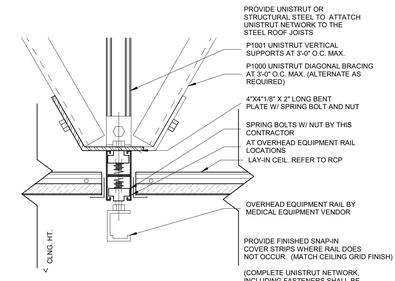
QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR.
3 EA	HINGE	ETR	ETR	ETR
1 EA	PASSAGE SET	ETR	ETR	ETR
1 EA	WALL STOP	409	U26D	RO



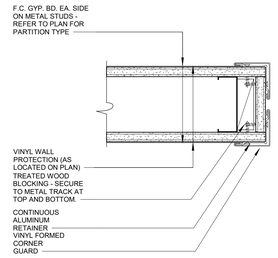
X-RAY TECH WINDOW ELEVATIONS:



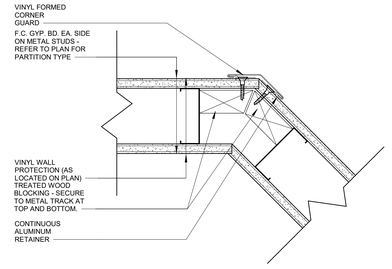
DOOR & FRAME ELEVATIONS:



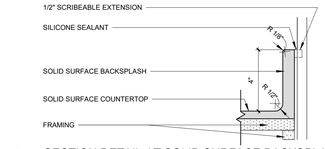
D4 CEILING DETAIL
3" = 1'-0"



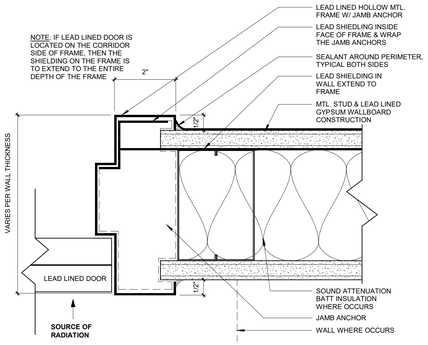
D3 TYPICAL DOUBLE VINYL CORNER GUARD
3" = 1'-0"



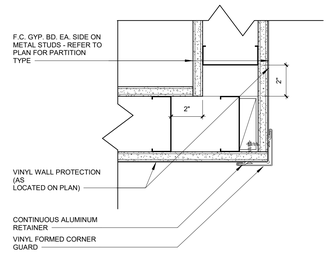
D2 TYPICAL ANGLED VINYL CORNER GUARD
3" = 1'-0"



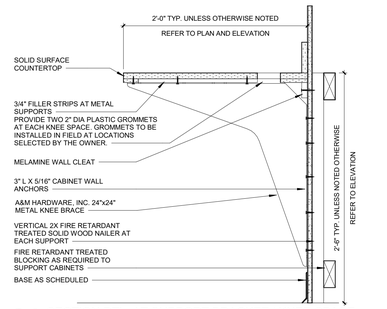
D1 SECTION DETAIL AT SOLID SURFACE BACKSPLASH
3" = 1'-0"



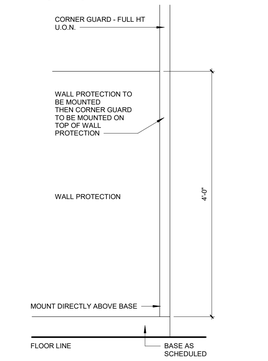
C4 LEAD-LINED H.M. DOOR FRAME JAMB / HEAD
6" = 1'-0"



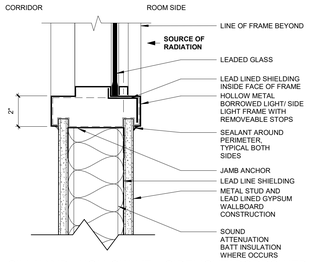
C3 TYPICAL SINGLE VINYL CORNER GUARD
3" = 1'-0"



C2 SECTION DTL. AT SUPPORT BRACKET / KNEE SPACE
1 1/2" = 1'-0"



C1 TYP. ELEV. OF WALL PROTECTION/ CORNER GUARD
1" = 1'-0"



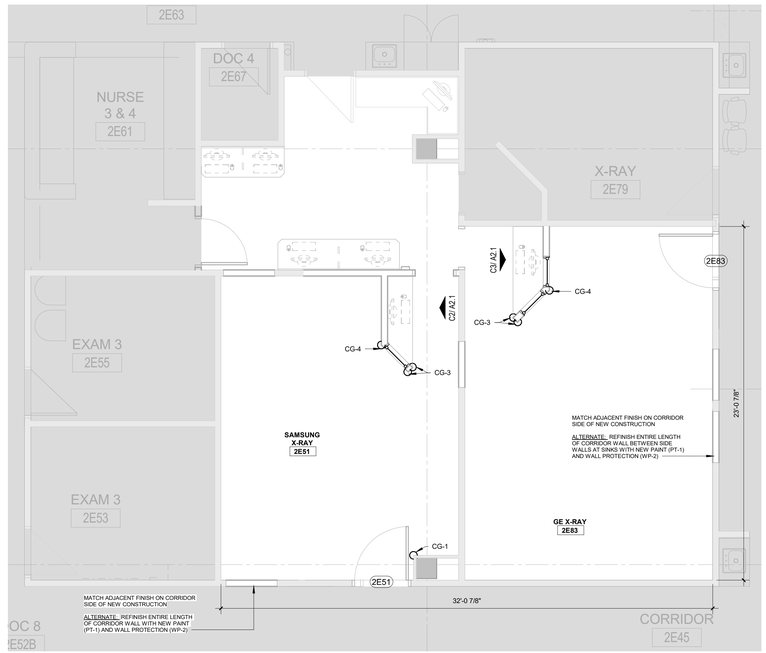
B4 SILL/JAMB - HOLLOW MTL. SIDELIGHT/ BORROWED LIGHT FRAME
3" = 1'-0"

GENERAL CASEWORK NOTES

1. GENERAL CASEWORK NOTES APPLY TO ALL INTERIOR ELEVATIONS.
2. PROVIDE 3 MM PVC EDGE BANDING ON COUNTERTOP EDGE AND (.018 MIN.) VINYL EDGING ON DRAWER, AND DOOR EDGES UNLESS NOTED OTHERWISE. EDGE BANDING TO MATCH ADJACENT P. LAM. SURFACE.
3. ALL EXPOSED FACES AND SHELVES TO BE WRAPPED WITH P. LAM. UNLESS NOTED OTHERWISE.
4. ALL INTERIOR SURFACES TO BE WHITE MELAMINE U.N.O.
5. PROVIDE WOOD BLOCKING OR 12" HIGH X 16 GA. CONTINUOUS SHEET METAL BRIDGING IN WALL AS REQUIRED FOR ADEQUATE SUPPORT OF ALL CASEWORK..
6. WALL BASE TO BE INSTALLED ON ALL CASEWORK UNLESS NOTED OTHERWISE. REFER TO FINISH SCHEDULE FOR TYPE.
7. "F" INDICATES FILLER PANEL, 1-1/2" MIN.
8. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK.
9. ALL ELECTRICAL, MECHANICAL, AND PLUMBING ITEMS SHOWN IN ELEVATION ARE FOR REFERENCE AND LOCATION ONLY. REFER TO MEP DRAWINGS FOR SIZES, TYPES AND QUANTITIES.
10. ALL SOFFITS ABOVE CASEWORK TO BE P. LAM. UNLESS NOTES OTHERWISE.

FINISH FLOOR PLAN LEGEND

	WALL TREATMENT
	FLOOR TRANSITION
G	CORNER GUARD
	FLOOR FINISH DIRECTION



A1 FINISH FLOOR PLAN
1/4" = 1'-0"

NORTH

SAMUEL K. BECKMAN
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ARCHITECT

7/1/2021 11:39:34 AM

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1600 BALTIMORE ST, SUITE 300
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816.842.8437

Saint Luke's East Hospital

ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

Date	07.02.2021
Job Number	3-21014
Drawn By	BRD
Checked By	GS

Revision

Number	Date	Description

A4.1

DOOR & FRAME SCHEDULE, OVERALL FLOOR FINISH PLAN, ROOM FINISH SCHEDULE, & LEGEND

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MECHANICAL SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
ACT	ACTUATOR
DS	DOOR SWITCH
DP	DIFFERENTIAL PRESSURE SWITCH
CS	CURRENT SWITCH
VS	VIBRATION SWITCH
FM	FLOW METER
	FAN
MTR	MOTOR
R	CONTACTOR
	PUMP
	NORMALL CLOSED CONTACT
	NORMALLY OPEN CONTACT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
FM	FLOW METER
F	FLOW SWITCH
FS	FLOW SENSOR
FS	AIR FLOW SWITCH
FM	DUCT FLOW METER
P	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)
P	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	DIFFERENTIAL PRESSURE SENSOR
P	PRESSURE SENSOR (DUCT MOUNTED)
T	AVERAGING TEMPERATURE SENSOR
T	LOW LIMIT TEMPERATURE SWITCH
T	PROBE TEMPERATURE SENSOR
H	HUMIDISTAT SENSOR
H	HUMIDISTAT / SENSOR
H	HUMIDITY SENSOR (DUCT MOUNTED)
C	CARBON MONOXIDE SENSOR
C_2	CARBON DIOXIDE SENSOR
C	CARBON MONOXIDE SENSOR (DUCT MOUNTED)
C_2	CARBON DIOXIDE SENSOR (DUCT MOUNTED)
	FILTER
DSD	DUCT SMOKE DETECTOR
	HEATING/ COOLING COIL
	AIR BLENDER
	MANUAL MOTOR STARTER W/THERMAL OVERLOAD

MECHANICAL SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
BD	BOILER BLOW DOWN
BF	BOILER FEED WATER
CA	COMPRESSED AIR
CBR	CHILLED BEAM RETURN
CBS	CHILLED BEAM SUPPLY
CR	CONDENSER WATER RETURN
CS	CONDENSER WATER SUPPLY
CS15	CLEAN STEAM - NUMBER INDICATES PRESSURE IN PSIG.
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DPP	DRAIN
G	NATURAL GAS
GV	GAS REGULATOR VENT
GWR	GLYCOL WATER RETURN
GWS	GLYCOL WATER SUPPLY
HCR	HEATING/CHILLED WATER RETURN
HCS	HEATING/CHILLED WATER SUPPLY
HG	REFRIGERANT HOT GAS
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
LCS	LOW PRESSURE CLEAN STEAM
LIQ	REFRIGERANT LIQUID
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LWR	LOOP WATER RETURN
LWS	LOOP WATER SUPPLY
MV	MEDICAL VACUUM
OR	OIL RETURN
OS	OIL SUPPLY
PC	PUMPED CONDENSATE
PD	PUMPED DISCHARGE
RCR	RADIANT COOLING RETURN
RCS	RADIANT COOLING SUPPLY
RWR	REHEAT WATER RETURN
RWS	REHEAT WATER SUPPLY
SUC	REFRIGERANT SUCTION
SV	SAFETY RELIEF VENT
VAC	LAB VACUUM
	PIPE CAP
	PIPE DOWN
	PIPE UP OR UP/DOWN
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	DIELECTRIC CONNECTION
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
	THROTTLING VALVE
	BALANCING VALVE (NUMBER INDICATES GPM)
	AUTOMATIC BALANCING VALVE
	MIXING VALVE
	CONTROL VALVE (THREE-WAY)
	CONTROL VALVE (TWO-WAY)
	SOLENOID VALVE
	CHECK VALVE
	BACKFLOW PREVENTER
	SAFETY/RELIEF VALVE
	PRESSURE REDUCING VALVE (LIQUID/GAS)
	PRESSURE REDUCING VALVE (STEAM)
	TRIPLE DUTY VALVE (ANGLE TYPE)
	TRIPLE DUTY VALVE (IN-LINE TYPE)
	PUMP
	VACUUM BREAKER
	"WYE" - STRAINER
	"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP
	BASKET STRAINER
	FLEXIBLE CONNECTION
	PRESSURE/TEMPERATURE TEST PLUG
	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
	SUCTION DIFFUSER WITH SUPPORT FOOT
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	DRAIN VALVE WITH HOSE CONNECTION AND CAP
P	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)
P	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	DIFFERENTIAL PRESSURE SENSOR
SP	STATIC SWITCH
FM	FLOW METER
F	FLOW SWITCH
FS	FLOW SENSOR
T, T-*	STEAM TRAP (REFER TO SCHEDULE)
T-*	F&T STEAM TRAP (REFER TO SCHEDULE)
T-*	INVERTED BUCKET STEAM TRAP (REFER TO SCHEDULE)
	ALIGNMENT GUIDE
	PIPE ANCHOR
EJ-# (#.#")	EXPANSION JOINT #.#" IS THE EXPANSION TRAVEL INCHES
M	METER

MECHANICAL SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
	DIRECTION OF AIR FLOW
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
R	RISE IN DIRECTION OF AIR FLOW
D	DROP IN DIRECTION OF AIR FLOW
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
	4-WAY DIFFUSER WITH BLANKOFF IN ONE DIRECTION
SD-1 6/115	AIR TERMINAL PROPERTIES SYMBOL NECK SIZE/CFM
###	TERMINAL AIR BOX (REFER TO SCHEDULE)
###	TERMINAL AIR BOX w/REHEAT COIL (REFER TO SCHEDULE)
	FAN POWERED TERMINAL AIR BOX w/REHEAT COIL (REFER TO SCHEDULE)
H	HUMIDIFIER
	OPPOSED BLADE DAMPER (REFER TO SCHEDULE)
	PARALLEL BLADE DAMPER (REFER TO SCHEDULE)
	DIFFERENTIAL PRESSURE SENSOR
H	HUMIDISTAT SENSOR
H	HUMIDISTAT / SENSOR
C	CARBON MONOXIDE SENSOR
C_2	CARBON DIOXIDE SENSOR
O	OCCUPANCY SENSOR
P	PRESSURE SENSOR/MONITOR
P	PRESSURE SENSOR (DUCT MOUNTED)
T	THERMOSTAT/SENSOR
T	TEMPERATURE SENSOR
XT	THERMOSTAT/SENSOR WITH HEAVY DUTY ENCLOSURE
T	TEMPERATURE SENSOR WITH WELL
T	THERMOMETER WITH WELL (DIAL TYPE)
	THERMOMETER WITH WELL (FILLED TYPE)
XX-Y	AIRFLOW MEASUREMENT SYMBOL XX - AHU SYMBOL Y - SEQUENTIAL NUMBER

MECHANICAL ABBREVIATION KEY

ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
C	COMMON
CO	CLEANOUT
CFSD	CONTROL/FIRE/SMOKE DAMPER
DPG (0-2")	DIFFERENTIAL PRESSURE GAUGE (RANGE)
DPS	DIFFERENTIAL PRESSURE SWITCH
EA	EXHAUST/RELIEF AIR
ECFSD	EXISTING CONTROL FIRE SMOKE DAMPER
EFD	EXISTING FIRE DAMPER
EFSD	EXISTING FIRE SMOKE DAMPER
EP	ELECTRICAL TO PNEUMATIC VALVE
ESD	EXISTING SMOKE DAMPER
FD	FIRE DAMPER
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FSD	FIRE/SMOKE DAMPER
MA	MIXED AIR
MV	MIXING VALVE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
OA	OUTSIDE AIR
PS	PRESSURE SWITCH
RA	RETURN AIR
SA	SUPPLY AIR
SCCR	SHORT CIRCUIT CURRENT RATING
SD	SMOKE DAMPER
TAB	TERMINAL AIR BOX
TD	TRANSFER DUCT
TYP	TYPICAL
UC-1	DOOR UNDERCUT BY OTHERS (1" TYPICAL)
UNO	UNLESS NOTED OTHERWISE

TAB PRE-DEMOLITION NOTES:

1. BEFORE ANY DEMOLITION WORK IS BEGUN A COMPLETE AIR BALANCE TEST SHALL BE PERFORMED BY THE TESTING, ADJUSTING AND BALANCING (TAB) CONTRACTOR ON EXISTING AIR HANDLERS AND EXHAUST FANS SERVING THE AREAS AFFECTED BY CONSTRUCTION. EQUIPMENT TO BE DEMOLISHED DOES NOT REQUIRE TESTING. PROVIDE AIR BALANCE TESTING ONLY ON EQUIPMENT THAT WILL CONTINUE TO BE USED TO SERVE RENOVATED AREAS AFTER THE CONSTRUCTION PHASE IS COMPLETED.
2. PROVIDE DUCT TRAVERSE READINGS AT LOCATIONS DESIGNATED ON THE DRAWINGS BY THE "AIRFLOW MEASUREMENT SYMBOL". THOSE MEASUREMENTS SHALL BE INCLUDED IN THE PRE DEMOLITION REPORT AND SHALL BE DESIGNATED WITH THE IDENTIFIER AS MARKED ON THE DRAWINGS. READINGS SHALL BE DESIGNATED WITH THE ROOM NAME AND NUMBER AS MARKED ON THE DRAWINGS. IF FLOOR PLANS DO NOT HAVE UNIQUE ROOM NAMES AND NUMBERS, TAB CONTRACTOR SHALL INCLUDE FLOOR PLAN WITH UNIQUE NUMBER DESIGNATIONS ASSIGNED TO READINGS THAT MATCH THOSE USED IN THE FINAL PRE-DEMOLITION REPORT. DRAWINGS THAT ARE HAND-MARKED WITH RED INK ARE ACCEPTABLE, PROVIDED THEY ARE LEGIBLE.
3. IN THE EVENT A DUCT TRAVERSE LOCATION AS MARKED ON THIS PLAN IS INACCESSIBLE FOR MEASUREMENT, THE TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION OR SHALL TAKE MULTIPLE DUCT TRAVERSES AND/OR READINGS AS REQUIRED TO DETERMINE THE AIRFLOW READING WHERE THE DUCT TRAVERSE SYMBOL IS SHOWN. IN THE EVENT TRAVERSES ARE TAKEN AT ALTERNATE LOCATION(S), TAB CONTRACTOR SHALL INCLUDE A DRAWING THAT SHOWS THE LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.
4. TAKE A DUCT STATIC PRESSURE READING AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND INCLUDE IN THE FINAL PRE-DEMOLITION TAB REPORT.
5. TAB CONTRACTOR SHALL COMPILE AND SUBMIT FOUR COPIES OF THE FINAL PRE-DEMOLITION REPORT WITHIN 10 WORKING DAYS AFTER THE FIELD MEASUREMENTS ARE COMPLETED. FINAL TAB REPORT SHALL BE SUBMITTED FOR REVIEW TO THE ARCHITECT/ENGINEER. TESTING SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

TAB POST-CONSTRUCTION NOTES:

1. AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, TESTING, ADJUSTING (TAB) AND BALANCING CONTRACTOR SHALL REBALANCE AIR HANDLING UNITS AND EXHAUST FANS AS REQUIRED TO ACHIEVE THE NEW AIRFLOW VALUES SHOWN ON THE CONSTRUCTION DRAWINGS.
2. AREAS SERVED BY THIS EQUIPMENT WHICH WERE NOT RENOVATED SHALL BE RE-BALANCED TO THE AIRFLOW RATES MEASURED BEFORE THE RENOVATION OCCURRED (REFER TO THE FINAL PRE- DEMOLITION REPORT).
3. IF DUCT TRAVERSE LOCATION AS MARKED ON THE DRAWINGS IS INACCESSIBLE FOR MEASUREMENT, THE TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION OR SHALL TAKE MULTIPLE DUCT TRAVERSES AND/OR GRILLE READINGS AS REQUIRED TO DETERMINE THE FLOW RATE. IN THE EVENT TRAVERSES ARE TAKEN AT AN ALTERNATE LOCATION(S), TAB CONTRACTOR SHALL INCLUDE A DRAWING THAT SHOWS THE LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.
4. A DUCT STATIC PRESSURE READING SHALL BE TAKEN AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND SHALL BE INCLUDED IN THE FINAL POST-CONSTRUCTION TAB REPORT.
5. TAB CONTRACTOR SHALL COMPILE AND SUBMIT COPIES OF THE FINAL POST-CONSTRUCTION TAB REPORT AS REQUIRED BY SECTION 23 05 93.
6. THE FINAL POST CONSTRUCTION REPORT SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

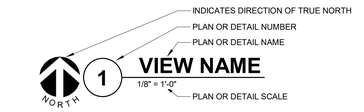
CONTRACTOR ABBREVIATION KEY

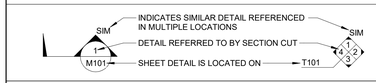
ABBR:	DESCRIPTION:
A.C.	ASBESTOS ABATEMENT CONTRACTOR
A.V.C.	AUDIO/VISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
N.C.C.	NURSE CALL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

VIEW KEY

NAME — LEVEL NAME
10' - 0" — HEIGHT ABOVE PROJECT 0' - 0"

1 — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL





LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
- NEW
- EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
- NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
- EXISTING
- EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
- EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E — TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG-1 — UNDERLINED TEXT INDICATES ADDITIONAL INFORMATION CAN BE FOUND ELSEWHERE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

PIPING GENERAL NOTES:

1. THE SIZE OF BRANCH PIPING TO TERMINAL HEATING DEVICES AND COILS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.
3. INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

VENTILATION GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO A TERMINAL AIR BOX (TAB) SHALL MATCH THE INLET SIZE UNLESS THE BRANCH IS GREATER THAN 6FEET IN LENGTH, IN WHICH CASE THE BRANCH DUCT SHALL BE SIZED AT A PRESSURE DROP OF 0.07"W.C. PER 100' OF DUCTWORK.
2. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
3. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER
4. PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.
5. EXISTING AIR INLET AND OUTLET CFM SHOWN ON DRAWINGS ARE FROM EXISTING DRAWINGS, AND ARE FOR REFERENCE ONLY. CONTRACTOR SHALL USE PRE-BALANCE VALUES, AND NOT EXISTING CFM SHOWN ON DRAWINGS.
6. CONTRACTOR MAY REUSE PORTIONS OF EXISTING DUCT PROVIDED SIZES AND PRESSURE CLASSES ARE CORRECT. DUCT IS THOROUGHLY CLEANED AND FREE OF DEFECTS, AND ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS ARE SEALED AS SPECIFIED FOR NEW DUCTWORK.

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
10. SEAL ALL FLOOR AND WALL PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
14. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
15. MAINTAIN MINIMUM 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES, AND DISCONNECTS.
16. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
17. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
2. NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
4. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS/HER WORK AND SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS/HER AREA OF WORK.
5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS. CONTRACTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING
6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
7. WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.
8. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.
9. OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
10. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.
11. DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

MECHANICAL PHASING NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL DESCRIPTION OF PHASES. REFER TO GENERAL CONTRACTOR'S INSTRUCTIONS FOR MORE DETAILS AND PHASING SCHEDULES AND FOR CONCURRENT WORK. MECHANICAL, ELECTRICAL AND TECHNOLOGY DRAWINGS DEPICT THE INTENT OF THE FINAL DESIGN. THE MECHANICAL, ELECTRICAL, AND TECHNOLOGY DRAWINGS DO NOT DEPICT THE MEANS AND METHODS TO MEET THE REQUIREMENTS OF THE PHASING CRITERIA.
2. REVIEW PROJECT PHASING PLANS TO COORDINATE DEMOLITION WORK, OUTAGES, ETC. WITH AFFECTED ADJACENT AREAS.
3. PROVIDE TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ZONE VALVES, ZONE ALARMS, ETC. AS NEEDED TO MAINTAIN SERVICE TO ALL AREAS DURING ALL PHASES OF PROJECT.
4. INSTALL TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ETC. AS NECESSARY TO KEEP ALL OCCUPIED SPACES OPERATIONAL THROUGHOUT ALL PHASES OF THE PROJECT
5. PHASE DEMOLITION WORK TO MINIMIZE DOWNTIME.

STATE OF MISSOURI — BRUCE ELDON HART — NUMBER E-22817 — PROFESSIONAL ENGINEER

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Saint Luke's East Hospital

ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

Date	07/07/21
Job Number	3-21014
Drawn By	MJL
Checked By	DWD

Revision

Number	Date	Description

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M000

MECHANICAL COVERSHEET - PP, V

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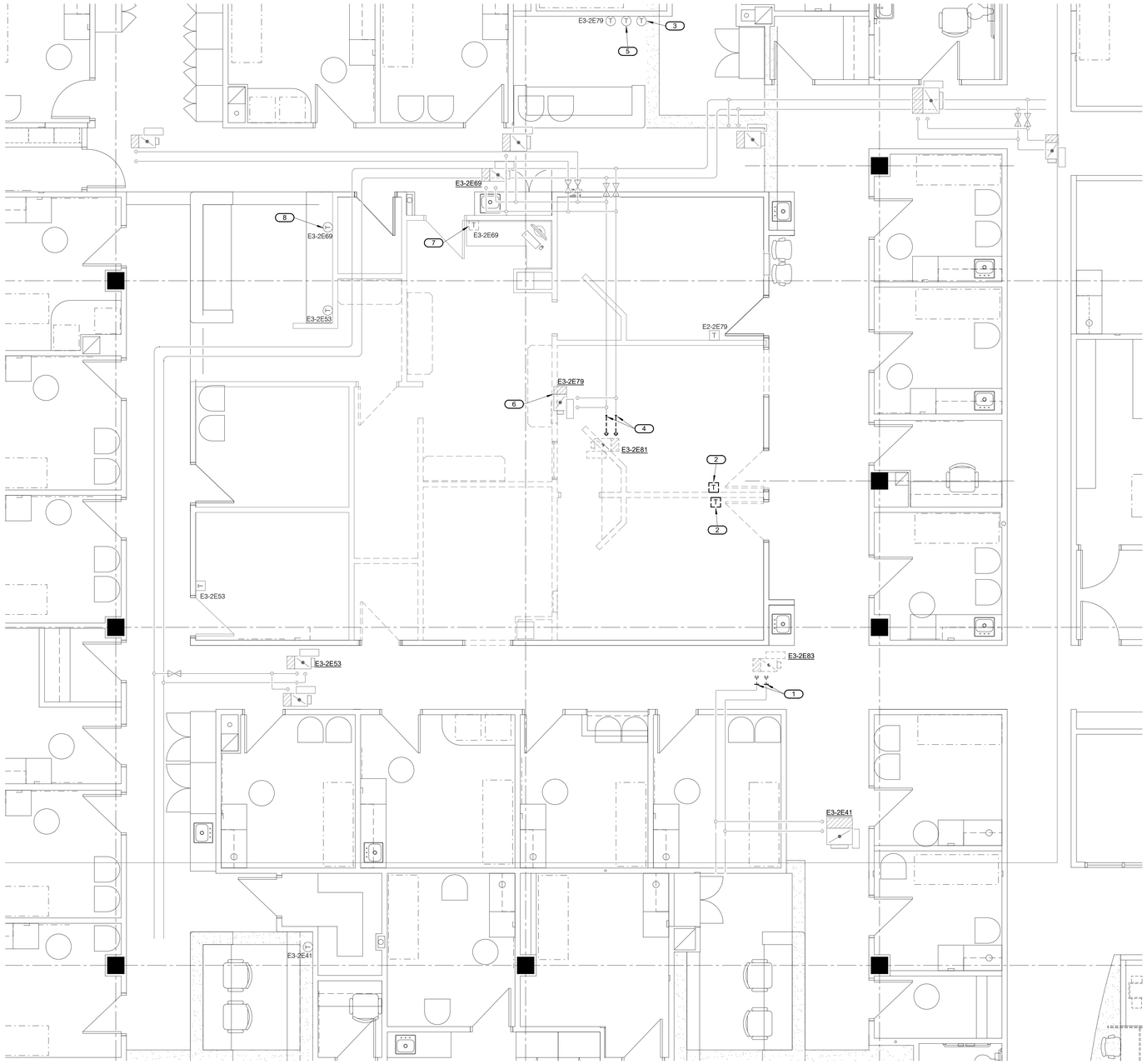

1 **SECOND FLOOR DEMOLITION - PIPING**
1/4" = 1'-0"

SHEET NOTES:

1. REFER TO GENERAL NOTES ON SHEET M000.
2. ACCORDING TO EXISTING BUILDING DOCUMENTS, EACH TERMINAL AIR BOX INCLUDES A THERMOSTAT (WITH TEMPERATURE ADJUSTMENT KNOB) IN A NURSE STATION AREA, BUT MOST BOXES ALSO HAVE A TEMPERATURE SENSOR (WITH BLANK COVER) IN THE SPACE SERVED BY THE BOX. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ENGINEER IF CONDITIONS DIFFER.
3. TERMINAL AIR BOX TAGS ARE BASED ON ROOM NUMBERS SERVED AND MAY NOT MATCH THE BOX TAGS IN THE BUILDING MANAGEMENT SYSTEM.

KEYNOTES: (#)

1. CUT 3/4" HWS AND HWR AND REMOVE PIPING TO BOX THAT IS BEING REMOVED, INCLUDING ACCESSORIES. PROTECT REMAINING PIPING FOR NEW CONNECTION, RE: SHEET M202. ALSO DISCONNECT DDC CONTROLLER ASSOCIATED WITH THIS BOX AND SALVAGE IT FOR RELOCATION AND RE-USE.
2. FIELD VERIFY LOCATION OF TEMPERATURE SENSOR (WITH BLANK COVER). DISCONNECT AND SALVAGE SENSOR FOR RELOCATION AND RE-USE. REMOVE ANY CONTROL WIRING THAT CANNOT BE RE-USED.
3. FIELD VERIFY LOCATION OF THERMOSTAT (WITH TEMPERATURE ADJUSTMENT KNOB) ASSOCIATED WITH TERMINAL AIR BOX E3-2E83. THE BOX IS BEING REMOVED, BUT THE THERMOSTAT SHALL REMAIN AND WILL BE RE-USED WITH A NEW BOX. THE NEW BOX IS SHOWN WITH SAME TAG, RE: SHEET M202.
4. CUT AND CAP 3/4" HWS AND HWR AND REMOVE PIPING TO BOX THAT IS BEING REMOVED, INCLUDING ACCESSORIES. THIS PIPING WILL NOT BE RE-USED. ALSO DISCONNECT DDC CONTROLLER ASSOCIATED WITH THIS BOX AND SALVAGE IT FOR RELOCATION AND RE-USE.
5. FIELD VERIFY LOCATION OF THERMOSTAT (WITH TEMPERATURE ADJUSTMENT KNOB) ASSOCIATED WITH TERMINAL AIR BOX E2-2E81. THE BOX IS BEING REMOVED, BUT THE THERMOSTAT SHALL REMAIN AND WILL BE RE-USED WITH A NEW BOX. THE NEW BOX IS SHOWN WITH A DIFFERENT TAG, RE: SHEET M202.
6. TERMINAL BOX THAT SERVES X-RAY ROOM 2E79 SHALL REMAIN. IF THE BOX OR ITS PIPING WOULD INTERFERE WITH THE NEW G.E. X-RAY EQUIPMENT, OR NEEDS TO MOVE BECAUSE THE ASSOCIATED DUCTWORK WOULD INTERFERE, THEN CONTRACTOR SHALL DISCONNECT AND RELOCATE THE PIPING AS REQUIRED TO CLEAR SPACE FOR THE NEW WORK. MODIFY CONTROL WIRING OR PROVIDE NEW WIRING AS REQUIRED.
7. EXISTING BUILDING DOCUMENTS SHOWED A TEMPERATURE SENSOR (WITH BLANK COVER) IN THIS LOCATION; HOWEVER, IT APPEARS THE SENSOR WAS PREVIOUSLY REMOVED. FIELD VERIFY LOCATION. IF SENSOR IS FOUND, DISCONNECT AND SALVAGE IT FOR RELOCATION AND RE-USE. REMOVE ANY CONTROL WIRING THAT CANNOT BE RE-USED.
8. FIELD VERIFY LOCATION OF THERMOSTAT (WITH TEMPERATURE ADJUSTMENT KNOB) ASSOCIATED WITH TERMINAL AIR BOX E3-2E69. THE BOX AND THERMOSTAT SHALL REMAIN, BUT WILL NOT BE USED FOR TEMPERATURE FEEDBACK, ONLY FOR SETPOINT ADJUSTMENT.

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Checked By	DWD

Revision

Number	Date	Description

M102

SECOND FLOOR DEMOLITION - PIPING

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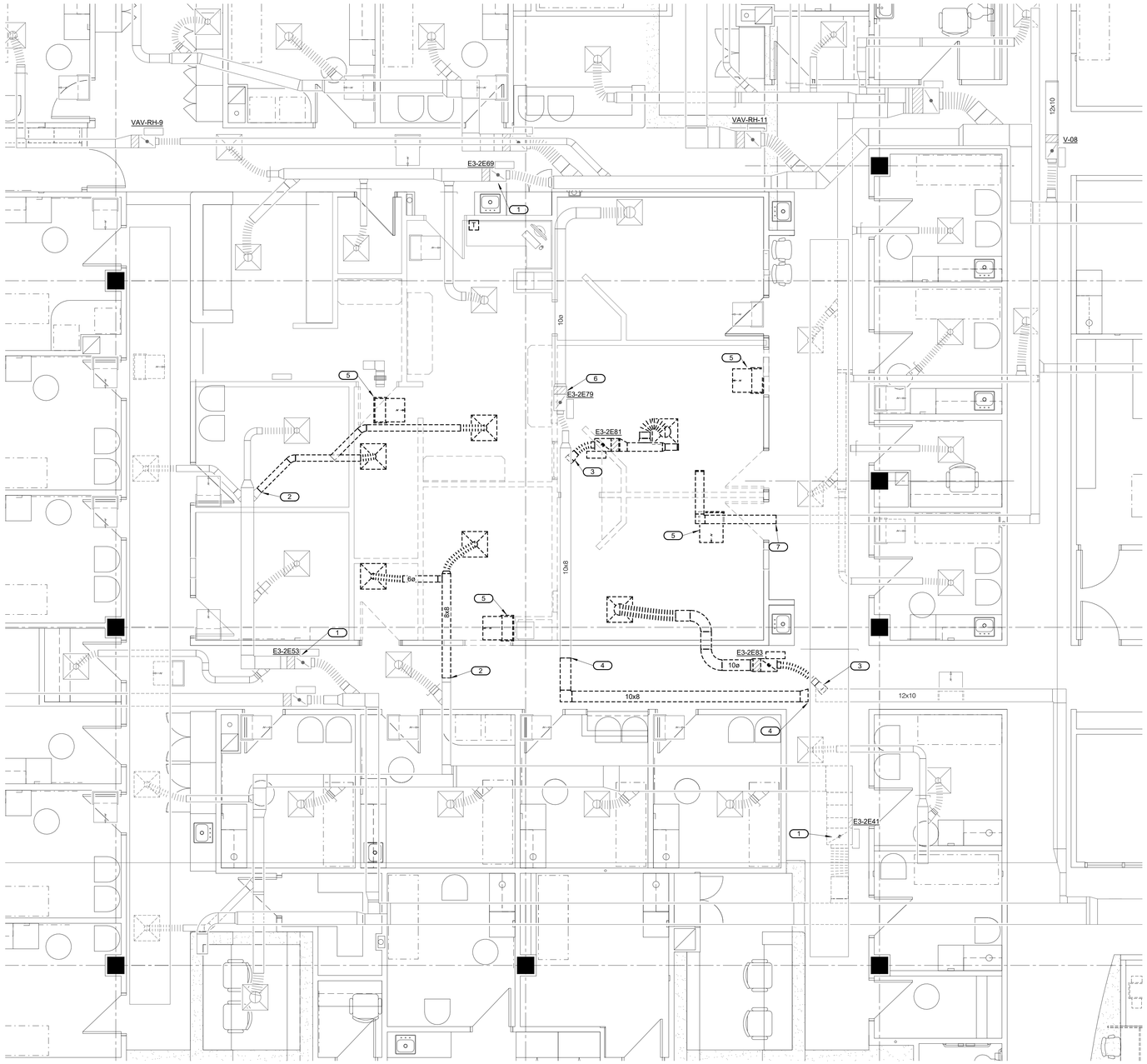

SECOND FLOOR DEMOLITION - VENTILATION

1/4" = 1'-0"

SHEET NOTES:

1. REFER TO GENERAL NOTES ON SHEET M000.
2. TERMINAL AIR BOX TAGS ARE BASED ON ROOM NUMBERS SERVED AND MAY NOT MATCH THE BOX TAGS IN THE BUILDING MANAGEMENT SYSTEM.

KEYNOTES: (#)

1. TAKE PRE-DEMOLITION AIRFLOW READINGS AT EXISTING TERMINAL AIR BOX, AND AT ALL SUPPPLY AIR TERMINALS SERVED BY THE BOX, INCLUDING THOSE OUTSIDE OF THE PROJECT AREA.
2. CUT AND CAP SUPPLY AIR DUCT AND REMOVE DOWNSTREAM DUCTWORK AND AIR TERMINALS SHOWN DARK AND DASHED.
3. CUT AND CAP SUPPLY AIR DUCT AND REMOVE DOWNSTREAM DUCTWORK, 6" TERMINAL AIR BOX, AND AIR TERMINAL SHOWN DARK AND DASHED. SALVAGE THE DDC CONTROLLER FROM THE TERMINAL AIR BOX AND PROTECT IT FOR RE-USE WITH A NEW TERMINAL AIR BOX, RE: SHEET M212. REMOVE ANY CONTROL WIRING THAT CANNOT BE USED.
4. DISCONNECT AND REMOVE A PORTION OF 10" x8" SUPPLY AIR DUCTWORK AS INDICATED. PROTECT REMAINING DUCTWORK FOR NEW CONNECTIONS. RE: SHEET M212.
5. DISCONNECT AND SALVAGE RETURN AIR TERMINAL WITH SOUND BOOT. CLEAN THE GRILLE AND PROTECT THE GRILLE AND BOOT FOR RE-USE. RE: SHEET M212.
6. TERMINAL AIR BOX THAT SERVED X-RAY ROOM 2E79 SHALL REMAIN. IF THE BOX, OR THE SUPPLY AIR DUCTWORK ON EITHER SIDE OF THE BOX, WOULD INTERFERE WITH THE NEW G.E. X-RAY EQUIPMENT (OR STRUCTURAL SUPPORTS FOR SAME), THEN CONTRACTOR SHALL DISCONNECT AND RELOCATE THE BOX AND/OR DUCTWORK AS REQUIRED TO CLEAR SPACE FOR THE NEW WORK. COORDINATE WITH NEW WORK TO ENSURE THE BOX IS ACCESSIBLE FOR MAINTENANCE. MODIFY CONTROL WIRING OR PROVIDE NEW WIRING AS REQUIRED.
7. CUT AND CAP THE (PREVIOUSLY ABANDONED) EXHAUST DUCT AND REMOVE DUCTWORK ABOVE X-RAY ROOM.

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120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

Date	07/07/21
Job Number	3-21014
Drawn By	MJL
Checked By	DWD

Revision

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M112

SECOND FLOOR DEMOLITION - VENTILATION

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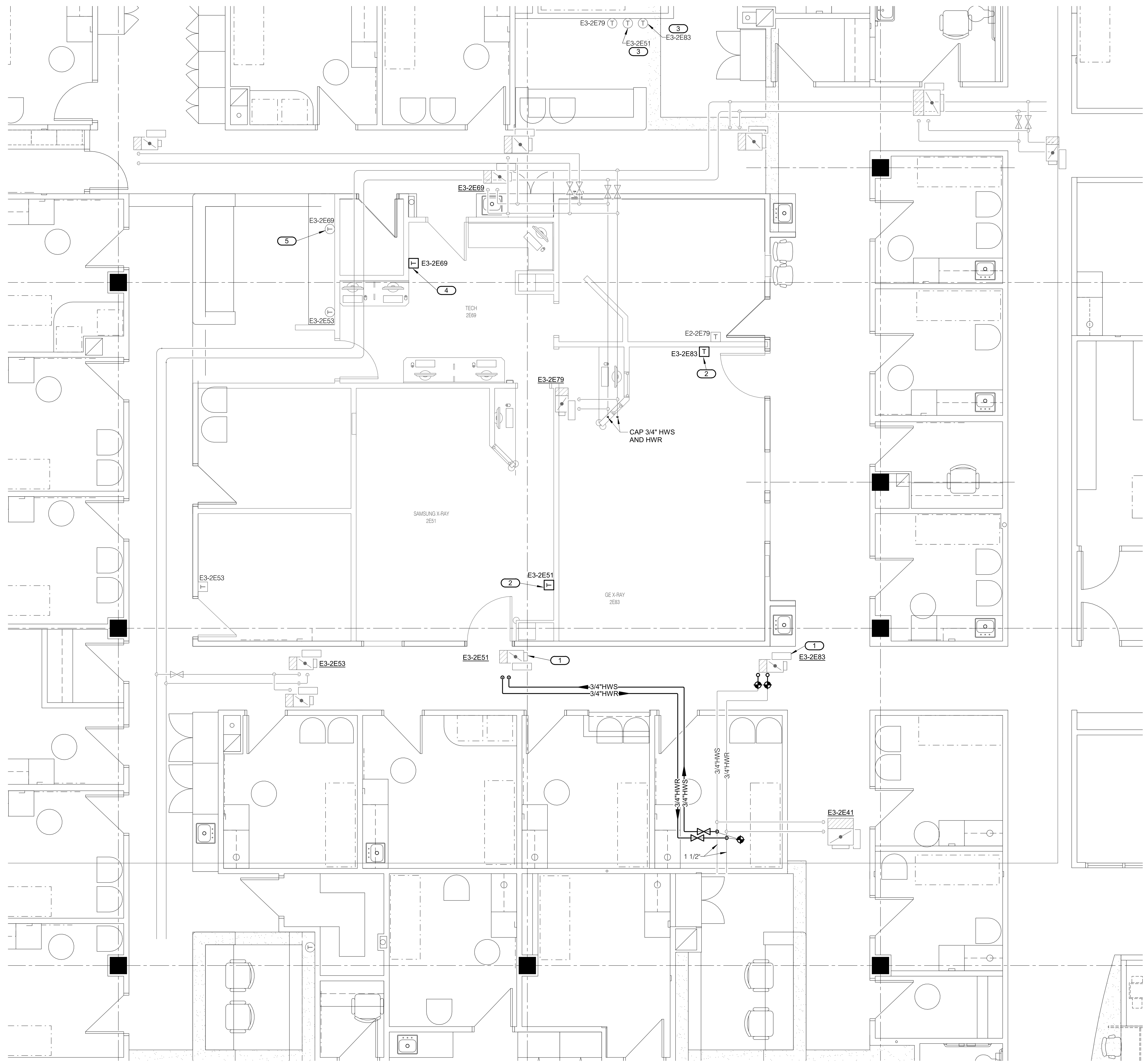
SHEET NOTES:

1. REFER TO GENERAL NOTES ON SHEET M000.
2. ACCORDING TO EXISTING BUILDING DOCUMENTS, EACH TERMINAL AIR BOX INCLUDES A THERMOSTAT (WITH TEMPERATURE ADJUSTMENT KNOB) IN A NURSE STATION AREA, BUT MOST BOXES ALSO HAVE A TEMPERATURE SENSOR (WITH BLANK COVER) IN THE SPACE SERVED BY THE BOX. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ENGINEER IF CONDITIONS DIFFER.
3. TERMINAL AIR BOX TAGS ARE BASED ON ROOM NUMBERS SERVED AND MAY NOT MATCH THE BOX TAGS IN THE BUILDING MANAGEMENT SYSTEM.

KEYNOTES: (#)

1. IF POSSIBLE, INSTALL DDC CONTROLLER THAT WAS SALVAGED DURING DEMOLITION AND INSTALL IT ON THE NEW TERMINAL AIR BOX. IF NOT POSSIBLE, THEN PROVIDE AND INSTALL A NEW DDC CONTROLLER. PROVIDE NEW CONTROL WIRING AND CONNECT TO EXISTING BUILDING MANAGEMENT SYSTEM (BMS). UPDATE SOFTWARE AND GRAPHICS ON BMS AS REQUIRED.
2. NEW LOCATION FOR TEMPERATURE SENSOR (WITH BLANK COVER) THAT WAS SALVAGED DURING DEMOLITION. CONNECT TO TERMINAL AIR BOX CONTROLLER AS REQUIRED. TEST SENSOR FOR ACCURACY AND CALIBRATE OR REPLACE AS REQUIRED.
3. CONNECT EXISTING THERMOSTAT (WITH TEMPERATURE ADJUSTMENT KNOB) TO TERMINAL AIR BOX CONTROLLER AS REQUIRED. UPDATE THE LABEL ON THE DEVICE TO INDICATE WHAT IT SERVES.
4. NEW TEMPERATURE SENSOR (WITH BLANK COVER). CONNECT TO TERMINAL AIR BOX CONTROLLER AS REQUIRED. (IF AN EXISTING SENSOR WAS FOUND DURING DEMOLITION, IT CAN BE RE-USED AND SHALL BE RE-INSTALLED IN THIS LOCATION. TEST SENSOR FOR ACCURACY AND CALIBRATE OR REPLACE AS REQUIRED.)
5. UPDATE LABEL ON EXISTING THERMOSTAT (WITH TEMPERATURE ADJUSTMENT KNOB) TO REFLECT THE ROOMS IT SERVES (I.E. BOTH TECH RM. 2E67 AND NURSE STATION).



(1) **SECOND FLOOR - PIPING**

1/4" = 1'-0"

NORTH

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Drawn By	MJL
Checked By	DWD

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0 1 2 3

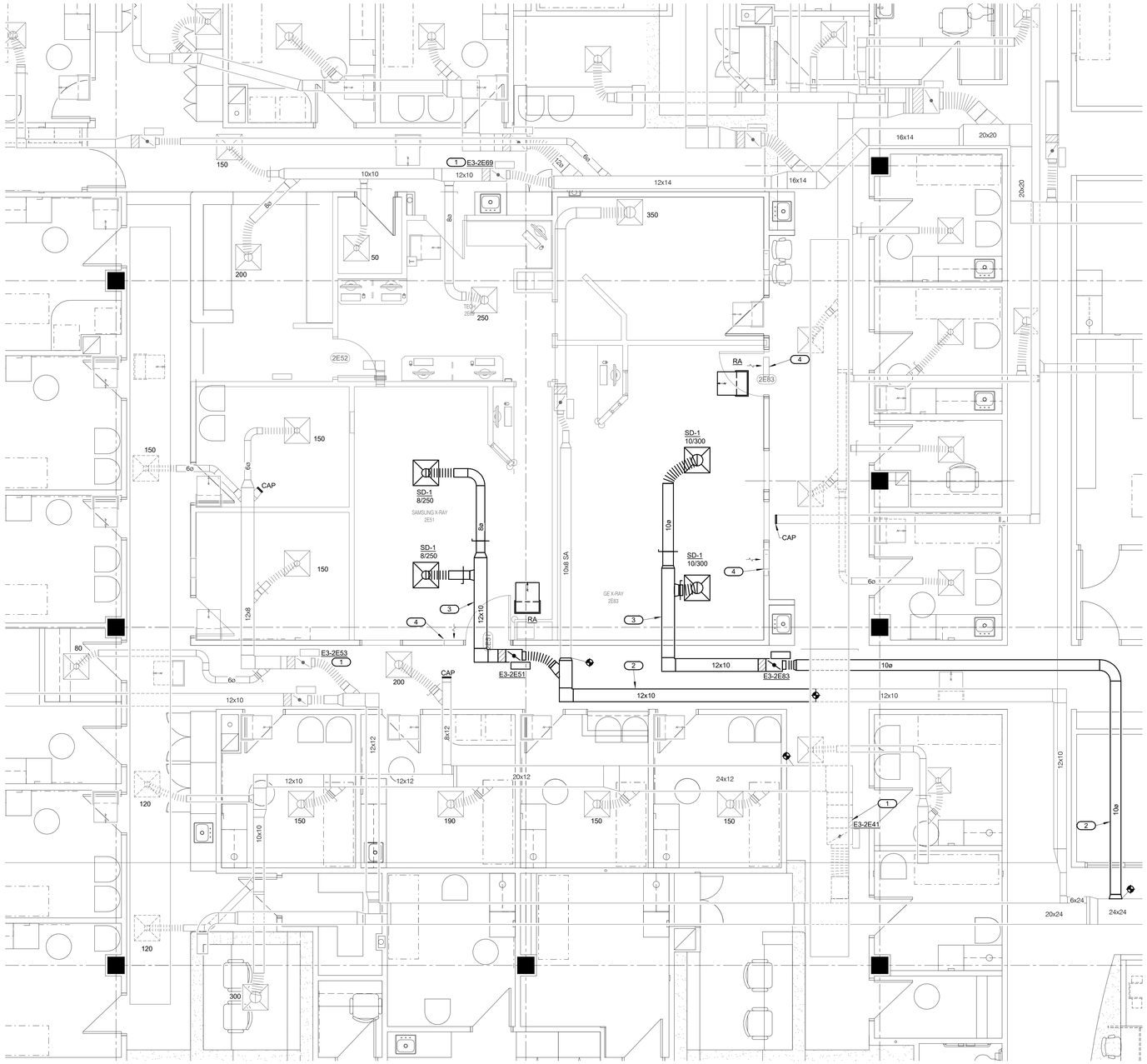
M202

SHEET NOTES:

1. REFER TO GENERAL NOTES ON SHEET M000.
2. TERMINAL AIR BOX TAGS ARE BASED ON ROOM NUMBERS SERVED AND MAY NOT MATCH THE BOX TAGS IN THE BUILDING MANAGEMENT SYSTEM.

KEYNOTES: (#)

1. ADJUST SETTINGS FOR EXISTING TERMINAL AIR BOX AND TEST, ADJUST AND BALANCE ALL AIR TERMINALS IN THIS ZONE TO THE NEW AIR FLOW RATES (CFM) INDICATED.
2. COORDINATE ROUTING OF NEW SUPPLY DUCTWORK, AND EXACT LOCATIONS OF NEW TERMINAL AIR BOXES, WITH EXISTING WORK. MODIFY EXISTING WORK AS REQUIRED TO CLEAR A PATCH FOR NEW WORK.
3. COORDINATE ROUTING OF DUCTWORK AND LOCATIONS OF AIR TERMINALS IN NEW X-RAY ROOM WITH THE X-RAY EQUIPMENT DRAWINGS. AVOID INSTALLING THESE ITEMS WHERE THEY COULD INTERFERE WITH NEW STRUCTURAL SUPPORTS OR NEW MEDICAL EQUIPMENT.
4. EXISTING 18"x12" RETURN AIR TRANSFER DUCT SLEEVE OPENING IN WALL ABOVE CEILING TO REMAIN. IF NECESSARY, RAISE THE SLEEVE TO BE ABOVE THE NEW CEILING HEIGHT.



1 SECOND FLOOR - VENTILATION

1/4" = 1'-0"

NORTH

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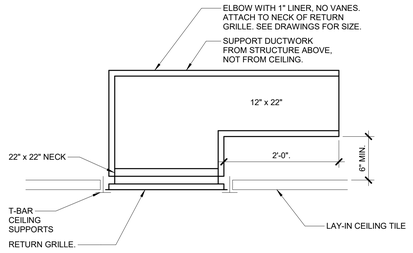
M212

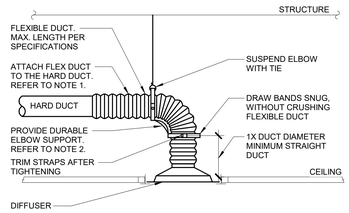
SECOND FLOOR - VENTILATION



NOTES:

1. THIS DETAIL APPLIES TO ALL RETURN GRILLES.

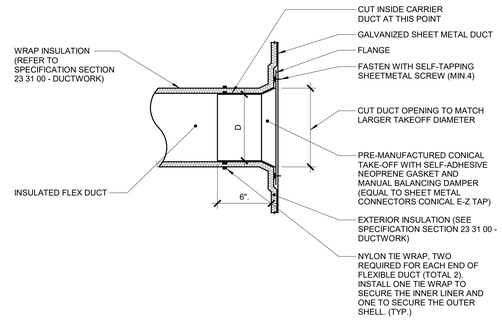
1 CEILING RETURN GRILLE
NO SCALE



NOTES:

1. TO ATTACH FLEX DUCT TO THE HARD DUCT, TAPE THE INNER LINER TO THE HARD DUCT THEN ATTACH WITH TWO NYLON TIE WRAPS; ONE FOR THE INNER LINER AND ONE FOR THE OUTER SHELL. FOLD THE OUTER SHELL INSIDE ITSELF SO IT HAS NEAT EDGES PRIOR TO TIE WRAPPING.
2. DURABLE ELBOW SUPPORT ACCEPTABLE MANUFACTURER AND MODEL: HART AND COOLEY - SMARTFLOW, THERMAFLEX - FLEXFLOW, TITUS - FLEXRIGHT, OR APPROVED EQUAL.

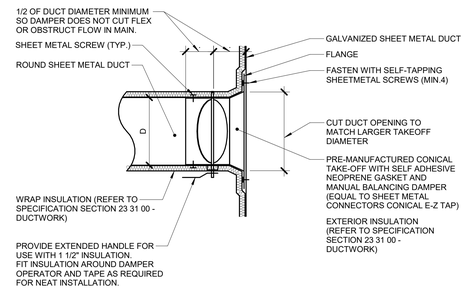
2 DIFFUSER CONNECTION DETAIL (W/ RADIUS FORMING ELBOW)
NO SCALE



NOTES:

1. THIS DETAIL APPLIES ONLY TO TAPS OFF UNLINED DUCTS.
2. TAP DOES NOT NEED TO BE CONICAL IF THE TAP IS NOT LOCATED BETWEEN FANS AND TERMINAL AIR BOXES, DUCT IS NOT OVER 2" PRESSURE CLASS, AND ROUND DUCT IS NOT OVER 12" DIAMETER.

3 FLEX DUCT CONNECTION (CONICAL/WRAPPED)
NO SCALE



NOTES:

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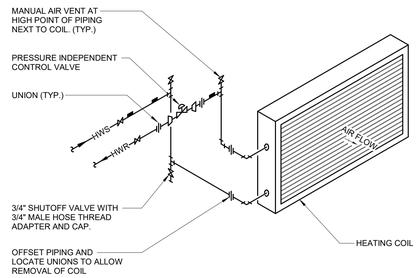
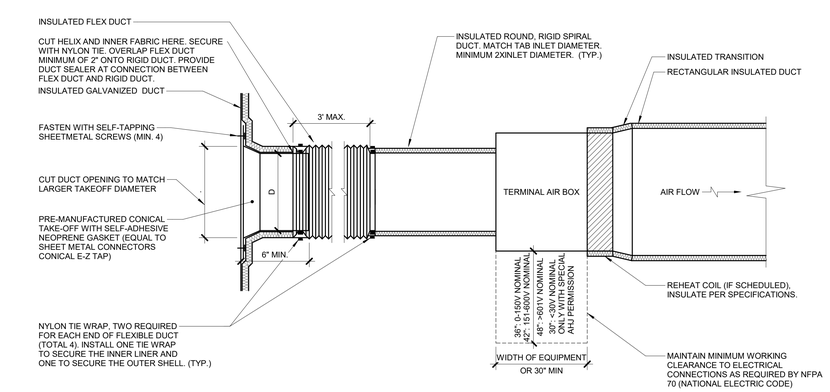
2. TAP DOES NOT NEED TO BE CONICAL IF THE TAP IS NOT LOCATED BETWEEN FANS AND TERMINAL AIR BOXES. DUCT IS NOT OVER 2" PRESSURE CLASS, AND ROUND DUCT IS NOT OVER 12" DIAMETER.
3. MANUFACTURED TAP/DAMPER COMBINATIONS WITH LESS THAN 1/2 DUCT DIAMETER SPACING BETWEEN THE MAIN DUCT AND THE DAMPER SHAFT ARE ACCEPTABLE ONLY IF THE DAMPER SHAFT IS INSTALLED PARALLEL TO THE AIR FLOW IN THE MAIN DUCT.

4 ROUND DUCT TAP CONNECTION (CONICAL/WRAPPED)
NO SCALE



5 HOT WATER COIL PIPING
NO SCALE



NOTES:

1. THIS DETAIL APPLIES ONLY TO TAPS OFF WRAPPED DUCTS.
2. THIS DETAIL APPLIES TO TERMINAL AIR BOXES WITH ROUND INLETS AND RECTANGULAR OUTLETS.
3. DUCT LEADING TO TAB INLET MUST BE STRAIGHT FOR 1.5 DIAMETER UPSTREAM.
4. MAINTAIN VAPOR BARRIER FROM MAIN TO BRANCH DUCT.

6 TERMINAL AIR BOX DETAIL (WRAPPED MAIN)
NO SCALE

STATE OF MISSOURI
BRUCE ELDON HART
NUMBER E-22817
PROFESSIONAL ENGINEER
07-07-21
Bruce E. Hart - Engineer
License - Missouri #E-22817

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Licensee's Certificate of Authority Number:
Missouri: #000958

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ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

Saint Luke's East Hospital

Date	07/07/21
Job Number	3-21014
Drawn By	MJL
Checked By	DWD

Revision

Number	Date	Description

IMEG
1600 BALTIMORE SUITE 300
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PROJECT # 21001634.00
Missouri State Certificate of Authority E-2017008530

REFERENCE SCALE IN INCHES
0 1 2 3

M410

VENTILATION AND PIPING DETAILS

7/2/2021 1:58:40 PM

AIR TERMINAL SCHEDULE

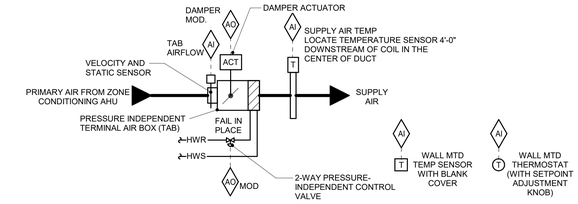
NOTES:
1.CONTRACTOR SHALL DETERMINE PROPER BORDER TYPE TO MATCH CEILING CONSTRUCTION.
2.REFER TO DRAWINGS FOR NECK SIZE. ALL BRANCH DUCTWORK TO AIR TERMINALS SHALL BE NECK SIZE UNLESS NOTED OTHERWISE.

TAG NAME	FACE SIZE (IN.) (NOTE 2)	TYPE	BORDER (NOTE 1)	MATERIAL	FINISH	VOLUME DAMPER REQUIRED	MANUFACTURER	MODEL	NOTES
RA	24x12	HORIZONTAL FACE 45° DEFLECTION	LAY-IN	STEEL	WHITE	NO	TITUS	23RL	OMIT SCREW HOLES IN LAY-IN CEILING
SD-1	24x24	SQUARE PLAQUE	LAY-IN	STEEL	WHITE	NO	TITUS	OMNI	

TERMINAL AIR BOX SCHEDULE - SINGLE DUCT

NOTES:
1.NEITHER RADIATED NOR DISCHARGE SOUND LEVELS SHALL EXCEED NC 35 AT 1.5" INLET STATIC PRESSURE WHEN TESTED PER AHRI STANDARD 885-2008 USING 5/8" 20-LB DENSITY MINERAL FIBER CEILING TILE.
2.TOTAL AIR PRESSURE DROP OF TAB AND REHEAT COIL SHALL NOT EXCEED 0.50" WC.
3.HEATING COIL IS BASED ON HEATING AIR FLOW. WATER PRESSURE DROP OF REHEAT COILS SHALL NOT EXCEED 5'. PROVIDE REHEAT COILS SEPARATE FROM BOXES IF REQUIRED TO MEET WATER PRESSURE DROP REQUIREMENTS. WHEN LAT °F, EWT °F, AND GPM VALUES ARE BLANK, HEATING COIL IS NOT REQUIRED FOR TAB.
4.HEATING COIL SELECTION SHALL BE BASED ON A FIXED LEAVING AIR TEMPERATURE AND VARIABLE FLOW (GPM). PROVIDE FINAL MAXIMUM FLOW RATE (GPM) TO TEST & BALANCE TERMPERATURE CONTROLS CONTRACTORS.

TAG NAME	CFM			HEATING COIL (NOTES 3, 4)				MIN. INLET SIZE (IN.) DIA.	MANUFACTURER	MODEL (NOTES 1, 2)	NOTES
	COOLING MAX.	HEATING MAX.	MIN.	EAT °F	LAT °F	EWT °F	MAX. GPM				
E3-2E51	500	500	500	55.0	85.0	180	1.1	8"	TITUS	DESV	NOTES 1, 2, 3, 4
E3-2E83	600	600	600	55.0	85.0	180	1.3	8"	TITUS	DESV	NOTES 1, 2, 3, 4



SEQUENCE OF OPERATION:

- FMCS TAB CONTROLLER SHALL MODULATE THE TAB DAMPER AND TAB HW REHEAT COIL CONTROL VALVE TO MAINTAIN SPACE SET POINT BASED ON A SIGNAL FROM A WALL MOUNTED TEMPERATURE SENSOR. SEE DRAWINGS FOR TEMPERATURE SENSOR REQUIREMENTS.
- AT FULL COOLING, THE TAB SHALL BE OPEN TO MAXIMUM CFM POSITION. THE REHEAT COIL CONTROL VALVE SHALL BE CLOSED.
- UPON A FALL IN SPACE TEMPERATURE, THE TAB SHALL MODULATE CLOSED UNTIL SPACE SETPOINT IS MAINTAINED, OR UNTIL IT REACHES ITS MINIMUM SCHEDULED CFM POSITION PER THE TAB SCHEDULE. THE REHEAT COIL CONTROL VALVE SHALL BE CLOSED.
- UPON A FURTHER FALL IN SPACE TEMPERATURE, THE REHEAT COIL CONTROL VALVE SHALL MODULATE OPEN TO MAINTAIN SPACE SETPOINT UNTIL THE SUPPLY AIR TEMPERATURE IS 20°F ABOVE ROOM TEMPERATURE SETPOINT.
- UPON A FURTHER FALL IN SPACE TEMPERATURE, TAB SHALL OPEN TO MAINTAIN SETPOINT UNTIL TAB AIRFLOW REACHES ITS MAXIMUM HEATING SETTING. THE REHEAT CONTROL VALVE SHALL CONTINUE TO MODULATE OPEN TO MAINTAIN MAXIMUM DELTA T LISTED ABOVE.
- THE FMCS OPERATOR SHALL HAVE THE ABILITY TO ADJUST, OVERRIDE AND DISPLAY TEMPERATURES AND SET POINTS FROM THE EXISTING FMCS WORKSTATION.

ALARMS, INTERLOCKS & SAFETIES:

SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE SPACE TEMPERATURE IS MORE THAN 10°F (ADJ.) ABOVE OR BELOW SETPOINT.

