ERIE VA MEDICAL CENTER RENOVATION OF RADIOLOGY FOR RF ROOMS

VA PROJECT: 562-13-103

135 EAST 38TH STREET
ERIE, PA 16504

PROJECT DIRECTORY

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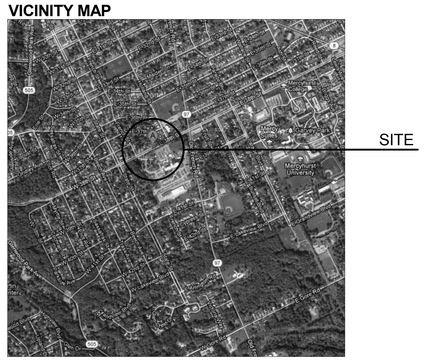
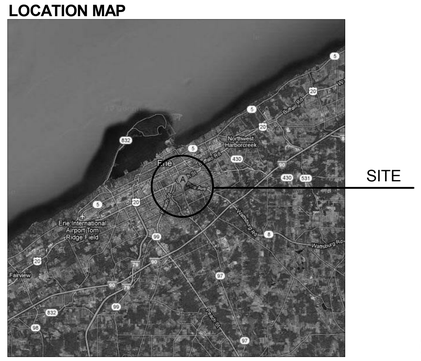
EQUIPMENT DRAWINGS BY SIEMENS MEDICAL SOLUTIONS INCLUDED AS REFERENCE ONLY.
DRAWINGS CONSIST OF SEVEN (7) SHEETS DATED 12/02/13 AND SEVEN (7) SHEETS DATED 12/03/13.

VICINITY MAP



LOCATION MAP



NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

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Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS
Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date	Checked	Drawn
April 22, 2014	DG	AHK

Project Number: 562-13-103
Building Number:
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Dwg. 1 of 29

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

LIFE SAFETY REVIEW

ERIE VA MEDICAL CENTER - RENOVATE RADIOLOGY FOR RF ROOMS
VA PROJECT #562-13-103
AE WORKS #13019

LIFE SAFETY REVIEW BASED ON LATEST EDITIONS OF THE IBC AND NFPA 101

DESCRIPTION	RESULT	IBC SECTION/TABLE	NFPA SECTION/TITLE
OCCUPANCY			
NON-AMBULATORY HEALTHCARE			CHAPTERS 18/19
INSTITUTIONAL GROUP I-2		SECTION 308	
CONSTRUCTION TYPE	TYPE II (111), IIA	TABLE 601 & 602	A.8.2.1.2
ACTUAL FLOOR AREA			
RENOVATION AREA - FIRST FLOOR	3,470 GSF		
CATEGORY OF REHABILITION WORK			
FIRST FLOOR	RECONSTRUCTION (NO CHANGE IN USE)		43.2.2.1.4/19.1.1.4.2
FIRE RESISTIVE REQUIREMENTS			
STRUCTURAL FRAME			
INCLUDING COLUMNS, GIRDERS & TRUSSES	1 HOUR	TABLE 601	A.8.2.1.2
BEARING WALLS			
EXTERIOR	N/A	TABLE 601	A.8.2.1.2
INTERIOR	N/A	TABLE 601	A.8.2.1.2
NONBEARING WALLS & PARTITIONS			
EXTERIOR	N/A		
NONBEARING WALLS & PARITIONS			
INTERIOR	0 HOUR	TABLE 601	A.8.2.1.2
FLOOR CONSTRUCTION			
INCLUDING SUPPORTING BEAMS & JOISTS	1 HOUR	TABLE 601	A.8.2.1.2
ROOF CONSTRUCTION			
INCLUDING SUPPORTING BEAMS & JOISTS	1 HOUR	TABLE 601	A.8.2.1.2
SHAFT ENCLOSURES	2 HOURS MINIMUM	SECTION 708.4	8.6.5
CORRIDORS (W/ SPRINKLER SYSTEM)	0 HOURS WITH SPRINKLER	TABLE 1018.1	18.3.6
SPACES OPEN TO CORRIDOR	UNLIMITED SF W/ AUTO SMOKE DETECTION		18.3.6.1
SPRINKLERS AND STANDPIPES			
AUTOMATIC SPRINKLERS			
ALL FLOORS	FULLY SPRINKLERED	SECTION 905.3	18.3.5.1
STANDPIPE SYSTEMS	CLASS 1		11.8.3.2
FIRE EXTINGUISHERS	CLASS A ORDINARY HAZARD	SECTION 906	9.7.4
EXISTING REQUIREMENTS			
OCCUPANT LOAD - INSTITUTIONAL/HEALTHCARE		TABLE 1004.1.1	TABLE 7.3.1.2
ACCESSORY STORAGE AREAS	300 GROSS		
OUTPATIENT AREAS	100 GROSS		
EGRESS WIDTH			
CORRIDORS (PATIENT USE)	8'-0" CLEAR		18.2.3.4
NON-CONTINUOUS PROJECTIONS ABOVE 40"	6" DEPTH, 36" LENGTH, 48" SEPARATION		18.2.3.4
CROSS CORRIDOR DOOR OPENINGS	6'-11" CLEAR WIDTH MINIMUM		18.2.3.4
EXISTING STAIRWAYS	36 INCHES		
OTHER EGRESS COMPONENTS	.2 INCHES/OCCUPANT		TABLE 7.3.3.1
EGRESS DOORS	32 INCHES CLEAR	SECTION 1005.1	7.2.1.2.3.2
GROUP I-2 EGRESS DOORS FOR BED MOVEMENT	41.5 INCHES CLEAR/80 INCHES HIGH	SECTION 8.1.1	
ACCUMLULATION SPACE	30 NSF/PATIENT ON EACH SIDE OF HORIZONTAL EXIT	SECTION 1008.1.1	18.2.2.5.1.1
CORRIDOR WALLS	NON-FIRE RATED		19.3.6.2.4
EXISTING ACCESS TRAVEL DISTANCE	200 FT		18.2.6.2.1
COMMON PATH OF TRAVEL	100 FT		18.2.5.3

PRE-CONSTRUCTION RISK ASSESSMENT

INFECTION CONTROL RISK ASSESSMENT (ICRA) REQUIREMENTS:

THE PURPOSE OF THE ICRA IS TO ASSESS RENOVATION PROJECT ACTIVITIES FOR POTENTIAL IMPACT ON PATIENT/ADJACENT AREAS WITH REGARD TO THE GENERATION OF AIRBORNE DUST AND GENERAL AIR QUALITY, IMPACT ON MEDICAL WASTE INCLUDING SEWER WASTES, MOLD, TRAFFIC CONTROL, NOISE, VIBRATIONS, SECURITY, FIRE SAFETY, CONSTRUCTION DEBRIS TRANSPORT AND DISPOSAL , AND GENERAL HOUSEKEEPING.

THIS PROJECT FALLS UNDER IC MATRIX CLASS IV (TYPE D CONSTRUCTION ACTIVITY - MEDIUM RISK GROUP)

THE FOLLOWING REQUIREMENTS MUST BE REVIEWED AND IMPLEMENTED BY ALL CONTRACTORS AND SUBCONTRACTORS DURING ALL PHASES OF THE PROJECT. THIS LIST IS NOT EXHAUSTIVE; REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1. OBTAIN INFECTION CONTROL PERMIT BEFORE CONSTRUCTION BEGINS.

2. PHYSICALLY ISOLATE HVAC SYSTEM IN THE AREA WHERE RENOVATION WORK IS BEING PERFORMED; I.E. REMOVE AND CAP DUCTWORK LEADING TO ADJACENT PORTIONS OF THE BUILDING.

3. ERECT HARD BARRIERS BETWEEN ALL INTERIOR AREAS OF THE PROJECT AREA AND ADJACENT AREAS. BARRIERS WILL BE CONSTRUCTED FROM FLOOR TO DECK USING WOOD/METAL WALL STUDS AND DRYWALL OR EQUIVALENT SHEETING. BARRIERS WILL BE CONSTRUCTED TO ENSURE A COMPLETE SEAL OF THE CONSTRUCTION AREAS FROM ADJACENT AREAS. WALLS SHALL BE DUSTPROOF WITH SEALS MAINTAINED AT THE FULL PERIMETER WHICH ALLOW FOR MINIMIZATION OF DUST COLLECTION AND SPREAD. A FIRE RETARDANT POLYSTYRENE, 6-MIL THICK OR GREATER PLASTIC BARRIER MEETING LOCAL FIRE CODES MAY BE USED WHERE DUST CONTROL IS THE ONLY HAZARD, AND AN AGREEMENT IS REACHED WITH THE CONTRACTING OFFICER'S REPRESENTATIVE (COR) AND MEDICAL CENTER. BARRIERS SHALL REMAIN IN PLACE UNTIL THE PROJECT AREA IS SATISFACTORILY CLEANED BY THE CONTRACTOR.

4. MAINTAIN NEGATIVE AIR PRESSURE WITHIN THE CONSTRUCTION AREA UTILIZING HIGH EFFICIENCY PARTICULATE AIR (HEPA) MACHINES.

5. THE CONTRACTOR SHALL ENSURE THAT DURING DEMOLITION AND THE TRANSPORT/LOADING OF CONSTRUCTION DEBRIS, NO VISIBLE EMISSIONS ARE GENERATED. THE CONTRACTOR SHALL KEEP ALL WINDOWS AND DOORS TO THE PROJECT AREA CLOSED, AND UTILIZE COVERED CARTS DURING TRANSPORT OF DEBRIS. IF NECESSARY, USE WET METHODS DURING DUMPING ACTIVITIES TO MINIMIZE VISIBLE EMISSIONS, I.E. WETTING OF DEBRIS PRIOR TO TRANSFER INTO ROLL OFF DUMPSTER OR DUMP TRUCK. DURING TRANSPORT, ALL DUMPSTERS OR DUMP TRUCKS SHALL BE SATISFACTORILY COVERED TO AVOID WIND AGITATION OF CONSTRUCTION DEBRIS.

6. THE CONTRACTOR SHALL COLLECT AND PROPERLY DISPOSE OF LIQUID DRAIN SLUDGE ENCOUNTERED DURING THE DEMOLITION OF PLUMBING.

7. THE CONTRACTOR SHALL MINIMIZE THE EFFECTS OF NOISE AND VIBRATION BY LIMITING WORK TO DAYLIGHT HOURS.

8. THE CONTRACTOR SHALL IMPLEMENT SATISFACTORY FIRE WATCH OR HOT WORK PERMIT SYSTEM FOR ALL HOT WORK ACTIVITIES; I.E. WELDING, BURNING, GRINDING, ETC. FIRE EXTINGUISHERS SHALL BE PROVIDED BY THE CONTRACTOR.

9. THE PROJECT AREA SHALL BE SECURED AND MONITORED BY THE CONTRACTOR DURING ALL CONSTRUCTION ACTIVITIES TO MINIMIZE ACCESS OF UNAUTHORIZED PERSONNEL.

10. DISRUPTION OF UTILITIES SHALL BE COORDINATED WITH SITE PERSONNEL TO MINIMIZED DISRUPTION TO ADJACENT FLOORS AND BUILDINGS.

11. MEDICAL WASTE, MOULD, AND ASBESTOS CONTAINING MATERIALS (ACM) SHOULD NOT BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL STOP WORK AND IMMEDIATELY NOTIFY SITE PERSONNEL IF SUSPICIOUS MEDICAL WASTE, MOULD OR ACM IS OBSERVED.

INTERIM LIFE SAFETY MEASURES (ILSM) REQUIREMENTS:

1. PRIOR TO BEGINNING ACTUAL WORK ACTIVITIES, THE GENERAL CONTRACTOR IS TO WALK THROUGH THE PLANNED WORK AREA(S) WITH REPRESENTATIVES OF THE VA SAFETY STAFF AND VA CONTRACTING OFFICER TO IDENTIFY AND PLAN FOR SAFETY ISSUES THAT MAY IMPACT HOSPITAL OPERATIONS AND LIFE SAFETY. THE ASSESSMENT SHOULD ADDRESS THE FOLLOWING ITEMS:

A. EGRESS PATHWAYS OR EXITS SHALL NOT BE ALTERED OR OBSTRUCTED.

B. ACCESS TO EMERGENCY SERVICES SHALL NOT BE RESTRICTED OR REROUTED, NOR WILL ACCESS FOR EMERGENCY RESPONDERS BE IMPAIRED OR RESTRICTED.

C. FIRE DETECTION AND ALARM SYSTEMS SHALL NOT BE IMPAIRED.

D. ANY PART OF THE FIRE SUPPRESSION OR SPRINKLER SYSTEM SHALL NOT BE IMPAIRED.

E. ANY SMOKE/FIRE WALLS, DOORS, OR ASSEMBLIES SHALL NOT BE COMPROMISED.

F. THE FIRE SAFETY OF PERSONNEL IN ADJACENT AREAS SHALL NOT BE AFFECTED.

G. THE INSTALLATION OF TEMPORARY CONSTRUCTION PARTITIONS WILL BE NECESSARY.

H. THE PROJECT SHALL NOT RESULT IN THE ACCUMULATION OF DEBRIS AND/OR MATERIALS AND INCREASE THE COMBUSTIBLE LOAD IN THE WORK AREA.

I. THE PROJECT ACTIVITY MAY INCLUDE SIGNIFICANT IGNITION SOURCES, I.E. CUTTING, SOLDERING, OR OTHER ACTIVITIES UTILIZING AN OPEN FLAME.

J. WILL THE PROJECT ACTIVITY PRESENT ANY OTHER SAFETY-RELATED HAZARDS?

2. THE VA WILL DOCUMENT THE ILSM ASSESSMENT AND PERFORM DAILY/WEEKLY OBSERVATIONS TO EVALUATE COMPLIANCE. DATA GATHERED DURING OBSERVATIONS WILL BE TRENDED. ISSUES IN NEED OF IMPROVEMENT WILL BE SHARED WITH THE GENERAL CONTRACTOR AND/OR MAINTENANCE PERSONNEL TO ACHIEVE IMPROVEMENT.

3. UPON CLOSEOUT AND BEFORE THE PROJECT IS TURNED OVER TO THE END USERS, ALL LIFE SAFETY DEFICIENCIES SHALL BE SHOWN TO HAVE BEEN CORRECTED. THE FOLLOWING CLOSEOUT CHECKLIST SHALL FACILITATE THIS PROCESS:

A. ALL EXITS SHALL BE FREE AND UNOBSTRUCTED.

B. ALL EXIT SIGNS ARE OPERATIONAL AND INSTALLED AS DESIGNED. ALL TEMPORARY SIGNS SHALL BE REMOVED.

C. ALL ACCESS TO EMERGENCY SERVICES ARE RESTORED.

D. DOCUMENTED MAINTENANCE ACCEPTANCE TESTING FOR SMOKE/SPRINKLER SYSTEMS SHALL BE PROVIDED.

E. ENSURE THE AREA IS EQUIPPED WITH THE APPROPRIATE NUMBER OF FIRE EXTINGUISHERS PER CODE AND DESIGN.

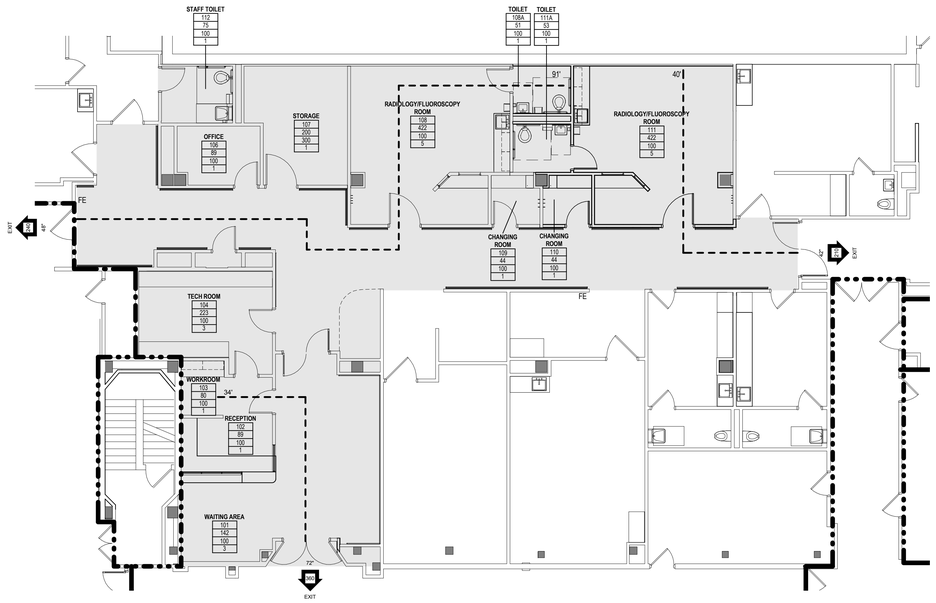
F. ALL CONSTRUCTION MATERIALS AND EQUIPMENT SHALL BE REMOVED.

G. ALL EMERGENCY EVACUATION SIGNS ARE INSTALLED AND UPDATED.

H. ALL CEILING TILES ARE INSTALLED.

I. SPACES ARE CLEANED AND READY FOR OCCUPANCY.

J. ALL OTHER SAFETY RELATED HAZARDS OR CONDITIONS SHALL BE REMOVED.



1 FIRST FLOOR CODE REVIEW PLAN
1/8" = 1'-0"

EGRESS SYMBOL LEGEND

110	ROOM NUMBER
150	AREA (SF)
100	EXIT GENERATOR (OCCS / SF)
15	OCCUPANTS

34" EXIT WIDTH

170 EXIT PATH
EXIT

44" TRAVEL DISTANCE

AREA OF WORK

FIRE PARTITION LEGEND

1 HOUR FIRE BARRIER

2 HOUR FIRE BARRIER

KEY PLAN

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title: CODE REVIEW

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: DG | Drawn: AHK

Project Number: 562-13-103

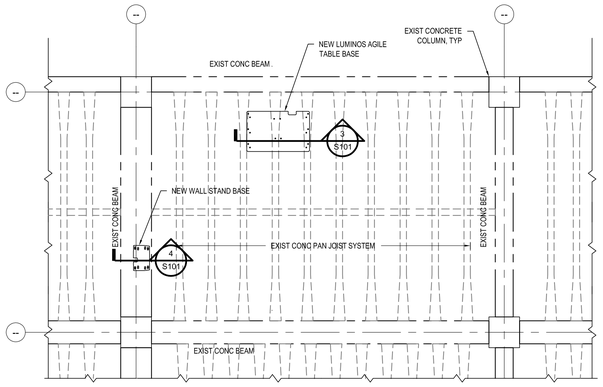
Building Number: 1

Drawing Number: G002

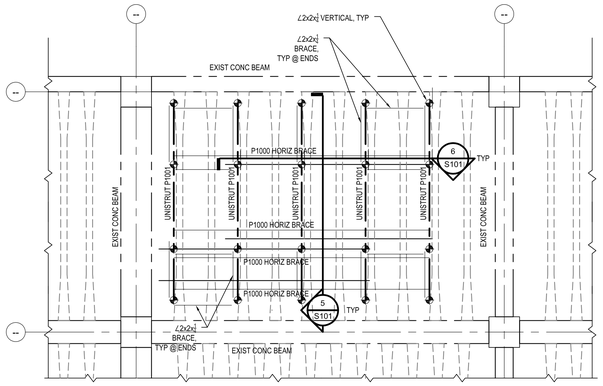
Dwg. 2 of 29

Office of Construction and Facilities Management
Department of Veterans Affairs

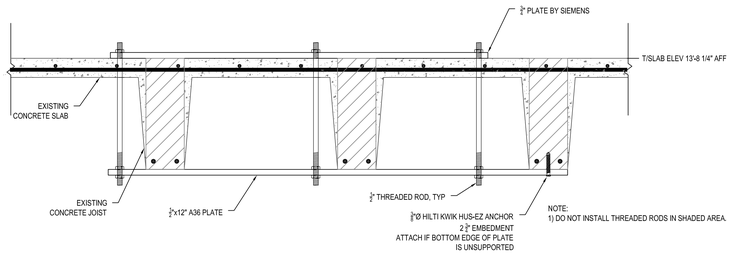
VA FORM 08-6231



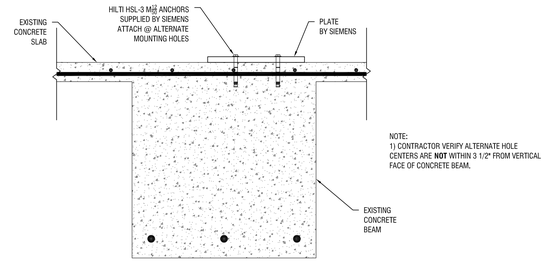
1 STRUCTURAL FLOOR PLAN
1/4" = 1'-0"



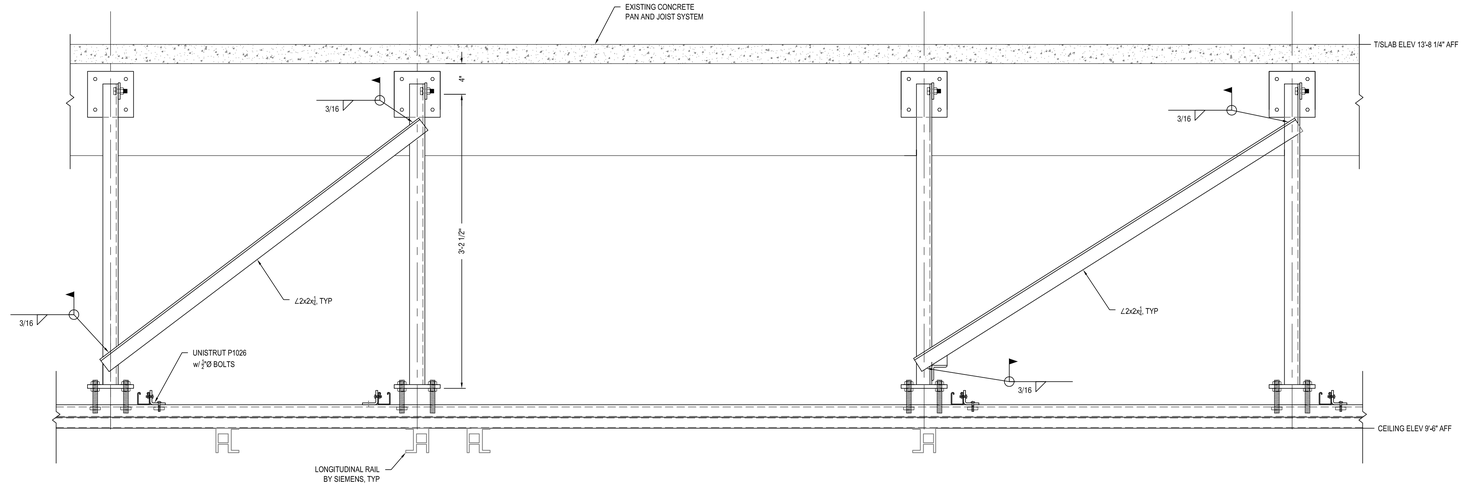
2 STRUCTURAL CEILING PLAN
1/4" = 1'-0"



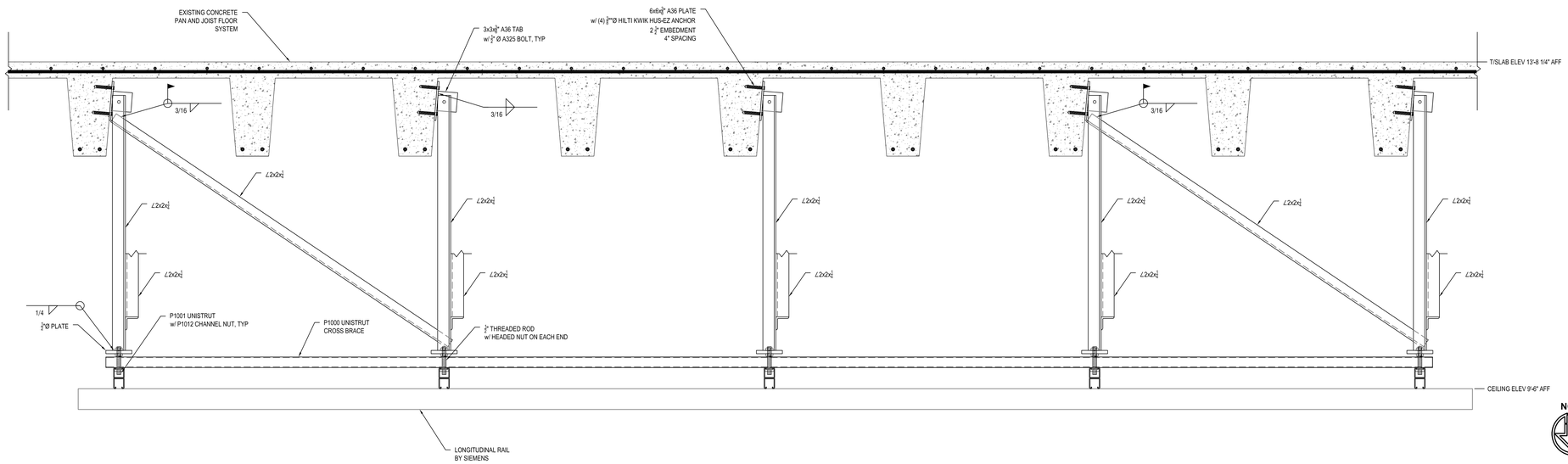
3 LUMINOS AGILE TABLE BASE DETAIL
1 1/2" = 1'-0"



4 WALL STAND BASE DETAIL
1 1/2" = 1'-0"



5 RAIL ATTACHEMENT DETAIL
1 1/2" = 1'-0"



6 RAIL ATTACHMENT DETAIL
1 1/2" = 1'-0"

NORTH

ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

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AE Works Project Number:

Drawing Title
NEW WORK STRUCTURAL PLANS & DETAILS

Approved: Project Director

Project Title:
RENOVATION OF RADIOLOGY FOR RF ROOMS

Location:
135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | **Checked:** DAS | **Drawn:** MJS

Project Number 562-13-103

Building Number 1

Drawing Number S101

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Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

ARCHITECTURAL ABBREVIATIONS

	&	AND
A	A	AIR (CLINICAL)
	AAP	ALARM ANNUNCIATOR PANEL
	AB	ANCHOR BOLT
	ACFL	ACCESS
	ACOUS	ACOUSTICAL
	ACT	ACOUSTICAL CEILING TILE
	AD	AREA DRAIN
	ADD	ADDENDUM
	ADDL	ADDITIONAL
	ADJ	ADJUST/ ABLE
	ADJ	ADJACENT
	ADMIN	ADMINISTRATION
	AFF	ABOVE FINISH FLOOR
	AHU	AIR HANDLING UNIT
	AL	ALIGN
	ALT	ALTERNATE
	ALUM	ALUMINUM
	AM	ANESTHESIA MONITOR
	AMEND	AMENDMENT
	ANES	ANESTHESIOLOGY
	ANUN	ANNUNCIATOR
	AP	ACCESS PANEL
	APC	ARCHITECTURAL PRECAST CONCRETE
	APROX	APPROXIMATE
	ARCH	ARCHITECTURAL
	AUTO	AUTOMATIC
	AWT	ACOUSTICAL WALL TREATMENT
B	BA	BACTERIOLOGY
	BACT	BUILDING ACCESSORY\
	BASS	BASSINET
	BBD	BULLETIN BOARD
	BC	BRICK COURSES
	BD	BOARD
	BFE	BOTTOM FOOTING ELEVATION
	BG	BUMPER GUARD
	BIT	BITUMINOUS
	BKT	BRACKET
	BLDG	BUILDING
	BLKG	BLOCKING
	BLT	BORROWED LIGHT
	BLW	BELOW
	BM	BEAM
	BO	BY OWNER
	BOF	BY OWNER FUTURE
	BOT	BOTTOM
	BPC	BED PAN CABINET
	BPG	BLOOD PRESSURE GAUGE
	BR	BRICK
	BRG	BEARING
	BRL	BRICK LEDGE
	BSMT	BASEMENT
	BTWN	BETWEEN
	BUR	BUILT-UP ROOFING
C	C	CHANNEL
	C DISP	CUP DISPENSER
	CAB	CABINET
	CANTL	CANTILEVER
	CAP	CAPACITY
	CAT	CATEGORY
	CBD	CHALKBOARD
	CCT	CUBICLE CURTAIN TRACK
	CCTV	CLOSED CIRCUIT TELEVISION
	CD	COLLING DOOR
	CD	COLLING GRILLE
	CG	CORNER GUARD
	CH	COAT HOOK
	CHEM	CHEMISTRY
	CJT	CONTROL JOINT
	CL	CENTER LINE
	CL	CLASS
	CLG	CEILING
	CLR	CLEAR
	CM	CONSTRUCTION MANAGER
	CMU	CONCRETE MASONRY UNIT
	CO	CLEAN OUT
	CO	CASED OPENING
	CO2	CARBON DIOXIDE
	COL	COLUMN
	COMB	COMBINATION/-ED
	CONC	CONCRETE
	CONF	CONFERENCE
	CONN	CONNECT/-ED /-ION
	CONST	CONSTRUCTION
	CONT	CONTINUE/OUS
	CONTR	CONTRACTOR
	COORD	COORDINATE
	CORR	CORRIDOR
	CPT	CARPET
	CT	CERAMIC TILE
	CT	CAT SCAN
	CTR	CENTER
	CTSK	COUNTERSUNK
	CUH	CABINET UNIT HEATER
	CV	CARDIOVASCULAR
	CW	CURTAIN WALL
	CW	COLD WATER
	CYL	CYLINDER
	CYSTO	CYSTOSCOPY
D	D	DEPTH OR DEEP
	DEMO	DEMOLITION
	DEPR	DEPRESSION
	DEPT	DEPARTMENT
	DET	DETAILS
	DF	DRINKING FOUNTAIN
	DIA	DIAMETER
	DIAG	DIAGONAL
	DICT	DICTATION
	DIFF	DIFFUSER
	DIM	DIMENSION
	DIR	DIRECTOR
	DISP	DISPENSER
	DIST	DISTRIBUTION
	DIV	DIVISION
	DIW	DEIONIZED WATER
	DJT	DUMMY JOINT
	DN	DOWN
	DP	DEMOUNTABLE PARTITION
	DP	DATA PROCESSING
	DR	DOOR
	DR	DOCTOR
	DS	DOWNSPOUT
	DSW	DISTILLED WATER
	DW	DUMBWAITER
	DWG	DRAWING
	DWLS	DOWELS
E	E	EXISTING
	EC	ELECTRIC CABINET
	ECG	ELECTROCARDIOGRAPHY
	EEG	ELECTROENCEPHALOGRAPHY
	EENT	EYE EAR NOSE & THROAT
	EF	EXHAUST FAN
	EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
	EJ	EXPANSION JOINT
	EL	ELEVATION
	ELEC	ELECTRICAL
	ELEV	ELEVATOR
	EMERG	EMERGENCY
	EMG	ELECTROMAYOGRAPHY
	ENCL	ENCLOSURE
	ENT	EAR NOSE THROAT
	ENTR	ENTRANCE
	EO	ELECTRICAL OUTLET
	EP	EXPLOSION PROOF
	EQ	EQUAL
	EQUIP	EQUIPMENT
	ES	END SECTION
	ETR	EXISTING TO REMAIN
	EWC	ELECTRIC WATER COOLER
	EXA	EXHAUST AIR
	EXC	EXCAVATE/-ED/-ION
	EXH	EXHAUST HOOD
	EXIST	EXISTING
	EXP	EXPANSION
	EXT	EXTERIOR
F	FA	FIRE ALARM
	FB	FIRE BLANKET
	FBR	FACE BRICK
	FD	FLOOR DRAIN
	FDN	FOUNDATION
	FDV	FIRE DEPARTMENT VALVE
	FE	FIRE EXTINGUISHER
	FEC	FIRE EXTINGUISHER CABINET
	FGS	FOAM GASKET SEAL
	FH	FIRE HOSE
	FHC	FIRE HOSE CABINET
	FHP	FULL HEIGHT PARTITION
	FHV	FIRE HOSE VALVE
	FIN	FINISH
	FIXT	FIXTURE
	FL	FLOOR
	FL	FLOW LINE
	FLASH	FLASHING
	FLEX	FLEXIBLE
	FLG	FLANGE
	FLUOR	FLUORESCENT
	FLUORO	FLUOROSCOPY/FLUOROSCOPE
	FP	FIRE PROOFING
	FRMG	FRAMING
	FRS	FLUSHING RIM SINK
	FS	FULL SIZE
	FS	FLOOR SINK
	FSTOP	FIRESTOPPING
	FT	FOOT/FEET
	FTG	FOOTING
	FTR	FIN TUBE RADIATION
	FURR	FURRING
	FUT	FUTURE
	FV	FILM VIEWER
G	G	GAS
	GA	GAUGE
	GAL	GALLONS
	GALV	GALVANIZED
	GB	GRAB BAR
	GB	GRADE BEAM
	GC	GENERAL CONTRACTOR
	GEN	GENERAL
	GEN	GENERATOR
	GL	GLASS
	GMU	GLASS MASONRY UNIT
	GR	GRADE
	GYB	GYPSUM BOARD
	GYN	GYNECOLOGY
	GYPSHTG	GYPSUM SHEATHING
H	H	HIGH
	HB	HOSE BIB
	HD	HAND DRYER
	HDCP	HANDICAP
	HDR	HEADER
	HOW	HARDWARE
	HM	HOLLOW METAL
	HORIZ	HORIZONTAL
	HPT	HIGHPOINT
	HR	HANDRAIL
	HSKP	HOUSEKEEPING
	HT	HEIGHT
	HTR	HEATER
	HVAC	HEATING, VENTILATING, AIR CONDITIONING
	HW	HOT WATER
	HW	HEAD WALL
	HWD	HARDWOOD
I	IC	INTERCOM
	ICCU	INTENSIVE CARDIAC CARE UNIT
	ICU	INTENSIVE CARE UNIT
	LD	INSIDE DIAMETER
	IN	INCH
	INSUL	INSULATION
	INT	INTERIOR
	ISO	ISOLATION
	ISOLPP	ISOLATED POWER PANEL
	IV	INTRA VENOUS
J	JAN	JANITOR
	JB	JUNCTION BOX
	JST	JOIST
	JT	JOINT
K	KO	KNOCK OUT
L	L	L ANGLE
	LAR	LEAD APRON RACK
	LAV	LAVATORY
	LB	POUND
	LCD	LINEAR CEILING DIFFUSER
	LF	LINE FIGURED
	LIN	LINEAR
	KKR	LOCKER
	LLH	LONG LEG HORIZONTAL
	LLV	LONG LEG VERTICAL
	LMC	LINEAR METAL CEILING
	LOC	LOCATION OR LOCATE
	LPT	LOW POINT
	LS	LAWN SPRINKLING
	LT	LIGHT
	LTG	LIGHTING
	LVR	LOUVER
	LVT	LUXURY VINYL TILE
	LWC	LINEAR WOOD CEILING
M	M	MIDDLE
	MAN	MANUAL
	MATL	MATERIAL
	MAX	MAXIMUM
	MBD	MARKER BOARD
	MC	MEDICINE CABINET
	MCU	MODULAR COOLING UNIT
	MECH	MECHANICAL
	MED	MEDICAL/TION
	MEMB	MEMBRANE
	MET	METAL
	MEZZ	MEZZANINE
	MFR	MANUFACTURER
	MGA	MEDICAL GAS ALARM
	MH	MANHOLE
	MHC	MATERIAL HANDLING CONVEYOR
	MIN	MINIMUM
	MIR	MIRROR
	MISC	MISCELLANEOUS
	MD	MASONRY OPENING
	MONO	MONOLITHIC
	MPC	METAL PAN CEILING
	MPU	MULTI-PURPOSE UNIT
	MRI	MAGNETIC RESONANCE IMAGING
	MTD	MOUNTED
	MTL	METAL
	MTR	MOTOR
	MULL	MULLION
N	NA	NOT APPLICABLE
	NIC	NOT IN CONTRACT
	NO	NUMBER
	NOM	NOMINAL
	NRC	NOISE REDUCTION COEFFICIENT
	NT	NOTE
	NTS	NOT TO SCALE
O	O	OXYGEN
	OB	OBSTETRICS
	OC	ON CENTER
	OD	OUTSIDE DIAMETER
	OFF	OFFICE
	OH	OVERHEAD
	OP	OPERABLE PARTITION
	OP	OUTPATIENT
	OPER	OPERATOR
	OPNG	OPENING
	OPP	OPPOSITE
	OR	OPERATING ROOM
	ORD	OVERFLOW ROOF DRAIN
	ORTHO	ORTHOPEDICS
	OT	OCCUPATIONAL THERAPY
P	PAR	POST ANESTHESIA RECOVERY
	PART	PARTITION
	PB	PUSH BUTTON
	PCD	PAPER CUP DISPENSER
	PED	PEDESTAL
	PEDS	PEDIATRICS
	PHARM	PHARMACY
	PHYS	PHYSICAL
	PHYSICS	PHYSIOLOGICIAL
	PICU	PEDIATRIC INTENSIVE CARE UNIT
	PL	PLATE
	PL	PROPERTY LINE
	PLAM	PLASTIC LAMINATE
	PLBG	PLUMBING
	PLS	PLASTER
	PNL	PANEL
	PR	PAIR
	PRELIM	PRELIMINARY
	PREP	PREPARATION
	PRES	PLASTIC RESIN
	PRESS	PRESSURE
	PRIM	PRIMARY
	PROC	PROCEDURE
	PROJ	PROJECTION
	PRV	POWER ROOF VENTILATOR
	PSYCH	PSYCHOLOGY
	PT	PHYSICAL THERAPY
	PT	PAINT
	PTC	PNEUMATIC TUBE STATION
	PTR	PAPER TOWEL CABINET
	PTS	PRINTER
	PULMO	PULMONARY
	PVC	POLYVINYL CHLORIDE
Q	QT	QUARRY TILE
R	R	RADIUS
	RA	RETURN AIR
	RAD	RADIATION/OLOGY
	RB	RESILIENT BASE
	RD	ROOF DRAIN
	RE	RELOCATE EXISTING
	REC	RECESSED
	RECP	RECEPTION
	REF	REFERENCE
	REFR	REFRIGERATOR
	REG	REGISTER
	REHAB	REHABILITATION
	REINF	REINFORCE/-ED/-ING
	REM	REMOVE
	REQD	REQUIRED
	RET	RETAINING
	REV	REVERSE
	REV	REVISE
	RF	RESILIENT FLOOR
	RF	RADIO FREQUENCY
	RFI	REQUEST FOR INFORMATION
	RH	ROOF HATCH
	RO	ROUGH OPENING
	RSF	RESILIENT SHEET FLOORING
	RWCS	RAIN WATER CONDUCTOR
S	SAN	SANITARY
	SD	SMOKE DAMPER
	SDISP	SOAP DISPENSER
	SECY	SECRETARY
	SF	SQUARE FOOT
	SH	SHOWER
	SHD	SHOWER HEAD
	SHTG	SHEATHING
	SIM	SIMILAR
	SL	SEALER
	SLV	SLEEVE
	SM	SURFACE MOUNTED
	SNC	SANITARY NAPKIN CABINET
	SND	SANITARY NAPKIN DISPOSER
	SP	STANDPIPE
	SPC	SPECIMEN PASS THROUGH CABINET
	SPEC	SPECIFICATIONS
	SR	SERVICE RECEPTOR
	SS	SERVICE SINK
	SSS	SURGEONS SCRUB SINK
	SST	STAINLESS STEEL
	ST	STONE TILE
	STA	STATION
	STC	SOUND TRANSMISSION
	STD	STANDARD
	STER	STERILIZER
	STL	STEEL
	STOR	STORAGE
	STRUCT	STRUCTURAL
	STS	STEEL STRUCTURE
	SUPV	SUPERVISOR
	SURG	SURGERY/ICAL
	SUSP	SUSPENDED
	SW	SWITCH
	SYM	SYMMETRICALTOP
T	T	TOP
	TAN	TANGENT
	TB	TACK BOARD
	TC	TIME CLOCK
	TCAB	TOWEL CABINET
	TDISP	TISSUE DISPENSER
	TEL	TELEPHONE
	TEMP	TEMPERATURE
	TER	TERRAZZO
	TG	TONGUE & GROOVE
	THER	THERAPIST/Y
	THRES	THRESHOLD
	TPH	TOILET PAPER HOLDER
	TRANSF	TRANSFORMER
	TS	TUBE SECTION
	TSC	TOILET SEAT COVER DISPENSER
	TV	TELEVISION
	TYP	TYPICAL
U	U	URINAL
	UC	UNDER COUNTER
	UFO	UNDER FLOOR DUCT
	UG	UNDERGROUND
	UH	UNIT HEATER
	UNFIN	UNFINISHED
	UNO	UNLESS NOTED OTHERWISE
	US	UTILITY SHELF
	UTIL	UTILITY
V	V	VACUUM
	VB	VACUUM BREAKER
	VC	VALVE CABINET
	VCO	VACUUM CLEANING OUTLET
	VENT	VENTILATION
	VERT	VERTICAL
	VIF	VERIFY IN FIELD
	VR	VAPOR RETARDER
	VTR	VENT THROUGH ROOF
W	W	WIDTHWIDE
	W	WIDE FLANGE
	W/	WITH
	W/0	WITHOUT
	WC	WATER CLOSET
	WC	WALL COVERING
	WD	WOOD
	WE	WASHER EXTRACTOR
	WDW	WINDOW
	WG	WALL GUARD
	WH	WALL HYDRANT
	WHCH	WHEELCHAIR
	WHTR	WATER HEATER
	WP	WATERPROOF
	WPS	WALL PROTECTION SYSTEM
	WR	WASTE RECEPTACLE
	WS	WEATHERSTRIP
	WS	WASHER STERILIZER
	WSCT	WAINSCOT
	WT	WINDOW TREATMENT
	WT	WEIGHT
	WW	WOOD WINDOW
	WWF	WELDED WIRE FABRIC
Z	ZVB	ZONE VALVE BOX
	ZBC	ZONE VALVE CABINET

SYMBOLS LEGEND :

DESCRIPTION	SYMBOL
DRAWING BLOCK TITLE MARK	ITEM NUMBER / LETTER; ITEM TITLE/ DESCRIPTION; 1 DRAWING BLOCK TITLE; 1/4"= 1'-0"; ITEM SCALE
WALL SECTION MARK	SECTION IDENTIFIER; 1 A310; SHEET NUMBER
BUILDING SECTION MARK	SECTION IDENTIFIER; 1 A302; SHEET NUMBER
DETAIL INDICATOR	DETAIL IDENTIFIER; 1 A5.01; SHEET NUMBER; LEADER; DETAIL BOUNDARY
EXTERIOR ELEVATION MARK	1 ELEVATION IDENTIFIER; A701 SHEET NUMBER
INTERIOR ELEVATION MARK (SINGLE VIEW)	1 ELEVATION IDENTIFIER; A701 SHEET NUMBER
INTERIOR ELEVATION MARK (MULTIPLE VIEWS)	4 ELEVATION IDENTIFIER; 3 A701 1; 2 SHEET NUMBER
NORTH ARROW	N PROJECT NORTH; TRUE NORTH
ROOM NAME INDICATOR	OFFICE ROOM NAME; 102 ROOM NUMBER
COLUMN GRID IDENTIFICATION	1 GRID LINE IDENTIFICATION; A COLUMN GRID LINE
DOOR IDENTIFICATION	A101A DOOR NUMBER
WINDOW IDENTIFICATION	W1 WINDOW/ CURTAINWALL TYPE
WALL TYPE IDENTIFICATION	A WALL TYPE INDICATOR; WALL
KEYNOTE IDENTIFICATION	3.01 KEYNOTE NUMBER
REVISION IDENTIFICATION	REVISION CLOUD; 1 REVISION NUMBER
DATUM POINT IDENTIFICATION	10'-0" ELEVATION RELATIVE TO FIRST FLOOR TOP OF SLAB

MATERIALS LEGEND :

- ACOUSTIC TILE
- BATT INSULATION
- BRICK
- CONCRETE
- CONCRETE BLOCK
- EARTH - COMPACTED FILL
- GRAVEL, CRUSHED STONE
- GYPSUM BOARD, PLASTER
- PLYWOOD
- RIGID INSULATION
- SAND, GROUT, LIMESTONE
- STEEL
- TAPERED INSULATION
- WOOD, FINISH
- WOOD, FRAMING THROUGH MEMBER
- WOOD, FRAMING INTERRUPTED MEMBER

GENERAL PROJECT NOTES:

1. ALL CONSTRUCTION WORK SHALL CONFORM WITH THE APPLICABLE CODES AND ORDINANCES OF THE LOCAL JURISDICTION, THE COMMONWEALTH OF PENNSYLVANIA, AND THE CURRENT ADOPTED VERSION OF THE INTERNATIONAL BUILDING CODE FAMILY. THE CONTRACTOR SHALL POST NOTICES AND COMPLY WITH THE GOVERNING LAWS OF THE JURISDICTION.

2. INSTALLATIONS PERFORMED IN CONNECTION WITH THESE DRAWINGS SHALL BE IN STRICT COMPLIANCE TO THE MOST RECENT NFPA EDITION.

3. THE WORK SHALL BE PROPERLY SUPERVISED BY THE CONTRACTOR'S JOB SITE SUPERINTENDENT. SUFFICIENT PERSONNEL SHALL BE EMPLOYED TO COMPLETE THE WORK WITHIN THE CONTRACTED TIME. PERSONNEL SHALL BE SKILLED IN THE TASK ASSIGNED.

4. THE CONTRACTOR SHALL, AT ALL TIMES, MAINTAIN ADEQUATE PROTECTION TO SAFEGUARD THE PUBLIC AND ALL PERSONS ENGAGED IN THE PERFORMANCE OF THE WORK.

