| ~~~~~~ | | 1 | | | | | | |
|--|---|---|--|--|--|--|--|--|
| Drawing Index | | | | | | | | |
| These sheets are a document set and should not be separated. Electrical information and references are contained on all sheets. | | | | | | | | |
| site readiness | C 1 | | | | | | | |
| EQUIPMENT LAYOUT (Equipment locations, heat loads, component weights | A1 s, environmental specs) | | | | | | | |
| STRUCTURAL LAYOUT (Structural support/mounting locations for floor/wall | S1 /ceiling, wall support elevations) | | | | | | | |
| STRUCTURAL DETAILS (Floor and Ceiling loading information) | S2 | | | | | | | |
| ELECTRICAL LAYOUT (Contractor supplied wiring, interconnect methods, ju | E1 unction point locations and descriptions) | | | | | | | |
| ELECTRICAL SPECIFICATIONS (Maximum wiring run lengths, interconnect diagram, ELECTRICAL DETAILS | | | | | | | | |
| MECHANICAL LAYOUT (Chiller information) | M 1 | | | | | | | |
| EQUIPMENT DETAILS | D1 THRU D3 | | | | | | | |

These equipment installation 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 installation and operation of such equipment in compliance with GE Healthcare's written specifications and all applicable federal, state, and/or local requirements.

* REQUIRED REFERENCE *

Signa 3.0T w/Excite HD

Preinstallation Manual

5133303

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

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

http://www.gehealthcare.com/company/docs/siteplanning.html



GE Healthcare



MRi Site Planning

imagination at work

- prior to making changes.
- analysis, 4. Restrooms.

Items 1 through 8 on the GE Healthcare Site Readiness Checklist are REQUIRED to facilitate equipment delivery to the installation site. Equipment will not be delivered if these requirements are not satisfied.

| | % |
|------|--|
| | GEHC Global |
| | GEHC On-site Represe |
| | Name of customer review |
| | GE |
| | Target Site Prep Completi The customer is respons |
| For | MR Magnet Delivery: Ensure cryoge |
| sup | bly is available 24x7 that meets syste |
| | Inspection Da |
| # | |
| tem | GEHC Minimum Rec |
| _ | |
| | Equipment installation drawings mus |
| | and must meet clearance requireme |
| 1 | installation requirements may be rec allowed by local code. Seismic requi |
| | construction drawings. |
| | Delivery route to installation or stora |
| 2 | requirements and has been discusse customer. Ensure floor protection is |
| 2 | identified, and will be available at tin |
| | installation. |
| | Rooms that will contain equipment, i |
| 3 | are dust free. Room security to prev and theft has been discussed with cu |
| | aware of these security issues, implie |
| | In room HVAC ductwork and units (in |
| | mechanically installed and dust free. appear to meet environmental cond |
| 4 | Definitions) and observed issues hav |
| | the customer. If being stored, storag storage criteria. |
| | storage entena. |
| 5 | Ceiling grid is installed, Unistrut is loc |
| Ŭ | drawings, and permanent lighting is |
| | Floor is clean and prepared for final |
| 6 | has verified floor leveling meets the e drawings and PIM specs and no visit |
| 0 | Gantry and table baseplate are insta |
| | applicable) |
| 7 | Access to a working phone at the fac |
| 1 | including MR magnet delivery. |
| | All walls primod (final cost pot poed |
| 8 | All walls primed (final coat not neede tops that will support equipment mu |
| 5 | producing cabinetry work in installat |
| | Mechanical supplier has been provid |
| 9 | equipment installation drawings for |
| 5 | permitted construction drawings or f drawings are required. |
| | Conduit/electrical cable ducting/divi |
| | installed, with the exception of surface |
| 10 | Wiring to the main disconnect panel with equipment installation drawing: |
| | manual. |
| | |
| Issi | ued Date: 7/9/07 Rev 11 |

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

 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

• Provide for refuse removal and disposal (e.g. crates, cartons, packing)

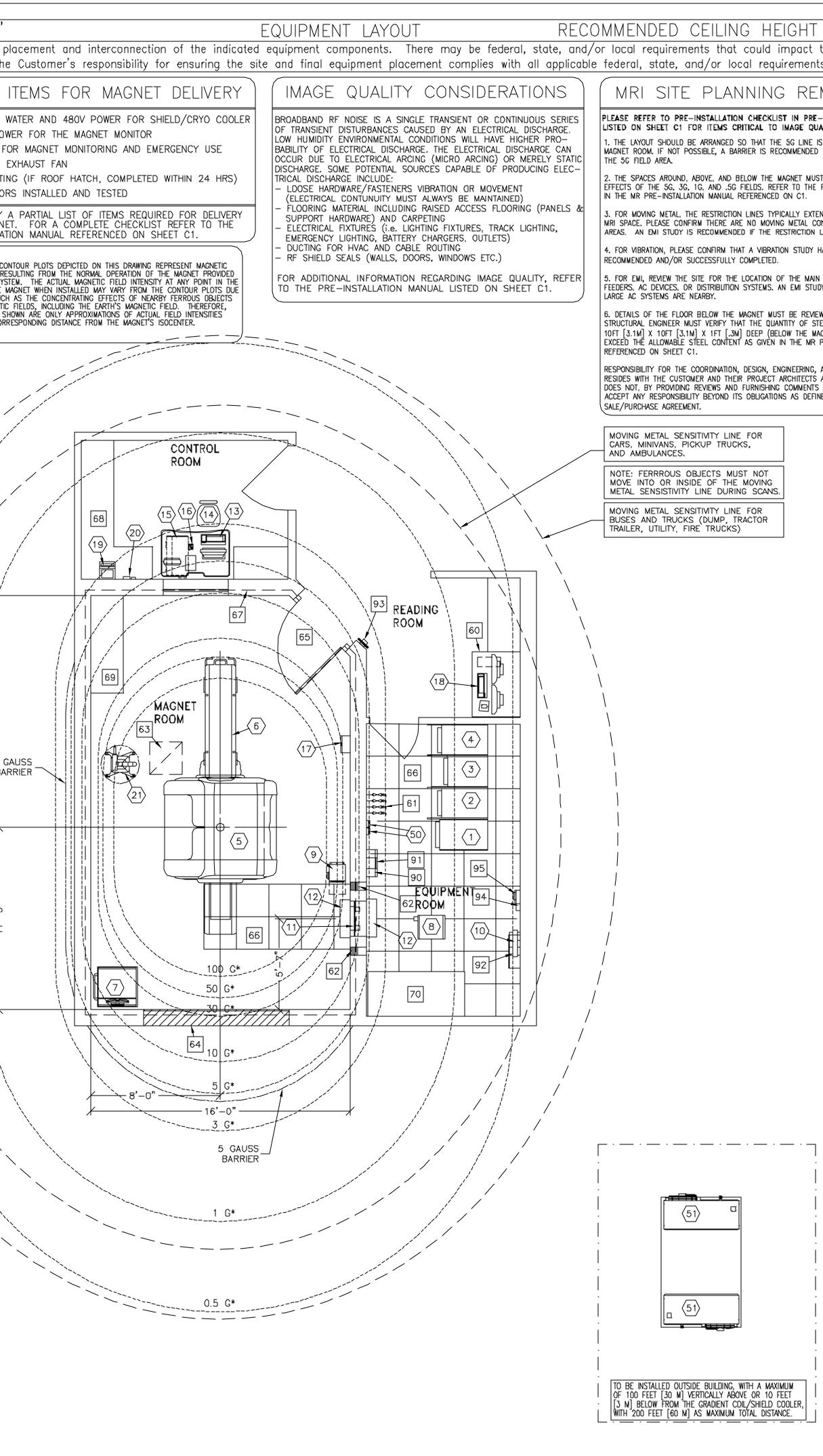
 It is the customer's responsibility to contract a vibration consultant/engineer to implement site design modifications to meet the GE vibration specification. Refer to the system preinstallation manual for the vibration specification.

GE Equipment Delivery Requirements

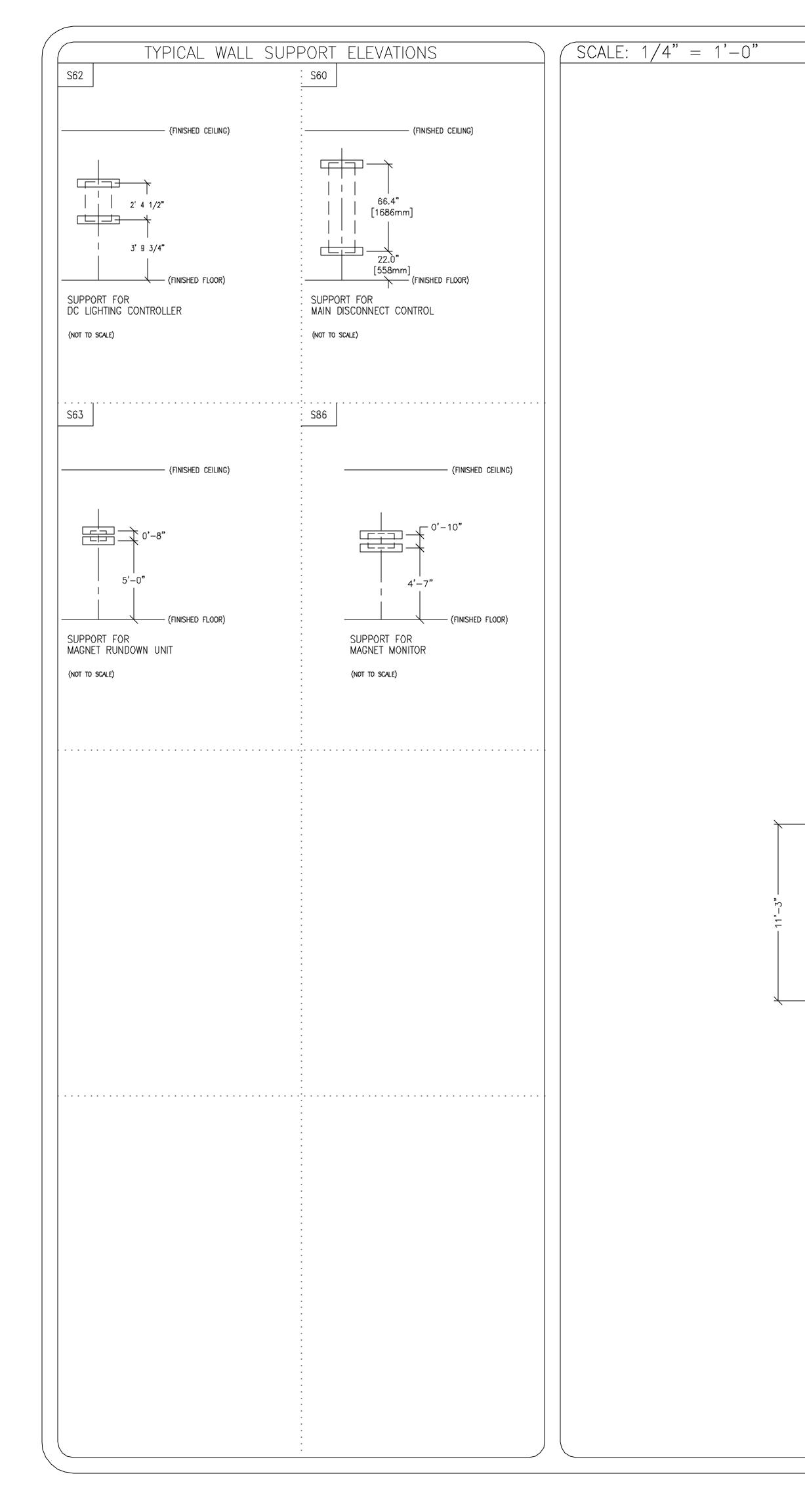
| Order # : | | | С | ustomer: | | |
|--|------------|---------|---|---|---|--|
| ntative : | | | | | | |
| ed with : | | | | | | |
| HC PMI : | | | | | | |
| | | | | . none | | |
| on Date: ible for proper site prep | aration ar | nd site | readine | ss regardl | ess of any | GEHC inspections/assessments. |
| | ng system | | | | | nd operational (0.7T, 1.5T & 3T) and chilled water |
| te | | | | | | |
| Is this item ready? | | | Verify (Delivery): Is item ready? | Validate (Mech Install): Is item ready? | Comments If "N", please enter in comments or action plan | |
| t match actual room size nts. Deviations that meet -lined, if red-lining is rements are identified on | | | | | | |
| ge area meets d and scheduled with the discussed, requirements le of delivery and | | | | | | |
| ncluding storage areas, ent unauthorized access istomer. The customer is ations and responsibility. | | | | | | |
| room) must be Installation rooms tions (see Further e been communicated to e area must meet PIM | | | | | | |
| ated per the installation installed and operational. | | | | | | |
| loor covering. Customer equipment installation le defects are observed. lled prior to delivery (if | | | | | | |
| ility for emergency use, | | | | | | |
| d on Day 1), and counter st be installed. No dust- ion areas. | | | | | | |
| ed with a set of eference. For California, MI-specified installation | | | | | | |
| ders/ access flooring ce-mounted floor ducting. is installed and compliant or pre-installation | | | | | | |

