~~~~~~		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.

	<b>%</b>
	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)

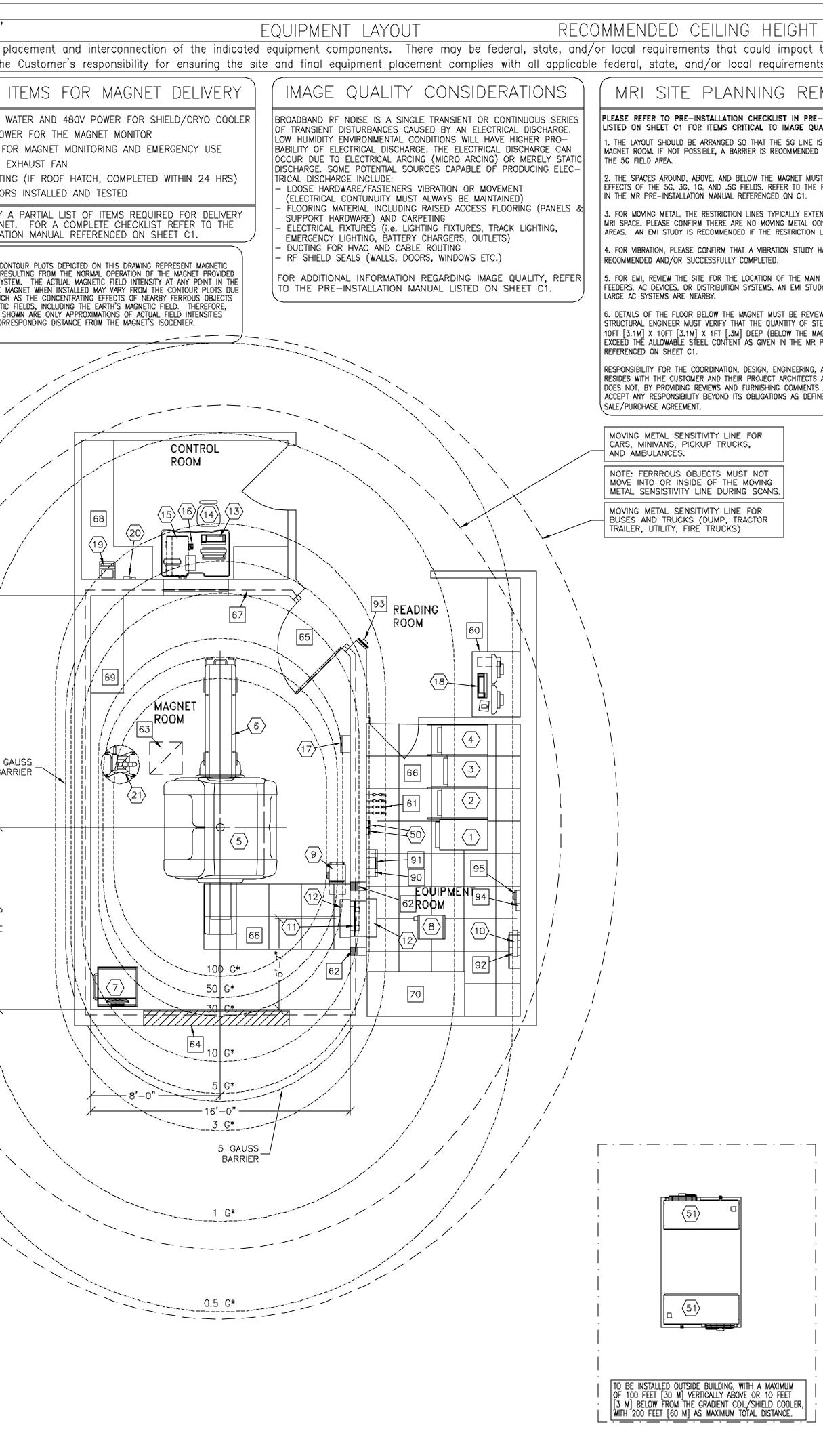
 It is the customer's responsibility to contract a vibration consultant/engineer to implement site design modifications to meet the GE vibration specification. Refer to the system preinstallation manual for the vibration specification.

## GE Equipment Delivery Requirements

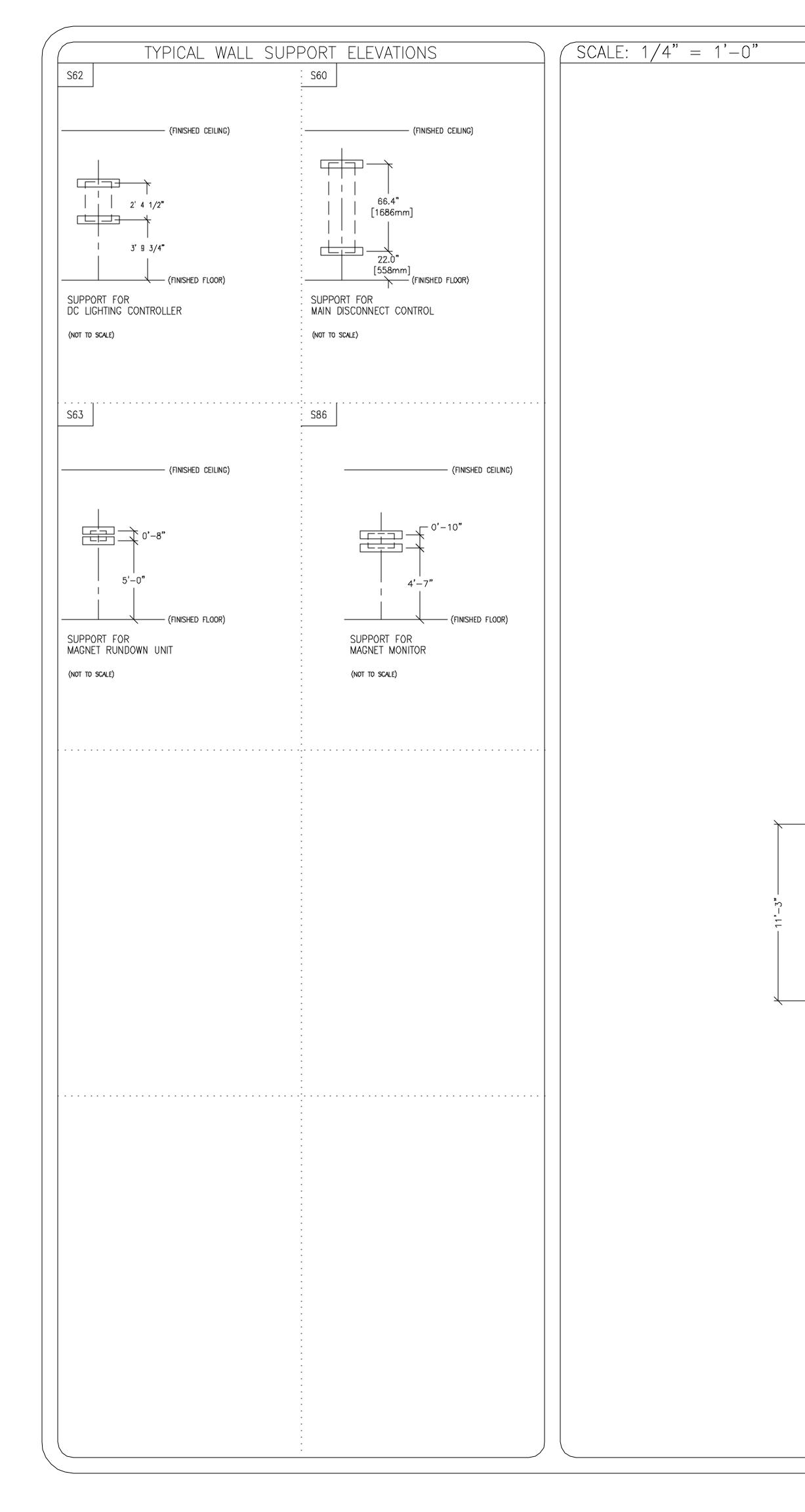
Order # :			С	ustomer:		
ntative :						
ed with :						
HC PMI :						
				. none		
on Date: ible for proper site prep	aration ar	nd site	readine	ss regardl	ess of any	GEHC inspections/assessments.