5. THE DRAWINGS REFLECT CONDITIONS AS CAN BE INFERRED FROM VISIBLE CONDITIONS, OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER, BUT CANNOT BE GUARANTEED. THE CONTRACTOR SHALL VERIFY ALL LINES, LEVELS AND DIMENSIONS INDICATED ON THE DRAWINGS AND SHALL REPORT ALL INCONSISTENCIES TO THE ARCHITECT PRIOR TO THE EXECUTION OF THE WORK. RECHECK ALL DIMENSIONS PRIOR TO ORDERING MANUFACTURED AND/OR FABRICATED ITEMS.

6. PLAN DIMENSIONS, UNLESS NOTED OTHERWISE, ARE TO THE FACE OF THE WALL STUD OR CENTERLINE OF COLUMN.

7. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR PROTECTION AND SAFEKEEPING OF PRODUCTS PURCHASED FOR THIS PRODUCT AND STORED ON THE PROJECT SITE. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ON PREFERRED LOCATIONS FOR STORED MATERIALS ON THE PROJECT SITE, IF ALLOWED AS PART OF THE REQUIREMENTS OF THIS PROJECT.

8. THE CONTRACTOR SHALL MAINTAIN AREAS UNDER THE CONTRACTOR'S CONTROL TO BE FREE OF WASTE MATERIALS, DEBRIS, AND RUBBISH. CONTAINERS FOR DEPOSIT OF DEBRIS AND RUBBISH SHALL BE PROVIDED BY THE CONTRACTOR. COORDINATE LOCATION OF CONTAINERS WITH THE CONTRACTING OFFICER'S REPRESENTATIVE PRIOR TO PLACEMENT. REMOVE AND DISPOSE OF DEMOLITION MATERIAL OFF SITE IN ACCORDANCE WITH APPLICABLE CODES AND/OR SPECIFICATIONS.

9. EXTRANEOUS MATERIALS SHALL BE PERIODICALLY REMOVED, AND, AT THE CONCLUSION OF THE PROJECT.

10. INDIVIDUAL CONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL FIRESAFING/FIRESTOPPING MATERIALS AT ALL THROUGH-WALL AND THROUGH-CEILING PENETRATIONS AS REQUIRED FOR THE CONSTRUCTION WORK OF THEIR INDIVIDUAL CONTRACT AND TO MAINTAIN FIRE RATINGS OF FLOORS AND WALLS. MATERIALS AND INSTALLATION DETAILS SHALL CONFORM TO UNDERWRITER LABORATORIES LISTING FOR RATED ASSEMBLIES.

11. CONTRACTOR IS TO ASSUME 10 LINEAR FEET OF EXISTING FIRE RATED WALL REQUIRES PATCHING AND SEALING TO MAINTAIN FIRE RATINGS.

12. CONTRACTOR IS TO ASSUME 100 SQUARE FEET OF EXSITING STRUCTURAL STEEL REQURES FIRE PROTECTION COVERAGE.

13. ALL WOOD FRAMING AND SHEATHING SHALL BE FIRE RETARDANT TREATED AS REQUIRED BY THE BUILDING CODE CLASSIFICATION OF 'NONCOMBUSTIBLE'.

14. DO NOT SCALE DRAWINGS. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DEVIATIONS OR DISCREPANCIES FOUND AND RECEIVE DIRECTION BEFORE PROCEEDING.

15. REMOVE AND DISPOSE OF DEMOLITION MATERIAL OFF SITE IN ACCORDANCE WITH THE APPLICABLE CODES AND/OR SPECIFICATIONS.

16. NO CONSTRUCTION SHALL START UNTIL ALL SUBMITTALS HAVE BEEN APPROVED BY THE VA.

17. CONSTRUCTION RELATED ACTIVITIES ARE NOT TO ADVERSELY IMPACT PATIENT OCCUPIED AREAS. CONSTRUCTION RELATED ACTIVITIES THAT MIGHT AFFECT THESE AREAS (DEMO, JACK HAMMERING, TIE-INS, ETC.) MUST BE PERFORMED AFTER HOURS AND COORDINATED WITH AND APPROVED BY THE VA PRIOR TO OCCURRENCE.

18. CONTRACTOR SHALL PROVIDE TEMPORARY DUST ENCLOSURES DURING ALL DEMOLITION AND CONSTRUCTION ACTIVITIES. CONTRACTOR TO COORDINATE LOCATIONS WITH CONTRACTING OFFICER'S REPRESENTATIVE. IF EXISTING WALLS ARE USED, PENETRATIONS MUST BE SEALED TO CREATE A DUST PROOF ENCLOSURE. ICRA LEVEL IV IS REQUIRED THROUGHOUT PROJECT. CONTRACTOR'S ICRA PLAN IS SUBJECT TO VA APPROVAL.

19. MODIFICATIONS TO THE EXISTING MEP SYSTEMS MAY IMPACT ADJACENT SPACES OUTSIDE THE GENERAL SCOPE OF WORK. ANY DISTURBANCE OF EXISTING CONDITIONS AND FINISHES MUST BE REPAIRED TO MATCH THE CONDITIONS PRIOR TO CONSTRUCTION IMPACTS.

20. NEGATIVE PRESSURE IN CONSTRUCTION AREA TO BE MAINTAINED AT ALL TIMES.

21. THE FACILITY IS OPERATIONAL. CONTRACTOR SHALL MAKE PROVISIONS FOR OWNER AND PUBLIC USE OF THE BUILDING AROUND THE CONSTRUCTION AREA. DELIVERIES, STAGING, STORAGE OF MATERIALS AND OTHER CONSTRUCTION RELATED ACTIVITIES SHALL BE COORDINATED WITH THE CONTRACTING OFFICER SO AS TO NOT ADVERSELY AFFECT THE BUILDING OPERATIONS.

22. ASBESTOS AND LEAD ARE NOT ANTICIPATED TO EXIST IN THE WORK AREA. HOWEVER, IF ASBESTOS-CONTAINING MATERIAL IS DISCOVERED OR SUSPECTED, STOP WORK IN THE AREA IMMEDIATELY AND CONTACT THE CONTRACTING OFFICER.

23. ALL REVISIONS TO THE DRAWINGS MUST PROCEED THROUGH THE ARCHITECT.

24. ALL EXPOSED GYPSUM WALL BOARD EDGES TO HAVE METAL EDGE TRIM.

25. THE CONTRACTOR IS RESPONSIBLE FOR COMPARING AND COORDINATING ALL DRAWINGS FOR PROPER FIT AND ATTACHMENT OF ALL PARTS. DETAILS NOT SHOWN OR CALLED DESCRIBED IN THESE NOTES SHALL BE CONSTRUCTED TO SAME SIZE AND CHARACTER AS FOR SIMILAR CONDITIONS WHICH ARE SHOWN, SPECIFIED, OR COMMONLY CONSTRUCTED IN THE INDUSTRY.

26. NO STRUCTURAL MEMBER SHALL BE OMITTED, NOTCHED, CUT, BLOCKED OUT, OR RELOCATED WITHOUT PRIOR APPROVAL BY THE ARCHITECT OR ENGINEER.

27. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT ADJACENT PROPERTY AT ALL TIMES DURING CONSTRUCTION.

28. ALL TEMPORARY BRACING AND SHORING SHALL BE DESIGNED TO SUSTAIN ALL CONSTRUCTION LOADS, SOIL PRESSURE, LATERAL AND OTHER LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED.

29. CONTRACTOR SHALL COORDINATE LOCATIONS OF LIGHT FIXTURES, SPRINKLER HEADS, REGISTERS, ETC. WITH THE ELECTRICAL, HVAC, PLUMBING AND SPRINKLER SUB-CONTRACTORS.

30. ALL SPRINKLER HEADS, DIFFUSERS AND REGISTERS SHALL BE CENTERED WITH SUSPENDED ACOUSTICAL PANELS, UNLESS NOTED OTHERWISE ON DRAWINGS.

31. CONTRACTOR SHALL FILL ALL VOIDS IN MASONRY AND CONCRETE CREATED AROUND ALL PENETRATIONS WITH CONSTRUCTION TO MATCH SURROUNDING CONDITIONS.

32. ALL KNOWN EXISTING ABANDONED OR NEWLY ABANDONED UTILITIES (CONDUIT, CABLE, PIPING, ETC.) ARE TO BE REMOVED FROM THE SPACE AND CEILING IN ITS ENTIRETY.

33. ALL POWER SHUT DOWNS TO BE PERFORMED AFTER HOURS. NORMAL HOURS OF OPERATION ARE: MONDAY - FRIDAY 7:30AM - 10:00PM. WEEKENDS AND HOLIDAYS: 10:00AM - 6:30PM.

34. ALL EQUIPMENT (FURNISHED AND INSTALLED BY CONTRACTOR OR OWNER) IN R/F ROOM 108 IS TO BE FULLY OPERATIONAL AND INSPECTED BY THE VA'S PHYSICIST AND ALL PUNCH WORK COMPLETED BEFORE PHASE 5 (DEMOLITION OF ROOM 111) CAN BEGIN. THERE MUST BE TWO (2) R/F ROOMS OPERATIONAL AT ALL TIMES. ALLOCATE 10 WORKING DAYS IN THE SCHEDULE FOR THE RADIOLOGY VENDOR/CONTRACTOR TO INSTALL AND TEST ALL OF THE EQUIPMENT. ALLOCATE AN ADDITIONAL THREE (3) WORK DAYS IN THE SCHEDULE FOR PHYSICIST INSPECTION.

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

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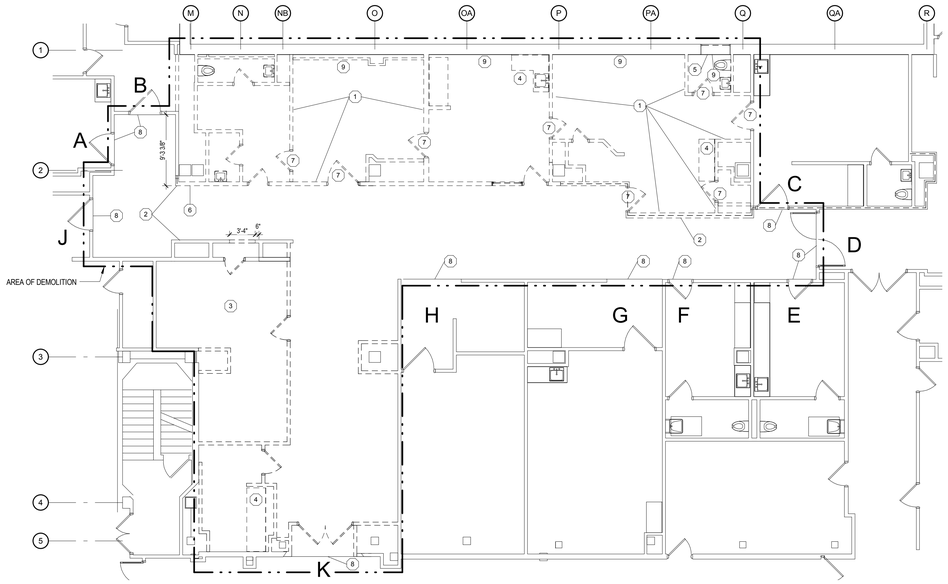
Drawing Title	ARCHITECTURAL SYMBOLS, ABBREVIATIONS & NOTES
Project Title:	RENOVATION OF RADIOLOGY FOR RF ROOMS
Project Number	562-13-103
Building Number	
Approved: Project Director	
Location:	135 EAST 38TH STREET, ERIE, PA 16504
Date:	April 22, 2014
Checked:	DG
Drawn:	AHK
Drawing Number	A001
Dwg. 4 of 29	

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



1 RADIOLOGY - DEMOLITION PLAN
1/8" = 1'-0"

DEMOLITION KEYNOTES	
NUMBER	DESCRIPTION
1	LEAD LINED WALL
2	REMOVE HANDRAIL AND CRASHGUARD ALONG ENTIRE WALL
3	REMOVE HIGH DENSITY STORAGE FLOOR TRACK AND UNITS
4	CASEWORK TO BE REMOVED
5	REMOVE EXTERIOR WINDOW
6	EXPANSION JOINT
7	LEAD LINED DOOR
8	EXTENT OF FLOOR COVERING AND CEILING SYSTEM DEMOLITION
9	REMOVE EXISTING ABANDONED STEAM RADIATOR AND COVER

DEMOLITION LEGEND

- WALL TO BE REMOVED
- DOOR TO BE REMOVED
- WINDOW TO BE REMOVED
- PLUMBING FIXTURE TO BE REMOVED

GENERAL DEMOLITION NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND COORDINATE ALL DEMOLITION ACTIVITIES WITH ANY NEW CONSTRUCTION AS INDICATED WITHIN THE CONSTRUCTION DOCUMENTS. DO NOT SCALE DRAWINGS.

2. REMOVE ALL FLOORING AND CEILING SYSTEMS WITHIN AREA OF DEMOLITION UNLESS NOTED OTHERWISE.

3. CONTRACTOR SHALL PERFORM ALL NECESSARY DEMOLITION ACTIVITIES AS REQUIRED FOR INSTALLATION OF NEW CONSTRUCTION AS INDICATED WITHIN THE CONSTRUCTION DOCUMENTS. COORDINATE WITH THOSE DOCUMENTS FOR EXACT DIMENSIONS AND LOCATIONS OF FINISHED WORK.

4. ALL DEMOLITION NOT SPECIFICALLY INDICATED, BUT NECESSARY TO COMPLETE THE PROJECT AS INDICATED ON THE CONSTRUCTION DOCUMENTS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

5. THE CONTRACTOR SHALL INSPECT AND ACCESS EACH SPACE AND FULFILL THE INTENT OF THE WORK REQUIRED BY THE CONTRACT DOCUMENTS. DEVIATIONS REQUIRED BY EXISTING FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

6. ANY CUTTING AND REMOVAL INDICATED ON THE CONSTRUCTION DOCUMENTS ARE GENERAL INDICATIONS ONLY AND MAY NOT NECESSARILY SHOW THE FULL EXTENT OF CUTTING AND REMOVAL NECESSARY.

7. THROUGHOUT THE COURSE OF DEMOLITION ACTIVITIES, PROPERLY PROTECT ANY EXISTING CONSTRUCTION INDICATED TO REMAIN. EXERCISE CARE WHEN REMOVING ADJACENT CONSTRUCTION AND PROPERLY REPAIR (TO ORIGINAL CONDITION) ANY AREAS SCHEDULED TO REMAIN THAT SUSTAIN DAMAGE AS A RESULT OF DEMOLITION ACTIVITIES.

8. CONTRACTOR SHALL CONSTRUCT DUST PROOF PROTECTIVE BARRIERS AS NECESSARY AT AREAS OF INTERIOR DEMOLITION TO PROTECT EXISTING CONSTRUCTION AND EQUIPMENT SCHEDULED TO REMAIN. MAINTAIN ICRA LEVEL IV. NEGATIVE PRESSURE IN CONSTRUCTION AREA TO BE MAINTAINED AT ALL TIMES.

9. PERFORM ALL WORK REQUIRED TO PROTECT BUILDING OCCUPANTS AND EXISTING BUILDING UTILITIES. THE BUILDING WILL REMAIN IN OPERATION THROUGHOUT THE COURSE OF DEMOLITION AND CONSTRUCTION ACTIVITIES.

10. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL NECESSARY TEMPORARY BRACING AND SHORING AS REQUIRED TO MAINTAIN THE INTEGRITY AND STRUCTURAL STABILITY OF THE BUILDING AND ITS INDIVIDUAL ELEMENTS.

11. EXCEPT AS NOTED OTHERWISE, REMOVE ALL DEMOLISHED MATERIALS FROM THE SITE AND DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL LAWS REGULATIONS. DO NOT BURN, BURY, OR SELL MATERIALS ON THE PROJECT SITE. AT THE COMPLETION OF EACH WORK DAY, CLEAN THE ENTIRE WORK AREA AND LEAVE IN A NEAT CONDITION FREE OF DEBRIS AND RUBBISH.

12. STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, TELECOMMUNICATION, AND CIVIL DOCUMENTS PROVIDE ADDITIONAL DEMOLITION REQUIREMENTS FOR EACH PRIME CONTRACT. ALL PRIME CONTRACTORS ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THOSE DOCUMENTS THAT MAY PROVIDE ADDITIONAL DEMOLITION REQUIREMENTS BEYOND THOSE SPECIFICALLY INDICATED ON THE ARCHITECTURAL DEMOLITION PLANS.

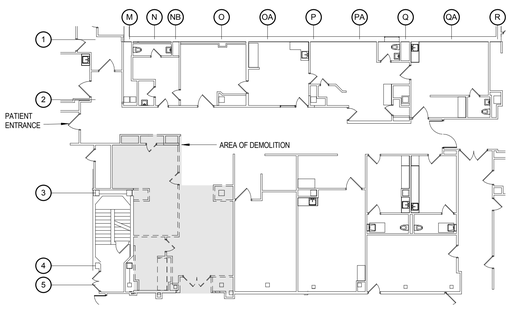
13. THROUGHOUT THE COURSE OF DEMOLITION ACTIVITIES, THE CONTRACTOR SHALL PATCH, REPAIR AND PREPARE EXISTING EXPOSED SURFACES AND/OR ADJACENT MATERIAL AS REQUIRED TO RECEIVE NEW FINISHES.

14. CAREFULLY REMOVE AND DELIVER TO THE OWNER ANY EXISTING SIGNAGE OR FIRE EXTINGUISHERS FOUND WITHIN THE LIMIT OF DEMOLITION ACTIVITIES.

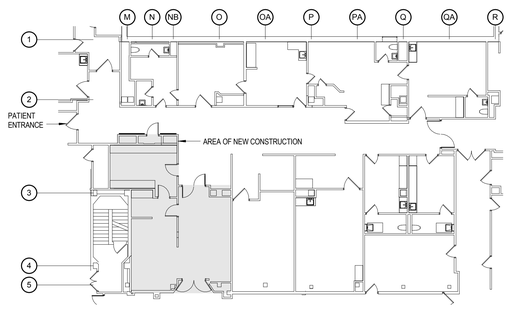
15. THE OWNER RESERVES THE RIGHT TO REMOVE ANY ITEMS SCHEDULED FOR DEMOLITION PRIOR TO THE START OF DEMOLITION ACTIVITIES AND CLAIM ANY ITEMS REMOVED BY THE CONTRACTOR THROUGHOUT THE COURSE OF DEMOLITION.

16. THE CONSTRUCTION PHASING SHOWN IS ONLY A SUGGESTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATIONG ACTUAL PHASING LIMITS SUCH THAT THE EGRESS LOCATIONS NOTED 'A' THROUGH 'H' ON 1/AD101 REMAIN ACECSSIBLE TO THE PUBLIC AND STAFF 7 DAYS A WEEK FROM 7:30 AM TO 8:00 PM. THE RADIOLOGY DEPARTMENT WILL REMAIN OPERATIONAL DURING CONSTRUCTION WITH AT LEAST 2 RADIOLOGY ROOMS IN OPERATION AT ALL TIMES.

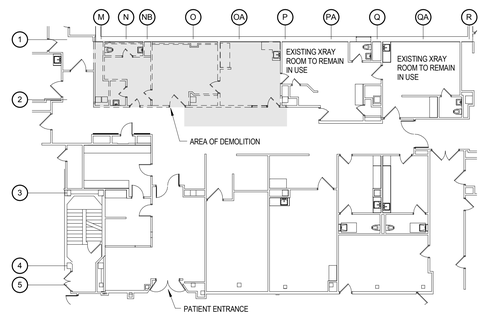
17. HIGH DENSITY FILING UNITS ARE TO BE REMOVED PER DEMOLITION KEYNOTE 3. THE UNITS WILL BE REMOVED AND STORED IN A TRAILER ON SITE PROVIDED BY THE CONTRACTOR. THE VA COR WILL DESIGNATE THE REINSTALLATION LOCATION ON CAMPUS WITHIN FOUR (4) MONTHS AFTER THE NOTICE TO PROCEED. IT WILL BE ASSUMED THAT THE FLOOR OF THE NEW LOCATION IS SUFFICIENTLY LEVEL FOR PROPER OPERATION OF THE UNITS.



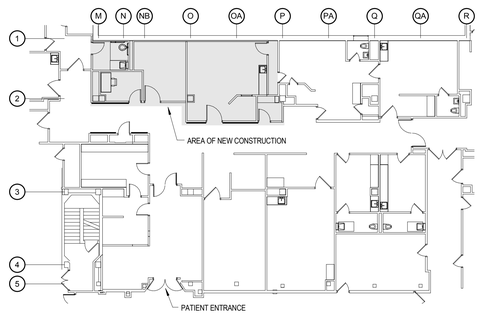
2 PHASE 1 PLAN
1/16" = 1'-0"



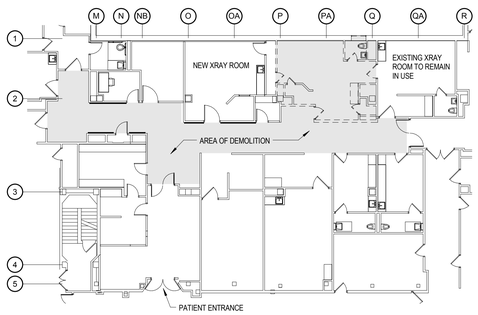
3 PHASE 2 PLAN
1/16" = 1'-0"



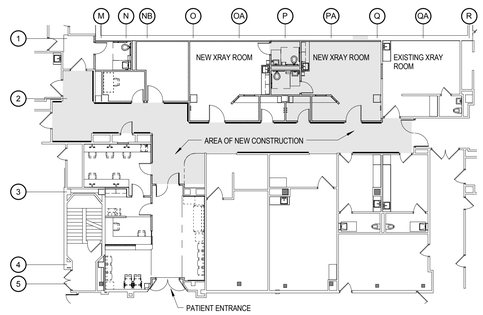
4 PHASE 3 PLAN
1/16" = 1'-0"



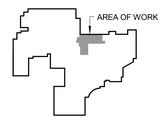
5 PHASE 4 PLAN
1/16" = 1'-0"



6 PHASE 5 PLAN
1/16" = 1'-0"



7 PHASE 6 PLAN (COMPLETE)
1/16" = 1'-0"



KEY PLAN

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

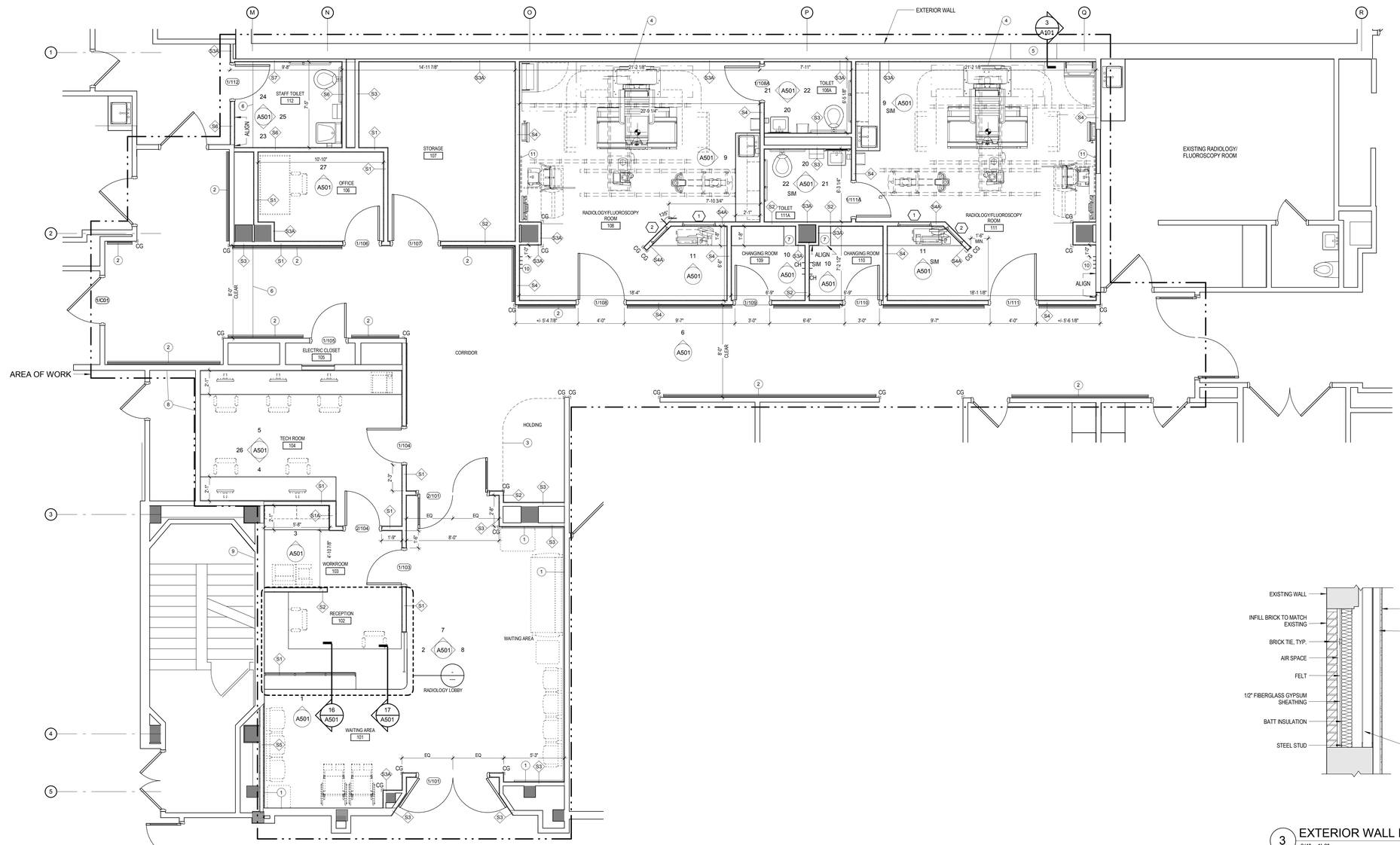
ARCHITECTS/ENGINEERS:

A|E works
6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com
AE Works Project Number: 13019

Drawing Title	DEMOLITION AND PHASING PLANS
Approved: Project Director	
Project Title:	RENOVATION OF RADIOLOGY FOR RF ROOMS
Location:	135 EAST 38TH STREET, ERIE, PA 16504
Date:	April 22, 2014
Checked:	DG
Drawn:	AK
Project Number	562-13-103
Building Number	1
Drawing Number	AD101
Dwg. 5 of 29	

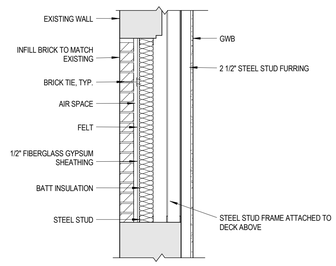
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

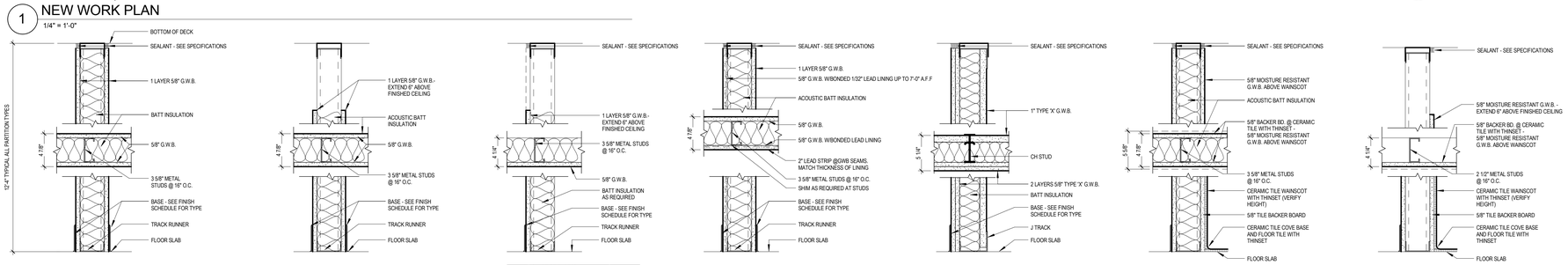


1 NEW WORK PLAN
1/4" = 1'-0"

NEW WORK KEYNOTES	
NUMBER	DESCRIPTION
1	CHAIR RAIL AT 32" A.F.F. ENTIRE LENGTH OF WALL
2	HANDRAIL AND CRASH GUARD, ENTIRE LENGTH OF WALL.
3	CUBICAL CURTAIN TRACK OVERHEAD
4	EQUIPMENT N.I.C., FOR REFERENCE ONLY
5	INFILL WALL TO MATCH EXISTING WALL CONSTRUCTION
6	EXAPANSION JOINT IN WALLS AND FLOOR, ETR
7	12" X 20" DOUBLE TIER LOCKERS
8	EXISTING 1-HOUR RATED WALL. MAINTAIN AND/OR REPAIR AS NECESSARY. BID INCLUDES 10 LINEAR FEET.
9	EXISTING 2-HOUR RATED WALL. MAINTAIN AND/OR REPAIR AS NECESSARY. BID INCLUDES 10 LINEAR FEET.
10	LEAD APRON RACK
11	4'-0" x 8'-0" 1/8" LEAD LINED GWB DIRECTLY BEHIND YSIO WALL STAND, COORDINATE WITH EQUIPMENT INSTALLATION



3 EXTERIOR WALL INFILL
3/4" = 1'-0"



S1	AS DETAILED	
S1A	SIMILAR TO S1 WITH 6" METAL STUDS	
S2	AS DETAILED	
S3	CHASE OR FURRED PARTITION 8" ABOVE CEILING - NO ACOUSTIC BATT	
S3A	SIMILAR TO S3 WITH 2 1/2" METAL STUDS - NO INSULATION ENTIRE HEIGHT	
S4	LEAD LINED PARTITION	STC 45
S4A	SIMILAR TO S4 WITH 1/16" LEAD LINING	
S5	2 HR. SHAFT WALL	UL # U499
S6	AS DETAILED	
S7	AS DETAILED	

2 NEW WORK PARTITION TYPES
1 1/2" = 1'-0"

KEY PLAN

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

A|E works

6587 Hamilton Avenue
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AE Works Project Number: 13019

Drawing Title
NEW WORK PLAN AND PARTITION TYPES

Approved: Project Director

Project Title:
RENOVATION OF RADIOLOGY FOR RF ROOMS

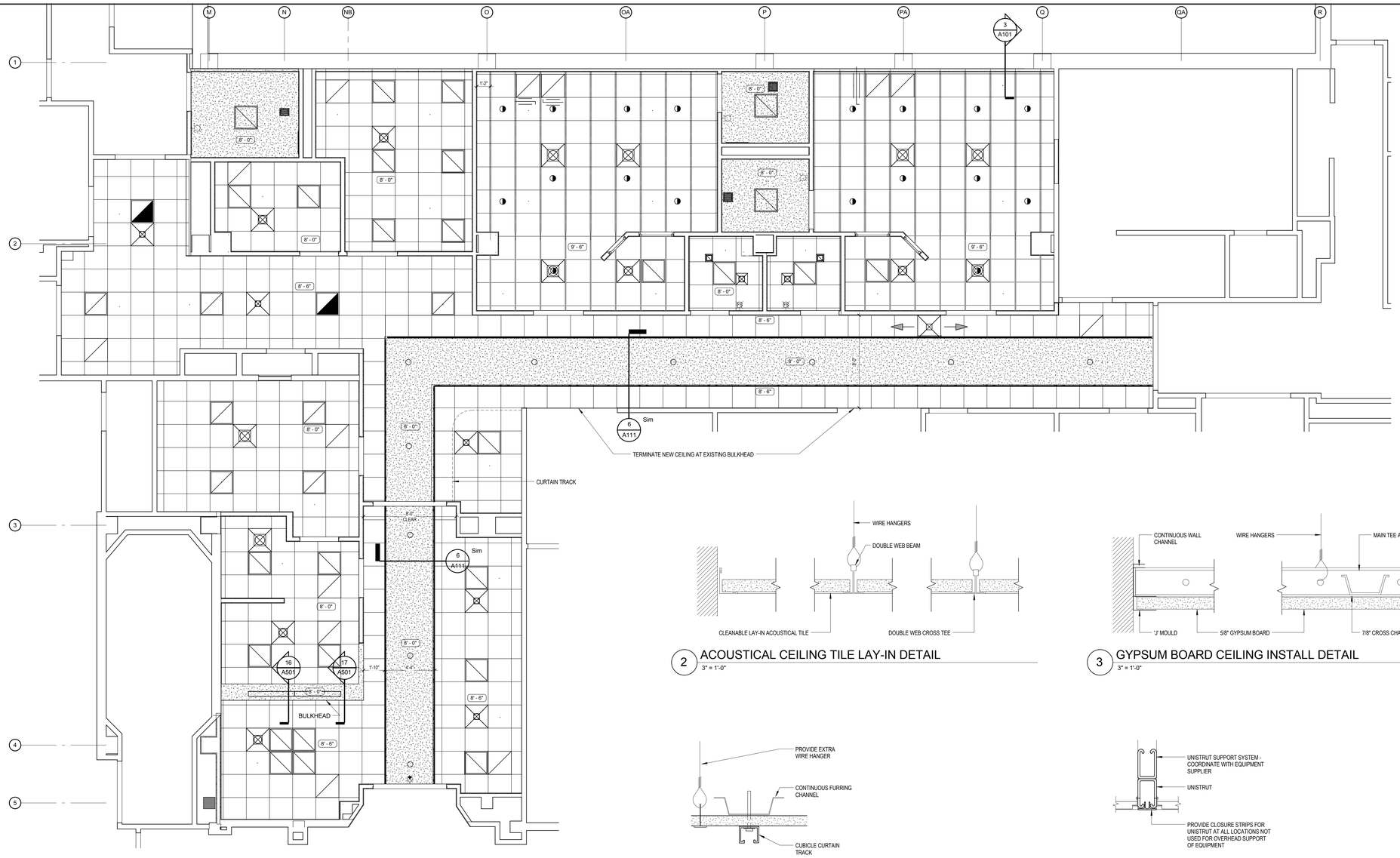
Location:
135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014
Checked: DG
Drawn: AK

Project Number 562-13-103
Building Number 1
Drawing Number A101
Dwg. 6 **of** 29

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



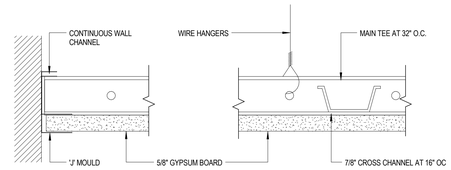
1 REFLECTED CEILING PLAN
1/4" = 1'-0"

REFLECTED CEILING PLAN SYMBOL LEGEND	
	2' X 2' LAY-IN ACOUSTICAL TILE CEILING SYSTEM.
	GYPSUM BOARD BULKHEAD/ SUSPENDED GYPSUM BOARD SYSTEM
X' - X"	CEILING/ BULKHEAD HEIGHT A.F.F.
	SUPPLY AIR DIFFUSER
	RETURN AIR GRILLE
	RECESSED LIGHT FIXTURE
FS	FIRE STROBE
OS D	OCCUPANCY SENSOR
	UNISTRUT FOR OVERHEAD EQUIPMENT

GENERAL NOTES:

1. SEE FIRE PROTECTION DRAWING SHEETS FOR SPRINKLER HEAD LAYOUT.
2. REFLECTED CEILING PLANS SHOW CEILING MOUNTED ITEMS ONLY. ADDITIONAL WALL MOUNTED LIGHTING, HVAC ITEMS, EXIT SIGNS, ETC. ARE INDICATED ON INDIVIDUAL ELECTRICAL AND HVAC FLOOR PLAN SHEETS.

2 ACOUSTICAL CEILING TILE LAY-IN DETAIL
3" = 1'-0"

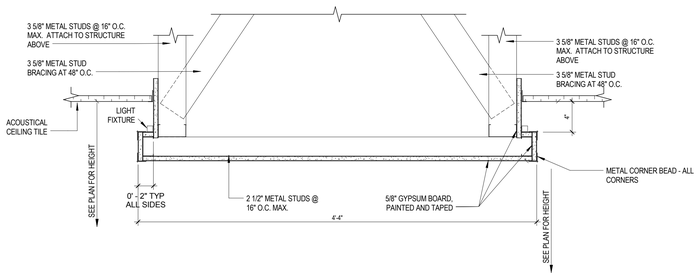


3 GYPSUM BOARD CEILING INSTALL DETAIL
3" = 1'-0"

4 CUBICLE CURTAIN TRACK DETAIL
3" = 1'-0"

*SEE EQUIPMENT STRUCTURAL DRAWINGS FOR UNISTRUT LAYOUT AND ADDITIONAL DETAILS.

5 UNISTRUT DETAIL
3" = 1'-0"



6 CORRIDOR BULKHEAD LIGHTING DETAL
1 1/2" = 1'-0"

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

REGISTERED ARCHITECT PENNSYLVANIA JOHN DILLMAN NO. 14001-E

ARCHITECTS/ENGINEERS:

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Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number: 13019

Drawing Title: REFLECTED CEILING PLAN AND DETAILS

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: DG | Drawn: AHK

Project Number: 562-13-103

Building Number: 1

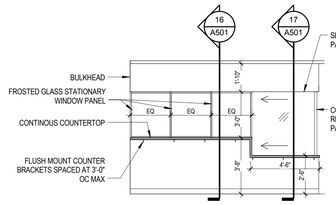
Drawing Number: A111

Dwg. 7 of 29

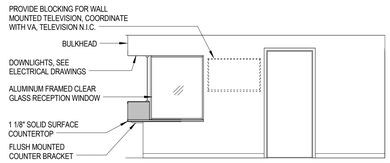
Office of Construction and Facilities Management

Department of Veterans Affairs

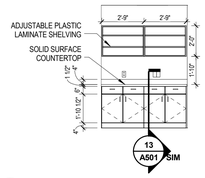
VA FORM 08-6231



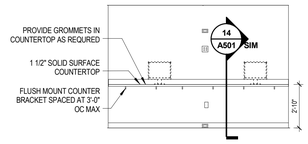
1 RECEPTION SOUTH ELEVATION
1/4" = 1'-0"



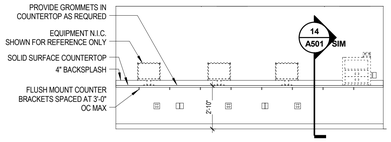
2 LOBBY EAST ELEVATION
1/4" = 1'-0"



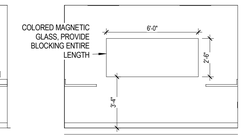
3 WORK ROOM SOUTH ELEVATION
1/4" = 1'-0"



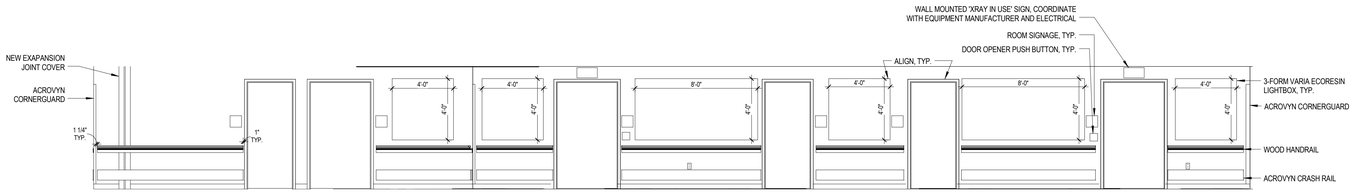
4 TECH ROOM A501 NORTH ELEVATION
1/4" = 1'-0"



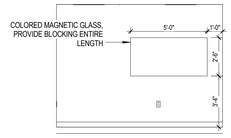
5 TECH ROOM SOUTH ELEVATION
1/4" = 1'-0"



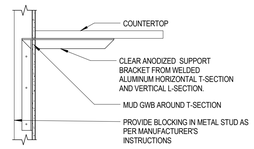
26 TECH ROOM EAST ELEVATION
1/4" = 1'-0"



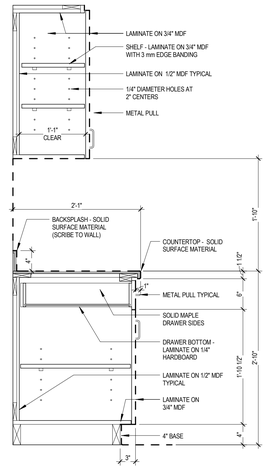
6 CORRIDOR ELEVATION
1/4" = 1'-0"



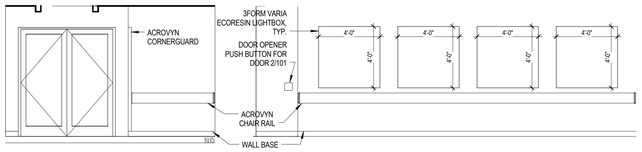
27 OFFICE SOUTH ELEVATION
1/4" = 1'-0"



12 FLUSH MOUNT SUPPORT BRACKET DETAIL
1" = 1'-0"

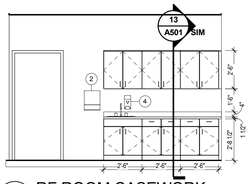


13 RF ROOM CASEWORK SECTION
1" = 1'-0"

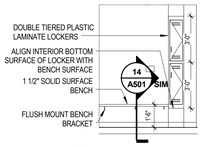


7 LOBBY - SOUTH ELEVATION
1/4" = 1'-0"

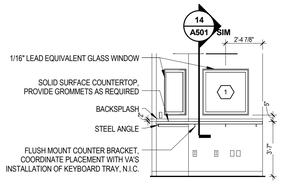
8 LOBBY - WEST ELEVATION
1/4" = 1'-0"



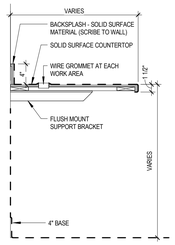
9 RF ROOM CASEWORK
1/4" = 1'-0"



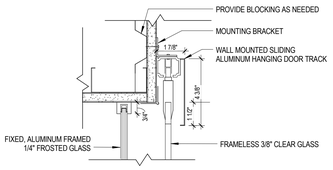
10 CHANGING ROOM
1/4" = 1'-0"



11 RF ROOM CONTROLS CASEWORK
1/4" = 1'-0"

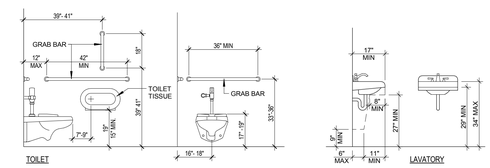


14 SOLID SURFACE COUNTERTOP
1" = 1'-0"

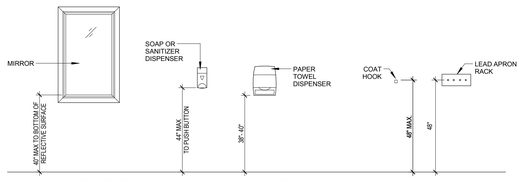


15 RECEPTION WINDOW FRAME DETAIL - TOP
3" = 1'-0"

ACCESSORY LEGEND		
NUMBER	DESCRIPTION	SUPPLIED/INSTALLED
1	TOILET TISSUE DISPENSER	VA SUPPLIED/CONTRACTOR INSTALLED
2	PAPER TOWEL DISPENSER	VA SUPPLIED/CONTRACTOR INSTALLED
3	MIRROR	CONTRACTOR SUPPLIED/CONTRACTOR INSTALLED
4	SOAP DISPENSER	VA SUPPLIED/CONTRACTOR INSTALLED
5	GRAB BAR	CONTRACTOR SUPPLIED/CONTRACTOR INSTALLED



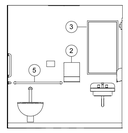
FIXTURE MOUNTING HEIGHTS



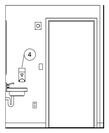
ACCESSORY MOUNTING HEIGHTS

NOTE:
CONTRACTOR SHALL PROVIDE ALL BLOCKING AND SUPPLEMENTAL SUPPORT REQUIRED FOR SECURE AND PROPER INSTALLATION OF TOILET ROOM FIXTURES AND ACCESSORIES.