| | | CE Vacittation Tachnologia | | Installation Services Design Center Milwaukee, Wisconsin | |
|---|--------------------------------------|---|---|--|---|
| | | | T JENTS. | PT | |
| on Sketch No.: 8–194 | SHEET TITLE: SITE READINESS | 94F MODALITY TYPE: 3.0T SIGNA EXCITE HD | $ \land \lor \land $ | TO ACTUAL CONSTRUCTION PURPOSES, HOWEVER, AND THE COMPANY CENTRED 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. |
| This drawing is based on Sketch No.: 8- | PROJECT TITLE: | | | | |
| | 8- | DJECT 194F | | (ISION 01 | |
| | <u>DATI</u> DRA <u>CHE</u> | | | <u>9-07</u> SDE PMN | } |
| | R | EVISION | HIST | ORY: | |
| | | SHE | et 1 | | |

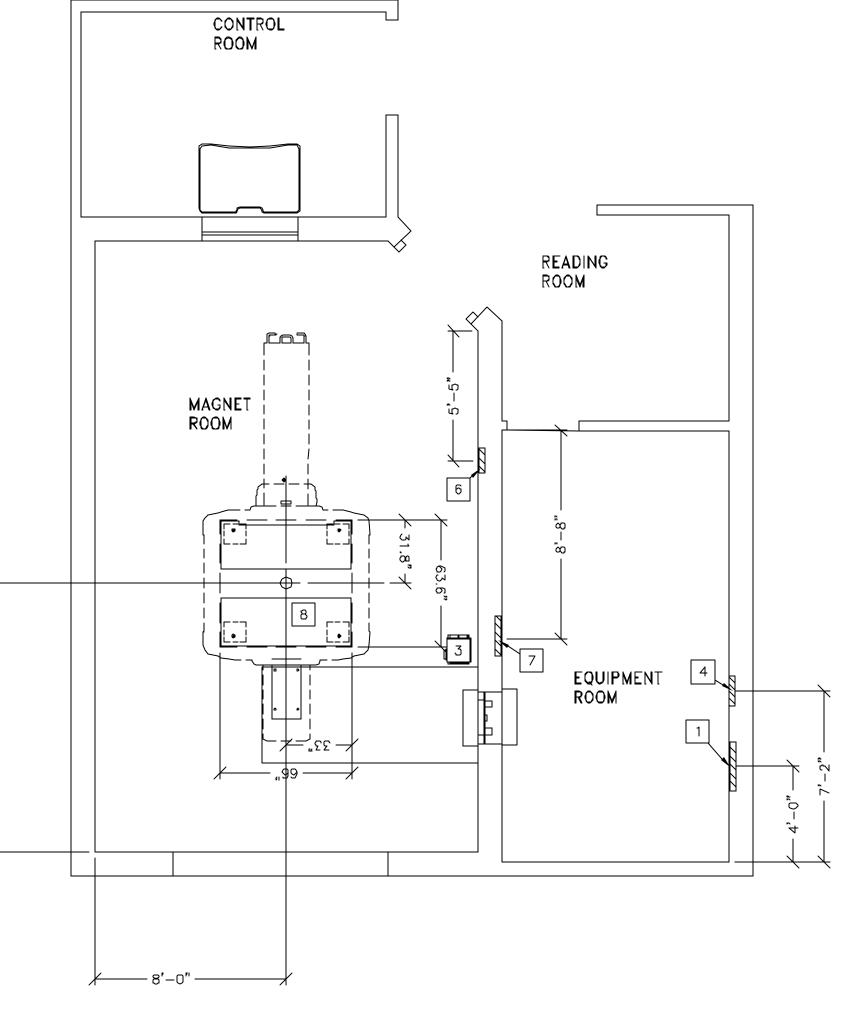
| | | | EQUIPMENT | | | | | | | \square | SCALE: $1/4" = 1'-0"$ |
|----------------------------------|----------|---|--------------------------------------|--------------------|-------------|-----------------------|---|-----------------|-------------|---------------|--|
| PE | ۲: | MENT ON ORDER FROM GE NEITHER A QUOTE OR GON WAS | 5 ISSUED AT THE DATE OF | | | | EQUIPMENT CROSS REFERENCE CHART P = PREAPPROVAL SEISMIC C = CALCULATIONS/ STATUS PENDING APPROVAL | | | | This equipment layout indicates the p of these components. It remains the |
| BE | | STALLED BY OTHERS. | | | | S CATEGURY | | | NG APPRO | VAL | |
| ITEN NO. | | ITEM DESCR | | WEIGHT | | HEAT OUTPUT | DETAIL | STRC | | | □ 24/7 CHILLED V □ 24/7 120V POV |
| | 1 | (* = EXISTING) Twinspeed accessory | | 601 l | | (PER HOUR) | NO. | PLAN | PLAN TAC | s | D PHONE LINES FO |
| $\overline{2}$ $\overline{3}$ | | RFS CABINET Narrow Band RF Ampl: | IFIER CABINET | 379 749 l | | | | M14 15A | MR2 MR8 | s S | CRYOGEN VENTIN |
| (4) (5) | 1 | HFD/PDU CABINET 3. O TESLA LCC ACTIVE | E SHIELD MAGNET | 1805 (24808 (| | 34129 btu 8191 btu | | М66 ЗО | MR3 MS1 | s c | THIS IS ONLY OF THE MAGNE PRE-INSTALLAT |
| 6 | | PATIENT TRANSPORT TA CDOES NOT INCLUDE F | ABLE PATIENT> | 279 (| bs | | M2315 | | | s | + THE ISOGAUSS CO FRINGE FIELDS RE WITH THE MR SYS |
| (7) (8) (9) | 1 | SPT PHANTOM CABINET | ET | 350 l 275 l | bs | | M6115 M1615B | | MS5 | – C | VICINITY OF THE M TO FACTORS SUCH AMBIENT MAGNETIC |
| | | BLOWER BOX Magnet Monitor | | 19 l 22 l | | 1365 btu 204 btu | M3000F | МЗО 00G , | MG6 MSM1 | s c | THE CONTOURS SH FOUND AT A CORF |
| | 1 | RF PENETRATION PANEL | L | 88 (| bs | 324 btu | M5615 M5515 | , | PP 1 | s | |
| | 2 | PENETRATION PANEL C | DVERS | | | | M4515B M4715B | , | | s | |
| | | OPERATOR WORKSPACE W/COLOR LCD MONITOR OPERATOR'S CHAIR | | | | | M0516A | - | ΩW | _ | |
| (15) (16) | | OPERATOR WORKSPACE O PATIENT ALERT CONTRO | | 198 l | bs | | M0615D M4815 | | PA | c s | |
| 17 | | MAGNET RUNDOWN UNIT ADVANTAGE WORKSTATIC LCD MONITORS (OPTION | DN WITH TWD | 8 ເ 81 ເ | | 1109 btu | M1715A M1013AW | | MS 4 | c s | |
| (19) | | CONTROL ROOM UNIT | | 15 ເ | bs | | E8804S | | ICC | - | |
| 20) (21) | | BATTERY CHARGING UN: (OPTION) INJECTOR HEAD ON PEI | | 4 l 59 l | | | E8804S | | ІН | _ | |
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| | th Af | HE FOLLOWING ITEMS, WH RE TO BE INSTALLED BY | HICH HAVE BEEN OF THE CUSTOMER OF | RDERED R HIS CO | FRC DNTF |)M GE HEAL RACTOR. | THCARE, | | | | |
| 50 | | REMOTE CONTROL FOR CHILLER SYSTEM | | 2 (| | | M3088R | | RCP | - | |
| (51) | | MR COMMON CHILLER S | TSTEM | 683 l | . IDS | | M3088TL | | MRCC | | |
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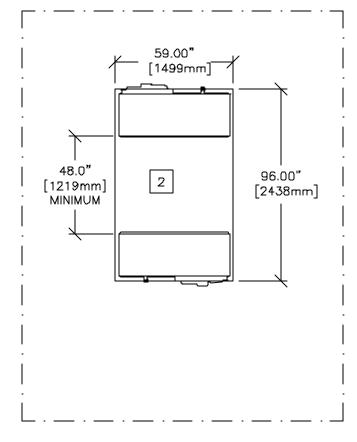