	ng system					nd operational (0.7T, 1.5T & 3T) and chilled water
te						
Is this item ready?			Verify (Delivery): Is item ready?	Validate (Mech Install): Is item ready?	<b>Comments</b> 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		

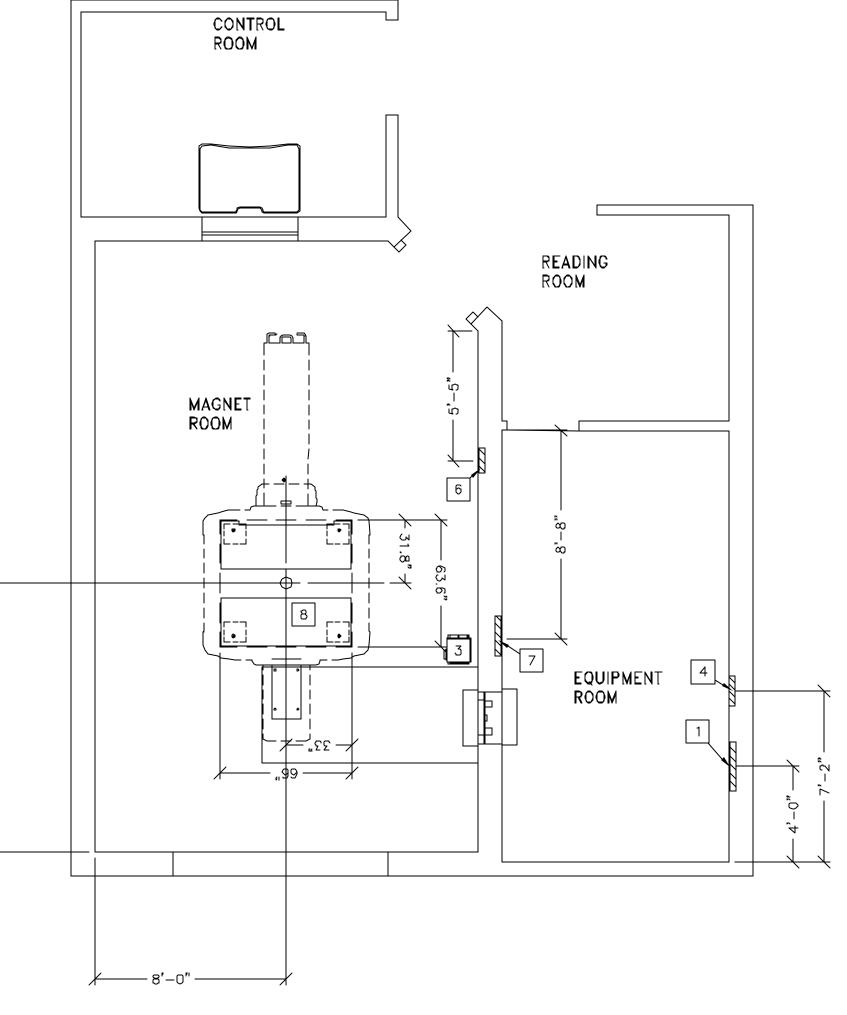
			EQUIPMENT							$\square$	SCALE: $1/4" = 1'-0"$
PE	۲:	MENT ON ORDER FROM GE NEITHER A QUOTE OR GON WAS	5 ISSUED AT THE DATE OF				EQUIPMENT CROSS REFERENCE CHART P = PREAPPROVAL SEISMIC C = CALCULATIONS/ STATUS PENDING APPROVAL				This equipment layout indicates the p of these components. It remains 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	_	
											25 <b>.</b> – 6"
	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		
										$\mathcal{I}$	

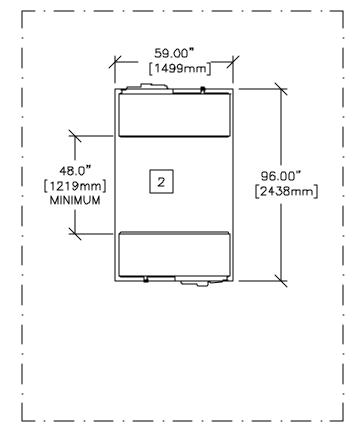


= 8' - 9"	ANCILLARY ITEMS	
the placement ts.	CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS	<b>Technologies</b> Center Wisconsin
MINDERS	ITEM ITEM DESCRIPTION	
-INSTALLATION MANUAL	(* INDICATES EXISTING)	
TO PREVENT ENTRY TO	60WORKSTATION TABLE61VALVES AND HOSE BARBS FOR COOLING SYSTEM	Healthcare
ot 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.	