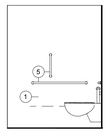
19 TYPICAL FIXTURE MOUNTING HEIGHTS
3/8" = 1'-0"



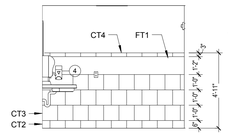
20 RF TOILET ROOM NORTH
1/4" = 1'-0"



21 RF TOILET ROOM EAST
1/4" = 1'-0"

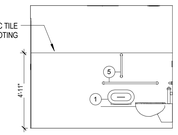


22 RF TOILET ROOM WEST
1/4" = 1'-0"

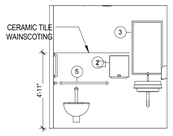


*WALL TILE PATTERN TYPICAL ALL (4) WALLS

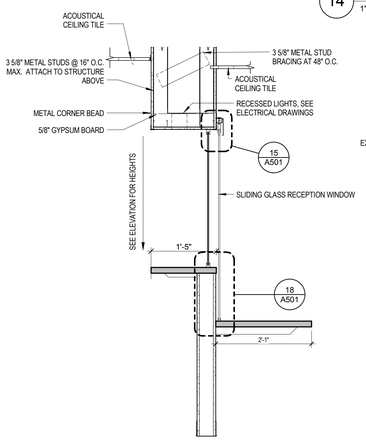
23 STAFF TOILET NORTH
1/4" = 1'-0"



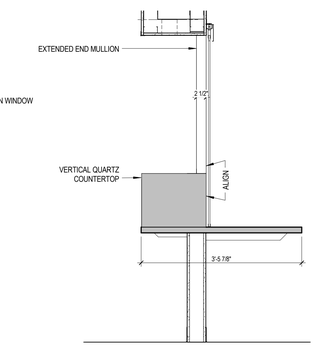
24 STAFF TOILET SOUTH
1/4" = 1'-0"



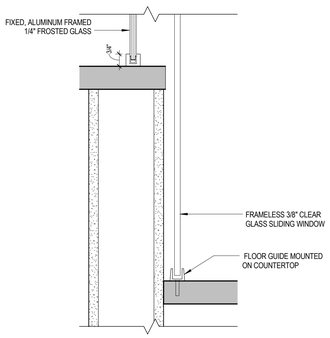
25 STAFF TOILET WEST
1/4" = 1'-0"



16 RECEPTION BULKHEAD SECTION
3/4" = 1'-0"



17 SECTION AT RECEPTION DESK
3/4" = 1'-0"



18 RECEPTION WINDOW FRAME - BOTTOM
3" = 1'-0"

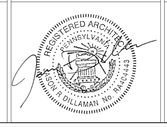
NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL



ARCHITECTS/ENGINEERS:

A|E works

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Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number: 13019

Drawing Title: INTERIOR/CASEWORK ELEVATIONS AND SECTIONS

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: DG | Drawn: AHK

Project Number: 562-13-103

Building Number: 1

Drawing Number: A501

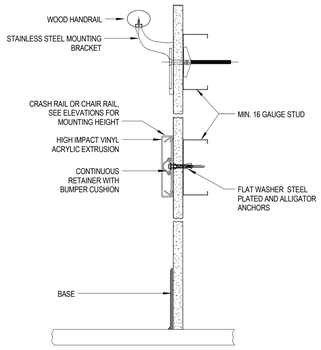
Dwg. 8 of 29

Office of Construction and Facilities Management

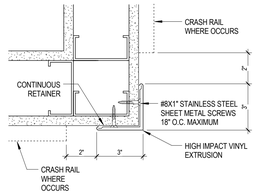
Department of Veterans Affairs

VA FORM 08-6231

DOOR SCHEDULE														
Door Number	Room Number	ROOM NAME	SIZE				Door Type	Material	DOOR		FRAME		HARDWARE SET	COMMENTS
			PAIR	WIDTH	HEIGHT	THICKNESS			FIRE RATING	UNDERCUT	TYPE	MATERIAL		
2/101	101	RADIOLOGY LOBBY	PAIR	3' - 0"	7' - 0"	1 3/4"	D2	ACROVYN/GLASS	N/A	0"	F1	HM	1.1	PUSH BUTTON DOOR OPENER, FROSTED GLASS
1/101	101	RADIOLOGY LOBBY	PAIR	3' - 0"	7' - 0"	1 3/4"	D1	WOOD	N/A	0"	F1	HM	1	MAGNETIC HOLD OPENS
1/103	102	WORKROOM		3' - 0"	7' - 0"	1 3/4"	D1	WOOD	N/A	0"	F1	HM	6	
1/104	104	TECH ROOM		3' - 0"	7' - 0"	1 3/4"	D1	WOOD	N/A	0"	F1	HM	6	
2/104	104	TECH ROOM		3' - 0"	7' - 0"	1 3/4"	D2	WOOD	N/A	0"	F1	HM	5	
1/105	105	ELECTRIC CLOSET		3' - 0"	7' - 0"	1 3/4"	D3	WOOD	N/A	0"	F1	HM	4	
1/106	106	OFFICE		3' - 0"	7' - 0"	1 3/4"	D1	WOOD	N/A	0"	F1	HM	6	
1/107	107	STORAGE		4' - 0"	7' - 0"	1 3/4"	D1	ACROVYN	N/A	0"	F1	HM	2	
1/108	108	RADIOLOGY/FLUOROSCOPY ROOM		4' - 0"	7' - 0"	1 3/4"	D1	ACROVYN	N/A	0"	F1	HM	8	PUSH BUTTON DOOR OPENER
1/108A	108A	TOILET		3' - 0"	7' - 0"	1 3/4"	D1	ACROVYN	N/A	0"	F1	HM	7	
1/109	109	CHANGING ROOM		3' - 0"	7' - 0"	1 3/4"	D1	ACROVYN	N/A	0"	F1	HM	7	
1/110	110	CHANGING ROOM		3' - 0"	7' - 0"	1 3/4"	D1	ACROVYN	N/A	0"	F1	HM	7	
1/111	111	RADIOLOGY/FLUOROSCOPY ROOM		4' - 0"	7' - 0"	1 3/4"	D1	ACROVYN	N/A	0"	F1	HM	8	PUSH BUTTON DOOR OPENER
1/111A	111A	TOILET		3' - 0"	7' - 0"	1 3/4"	D1	ACROVYN	N/A	0"	F1	HM	7	
1/112	112	STAFF TOILET		3' - 0"	7' - 0"	1 3/4"	D1	WOOD	N/A	0"	F1	HM	7	
1/C01	CORRIDOR	CORRIDOR		4' - 0"	7' - 0"	1 3/4"	EXISTING	EXISTING	N/A	0"	EXISTING	HM	3	ADD CARDSWIPE TO EXISTING DOOR

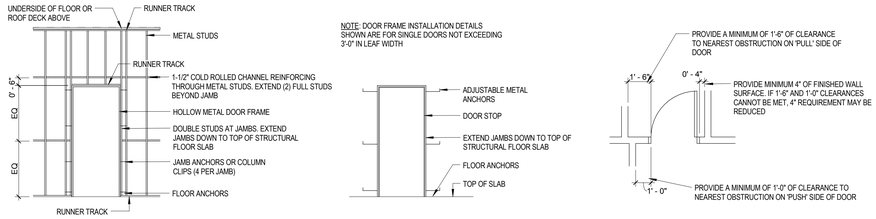


1 HAND RAIL AND CRASH RAIL DETAIL
3" = 1'-0"



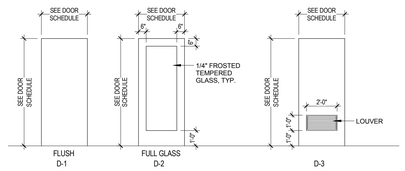
NOTE: PROVIDE WHERE 'CG-1' IS INDICATED ON PLANS

2 CORNER GUARD
3" = 1'-0"

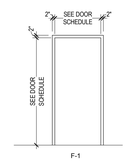


STUD WALL — CMU WALL — TYPICAL MINIMUM REQUIRED DOOR CLEARANCES

3 DOOR INSTALLATION DETAILS
1/4" = 1'-0"

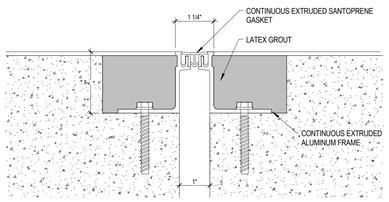


4 DOOR TYPES
1/4" = 1'-0"

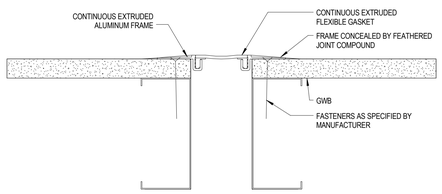


5 FRAME TYPE
1/4" = 1'-0"

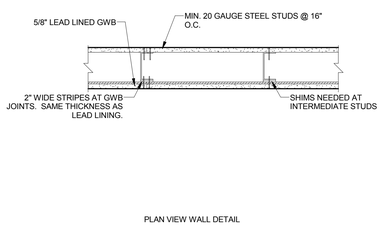
WINDOW SCHEDULE				
Type Mark	Sill Height	Height	Width	Comments
1	4' - 0"	3' - 0"	3' - 0"	LEAD GLASS
1	4' - 0"	3' - 0"	3' - 0"	LEAD GLASS
2	4' - 0"	3' - 0"	2' - 0"	LEAD GLASS
2	4' - 0"	3' - 0"	2' - 0"	LEAD GLASS



7 EXPANSION JOINT COVER - FLOOR
6" = 1'-0"

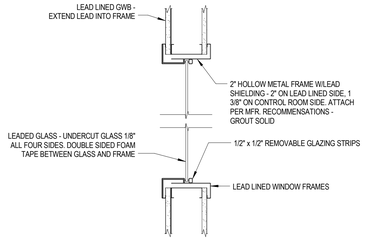


8 EXPANSION JOINT COVER - WALL
6" = 1'-0"

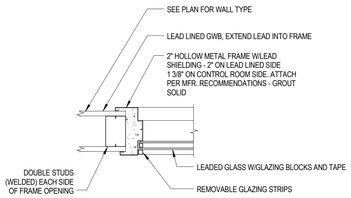


PLAN VIEW WALL DETAIL — CORNER INTERSECTION DETAIL — INSIDE CORNER — OUTSIDE CORNER

6 LEAD LINED WALL DETAILS
1 1/2" = 1'-0"



9 LEAD LINED WINDOW SILL
1 1/2" = 1'-0"



10 LEAD LINED WINDOW JAMB
1 1/2" = 1'-0"

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

A|E works

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AE Works Project Number: 13019

Drawing Title: DOOR SCHEDULE, WINDOW SCHEDULE AND DETAILS

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: DG | Drawn: AHK

Project Number: 562-13-103

Building Number: 1

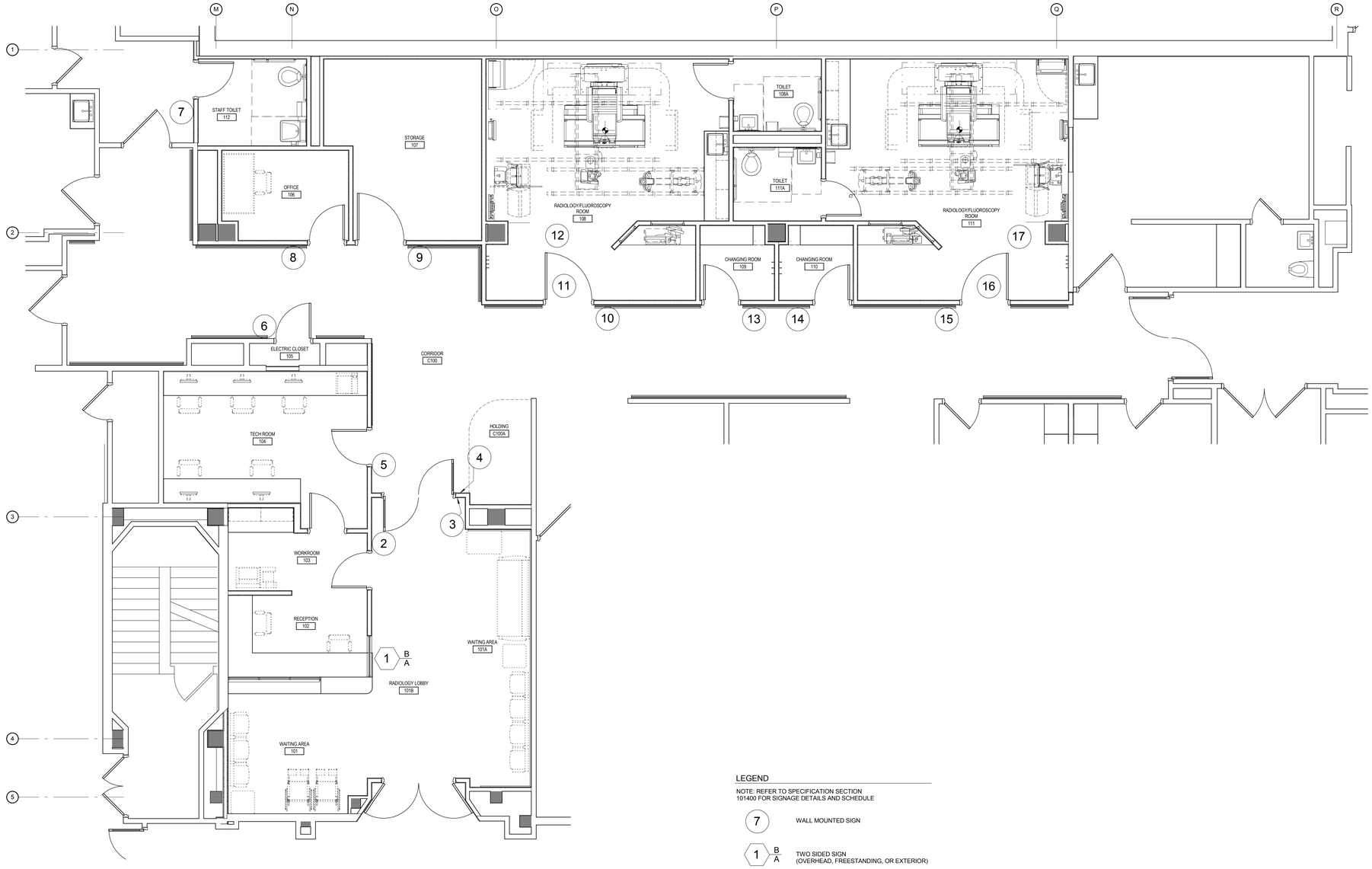
Drawing Number: A601

Dwg. 9 of 29

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231



1 SIGN LOCATION PLAN
1/4" = 1'-0"

LEGEND

NOTE: REFER TO SPECIFICATION SECTION 101400 FOR SIGNAGE DETAILS AND SCHEDULE

7 WALL MOUNTED SIGN

1 B/A TWO SIDED SIGN (OVERHEAD, FREESTANDING, OR EXTERIOR)

Sign	Sign Type	Copy Line	Message	Mt	Notes
Installation Notes					
Field conditions may vary from location plans, adjust locations as required in field.					
Field adjust overhead signs to allow for clear sightlines to EXIT signs and security cameras					
Field adjust overhead signs to allow for clearance from sprinkler heads and other obstructions					
Overhead signs with panel facing sprinkler heads must be minimum 18" from device					
The installation intent is to establish a uniform height for most signs.					
The Standard Height (SH) for most signs is 60" AFF to the top of the sign.					
Start Floor 1					
1	E1		1a {sym VA LOGO1) 2a Radiology 3a Waiting Room 1b {sym VA LOGO1) 2b Radiology 3b Waiting Room	I.1/5	
2	A6		1 Staff Only 2 3 1W062	A/1	
3	J4		*{abs backer, see sign type)*	A/3	
4	F1		1 {sym DNE) 2 Authorized 3 Personnel Only 4	A/4	place opposite previous sign
5	A1		1 Tech Room 2 3 4 1W064	A/1	
6	A6		1 Electrical 2 3 1W066	A/1	
7	A9		1 1E066 2 {sym UNI/HCP) 3 4 RESTROOM (sym HCP)	A/1	braille translation to read "Accessible Restroom"
8	A1		1 Office 2 3 4 1W067	A/1	
9	A1		1 Storage 2 3 4 1W068	A/1	
10	A1		1 X-Ray Room 2 3 4 1W069	A/1	
11	F5		1 CUTION 2 {sym RAD) 3 Use Radiation 4 Precautions	A/3	
12	G6		1 {symATTN) 2 Please Inform Staff 3 If You Are Pregnant 4 Or Nursing 5	A/4	location TBD
13	A1		1 Changing Room 2 3 4 1W071	A/1	
14	A1		1 Changing Room 2 3 4 1W072	A/1	
15	A1		1 X-Ray Room 2 3 4 1W069	A/1	
16	F5		1 CUTION 2 {sym RAD) 3 Use Radiation 4 Precautions	A/3	
17	G6		1 {sym ATTN) 2 Please Inform Staff 3 If You Are Pregnant 4 Or Nursing 5	A/4	location TBD
End of Schedule					

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

A|E works
6587 Hamilton Avenue
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Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com
AE Works Project Number: 13019

Drawing Title: SIGNAGE LOCATIONS

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: GK | Drawn: JS

Project Number: 562-13-103

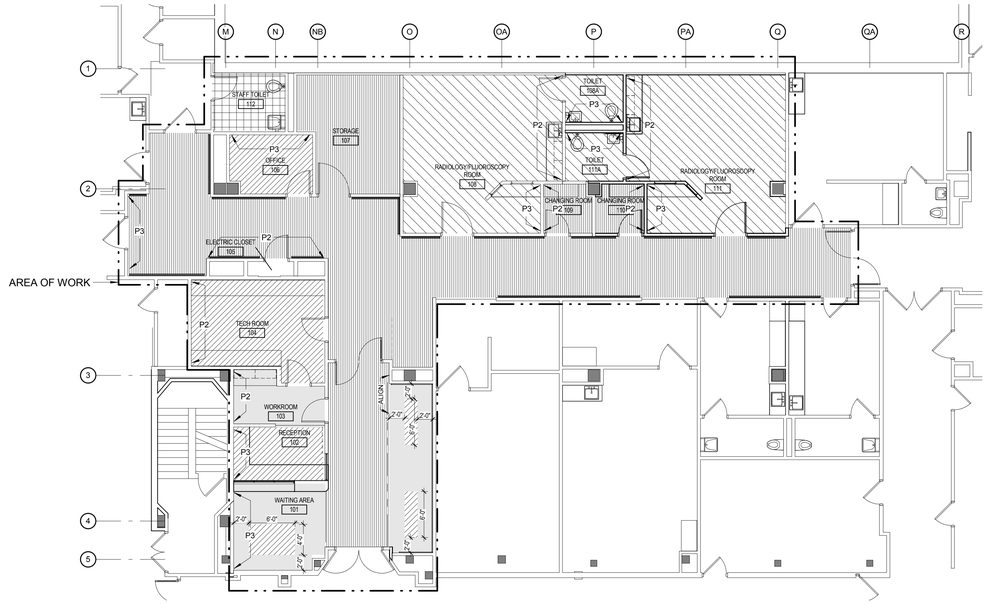
Building Number: 1

Drawing Number: A602

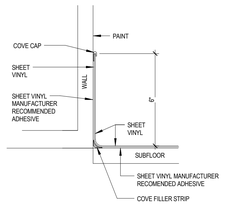
Dwg. 10 of 29

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



1 FINISH FLOOR PLAN
1/8" = 1'-0"



2 VINYL SHEET FLOORING INEGRAL COVE BASE DETAIL
3" = 1'-0"

FINISH SCHEDULE

	NAME	FLOOR FINISH	BASE FINISH	WALL FINISH NORTH	WALL FINISH SOUTH	WALL FINISH EAST	WALL FINISH WEST	CEILING MATERIAL	COMMENTS
1E011	DATA ROOM								
101	WAITING AREA	LVT	RB	PT	PT	PT	PT	ACT	
101A	WAITING AREA	LVT	RB	PT	PT	PT	PT	ACT	
101B	RADIOLOGY LOBBY	LVT	RB	PT	PT	PT	PT	ACT/GWB	
102	RECEPTION	LVT	RB	PT	PT	PT	PT	ACT	
103	WORKROOM	LVT	RB	PT	PT	PT	PT	ACT	
104	TECH ROOM	LVT	RB	PT	PT	PT	PT	ACT	
105	ELECTRIC CLOSET	EPOXY	EPOXY	PT	PT	PT	PT	NONE	
106	OFFICE	LVT	RB	PT	PT	PT	PT	ACT	
107	STORAGE	LVT	RB	PT	PT	PT	PT	ACT	
108	RADIOLOGY/FLUOROSCOPY ROOM	VSF	VSF	PT	PT	PT	PT	ACT	INTEGRAL COVE BASE
108A	TOILET	VSF	VSF	PT	PT	PT	PT	GWB	INTEGRAL COVE BASE
109	CHANGING ROOM	LVT	RB	PT	PT	PT	PT	ACT	
110	CHANGING ROOM	LVT	RB	PT	PT	PT	PT	ACT	
111	RADIOLOGY/FLUOROSCOPY ROOM	VSF	VSF	PT	PT	PT	PT	ACT	INTEGRAL COVE BASE
111A	TOILET	VSF	VSF	PT	PT	PT	PT	GWB	INTEGRAL COVE BASE
112	STAFF TOILET	CT1	CT2	CT/PT	CT/PT	CT/PT	CT/PT	GWB	5'-0" CT WAINSCOT
C100	CORRIDOR	LVT	RB	PT	PT	PT	PT	ACT/GWB	
C100A	HOLDING	LVT	RB	PT	PT	PT	PT	ACT	

FINISHES:

CERAMIC TILE

CT1: CERAMIC TILE
MANUFACTURER: TRINITY TILE GRP
COLOR: KARBON/ ANTHRACITE
SIZE: 12X12

CT2: CERAMIC TILE
MANUFACTURER: TRINITY TILE GRP
COLOR: COVE BASE KARBON/ ANTHRACITE
SIZE: 6X12

CT3: CERAMIC TILE
MANUFACTURER: TRINITY TILE GRP
COLOR: KARBON/ CARBONATE
SIZE: 12X12

CT4: CERAMIC TILE
MANUFACTURER: TRINITY TILE GRP
COLOR: BULLNOSE KARBON/ CARBONATE
SIZE: 3X12

FT1: CERAMIC MOSAIC TILE
MANUFACTURER: TRINITY TILE GRP
COLOR: NUGENT/ ROCK STAR
STYLE: 12" PATTERN SHEET
SIZE: 2X2

LIGHT BOX

RADIOLOGY CORRIDOR
MANUFACTURER: 3FORM
FINISH: SANDSTONE
STYLE: HIGHRES ASPEN TRANSLUCENT

IN WAITING ROOM
MANUFACTURER: 3FORM
FINISH: CLEAR_FLOAT
STYLE: SEAWEED

LOCKERS

INTERIOR VERTICAL SURFACES
COLOR: FROSTY WHITE VINYL

INTERIOR HORIZONTAL SURFACES
COLOR: BLACK THERMAL FUSED MELAMINE

ALL EXPOSED EXTERIOR SURFACES
FINISH/ COLOR: WILSONART LAMINATE 7925-38 MONTICELLO MAPLE

RUBBER BASE

RB1: RUBBER BASE
MANUFACTURER: ROPPE
COLOR: 147 LIGHT BROWN
STYLE: PINNACLE-TYPE TS/ 700 SERIES-TYPE TP
SIZE: 4" HIGH, 1/8" THICK

PAINT

P1: PAINT MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW 7012 CREAMY
STYLE: GLOSS LEVEL 3

P2: PAINT MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW 7746 RUSHING RIVER
STYLE: GLOSS LEVEL 3

P3: PAINT MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW 6409 EDGY GOLD
STYLE: GLOSS LEVEL 3

SURFACES

MANUFACTURER: CAMBRIA
TYPE: QUARTZ
COLOR: WINCHESTER 1770

MANUFACTURER: DUPONT
TYPE: SOLID SURFACE
COLOR: CORIAN BLUE PEBBLE

WOOD CASEWORK

MANUFACTURER: WILSONART
COLOR: 7925-38 MONTICELLO MAPLE
STYLE: LAMINATE

ACROVYN DOOR FINISH

MANUFACTURER: ACROVYN
COLOR: 704 BRAZILIAN NUT
STYLE: CS SPECIALTIES

RESILIENT TILE FLOORING

LVT1: LUXURY VINYL TILE
MANUFACTURER: ARMSTRONG
COLOR: TP776 ARIA GRAY BEIGE
STYLE: NATURAL CREATIONS MYSTIX
SIZE: 18X18

LVT2: LUXURY VINYL TILE
MANUFACTURER: ARMSTRONG
COLOR: TP722 FLIGHT PATH NATURAL
STYLE: NATURAL CREATIONS MYSTIX
SIZE: 18X18

VSF1: VINYL SHEET FLOORING
MANUFACTURER: ARMSTRONG
COLOR: ACADIAN OAK 37375 SEASONED
STYLE: REJUVENATIONS TIMBERLINE
SIZE: SHEET

VSF2: VINYL SHEET FLOORING
MANUFACTURER: ARMSTRONG
COLOR: ACADIAN OAK 37374 WELL VERSED
STYLE: REJUVENATIONS TIMBERLINE
SIZE: SHEET

WALL AND CORNER GUARDS

HANDRAIL
MANUFACTURER: ACROVYN
COLOR: 704 BRAZILIAN NUT

CRASH GUARD
MANUFACTURER: ACROVYN
COLOR: 704 BRAZILIAN NUT

CORNER GUARD
MANUFACTURER: ACROVYN
COLOR: 253 PARCHMENT

ACOUSTICAL CEILINGS

ACT: ACOUSTICAL CEILING TILE
MANUFACTURER: ARMSTRONG
COLOR: ULTIMA WHITE
STYLE: HEALTH ZONE ULTIMA

SUSPENED CEILING GRID
MANUFACTURER: ARMSTRONG
PATTERN: 1/4" REVEAL, 9/16" BOLT SLOT SYSTEM
STYLE: SILHOUETTE XL

FINISH LEGEND :

CT
LVT1
LVT2
VSF1
VSF2

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions: | Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title: FINISH FLOOR PLAN AND SCHEDULE
Approved: Project Director
Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS
Location: 135 EAST 38TH STREET, ERIE, PA 16504
Date: April 22, 2014 | Checked: AK | Drawn: AM
Project Number: 562-13-103
Building Number
Drawing Number: A701
Dwg. 11 of 29

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

SPRINKLER HEAD LEGEND

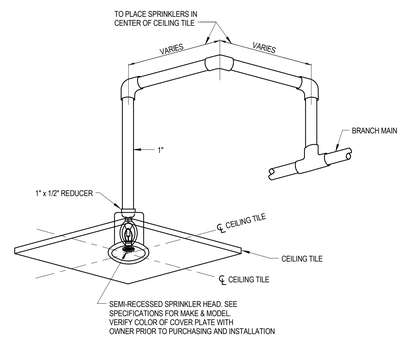
SYMBOL	MANUFACTURER OR APPROVED EQUAL	TYPE	MODEL	ORIFICE	TEMP. RATING (°F)
● S/R	VIKING	SEMI-RECESSED	HORIZON	1/2"	155°

FIRE PROTECTION SYMBOLS

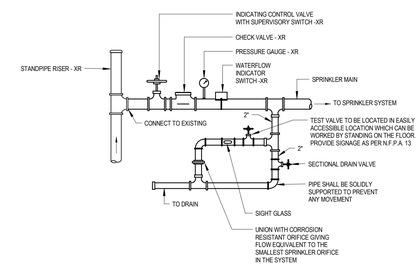
SPR	FIRE LINE
SPR	FIRE LINE TO BE DEMOLISHED
S/R	SEMI-RECESSED SPRINKLER
	ZONE CONTROL VALVE
TS	TAMPER SWITCH
XR	EXISTING TO REMAIN
	RISE
	DROP
	CAP
	OUTLINE INDICATES WORK TO BE DONE UNDER INDICATED PHASE
1 2	KEYED NOTE DESCRIBING WORK TO BE DONE
	CONNECT TO EXISTING PIPING THIS POINT
	REMOVE EXISTING PIPING TO THIS POINT

FIRE PROTECTION GENERAL NOTES

1. ALL WORK SHOWN IS NEW UNLESS INDICATED OTHERWISE.
2. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS PRIOR TO THE FABRICATION OR INSTALLATION OF ANY PIPING.
3. THE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR MUST FIELD VERIFY ACTUAL CONDITIONS AT THE SITE PRIOR TO PROCEEDING WITH THE WORK.
4. ALL EXISTING SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS.
5. ALL NEW PIPING SHALL BE INSTALLED IN SUCH A WAY THAT IT DOES NOT HAMPER ACCESS TO NEW OR EXISTING VALVES, ACCESS DOORS OR EQUIPMENT.
6. SPRINKLER PIPING SHALL BE HYDRAULICALLY DESIGNED BY THE SPRINKLER CONTRACTOR AND SHALL BE APPROVED BY ALL AUTHORITIES HAVING JURISDICTION. VELOCITIES OF WATER IN HYDRAULICALLY DESIGNED SPRINKLER PIPING SHALL NOT EXCEED TWENTY FEET PER SECOND.
7. ALL SPRINKLER HEADS INSTALLED IN LAY-IN CEILINGS SHALL HAVE THE HEADS LOCATED IN THE CENTER OF TILES. IF FOR ANY REASON HEADS CANNOT BE LOCATED IN THE CENTER OF TILES, THEN THE ARCHITECT/ENGINEER SHALL BE CONTACTED FOR NEW LOCATIONS BEFORE INSTALLING ANY HEAD OR PIPING.
8. CONTRACTOR SHALL INCLUDE IN HIS BID A WATER FLOW TEST/FIRE PUMP TEST. THE RESULTS OF WHICH SHALL BE USED TO PERFORM HYDRAULIC CALCULATIONS.
9. ENTIRE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13 LATEST EDITION.
10. ALL WORK SHALL BE STRICTLY COORDINATED AMONG ALL INDIVIDUAL CONTRACTORS BEFORE ANY WORK IS PERFORMED.
11. DO NOT ROUTE PIPING THROUGH ELEVATOR SHAFT(S), ELEVATOR EQUIPMENT ROOM(S) & ELECTRICAL ROOMS, PIPING TO TERMINATE AT SPRINKLER HEAD.
12. PIPES 2-1/2" & LARGER TO BE SCHEDULE 10 STEEL PIPE WITH GROOVED END PREP.
13. PIPES 2" & SMALLER TO SCHEDULE 40 STEEL PIPE WITH THREADED END PREP OR AS NEEDED.
14. PIPES TO BE SIZED PER HYDRAULIC CALCULATIONS.
15. VERIFY ALL CEILING HEIGHTS AT SITE PRIOR TO INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF CEILINGS AND CEILING TYPES.
16. IN ROOMS WHICH ARE INDICATED AS BEING MECHANICAL AND ELECTRICAL ROOMS, THE SPRINKLER CONTRACTOR SHALL COORDINATE THE LOCATION OF HIS PIPING AND SPRINKLER HEADS TO AVOID INSTALLATION OVER ELECTRICAL PANELS OR EQUIPMENT. PROVIDE ADDITIONAL SPRINKLER HEADS AS NECESSARY, AT NO ADDITIONAL COST TO THE OWNER. REFER TO HVAC AND ELECTRICAL DRAWINGS.
17. DESIGN DENSITIES: A. LIGHT HAZARD: .10/1500 ALL AREAS.
18. FIRE PROTECTION HYDRAULIC CALCULATIONS FOR AUTOMATIC SPRINKLER SYSTEMS SHALL INCORPORATE A MINIMUM 10 PSI SAFETY FACTOR.
19. PRESSURE TEST OF THE AUTOMATIC SPRINKLER SYSTEM SHALL BE WITNESSED BY THE FIRE DEPARTMENT UNLESS SPECIFICALLY WAIVED, TWO (2) WEEKS WRITTEN ADVANCE NOTICE OF TEST SHALL BE GIVEN.
20. FIRE PROTECTION CONTRACTOR SHALL COORDINATE HIS WORK WITH MECHANICAL, ELECTRICAL AND ALL OTHER DISCIPLINES TO AVOID INTERFERENCES PRIOR TO FABRICATION OF ANY PIPE. INTERFERENCES SHALL INCLUDE ROOF OPENINGS, BUS DUCTS, GANGED CONDUIT, DUCT, RUNS, ETC.
21. ALL PIPE PENETRATIONS THROUGH FLOORS OR WALLS SHALL BE SLEEVED AND SEALED TO MAKE WATERTIGHT AND MAINTAIN FIRE RATING.
22. ALL VALVE SUPERVISORY SWITCHES AND WATER FLOW SWITCHES SHALL BE PROVIDED AND INSTALLED BY THE FIRE PROTECTION CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR.
23. FIRE PROTECTION CONTRACTOR SHALL BE CERTIFIED BY STATE OF PENNSYLVANIA FOR SPRINKLER SYSTEM INSTALLATION.
24. CONTRACTOR NOTE THE THREE AREAS OF PHASING. (REFER TO DRAWING AD101) SEVERAL OUTAGES WILL BE REQUIRED TO PERFORM WORK. ADHERE TO REQUIREMENTS OF NFPA 241, TAKING NOTE TO OCCUPIED SPACES AND SHUT DOWNS.



1 TYPICAL SEMI-RECESSED SPRINKLER DETAIL
1" = 1'-0"



2 STANDPIPE CONNECTION DETAIL
1" = 1'-0"

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

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AE Works Project Number: 13019

Drawing Title
SYMBOLS, NOTES, SCHEDULES & DETAILS

Approved: Project Director

Project Title:
RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | **Checked:** MEW | **Drawn:** MEW

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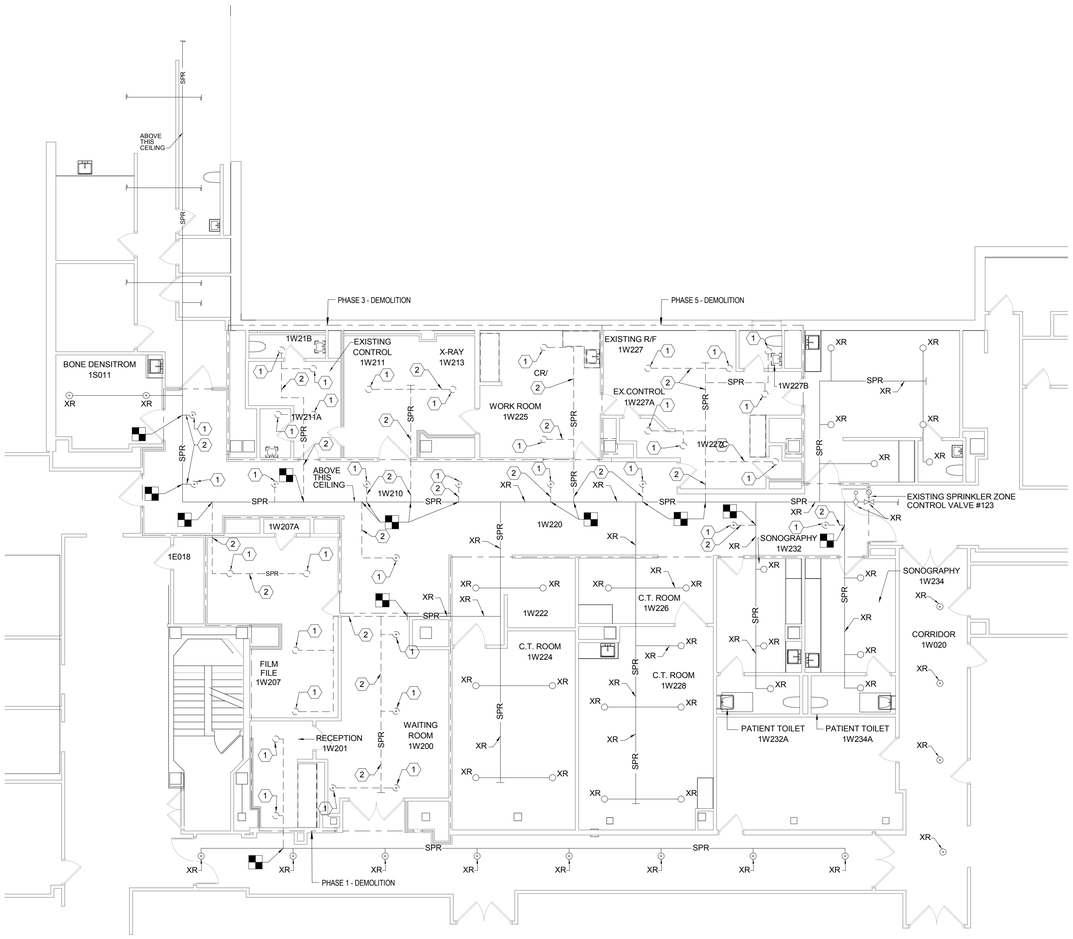
Dwg. 12 **of** 29

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

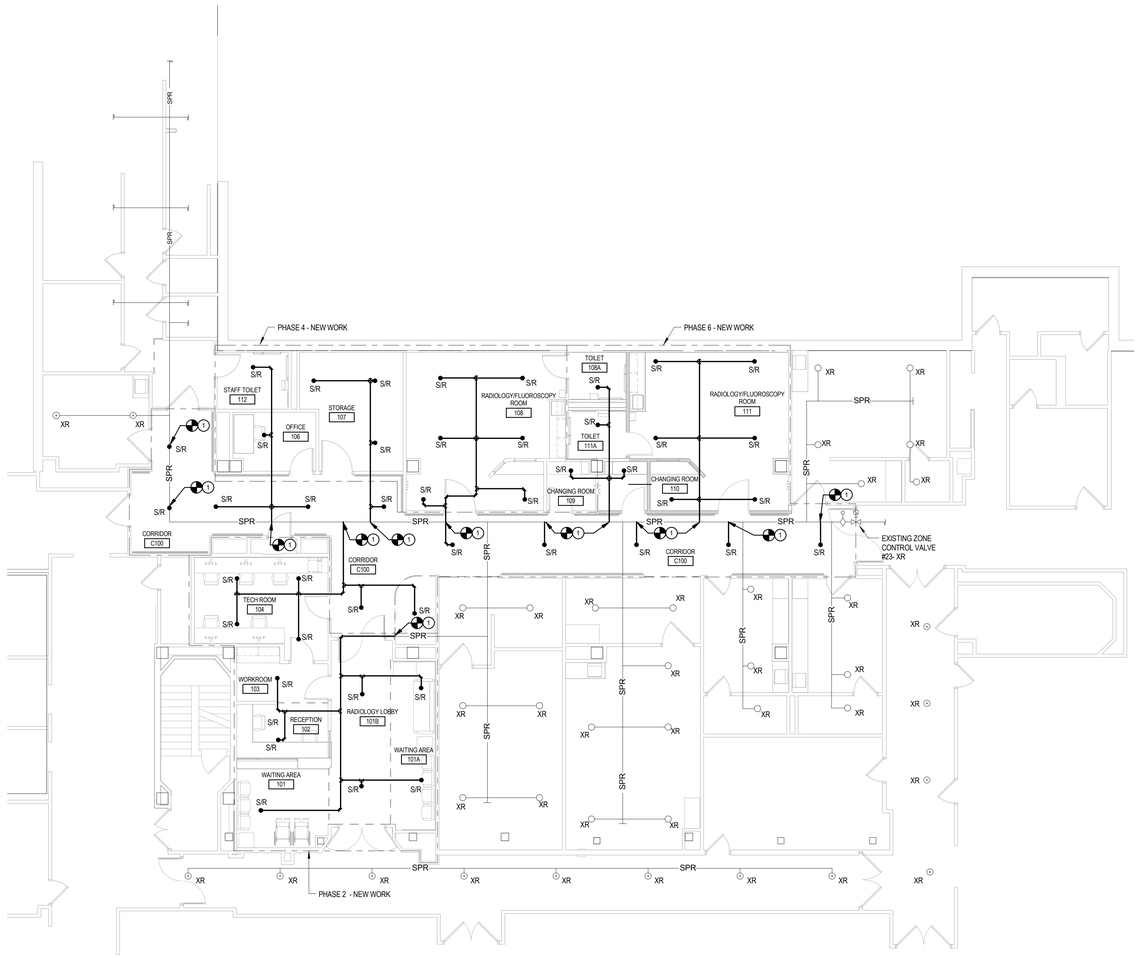


FIRE PROTECTION KEY NOTES:

1. EXISTING SPRINKLER HEAD TO BE DEMOLISHED.
2. REMOVE EXISTING SPRINKLER BRANCH PIPING. CAP PIPE OR PREPARE PIPE FOR NEW BRANCH PIPE INSTALLED AT SAME LOCATION. REFER TO NEW WORK PLAN ON THIS DRAWING.

1 FIRST FLOOR PLAN - FIRE PROTECTION - DEMOLITION

1/8" = 1'-0"



FIRE PROTECTION KEY NOTES:

1. CONNECT NEW BRANCH PIPING TO EXISTING MAIN PIPING ABOVE CEILING.

2 FIRST FLOOR PLAN - FIRE PROTECTION - NEW WORK

1/8" = 1'-0"

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL SCOTT P. LIZOTTE ENGINEER PE061443

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AE Works Project Number: 13019

Drawing Title
FIRE PROTECTION PLANS - DEMOLITON AND NEW WORK

Approved: Project Director

Project Title:
RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | **Checked:** MEW | **Drawn:** MEW

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Drawing Number F101

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Office of Construction and Facilities Management

Department of Veterans Affairs

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PLUMBING SYMBOLS AND ABBREVIATION LEGEND

SAN	SANITARY SEWER ABOVE GROUND
SAN-XR	SANITARY SEWER ABOVE GROUND - EXISTING TO REMAIN
D	DRAIN PIPING - ABOVE GROUND
V	VENT LINE
O	OXYGEN LINE
VAC	VACUUM LINE
	DOMESTIC COLD WATER LINE
	DOMESTIC HOT WATER LINE
	DOMESTIC HOT WATER RETURN LINE
	BALL VALVE
	SHOCK ARRESTOR - SIZE AS MARKED
	ZONE VALVE BOX
	BACKFLOW PREVENTER
CO	CLEANOUT AT CEILING (CO) OR WALL (WCO)
FCO	CLEANOUT AT FLOOR (FCO)
	STRAINER
	DRAIN WITH P-TRAP
	UNION
	CHECK VALVE
	HOSE BIBB (HB)
	WALL HYDRANT (WH)
N.T.S.	NOT TO SCALE
G.C.	GENERAL CONTRACTOR
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SS	SOIL STACK
VS	VENT STACK
WS	WASTE STACK
VTR	VENT THRU ROOF
I.E.	INVERT ELEVATION
	SQUARE FEET
CO	CLEANOUT TO FINISHED FLOOR
A.F.F.	ABOVE FINISHED FLOOR
ADA	AMERICAN DISABILITIES ACT
AB	PIPING OR DEVICE TO BE ABANDONED IN PLACE
XR	EXISTING TO REMAIN
TYP	TYPICAL
ZVB	ZONE VALVE BOX
	INDICATES POINT OF CONNECTION TO EXISTING
	INDICATES POINT OF DEMOLITION
	DROP
	RISE
	CAP
	VACUUM OUTLET
	COMPRESSED AIR OUTLET
G	NATURAL GAS OUTLET
O	OXYGEN GAS OUTLET
F-1, F-2, ETC.	PLUMBING FIXTURE TYPE- SEE SPECIFICATION
1 2 ETC.	KEYED PLUMBING NOTE DESCRIBING WORK TO BE DONE
	OUTLINE INDICATES WORK TO BE DONE UNDER INDICATED PHASE

PLUMBING FIXTURE SCHEDULE

SEE SPECIFICATIONS FOR FIXTURE TYPE DESCRIPTION

TYPE	DESCRIPTION	SIZE					COMMENTS
		FIXTURE	WASTE	VENT	HW	CW	
WC-1,HC	WATER CLOSET - ACCESSIBLE	----	4"	2"	----	1"	WALL MOUNTED, ADA HEIGHT BOWL
L-1,HC	LAVATORY - ACCESSIBLE	----	2"	2"	1/2"	1/2"	WALL HUNG - MANUAL FACUET - WRISTBLADE HANDLES - ACCESSIBLE
S-1	STAINLESS STEEL SINK	----	2"	2"	1/2"	1/2"	COUNTER MOUNTED - MANUAL WRISTBALDE HANDLES

MISCELLANEOUS EQUIPMENT AND SPECIALTIES

TAG	DESCRIPTION	WASTE CONN	VENT CONN	HOT WATER	COLD WATER	REMARKS
SA	SHOCK ARRESTOR					SIZED PER FIXTURE UNIT CAPACITY
FD-1	FLOOR DRAIN	4"				
FD-1-TP	FLOOR DRAIN W/ TRAP PRIMER	4"			1/2"	PROVIDE 1/2" CW CONNECTION

PLUMBING PIPING INSULATION SCHEDULE

DESCRIPTION	PIPE SIZE	INSULATION THICKNESS	TYPE	COMMENTS
DOMESTIC HOT WATER SUPPLY	UP TO 1-1/2"	1"	FLEXIBLE ELASTOMERIC INSULATION	
DOMESTIC HOT WATER SUPPLY	OVER 1-1/2"	1-1/2"	FLEXIBLE ELASTOMERIC INSULATION	
DOMESTIC HOT WATER RETURN	UP TO 1-1/2"	1"	FLEXIBLE ELASTOMERIC INSULATION	
DOMESTIC COLD WATER	ALL SIZES	1"	MINERAL FIBER OR FLEXIBLE ELASTOMERIC	
CONDENSATE DRAIN PIPING	ALL SIZES	1/2"	PVC P-TRAP AND SUPPLY COVERS	PROVIDE FOR DOMESTIC WATER SUPPLIES AND STOPS FOR ACCESSIBLE FIXTURES.