| = 8' - 9" | ANCILLARY ITEMS | |
|--|--|--|
| the placement ts. | CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS | Technologies Center Wisconsin |
| MINDERS | ITEM ITEM DESCRIPTION | |
| -INSTALLATION MANUAL | (* INDICATES EXISTING) | |
| TO PREVENT ENTRY TO | 60WORKSTATION TABLE61VALVES AND HOSE BARBS FOR COOLING SYSTEM | Healthcare |
| ot be reviewed for Proximity limit chart | 62 RF FILTERS - LOCATE WITHIN 24 in. [610 mm] OF THE PENETRATION PANEL. 63 MAGNET ROOM EXHAUST FAN | |
| ND OUTSIDE OF THE DNCERNS WITHIN THESE LINES ARE VIOLATED. | 64 MINIMUM 9 FTO IN. [2743 mm] × 9 FTO IN. [2743 mm] REMOVABLE WALL SECTION FOR MAGNET DELIVERY/REMOVAL. 65 MINIMUM DOOR OPENING FOR EQUIPMENT DELIVERY IS | GE H Services |
| HAS BEEN | 43 IN. W × 82 IN. H [1092mm × 2083mm], CONTINGENT ON A 96 IN. [2438mm] CORRIDOR WIDTH 66 NON-METAL ACCESS FLOOR WITH 2' × 2' <610 × 610mm) REMOVABLE PANELS, MIN. 0' -8" (203mm) DEEP. | |
| I ELECTRICAL DY IS RECOMMENDED IF | NDN-METAL ACCESS FLOORING (PANELS & SUPPORT HARDWARE> REQUIRED WITHIN MAGNET ROOM. 67 RF SCREEN, INCLUSIVE OF WALLS, FLOOR, DOOR, ETC. GROUND IMPEDANCE GREATER THAN 1000 OHMS. | fin stallation Milwaukee, |
| WED. THE EEL IN THE VOLUME AGNET) DOES NOT | ATTENUATION 100dB AT 10-150MHz PLANEWAVE. 68 COUNTERTOP WITH DRAWERS FOR MISCELLANEOUS ITEMS. | Milwau |
| PRE-INSTALLATION MANUAL | 69BASE CABINET FOR STORAGE OF: SURFACE COILS, PATIENT POSITIONING PADS, PHANTOMS, ETC.70AIR CONDITIONING. (VIBRATION ISOLATION IS RECOMMENDED AT SUPPORTS OF EACH UNIT TO BE INSTALLED.) | |
| AND CONTRACTORS. GE AND ASSISTANCE, NED IN THE MR SYSTEM, | THE FOLLOWING ITEMS ARE AVAILABLE FROM GE HEALTHCARE TECHNOLOGIES. CONTACT YOUR LOCAL GE HEALTHCARE SERVICE REPRESENTATIVE FOR PRICING AND AVAILABILITY. | ENT EMENTS. FOR CEPT CEPT |
| | DC LIGHTING AUTO TRANSFORMER 60 (bs [27 kg] (PART OF VARIABLE DIMMER SYSTEM) | HD HD FORM DETALS ANNOT ACCEPT |
| | 91 DC LIGHTING CONTROL PANEL 155 lbs (70 kg) 1024 BTU/HR, (CAT. ND. E4502SC/SE - BASIC SYSTEM) | |
| | 92 MULTIPLEXER BOX (MUX) 93 METAL DETECTOR (HAND HELD) | EXCITE EXCITE EXCITE THE COMPANY CONTRACT THE COMPANY CONTRACT |
| | 94 MAGNET MONITOR UPS GE CAT. NO. E4504AG 50 LBS., 450 BTU. | |
| | 95 MAIN DISCONNECT CONTROL CAT NO. M3088TM | EQUIPMEN 3. OT SIGNA 10 SUGGEST LOCATION O 15, ELECTRICAL WIRING D SVERY EFFORT HAS BEE PECTED TO BE INSTALLET REPOSES, HOWEVER, AND DAMAGES RESULTING THEI |
| | | OT OT SUGGEST SUGGEST SUGGEST ELECTRIQ DSES, HC OSES, HC MACES RE |
| | | |
| | GENERAL SPECIFICATIONS | TTLE: TYPE: SUBMITTE ED APPAR THIS PLA NUIPMENT TRUCTION |
| | • THE REQUIRED CEILING HEIGHT INDICATED ON THESE PLANS IS TO ENSURE EQUIPMENT FUNCTION IS NOT INHIBITED. CONSULT WITH YOUR LOCAL GEHC INSTALLATION 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. | SHEE MODALITY MODALITY THIS PLAN I AND ASSOCI IN PREPARIN TO ACTUAL I ACTUAL CON |
| | 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. | |
| | 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 INSTALLATION. GEHC RESERVES THE RIGHT TO MAKE ON THE JOB CHANGES BECAUSE OF CUSTOMER REQUIREMENTS | |
| | ALL WORK TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL BUILDING SAFETY CODES. D DIMENSIONS ARE TO FINISHED SURFACES OF ROOM | |
| | | |
| | SITE ENVIRONMENT SPECIFICATIONS | |
| | | |
| | MAXIMUM ALLOWABLE CHANGE OF 5 PERCENT/HOUR. | |
| | O ENVIRONMENTAL RESTRICTIONS ABOVE MUST NOT BE EXCEEDED FOR THE ELECTRONICS. O DO NOT RESTRICT THE AIR INTAKE OR AIR EXHAUST OF THE SYSTEM COMPONENTS. | PROJECT |
| | ENVIRONMENTAL CONDITIONS LISTED ABOVE MUST BE MAINTAINED AT ALL TIMES INCLUDING FOR EXAMPLE OVERNIGHT, WEEKENDS, AND HOLIDAYS. 24 HOUR POWER AND HVAC MUST BE AVAILABLE UPON MAGNET DELIVERY. [THIS WILL INCLUDE FACILITY CHILLED WATER SUPPLY IF REQUIRED.] | |
| | CRYOGEN VENTING AND EMERGENCY EXHAUST SYSTEMS MUST BE COMPLETED IN THE MAGNET ROOM PRIOR TO DELIVERY. FLUORESCENT LIGHTING IS NOT ALLOWED IN THE MAGNET ROOM DUE TO RF NOISE. | PROJECT REVISION |
| | | 8-194F 01 DATE: 10-19-07 |
| | MAGNETIC INTERFERENCE SPECIFICATIONS THE CUSTOMER MUST ESTABLISH PROTOCOLS TO PREVENT PERSONS WITH CARDIAC | DRAWN BY: SDB CHECKED BY: PMM |
| | PACEMAKERS, NEUROSTIMULATORS, AND BIOSTIMULATION DEVICES FROM ENTERING MAGNETIC FIELDS OF GREATER THAN 5 GAUSS (EXCLUSTION ZONE). | |
| | EMI < 17.1mG AC. | |
| | TO 24.61 FT. [7.5 m] AND RADIALLY TO 19.68' FT. [6.0 m] FOR 100 SECONDS OR LESS. IT SHOULD BE NOTED THAT NORMAL RAMPDOWNS WILL NOT CAUSE THE MAGNETIC FIELD TO EXPAND. | REVISION HISTORY: |
| | IT IS RECOMMENDED EVERY SITE CONSIDER THE EVENT OF A QUENCH AND PLAN ACCORDINGLY (SUCH AS PLACING 5 GAUSS WARNING SIGNS AT EXPANDED LOCATIONS). THE FERROUS METAL OBJECTS LISTED BELOW MUST NOT MOVE INTO OR INSIDE OF THE NOTIFIC AND ADDRESS OF THE DELOW MUST NOT MOVE INTO OR INSIDE OF THE | |
| | MOVING METAL SENSITIVITY LINE DURING SCANS. TYPCIAL MOVING MAGNETIC MASS DISTANCE RADIALLY DISTANCE AXIALLY | |
| | FORKLIFTS, SMALL ELEVATOR, CARS, MINIVANS VANS, PICKUP TRUCKS, AMBULANCES (OBJECTS GREATER THAN 400 Ibs [182 kg]) 21.0 ft. [6.4 m] 26.0 ft. [7.92 M] | |
| | BUSES AND TRUCKS (DUMP, TRACTOR TRAILER, UTILITY, FIRE TRUCKS)24.5 ft. [7.47 m]30.3 ft. [9.25 M] | SHEET |
| | THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED | MA1 / |
| | THIS SHELL IS TAIN VE THE DECONVENTIAL SET ESTED ON SHELL OF AND SHOULD INVEDE SEPARATED | NFSH-1002 |