1 TAB CONTROL W/ HOT WATER REHEAT - TAB-X

NO SCALE

REFERENCE SCALE IN INCHES
0 1 2 3

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Revision

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M610

VENTILATION SCHEDULES AND CONTROL DIAGRAMS

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PLUMBING SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
AV	ACID VENT
AW	ACID WASTE
CA	COMPRESSED AIR
CW	COLD WATER - POTABLE
D	DRAIN
DI	DEIONIZED WATER
DT	DRAIN TILE
G	NATURAL GAS
GRV	GAS REGULATOR VENT
GSAN	SANITARY DRAINAGE (GREASE SANITARY DRAINAGE)
GV	GREASE VENT
HW	HOT WATER - POTABLE
HWC	HOT WATER CIRCULATING - POTABLE
HW140	HOT WATER - POTABLE NUMBER INDICATES TEMP
HWC140	HOT WATER CIRC. - POTABLE NUMBER INDICATES TEMP
IA	INSTRUMENT AIR
MA	MEDICAL AIR
MPG	MEDIUM PRESSURE GAS
MV	MEDICAL VACUUM
N	NITROGEN
NCW	NON-POTABLE COLD WATER
NHW	NON-POTABLE HOT WATER
NO	NITROUS OXIDE
OR	OIL RETURN
OS	OIL SUPPLY
O	OXYGEN
P	PROPANE GAS
PD	PUMPED DISCHARGE
PW	PURE WATER
RO	REVERSE OSMOSIS WATER
SAN	SANITARY DRAINAGE
SCW	SOFT COLD WATER
SHW	SOFT HOT WATER
ST(1,000)	STORM DRAINAGE (ROOF SQUARE FOOTAGE)
STS	STORM DRAINAGE (SECONDARY)
STW	SOFT TEMPERED WATER
TW	TEMPERED WATER
V	VENT
VAC	LAB VACUUM
W	SERVICE WATER - POTABLE
WAGD	WASTE ANETHESIA GAS DISPOSAL
	PIPE CONTINUATION
	PIPE CAP
	PIPE DOWN
	PIPE UP OR UP/DOWN
FD	PIPE SERVING FIXTURE ON FLOOR ABOVE (EXAMPLE: FD = FLOOR DRAIN)
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	ROUTE TO DRAIN
RD-1 6"(1000)	ROOF DRAIN PROPERTIES SYMBOL SIZE (ROOF SQ. FT.)
	DIELECTRIC CONNECTION
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
GPM	BALANCING VALVE (NUMBER INDICATES GPM)
	CHECK VALVE
	BACKFLOW PREVENTER
	SOLENOID VALVE
	SAFETY/RELIEF VALVE
	VACUUM BREAKER
P	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
P	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)
T	TEMPERATURE SENSOR WITH WELL
T	THERMOMETER WITH WELL (DIAL TYPE)
	THERMOMETER WITH WELL (FILLED TYPE)
	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
	PRESSURE REDUCING VALVE (LIQUID/GAS)
	PUMP
M	METER
	ALIGNMENT GUIDE
	PIPE ANCHOR
	EXPANSION JOINT

PLUMBING ABBREVIATION KEY

ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BT	BATHTUB
CB	CATCH BASIN
CI	CAST IRON
CO	CLEANOUT
CS	CLINICAL SINK
DB	DIALYSIS BOX
DF	DRINKING FOUNTAIN
DI	DUCTILE IRON
E	EXISTING
EE	EMERGENCY EYEWASH
ES	EMERGENCY SHOWER
ESE	EMERGENCY SHOWER/EYEWASH
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FM	FLOW METER
FS	FLOOR SINK
GD	GARBAGE DISPOSER
GI	GREASE INTERCEPTOR
HB	HOSE BIBB
I.E.	INVERT ELEVATION (FOR REFERENCE ONLY)
LAV	LAVATORY
MB	MOP BASIN
MH	MANHOLE
MV	MIXING VALVE
NIC	NOT IN CONTRACT
NT	NEUTRALIZATION TANK
OS	OIL SEPARATOR
RD	ROOF DRAIN
SCCR	SHORT CIRCUIT CURRENT RATING
SH	SHOWER
SK	SINK
SS	SERVICE SINK
TD	TRENCH DRAIN
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WASH FOUNTAIN
WH	WATER HEATER
WMF	WASHING MACHINE FIXTURE
WM	WATER METER
WS	WATER SOFTENER
UB	UTILITY BOX
UNO	UNLESS NOTED OTHERWISE
YCO	YARD CLEANOUT

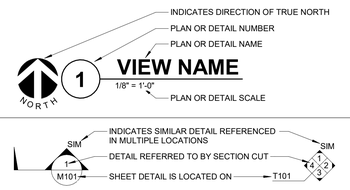
CONTRACTOR ABBREVIATION KEY

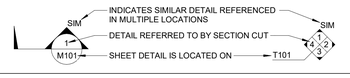
ABBR:	DESCRIPTION:
A.C.	ASBESTOS ABATEMENT CONTRACTOR
A.V.C.	AUDIO/VISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
N.C.C.	NURSE CALL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

VIEW KEY

NAME 10' - 0" — LEVEL NAME; HEIGHT ABOVE PROJECT 0' - 0"

1 — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL





LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
- NEW
- EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
- NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
- EXISTING
- EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
- EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E — TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG-1 — UNDERLINED TEXT INDICATES ADDITIONAL INFORMATION CAN BE FOUND ELSEWHERE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

PLUMBING GENERAL NOTES:

1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
2. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
3. CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
4. ALL FIXTURES SHALL CONFORM TO FEDERAL ACT S.3874
5. INVERT ELEVATIONS ARE FROM EXISTING DRAWINGS AND MAY NOT BE ACCURATE. VERIFY ALL ELEVATIONS BEFORE BEGINNING WORK.
6. VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO BEGINNING ANY WORK.
7. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO PLUMBING FIXTURES.
8. FOR CLARITY, NOT ALL VALVES HAVE BEEN SHOWN. PROVIDE SHUTOFF VALVES IN DOMESTIC WATER PIPING SERVING EACH ROOM WITH FIXTURES. ANGLE STOPS SHALL NOT BE CONSIDERED SHUTOFF VALVES.
9. EXISTING CONDITIONS ON DEMOLITION PLANS ARE PROVIDED TO INDICATE THE GENERAL SCOPE OF ITEMS TO BE REMOVED. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL DEMOLITION INFORMATION.
10. P.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW OR DEMOLITION WORK UNLESS NOTED OTHERWISE. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL INFORMATION.

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
10. SEAL ALL FLOOR AND WALL PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE.
11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
14. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
15. MAINTAIN MINIMUM 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES, AND DISCONNECTS.
16. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
17. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
2. NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
4. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS/HER WORK AND SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS/HER AREA OF WORK.
5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS. CONTRACTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING
6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
7. WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.
8. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.
9. OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
10. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.
11. DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

MECHANICAL PHASING NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL DESCRIPTION OF PHASES. REFER TO GENERAL CONTRACTOR'S INSTRUCTIONS FOR MORE DETAILS AND PHASING SCHEDULES AND FOR CONCURRENT WORK. MECHANICAL, ELECTRICAL AND TECHNOLOGY DRAWINGS DEPICT THE INTENT OF THE FINAL DESIGN. THE MECHANICAL, ELECTRICAL, AND TECHNOLOGY DRAWINGS DO NOT DEPICT THE MEANS AND METHODS TO MEET THE REQUIREMENTS OF THE PHASING CRITERIA.
2. REVIEW PROJECT PHASING PLANS TO COORDINATE DEMOLITION WORK, OUTAGES, ETC. WITH AFFECTED ADJACENT AREAS.
3. PROVIDE TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ZONE VALVES, ZONE ALARMS, ETC. AS NEEDED TO MAINTAIN SERVICE TO ALL AREAS DURING ALL PHASES OF PROJECT.
4. INSTALL TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ETC. AS NECESSARY TO KEEP ALL OCCUPIED SPACES OPERATIONAL THROUGHOUT ALL PHASES OF THE PROJECT
5. PHASE DEMOLITION WORK TO MINIMIZE DOWNTIME.

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816.842.8437
www.imegcorp.com
PROJECT # 21001634.00
Missouri State Certificate of Authority E-2017008530

REFERENCE SCALE IN INCHES
0 1 2 3

STATE OF MISSOURI
BRUCE ELDON HART
NUMBER E-22817
PROFESSIONAL ENGINEER
07-07-21
Bruce E. Hart - Engineer
License - Missouri #E-22817

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Licensee's Certificate of Authority Number:
Missouri: #000958

MEP CONSULTANT

IMEG CORP.
1600 BALTIMORE ST, SUITE 300
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Saint Luke's East Hospital

ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

Date	07/07/21
Job Number	3-21014
Drawn By	MJL
Checked By	DWD

Revision

Number	Date	Description

P000

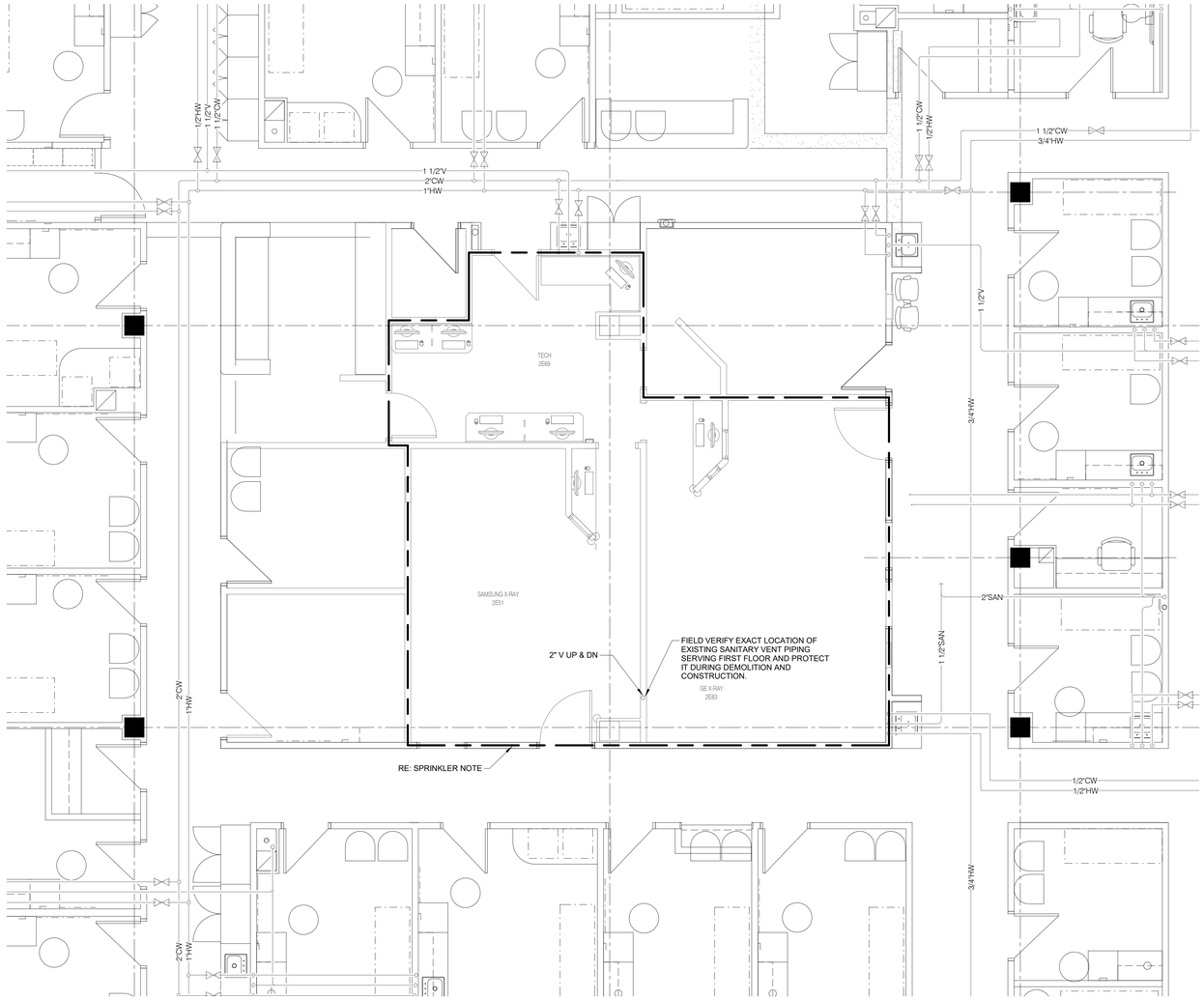
PLUMBING COVERSHEET

SHEET NOTES:

1. REFER TO GENERAL NOTES ON SHEET P000.

SPRINKLER NOTE:

SPRINKLER CONTRACTOR SHALL DISCONNECT, REMOVE AND RELOCATE ANY AND/OR ALL SPRINKLER PIPING AND SPRINKLER HEADS AS REQUIRED BY MECHANICAL, ELECTRICAL AND GENERAL CONTRACTORS. AFTER ALL LARGER DUCTWORK AND PIPING HAVE BEEN INSTALLED, SPRINKLER CONTRACTOR SHALL REINSTALL SPRINKLER PIPING AND HEADS REQUIRED TO SPRINKLER REMODELED SPACE. SPRINKLER CONTRACTOR SHALL ALSO INSTALL NEW SPRINKLER HEADS AND/OR PIPING AS REQUIRED BY REMODEL OF SPACE. ALL SPRINKLER HEADS SHALL BE CONCEALED TYPE. SPRINKLERS MAY NOT BE ALLOWED IN CERTAIN AREASS OF THE CEILING, WHERE RESTRICTED IN THE X-RAY EQUIPMENT DRAWINGS.



NORTH 1 **SECOND FLOOR - PLUMBING**
1/4" = 1'-0"

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0 1 2 3

P202

SECOND FLOOR - PLUMBING

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AV SYMBOL LIST

SYMBOL:	EQUIPMENT LIST ABBREVIATION:	DESCRIPTION:	NOTE:
S1	PA-S1-C	FACILITY PAGING SPEAKER (CEILING) TYPE 1	.
S1	PA-S1-W	FACILITY PAGING SPEAKER (WALL) TYPE 1	.
H1	PA-H1-W	FACILITY PAGING LOUD SPEAKER HORN (WALL) TYPE 1	.
CR	N/A	SECURITY CREDENTIAL READER (WALL) EXISTING	.
CR1	AC-CR1-W	SECURITY CREDENTIAL READER (WALL) TYPE 1	.
DC	AC-DC-W	SECURITY DOOR CONTACT SWITCH (WALL)	.
DR	AC-DR-S	SECURITY DURESS/PANIC BUTTON (SURFACE)	.
DR	AC-DR-W	SECURITY DURESS/PANIC BUTTON (WALL)	.
EDR	AC-EDR-UC	SECURITY ELECTRONIC DOOR RELEASE (UNDERCOUNTER)	.
EDR	AC-EDR-W	SECURITY ELECTRONIC DOOR RELEASE (WALL)	.
KP	N/A	SECURITY KEYPAD (WALL) EXISTING	.
KP1	AC-KP1-W	SECURITY KEYPAD (WALL) TYPE 1	.
PP		PUSH PAD/PUSH TO EXIT	
C#	SC-IO-FB	ELECTRICAL FLOOR BOX WITH TECHNOLOGY	1,2
C#	SC-IO-C	INFORMATION OUTLET (CEILING)	1,2
	N/A	INFORMATION OUTLET (CEILING) EXISTING	.
C#	SC-IO-F	INFORMATION OUTLET (FLOOR)	1,2
	N/A	INFORMATION OUTLET (FLOOR) EXISTING	.
C#	SC-IO-W	INFORMATION OUTLET (WALL)	1,2
	N/A	INFORMATION OUTLET (WALL) EXISTING	.
RI-AV#	AV-RI-AV#	INFORMATION OUTLET AV ROUGH-IN (WALL)	1,2
	N/A	INFORMATION OUTLET AV ROUGH-IN (WALL) EXISTING	.
RI	SC-RI-C	INFORMATION OUTLET ROUGH-IN (CEILING)	.
	N/A	INFORMATION OUTLET ROUGH-IN (CEILING) EXISTING	.
RI	SC-RI-F	INFORMATION OUTLET ROUGH-IN (FLOOR)	.
	N/A	INFORMATION OUTLET ROUGH-IN (FLOOR) EXISTING	.
RI	SC-RI-W	INFORMATION OUTLET ROUGH-IN (WALL)	.
W	SC-IO-W	INFORMATION OUTLET WALL PHONE (WALL)	2
	N/A	INFORMATION OUTLET WALL PHONE (WALL) EXISTING	.
WAP	SC-WAP-C	WIRELESS ACCESS POINT WITH ENCLOSURE (CEILING)	.
WAP	SC-WAP-W	WIRELESS ACCESS WITH POINT ENCLOSURE (WALL)	.

AV SYMBOL LIST

SYMBOL:	EQUIPMENT LIST ABBREVIATION:	DESCRIPTION:	NOTE:
AA	ID-AA-W	INTRUSION DETECTION AUDIBLE ALARM (WALL)	.
DC	ID-DC-W	INTRUSION DETECTION DOOR CONTACT SWITCH (WALL)	.
DR	ID-DR-UC	INTRUSION DETECTION DURESS/PANIC BUTTON (UNDER COUNTER)	.
DR	ID-DR-W	INTRUSION DETECTION DURESS/PANIC BUTTON (WALL)	.
MD	ID-MD-C	INTRUSION DETECTION MOTION DETECTOR (CEILING)	.
MD	ID-MD-W	INTRUSION DETECTION MOTION DETECTOR (WALL)	.
SP	N/A	AV PERFORMANCE AUDIO SPEAKER (CEILING) EXISTING	.
SP1	AV-SP1-C	AV PERFORMANCE AUDIO SPEAKER (CEILING) TYPE 1	.
## - ##	N/A	VIDEO SURVEILLANCE DOME CAMERA	.
## - ##	N/A	VIDEO SURVEILLANCE LINEAR CAMERA	.
## - ##	N/A	VIDEO SURVEILLANCE PANERAMIC 180 CAMERA	.
## - ##	N/A	VIDEO SURVEILLANCE PANERAMIC 360 CAMERA	.
## - ##	N/A	VIDEO SURVEILLANCE PTZ PANORAMIC CAMERA	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA 180° FOV (CEILING/HORIZONTAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA 180° FOV (WALL/VERTICAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA 270° FOV (CEILING/HORIZONTAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA 270° FOV (WALL/VERTICAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA 360° FOV (CEILING/HORIZONTAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA 360° FOV (WALL/VERTICAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA DUAL LENS FOV (CEILING/HORIZONTAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA DUAL LENS FOV (WALL/VERTICAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA SINGLE LENS FOV (CEILING/HORIZONTAL SURFACE)	.
CM-#/ ##-##	VS-CM-#	VIDEO SURVEILLANCE CAMERA SINGLE LENS FOV (WALL/VERTICAL SURFACE)	.
CAM	VS-CAM-W	CLOSED CIRCUIT TELEVISION (CCTV) WALL CAMERA	
CAM	VS-CAM-C	CLOSED CIRCUIT TELEVISION (CCTV) CEILING CAMERA	

GENERAL NOTES:

1. ALL SYMBOLS AND ABBREVIATIONS LISTED MAY NOT BE APPLICABLE TO THIS PROJECT. REFER TO THE GENERAL TECHNOLOGY EQUIPMENT SCHEDULE FOR MORE COMPLETE DESCRIPTION AND ITEMS.
2. ALL SYMBOLS AND ABBREVIATIONS REFER TO TECHNOLOGY SHEETS ONLY AS DEFINED ON THE SHEET INDEX. REFER TO THE GENERAL TECHNOLOGY NOTES FOR ADDITIONAL INFORMATION.
3. ALL SYMBOLS LISTED ABOVE ARE FOR REFERENCE ONLY. REFER TO PLAN AND LINE TYPE KEY FOR NEW, EXISTING TO REMAIN AND TO BE REMOVED ITEMS FOR ADDITIONAL INFORMATION.

TECHNOLOGY SYMBOL NOTES:

1. "#" INDICATES NUMBER OF DATA CABLES FOR INFORMATION OUTLET FACEPLATE CONFIGURATION. REFER TO CABLE LABELING STANDARD DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION.

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:		DESCRIPTION:
GB	GB		GROUND BUS
IBT	IBT		INTERSYSTEM BONDING TERMINATION
E / E	ECONN		ELECTRICAL CONNECTION
J / J	JB		JUNCTION BOX
	FB-#		FLOOR POKE-THRU - DUPLEX RECEPTACLE
	FB-#		FLOOR POKE-THRU - DUAL COMPARTMENT
	FB-#		FLOOR BOX - MULTI SERVICE
SV	FB-#		FLOOR - SERVICE FITTING
TV	RI-TV		TV ANTENNA OUTLET ROUGH-IN
	WM-#		MULTI OUTLET SYSTEM
	WW-#		ELECTRICAL WIREWAY w/ DEVICES SHOWN
	PANEL '###'		PANELBOARD - RECESS MOUNT
	PANEL '###'		PANELBOARD - SURFACE MOUNT
/CB-#/CS-#	MX-#/MS-#		MANUAL SWITCH / STARTER / COMBINATION STARTER/ CIRCUIT BREAKER.
	DS-#		DISCONNECT

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:		DESCRIPTION:
	REC-DUP		DUPLEX RECEPTACLE, 125V
	REC-DUP-GFI		DUPLEX GFI RECEPTACLE, 125V
U	REC-USB		DUPLEX RECEPTACLE, USB CHARGING
	REC-SIM-520R		SIMPLEX RECEPTACLE, 125V
	REC-SIM-530R		RECEPTACLE, 125V
	REC-SIM-550R		RECEPTACLE 125V, 50A, 125V
	REC-SIM-620R		RECEPTACLE, 6-20R, 250V
	REC-SIM-630R		RECEPTACLE, 6-30R, 250V
	REC-SIM-650R		RECEPTACLE, 6-50R, 250V
	REC-SIM-1420R		RECEPTACLE, 14-20R, 125/250V
	REC-SIM-1430R		RECEPTACLE, 14-30R, 125/250V
	REC-SIM-1450R		RECEPTACLE, 14-50R, 125/250V
	REC-SIM-L520R		RECEPTACLE, LOCKING TYPE, L5-20R, 125V
	REC-SIM-L530R		RECEPTACLE, LOCKING TYPE, L5-30R, 125V
	REC-SIM-L620R		RECEPTACLE, LOCKING L6-20R, 250V
	REC-SIM-L630R		RECEPTACLE, LOCKING L6-30R, 250V
	REC-SIM-L1420R		RECEPTACLE, LOCKING L14-20R, 125/250V
	REC-SIM-L1430R		RECEPTACLE, LOCKING L14-30R, 125/250V
	REC-TAMP		DUPLEX RECEPTACLE, TAMPER RESISTANT, 125V
	REC-TAMP-GFI		GFI DUPLEX RECEPTACLE, TAMPER RESISTANT, 125V
	REC-TAMP-QUAD		QUAD RECEPTACLE, TAMPER RESISTANT, 125V
	REC-QUAD		QUAD RECEPTACLE, 125V
	REC-QUAD-GFI		QUAD GFI RECEPTACLE, 125V
U	REC-QUAD-USB		QUAD RECEPTACLE, USB 125V
	PP#		POWER POLE

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
			LINEAR LUMINAIRES
			TROFFER
			WALL SCONCE LUMINAIRE
			DOWNLIGHT LUMINAIRE
			AIMABLE OR WALL WASH LUMINAIRE
	REFER TO LUMINAIRE SCHEDULE		INDUSTRIAL LUMINAIRE
			WALL BRACKET LUMINAIRE
			POLE MOUNTED LUMINAIRE
			SINGLE FACE EXIT SIGN
			DOUBLE FACE EXIT SIGN
			WALL/CEILING EMERGENCY EXIT SIGN
			EMERGENCY UNIT

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	DESCRIPTION:
$	SW-1P	SWITCH - SINGLE POLE
$_M$	SW-1P-M	SWITCH - MOMENTARY CONTACT
$_2$	SW-2P	SWITCH - TWO POLE
$_3$	SW-3W	SWITCH - THREE WAY
$_4$	SW-4W	SWITCH - FOUR WAY
$_D$	SW-D-LED	DIMMER - LED, COMPATIBLE WITH FIXTURE DRIVER
$_{D3}$	SW-D3-LED	DIMMER - LED - 3-WAY, COMPATIBLE WITH FIXTURE DRIVER
OC $_D$	SW-OC-D-W	OCCUPANCY SENSOR - DUAL TECHNOLOGY - WALL MOUNTED
$_{O2}$	SW-OC-P-O2	SWITCH - OCCUPANCY SENSOR AND DUAL SWITCH
OC $_P$	SW-OC-P-P	OCCUPANCY SENSOR - PASSIVE INFRARED 360 DEGREE COVERAGE
OC $_{P2}$	SW-OC-P-P2	OCCUPANCY SENSOR - PASSIVE INFRARED 100 DEGREE COVERAGE
OC $_P$	SW-OC-P-W	OCCUPANCY SENSOR - PASSIVE INFRARED - WALL MOUNTED
OC $_U$	SW-OC-U	OCCUPANCY SENSOR - ULTRASONIC 360 DEGREE COVERAGE
OC $_{U2}$	SW-OC-U2	OCCUPANCY SENSOR - ULTRASONIC 35'X30' HAND MOTION COVERAGE
OC $_A$	SW-OC-U-A	OCCUPANCY SENSOR - ULTRASONIC TWO SIDED CORRIDOR COVERAGE
OC $_U$	SW-OC-U-W	OCCUPANCY SENSOR - ULTRASONIC - WALL MOUNTED
SW	SW	WALL CONTROL STATION
TC	TC-#	TIME SWITCH
#B#F	SW-LCS	DIMMER CONTROL STATION WITH FADERS
$_{LV}$	SW-LV	LOW-VOLTAGE CONTROL SWITCH
$_O$	SW-OC-P-O	WATTSTOPPER DSW-301 SERIES DUAL TECHNOLOGY WALL SWITCH WITH MOTION SENSOR
$_O$	SW-OD	WATTSTOPPER DW-311 SERIES 0-10V DIMMABLE WALL SWITCH WITH DUAL TECHNOLOGY MOTION SENSOR
$_T$	SW-1P-ADJ	WATTSTOPPER TS-400 SERIES DIGITAL TIME SWITCH.
#B $_{XX}$	SW-DCS	WATTSTOPPER DIGITAL LIGHTING MANAGEMENT CONTROL STATION KEYPAD WITH PROGRAMMABLE FUNCTION BUTTONS. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS. XX INDICATES TYPE: S1: ONE BUTTON KEYPAD S2: TWO BUTTON KEYPAD S3: THREE BUTTON KEYPAD S4: FOUR BUTTON KEYPAD S5: FIVE BUTTON KEYPAD S8: EIGHT BUTTON KEYPAD D1: ONE ROCKER BUTTON KEYPAD
R $_X$		WATTSTOPPER DIGITAL LIGHTING MANAGEMENT ROOM CONTROLLER. REFER TO DETAILS FOR SYSTEM INTERCONNECTION REQUIREMENTS. X INDICATES TYPE. A. ONE RELAY SWITCHING CONTROLLER: LMRC-101 B. TWO RELAY SWITCHING CONTROLLER: LMRC-102 C. ONE RELAY SWITCHING OR 0-10V DIMMING CONTROLLER: LMRC-211 D. TWO RELAY SWITCHING OR 0-10V DIMMING CONTROLLER: LMRC-212 E. THREE RELAY SWITCHING OR 0-10V DIMMING CONTROLLER: LMRC213
R $_{BMS}$		WATTSTOPPER DIGITAL LIGHTING MANAGEMENT INPUT/OUTPUT INTERFACE FOR BMS CONTROL OF LIGHTING. PROVIDE ALL LOW VOLTAGE CABLING AS REQUIRED: LM10-101.
OC $_D$	SW-OC-D	WATTSTOPPER DIGITAL LIGHTING MANAGEMENT LMDC-100 SERIES DUAL TECHNOLOGY CEILING MOUNT OCCUPANCY SENSOR. OCCUPANCY SENSOR SHALL TURNS OFF LIGHTS AFTER 20 MINUTES OF INACTIVITY. PROVIDE ALL LOW VOLTAGE CABLING AS REQUIRED.
LS	SW-LS	WATTSTOPPER DIGITAL LIGHTING MANAGEMENT LMLS-105 SERIES PHOTOCELL. PROVIDE ALL LOW VOLTAGE CABLING AS REQUIRED.
ALCR		WATTSTOPPER ELCU-200 SERIES EMERGENCY LIGHTING CONTROL UNIT. UPON LOSS OF NORMAL POWER, EMERGENCY LIGHTING SHALL TURN ON REGARDLESS OF SWITCH POSITION.

ELECTRICAL SYMBOL LIST

SYMBOL:	TAG:	DESCRIPTION:
	FA-110	FIRE FIGHTERS PHONE
SD	FA-120	FIRE ALARM SMOKE DETECTOR - CEILING MOUNTED
SD	FA-122	FIRE ALARM DUCT SMOKE DETECTOR
SD	FA-123	FIRE ALARM IN DUCT SMOKE DETECTOR
F	FA-130	FIRE ALARM MANUAL PULL STATION
H	FA-140	FIRE ALARM HEAT DETECTOR
CO	FA-150	FIRE ALARM CARBON MONOXIDE/HEAT/SMOKE DETECTOR
MM	FA-160	FIRE ALARM ADDRESSABLE MONITOR MODULE
AR	FA-161	FIRE ALARM RELAY
SD $_B$	FA-170	SMOKE DETECTOR - STAND ALONE
SD $_V$	FA-171	SMOKE DETECTOR - STAND ALONE 177 CANDELA
V1 V3 V5 V7 VH	FA-200	FIRE ALARM VISUAL NOTIFICATION DEVICE - WALL MOUNTED
V1 V3 V5 V7 VH	FA-201	FIRE ALARM VISUAL NOTIFICATION DEVICE - CEILING MOUNTED
V11 V33 V77 VHH	FA-202	EMERGENCY NOTIFICATION - VISUAL - WALL MOUNTED
A	FA-210	FIRE ALARM AUDIO NOTIFICATION DEVICE - WALL MOUNTED
A1 A3 A7 AH AS	FA-211	FIRE ALARM AUDIO/VISUAL NOTIFICATION DEVICE - WALL MOUNTED
A11 A33 A77 AHH AS#	FA-220	EMERGENCY NOTIFICATION - AUDIO/VISUAL - WALL MOUNTED
A11 A33 A77 A99 AHH VS#	FA-221	EMERGENCY NOTIFICATION - AUDIO/VISUAL - CEILING MOUNTED
V11 V33 V77 V99 VS#	FA-222	EMERGENCY NOTIFICATION - VISUAL ONLY - CEILING MOUNTED
A	FA-230	FIRE ALARM AUDIO NOTIFICATION DEVICE - CEILING MOUNTED
A1 A3 A7 AH A5	FA-231	FIRE ALARM AUDIO/VISUAL NOTIFICATION DEVICE - CEILING MOUNTED
S	FA-232	FIRE ALARM CM LOUD SPEAKER
MH	FA-233	FIRE ALARM AUDIO NOTIFICATION DEVICE - WALL MOUNTED - MINI-HORN
RTS/I	FA-242	FIRE ALARM REMOTE INDICATOR AND TEST SWITCH
RI	FA-241	FIRE ALARM REMOTE INDICATOR
SD	FA-250	FIRE ALARM SMOKE DAMPER
ARD	FA-251	SMOKE OR FIRE DAMPER CONTROLLER
HDS $_\#$	FA-253	FIRE ALARM HOISTWAY DAMPER SWITCH
SD	FA-254	FIRE ALARM SMOKE DAMPER WITH DUCT DETECTOR AND ADDRESSABLE RELAY
FS	FA-260	FIRE ALARM FLOW SWITCH TO MONITOR FIRE PROTECTION SYSTEM
MS	FA-261	FIRE ALARM MONITOR SWITCH TO MONITOR FIRE PROTECTION SYSTEM
PIV	FA-262	FIRE ALARM POST INDICATOR VALVE CONNECTION
EB	FA-263	FIRE ALARM ELECTRONIC BELL FOR SPRINKLER SYSTEM
DH	FA-270	FIRE ALARM ELECTROMAGNETIC DOOR HOLD DEVICE
DH $_{PD}$	FA-272	FIRE ALARM HOLD OPEN OVERRIDE CONNECTION
IM	FA-280	ISOLATION MODULE
DB	DB	DOOR BELL
HD	HD	HAND DRYER
PP	PP	PUSH PAD
PB $_{EPO}$		"EMERGENCY POWER OFF" PUSHBUTTON
D	NC-D-C	NURSE CALL DOME LIGHT (CEILING)
NE	NC-NE-W	NURSE CALL EMERGENCY CALL STATION (WALL)

ELECTRICAL ABBREVIATION KEY

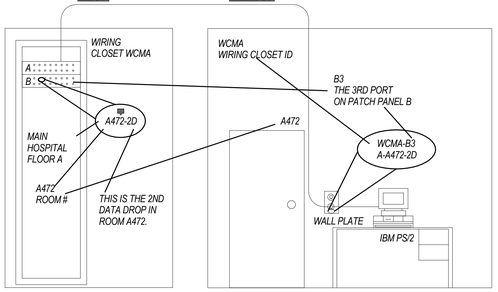
ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
EM	INDICATES LIGHT OR DEVICE CONNECTED TO EMERGENCY POWER OR FURNISHED WITH A BATTERY PACK CONNECTED TO A NON-SWITCHED HOT WIRE
GFI	GROUND FAULT INTERRUPTER
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
RL	EXISTING DEVICE OR LIGHT RELOCATED
SV	SOLENOID VALVE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

LUMINAIRE SYMBOL KEY

SYMBOL:	DESCRIPTION:
	NORMAL BRANCH LUMINAIRE
	CRITICAL BRANCH LUMINAIRE
	EMERGENCY LIFE SAFETY BRANCH LUMINAIRE

THE LABEL FOR THIS DROP IN THE CLOSET IS: A472-2D

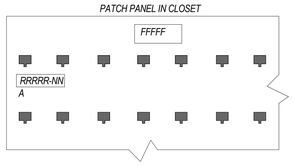
THE LABEL FOR THIS DROP AT THE WORKSTATION IS: WCMA-B3 / UA-A472-2D



WORKSTATION

B = BUILDING ID
C = WIRING CLOSET ID
A = PATCH PANEL LETTER
P = PATCH PANEL PORT NUMBER
F = FACILITY FLOOR
R = ROOM NUMBER
N = UNIQUE SEQUENTIAL NUMBER (IN ROOM)
D = DATA

PATCH PANEL IN CLOSET



WORKSTATION
THE WORKSTATION LABEL WILL BE BASED ON THE LOCATION OF THE DESTINATION IN THE WIRING CLOSET. THE LABEL WILL BE PREFIXED WITH THE WIRING CLOSET IDENTIFICATION. THIS IDENTIFICATION IS CROSS REFERENCED IN AN ATTACHED DOCUMENT. A DASH WILL SEPARATE THE PREFIX FROM THE SUFFIX. THE SUFFIX WILL CONSIST OF THE DESTINATION PATCH PANEL LETTER. THE PATCH PANEL LETTER IS DETERMINED BY A LABEL ON THE PATCH PANEL IN THE WIRING CLOSET. THE REMAINDER OF THE SUFFIX WILL CORRESPOND WITH THE PORT NUMBER ON THE PATCH PANEL IN THE WIRING CLOSET.

WIRING CLOSET
THE WIRING CLOSET LABEL WILL BE BASED ON THE LOCATION OF THE DESTINATION ROOM. THE LABEL WILL BE PREFIXED WITH THE ROOM NUMBER. A DASH WILL SEPARATE THE PREFIX FROM THE SUFFIX. THE SUFFIX IS DETERMINED BY THE NUMBER OF DROPS IN THE ROOM. THIS NUMBER IS CONVERTED INTO AN ALPHABETIC REPRESENTATION I.E. A=1, B=2 AND C=3.

1 TYPICAL SLHS DATA CABLE LABELING STANDARD

1/4" = 1'-0"

NORTH

STATE OF MISSOURI
BRUCE ELDON HART
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PROFESSIONAL ENGINEER
07-07-21

Bruce E. Hart - Engineer
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Saint Luke's East Hospital

ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

Date	07/07/21
Job Number	3-21014
Drawn By	MSA
Checked By	BEH

Revision

Number	Date	Description

E000

ELECTRICAL SYMBOL LISTS

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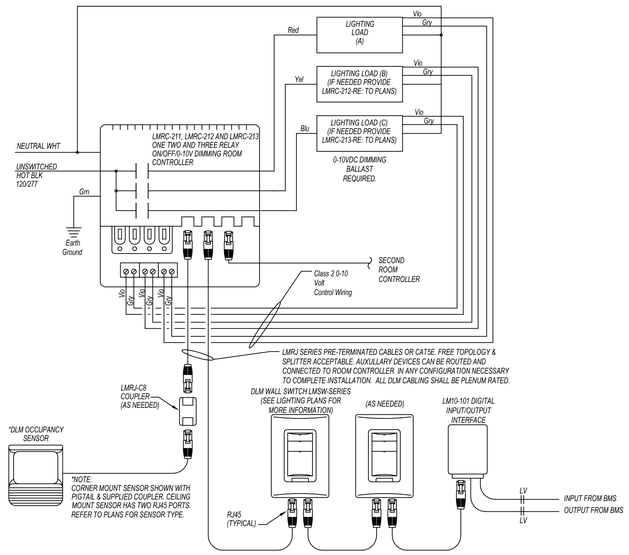


LMRC-211
SEQUENCE OF OPERATION: IN THIS CONFIGURATION THE LMRC-101 DEFAULTS TO MANUAL-ON/AUTOMATIC OFF.

LMRC-212
SEQUENCE OF OPERATION: IN THIS CONFIGURATION THE LMRC-102 DEFAULTS TO MULTI-LEVEL AUTOMATIC-ON/AUTOMATIC OFF. LOAD (A) TURNS ON AUTOMATICALLY AND LOAD (B) DEFAULTS TO MANUAL-ON CONTROL; BOTH LOADS TURN AUTOMATICALLY OFF.

LMRC-213
IN THIS CONFIGURATION THE LMRC-213 SEQUENCE OF OPERATION: DEFAULTS TO MULTI-LEVEL AUTOMATIC-ON/AUTOMATIC-OFF OPERATION. LOAD (A) ON THE LMRC-213 TURNS ON AUTOMATICALLY, WHILE LOAD (B) AND (C) DEFAULTS ENHANCED ROOM TO MANUAL-ON CONTROL; ALL RELAYS TURN OFF AUTOMATICALLY.

NOTE:
-FURNISH WITH TWO (2) LMCT-100 DIGITAL WIRELESS CONFIGURATION TOOLS.
-PROVIDE COMMISSIONING AND TRAINING FOR ALL INSTALLATIONS.
-PROVIDE ENGRAVING FOR BUTTONS ON ALL INSTALLATIONS.
-ALL SHIELDING FOR OCCUPANCY SENSORS SHALL BE TURNED OVER TO OWNER.

DETAIL OF LMRC-211, LMRC-212 AND LMRC-213 ROOM CONTROLLER CABLING

1 NO SCALE

LUMINAIRE SCHEDULE

(DESC) DOOR:	**DISTRIBUTION:**	**BEAMWIDTH:**	**(L/L) LENS/LOUVER:**
FA - FLAT ALUMINUN	II - ANSI/IES TYPE 2 DISTRIBUTION	NSP - VERY NARROW SPOT	A - .125" ACRYLIC
FS - FLAT STEEL	III - ANSI/IES TYPE 3 DISTRIBUTION	SP - SPOT	B - BAFFLE/LOUVER
RA - REGRESSED ALUMINUM	IV - ANSI/IES TYPE 4 DISTRIBUTION	MD - MEDIUM	C - CLEAR ALZAK
RS - REGRESSED STEEL	V - ANSI/IES TYPE 5 DISTRIBUTION	WD - WIDE	F - FROSTED ACRYLIC
FINISH:		VWD - VERY WIDE	G - TEMPERED GLASS
PAF - PAINT AFTER FABRICATION		WW - WALL WASH	K - KSH12 .125" ACRYLIC
CFSA - COLOR-FINISH SELECTION BY ARCHITECT			

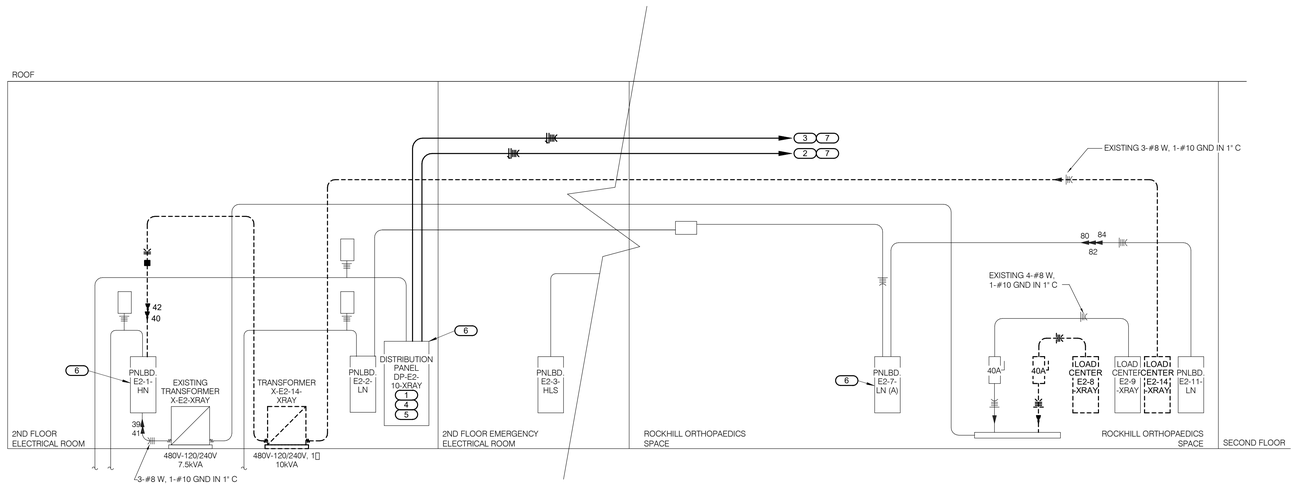
(TYPE) LIGHT SOURCE TECHNOLOGY:			
DLED - DYNAMIC TUNABLE LED	FL - FLUORESCENT	CC - COLD CATHODE	
LED - LIGHT EMITTING DIODE	CF - COMPACT FLUORESCENT	IND - INDUCTION	
OLED - ORGANIC LED	HL - HALOGEN	O - OTHER (SEE DESC)	
RGB - COLOR CHANGING LED	HIR - HALOGEN INFRARED		
RGBA - COLOR CHANGING + AMBER LED	IN - INCANDESCENT		
RGBW - COLOR CHANGING + WHITE LED	HS - HIGH PRESSURE SODIUM		
RLED - RETROFIT LED	MH - METAL HALIDE		
TLED - TUBULAR LED LAMP	SMH - SUPER METAL HALIDE		
WLED - WARM DIM LED	PSMH - PULSE START METAL HALIDE		
O - OTHER (SEE DESCRIPTION)	CMH - CERAMIC METAL HALIDE		
	XL - EXTENDED LIFE FLUORESCENT		
	XLP - EXTENDED LIFE & OUTPUT FLUORESCENT		

(MTG) MOUNTING:	PL - POLE
CL - CEILING SURFACE	RE - RECESSED
CV - COVE	SP - SUSPENDED
FR - FLANGED RECESSED	SU - SURFACE
O - OTHER (SEE DESCRIPTION)	UC - UNDER CABINET
P - PERIMETER	WL - WALL
(WATT) PER: FIX - FIXTURE, FT - FOOT, LAMP	
(TYPE) BALLAST/DRIVER:	HL - HIGH/LOW (100%/50%) STEP DIM
#BF - BALLAST FACTOR	HP - HIGH PERFORMANCE / LBF
0-10V - 0-10V DIMMING TO 1%	LINE - LINE VOLTAGE DIMMING
DALI - DIGITAL ADDRESSABLE	ML - MULTI-LEVEL SWITCHING
DMX - DIGITAL MULTIPLEX	MV - MULTI-VOLTAGE ELECTRONIC
EB - ELECTRONIC	REM - REMOTE
ELV - ELECTRONIC LOW VOLTAGE	O - OTHER (SEE DESCRIPTION)
EM - EMERGENCY BATTERY	

CATALOG NUMBER SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. THE COMPLETE DESCRIPTION AND THE SPECIFICATION SHALL BE COORDINATED WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.

VERIFY AND COORDINATE ALL CEILING TYPES WITH LUMINAIRE MOUNTING AND TRIM REQUIREMENTS PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER.
CONFIRM ALL COLORS AND FINISHES OF ALL LUMINAIRE COMPONENTS WITH ARCHITECT AND INTERIOR DESIGNER PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER.
UNLESS INDICATED ON LIGHTING PLANS OR BELOW, REFER TO ARCHITECTURAL AND INTERIOR DESIGN ELEVATIONS, SECTIONS AND DETAILS FOR ALL SUSPENDED AND WALL MOUNTED LUMINAIRE MOUNTING HEIGHTS.

ITEM	DESCRIPTION	L/L	MTG	DIMENSIONS L	W	H	DIA.	WATT MAX ANSI	PER	LIGHT SOURCE TECHNOLOGY TYPE	QTY	MODEL/DELIVERED LUMENS (MIN)	BALLAST/DRIVER VOLTS	TYPE	APPROVED MANUFACTURER
A	SHALLOW PLENUM TROFFER WITH DIFFUSE LINEAR RIBBED ACRYLIC LENS IN CENTER. WHITE FINISH. STEEL HOUSING.	F	RE	4'-0"	2'-0"	2"		45 W	FIX	LED	1	5000 LUMENS, 80 CRI, 3500K	277 V	0-10V	WILLIAMS - PT SERIES
B	SHALLOW PLENUM TROFFER WITH DIFFUSE LINEAR RIBBED ACRYLIC LENS IN CENTER. WHITE FINISH. STEEL HOUSING.	F	RE	2'-0"	2'-0"	2"		29 W	FIX	LED	1	3397 LUMENS, 80 CRI, 3500K	277 V	0-10V	WILLIAMS - PT SERIES
D	OPEN RECESSED DOWNLIGHT, CLEAR SEMI-SPECULAR PARABOLIC SELF FLANGE REFLECTOR, DAMP LABEL. WIDE DISTRIB, SPRING-RETENTION REFLECTOR, TOP LENS	O	RE			6 1/2"	6"	16 W	FIX	LED	1	80 CRI, 3500K, 1500 LUMENS	277 V	0-10V	WILLIAMS - 6DR
X	LED "IN USE" SIGN, CAST ALUMINUM HOUSING WITH RED LETTERING. WHITE FINISH, PROVIDE NECESSARY HARDWARE FOR CEILING OR WALL MOUNTING.	O	CL	11"	2"	8"		2 W	FIX	LED	1	FURNISHED	12-24 DC V	EM	PROVIDE FROM XRAY VENDOR



RISER KEYNOTES: (#)

1. AS-BUILT DRAWING INDICATES EXISTING DISTRIBUTION PANEL 'DP-E2-10-XRAY' HAS TWO (2) 'SPARE' FUSIBLE 100AMP, 3-POLE DISCONNECT SWITCHES AVAILABLE FOR NEW WORK. EXISTING PANEL IS RATED 400AMP MAIN SWITCH, 277/480 VOLT, 3PH, 4 WIRE. VERIFY EXISTING CONDITIONS.
2. ROUTE TO 80AMP, 3-POLE MAIN DISCONNECT IN XRAY EXAM RM 2E83. PROVIDE 4 #2 W, 1 #2 GROUND IN 2" CONDUIT. (G.E. XRAY).
3. ROUTE TO 100AMP, 3-POLE MAIN DISCONNECT IN XRAY EXAM ROOM 2E51. PROVIDE 4 #1/0 W, 1 #1/0 GROUND IN 2.5" CONDUIT. (SAMSUNG XRAY).
4. PROVIDE THREE (3) - 100AMP FUSES IN EXISTING 100AMP, 3-POLE 'SPARE' FUSIBLE SWITCH. LABEL SWITCH 'XRAY 2E51'.
5. PROVIDE THREE (3) - 80AMP FUSES IN EXISTING 100AMP, 3-POLE 'SPARE' FUSIBLE SWITCH. LABEL SWITCH 'XRAY 2E83'.
6. EXISTING PANEL IS UTILIZED IN NEW WORK. TRACE AND VERIFY BRANCH CIRCUITS AS REQUIRED.
7. VERIFY FUSE, CONDUIT AND WIRE SIZING WITH FINAL XRAY VENDOR DRAWING REQUIREMENTS.

PARTIAL ELECTRICAL RISER DIAGRAM

2 N.T.S.

ELECTRICAL GENERAL NOTES:

1. REFER TO DRAWINGS CONTAINING ELECTRICAL SCHEDULES. PERMANENT NAMEPLATE SHALL MATCH FINAL EQUIPMENT NOMENCLATURE, NOT ELECTRICAL EQUIPMENT TAG NAME, REFER TO SPECIFICATIONS.
2. "NL" INDICATES LUMINAIRE IS UNSWITCHED FOR NIGHT LIGHT.
3. "SE" INDICATES LUMINAIRE IS SWITCHED/CONTROLLED DURING NORMAL OPERATION AND OPERATES FROM **EMERGENCY CIRCUIT** UPON LOSS OF POWER.
4. SHADED LUMINAIRE OR DEVICE INDICATES LUMINAIRE OR DEVICE IS CONNECTED TO AN EMERGENCY CIRCUIT.
5. REFER TO THIS SHEET FOR LIGHTING CONTROL DETAILS.
6. REFER TO SHEET E2 FOR LUMINAIRE SCHEDULE.
7. (BR) PUSH BUTTON REFERS TO SCENE QUANTITY. CONTROL STATION SHALL BE CAPABLE OF RAISE/LOWER AND SWITCHING ON/OFF FOR MULTIPLE SCENES AS INDICATED ON SHEETS. COORDINATE QUANTITIES OF BUTTONS FOR CONTROL STATIONS WITH LIGHTING CONTROL MANUFACTURER. REFER TO DETAILS THIS SHEET.
8. VACANCY/OCCUPANCY SENSOR LAYOUT: SENSORS ARE SHOWN ON THE PLANS FOR DESIGN INTENT AND MAY NOT REPRESENT EVERY DEVICE. PROVIDE MANUFACTURER SPECIFIC FLOOR PLAN LAYOUTS SHOWING LOCATION, ORIENTATION, AND COVERAGE AREA OF EACH CONTROL DEVICE, SENSOR, AND CONTROLLER/INTERFACE. AREAS REQUIRING MULTIPLE SENSOR DEVICES FOR APPROPRIATE COVERAGE, SUBMIT SPECIFIC MANUFACTURER-APPROVED SENSOR LAYOUT AS AN OVERLAY DIRECTLY ON THE PROJECT DRAWINGS, EITHER IN PRINT OR APPROVED ELECTRONIC FORM.

LUMINAIRE KEY:

LUMINAIRE — F1 = FIXTURE TAG; 1 = CIRCUIT NUMBER; a = SWITCH DESIGNATION; NL = SUBSCRIPT (IF APPLICABLE); Z = ZONE DESIGNATION

*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: F1 / 1 / a / NL

DEVICE KEY:

DEVICE — A = MOUNTING (IF APPLICABLE); 1 = CIRCUIT NUMBER

*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: A / 1

ELECTRICAL MOUNTING SUBSCRIPT KEY:

A	MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH
C	MOUNT AT CEILING
H	MOUNT ORIENTED HORIZONTALLY
L	MOUNT IN CASEWORK
M	MOUNT IN MODULAR FURNITURE
R	MOUNT IN SURFACE RACEWAY
EWC	ELECTRIC WATER COOLER

ELECTRICAL INSTALLATION NOTES:

1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATION DETAILS ON THIS PAGE FOR ADDITIONAL INFORMATION.
2. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
3. **EMERGENCY LIFE SAFETY AND CRITICAL, EQUIPMENT** BRANCH WIRING FOR FEEDERS AND BRANCH CIRCUITS SHALL BE ROUTED IN SEPARATE RACEWAY, JUNCTION BOXES, PULL BOXES, AND CABINETS. WIRING FOR EACH BRANCH SHALL BE INDEPENDENT FROM OTHER BRANCHES, INCLUDING THE NORMAL BRANCH.
4. FLUSH MOUNT ALL LIGHTING CONTROL DEVICES AT +42" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. DEVICES MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
5. FLUSH MOUNT ALL DUPLEX RECEPTACLES AND TECHNOLOGY OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. RECEPTACLES AND OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
6. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.
7. CONNECTION FOR ELECTRIC WATER COOLERS (EWC) SHALL BE A JUNCTION BOX CONCEALED BEHIND WATER COOLER ACCESS PLATE OR BE A GFI RECEPTACLE LOCATED DIRECTLY BELOW AND CENTERED ON EWC. CONTRACTOR SHALL VERIFY TYPE OF EWC TO BE INSTALLED.
8. MOUNT ALL FIRE ALARM PULL STATIONS AT +42" FROM FLOOR (CENTERLINE DIMENSION) EXCEPT WHERE OTHERWISE NOTED.
9. INSTALL ALL WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES AT 90° ABOVE FINISHED FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LOWER, EXCEPT WHERE OTHERWISE NOTED. HEIGHT SHALL BE MEASURED TO THE TOP OF THE DEVICE.
10. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
11. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
12. ELECTRICAL AND TECHNOLOGY EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF, OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
14. ALL WELDING SHALL BE ACCORDING TO AMERICAN WELDING SOCIETY STANDARDS. CONTRACTOR SHALL FURNISH TO THE ARCHITECT/ENGINEER CERTIFICATES QUALIFYING EACH WELDER, PRIOR TO START OF WORK. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REQUIRE QUALIFYING DEMONSTRATION, AT THE CONTRACTOR'S EXPENSE, OF ANY WELDERS ASSIGNED TO THE JOB.
15. CONTRACTOR SHALL REMOVE AND REINSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF ELECTRICAL WORK. CONTRACTOR SHALL REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.
16. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
17. ALL EXISTING BRANCH CIRCUITS REQUIRE FIELD VERIFICATION AND SHALL BE TRACED FROM SOURCE PANEL TO DEVICES, LIGHT FIXTURES AND EQUIPMENT REQUIRED TO REMAIN OR RELOCATE. UTILIZE INFORMATION TO PROVIDE ACCURATE UPDATED TYPE-WRITTEN PANEL SCHEDULES.
18. ALL ELECTRICAL WORK SHALL COMPLY WITH NEC 2017 ARTICLE 517 FOR HEALTHCARE FACILITIES.

ELECTRICAL PHASING NOTES:

THESE NOTES APPLY TO ALL ELECTRICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, LIGHTING, POWER, AND SYSTEMS.

1. REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL DESCRIPTION OF PHASES. REFER TO CONSTRUCTION MANAGER'S/GENERAL CONTRACTOR'S/ARCHITECT'S INSTRUCTIONS FOR MORE DETAILS AND PHASING SCHEDULES AND FOR CONCURRENT WORK. MECHANICAL, ELECTRICAL AND TECHNOLOGY DRAWINGS DEPICT THE INTENT OF THE FINAL DESIGN. THE MECHANICAL, ELECTRICAL, AND TECHNOLOGY DRAWINGS DO NOT DEPICT THE MEANS AND METHODS TO MEET THE REQUIREMENTS OF THE PHASING CRITERIA.
2. REVIEW PROJECT PHASING PLANS TO COORDINATE DEMOLITION WORK, OUTAGES, ETC. WITH AFFECTED ADJACENT AREAS.
3. PROVIDE TEMPORARY LIGHTING, POWER, SYSTEMS, ETC. AS NEEDED TO MAINTAIN SERVICE TO ALL AREAS DURING ALL PHASES OF PROJECT.
4. INSTALL TEMPORARY LIGHTING, CIRCUITS, ETC. AS NECESSARY TO KEEP ALL OCCUPIED SPACES OPERATIONAL THROUGHOUT ALL PHASES OF THE PROJECT
5. PHASE DEMOLITION WORK TO MINIMIZE DOWNTIME.

TYPICAL NEW CONSTRUCTION:

1. HALF-SHADED FIXTURES INDICATE EMERGENCY LUMINAIRES THAT ARE TO BE CONNECTED VIA AN EMERGENCY TRANSFER DEVICE (ALCR) TO TURN LIGHTS ON UPON LOSS OF POWER. THE THIRD LEG OF THE ETD IS CONNECTED TO THE EMERGENCY LIGHTING PANEL.
2. WHERE LUMINAIRE QUANTITIES OR LAYOUT DIFFER BETWEEN ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS, HIGHER QUANTITY SHALL TAKE PRECEDENCE. CONTRACTOR SHALL CONFIRM QUANTITY AND LAYOUT WITH DESIGN TEAM.
3. #B PUSH BUTTON REFERS TO SCENE QUANTITY. COORDINATE NUMBER OF BUTTONS FOR CONTROL STATIONS WITH LIGHTING CONTROL MANUFACTURER. CONTROL SHALL BE CAPABLE OF DIMMING UP/DOWN AND SWITCHING ON/OFF FOR MULTIPLE ZONES AS INDICATED.
4. COORDINATE LUMINAIRE IN MECHANICAL ROOMS WITH DUCTWORK, PIPING AND ANY MECHANICAL EQUIPMENT. PROVIDE LUMINAIRE WITH CHAINS OR HANGAR KIT WHERE REQUIRED. BOTTOM OF FIXTURE TO ALIGN WITH BOTTOM OF NEAREST BEAM/TRUSS. COORDINATE MOUNTING PRIOR TO ORDERING LUMINAIRES.

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REFERENCE SCALE IN INCHES
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Saint Luke's East Hospital

ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

Date	07/07/21
Job Number	3-21014
Drawn By	MSA
Checked By	BEH

Revision

Number	Date	Description

E001

ELECTRICAL GENERAL NOTES AND DETAILS

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NORTH

1 SECOND FLOOR PLAN

1/16" = 1'-0"

STATE OF MISSOURI
BRUCE ELDON HART
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PROFESSIONAL ENGINEER

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E002

SECOND FLOOR OVERALL PLAN

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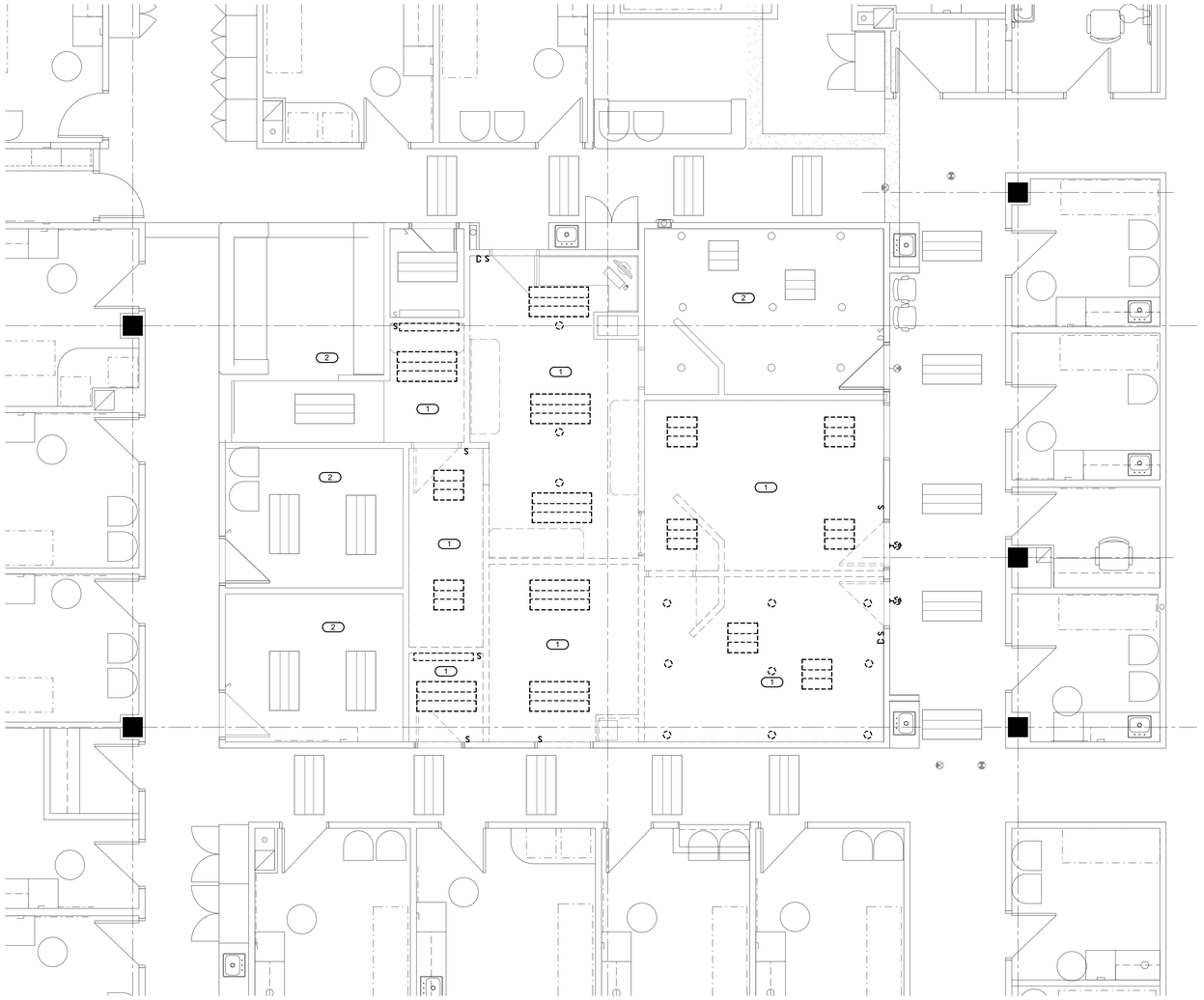
SHEET NOTES:

1. REFER TO SHEETS E000 AND E001 FOR SYMBOLS AND ELECTRICAL GENERAL NOTES. NOT ALL NOTES MAY APPLY TO THIS SHEET.
2. EXISTING LIGHTING BRANCH CIRCUITS ARE SERVED FROM 277VOLT NORMAL SOURCE PANELBOARD 'E2-1-HN'. REFER TO SHEET E002 FOR PANEL LOCATION.
3. DEVICES AND LIGHTS TO BE DEMO'D ARE SHOWN DARK AND DASHED. ALL EXISTING TO REMAIN DEVICES AND LIGHTS ARE SHOWN LIGHTLY.
4. NOT ALL DEVICES AND LIGHTS TO BE DEMO'D ARE SHOWN. CONTRACTOR SHALL COMPLETELY REMOVE ALL DEVICES AND LIGHTS NO LONGER REQUIRED TO REMAIN.