DEMOLITION LEGEND

	PIPING TO BE REMOVED
	FIXTURE TO BE REMOVED

GENERAL PLUMBING NOTES

1. ALL WORK SHOWN IS NEW UNLESS INDICATED OTHERWISE.
2. ALL EXISTING SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS.
3. CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL UTILITIES BEFORE COMMENCING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGE WHICH MIGHT OCCUR DUE TO THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY SERVICES, INCLUDING WORK IN EXISTING PIPE CHASES.
4. ALL EXISTING PLUMBING LINES, RISERS, ETC. ENCOUNTERED DURING ALTERATIONS, WHETHER INDICATED OR NOT, SHALL BE DETERMINED TO BE ACTIVE OR INACTIVE BY THIS PLUMBING CONTRACTOR, PRIOR TO COMMENCING ANY WORK. IF LINES ARE ACTIVE THEY SHALL BE OFFSET AS REQUIRED AND RECONNECTED TO THEIR ORIGINAL PIPING. OFFSETS SHALL BE OF THE SAME SIZE AND MATERIAL AS EXISTING, INCLUDING ANY INSULATION. REMOVE ALL USELESS AND INACTIVE PIPING ENCOUNTERED WITHIN PROJECTS SCOPE BACK TO THE MAIN, STACK OR RISER. AND CAP. ALL USELESS HOLES IN WALLS AND CEILINGS SHALL BE PATCHED TO MAINTAIN FIRE RATING. ALL SUCH WORK SHALL BE RECORDED ON THE "RECORD" DRAWINGS.
5. THE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR MUST FIELD VERIFY ACTUAL CONDITIONS AT THE SITE PRIOR TO PROCEEDING WITH THE WORK. COORDINATE INSTALLATION OF ALL NEW PIPING, EQUIPMENT, ETC. WITH ALL OTHER TRADES.
6. PATCH ALL OPENINGS IN EXISTING CONSTRUCTION WHERE PLUMBING PIPING HAS BEEN REMOVED, OR WHERE PLUMBING PIPING TO REMAIN IS NOT SEALED. MAINTAIN EXISTING FIRE RATING.
7. COORDINATE LOCATIONS OF FLOOR DRAINS IN MECHANICAL ROOM WITH ACTUAL EQUIPMENT BEING INSTALLED. ALL HORIZONTAL SANITARY DRAINAGE PIPING IS PITCHED AT 1/4"/FT UP TO 3" DIA. , 1/8"/FT FOR 4" DIA. TO 8" DIA., LARGER SIZES AS NOTED. ALL HORIZONTAL STORM DRAINAGE PIPING IS PITCHED AT 1/8"/FT.
8. THE PLUMBING DRAWINGS DO NOT INDICATE ALL STRUCTURAL BEAMS, COLUMNS OR EXACT SIZES. SOME DEVIATIONS TO THE PIPING LAYOUT MAY BE REQUIRED. COORDINATE ACTUAL LOCATIONS OF THE PLUMBING LINES DURING CONSTRUCTION.
9. CONTRACTOR TO COMPLY WITH ALL WATER AND SEWER REQUIREMENTS SET FORTH BY THE AUTHORITY HAVING JURISDICTION.
10. INSTALL NEW CLEANOUT MARKER ON EXISTING CLEANOUTS THAT WILL BE COVERED WITH NEW CARPET. IDENTIFY ALL CLEANOUTS ON RECORD DRAWINGS.
11. ALL END OF RUN SANITARY PIPING SHALL BE A MINIMUM OF 18" BELOW FINISHED FLOOR.
12. INDEPENDENT INSPECTION & CERTIFICATION REQUIRED FOR WORK ON MEDICAL GAS LINES PER NFPA 99.

GENERAL PLUMBING DEMOLITION NOTES:

1. REMOVAL OF EXISTING PIPING SHALL INCLUDE ALL HANGERS AND HARDWARE.
2. EXISTING PIPING SHOWN ON THE DEMOLITION DRAWINGS IS BASED ON EXISTING DOCUMENTS PROVIDED. THEY GENERALLY INDICATE THE LOCATIONS OF PIPING TO BE REMOVED. CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS AND BE RESPONSIBLE FOR FIELD CONDITIONS.
3. ANY ADDITIONAL PLUMBING FIXTURES, EQUIPMENT, PIPING, AND ACCESSORIES THAT ARE NOT SHOWN, BUT ARE REQUIRED TO BE REMOVED, SHALL BE REMOVED BY THE PLUMBING CONTRACTOR AT THEIR EXPENSE. REFER TO INDIVIDUAL DRAWINGS FOR ADDITIONAL DEMOLITION NOTES.
4. COORDINATE ALL MEDICAL GAS SHUT DOWNS WITH OWNER. SHUTDOWNS WILL TYPICALLY BE SCHEDULED FOR AFTER HOURS AND WEEKENDS. SHUT DOWNS WILL ALSO NEED TO BE COORDINATED WITH PHASING PLANS.

NORTH

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ISSUED FOR CONSTRUCTION

Revisions: | Date

CONSULTANTS:

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AE Works Project Number: 13019

Drawing Title: SYMBOLS, SCHEDULES & NOTES

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: MEW | Drawn: MEW

Project Number: 562-13-103

Building Number:

Drawing Number: P001

Dwg. 14 of 29

Office of Construction and Facilities Management

Department of Veterans Affairs

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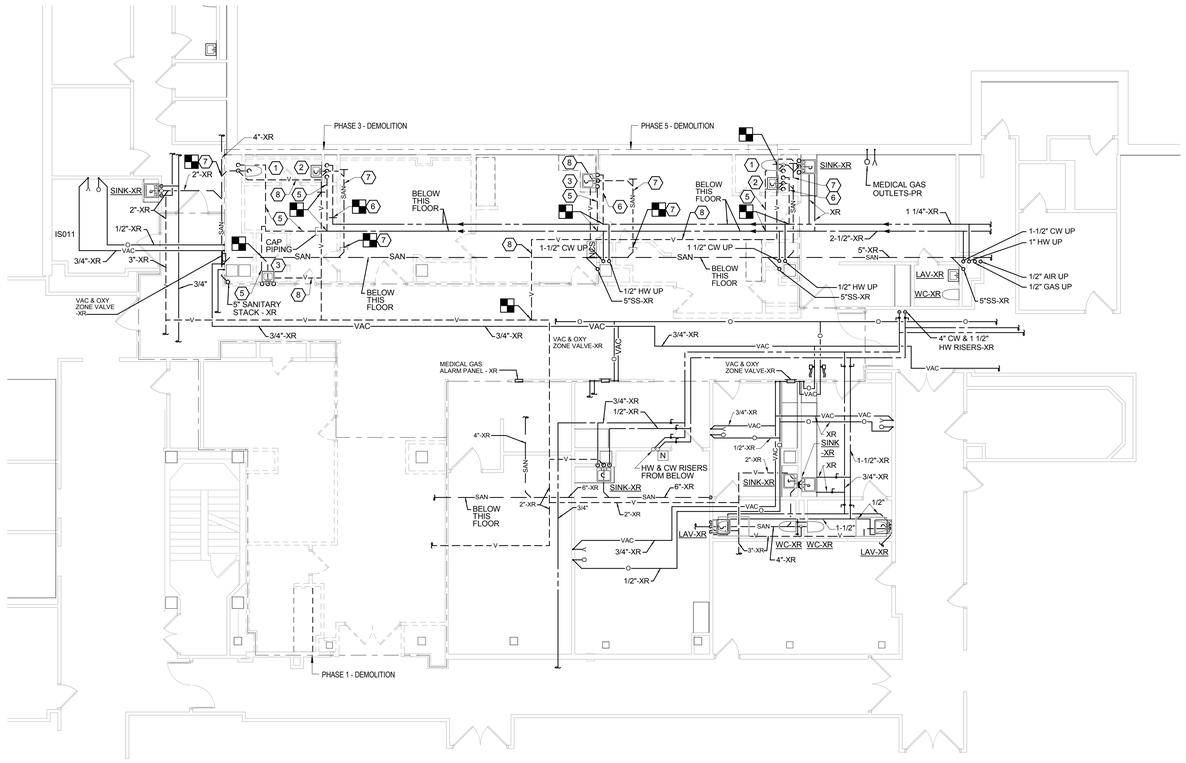

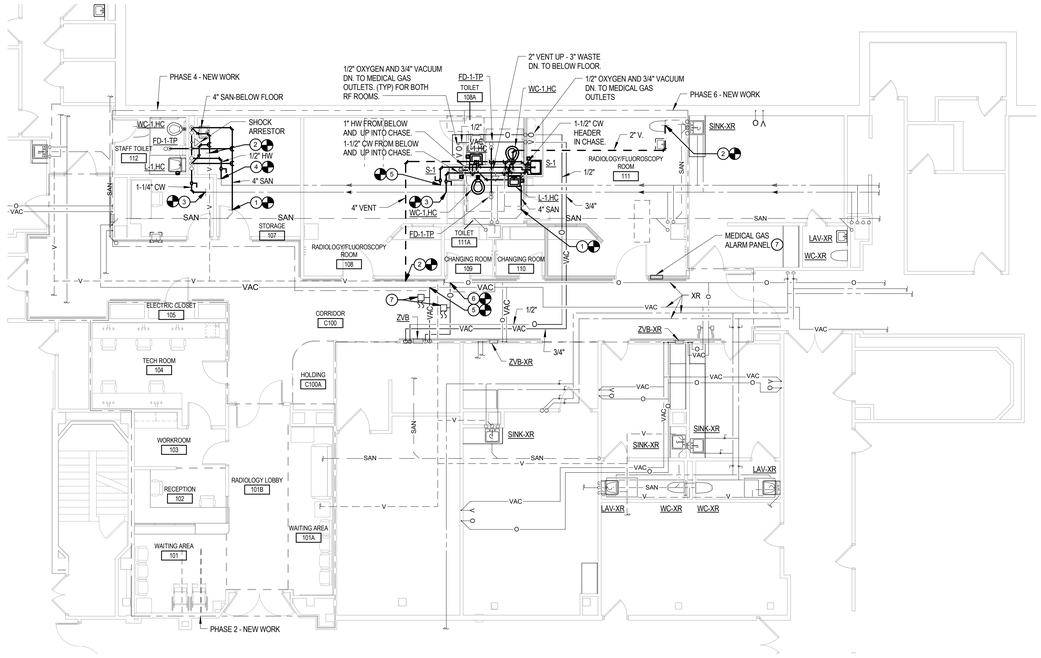

PLUMBING DEMOLITION KEY NOTES:

1. REMOVE EXISTING WATER CLOSET, FLUSH VALVE, AND FIXTURE SUPPORT. REMOVE EXISTING COLD WATER, SANITARY, AND VENT PIPING ASSOCIATED WITH THIS FIXTURE. REMOVE PIPING BACK TO MAINS AND CAP. RETURN DEMOLISHED FLUSH VALVE TO OWNER FOR PART REFUGE.
2. REMOVE EXISTING LAVATORY, FAUCET, AND FIXTURE SUPPORT. REMOVE EXISTING HOT/COLD WATER, SANITARY, AND VENT PIPING ASSOCIATED WITH THIS FIXTURE. REMOVE PIPING BACK TO MAINS AND CAP. RETURN DEMOLISHED LAVATORY AND FAUCET TO OWNER FOR PART REFUGE.
3. REMOVE EXISTING SINK AND FAUCET. REMOVE EXISTING HOT/COLD WATER, SANITARY, AND VENT PIPING ASSOCIATED WITH THIS FIXTURE. REMOVE PIPING BACK TO MAINS AND CAP.
4. NOT USED.
5. REMOVE EXISTING DOMESTIC COLD WATER PIPING.
6. REMOVE EXISTING DOMESTIC HOT WATER PIPING.
7. REMOVE EXISTING SANITARY PIPING BELOW FLOOR.
8. REMOVE EXISTING VENT PIPING ABOVE THIS CEILING.

PLUMBING KEYED NOTES:

1. CONNECT NEW 4" SANITARY PIPING TO EXISTING SANITARY PIPING BELOW FLOOR.
2. CONNECT NEW 4" VENT PIPING TO EXISTING VENT PIPING ABOVE THIS CEILING.
3. CONNECT NEW 1-1/2" COLD WATER PIPING TO EXISTING COLD WATER PIPING BELOW FLOOR.
4. CONNECT NEW 1" HOT WATER PIPING TO EXISTING HOT WATER PIPING BELOW FLOOR.
5. CONNECT NEW 3/4" VACUUM PIPING TO EXISTING VACUUM PIPING BELOW FLOOR.
6. CONNECT NEW 1/2" OXYGEN PIPING TO EXISTING OXYGEN PIPING BELOW FLOOR.
7. PROVIDE PRESSURE TRANSDUCERS ON NEW 1/2" OXYGEN AND 3/4" VACUUM LINES. E.C. TO PROVIDE WIRING BACK TO NEW MEDICAL GAS CONTROL PANEL.

PLUMBING GENERAL NOTE:

1. REFER TO DRAWING AD101 FOR PHASING PLANS.

1 FIRST FLOOR PLAN - DEMOLITION - PLUMBING
1/8" = 1'-0"

2 FIRST FLOOR PLAN - NEW WORK - PLUMBING
1/8" = 1'-0"

NORTH

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Revisions:	Date

CONSULTANTS:

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AE Works Project Number: 13019

Drawing Title: PLUMBING PLANS

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

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Project Number: 562-13-103

Building Number:

Drawing Number: P101

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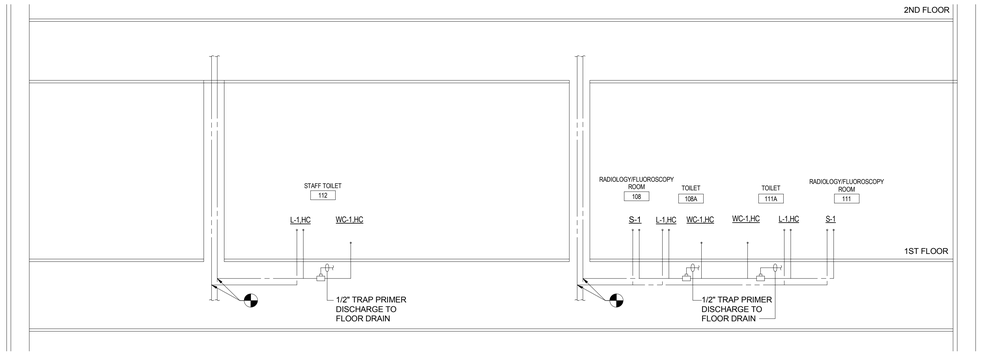
Office of Construction and Facilities Management

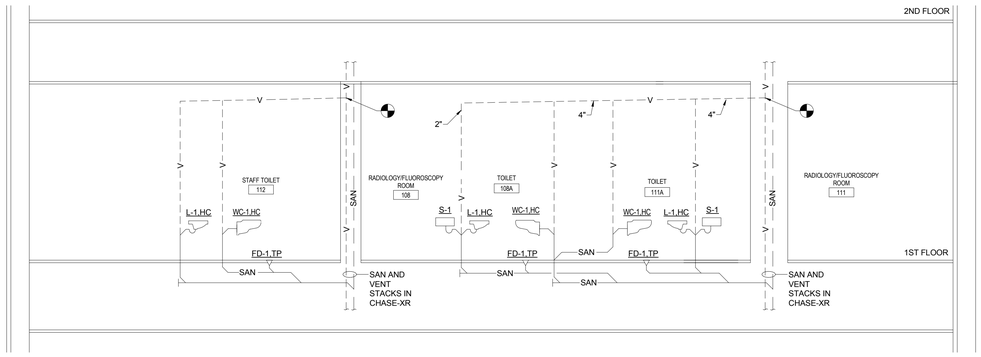
Department of Veterans Affairs

VA FORM 08-6231



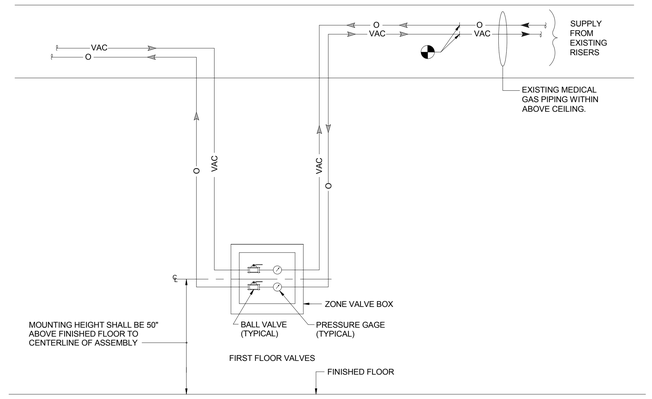
1 DOMESTIC WATER RISER DIAGRAM

NO SCALE



2 SANITARY AND VENT RISER DIAGRAM

NO SCALE



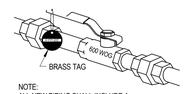
NOTES:
1. COORDINATE EXACT LOCATION OF BOX AND PIPING IN WALL WITH ELECTRICAL OUTLETS, SWITCHES, ETC.

2. SEE FLOOR PLANS FOR MED GAS PIPE SIZES.

3. PROVIDE SIGNAGE ON EACH ZONE VALVE BOX THAT INDICATES ROOMS AND ROOM NUMBERS THAT ARE BEING SUPPLIED BY EACH ZONE VALVE.

5 MEDICAL GAS ZONE VALVE BOX DETAIL

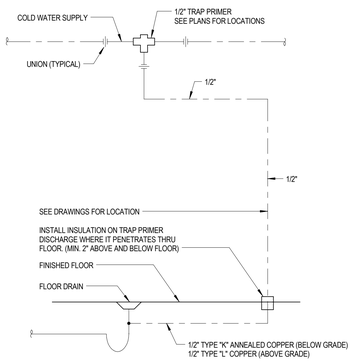
NO SCALE



NOTE:
ALL NEW PIPING SHALL INCLUDE A
19 GAGE 1-1/2" DIA. BRASS TAG
ON BRASS CHAIN OR BRASS "S" HOOK.
TAG SHALL BE STAMPED: X-YYY-ZZZ.
VA WILL ADVISE ON EXACT NOMENCLATURE.
ATTACH TO "INLET" OF BALL VALVE HANDLE.

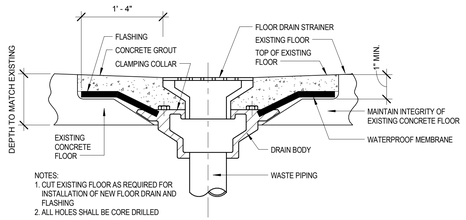
6 NEW BRASS VALVE TAG DETAIL

1" = 1'-0"



3 SINGLE TRAP PRIMER PIPING SCHEMATIC

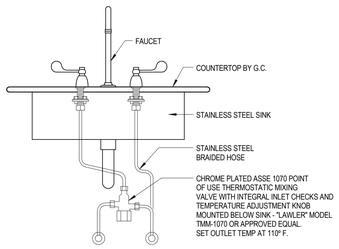
1" = 1'-0"



NOTES:
1. CUT EXISTING FLOOR AS REQUIRED FOR INSTALLATION OF NEW FLOOR DRAIN AND FLASHING
2. ALL HOLES SHALL BE CORE DRILLED

4 FLOOR DRAIN IN EXISTING FLOOR DETAIL

1" = 1'-0"



7 STAINLESS STEEL SINK DETAIL

1" = 1'-0"

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

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AE Works Project Number: 13019

Drawing Title
PLUMBING DETAILS

Approved: Project Director

Project Title:
RENOVATION OF RADIOLOGY FOR RF ROOMS

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Building Number

Drawing Number P201

Dwg. 16 **of** 29

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

MISCELLANEOUS ABBREVIATIONS

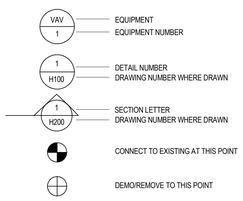
ABV	ABOVE
APPROX	APPROXIMATELY
AUTO	AUTOMATIC
AAV	AUTOMATIC AIR VENT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFMD	AIR FLOW MEASURING DEVICE
AP	ACCESS PANEL
ATC	AUTOMATIC TEMPERATURE CONTROL
AWT	AVERAGE WATER TEMPERATURE
BLDG	BUILDING
BLW	BELOW
BC	BALANCING COCK
BDD	BACKDRAFT DAMPER
CAP	CAPACITY
CFH	CUBIC FEET/ HOUR
CHK V	CHECK VALVE
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CHWS&R	CHILLED WATER SUPPLY/RETURN
CLG	CEILING
CLG MTD	CEILING MOUNTED
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONTR	CONTRACTOR
CONT	CONTINUE
CONV	CONVECTOR
CORR	CORRIDOR
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
CV	CONTROL VALVE
DB	DRY BULB
DHW	DOMESTIC HOT WATER
DCW	DOMESTIC COLD WATER
DIFF	DIFFUSER
DISCH	DISCHARGE
DN	DOWN
DO	DITTO
DPR	DAMPER
DR	DRAIN
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EMER	EMERGENCY
EQUIP	EQUIPMENT
EXH	EXHAUST
ETR	EXISTING TO REMAIN
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EDB	ENTERING DRY BULB
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
FLG C	FLANGE CONNECTION
FLR	FLOOR
FRM	FROM
FT HD	FEET OF HEAD
FAT	FINAL AIR TEMPERATURE
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
SFD	SMOKE/FIRE DAMPER
FLR DR	FLOOR DRAIN
GA	GAUGE
GL V	GLOBE VALVE
GRAV	GRAVITY
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HC	HEATING CONTRACTOR
HP	HORSE POWER
HPD	HIGH PRESSURE DRIP
HTG	HEATING
HV	HIGH VELOCITY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HWS&R	HOT WATER SUPPLY AND RETURN

IME	INSULATED METAL ENCLOSURE
IN	INCHES
INCL	INCLUDED
INSUL	INSULATION
INTERL	INTERLOCK
INV	INVERT
IER	INVERTED ECCENTRIC REDUCER
IVS	ISOLATION VALVE STATION
LTG	LIGHTING
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB
LF	LINEAR FEET
LSDC	LINEAR SUPPLY DIFFUSER CEILING
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MECH	MECHANICAL
MFGR	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
MTL	METAL
MTR	MOTOR
MAT	MIXED AIR TEMPERATURE
MAV	MANUAL AIR VENT
MBH	ONE THOUSAND BTU/HOUR
MOD	MOTOR OPERATED DAMPER
MH	MANHOLE
MER	MECHANICAL EQUIPMENT ROOM
NTS	NOT TO SCALE
NA	NOT APPLICABLE
OPER	OPERATED
OPNG	OPENING
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OS&Y	OUTSIDE SCREW AND YOKE
PC	PLUMBING CONTRACTOR
PRD	PRESSURE DIFFERENTIAL VALVE
PD	PUMP DISCHARGE
PG	PRESSURE GAUGE WITH COCK
PRV	PRESSURE REDUCING VALVE
PT	PRESSURE TAP
REQD	REQUIRED
RET	RETURN
REX	REMOVE EXISTING
RM	ROOM
RA	RETURN AIR/RELIEF AIR
RV	RELIEF VALVE
SCH	SCHEDULE
SA	SUPPLY AIR
SHT	SHEET
SHT MTL	SHEET METAL
STL	STEEL
STR	STRAINER
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SPS	STATIC PRESSURE SENSOR
TA	THROWAWAY
TDV	TRIPLE DUTY VALVE
TEMP	TEMPERATURE
TH	THERMOMETER
TRANS	TRANSITION
TYP	TYPICAL
TSTAT	THERMOSTAT
TCV	TEMPERATURE CONTROL VALVE
TR	TEMPERATURE RISE
TV	TURNING VANES
UC	UNDERCUT
V	VALVE
VD	VOLUME CONTROL DAMPER
VFS	VENTURI FLOW STATION
WB	WET BULB
WFMD	WATER FLOW MEASURING DEVICE
WG	WATER GAUGE
WTD	WATER TEMPERATURE DROP
W/	WITH
W/O	WITH OUT

EQUIPMENT TAG ABBREVIATIONS

ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
ACCUM	ACCUMULATOR
AHU	AIR HANDLING UNIT
ASHP	AIR SOURCE HEAT PUMP
B	BOILER
BB	BASEBOARD HEATER
BD	BAROMETRIC DAMPER
BDD	BACK DRAFT DAMPER
CC	CHILLED WATER COOLING COIL
CD	CONDENSATE DRAIN
CIRC	CIRCULATOR
CMPR	COMPRESSOR
CONV	CONVECTOR
CP	CONDENSATE PUMP
CUH	CABINET UNIT HEATER
DC	DRY COOLER
EF	EXHAUST FANS
ER	EXHAUST REGISTER
ERW	EXHAUST REGISTER WALL
ET	EXPANSION TANK
ECUH	ELECTRIC CABINET UNIT HEATER
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WALL HEATER
EVAP	EVAPORATOR
FT	FINNED TUBE RADIATION
FCU	FAN COIL UNIT
FPB	FAN POWERED BOX
FU	FURNACE
GIV	GRAVITY INTAKE VENTILATOR
GRV	GRAVITY ROOF VENTILATOR
H	HUMIDIFIER
HC	HOT WATER HEATING COIL
HUH	HORIZONTAL UNIT HEATER
RG	RETURN GRILLE
RR	RETURN REGISTER
RAG	RETURN AIR GRILLE
RCP	RADIANT CEILING PANEL
RTU	ROOF TOP UNIT
SF	SUPPLY FAN
SSAC	SPLIT SYSTEM AIR CONDITIONING UNIT
SSDC	SECURITY SUPPLY DIFFUSER CEILING
SSEF	SECURITY SMOKE EXHAUST FAN
SSGC	SECURITY SUPPLY GRILLE CEILING
SSGW	SECURITY SUPPLY GRILLE WALL
SLSD	SUPPLY LINEAR SLOT DIFFUSER
P	PUMP
PTAC	PACKAGED TERMINAL AIR CONDITIONING UNIT
UH	UNIT HEATER
UV	UNIT VENTILATOR
UCD	UNDER CUT DOOR
VAV	VARIABLE AIR VOLUME

DRAWING SYMBOLS



PIPELINE ABBREVIATIONS

SYMBOLS	DESCRIPTION
CD	CONDENSATE DRAIN LINE
CTD	COOLING TOWER DRAIN LINE
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
HWHS	HOT WATER HEATING SUPPLY
HWHR	HOT WATER HEATING RETURN
LPS	LOW PRESSURE STEAM SUPPLY
LPCR	LOW PRESSURE CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM SUPPLY
MPCR	MEDIUM PRESSURE CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM SUPPLY
HPCR	HIGH PRESSURE CONDENSATE RETURN
PC	PUMPED CONDENSATE
HRS	ENERGY (HEAT) RECOVERY SUPPLY
HRR	ENERGY (HEAT) RECOVERY RETURN
RL	REFRIGERANT LINE
RS	REFRIGERANT SUCTION
NAME	PIPE TO BE REMOVED
NAME	EXISTING PIPING TO REMAIN

PIPELINE SYMBOLS

	BALL VALVE
	GATE VALVE
	BUTTERFLY VALVE
	GLOBE VALVE
	PLUG VALVE
	RELIEF VALVE
	ECCENTRIC REDUCER
	INVERTED ECCENTRIC REDUCER
	ORIFICE UNION
	UNION
	STRAINER
	THERMOMETER
	PRESSURE GAUGE
	WATER FLOW MEASURING DEVICE (VENTURI FLOW STATION) BALANCING COCK
	PRESSURE TAP
	PRESSURE REDUCING VALVE
	TWO-WAY MODULATING CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	SAFETY VALVE OR PRESSURE RELIEF
A	AUTOMATIC AIR VENT
M	MANUAL AIR VENT
	TWO-WAY CONTROL VALVE (TWO POSITION TYPE)
	MOTORIZED VALVE
	AQUASTAT
	FUNNEL DRAIN
	PIPING TURNED UP
	PIPING TURNED DOWN
	TEE - OUTLET UP
	TEE- OUTLET
	SIDE CONNECTION
	CAPPED OUTLET
	DIRECTION OF FLOW
	PIPE BREAK (SINGLE LINE)
	FLEXIBLE CONNECTION
	BACKFLOW PREVENTION DEVICE

HVAC SYMBOLS

DOUBLE LINE SHEETMETAL

SYMBOLS	DESCRIPTION
12"x12"	RECTANGULAR SUPPLY, RETURN OR RELIEF DUCT WIDTH (SHOWN)xDEPTH
12"/12"	OVAL SUPPLY, RETURN OR RELIEF DUCT WIDTH (SHOWN)xDEPTH
12"Ø	ROUND SUPPLY, RETURN OR DUCT W/TURNING VANES (DUCT WIDTH OVER 18")
	DUCT W/ TURNING VANES
	DUCT W/O TURNING VANES
	RADIUS ELBOW (DUCT WIDTH 17" AND LOWER)
	LOW LOSS TAKE OFF (ARROW INDICATES DIRECTION OF AIR FLOW)
	CONICAL SPIN-IN FITTING
	BOOT CONNECTION WITH MANUAL VD (ARROW INDICATES AIR FLOW DIRECTION)
	RETURN AIR DUCT UP
	SUPPLY DUCT UP
	EXHAUST AIR DUCT UP
	RETURN AIR DUCT DN
	SUPPLY DUCT DN
	EXHAUST AIR DUCT DN
12"x12"	MANUAL VOLUME CONTROL DAMPER (VD)
24"x24" 24"x24"	RISE/DROP IN DUCTWORK (ARROW SHOWS DIRECTION OF DROP)
S	DUCT/SPACE STATIC PRESSURE SENSOR
WS	WALL SWITCH
T	DUCT/WALL TEMPERATURE SENSOR, ELECTRIC
SD	DUCT MOUNTED SMOKE DETECTOR PROVIDED BY EC, INSTALLED BY HC
M	MOTORIZED DAMPER
B	BACKDRAFT DAMPER
FD	FIRE DAMPER AT FIRE WALL (PROVIDE ACCESS PANEL IN DUCT AND CEILING)
	SMOKE DAMPER/DETECTOR DETECTOR BY E.C. DAMPER BY H.C.
F/SD	COMBINATION FIRE/SMOKE DAMPER
FD FD	FIRE DAMPER IN VERTICAL DUCT THRU FLOOR OR HORIZONTAL DUCT ABOVE CEILING (PROVIDE ACCESS PANEL IN DUCT AND WALL OR CEILING)
	ACCESS DOOR ON BOTTOM OF DUCT (HINGED & GASKETED)
AD	ACCESS DOOR ON SIDE OF DUCT (HINGED & GASKETED)
	SUPPLY AIR DIFFUSER
TF	THERMAL VAV DIFFUSER
	RETURN AIR REGISTER
	EXHAUST REGISTER
	EXHAUST/RETURN AIR REGISTER (DUCT OR WALL)
	SUPPLY AIR REGISTER (DUCT OR WALL)

SINGLE LINE - SHEET METAL

SYMBOLS	DESCRIPTION
24x12	DUCT SIZE (WIDTH X DEPTH)
24"Ø	ROUND DUCT SIZE (DIAMETER)
24"Ø	FLEXIBLE DUCT (DIAMETER SIZE)
	SUPPLY DUCT CROSS SECTION UP
	SUPPLY DUCT CROSS SECTION DN
	RETURN CROSS SECTION UP
	RETURN CROSS SECTION DN
	EXHAUST CROSS SECTION UP
	SQUARE ELBOW WITH TURNING VANES
	RADIUS TURN ELBOW
	DUCT END CAP

HVAC GENERAL NOTES

1. NOT ALL SYMBOLS ARE NECESSARILY USED.
2. COORDINATE FINAL LOCATIONS OF DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLANS.
3. DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR TO FIELD VERIFY DUCT AND PIPE ROUTING AND COORDINATE INTERFERENCE BETWEEN TRADES PRIOR TO INSTALLATION.
4. ROOF OPENINGS, FLASHING, AND COUNTER FLASHING BY GENERAL CONTRACTOR. LOCATION OF OPENINGS BY HVAC CONTRACTOR.
5. DUCTWORK TO BE INSTALLED TIGHT TO UNDERSIDE OF STRUCTURE ABOVE UNLESS NOTED OTHERWISE.
6. PROVIDE ALL MATERIALS, EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY CODE.
7. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD SURVEY ACTUAL SITE CONDITIONS AND ACCOMMODATE ACTUAL SITE CONDITIONS AS PART OF SCOPE OF WORK AT NO COST TO OWNER.
8. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, APPLICABLE BUILDING, STATE, AND LOCAL CODES, SEISMIC REQUIREMENTS, ENERGY CODES, AND INSURANCE UNDERWRITER REQUIREMENTS.
9. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, AND ELECTRICAL WORK, ETC. SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
10. MAINTAIN A MINIMUM OF 6'-8" CLEARANCE TO UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, SUPPORTS, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
11. ALL TESTS SHALL BE COMPLETED AND ACCEPTED BY THE INSPECTOR BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
12. LOCATE ALL TEMPERATURE, PRESSURE AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH A STRAIGHT SECTION OF PIPE OR DUCT UPSTREAM AND DOWNSTREAM, AS RECOMMENDED BY THE MANUFACTURER FOR ACCURACY.
13. TESTING ADJUSTING AND BALANCING (TAB) AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCING COUNCIL (AABC), THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), OR THE TESTING, AND ADJUSTING AND BALANCING BUREAU (TABB). TAB FIRM SHALL HAVE A MINIMUM OF 5 YEARS EXPERIENCE ON SIMILAR PROJECTS. PERFORM TAB IN ACCORDANCE WITH THE REQUIREMENTS OF THE TAB PROCEDURAL STANDARD RECOMMENDED BY THE TAB TRADE ASSOCIATION THAT APPROVED THE TAB FIRM'S QUALIFICATIONS.
14. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCTS OF A SINGLE MANUFACTURER SHALL BE USED.
15. COORDINATE ALL FINAL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCTWORK AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCTWORK AND PIPING DIMENSIONS BEFORE FABRICATION.
16. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE, DIVISION 16 OF THE SPECIFICATIONS, ALL LOCAL CODES, AND OWNER'S INSURANCE UNDERWRITER REQUIREMENTS.
17. WHEN MECHANICAL WORK (HVAC, PLUMBING, FIRE PROTECTION, CONTROLS, ETC.) IS SUBCONTRACTED BY THE MC, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY FOR COORDINATING SUBCONTRACTORS AND THEIR ASSOCIATED SCOPE OF WORK. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH SUBCONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH SUBCONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR AND HIS DECISION SHALL BE FINAL.
18. THE LOCATIONS AND SIZES OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS AND SIZES NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS SHALL BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
19. PLAN DRAWINGS AND SECTION CUTS WHICH SPECIFICALLY IDENTIFY SERVICE ROUTE OFFSETS, ELEVATION CHANGES, OBSTRUCTIONS, ACCESS DOORS, BALANCING DEVICES, ETC. ARE SHOWN FOR CLARITY WHERE SPECIFIC KNOWN CONDITIONS EXIST. MECHANICAL CONTRACTOR SHALL COORDINATE EQUIPMENT, DUCTWORK, AND PIPING ROUTINGS WITH ALL OTHER TRADES. REQUIREMENTS NOT SPECIFICALLY IDENTIFIED SHALL NOT BE INTERPRETED AS EXCLUSION FROM CONTRACTOR'S SCOPE OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL SITE CONDITIONS AND SHALL INCLUDE SUCH CONDITIONS IN SCOPE OF WORK AT NO ADDITIONAL COST TO THE OWNER.
20. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND SUPPORT OF MECHANICAL WORK AS SHOWN IN DETAILS FOR PIPING, DUCTWORK AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
21. PROVIDE ACCESS DOORS AND PANELS AS SPECIFIED FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE, BALANCE, ADJUST, MAINTAIN, AND/OR INSPECT DAMPERS, VALVES, SMOKE DETECTORS, CONTROLS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE GIVEN TO THE GENERAL CONTRACTOR FOR INSTALLATION. ACCESS PANEL LOCATIONS SHALL BE COORDINATED WITH ALL DISCIPLINES.
22. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND AS REQUIRED TO PROVIDE A VIBRATION FREE INSTALLATION.
23. ALL OPENINGS IN FIRE RATED WALLS AND SMOKE PARTITIONS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH APPROVED FIRESTOPPING MATERIALS.
24. REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING AND EQUIPMENT INSTALLATION.
25. UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM THERMOSTATS 48" (CENTER LINE) ABOVE FINISHED FLOOR IN ACCORDANCE WITH ADA REQUIREMENTS. NOTIFY THE ENGINEER OF ANY ROOMS WHERE THE ABOVE LOCATION CAN NOT BE MAINTAINED OR WHERE THERE IS A QUESTION ON LOCATION. COORDINATE FINAL LOCATIONS WITH OWNER.
26. LOCATE ALL MECHANICAL EQUIPMENT (VAV BOXES, CABINET HEATERS, UNIT HEATERS, ETC.,) FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, FILTERS, CONTROLS AND VALVING. DO NOT LOCATE FAN POWERED VAV BOXES ABOVE LIGHTING FIXTURES.
27. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN AND EXHAUST) CONNECTED TO FANS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.
28. ALL LOUVERS SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR (UNLESS OTHERWISE NOTED). GENERAL CONTRACTOR SHALL COORDINATE SIZES, LOCATIONS, AND CONNECTIONS WITH MECHANICAL CONTRACTOR. DUCTWORK CONNECTIONS TO LOUVERS SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
29. PROVIDE AN AIR VENT AT THE HIGH POINT OF EACH DROP IN HYDRONIC WATER PIPING SYSTEMS. ALL PIPING SHALL SLOPE TO LOW POINTS. PROVIDE HOSE END DRAIN VALVES AT THE BOTTOM OF ALL RISERS AND LOW POINTS.
30. INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
31. ALL ISOLATION VALVES SHALL BE IN A LOCATION AND ELEVATION WHICH ALLOWS FOR EQUIPMENT AND BRANCH PIPING REMOVAL, WHILE MAINTAINING SERVICE UPSTREAM OF THE ISOLATION VALVE.
32. ALL BALANCING VALVES AND ISOLATION VALVES USED TO ADJUST FLOW RATES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
33. ALL ISOLATION VALVES (EXCEPT CONTROL VALVES), STRAINER, AND PIPING SPECIALTIES AND STRAINERS SHALL BE FULL LINE SIZE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.
34. MECHANICAL JOINTS SUCH AS UNIONS, FLANGES, OR THREADED FITTINGS SHALL BE INSTALLED AT EACH EQUIPMENT CONNECTION. IN BYPASSES, AT FLOOR PENETRATIONS, AT CONTROL DEVICES, AND IN LONG PIPE RUNS (100 FEET OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.
35. MEASURE, CUT, AND INSTALL PIPE LENGTH ACCURATELY TO MINIMIZE MISALIGNMENT. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
36. PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION (EXCEPT WATER COILS). FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE OR AS INDICATED ON THE DRAWINGS.
37. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT VIBRATION TRANSMISSION TO BUILDING STRUCTURE.
38. CONCRETE HOUSEKEEPING PADS SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL PROVIDE EQUIPMENT WEIGHTS, SIZES, AND LOCATION TO GENERAL CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALL BE IN ACCORDANCE WITH STRUCTURAL DETAILS. PAD SHALL EXTEND BEYOND THE EQUIPMENT FOOTPRINT A MINIMUM OF 6 INCHES ON EACH SIDE.
39. ALL DUCTWORK, PIPING, AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL MEMBERS, BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE APPROVED BY STRUCTURAL ENGINEER. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED.
40. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM ROOF OR DECK ASSEMBLY. SUPPORTS SHALL ATTACH TO STRUCTURAL MEMBERS. COORDINATE WITH STRUCTURAL DRAWINGS.
41. PROVIDE MANUFACTURER'S MATCHING ROOF CURBS FOR ALL ROOF MOUNTED EQUIPMENT. COORDINATE ACTUAL ROOF PITCH AND CONSTRUCTION DETAILS WITH GENERAL CONTRACTOR. PROVIDE SLOPED CURBS PER MANUFACTURER'S RECOMMENDATIONS. GENERAL CONTRACTOR SHALL INSTALL ROOF CURBS AND FLASHING PER ROOFING MANUFACTURER'S INSTALLATION REQUIREMENTS.
42. UNLESS OTHERWISE NOTED, ALL PIPING AND DUCTWORK IS OVERHEAD, TIGHT TO UNDERSIDE OF STRUCTURE OR SLAB, WITH SPACE FOR INSULATION.
43. PROVIDE CHAINWHEEL OPERATORS FOR ALL EXPOSED VALVES MOUNTED GREATER THAN 7'-0" ABOVE FINISHED FLOOR LEVEL. CHAIN SHALL EXTEND UNOBSTRUCTED TO 7'-0" ABOVE FLOOR LEVEL.
44. ALL PIPING AND DUCTWORK SHALL CLEAR DOORS, WINDOWS, EQUIPMENT CLEARANCES, MAINTENANCE REQUIREMENTS, CODE SETBACKS, ETC. TO ASSURE PROPER OPERATION, INSPECTION, AND MAINTENANCE.
45. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
46. PROVIDE ALL 90 DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED OR SPECIFIED. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS CONTAINING TURNING VANES.
47. ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. GROUNDING STRAPS SHALL BE BOLTED OR SOLDERED TO BOTH THE EQUIPMENT AND THE DUCT.
48. ALL EQUIPMENT SUBMITTALS AND SHOP DRAWINGS REQUIRED BY THE SPECIFICATIONS SHALL BE APPROVED BY ENGINEER PRIOR TO PURCHASE, FABRICATION, AND INSTALLATION.
49. ALL HEATING DEVICES AND SURFACES WITH ELEVATED TEMPERATURES WHICH CAN BE ACCESSED OR COME IN CONTACT WITH OWNER PERSONNEL SHALL BE PROTECTED, INSULATED, OR CONTROLLED TO REMAIN BELOW 120°F.
50. PROVIDE MANUAL VOLUME DAMPERS IN ALL RUN-OUTS TO DIFFUSERS, BRANCH TAKE-OFFS FROM MAIN SUPPLY DUCT, AND IN ALL OTHER AREAS REQUIRED TO PROVIDE PROPER SYSTEM AIRFLOW BALANCING.
51. ALL OPEN ENDED DUCTS TO BE COVERED AT ALL TIMES, INCLUDING DUCTS IN STORAGE.
52. NEW HVAC CONTROLS CONDUIT TO BE COLOR CODED PURPLE. COORDINATE WITH OTHER ELECTRICAL DISCIPLINES.

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

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AE Works Project Number: 13019

Drawing Title
HVAC SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

Approved: Project Director

Project Title:
RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | **Checked:** CJC | **Drawn:** SPL

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Drawing Number H001

Dwg. 17 **of** 29

Office of Construction and Facilities Management

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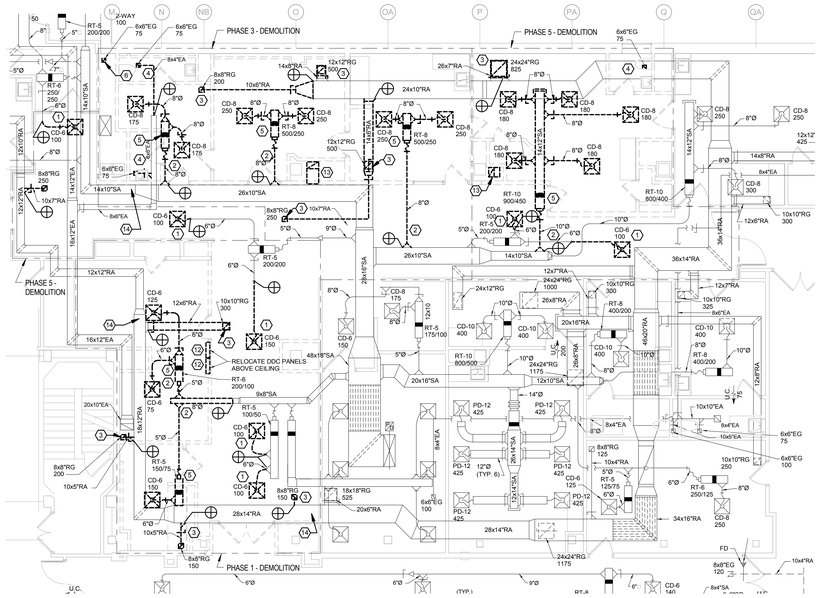
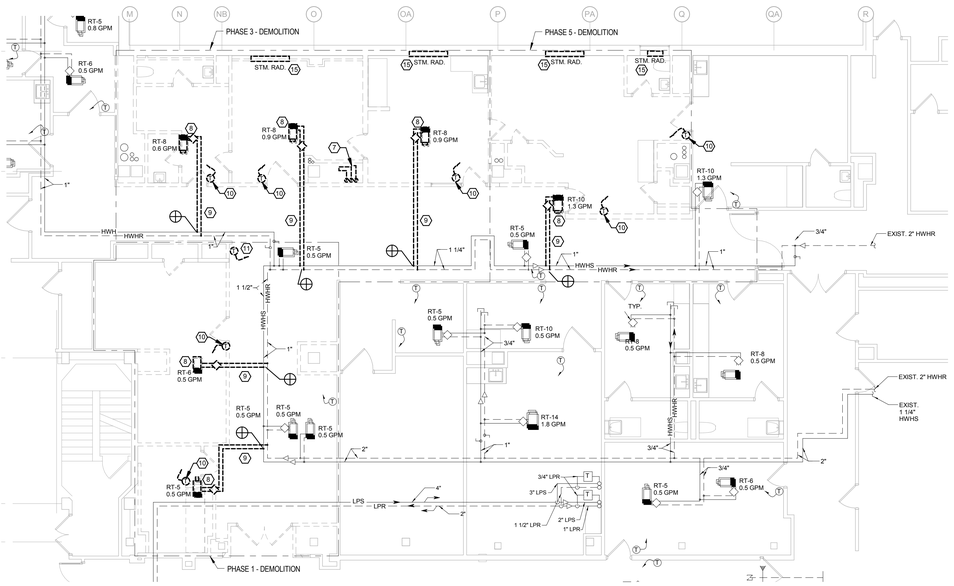


1 DUCTWORK DEMOLITION PLAN
1/8" = 1'-0"

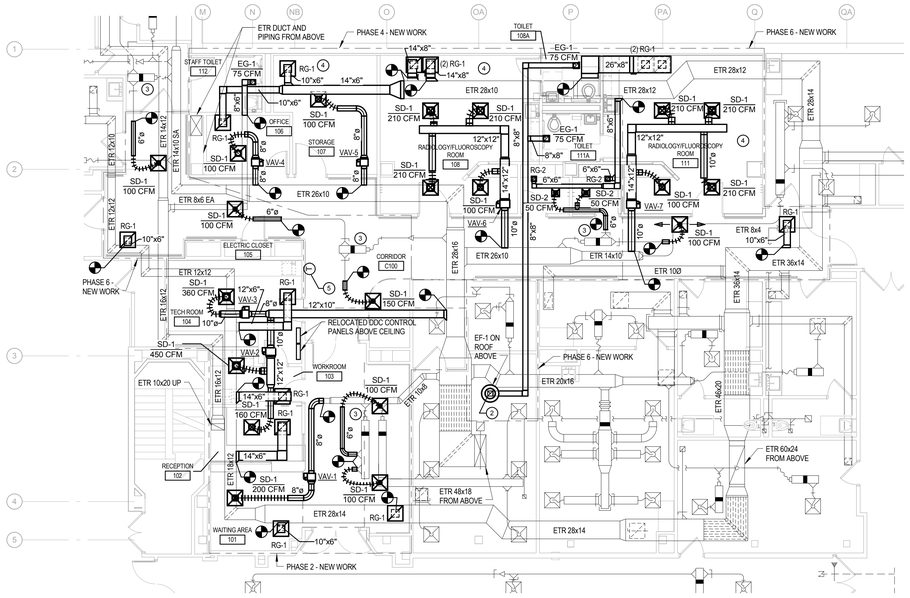
HVAC DEMOLITION KEYNOTES

NOTE: REFER TO THE ARCHITECTURAL PHASING PLAN ON SHEET AD101. THE DEMOLITION OF THE HVAC SYSTEM SHALL BE PHASED ACCORDING TO THIS PLAN.