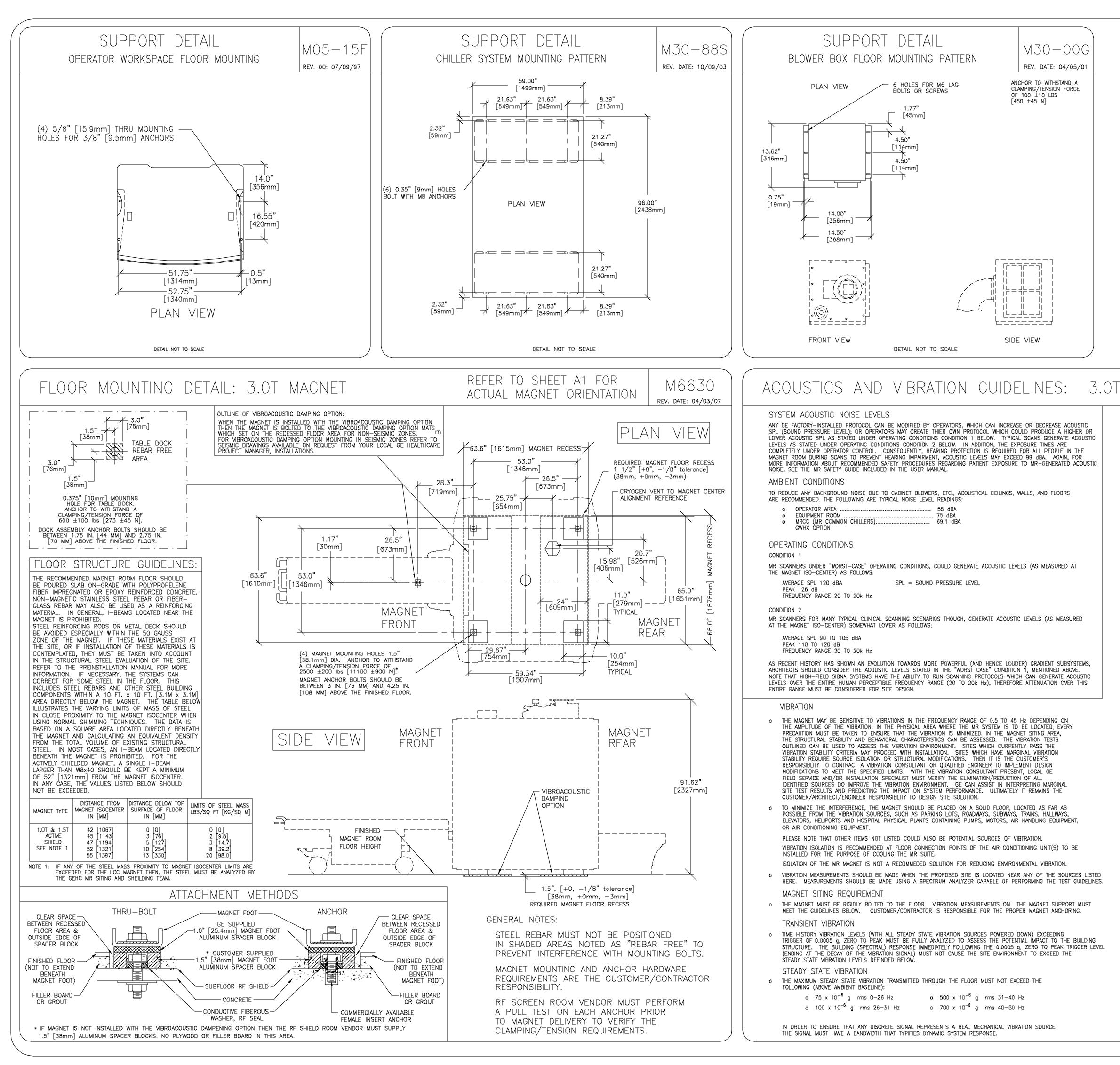


STRUCTURAL LAYOUT



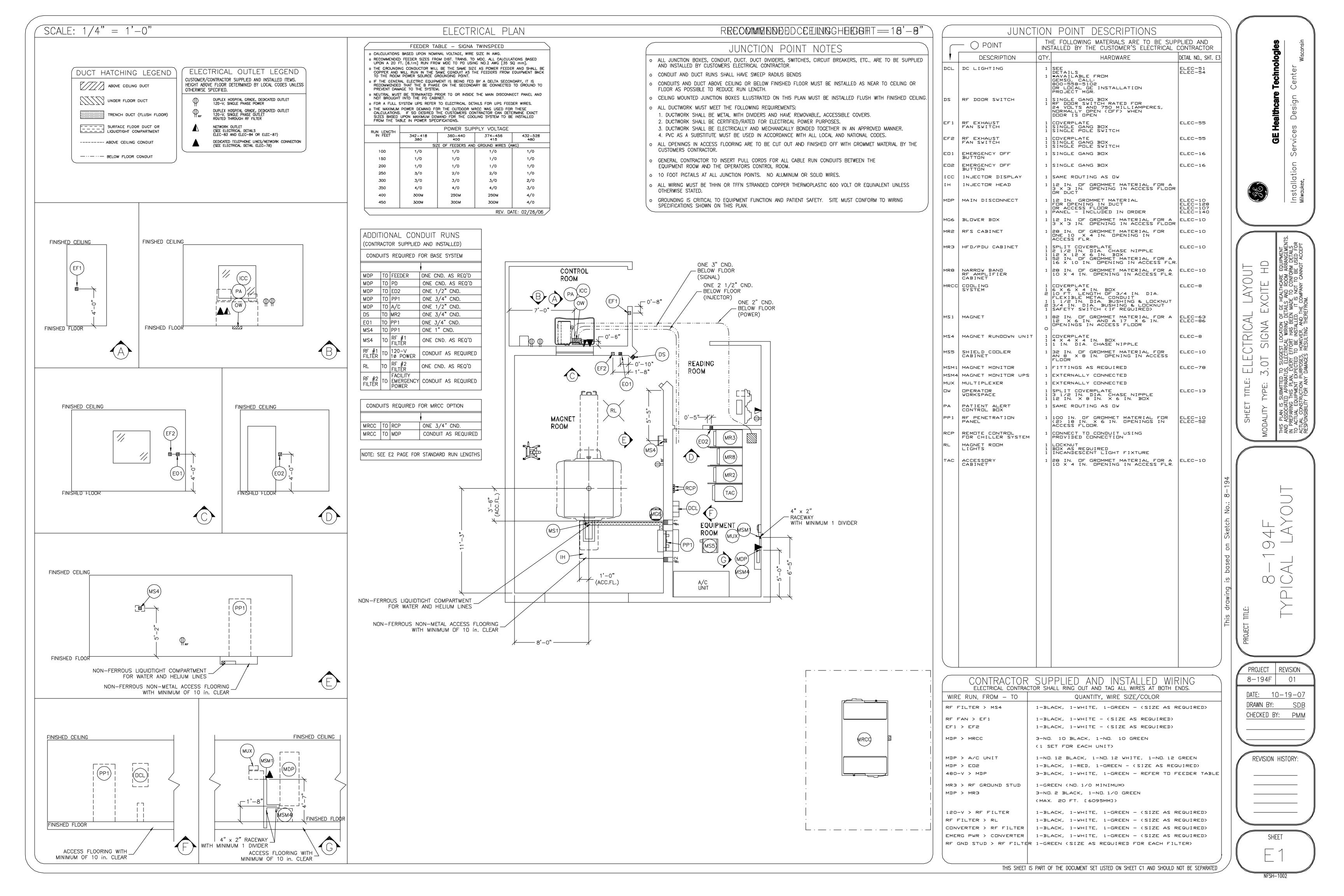


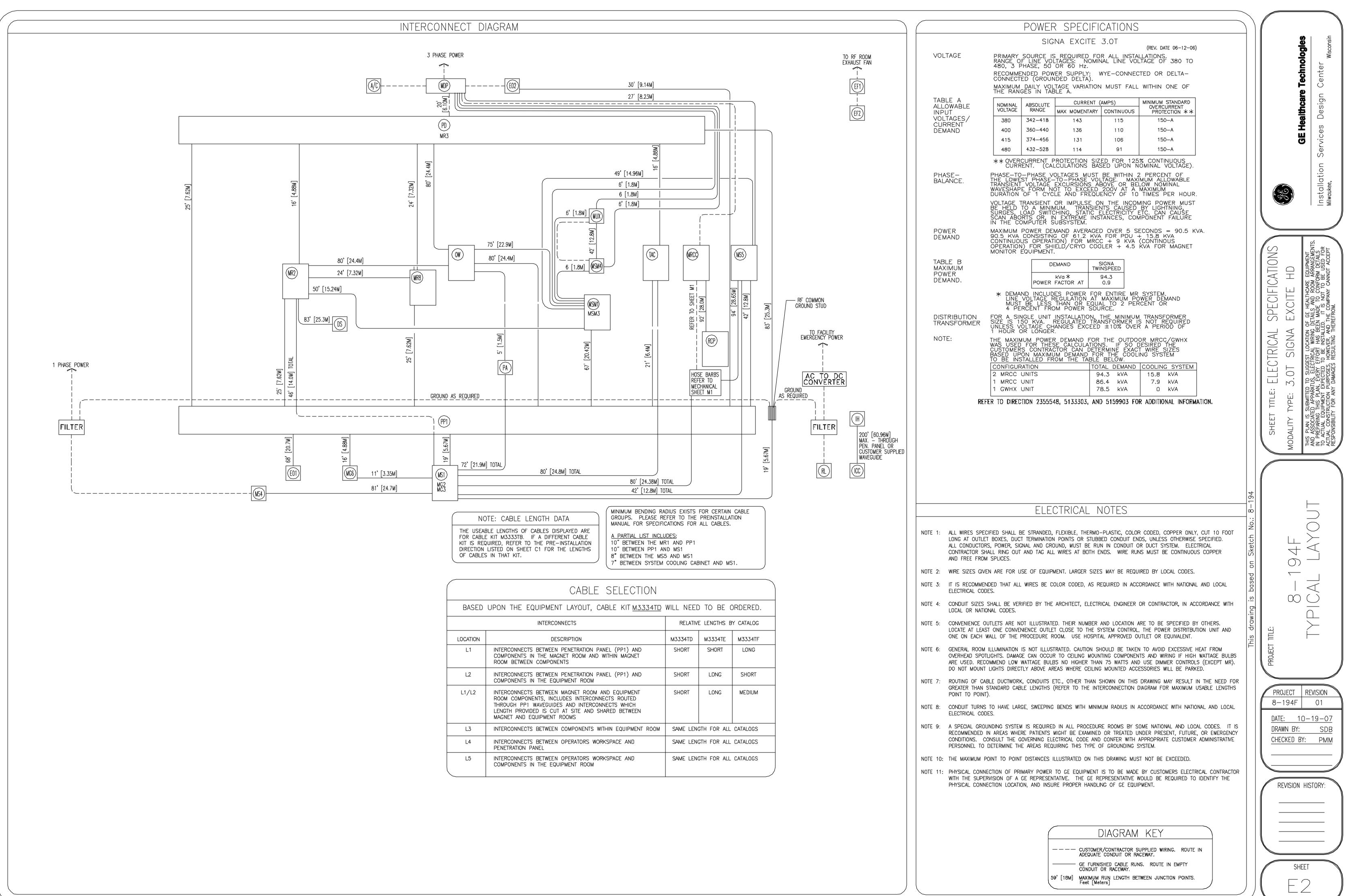
| | JSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEM DESCRIPTION (* INDICATES EXISTING) | | are Technologies yn Center ^{Wisconsin} |
|---------------------------------|---|--|--|
| 2 3 4 5 6 7 8 | DETAIL S62, FIRE, DC LIGHTING CONTROL. 96 IN. [2438 MM] X 59 IN. [1500 MM] CONCRETE PAD WITH A MINIMUM 4 IN. [100 MM] DEPTH AND 2500 PSI IS REQUIRED FOR GROUND LEVEL INSTALLATION. ADDITIONAL CONCRETE DEPTH MAY BE REQUIRED BY LOCAL CODES. THE UNIT MAY ALSO BE ROOF MOUNTED. UNIT MUST BE MOUNTED ON A LEVEL AREA WITH A MAXIMUM DEVIATION ON THE LEVELINESS OF 3/8" OVER 10 FEET [10MM OVER 3050MM]. FOR BOLT MOUNTING LOCATIONS SEE DETAIL M30-88S FLOOR MOUNTING AREA FOR BLOWER BOX. SEE DETAIL M30-00G ON SHEET S2. SUPPORT BACKING, LOCATE AS SHOWN, REFER TO ELEVATION DETAIL S60, FOR MAIN DISCONNECT CONTROL. SEE DETAIL M05-15F ON SHEET S2 FOR FLOOR MOUNTING OF OPERATOR WORKSPACE. SUPPORT BACKING, LOCATE AS SHOWN, REFER TO ELEVATION DETAIL S63, FOR MAGNET RUNDOWN UNIT. SUPPORT BACKING, LOCATE AS SHOWN, REFER TO ELEVATION DETAIL S63, FOR MAGNET MONITOR. LEVELING AREA FOR MAGNET AND TABLE SUPPORT BACKING, LOCATE AS SHOWN, REFER TO ELEVATION DETAIL S63, FOR MAGNET MONITOR. SUPPORT BACKING, LOCATE AS SHOWN, REFER TO ELEVATION DETAIL S63, FOR MAGNET MONITOR. LEVELING AREA FOR MAGNET AND TABLE SEE DETAILS M66-30 AND M66-30A ON SHEET S2. | | s. Installation Services Design Milwaukee. |
| | | | SHEET TITLE: STRUCTURAL LAYOUT MODALITY TYPE: S.OT SIGNA EXCITE HD 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 |
| | STRUCTURAL NOTES STRUCTURAL NOTES 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 OCATIONS AND MOUNTING HOLE LOCATIONS. SUMENSIONS ARE TO FINISHED SURFACES OF ROOM. SERTAIN MR PROCEDURES REQUIRE AN EXTREMELY STABLE ENVIRONMENT TO ACHIEVE HIGH RESOLUTION IMAGE QUALITY. VIBRATION IS KNOWN TO INTRODUCE FIELD INSTABILITIES NTO THE INAGING SYSTEM. THE VIBRATION IS KNOWN TO INTRODUCE FIELD INSTABILITIES DURING THE INITIAL SITE PLANNING OF THE MR SUITE BY MINIMIZING THE VIBRATION ENVIRONMENT. SEE MOUNTING DETAIL ON SHEET S2 FOR ADDITIONAL INFORMATION. STANDARD STEEL STUDS, NAILS, SCREWS, CONDUIT, PIPING, DRAINS AND OTHER HARDWARE ARE ACCEPTABLE IF PROPERLY SECURED. ANY LOOSE STEEL OBJECTS CAN BE VIOLENTLY ACCELERATED INTO THE BORE OF THE MAGNET. CAREFUL THOUGHT SHOULD BE GIVEN TO THE SELECTION OF LIGHT FIXTURES, CABINETS, WALL DECORATIONS, ETC. TO MINIMIZE THIS POTENTIAL HAZARD. FOR SAFETY, ALL REMOVABLE ITEMS WITHIN THE MAGNET ROOM SUCH AS FAUCET HANDLES, | This drawing is based on Sketch No.: 8-194 | project title: 8-194F TYPICAL LAYOUT |
| | DRAIN COVERS, SWITCH BOX COVER PLATES, LIGHT FIXTURE COMPONENTS, MOUNTING SCREWS, ETC. MUST BE NON-MAGNETIC. IF YOU HAVE A SPECIFIC QUESTION ABOUT MATERIAL, BRING IT TO THE ATTENTION OF YOUR GE INSTALLATION SPECIALIST. LOOR LEVELNESS IN THE MAGNET ROOM SHOULD NOT EXCEED 0.3125 in. (8 mm) WHEN MEASURING BETWEEN DEPRESSIONS AND HIGH SPOTS OVER ANY 120 in. (3048 mm) DISTANCE WITHIN THE 87.5 in. (2178 mm) BY 139.3 in. (3539 mm) AREA OF THE MAGNET ENCLOSURE AND THE AREA IN FRONT OF THE ENCLOSURE. THIS FLOOR EVELNESS REQUIREMENT IS IMPORATANT FOR ACCURATE PATIENT TABLE DOCKING. NON-MOVABLE STEEL SUCH AS WALL STUDS OR HVAC COMPONENTS WILL PRODUCE VEGLIGIBLE EFFECT ON THE ACTIVE SHIELD MAGNET. SUSTOMERS CONTRACTOR MUST PROVIDE ALL PENETRATIONS IN POST TENSION FLOORS. SUSTOMERS 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 PROVIDE AND INSTALL HARDWARE FOR "THROUGH THE FLOOR" ANCHORING AND/OR ANY BRACING UNDER ACCESS FLOORS. THIS CONTRACTOR MUST PROVIDE AND INSTALL HARDWARE FOR "THROUGH THE FLOOR" ANCHORING AND/OR ANY BRACING UNDER ACCESS FLOORS. THIS 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 BY THE GE INSTALLER SUCH AS REBAR ETC. | | PROJECT REVISION 8-194F 01 DATE: 10-19-07 DRAWN BY: SDE CHECKED BY: PMM REVISION HISTORY: |
| | | | SHEET |