	<ul> <li>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.</li> </ul>	SHEE MODALITY MODALITY THIS PLAN I AND ASSOCI IN PREPARIN TO ACTUAL I ACTUAL CON
	<ul> <li>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.</li> </ul>	
	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
	<ul> <li>ENVIRONMENTAL CONDITIONS LISTED ABOVE MUST BE MAINTAINED AT ALL TIMES INCLUDING FOR EXAMPLE OVERNIGHT, WEEKENDS, AND HOLIDAYS.</li> <li>24 HOUR POWER AND HVAC MUST BE AVAILABLE UPON MAGNET DELIVERY. [THIS WILL INCLUDE FACILITY CHILLED WATER SUPPLY IF REQUIRED.]</li> </ul>	
	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
	<ul> <li>MAGNETIC INTERFERENCE SPECIFICATIONS</li> <li>THE CUSTOMER MUST ESTABLISH PROTOCOLS TO PREVENT PERSONS WITH CARDIAC</li> </ul>	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:
	<ul> <li>IT IS RECOMMENDED EVERY SITE CONSIDER THE EVENT OF A QUENCH AND PLAN ACCORDINGLY (SUCH AS PLACING 5 GAUSS WARNING SIGNS AT EXPANDED LOCATIONS).</li> <li>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</li> </ul>	
	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

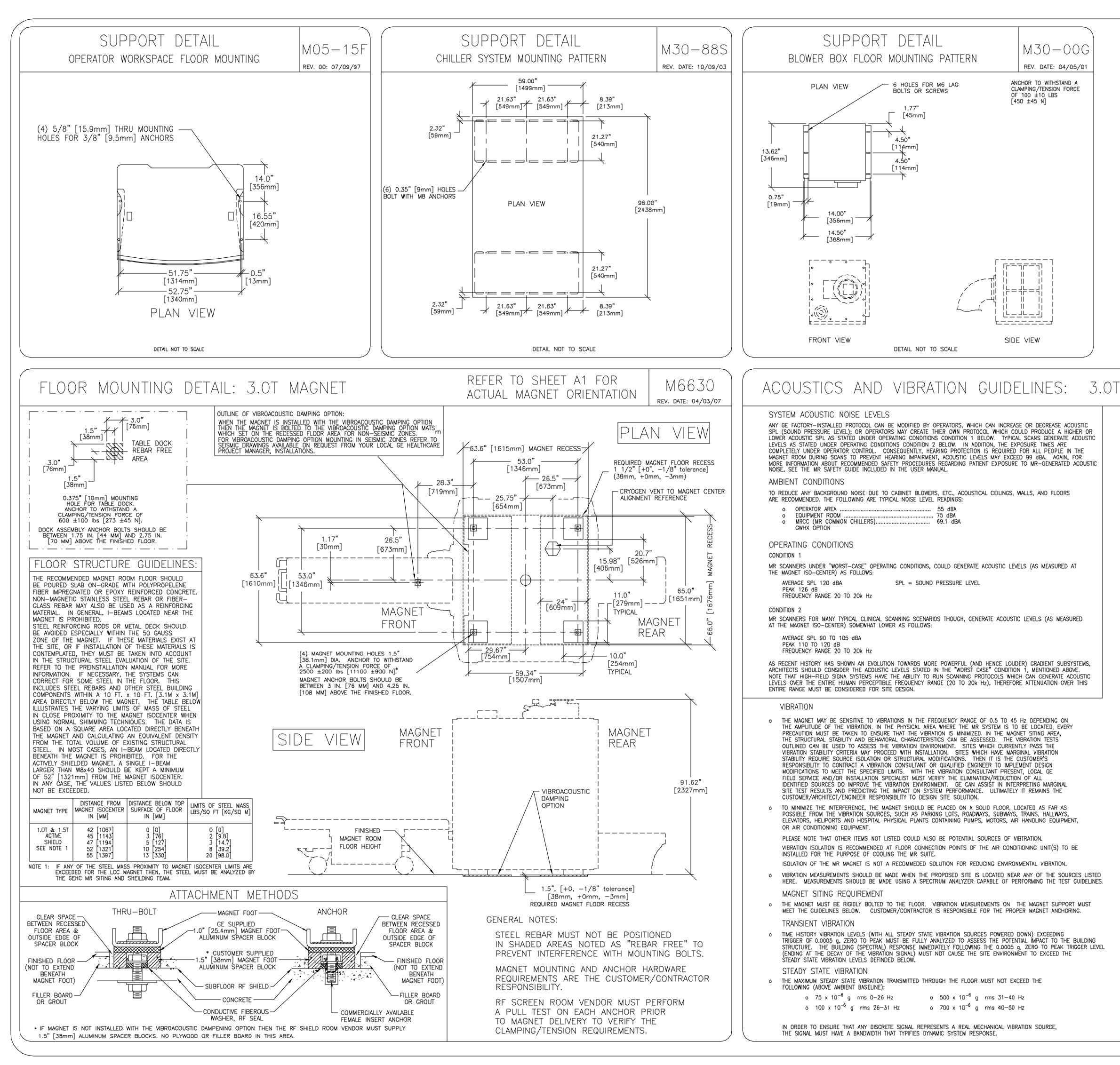


### STRUCTURAL LAYOUT



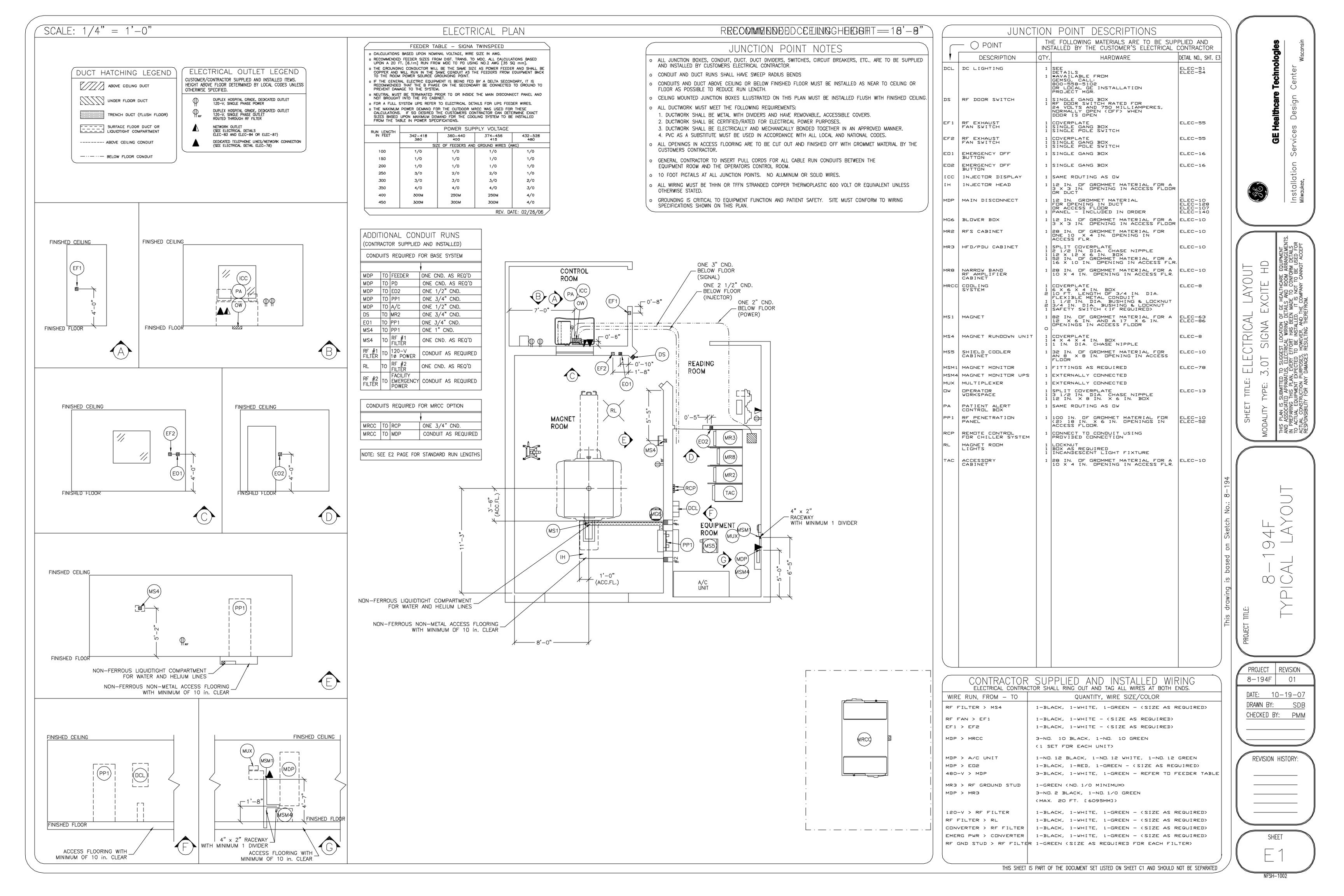


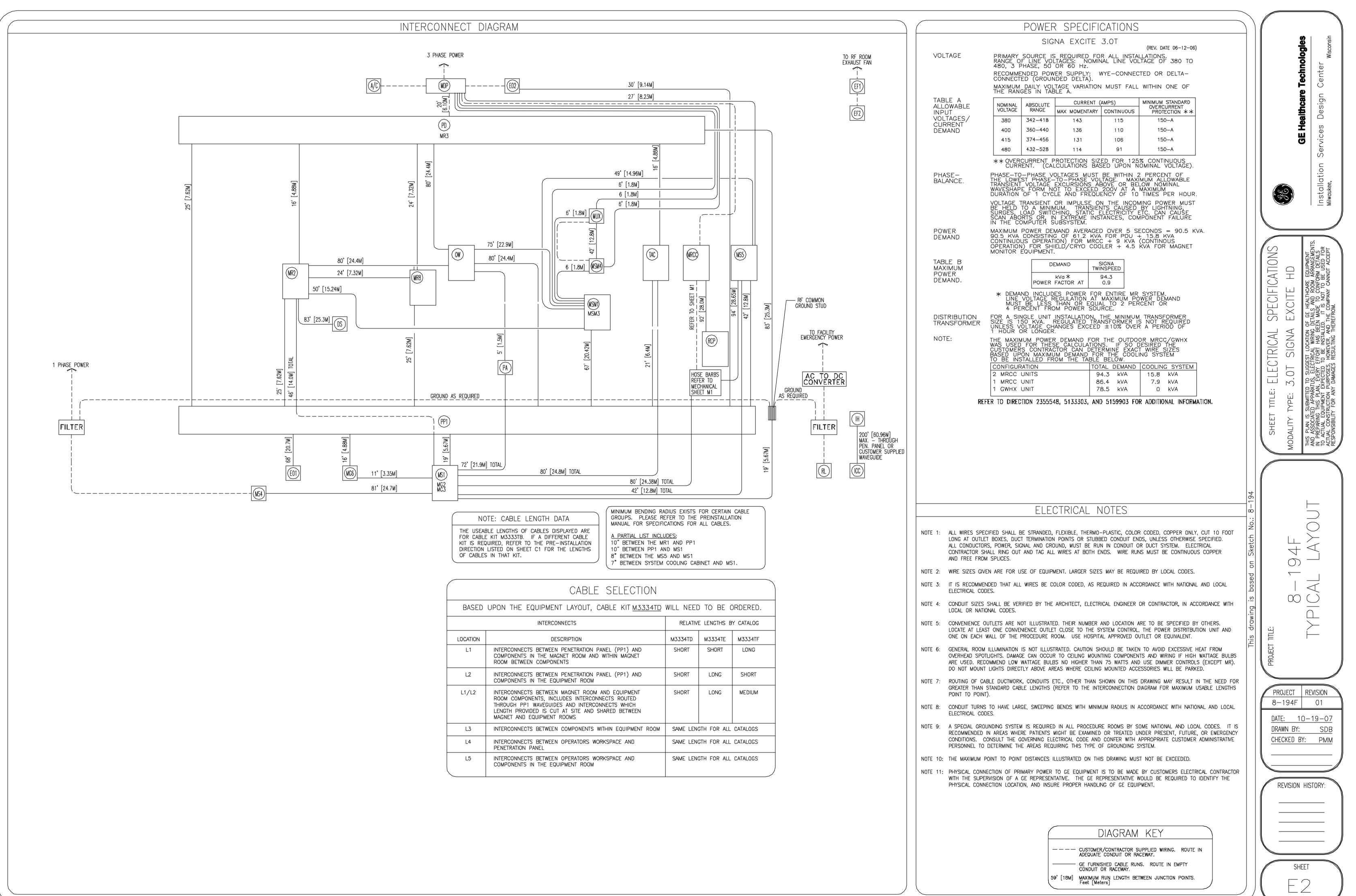
	JSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEM DESCRIPTION (* INDICATES EXISTING)		<b>are Technologies</b> yn Center ^{Wisconsin}