KEYNOTES: (#)

1. MAINTAIN EXISTING BRANCH CIRCUIT(S). ADAPT/EXTEND/MODIFY EXISTING CIRCUIT(S) FOR NEW WORK INDICATED. VERIFY EXISTING CONDITIONS.
2. EXISTING BRANCH CIRCUITS WITHIN DESIGNATED ROOM TO REMAIN. VERIFY EXISTING CONDITIONS.



1 SECOND FLOOR DEMOLITION - LIGHTING

1/4" = 1'-0"

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SECOND FLOOR DEMOLITION - LIGHTING

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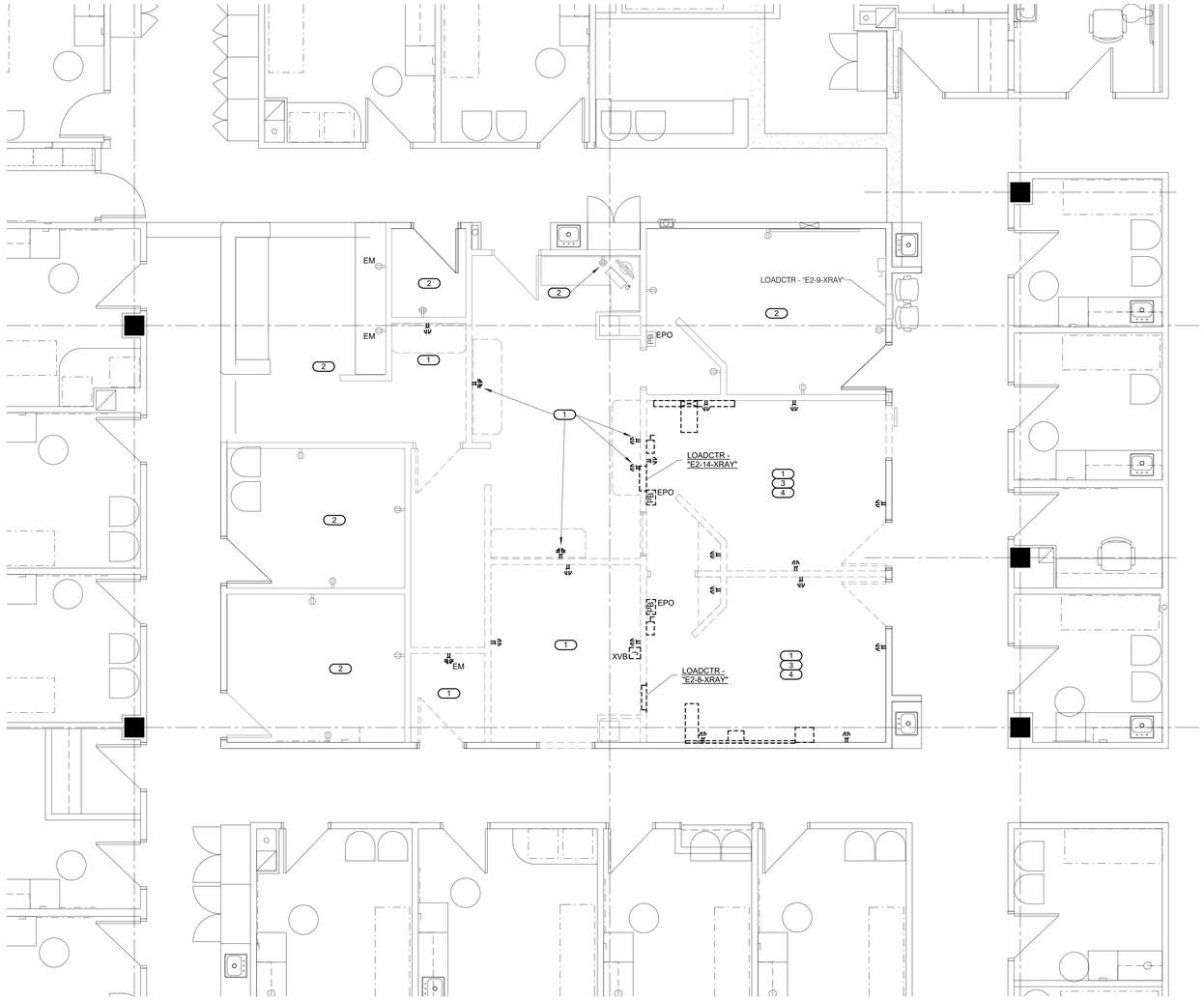

SECOND FLOOR DEMOLITION - POWER

1/4" = 1'-0"

NORTH

SHEET NOTES:

1. REFER TO SHEET E000 AND E001 FOR SYMBOLS AND ELECTRICAL GENERAL NOTES. NOT ALL NOTES MAY APPLY TO THIS SHEET..
2. PROVIDE NEW BREAKERS TO MATCH WITH EXISTING PANEL RATINGS AND MATE WITH EXISTING SIZE, IF REQUIRED.
3. FOR PURPOSES OF VOLTAGE DROP, PROVIDE #10 WIRE FOR 120 VOLT BRANCH CIRCUIT HOMERUN BEYOND 70FT FROM SOURCE PANEL AND 8# WIRE FOR 120 VOLT BRANCH CIRCUIT HOMERUNS BEYOND 120FT FROM SOURCE PANEL.
4. UPON COMPLETION OF DEMOLITION WORK, CONFIRM QUANTITIES, SIZES, RATING AND POLES OF 'SPARE' BREAKERS IN EXISTING PANELS FOR RE-USE IN NEW WORK. PROVIDE LIST TO ARCHITECT AND ENGINEER FOR REVIEW, PRIOR TO ROUGH-IN.
5. EXISTING RECEPTACLES BRANCH CIRCUITS ARE SERVED FROM 120 VOLT NORMAL SOURCE PANELBOARD 'E2-7-LN(A)'. REFER TO OVERALL PLAN ON SHEET E002 FOR PANEL LOCATION.
6. EXISTING X-RAY EQUIPMENT CIRCUITS ARE SERVED FROM 277/480 VOLT NORMAL SOURCE DISTRIBUTION PANEL 'DP-E2-10-XRAY'. REFER TO OVERALL PLAN ON SHEET E002 FOR PANEL LOCATION.
7. DEVICES TO BE DEMO'D ARE SHOWN DARK AND DASHED. ALL EXISTING TO REMAIN DEVICES ARE SHOWN LIGHTLY.
8. NOT ALL DEVICES TO BE DEMO'D ARE SHOWN. CONTRACTOR SHALL COMPLETELY REMOVE ALL DEVICES NO LONGER REQUIRED TO REMAIN.

KEYNOTES: (#)

1. MAINTAIN EXISTING BRANCH CIRCUIT(S). ADAPT/EXTEND/MODIFY EXISTING CIRCUIT(S) FOR NEW WORK INDICATED. VERIFY EXISTING CONDITIONS.
2. EXISTING RECEPTACLE CIRCUIT(S) WITHIN DESIGNATED ROOM TO REMAIN. VERIFY EXISTING CONDITIONS.
3. EXISTING X-RAY EQUIPMENT, ASSOCIATED ACCESSORIES AND CABLING TO BE REMOVED BY XRAY VENDORS.
4. EXISTING DISCONNECT, PANEL, DEVICES, CONDUIT, WIRE AND RACEWAYS WITHIN XRAY ROOM TO BE REMOVED. VERIFY EXISTING CONDITIONS.

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Saint Luke's East Hospital

ROCKHILL ORTHOPAEDIC X-RAY RENOVATION
120 NE SAINT LUKE'S BLVD. SUITE 200
LEE'S SUMMIT MO 64086

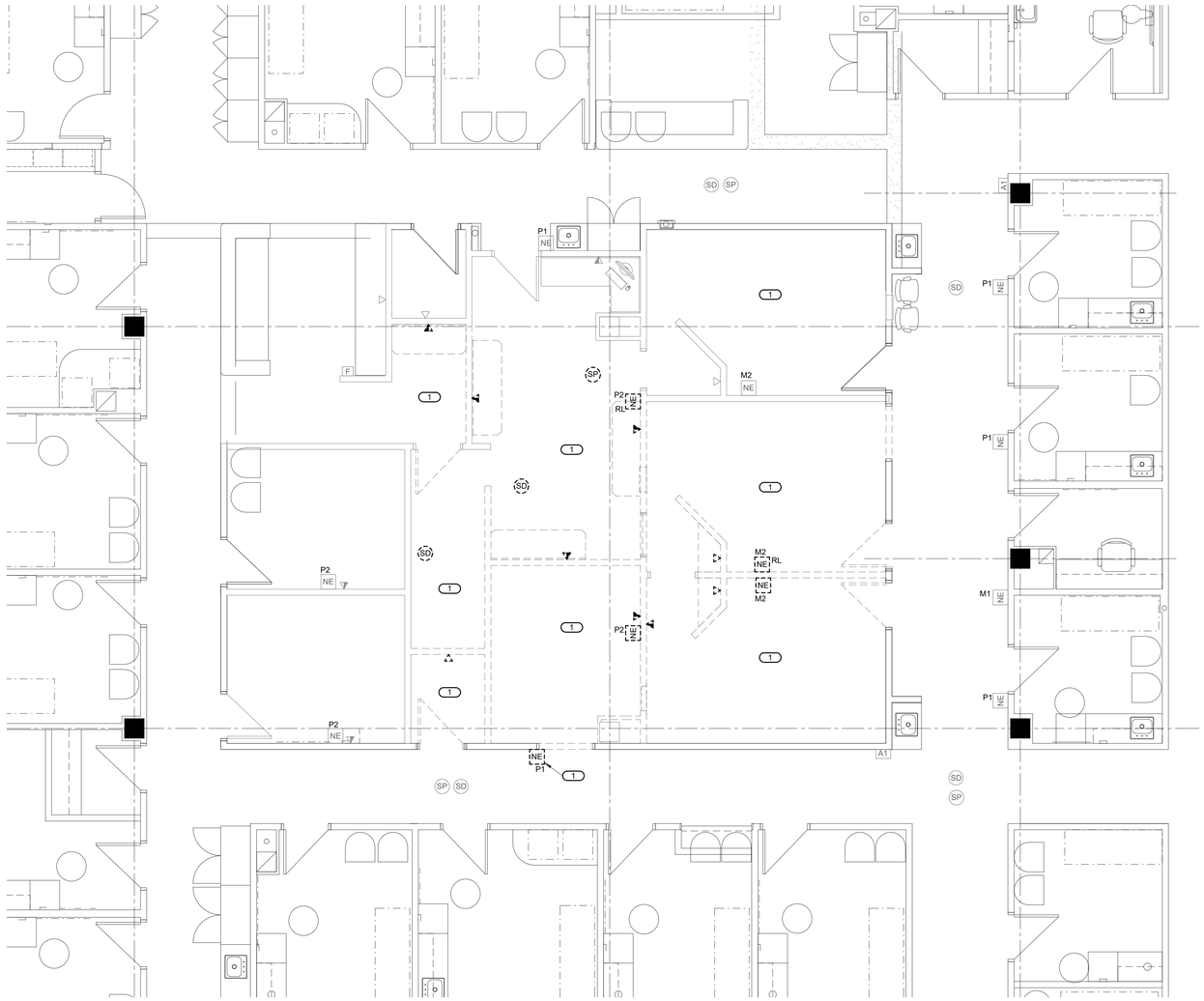
Date	07/07/21
Job Number	3-21014
Drawn By	MSA
Checked By	BEH

Revision

Number	Date	Description

E112

SECOND FLOOR DEMOLITION - POWER



1 NORTH **SECOND FLOOR DEMOLITION - SYSTEMS**
1/4" = 1'-0"

SHEET NOTES:

1. REFER TO SHEET E000 AND E001 FOR SYMBOLS AND ELECTRICAL GENERAL NOTES. NOT ALL NOTES MAY APPLY TO THIS SHEET.
2. RELOCATED FIRE ALARM DEVICES SHALL BE INTERCONNECTED TO EXISTING FIRE ALARM SYSTEM SERVING CAMPUS. PROVIDE ANY NEW COMPONENTS AND PANEL REQUIRED IN EXISTING FIRE ALARM SYSTEM TO SERVE NEW DEVICES. ALL DEVICES, PANEL, COMPONENTS AND CABLING SHALL BE FURNISHED AND INSTALLED PER APPLICABLE PORTIONS OF PROJECT SPECIFICATIONS.
3. RELOCATED OVERHEAD PAGING DEVICES SHALL BE INTERCONNECTED TO EXISTING SYSTEM SERVING CAMPUS. PROVIDE ANY NEW COMPONENTS REQUIRED IN EXISTING PAGING SYSTEM TO SERVE DEVICES. ALL DEVICES, COMPONENTS AND CABLING SHALL BE FURNISHED AND INSTALLED PER APPLICABLE PORTIONS OF PROJECT SPECIFICATIONS.
4. NEW DOOR SECURITY DEVICES SHALL BE INTERCONNECTED TO EXISTING DOOR SECURITY SYSTEM SERVING CAMPUS. PROVIDE ANY NEW COMPONENTS REQUIRED IN EXISTING DOOR SECURITY SYSTEM TO SERVE NEW DEVICES. ALL DEVICES, COMPONENTS AND CABLING SHALL BE FURNISHED AND INSTALLED PER APPLICABLE PORTIONS OF PROJECT SPECIFICATIONS.
5. CABLES FOR FIRE ALARM VOICE, DATA, PAGING, SECURITY AND TV SHALL BE PLENUM - RATED.
6. SUBMIT SHOP DRAWINGS SHOWING THE LOCATION OF NEW OPENING/CORED HOLES ON THE FLOOR FOR REVIEW. DO NOT CORE ANY HOLES UNTIL SHOP DRAWINGS ARE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER.
7. BEFORE CORE DRILLING ANY HOLES, LOCATE REBAR IN THE SLAB BY X-RAY OR WITH R-METER. IF REBAR IS ENCOUNTERED WITHIN THE PROPOSED LOCATION OF THE HOLE, THEN EITHER RELOCATE THE HOLE TO MISS REBAR OR IF THE HOLE CANNOT BE RELOCATED, CONTACT STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CORING/DRILLING. DO NOT CORE ANY HOLES THROUGH THE BEAM WITHOUT APPROVAL OF STRUCTURAL ENGINEER.
8. DEVICES TO BE DEMO'D ARE SHOWN DARK AND DASHED. ALL EXISTING TO REMAIN DEVICES ARE SHOWN LIGHTLY.
9. NOT ALL DEVICES TO BE DEMO'D ARE SHOWN. CONTRACTOR SHALL COMPLETELY REMOVE ALL DEVICES NO LONGER REQUIRED TO REMAIN.
10. RELOCATED NURSE CALL DEVICES SHALL BE INTERCONNECTED TO EXISTING SYSTEM SERVING CAMPUS. PROVIDE ANY NEW COMPONENTS REQUIRED IN EXISTING SYSTEM TO SERVE DEVICES. ALL DEVICES, COMPONENTS AND CABLING SHALL BE FURNISHED AND INSTALLED PER APPLICABLE PORTIONS OF PROJECT SPECIFICATIONS.

KEYNOTES: (#)

1. ALL LOCATIONS AND TYPES OF DEVICES WITHIN DESIGNATED ROOMS/AREAS ARE BASED UPON AS-BUILT DRAWINGS. VERIFY EXISTING CONDITIONS.

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REFERENCE SCALE IN INCHES
0 1 2 3

E122

SECOND FLOOR DEMOLITION - SYSTEMS

7/2/2021 1:58:21 PM

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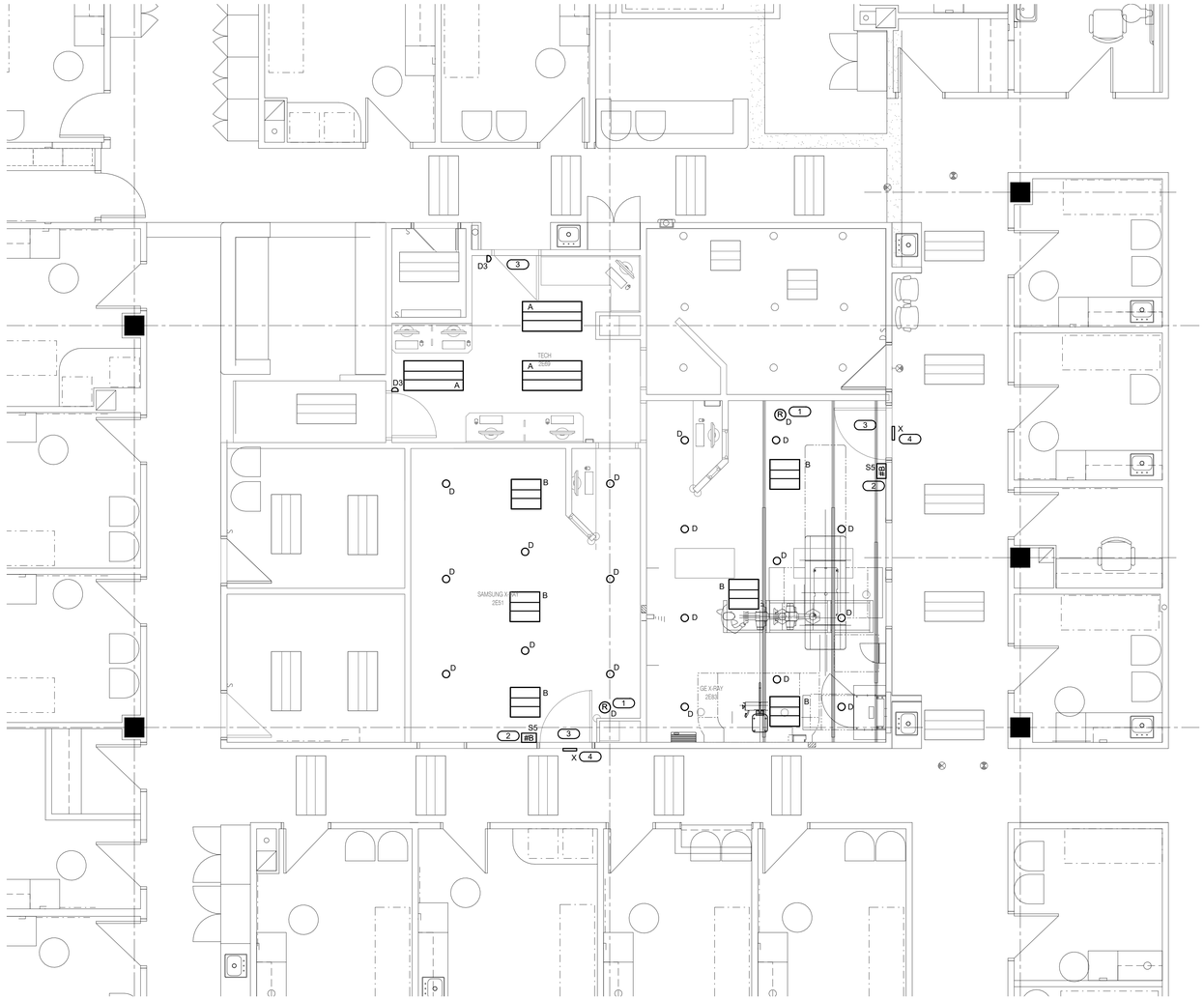
SHEET NOTES:

1. REFER TO SHEETS E000 AND E001 FOR SYMBOLS AND ELECTRICAL GENERAL NOTES. NOT ALL NOTES MAY APPLY TO THIS SHEET.
2. EXISTING LIGHTING BRANCH CIRCUITS ARE SERVED FROM 277VOLT NORMAL SOURCE PANELBOARD 'E2-1-HN'. REFER TO SHEET E002 FOR PANEL LOCATION.
3. AS-BUILT DRAWINGS INDICATES EXISTING PANEL 'E2-1-HN' AS HAVING SIX (6) 1P 20AMP SPARES AND EIGHTEEN (18) 1-POLE SPACES. PANEL IS RATED 225AMP, 277/480 VOLT, 3-PHASE, 4 WIRE, 42 CIRCUIT. VERIFY EXISTING CONDITIONS.

KEYNOTES: (#)

1. WATTSTOPPER DLM DIMMING ROOM CONTROLLER - #LRMC-212, 0-10 VOLT UNIT. REFER TO DETAIL.
2. WATTSTOPPER DLM #LMSW-105 SERIES DIMMABLE WALL SWITCH WITH 2 UP/2 DN 5-BUTTON CONTROL WITH ONE BUTTON MASTER ON/OFF CONTROL. REFER TO DETAIL.
3. INTERCEPT, EXTEND AND CONNECT LIGHTING TO EXISTING 277 VOLT BRANCH CIRCUIT(S) IN X-RAY ROOM AREA. TAKE READINGS TO ENSURE CIRCUIT(S) WILL NOT BECOME OVERLOADED. TRACE AND VERIFY EXISTING CONDITIONS AND LOADS PRIOR TO ROUGH-IN.
4. PROVIDE NEW "IN-USE" SIGN, INTERCONNECT WITH X-RAY EQUIPMENT AS DIRECTED BY VENDOR.



1 SECOND FLOOR - LIGHTING
1/4" = 1'-0"

NORTH

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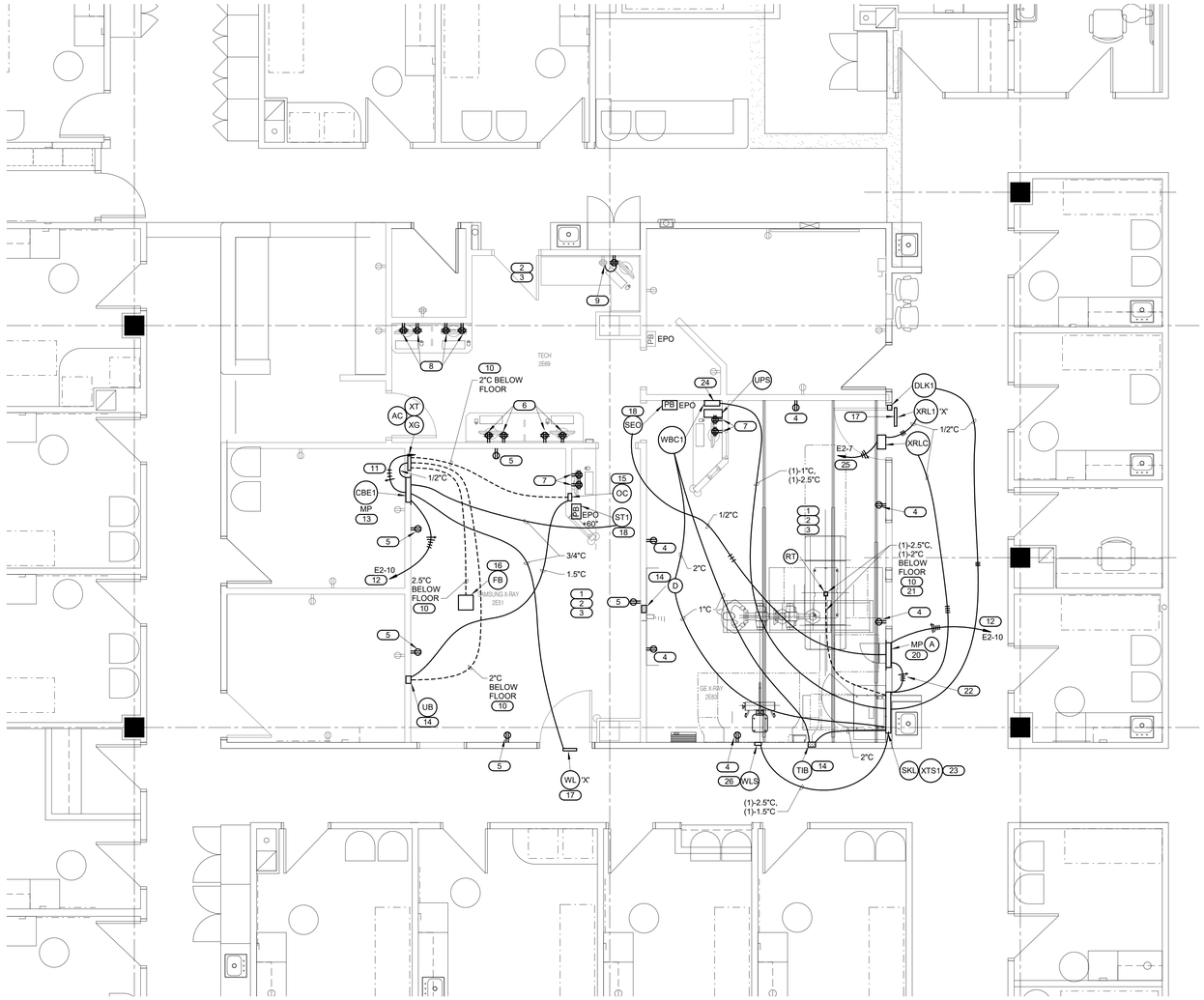
PROJECT # 21001634.00
Missouri State Certificate of Authority E-2017008530

REFERENCE SCALE IN INCHES
0 1 2 3

E202

SECOND FLOOR - LIGHTING



SECOND FLOOR - POWER

1/4" = 1'-0"

SHEET NOTES:

1. REFER TO SHEET E000 AND E001 FOR SYMBOLS AND ELECTRICAL GENERAL NOTES. NOT ALL NOTES MAY APPLY TO THIS SHEET.
2. PROVIDE NEW BREAKERS TO MATCH WITH EXISTING PANEL RATINGS AND MATE WITH EXISTING SIZE, IF REQUIRED.
3. FOR PURPOSES OF VOLTAGE DROP, PROVIDE #10 WIRE FOR 120 VOLT BRANCH CIRCUIT HOMERUN BEYOND 70FT FROM SOURCE PANEL AND 8# WIRE FOR 120 VOLT BRANCH CIRCUIT HOMERUNS BEYOND 120FT FROM SOURCE PANEL.
4. UPON COMPLETION OF DEMOLITION WORK, CONFIRM QUANTITIES, SIZES, RATING AND POLES OF 'SPARE' BREAKERS IN EXISTING PANELS FOR RE-USE IN NEW WORK. PROVIDE LIST TO ARCHITECT AND ENGINEER FOR REVIEW, PRIOR TO ROUGH-IN.
5. EXISTING RECEPTACLES BRANCH CIRCUITS ARE SERVED FROM 120 VOLT NORMAL SOURCE PANELBOARD 'E2-7-LN(A)'. REFER TO OVERALL PLAN ON SHEET E002 FOR PANEL LOCATION.
6. EXISTING X-RAY EQUIPMENT CIRCUITS ARE SERVED FROM 277/480VOLT NORMAL SOURCE DISTRIBUTION PANEL 'DP-E2-10-XRAY'. REFER TO OVERALL PLAN ON SHEET E002 FOR PANEL LOCATION.
7. AS-BUILT DRAWING INDICATES EXISTING PANEL 'E2-7-GN(A)' AS HAVING THIRTEEN (13) - 1P 20AMP SPARES AND NO SPACES. PANEL IS RATED 225 AMP MAIN BREAKER, 120/208 VOLT, 3-PHASE, 4 WIRE, 84 CIRCUIT. VERIFY EXISTING CONDITIONS.
8. REFER TO RADSOURCE IMAGING TECHNOLOGIES - SAMSUNG VENDOR DRAWINGS - SITE SPECIFIC - "SAMSUNG GC85", FOR ALL INTERCONNECTING CABLING, CONDUIT AND WIRING, DESCRIPTION OF ITEMS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. IN ADDITION, REFER TO MANUFACTURER INSTALLATION MANUAL FOR ADDITIONAL REFERENCE MATERIAL ASSOCIATED WITH THIS INSTALLATION.
9. NOT ALL ELECTRICAL WORK IS SHOWN. REFER TO FINAL SAMSUNG AND G.E. HEALTHCARE SITE SPECIFIC DRAWINGS FOR ALL INTERCONNECTING CABLING, CONDUIT, J-BOXES, ELECTRICAL DEVICES AND DESCRIPTION OF SYMBOLS WHICH APPLY TO THIS PROJECT. DESIGN INDICATED ON THIS PROJECT IS SHOWN FOR BIDDING PURPOSES AND MAY NOT BE FINAL SITE SPECIFIC.
10. NOT ALL DEVICES, J-BOXES, RACEWAYS, CABLING, ETC. ARE SHOWN. CONTRACTOR SHALL REFER TO ATTACHED FINAL SAMSUNG AND G.E. HEALTHCARE DRAWINGS FOR ADDITIONAL REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK INDICATED ON SAMSUNG AND G.E. HEALTHCARE DRAWINGS AS OWNER OR CONTRACTOR FURNISHED AND/OR INSTALLED.
11. CONTRACTOR SHALL CAREFULLY COORDINATE EXACT LOCATION OF ALL DEVICES AND EQUIPMENT WITH FINAL SAMSUNG AND GE HEALTHCARE PRIOR TO INSTALLATION.
12. PROVIDE NEW CIRCUIT BREAKERS TO MATE WITH EXISTING PANELBOARDS SIZE AND MATCH PANEL RATINGS, IF REQUIRED.
13. REFER TO GE HEALTHCARE VENDOR DRAWINGS TITLED "1-150f TYPICAL FINAL-RAD SITE PLANNINGREADINESS-OPTIMA XR646". IN ADDITION, REFER TO PREINSTALLATION MANUAL #5643854-1EN FOR ADDITIONAL MATERIAL ASSOCIATED WITH RELOCATION INSTALLATION. ALL INTERCONNECTING CABLING, CONDUIT AND WIRING, DESCRIPTION OF ITEMS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
14. ALL CONDUIT RUNS MUST TAKE THE MOST DIRECT ROUTE AND SHALL BE FURNISHED WITH PULL STRINGS.

KEYNOTES: (#)

1. REFERENCE VENDOR DRAWINGS FOR DIMENSIONED EQUIPMENT LOCATIONS, ALL INTERCONNECTING CABLING, CONDUIT AND WIRING, DESCRIPTION OF ITEMS TO BE FURNISHED BY ELECTRICAL CONTRACTOR AND DESCRIPTION OF THE SYMBOLS WHICH APPLY TO THIS PROJECT, BUT ARE NOT SHOWN ON ELECTRICAL DRAWINGS. ELECTRICAL CONTRACTOR SHALL VERIFY THAT VENDOR DRAWINGS USED FOR CONSTRUCTION ARE OF THE LATEST REVISIONS. ANY DEVIATIONS FROM VENDOR DRAWINGS REQUIRED ARE NOT SHOWN ON THE ELECTRICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL CRITERIA LISTED IN THE NOTES, DETAILS AND DIAGRAMS SHOWN ON THE VENDOR DRAWINGS.
2. INTERCEPT, EXTEND AND CONNECT RECEPTACLE(S) TO EXISTING 120 VOLT BRANCH CIRCUIT(S) IN X-RAY ROOM AREA. TAKE READINGS TO ENSURE CIRCUIT(S) WILL NOT BECOME OVERLOADED. TRACE AND VERIFY EXISTING CONDITIONS AND LOADS PRIOR TO ROUGH-IN.
3. AS-BUILT DRAWING INDICATES EXISTING PANEL 'E2-7-LN(A)' CIRCUITS #18, 25, 27, 29, 35, 37, 58 AND 60 SERVES EXISTING RECEPTACLES WITHIN REMODELED XRAY AREA. VERIFY EXISTING CONDITIONS.
4. DESIGNATED GROUP OF DUPLEX RECEPTACLES TO BE PROVIDED AND CONNECTED TOGETHER ON ONE(1) 20AMP, 120 VOLT BRANCH CIRCUIT ROUTED TO EXISTING PANEL 'E2-7-LN(A):
5. DESIGNATED GROUP OF DUPLEX RECEPTACLES TO BE PROVIDED AND CONNECTED TOGETHER ON ONE(1) 20AMP, 120 VOLT BRANCH CIRCUIT ROUTED TO EXISTING PANEL 'E2-7-LN(A):
6. DESIGNATED GROUP OF FOURPLEX RECEPTACLES TO BE PROVIDED AND CONNECTED TOGETHER ON ONE(1) 20AMP, 120 VOLT BRANCH CIRCUIT ROUTED TO EXISTING PANEL 'E2-7-LN(A):
7. DESIGNATED GROUP OF FOURPLEX RECEPTACLES TO BE PROVIDED AND CONNECTED TOGETHER ON ONE(1) 20AMP, 120 VOLT BRANCH CIRCUIT ROUTED TO EXISTING PANEL 'E2-7-LN(A):
8. DESIGNATED GROUP OF FOURPLEX RECEPTACLES TO BE PROVIDED AND CONNECTED TOGETHER ON ONE(1) 20AMP, 120 VOLT BRANCH CIRCUIT ROUTED TO EXISTING PANEL 'E2-7-LN(A):
9. INTERCEPT, EXTEND AND CONNECT TO EXISTING CIRCUIT.
10. CORE EXISTING CONCRETE SLAB AND PATCH CONCRETE TO MATCH ADJACENT SURFACES AS DIRECTED BY ARCHITECT.
11. PROVIDE 3 #3W, 1 #3 GROUND IN 1.25" CONDUIT.
12. HOME RUN TO DESIGNATED PANEL. REFER TO ELECTRICAL RISER DIAGRAM FOR CONDUIT AND WIRE SIZE TO XRAY MAIN BREAKER.
13. PROVIDE FLUSH MOUNT 100AMP, 3-POLE ENCLOSED MAIN BREAKER WITH SHUNT TRIP AS DIRECTED BY XRAY VENDOR. (480V, 3PH).
14. PROVIDE 6"x6"x4" J-BOX FLUSH MOUNTED AS DIRECTED BY X-RAY VENDOR.
15. PROVIDE 12"x12"x4" J-BOX FLUSH MOUNTED AS DIRECTED BY X-RAY VENDOR.
16. PROVIDE 12"x12"x4" J-BOX FLUSH MOUNTED WITH FLOOR AS DIRECTED BY X-RAY VENDOR.
17. PROVIDE WARNING LIGHT AT 12-24V DC AS DIRECTED BY XRAY VENDOR.
18. PROVIDE PROTECTIVE COVER TO PREVENT ACCIDENTAL ACTIVATION.
19. PROVIDE ONE (1) 14.5x12x4 FLUSH J-BOX, ONE (1) 10x3x4 FLUSH WALL DUCT AND ONE (1) 10x10x10 SURFACE J-BOX AT CEILING AS DIRECTED BY XRAY VENDOR.
20. PROVIDE FLUSH MOUNT 80 AMP, 3-POLE ENCLOSED MAIN BREAKER WITH SHUNT TRIP AS DIRECTED BY XRAY VENDOR. (480V, 3PH).
21. PROVIDE 8x8x4 J-BOX BELOW FLOOR AND ASSOCIATED CONDUITS AS DIRECTED BY XRAY VENDOR.
22. PROVIDE 3 #2W, 1 #2 GROUND IN 1.25" CONDUIT.
23. PROVIDE ONE (1) 18x18x4 FLUSH MOUNT J-BOX, ONE (1) 18x18x6 J-BOX ABOVE CEILING AND ONE (1) 18x3.5" FLUSH WALL DUCT AS DIRECTED BY XRAY VENDOR.
24. PROVIDE 12x6x4 FLUSH MOUNT J-BOX AS DIRECTED BY XRAY VENDOR.
25. DESIGNATED DEVICE TO BE CONNECTED ON ONE(1) 20AMP, 120 VOLT BRANCH CIRCUIT ROUTED TO EXISTING PANEL 'E2-7-LN(A):
26. PROVIDE 8x8x4 FLUSH MOUNT J-BOX WITH DIVIDER AND ASSOCIATED CONDUITS AS DIRECTED BY XRAY VENDOR.

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PROJECT # 21001634.00
Missouri State Certificate of Authority E-2017008530

REFERENCE SCALE IN INCHES
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E212

SECOND FLOOR - POWER

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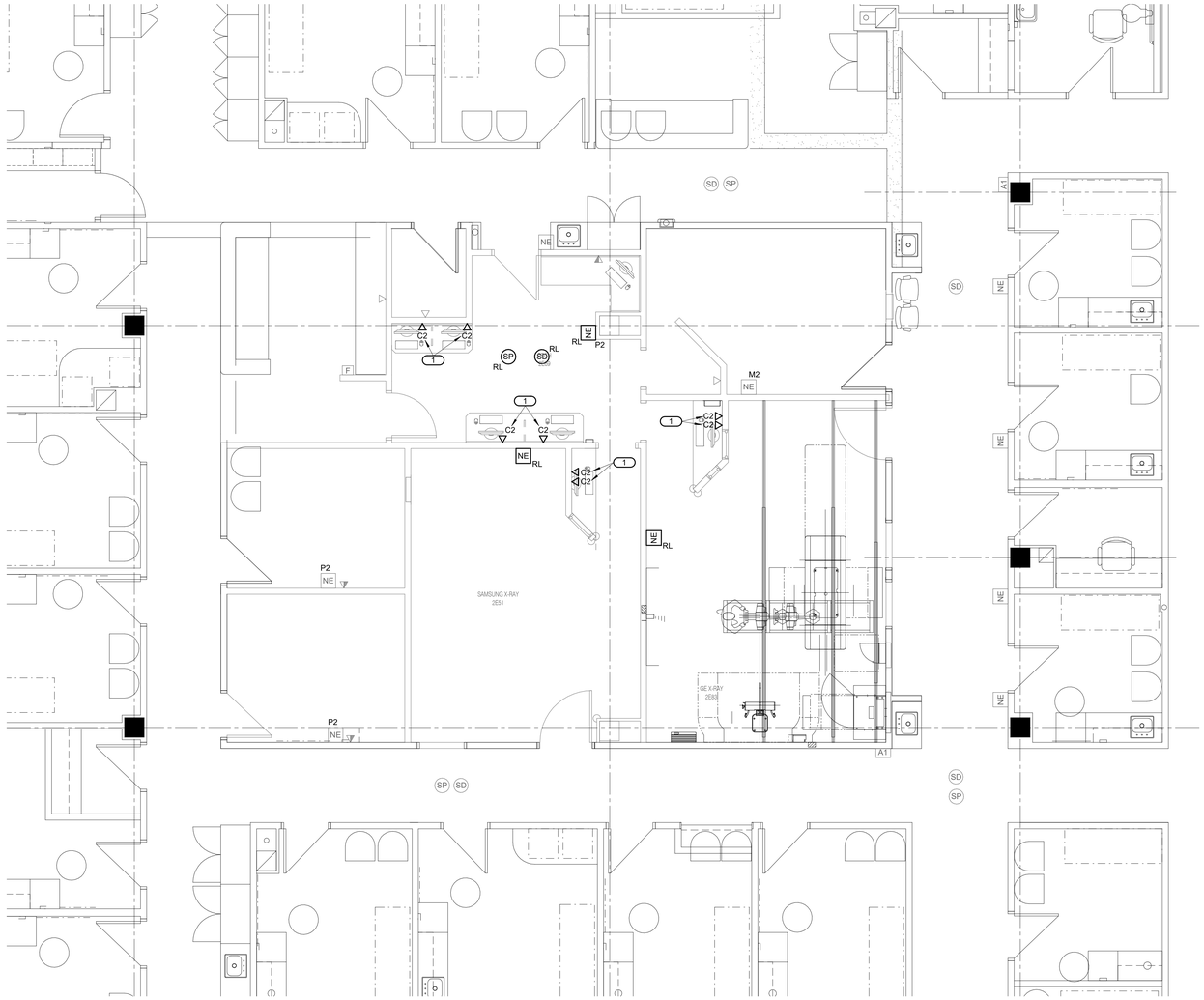

1 SECOND FLOOR - SYSTEMS

1/4" = 1'-0"

NORTH

SHEET NOTES:

1. REFER TO SHEET E000 AND E001 FOR SYMBOLS AND ELECTRICAL GENERAL NOTES. NOT ALL NOTES MAY APPLY TO THIS SHEET.
2. RELOCATED FIRE ALARM DEVICES SHALL BE INTERCONNECTED TO EXISTING FIRE ALARM SYSTEM SERVING CAMPUS. PROVIDE ANY NEW COMPONENTS AND PANEL REQUIRED IN EXISTING FIRE ALARM SYSTEM TO SERVE DEVICES. ALL DEVICES, PANEL, COMPONENTS AND CABLING SHALL BE FURNISHED AND INSTALLED PER APPLICABLE PORTIONS OF PROJECT SPECIFICATIONS.
3. RELOCATED OVERHEAD PAGING DEVICES SHALL BE INTERCONNECTED TO EXISTING SYSTEM SERVING CAMPUS. PROVIDE ANY NEW COMPONENTS REQUIRED IN EXISTING PAGING SYSTEM TO SERVE DEVICES. ALL DEVICES, COMPONENTS AND CABLING SHALL BE FURNISHED AND INSTALLED PER APPLICABLE PORTIONS OF PROJECT SPECIFICATIONS.
4. NEW DOOR SECURITY DEVICES SHALL BE INTERCONNECTED TO EXISTING DOOR SECURITY SYSTEM SERVING CAMPUS. PROVIDE ANY NEW COMPONENTS REQUIRED IN EXISTING DOOR SECURITY SYSTEM TO SERVE NEW DEVICES. ALL DEVICES, COMPONENTS AND CABLING SHALL BE FURNISHED AND INSTALLED PER APPLICABLE PORTIONS OF PROJECT SPECIFICATIONS.
5. CABLES FOR FIRE ALARM, VOICE, DATA, PAGING, SECURITY AND NURSE CALL SHALL BE PLENUM - RATED.
6. SUBMIT SHOP DRAWINGS SHOWING THE LOCATION OF NEW OPENING/CORED HOLES ON THE FLOOR FOR REVIEW. DO NOT CORE ANY HOLES UNTIL SHOP DRAWINGS ARE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER.
7. BEFORE CORE DRILLING ANY HOLES, LOCATE REBAR IN THE SLAB BY X-RAY OR WITH R-METER. IF REBAR IS ENCOUNTERED WITHIN THE PROPOSED LOCATION OF THE HOLE, THEN EITHER RELOCATE THE HOLE TO MISS REBAR OR IF THE HOLE CANNOT BE RELOCATED, CONTACT STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CORING/DRILLING. DO NOT CORE ANY HOLES THROUGH THE BEAM WITHOUT APPROVAL OF STRUCTURAL ENGINEER.
8. RELOCATED NURSE CALL DEVICES SHALL BE INTERCONNECTED TO EXISTING SYSTEM SERVING CAMPUS. PROVIDE ANY NEW COMPONENTS REQUIRED IN EXISTING SYSTEM TO SERVE DEVICES. ALL DEVICES, COMPONENTS AND CABLING SHALL BE FURNISHED AND INSTALLED PER APPLICABLE PORTIONS OF PROJECT SPECIFICATIONS.
9. EXTEND ALL NEW I.T. CABLE TO EXISTING DATA NETWORK CLOSET AND PROVIDE PATCH PANEL(S) AS REQUIRED. UNLESS DIRECTED OTHERWISE BY OWNER.

KEYNOTES: (#)

1. UTILIZE EXISTING NETWORK CLOSET FOR NEW CABLING. REFER TO SHEET E002 FOR CLOSET LOCATION.

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Revision

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E222

SECOND FLOOR - SYSTEMS

Drawing Index

These sheets are a document set and should not be separated.
Electrical information and references are contained on all sheets.

These drawings indicate the placement and interconnection of the listed equipment components. These drawings are not construction or site preparation drawings. Customer remains ultimately responsible for preparing the site to accommodate the operation of such equipment in compliance with GE Healthcare's written specifications and all applicable federal, state, and/or local requirements.

* REQUIRED REFERENCE *

Optima XR646

Pre Installation Manual

5643854-1EN

A mandatory component of this drawing set is the GE Healthcare Pre Installation manual. Failure to reference the Pre Installation manual will result in incomplete documentation required for site design and preparation.

Pre Installation documents for GE Healthcare products can be accessed on the web at:

www.gehealthcare.com/siteplanning

GE Healthcare

RAD Site Planning

imagination at work

Customer Site Readiness Requirements

- Any deviation from these drawings must be communicated in writing to and reviewed by your local GE Healthcare Installation Project Manager prior to making changes.
- Make arrangements for any rigging, special handling, or facility modifications that must be made to deliver the equipment to the installation site. If desired, your local GE Healthcare Installation Project Manager can supply a reference list of rigging contractors.
- New construction requires the following; 1. Secure area for equipment, 2. Power for drills and other test equipment, 3. Capability for image analysis, 4. Restrooms.
- Provide for refuse removal and disposal (e.g. crates, cartons, packing)
- Contact a radiation physicist or consultant to specify radiation containment requirements.

GE Equipment Delivery Requirements

The items on the GE Healthcare Site Readiness Checklist are REQUIRED to facilitate equipment delivery to the IS site. Equipment will not be delivered if these requirements are not satisfied.

GE Healthcare Site Readiness Checklist Rev 21

Before using this document ensure you have the latest Rev from MyWorkshop on DOC0422752

GEHC Global Order # : ______ Customer: ______
GEHC PMI Name : ______ FE / DOS Name: ______

The customer is responsible for proper site preparation regardless of any GEHC measurements/inspections/assessments

Escalate Site Readiness issues to the Zone ISL: East- Dan Pruent 352 255 7052, Central- Todd Rogers 940 453 9425, West- Randy Williams 360 606 2129

Inspection Date:

	GEHC Minimum Requirements	Storage Is item ready?	PMI Is item ready?	FE Is item ready?	Comments If "N", enter comments or action plan
1	**MR Magnet Delivery Requirements:** Ensure cryogen venting system is available for magnet connection as defined by GEHC Pre-Installation Manual (PIM) requirements, exhaust fan system is installed and operational, 480V power, and chilled water supply is avail				
2	**MR RF Screen Room Requirements:** RF Screen Room is tested with copy of Test Report that it is compliant with GEHC specifications. Dock Bolt and magnet anchors (if applicable) installed using 2 part anchor. For HDx systems, blower box mount bolts installe				
3	**State Regulatory Requirements:** Facility registration number provided for states of Ill, KY, HI, RI, SC, TX. X-ray shielding plan and state acknowledgment letter provided to installer for AR, DC, NC, SC, CO & WA. **Site Drawing Requirements:** Final version o				
4	**Surface Penetration Requirements:** Customer/Contractor scheduled to provide required drilling or cutting into floors, ceilings, and walls; OR surface penetration permit available and posted in the room when GEHC will perform the work.				
5	**Pre-Delivery Route Requirements:** The equipment delivery route from the truck to the final destination within the facility has been reviewed with all key stakeholders to safely meet the minimum requirements for equipment access, and all communications/noti				
6	**Finished Room Requirements:** Rooms that will contain equipment, including storage areas not in scan suite, are dust free. Provisions taken to maintain a dust free room. Precautions must be taken to prevent dust from entering rooms containing equipment wh				
7	**Electrical Requirements:** Lockable (LOTO) Main Disconnect Panel (MDP) is installed per GE guidelines and system power is available. Conduits, electrical cable ducting/dividers/cable trays, and access flooring is installed in proper location and height. S				
8	**Power and Ground Audit:** Workflow created				
9	**HVAC Requirements:** The HVAC/Chilled Water systems designed to maintain the environment per spec/PIM is at running state and appears to provide the desired environmental conditions including location of vents, temperature and humidity for system operation.				
10	**Flooring Requirements:** Floor is clean and prepared for final floor covering. Floor levelness/flatness is measured and within tolerance, and there are no visible defects per GEHC specifications. Confirm customer anchoring plan aligns with designed floor				
11	**Ceiling Requirements:** Unistrut (or equivalent) location, levelness and spacing is measured (or vendor confirmed) and consistent with the requirement of the installation drawings. Ensure unistrut and rails are not used as mounting surfaces. Ceiling grid				
12	**Staging Requirements:** Space has been identified to support the active installation process only. This area meets PIM/project book requirements. Storage space has been identified, if needed. This secured space would be used to store equipment indefinitely				
13	**Network Connectivity:** Hardwire for network connectivity(network drop) is in place prior to delivery with specified network firewall configuration where required. Site Surveys for wireless mobile XR units have been completed.				
14	**Insite Readiness:** Confirmation of VPN tunnel requested.				
15	**Medical Gases Requirements:** Systems (hard piped or portable) in place to allow testing and calibration of equipment (anesthesia), including ventilation.				

GE Healthcare

Healthcare Project Implementation – Design Center
Milwaukee, Wisconsin

SHEET TITLE: SITE READINESS
MODALITY TYPE: OPTIMA XR646

PROJECT TITLE: 1-150f TYPICAL FINAL

PROJECT	REVISION
1-150f	03

DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

PIM R5

RQ - 163687

REVISION HISTORY:

SHEET C1

GE EQUIPMENT LISTING

EQUIPMENT ON ORDER FROM GE HEALTHCARE, INSTALLED BY GE HEALTHCARE, PER NEITHER A QUOTE OR GON WAS ISSUED AT THE DATE OF THESE DWGS

NOTE: LOCAL CONDITIONS MAY DICTATE THAT ITEMS IDENTIFIED IN THIS CATEGORY BE INSTALLED BY OTHERS.

EQUIPMENT CROSS REFERENCE CHART

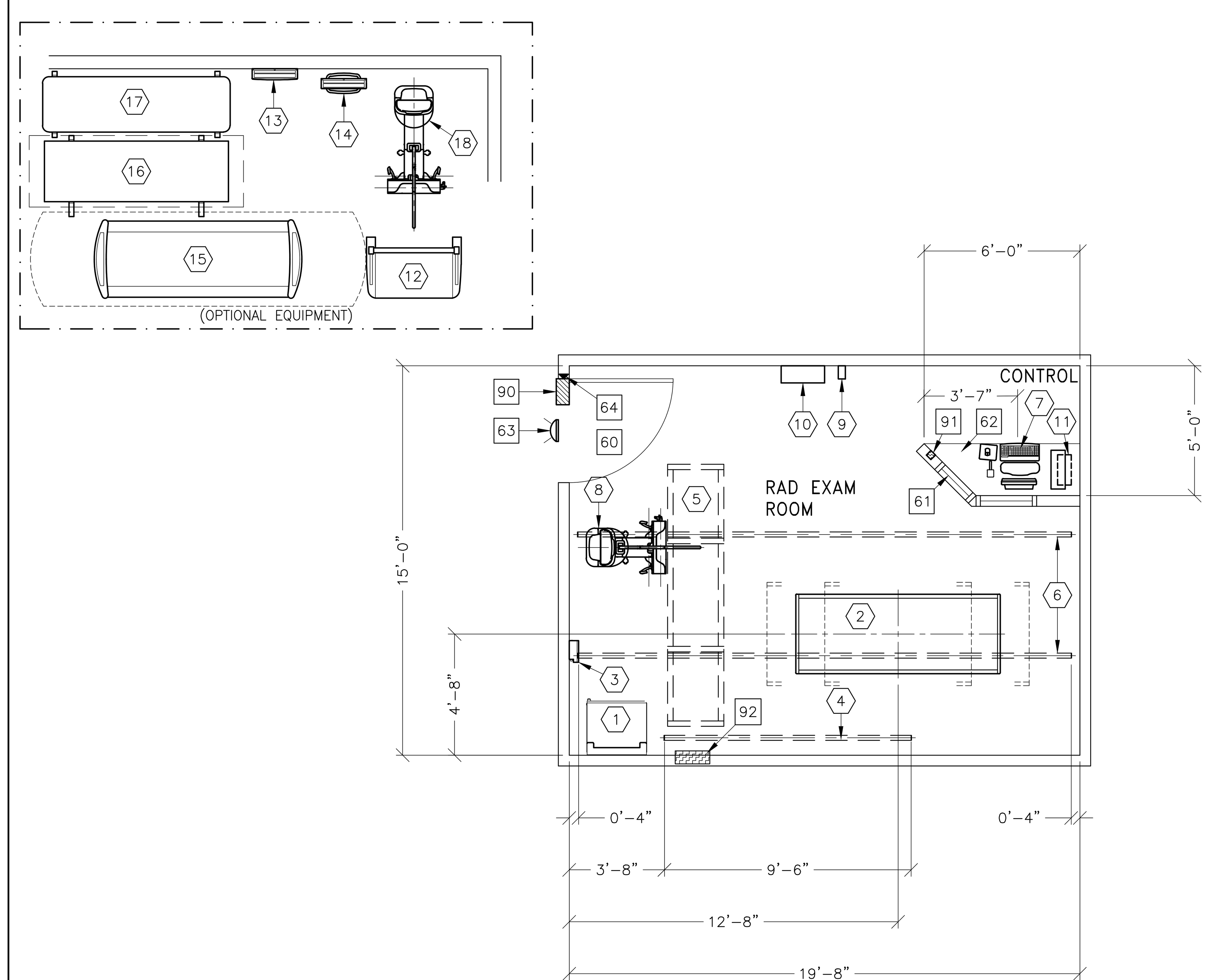
SEISMIC STATUS: P = PREAPPROVAL; C = CALCULATIONS/PENDING APPROVAL; S = SPECIFICATIONS ONLY

ITEM NO.	QUANTITY ORDERED	ITEM DESCRIPTION (* = EXISTING/REINSTALL)	WEIGHT	HEAT OUTPUT (PER HOUR)	DETAIL NO. (REFER TO SHEET "D")	STRC PLAN	ELEC PLAN	SEISMIC STATUS
1	1	SYSTEM CABINET	705 lbs	2440 btu	B8125	–	SKL	S
2	1	XR656 G2/646 DIGITAL ELEVATING TABLE	970 lbs	372 btu	B0557V	B05 58N	RT	S
3	1	TETHER INTERFACE BOX	15 lbs	10 btu	B8126	–	TIB	–
4	1	CABLE DRAPE RAIL.	182 lbs			B20 079		–
5	1	XT RADIOGRAPHIC SUSPENSION WITH INBOARD MOUNTING.	764 lbs	105 btu	B2020	B20 041	XTS1	C
6	2	LONGITUDINAL STATIONARY RAIL FOR XT SUSPENSION	68 lbs			B20 041		C
7	1	OPERATORS CONSOLE	61 lbs	604 btu	CG10CB B6566E B6566F B8138B	–	WBC1	–
8	1	DIGITAL CHEST UNIT	595 lbs	136 btu	B0557F	B05 57G	WLS	C
9	1	DONGLE	4 lbs		B8137	–	D	–
10	1	GRID HOLDER (FIELD VERIFY IDEAL LOCATION)	30 lbs		B0557W	B05 57K		S
		OPTIONAL						
11	1	PARTIAL SYSTEM UNINTERRUPTIBLE POWER SUPPLY	77 lbs	30 btu		–	UPS	–
12	1	IMAGE PASTING BARRIER	121 lbs		B0557Y	–		–
13	1	DETECTOR BIN (WALL MOUNT)	33 lbs		B8127	–		–
14	1	DETECTOR BIN (FLOOR MOUNT)	33 lbs		B8127	–		–
15	1	FLEXI DT MOBILE TABLE	683 lbs		B0557L	–		–
16	1	MOBILE TABLE	224 lbs		B0557K	–		S
17	1	CARBON FIBER TABLE	70 lbs		B5000A	–		–
18	1	DIGITAL CHEST UNIT WITH EXTENDED RECEPTOR	617 lbs	136 btu	B0557Z	B05 57G	WLS	C

THE FOLLOWING ITEMS, WHICH HAVE BEEN ORDERED FROM GE HEALTHCARE, ARE TO BE INSTALLED BY THE CUSTOMER OR HIS CONTRACTOR.

SCALE: 1/4" = 1'–0" — EQUIPMENT LAYOUT — RECOMMENDED CEILING HEIGHT = 9'–6"

This equipment layout indicates the placement and interconnection of the indicated equipment components. There may be federal, state, and/or local requirements that could impact the placement of these components. It remains the Customer's responsibility for ensuring the site and final equipment placement complies with all applicable federal, state, and/or local requirements.



THE FOLLOWING SHOTS ARE NOT AVAILABLE IN THIS LAYOUT:

REAR TO FRONT CROSS TABLE SHOT TO TABLE CENTERLINE

ANCILLARY ITEMS

CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS

ITEM NO.	ITEM DESCRIPTION (* INDICATES EXISTING)
60	MINIMUM DOOR OPENING FOR EQUIPMENT DELIVERY IS 37.5 IN. W x 75 IN. H [950mm x 1900mm], CONTINGENT ON A 98.5 IN. [2500mm] CORRIDOR WIDTH NOTE: IMAGE PASTE OPTION REQUIRES AN 82 IN. H [2100mm] HIGH OPENING FOR ACCESS.
61	CONTROL WALL, 7 FT. HIGH WITH LEAD GLASS VIEWING WINDOW.
62	COUNTER TOP FOR EQUIPMENT– MINIMUM DEPTH 24 IN. AND ADDITIONAL SHELVING MAY BE REQUIRED BELOW COUNTER TOP FOR PC TOWER. PROVIDE GROMMETED OPENINGS AS REQUIRED TO ROUTE CABLES.
63	X–RAY ON WARNING LIGHT – AVAILABLE FROM GE SUPPLY CALL: 800–200–9760 GE CAT. NO. WXIABWW–OF–XIU
64	DOOR LIMIT SWITCH (NEEDED ONLY IF REQUIRED BY STATE/LOCAL CODES)

THE FOLLOWING ITEMS ARE AVAILABLE FROM GE HEALTHCARE TECHNOLOGIES. CONTACT YOUR LOCAL GE HEALTHCARE SERVICE REPRESENTATIVE FOR PRICING AND AVAILABILITY.

ITEM NO.	ITEM DESCRIPTION
90	X–RAY ROOM WARNING LIGHT CONTROL PANEL REFERENCE JUNCTION POINT 'XRLC' ON SHEET 'E1' FOR DETAILED DESCRIPTION –E4502RL FOR WARNING LIGHT CONTROL ONLY.
91	EMERGENCY OFF SWITCH (NEEDED ONLY IF REQUIRED BY STATE/LOCAL CODES)
92	MAIN DISCONNECT, REFERENCE JUNCTION POINT 'A' ON SHEET E1. (16" W x 24" H x 6" D)

GENERAL SPECIFICATIONS

- THE REQUIRED CEILING HEIGHT INDICATED ON THESE PLANS IS TO ENSURE EQUIPMENT FUNCTION IS NOT INHIBITED. CONSULT WITH YOUR LOCAL GEHC IS SPECIALIST REGARDING ACCEPTABILITY OF OTHER CEILING HEIGHTS.
- CHECK ALL DOOR OPENINGS AND HALLWAYS FROM DELIVERY LOCATION TO WHERE EQUIPMENT IS TO BE INSTALLED TO ENSURE THE ROUTE PHYSICALLY AND STRUCTURALLY WILL ACCOMODATE THE EQUIPMENT AS SHIPPED.
- RADIATION PROTECTION REQUIREMENTS ARE NOT INDICATED ON THIS PLAN. WHERE NEEDED PER NATIONAL OR LOCAL CODE THEY SHALL BE SPECIFIED BY A QUALIFIED RADIOLOGICAL PHYSICIST.
- THE DEVELOPMENT OF THE EQUIPMENT LAYOUT, ROOM DIMENSIONS, MECHANICAL AND ELECTRICAL SUGGESTIONS IS PREDICATED UPON THE BEST INFORMATION OBTAINABLE FROM THE SITE, COUPLED WITH THE CUSTOMER'S KNOWN DESIRES. ARCHITECTURAL OR ELECTRICAL CHANGES INCLUDING RELOCATION OF EQUIPMENT ILLUSTRATED ON THIS DRAWING IS ALLOWED ONLY WITH NOTIFICATION, IN WRITING, AND REVIEW BY GEHC SERVICE DEPARTMENT. EQUIPMENT OPERATION, SERVICEABILITY, AND RESTRICTING CABLE LENGTHS, ETC., MAKE THIS ESSENTIAL FOR A PROPER IS. GEHC RESERVES THE RIGHT TO MAKE ON THE JOB CHANGES BECAUSE OF CUSTOMER REQUIREMENTS AND/OR OBSTACLES IN CONSTRUCTION, ETC..
- ALL WORK TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL BUILDING SAFETY CODES.
- DIMENSIONS ARE TO FINISHED SURFACES OF ROOM

SITE ENVIRONMENT SPECIFICATIONS

- AMBIENT OPERATING TEMPERATURE: 59 TO 95 DEGREES (F), MAXIMUM ALLOWABLE TEMPERATURE CHANGE OF 10 DEGREES (C)/HOUR.
- HUMIDITY: REFER TO PREINSTALLATION MANUAL FOR THE EQUIPMENT ILLUSTRATED ON THIS DRAWING.
- REFER TO PREINSTALLATION MANUAL FOR THE EQUIPMENT ILLUSTRATED ON THIS DRAWING
- THE ENVIRONMENT FOR THE ELECTRONICS CABINET MUST BE CONTROLLED SO THE ABOVE RESTRICTIONS ARE NOT EXCEEDED.
- DO NOT RESTRICT THE AIR INTAKE AT THE LOWER FRONT OR AIR EXHAUST AT THE TOP OF THE ELECTRONICS CABINETS.

MAGNETIC INTERFERENCE SPECIFICATIONS

DIGITAL FLAT PANEL MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN 1 GAUSS TO GUARANTEE SPECIFIED IMAGING PERFORMANCE.

X–RAY TUBES MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN 10 GAUSS TO GUARANTEE SPECIFIED PERFORMANCE.

SYSTEM ELECTRONICS MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN 10 GAUSS TO GUARANTEE DATA INTEGRITY.

OPERATORS CONSOLE EQUIPMENT MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN 10 GAUSS TO OBTAIN SPECIFIED GEOMETRIC LINEARITY.

PIM R5

RQ – 163687

GE Healthcare
Healthcare Project Implementation – Design Center
Milwaukee, Wisconsin

SHEET TITLE: EQUIPMENT LAYOUT
MODALITY TYPE: OPTIMA XR646

THIS PLAN IS SUBMITTED TO SUGGEST LOCATION OF GE HEALTHCARE EQUIPMENT AND ASSOCIATED APPARATUS, ELECTRICAL WIRING DETAILS AND ROOM ARRANGEMENTS. IN PREPARING THIS PLAN, EVERY EFFORT HAS BEEN MADE TO CONFORM DETAILS TO ACTUAL EQUIPMENT EXPECTED TO BE INSTALLED. IT IS NOT TO BE USED FOR ACTUAL CONSTRUCTION PURPOSES, HOWEVER, AND THE COMPANY CANNOT ACCEPT RESPONSIBILITY FOR ANY DAMAGES RESULTING THEREFROM.