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| | | Control Content of Content of Center Misconsin Misconsin |
| MAGNET M66–30A | | JRAL DETAILS IA EXCITE HD DN OF GE HEALTHCARE EQUIPMENT INC DETAILS AND ROOM ARRANGEMENTS. BEEN MADE TO CONFORM DETAILS AND THE COMPANY CANNOT ACCEPT AND THE COMPANY CANNOT ACCEPT THEREFROM. |
| REV. DATE: 08/22/05TEST MEASUREMENTS (1.1)VIBRATION MEASUREMENTS ARE IN THE RANGE OF 10^{-6} g. TEST EQUIPMENT MUST HAVE THE REQUIRED SENSITIVITY TO THESE LEVELS.INSTRUMENTATION IS RECOMMENDED TO HAVE A LOW TOLERANCE TO TEMPERATURE EFFECTS AS MANY TIMES THE LOW FREQUENCY THERMAL DRIFT MAY INFLUENCE THE MEASUREMENTS.IT IS HIGHLY RECOMMENDED ALL MEASURED DATA IS REAL TIME DATA ACQUISITION. RECORDING THE VIBRATION DATA WILL NOT ALLOW FOR A PROPER SITE SURVEY, SPECIFICALLY WHEN STUDYING TRANSIENT VIBRATION AND WHEN SEARCHING FOR SPECIFIC VIBRATION SOURCES.ALL ANALYSES ARE TO BE NARROWBAND FAST FOURIER TRANSFORMS (FFT'S) OVER THE FREQUENCY BANDS LISTED BELOW: <u>FREQUENCY RESOLUTION 0.2 TO 50 HZAf = 0.125 HZTIME HISTORIES OF THE VIBRATION MUST BE RECORDED AS ACCELERATION LEVELS VS. TIME. THE RESOLUTION OF THE</u> | | SHEET TITLE: STRUCTUR MODALITY TYPE: S.OT SIGNA THIS PLAN IS SUBMITED TO SUGGEST LOCATION AND ASSOCIATED APPARATUS, ELECTRICAL WIRING IN PREPARING THIS PLAN, EVERY EFFORT HAS BE TO ACTUAL CONSTRUCTION PURPOSES, HOWEVER, ANI RESPONSIBILITY FOR ANY DAMAGES RESULTING TH |
| TIME HISTORY MUST BE ADJUSTED TO CLEARLY CAPTURE THE TRANSIENT EVENT. THE ANALYZER SET-UP WILL BE SITE DEPENDENT AND, IN SPECIAL CASES, VIBRATION RESPONSE DEPENDENT. IT IS THE RESPONSIBILITY OF THE VIBRATION CONSULTANT TO STUDY THE TRANSIENT ENVIRONMENT, CAPTURE DATA TO CONFIRM TRANSIENT ACTIVITY EXCEEDS THE TRIGGER LEVEL, THEN EXPAND THE TIME HISTORY DATA TO EXHIBIT THE STRUCTURAL RESPONSE. EQUIPMENT (SPECTRAL ANALYZER) SET-UP (1.2) • FREQUENCY AVERAGE A MINIMUM OF 20 LINEAR AVERAGES. DO NOT USE PEAK HOLD OR 1/3 OCTAVE ANALYSIS. • AVERAGE AND STORE A MINIMUM OF 10 PLOTS TO SUPPORT THE SITE VIBRATIONS CONSISTENCY. • HANNING WINDOW MUST BE APPLIED TO THE ENTIRE SPECTRA SPECTRUM ANALYZERS CAPABLE OF THESE MEASUREMENTS ARE READILY AVAILABLE FOR PURCHASE OR RENTAL. MODELS SUCH AS THE HP 3560A, NICOLET PHASZER, B&K PULSE, AND HP 35670 ARE ALL CAPABLE OF MAKING THE SITE VIBRATION MEASUREMENTS. ACCELEROMETERS MUST HAVE THE CAPABILITY TO MEASURE FROM 0.2 Hz BEYOND 50 Hz. TIME HISTORIES CAN BE RECORDED USING ANY OF THE ANALYZERS LISTED ABOVE. PLEASE NOTE THAT THE EQUIPMENT THAT WILL ALLOW MEASUREMENTS COMPLIANT WITH THIS GUIDELINE. | ch No.: 8-194 | |
| DATA COLLECTIONS (1.3) AMBIENT BASELINE CONDITION: ALL OF THE MEASUREMENTS DEFINED IN 1.1 AND 1.2 (ABOVE) MUST BE MADE IN A 'QUIET' ENVIRONMENT. THAT IS, IN AREAS WHERE EXCESSIVE TRAFFIC, SUBWAY TRAINS, ETC. EXISTS. A VIBRATION MEASUREMENT MUST ALSO BE MADE DURING PERIODS WITHOUT TRAFFIC OR DURING PERIODS OF LIGHT TRAFFIC. MEASUREMENTS MUST DEFINE THE LOWEST LEVELS OF VIBRATION POSSIBLE AT THE SITE. THE SOURCE OF ANY STEADY STATE VIBRATION WHOSE LEVELS EXCEED THE SPECIFICATIONS MUST BE IDENTIFIED AS TO THE SOURCE OF THE VIBRATION DISTURBANCE. A SECOND MEASUREMENT SHOULD BE MADE WITH ALL OF THE IDENTIFIED CONTRIBUTORS POWERED DOWN IF POSSIBLE. IN SITUATIONS WHERE IT IS NOT POSSIBLE TO POWER DOWN EQUIPMENT, VIBRATION DATA MUST BE COLLECTED TO IDENTIFY SPECIFIC SOURCE OF THE VIBRATION CONCERN. THE MAJORITY OF STEADY STATE VIBRATION PROBLEMS CAN BE NEGATED BY ISOLATING THE VIBRATION SOURCE. | drawing is based on Sketch | tte: 77PICAL LA |
| NORMAL CONDITION ALL OF THE VIBRATION MEASUREMENTS LISTED ABOVE MUST BE REPEATED DURING PERIODS OF 'NORMAL' ENVIRONMENTAL CONDITIONS INCLUDING THE FFT'S AND TIME HISTORIES. THE TRANSIENT MEASUREMENTS MUST BE PROVIDED TO DEFINE THE DYNAMIC DISTURBANCES THE MR SYSTEM MIGHT BE EXPOSED TO. TRANSIENT ANALYSIS IS REQUIRED FOR A TRUE ASSESSMENT OF THE SITE. SPEICAL ATTENTION MUST BE PAID TO THE SITE ASSESSMENT DURING THE ENTIRE ANALYSIS. SINCE TRANSIENT VIBRATION IS NOT EASILY ADDRESSED ONCE THE MR SUITE IS FULLY CONSTRUCTED, THE TEST CONSULTANT MUST FULLY UNDERSTAND THE NEEDS FOR THIS ANALYSIS. THE SOURCE OF ANY TRANSIENT MUST BE IDENTIFIED AND SUPPORTED WITH VIBRATION PLOTS. IF THE SOURCE OF ANY TRANSIENT IS NOT ABLE TO BE LOCATED, IT IS RECOMMENDED THAT THE CUSTOMER SHOULD HAVE AN ALTERNATE LOCATION IDENTIFIED AND VIBRATION STUDIED. TRANSIENT VIBRATION IS DIFFICULT TO ASSESS IF THE DETAILS OF THE TRANSIENT VIBRATION IS NOT UNDERSTOOD. THE 0.0005 g, ZERO TO PEAK TRIGGER LEVEL IS A STARTING POINT TO BEGIN UNDERSTANDING THE VIBRATION STABILITY. THE TRANSIENT VIBRATION PEAK AMPLITUDE, STRUCTURAL (TIME VARIANT) RESPONSE, DECAY RATE AND AN ESTIMATE OF THE NUMBER OF EVENTS PER UNIT TIME WOULD CONSTITUTE A COMPLETE TRANSIENT ANALYSIS. ALL TRANSIENT FAILURES | This | PROJECT REVISION 8-194F 01 DATE: 10-19-07 |
| MUST BE SUPPORTED BY TIME HISTORY PLOTS. THE PLOTS MUST CLEARLY SHOW THE STRUCTURAL RESPONSE, THE FREQUENCY OF THE SIGNATURE AND THE DECAY RATE. FROM THIS DATA, GE CAN HELP DETERMINE COMPLIANCE TO THE VIBRATION GUIDELINES. TEST CONSULTANT MUST PROVE DESIGN RECOMMENDATIONS FOR ALL SITES/BUILDING STRUCTURES WHICH ARE FOUND TO EXCEED THE SPECIFICATIONS. PRESENTATION/INTERPRETATION OF RESULTS (1.4) THE RECOMMENDED FORMAT FOR SITE VIBRATION DATA COLLECTION, PRESENTATION, AND ANALYSIS IS ILLUSTRATED IN THE EXAMPLES SHOWN IN ILLUSTRATIONS 1.1 THROUGH 1.4. IN THE PRE-INSTALLATION MANUAL. PRESENTATION OF THE DATA IN ANY OTHER FORMAT (LINEAR UNITS ONLY) MAY RESULT IN AN INCORRECT INTERPRETATION AND DIAGNOSIS OF THE SITE. ADDITIONAL DATA COLLECTION OR PRESENTATION METHODS IS AT THE OPTION OF THE VIBRATION TESTING SERVICE. IT IS THE RESPONSIBILITY OF THE CUSTOMER'S VIBRATION TESTING SERVICE TO INTERPRET THE RESULTS AND DETERMINE IF THAT SITE MEETS GE'S SPECIFICATIONS. ILLUSTRATIONS A-1 AND A-2 ARE EXAMPLES PROVIDED TO ASSIST A TEST CONSULTANT IN THE USE OF GE STEADY STATE SPECIFICATIONS (VIBRATION SPECIFICATIONS | | DRAWN BY: SDB CHECKED BY: PMM REVISION HISTORY: |
| ABOVE AMBIENT BASELINE). IF THE VIBRATION LEVELS ARE TOO HIGH, ADDITIONAL DATA ACQUISITION MAY BE NECESSARY TO: • DETERMINE THE SOURCE OF THE VIBRATION • PROPOSE A SOLUTION TO THE PROBLEM • FIND AN ALTERNATE SITE LOCATION. ILLUSTRATIONS A-3 AND A-4 IN THE PRE-INSTALLATION MANUAL ARE EXAMPLES PROVIDED TO ASSIST A TEST CONSULTANT IN THE USE OF GE TRANSIENT SPECIFICATIONS. THE 500 MICRO-G, ZERO TO PEAK TRIGGER LEVEDENTIFIES DATA COLLECTION TO BEGIN ASSESSMENT OF THE SITE VIBRATION ANALYSIS. THE RESPONSE OF THE TRANSIENT MUST BE ASSESSED RELATIVE TO THE STEADY STATE VIBRATION SPECIFICATIONS IN SECTION SPECIFICATIONS. ANY QUESTIONS REGARDING TEST EQUIPMENT REQUIREMENTS, TEST PARAMETERS, OR GENERAL QUESTIONS SHOULD BE DISCUSSED WITH YOUR GE INSTALLATION SPECIALIST. THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATE | | SHEET S 2 |