1. REMOVE EXISTING SUPPLY DIFFUSER AND FLEX DUCT BACK TO THE MAIN DUCT.
2. REMOVE SUPPLY DUCT BACK TO MAIN DUCT. CAP OR PATCH AND SEAL DUCT AIRTIGHT.
3. REMOVE EXISTING RETURN GRILLE AND DUCTWORK BACK TO THE MAIN DUCT. CAP OR PATCH AND SEAL DUCT AIRTIGHT.
4. REMOVE EXISTING EXHAUST GRILLE AND DUCTWORK BACK TO THE MAIN DUCT. CAP OR PATCH AND SEAL DUCT AIRTIGHT.
5. REMOVE EXISTING VAV BOX AND ASSOCIATED SUPPORTS, HANGERS, CONTROL RELAYS, AND CONTROL WIRING BACK TO THE DDC CONTROL PANEL. REFER TO PIPING DEMOLITION PLAN FOR PIPING REMOVAL.
6. OPEN ENDED DUCT TO BE REMOVED BACK TO BELOW FLOOR SLAB. REMOVE DUCT IN ITS ENTIRETY WHERE PRACTICAL.
7. REMOVE PIPING TO BELOW FIRST FLOOR SLAB. REMOVE PIPE IN ITS ENTIRETY WHERE PRACTICAL. IF CIRCUIT IS STILL BEING USED, RECONNECT SUPPLY PIPING TO RETURN PIPING WITH CLOSED BALL VALVES.
8. REMOVE EXISTING VAV BOX, AND ASSOCIATED SUPPORTS, CONTROL WIRING BACK TO THE DDC CONTROL PANEL, AND PIPING ACCESSORIES.
9. REMOVE HWHS & HWHR PIPING BACK TO MAIN. CAP AND SEAL PIPING AT POINT OF DISCONNECTION. REMOVE SUPPORTS NO LONGER SUPPORTING PIPE.
10. REMOVE THERMOSTAT AND ASSOCIATED WIRING BACK TO THE VAV BOX AND ANY DDC CONTROL PANEL.
11. RELOCATE EXISTING THERMOSTAT TO NEW LOCATION. CONTROL WIRING MAY BE REUSED IF IN FUNCTIONAL CONDITION AFTER RELOCATION.
12. TEMPORARILY SUPPORT AND MOVE EXISTING DDC CONTROL PANELS. MOVE TO AVOID NEW WALL CONSTRUCTION. REFER TO "DUCTWORK PLAN" FOR NEW LOCATION.
13. REMOVE DUCTWORK TO BELOW FIRST FLOOR SLAB. PATCH AND REPAIR FLOOR AS NECESSARY.
14. TRAVERSE AND MEASURE AIRFLOW PRIOR TO DEMOLITION. REBALANCE BACK TO RECORDED VALUES AFTER NEW WORK COMPLETION.
15. REMOVE STEAM RADIATORS, COVERS, AND ASSOCIATED PIPING BACK TO THE MAIN.



3 PIPING DEMOLITION PLAN
1/8" = 1'-0"



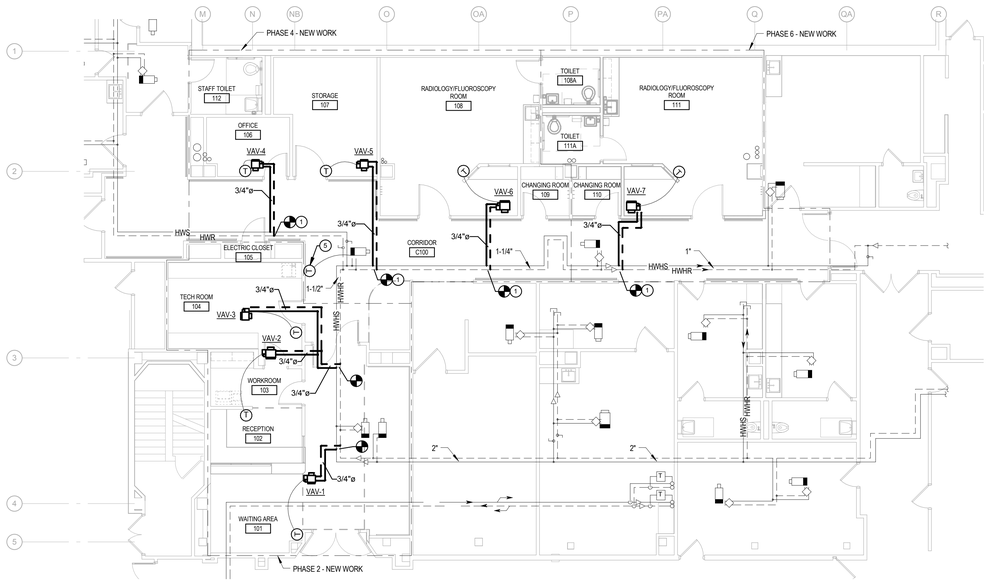
2 DUCTWORK PLAN
1/8" = 1'-0"

NOTES:
1. REFER TO THE ARCHITECTURAL PHASING PLAN ON SHEET AD101. THE INSTALLATION OF THE HVAC SYSTEM SHALL BE PHASED ACCORDING TO THIS PLAN. DUCTWORK THAT CROSSES PHASING LINES SAHLL BE INSTALLED TO THE PHASING LINE AND CAPPED.

2. NEW HVAC CONTROLS CONDUIT TO BE COLOR CODED PURPLE.

HVAC KEYNOTES

1. UTILIZE EXISTING TAPS REMAINING FROM DEMO WORK.
2. 8x8 EXHAUST DUCT UP TO EF-1 ON ROOF. CUT SLAB AND ROOF TO INSTALL NEW ROOF CURB. PATCH AND SEAL ROOF TO MATCH EXISTING CONSTRUCTION. COORDINATE LOCATION OF FAN WITH EXISTING EXHAUST FAN AND AHU. MAINTAIN 25' CLEAR FROM ANY OUTSIDE AIR INTAKE.
3. REBALANCE AND RECALIBRATE VAV BOX TO NEW AIRFLOWS.
4. ROOM TO BE BALANCED TO POSITIVE PRESSURE.
5. NEW LOCATION FOR EXISTING THERMOSTAT THAT HAS BEEN RELOCATED.



4 PIPING PLAN
1/8" = 1'-0"

NORTH

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Dwg. 18 of 29	

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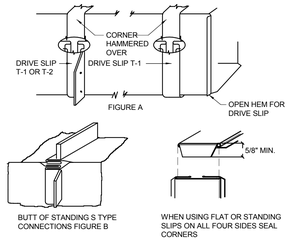
Department of Veterans Affairs

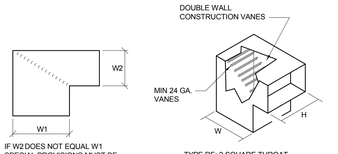
VA FORM 08-6231



NOTE: FLAT DRIVE ONLY ALLOWED FOR 2" PRESSURE CLASS AND ONLY WHEN THERE IS INADEQUATE CLEARANCE FOR FACTORY FABRICATED JOINTS.

1 / H501 CORNER CLOSURES - SLIPS AND DRIVERS

SCALE: NONE



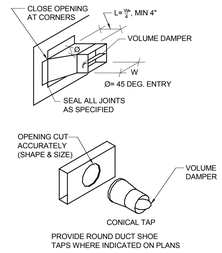
IF W2 DOES NOT EQUAL W1 SPECIAL PROVISIONS MUST BE MADE IN VANE SHAPE OR ANGLE OF ENTRY AND EXIT. APPLIES TO ALL TYPES OF VANES. CONSTRUCT VANE EDGES TO PROJECT TANGENTS PARALLEL TO DUCT SIDES.

TYPE RE: 2 SQUARE THROAT ELBOW WITH VANES.

MAXIMUM UNSUPPORTED VANE LENGTH:
SMALL DOUBLE VANE = 60"
LARGE DOUBLE VANE = 72"

2 / H501 RECTANGULAR ELBOWS

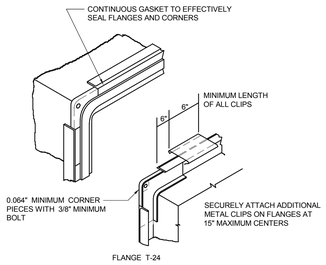
SCALE: NONE



NOTE: ALL ROUND BRANCH CONNECTIONS UPSTREAM OF VAV BOXES ARE TO BE BELLMOUTH FITTINGS. IF DUCT DIMENSIONS DO NOT ALLOW FOR BELMOUTH, USE PROPERLY SIZED BOOT FITTING.

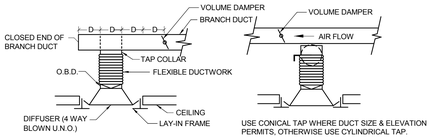
3 / H501 BRANCH CONNECTIONS

SCALE: NONE



4 / H501 CORNER CLOSURES - FLANGES

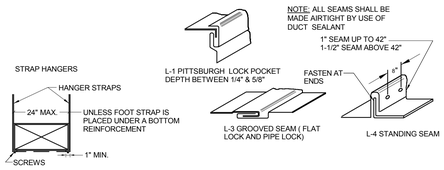
SCALE: NONE



NOTES:
1. ALL FLEXIBLE DUCTWORK SHALL BE UL-181 CLASS 1 RATED.
2. SPIN-IN OR DOVETAIL COLLARS ARE NOT PERMITTED.
3. DAMPER MUST NOT PROTRUDE INTO AIRSTREAM OF TAPPED DUCT.

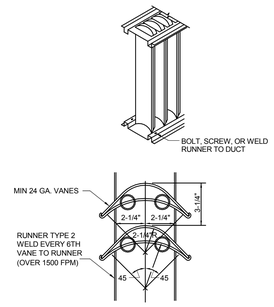
5 / H501 LAY-IN CEILING DIFFUSER INSTALLATION

SCALE: NONE



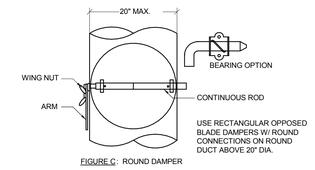
6 / H501 LONGITUDINAL SEAMS - RECT. DUCT

SCALE: NONE



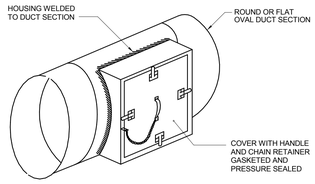
7 / H501 VANES & VANE RUNNERS

SCALE: NONE



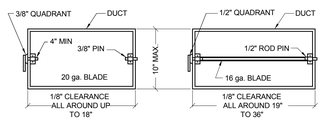
8 / H501 LOWER HANGER ATTACHMENTS

SCALE: NONE



10 / H501 ACCESS SECTION FOR ROUND/OVAL DUCT

SCALE: NONE

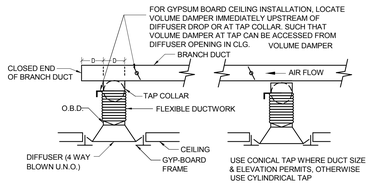


11 / H501 VOLUME DAMPERS - SINGLE BLADE TYPE

SCALE: NONE

GENERAL FLEXIBLE DUCTWORK NOTES:

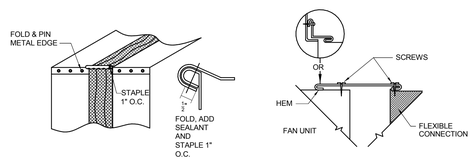
1. USE OF FLEXIBLE DUCTWORK SHALL BE RESTRICTED TO CONNECTIONS BETWEEN THE VAV/CV AIR TERMINAL UNITS AND THE MEDIUM OR HI PRESSURE SUPPLY DUCT AND CONNECTIONS BETWEEN SUPPLY DIFFUSERS AND THE LOW PRESSURE SUPPLY AIR DUCTWORK.
2. USE OF FLEXIBLE DUCTWORK IN EXPOSED AREAS IS PROHIBITED.
3. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL BE 5'-0".
4. DO NOT PENETRATE FIREWALLS AND INTERSTITIAL DECKS WITH FLEX. DUCTS.



NOTES:
1. ALL FLEXIBLE DUCTWORK SHALL BE UL-181 CLASS 1 RATED.
2. SPIN-IN OR DOVETAIL COLLARS ARE NOT PERMITTED.
3. DAMPER MUST NOT PROTRUDE INTO AIRSTREAM OF TAPPED DUCT.

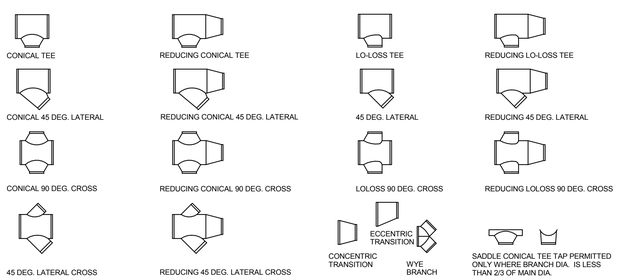
9 / H501 GYP BOARD CEILING DIFFUSER INSTALLATION

SCALE: NONE



12 / H501 FLEXIBLE CONNECTIONS

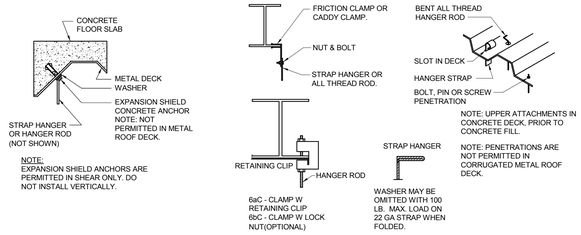
SCALE: NONE



NOTE: OPPOSITE BRANCH TEES ARE NOT ALLOWED FOR NEGATIVE PRESSURE SYSTEMS

13 / H501 PERMISSIBLE ROUND / SPIRAL FITTINGS

SCALE: NONE



14 / H501 UPPER ATTACHMENT DEVICES - TYPICAL

SCALE: NONE

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
SCOTT P. LIZOTTE
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PE041443

ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title
HVAC DETAILS

Approved: Project Director

Project Title:
RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | **Checked:** CJC | **Drawn:** SPL

Project Number 562-13-103

Building Number

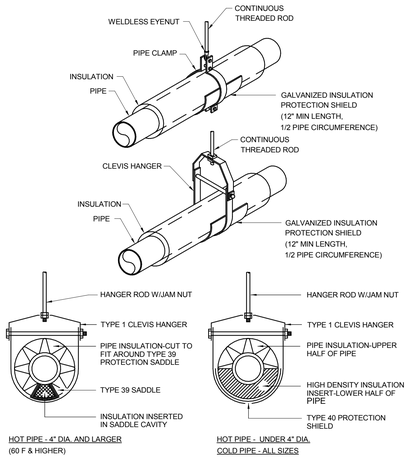
Drawing Number H501

Dwg. 19 **of** 29

Office of Construction and Facilities Management

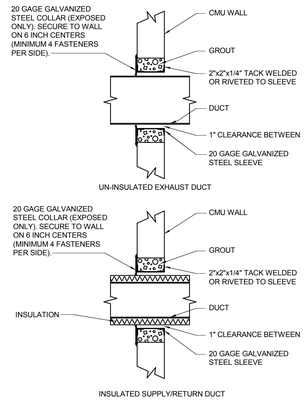
Department of Veterans Affairs

VA FORM 08-6231



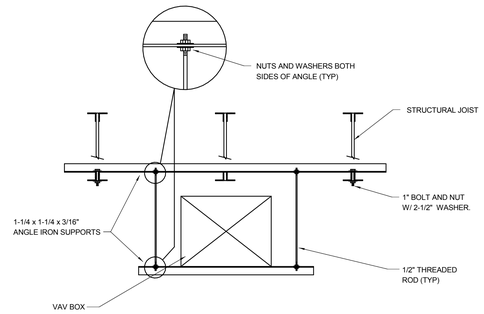
1 H502 CLEVIS HANGER DETAIL

SCALE: NONE



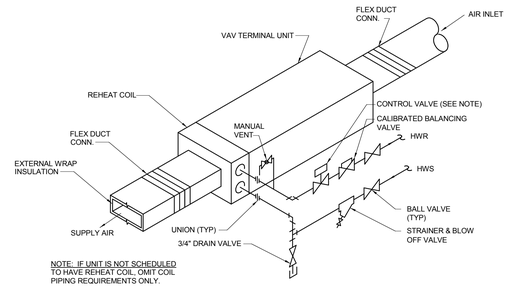
2 H502 DUCT PENETRATION DETAIL

SCALE: NONE



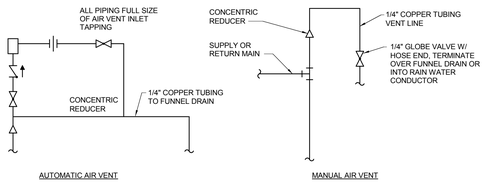
3 H502 VAV TERMINAL SUPPORT DETAIL

SCALE: NONE



4 H502 TYPICAL VAV TERMINAL W/ REHEAT COIL DETAIL

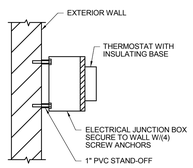
SCALE: NONE



NOTE: PIPING TO BE FULL SIZE OF MAIN, UP TO 2".
2" LINE FOR 2 1/2" TO 6" MAIN,
6" LINE FOR 8" MAIN AND UP

5 H502 PIPING SYSTEM AIR VENT DETAIL

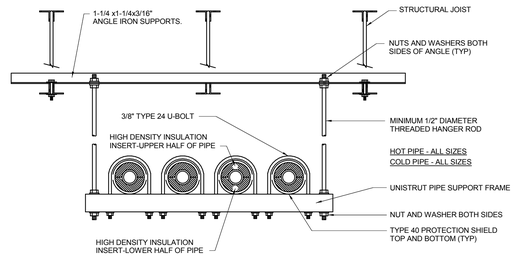
SCALE: NONE



NOTE:
ALL THERMOSTATS WILL BE HARD WIRED TYPE AND SHALL TIE INTO DDC BUILDING MANAGEMENT SYSTEM

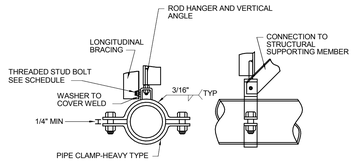
6 H502 WALL MOUNTED THERMOSTAT DETAIL

SCALE: NONE



7 H502 HORIZONTAL PIPE SUPPORT DETAIL

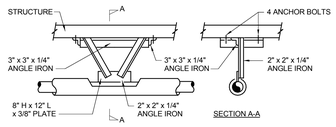
SCALE: NONE



NOTE: 1. IF PIPE REQUIRES INSULATION, THEN PROVIDE INSULATION AROUND ANCHOR ALSO.
2. WELD OR BOLT SUPPORTS TO OVERHEAD BEAMS USING 1/2" BOLTS AND/OR 3/16" WELDS.
3. ALL BOLTS 1/2"

8 H502 PIPE ANCHORING

SCALE: NONE



9 H502 PIPE ANCHOR DETAIL

SCALE: NONE

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER SCOTT P. LIZOTTE PE061443

ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title
HVAC DETAILS

Approved: Project Director

Project Title:
RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | **Checked:** CJC | **Drawn:** SPL

Project Number 562-13-103

Building Number

Drawing Number H502

Dwg. 20 **of** 29

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

VAV BOX SCHEDULE (WITH HOT WATER REHEAT)

TAG	COOLING CFM		INLET	INLET	MAX NC	EAT	LAT	HOT WATER REHEAT COIL					BASIS OF DESIGN
	MAX	MIN	DIA (IN.)	SP (IN)	LEVEL (2)	(F)	(F)	MBH	GPM	EWT (F)	LWT (F)	PD	
VAV-1	200	60	8	0.5	25	55	85	1.4	0.2	180	160	0.5	TITUS DESV
VAV-2	610	185	8	0.5	25	55	80	4.4	0.5	180	160	0.5	TITUS DESV
VAV-3	360	105	8	0.5	25	55	80	2.5	0.3	180	160	0.5	TITUS DESV
VAV-4	100	100	8	0.5	25	55	85	2.4	0.3	180	160	0.5	TITUS DESV
VAV-5	100	80	8	0.5	25	55	90	2.7	0.3	180	160	0.5	TITUS DESV
VAV-6	730	225	8	0.5	25	55	90	19.4	2.0	180	160	0.5	TITUS DESV
VAV-7	730	220	8	0.5	25	55	85	18.5	1.9	180	160	0.5	TITUS DESV

NOTES:
1. PROVIDE ALL NECESSARY DUCTWORK TRANSITIONS FROM VAV BOXES.
2. MAXIMUM NOISE CRITERIA (NC) LEVELS FOR DISCHARGE AND RADIATED SOUND SHALL NOT BE EXCEEDED AT AN INLET PRESSURE OF 1.5" SP.
3. PROVIDE A MINIMUM OF 3 DUCT DIAMETERS OR 2 FEET (WHICHEVER IS GREATER) OF STRAIGHT DUCT AT VAV BOX INLET.
4. MINIMUM COOLING AIRFLOW IS ALSO HEATING AIRFLOW
5. VAV-6 AND VAV-7 ARE TO REMAIN AT FULL AIRFLOW DURING OCCUPIED TIMES.
6. NEW HVAC CONTROLS CONDUIT TO BE COLOR CODED PURPLE.

FAN SCHEDULE

MARK	TYPE/SERVICE	CFM	ESP	HP	BHP	ELECTRICAL		RPM	dBA	DRIVE	BASIS OF DESIGN	
						VOLTAGE	PHASE				MANUF.	MODEL
EF-1	TOILET EXHAUST	160	0.75	1/4	0.1	120	1	1479	54	BELT	GREEHHECK	GB-071-4

NOTES:
1. ALL WIRING REQUIRED FOR EXHAUST FANS INCLUDING MANUAL MOTOR STARTERS SHALL BE BY DIVISION 26.
2. UNIT MOUNTED DISCONNECT BY UNIT MANUFACTURER.

DIFFUSER, REGISTER, AND GRILLE SCHEDULE

TAG	SERVICE	TYPE	AIRFLOW RANGE	NECK SIZE (IN)	INTERNAL DAMPER	MATERIAL	BASIS OF DESIGN
SD-1	SUPPLY	24x24 LAY-IN	0-120	6"Ø	YES	STEEL	TITUS OMNI
			120-210	8"Ø	YES	STEEL	TITUS OMNI
			210-350	10"Ø	YES	STEEL	TITUS OMNI
			350-600	12"Ø	YES	STEEL	TITUS OMNI
SD-2	SUPPLY	12x12 LAY-IN	0-120	6"Ø	YES	STEEL	TITUS OMNI
RG-1	RETURN	24x24 LAY-IN	0-1400	12x12	NO	ALUMINUM	TITUS 50F
RG-2	RETURN	8x8 LAY-IN	0-500	6x6	NO	ALUMINUM	TITUS 50F
EG-1	EXHAUST	8x8 SURFACE MTD.	0-300	8x8	YES	ALUMINUM	TITUS 50F

NOTES:
1. VERIFY LOCATION WITH LIGHTS, SPRINKLER HEADS, CURTAIN TRACKS, ETC. ON REFLECTED CEILING PLAN BY MC.

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions: | Date

CONSULTANTS:

SEAL

COMMONWEALTH OF PENNSYLVANIA
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SCOTT P. LIZOTTE
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AE Works Project Number: 13019

Drawing Title: HVAC EQUIPMENT SCHEDULES

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: CJC | Drawn: SPL

Project Number: 562-13-103

Building Number

Drawing Number: H701

Dwg. 21 of 29

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

ELECTRICAL SYMBOLS LEGEND

FX	FLUORESCENT STRIP FIXTURE. LENGTHS AS SHOWN ON DRAWINGS (2',3'4'8'), LAMPS AND ACCESSORIES PER FIXTURE SCHEDULE.
FX	FLUORESCENT SURFACE MOUNTED FIXTURE. LENGTHS AS SHOWN ON DRAWINGS (2',3'4'8'), LAMPS AND ACCESSORIES PER FIXTURE SCHEDULE.
FX	FLUORESCENT INDUSTRIAL FIXTURES WITH WIRE GUARD, LENGTHS AS SHOWN ON DRAWINGS (4',8') AND ACCESSORIES PER FIXTURE SCHEDULE.
FX-Y	FLUORESCENT PENDANT FIXTURE, LENGTHS AS SHOWN ON DRAWINGS (4',8',12') AND ACCESSORIES PER FIXTURE SCHEDULE. (Y=4',8',12')
FX	FLUORESCENT WALL MOUNTED FIXTURE. LENGTHS AS SHOWN ON DRAWINGS (2',4',8') AND ACCESSORIES PER FIXTURE SCHEDULE.
FX a	FLUORESCENT RECESSED MOUNTED TROFFER, (1X4, 2X2, 2X4) AND ACCESSORIES PER FIXTURE SCHEDULE. a = SWITCH DESIGNATION
FX	FLUORESCENT SURFACE MOUNTED TROFFER, (1X4, 2X2, 2X4) AND ACCESSORIES PER FIXTURE SCHEDULE.
a FX	RECESSED DOWNLIGHT, ACCESSORIES PER FIXTURE SCHEDULE. a = SWITCH DESIGNATION
FX	SURFACE MOUNTED, DRUM, DOWNLIGHT OR DECORATIVE FIXTURE, ACCESSORIES PER FIXTURE SCHEDULE.
FX	TRACK LIGHTING WITH TRACK HEADS AS SHOWN, PROVIDE LENGTH AS SHOWN ON DRAWINGS, ACCESSORIES PER FIXTURE SCHEDULE.
FX	RECESSED WALL WASH FIXTURE, AS SHOWN ON DRAWINGS, ACCESSORIES PER FIXTURE SCHEDULE.
FX	PENDANT MOUNTED DECORATIVE FIXTURE, ACCESSORIES PER THE FIXTURE SCHEDULE.
FX	WALL SCONCE, OR WALL MOUNTED FIXTURE. ACCESSORIES PER THE FIXTURE SCHEDULE.
EX	LED EXIT SIGN, WITH OR WITHOUT EMERGENCY HEADS, AND BATTERY BACKUP. ACCESSORIES PER THE FIXTURE SCHEDULE.
	BATTERY PACK EMERGENCY LIGHT. ACCESSORIES PER THE FIXTURE SCHEDULE.
OSH a X	CEILING MOUNTED OR WALL MOUNTED OCCUPANCY SENSOR, X INDICATES: D=DUAL TECHNOLOGY, P=PASSIVE INFRARED, U=ULTRA SONIC a = SWITCH DESIGNATION
$X	WALL SWITCH, CONTROL: X= 3: 3 WAY, 4: 4 WAY, LV: LOW VOLTAGE, P: PILOT LIGHT, M: MOTOR SWITCH, T: TIMER, ED: 0-10v ELECTRONIC DIMMER
$X	WALL BOX SWITCH OCCUPANCY SENSOR, X= D=DUAL TECHNOLOGY, P=PASSIVE INFRARED, U=ULTRA SONIC, V=VACANCY, 2P=2 POLE
	EQUIPMENT PULLBOX
XX	DUPLEX RECEPTACLE IN A 4" SQUARE BOX WITH PLASTER RING (IN DRYWALL) SINGLE GANG. BOX IN MASONRY. WP=WEATHERPROOF, SS=SURGE SUPPRESSOR, GFI= GROUND FAULT INTERRUPTER), TR=TAMPER RESISTANT
XX	DOUBLE DUPLEX RECEPTACLE IN A 4" SQUARE BOX.WP=WEATHERPROOF, SS=SURGE SUPPRESSOR, GFI= GROUND FAULT INTERRUPTER), TR=TAMPER RESISTANT
	SINGLE RECEPTACLE IN A 4" SQUARE BOX WITH PLASTER RING (IN DRYWALL) SINGLE GANG. BOX IN MASONRY.
50A	SPECIAL RECEPTACLE IN A 4" SQUARE BOX WITH NEMA CONFIGURATION INDICATED.
FF	FLUSH FLOOR MOUNT RECEPTACLE IN A FLOOR BOX OR COMBINATION POKE THRU DEVICE.
	RECEPTACLE MOUNTED IN MULTI-SERVICE FLOOR BOX
	RECEPTACLE CONNECTED TO EMERGENCY POWER (SHALL BE RED IN COLOR)
XX	NON FUSED DISCONNECT SWITCH XX=AMPACITY, YY=NEMA RATING
XX	FUSED DISCONNECT SWITCH XX=AMPACITY, YY=NEMA RATING
XX	CIRCUIT BREAKER DISCONNECT SWITCH XX=AMPACITY, YY=NEMA RATING
VFD	VARIABLE FREQUENCY DRIVE
M XX / M XX	MOTOR CONNECTION XX=HORSE POWER
MD	MOTORIZED DAMPER
PP	OCCUPANCY SENSOR POWER PACK, INSTALL IN A JUNCTION BOX ABOVE WALL SWITCH.
PP	AUTOMATIC DOOR PUSHPLATE OPENER
DS	DAYLIGHT SENSOR OR ON/OFF PHOTOCELL
EXIST / NEW	PANEL BOARD - SURFACE MOUNTED
EXIST / NEW	PANEL BOARD - FLUSH MOUNTED
MGA	MEDICAL GAS ALARM PANEL

NOTES:
1. LIGHT FIXTURES SHOWN HALF-SHADED SHALL BE CONNECTED TO THE NORMAL/EMERGENCY CIRCUIT OR PROVIDED WITH AN EMERGENCY BATTERY BALLAST. REFER TO LIGHTING FIXTURE SCHEDULE FOR SPECIFICS ON THE BATTERY BALLAST.
2. THIS IS A STANDARD SYMBOL LIST. ALL SYMBOLS MAY NOT APPEAR ON THIS PROJECT.

GENERAL SYMBOLS LEGEND

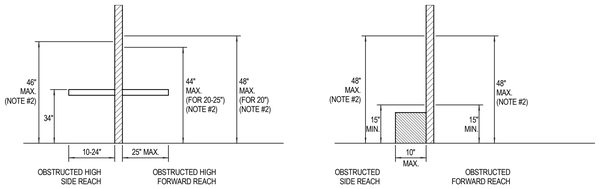
2	NUMBERED NOTE
2	EQUIPMENT TAG
2	REVISION TRIANGLE WITH REVISION CLOUD
	GROUND PER NATIONAL ELECTRIC CODE
	BOND OR TAP PER THE NATIONAL ELECTRIC CODE
	ABOVE GRADE/SLAB HOMERUN
2H 2	JUNCTION BOX, RECESSED OR SURFACE MOUNTED, CONNECTION TO EQUIPMENT
+	INDICATED MOUNTED ABOVE COUNTERTOP (REFER TO STANDARD MOUNTING HEIGHTS DETAIL ON THIS SHEET)
	EXISTING TO REMAIN NEW WORK DEMOLITION
F X-Y	LIGHTING TAG F=FIXTURE DESIGNATION, X=PANEL, Y=CIRCUIT
	BELOW GRADE/SLAB ENCLOSED IN CONDUIT

NOTE:
THIS IS A STANDARD SYMBOL LIST. ALL SYMBOLS MAY NOT APPEAR ON THIS PROJECT.

STANDARD MOUNTING HEIGHTS

CEILING	RECESSED LIGHTING FIXTURES, CEILING MOUNTED RECEPTACLES, INDICATING LIGHTS, ETC.
7'-0" A.F.F.	WALL MOUNTED LIGHTS IN STAIRS, MECH ROOMS, ETC.
6'-6" A.F.F.	TOP MOST PORTION OF OPERATING HANDLE OF DISCONNECT SWITCHES / CIRCUIT BREAKERS
6'-0" A.F.F.	TOP OF PANELBOARDS (<6'-0" TALL)
4'-0" A.F.F.	WALL SWITCHES, THERMOSTATS, CONTROL DEVICES, TO CENTER OF BOX
3'-6" A.F.F.	ABOVE COUNTER DEVICES, GFI RECEPTACLES IN RESTROOMS.
1'-5" A.F.F.	RECEPTACLES, FURNITURE FEEDS
0'-0"	IN FLOOR JUNCTION BOXES FLUSH TO FINISHED FLOOR (FF)

1. IN MASONRY CONSTRUCTION THE MOUNTING HEIGHTS SHALL BE USED FOR REFERENCE TO THE NEAREST BLOCK OR BRICK COURSING.
2. THE ABOVE MOUNTING ELEVATIONS ARE TO CENTER OF DEVICE AND SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWINGS AND/OR SPECIFICATIONS.
3. COORDINATE THE INSTALLATION AND MOUNTING ELEVATIONS OF ALL EQUIPMENT, DEVICES, CONTROLS AND APPURTENANCES WITH ARCHITECT AND ALL AFFECTED TRADES PRIOR TO INSTALLATION. DOCUMENT ALL MOUNTING ELEVATIONS FOR ALL EQUIPMENT, DEVICES, CONTROLS AND APPURTENANCES AT THE TIME OF SHOP DRAWING SUBMITTAL.



NOTES:
1. THESE GUIDLINES SHALL BE USED FOR THE INSTALLATION OF THE FOLLOWING DEVICES:
   - WALL SWITCHES
   - CONTROL SWITCHES
   -RECEPTACLES
   - VISUAL DISPLAY TOUCH PANELS
2. NOTE THAT THIS HEIGHT IS TO THE TOP-MOST PART OF THE DEVICE THAT AN OCCUPANT REQUIRES ACCESS TO.

2 ADA INSTALLATION GUIDLINES

SCALE = NOT TO SCALE

ABBREVIATIONS

above finished floor	AFF
above finished grade	AFG
accent	ACC
adjustable	ADJ
alternating current	AC
aluminum	AL
American wire gauge	AWG
ammeter	AM
ampere	A/AMP
approximately(y)	APPROX
asymmetric	ASY
attenuation/crosstalk ratio	ACR
automatic transfer switch	ATS
battery	BATT
below finished ceiling	BFC
black	BLK
bracket	BRKT
breaker	BKR
cabinet	CAB
cable television	CATV
ceiling	CLG
circuit	CIR/CKT
circuit breaker	CB
clear	CLR
closed circuit television	CCTV
column	COL
communication	COMM
conduit	C
cool white	CW
copper	CU
current limiting fuse	CLF
current transformer	CT
decibel	DB
dedicated	DED
diameter	DIA
direct current	DC
disconnect	DISC
distribution panel	DP
double pole double-throw	DPDT
downlight	DNLT
drawing	DWG
dual element	DE
each	EA
electric water cooler	EWC
electrical	ELEC
electrical contractor	EC
electrically operated	EO
elevator	ELEV
emergency	E
	EMERG
energy saving ballast	ESB
equipment	EQIP
exhaust fan	EF
explosion proof	XP
Electronics Industry Association	EIA
far end crosstalk	FEXT
fire alarm	FA
fire alarm annunciator panel	FAAP
fire alarm control panel	FACP
fire alarm graphic annunciator panel	FAGP
fixture	FIXT
floor	FL
fluorescent	FLOUR
footcandles	FT
full load amperes	FLA
full voltage non-reversing	FVNR
general contractor	GC
generator	GEN
ground	GND/G
ground fault interrupter	GFI
hand hole	HH
heating ventilating air conditioning	HVAC
hertz	HZ
high intensity discharge	HID
high power factor	HPF
high voltage	HV
horsepower	HP
incandescent	INCAN
isolated ground	IG
junction box	JB
kilovar (reactance)	KVAR
kilovolt ampere	KVA
kilowatt	KW
kilowatt hour meter	KWH
inverter power supply	IPS
light	LT
lighting	LTG
lightning arrester	LA
low voltage	LV
light emitting diode	LED
main circuit breaker	MCB
main distribution panel	MDP
main lugs only	MLO
manhole	MH
manual transfer switch	MTS
manufacturer	MFR
master antenna television	MATV
mechanical contractor	MC
medium voltage	MV
metal halide	MH
metal-clad cable	MCC
miscellaneous	MISC
motor circuit protector	MCP
motor control center	MCC
motor operated damper	MOD
mounted	MTD
mounting height	MTG HT
millimeter	MM
millivolt	MV
National Electric Manufacturer Association	NEMA
National Electric Code	NEC
Near End Crosstalk	NEXT
night light	NL
normally opened	NO
Not Available/Not Applicable	N/A
not in contract	NIC
not to scale	NTS
on center	OC
overhead	OH
overload heater element	OL
panel	PNL
pewter	PEW
plywood	PLY
pole	P
polyvinyl chloride	PVC
potential transformer	PT
power panel	PP
pull box	PB
rapid start	RS
receptacle	REC/RECPT
reflector	REFL
required	REQ'D
rigid galvanized steel conduit	RGS
room	RM
rough in only	RIO
schedule	SCHED/SCH
single pole double throw	SPST
single pole single throw	SPDT
solid state ballast	SSB
switch	SW
switchboard	SWBD
switchgear	SWGR
telephone	TELE
transformer	XFMR
twin tube	TT
typical	TYP
Telecommunications Industry Association Technical Service Bulletin	TIA
	TSB
twisted shielded pair	TSP
unshielded twisted pair	UTP
Underwriter's Laboratories	UL
uninterruptible power supply	UPS
unless otherwise noted	UON
vapor proof	VP
volt	V
voltmeter	VM
warm white	WW
watt	W
weatherproof	WP
with	W/
within	W/I
without	W/O

ELECTRICAL DEMOLITION ABBREVIATIONS

existing to remain	ETR
remove and replace with new	RN
remove and relocate	RR
remove completely	RC

GENERAL ELECTRICAL INSTALLATION NOTES:

1. THE FOLLOWING GENERAL NOTES AS LISTED BELOW SHALL APPLY TO ALL ELECTRICAL REQUIREMENTS AS INDICATED ON ALL E SERIES CONTRACT DRAWINGS.
2. DRAWINGS FOR THIS WORK ARE DIAGRAMMATIC AND INTENDED TO CONVEY THE EXTENT, GENERAL ARRANGEMENT AND LOCATIONS OF THE WORK. BECAUSE OF THE SCALE OF THE DRAWINGS, CERTAIN BASIC ITEMS SUCH AS ACCESS PANELS, CONDUITS, CABINET SIZES, PENETRATION SLEEVES, PULL BOXES, BACKBOXES AND JUNCTION BOXES MAY NOT BE SHOWN. INCLUDE ALL ITEMS WHERE REQUIRED BY CODE, MANUFACTURER AND RELATED SPECIFICATION SECTIONS FOR THE PROPER INSTALLATION OF ALL WORK.
3. DUE TO SCALE OF THE DRAWINGS, ALL ELECTRICAL DEVICE SYMBOLS ARE SHOWN ON DRAWINGS AS CLOSE AS POSSIBLE TO THEIR INTENDED LOCATION. CONTRACTOR SHALL COORDINATE IN THE FIELD THE PROPER INSTALLATION OF ALL EQUIPMENT, DEVICES, CONTROLS AND CONDUITS. REFER TO RELATED SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.
4. COORDINATE WITH ALL TRADES AND SYSTEM INTEGRATORS ANY CONDITIONS RELATED TO THE INSTALLATION OF ALL SYSTEMS. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE TRADE ALL INSTALLATION REQUIREMENTS IMPACTING THE PLACEMENT OF ALL SYSTEM COMPONENTS TO THE SATISFACTION OF ALL CONCERNED TRADES.
5. COORDINATE EXACT LOCATION OF ALL DESK OR COUNTER MOUNTED EQUIPMENT WITH OWNER AND ARCHITECT AND ALL AFFECTED TRADES PRIOR TO THE INSTALLATION OF ANY EQUIPMENT AND/OR BOXES.
6. COORDINATE EXACT LOCATION(S) OF ALL DATA AND TELEPHONE OUTLETS, ELECTRICAL RECEPTACLES WITH THE ARCHITECTURAL PLANS, FURNITURE PLANS AND ALL AFFECTED TRADES PRIOR TO INSTALLATION.
7. ALL CONDUITS SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH NFPA 70 AND PROJECT SPECIFICATIONS. ALL CONDUITS SHALL BE A MINIMUM OF 3/4" UNLESS OTHERWISE NOTED.
8. PROVIDE ALL EQUIPMENT CLEARANCES IN ACCORDANCE WITH NEC REQUIREMENTS. ARRANGE EQUIPMENT TO FACILITATE UNRESTRICTED ACCESS FOR MAINTENANCE AND SERVICE AROUND ALL EQUIPMENT, COMPONENTS AND/OR CABLE TERMINATIONS.
9. WHERE EQUIPMENT AND/OR JUNCTION BOXES ARE INSTALLED ABOVE FINISHED CEILINGS, THE CONTRACTOR SHALL PROVIDE ACCESS HATCHES LISTED FOR THE INTENDED APPLICATION. ACCESS HATCHES SHALL BE LOCATED SO THAT SERVICE ACCESS TO THE EQUIPMENT AND/OR JUNCTION BOXES IS UNIMPEDED.
10. ALL PENETRATIONS OF WALLS AND/OR FLOORS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE ASTM AND NFPA REQUIREMENTS. REFER TO RELATED SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION. INSTALLATION OF FIRE-STOPS SHALL BE PERFORMED BY AN APPLICATOR/INSTALLER QUALIFIED AND TRAINED BY THE MANUFACTURER. INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH MANUFACTURER'S DETAILED INSTALLATION PROCEDURES.
11. ALL EQUIPMENT ENCLOSURES LOCATED OUTSIDE OR IN ALL AREAS WITH HIGH MOISTURE OR A RELATIVE HUMIDITY OF 75% OR GREATER SHALL BE NEMA 4X STAINLESS STEEL AND RATED FOR THAT APPLICATION.
12. ALL DEVICES, COMPONENTS OR EQUIPMENT INSTALLED ON THE EXTERIOR OF THE FACILITY SHALL BE PROVIDED IN ACCORDANCE WITH ALL MANUFACTURERS' REQUIREMENTS TO ENSURE THE PROPER OPERATION WHEN EXPOSED TO THE ENVIRONMENTAL CONDITIONS AND/OR AVERAGE ANNUAL LOWEST TEMPERATURE THAT CAN BE ANTICIPATED FOR THE GEOGRAPHIC REGION OF THE FACILITY.
13. ALL INTERIOR AND/OR EXTERIOR COMPONENTS, DEVICES OR SYSTEMS EQUIPMENT EXPOSED TO THE GENERAL POPULATION SHALL BE INSTALLED IN SECURED EQUIPMENT ENCLOSURES WITH TAMPER SWITCHES AND INSTALLED IN SUCH A MANNER THAT RESISTS TAMPERING AND/OR REMOVAL WITHOUT THE USE OF SPECIALIZED TOOLS.
14. FOR EQUIPMENT INSTALLATIONS REQUIRING COORDINATION WITH OTHER TRADES THE CONTRACTOR SHALL PROVIDE ALL TEMPLATES, BACKBOXES AND EQUIPMENT ANCHOR BOLTS FOR MOUNTING OR FLUSH MOUNTING PREPARATION, (E.G. PEDESTALS OR OTHER DEVICES REQUIRING MOUNTING ON WALLS, CONCRETE PADS OR OTHER MATERIALS). COORDINATE DELIVERY OF TEMPLATES AND EQUIPMENT WITH ALL AFFECTED CONTRACTORS.
15. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE ENTIRE DOCUMENT SET, I.E. IF WORK IS SHOWN ON OTHER TRADE DRAWINGS AS "BY ELECTRICAL CONTRACTOR", THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THAT WORK.
16. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (LATEST VERSION BEING ENFORCED), AND ALL OTHER APPLICABLE CODES AND STANDARDS BEING ENFORCED BY THE AUTHORITY HAVING JURISDICTION.
17. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS OR INSTRUCTIONS FOR CONSTRUCTION SAFETY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ANY WORKMAN'S OR TRANSIENT'S SAFETY, OR FOR THE ADEQUACY OF EQUIPMENT, BUILDING COMPONENTS, WORK AIDS, OR ANY NECESSITY TO WORK ON ENERGIZED ELECTRICAL COMPONENTS. FURTHER, NO SUPERINTENDENCE IS INCLUDED OR IMPLIED.
18. ALL SYSTEMS AND EQUIPMENT SHALL BE INSTALLED AND WIRED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
19. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE TESTED AND LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.
20. THE VERBIAGE ON THE DRAWINGS INDICATING TYPES OF MATERIALS TO BE ENCOUNTERED IS INTENDED TO AID THE ELECTRICAL CONTRACTOR IN UNDERSTANDING THE VARIOUS CONDITIONS LIKELY TO BE ENCOUNTERED. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES OF MATERIALS REQUIRED TO COMPLETE THE PROJECT.
21. THE LOCATIONS OF EXISTING UTILITIES, STRUCTURE AND OTHER CONDITIONS SHOWN ON THE PLANS ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO VERIFY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO BEGINNING ANY WORK.
23. THE ELECTRICAL CONTRACTOR SHALL COORDINATE CONDUIT ROUTING (PLAN AND ELEVATION) WITH THE LIGHTING (NEW AND EXISTING), CEILING ELEVATION, STRUCTURE, DUCTWORK, PIPING, ETC. REQUIRED FOR THE COMPLETION OF THE PROJECT, PRIOR TO INSTALLATION.
23. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NEW OPENINGS IN EXISTING PARTITIONS, EXTERIOR WALLS, FLOORS, AND ROOFS FOR THE INSTALLATION OF ANY NEW ELECTRICAL WORK. FURNISH AND INSTALL ALL REQUIRED LINTELS AND SLEEVES FOR THIS NEW WORK. ALL CONDUITS SHALL HAVE SLEEVES INSTALLED. ALL SLEEVES INSTALLED THROUGH EXTERIOR WALLS SHALL HAVE LINK SEALS INSTALLED.
24. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL EXISTING MATERIALS THAT ARE TO REMAIN IN PLACE FROM DAMAGE. ANY DAMAGE TO EXISTING FINISHES, MATERIALS, ETC., SHALL BE REPLACED BY THE ELECTRICAL CONTRACTOR TO MATCH THE ADJACENT FINISH.
25. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN THE BUILDING IN WEATHERTIGHT AND WATERPROOF CONDITION THROUGHOUT THE DURATION OF THEIR WORK. DO NOT LEAVE HOLES THROUGH WALLS AND/OR ROOFS OPEN TO THE ELEMENTS WHEN NO WORK IS OCCURRING IN THOSE AREAS.
26. THE ELECTRICAL CONTRACTOR SHALL SECURE AND PROTECT THE BUILDING AND/OR WORK AREA WITH FIRE RETARDANT TEMPORARY PLYWOOD PARTITIONS (WITH LOCKING DOORS), ETC. CLOSE ALL EXISTING OPENINGS AS REQUIRED. COORDINATE THIS WORK WITH THE OWNERS REPRESENTATIVE PRIOR TO STARTING. IF TEMPORARY PARTITIONS IMPEDE THE FLOW OF EGRESS TO REQUIRED EGRESS DOORS AND STAIRS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE EXIT SIGNS, AND SIGNAGE INDICATING SUCH.
27. THE ELECTRICAL CONTRACTOR SHALL CAULK ALL JOINTS BETWEEN METAL FRAMES AND EXISTING CONDITIONS. THIS APPLIES TO BOTH INTERIOR AND EXTERIOR INSTALLATIONS.
28. THE DIMENSIONS SHOWN ON THE DRAWINGS ARE FOR THE CONVENIENCE OF THE ELECTRICAL CONTRACTOR ONLY. VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO PERFORMING ANY WORK.
29. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONDUITS CONCEALED UNLESS NOTED OTHERWISE. EXPOSED CONDUIT SHALL ONLY BE INSTALLED IN CHASES, EXPOSED CEILING AREAS, JANITOR CLOSETS, AND MECHANCIAL/ELECTRICAL ROOMS.
30. ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED AND/OR BONDED PER THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE. PROVIDE ALL GROUNDING AND/OR BONDING COMPONENTS NOT EXPLICITLY SHOWN ON THE DOCUMENTS.
31. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES, INDICATING THE LOADS SERVED BY THE RESPECTIVE PANELS. AMEND AS REQUIRED FOR AS-BUILT CONDITIONS. PROVIDE ELECTRONIC VERSIONS OF THE PANELBOARD SCHEDULES FOR FUTURE USE BY THE OWNER.
32. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER PRIOR TO STARTING ALL PHASES OF THE PROJECT. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER WHAT WORK, IF ANY, HAS TO BE COMPLETED DURING SECOND OR THIRD SHIFT.
33. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TEMPORARY POWER CONNECTIONS TO KEEP AREAS UP AND OPERATIONAL DURING THE CONSTRUCTION. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THESE REQUIREMENTS WITH THE OWNER.