PROJECT TITLE: 1–150f TYPICAL FINAL

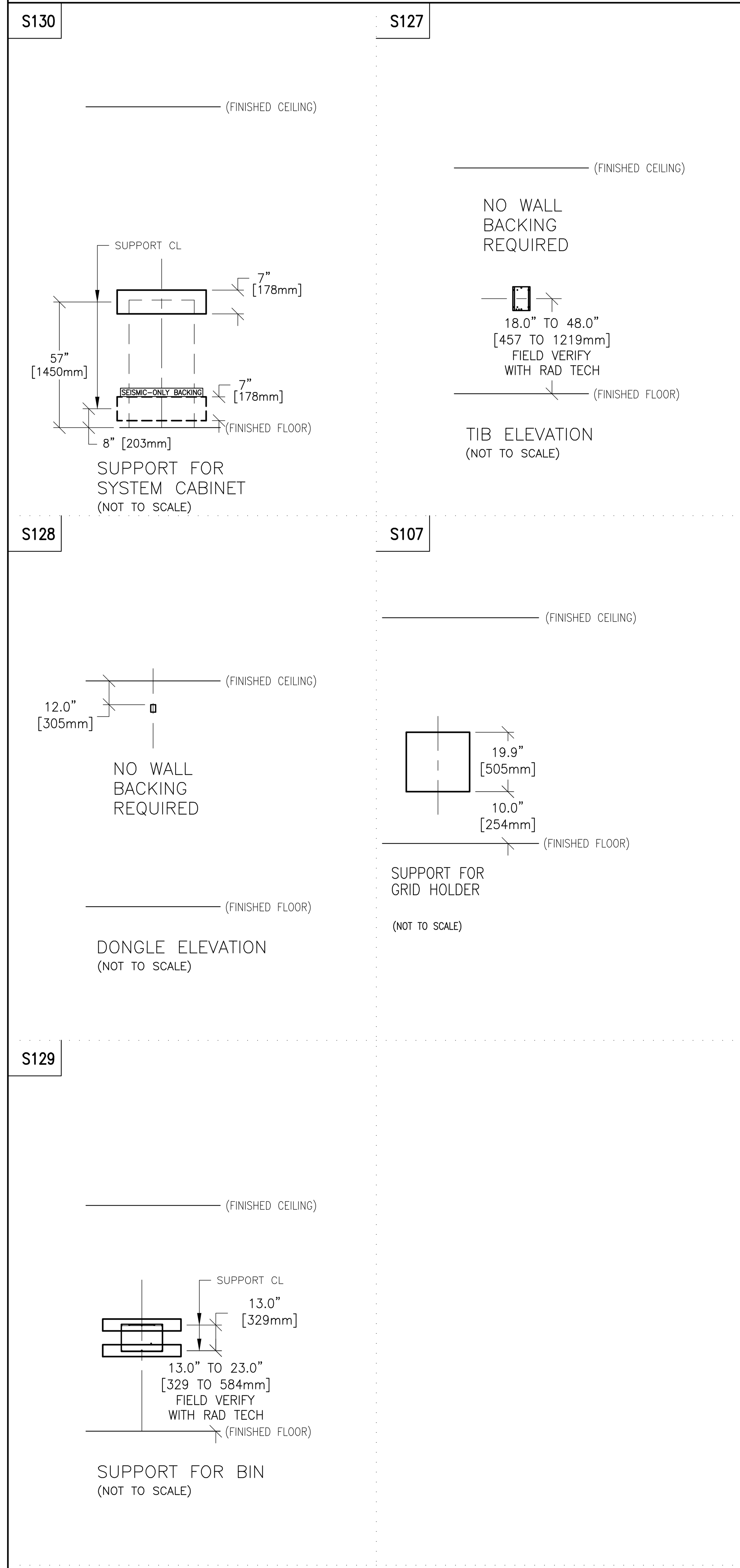
PROJECT	REVISION
1–150f	03

DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

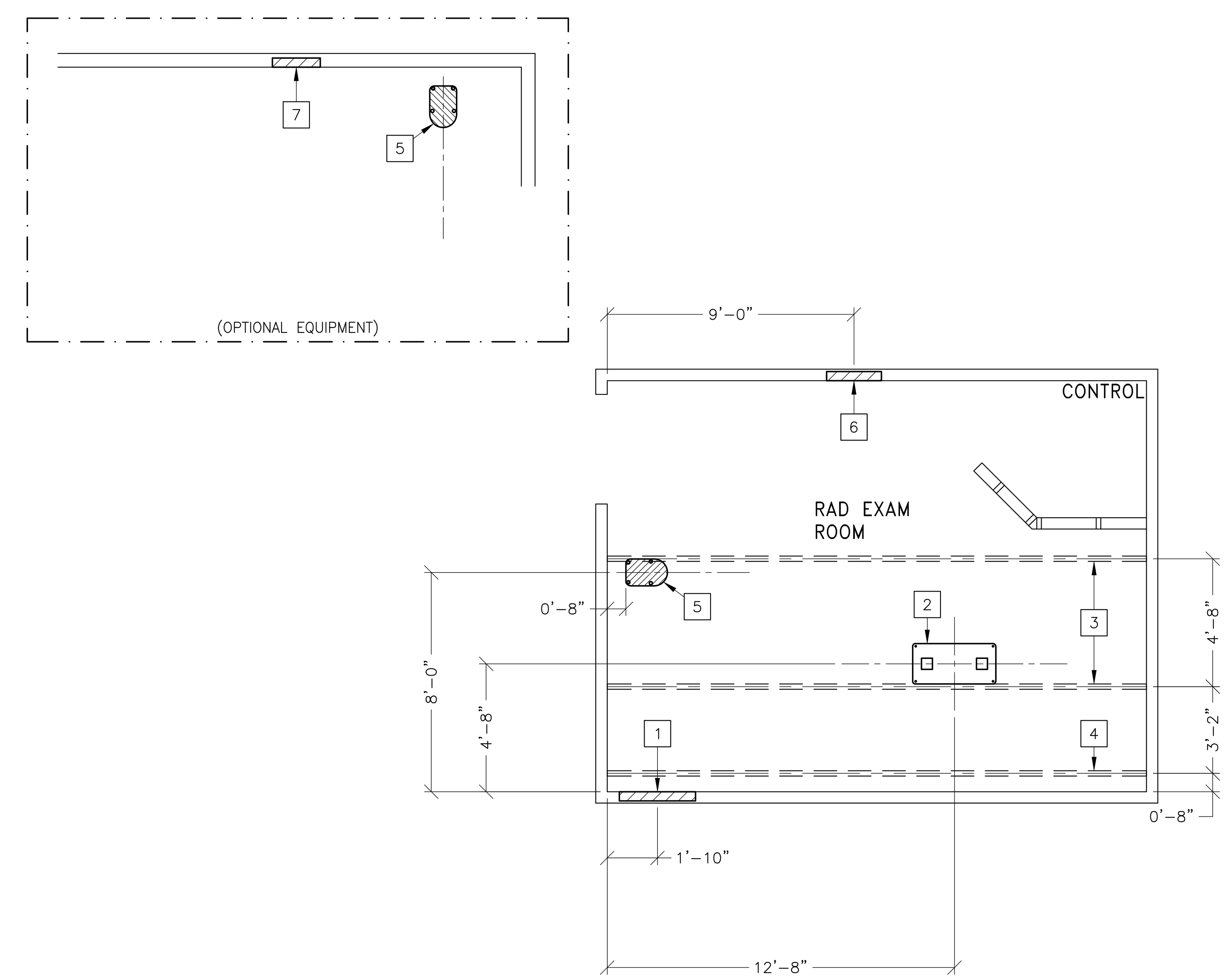
REVISION HISTORY:

SHEET A1

TYPICAL WALL SUPPORT ELEVATIONS



SCALE: 1/4" = 1'-0" — STRUCTURAL LAYOUT — RECOMMENDED CEILING HEIGHT = 9'-6"



STRUCTURAL SUPPORT METHODS

CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS

ITEM NO.	ITEM DESCRIPTION (* INDICATES EXISTING)
1	SUPPORT BACKING, LOCATE AS SHOWN, REFER TO ELEVATION DETAIL S130, FOR SYSTEMS CABINET
2	FLOOR CONTACT AREA FOR TABLE
3	UNISTRUT OR EQUIVALENT SUPPORT IN CEILING FOR FASTENING CEILING SUPPORTED EQUIPMENT. SUPPORTS TO RUN CONTINUOUS WITH NO FITTINGS EXTENDING BELOW FACE OF UNISTRUT CHANNEL, RUN WALL TO WALL, BE PARALLEL, SQUARE, AND IN THE SAME HORIZONTAL PLANE, FLUSH WITH THE FINISHED CEILING. RAILS ARE MOUNTED TO THESE SUPPORTS EVERY 2'-2" AND REQUIRE 350 LBS. (597 LBS. IN SEISMIC REGIONS) PER BOLT LOAD. METHODS OF SUPPORT THAT PERMIT ATTACHMENT TO STRUCTURAL STEEL OR THROUGH BOLTS IN CONCRETE SHOULD BE FAVORED. DO NOT USE SCREW ANCHORS IN DIRECT TENSION.
4	UNISTRUT OR EQUIVALENT SUPPORT IN CEILING FOR FASTENING CABLE DRAPE RAIL. SUPPORTS TO RUN CONTINUOUS WITH NO FITTINGS EXTENDING BELOW FACE OF UNISTRUT CHANNEL, RUN WALL TO WALL, BE PARALLEL, SQUARE, AND IN THE SAME HORIZONTAL PLANE, FLUSH WITH THE FINISHED CEILING. RAILS ARE MOUNTED TO THESE SUPPORTS EVERY 2'-2" AND REQUIRE 50 LBS. PER BOLT LOAD. METHODS OF SUPPORT THAT PERMIT ATTACHMENT TO STRUCTURAL STEEL OR THROUGH BOLTS IN CONCRETE SHOULD BE FAVORED. DO NOT USE SCREW ANCHORS IN DIRECT TENSION.
5	FLOOR CONTACT AREA FOR CHEST READER
6	SUPPORT BACKING, REFER TO ELEVATION DETAIL S107, FOR GRID HOLDER.
7	SUPPORT BACKING, LOCATE AS SHOWN, REFER TO ELEVATION DETAIL S129

STRUCTURAL NOTES

- ALL STEEL WORK AND PARTS NECESSARY TO SUPPORT CEILING MOUNTED TUBE HANGER OR OTHER EQUIPMENT ARE TO BE SUPPLIED BY THE CUSTOMER OR HIS CONTRACTORS. THE UNISTRUT OR EQUIVALENT STRUCTURE SHOULD RUN CONTINUOUS WITH NO FITTINGS EXTENDING BELOW FACE OF UNISTRUT CHANNEL, RUN WALL TO WALL, BE PARALLEL, SQUARE AND IN THE SAME HORIZONTAL PLANE FLUSH WITH FINISHED CEILING. THE SYSTEM IS TO BE CROSS BRACED VERTICALLY, HORIZONTALLY AND DIAGONALLY TO ALLOW NO MOVEMENT AND A MAXIMUM OF 1,58mm(1/16") DEFLECTION.
  CLOSURE STRIPS SHALL BE PROVIDED FOR AREAS OF UNISTRUT EXPOSED AND WITHOUT MOUNTING UNITS.
- METHODS OF SUPPORT FOR THE STEELWORK THAT WILL PERMIT ATTACHMENT TO STRUCTURAL STEEL OR THROUGH BOLTS IN CONCRETE CONSTRUCTION SHOULD BE FAVORED. DO NOT USE CONCRETE OR MASONRY ANCHORS IN DIRECT TENSION.
- ALL UNITS THAT ARE WALL MOUNTED OR WALL SUPPORTED ARE TO BE PROVIDED WITH SUPPORTS WHERE NECESSARY. WALL SUPPORTS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER OR HIS CONTRACTORS. SEE PLAN AND DETAIL SHEETS FOR SUGGESTED LOCATIONS AND MOUNTING HOLE LOCATIONS.
- ALL CEILING MOUNTED FIXTURES, AIR VENTS, SPRINKLERS, ETC. TO BE FLUSH MOUNTED, OR SHALL NOT EXTEND MORE THAN 6,35mm (1/4") BELOW THE FINISHED CEILING.
- CONTROL WALLS WITH TUBE HANGER PASSAGE ABOVE SHALL BE CONSTRUCTED TO 2130mm (7'-0") HIGH.
- FLOOR SLABS ON WHICH EQUIPMENT IS TO BE INSTALLED MUST BE LEVEL TO 3,17mm (1/8") in 3050mm (10'-0")
- DIMENSIONS ARE TO FINISHED SURFACES OF ROOM.
- CUSTOMERS CONTRACTOR MUST PROVIDE ALL PENETRATIONS IN POST TENSION FLOORS.
- CUSTOMERS CONTRACTOR MUST PROVIDE AND INSTALL ANY NON-STANDARD ANCHORING. DOCUMENTS FOR STANDARD ANCHORING METHODS ARE INCLUDED WITH GE EQUIPMENT DRAWINGS FOR GEOGRAPHIC AREAS THAT REQUIRE SUCH DOCUMENTATION.
- CUSTOMERS CONTRACTOR MUST PROVIDE AND INSTALL HARDWARE FOR "THROUGH THE FLOOR" ANCHORING AND/OR ANY BRACING UNDER ACCESS FLOORS. THIS CONTRACTOR MUST ALSO PROVIDE FLOOR DRILLING THAT CANNOT BE COMPLETED BECAUSE OF AN OBSTRUCTION ENCOUNTERED WHILE DRILLING BY THE GE INSTALLER SUCH AS REBAR ETC.
- IT IS THE CUSTOMER'S RESPONSIBILITY TO PERFORM ANY FLOOR OR WALL PENETRATIONS THAT MAY BE REQUIRED. THE CUSTOMER IS ALSO RESPONSIBLE FOR ENSURING THAT NO SUBSURFACE UTILITIES (E.G., ELECTRICAL OR ANY OTHER FORM OF WIRING, CONDUITS, PIPING, DUCT WORK OR STRUCTURAL SUPPORTS (I.E. POST TENSION CABLES OR REBAR)) WILL INTERFERE OR COME IN CONTACT WITH SUBSURFACE PENETRATION OPERATIONS (E.G. DRILLING AND INSTALLATION OF ANCHORS/SCREWS) PERFORMED DURING THE INSTALLATION PROCESS. TO ENSURE WORKER SAFETY, GE INSTALLERS WILL PERFORM SURFACE PENETRATION OPERATIONS ONLY AFTER THE CUSTOMER'S VALIDATION AND COMPLETION OF THE "GE SURFACE PENETRATION PERMIT"

RQ - 163687 PIM R5

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

GE Healthcare
Healthcare Project Implementation - Design Center
Milwaukee, Wisconsin

SHEET TITLE: STRUCTURAL LAYOUT
MODALITY TYPE: OPTIMA XR646

PROJECT TITLE: 1-150f TYPICAL FINAL

PROJECT	REVISION
1-150f	03

DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

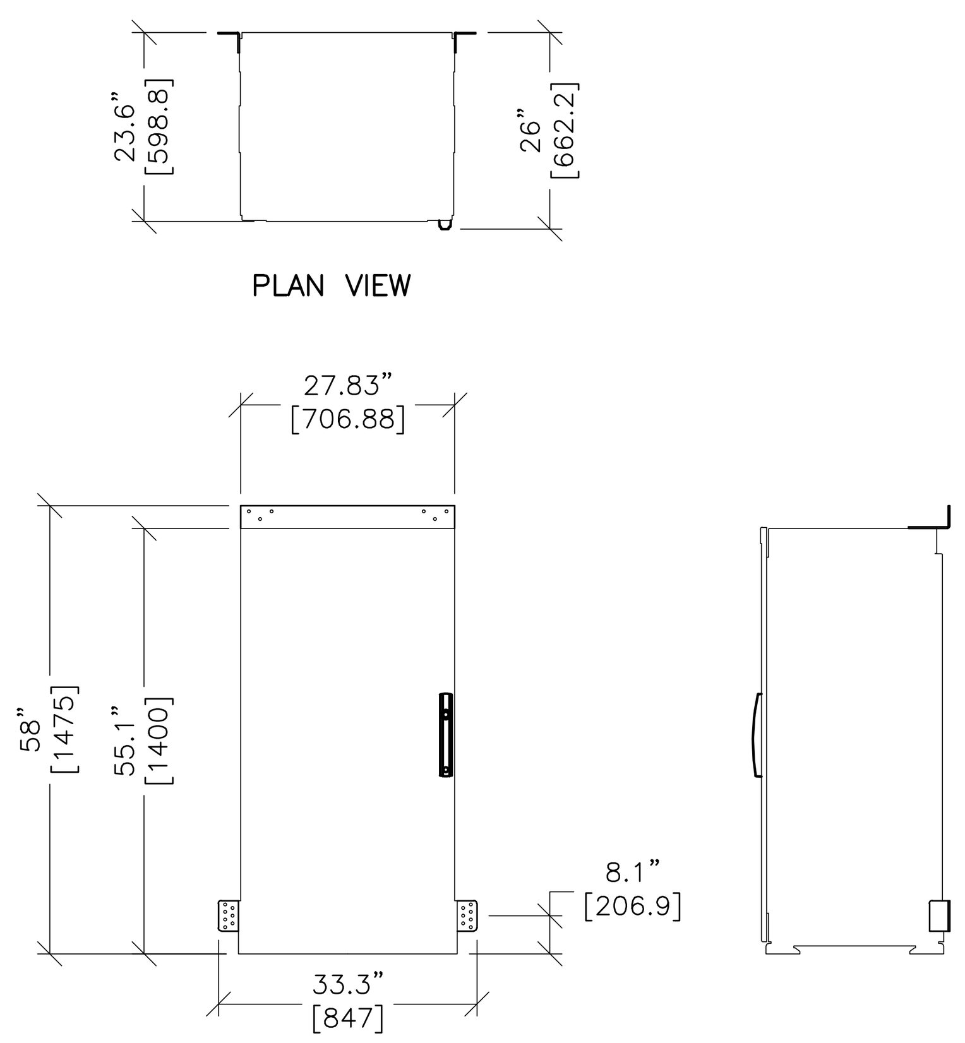
REVISION HISTORY:

SHEET
S1

NFSH-1002

STRUCTURAL DETAIL
SYSTEM CABINET

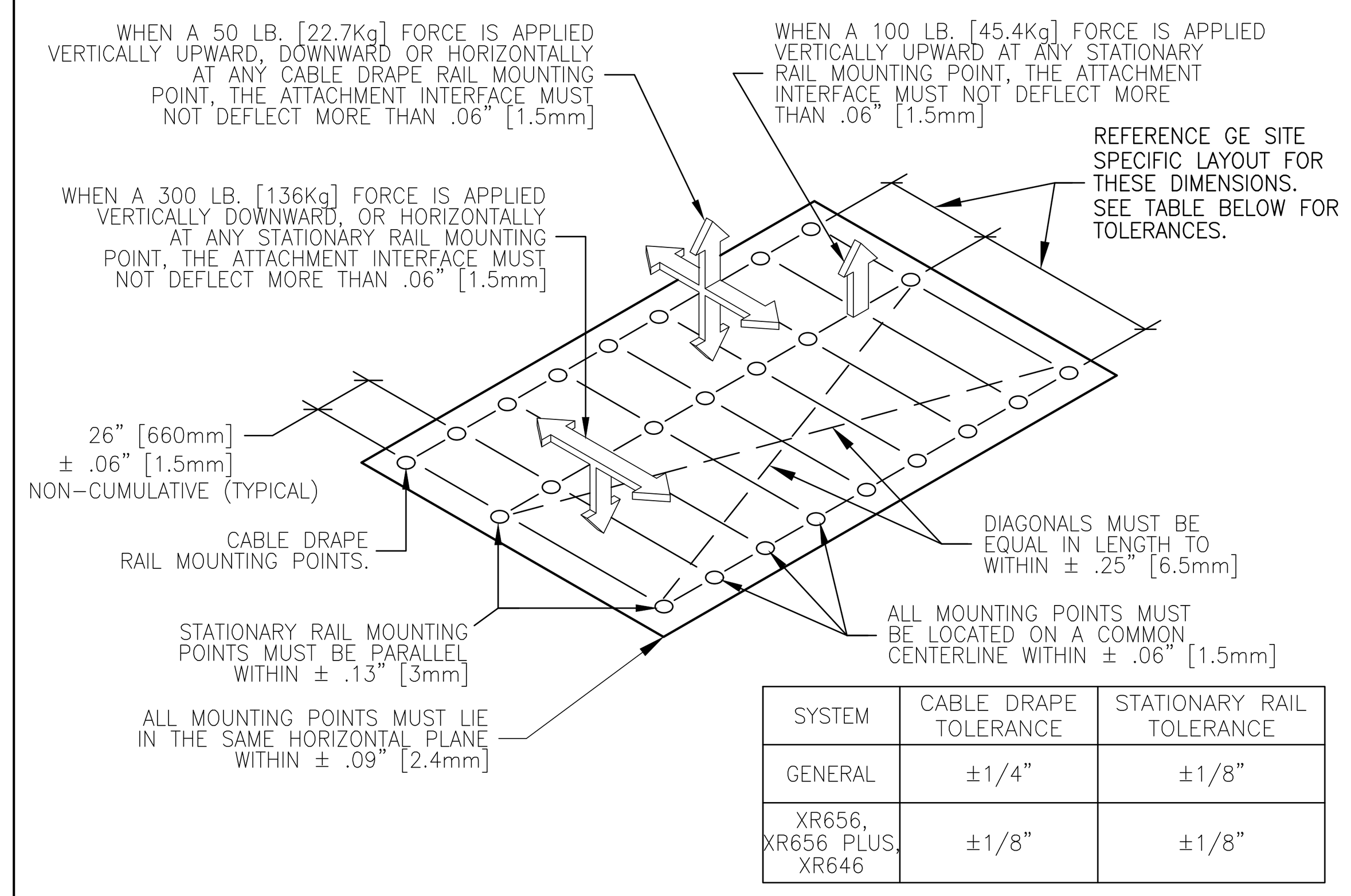
B5032
REV. DATE: 05.Dec.11



DRAWING NOT TO SCALE

SUPPORT DETAIL
XT RADIOGRAPHIC SUSPENSION, INBOARD MOUNTING

B20–041
REV. DATE: 02.Feb.15



SYSTEM	CABLE DRAPE TOLERANCE	STATIONARY RAIL TOLERANCE
GENERAL	±1/4"	±1/8"
XR656, XR656 PLUS, XR646	±1/8"	±1/8"

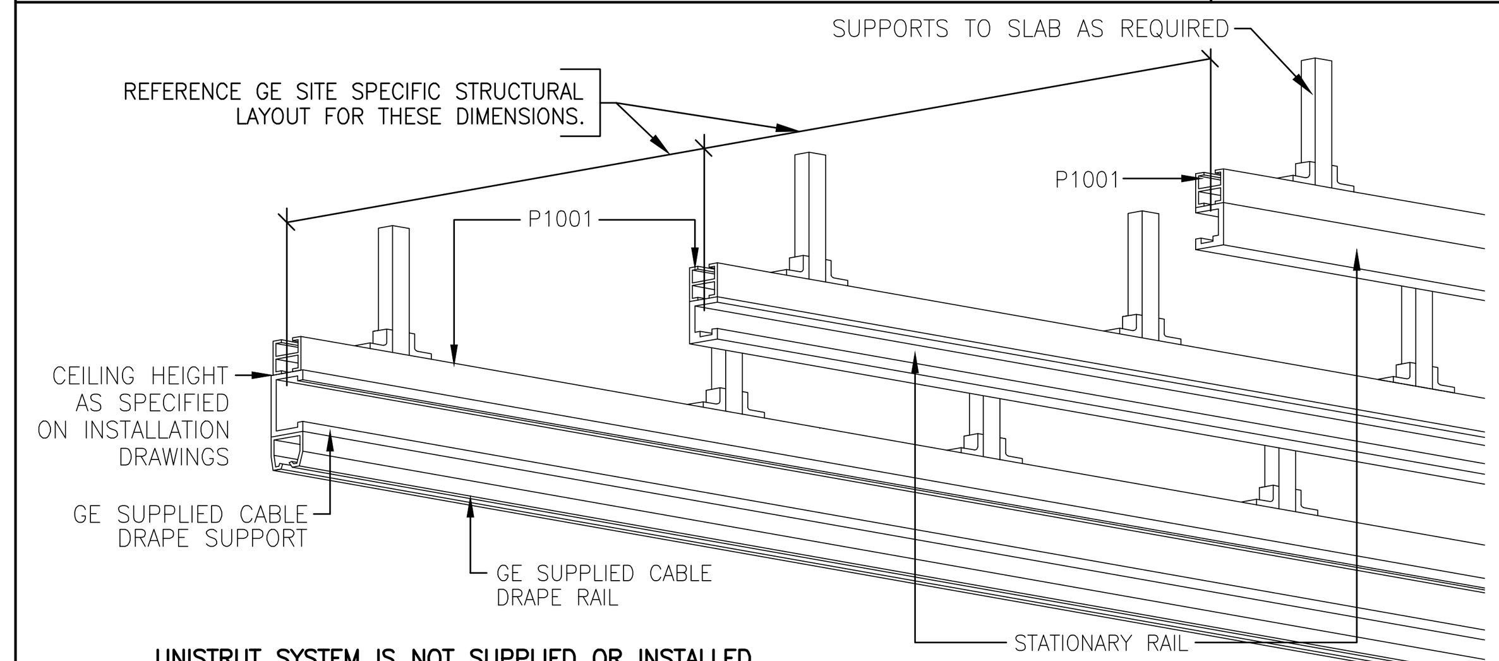
RAIL MUST BE SUPPORTED BY A .5" [13mm] BOLT EVERY 26" [660mm]. MAXIMUM LOAD PER BOLT IS 350 LBS [159Kg]. HOWEVER, EACH MOUNTING BOLT MUST NOT "PULL OUT" OR OTHERWISE FAIL UNDER A VERTICALLY DOWNWARD DEAD LOAD OF 1400 LBS [636Kg].

UNISTRUT SYSTEM IS NOT SUPPLIED OR INSTALLED BY GE HEALTHCARE.

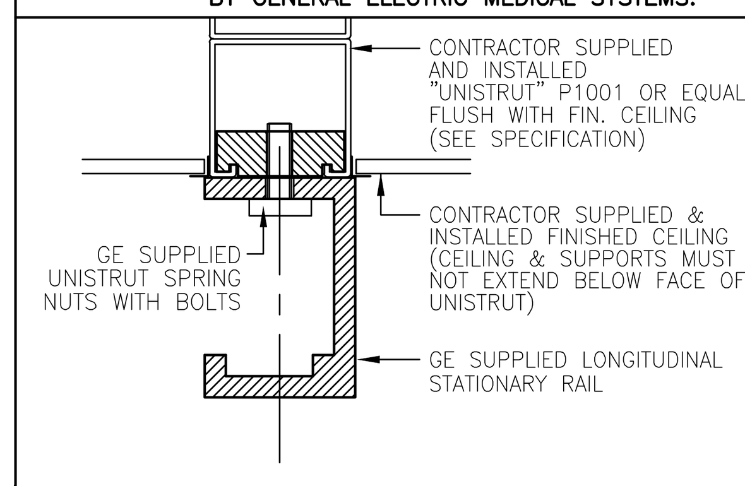
DETAIL NOT TO SCALE

SUPPORT DETAIL
XT RADIOGRAPHIC SUSPENSION, INBOARD MOUNTING

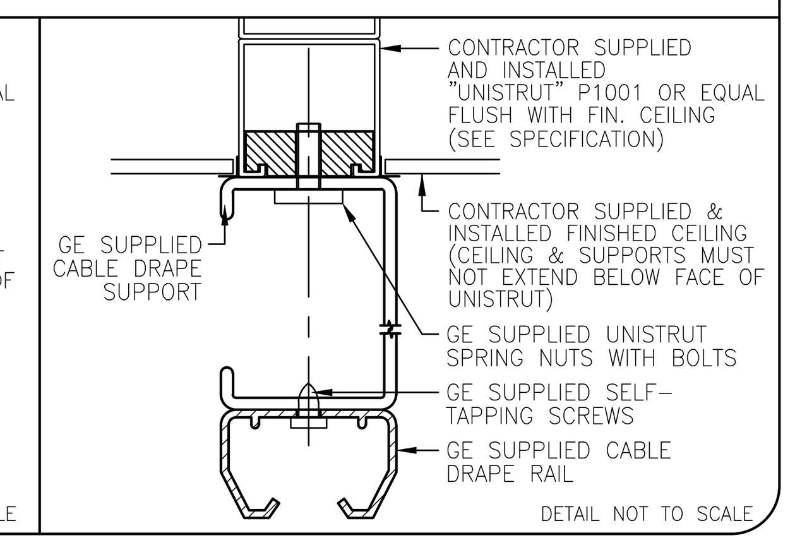
B20–079
REV. DATE: 11.Jun.12



UNISTRUT SYSTEM IS NOT SUPPLIED OR INSTALLED BY GENERAL ELECTRIC MEDICAL SYSTEMS.



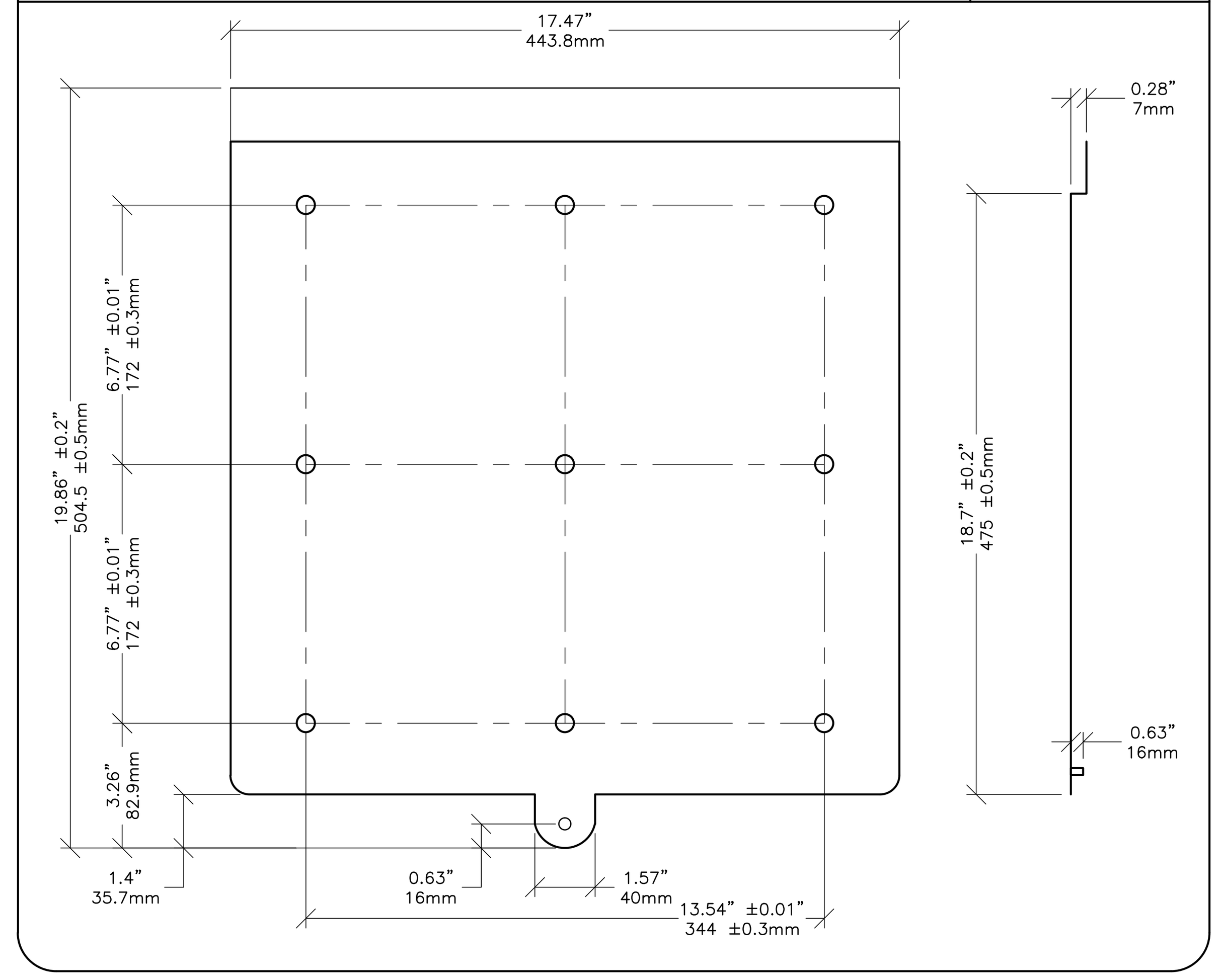
DETAIL NOT TO SCALE



DETAIL NOT TO SCALE

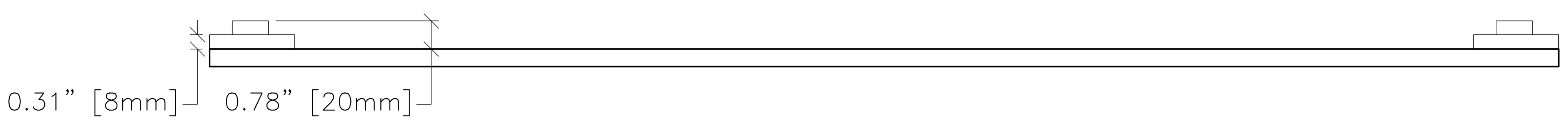
SUPPORT DETAIL
GRID HOLDER WALL MOUNT PANEL

B0557K
REV. DATE: 05/24/10

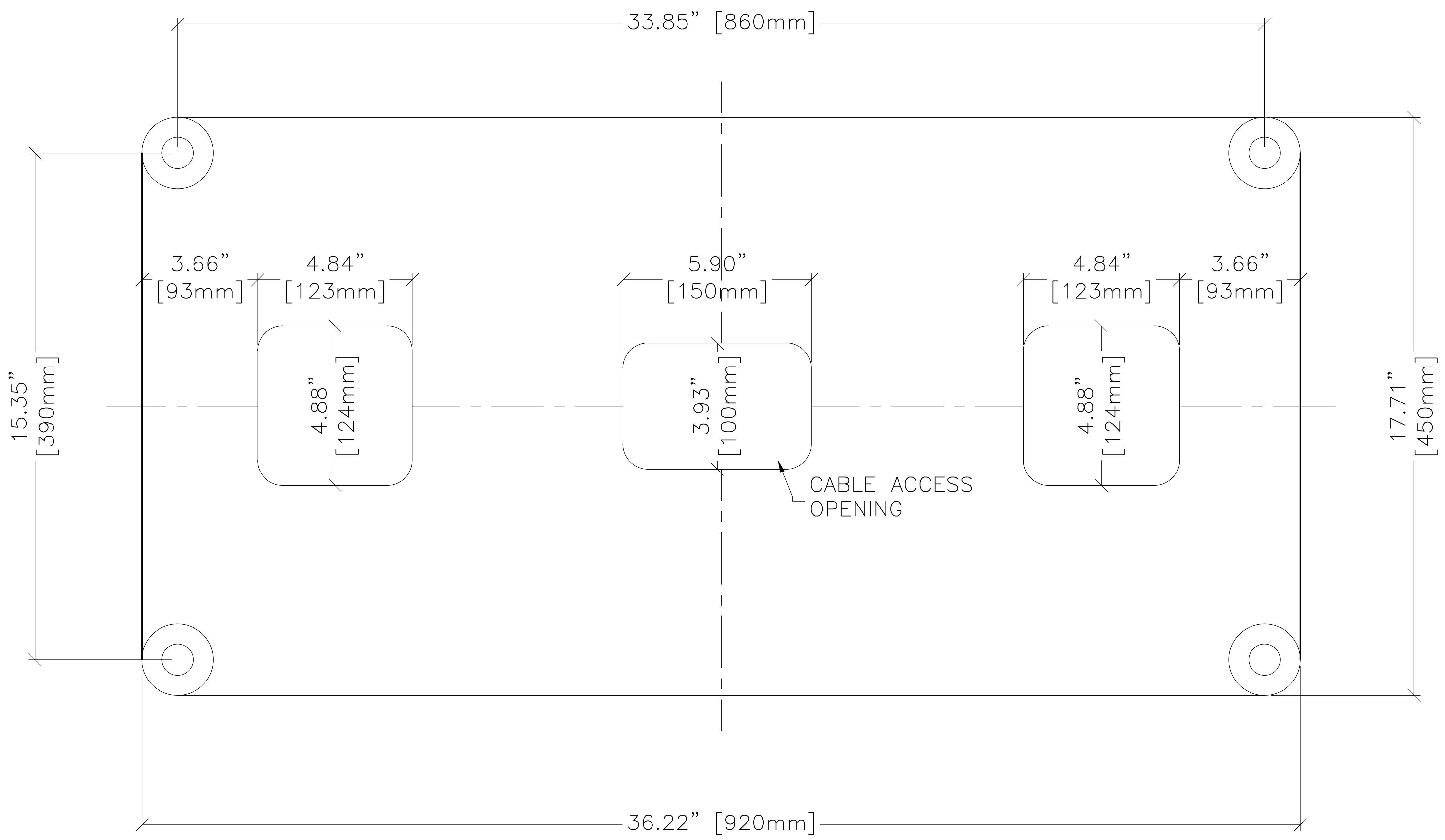


FLOOR MOUNTING DETAIL: DIGITAL ELEVATING TABLE INSTALLATION METHODS

B0558N
REV. DATE: 09.Jan.15



FRONT VIEW



PLAN VIEW

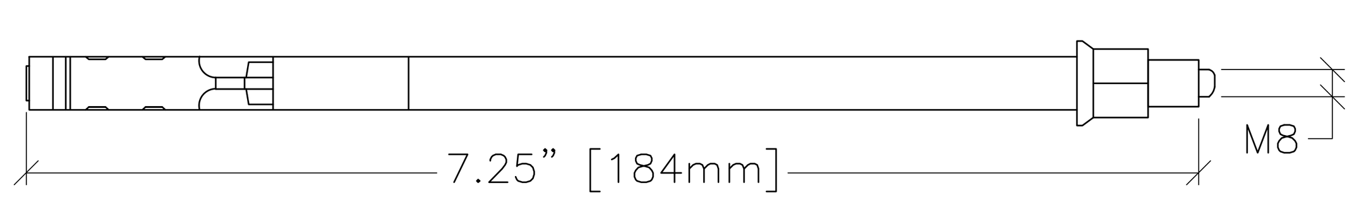


TABLE ANCHOR

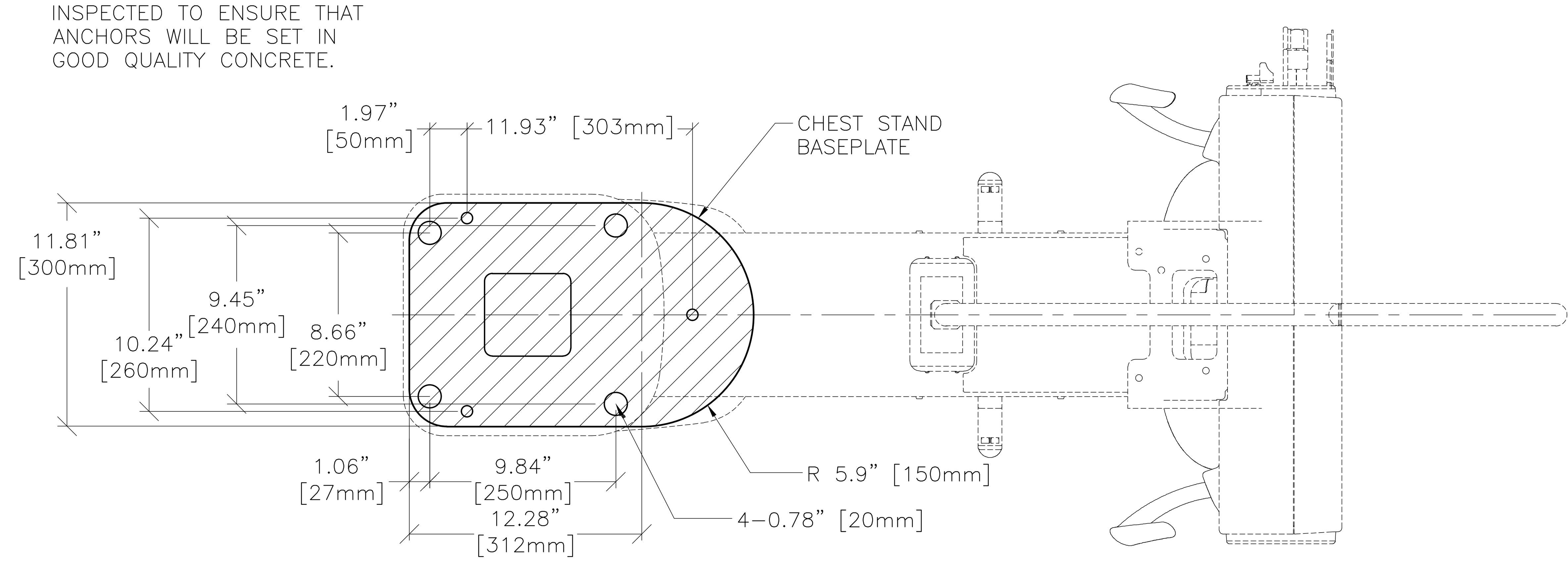
NOTE: THE SUPPLIED ANCHORS REQUIRE A MINIMUM EMBEDMENT OF 3.54" [90 mm] INTO THE CONCRETE. IF FLOOR THICKNESS IS LESS THAN 3.74" [95 mm], IT IS RECOMMENDED THAT THE UNIT BE SECURED USING A THROUGH–BOLT METHOD WITH A REINFORCEMENT PLATE ON THE BACK SIDE.

DETAIL NOT TO SCALE

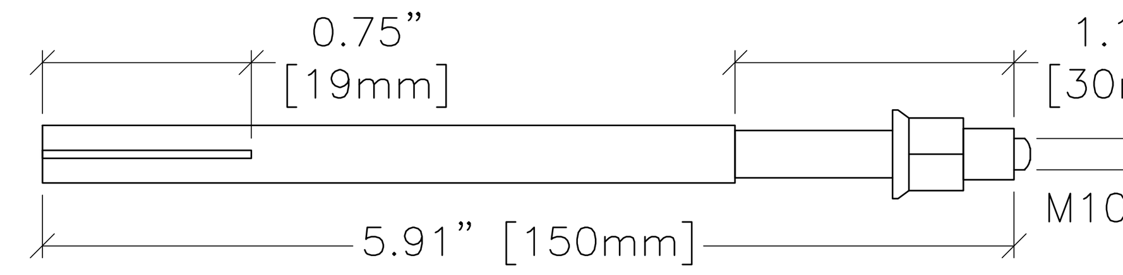
FLOOR MOUNTING DETAIL: DIGITAL CHEST READER

B0557G
REV. DATE: 01.Oct.13

NOTE: CONCRETE AREA FOR WALL STAND INSTALLATION SHOULD BE 39.37"² [1 M²]. ANCHORS MUST BE A MINIMUM OF 3.54" [90 mm] FROM ANY CONCRETE EDGE INCLUDING DUCTS AND CRACKS. IN ADDITION, THE GENERAL CONDITION OF THE CONCRETE IN THE IMMEDIATE MOUNTING AREA SHOULD BE INSPECTED TO ENSURE THAT ANCHORS WILL BE SET IN GOOD QUALITY CONCRETE.



NOTE: THE SUPPLIED ANCHORS REQUIRE A MINIMUM EMBEDMENT OF 3.54" [90 mm] INTO THE CONCRETE. IF FLOOR THICKNESS IS LESS THAN 3.74" [95 mm], IT IS RECOMMENDED THAT THE UNIT BE SECURED USING A THROUGH–BOLT METHOD WITH A REINFORCEMENT PLATE ON THE BACK SIDE.



WALL STAND ANCHOR

DETAIL NOT TO SCALE

RQ – 163687 PIM R5

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

GE Healthcare
Healthcare Project Implementation – Design Center
Milwaukee, Wisconsin

SHEET TITLE: STRUCTURAL DETAILS
MODALITY TYPE: OPTIMA XR646

PROJECT TITLE: 1–150f TYPICAL FINAL

PROJECT	REVISION
1–150f	03

DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

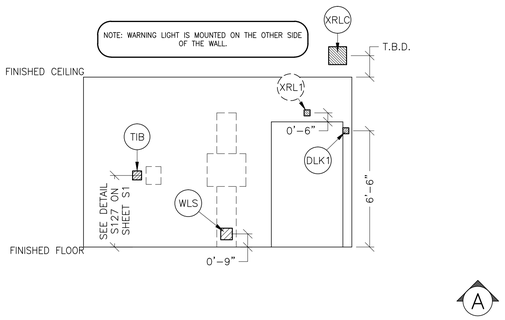
REVISION HISTORY:

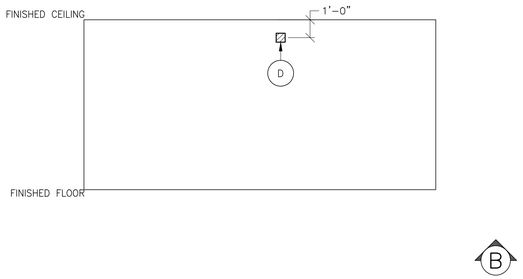
SHEET
S2

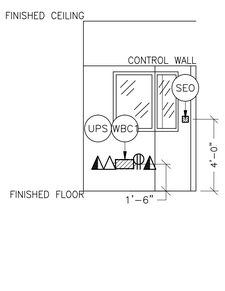
SCALE: 1/4" = 1'-0"

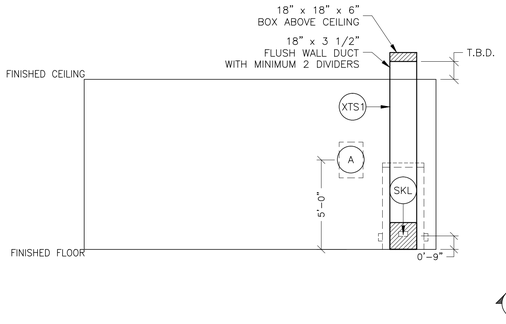
ELECTRICAL PLAN

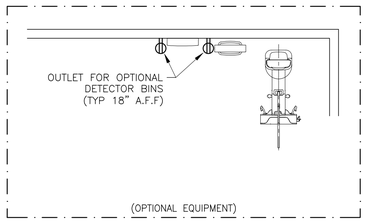
RECOMMENDED CEILING HEIGHT = 9'-6"



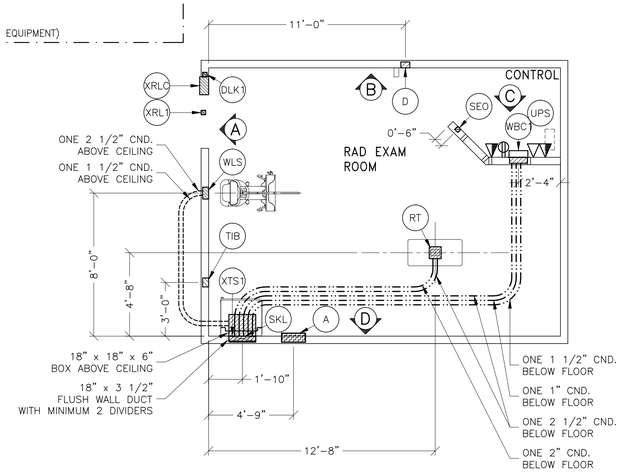








PLEASE SEE BELOW FOR ADDITIONAL REQUIRED CONDUIT RUNS AND SIZES.



JUNCTION POINT NOTES

- ALL JUNCTION BOXES, CONDUIT, DUCT, DUCT DIVIDERS, SWITCHES, CIRCUIT BREAKERS, CABLE TRAY, ETC., ARE TO BE SUPPLIED AND INSTALLED BY CUSTOMERS ELECTRICAL CONTRACTOR.
- CONDUIT AND DUCT RUNS SHALL HAVE SWEEP RADIUS BENDS
- CONDUITS AND DUCT ABOVE CEILING OR BELOW FINISHED FLOOR MUST BE INSTALLED AS NEAR TO CEILING OR FLOOR AS POSSIBLE TO REDUCE RUN LENGTH.
- CEILING MOUNTED JUNCTION BOXES ILLUSTRATED ON THIS PLAN MUST BE INSTALLED FLUSH WITH FINISHED CEILING.
- ALL DUCTWORK MUST MEET THE FOLLOWING REQUIREMENTS:
  1. DUCTWORK SHALL BE METAL WITH DIVIDERS AND HAVE REMOVABLE, ACCESSIBLE COVERS.
  2. DUCTWORK SHALL BE CERTIFIED/RATED FOR ELECTRICAL POWER PURPOSES.
  3. DUCTWORK SHALL BE ELECTRICALLY AND MECHANICALLY BONDED TOGETHER IN AN APPROVED MANNER.
  4. PVC AS A SUBSTITUTE MUST BE USED IN ACCORDANCE WITH ALL LOCAL AND NATIONAL CODES.
- ALL OPENINGS IN ACCESS FLOORING ARE TO BE CUT OUT AND FINISHED OFF WITH GROMMET MATERIAL BY THE CUSTOMERS CONTRACTOR.
- GENERAL CONTRACTOR TO INSERT PULL CORDS FOR ALL CABLE RUN CONDUITS BETWEEN THE EQUIPMENT ROOM AND THE OPERATORS CONTROL ROOM.
- 10 FOOT PIGTAILS AT ALL JUNCTION POINTS.
- ALL WIRING MUST BE THHN OR TFFN STRANDED COPPER THERMOPLASTIC 600 VOLT OR EQUIVALENT INSULATION. **ALUMINUM OR SOLID WIRES ARE NOT ALLOWED.**
- GROUNDING IS CRITICAL TO EQUIPMENT FUNCTION AND PATIENT SAFETY. SITE MUST CONFORM TO WIRING SPECIFICATIONS SHOWN ON THIS PLAN.

JUNCTION POINT DESCRIPTIONS

POINT	DESCRIPTION	QTY.	THE FOLLOWING MATERIALS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER'S ELECTRICAL CONTRACTOR: HARDWARE	DETAIL NO., SHT. E3
A	MAIN DISCONNECT *AVAILABLE FROM GEHC, CALL: 800-279-7925 OR LOCAL GE INSTALLATION PROJECT MGR.	1	MAIN DISCONNECT PANEL SEE SHEET E2, POWER SPECS FOR THE APPROPRIATE CATALOG NUMBER. ONE REMOTE EMERGENCY OFF (SEO) PUSHBUTTON AND STAINLESS STEEL WALL PLATE STATION ARE WITH EACH MAIN DISCONNECT	ELEC-15
D	DONGLE	1 1 1	COVERPLATE 1 1/2 IN. DIA. CHASE NIPPLE 6 X 6 X 4 IN. BOX	ELEC-8
DLK1	DOOR SWITCH (NEEDED ONLY IF REQUIRED BY STATE/ LOCAL CODES)	1 1	ROOM DOOR INTERLOCK LIMIT SWITCH IN FRAME - NORMALLY OPEN (24V) SINGLE GANG BOX	
RT	TABLE	1 1 1	SUITABLE BUSHING & LOCKNUT 3 IN. CONDUIT STUBBED 2 IN. ABOVE FLOOR 8 X 8 X 4 IN. BOX BELOW FLOOR	ELEC-48
SEO	EMERGENCY OFF	1	PROVIDE A SINGLE GANG, 2 1/2 IN. DEEP, FLUSH MTD. WALL BOX.	ELEC-16 ELEC-167
SKL	SYSTEMS CABINET	1 8 1	SPLIT COVERPLATE 2 1/2 IN. DIA. CHASE NIPPLE 18 X 18 X 4 IN. BOX	ELEC-7 ELEC-8
TIB	TETHER INTERFACE BOX	1 1 1	COVERPLATE 1 IN. DIA. CHASE NIPPLE 6 X 6 X 4 IN. BOX	ELEC-8
UPS	UNINTERRUPTIBLE POWER SUPPLY	1	EXTERNAL CONNECTION	
WBC1	OPERATORS CONSOLE	1	12 X 6 X 4 IN. BOX	ELEC-173
WLS	CHEST UNIT	1 1 1 1	SPLIT COVERPLATE 1 IN. DIA. CHASE NIPPLE 1 1/2 IN. DIA. CHASE NIPPLE 6 X 6 X 4 IN. BOX WITH DIVIDER	ELEC-79
XRL1	WARNING LIGHT	1 1	SINGLE GANG BOX "X-RAY ON" INCANDESCENT LIGHT FIXTURE. 24V, 8 AMP OR LESS LOW VOLTAGE SOURCE. DO NOT USE FLUORESCENT FIXTURES.	
XRLC	WARNING LIGHT CONTROLLER *AVAILABLE FROM GEHC, CALL: 800-279-7925 OR LOCAL GE INSTALLATION PROJECT MGR.	1	E4502RL WARNING LIGHT CONTROL OR EQUIVALENT MAX 24V CONTROLLER	ELEC-72
XTS1	X-RAY TUBE HANGER	1	32 IN. OF GROMMET MATERIAL FOR AN 8 X 8 IN. OPENING IN DUCT COVER	ELEC-6

JEDI 80kw SYSTEMS CABINET — REV. DATE: 03.FEB.15

- CALCULATIONS BASED UPON NOMINAL VOLTAGE, WIRE SIZE IN AWG.
- RECOMMENDED FEEDER SIZES FROM DISTRIBUTION TRANSFORMER TO THE POWER CABINET
- NEUTRAL MUST BE TERMINATED INSIDE THE MAIN DISCONNECT PANEL AND NOT AT ANY GE CABINET.
- THE GROUNDING CONDUCTOR WILL BE OF SAME SIZE AS THE FEEDER. THIS GROUND WILL RUN FROM THE EQUIPMENT BACK TO THE FACILITY POWER SOURCE/MAIN GROUNDING POINT AND ALWAYS TRAVEL IN THE SAME CONDUIT WITH THE FEEDERS AND NEUTRAL.
- * MINIMUM WIRE SIZE FOR CIRCUIT BREAKER, BASED ON RECOMMENDED OVERCURRENT PROTECTION.
- FOR A FULL SYSTEM UPS, REFER TO ELECTRICAL DETAILS FOR UPS FEEDER WIRES.

RUN LENGTH IN FEET	POWER SUPPLY VOLTAGE: 342–418 380	360–440 400	373–456 420	396–484 440	414–506 460	**432–528 480**
	SIZE OF FEEDERS AND GROUND WIRES (AWG)					
50	* 2	* 2	* 2	* 2	* 2	**• 2**
100	* 2	* 2	* 2	* 2	* 2	**• 2**
150	1/0	1	1	* 2	* 2	**• 2**
200	2/0	2/0	1/0	1/0	1	**1**
250	3/0	3/0	2/0	2/0	1/0	**1/0**
300	4/0	4/0	3/0	3/0	2/0	**2/0**
350	300M	250M	4/0	4/0	3/0	**3/0**
400	350M	300M	250M	4/0	4/0	**3/0**
450	400M	350M	300M	250M	250M	**4/0**

ADDITIONAL CONDUIT RUNS FOR DISCOVERY XR656, XR656 PLUS AND OPTIMA XR646

CONDUITS REQUIRED FOR BASE SYSTEM (CONDUITS ARE LOCATED ABOVE CEILING)

REV DATE: 25.Sep.15

XRLC	TO	XRL1	ONE 1/2" CND.
XRLC	TO	SKL	ONE 1/2" CND.
XRLC	TO	120-V 1Ø POWER	CND. AS REQ'D
A	TO	SKL	ONE CND. AS REQ'D
A	TO	SEO	ONE 1/2" CND.
A	TO	FEEDER	ONE CND. AS REQ'D
DLK1	TO	SKL	ONE 1/2" CND.
SKL	TO	TIB	ONE 2" CND.
WBC1	TO	TIB	ONE 1" CND.
SKL	TO	D	ONE 1" CND.
WBC1	TO	D	ONE 2" CND.

NOTE: SEE E2 PAGE FOR MAXIMUM RUN LENGTHS

ELECTRICAL OUTLET LEGEND

CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS. HEIGHT ABOVE FLOOR DETERMINED BY LOCAL CODES UNLESS OTHERWISE SPECIFIED.

- DUPLEX HOSPITAL GRADE, DEDICATED OUTLET 120-V, SINGLE PHASE POWER
- DEDICATED TELEPHONE LINE(S) (SEE ELECTRICAL DETAIL ELEC-1 OR ELEC-67)
- NETWORK OUTLET (SEE ELECTRICAL DETAILS ELEC-83 AND ELEC-84 OR ELEC-87)

CONTRACTOR SUPPLIED AND INSTALLED WIRING

ELECTRICAL CONTRACTOR SHALL RING OUT, TAG AND TERMINATE ALL WIRES AT BOTH ENDS.

WIRE RUN, FROM – TO	QUANTITY, WIRE SIZE/COLOR
XRLC > 1 PHASE	1-NO. 14 BLACK, 1-NO. 14 WHITE, 1-NO. 14 GREEN
A > SEO	1-NO. 14 BLACK, 1-NO. 14 WHITE, 1-NO. 14 GREEN
SKL > XRLC	2-NO. 14 BLACK, 1-NO. 14 RED, 1-NO. 14 WHITE
SKL > DLK1	1-NO. 14 BLACK, 1-NO. 14 WHITE, 1-NO. 14 GREEN
XRL1 > XRLC	1-NO. 14 BLACK, 1-NO. 14 WHITE, 1-NO. 14 GREEN
A > SKL	3-BLACK, 1-GREEN – REFER TO FEEDER TABLE
480-V > A	3-BLACK, 1-WHITE, 1-GREEN – REFER TO FEEDER TABLE

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

GE Healthcare

Healthcare Project Implementation – Design Center
Wisconsin
Milwaukee,

SHEET TITLE: ELECTRICAL LAYOUT

MODALITY TYPE: OPTIMA XR646

PROJECT TITLE: 1–150f TYPICAL FINAL

PROJECT	REVISION
1–150f	03

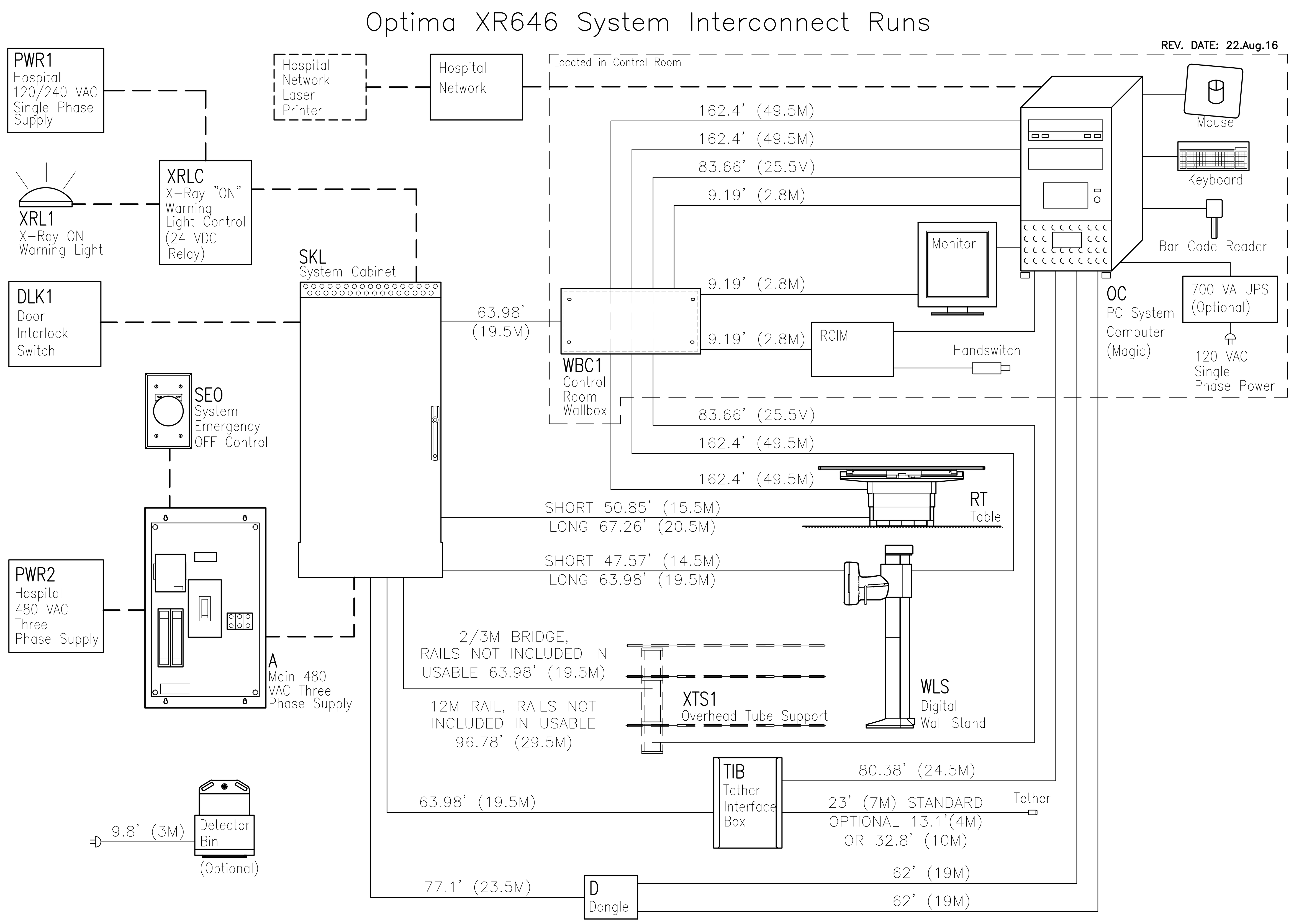
DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

REVISION HISTORY:

RQ – 163687 PIM R5

SHEET E1

INTERCONNECT DIAGRAM



POWER SPECIFICATIONS

JEDI 80kw SYSTEMS CABINET **REV. DATE: 20.Mar.15**

VOLTAGE

PRIMARY SOURCE IS REQUIRED FOR ALL INSTALLATIONS.
RANGE OF LINE VOLTAGES :
NOMINAL LINE VOLTAGE OF 380 TO 480, 3 PHASE, WITHOUT NEUTRAL, 50 OR 60 Hz.

REQUIRED POWER SUPPLY: WYE DISTRIBUTION

MAXIMUM DAILY VOLTAGE VARIATION MUST FALL WITHIN ONE OF THE RANGES IN TABLE A.