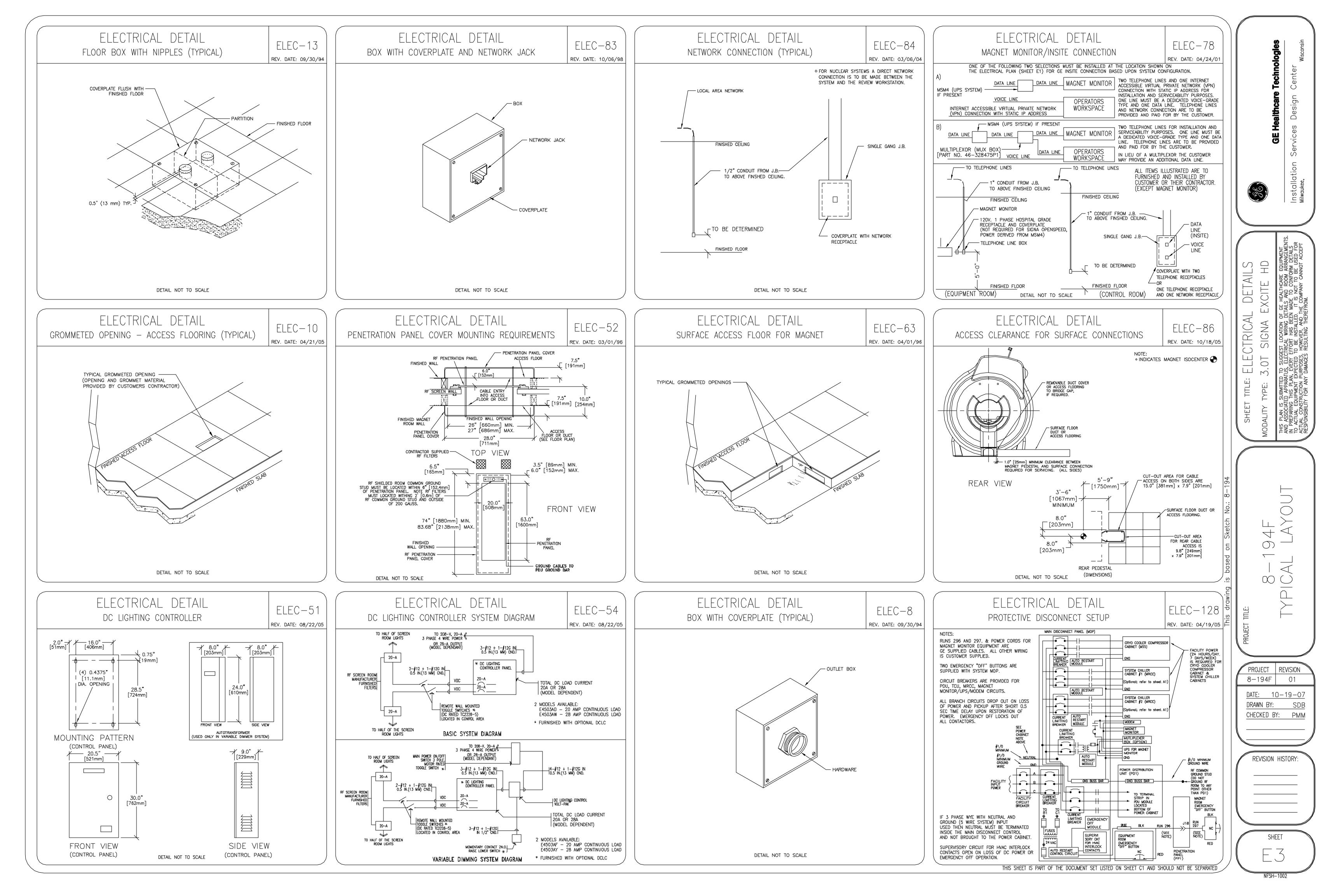
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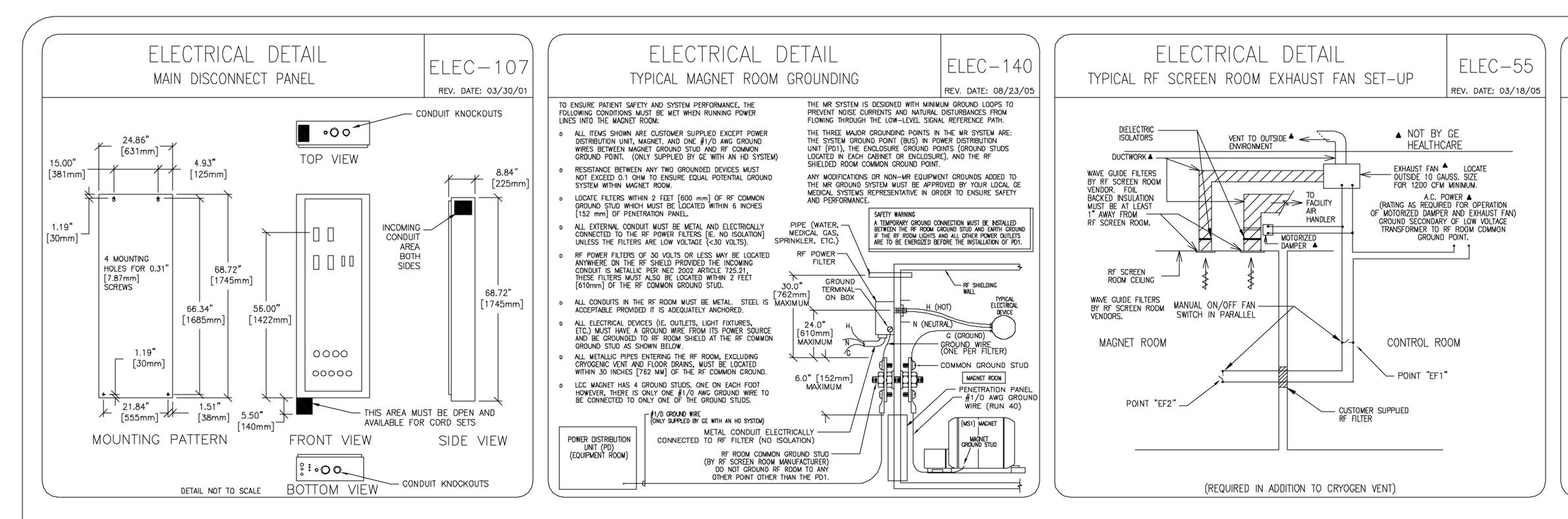