ALL NEW CONDUIT AND JUNCTION BOXES SHALL BE PRE-PAINTED TO CONFORM TO THE FOLLOWING VA STANDARD:
- FIRE ALARM - RED
- SECURITY - BLUE
- COMMUNICATIONS - GREEN
- NURSE CALL - YELLOW
- HVAC CONTROLS - PURPLE

REFER TO PHASING PLAN ON DRAWING AD101

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

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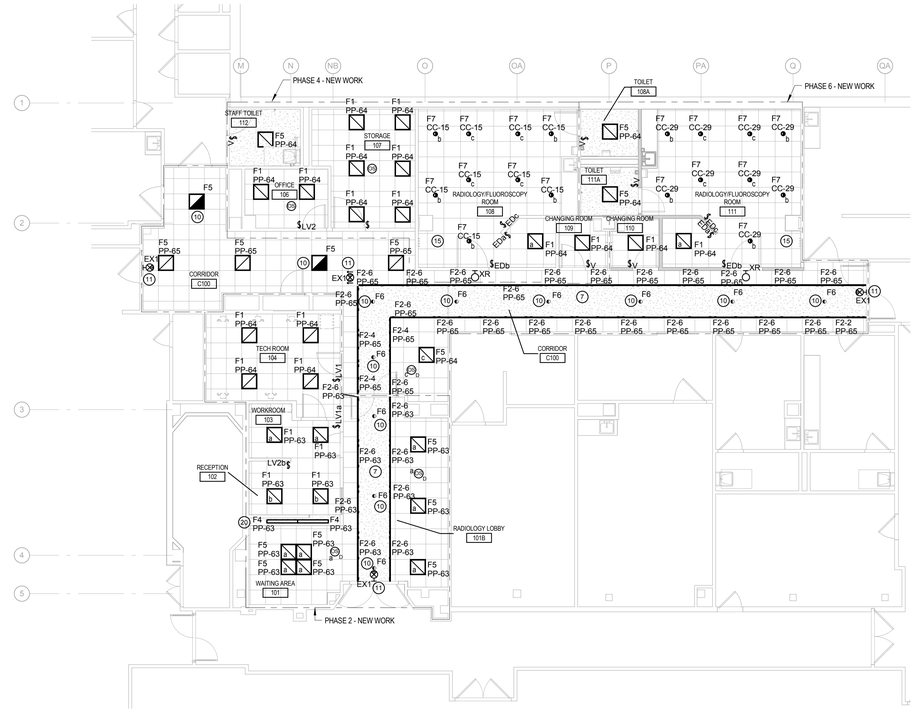
Drawing Title	ELECTRICAL LEGENDS & GENERAL NOTES
Approved: Project Director	
Project Title:	RENOVATION OF RADIOLOGY FOR RF ROOMS
Location:	135 EAST 38TH STREET, ERIE, PA 16504
Date:	April 22, 2014
Checked:	JJD
Drawn:	JMZ
Project Number	562-13-103
Building Number	
Drawing Number	E001
Dwg. 22 of 29	

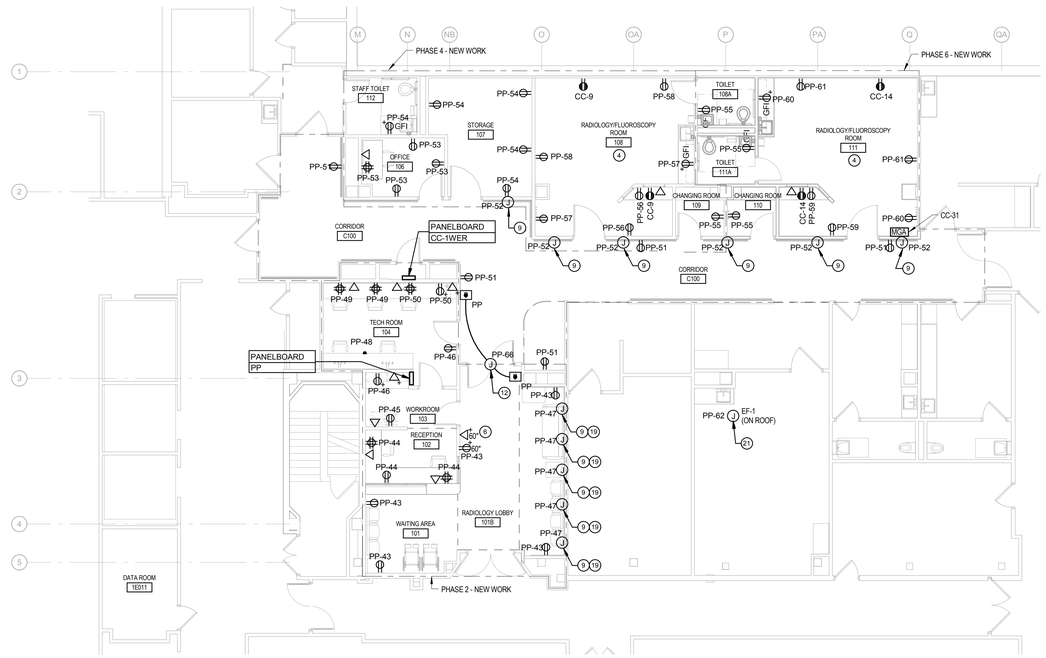
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

1 ELECTRICAL DEMOLITION PLAN - PARTIAL FIRST FLOOR (16)
1/8" = 1'-0"



2 LIGHTING PLAN - PARTIAL FIRST FLOOR
1/8" = 1'-0"



3 POWER PLAN - PARTIAL FIRST FLOOR
1/8" = 1'-0"

ELECTRICAL DEMOLITION NOTES (THIS DRAWING)

1. EQUIPMENT SHOWN TO BE REMOVED IS DIAGRAMMATIC AND DOES NOT REPRESENT THE FULL SCOPE OF DEMOLITION WORK. REMOVE DEVICES SHOWN BACK TO SOURCE UNLESS NOTED OTHERWISE.
2. CONTRACTOR SHALL PROVIDE A MINIMUM TWO WEEKS WRITTEN NOTICE PRIOR TO ANY SHUT DOWN. NOTICE IS TO INCLUDE BUT IS NOT LIMITED TO THE LOCATION, PANELS, AND DURATION OF SHUT DOWN.
3. COTR SHALL HAVE RIGHT OF FIRST REFUSAL TO ANY EQUIPMENT, DEVICES, LUMINAIRES, ETC. DEMOLISHED FROM RENOVATION AREA PRIOR TO DISPOSAL.
4. PROTECT THE EXISTING EQUIPMENT THAT IS TO REMAIN IN PLACE FROM DIRT, DUST, OR DAMAGE DURING THE COURSE OF DEMOLITION.
5. THE EXISTING FIRE ALARM CIRCUITS SERVING AREAS OUTSIDE OF THE SCOPE OF WORK SHALL REMAIN OPERATIONAL DURING THE ENTIRE DURATION OF CONSTRUCTION.
6. PROVIDE TEMPORARY SMOKE OR HEAT DETECTION ON THE FLOOR DURING THE ENTIRE DURATION OF CONSTRUCTION. SMOKE DETECTION SHALL BE PROTECTED FROM CONSTRUCTION DUST DURING WORKING HOURS ONLY, IN AREAS WHERE CONSTRUCTION WORK IS GOING TO BE OCCURING.
7. REMOVE ALL LIGHTING FIXTURES, EXIT SIGNS, SWITCHES, CONTROL DEVICES, WIRING AND CONDUIT IN THE AREA OF DEMOLITION UNLESS NOTED OTHERWISE. REMOVE ALL WIRING BACK TO THE PANELBOARD IT ORIGINATES FROM.
8. REMOVE ALL RECEPTACLES, AND OTHER MISCELLANOUS POWER CONNECTIONS TO EQUIPMENT IN THE AREA OF DEMOLITION SHOWN. REMOVE ALL CONDUIT AND WIRING BACK TO THE BRANCH PANELBOARD IT ORIGINATES FROM UNLESS NOTED OTHERWISE.
9. ALL DATA AND TELEPHONE WIRING SCHEDULED FOR REMOVAL SHALL BE REMOVED BACK TO DATA ROOM 1E011.
10. REMOVE EXISTING NURSECALL IN RENOVATION AREA. REMOVE ALL WIRING, DEVICES, CONDUIT, ETC.

OCCUPANCY SENSOR INSTALLATION GUIDELINES

1. THE OCCUPANCY SENSORS INDICATED ON THE DRAWINGS ARE SHOWN FOR DESIGN INTENT ONLY. THE EXACT QUANTITY OF SENSORS SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR PRIOR TO INSTALLING SENSORS BASED ON THE MANUFACTURER'S RECOMMENDATION.
2. PROVIDE 100% COVERAGE OF EACH INDIVIDUAL ROOM/SPACE SHOWN ON THE DRAWINGS.
3. DO NOT INSTALL SENSORS PRIOR TO SUBMITTING COVERAGE LAYOUTS FOR EACH INDIVIDUAL ROOM/SPACE TO THE ENGINEER FOR APPROVAL.
4. DO NOT INSTALL SENSORS SUCH THAT THEY CAN POTENTIALLY "SEE" THROUGH OPEN DOORWAYS.
5. INSTALL ALL LOW VOLTAGE POWER PACKS DIRECTLY ABOVE LOCAL WALL SWITCHES IN THE AREA.
6. SENSOR OPERATION SHALL BE AS FOLLOWS:
   1. OCCUPANT ENTERS ROOM AND THEY MUST MANUALLY TURN ON LIGHTS.
   2. SENSOR TURNS OFF LIGHTS AFTER 10 MINUTES OF INACTIVITY.
   3. UPON SENSING ACTIVITY LIGHTS TURN BACK ON.
7. DO NOT INSTALL ULTRASONIC OR DUAL TECHNOLOGY SENSORS WITHIN 24" OF SUPPLY DIFFUSERS.

LIGHTING GENERAL NOTES (THIS DRAWING)

1. ALL EXIT SIGNS SHALL BE POWERED FROM THE CIRCUIT INDICATED AND UNSWITCHED.
2. EMERGENCY BATTERY BALLASTS SHALL HAVE AN UNSWITCHED LEG PROVIDED TO EACH FIXTURE.
3. ALL NORMAL/EMERGENCY FIXTURES POWERED BY AN EMERGENCY GENERATOR THAT IS NOT CONNECTED TO A RELAY PANEL, SHALL HAVE A BODINE GTD20A OR EQUAL ON THE CIRCUIT TO PERMIT LOCAL CONTROL WITH ADJACENT FIXTURES.
4. COORDINATE FINAL LOCATIONS OF FIXTURES WITH THE REFLECTED CEILING PLAN. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER.
5. COORDINATE ALL MOUNTING HEIGHTS WITH THE ARCHITECT AND ENGINEER PRIOR TO ROUGH-IN.
6. WHERE MORE THAN ONE SWITCH OCCURS IN THE SAME LOCATION. THEY SHALL BE INSTALLED IN GANG TYPE BOX UNDER ON COVERPLATE. MINIMUM CONDUIT SIZE IS 3/4". MINIMUM WIRE SIZE SHALL BE #12 AWG. ALL WIRE TO BE STRANDED COPPER.

ELECTRICAL GENERAL NOTES (THIS DRAWING)

1. FINAL LOCATION OF ALL EQUIPMENT SHALL BE DETERMINED IN THE FIELD AND SHALL BE INSTALLED AS DIRECTED BY THE ARCHITECT OR OWNER'S REPRESENTATIVE. WHERE STRUCTUAL OPENINGS ARE NOT AVAILABLE, THE CONTRACTOR SHALL CORE DRILL WALLS AND FLOORS AS REQUIRED TO PERMIT PASSAGE OF CONDUITS. THE E.C. SHALL PROVIDE A MARKED-UP PLAN WITH LOCATIONS PENETRATIONS FOR REVIEW AND APPROVAL OF THE STRUCTUAL ENGINEER BEFORE ROUGH-IN BEGINS.
2. RECEPTACLES FOR ALL EQUIPMENT SHALL BE COMPLETE WITH PLUGS FOR THIS EQUIPMENT. THE E.C. SHALL VERIFY NEMA CONFIGURATIONS OF PLUGS AND RECEPTACLES FOR EQUIPMENT IN THE SPACE.
3. DURING THE BIDDING PROCESS, THE ELCTRICAL CONTRACTOR SHALL REVIEW DRAWINGS AND SPECIFICATIONS OF ALL OTHER TRADES (ARCHITECTURAL, SITE/ LANDSCAPING, HVAC,PLUMBING, AND SPECIALTY TRADES). ALL ITEMS REQUIRING POWER INDICATED ON THESE DRAWINGS BUT NOT INDICATED ON THE ELECTRICAL DRAWINGS SHALL BE CONSIDERED A PART OF THE ELECTRICAL CONTRACTOR'S WORK. THIS WORK SHALL BE INSTALLED AS PER NEC REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
4. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAKE ALL FEEDER RUNS CONTINUOUS (NO CABLE BREAKS). IF SPLICING OF CABLES IN BOXES BECOMES NECESSARY, USE O.Z.G. TYPE "XW" CABLE TAPS, OR APPROVED EQUAL, AND TAPE EACH TAP IN APPROVED MANNER.
5. THE MECHANICAL CONTRACTOR SHALL PROVIDE DISCONNECT SWITCHES AND STARTERS FOR ALL OF HIS UNITS. THE E.C. SHALL RECEIVE THESE ITEMS FROM THE M.C. FOR INSTALLATION BY THE E.C.
6. THE E.C. SHALL COORDINATE HIS CONDUIT PENETRATIONS FOR ROOFTOP EQUIPMENT WITH M.C. AND ROOFING CONTRACTOR. IF PROVISIONS ARE NOT IN PLACE FOR THESE PENETRATIONS THE E.C. SHALL BE RESPONSIBLE FOR MAKING HIS OWN PENETRATIONS AND CONTRACTING THE ROOF CONTRACTOR FOR SEALING THE ROOF PENETRATIONS.

ELECTRICAL KEYNOTES (THIS DRAWING)

1. REMOVE ALL EXISTING WALL DUCT IN ROOM.
2. EXISTING ELECTRICAL PANELBOARD SHALL BE REMOVED. PROVIDE A JUNCTION BOX IN CEILING ABOVE PANELBOARD AND EXTEND EXISTING PANEL FEED TO NEW PANELBOARD SHOWN ON POWER PLAN. THIS WORK IS TO OCCUR AFTER REGULAR BUSINESS HOURS AND/OR ON THE WEEKEND.
3. EXISTING WALL MOOUNTED FIRE ALARM JUNCTION BOX SHALL REMAIN.
4. REFER TO DRAWING E103 FOR EQUIPMENT INFORMATION.
5. EXISTING CEILING DEVICE SHALL BE REMOVED FROM CEILING TILE AND TEMPORARILY BE HUNG DURING CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETE AND NEW CEILING IS INSTALLED THE DEVICE SHALL BE RE-INSTALLED IN NEW CEILING TILE AT LOCATION SHOWN ON TELECOMMUNICATIONS PLAN. PROVIDE NEW DATA DROP AT NEW LOCATION AND REMOVE EXISTING CABLING BACK TO DATA RACK.
6. COORDINATE HEIGHT OF POWER AND CABLE FOR WALL MOUNTED TV WITH THE ARCHITECTURAL ELVATIONS PRIOR TO ROUGH-IN. PROVIDE A RECESSED TV BOX FOR POWER/DATA/HDMI.
7. REFERENCE DETAIL 7/A111 FOR COVE DETAIL FOR CORRIDOR LIGHTING.
8. EXISTING FEED TO X-RAY EQUIPMENT SHALL BE DISCONNECTED AND REMOVED BACK TO PANELBOARD X-RAY 208 LOCATED ON DRAWING E104. REPLACE THE EXISTING CIRCUIT BREAKERS FEEDING X-RAY EUIPMENT IN PANELBOARD X-RAY 208 WITH AN 80A/3P CIRCUIT BREAKER FOR EACH NEW X-RAY MACHINE. EXTEND NEW FEEDER TO NEW ENCLOSED CIRCUIT BREAKER LOCATION SHOWN ON DRAWING E103.
9. JUNCTION BOX FOR POWER CONNECTION TO LIGHT BOX, COORDINATE MOUNTING HEIGHT PRIOR TO ROUGH-IN.
10. CONNECT NEW LIGHT FIXTURE TO EXISTING LIFE-SAFETY CIRCUIT PRESENTLY FEEDING THIS AREA.
11. CONNECT NEW EXIT SIGN TO EXISTING LIFE-SAFETY CIRCUIT PRESENTLY FEEDING THIS AREA. THE EXIT SIGN SHALL BE CIRCUITED AHEAD OF ANY LOCAL SWITCHING.
12. JUNCTION BOX FOR POWER CONNECTION TO AUTOMATIC DOOR. PROVIDE ASSOCIATED CONDUIT AND WIRING FOR A COMPLETE INSTALLATION.
13. EXISTING CAMERA SHALL REMAIN IN OPERATION THROUGHOUT THE PROJECT. CONTRACTOR SHALL REMOVE CAMERA AND RELOCATE TO NEW LOCATION SHOWN ON DRAWING ET101.
14. REMOVE EXISTING COAX CABLING BACK TO NEAREST JUNCTION POINSPLITTER AND EXTEND NEW CABLING TO NEW TV LOCATION SHOWN ON DRAWING ET101.
15. PROVIDE AN EMERGENCY TRANSFER DEVICE FOR CONTROL OF LIGHT FIXTURES IN X-RAY ROOM.
16. ALL DEVICES SHOWN ON DEMOLITION PLAN SHALL BE REMOVED BACK TO SOURCE UNLESS NOTED OTHERWISE. REFER TO SYMBOLS SHEETS (E001, EF101, ET101). REFER TO ELECTRICAL DEMOLITION NOTES ON THIS DRAWING.
17. EXISTING NURSE CALL CONSOLE AND ASSOCIATED DEVICES IN THIS PROJECT SCOPE SHALL BE REMOVED IN IT'S ENTIRETY.
18. REMOVE EXISTING DOOR HOLDERS AND CONNECT NEW DOOR HOLD OPENERS TO EXISTING FIRE ALARM CIRCUIT. REFER TO DRAWING EF101.
19. LIGHT BOX SHALL BE CONTROLLED TO SAME OCCUPANCY SENSOR AS LOBBY 101B LIGHTING.
20. TYPE F4 LIGHT FIXTURES ARE TO BE CONTROLLED WITH LIGHTING IN RECEPTION 102.
21. POWER TO EF-1 SHALL BE COMPLETED IN PHASE 6.

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title: ELECTRICAL PLANS

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: JJD | Drawn: JMZ

Project Number: 562-13-103

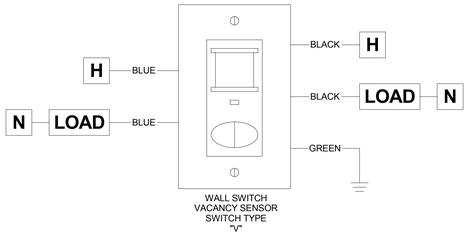
Building Number

Drawing Number: E101

Dwg. 23 of 29

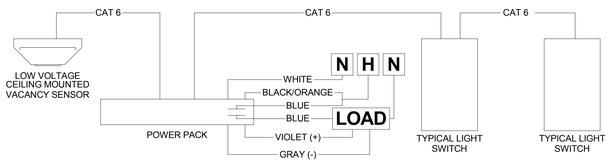
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



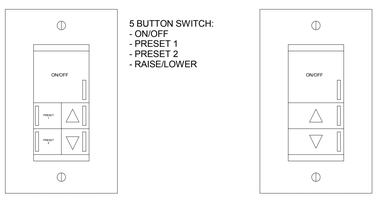
1 TYPICAL WALL SENSOR DETAIL

SCALE = NTS



2 TYPICAL LIGHTING CONTROL DETAIL

SCALE = NTS



5 BUTTON SWITCH:
- ON/OFF
- PRESET 1
- PRESET 2
- RAISE/LOWER

3 BUTTON SWITCH:
- ON/OFF
- RAISE/LOWER

4 LOW VOLTAGE SWITCH DETAIL

SCALE = NTS

Branch Panel: CC-1WER

Location: ELECTRIC CLOSET 105
Supply From:
Mounting: Surface
Enclosure: Type 1

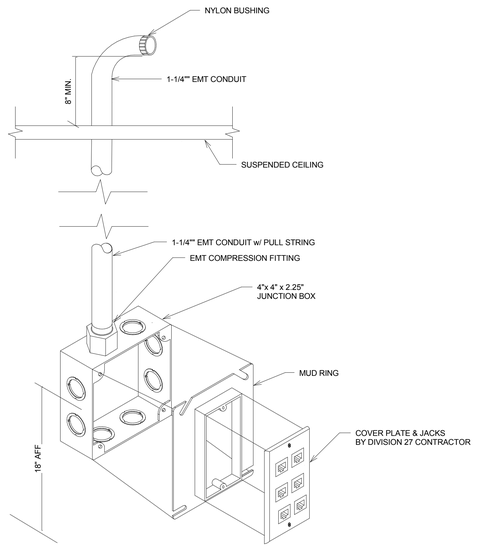
Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: Match Existing Panelboard
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 225 A

Notes:
Existing branch circuits shall be re-connected to new panelboard in same circuit order as existing panelboard.

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
CC-1	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	CC-2
CC-3	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	CC-4
CC-5	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	CC-6
CC-7	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	CC-8
CC-9	Receptacle X-Ray Rm	20 A	1			360 VA	0 VA			1	20 A	Existing Circuit	CC-10
CC-11	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	CC-12
CC-13	Existing Circuit	20 A	1	0 VA	360 VA					1	20 A	Receptacle X-Ray Rm	CC-14
CC-15	Lighting X-Ray Rm	20 A	1			216 VA	0 VA			1	20 A	Existing Circuit	CC-16
CC-17	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	CC-18
CC-19	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	CC-20
CC-21	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	CC-22
CC-23	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	CC-24
CC-25	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	CC-26
CC-27	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	CC-28
CC-29	Lighting X-Ray Rm	20 A	1					216 VA	0 VA	1	20 A	Existing Circuit	CC-30
CC-31	Med Gas Alarm Pnl	20 A	1	500 VA	0 VA					1	20 A	Existing Circuit	CC-32
CC-33	Spare	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	CC-34
CC-35	Spare	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	CC-36
CC-37	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	CC-38
CC-39	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Spare	CC-40
CC-41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	CC-42
			Total Load:	860 VA		576 VA		216 VA					
			Total Amps:	8 A		5 A		2 A					

Legend:



3 TYPICAL DATA OUTLET ROUGH-IN DETAIL

N.T.S.

Branch Panel: PP

Location: TECH ROOM 104
Supply From:
Mounting: Recessed
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: Match Existing Panelboard
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 225 A

Notes:
Existing branch circuits shall be re-connected to new panelboard in same circuit order as existing panelboard. Panelboard shall be Eaton PRL2 series or equal and be a single tub panelboard.

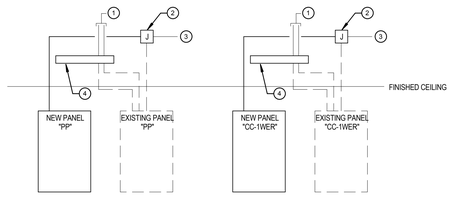
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
PP-1	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	PP-2
PP-3	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	PP-4
PP-5	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	PP-6
PP-7	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	PP-8
PP-9	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	PP-10
PP-11	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	PP-12
PP-13	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	PP-14
PP-15	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	PP-16
PP-17	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	PP-18
PP-19	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	PP-20
PP-21	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	PP-22
PP-23	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	PP-24
PP-25	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	PP-26
PP-27	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	PP-28
PP-29	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	PP-30
PP-31	Existing Circuit	20 A	1	0 VA	0 VA					1	20 A	Existing Circuit	PP-32
PP-33	Existing Circuit	20 A	1			0 VA	0 VA			1	20 A	Existing Circuit	PP-34
PP-35	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	PP-36
PP-37	Existing Circuit	40 A	2	0 VA	0 VA					1	20 A	Existing Circuit	PP-38
PP-39	--	--	--			0 VA	0 VA			1	20 A	Existing Circuit	PP-40
PP-41	Existing Circuit	20 A	1					0 VA	0 VA	1	20 A	Existing Circuit	PP-42
PP-43	Receptacle 101, 101B	20 A	1	900 VA	1020...					1	20 A	Receptacle 102	PP-44
PP-45	Copier 103	20 A	1			1200...	680 VA			1	20 A	Printer 103	PP-46
PP-47	Lightboxes 101B	20 A	1					500 VA	840 VA	1	20 A	Receptacle 104	PP-48
PP-49	Receptacle 104	20 A	1	840 VA	920 VA					1	20 A	Receptacle 104	PP-50
PP-51	Receptacle C100	20 A	1			900 VA	1000...			1	20 A	Lightboxes C100	PP-52
PP-53	Receptacle 106	20 A	1					960 VA	900 VA	1	20 A	Receptacle 112, 107	PP-54
PP-55	Receptacle 108A-111A	20 A	1	720 VA	360 VA					1	20 A	Receptacle XR Rm 108	PP-56
PP-57	Receptacle XR Rm 108	20 A	1			360 VA	360 VA			1	20 A	Receptacle XR Rm 108	PP-58
PP-59	Receptacle XR Rm 111	20 A	1					360 VA	360 VA	1	20 A	Receptacle XR Rm 111	PP-60
PP-61	Receptacle XR Rm 111	20 A	1	360 VA	696 VA					1	20 A	EF-1 (On Roof)	PP-62
PP-63	Lighting Radiology	20 A	1			99 VA	0 VA			1	20 A	Lighting Radiology	PP-64
PP-65	Lighting Radiology	20 A	1					335 VA	500 VA	1	20 A	Auto Door Radiology	PP-66
PP-67	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	PP-68
PP-69	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	PP-70
PP-71	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	PP-72
			Total Load:	5816 VA		4599 VA		4755 VA					
			Total Amps:	49 A		38 A		40 A					

Legend:

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	BASIS OF DESIGN			LAMP			BALLAST		WATTAGE	VOLTAGE	COMMENTS
			MANUFACTURER	SERIES	TYPE	LUMENS	COLOR	TYPE	BF				
EX1	CLEAR EDGE-LIT EXIT SIGN, MIRRORED BACK	UNIVERSAL	EXITRONIX	S902 SERIES	RED LED	N/A	---	---	---		5W	120/277v	COORDINATE CHEVRONS & DOUBLE OR SINGLE SIDED w/ FLOOR PLANS
XR	X-RAY IN USE SIGN	UNIVERSAL	HEALTHCARE LTG	HSG3 SERIES	RED LED	N/A	---	---	---		5W	120/277v	
F1	2x2 HIGH EFFICENT TROFFER, FLAT CENTER DIFFUSE LENS, ANGLED DIFFUSE SIDE LENS	RECESSED IN GRID	METALUX	ENCOUNTER SERIES	LED	3400	4000	0-10v DIM	1.0		34W	120/277v	
F2-2	2' LINEAR ASYMMETRIC LED COVE LIGHT	COVE	IO LIGHTING	LINE .75 SERIES	LED	876	4000	0-10v DIM	1.0		11W	120/277v	REMOTE DRIVER SHALL BE PLACED ABOVE NEAREST ACCESSIBLE CEILING
F2-4	4' LINEAR ASYMMETRIC LED COVE LIGHT	COVE	IO LIGHTING	LINE .75 SERIES	LED	1752	4000	0-10v DIM	1.0		21W	120/277v	REMOTE DRIVER SHALL BE PLACED ABOVE NEAREST ACCESSIBLE CEILING
F2-6	6' LINEAR ASYMMETRIC LED COVE LIGHT	COVE	IO LIGHTING	LINE .75 SERIES	LED	2628	4000	0-10v DIM	1.0		31W	120/277v	REMOTE DRIVER SHALL BE PLACED ABOVE NEAREST ACCESSIBLE CEILING
F3	4" WIDE RECESSED WALL SLOT, FROSTED ACRYLIC FLUSH LENS	RECESSED IN WALL	FOCAL POINT	SEEM 4 SERIES	LED	2747	4000	0-10v DIM	1.0		48W	120/277v	
F4	1" WIDE RECESSED CHANNEL, TRIMLESS, FLUSH OPAL LENS, 4' LONG, HP7 LAMPING	RECESSED IN BULKHEAD	ARCHITECURAL LIGHTING WORKS	LIGHTPLANE ONE SERIES	LED	---	4000	0-10v DIM	1.0		28W	120/277v	REMOTE DRIVER SHALL BE PLACED ABOVE NEAREST ACCESSIBLE CEILING
F5	2x2 RECESSED INDIRECT w/ VAULTED REFLECTOR	RECESSED IN GRID	FOCAL POINT	VAULT SERIES	LED	3034	4000	0-10v DIM	1.0		42W	120/277v	
F6	4" ROUND DOWNLIGHT, FLANGLESS TRIM, WIDE BEAM, HAZE SELF-FLANGED REFLECTOR	RECESSED IN BULKHEAD	PORTFOLIO	LD4A SERIES	LED	1800	4000	0-10v DIM	1.0		24W	120/277v	
F7	6" ROUND DOWNLIGHT, MEDIUM BEAM, HAZE SELF-FLANGED REFLECTOR	RECESSED IN GRID	PORTFOLIO	LD6 SERIES	LED	1800	4000	0-10v DIM	1.0		32W	120/277v	

NOTES:



KEYNOTES (THIS DETAIL)

1. EXISTING BRANCH CIRCUITS THAT ARE EXISTING TO REMAIN.
2. PROVIDE NEW JUNCTION BOX AND INTERCEPT EXISTING FEED TO PANELBOARD TO ALLOW FOR EXTENTION OF FEED TO NEW PANELBOARD LOCATION.
3. EXISTING FEED TO PANELBOARD.
4. PROVIDE NEW 4X4 WIREWAY AND INTERCEPT EXISTING BRANCH CIRCUITS SCHEDULED TO REMAIN AND EXTEND TO NEW PANELBOARD.

5 PARTIAL RISER DIAGRAM

N.T.S.

NORTH

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Revisions: | Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title: ELECTRICAL DETAILS & SCHEDULES

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: JJD | Drawn: JMZ

Project Number: 562-13-103

Building Number

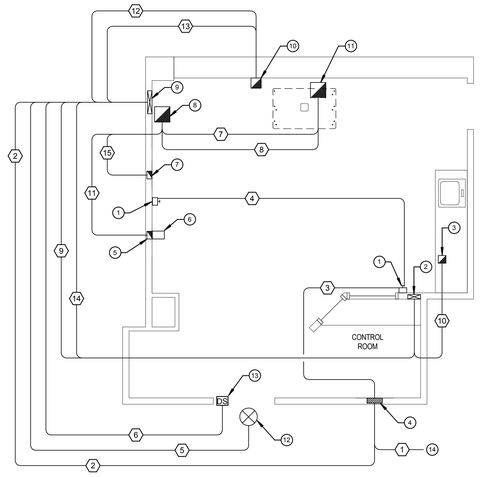
Drawing Number: E102

Dwg. 24 of 29

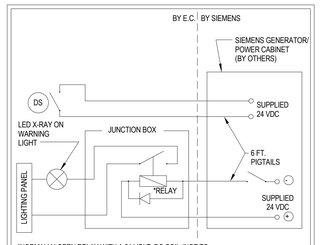
Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231



1 TYPICAL FOR X-RAY ROOMS 101 AND 111
SCALE = NTS



*NORMALLY OPEN RELAY WITH A 24 VOLT, DC COIL (NOT TO EXCEED 5 WATTS) AND A STEERING DIODE WIRED OVER THE RELAY COIL, SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. SIEMENS TO PROVIDE CONTROL SIGNAL TO RELAY. CONTRACTOR SUPPLIED AND INSTALLED JUNCTION BOX.

WARNING LIGHT AND DOOR SWITCH SCHEMATIC

WARNING LIGHT DETAIL

SCALE: NONE

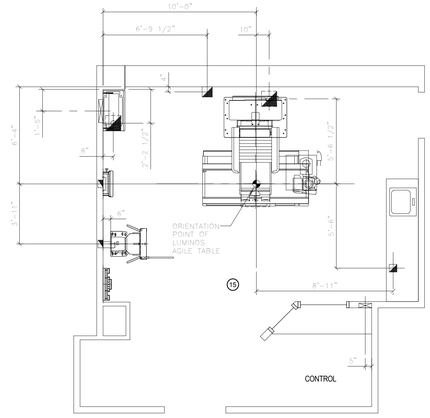
CONDUIT SCHEDULE

SYM	DESCRIPTION	SIZE
1	MAIN POWER SOURCE	(4) #4 & #8 GRD IN 1 1/4" C
2	CONDUIT FROM 1 TO 9	3/4" CONDUIT
3	CONDUIT FROM 1 TO 1	3/4" CONDUIT
4	CONDUIT FROM 1 TO 1	3/4" CONDUIT
5	CONDUIT FROM 9 TO 13	3/4" CONDUIT
6	CONDUIT FROM 9 TO DS	3/4" CONDUIT
7	CONDUIT FROM 6 TO 11	(2) 2 1/2" CONDUITS
8	CONDUIT FROM 5 TO 11	(2) 2 1/2" CONDUITS
9	CONDUIT FROM 9 TO 2	2 1/2" CONDUIT
10	CONDUIT FROM 2 TO 3	2 1/2" CONDUIT
11	CONDUIT FROM 5 TO 8	2 1/2" CONDUIT
12	CONDUIT FROM 9 TO 10	(2) 2 1/2" CONDUIT
13	CONDUIT FROM 9 TO 10	2" CONDUIT
14	CONDUIT FROM 9 TO 2	(2) 2 1/2" CONDUIT
15	CONDUIT FROM 7 TO 8	1 1/2" CONDUIT

ELECTRICAL KEYNOTES

(THIS DETAIL)

1. EMERGENCY POWER OFF SWITCH WITH PROTECTIVE COVER MOUNTED AT 5'-0" A.F.F.
2. VERTICAL WALL DUCT MOUNTED FLUSH WITH FINISHED WALL FROM ABOVE THE FINISHED CEILING TO END OF FLOOR LINE. THE DUCT SHALL BE (3) CHANNEL WITH ONE SECTION 4" AND THE OTHER TWO SECTIONS AT 3" TO PROVIDE SEPERATION FOR CABLES.
3. 6" x 6" x 6" PULL BOX MOUNTED FLUSH WITH FINISHED CEILING WITH REMOVABLE COVER.
4. MAIN POWER FEED, PROVIDE 480V, 70A/3P ENCLOSED CIRCUIT BREAKER MOUNTED AT 5'-0" A.F.F.
5. 6" x 6" x 4" PULL BOX MOUNTED FLUSH WITH FINISHED WALL AT THE FLOOR LINE AND FITTED WITH REMOVABLE COVER.
6. 4 3/4" x 1 3/4" x 6" LONG FLOOR DUCT (WIREMOLD 4000 SERIES OR EQUAL) SURFACE MOUNTED ON FLOOR FROM NOTE 5 PULL BOX TO REAR OF WALL STAND BASE.
7. 6" x 6" x 4" PULL BOX MOUNTED FLUSH WITH FINISHED WALL, CENTERLINE 12" ABOVE FINISHED FLOOR.
8. (SIZE?) PULL BOX MOUNTED UNDER FLOOR SLAB WITH 4" DIAMETER THROUGH FLOOR WITH END FLUSH WITH FINISHED FLOOR.
9. 18" x 3 1/2" VERTICAL WALL DUCT MOUNTED FLUSH WITH FINISHED WALL FROM ABOVE THE FINISHED CEILING TO END OF FLOOR LINE. THIS DUCT MUST BE DIVIDED INTO (3) EQUAL SECTIONS TO PROVIDE SEPERATION OF CABLES.
10. 8" x 8" x 8" PULL BOX WITH REMOVABLE COVER MOUNTED FLUSH WITH FINISHED CEILING.
11. (SIZE?) PULL BOX MOUNTED UNDER FLOOR SLAB WITH 4" DIAMETER THROUGH FLOOR WITH END FLUSH WITH FINISHED FLOOR.
12. "X-RAY IN USE" WARNING LIGHT, REFER TO WARNING LIGHT DETAIL ON THIS SHEET FOR MORE INFORMATION. REFER TO DRAWING E102 FOR TYPE.
13. DOOR SAFETY SWITCH, REFER TO WARNING LIGHT DETAIL ON THIS SHEET FOR MORE INFORMATION.
14. MAIN POWER FEED SHALL BE EXTENDED FROM EXISTING FEED TO X-RAY EQUIPMENT.
15. EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY EQUIPMENT SUPPLIER. COORDINATE ALL WORK ASSOCIATED WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.



POWER QUALITY

POOR POWER WILL ALTER EQUIPMENT PERFORMANCE

IT IS IN THE CUSTOMER'S INTEREST THAT THE ELECTRICAL CONTRACTOR BE RESPONSIBLE FOR TESTING AND VERIFYING THAT THE EQUIPMENT POWER SUPPLY COMPLIES WITH THE SIEMENS SPECIFICATIONS.

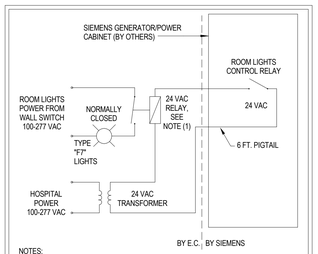
GROUNDING NOTES

EQUIPMENT GROUND CONDUCTOR TO COMPLY WITH THE FOLLOWING:

1) SIZED EQUIVALENT TO THE PHASE CONDUCTORS (FULL SIZED GROUND).
2) DERIVED FROM THE ELECTRICAL SERVICE TRANSFORMER OR MAIN DISTRIBUTION PANEL FEEDING THE SIEMENS EQUIPMENT.
3) RUN IN THE SAME CONDUIT, TROUGH OR RACEWAY AS THE PHASE CONDUCTORS.
4) CONTINUOUS, WITH NO BREAKS OR USE OF CONDUIT, CHASSIS OR EARTH AS THE SOLE GROUNDING PATH.
5) BONDED TO CHASSIS AND/OR CONDUIT IN ACCORDANCE WITH THE NEC REQUIREMENTS.
6) MINIMIZE CONNECTIONS OR TERMINALS TO ENSURE CONTINUITY OVER THE LIFE OF THE INSTALLATION.
7) AS A NORM, THERE SHOULD NOT BE ANY CURRENT PRESENCE ON THE GROUND CONDUCTOR, BUT IT IS ACCEPTABLE TO HAVE ≤ 500mA DURING OPERATION OF THE IMAGING EQUIPMENT.

CONTRACTOR SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
PANEL	1	ME	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER REQ/SCHEDULE
ME	2 9	PU	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER REQ/SCHEDULE
ME	3	EPO	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE.
EPO	4	EPO	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE.
PU	9 5	W.L.	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE AUXILIARY WIRING DTL.
PU	9 8	D.SW.	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE AUXILIARY WIRING DTL.



NOTES:
1) NORMALLY CLOSED RELAY WITH A 24 VOLT, AC COIL (NOT TO EXCEED 5 WATTS), SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. SIEMENS ONLY PROVIDES CONTROL SIGNAL TO RELAY.

2) ALL ITEMS SHOWN ARE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR, WITH THE EXCEPTION OF THE SIEMENS GENERATOR/POWER CABINET.

ROOM LIGHTS SCHEMATIC

ROOM LIGHTING WIRING

SCALE: NONE

ELECTRICAL CONTRACTOR SUPPLIED ITEMS

ALL ITEMS, INCLUDING BUT NOT LIMITED TO CONDUITS, DUCTS, CIRCUIT BREAKERS, EMERGENCY OFF BUTTONS, DOOR SWITCHES, AND WARNING LIGHTS, SHOWN IN THESE PLANS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/ELECTRICAL CONTRACTOR, UNLESS OTHERWISE SPECIFIED.

CABLE LENGTH LIMITATIONS

THE CONDUITS ARE SHOWN SCHEMATICALLY IN THIS PLAN AND MUST BE RUN IN THE SHORTEST POSSIBLE DISTANCE BETWEEN TERMINATION POINTS. ANY VARIATION IN THE ROUTING OF DUCTS COULD RESULT IN CABLE LENGTH LIMITATIONS BEING EXCEEDED. THEREFORE, ANY CHANGES MUST BE APPROVED BY THE SIEMENS PROJECT MANAGER.

CONDUIT LENGTH CALCULATIONS

FOR SITE SPECIFIC INSTANCES WHERE CABLES ARE BEING ROUTED IN A COMBINATION OF CONDUIT AND DUCTS, THE MAXIMUM LENGTH FOR THOSE CONDUITS, AS LISTED ON THE ELECTRICAL LEGEND, HAS BEEN CALCULATED BASED UPON THE DUCT LAYOUT SHOWN AND THE FOLLOWING ASSUMED VALUES:

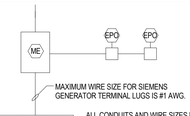
1) VERTICAL DUCTS - 10'-0"
2) FLOOR PENETRATIONS THROUGH CONCRETE SLAB - 3'-0"

IF THE ACTUAL SITE SPECIFIC CONDITIONS EXCEED THESE ASSUMED VALUES AND/OR THE DUCT LOCATIONS ARE ALTERED, IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO RECALCULATE THE MAXIMUM LENGTH OF THE CONDUITS EFFECTED.