TABLE A
ALLOWABLE INPUT VOLTAGES/ CURRENT DEMAND

NOMINAL VOLTAGE	NORMAL RANGE ±10 PERCENT	CURRENT (AMPS)		MINIMUM OVERCURRENT PROTECTION
		MAX. MOMENTARY	CONTINUOUS	
380	342–418	190	7	95–A
400	360–440	180	6.7	90–A
415	373–456	170	6.2	85–A
440	396–484	163	6	82–A
460	414–506	156	5.7	78–A
480	432–528	150	5.5	75–A

ALL CALCULATIONS BASED UPON NOMINAL VOLTAGE

NOTE

LOW LINE CONDITIONS MAY INHIBIT SOME HIGH kVp TECHNIQUES. THE GENERATOR AUTOMATICALLY ESTABLISHES THESE INHIBITS BASED ON ACTUAL LINE CONDITIONS AND SYSTEM REGULATION.

PHASE– BALANCE

PHASE–TO–PHASE VOLTAGES MUST BE WITHIN +2 PERCENT OF THE LOWEST PHASE–TO–PHASE VOLTAGE. MAXIMUM ALLOWABLE TRANSIENT VOLTAGE EXCURSIONS ARE 2.5 PERCENT OF RATED LINE VOLTAGE AT A MAXIMUM DURATION OF 5 CYCLES AND FREQUENCY OF 10 TIMES PER HOUR.

POWER DEMAND

CONTINUOUS POWER DEMAND =4.6 KVA. (MAX DEMAND = 125 KVA)

TABLE B
MAXIMUM MOMENTARY POWER DEMAND.

DEMAND	VALUE
kVa *	125
POWER FACTOR AT	0.73
mA	630
kVp	80

* DEMAND INCLUDES POWER FOR ENTIRE SYSTEM. LINE VOLTAGE REGULATION AT MAXIMUM POWER DEMAND MUST BE LESS THAN OR EQUAL TO 6 PERCENT.

DISTRIBUTION TRANSFORMER

FOR A SINGLE UNIT INSTALLATION, THE MINIMUM TRANSFORMER SIZE IS 150 KVA. SYNTHESIZED POWER FEED IS NOT ACCEPTABLE

STANDARD DISCONNECTS

E4502ST 80 AMP DISCONNECT
E4502RS 110 AMP DISCONNECT
E4502RT 150 AMP DISCONNECT
E4502RP 90 AMP DISCONNECT WITH AUTO–RESTART
E4502SA 110 AMP DISCONNECT WITH AUTO–RESTART
E4502RY 125 AMP DISCONNECT WITH AUTO–RESTART

ELECTRICAL NOTES

NOTE 1: ALL WIRES SPECIFIED SHALL BE COPPER STRANDED, FLEXIBLE, THERMO–PLASTIC, COLOR CODED, CUT 10 FOOT LONG AT OUTLET BOXES, DUCT TERMINATION POINTS OR STUBBED CONDUIT ENDS.
ALL CONDUCTORS, POWER, SIGNAL AND GROUND, MUST BE RUN IN A CONDUIT OR DUCT SYSTEM. ELECTRICAL CONTRACTOR SHALL RING OUT AND TAG ALL WIRES AT BOTH ENDS. WIRE RUNS MUST BE CONTINUOUS COPPER STRANDED AND FREE FROM SPLICES. **ALUMINUM OR SOLID WIRES ARE NOT ALLOWED.**

NOTE 2: WIRE SIZES GIVEN ARE FOR USE OF EQUIPMENT. LARGER SIZES MAY BE REQUIRED BY LOCAL CODES.

NOTE 3: IT IS RECOMMENDED THAT ALL WIRES BE COLOR CODED, AS REQUIRED IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.

NOTE 4: CONDUIT SIZES SHALL BE VERIFIED BY THE ARCHITECT, ELECTRICAL ENGINEER OR CONTRACTOR, IN ACCORDANCE WITH LOCAL OR NATIONAL CODES.

NOTE 5: CONVENIENCE OUTLETS ARE NOT ILLUSTRATED. THEIR NUMBER AND LOCATION ARE TO BE SPECIFIED BY OTHERS. LOCATE AT LEAST ONE CONVENIENCE OUTLET CLOSE TO THE SYSTEM CONTROL, THE POWER DISTRITBUTION UNIT AND ONE ON EACH WALL OF THE PROCEDURE ROOM. USE HOSPITAL APPROVED OUTLET OR EQUIVALENT.

NOTE 6: GENERAL ROOM ILLUMINATION IS NOT ILLUSTRATED. CAUTION SHOULD BE TAKEN TO AVOID EXCESSIVE HEAT FROM OVERHEAD SPOTLIGHTS. DAMAGE CAN OCCUR TO CEILING MOUNTING COMPONENTS AND WIRING IF HIGH WATTAGE BULBS ARE USED. RECOMMEND LOW WATTAGE BULBS NO HIGHER THAN 75 WATTS AND USE DIMMER CONTROLS (EXCEPT MR). DO NOT MOUNT LIGHTS DIRECTLY ABOVE AREAS WHERE CEILING MOUNTED ACCESSORIES WILL BE PARKED.

NOTE 7: ROUTING OF CABLE DUCTWORK, CONDUITS, ETC., MUST RUN DIRECT AS POSSIBLE OTHERWISE MAY RESULT IN THE NEED FOR GREATER THAN STANDARD CABLE LENGTHS (REFER TO THE INTERCONNECTION DIAGRAM FOR MAXIMUM USABLE LENGTHS POINT TO POINT).

NOTE 8: CONDUIT TURNS TO HAVE LARGE, SWEEPING BENDS WITH MINIMUM RADIUS IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.

NOTE 9: A SPECIAL GROUNDING SYSTEM IS REQUIRED IN ALL PROCEDURE ROOMS BY SOME NATIONAL AND LOCAL CODES. IT IS RECOMMENDED IN AREAS WHERE PATIENTS MIGHT BE EXAMINED OR TREATED UNDER PRESENT, FUTURE, OR EMERGENCY CONDITIONS. CONSULT THE GOVERNING ELECTRICAL CODE AND CONFER WITH APPROPRIATE CUSTOMER ADMINISTRATIVE PERSONNEL TO DETERMINE THE AREAS REQUIRING THIS TYPE OF GROUNDING SYSTEM.

NOTE 10: THE MAXIMUM POINT TO POINT DISTANCES ILLUSTRATED ON THIS DRAWING MUST NOT BE EXCEEDED.

NOTE 11: PHYSICAL CONNECTION OF PRIMARY POWER TO GE EQUIPMENT IS TO BE MADE BY CUSTOMERS ELECTRICAL CONTRACTOR WITH THE SUPERVISION OF A GE REPRESENTATIVE. THE GE REPRESENTATIVE WOULD BE REQUIRED TO IDENTIFY THE PHYSICAL CONNECTION LOCATION, AND INSURE PROPER HANDLING OF GE EQUIPMENT.

NOTE 12: GEHC CONDUCTS POWER AUDITS TO VERIFY QUALITY OF POWER BEING DELIVERED TO THE SYSTEM. THE CUSTOMER'S ELECTRICAL CONTRACTOR IS REQUIRED TO BE AVAILABLE TO SUPPORT THIS ACTIVITY.

DIAGRAM KEY

----	CUSTOMER/CONTRACTOR SUPPLIED WIRING. ROUTE IN ADEQUATE CONDUIT OR RACEWAY.
———	GE FURNISHED CABLE RUNS. ROUTE IN EMPTY CONDUIT OR RACEWAY.
59' [18M]	MAXIMUM RUN LENGTH BETWEEN JUNCTION POINTS. Feet [Meters]

PIM R5

RQ – 163687

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

GE Healthcare

Healthcare Project Implementation – Design Center
Milwaukee, Wisconsin

SHEET TITLE: ELECTRICAL SPECIFICATIONS

MODALITY TYPE: OPTIMA XR646

PROJECT TITLE: 1–150f TYPICAL FINAL

PROJECT	REVISION
1–150f	03

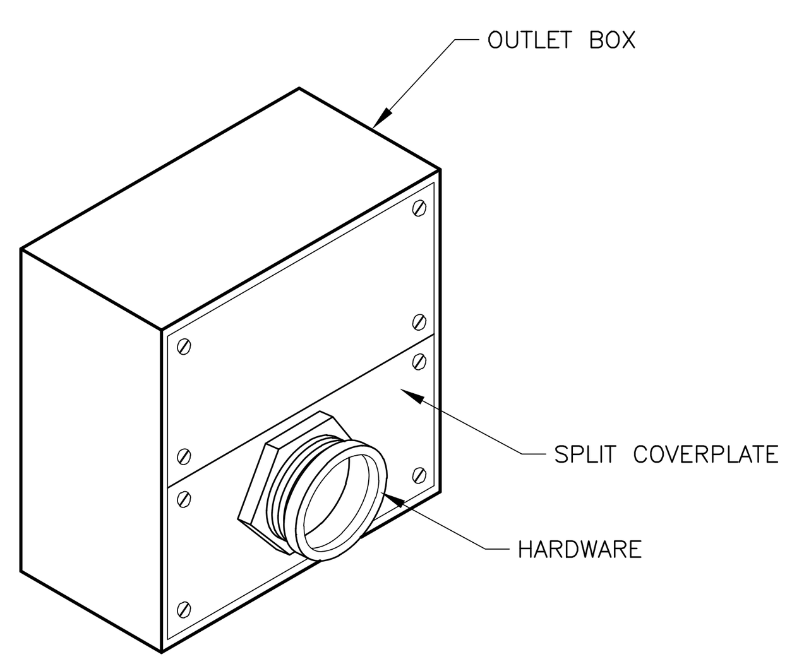
DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

REVISION HISTORY:

SHEET
E2

ELECTRICAL DETAIL
BOX WITH SPLIT COVERPLATE (TYPICAL)

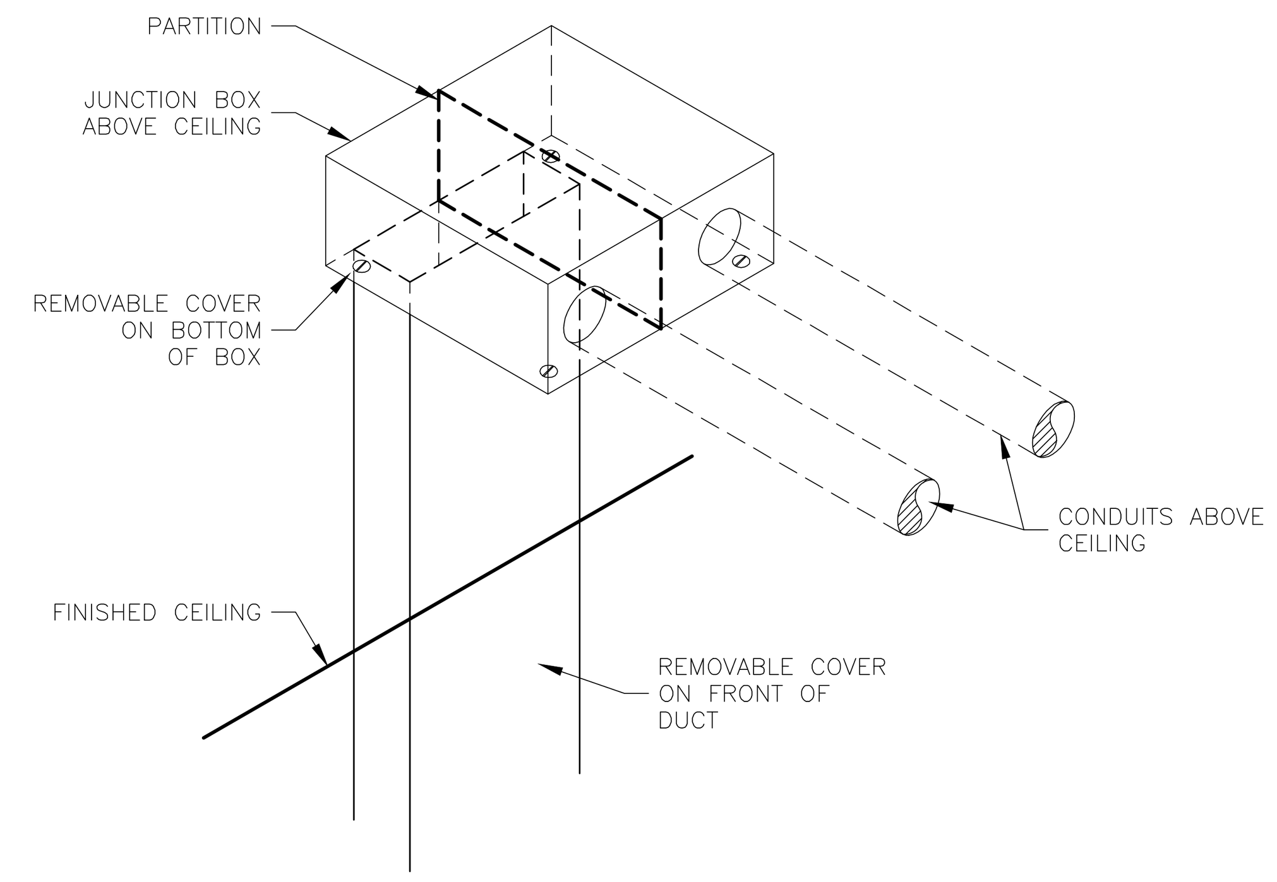
ELEC-7
REV. DATE: 09/30/94



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
J.B. / WALL DUCT DETAIL (TYPICAL)

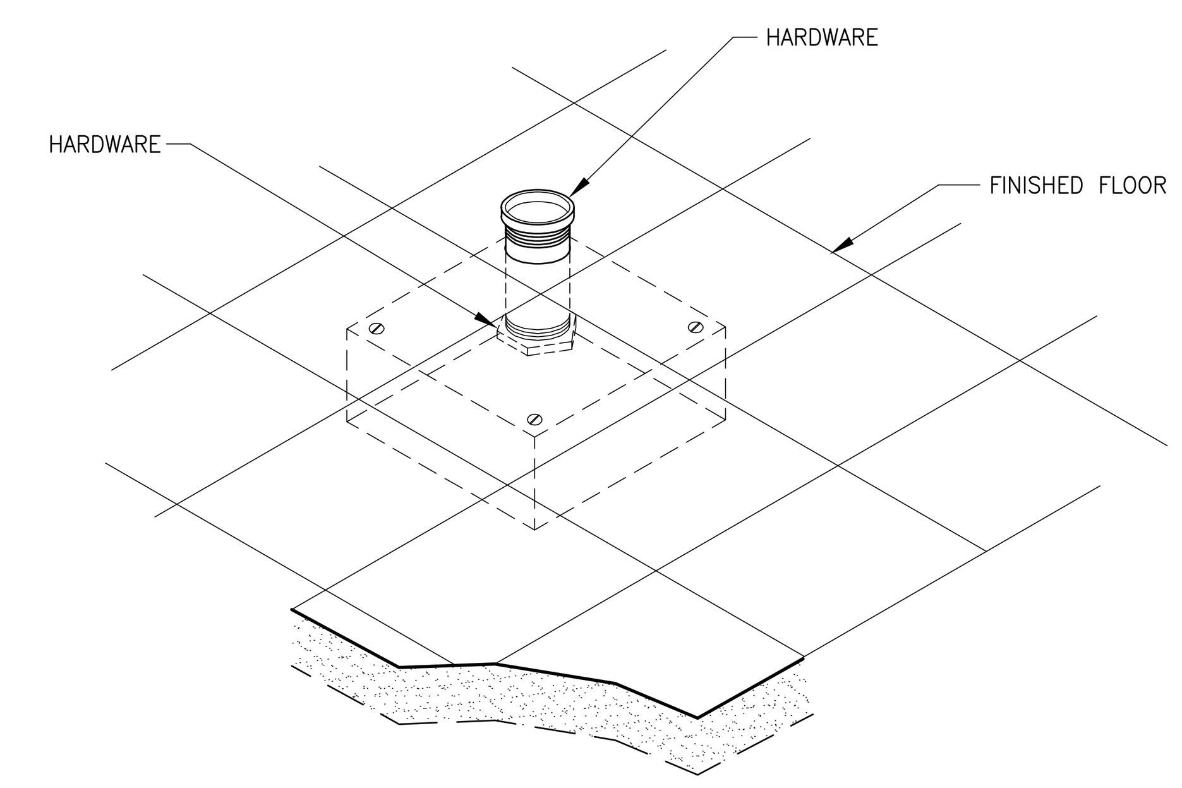
ELEC-2
REV. DATE: 02.Jan.15



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
TABLE INTERCONNECTION – BOX BELOW FLOOR

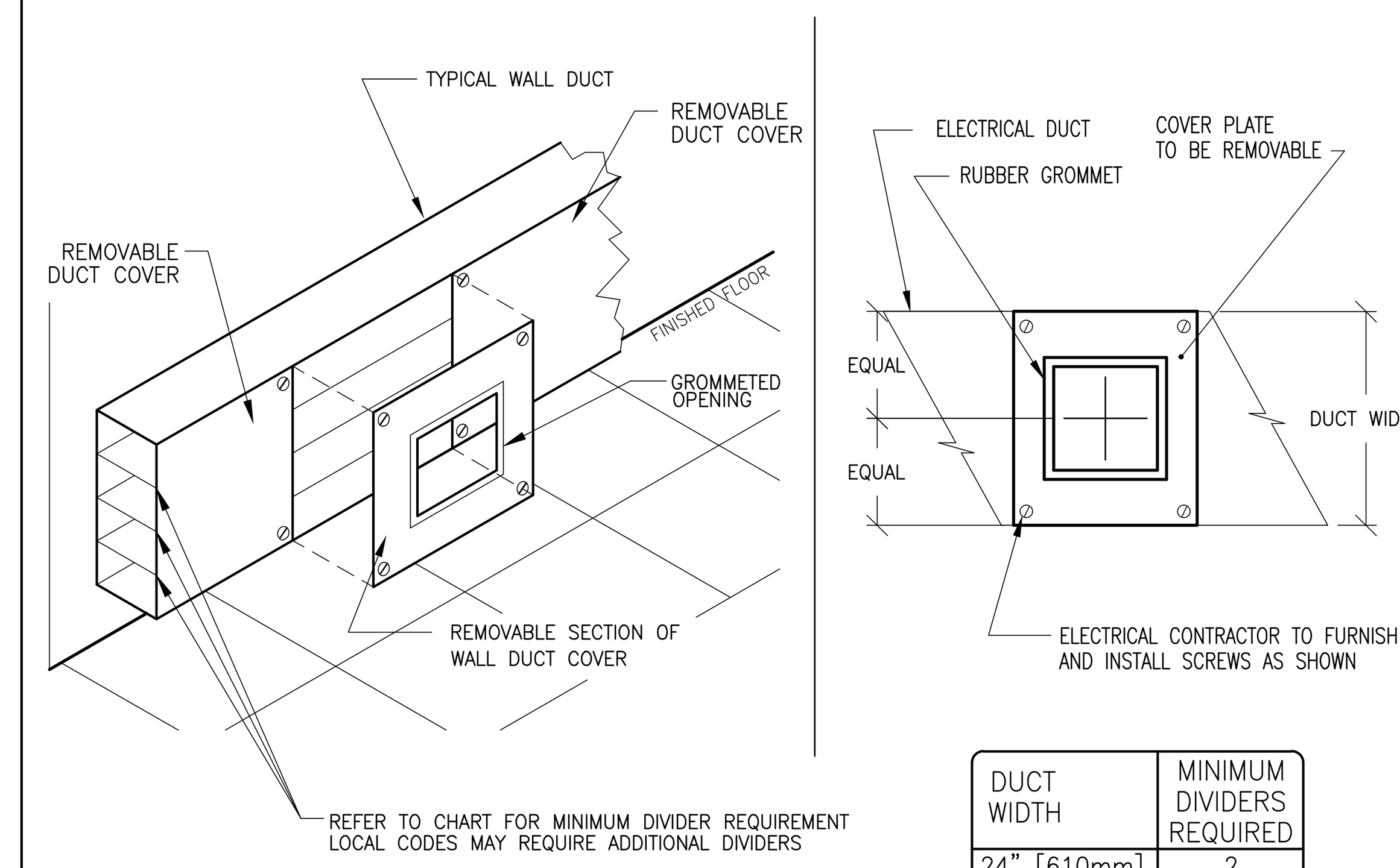
ELEC-48
REV. DATE: 01/04/96



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
HORIZONTAL WALL DUCT (TYPICAL)

ELEC-5
REV. DATE: 03/19/04

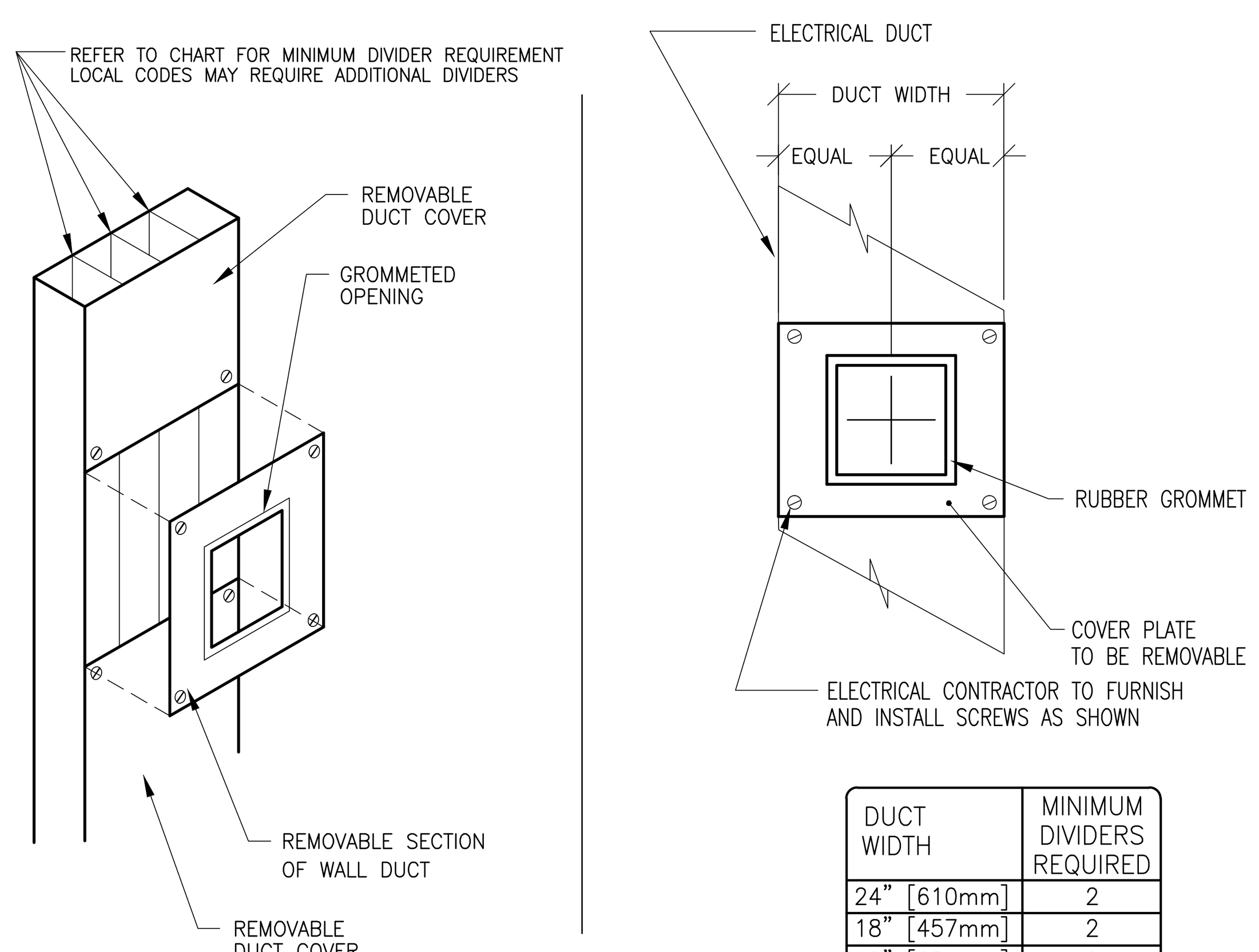


DUCT WIDTH		MINIMUM DIVIDERS REQUIRED
24"	610mm	2
18"	457mm	2
10"	254mm	2
6"	152mm	1
4"	102mm	1

DETAIL NOT TO SCALE

ELECTRICAL DETAIL
VERTICAL WALL DUCT (TYPICAL)

ELEC-6
REV. DATE: 03/19/04



DUCT WIDTH		MINIMUM DIVIDERS REQUIRED
24"	610mm	2
18"	457mm	2
10"	254mm	2
6"	152mm	1
4"	102mm	1

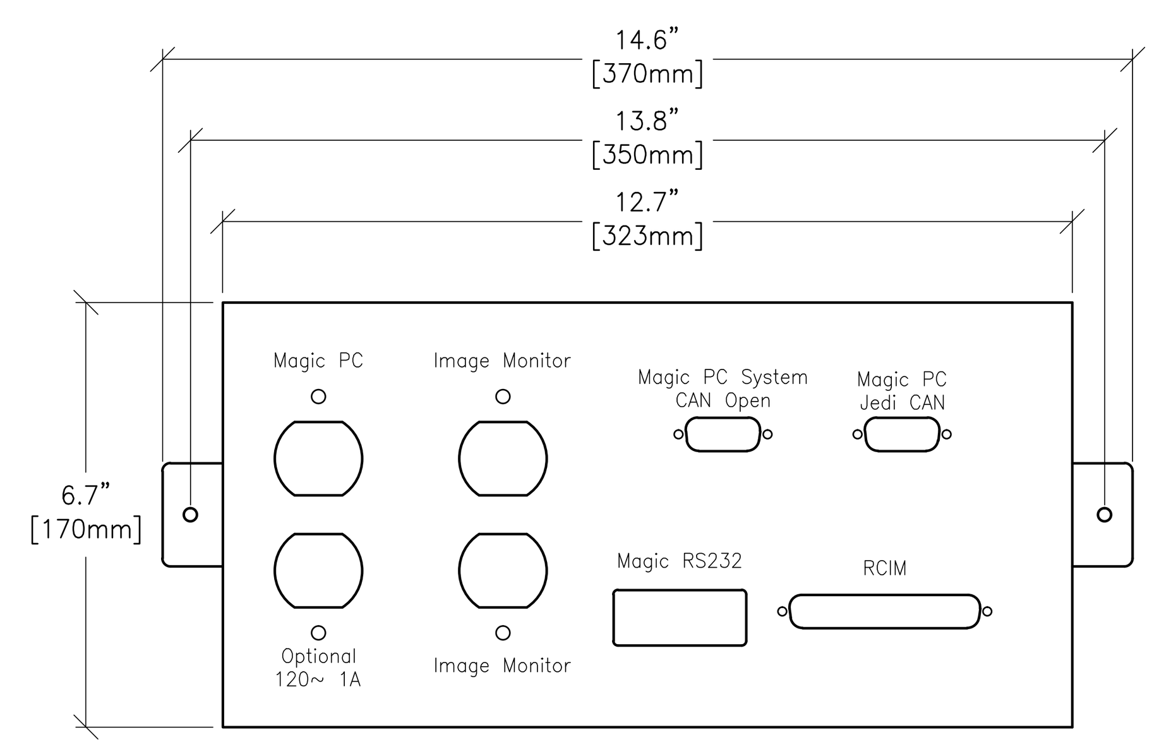
DETAIL NOT TO SCALE

EQUIPMENT DETAIL
WALL PLATE

ELEC-173
REV. DATE: 11.Aug.14

NOTE:
THE USE OF A WALL BOX IS REQUIRED WITH THIS SYSTEM. WALL BOX IS USED TO INTERFACE THE CABLES IN EXAM ROOM AND PATIENT ROOM. THE CABLES USED WITH THIS SYSTEM ARE TERMINATED WITH CONNECTORS THAT CAN ONLY BE USED WITH THIS SPECIFIC WALL BOX.

DETAIL NOT TO SCALE



ELECTRICAL DETAIL
INSITE CONNECTION (TYPICAL)

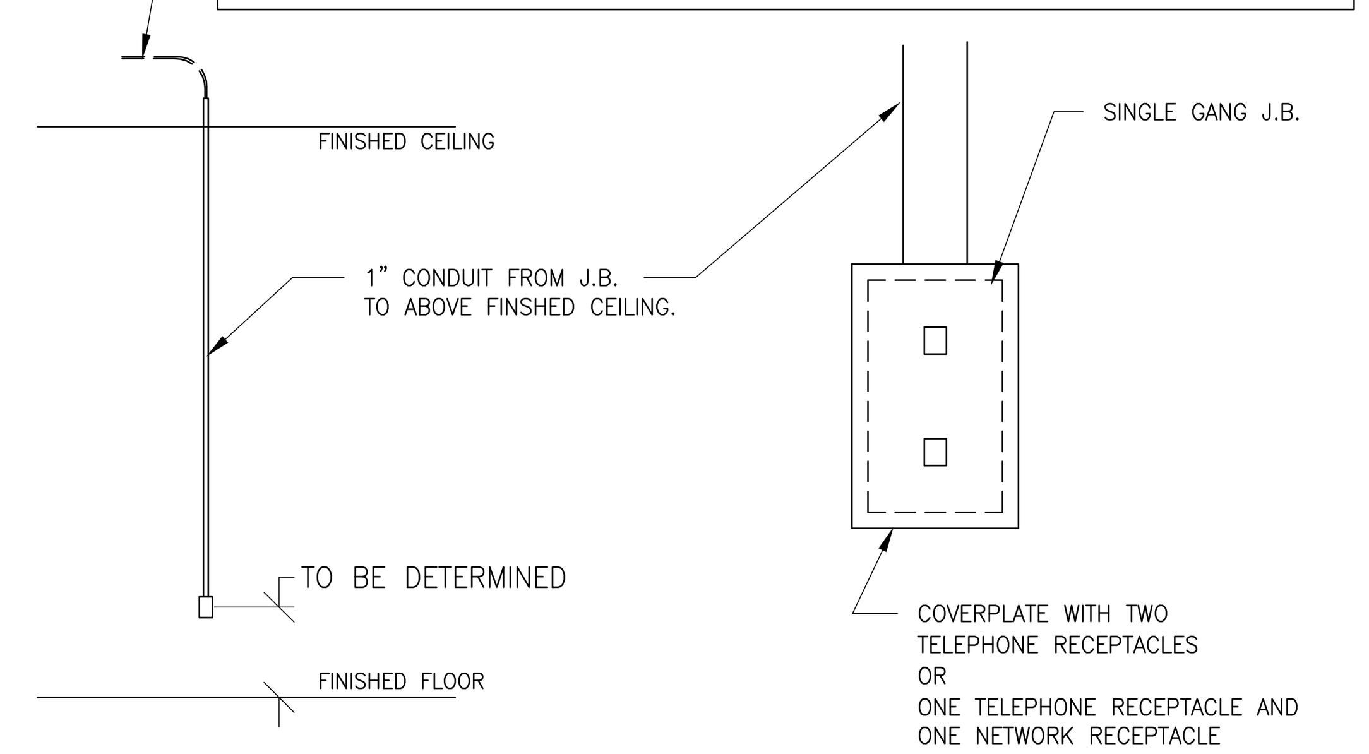
ELEC-1
REV. DATE: 04/24/02

ONE OF THE FOLLOWING TWO SELECTIONS MUST BE INSTALLED AT THE LOCATION SHOWN ON THE ELECTRICAL PLAN (SHEET E1) FOR GE INSITE CONNECTION BASED UPON SYSTEM CONFIGURATION.

A) ONE INTERNET ACCESSIBLE VIRTUAL PRIVATE NETWORK (VPN) CONNECTION WITH A STATIC IP ADDRESS, AND ONE TELEPHONE LINE – DEDICATED-DIRECT-DIALING, VOICE GRADE.

OR

B) TWO TELEPHONE LINES – ONE DEDICATED DIRECT-DISTANCE-DIALING, VOICE GRADE AND ONE A DEDICATED DATA LINE.

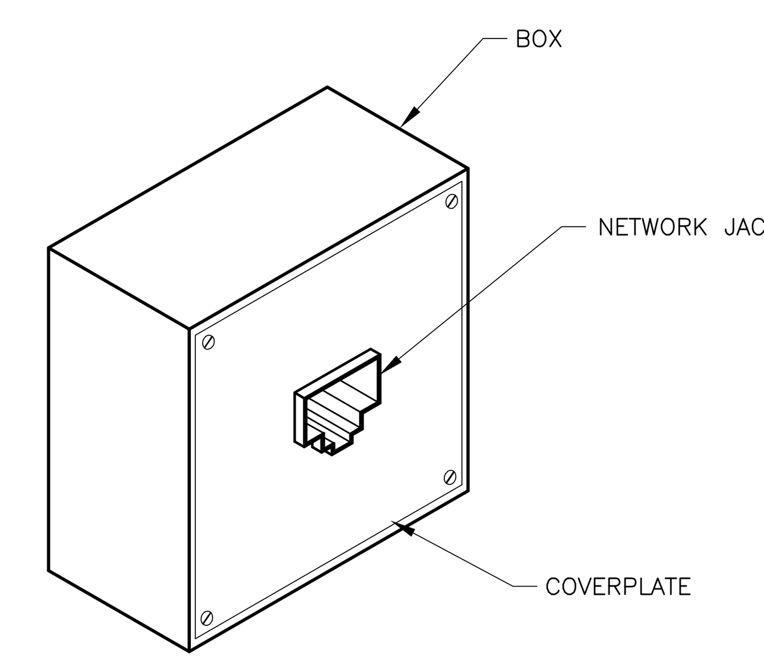


ALL ITEMS ILLUSTRATED ARE TO BE FURNISHED AND INSTALLED BY CUSTOMER OR THEIR CONTRACTOR.

DETAIL NOT TO SCALE

ELECTRICAL DETAIL
BOX WITH COVERPLATE AND NETWORK JACK

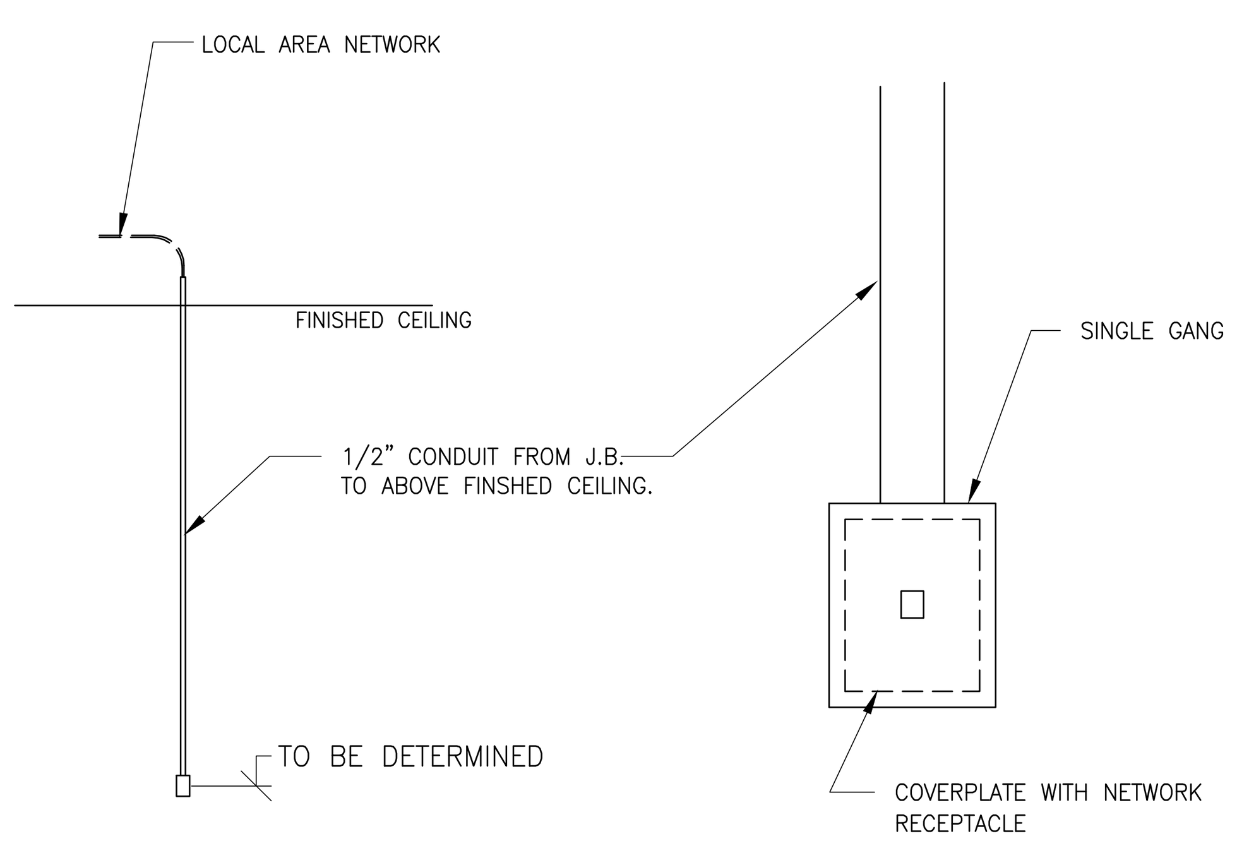
ELEC-83
REV. DATE: 10/06/98



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
NETWORK CONNECTION (TYPICAL)

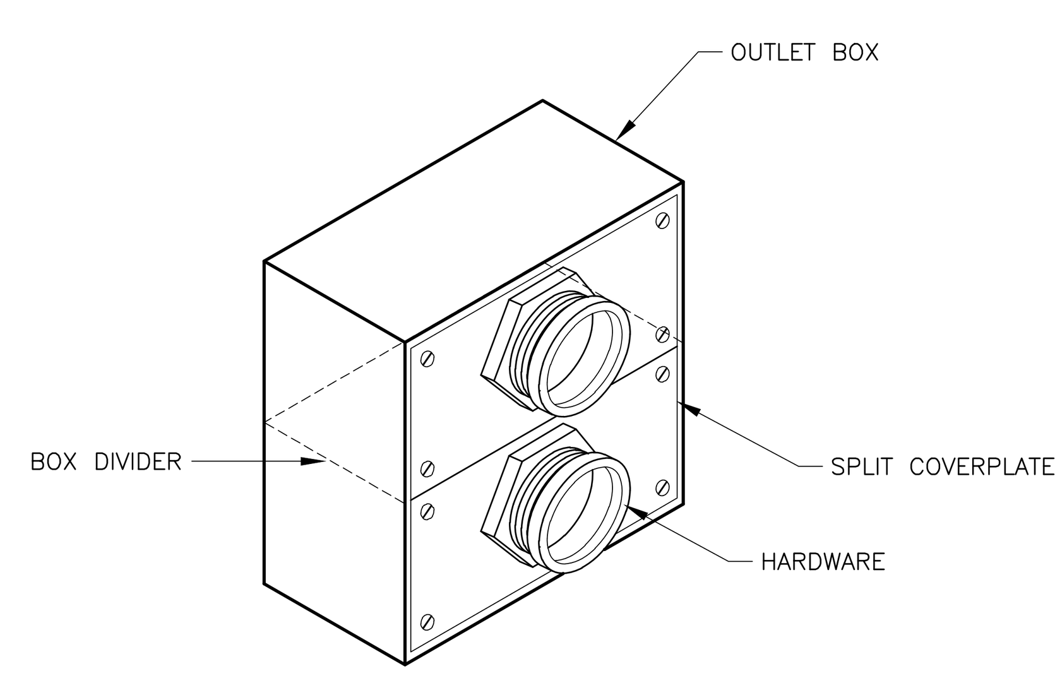
ELEC-84
REV. DATE: 17.Jun.16



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
BOX WITH DIVIDER AND SPLIT COVERPLATE (TYPICAL)

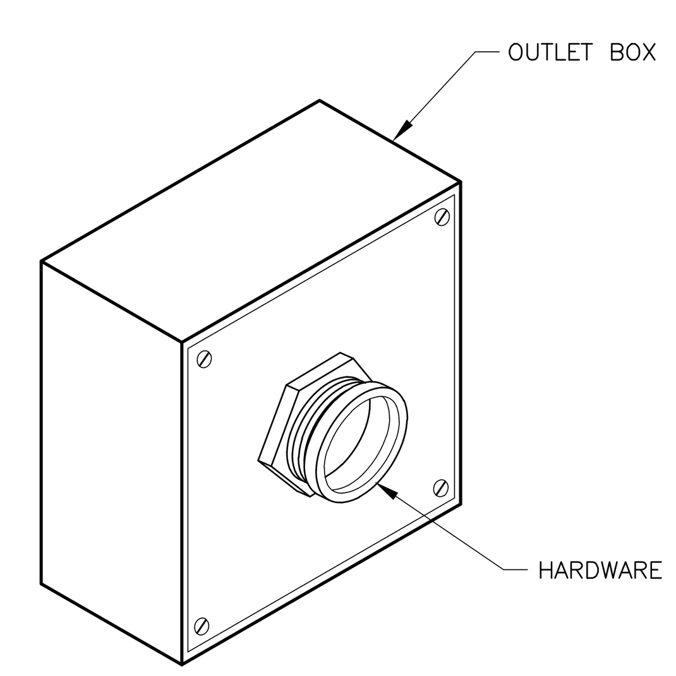
ELEC-79
REV. DATE: 04/06/04



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
BOX WITH COVERPLATE (TYPICAL)

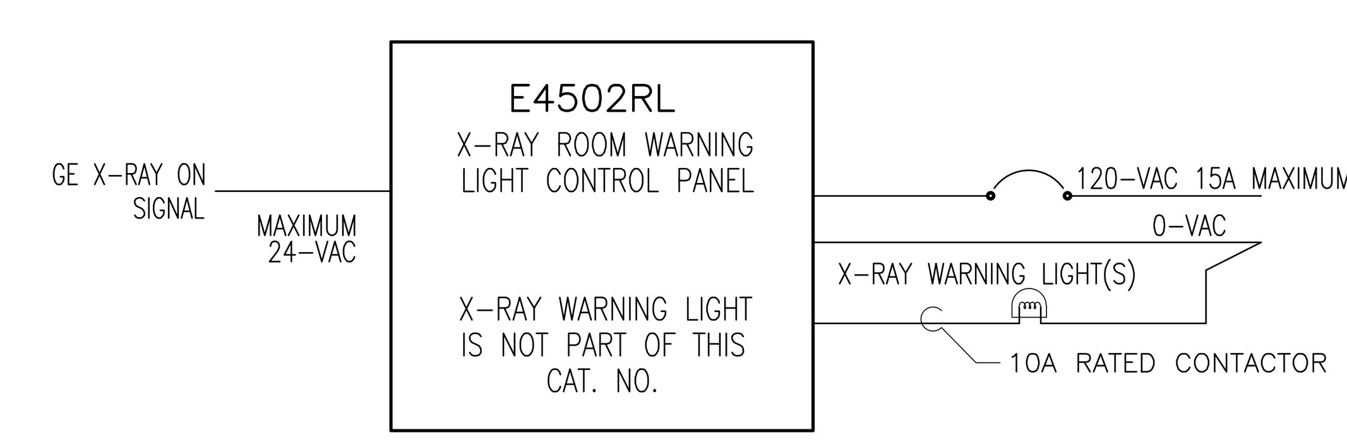
ELEC-8
REV. DATE: 09/30/94



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
WARNING LIGHT DIAGRAM

ELEC-72
REV. DATE: 05/14/09



UNLESS SPECIFIED ON SHEET A1 AS BEING INCLUDED ON EQUIPMENT ORDER,
ALL ITEMS ILLUSTRATED ARE TO BE FURNISHED AND INSTALLED BY CUSTOMER'S CONTRACTOR

DRAWING NOT TO SCALE

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

RQ – 163687 PIM R5

GE Healthcare
Healthcare Project Implementation – Design Center
Milwaukee, Wisconsin

SHEET TITLE: ELECTRICAL DETAILS
MODALITY TYPE: OPTIMA XR646

THIS PLAN IS SUBMITTED TO SUGGEST LOCATION OF GE HEALTHCARE EQUIPMENT AND ASSOCIATED APPARATUS, ELECTRICAL WIRING DETAILS AND ROOM ARRANGEMENTS. IN PREPARING THIS PLAN, EVERY EFFORT HAS BEEN MADE TO CONFORM DETAILS TO ACTUAL EQUIPMENT EXPECTED TO BE INSTALLED. IT IS NOT TO BE USED FOR ACTUAL CONSTRUCTION PURPOSES, HOWEVER, AND THE COMPANY CANNOT ACCEPT RESPONSIBILITY FOR ANY DAMAGES RESULTING THEREFROM.

PROJECT TITLE: 1–150f TYPICAL FINAL

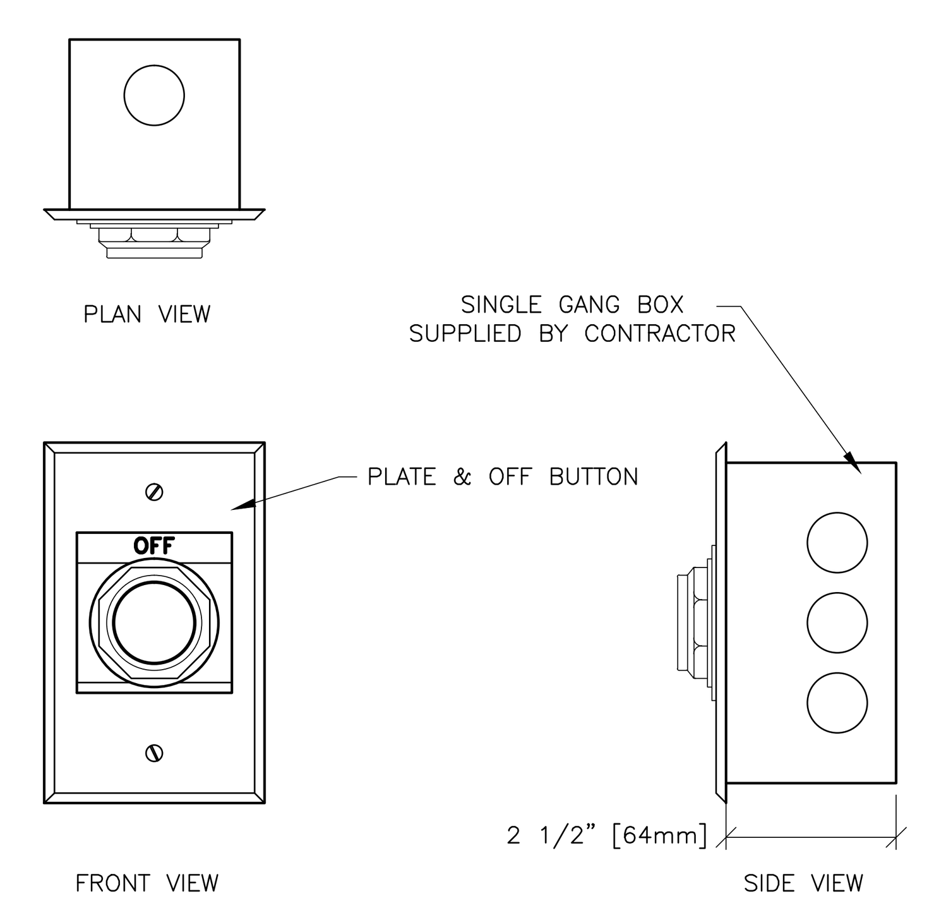
PROJECT	REVISION
1–150f	03

DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

REVISION HISTORY:

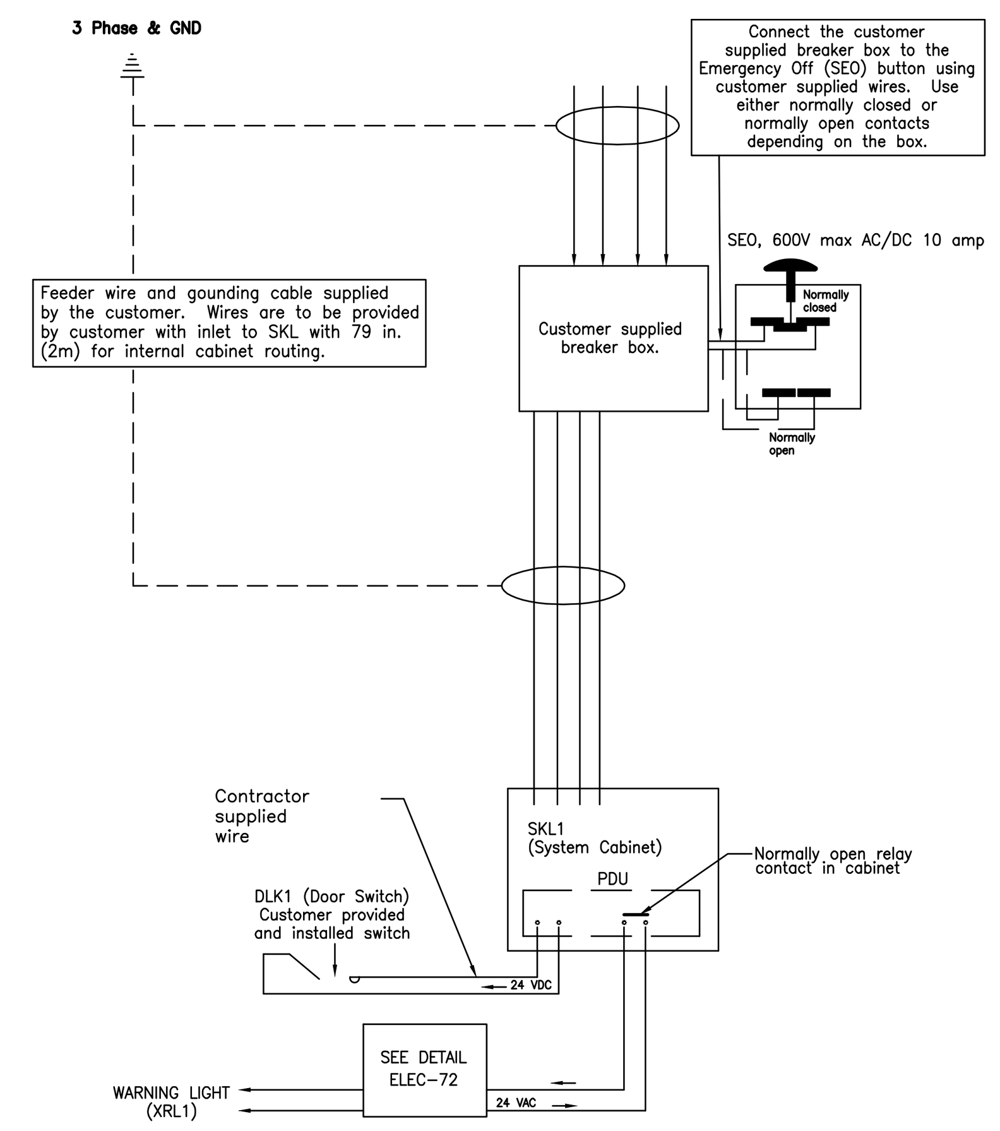
SHEET
E3

ELECTRICAL DETAIL
EMERGENCY OFF BUTTON
ELEC-16
REV. DATE: 05/14/09



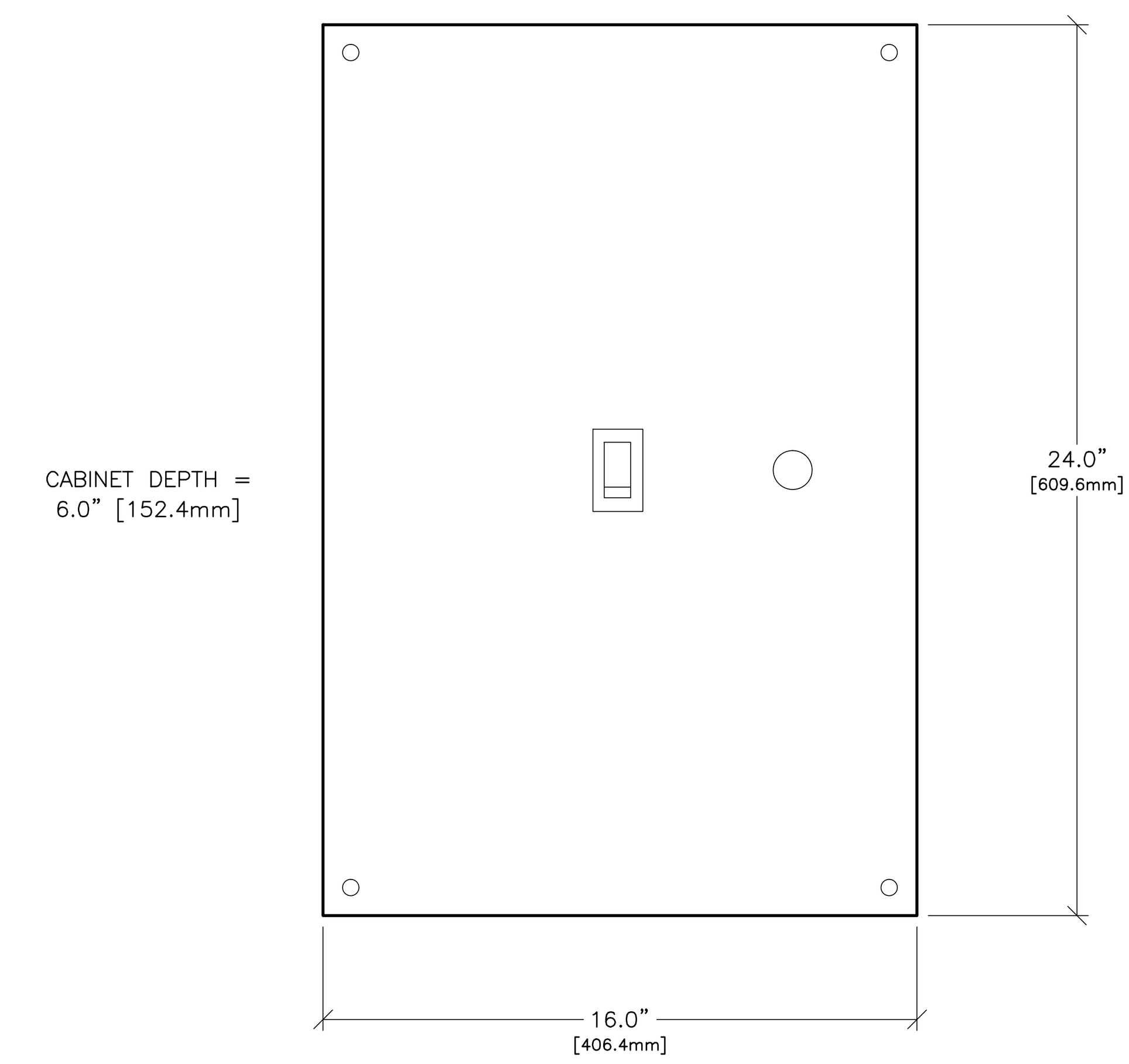
DETAIL NOT TO SCALE

ELECTRICAL DETAIL
ROOM POWER SUPPLY
ELEC-167
REV. DATE: 04-08-10



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
X-RAY MAIN DISCONNECT PANEL
ELEC-15
REV. DATE: 09.Mar.15



DETAIL NOT TO SCALE

GE Healthcare
Healthcare Project Implementation – Design Center
Milwaukee, Wisconsin

SHEET TITLE: ELECTRICAL DETAILS
MODALITY TYPE: OPTIMA XR646

PROJECT TITLE: 1-150f TYPICAL FINAL

PROJECT	REVISION
1-150f	03

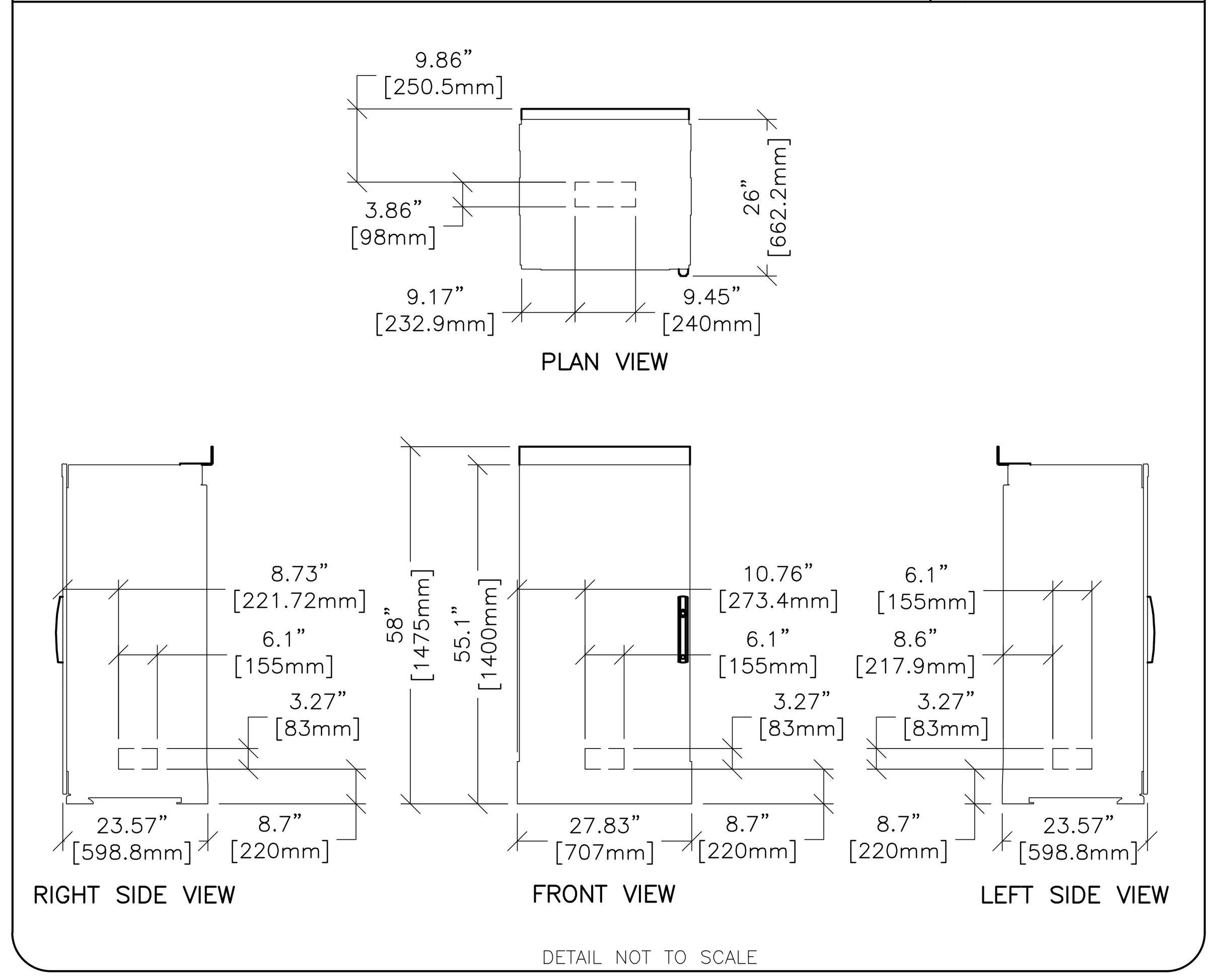
DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

REVISION HISTORY:

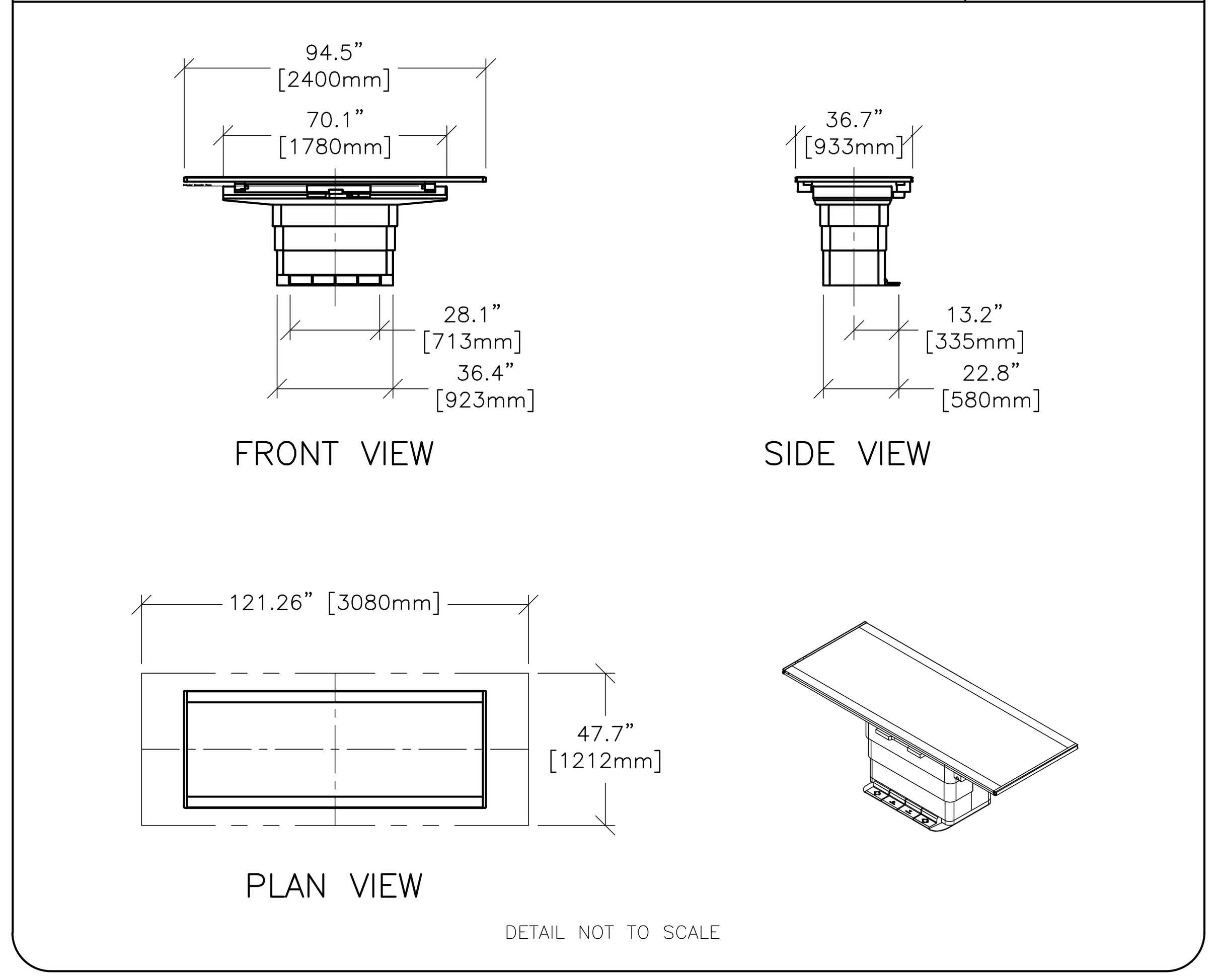
RQ – 163687 PIM R5

SHEET E4

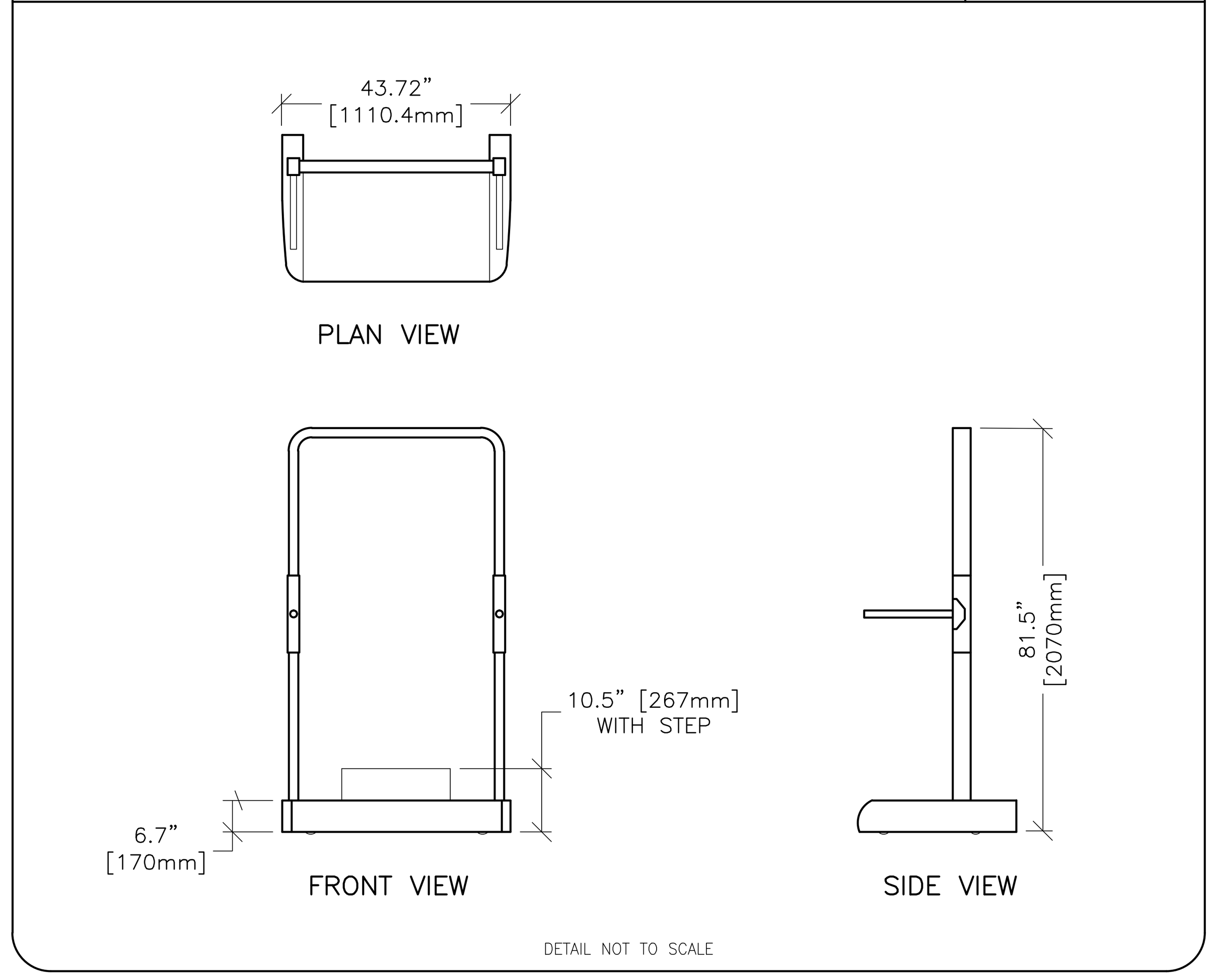
EQUIPMENT DETAIL — SYSTEM CABINET — B8125
REV. DATE: 05.Dec.11



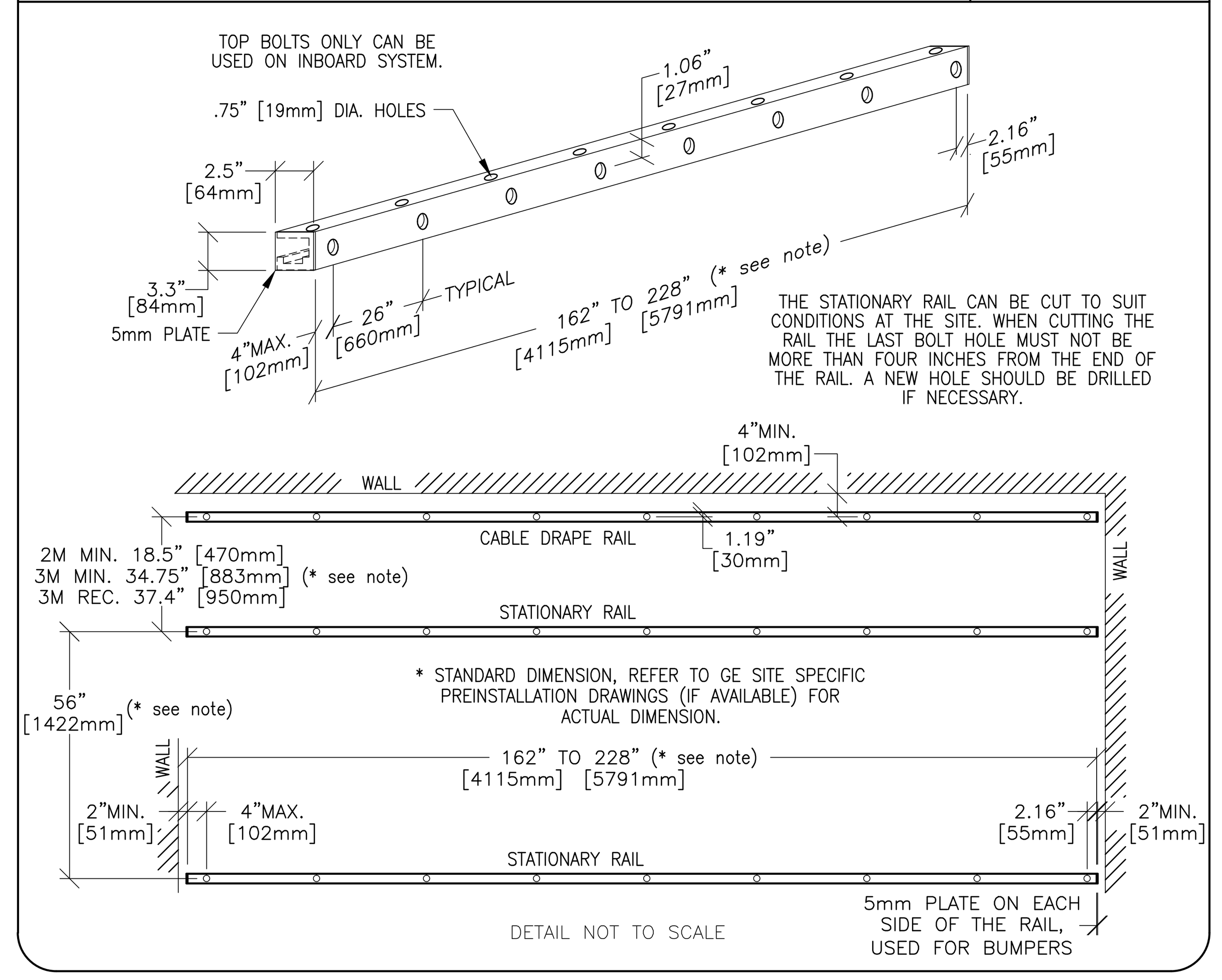
EQUIPMENT DETAIL — DIGITAL ELEVATING RADIOGRAPHIC TABLE — B0557V
REV. DATE: 28.Oct.14



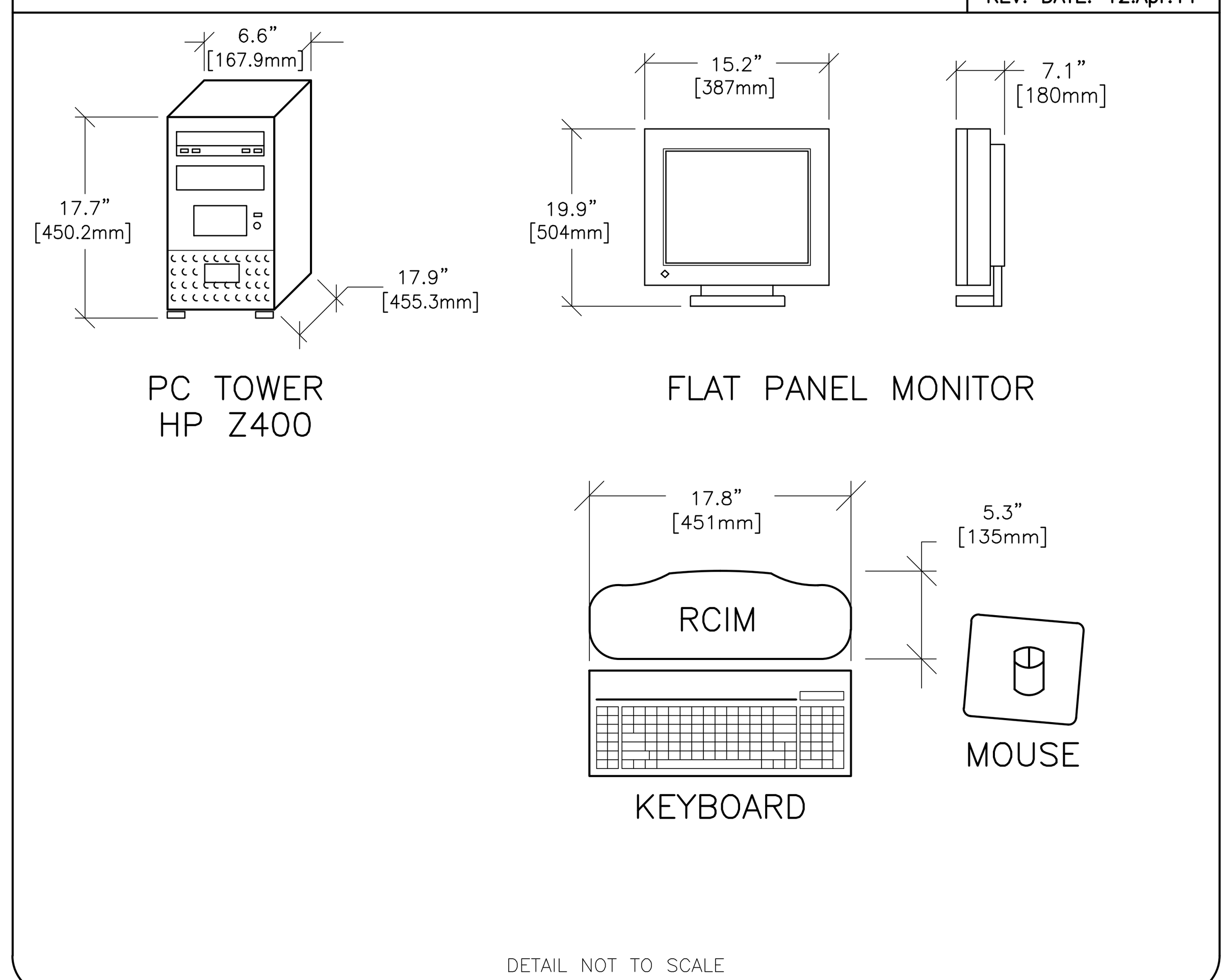
EQUIPMENT DETAIL — XR656 G2(PLUS)/XR646 IMAGE PASTE BARRIER — B05-57Y
REV. DATE: 29.JAN.15



EQUIPMENT DETAIL — XT RADIOGRAPHIC SUSPENSION, INBOARD MOUNTING — B2020
REV. DATE: 18.Nov.14



EQUIPMENT DETAIL — OPERATORS CONSOLE — CG10CB
REV. DATE: 12.Apr.11



EQUIPMENT DETAIL — EQUIPMENT SHIPPING DETAIL — B6566E
REV. DATE: 03.Nov.14

SHIPPING DIMENSIONS AND WEIGHTS – DOMESTIC SHIPMENTS

LENGTH IN [MM]	WIDTH IN [MM]	HEIGHT IN [MM]	lbs [kg]	
SHIPPING DIMENSIONS (APPROX) – 4 METER RAIL, SET OF TWO				
173.23 [4400]	2.46 [62.5]	3.2 [84.3]	106 [48]	BOX
SHIPPING DIMENSIONS (APPROX) – 12 METER RAIL, SET OF TWO (3 X 4M RAIL)				
173.23 [4400]	2.46 [62.5]	9.96 [253]	318 [144]	BOX
SHIPPING DIMENSIONS (APPROX) – 2 METER BRIDGE WITH OTS				
87 [2210]	29 [737]	7 [178]	701.1 [318]	BOX/CRATE/SKID
SHIPPING DIMENSIONS (APPROX) – 3 METER BRIDGE WITH OTS				
122 [3099]	29 [737]	7 [178]	726.9 [329.7]	BOX
SHIPPING DIMENSIONS (APPROX) – CABLE DRAPE RAIL AND SUPPORT				
32 [813]	23 [584]	9 [229]	182 [82.5]	BOX/SKID
SHIPPING DIMENSIONS (APPROX) – SYSTEM CABINET				
35.8 [910]	30.7 [780]	65 [1650]	705 [320]	BOX
SHIPPING DIMENSIONS (APPROX) – SYSTEM CABINET IN TRANSIT				
34.65 [880]	30 [760]	65.4 [1660]	NA	SKID
SHIPPING DIMENSIONS (APPROX) – SYSTEM CABINET HARDWARE				
27.8 [707]	26 [662]	58 [1475]	672.4 [305]	BOX/SKID
SHIPPING DIMENSIONS (APPROX) – WALL STAND				
96 [2440]	37 [940]	50 [1270]	1023 [464]	CRATE/SKID
SHIPPING DIMENSIONS (APPROX) – EXTENDED WALL STAND				
96 [2440]	37 [940]	65 [1651]	1087 [493]	CRATE/SKID

EQUIPMENT DETAIL — EQUIPMENT SHIPPING DETAIL — B6566F
REV. DATE: 03.Nov.14

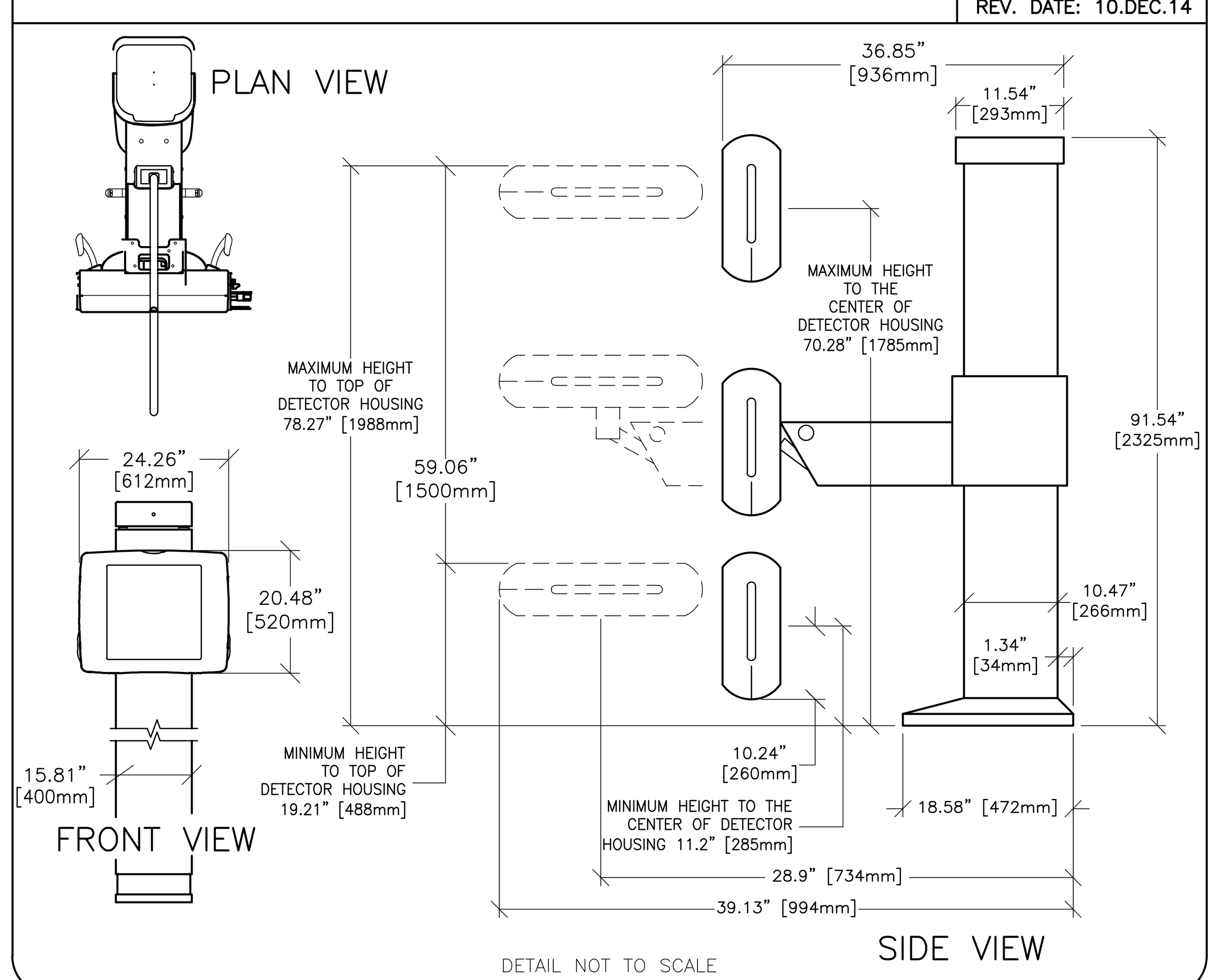
SHIPPING DIMENSIONS AND WEIGHTS – DOMESTIC SHIPMENTS

LENGTH IN [MM]	WIDTH IN [MM]	HEIGHT IN [MM]	lbs [kg]	
SHIPPING DIMENSIONS (APPROX) – DETECTOR ASSEMBLY				
41 [1042]	47 [1194]	29 [737]	194 [88]	CRATE/SKID
SHIPPING DIMENSIONS (APPROX) – TABLE ASSEMBLY				
95 [2400]	44 [1100]	51 [1300]	882 [400]	BOX/SKID
SHIPPING DIMENSIONS (APPROX) – TABLE ASSEMBLY IN TRANSIT				
95 [2400]	44 [1100]	24.8 [630]	NA	DOLLY
SHIPPING DIMENSIONS (APPROX) – STRETCHER NON–ELEVATING				
91 [2312]	41 [1042]	37 [940]	360 [164]	BOX/SKID
SHIPPING DIMENSIONS (APPROX) – STRETCHER CARBON FIBER NON–ELEVATING				
90.5 [2300]	30 [770]	9 [230]	154 [70]	CRATE
SHIPPING DIMENSIONS (APPROX) – STRETCHER ELEVATING				
99 [2515]	37 [920]	32 [810]	772 [350]	CRATE/SKID
SHIPPING DIMENSIONS (APPROX) – EXAM ROOM LEAN CART				
84 [2134]	30 [762]	60 [1524]	VARIES	WHEELED CART
SHIPPING DIMENSIONS (APPROX) – CONTROL & OPTIONS LEAN CART				
51.5 [1308]	30 [762]	55 [1397]	VARIES	WHEELED CART
SHIPPING DIMENSIONS (APPROX) – DETECTOR BIN				
21.3 [540]	14.2 [360]	4.7 [120]	33 [15]	BOX
SHIPPING DIMENSIONS (APPROX) – OVERHEAD TUBE SUSPENSION (OTS)				
34 [864]	41 [1039]	53.4 [1355]	635 [288]	CRATE

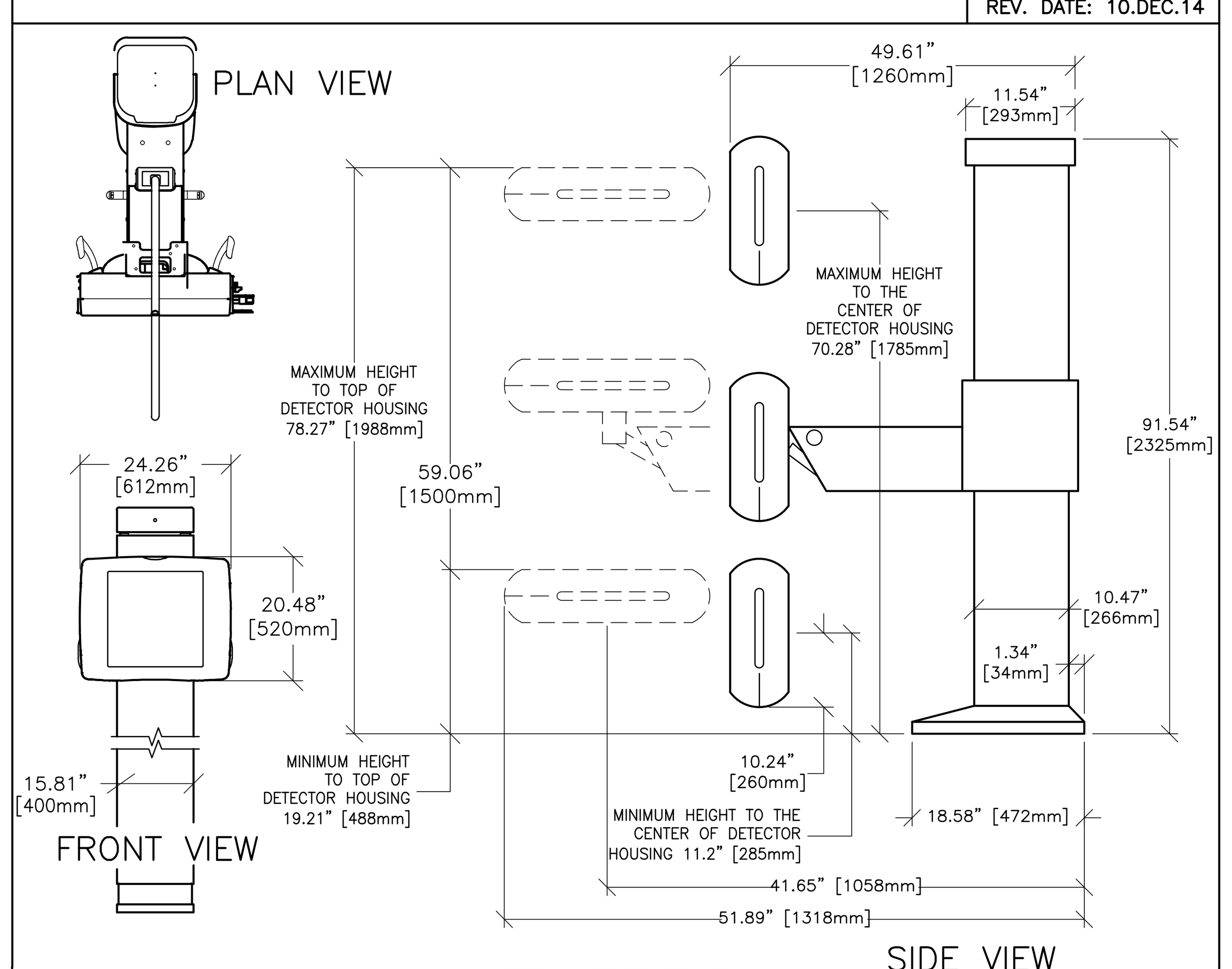
EQUIPMENT DETAIL — XR646 HEAT OUTPUTS BY COMPONENT — B8138B
REV. DATE: 03.Nov.14

PRODUCT OR COMPONENT	HEAT OUTPUT			
	STANDBY		IN–USE	
	BTU/h	Kilowatt	BTU/h	Kilowatt
Wall Stand Detector power	56	0.017	56	0.017
Wall Stand / Extended Wall Stand	79	0.023	321	0.094
Table Detector Power	56	0.017	56	0.017
Table	315	0.092	2272	0.666
OTS & Collimator	105	0.031	105	0.031
Tube Rotor	0	0	544	0.160
System Cabinet	2437	0.714	4869	1.427
Z420 PC + Monitor	601	0.176	863	0.253
TIB	6.75	0.002	68	0.020
UPS	31.61	0.009	45.45	0.013

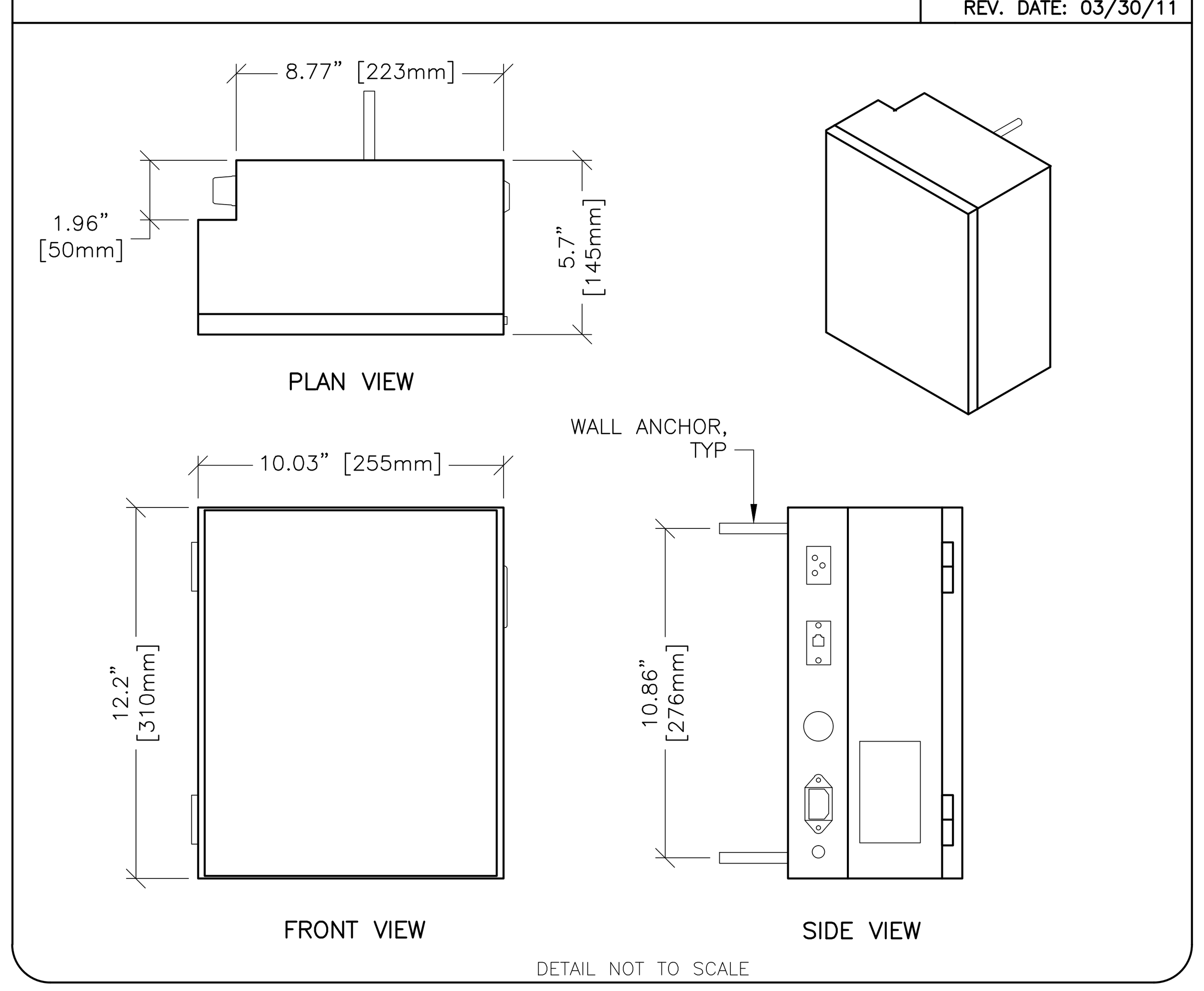
EQUIPMENT DETAIL — DIGITAL CHEST READER — B05-57F
REV. DATE: 10.DEC.14



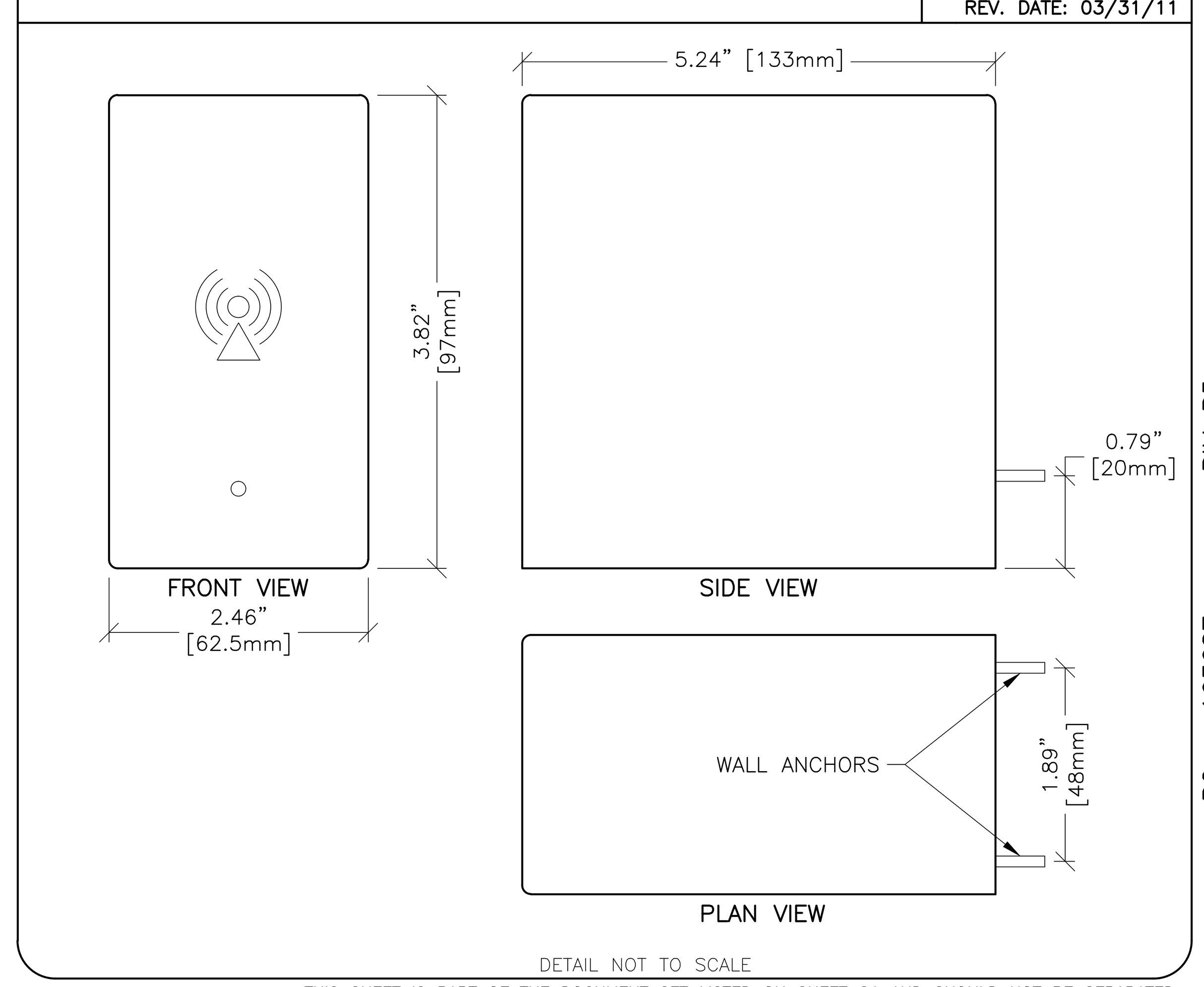
EQUIPMENT DETAIL — DIGITAL CHEST READER WITH EXTENDED RECEPTOR — B05-57Z
REV. DATE: 10.DEC.14



EQUIPMENT DETAIL — TIB — B8126
REV. DATE: 03/30/11



EQUIPMENT DETAIL — DONGLE — B8137
REV. DATE: 03/31/11



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

GE Healthcare
Healthcare Project Implementation – Design Center
Milwaukee, Wisconsin

SHEET TITLE: EQUIPMENT DETAILS
MODALITY TYPE: OPTIMA XR646

PROJECT TITLE: 1–150f TYPICAL FINAL

RQ – 163687 PIM R5

PROJECT	REVISION
1–150f	03

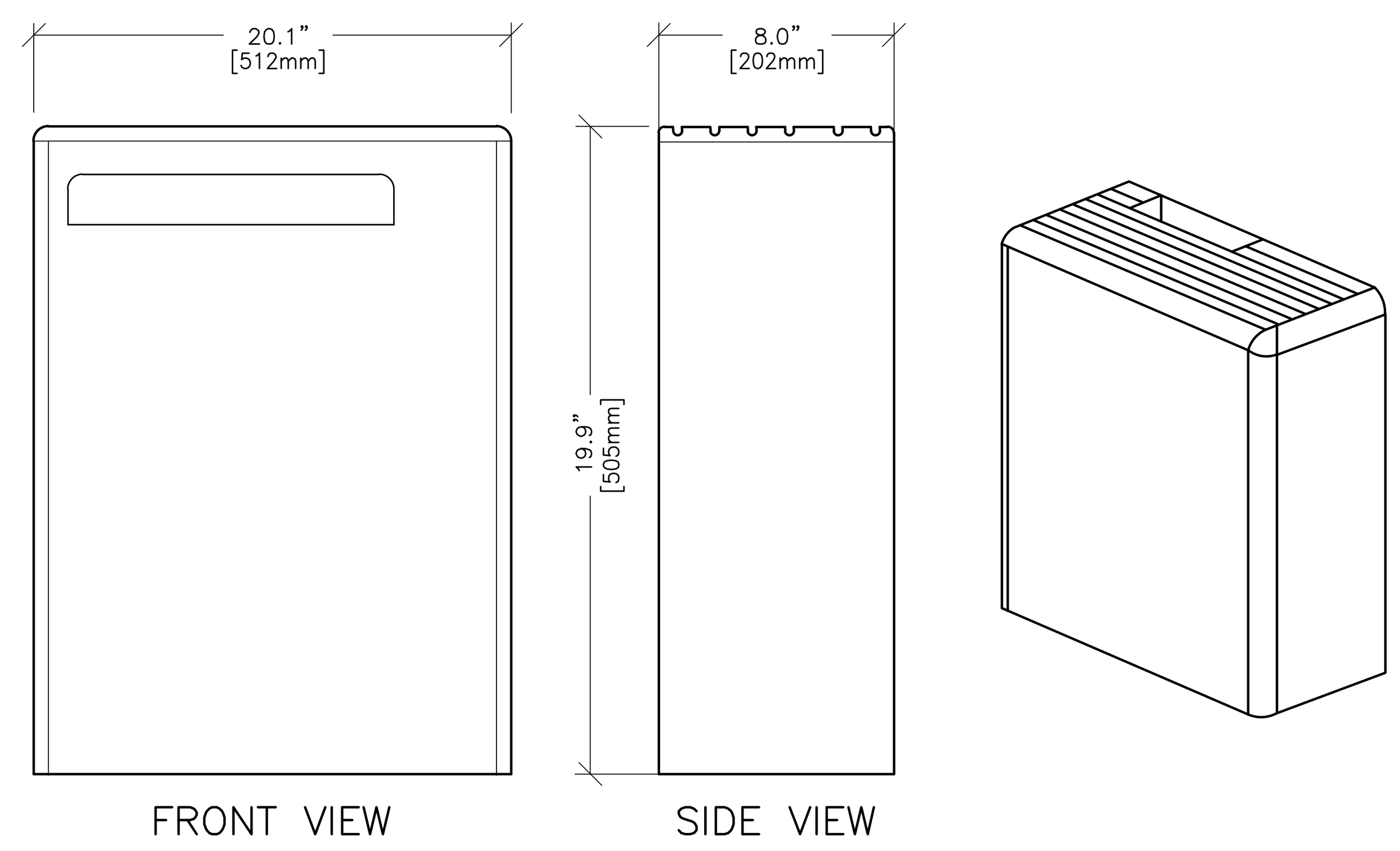
DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

REVISION HISTORY:

SHEET D1

EQUIPMENT DETAIL
GRID HOLDER

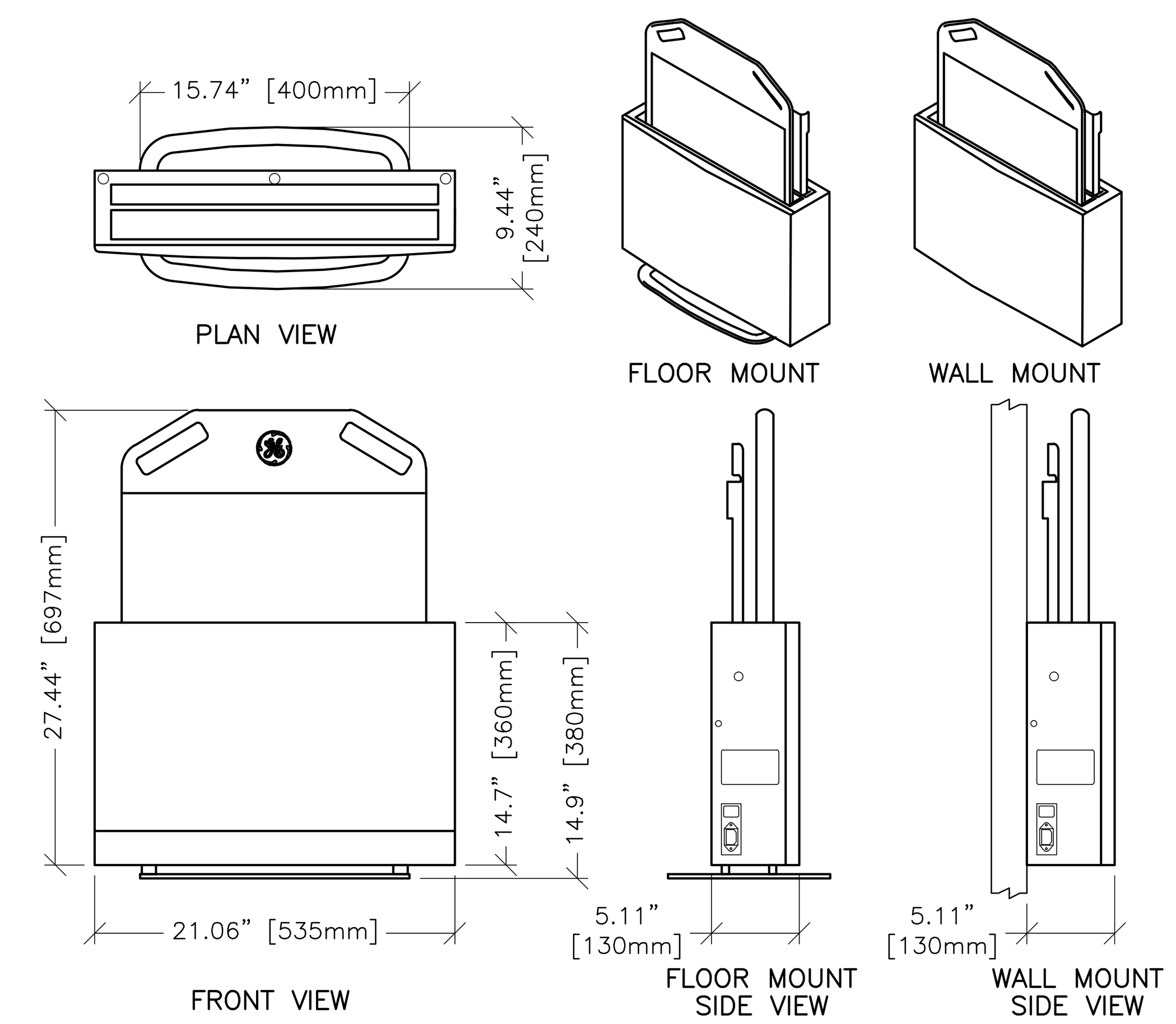
B05–57W
REV. DATE: 05/26/10



DETAIL NOT TO SCALE

EQUIPMENT DETAIL
DETECTOR BIN

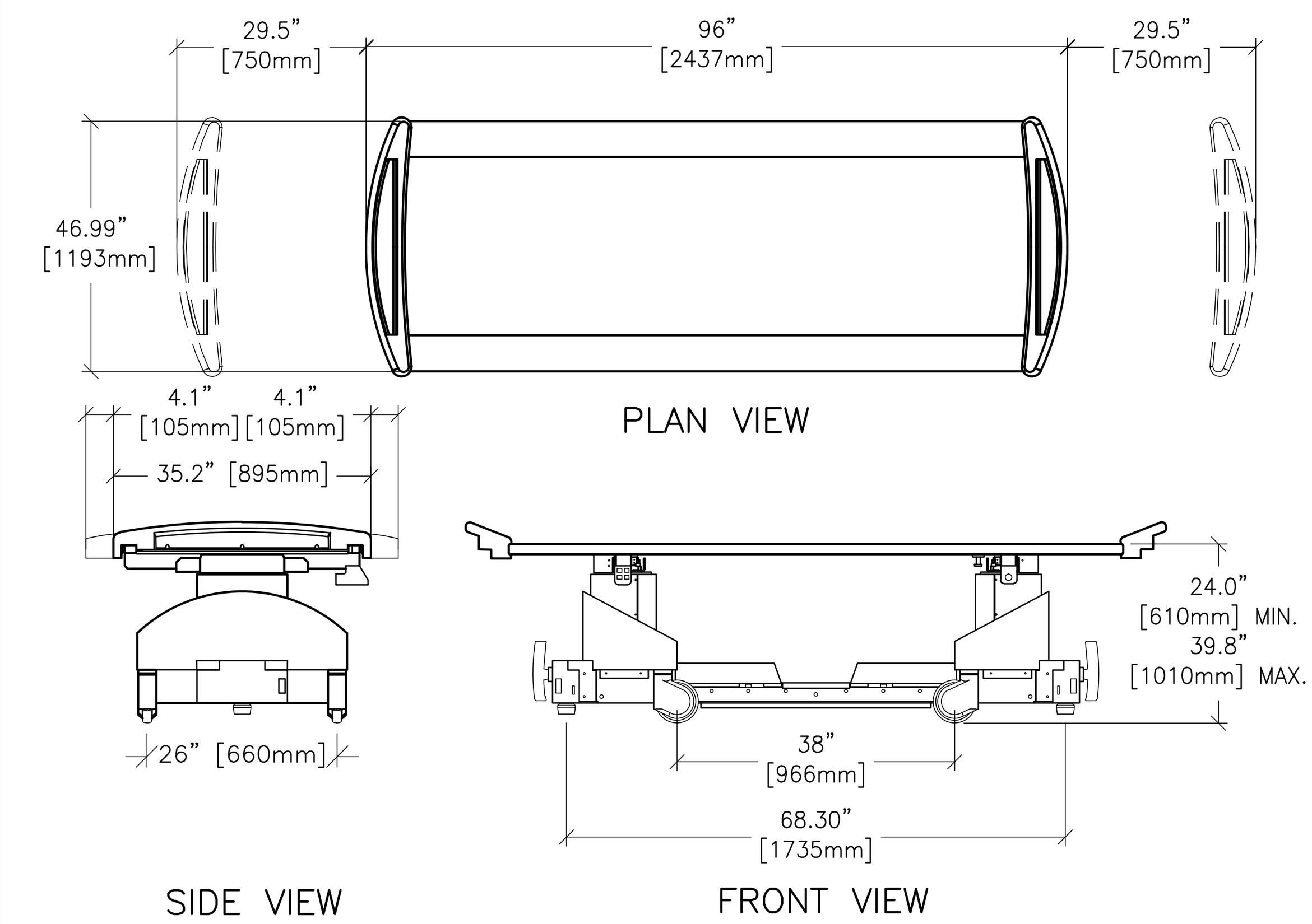
B8127
REV. DATE: 03/30/11



DETAIL NOT TO SCALE

EQUIPMENT DETAIL
SUINSA FLEXI–DT MOBILE TABLE

B0557L
REV. DATE: 17.DEC.14

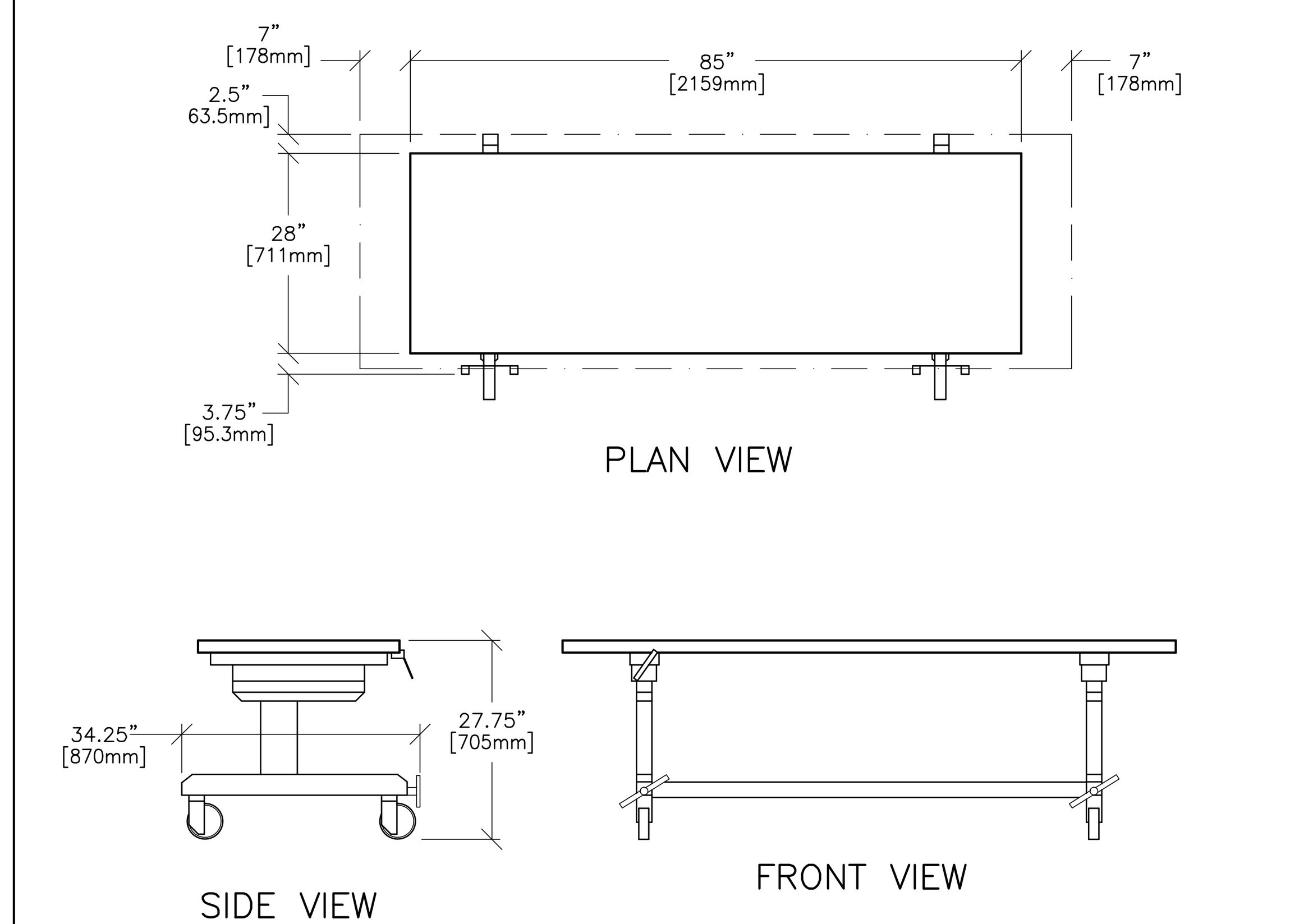


DETAIL NOT TO SCALE

EQUIPMENT DETAIL
MOBILE TABLE

B05–57K
REV. DATE: 06/07/10

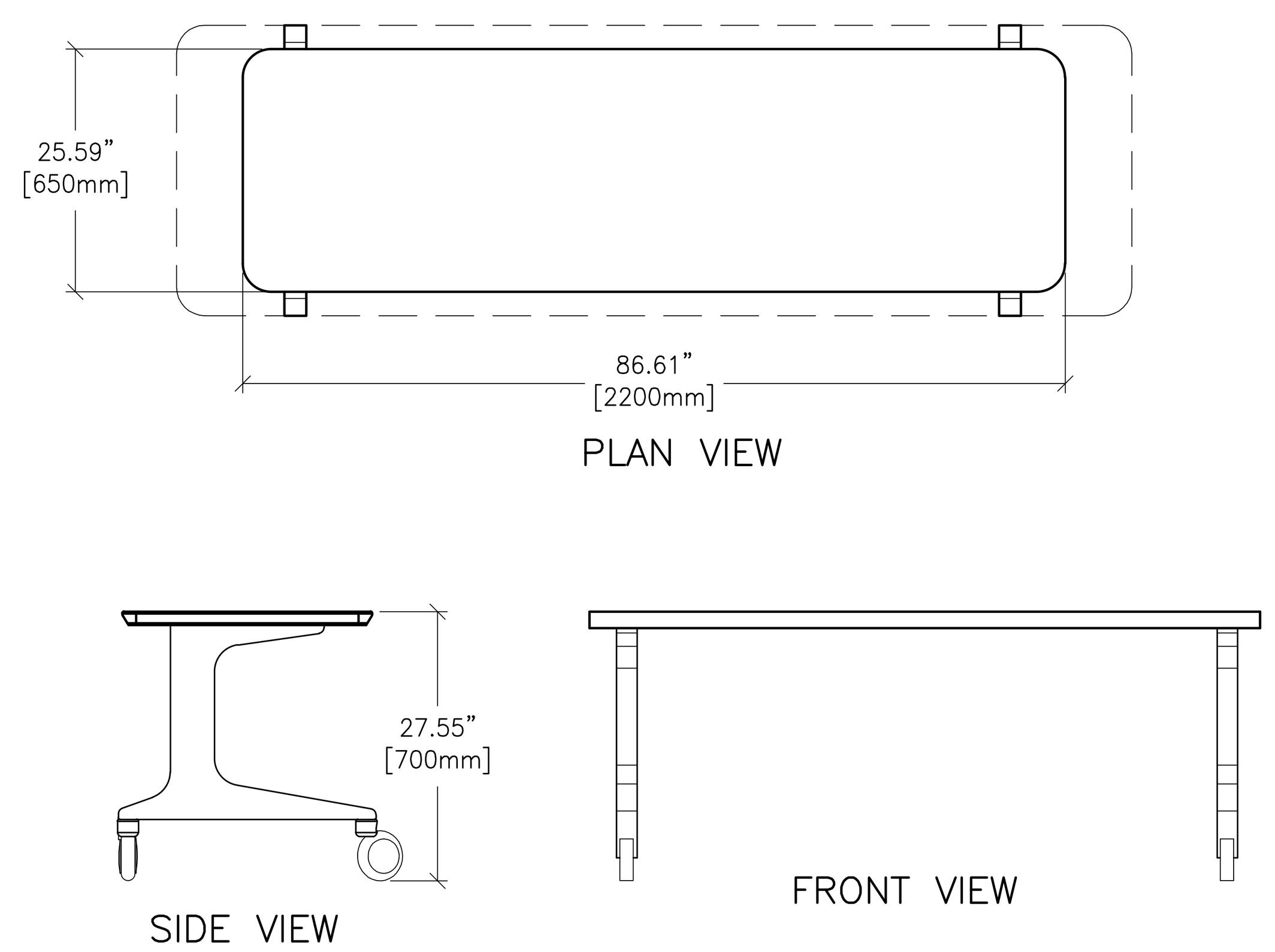
SHIPPING DIMENSIONS:
91"(2312mm)L x 41"(1042mm)W x 37"(940mm)H



DETAIL NOT TO SCALE

EQUIPMENT DETAIL
CARBON FIBER TABLE

B5000A
REV. DATE: 02/12/07



DETAIL NOT TO SCALE

RQ – 163687
PIM R5

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

GE Healthcare
Healthcare Project Implementation – Design Center
Milwaukee, Wisconsin

SHEET TITLE: EQUIPMENT DETAILS
MODALITY TYPE: OPTIMA XR646

PROJECT TITLE:
1–150f
TYPICAL FINAL

PROJECT	REVISION
1–150f	03

DATE: 09.Sep.16
DRAWN BY: JDR
CHECKED BY: REK

REVISION HISTORY:

SHEET
D2

REV	DATE	MODIFICATIONS
A	30/Jun/2021	Final drawing based on DC-304460; Original GON 4760566

01 - C1 - Cover Sheet
02 - C2 - Disclaimer - Site Readiness
03 - A1 - General Notes
04 - A2 - Equipment Layout
05 - A3 - Section Views
06 - A4 - Equipment Details & Delivery
07 - S1 - Structural Notes
08 - S2 - Structural Layout
09 - S3 - Structural Details (1)
10 - S4 - Structural Details (2)
11 - M1 - HVAC
12 - E1 - Electrical Notes
13 - E2 - Electrical Layout
14 - E3 - Electrical Elevations
15 - E4 - Details-Interconnections
16 - E5 - Power Requirements

A mandatory component of this drawing set is the GE Healthcare Pre Installation manual. Failure to reference the Pre Installation manual will result in incomplete documentation required for site design and preparation.
Pre Installation documents for GE Healthcare products can be accessed on the web at: www.gehealthcare.com/siteplanning

St Lukes Hospital of Kansas City
Kansas City, Missouri
USA

GE Healthcare

Cody Ayers
913-251-0235
Cody.ayers@ge.com

OPTIMA XR646
FINAL STUDY

Drawn by	Verified by	Concession	S.O. (GON)	PIM Manual	Rev
ENW	ENW	-	Room Move	5643854-1EN	9

Format	Scale	File Name	Date	Sheet
A3	1/4"=1'-0"	RAD-M244849-FIN-00-A.DWG	30/Jun/2021	01/16

DISCLAIMER

GENERAL SPECIFICATIONS

- GE is not responsible for the installation of developers and associated equipment, lighting, cassette trays and protective screens or derivatives not mentioned in the order.
- The final study contains recommendations for the location of GE equipment and associated devices, electrical wiring and room arrangements. When preparing the study, every effort has been made to consider every aspect of the actual equipment expected to be installed.
- The layout of the equipment offered by GE, the dimensions given for the premises, the details provided for the pre-installation work and electrical power supply are given according to the information noted during on-site study and the wishes expressed by the customer.
- The room dimensions used to create the equipment layout may originate from a previous layout and may not be accurate as they may not have been verified on site. GE cannot take any responsibility for errors due to lack of information.
- Dimensions apply to finished surfaces of the room.
- Actual configuration may differ from options presented in some typical views or tables.
- If this set of final drawings has been approved by the customer, any subsequent modification of the site must be subject to further investigation by GE about the feasibility of installing the equipment. Any reservations must be noted.
- The equipment layout indicates the placement and interconnection of the indicated equipment components. There may be local requirements that could impact the placement of these components. It remains the customer's responsibility to ensure that the site and final equipment placement complies with all applicable local requirements.
- All work required to install GE equipment must be carried out in compliance with the building regulations and the safety standards of legal force in the country concerned.
- These drawings are not to be used for actual construction purposes. The company cannot take responsibility for any damage resulting therefrom.

CUSTOMER RESPONSIBILITIES

- It is the responsibility of the customer to prepare the site in accordance with the specifications stated in the final study. A detailed site readiness checklist is provided by GE. It is the responsibility of the customer to ensure all requirements are fulfilled and that the site conforms to all specifications defined in the checklist and final study. The GE Project Manager of Installation (PMI) will work in cooperation with the customer to follow up and ensure that actions in the checklist are complete, and if necessary, will aid in the rescheduling of the delivery and installation date.
- Prior to installation, a structrual engineer of record must ensure that the floor and ceiling is designed in such a way that the loads of the installed system can be securely borne and transferred. The layout of additional structural elements, dimensioning and the selection of appropriate installation methods are the sole responsibility of the structural engineer. Execution of load bearing structures supporting equipment on the ceiling, floor or walls are the customer's responsibility.

RADIO-PROTECTION

- Suitable radiological protection must be determined by a qualified radiological physicist in conformation with local regulations. GE does not take responsibility for the specification or provision of radio-protection.

THE UNDERSIGNED, HEREBY CERTIFIES THAT I HAVE READ AND APPROVED THE PLANS IN THIS DOCUMENT.		
DATE	**NAME**	**SIGNATURE**

GLOBAL SITE READINESS CHECKLIST (DI)

DOC1809666 Rev. 7

Site Ready Checks at Installation
EHS Site Requirements
Overall access route to the scan room free from obstruction / high hazards.
Enough space to store tools, equipment, parts, install waste and the general area free from obstruction and trip hazards.
Enough necessary facilities for the GE employees available.
No 3rd parties working in the area that may affect the safety of the installation activity.
Area free from any chemical, gas, dust, welding fume exposure and has painting been completed and dry.
All emergency routes identified, signed and clear from obstruction.
Accessible single source lockable panel that LOTO can be applied to for GE equipment installation (MDP and/or PDU).
There are no other conditions or hazards that you have observed or have been made aware of by the customer or contractors on site.
Required for Mechanical Install start
Room dimensions, including ceiling height, for all Exam, Equipment/Technical & Control rooms meets GE specifications.
Ceiling support structure, if indicated on the GE drawing, is in the correct location and at the correct height according to the Original Equipment Manufacturer specifications.
Levelness and spacing has been measured, and is ready for the installation of any GE supplied components.
Overhead support Structure (unistrut) has been confirmed with customer/contractor to meet required GE provided criteria.
Finished ceiling is installed. If applicable ceiling tiles installed per PMI discretion.
Floor levelness/flatness is measured and within tolerance, and there are no visible defects per GEHC specifications.
Entry door threshold meets PIM requirement.
Rooms that will contain equipment, including staging areas if applicable, are construction debris free. Precautions must be taken to prevent debris from entering rooms containing equipment.
Cable ways (floor/wall/ceiling/Access Flooring) are available for installation of GE cables are of correct length and diameter.
Cable ways routes per GE Final drawings and cable access openings areas installed at a time determined by GEHC PM. Surface floor duct can be installed at time of system installation.
Adequate room illumination installed and working.
Customer supplied countertops where GE equipment will be installed are in place.
Required for Calibration Start
HVAC systems Installed, and the site meets minimum environmental operational system requirements.
System power & grounding (PDB/MDP) is available as per GE specifications.
System power & grounding (PDB/MDP) is installed at point of final connection and ready to use. Lock Out Tag Out is available.
PMI to confirm all feeder wires and breaker are size appropriately. EPO installed if needed.
PMI to confirm with electrician all power and signal cables are well terminated ensuring there are no loose connections.
Network outlets installed.
Computer network available and working.
Lead doors and windows complete or scheduled to be installed. If applicable, radiation protection (shielding) finished & radioprotection regulatory approval for installation obtained.

Note: The details shown here are only an extract from DOC1809666. For the complete document please contact your PMI.

CUSTOMER SITE READINESS REQUIREMENTS

- Any deviation from these drawings must be communicated in writing to and reviewed by your local GE healthcare installation project manager prior to making changes.
- Make arrangements for any rigging, special handling, or facility modifications that must be made to deliver the equipment to the installation site. If desired, your local GE healthcare installation project manager can supply a reference list of rigging contractors.
- New construction requires the following;
  1. Secure area for equipment,
  2. Power for drills and other test equipment,
  3. Capability for image analysis,
  4. Restrooms.
- Provide for refuse removal and disposal (e.g. crates, cartons, packing)
- It is the customer's responsibility to contract a vibration consultant/engineer to implement site design modifications to meet the GE vibration specification. Refer to the system preinstallation manual for the vibration specification.

ENVIRONMENTAL SPECIFICATIONS

MAGNETIC INTERFERENCE

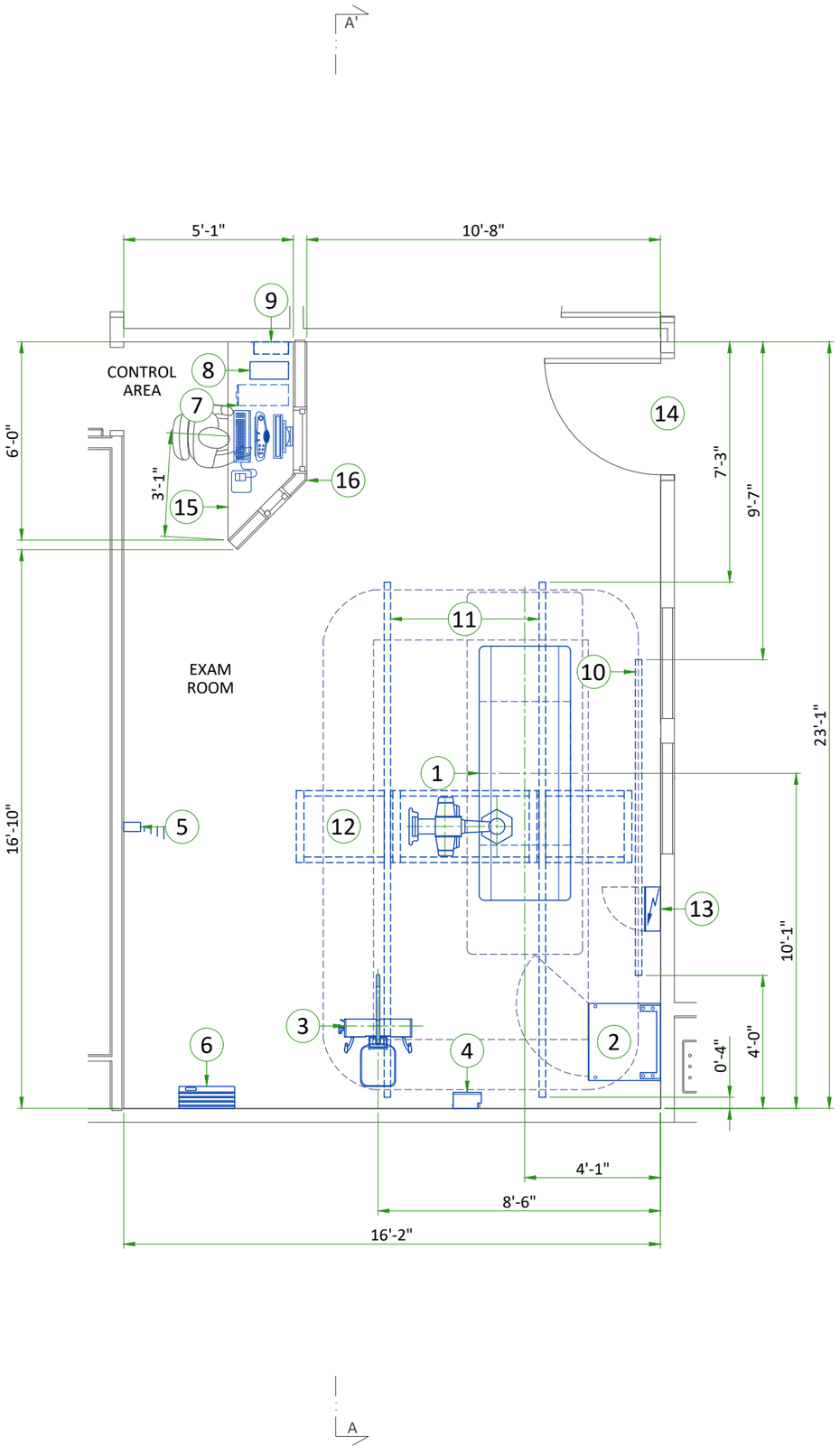
In order to avoid interference on the system, static field limits from the surrounding environment must be less than <1 Gauss around the unit.