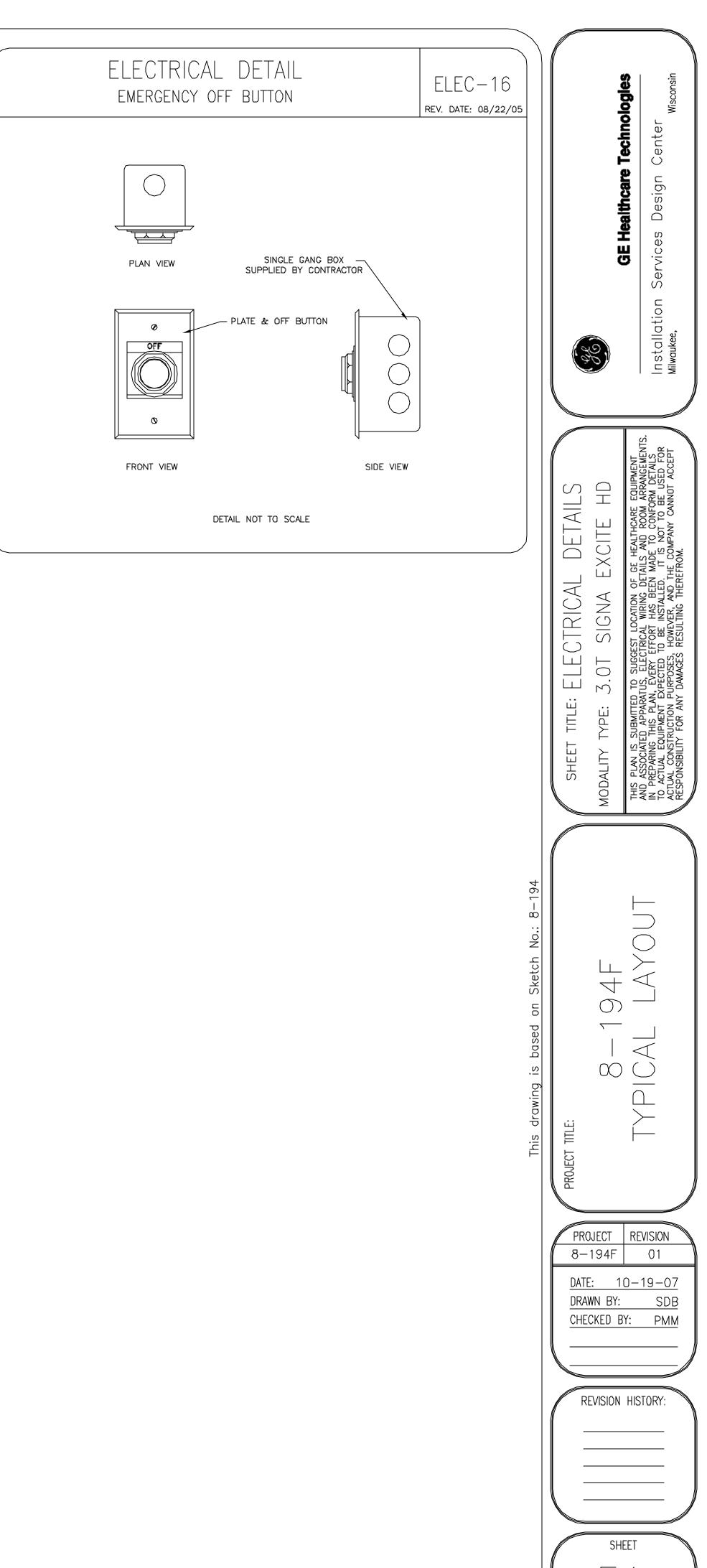


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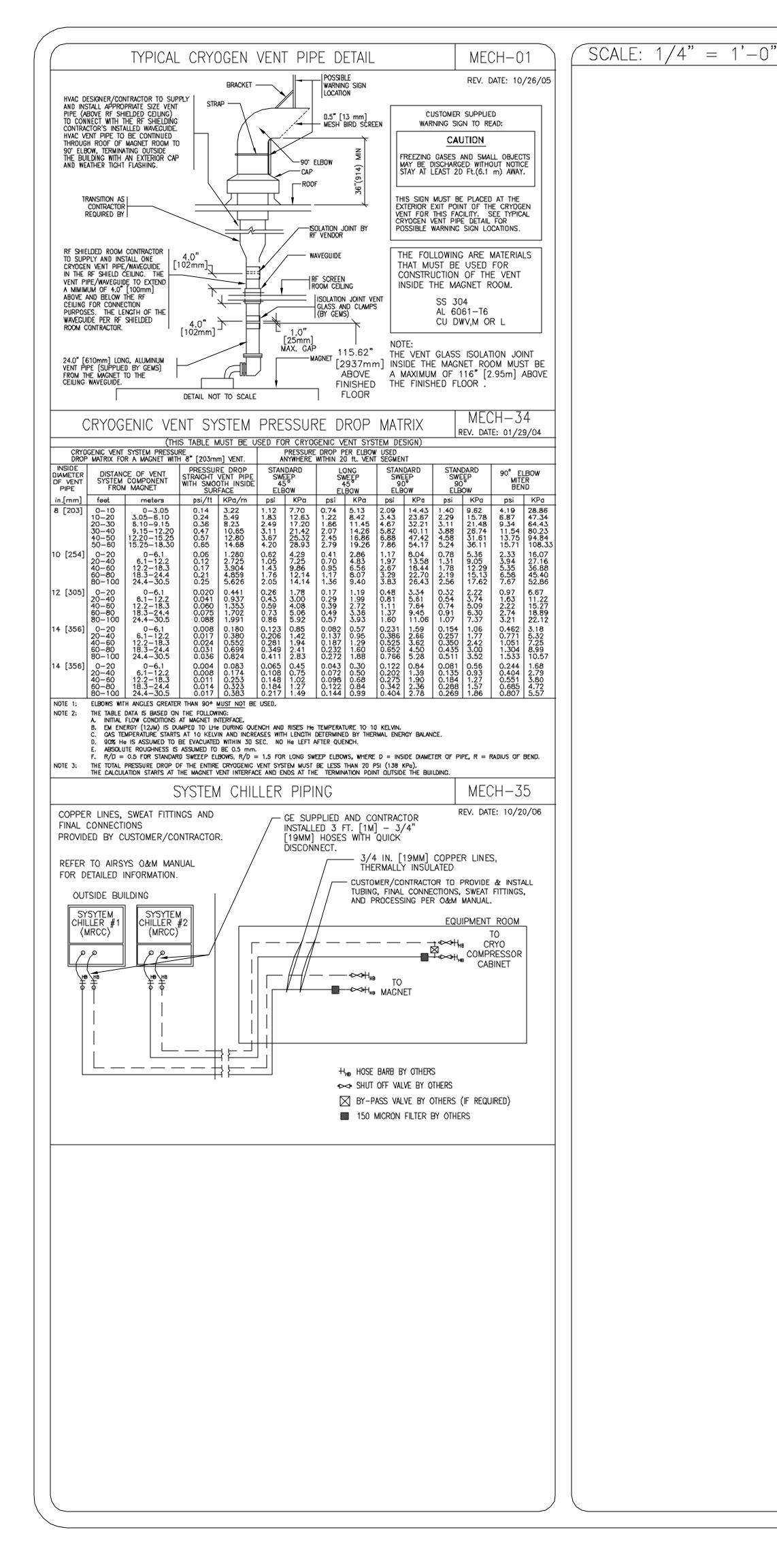


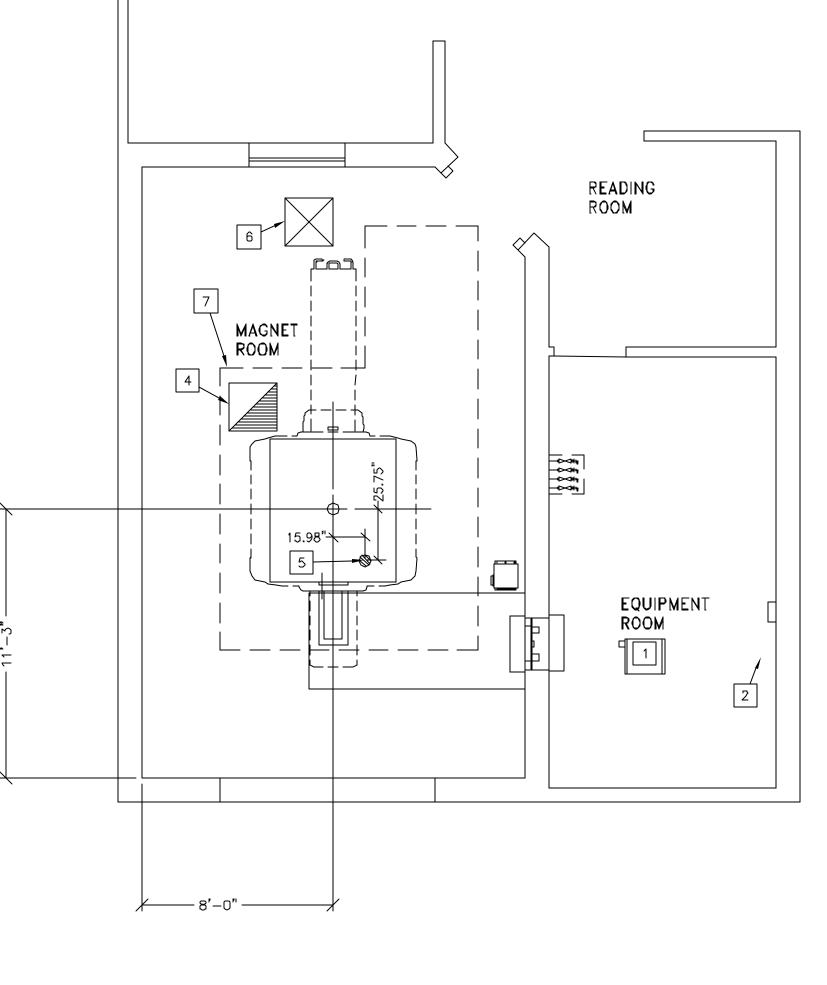




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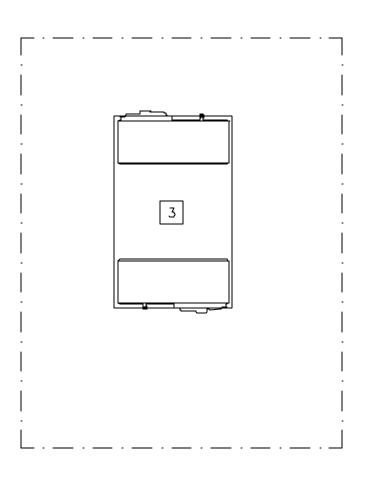
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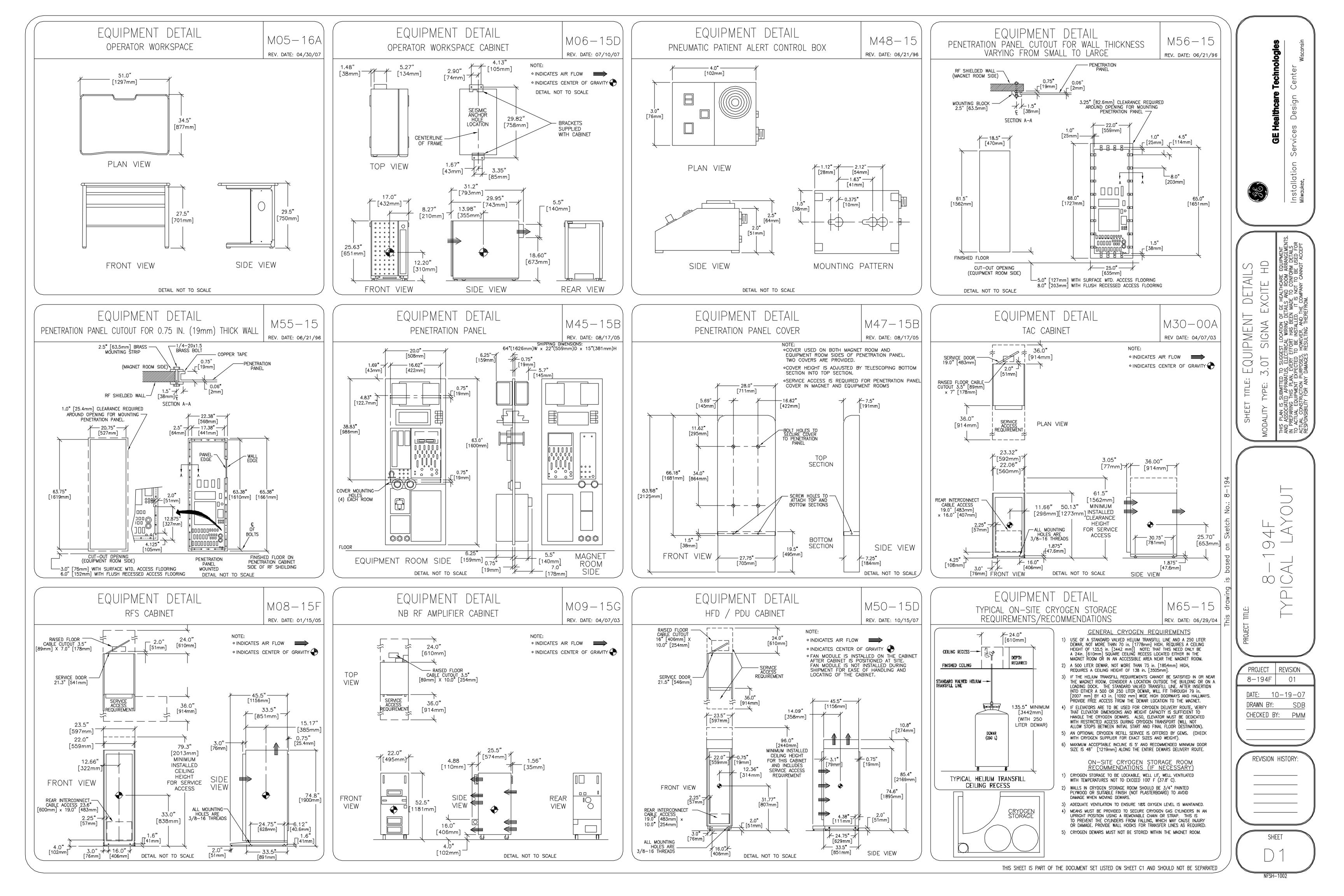