2 3 4 5 6 7 8	DETAIL S62, FIRE, DC LIGHTING CONTROL. 96 IN. [2438 MM] X 59 IN. [1500 MM] CONCRETE PAD WITH A MINIMUM 4 IN. [100 MM] DEPTH AND 2500 PSI IS REQUIRED FOR GROUND 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



	$\nearrow$	
		<b>Control Content of Content of Center Misconsin</b> 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

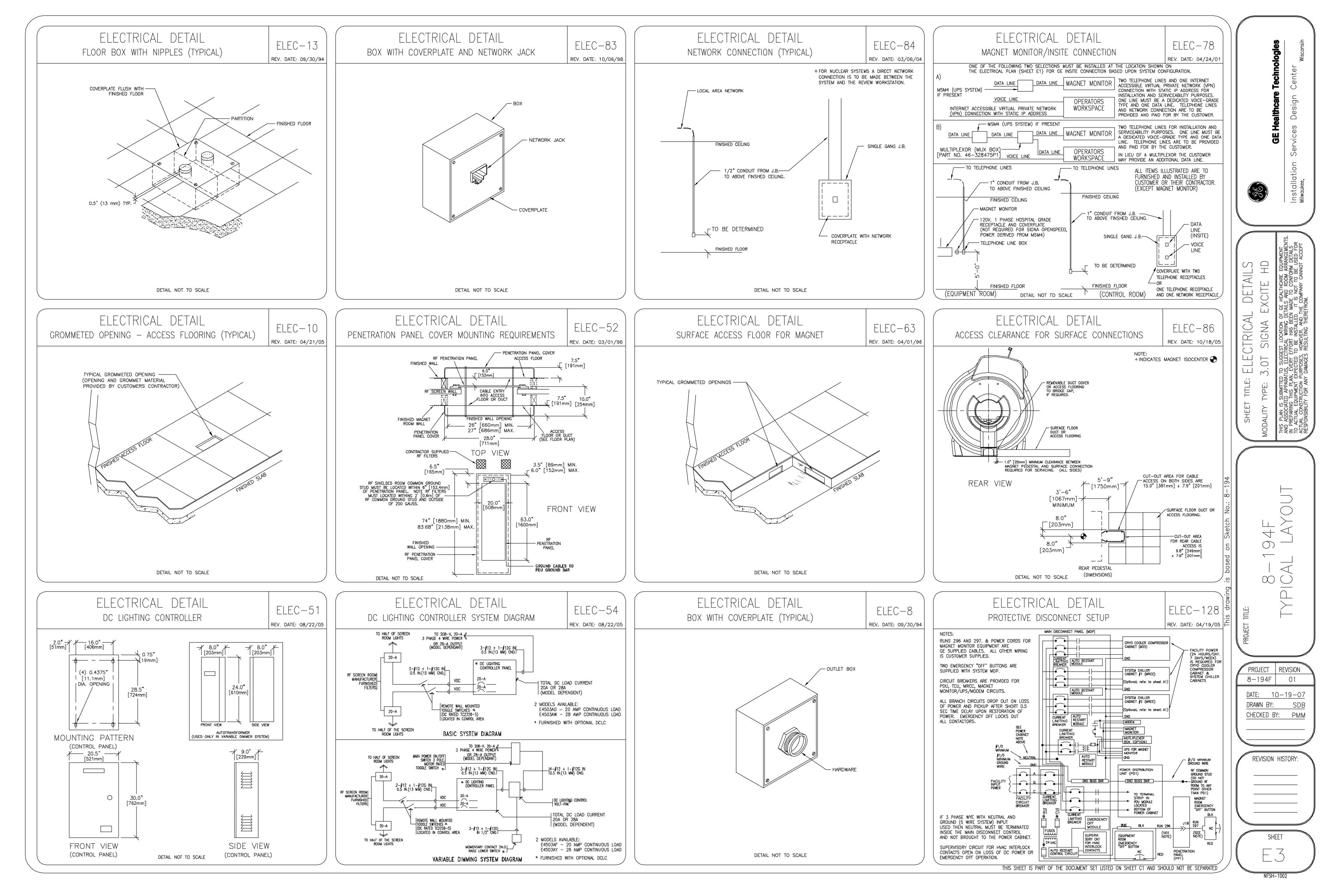
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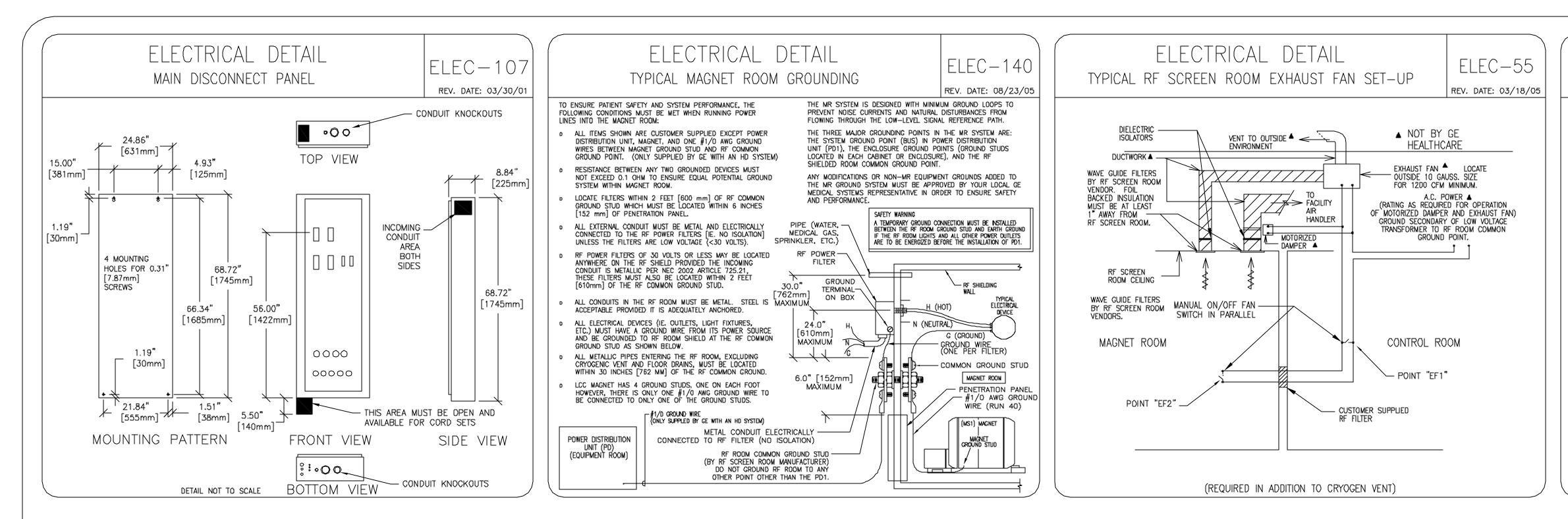