LIGHT REQUIREMENTS

For the electronic ballast of fluorescent lamp in exam room, the operating frequency should be above 42 kHz.

ACOUSTIC OUTPUT

Measured 1 m [3.28 ft] from any point in system.
In-use: less than 55 dBA
Stand-by: less than 55 dBA



LEGEND

A	GE Supplied	D	Available from GE
B	GE Supplied/contractor installed	E	Equipment existing in room
C	Customer/contractor supplied and installed	*	Item to be reinstalled from another site

BY	ITEM	DESCRIPTION	MAX HEAT OUTPUT (btu)	WEIGHT (lbs)
*A	1	Standard Table	2272	680
*A	2	Systems Cabinet	4869	705
*A	3	Manual Wall Stand	321	530
*A	4	Tether Interface Box	68	15.4
*A	5	Dongle	-	1.76
*A	6	Grid Holder	-	30.5
*A	7	Operators Console	863	43.2
*A	8	Partial UPS	350	26
*A	9	Wall Box	-	-
*A	10	Cable Drape Rail	-	65
*A	11	Longitudinal Stationary Rail for OTS	-	138
*A	12	OTS with 3m Bridge	1500	900
*B	13	Main Disconnect Panel	-	-
C	14	Minimum opening for equipment delivery is 36 in. w x 66.9 in. h, contingent on a 96 in. corridor width (Note: Image Paste option requires an 80.9 in H opening)		
C	15	Counter top for equipment- provide grommeted openings as required to route cables		
C	16	Control wall to ceiling with lead glass viewing window		

The following shots are NOT available in this layout

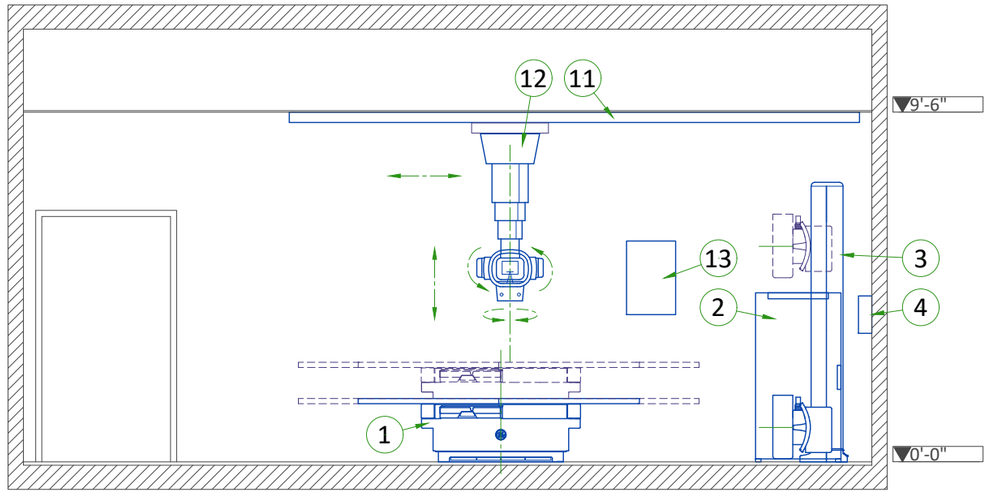
Rear to front cross table shot

Exam room height	
Finished floor to slab height	-
Recommended finished ceiling height	9'-6"

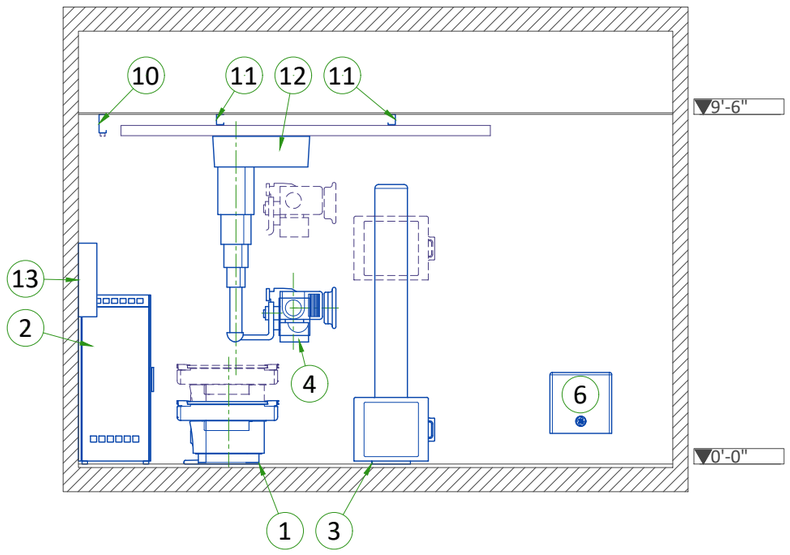
Room Move Note:
Equipment shown on drawing is being relocated/ reinstalled from another location.
All equipment must be verified for accuracy by GE PMI or Field Engineer.

For Accessory Sales: (866) 281-7545 Options 1, 2, 1, 2 or mail to: gehcaccessorysales@ge.com

SIDE VIEW A-A'



FRONT VIEW B-B'



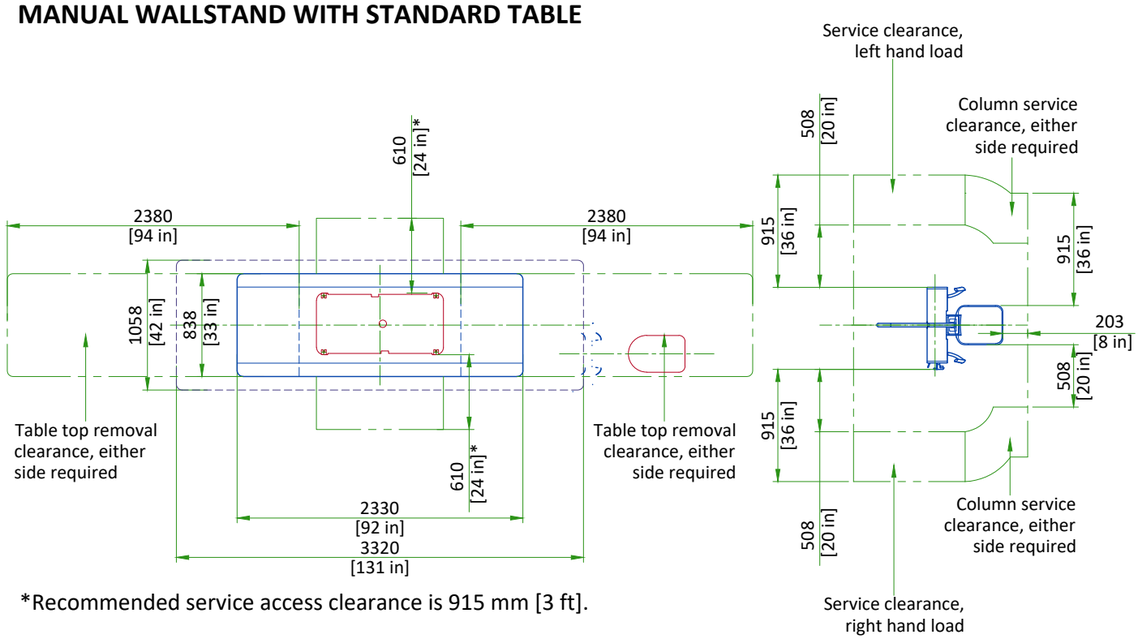
EXAM ROOM CEILING HEIGHTS

RECOMMENDED AND MINIMUM ROOM HEIGHTS			
CONFIGURATION	**SPECIFICATIONS**	**CEILING HEIGHT**	
2M or 3M Bridge	Recommended	2986 mm	117.6 in
2M or 3M Bridge	Minimum	2686 mm	105.75 in
2M or 3M Bridge with Extended Wallstand at Foot Position	Minimum	2750 mm	108.27 in

Note : measured from the floor to the top of the longitudinal rails

CLEARANCE AREAS

MANUAL WALLSTAND WITH STANDARD TABLE



*Recommended service access clearance is 915 mm [3 ft].

SCALE 1:50

DELIVERY

THE CUSTOMER/CONTRACTOR SHOULD:

- Provide an area adjacent to the installation site for delivery and unloading of the GE equipment.
- Ensure that the dimensions of all doors, corridors, ceiling heights are sufficient to accommodate the movement of GE equipment from the delivery area into the definitive installation room.
- Ensure that access routes for equipment will accommodate the weights of the equipment and any transportation, lifting and rigging equipment.
- Ensure that all necessary arrangements for stopping and unloading on public or private property not belonging to the customer have been made.

DIMENSIONS OF DELIVERY IN TRANSIT

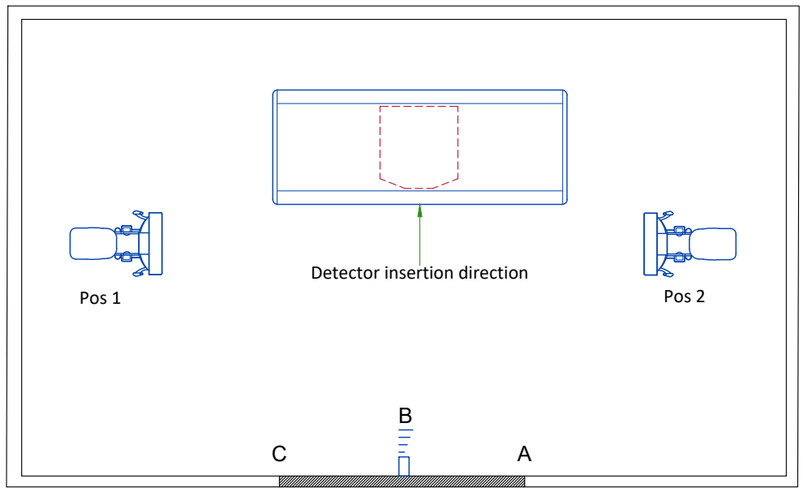
EQUIPMENT	DIMENSIONS			WEIGHT	
MANUAL WALLSTAND	LENGTH	1999 mm	78.7 in	240 kg + dolly	530 lbs + dolly
	WIDTH	911 mm	35.9 in		
	HEIGHT	1840 mm	72.4 in		
STANDARD TABLE	LENGTH	1319 mm	51.9 in	267.5 kg + dolly	589.7 lbs + dolly
	WIDTH	833 mm	32.8 in		
	HEIGHT	570 mm	24.5 in		

Pay attention to the lengths of the rails! They can also be 5.79 m [19 ft] and have a shipping dimension of 5.92 m x 178 mm x 76 mm [16'-10" x 7" x 3"].

DONGLE POSITIONING

DONGLE DEFAULT LOCATION AND ADJUSTING RANGE:

- Dongle shall be positioned at the wall of detector insertion direction.
- B is the best position which is in the middle of the wall.
- The height requirement of dongle is 30 cm [11.8 in] lower than the ceiling.
- Position "A" to "C" (around ±1 m [±39.4 in]) are acceptable locations for dongle.
- There shall be no obstructions in the path between dongle and detector applications.



STRUCTURAL NOTES

- Methods of support for the steelwork that will permit attachment to structural steel or through bolts in concrete construction should be favored. Do not use concrete or masonry anchors in direct tension.
- All units that are wall mounted or wall supported are to be provided with supports where necessary. Wall supports are to be supplied and installed by the customer or his contractors. See plan for suggested locations.
- Control walls shall be constructed to minimum 2130mm (7'-0") high.
- Dimensions are to finished surfaces of room.
- Customers contractor must provide all penetrations in post tension floors.
- Customers contractor must provide and install any non-standard anchoring. Documents for standard anchoring methods are included with GE equipment drawings for geographic areas that require such documentation.
- Customers contractor must provide and install hardware for "through the floor" anchoring and/or any bracing under access floors. This contractor must also provide floor drilling that cannot be completed because of an obstruction encountered while drilling by the GE installer such as rebar etc.
- It is the customer's responsibility to perform any floor or wall penetrations that may be required. The customer is also responsible for ensuring that no subsurface utilities (e.g., electrical or any other form of wiring, conduits, piping, duct work or structural supports (i.e. post tension cables or rebar)) will interfere or come in contact with subsurface penetration operations (e.g. drilling and installation of anchors/screws) performed during the installation process. To ensure worker safety, GE installers will perform surface penetration operations only after the customer's validation and completion of the "GE surface penetration permit".
- Different anchor types are used to install the components of the system. Refer to Structural Requirements Section(s) of the Pre-Installation Manual for each anchor requirement.
- Refer to the Structural Requirements Section for the required minimum embedment.
- The ground surface must be flat and leveled, maximum tolerance for leveling is ±1.5 mm per 1 m (0.2 in per 10 feet). A grout pad provided by the contractor is required to meet this specification. The maximum pad thickness is 6.3 mm (0.25 in).

CEILING REQUIREMENTS

To allow installation of the stationary rail cross-members, clearance is required between the ends of the stationary rails and the walls.

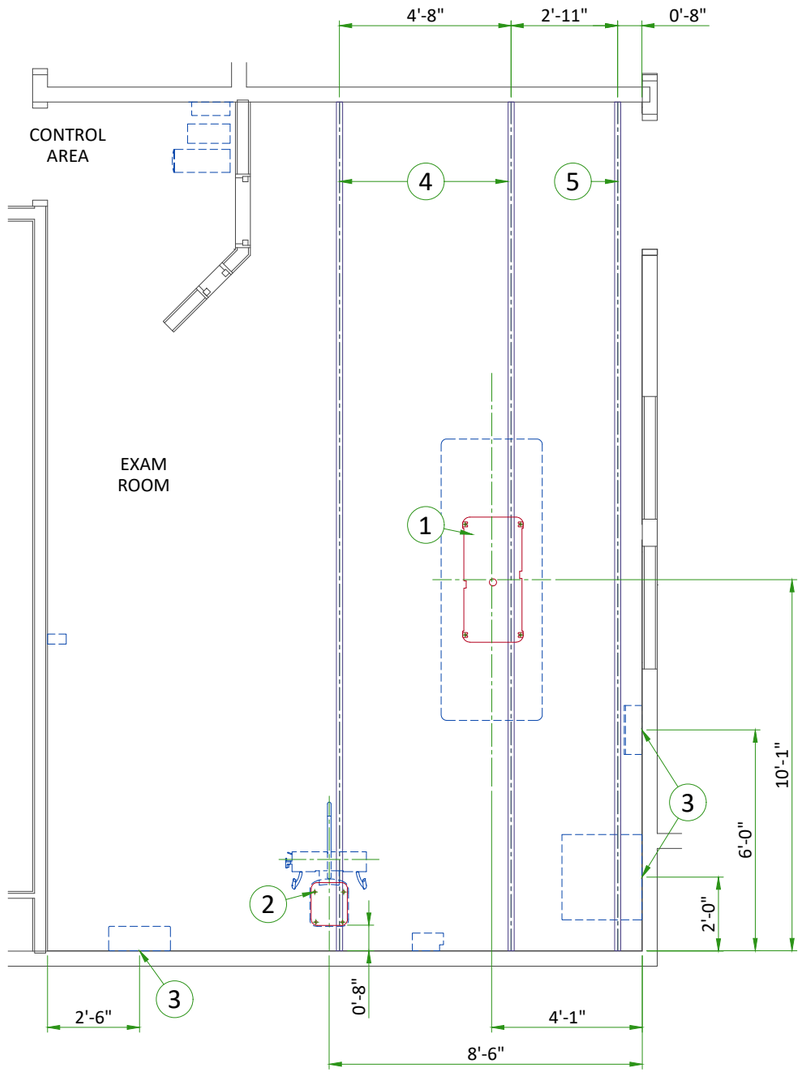
It is recommended that sprinkler heads not be placed between the stationary rails. All sprinkler heads should be mounted so they do not extend downward more than 6.35 mm [1/4 in] from the ceiling while in the 'resting' position.

In addition, there should not be anything mounted in the ceiling (i.e. lights, A/C returns, etc) between the stationary rails. This is because the OTS longitudinal drive belt assembly is located on the movable bridge, approximately centered between the two stationary rails, and may come into contact with those ceiling-mounted items during normal use.

Stationary rails are designed for top (ceiling) mounting. Rails can be ordered and are supplied in the following sizes:

- 4115 mm [13 ft 6 in]
- 4318 mm [14 ft 2 in]
- 4521 mm [14 ft 10 in]
- 4724 mm [15 ft 6 in]
- 4928 mm [16 ft 2 in]
- 5131 mm [16 ft 10 in]
- 5334 mm [17 ft 6 in]
- 5537 mm [18 ft 2 in]
- 5791 mm [19 ft]

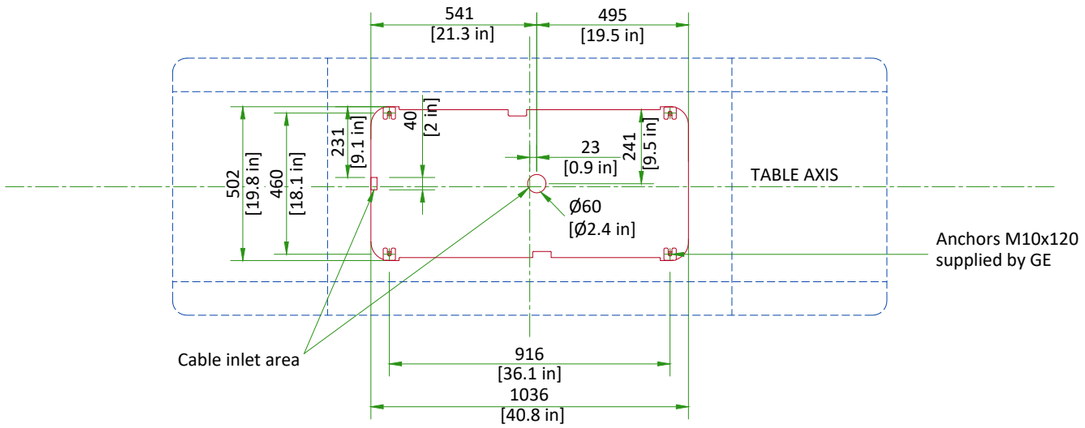
The choice of length depends on room size, configuration and the possible presence of obstructions.



ITEM	DESCRIPTION
	(GE SUPPLIED / CONTRACTOR INSTALLED)
1	Area occupied by GE supplied table baseplate
2	Area occupied by GE supplied wall stand baseplate
	(CONTRACTOR SUPPLIED & INSTALLED)
3	Support backing, locate as shown.
4	Structural support in ceiling for fastening ceiling supported equipment. Supports to run continuous with no fittings extending below face of channel, run wall to wall, be parallel, square, and in the same horizontal plane, flush with the finished ceiling. Rails are mounted to these supports every 2'-2" and require 350 lbs. (597 lbs. In seismic regions) per bolt load. Methods of support that permit attachment to structural steel or through bolts in concrete should be favored. Do not use screw anchors in direct tension.
5	Structural support in ceiling for fastening cable drape rail. Supports to run continuous with no fittings extending below face of channel, run wall to wall, be parallel, square, and in the same horizontal plane, flush with the finished ceiling. Rails are mounted to these supports every 2'-2" and require 50 lbs. Per bolt load. Methods of support that permit attachment to structural steel or through bolts in concrete should be favored. Do not use screw anchors in direct tension.

TABLE ANCHORING

STANDARD TABLE STAND



The floor bearing the system is recommended to be concrete and the thickness to be determined by a Structural Engineer to properly support the equipment loads. The supplied anchors require a minimum embedment of 90 mm [3.5 in] into the concrete. If the floor thickness is less than 95 mm [3.7 in], it is recommended that the unit be secured using a through-bolt method with a reinforcement plate on the back side.

SCALE 1:20

OTS SUSPENSION RAILS MOUNTING SPECIFICATIONS

3 m BRIDGE

When a 22.7 kg [50 lb] force is applied vertically upward, downward or horizontally at any support rail mounting point, the attachment interface must not deflect more than 1.5 mm [1/16 in]

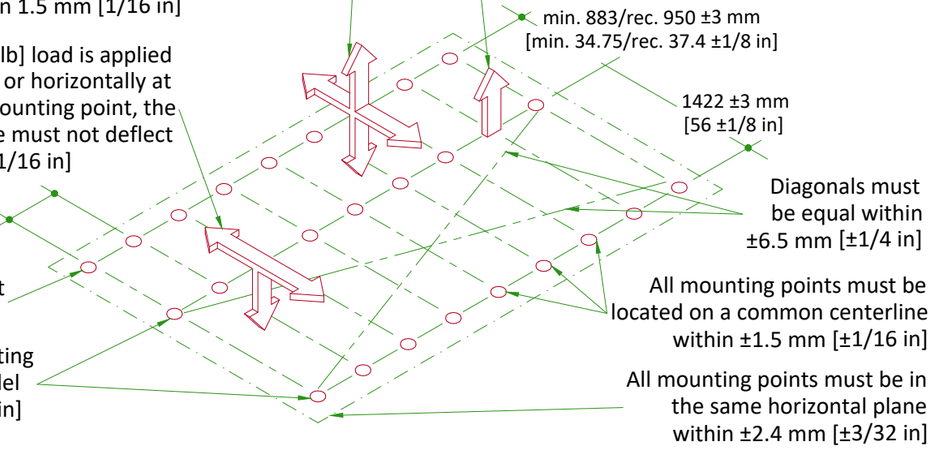
When a 136 kg [330 lb] load is applied vertically downward or horizontally at any stationary rail mounting point, the attachment interface must not deflect more than 1.5 mm [1/16 in]

660.4 ±1.5 mm
[26 ±1/16 in]

Cable takeup support rail mounting points

Stationary rail mounting points must be parallel within ±3 mm [±1/8 in]

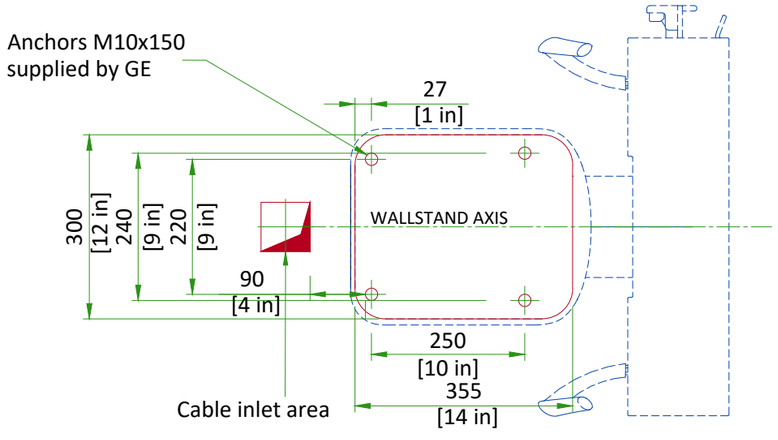
When a 45.4 kg [100 lb] force is applied vertically upward at any stationary rail mounting point, the attachment interface must not deflect more than 1.5 mm [1/16 in]



Distance between holes axis 660.4 mm [26 in], Maximum load per screw is 160 kg [353 lb], however each mounting screw must not "PULL OUT" or otherwise fail under a vertically downward dead load of 635 kg [1400 lb]. Bolts for mounting stationary rails on Unistrut or equivalent supplied by GE (1/2" - 13 headed bolts)

WALLSTAND ANCHORING

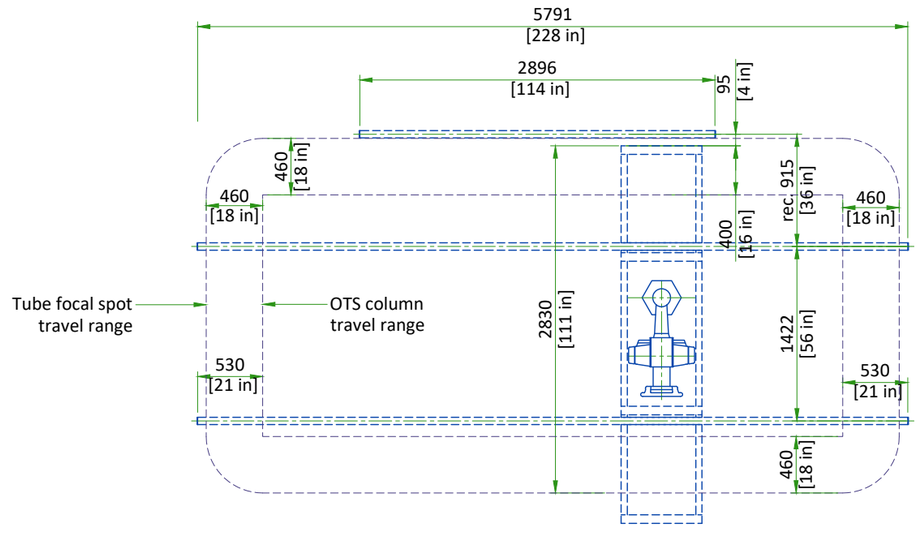
WALLSTAND BASE



Concrete area for wall stand installation should be 1 m² [39.37 ft²].

SCALE 1:10

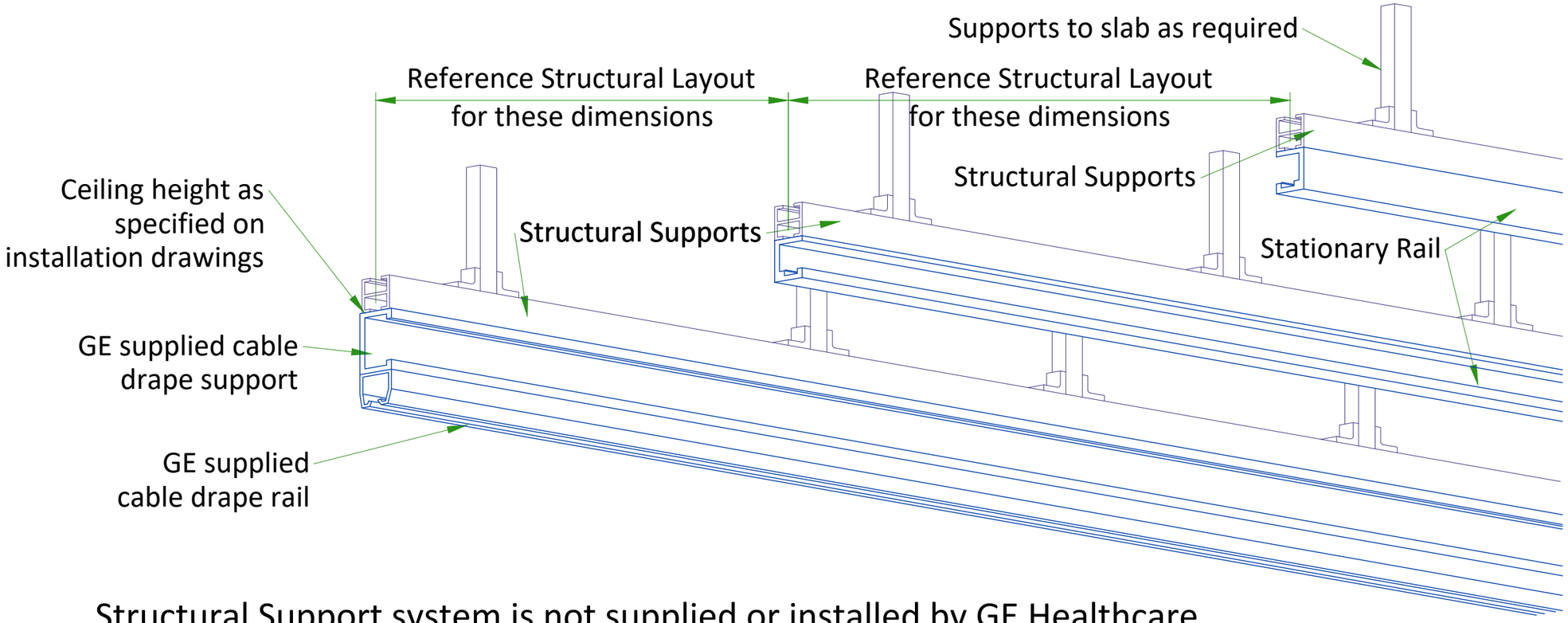
FOCAL SPOT TRAVEL WITH 3M BRIDGE



NOT TO SCALE

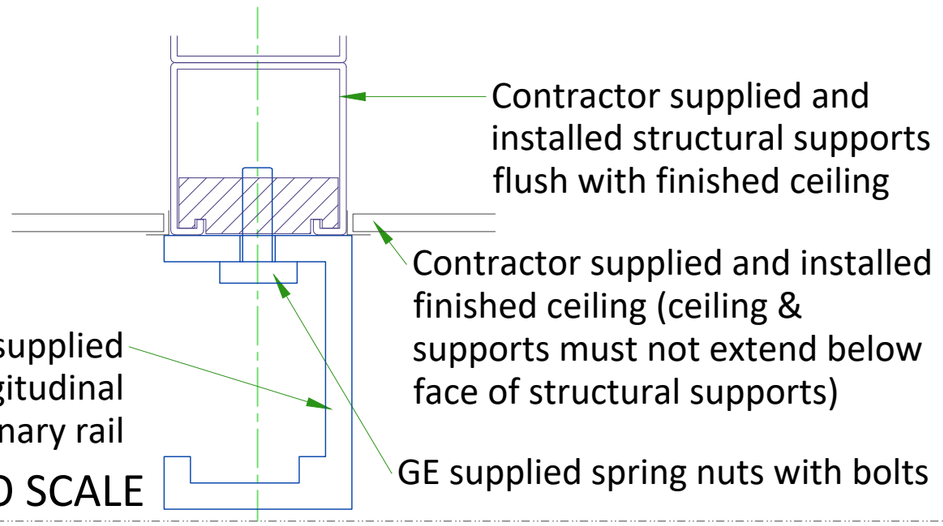
Note: Focal Spot Travel depends on the length of the bridge, rails and position of bridge.

XT RADIOGRAPHIC SUSPENSION, INBOARD MOUNTING



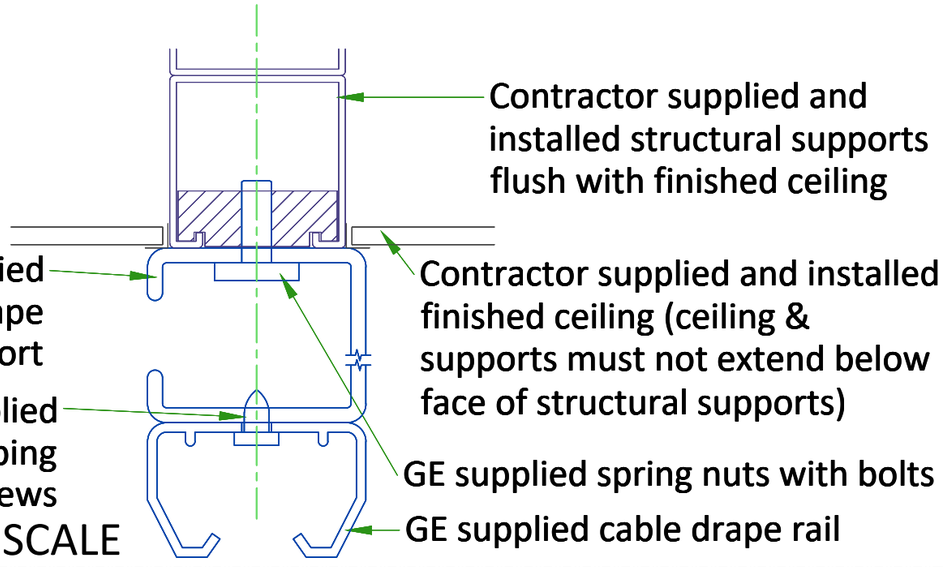
Structural Support system is not supplied or installed by GE Healthcare

DETAIL 1



NOT TO SCALE

DETAIL 2



NOT TO SCALE

TEMPERATURE AND HUMIDITY SPECIFICATIONS

IN-USE CONDITIONS

	EXAM ROOM		CONTROL ROOM	
Temperature	Min	Max	Min	Max
	15°C [59°F]	35°C [95°F]	15°C [59°F]	35°C [95°F]
Temperature gradient	**< 10°C/h [< 50°F/h]**		**< 10°C/h [< 50°F/h]**	
Relative humidity (1)	30% to 60%		30% to 60%	
Humidity gradient	**< 30%/h**		**< 30%/h**	

STORAGE CONDITIONS

Temperature	-5°C [23°F] to +50°C [122°F]
Temperature gradient	**< 20°C/h [< 68°F/h]**
Relative humidity (1)	10% to 85%
Humidity gradient	**< 30%/h**

Storage longer than 90 days is not recommended.
(1) Non-condensing

AIR RENEWAL

According to local standards.

NOTE
In case of using air conditioning systems that have a risk of water leakage it is recommended not to install it above electric equipment or to take measures to protect the equipment from dropping water.

HEAT DISSIPATION DETAILS

ROOM	DESCRIPTION	HEAT DISSIPATION (kW)		HEAT DISSIPATION (BTU/hr)	
		STANDBY	IN-USE	STANDBY	IN-USE
Exam Room	Table (Standard/G2)	0.092	0.666	315	2272
	Table Detector power	0.017	0.017	56	56
	Wall Stand (Standard/Extended/Manual)	0.023	0.094	79	321
	WS Detector power	0.017	0.017	56	56
	System Cabinet	0.714	1.427	2437	4869
	OTS & Collimator	0.031	0.031	106	106
	Tube Rotor	0	0.160	0	544
	TIB	0.002	0.020	6.75	68
	TOTAL	**0.896**	**2.432**	**3055.8**	**8292.0**
Control Room	PC and Monitor	0.176	0.253	601	863
	UPS	0.009	0.013	31.61	45.45
	TOTAL	**0.185**	**0.266**	**632.6**	**908.5**

CONNECTIVITY REQUIREMENTS

Broadband Connections are necessary during the installation process and going forward to ensure full support from the Engineering Teams for the customers system. Maximum performance and availability for the customers system is maintained and closely monitored during the lifetime of the system. Proactive and reactive maintenance is available utilising the wide range of digital tools using the connectivity solutions listed below:

- Site-to-Site VPN/GE Solution
- Site-to-Site VPN/Customer Solution
- Connection through Dedicated Service Network
- Internet Access - connectivity for InSite 2.0

The requirements for these connectivity solutions are explained in the broadband solutions catalogue (separate document).

ELECTRICAL NOTES

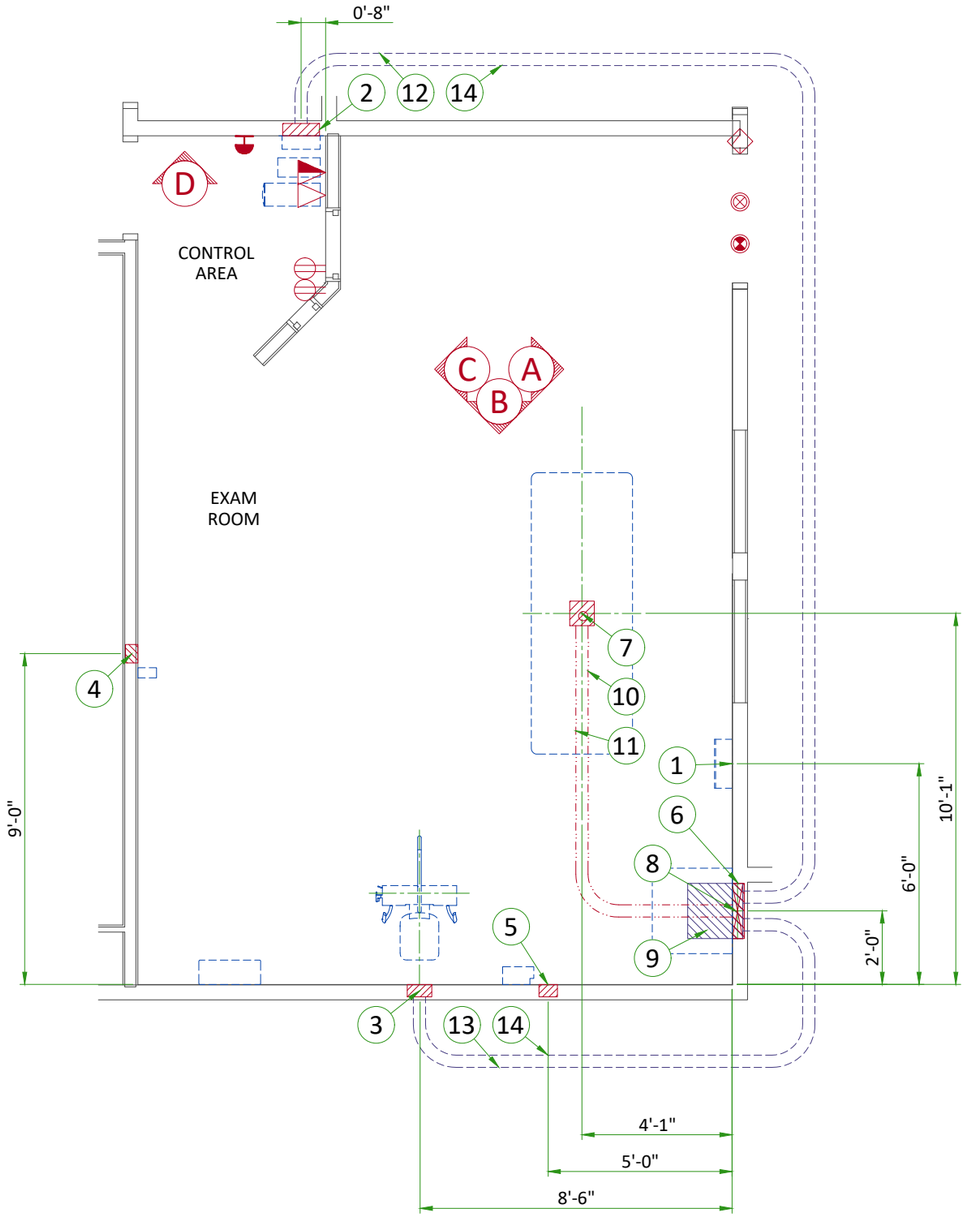
1. All wires specified shall be copper stranded, flexible, thermo-plastic, color coded, cut 10 foot long at outlet boxes, duct termination points or stubbed conduit ends. All conductors, power, signal and ground, must be run in a conduit or duct system. Electrical contractor shall ring out and tag all wires at both ends. Wire runs must be continuous copper stranded and free from splices.

1.1. Aluminum or solid wires are not allowed.

2. Wire sizes given are for use of equipment. Larger sizes may be required by local codes.
3. It is recommended that all wires be color coded, as required in accordance with national and local electrical codes.
4. Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or national codes.
5. Convenience outlets are not illustrated. Their number and location are to be specified by others. Locate at least one convenience outlet close to the system control, the power distritbution unit and one on each wall of the procedure room. Use hospital approved outlet or equivalent.
6. General room illumination is not illustrated. Caution should be taken to avoid excessive heat from overhead spotlights. Damage can occur to ceiling mounting components and wiring if high wattage bulbs are used. Recommend low wattage bulbs no higher than 75 watts and use dimmer controls (except MR). Do not mount lights directly above areas where ceiling mounted accessories will be parked.
7. Routing of cable ductwork, conduits, etc., must run direct as possible otherwise may result in the need for greater than standard cable lengths (refer to the interconnection diagram for maximum usable lengths point to point).
8. Conduit turns to have large, sweeping bends with minimum radius in accordance with national and local electrical codes.
9. A special grounding system is required in all procedure rooms by some national and local codes. It is recommended in areas where patients might be examined or treated under present, future, or emergency conditions. Consult the governing electrical code and confer with appropriate customer administrative personnel to determine the areas requiring this type of grounding system.
10. The maximum point to point distances illustrated on this drawing must not be exceeded.
11. Physical connection of primary power to GE equipment is to be made by customers electrical contractor with the supervision of a GE representative. The GE representative would be required to identify the physical connection location, and insure proper handling of GE equipment.
12. GEHC conducts power audits to verify quality of power being delivered to the system. The customer's electrical contractor is required to be available to support this activity.

- All junction boxes, conduit, duct, duct dividers, switches, circuit breakers, cable tray, etc., are to be supplied and installed by customers electrical contractor.
- Conduit and duct runs shall have sweep radius bends
- Conduits and duct above ceiling or below finished floor must be installed as near to ceiling or floor as possible to reduce run length.
- Ceiling mounted junction boxes illustrated on this plan must be installed flush with finished ceiling.
- All ductwork must meet the following requirements:

  1.Ductwork shall be metal with dividers and have removable, accessible covers.
  2.Ductwork shall be certified/rated for electrical power purposes.
  3.Ductwork shall be electrically and mechanically bonded together in an approved manner.
  4.PVC as a substitute must be used in accordance with all local and national codes.
- All openings in raceway and access flooring are to be cut out and finished off with grommet material by the customers contractor.
- General contractor to insert pull cords for all cable run conduits between the equipment room and the operators control room.
- 10 foot pigtails at all junction points.
- Grounding is critical to equipment function and patient safety. Site must conform to wiring specifications shown on this plan.



ELECTRICAL LAYOUT ITEM LIST	
1	Main Disconnect Panel
2	Flush box for Control, size per local code
3	Flush box for Chest Unit, size per local code
4	Flush box for Dongle, size per local code
5	Flush box for TIB, size per local code
6	Flush box for Generator, size per local code
7	Box below floor for Table, size per local code with 3" conduit stubbed up thru and cut flush with floor
8	Flush vertical duct, 18" x 3 1/2" with minimum 2 dividers
9	Box above ceiling, size per local code
10	One 2" conduit below floor
11	One 2 1/2" conduit below floor
12	One 1" conduit above ceiling
13	One 1 1/2" conduit above ceiling
14	One 2 1/2" conduit above ceiling

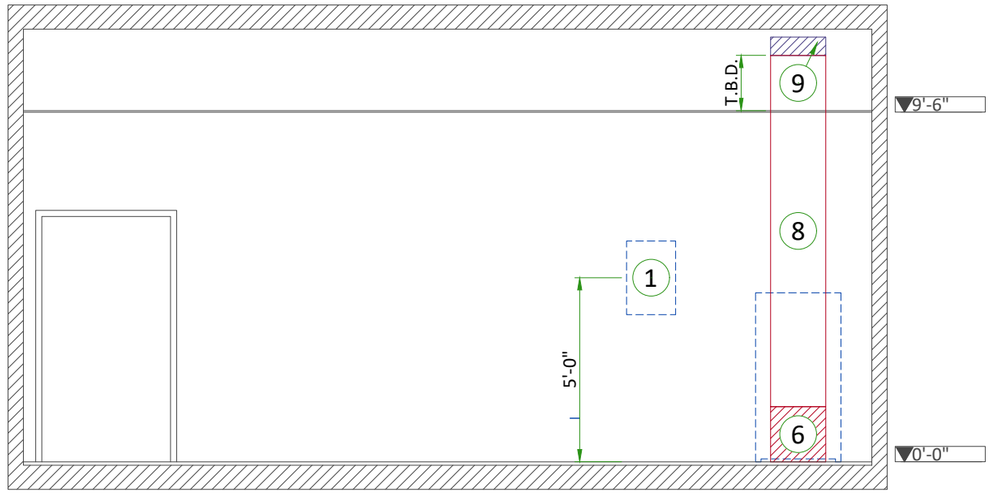
Room Move Cables Note:

Cable lengths listed may differ from what is included with reinstalled system. Contact the local field engineer for actual lengths to be delivered. Run all conduits straight as possible.

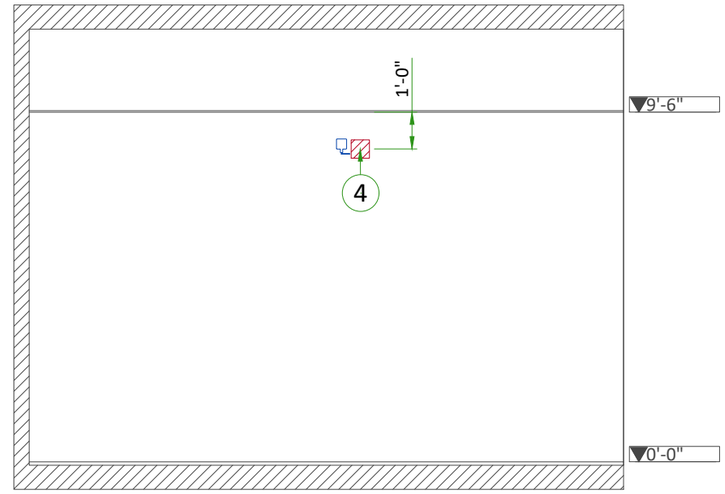
ITEM	QTY	Outlet Legend for GE Equipment
		System emergency off (SEO), (recommended height 1.2m [48"] above floor)
		X-Ray room warning light control panel
		X-Ray ON lamp (L1) - 24V
		Door interlock switch (needed only if required by state/local codes)
		Duplex hospital grade, dedicated wall outlet 120-v, single phase power
		Dedicated telephone line(s)
		Network outlet

Additional Conduit Runs
(Contractor Supplied and Installed)

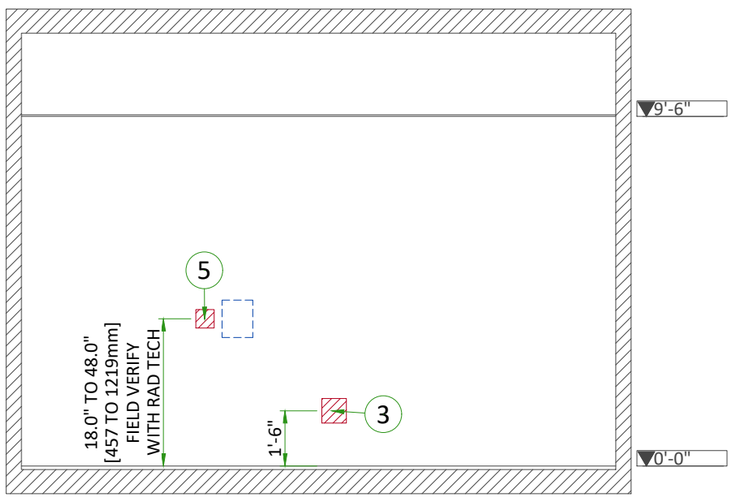
From	To	Qty	Size	
			In.	mm
3 phase power	Main disconnect	1	AS REQ'D	AS REQ'D
Main disconnect	Emergency off	1	1/2	16
	Systems Cabinet	1	AS REQ'D	AS REQ'D
Warning light	Warning light control	1	1/2	16
1 phase power		1	AS REQ'D	AS REQ'D
Systems Cabinet		1	1/2	16
	Door Switch	1	1/2	16
	TIB	1	2	53
	Dongle	1	1	27
Operators Console	TIB	1	1	27
	Dongle	1	2	53


T.B.D.
9
8
1
5'-0"
6
9'-6"
0'-0"

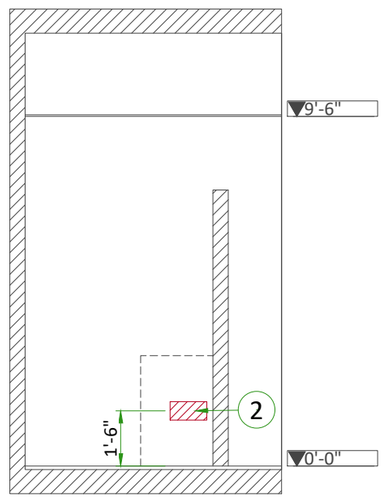
A


1'-0"
4
9'-6"
0'-0"

C

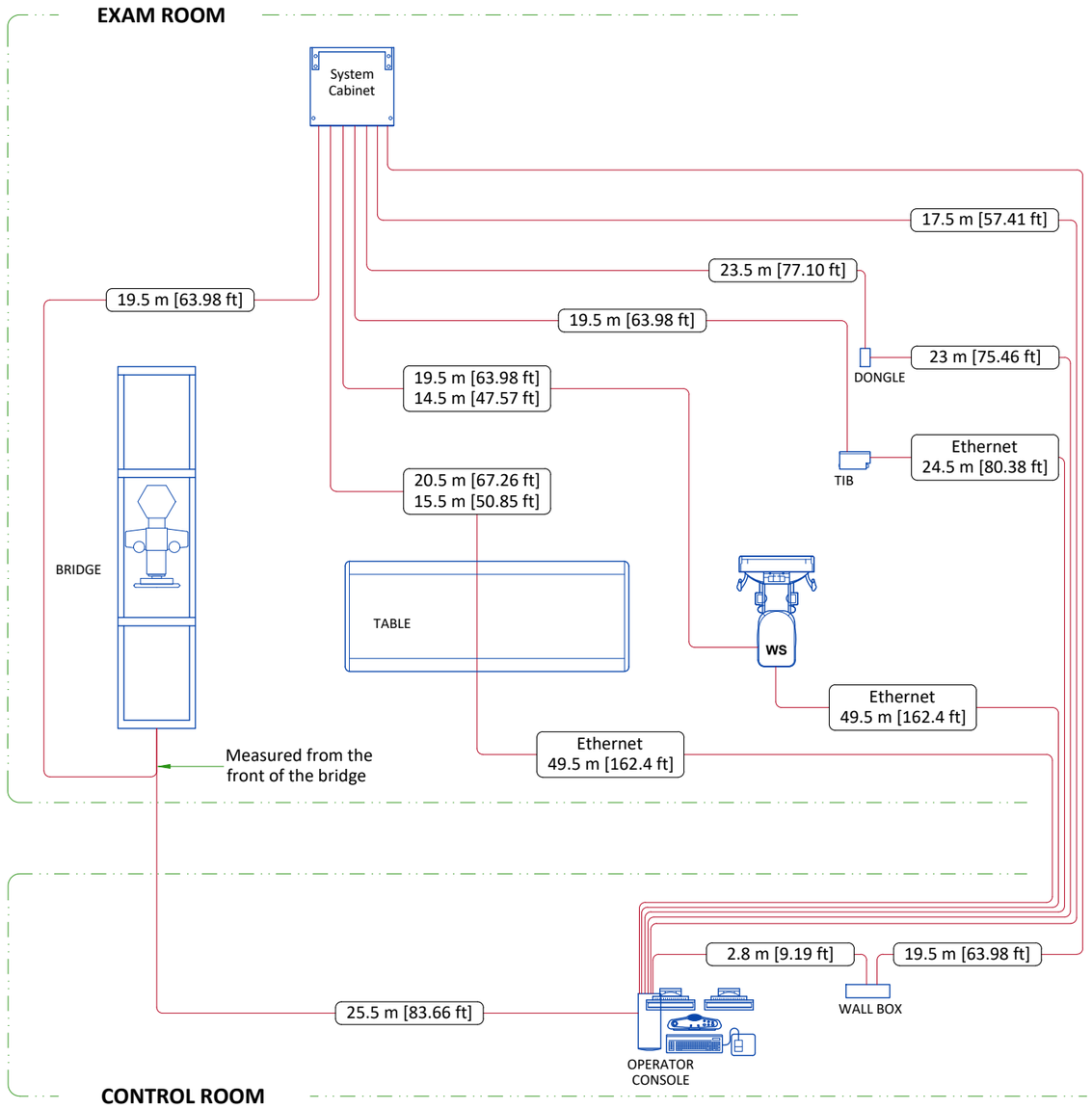

5
18.0" TO 48.0"
[457 TO 1219mm]
FIELD VERIFY
WITH RAD TECH
3
1'-6"
9'-6"
0'-0"

B


2
1'-6"
9'-6"
0'-0"

D

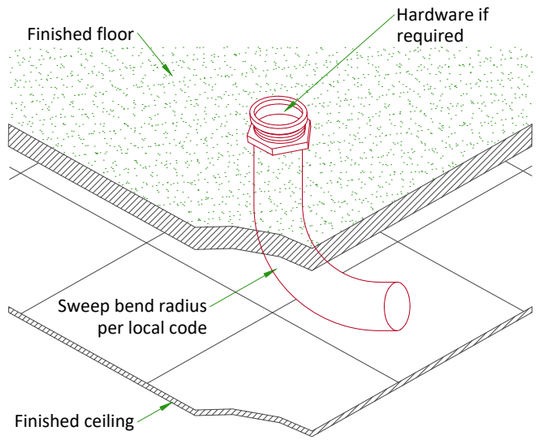
INTERCONNECTIONS



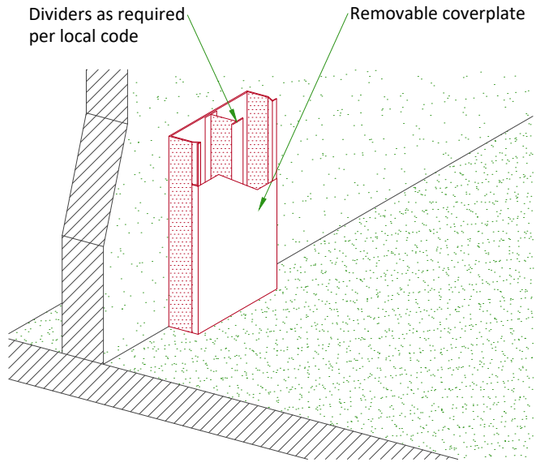
.....m [.....ft] - Long usable length
.....m [.....ft] - Standard usable length

TYPICAL CABLE MANAGEMENT

CONDUIT BELOW FLOOR



VERTICAL DUCT ON WALL



NOT TO SCALE

POWER REQUIREMENTS

POWER SUPPLY	**380/400/415/440/460/480V ±10%, THREE-PHASE + G**
FREQUENCIES	**50/60Hz ± 3Hz**
POWER DEMAND	**97kVA**
MAXIMUM LINE RESISTANCE PER 2 PHASES (Ohm)	**380V : 0.118 / 400V : 0.131 / 415V : 0.138 440V : 0.154 / 480V : 0.185**

- Power supply should come into a main disconnect panel (MDP) containing the protective units and controls.
- The section of the supply cable should be calculated in accordance with its length and the maximum permissible voltage drops.
- There must be discrimination between supply cable protective material at the beginning of the installation (main low-voltage transformer side) and the protective devices in the MDP.

SUPPLY CHARACTERISTICS

- Power input must be separated from any others which may generate transients (elevators, air conditioning, radiology rooms equipped with high speed film changers...)
- All equipment (lighting, power outlets, etc...) installed with GE system components must be powered separately.

GROUND SYSTEM

- Equipotential : the equipotential link will be by means of an equipotential bar. This equipotential bar should be connected to the protective earth conductors in the ducts of the non GE cableways and to additional equipotential connections linking up all the conducting units in the rooms where GE units are located.

CABLES

- Power and cable installation must comply with the distribution diagram below.
- All cables must be isolated and flexible.
- Cable color codes must comply with standards for electrical installation.

Case MDP furnished by GE : The cables for signals and remote control (SEO, XRL1...) will go to MDP with a pigtail length of 1.5 m (4.9 ft), and will be connected during installation. Each conductor will be identified and isolated (screw connector).

CABLEWAYS

The general rules for laying cableways should meet the conditions laid down in current standards and regulations, with regard to:

- Protecting cables against water (cableways should be waterproof)
- Protecting cables against abnormal temperatures (proximity to heating pipes or ducts)
- Protecting cables against temperature shocks
- Replacing cables (cableways should be large enough for cables to be replaced) metal cableways should be grounded.

FEEDER TABLE

MIN. FEEDER WIRE SIZE, AWG OR MCM (sq. mm)/VAC	MINIMUM FEEDER WIRE LENGTH - ft (m)								
	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)
480 VAC	4 (21)	4 (21)	4 (21)	2 (34	1 (45)	1/0 (54)	1/0 (54)	2/0 (68)	3/0 (85)

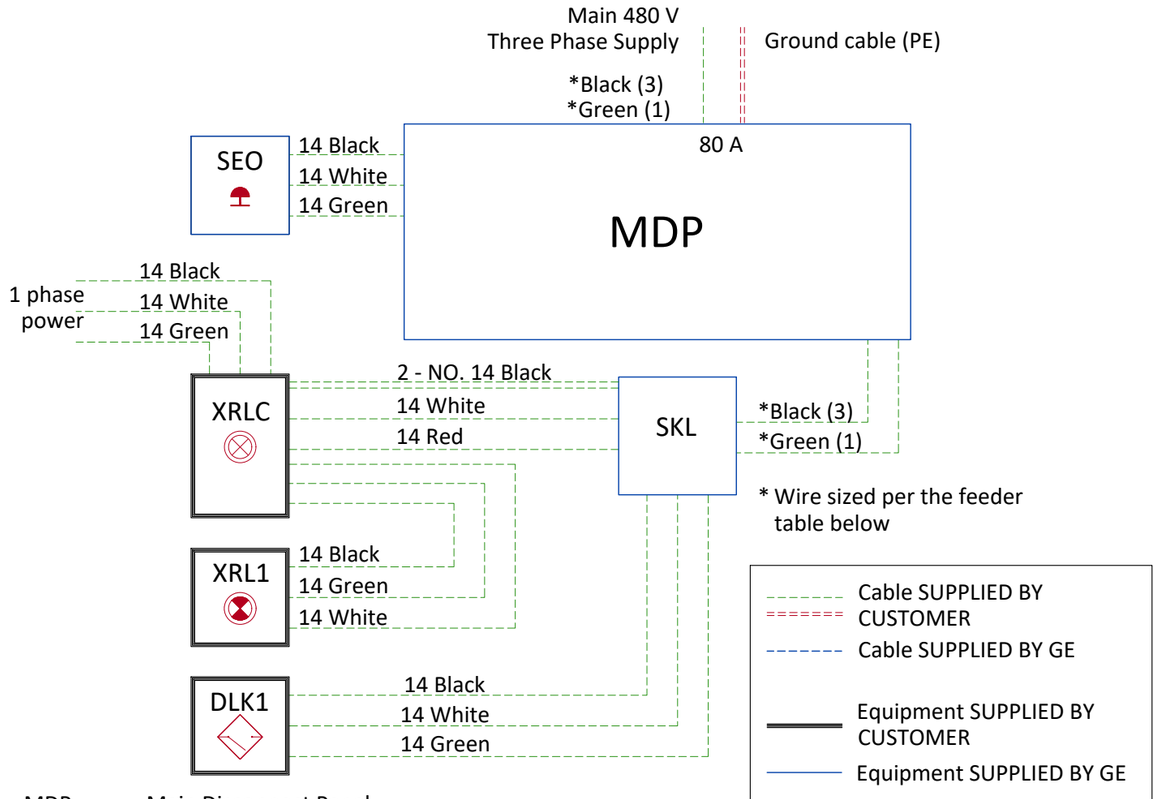
GENERAL NOTES

In all cases qualified personnel must verify that the feeder (at the point of take-off) and the run to the GE system meet all the requirements stated in the PIM

For a single unit installation, the minimum transformer size is 112.5 kVA, Synthesized power feed is not acceptable

Grounding conductor will be of the same size as the feeder. This ground will run from the equipment back to the power source/main grounding point and always travel in the same conduit with the feeders

POWER DISTRIBUTION

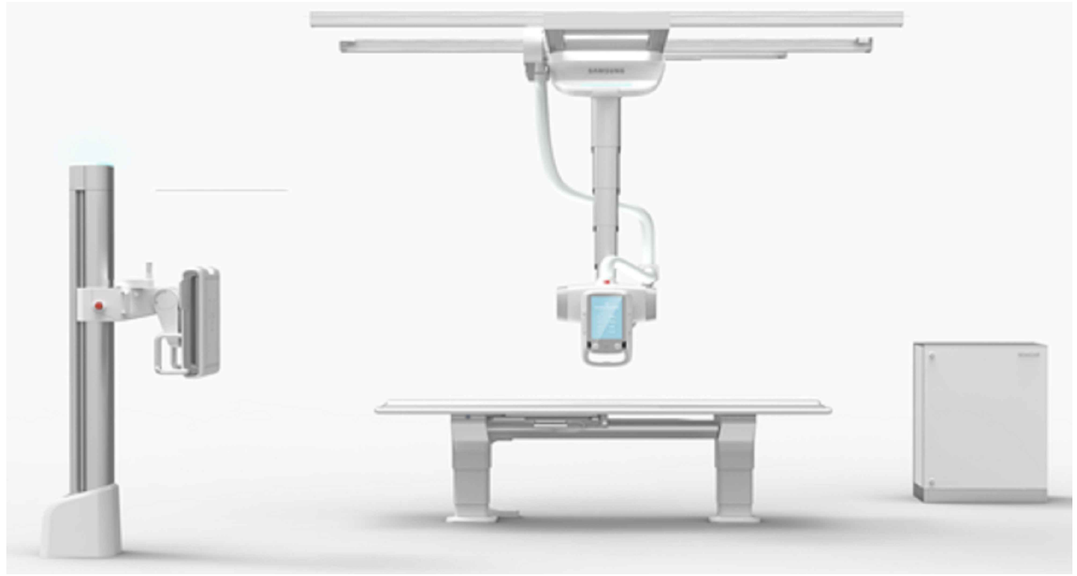


MDP	Main Disconnect Panel
SKL	Generator (System Cabinet/VCP Cabinet)
SEO	Emergency OFF button (Control Room), located 1.50m (4.9') above floor
XRLC	Warning Light Control
XRL1	Warning Light
DLK1	Door Interlock Switch (needed only if required by state/local codes)

SAMSUNG GC 85

S LUKES ROCKHILL

120 NE SAINT LUKE'S BLVD SUITE 200, LEE'S SUMMIT, MO 64086



~ DRAWING INDEX ~

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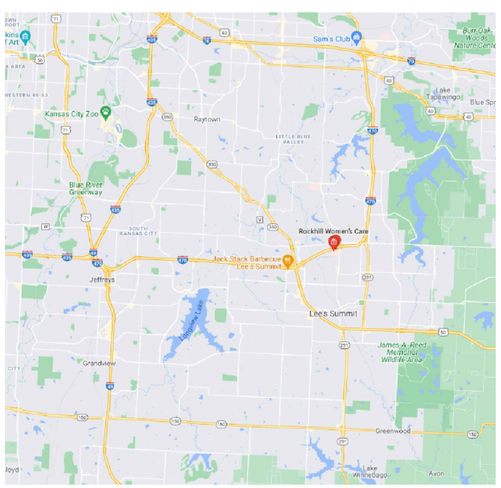

INSTALL LOCATION MAP

- SITE PROGRESS CHECKLIST -

- ☐ REVIEW EQUIPMENT ORDER FOR EXACT ITEMS PURCHASED. OPTIONAL/-FUTURE ITEMS NOT ON ORDER MAY BE INDICATED ON THESE PLANS.
- ☐ ALL ROOM DIMENSIONS ARE CRITICAL! IMMEDIATELY CONTACT GENE NOWACZYK AT RADSOURCE IF CHANGES OCCUR OR DIMENSIONS ARE NOT CORRECT.
- ☐ CONTACT A RADIATION PHYSICIST OR CONSULTANT TO SPECIFY REQUIREMENTS FOR RADIATION CONTAINMENT.
- ☐ PROVIDE A LOCKABLE EQUIPMENT HOLDING AREA CLOSE TO THE INSTALLATION FOR STORING TOOLS AND TEST EQUIPMENT.
- ☐ MAKE ARRANGEMENTS FOR ANY RIGGING, SPECIAL HANDLING, OR FACILITY MODIFICATIONS THAT MUST BE MADE IN ORDER FOR THE EQUIPMENT TO BE DELIVERED TO THE INSTALLATION SITE. IF DESIRED, YOUR LOCAL RADSOURCE TEAM REPRESENTATIVE CAN SUPPLY A REFERENCE LIST OF RIGGERS.
- ☐ MAKE SURE A DUST FREE, TEMPERATURE AND HUMIDITY CONTROLLED ENVIRONMENT IS AVAILABLE FOR STORING THE EQUIPMENT IF YOUR SITE IS NOT READY FOR INSTALLATION AT THE TIME OF DELIVERY. ONCE THE SITE IS PREPARED, YOU ARE THEN RESPONSIBLE FOR DELIVERING THE EQUIPMENT TO THE SITE.