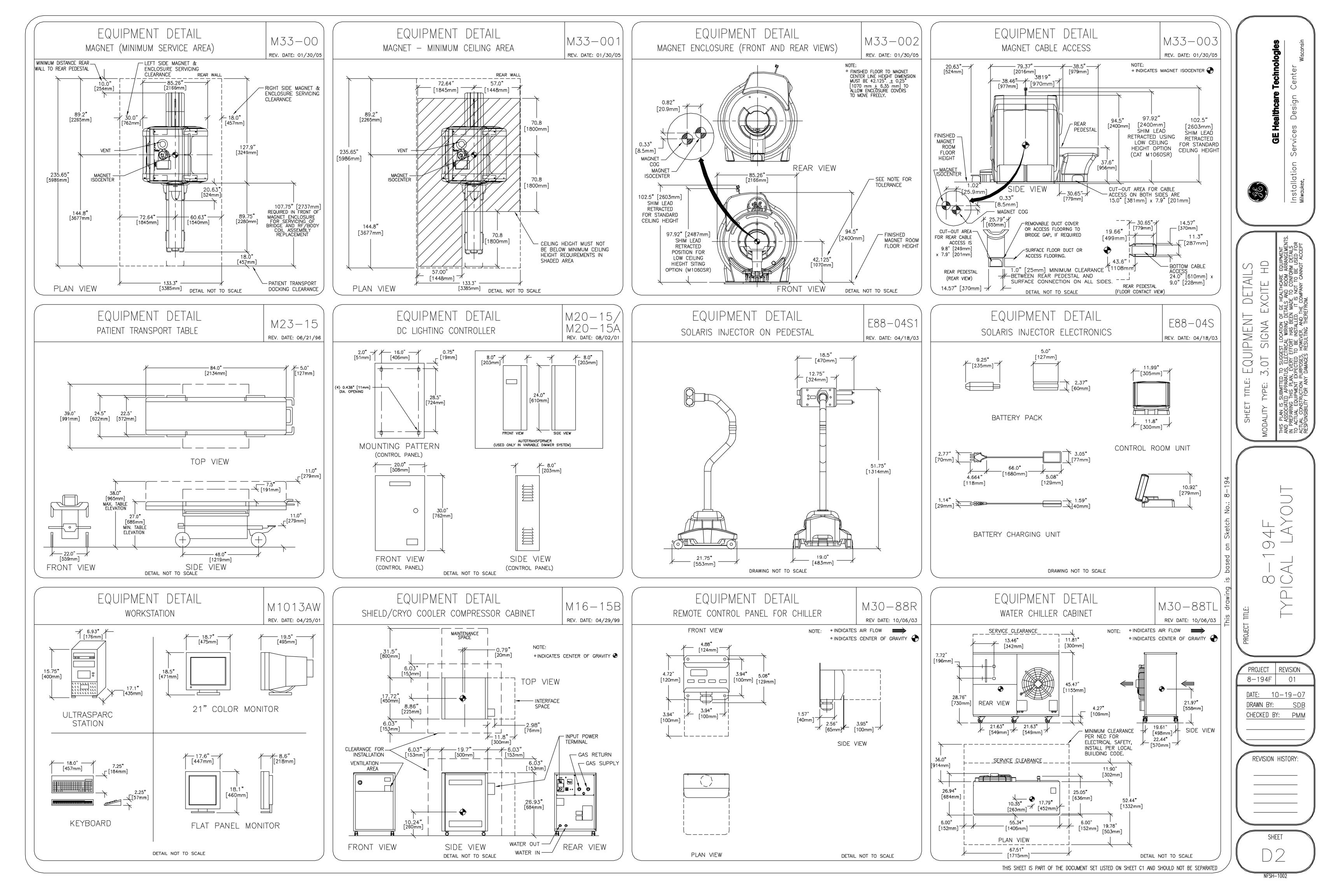
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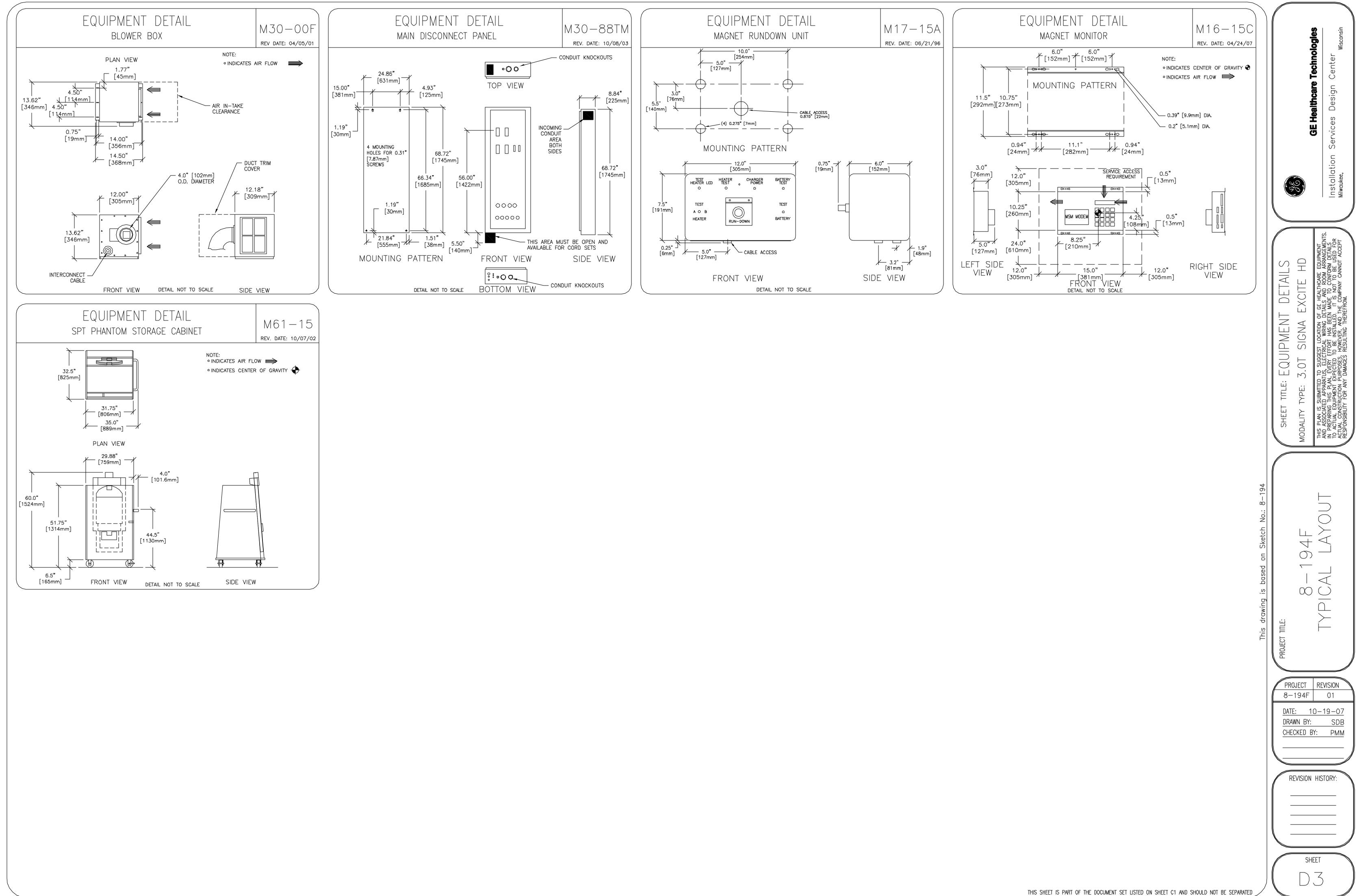
ROOM



| | - 11 | | | $\overline{}$ | | |
|-------|------|---------------|--|---------------|--|---|
| =18'- | -8" | CL | MECHANICAL/PLUMBING ITEMS JSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS | | | Visconsin |
| | | ITEM NO. | ITEM DESCRIPTION (* INDICATES EXISTING) | | | Techno Center |
| | | 1 | SEE PRE-INSTALLATION MANUAL FOR RECOMMENDED BACK-UP WATER SPECIFICATIONS. FOUR (4) 3/4 IN. [19MM] COPPER LINES (INSULATED). SIX (6) 3/4 IN. [19MM] HOSE BARBS. TWO (2) 1/2 IN. [19MM] HOSE BARBS. FOUR (4) 3/4 IN. [19MM] BALL VALVES. TWO (2) 3/4 IN. [19MM] TO 1/2 IN. [13MM] REDUCERS. TWO (2) 150 MICRON FILTER FOUR (4) SHUT OFF VALVES TWO (2) BY-PASS VALVE REFER TO DETAIL MECH-35. | | | GE Healthcare Services Design |
| | | 3 | PLEASE REFER TO THE PRE-INSTALLATION MANUAL FOR COMPLETE SITE PREPARATION REQUIREMENTS. CUSTOMER/CONTRACTOR RESPONSIBLE FOR RIGGING AND INSTALLATION OF SYSTEM COOLING CABINET. THERE IS A MAXIMUM OF 100 FEET [30, 5 M] VERTICAL DIFFERENCE ABOVE OR 10 FEET [3, 5M] BELOW BETWEEN THE OUTDOOR CHILLER CABINET (MRCC) AND BOTH THE MAGNET AND THE CRYO COMPRESSOR. A TOTAL MAXIMUM DISTANCE OF 200 FEET [61 M] EXISTS BETWEEN THE OUTDOOR CHILLER CABINET (MRCC) AND CRYO COMPRESSOR OR THE MAGNET. | | 680 | Installation Se Milwaukee, |
| | | 4 | PLEASE REFER TO THE PRE-INSTALLATION MANUAL FOR COMPLETE SITE PREPARATION REQUIREMENTS, EXHAUST FAN AND AIR INLET MUST BE SIZED FOR A MINIMUM OF 1200 CFM <34 M3/MINUTE) AND A MINIMUM OF 12 AIR EXCHANGES PER HOUR, SEE DETAIL ELEC-55 ON THE ELECTRICAL DETAIL SHEET <s), MAGNET ROOM EXHAUST FAN INTAKE VENT MUST BE</s), | | | |
| | | 5 | LOCATED AT THE HIGHEST CEILING PLANE NEAR THE MAGNET CRYDGEN VENT. SEE SHEET S-2 FOR CRYDGEN VENT LOCATION. THE TOTAL PRESSURE DROP OF THE ENTIRE CRYDGENIC VENT SYSTEM MUST BE LESS THAN 20 PSI (138 KPo). THE CALCULATION STARTS AT THE MAGNET VENT INTERFACE AND ENDS AT THE TERMINATION POINT OUTSIDE THE BUILDING. 8" [203 mm] CRYDGEN VENT - TOLERANCE FOR VENT LOCATION +/-0.25" [6 mm]. SEE DETAILS MECH-34 AND MECH-01. THE CUSTOMER'S DESIGNER IS RESPONSIBLE FOR SELECTING VENT MATERIALS AND HARDWARE CAPABLE OF SAFELY HANDLI THE PRESSURES AND COLD TEMPERATURE GENERATED WITHIN THE VENT AT EACH MRI SITE. THE CUSTOMER'S CONTRACTOR IS RESPONSIBLE FOR PROVIDI AND INSTALLING THE CRYDGEN VENT FROM THE MAGNET VENT ADAPTER TO THE BUILDING'S EXTERIOR. FOR NON-STANDARD VENT CONFIGURATIONS (I.E. DFFSET CEILING EXITS, WALL EXITS, AND GEODESIC DOMES) THE CUSTOMER'S CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE CRYDGENIC VENT SYSTEM AND VENT SUPPORTS WITHIN THE MAGNET ROOM. | NG | CHANICAL | UT STUTIA EXCITE MU SUGGEST LOCATION OF GE HEALTHCARE EQUIPMENT ELECTRICAL WIRING DETAILS AND ROOM ARRANGEMENTS. ERY EFFORT HAS BEEN MADE TO CONFORM DETAILS STED TO BE INSTALLED. IT IS NOT TO BE USED FOR DSES, HOWEVER, AND THE COMPANY CANNOT ACCEPT IAGES RESULTING THEREFROM. |
| | | 6 | MINIMUM 2 FT. x 2 FT. LO. 61m x O. 61m] PRESSURE EQUALIZING WAVEGUIDE VENT IN THE MAGNET ROOM CEILING. MINIMUM CEILING HEIGHT REQUIREMENT AREA. REFER TO MAGNET EQUIPMENT DETAILS FOR MORE INFORMATION | 8–194 | т тітle: M | MUDALITY TYPE: J.U. THIS PLAN IS SUBMITTED TO SUGG AND ASSOCIATED APPARATUS, ELEC IN PREPARING THIS PLAN, EVERY I TO ACTUAL CONSTRUCTION PURPOSES, ACTUAL CONSTRUCTION PURPOSES, |
| | | c F R M | MECHANICAL/PLUMBING NOTES LL PIPING, FITTINGS, SUPPORTS, HOSES, CLAMPS, VENTLATION SYSTEMS, ETC. ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER OR HIS CONTRACTORS. OR COMPLETE DESIGN AND INSTALLATION REQUIREMENTS, SPECIFICATIONS AND GUIDELIN REFER TO THE PRE-INSTALLATION MANUAL REFERENCED ON SHEET C1 FOR: <u>AR SYSTEMS</u> – SYSTEM COOLING, CRYOGEN VENTING, WAVEGUIDES AND EXHAUST VENTIN <u>SYCLOTRON SYSTEMS</u> – CHEMISTRY LINES, GAS LINES, AND SYSTEM COOLING. | | | TYPICAL LAYOU |
| | | | | | PROJE 8-19 DATE: DRAWN CHECK REVI | 94F 01 <u>10-19-07</u> BY: SDB |
| | | THIS | SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATE | | | SHEET |







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