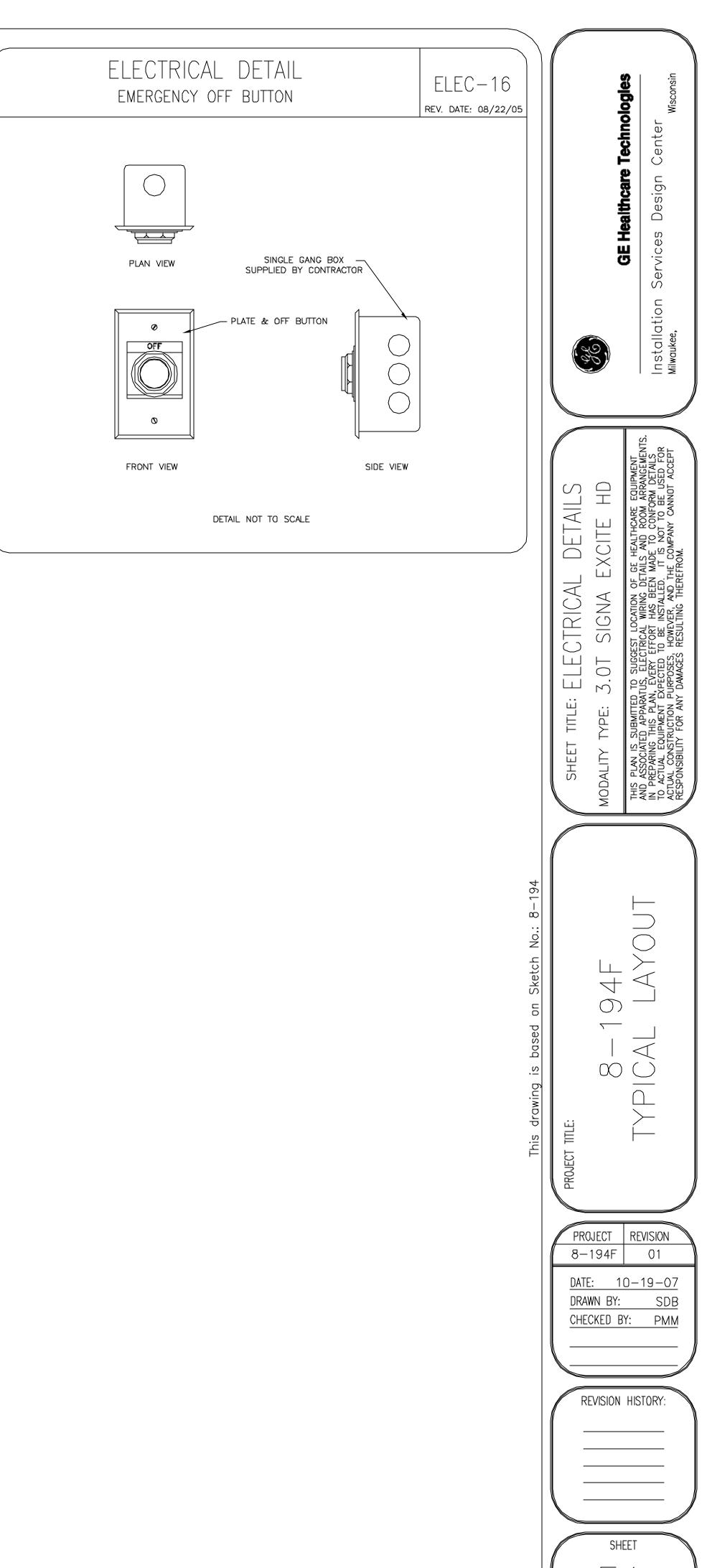


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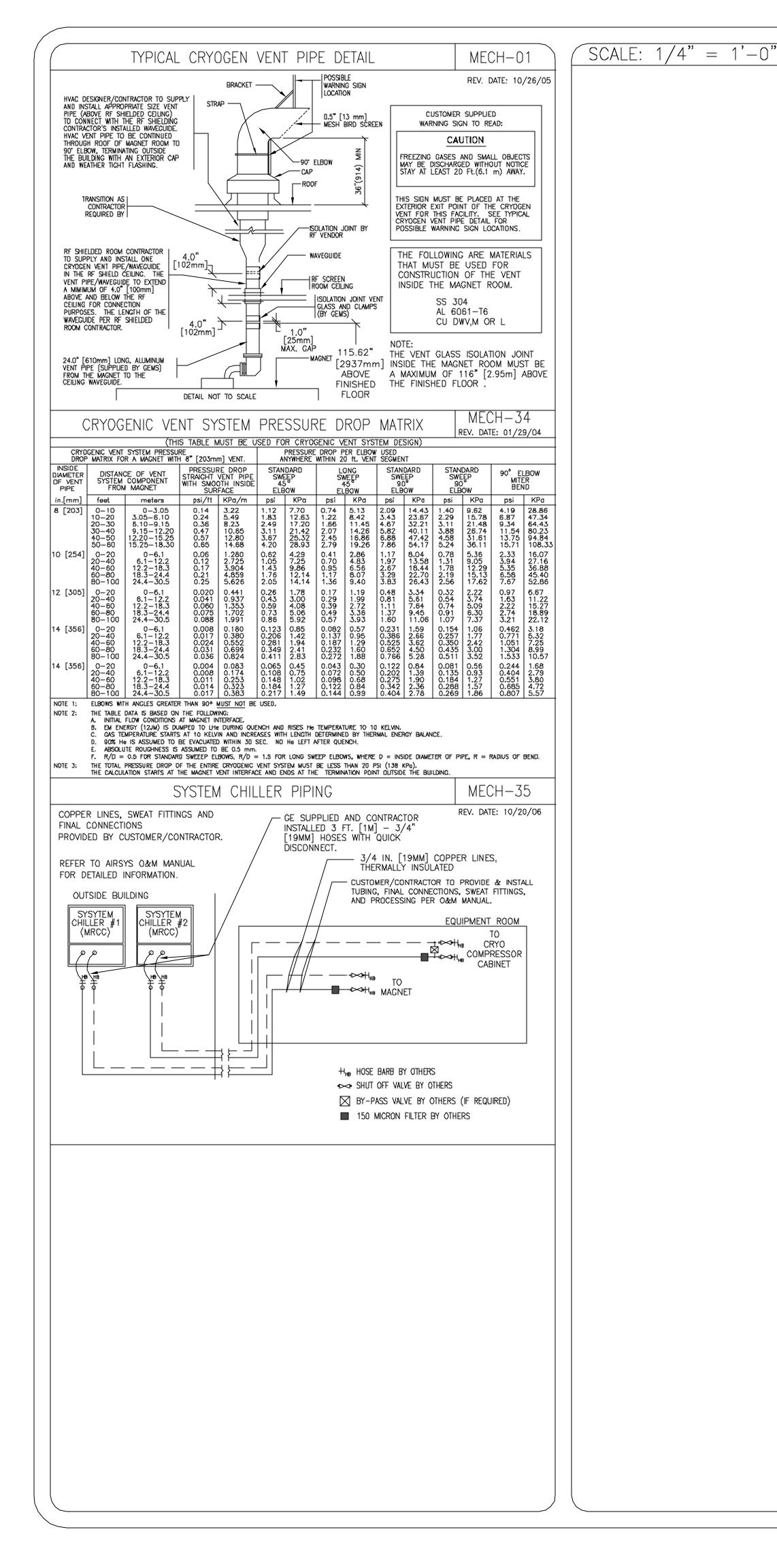


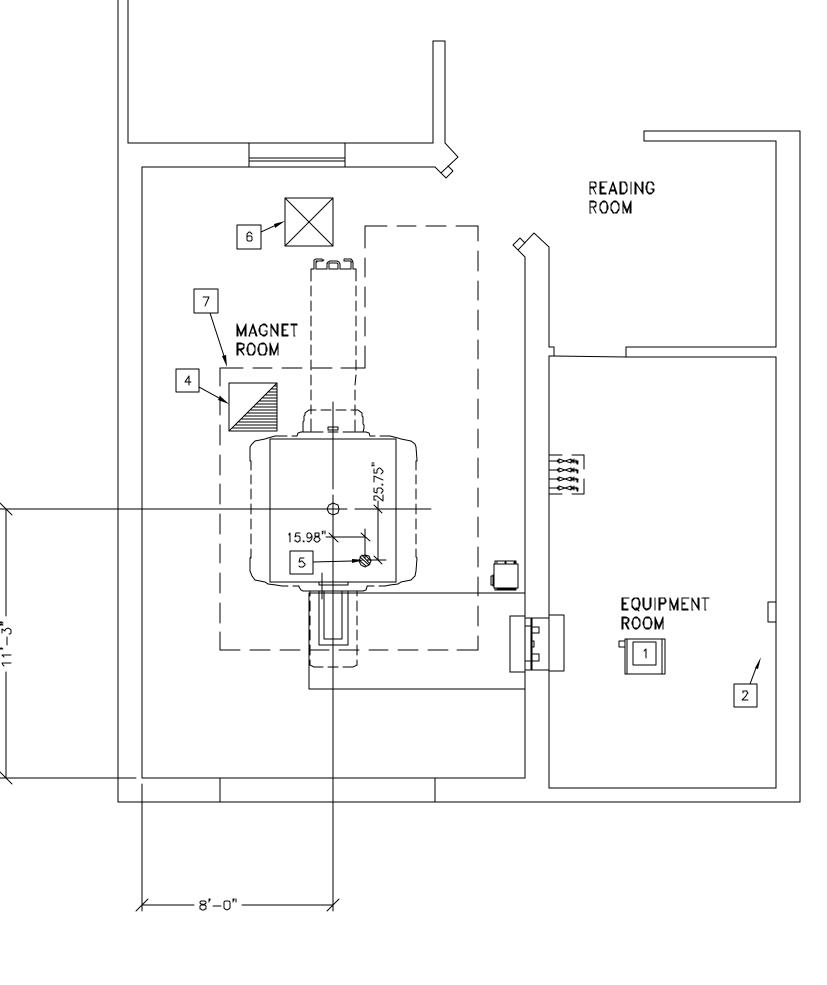




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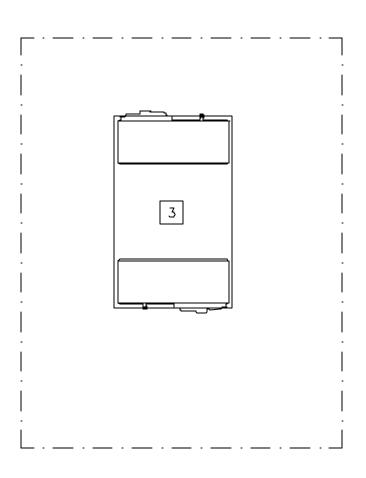
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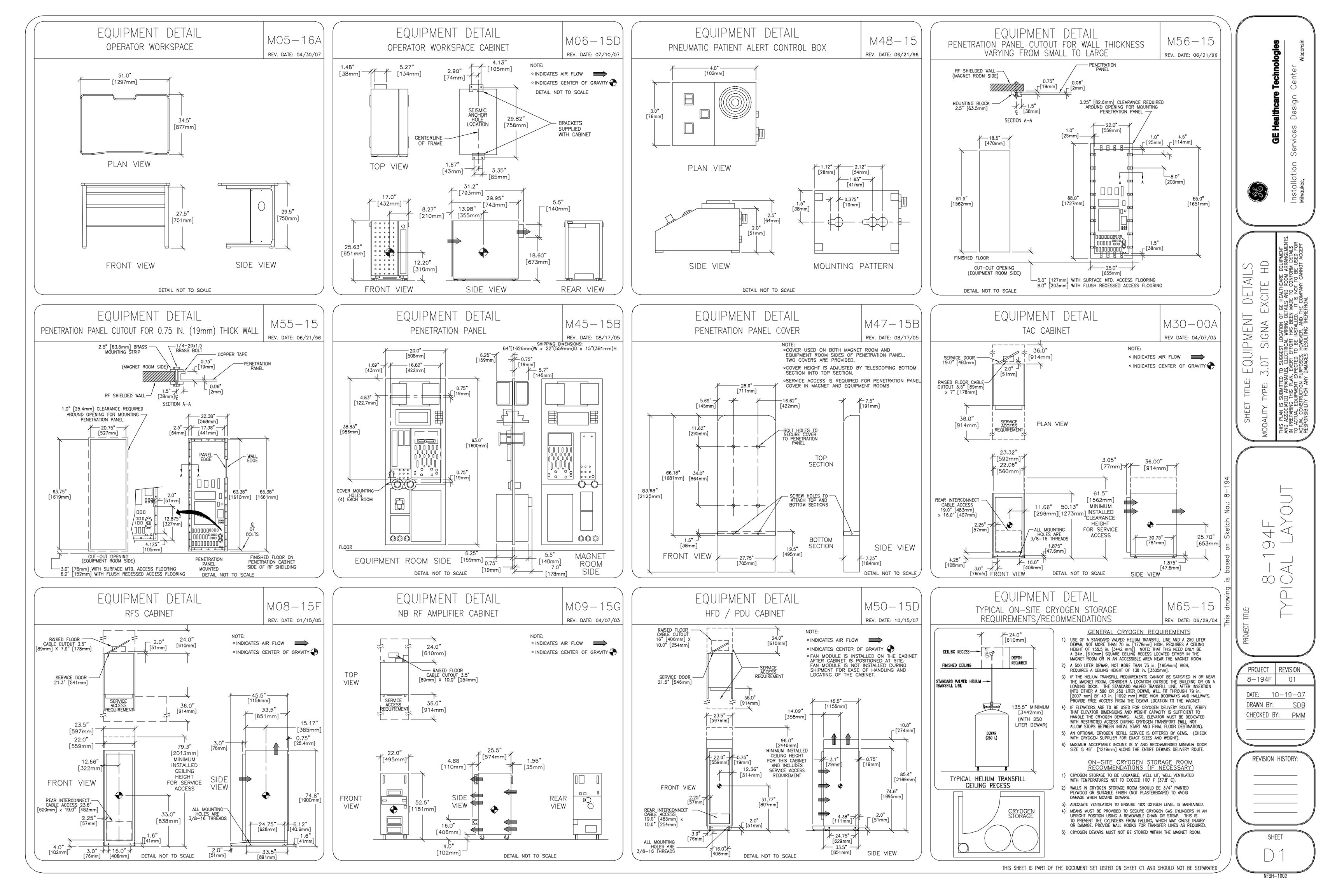


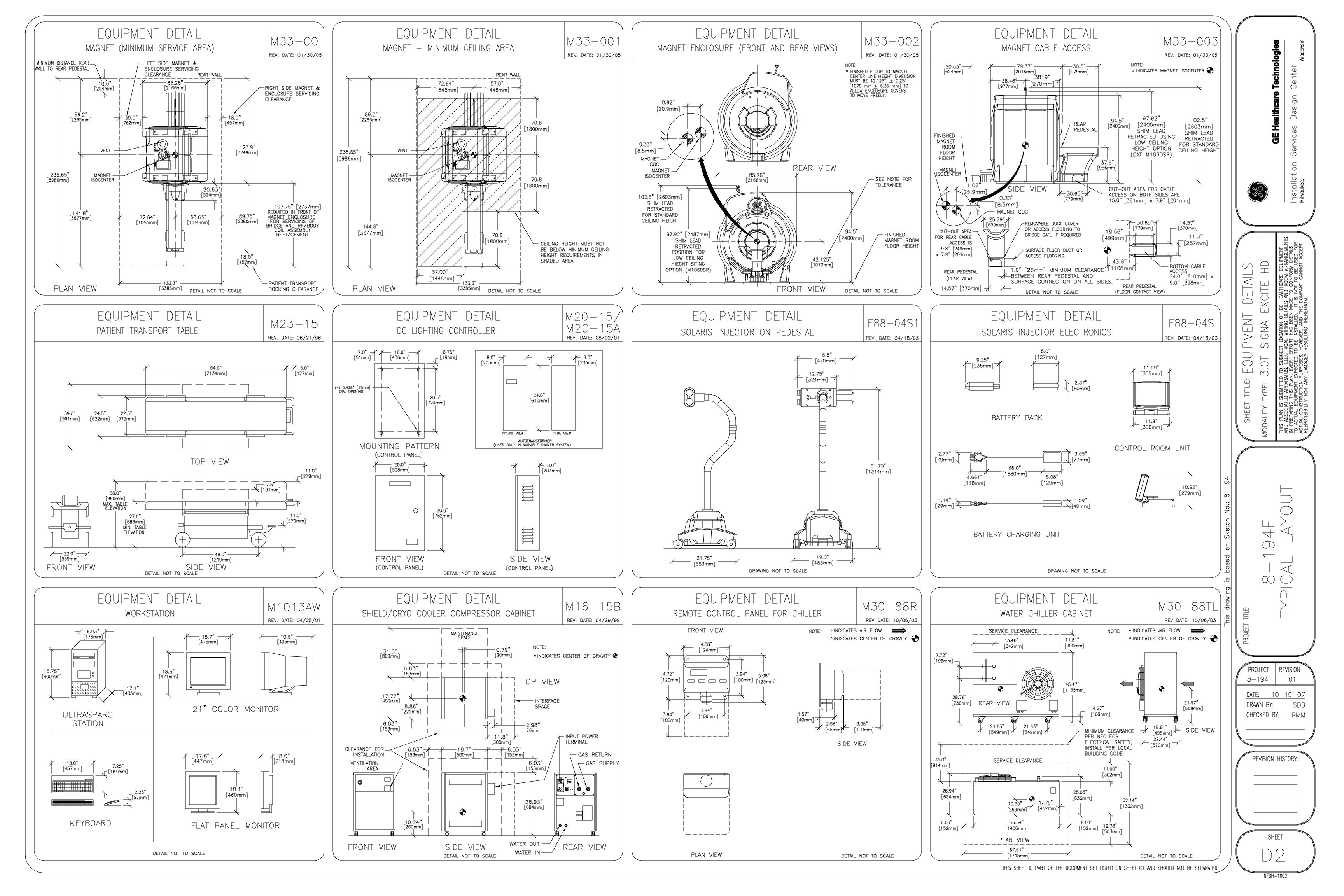