ELECTRICAL NOTES

1. COMPLIANCE: ELECTRICAL WORK SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA-70), O.S.H.A. REGULATIONS, AS WELL AS APPLICABLE REGULATIONS OF CITY, COUNTY, STATE AND FEDERAL AGENCIES. PROVIDE MATERIALS AND EQUIPMENT THAT COMPLY TO ANSI, IEEE AND NEMA STANDARDS. WHERE APPLICABLE, PROVIDE ONLY MATERIALS AND PRODUCTS THAT ARE U.L. LISTED AND LABELED. CUSTOMERS'/CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF NECA STANDARD OF INSTALLATION.
2. QUALITY ASSURANCE: THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD TO INSURE THAT THE NEW WORK WILL FIT TO THE EXISTING STRUCTURE AS SHOWN ON THE DRAWINGS. SHOULD ANY CONDITIONS EXIST OR BE DISCOVERED THAT PREVENT THE INSTALLATION OF WORK AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION OF EQUIPMENT, OR THE PERFORMANCE OF ANY WORK THAT MAY BE AFFECTED. DO NOT ALTER DRAWINGS, DIMENSIONS, OR SPECIFICATIONS IN ANY WAY WITHOUT CONTACTING AND RECEIVING WRITTEN CONFIRMATION FROM SMS PROGRAM MANAGER. ALL DIMENSIONS ARE FROM FINISHED SURFACES. CONDUIT AND PULL BOXES TO BE INSTALLED BY THE CUSTOMER/CONTRACTOR WITH LOCATIONS BEING FIELD VERIFIED BY SMS PROJECT MANAGER.
3. POWER SUPPLY SOURCE: POWER SUPPLIES FOR SIEMENS MEDICAL SOLUTIONS EQUIPMENT SHALL BE DEDICATED SERVICES KEPT ENTIRELY FREE AND INDEPENDENT OF ALL OTHER BUILDING WIRING AND EQUIPMENT, SUCH AS: ELEVATORS, GENERATORS, PUMPS, HVAC SYSTEMS, ETC. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE CUSTOMER/UTILITY COMPANY FIELD REPRESENTATIVE.
4. WORK FURNISHED BY CUSTOMER/CONTRACTOR: WORK NOT PROVIDED BY SIEMENS MEDICAL SOLUTIONS BUT SHOWN ON DRAWINGS TO BE FURNISHED AND INSTALLED BY CONTRACTOR INCLUDES THE FOLLOWING BUT IS NOT LIMITED TO UNLESS NOTED OTHERWISE: ELECTRICAL RACEWAYS AND DUCTS, WIRING TROUGHS, PULL BOXES, CONDUITS, CIRCUIT BREAKERS, EMERGENCY OFF BUTTONS, DOOR SWITCHES, WARNING LIGHTS, WIRING, WIRING DEVICES, CONNECTORS, LIGHTING EQUIPMENT AND GROUNDING.
5. RACEWAY AND CONDUIT NOTES: RACEWAY SHALL BE ELECTRIC METALLIC TUBING (EMT) FOR RIGID CONDUIT WORK, OR WHERE SHORT OFF-SET CONNECTIONS ARE REQUIRED LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE USED. FIELD BENDS SHALL NOT BE LESS THAN AS SHOWN IN TABLE 346-10 OF THE NATIONAL ELECTRICAL CODE. PROVIDE A JETLINE "SUPER TRUE TAPE", OR EQUIVALENT CONDUIT MEASURING TAPE FISH LINE IN ALL RACEWAYS AND CONDUITS. CONDUIT BODIES SHALL NOT BE USED. WHERE A CONDUIT ENTERS A BOX, FITTING, OR OTHER ENCLOSURE, AN INSULATED THROAT CONNECTOR SHALL BE PROVIDED TO PROTECT THE WIRE FROM ABRASION. CONNECTORS SHALL BE DOUBLE SET SCREW TYPE. STEEL CONCRETE TIGHT. KEEP RACEWAYS AT LEAST 6 INCHES AWAY FROM PARALLEL RUNS OF FLUES OR STEAM AND HOT WATER PIPES. INSTALL RACEWAY RUNS ABOVE WATER AND STEAM PIPES PROVIDED THAT CABLE RUN DISTANCES ARE MAINTAINED. USE TEMPORARY CLOSURES TO PREVENT FOREIGN MATTER FROM ENTERING RACEWAY. CONDUIT RUNS ARE SHOWN SCHEMATICALLY. INSTALL CONDUIT WITH A MINIMUM OF BENDS IN THE SHORTEST PRACTICAL DISTANCE CONSIDERING THE BUILDING CONSTRUCTION AND OBSTRUCTIONS, EXCEPT AS OTHERWISE INDICATED. THE CONTRACTOR SHALL MAKE CERTAIN THAT ANY CONDUIT/RACEWAY RUNS CONTAINING SIEMENS MEDICAL SYSTEMS CABLES DO NOT EXCEED THE SPECIFIED MAXIMUM DISTANCES AS SHOWN ON THE ELECTRICAL DETAILS. PROVIDE ENCLOSED METAL RACEWAY SYSTEM (WIRE DUCT) WHERE SHOWN ON DRAWINGS WITH DIVIDERS TO SEPARATE THE DUCT (FOR POWER AND SIEMENS MEDICAL SOLUTIONS CABLING). DIVIDERS AND CROSSOVER PIECES TO BE PROVIDED AS NECESSARY. FOR UL CERTIFIED SYSTEMS, THE CABLE TO CABLE AS WELL AS THE CIRCUIT TO CIRCUIT SEPARATION REQUIREMENT WAS EVALUATED DURING THE UL SYSTEM INVESTIGATION OF THIS EQUIPMENT. ADDITIONAL SEPARATION OF THE SYSTEM CABLE ASSEMBLIES INTO SEPARATE OR PARTITIONED RACEWAYS, UNLESS OTHERWISE NOTED, IS NOT NECESSARY TO INSURE SEPARATION OF CIRCUITS, AS THEY CAN BE IN THE SAME RACEWAY. PROVIDE WIRE DUCT/RACEWAY WITH ACCESSIBLE REMOVABLE COVERS. LOCATIONS OF OPENINGS TO BE CUT IN FIELD ARE TO BE COORDINATED WITH SIEMENS PROJECT MANAGER. ELECTRICAL PULL BOXES AND RACEWAY COVERS SHALL BE INSTALLED IN A MANNER TO ALLOW ACCESSIBILITY FOR INSTALLATION AND MAINTENANCE. IN- FLOOR TRENCH DUCT AND FLUSH FLOOR BOXES SHALL BE PROVIDED WITH FULLY GASKETED REMOVABLE COVERS.
6. WIRING: WIRING SHALL BE INSTALLED IN METAL RACEWAY, 600 VOLT CLASS, STRANDED TYPE THWN-THWN, SINGLE CONDUCTOR ANNEALED COPPER FOR A MAXIMUM OPERATING TEMPERATURE OF 75° C (165° F). SIZED AS INDICATED. THE CUSTOMER/CONTRACTOR SHALL LEAVE MINIMUM 10 FT. WIRE TAILS AT ALL OUTLET POINTS WITH WIRE IDENTIFICATION TAGGED AT BOTH ENDS FOR FINAL CONNECTION BY SIEMENS MEDICAL SOLUTIONS.
7. IN ADDITION TO THE CIRCUIT BREAKER LOAD CURRENT RATING, CONSIDERATION MUST ALSO BE GIVEN TO SELECTING CIRCUIT BREAKERS THAT HAVE A HIGH ENOUGH SHORT CIRCUIT CURRENT WITHSTAND RATING TO SAFELY COORDINATE WITH THE POWER SYSTEM AVAILABLE SHORT CIRCUIT CURRENT. GENERALLY, WHEN THE 480 VOLT, 3 PHASE, X-RAY EQUIPMENT IS SERVED FROM A POWER SUPPLY SYSTEM THAT IS PROVIDED WITH A 500 kVA OR SMALLER TRANSFORMER, A STANDARD 14,000 RMS AMPERE WITHSTAND RATED CIRCUIT BREAKER WILL BE ADEQUATE. HOWEVER, IF THE POWER SUPPLY SYSTEM TRANSFORMER IS LARGER THAN 500 kVA, THEN THE CIRCUIT BREAKERS HAVING A SHORT CIRCUIT WITHSTAND RATING GREATER THAN 14,000 RMS AMPERES MAY BE REQUIRED.

POWER SCHEDULE



ALL CONDUITS AND WIRE SIZES MUST BE DETERMINED BY THE ELECTRICAL ENGINEER ON RECORD PER N.E.C. AND TO MAINTAIN SIEMENS IMPEDANCE REQUIREMENTS.

ITEM	QTY	DESCRIPTION
ME	1	MAIN ENCLOSURE WITH MAIN BREAKER FLUSH OR SURFACE MOUNTED. MAIN BREAKER MUST HAVE A TRIPPING DEVICE SO WHEN ANY EPO IS PRESSED THE MAIN BREAKER TRIPS. THIS TRIPPING DEVICE CONTROL CIRCUIT MUST BE OF FAIL-SAFE DESIGN. THE CONTROL CIRCUIT FOR THE EPO'S MUST HAVE AN ENERGY STORAGE SOURCE SO THAT THE CONTROL CIRCUIT NEVER LOSES POWER. MAIN BREAKER AMPS: SEE POWER REQUIREMENTS VOLTS / PHASES / NEUTRAL / GROUND / TOTAL WIRES 480Y / 3 / 0 / 1 / 4 (NOTE 1) 1) ALL WIRES MUST BE SAME SIZE.
EPO	VARIES	EMERGENCY POWER OFF BUTTON WITH PROTECTIVE COVER THAT PREVENTS ACCIDENTAL ACTIVATION OF THE EPO BUTTON. THE EPO MUST BE OF FAIL-SAFE DESIGN. THE CONTROL CIRCUIT FOR THE EPO'S MUST HAVE AN ENERGY STORAGE SOURCE SO THAT THE CONTROL CIRCUIT NEVER LOSES POWER. ALL EPO'S ARE TO BE LATCHING TYPE AND MUST BE RESET BEFORE MAIN BREAKER CAN BE RESET. IF ANY OPTIONAL UPS EQUIPMENT IS PROVIDED BY SIEMENS, THE CUSTOMER/CONTRACTOR SHALL PROVIDE AN ADDITIONAL CONTACT IN EACH EPO AND PROVIDE SEPARATE WIRING FOR AN ADDITIONAL EPO CIRCUIT AS REQUIRED. PLEASE COORDINATE THE TYPE OF CONTACT REQUIRED FOR THE UPS CIRCUIT WITH SIEMENS PROJECT MANAGER. THE EPO'S MUST BE INSTALLED BY A QUALIFIED ELECTRICAL CONTRACTOR ACCORDING TO NATIONAL ELECTRICAL CODE, STATE AND LOCAL REGULATIONS. MEASURES SHOULD BE TAKEN TO DESIGN THE CIRCUIT IN SUCH A WAY THAT IT WILL ALWAYS WORK WHEN THE MEDICAL EQUIPMENT IS POWERED. THE CUSTOMER IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION OF THE EPOs AND THEIR ASSOCIATED CIRCUITS AND MUST MAKE THE FINAL DETERMINATION CONSIDERING ALL SITE CONDITIONS AND REGULATORY FACTORS.

ALL ITEMS LISTED IN THIS SCHEDULE SHALL BE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR.

POLYDOROS F65

X-RAY GENERATOR POWER REQUIREMENTS

INCOMING POWER:	480 VOLTS, 3 PHASE, 60Hz
CIRCUIT BREAKER:	70 AMPS.
GENERATOR OUTPUT:	65 kW
ALLOWABLE IMPEDANCE:	0.24 OHMS.
MAXIMUM MOMENTARY LOAD:	105 kVA
LINE VOLTAGE VARIATION:	± 10% MAX.
PHASE BALANCE:	2% MAX BETWEEN ANY 2 PHASES
FREQUENCY VARIATION:	± 1 Hz
VOLTAGE SURGES: INSTANTANEOUS VARIATION:	10% MAX. ABOVE LINE VOLTAGE 20 msec. MAX. DURATION
VOLTAGE SAGS:	10% MAX. BELOW LINE VOLTAGE 20 msec. MAX. DURATION
LINE TRANSIENTS (SPIKES):	50% MAX. ABOVE LINE VOLTAGE 5 msec. MAX. DURATION
GROUND IMPEDANCE:	0.25 OHMS MAX.

NOTE:
ALL INCOMING POWER SUPPLIES, FOR THE SIEMENS EQUIPMENT, ARE TO BE DEDICATED (BACK TO SOURCE) ISOLATED AND INSULATED FROM ANY OTHER EQUIPMENT, SUCH AS, ELEVATORS, GENERATORS, HVAC SYSTEMS, ETC.

A NEUTRAL CONDUCTOR, IF PRESENT, IS NOT USED FOR THE LINE VOLTAGE CONNECTION TO THE SIEMENS EQUIPMENT. IF THE NEUTRAL CONDUCTOR IS PROVIDED, IT SHOULD NOT BE ELECTRICALLY CONNECTED AT ANY POINT IN THE POWER DISTRIBUTION TO THE SIEMENS EQUIPMENT UNLESS SPECIFICALLY REQUIRED. UNINTENTIONAL NEUTRAL TO GROUND BONDS MAY VIOLATE LOCAL AND NATIONAL ELECTRICAL CODES, AS WELL AS CREATE GROUNDING PROBLEMS.
ATTENTION:

SIEMENS MEDICAL SYSTEMS, INC. RECOMMENDS THAT THE INCOMING POWER LINES BE ANALYZED WITH RESPECT TO TRANSIENT SURGES AND IMPULSES, SAGS, AND OVERVOLTAGES.

NORTH

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Revisions: | Date

CONSULTANTS:

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ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title: X-RAY ROOM EQUIPMENT DETAIL (TYP for ROOMS 108 & 111)

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: JJD | Drawn: JMZ

Project Number: 562-13-103

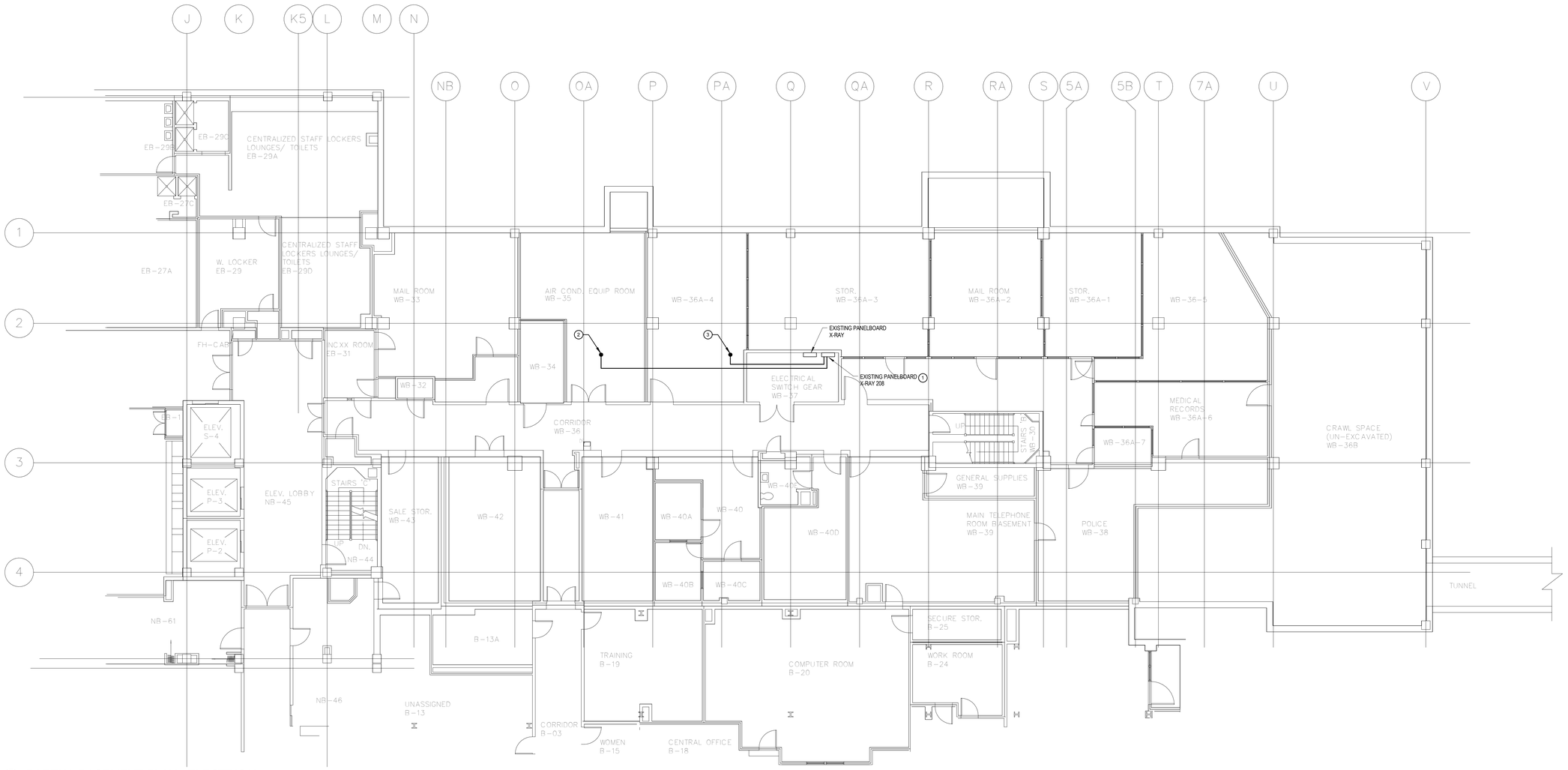
Building Number

Drawing Number: E103

Dwg. 25 of 29

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



1 PARTIAL BASEMENT PLAN - ELECTRICAL
1/8" = 1'-0"

ELECTRICAL KEYNOTES (THIS DRAWING)

1. REPLACE (2) EXISTING 125A/3P CIRCUIT BREAKERS FEEDING EXISTING X-RAY ROOMS SCHEDULED FOR REMOVAL IN PANELBOARD WITH (2) 80A/3P CIRCUIT BREAKERS MATCHING THE A.I.C. RATING OF EXISTING PANELBOARD TO FEED NEW X-RAY ROOMS. NEW FEEDERS SHALL BE (3) #3 & (1) #8 GRD IN 1 1/4" CONDUIT FOR EACH NEW X-RAY MACHINE (TYP OF 2). REFER TO DRAWING E103.
2. APPROXIMATE LOCATION OF FEED UP TO X-RAY ROOM 108 ABOVE.
3. APPROXIMATE LOCATION OF FEED UP TO X-RAY ROOM 111 ABOVE.

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Revisions:	Date

CONSULTANTS:

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AE Works Project Number: 13019

Drawing Title: PARTIAL BASEMENT PLAN - ELECTRICAL

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: JJD | Drawn: JMZ

Project Number: 562-13-103

Building Number:

Drawing Number: E104

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Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

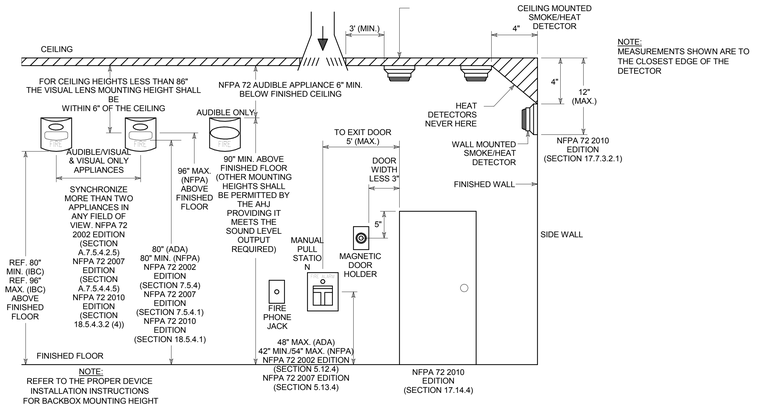
FIRE ALARM SYMBOL LEGEND

FACP	ADDRESSABLE FIRE ALARM CONTROL PANEL	MFACP	MASTER FIRE ALARM CONTROL PANEL
FAAP	REMOTE LCD ANNUNCIATOR PANEL	FFCS	FIRE FIGHTERS COMMAND STATION
FAC	FIRE ALARM COMMUNICATOR (DACT)	FATC	FIRE ALARM TERMINAL CABINET
HD X	DETECTOR, HEAT; SUB TEXT =: M R/T = COMBINATION F = FIXED TEMPERATURE RSE R/C = RATE COMPENSATION R = RATE OF	FCPS	FIELD CHARGING POWER SUPPLY
PD X	DETECTOR; LETTER INDICATES AS FOLLOWS: SUB TEXT = A = AUDIBLE BASE H = HEAT SMOKE I = IONIZATION SMOKE P = PHOTOELECTRIC SMOKE IH = IONIZATION AND HEAT SMOKE IP = IONIZATION AND PHOTOELECTRIC SMOKE PH = PHOTOELECTRIC AND HEAT SMOKE IPH = IONIZATION, PHOTOELECTRIC, AND HEAT	EOL	END OF LINE SUPERVISORY DEVICE
		X X	STROBE UNIT SYNCHRONIZED - CEILING MOUNT STROBE UNIT SYNCHRONIZED - WALL MOUNT (XX-CD = CANDELA RATING) WP = WEATHER PROOF WG = WIRE GUARD
DD	DETECTOR, SMOKE, FOR DUCT S=SUPPLY R=RETURN	X X	COMBO SYNCHRONIZED HORN/STROBE UNIT - WALL MOUNTED COMBO SYNCHRONIZED HORN/STROBE UNIT - CEILING MOUTNED (XX-CD = CANDELA RATING) WP = WEATHER PROOF WG = WIRE GUARD
P	FIRE ALARM MANUAL PULL STATION		
DH	MAGNETIC DOOR HOLD OPEN DEVICE - FLOOR MOUNTED	FS X	FIRE SPEAKER UNIT - CEILING MOUNTED
DH	MAGNETIC DOOR HOLD OPEN DEVICE - WALL MOUNTED	FS X	FIRE SPEAKER UNIT - WALL MOUNTED
M	ADDRESSABLE MONITOR MODULE	FS X	FIRE SPEAKER/STROBE UNIT - CEILING MOUNTED FIRE SPEAKER/STROBE UNIT - WALL MOUNTED WP = WEATHER PROOF (XX-CD = CANDELA RATING) WG = WIRE GUARD
TS	CONNECTION TO SPRINKLER TAMPER AND/OR LOW AIR SWITCH	C	ADDRESSABLE CONTROL MODULE
FS	CONNECTION TO SPRINKLER WATER, FLOW SWITCH	R	RELAY

NOTE:
THIS IS A STANDARD SYMBOL LIST. ALL SYMBOLS MAY NOT APPEAR ON THIS PROJECT.

GENERAL FIRE ALARM SYSTEM NOTES:

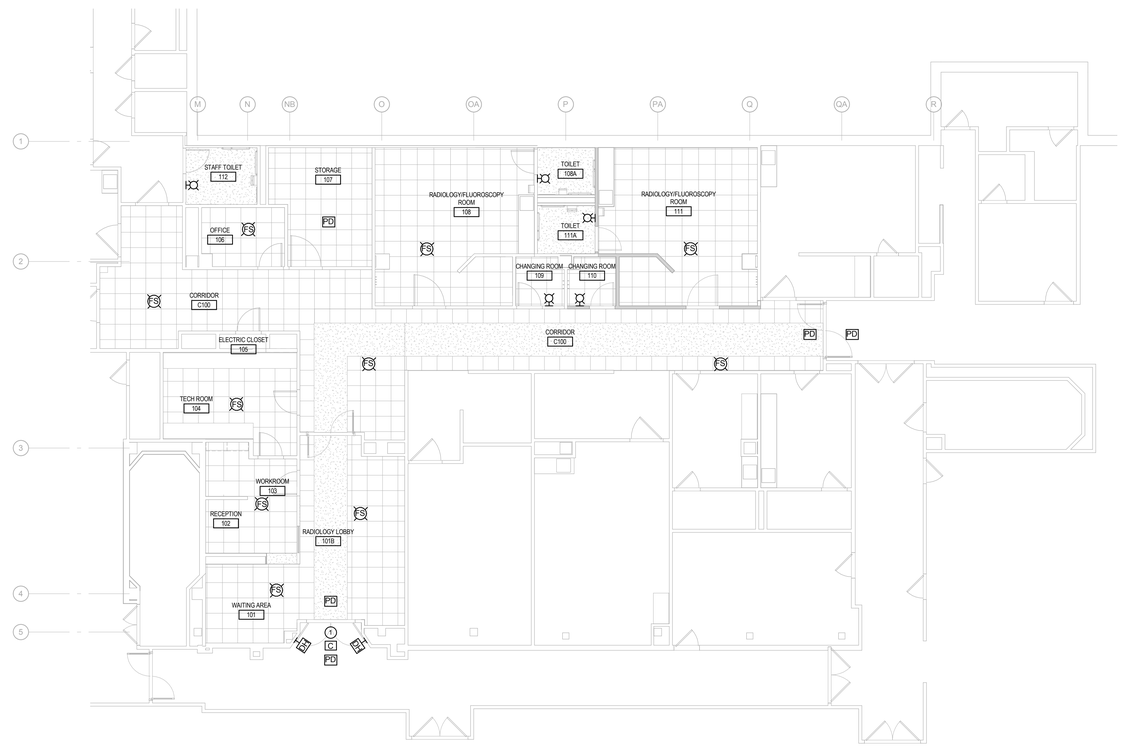
1. THE FOLLOWING GENERAL NOTES AS LISTED BELOW SHALL APPLY TO ALL FIRE ALARM SYSTEM SCOPES OF WORK AS INDICATED ON THE EF SERIES DRAWINGS.
2. ALL EQUIPMENT SYMBOLS ARE SHOWN ON DRAWINGS AS CLOSE AS POSSIBLE TO THEIR INTENDED LOCATION. CONTRACTOR SHALL COORDINATE IN THE FIELD THE PROPER INSTALLATION OF ALL EQUIPMENT, DEVICES, CONTROLS AND CABLING. REFER TO RELATED SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.
3. DRAWINGS FOR THIS WORK ARE DIAGRAMMATIC AND INTENDED TO CONVEY THE EXTENT, GENERAL ARRANGEMENT AND LOCATIONS OF THE WORK. BECAUSE OF THE SCALE OF THE DRAWINGS, CERTAIN BASIC ITEMS SUCH AS ACCESS PANELS, CONDUITS, CABINET SIZES, PENETRATION SLEEVES, PULL BOXES, BACKBOXES AND JUNCTION BOXES MAY NOT BE SHOWN. INCLUDE ALL ITEMS WHERE REQUIRED BY CODE, MANUFACTURER AND RELATED SPECIFICATION SECTIONS FOR THE PROPER INSTALLATION OF ALL WORK.
4. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 760 OF THE 2008 NATIONAL ELECTRIC CODE. ALL FIRE ALARM CABLE MUST BE MARKED TYPE FPL (NON PLENUM) OR FPLP (PLENUM) AND PROVIDED IN ACCORDANCE WITH THE CABLING REQUIREMENTS SPECIFIED BY THE CONTRACT DOCUMENTS.
5. FIRE ALARM DEVICE MOUNTING HEIGHTS SHALL COMPLY WITH ALL ANSI 117, NFPA 72 AND IBC REQUIREMENTS, AT THE MINIMUM INSTALL ALL DEVICES AS SHOWN ON FIRE ALARM DEVICE MOUNTING DETAIL.
6. COORDINATE WITH ALL TRADES ALL CONDITIONS RELATED TO THE INSTALLATION OF ALL DEVICES. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE TRADE ALL INSTALLATION REQUIREMENTS IMPACTING THE PLACEMENT OF ALL SYSTEM COMPONENTS TO THE SATISFACTION OF ALL CONCERNED TRADES.
7. PROVIDE ALL EQUIPMENT CLEARANCES IN ACCORDANCE WITH NFPA 70 REQUIREMENTS. ARRANGE EQUIPMENT TO FACILITATE UNRESTRICTED ACCESS FOR MAINTENANCE AND SERVICE AROUND ALL EQUIPMENT, COMPONENTS AND/OR CABLE TERMINATIONS.
8. COORDINATE EXACT LOCATION(S) OF ALL CEILING MOUNTED CABLE, CONDUITS, EQUIPMENT AND/OR DEVICES WITH ALL ARCHITECTURAL PLANS, REFLECTED CEILING PLANS AND AFFECTED TRADES PRIOR TO INSTALLATION.
9. ALL SMOKE AND HEAT DETECTORS SHALL BE MOUNTED TO FINISHED CEILING AND/OR DECKING, UNLESS NOTED OTHERWISE. DETECTORS SHALL NOT BE INSTALLED ON BOTTOM OF OPEN WEB JOISTS OR ON BEAMS EXCEEDING 12 INCHES DEPTH FROM FINISHED CEILING OR DECK. REFER TO NFPA 72 FOR ALL INITIATING DEVICE INSTALLATION REQUIREMENTS. PROVIDE DETECTORS IN SUFFICIENT QUANTITY TO COMPLY WITH ALL NFPA 72 REQUIREMENTS BASED ON CEILING CONDITIONS AND PROTECTED SPACE REQUIREMENTS
10. PROTECTIVE ANTI-DUST COVERS SHALL BE INSTALLED AND MAINTAINED ON ALL SYSTEM SMOKE DETECTORS UNTIL FINAL ACCEPTANCE BY THE AUTHORITIES HAVING JURISDICTION.
11. SMOKE DETECTORS SHALL NOT BE INSTALLED LESS THAN 3 FEET FROM ANY HVAC SUPPLY OR RETURN AIR REGISTER AND A MINIMUM OF 1 FOOT AWAY FROM ALL LIGHTING FIXTURES.
12. WHERE EQUIPMENT AND/OR JUNCTION BOXES ARE INSTALLED ABOVE FINISHED CEILINGS, THE CONTRACTOR SHALL PROVIDE ACCESS HATCHES LISTED FOR THE INTENDED APPLICATION. ACCESS HATCHES SHALL BE LOCATED SO THAT SERVICE ACCESS TO THE EQUIPMENT AND/OR JUNCTION BOXES IS UNIMPEDED.
13. THE FIRE ALARM SYSTEM CABLING SHALL BE INSTALLED IN DEDICATED CONDUITS. ALL CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70 AND THE CONTRACT DOCUMENTS. ALL CONDUITS SHALL BE SIZED IN ACCORDANCE WITH NFPA 70 AND SHALL BE A MINIMUM OF 3/4" UNLESS OTHERWISE NOTED. REFER TO RELATED SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION.
14. ALL CONDUITS/RACEWAYS SHALL BE INSTALLED IN A MANNER THAT PREVENTS TAMPERING OR REMOVAL WHEN INSTALLED IN AREAS EXPOSED TO THE GENERAL POPULATION. PROVIDE TAMPER-RESISTANT INSTALLATION UTILIZING "TORX WITH PEG" SECURITY-FASTENING DEVICES FOR ALL CONDUITS/RACEWAYS, EQUIPMENT, DEVICES AND APPURTENANCES IN ALL AREAS ACCESSIBLE TO THE GENERAL POPULATION AND/OR AREAS SUBJECTED TO TAMPERING OR VANDALISM. REFER TO RELATED SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION.
15. PROVIDE APPROVED EARTH GROUND AT FIRE ALARM CONTROL PANEL. CHASSIS. A CONDUIT GROUNDING TO BUILDING STEEL SHALL NOT BE CONSIDERED A ACCEPTABLE METHODOLOGY FOR GROUNDING OF FIRE ALARM CONTROL PANEL.
16. ALL SYSTEM WIRING AND EQUIPMENT INSTALLATIONS SHALL BE IN ACCORDANCE WITH GOOD ENGINEERING PRACTICES AND BY ALL IEEE, EIA, NEC AND MANUFACTURER'S REQUIREMENTS. WIRING SHALL COMPLY WITH ALL STATE AND LOCAL ELECTRICAL CODES. ALL WIRING SHALL TEST FREE FROM ALL GROUNDS, SHORTS AND EMI.
17. NO A.C. CARRYING CONDUCTORS ARE PERMITTED TO SHARE RACEWAYS WITH ANY FIRE ALARM INITIATING AND/OR NOTIFICATION CIRCUITS
18. ALL AC ELECTRICAL CIRCUITS FEEDING THE FIRE ALARM CONTROL EQUIPMENT SHALL BE EQUIPPED WITH DEDICATED CIRCUIT BREAKER LOCKOUT DEVICE IN ACCORDANCE WITH NFPA 72.
19. THE CONTRACTOR SHALL METER ALL WIRES AND CIRCUITS TO ENSURE THEY ARE FREE OF ANY GROUNDS AND SHORTS PRIOR TO COMMISSIONING OF THE SYSTEM.
20. ALL AUXILIARY ALARM RELAYS MUST BE INSTALLED WITHIN 3 FEET OF THE EQUIPMENT TO BE CONTROLLED IN ACCORDANCE WITH ALL NFPA 72 REQUIREMENTS.
21. ALL FIRE ALARM DEVICES AND EQUIPMENT SHALL BE LABELED UNIQUE IDENTIFICATION NUMBER. ALL NUMBERS SHALL CORRESPOND WITH NUMBERING SEQUENCE AS SUBMITTED ON THE PROJECT SHOP DRAWINGS. LABELS TO BE SIMILAR TO "BROTHER P-TOUCH" BLACK LETTERING ON WHITE BACKGROUND, SELF-ADHESIVE TAPE. ALL DEVICE LABELS SHALL BE INSTALLED PRIOR TO SYSTEM CHECKOUT.
22. ALL PENETRATIONS OF WALLS AND FLOORS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE ASTM AND NFPA. REFER TO RELATED SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION. INSTALLATION OF FIRE-STOPS SHALL BE PERFORMED BY AN APPLICATOR/INSTALLER QUALIFIED AND TRAINED BY THE MANUFACTURER. INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH MANUFACTURER'S DETAILED INSTALLATION PROCEDURES.
23. REFER TO ALL RELATED SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION.
24. ALL EQUIPMENT ENCLOSURES LOCATED OUTSIDE OR IN ALL AREAS WITH HIGH MOISTURE OR A RELATIVE HUMIDITY OF 75% OR GREATER SHALL BE NEMA 4X ENCLOSURES AND RATED FOR THAT APPLICATION.
25. ALL EQUIPMENT EXPOSED TO THE ENVIRONMENT OR INSTALLED IN PROXIMITY TO AREAS WITH HIGH MOISTURE, OR A RELATIVE HUMIDITY OF 75% OR GREATER SHALL PROVIDED WITH ENCLOSURES AND OR BACKBOXES RATED FOR THE ENVIRONMENTAL CONDITIONS.
26. THE STROBE INTENSITY OF ALL VISUAL NOTIFICATION APPLIANCES SHALL BE IN ACCORDANCE WITH NFPA 72 AND UL 1971. STROBE CANDELA RATINGS SHALL BE PROVIDED IN ACCORDANCE WITH DEVICE LOCATIONS AND SHALL CONFORM TO ALL ICC/ANSI 117 AND NFPA 72 INSTALLATION REQUIREMENTS. CONTRACTOR SHALL PROVIDE THE REQUIRED CANDELA POWER AND LOCATE ALL VISUAL NOTIFICATION APPLIANCES AS REQUIRED TO MEET THE REQUIREMENTS OF ALL REFERENCED CODES AND STANDARDS.



2 FIRE ALARM DEVICE MOUNTING DETAIL
N.T.S.

ABBREVIATIONS

above finished floor	AFF	far end crosstalk	FEXT	National Electric	NEMA
above finished grade	AFG	fire alarm	FA	Manufacturer Association	
accent	ACC	fire alarm annunciator panel	FAAP	National Electric Code	NEC
adjustable	ADJ	fire alarm control panel	FACP	Near End Crosstalk	NEXT
alternating current	AC	fire alarm graphic annunciator panel	FAGP	night light	NL
aluminum	AL	fixture	FIXT	normally opened	NO
American wire gauge	AWG	floor	FL	Not Available/Not Applicable	N/A
ammeter	AM	fluoresceent	FLOUR	not in contract	NIC
ampere	A/AMP	footcandles	FT	not to scale	NTS
approximately(ly)	APPROX	full load amperes	FLA	on center	OC
asymmetric	ASY	full voltage non-reversing	FVNR	overhead	OH
attenuation/crosstalk ratio	ACR	general contractor	GC	overload heater element	OL
automatic transfer switch	ATS	generator	GEN	panel	PNL
battery	BATT	ground	GND/G	pewter	PEW
below finished ceiling	BFC	ground fault interrupter	GFI	plywood	PLY
black	BLK	hand hole	HH	pole	P
bracket	BRKT	heating ventilating air conditioning	HVAC	polyvinyl chloride	PVC
breaker	BKR	hertz	HZ	potential transformer	PT
cabinet	CAB	high intensity discharge	HID	power panel	PP
cable television	CATV	high power factor	HPF	pull box	PB
ceiling	CLG	high voltage	HV	rapid start	RS
circuit	CIR/CKT	horsepower	HP	receptacle	REC/RECPT
circuit breaker	CB	incandescent	INCAN	reflector	REFL
clear	CLR	isolated ground	IG	required	REQ'D
closed circuit television	CCTV	junction box	JB	rigid galvanized steel conduit	RGS
column	COL	kilovar (reactance)	KVAR	room	RM
communication	COMM	kilovolt ampere	KVA	rough in only	RIO
conduit	C	kilowatt	KW	schedule	SCHED/SCH
cool white	CW	kilowatt hour meter	KWH	single pole double throw	SPST
copper	CU	inverter power supply	IPS	single pole single throw	SPDT
current limiting fuse	CLF	light	LT	solid state ballast	SSB
current transformer	CT	lighting	LTG	switch	SW
decibel	DB	lightning arrester	LA	switchboard	SWBD
dedicated	DED	low voltage	LV	switchgear	SWGR
diameter	DIA	light emitting diode	LED	telephone	TELE
direct current	DC	main circuit breaker	MCB	transformer	XFMR
disconnect	DISC	main distribution panel	MDP	twin tube	TT
distribution panel	DP	main lugs only	MLO	typical	TYP
double pole double-throw	DPDT	manhole	MH	Telecommunications Industry Association Technical Service Bulletin	TIA
downlight	DNLT	manual transfer switch	MTS	twisted shielded pair	TSB
drawing	DWG	manufacturer	MFR	unshielded twisted pair	TSP
dual element	DE	master antenna television	MATV	Underwriter's Laboratories	UTP
each	EA	mechanical contractor	MC	uninterruptible power supply	UL
electric water cooler	EWC	medium voltage	MV	unless otherwise noted	UPS
electrical	ELEC	metal halide	MH	vapor proof	UON
electrical contractor	EC	metal-clad cable	MCC	volt	VP
electrically operated	EO	miscellaneous	MISC	voltmeter	V
elevator	ELEV	motor circuit protector	MCP	warm white	VM
emergency	E	motor control center	MCC	watt	WW
energy saving ballast	EMERG	motor operated damper	MOD	weatherproof	W
equipment	ESB	mounted	MTD	with	WP
exhaust fan	EQIP	mounting height	MTG HT	within	W/
explosion proof	EF	millimeter	MM	without	W/I
electronics industry association	XP	millivolt	MV		W/O
	EIA				



1 FIRE ALARM PLAN
1/8" = 1'-0"

FIRE ALARM KEYNOTES (THIS DRAWING)

1. CONTROL MODULE FOR NEW DOOR HOLD OPENS.

ALL NEW CONDUIT AND JUNCTION BOXES SHALL BE PRE-PAINTED TO CONFORM TO THE FOLLOWING VA STANDARD:
- FIRE ALARM - RED
- SECURITY - BLUE
- COMMUNICATIONS - GREEN
- NURSE CALL - YELLOW
- HVAC CONTROLS - PURPLE

REFER TO PHASING PLAN ON DRAWING AD101

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

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ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title	FIRE ALARM SYMBOLS, NOTES, & PLAN
Approved: Project Director	
Project Title:	RENOVATION OF RADIOLOGY FOR RF ROOMS
Location:	135 EAST 38TH STREET, ERIE, PA 16504
Date:	April 22, 2014
Checked:	Checker
Drawn:	Author
Project Number	562-13-103
Building Number	
Drawing Number	EF101
Dwg. 27 of 29	

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

TELECOMMUNICATIONS SYMBOL LEGEND

XX	DATA COMMUNICATIONS OUTLET* SUB TEXT REFERS TO CABLING CONFIGURATIONS REFER TO COMMUNICATIONS DETAIL SHEET		WALL MOUNTED DOUBLE-FACE CLOCK
XX	FLUSH FLOOR MOUNT DATA OUTLET* SUB TEXT REFERS TO CABLING CONFIGURATIONS REFER TO COMMUNICATIONS DETAIL SHEET		CLOCK FLUSH MOUNTED
XX	TELECOMMUNICATIONS OUTLET* W-WALL MOUNTED TELEPHONE JACK		COMBINATION P/A SPEAKER AND CLOCK DEVICE
XX	FLUSH FLOOR MOUNT TELEPHONE/INTERCOM OUTLET* SUB TEXT REFERS TO CABLING CONFIGURATIONS REFER TO COMMUNICATIONS DETAIL SHEET	TV	TV - CATV
XX	DATA AND TELEPHONE COMBINATION OUTLET* SUB TEXT REFERS TO CABLING CONFIGURATIONS REFER TO COMMUNICATIONS DETAIL SHEET	L	LOCAL ORIGINATION CATV OUTLET
XX	FLUSH FLOOR MOUNT COMBINATION OUTLET* SUB TEXT REFERS TO CABLING CONFIGURATIONS REFER TO COMMUNICATIONS DETAIL SHEET		VIDEO SPLITTER
XX	CEILING MOUNTED DATA OUTLET* SUB TEXT REFERS TO CABLING CONFIGURATIONS REFER TO COMMUNICATIONS DETAIL SHEET	AP	WIRELESS ACCESS POINT (DATA DROP AND JACK LOCATION)
XX	FIBER OPTIC CABLE NUMBER OF STRANDS	IM IS	INTERCOM MASTER STATION INTERCOM SLAVE STATION
S XX	PUBLIC ADDRESS LOUDSPEAKER A = AUDIO ENHANCEMENT SPEAKER V = VOX CONTROLLED SPEAKER VC = VOLUME CONTROL EQUIPPED SPEAKER	NCS	NURSE CALL MASTER STATION
S E	AUDIO ENHANCEMENT SPEAKER	HMI	NURSE CALL TOUCH SCREEN TERMINAL
S	PUBLIC ADDRESS LOUDSPEAKER HORN TYPE/POLE MOUNTED	PB	PANIC BUTTON (MOUNTED UNDER DESK)
S	PUBLIC ADDRESS LOUDSPEAKER EXTERIOR, FLUSH WALL MOUNTED IN WEATHERPROOF ENCLOSURE	P	NURSE CALL PATIENT STATION
VC	SPEAKER VOLUME CONTROL DEVICE.	N	NURSE CALL EMERGENCY STATION
AUX SS	AUXILIARY LOCAL SOUND SYSTEM CONSOLE	D	NURSE CALL DUTY STATION
S S	AUXILIARY LOCAL SOUND SYSTEM SPEAKERS	N	NURSE CALL DOME LIGHT
S S S	SOUND SYSTEM SPEAKER, CLUSTER TYPE	CR	CARD READER
	THROUGH-WALL CONDUIT PENETRATION SLEEVE		SECURITY CAMERA - DOME
TMGB TGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR TELECOMMUNICATIONS GROUNDING BUSBAR	MGA	MEDICAL GAS ALARM PANEL
+	DEVICE MOUNTED ABOVE COUNTER	RTX XX	REQUEST TO EXIT M=PIR MOTION, PP=PUSHBUTTON

NOTES:

* REFER TO FLOOR PLANS FOR EXACT JACK LOCATION.

THIS IS A STANDARD SYMBOL LIST. ALL SYMBOLS MAY NOT APPEAR ON THIS PROJECT.