CUSTOMER

ALL REQUIREMENTS FOR THIS EQUIPMENT ARE NOT NOTED ON THIS SHEET. IT IS SUGGESTED THAT THESE DRAWINGS BE REVIEWED BY QUALIFIED PROFESSIONALS WHO CAN ASSIST WITH MAKING DECISIONS REGARDING RADIATION CONTAINMENT, MAGNETIC FIELD CONTAINMENT, ELECTRICAL, STRUCTURAL AND MECHANICAL REQUIREMENTS. ALTHOUGH THE EQUIPMENT MAY BE INSTALLED IN AN EXISTING ROOM OF SIMILAR FUNCTION, REQUIREMENTS STILL NEED TO BE CHECKED.

SITE VISIT

NORMAL PROCEDURE IS TO ATTEND AN INITIAL CONSTRUCTION MEETING AND THEN PERFORM AN INSPECTION OF THE ELECTRICAL BUILD OUT AT OR ABOUT THE SAME TIME AS THE ELECTRICAL ROUGH IN (PRIOR TO SHEETROCK OR LEAD BEING INSTALLED), ADDITIONAL VISITS MAY BE REQUIRED

RECEIPT OF DRAWING FINAL/REVIEW

THIS SIGNATURE PRINTED OR OTHERWISE REPRESENTS RECEIPT OF THIS SET OF PLANS, IT IS UNDERSTOOD THAT ANY DEVIATION FROM THESE DRAWINGS, DETAILS AND SPECIFICATIONS MAY ENCROACH UPON THE EQUIPMENT OPERATION, SERVICEABILITY, OR SAFETY GUIDELINES. ALSO I AM AWARE THAT ANY CHANGES MADE AFTER 7 June 2021 COULD RESULT IN ADDITIONAL EXPENSES BEING INCURRED IF RADSOURCE IS NOT NOTIFIED IN WRITING i.e. E-MAIL ETC... NEW SHEETS WILL BE ISSUED AS ADDITIONS AND REVISIONS WILL HAVE CURRENT DATES ADDED.

NAME:_____DATE:_____

PRINTED:_____

COMPANY:_____

NAME:_____DATE:_____

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COMPANY:_____

NAME:_____DATE:_____

PRINTED:_____

COMPANY:_____

LAST PLOT DATE: 7 June 2021
LAST REVIEW: 6/7/2021 1:23:34 PM

RadSource Imaging Technologies

GENE NOWACZYK
MEP
SITE PLANNING &
PROJECT DEVELOPMENT

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PROJECT

SAMSUNG GC 85

S LUKES ROCKHILL

120 NE SAINT LUKE'S BLVD SUITE 200, LEE'S SUMMIT, MO 64086

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m.XXX-XXX-XXXX

GENERAL CONTRACTOR:
----
p.----
m.----

PROJECT MANAGER FOR CUSTOMER:
----
p.----

IT MANAGER
XXX
p. XXX
XXX

RADIOLOGY DIRECTOR
----
p.----

REVISION:	DATE:

DRAWN BY:	GENE N.
CHK'D BY:	A.W.
CUSTOMER :	
SCALE:	NOTED
DATE:	5/19/2021 9:22:12 AM

FILE NAME:
Rockhill 2021 Samsung GC85.dwg

DRAWING SHEET #

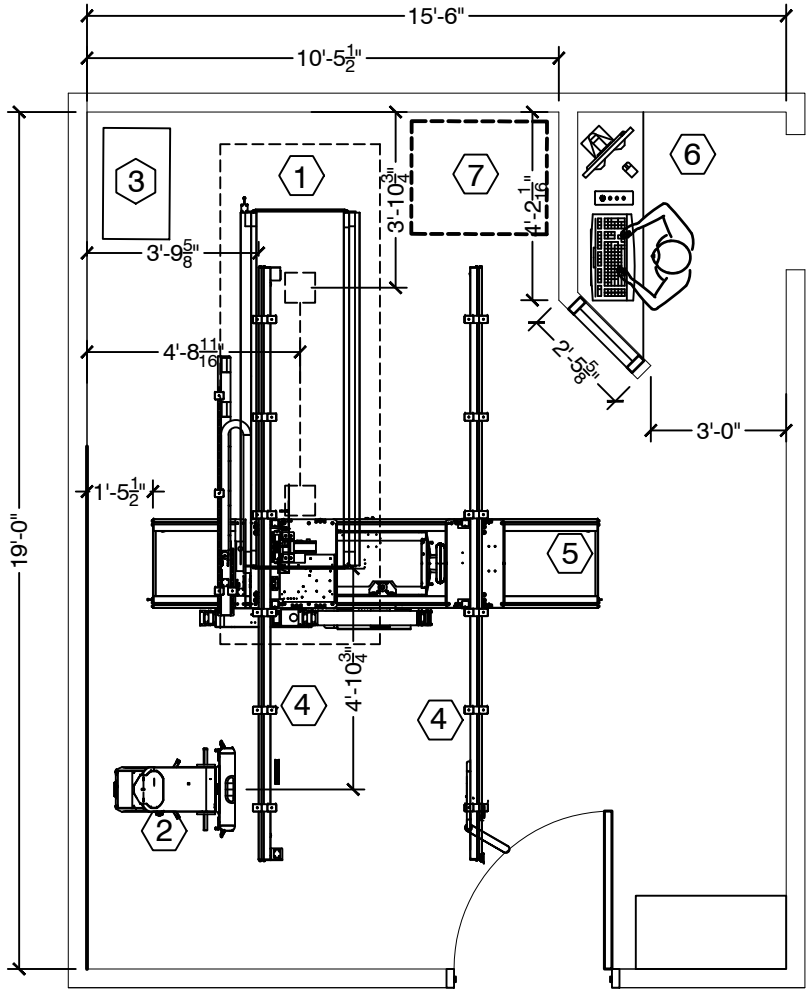
COVER

NOTE:
THIS SAMSUNG ROOM CONFIGURATION UTILIZES 3 METER TRANSVERSE BRIDGE AND 4 METER LONGITUDE RAILS

COUNTER TOP IN OPERATORS AREA SHOULD BE 40"-42" A.F.F. COUNTER TOP HEIGHT NEEDS APPROVAL BY S LUKES ROCKHILL

CONTROL WALL DOES NOT GO ALL THE WAY TO CEILING

THIS SYSTEM REQUIRES 480 VAC 3 PHASE POWER AND RECONFIGURING OF THE ABOVE CEILING SUPER STRUCTURE



NOTE:
ARCHITECT / CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THIS DRAWING AGAINST AS-BUILT. DIMENSIONS ILLUSTRATED WITHIN HAVE BEEN USED FOR PROPER EQUIPMENT PLACEMENT AND MAY BE USED IN THE FUTURE FOR RADIATION SHIELDING PROTECTION BY THE CUSTOMERS SELECTED PHYSICIST.

EACH RESPECTIVE ROOM WILL HAVE AN ENLARGED VIEW ILLUSTRATING THE PLACEMENT OF THE RADIOLOGY EQUIPMENT FOR THE ASSOCIATED ROOM IDENTIFICATION AS SHOWN ON SHEETS LABELED WITH THE LETTER "AQ-?".

SUPPLEMENTAL NOTES:
ALL ITEMS LISTED BELOW ARE TO BE PROVIDED / DESIGNED BY THE ARCHITECT ACI. THE ARCHITECT ACI SHALL CONSULT WITH S LUKES ROCKHILL FOR ANY ADDITIONAL INFORMATION.

- ALL DIAGNOSTIC ROOMS INCLUDING X-RAY, MAMMO, R/F, CT, ETC., SHALL HAVE " LED" CAN LIGHTING AND/OR FLORESCENT LIGHT FIXTURES. THE LED FIXTURES ARE TO BE DISTRIBUTED AROUND THE ROOM AND SHOULD BE PROVIDED WITH DIMMER CONTROLS. THE DIMMER CONTROLS SHOULD BE LOCATED NEAR THE ENTRANCES AND IN THE CONTROL AREAS.
- IT IS RECOMMENDED THAT ALL DIAGNOSTIC ROOMS SHOULD HAVE TILE OR VINYL FLOORING.
- A TILE DROP CEILING IS RECOMMENDED FOR ANY DIAGNOSTIC ROOMS. MINIMUM CEILING HEIGHT 9'-4"
- ALL CABINETRY WORK IS TO BE DESIGNED BY THE ARCHITECT AND PROVIDED BY S LUKES ROCKHILL AND OR ---- . RECOMMEND ALL COUNTERS SHALL HAVE ROUNDED CORNERS.
- PROVIDE FOR REFUSE REMOVAL AND DISPOSAL (E.G. CRATES, CARTONS, PACKING)
- PROVIDE A WORKING RESTROOM WITH SUPPLIES WITHIN THE FACILITY

ROOM LAYOUT - X-RAY

SCALE: 1/2" = 1'-0"
MINIMUM CEILING HEIGHT: 9'-4"
MAXIMUM CEILING HEIGHT: 9'-6"

0 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'
0 1m 2m 3m

EQUIPMENT LEGEND SAMSUNG XGEO-GC85

OWNER: S LUKES ROCKHILL

ITEM	QUANTITY	DESCRIPTION	WEIGHT	HEAT OUTPUT	PROVIDED BY	INSTALLED BY
1	1	PATIENT TABLE	440LBS	2,046 BTU	OWNER	RADSOURCE
2	1	WALL / CHEST STAND	330 LBS	511 BTU	OWNER	RADSOURCE
3	1	GENERATOR CABINET	220 LBS	5,968 BTU	OWNER	RADSOURCE
4	1	CEILING RAIL	140 LBS	N/A	OWNER	RADSOURCE
5	1	CEILING MOUNTED TUBE HEAD	616 LBS	1,909 BTU	OWNER	RADSOURCE
6	1	WORK STATION	35 LBS	1,364 BTU	OWNER	RADSOURCE
7	1	STITCHING STAND	235 LBS	N/A BTU	OWNER	RADSOURCE

NOTE:
SPECIAL DELIVERY TO BUILDING NOT COVERED BY RADSOURCE IMAGING TECHNOLOGIES INC, TO BE COORDINATED BETWEEN "S LUKES ROCKHILL AND/OR ----" AND RADSOURCE IMAGING TECHNOLOGIES INC.

ENVIRONMENT

AMBIENT OPERATION TEMPERATURE: 55-75° (F)
ALLOWABLE TEMPERATURE CHANGE: 15° (F) PER HOUR
HUMIDITY: 20-80 PERCENT NON CONDENSING
ALLOWABLE HUMIDITY CHANGE: 10 PERCENT PER HOUR

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GENE NOWACZYK
MEP
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SAMSUNG GC 85

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p.----

IT
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p. XXX
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RADIOLOGY DIRECTOR
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CUSTOMER :
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DATE: 6/7/2021 1:23:34 PM

FILE NAME:
Rockhill 2021 Samsung GC85.dwg

DRAWING SHEET #
AQ1- X-RAY

MINIMUM SITE PREPARATION REQUIREMENTS

WALLS TO BE PAINTED OR COVERED, BASEBOARDS INSTALLED, FLOORS TO BE TILED AND/OR COVERED, CEILING SHALL HAVE GRID TILES AND LIGHTING FIXTURES INSTALLED.

DOORS AND WINDOWS, ESPECIALLY RADIATION PROTECTION BARRIERS, INSTALLED AND FINISHED WITH LOCK SETS OPERATIONAL.

ALL ELECTRICAL CONVENIENCE, CONDUIT, RACEWAY AND JUNCTION BOXES INSTALLED.

INCOMING MAINS POWER OPERATIONAL AND CONNECTED TO X-RAY ROOM BREAKER.

115 VOLTS CONVENIENCE OUTLETS OPERATIONAL.

ALL SUPPORT STRUCTURES CORRECTLY INSTALLED.

ALL CHANNELS, PIPES, BEAM'S AND OR OTHER SUPPORTING DEVICES SHOULD BE LEVEL, PARALLEL AND FREE OF LATERAL OR LONGITUDINAL MOVEMENTS.

ALL CONTRACTOR SUPPLIED CABLES PULLED AND TERMINATED.

A DUST FREE ENVIRONMENT IN AND AROUND THE PROCEDURE ROOM.

ALL HEATING AND VENTILATION / AIR-CONDITIONING INSTALLED AND OPERATIONAL.

A CLEAR DOOR OPENING FOR MOVING EQUIPMENT INTO THE BUILDING MUST BE 42 IN. X 82 IN. OR LARGER CONTINGENT ON AN 8' CORRIDOR WIDTH.

PREFACE

THESE DRAWINGS HAVE BEEN PREPARED BY RADSOURCE IMAGING TECHNOLOGIES, INC. , THEIR PURPOSE IS TO PROVIDE THE SITING, ELECTRICAL, MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS REQUIRED TO ACCOMMODATE THE INSTALLATION AND OPERATION OF THE DIAGNOSTIC IMAGING EQUIPMENT AND SUB-COMPONENTS ILLUSTRATED.

THE LAYOUT(S) PROVIDED FOR ALL COMPONENTS PURCHASED FROM AND/OR PROVIDED BY THE EQUIPMENT MANUFACTURER SHALL SERVE AS A GUIDE FOR INSTALLATION BY THE LOCAL SERVICE/INSTALLATION REPRESENTATIVES.

INFORMATION IN THESE DRAWINGS RELATING TO BUILDING/FACILITY SPECIFICATIONS THAT WILL SUPPORT IMAGING EQUIPMENT COMPONENTS SUCH AS ELECTRICAL, STRUCTURAL, MECHANICAL AND ENVIRONMENTAL REQUIREMENTS SHALL BE UTILIZED AS A GUIDE BY THE CUSTOMER'S ARCHITECT ACI AND/OR CONTRACTOR ----. FACILITY CONDITIONS MAY DICTATE ACTUAL CONSTRUCTION METHODS AND MATERIALS APPLIED. HOWEVER, ALL METHODS AND MATERIALS MUST COMPLY WITH EQUIPMENT MANUFACTURER SPECIFICATIONS, AS WELL AS LOCAL AND/OR NATIONAL BUILDING CODES.

THE REQUIRED CEILING HEIGHT OF 9'-4" INDICATED ON THESE PLANS IS TO INSURE EQUIPMENT FUNCTION IS NOT INHIBITED. CONSULT WITH YOUR EQUIPMENT INSTALLATION SPECIALIST REGARDING ACCEPTABILITY OF THE OTHER CEILING HEIGHTS. CHECK ALL DOOR OPENINGS FROM DELIVERY LOCATION TO WHERE EQUIPMENT IS TO BE INSTALLED.

THE QUALITY OF CONSTRUCTION METHODS, MATERIALS AND CONFORMANCE TO EQUIPMENT MANUFACTURER SPECIFICATIONS AND TOLERANCES, WILL AFFECT EQUIPMENT PERFORMANCE.

MAGNETIC INTERFERENCE SPECIFICATIONS

DIGITAL FLAT PANEL MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN ONE GAUSS TO GUARANTEE SPECIFIED IMAGING PERFORMANCE.

X-RAY TUBES AND EQUIPMENT MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN TEN GAUSS TO GUARANTEE SPECIFIED PERFORMANCE DATA INTEGRITY

SYSTEM ELECTRONICS / EQUIPMENT MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN TEN GAUSS TO GUARANTEE DATA INTEGRITY

CONSOLE EQUIPMENT MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN ONE GAUSS TO OBTAIN SPECIFIED GEOMETRIC LINEARITY.

SITE ENVIRONMENT SPECIFICATIONS

AMBIENT OPERATING TEMPERATURE: 60^{o} TO 75^{o} F (16^{o} TO 24^{o} C) MAXIMUM

ALLOWABLE TEMPERATURE CHANGE OF 5^{o} F, (3^{o} C) / HOUR MAXIMUM ROOM

TEMPERATURE GRADIENT 5^{o} F, (3^{o} C)

HUMIDITY: 30 TO 60 PERCENT NON-CONDENSING, MAXIMUM ALLOWABLE CHANGE OF 5 PERCENT / HOUR

ALTITUDE: NOT TO EXCEED 10,000 FT (3050M) ABOVE SEA LEVEL

THE ENVIRONMENT FOR THE ELECTRONICS CABINET MUST BE CONTROLLED SO THE ABOVE RESTRICTIONS ARE NOT EXCEEDED.

DO NOT RESTRICT THE AIR INTAKE OR AIR EXHAUST OF THE SYSTEM COMPONENTS.

ENVIRONMENTAL CONDITIONS LISTED ABOVE MUST BE MAINTAINED AT ALL TIMES, INCLUDING OVERNIGHT AND HOLIDAYS.

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RADIOLOGY DIRECTOR
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CHK'D BY:	A.W.
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Rockhill 2021 Samsung GC85.dwg

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ELECTRICAL LEGEND

CBE1 MAIN DISCONNECT CONTRACTOR SUPPLIED,
480 VAC 3 PHASE @ 100 AMP FRAME, UL LISTED WITH MAGNETIC CONTACTOR, SEMI OR FLUSH MOUNTED IN X-RAY EXAM ROOM.

UB 1 @ 6 x 6 x 4 JUNCTION BOX PART, MOUNT BOTTOM OF BOX DIRECLY A.F.F.
1 @ OVERSIZED COVER
1 @ 2-1/2 CHASE NIPPLE WITH BUSHING AND LOCKNUT, INSTALLED BY CONTRACTOR (CENTER IN COVER)

OC 1 @ 12 x 12 x 4 JUNCTION BOX, MOUNT CENTER OF BOX TO 18.0" A.F.F.
1 @ OVERSIZE COVER
1 @ 2-1/2 CHASE NIPPLE WITH BUSHING AND LOCKNUT, INSTALLED BY CONTRACTOR (CENTER IN COVER)

FB 1 @ 12 x 12 x 4 JUNCTION BOX, MOUNT TOP OF BOX JUST BELOW FINISHED FLOOR, ALLOW FOR COVER TO FIT FLUSH TO FINISHED FLOOR
1 @ COVER
1 @ 2-1/2 CHASE NIPPLE WITH BUSHING AND LOCKNUT, INSTALLED BY CONTRACTOR (CENTER IN COVER)

ST1 SINGLE GANG 2-1/2" DEEP FLUSH MOUNTED JUNCTION BOX, SUPPLY AND INSTALL MUSHROOM HEAD "EMERGENCY STOP BUTTON" 60.0" A.F.F.. WIRE TO "CBE1" MAIN DISCONNECT MAGNETIC CONTACTOR PER N.E.C. SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR
IN THE EVENT THERE IS AN EXSISTING EMERGENCY/SHUNT TRIP ALREADY IN PLACE THE EXSISTING LOCATION CAN BE REUSED.

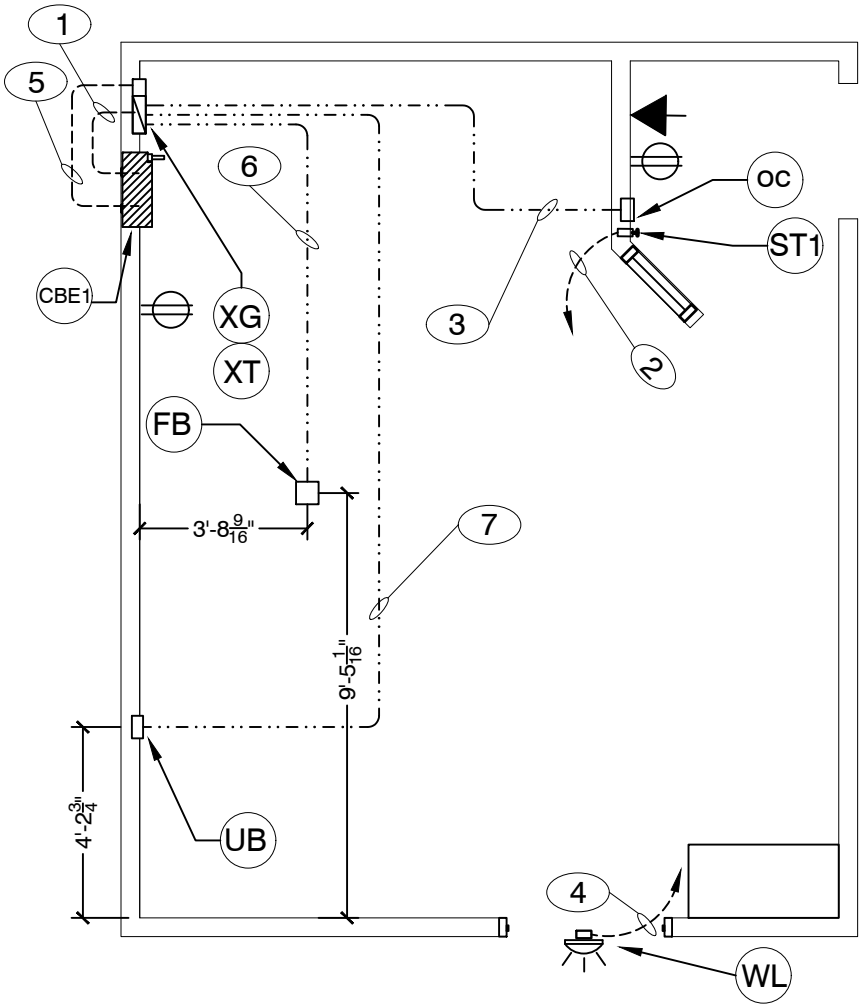
WL WARNING LIGHT (X-RAY ON), LED LIGHT FIXTURE SUPPLIED AND INSTALLED BY CONTRACTOR, LOW VOLTAGE (LED) 12-24VDC.
RUN SWITCH LEG BACK TO "XG"

XG 1 @ 14.5 x 12 x 4 RECESSED MOUNTED JUNCTION BOX WITH SPLIT COVERAND DIVIDER, CONNECT TO "CBE1" PER N.E.C. MOUNT CENTER 18.0" A.F.F. SEE SHEET (E1.3)

INSTALL A 5.0' TAIL IN METAL FLEX ON ON SMALL SIDE OF SPLIT COVER LEAVING 3.0' OF EXPOSED CONDUCTOR OUTSIDE THE FLEX, ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL JUNCTION BOX, FLEX AND CONNECTORS AS REQUIRED, TERMINATE FLEX WITH A 90DEG BOTH ENDS.

XT 1 @ 10 x 3 x 4 RECESSED MOUNTED WALL DUCT WITH COVERS, MOUNT MOUNT ONTOP OF "XG" WITH SUPPLIED CONNECTORS IN KIT. SEE SHEET (E1.3)

AC 1 @ 10 x 10 x 10 JUNCTION BOX, SURFACE MOUNT AT FINISHED CEILING TO WALL DUCT (THIS WILL BE USED AS A PASS THROUGH, SEE SHEET (E1.3)



SYMBOLS LEGEND

- GROUND FAULT INTERRUPT RECEPTACLE
- 110/115VAC 20 AMP
- PHONE / DATA
- PHONE
- DATA
- WALL MOUNTED PHONE 48"A.F.F.
- ABOVE CEILING CONDUIT
- BELOW GRAD CONDUIT
- 3 x 10 HORIZONTAL WALL DUCT
- 3 x 10 FLUSH TO FINISHED FLOOR DUCT
- 3 x 10 VERTICAL WALL DUCT
- CEILING MOUNTED JUNCTION BOX

ELECTRICAL LAYOUT DRGEM PREMIUM

SCALE: 3/8" = 1'-0"
MINIMUM CEILING HEIGHT: 9'-4"

REQUIRED CONDUIT RUNS FOR BASE SYSTEM BY CONTRACTOR

1	CBE1	TO	XG	CONDUIT ABOVE CEILING PER N.E.C., PULL 3 @ #3AWG; PULSE 1 @ #3 AWG GROUND. CONNECT WIRE TO BREAKER AND LEAVE 6' TAILS AT "XG". LABEL "FOR X-RAY POWER"
2	CBE1	T0	ST1	CONDUIT AS REQUIRED PER N.E.C. ABOVE CEILING, PULL 2 @ #__ CONNECT TO SHUNT TRIP EMERGENCY STOP DEVICE
3	XG	TO	OC	2.0" CONDUIT, BELOW GRADE
4	CBE1	TO	WL	NO CONDUIT REQUIRED WITH KIT, WITH OUT KIT USE 3/4" CND
5	CBE1	TO	XG	1/2" CNDUIT ABOVE CEILING, PULL 18-2 AWG THEROMOSTATE WIRE, LEAVE 3.0' AT CBE1 AND 12.0' AT XG, LABLE BOTH ENDS "FOR WARNING LIGHT"
6	XG	TO	FB	2.5" CONDUIT, BELOW GRADE
7	FB	TO	UB	2.0" CONDUIT, BELOW GRADE
8	INCOMING MAINS	TO	CBE1	CONDUIT AS REQUIRED
9	UB	O	OC	1.5" CND, ABOVE CEILING OR BELOW GRADE

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DRAWING SHEET #
E1-X-RAY

ELECTRICAL NOTES

ALL WIRES SPECIFIED SHALL BE COPPER STRANDED, FLEXIBLE, THERMO-PLASTIC, COLOR CODED, CUT 10 FOOT LONG AT OUTLET BOXES, DUCT TERMINATION POINTS OR STUBBED CONDUIT ENDS. ALL CONDUCTORS, POWER, SIGNAL AND GROUND, MUST BE RUN IN A CONDUIT OR DUCT SYSTEM. ELECTRICAL CONTRACTOR SHALL RING OUT AND TAG ALL WIRES AT BOTH ENDS. WIRE RUNS MUST BE CONTINUOUS COPPER STRANDED AND FREE FROM SPLICES. MIN 2 PULL STRINGS PER CONDUIT RUN.

WIRE SIZES GIVEN ARE FOR USE OF EQUIPMENT. LARGER SIZES MAY BE REQUIRED BY LOCAL CODES.

IT IS RECOMMENDED THAT ALL WIRES BE COLOR CODED, AS REQUIRED IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.

LOCATE AT LEAST ONE CONVENIENCE OUTLET CLOSE TO THE SYSTEM CONTROL, THE POWER DISTRIBUTION UNIT AND ONE ON EACH WALL OF THE PROCEDURE ROOM. USE HOSPITAL APPROVED OUTLET OR EQUIVALENT.

GENERAL ROOM ILLUMINATION IS NOT ILLUSTRATED. CAUTION SHOULD BE TAKEN TO AVOID EXCESSIVE HEAT FROM OVERHEAD SPOTLIGHTS. DAMAGE CAN OCCUR TO CEILING MOUNTING COMPONENTS AND WIRING IF HIGH WATTAGE BULBS ARE USED. RECOMMEND LED BULBS, USE DIMMER CONTROLS (EXCEPT MR). DO NOT MOUNT LIGHTS DIRECTLY ABOVE AREAS WHERE CEILING MOUNTED ACCESSORIES WILL BE PARKED.

ROUTING OF CABLE DUCTWORK, CONDUITS, ETC., MUST RUN DIRECT AS POSSIBLE OTHERWISE MAY RESULT IN THE NEED FOR GREATER THAN STANDARD CABLE LENGTHS (REFER TO THE INTERCONNECTION DIAGRAM FOR MAXIMUM USABLE LENGTHS POINT TO POINT). SHEET QE1

CONDUIT TURNS TO HAVE LARGE, SWEEPING BENDS WITH MINIMUM RADIUS IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.

PHYSICAL CONNECTION OF PRIMARY POWER TO SAMSUNG EQUIPMENT IS TO BE MADE BY CUSTOMERS ELECTRICAL CONTRACTOR ---- WITH THE SUPERVISION OF A RADSOURCE IMAGING REPRESENTATIVE. THE RADSOURCE IMAGING REPRESENTATIVE WOULD BE REQUIRED TO IDENTIFY THE PHYSICAL CONNECTION LOCATION, AND INSURE PROPER HANDLING OF SAMSUNG EQUIPMENT.

ALL ELECTRICAL CONVEINCE, NETWORKIING AND PHONE OUTLETS TO BE 18.0' A.F.F. UNLESS OTHER WISE NOTED

FEILD VERIFY EXACT LOCATIONS OF EXISTING ELECTRICAL PANELS, CONDUITS, JUNCTION BOXES ETC FOR NEW CONNECTIONS.

LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6FT

ALL CONDUITS & CONDUCTERS SHALL BE INSTALLED INSIDE WALLS OR ABOVE CEILING, NO EXPOSED CONDUIT OR CONDUCTORS WILL BE ALLOWED.

ALL WIRE RUNS WILL BE A MINIMUM OF FLEXIBLE METAL CONDUIT (FMC)

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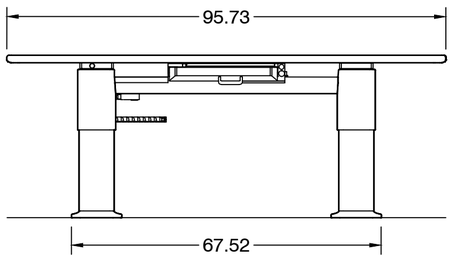
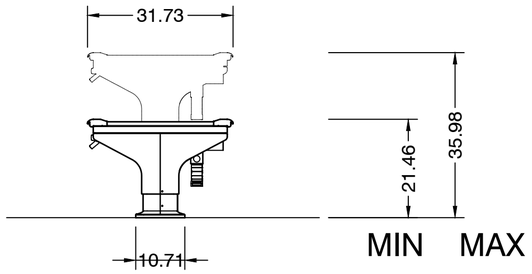
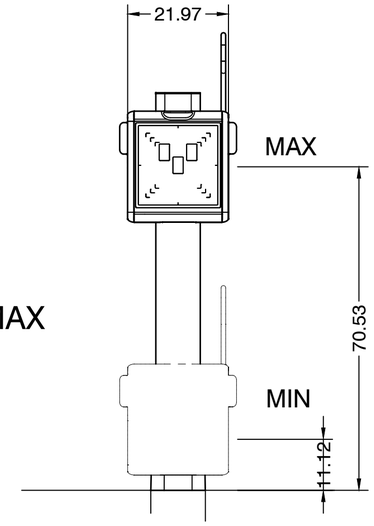


FRONT VIEW



SIDE VIEW



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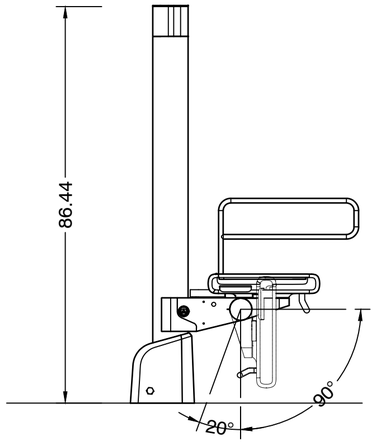

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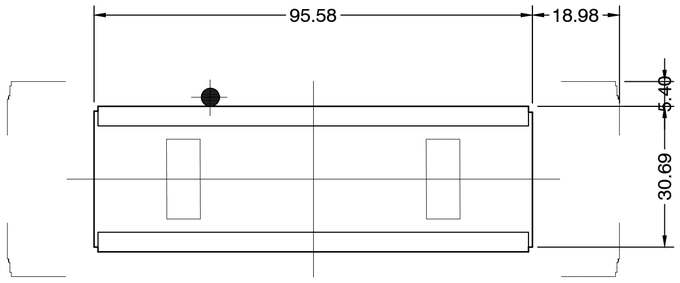
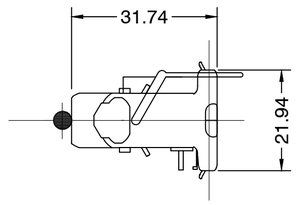


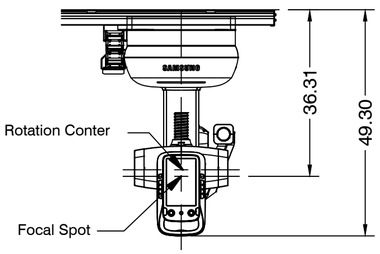
TOP VIEW

TABLE DETAIL DRAWING



TOP VIEW

WALL STAND DETAIL DRAWING



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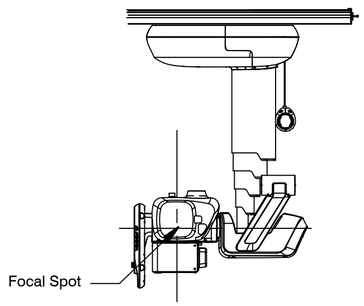

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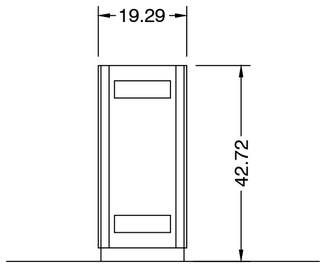

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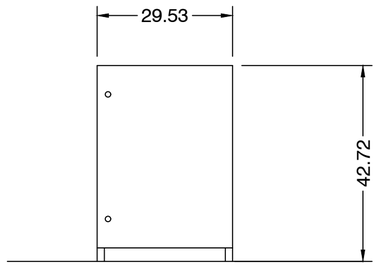

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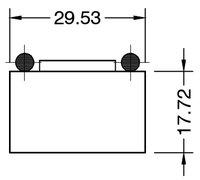

TOP VIEW

CABINET DETAIL DRAWING

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DRAWN BY:	GENE N.
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SCALE:	NOTED
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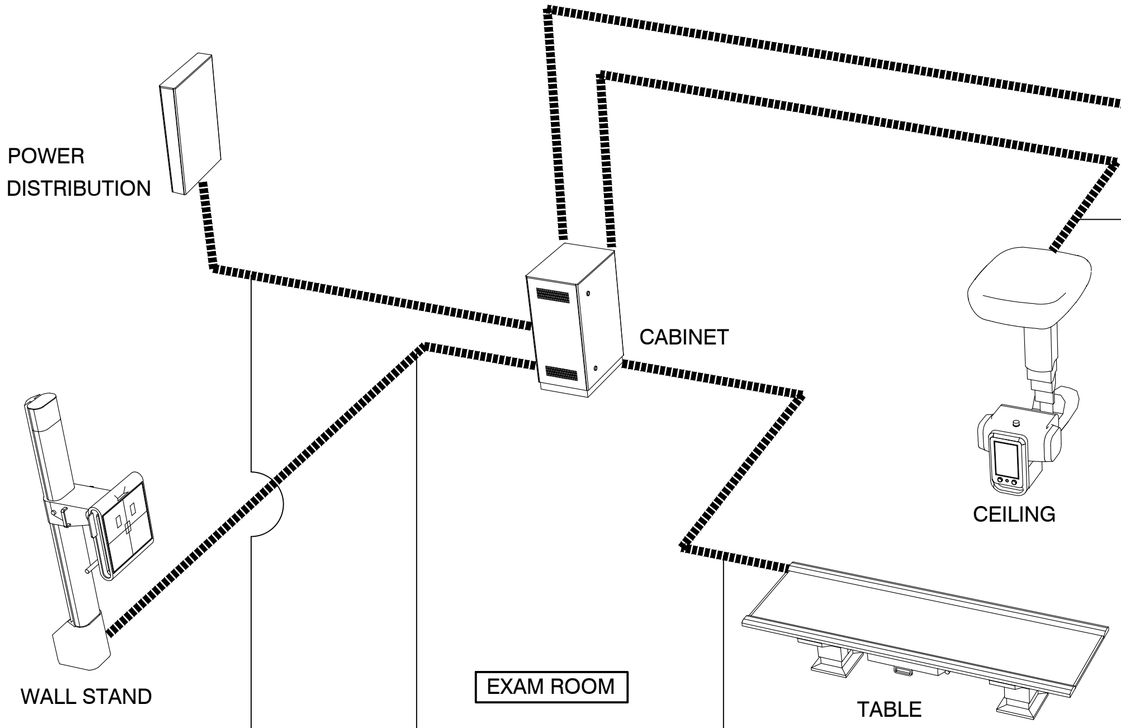
Q1

INTERCONNECT OF XGEO GC80



CABINET ⟷ CEILING
WIRING : WALL AND CEILING
7.85 m

CABINET ⟷ WORK-STATION
WIRING : FLOOR
13.1 m

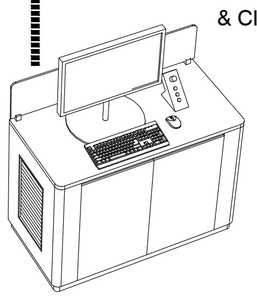
POWER DISTRIBUTION ⟷ CABINET
WIRING : WALL or FLOOR
3.9 m

WALLSTAND ⟷ CABINET
WIRING : FLOOR
8.5 m

TABLE ⟷ CABINET
WIRING : FLOOR
11.2 m

WALLSTAND ⟷ CEILING
WIRING : FLOOR
13.65 m

TABLE ⟷ WALL-STAND
WIRING : FLOOR
13 m



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PROJECT

SAMSUNG GC 85

S LUKES ROCKHILL

120 NE SAINT LUKE'S BLVD SUITE 200, LEE'S SUMMIT, MO 64086

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p. XXX
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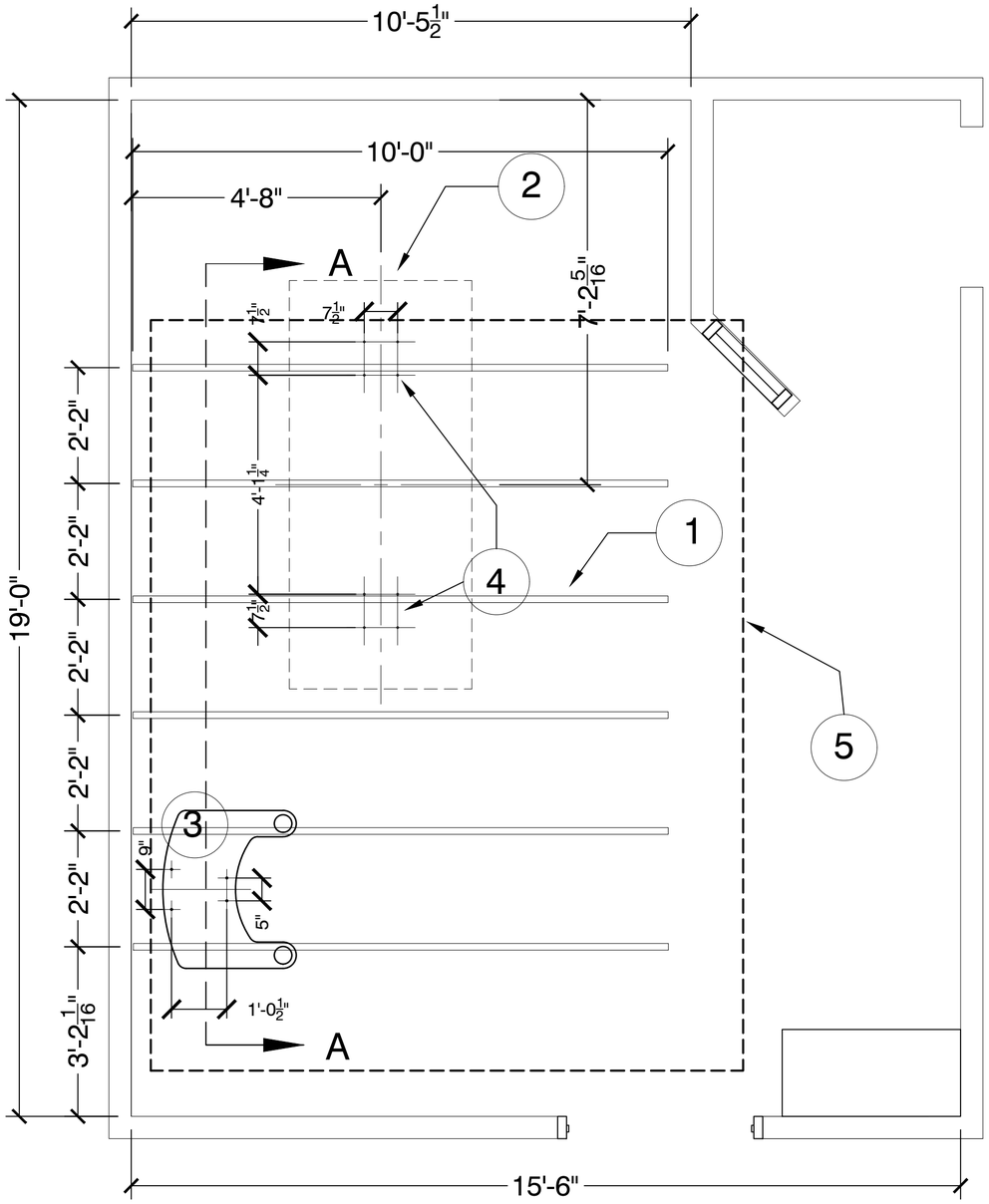
Q2



STRUCTURAL LAYOUT SAMSUNG GC85

SCALE: 1/2" = 1'-0"
RECOMMENDED CEILING HEIGHT 9'-4"

1. SPANNING MEMBERS:
STEEL CHANNEL STRUT FLUSH WITH FINISHED CEILING. SPACED AS INDICATED ON SHEET "S1" RECOMMENDED FABRICATION DETAILS ON SHEET "S2" LOADS SHOULD BE CALCULATED FROM SHEET AQ1 (EQUIPMENT LEGEND ITEMS 4 & 5)

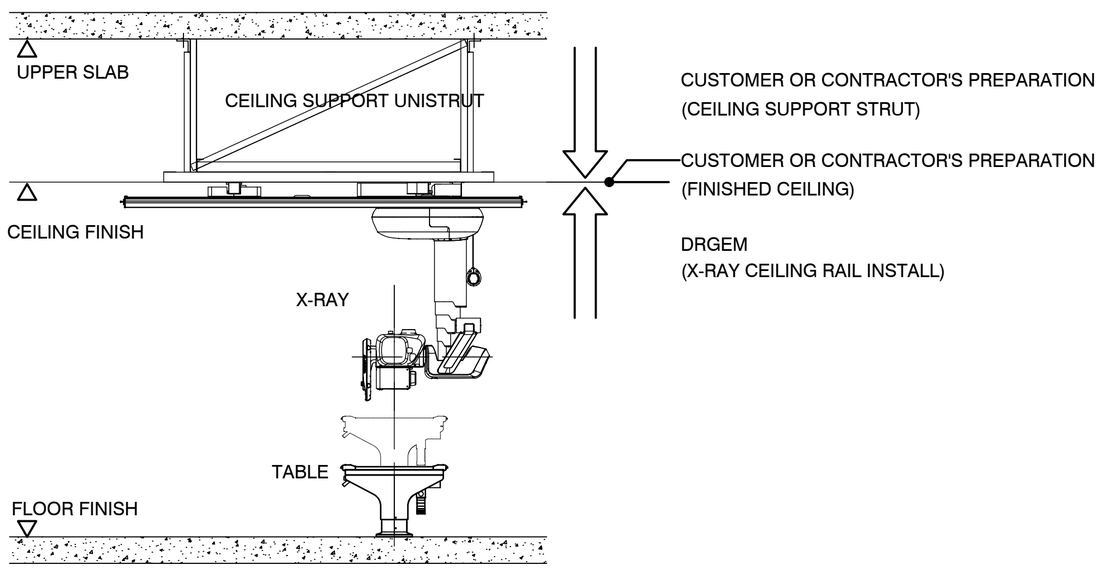
2. AREA OF EXAM ROOM TO BE LEVELED FOR X-RAY EQUIPMENT, CONTRACTOR TO VERIFY MINIMUM SPECIFICATION OF FLOOR SLABS ON WHICH EQUIPMENT IS TO BE INSTALLED MUST BE LEVEL TO 1MM IN 10.0'.

3. CHEST STAND MOUNTING PLATE / ANCHOR BOLT PATTERN

4. TABLE MOUNTING BOLT PATTERN AND LOCATION

5. EXCLUSION ZONE, NO ITEMS BELOW FINISHED CEILING GREATER THEN 1/4"

EQUIPMENT AND EXCLUSION ZONE ISO CENTER



SECTION A-A

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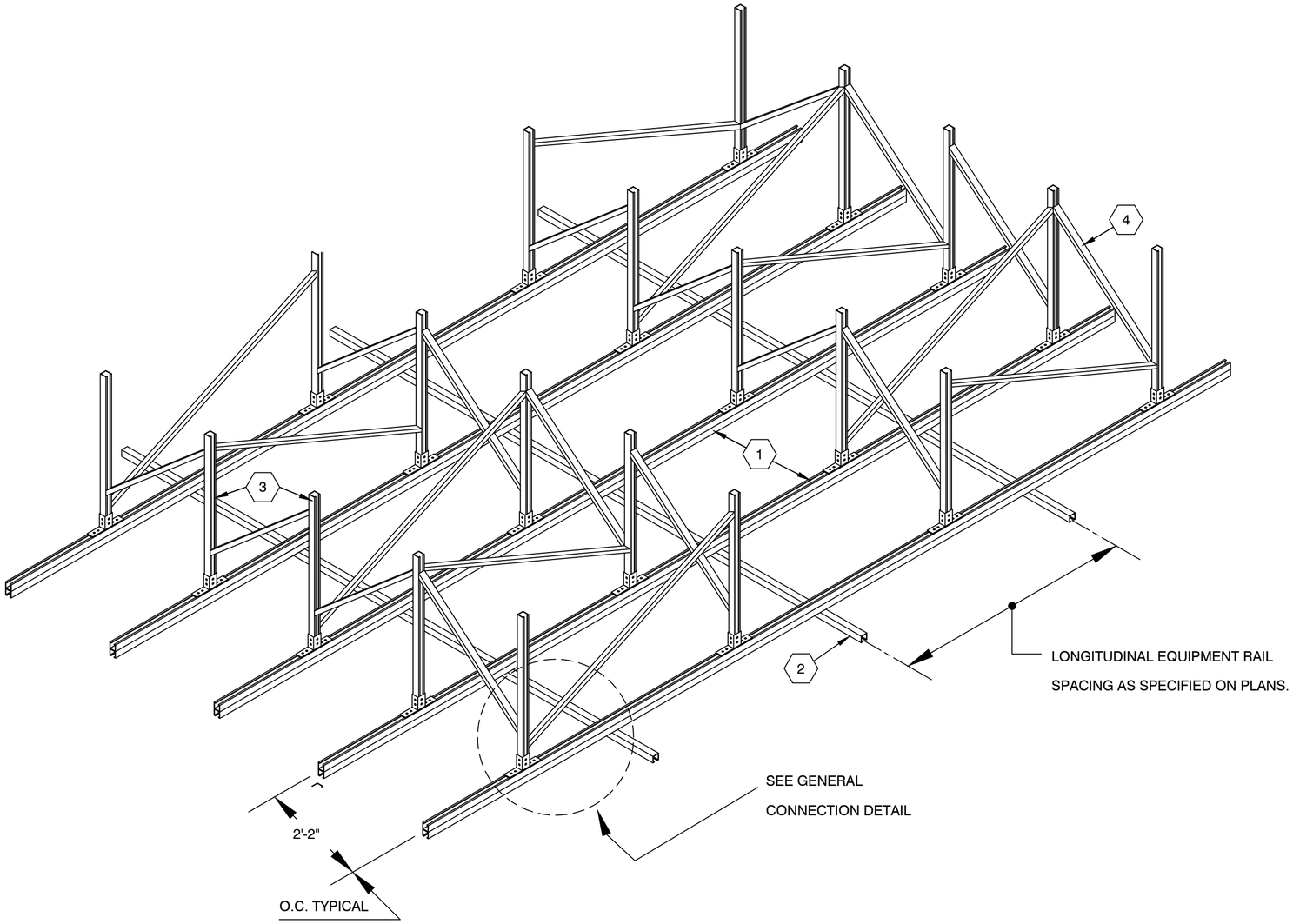
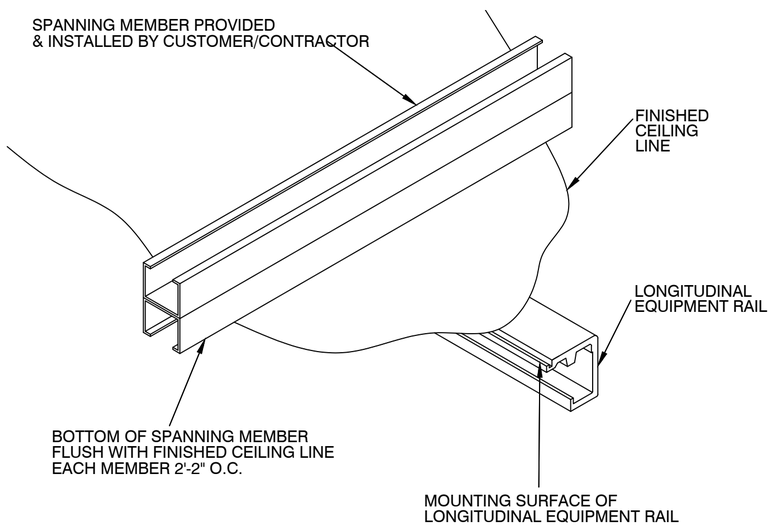
DRAWING SHEET #
S1-X-RAY



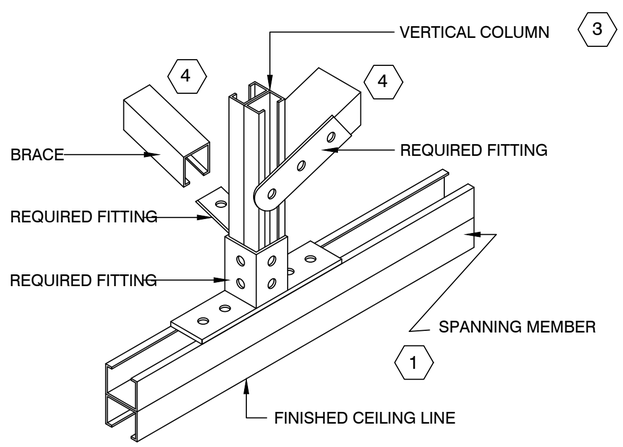
SCHEMATIC / ISOMETRIC - SUSPENSION STRUCTURE

NO SCALE



GENERAL CEILING DETAIL

NO SCALE



GENERAL CONNECTION DETAIL

NO SCALE

STRUT CHANNEL SUPPORT FRAME NOTES

RECOMMENDED UNIVERSAL STEEL STRUT CHANNEL SUPPORT FRAME.

ALLOWS FOR TRANSVERSE AND LONGITUDINAL ADJUSTMENT AT TIME OF EQUIPMENT INSTALLATION. DETERMINATION OF THE ACTUAL DESIGN SHALL BE COORDINATED AND APPROVED BY THE ENGINEER OF RECORD. ALL STEEL STRUT MEMBERS SHALL BE PROVIDED AND INSTALLED BY CUSTOMER / THEIR CONTRACTOR.

1. SPANNING MEMBERS: STEEL CHANNEL STRUT FLUSH WITH FINISHED CEILING. SPACED AS INDICATED ON SHEET "S1"
2. LONGITUDINAL EQUIPMENT RAILS: FASTENED TO UNDERSIDE OF SPANNING MEMBERS.
3. COLUMNS: STEEL CHANNEL STRUT ATTACHED TO SPANNING MEMBERS AS SHOWN ON GENERAL CEILING DETAIL. NUMBER AND LOCATION OF VERTICAL COLUMNS SHALL VARY DEPENDING ON BUILDING CONSTRUCTION.
4. BRACES: STEEL CHANNEL STRUT ATTACHED TO VERTICAL COLUMNS AS SHOWN ON DETAIL.

THE ATTACHED DRAWINGS ARE FOR LAYOUT PURPOSES AND GENERAL MEANS OF FABRICATION. THE CUSTOMER'S ENGINEER OF RECORD OR AGENT SHALL PREPARE CONSTRUCTION DOCUMENTS.

THESE DRAWINGS INDICATE PLACEMENT OF THE PURCHASED EQUIPMENT, AS WELL AS DESCRIBE THE STRUCTURAL REQUIREMENTS FOR THAT EQUIPMENT. RADSOURCE WILL NOT BE RESPONSIBLE FOR OTHER DESIGNS AND CONSTRUCTION.

EVERY EFFORT HAS BEEN MADE TO ASSURE THAT THE EQUIPMENT DEPICTED ON THE ATTACHED RECOMMENDED LAYOUT, CONFIGURES THE LAYOUT PLAN TO ALLOW OPTIMUM OPERATION OF THE EQUIPMENT. THE CUSTOMER'S ENGINEER OF RECORD AND / OR AGENT SHALL BEAR SOLE RESPONSIBILITY FOR COMPLIANCE WITH APPLICABLE CODES ..

---- SHALL PROVIDE AND INSTALL ALL MATERIALS ALONG WITH ANY OTHER FEATURES CALLED OUT IN THE PLANS.

THE CONTRACTOR ----IS RESPONSIBLE FOR ANY FINAL PAINT OR TOUCH-UP WORK WHICH SHALL BE COMPLETED AFTER THE INSTALLATION OF THE PURCHASED SYSTEM.

EXISTING SERVICES THAT WILL NOT BE USED (PLUMBING, JUNCTION BOXES, FLOOR DRAINS ETC.) MUST BE CAPPED OR COVERED PRIOR TO COMMENCEMENT OF EQUIPMENT INSTALLATION.

MINIMUM CEILING HEIGHT: 9'-4"

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S2

GENERAL STRUCTURAL CEILING SUPPORT REQUIREMENTS

A WELDED OR FABRICATED STRUCTURAL SUPPORT IS REQUIRED FOR CEILING MOUNTED X-RAY UNITS. IT'S TOP MEMBER IS FASTENED TO THE FLOOR SLAB (OR BUILDING STEEL) ABOVE THE EXAM ROOM. THE BOTTOM OF IT'S LOWEST SPANNING MEMBER IS FLUSH WITH THE FINISHED CEILING TO WHICH THE STATIONARY CEILING TRACKS ARE FASTENED.

THE DETAILS PROVIDED HERE INDICATE A BASIC SUPPORT METHOD THAT PERMITS TRANSVERSE AND LONGITUDINAL ADJUSTMENT OF BOLT CENTERS AT THE INSTALLATION SITE. IT CAN BE ADAPTED TO ACCOMMODATE THE VARIOUS ARCHITECTURAL CIRCUMSTANCES ENCOUNTERED AT EACH INSTALLATION.

THE SUPPORT MUST BE RIGID, SECURELY BRACED AND LEVEL IN BOTH DIRECTIONS AT THE FINISHED CEILING LINE. LENGTH AND LOADING CAPACITY WILL DEPEND ON THE SELECTED CEILING UNIT AND NUMBER OF CARRIAGE ASSEMBLIES TO BE BORNE. ACTUAL EQUIPMENT LOADS FOR EACH ROOM ARE SPECIFIED ON SITE PLANNING DRAWINGS UNDER THE STRUCTURAL DETAIL SPECIFICATIONS.

IT IS SUGGESTED THAT THROUGH BOLTING THE SUPPORT STRUCTURE TO BUILDING STRUCTURE OCCUR WHENEVER POSSIBLE. APPLICABLE CONDITIONS WILL ALSO ACCEPT THE APPLICATION OF HILTI EXPANSION ANCHORS (OR EQUAL) IN LIEU OF THROUGH BOLTING. ACTUAL METHODS AND MATERIALS SHALL BE DETERMINED BY THE ENGINEER OF RECORD. ALL SUPPORT MEMBERS, ANCHOR BOLTS AND HARDWARE SHALL BE PROVIDED AND INSTALLED BY THE CUSTOMER/CONTRACTOR. THE LENGTH OF BOLTS SHALL BE DETERMINED TO MEET SPECIFIC SITE REQUIREMENTS BY THE ENGINEER OF RECORD.

CENTERLINES OF THE TWO LONGITUDINAL RAILS HOLDING THE SUSPENDED WEIGHTS ARE SHOWN. STEEL CHANNEL STRUT FLUSH FINISHED CEILING SHALL BE IDENTIFIED AS THE SPANNING MEMBERS. THESE MEMBERS MUST BE LEVEL IN BOTH DIRECTIONS TO WITHIN 1MM AND BRACED TO PREVENT MOVEMENT IN ANY DIRECTION. THEY MUST BE SECURED TO THE SLAB ABOVE AND/OR TO THE BUILDING STRUCTURE TO HOLD THE DEAD WEIGHTS INDICATED. see EQUIPMENT LEGEND "SHEET A1"

INSTALLATION OF THE SUPPORT MAY BE AFFECTED BY OTHER ARCHITECTURAL OR MECHANICAL PROVISIONS WHICH MAY BE LOCATED IN THE SAME AREA. IN THIS CASE, COORDINATION OF THE REPRESENTATIVE MUST BE CONSULTED BEFORE ANY DEVIATION FROM THE SITE PLANNING DRAWINGS IS UNDERTAKEN.

1. CUSTOMER S LUKES ROCKHILL CAN ALSO UTILIZE AN EXISTING SUPPORT STRUCTURE, ONLY IF THE STRUCTURE IS CERTIFIED BY A
   LICENSED/PROFESSIONAL STRUCTURAL ENGINEER.
2. SUPPORT STRUCTURE MUST MEET ALL REQUIRED EQUIPMENT SUPPORT NEEDS FOR WIDTH, DEPTH, STRENGTH,
   ETC.
3. CUSTOMER S LUKES ROCKHILL IS RESPONSIBLE FOR MEETING SITE CONDITIONS FOR STATIC LOADS, LEVELNESS, ETC.

GENERAL STRUCTURAL NOTES

FLOOR SLABS ON WHICH EQUIPMENT IS TO BE INSTALLED MUST BE LEVEL TO 1MM IN 10.0'.

DIMENSIONS ARE TO FINISHED SURFACES OF ROOM.

CUSTOMERS CONTRACTOR ---- MUST PROVIDE ALL PENETRATIONS IN POST TENSION FLOORS.

CUSTOMERS CONTRACTORS ----MUST PROVIDE AND INSTALL ALL HARDWARE FOR "THROUGH THE FLOOR" ANCHORING AND/OR ANY BRACING UNDER SLAB AND/OR ACCESS FLOORS. THE CONTRACTOR MUST ALSO PROVIDE FLOOR DRILLING THAT CAN NOT BE COMPLETED BECAUSE OF AN OBSTRUCTION ENCOUNTERED BY THE INSTALLER SUCH AS REBAR ETC...

IT IS THE RESPONSIBILITY OF THE CUSTOMER S LUKES ROCKHILL/CONTRACTOR ---- TO PERFORM ANY FLOOR OR WALL PENETRATIONS THAT MAY BE REQUIRED. THE CUSTOMER S LUKES ROCKHILL/CONTRACTOR ---- IS ALSO RESPONSIBLE FOR ENSURING THAT NO SUBSURFACE UTILITIES i.e. ELECTRICAL, PLUMBING OR ANY OTHER FORM OF WIRING, CONDUITS, PIPING, DUCT WORK OR STRUCTURAL SUPPORTS E.G. POST TENSION CABLES OR REBAR WILL INTERFERE OR COME IN CONTACT WITH SUBSURFACE PENETRATION OPERATIONS, E.G. DRILLING AND INSTALLATION OF ANCHORING PERFORMED DURING THE INSTALLATION PROCESS. TO ENSURE WORKERS SAFETY INSTALLERS WILL ONLY PERFORM SURFACE PENETRATION OPERATIONS ONLY AFTER THE CUSTOMERS CONTRACTOR HAS VALIDATED THE SURFACE TO BE PENETRATED.

ALL CEILING MOUNTED FIXTURES SUCH AS AIR VENTS, SPRINKLERS etc. TO BE FLUSH MOUNTED OR NOT TO EXTEND MORE THEN 1/4" BELOW THE FINISHED CEILING.

ALL STEEL WORK AND PARTS NECESSARY TO SUPPORT CEILING MOUNTED EQUIPMENT IS TO BE SUPPLIED BY THE CUSTOMER S LUKES ROCKHILL OR THEIR CONTRACTOR ----.

ALL UNITS THAT ARE WALL MOUNTED OR WALL SUPPORTED ARE TO BE PROVIDED WITH SUPPORTS WHERE NECESSARY. WALL SUPPORTS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER S LUKES ROCKHILL OR THEIR CONTRACTOR ----.

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S3