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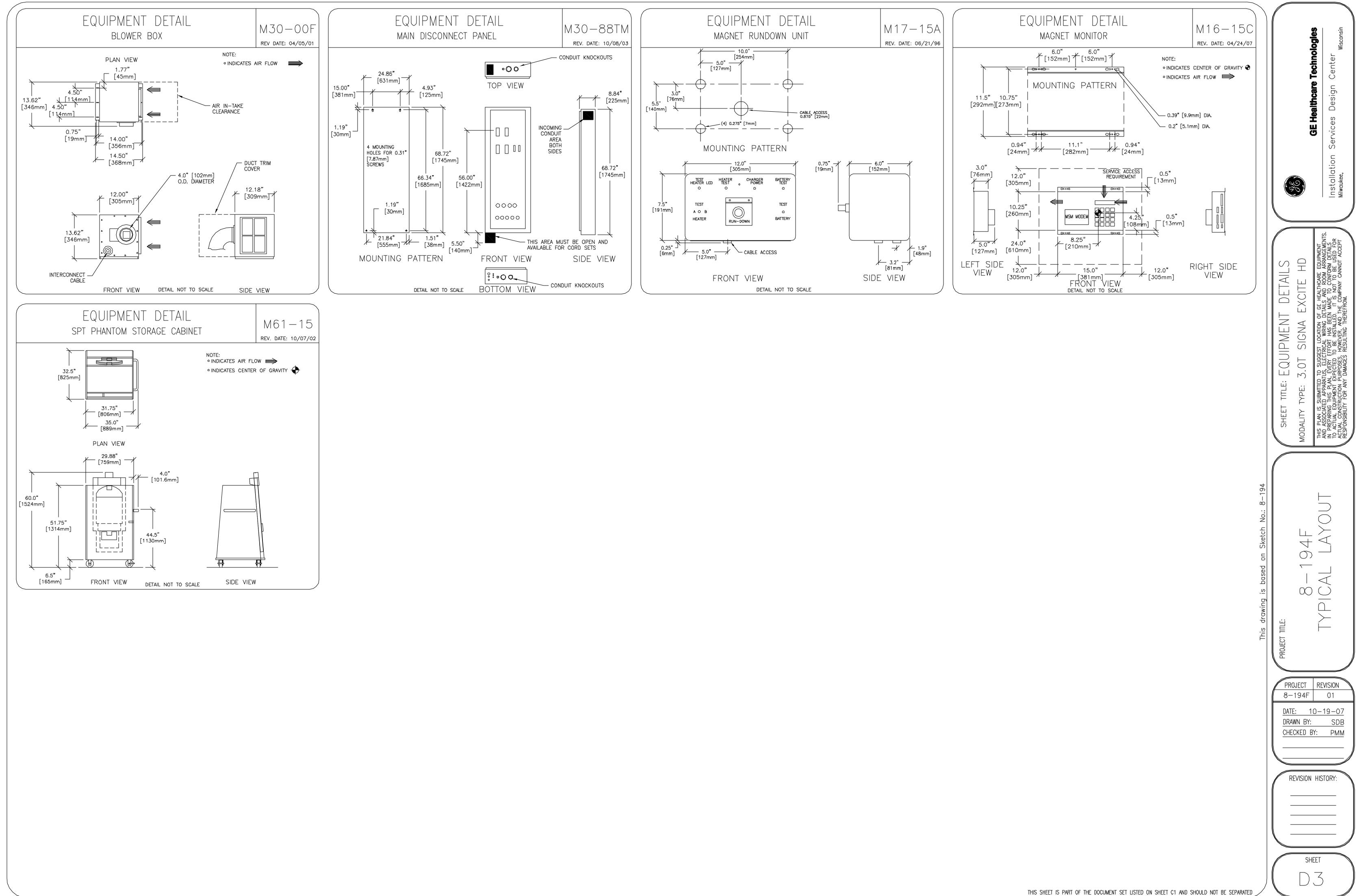
ROOM



	- 11			$\overline{}$		
=18'-	-8"	CL	MECHANICAL/PLUMBING ITEMS JSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS			<b>Visconsin</b>
		ITEM NO.	ITEM DESCRIPTION (* INDICATES EXISTING)			<b>Techno</b> 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.			<b>GE Healthcare</b> 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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