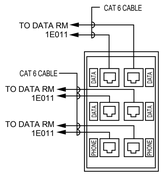
STANDARD MOUNTING HEIGHTS

CEILING	SPEAKERS, WIRELESS ACCESS POINTS. TV AND LCD PROJECTOR CONNECTIONS
8' A.F.G.	EXTERIOR SPEAKERS,
7'-5" A.F.F.	CLOCKS, COMBINATION CLOCK/SPEAKERS, TRUMPET SPEAKERS
7'-0" A.F.F.	VISUAL NOTIFICATION DEVICES (CENTER OF DEVICE)
5'-6" A.F.F	TOP OF PLYWOOD TELEPHONE BACKBOARD
5'-4" A.F.F.	ANNUNCIATOR PANELS, CONTROL PANELS AND DISPLAYS, TACTILE DISPLAYS
4'-8" A.F.G. MAX	PEDESTAL MOUNT INTERCOM
4'-0" A.F.F.	"PS" TELEPHONE OUTLETS (TOP OF COIN SLOT) WALL MOUNTED TELEPHONE OUTLETS, INTERCOM STATIONS, CALL STATIONS, RESCUE ASSISTANCE PANELS (CENTER OF DEVICE)
1'-5" A.F.F.	DATA/TELEPHONE JACKS, LOW TELEVISION JACKS, MICROPHONE JACKS
0'-0"	IN FLOOR JUNCTION BOXES FLUSH TO FINISHED FLOOR (FF) (DATA, TELEPHONE, MICROPHONE, MEDIA)

1. IN MASONRY CONSTRUCTION THE MOUNTING HEIGHTS SHALL BE USED FOR REFERENCE TO THE NEAREST BLOCK OR BRICK COURSING.
2. THE ABOVE MOUNTING ELEVATIONS ARE TO CENTER OF DEVICE AND SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWINGS AND/OR SPECIFICATIONS.
3. COORDINATE THE INSTALLATION AND MOUNTING ELEVATIONS OF ALL EQUIPMENT, DEVICES, CONTROLS AND APPURTENANCES WITH ARCHITECT AND ALL AFFECTED TRADES PRIOR TO INSTALLATION. DOCUMENT ALL MOUNTING ELEVATIONS FOR ALL EQUIPMENT, DEVICES, CONTROLS AND APPURTENANCES AT THE TIME OF SHOP DRAWING SUBMITTAL

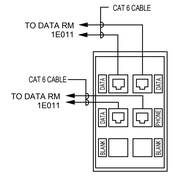
GENERAL COMMUNICATIONS SYSTEM NOTES:

1. THE FOLLOWING GENERAL NOTES AS LISTED BELOW SHALL APPLY TO ALL COMMUNICATIONS SYSTEM REQUIREMENTS AS INDICATED ON ALL ET SERIES CONTRACT DRAWINGS.
2. DRAWINGS FOR THIS WORK ARE DIAGRAMMATIC AND INTENDED TO CONVEY THE EXTENT, GENERAL ARRANGEMENT AND LOCATIONS OF THE WORK. BECAUSE OF THE SCALE OF THE DRAWINGS, CERTAIN BASIC ITEMS SUCH AS ACCESS PANELS, CONDUITS, CABINET SIZES, PENETRATION SLEEVES, PULL BOXES, BACKBOXES AND JUNCTION BOXES MAY NOT BE SHOWN. INCLUDE ALL ITEMS WHERE REQUIRED BY CODE, MANUFACTURER AND RELATED SPECIFICATION SECTIONS FOR THE PROPER INSTALLATION OF ALL WORK.
3. DUE TO SCALE OF THE DRAWINGS, ALL COMMUNICATIONS DEVICE SYMBOLS ARE SHOWN ON DRAWINGS AS CLOSE AS POSSIBLE TO THEIR INTENDED LOCATION. CONTRACTOR SHALL COORDINATE IN THE FIELD THE PROPER INSTALLATION OF ALL EQUIPMENT, DEVICES, CONTROLS AND CABLING. REFER TO RELATED SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.
4. COORDINATE WITH ALL TRADES AND SYSTEM INTEGRATORS ANY CONDITIONS RELATED TO THE INSTALLATION OF ALL SYSTEMS. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE TRADE ALL INSTALLATION REQUIREMENTS IMPACTING THE PLACEMENT OF ALL SYSTEM COMPONENTS TO THE SATISFACTION OF ALL CONCERNED TRADES.
5. COORDINATE EXACT LOCATION OF ALL DESK OR COUNTER MOUNTED EQUIPMENT WITH OWNER AND ARCHITECT AND ALL AFFECTED TRADES PRIOR TO THE INSTALLATION OF ANY EQUIPMENT AND/OR CABLING.
6. COORDINATE EXACT LOCATION(S) OF ALL CEILING MOUNTED CABLE, CONDUITS, EQUIPMENT AND/OR DEVICES WITH ALL ARCHITECTURAL PLANS, REFLECTED CEILING PLANS AND ALL AFFECTED TRADES PRIOR TO INSTALLATION.
7. COORDINATE EXACT LOCATION(S) OF ALL DATA AND TELEPHONE OUTLETS, ELECTRICAL RECEPTACLES WITH THE ARCHITECTURAL PLANS, FURNITURE PLANS AND ALL AFFECTED TRADES PRIOR TO INSTALLATION.
8. ALL HORIZONTAL CATEGORY 6 UTP CABLE SHALL BE PLENUM RATED CABLE AND SHALL BE BUNDLED AND ROUTED THROUGH THE FACILITY AND SHALL TERMINATE AT THE NEAREST MDF/IDF EQUIPMENT RACKS. ALL HORIZONTAL CABLE BUNDLES SHALL NOT CONTAIN ANY AC CONDUCTING CABLING. ALL HORIZONTAL CABLE DROPS SHALL NOT EXCEED 294' FROM PATCH PANEL TO OUTLET TERMINATION AND SHALL BE TESTED AND CERTIFIED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. REFER TO RELATED SPECIFICATIONS SECTIONS FOR ADDITIONAL INFORMATION.
9. ALL FIBER OPTIC BACKBONE CABLING SHALL BE ROUTED THROUGH THE FACILITY VIA DEDICATED CONDUITS AND VERTICAL PIPES CHASES INSTALLED IN PROTECTIVE INNERDUCT CONDUIT SYSTEM AND AND SHALL TERMINATE AT ALL APPROPRIATE MDF/IDF EQUIPMENT RACKS. THE CONTRACTOR SHALL COORDINATE ALL EQUIPMENT, RACK SPACE REQUIREMENTS, WITH THE APPROPRIATE SYSTEM INTEGRATORS AND ARCHITECT. ALL FIBER OPTIC CABLING SHALL BE TESTED AND CERTIFIED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. REFER TO RELATED SPECIFICATIONS SECTIONS FOR ADDITIONAL INFORMATION.
10. ALL CONDUITS SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH NFPA 70 AND PROJECT SPECIFICATIONS. ALL CONDUITS SHALL BE A MINIMUM OF 3/4" UNLESS OTHERWISE NOTED.
11. ALL SYSTEM WIRING, CONDUITS AND EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH GOOD ENGINEERING PRACTICES AND BY ALL IEEE, EIA, NEC AND MANUFACTURER'S REQUIREMENTS. ALL WIRING SHALL COMPLY WITH ALL STATE AND LOCAL ELECTRICAL CODES AND SHALL TEST FREE FROM ALL GROUNDS, SHORTS STRAY VOLTAGES AND EMI.
12. PROVIDE ALL EQUIPMENT CLEARANCES IN ACCORDANCE WITH NEC REQUIREMENTS. ARRANGE EQUIPMENT TO FACILITATE UNRESTRICTED ACCESS FOR MAINTENANCE AND SERVICE AROUND ALL EQUIPMENT, COMPONENTS AND/OR CABLE TERMINATIONS.
13. PROPERLY GROUND ALL EQUIPMENT, RACKS, CABINETS, CONDUITS AND CABLE SHIELDS IN ACCORDANCE WITH ALL REQUIREMENTS OF THE NFPA 70 AND EQUIPMENT MANUFACTURER. ALL EQUIPMENT AND COMMUNICATIONS CIRCUITS SHALL BE PROPERLY SURGE PROTECTED AND GROUNDED TO MINIMIZE DAMAGE DUE TO LIGHTENING STRIKES, SNEAK CURRENTS AND OTHER TRANSIENT VOLTAGE SPIKES. ALL SURGE PROTECTION AND GROUNDING SHALL BE IN ACCORDANCE WITH ALL REQUIREMENTS OF THE EQUIPMENT MANUFACTURER. NEC, IEEE AND TIA/EIA
14. WHERE EQUIPMENT AND/OR JUNCTION BOXES ARE INSTALLED ABOVE FINISHED CEILINGS, THE CONTRACTOR SHALL PROVIDE ACCESS HATCHES LISTED FOR THE INTENDED APPLICATION. ACCESS HATCHES SHALL BE LOCATED SO THAT SERVICE ACCESS TO THE EQUIPMENT AND/OR JUNCTION BOXES IS UNIMPEDED.
15. ALL PENETRATIONS OF WALLS AND/OR FLOORS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE ASTM AND NFPA REQUIREMENTS. REFER TO RELATED SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION. INSTALLATION OF FIRE-STOPS SHALL BE PERFORMED BY AN APPLICATOR/INSTALLER QUALIFIED AND TRAINED BY THE MANUFACTURER. INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH MANUFACTURER'S DETAILED INSTALLATION PROCEDURES.
16. PROVIDE THE PROPER INTERFACES TO BUILDING FIRE ALARM, INTRUSION ALARM AND BUILDING AUTOMATION SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE LIFE SAFETY CODES AND MANUFACTURER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. COORDINATE WITH THE FIRE ALARM SYSTEM PROVIDER FOR ALL REQUIRED SYSTEM INTEGRATION REQUIREMENTS.
17. ALL EQUIPMENT ENCLOSURES LOCATED OUTSIDE OR IN ALL AREAS WITH HIGH MOISTURE OR A RELATIVE HUMIDITY OF 75% OR GREATER SHALL BE NEMA 4X STAINLESS STEEL AND RATED FOR THAT APPLICATION.
18. ALL DEVICES, COMPONENTS OR EQUIPMENT INSTALLED ON THE EXTERIOR OF THE FACILITY SHALL BE PROVIDED IN ACCORDANCE WITH ALL MANUFACTURERS' REQUIREMENTS TO ENSURE THE PROPER OPERATION WHEN EXPOSED TO THE ENVIRONMENTAL CONDITIONS AND/OR AVERAGE ANNUAL LOWEST TEMPERATURE THAT CAN BE ANTICIPATED FOR THE GEOGRAPHIC REGION OF THE FACILITY.
19. ALL INTERIOR AND/OR EXTERIOR COMPONENTS, DEVICES OR SYSTEMS EQUIPMENT EXPOSED TO THE GENERAL POPULATION SHALL BE INSTALLED IN SECURED EQUIPMENT ENCLOSURES WITH TAMPER SWITCHES AND INSTALLED IN SUCH A MANNER THAT RESISTS TAMPERING AND/OR REMOVAL WITHOUT THE USE OF SPECIALIZED TOOLS.
20. FOR EQUIPMENT INSTALLATIONS REQUIRING COORDINATION WITH OTHER TRADES THE CONTRACTOR SHALL PROVIDE ALL TEMPLATES, BACKBOXES AND EQUIPMENT ANCHOR BOLTS FOR MOUNTING OR FLUSH MOUNTING PREPARATION, (E.G. PEDESTALS OR OTHER DEVICES REQUIRING MOUNTING ON WALLS, CONCRETE PADS OR OTHER MATERIALS). COORDINATE DELIVERY OF TEMPLATES AND EQUIPMENT WITH ALL AFFECTED CONTRACTORS.
21. ALL COMMUNICATIONS EQUIPMENT MUST HAVE TRANSIENT SURGE PROTECTION TO COMPLY WITH UL AND NFPA 70 REQUIREMENTS. WHERE ANY CIRCUITS LEAVE THE BUILDING, ADDITIONAL TRANSIENT PROTECTION MUST BE PROVIDED FOR EACH CIRCUIT. ALL TRANSIENT PROTECTION DEVICES MUST BE UL LISTED UNDER STANDARD #497B (ISOLATED LOOP PROTECTORS).
22. REFER TO ALL RELATED CONTRACT DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND/OR REQUIREMENTS RELATED TO THE INSTALLATION, PROGRAMMING, TESTING, COMMISSIONING AND CERTIFICATION OF ALL COMMUNICATIONS SYSTEMS.
23. ALL STATION AND HEAD END CABLES SHALL BE TERMINATED, TESTED, AND LABLED ACCORDING TO VA STANDARDS BY THE CONTRACTOR.



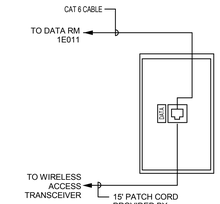
6 TYPE: COMBINATION 4-DATA, 2-TELEPHONE PORTS

NOTES:
1. MOUNT JACK AT 18" A.F.F. (UNLESS NOTED OTHERWISE)
2. FOLLOW THE USING AGENCY STANDARD LABELING NOMENCLATURE
3. CONTRACTOR SHALL MAKE FINAL TERMINATIONS, TEST, AND LAND CABLES ON CONTRACTOR PROVIDED PATCH PANELS.



TYPE: COMBINATION 3-DATA, 1-TELEPHONE PORTS

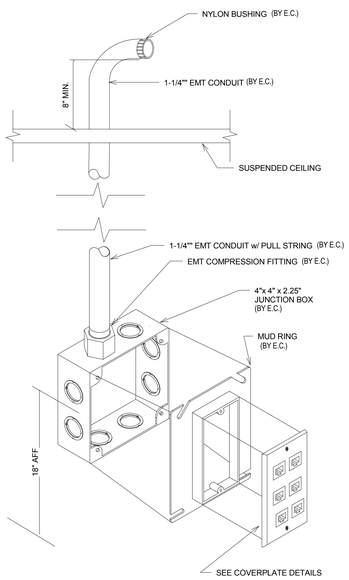
NOTES:
1. MOUNT JACK AT 18" A.F.F. (UNLESS NOTED OTHERWISE)
2. FOLLOW THE USING AGENCY STANDARD LABELING NOMENCLATURE
3. CONTRACTOR SHALL MAKE FINAL TERMINATIONS, TEST, AND LAND CABLES ON CONTRACTOR PROVIDED PATCH PANELS.



TYPE: AP 1-DATA JACK FOR WIRELESS ACCESS POINT

NOTES:
1. INSTALL JACK ABOVE ACCESSIBLE CEILING SPACE
2. FOLLOW THE USING AGENCY STANDARD LABELING NOMENCLATURE
3. CONTRACTOR SHALL MAKE FINAL TERMINATIONS, TEST, AND LAND CABLES ON CONTRACTOR PROVIDED PATCH PANELS.
4. COORDINATE WITH THE GOVERNMENT'S OI&T FOR EXACT LOCATION OF ALL OWNER PROVIDED WIRELESS ACCESS POINTS

2 TELECOM FACEPLATE DETAILS
N.T.S.



3 TELECOM ROUGH-IN DETAILS
N.T.S.

ALL NEW CONDUIT AND JUNCTION BOXES SHALL BE PRE-PAINTED TO CONFORM TO THE FOLLOWING VA STANDARD:
- **FIRE ALARM - RED**
- **SECURITY - BLUE**
- **COMMUNICATIONS - GREEN**
- **NURSE CALL - YELLOW**
- **HVAC CONTROLS - PURPLE**

REFER TO PHASING PLAN ON DRAWING AD101

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

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Ph: 412.287.7333 Fax: 412.287.7334
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AE Works Project Number: 13019

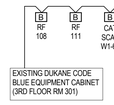
Drawing Title	TELECOMMUNICATIONS SYMBOLS AND NOTES
Approved: Project Director	
Project Title:	RENOVATION OF RADIOLOGY FOR RF ROOMS
Location:	135 EAST 38TH STREET, ERIE, PA 16504
Date:	April 22, 2014
Checked:	Checker
Drawn:	Author
Project Number	562-13-103
Building Number	
Drawing Number	ET001
Dwg. 28 **of** 29	

Office of Construction and Facilities Management

Department of Veterans Affairs

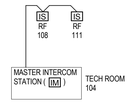
VA FORM 08-6231

1 TELECOMMUNICATION PLAN - PARTIAL FIRST FLOOR
1/8" = 1'-0"

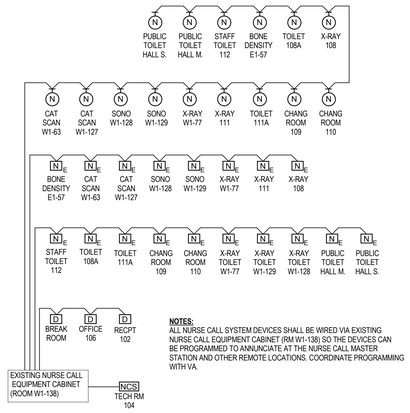


NOTES:
ALL CODE BLUE SYSTEM DEVICES SHALL BE WIRED THROUGH EXISTING DUKANE CODE BLUE SYSTEM EQUIPMENT CABINET (RM 301) SO THE DEVICES CAN BE PROGRAMMED TO ANNUNCIATE AT NURSE CALL MASTER STATION OR OTHER REMOTE LOCATIONS. ACTIVATION OF CODE BLUE ALSO TO SIGNAL NURSE CALL MASTER STATION IN SPACE AND OTHER REMOTE LOCATIONS. COORDINATE PROGRAMMING WITH VA.

CODE BLUE RISER DIAGRAM



INTERCOM RISER DIAGRAM



NOTES:
ALL NURSE CALL SYSTEM DEVICES SHALL BE WIRED VIA EXISTING NURSE CALL EQUIPMENT CABINET (RM W1-138) SO THE DEVICES CAN BE PROGRAMMED TO ANNUNCIATE AT THE NURSE CALL MASTER STATION AND OTHER REMOTE LOCATIONS. COORDINATE PROGRAMMING WITH VA.

NURSE CALL RISER DIAGRAM

2 COMMUNICATIONS RISER DIAGRAMS
1/8" = 1'-0"

TELECOMMUNICATION KEYNOTES (THIS DRAWING)

1. PROVIDE 4" SLEEVE THROUGH WALL FOR COMMUNICATION CABLES.
2. MOUNT CAMERA TO ENSURE PROPER VIEWING ANGLE OF CHECK-IN WINDOW. COORDINATE WITH VA POLICE PRIOR TO ROUGH-IN.
3. MOUNT INTERCOM AND NURSE CALL DEVICES IN BETWEEN EQUIPMENT SP THEY ARE ACCESSIBLE.
4. EXISTING WIRELESS ACCESS POINT RELOCATED TO THIS LOCATION. MAKE FINAL CONNECTIONS TO PROVIDE A COMPLETE INSTALLATION.
5. EXTEND ACCESS CONTROL WIRING BACK TO EXISTING SECURITY PANEL SHOWN AND MAKE FINAL CONNECTIONS. COORDINATE WITH VA POLICE AND TEST TO ENSURE FULL OPERATION.
6. NEW DOOR CONNECTED TO CARD READER SHALL HAVE THE FOLLOWING COMPONENTS:
   - CARD READER (#HID-92UNHR)
   - ELECTRIC STRIKE (#HES-1006)
   - REQUEST TO EXIT (#SECURITRON-EEB)
   - DOOR CONTACTS (#SENTROL-1078CW)
7. ALL ACCESS CONTROL DEVCES SHALL BE RUN TO THIS ROOM AND TERMINATE ON EXISTING SECURITY PANEL. PROVIDE THE FOLLOWING EQUIPMENT IN THE EXISTING SECURITY PANEL:
   - NETWORK SWITCH (ALLIED-TELESIS #8305-24POE)
   - VISCOUNT-FREEDOM BRIDGE (#400-ULX)
   - POWER SUPPLY CHARGER (ALTRONIX #AX-600ULACMB)
8. ALL DATA/COMMUNICATION CABLING SHALL BE RUN TO THIS ROOM AND LAND ON EXISTING DATA RACK. PROVIDE NEW 48 PORT PATCH PANEL IN EXISTING RACK.
9. EXISTING SECURITY CAMERA RELOCATED TO THIS LOCATION.
10. PROVIDE (1) CAT 6 DATA CABLE TO RECESSED TV BOX, REFER TO NOTE 6 ON E101.
11. CODE BLUE BUTTONS FOR EXISTING DUKANE SYSTEM TO BE PROVIDED BY THE VA. NEW CONDUIT RUN TO HALLWAY OUTSIDE ENTRANCE TO SPACE. PULL NEW WIRE THROUGH EXISTING CONDUIT IN HALLWAY TO 3RD FLOOR CLOSET 301 ADJACENT TO ELEVATORS AND CONNECT TO SYSTEM.
12. NEW NURSE CALL DUTY STATION. WIRE TO EXISTING NURSE CALL EQUIPMENT CABINET IN W1-138 WITH NEW CONDUIT SERVING THE RADIOLOGY SPACE.

NORTH

FULLY SPRINKLERED
ISSUED FOR CONSTRUCTION

Revisions:	Date

CONSULTANTS:

SEAL

ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13019

Drawing Title: TELECOMMUNICATION PLAN & RISERS

Approved: Project Director

Project Title: RENOVATION OF RADIOLOGY FOR RF ROOMS

Location: 135 EAST 38TH STREET, ERIE, PA 16504

Date: April 22, 2014 | Checked: JJD | Drawn: JMZ

Project Number: 562-13-103

Building Number

Drawing Number: ET101

Dwg. 29 of 29

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

ERIE VAMC

135 East 38th St
Erie, PA 16501

LUMINOS AGILE

Contents:

Sheet No.	Description
A-101	EQUIPMENT PLAN-DETAILS, LEGEND, AND NOTES
A-102	REFLECTED CLNG. & SAFETY/SERVICE PLANS-NOTES
S-101	STRUCTURAL FLOOR/CEILING PLANS-DETAILS, & NOTES
S-102	STRUCTURAL CEILING PLAN-DETAILS AND NOTES
E-101	ELECTRICAL PLAN(S)-LEGEND AND NOTES
E-102	ELECTRICAL PLAN-LEGEND AND NOTES

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ERIE VAMC

Project #: 1303120

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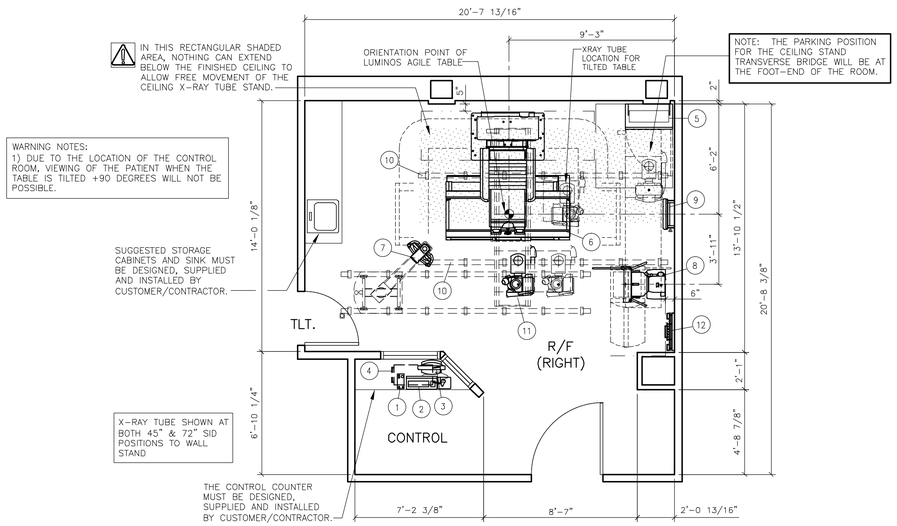
LUMINOS AGILE
ROOM R/F RIGHT

Issue #: 0
Date: 12/03/13

SIEMENS



THIS SET OF FINAL DRAWINGS IS REFLECTIVE OF THE LATEST SALES CONFIGURATION. ANY CHANGES TO THIS SALES CONFIGURATION MAY REQUIRE A REVISION TO THIS PROJECT PLAN. IF REQUESTED, SIEMENS WILL PRODUCE A REVISED SET OF FINAL DRAWINGS TO REFLECT THE CHANGES, HOWEVER SIEMENS IS NOT RESPONSIBLE FOR ANY CONSTRUCTION COSTS ASSOCIATED WITH THE CHANGES THAT OCCUR FROM THIS PLAN MODIFICATION.

ARCHITECTURAL EQUIPMENT PLAN

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

EQUIPMENT LEGEND

NO	DESCRIPTION	SMS SYM	WEIGHT (LBS)	BTU/HR TO AIR	DIMENSIONS (INCHES) W	D	H	REMARKS
1	CONTROL ROOM MODULE	CR	2	–	4 3/4	10 1/16	3 3/16	ON CUSTOMER'S COUNTER
2	IMAGING SYSTEM – KEYBOARD AND MOUSE	–	–	–	–	–	–	ON CUSTOMER'S COUNTER
3	B/W FLAT SCREEN CONTROL ROOM MONITOR	–	–	–	–	–	–	ON CUSTOMER'S COUNTER
4	IMAGING SYSTEM (UNDER COUNTER)	IS	110	1,468	17 3/8*	32 1/2*	27*	*INCLUDES 5 1/8" BEHIND, 4" ABOVE AND ALONG CONTAINER.
5	POLYDOROS F65 (65 kW) GENERATOR CABINET	GEN	838	2,048**	31 1/2	17 1/8	86 3/4	**DURING OPERATION, 1,195 IN STANDBY MODE
6	LUMINOS AGILE (+90/–20) TABLE	DT	3,793	2,900***	83	88	77	***DURING OPERATION, 512 IN STANDBY MODE
7	DCS–1 IC–DVI FLAT DISPLAY & TOUCH DISPLAY ON CEILING SUSPENSION	DV	419	512	167 1/8	27 7/8	*A	*A – 63"MIN. AND 102" MAX.
8	YSIO WALL STAND WITH MOBILE DETECTOR (RIGHT LOADING)	WS	551	819	30	37*B	83	*B – MAX. IN HORIZONTAL POSITION
9	DOCKING STATION (WALL MOUNTED)	DS	40	256	20 3/8	7 13/16	16 1/4	WITHIN 11.5 FT. OF WALL STAND
10	CEILING RAILS FOR FULLY SYNCHRONIZED TUBE STAND	–	59	–	167 3/8	3	3 1/2	SIZE AND WEIGHT PER RAIL
11	3M TRANSVERSE BRIDGE AND X-RAY TUBE STAND	CS	772	853	119 1/4	39	4	
12	GRID HOLDER (WALL MOUNTED)	–	63	–	25 1/16	6 7/16	21 11/16	SUGGESTED LOCATION

ARCHITECTURAL NOTES

1) ALL PRELIMINARY EQUIPMENT LAYOUTS SUBMITTED BY SIEMENS MEDICAL SOLUTIONS, INC. (SMS HEREAFTER) ARE BASED ON THE RECOMMENDED SPACE NECESSARY FOR THE OPERATION AND SERVICEABILITY OF THE EQUIPMENT BEING PROPOSED. SMS WILL NOT SUBMIT AN EQUIPMENT LAYOUT THAT IS NOT IN THE BEST INTEREST OF BOTH THE CUSTOMER AND SMS. ALL EQUIPMENT LAYOUTS ARE BASED EITHER ON AN ACTUAL SITE LOCATION SURVEY OR ARCHITECTURAL DRAWINGS SUPPLIED TO SMS. SMS WILL NOT BE RESPONSIBLE FOR ANY ALTERATIONS THAT ENCROACH WITHIN DESIGNATED SAFETY AND SERVICE CLEARANCE ZONES AS INDICATED ON DRAWINGS (IE. PIPE CHASES, VENTILATION DUCTS, CASEWORK, AND SOFFITS, ETC.) MADE BY THE CUSTOMER OR REQUIRED BY A CUSTOMER'S ARCHITECTURAL FIRM ONCE PRELIMINARY DRAWINGS HAVE BEEN SUBMITTED AND APPROVED. DO NOT ALTER ANY SPECIFICATIONS AND/OR DIMENSIONS WITHOUT CONTACTING AND RECEIVING WRITTEN CONFIRMATION FROM SMS PROJECT MANAGER.
2) SMS IS NOT AN ARCHITECTURAL OR ENGINEERING FIRM. DRAWINGS SUPPLIED BY SMS ARE NOT CONSTRUCTION DRAWINGS. THEREFORE, THESE DRAWINGS ARE TO BE USED ONLY FOR INFORMATION TO COMPLEMENT ACTUAL CONSTRUCTION DRAWINGS AVAILABLE FROM A CUSTOMER APPOINTED ARCHITECTURAL REPRESENTATIVE OR A CUSTOMER'S ENGINEERING DESIGN GROUP. THE CUSTOMER'S ARCHITECT AND GENERAL CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE CODES AND PROFESSIONAL DESIGN REQUIREMENTS.
3) THE CUSTOMER IS RESPONSIBLE FOR ALL ROOM AND AREA PREPARATION COSTS, PROFESSIONAL FEES, PERMITS, REPORTS, AND INSPECTION FEES.
4) EQUIPMENT WARRANTIES, EXPRESSED OR IMPLIED ON THE PART OF SMS SHALL BE CONTINGENT UPON STRICT COMPLIANCE WITH THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL AND RECOMMENDATIONS AND REQUIREMENTS CONTAINED IN THESE DRAWINGS, UNLESS SPECIFIED OTHERWISE.
5) ALL DIMENSIONS SHOWN ARE TAKEN FROM FINISHED SURFACES UNLESS SPECIFIED OTHERWISE.
6) THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST. ACTUAL PROTECTION REQUIREMENTS SHALL BE SPECIFIED BY A REGISTERED RADIATION PHYSICIST AT CUSTOMER'S ENGAGEMENT AND EXPENSE. RESPONSIBILITY FOR ALL INFORMATION AS TO THE ROOM LOCATION, USE, AND NUMBER OF ANTICIPATED EXAMINATIONS TO BE PERFORMED PER TIME PERIOD SHALL BE PROVIDED TO THE PHYSICIST BY THE CUSTOMER. THE CUSTOMER SHALL FURTHER TAKE ALL RESPONSIBILITY IN THE COMMUNICATION AND COORDINATION OF ACTIVITIES OF THE RADIATION PHYSICIST AND THE ARCHITECTURAL REPRESENTATIVE.
7) SMS SHALL BE RESPONSIBLE FOR SMS EQUIPMENT INSTALLATION AND CALIBRATION, CONNECTION AND INSTALLATION OF SMS PROVIDED CABLES, AND CONNECTION OF CONTRACTOR PROVIDED WIRES TO SMS EQUIPMENT. IN THE EVENT THAT SPECIFIC TRADE RULES OR LICENSE REQUIREMENTS PROHIBIT THIS, THE CUSTOMER SHALL INITIATE THE SERVICES OF APPROVED OTHER CONTRACTORS AND PAY FOR SELECTED, APPROVED PARTIES TO PERFORM THIS WORK WITH JOB SUPERVISION TO BE PROVIDED BY SMS. CALIBRATION WHEN ACCOMPLISHED OUTSIDE OF NORMAL INSTALLATION SEQUENCES DUE TO CONTRACTOR OR TRADE RULE ACTIONS OR REQUIREMENTS SHALL BE SUPPORTED BY, CHARGED TO, AND ACCEPTED BY THE CUSTOMER AS AN ADDITIONAL INSTALLATION EXPENSE.
8) THE CUSTOMER SHALL VERIFY WITH SMS PROJECT MANAGER FINAL INSTALLATION DRAWINGS THE LOCATIONS AND TRAVEL OF ALL ANCILLARY EQUIPMENT TO BE CEILING OR WALL MOUNTED (IE: O.R. LIGHTS, MEDICAL GAS COLUMNS, PHYSIOLOGICAL MONITORING INJECTORS, CRT PLATFORMS, SPRINKLER HEADS, SMOKE DETECTORS, ELECTRICAL OUTLETS, HVAC GRILLES, SPEAKERS, AND GENERAL ROOM LIGHTING, ETC.).
9) THE GENERAL CONTRACTOR/CUSTOMER SHALL BE RESPONSIBLE FOR ALL FINAL PAINT, TOUCH-UP AND ANY COSMETIC OR TRIM WORK WHICH NEEDS TO BE OR IS REQUIRED TO BE COMPLETED AFTER THE INSTALLATION OF THE SMS EQUIPMENT AND ANY ASSOCIATED SUPPORT APPARATUS.

TABLE TECHNICAL DATA

ENVIRONMENT:	59°F – 95°F OPERATING ROOM TEMPERATURE (NOTE: MAXIMUM 82°F WITH WIRELESS DETECTOR) 20% – 75% PERMISSIBLE RELATIVE AIR HUMIDITY (NON–CONDENSING)
TRANSPORTING/ RIGGING:	UNIT BASE WEIGHT: 1,901 LBS. WITH PACKING 1,610 LBS. WITHOUT PACKING (WITH TRANSPORT CARRIAGE) DIMENSIONS WITH PACKING: 53"L X 36"W X 67"H UNIT SUPPORT WEIGHT: 2,095 LBS. WITH PACKING 1,517 LBS. WITHOUT PACKING (WITH TRANSPORT CARRIAGE) DIMENSIONS WITH PACKING: 97"L X 52"W X 56"H DIMENSIONS WITHOUT PACKING (WITH TRANSPORT CARRIAGE): 116"L X 32"W X 60"H (WHEELS OUTSIDE) 95"L X 32"W X 60"H (ALL WHEELS INSIDE) 107"L X 32"W X 60"H (TWO WHEELS INSIDE) MINIMUM DOOR OPENING FOR TRANSPORT CARRIAGE: 34"W WITH MINIMUM 8'–3" CORRIDOR WIDTH 48"W WITH MINIMUM 6'–1" CORRIDOR WIDTH

SIEMENS REMOTE SERVICES (SRS)

TO ENSURE THE UPTIME OF YOUR SYSTEM DURING THE WARRANTY PERIOD (AND BEYOND WITH A SERVICE AGREEMENT), SIEMENS REMOTE SERVICES (SRS) REQUIRES REMOTE LOCAL AREA NETWORK ACCESS TO SIEMENS SYSTEMS.

SRS REQUIRES ONE OF THE FOLLOWING CONNECTION METHODS:

(PREFERRED) VPN CONNECTION

THE PREFERRED CONNECTION METHOD IS (VPN) VIRTUAL PRIVATE NETWORK (WHERE THE CUSTOMER HAS AVAILABLE A VPN CAPABLE FIREWALL OR OTHER VPN APPLIANCE). THIS METHOD PROVIDES THE POSSIBILITY FOR REMOTE SYSTEM DIAGNOSTICS WITHOUT ADDITIONAL HARDWARE. PLEASE CONTACT SIEMENS REMOTE SERVICES (800–888–SIEM) TO DETERMINE IF THIS METHOD IS SUITABLE FOR YOUR SITE.

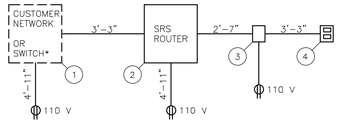
(OPTIONAL) SRS ROUTER CONNECTION

– THE SRS ROUTER IS SUPPLIED BY SIEMENS AND INSTALLED AT THE CUSTOMER'S SITE, WHILE STILL REMAINING THE PROPERTY OF SIEMENS. THE CUSTOMER'S NETWORK ADMINISTRATOR AND SIEMENS REMOTE SERVICES SHALL DETERMINE THE TYPE AND LOCATION OF THE SRS ROUTER REQUIRED.

– THE SRS ROUTER IS CONNECTED TO AN ANALOG MODEM THAT IS SUPPLIED BY SIEMENS, WHICH THEN IN TURN IS CONNECTED TO AN ANALOG PHONE LINE THAT IS SUPPLIED BY THE CUSTOMER. ONE SRS ROUTER ALLOWS REMOTE DIAGNOSTICS TO MULTIPLE MEDICAL SYSTEMS.

– THE SRS ROUTER SHOULD BE INSTALLED IN A SECURE LOCATION (CUSTOMER'S NETWORK COMPUTER ROOM) THAT HAS LIMITED ACCESS. IT CAN BE LOCATED ON A SHELF, TABLE, OR IN A CABINET. THE CONNECTION CABLES (WITH INDICATED LENGTHS BELOW) ARE INCLUDED WITH DELIVERY.

SRS ROUTER CONNECTION DIAGRAM



NOTE: ALL POWER OUTLETS ARE SUPPLIED/INSTALLED BY CUSTOMER.

1. ETHERNET SWITCH OR HUB, SUPPLIED BY CUSTOMER
2. SRS ROUTER, SUPPLIED BY SIEMENS (SIZE: 11.2"W X 8.7"D X 5.5"H, WEIGHT: 2 LBS.)
3. ANALOG MODEM, SUPPLIED BY SIEMENS
4. ANALOG PHONE LINE, SUPPLIED BY CUSTOMER

* OPTIONAL SWITCH AND CABLES ARE NOT INCLUDED, BUT CAN BE ORDERED FROM SIEMENS.

SIEMENS REMOTE SERVICE — SCALE: NONE

SITE READINESS GUIDELINES

THE FOLLOWING GENERAL CONDITIONS ARE NECESSARY TO HAVE THE STATUS OF "READY SITE".
1) PROPER POWER AVAILABLE AT SIEMENS EQUIPMENT POWER CABINET LOCATION AND ALL POWER OUTLETS FUNCTIONING.
2) AIR CONDITIONING/HUMIDIFICATION SYSTEMS COMPLETE, TESTED, AND FUNCTIONING PROPERLY ACCORDING TO SIEMENS SPECIFICATIONS.
3) PROPER LIGHTING INSTALLED AND FUNCTIONING.
4) PLUMBING COMPLETE EXCEPT FOR ANY FINAL CONNECTIONS TO SIEMENS EQUIPMENT.
5) ALL CABLE TRAYS/DUCTS/CONDUITS CORRECTLY SIZED, LOCATED, AND INSTALLED ACCORDING TO THE SIEMENS DRAWINGS.
6) ALL REINFORCEMENT PLATES/UNISTRUT INSTALLED AS REQUIRED.
7) ROOM FOR EQUIPMENT INSTALLATION AND IMMEDIATE VICINITY IS DUST–FREE AND IS TO REMAIN SO FOR THE DURATION OF THE INSTALLATION.
8) A SECURE AREA (APPROXIMATELY 10' x 10') IS AVAILABLE AT EQUIPMENT DELIVERY FOR PARTS AND INSTALLATION TOOLS.
9) CUSTOMER SUPPLIED CAMERAS AND PROCESSORS INSTALLED.
10) CUSTOMER APPROVAL FOR SIEMENS REMOTE SERVICES (SRS) CONNECTION, AND CUSTOMER'S I.T. CONTACT INFORMATION AND IP ADDRESSES ESTABLISHED.
11) WALLS TO BE PRIMED AND PAINTED, FLOORS TO BE TILED EXCEPT IN AREAS OF THE EQUIPMENT BASE PLATES.

IF THESE CONDITIONS ARE NOT MET, THE SIEMENS PROJECT MANAGER AND THE DESIGNATED SIEMENS INSTALLATION SUPERVISOR SHALL RESCHEDULE THE INSTALLATION START DATE. NOTE: ADDITIONAL COST MAY BE INCURRED BY THE CUSTOMER/CONTRACTOR AND DELIVERY DATES MAY NEED TO BE RESCHEDULED, WHEN THE SIEMENS SITE READINESS GUIDELINES ARE NOT MET.

ROOM MEASUREMENTS

ALL ROOM MEASUREMENTS AND ROOM DETAIL SPECIFICATIONS MUST BE VERIFIED ON SITE PRIOR TO BEGINNING ANY CONSTRUCTION WORK.

MAGNETIC FIELD PRECAUTIONS

THE PRESENCE OF MAGNETIC FIELDS IN THE VICINITY OF EQUIPMENT MAY HAVE AN ADVERSE EFFECT. IT IS THE CUSTOMER'S RESPONSIBILITY TO VERIFY THAT THE FOLLOWING VALUES ARE NOT EXCEEDED.

MAXIMUM ALLOWABLE MAGNETIC FIELD	DEVICES
1.0mT (10 GAUSS)	COMPUTERS, MAGNETIC DISK DRIVES, OSCILLOSCOPES, PROCESSORS
0.5mT (5 GAUSS)	X–RAY TUBES, B/W MONITORS, MAGNETIC DATA CARRIERS, DATA STORAGE DRIVES
0.2mT (2 GAUSS)	SIEMENS CT SCANNERS
0.15mT (1.5 GAUSS)	COLOR MONITORS, SIEMENS LINEAR ACCELERATORS
0.05mT (0.5 GAUSS)	X–RAY IMAGE INTENSIFIERS, GAMMA CAMERAS, PET/CYCLOTRON, OTHER LINEAR ACCELERATORS
MAGNETIC FIELDS SHOULD BE MEASURED PRIOR TO DELIVERY	

ENVIRONMENTAL/POWER AUDIT

AS AN INDICATION OF OUR COMMITMENT TO QUALITY, SIEMENS MAY, AT NO COST TO YOUR FACILITY, CHECK THE OPERATING ENVIRONMENT AFTER SYSTEM TURNOVER TO DETERMINE IF THE REQUIREMENTS FOR TEMPERATURE, HUMIDITY, POWER, AND GROUNDING ARE MET AS PER SIEMENS' PUBLISHED SPECIFICATIONS. SIEMENS WILL GENERATE A WRITTEN REPORT DETAILING THE ENVIRONMENTAL AND ELECTRICAL CONDITION OF THE SITE AFTER TURNOVER AND WILL SHARE THE REPORT WITH YOU. IN THE EVENT WE IDENTIFY ANY ENVIRONMENTAL/POWER DEFICIENCIES AT THE SITE, YOUR FACILITY WILL BE REQUESTED TO CORRECT DEFICIENCIES WITHIN THIRTY (30) DAYS. SHOULD ANY CORRECTIVE ACTIONS BE NECESSARY, AND UPON REQUEST, SIEMENS WILL PROVIDE GUIDANCE IN AN EFFORT TO FACILITATE RESOLUTION. PLEASE BE ADVISED THAT AFTER 30 DAYS NOTICE ANY REPAIR OR MAINTENANCE SERVICES NECESSITATED BY SEVERE DEFICIENCIES WILL FALL OUTSIDE YOUR WARRANTY COVERAGE.

WIRELESS DETECTOR CONNECTION

OPERATION OF THE WIRELESS DETECTOR CAN BE AFFECTED BY OTHER WLAN DEVICES IN THE VICINITY OF THIS INSTALLATION. TO AVOID ANY CONFLICTS, THE CUSTOMER MUST PROVIDE A LIST OF EXISTING WLAN CHANNELS (FREQUENCIES) OR THE SPECIFIC CHANNEL (FREQUENCY) THEY DESIRE TO BE USED FOR THE WIRELESS DETECTOR.

THE WIRELESS CONNECTION IS ENCRYPTED (WPA2) AND IS BASED ON TWO WLAN STANDARDS, WITHIN WHICH SEVERAL CHANNELS (FREQUENCIES) ARE AVAILABLE:
1) 11G STANDARD – OPERATES AT 2.5 GHz
2) 11A STANDARD – OPERATES AT 5 AND 6 GHz

THE STANDARD (11G OR 11A) CAN BE SET BY SIEMENS SERVICE VIA THE SERVICE SOFTWARE INSTALLED ON THE IMAGING SYSTEM.

THE WIRELESS CONNECTION IS ONLY USED TO TRANSFER DATA BETWEEN SIEMENS EQUIPMENT AND IS NOT USED TO SEND DATA TO THE CUSTOMER'S NETWORK.

REV 0

ROOM HEIGHT REQUIREMENTS

ROOM HEIGHT WITHOUT CEILING STAND

MINIMUM ROOM HEIGHT	RESTRICTION WITH +/–90° ROTATION
8'–2 1/2" TO LESS THAN 10'–4"	– MAXIMUM TABLETOP EXTENSION OF 11 1/2" WITH A ROOM HEIGHT OF 8'–2 1/2" – DIGITAL IMAGING TOWER CANNOT BE IN THE EXTREME HEAD–END POSITION WITH A ROOM HEIGHT OF 8'–2 1/2" – RESTRICTIONS IN THE MOVEMENT RANGE WITH AUTOMATIC CORRECTION OF MOVEMENT.
10'–4" OR GREATER	NO RESTRICTIONS

ROOM HEIGHT WITH CEILING STAND

		USABLE TABLE HEIGHT AT 45° SID (3)
MINIMUM ROOM HEIGHT	8'–9 1/8"	2'–6"
MINIMUM ROOM HEIGHT FOR 60" SID TO TABLE (3)	9'–7" (1)	3'–4"
MAXIMUM ROOM HEIGHT WITHOUT THE TUBE STAND TELESCOPE EXTENSION	9'–5 5/8" (1)	3'–2"
	9'–10 7/8" (2)	3'–7 3/8"
MAXIMUM ROOM HEIGHT WITH THE TUBE STAND TELESCOPE EXTENSION	10'–1 1/2" (1)	3'–2"
	10'–7" (2)	3'–7 3/8"

1) UPRIGHT (0°) EXPOSURES ARE POSSIBLE AT LOWEST POSITION OF WALL STAND.

2) UPRIGHT (0°) EXPOSURES ARE NOT POSSIBLE AT LOWEST POSITION OF WALL STAND.

3) WITH SECOND PLANE OF CEILING STAND.

CEILING STAND TECHNICAL DATA

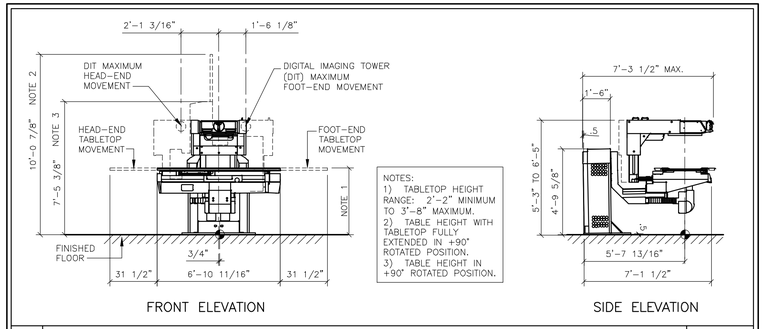
TRANSPORTING INFORMATION

CEILING TRANSVERSE BRIDGE (3M)	SIZE: 126"L x 32"W x 10"H WEIGHT: 419 LBS.
CEILING TRANSVERSE BRIDGE (4M)	SIZE: 174"L x 32"W x 10"H WEIGHT: 512 LBS.
X–RAY TUBE SUPPORT FULLY SYNCHRONIZED (WITHOUT CARRIAGE)	SIZE: 67"L x 41"W x 52"H WEIGHT: 827 LBS.
MOBILE DETECTOR WALL STAND (WITH PACKING AND CRATE TOP)	SIZE: 92"L x 35"W x 42"H WEIGHT: 898 LBS.
MINIMUM DOOR OPENING: MINIMUM CORRIDOR WIDTH:	37" 6'–11"

ENVIRONMENTAL CONDITIONS

	IN OPERATION	TRANSPORT
PERMISSIBLE AMBIENT TEMPERATURE (WITH WIRELESS DETECTOR)	59°F TO 82°F	–4°F TO 131°F
PERMISSIBLE RELATIVE HUMIDITY	20 TO 75%	10 TO 95%

REV 0



NOTES:
1) TABLETOP HEIGHT RANGE: 2'–2" MINIMUM TO 3'–8" MAXIMUM.
2) TABLE HEIGHT WITH TABLETOP FULLY EXTENDED IN +90° ROTATED POSITION.
3) TABLE HEIGHT IN +90° ROTATED POSITION.

FRONT ELEVATION — SIDE ELEVATION

DET — LUMINOS AGILE TABLE ELEVATION — SCALE: 1/4"=1'-0"

STATE AGENCY REVIEW

PRIOR TO SIEMENS EQUIPMENT INSTALLATION, APPROVAL OF CONSTRUCTION OR STRUCTURAL MODIFICATIONS UTILIZING X–RAY FOR DIAGNOSTIC OR THERAPEUTIC PURPOSES, MUST BE OBTAINED BY THE CUSTOMER FROM THE APPROPRIATE STATE AGENCY, IF APPLICABLE.

RESOURCE LIST (SMS USE ONLY)

DESIGNATION	PG NUMBER	DATE
LUMINOS AGILE	XPD1–320.891.01.03.02	09.12

LUMINOS AGILE REV 1

SYM	DATE	DESCRIPTION
1	12/03/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS.

–ISSUE BLOCK–

PROJECT MANAGER: ROBERT ENGLISH
TEL: (412) 480–1265
VMAIL: EXT:
FAX: (724) 846–8722
EMAIL: robert.english@siemens.com

SIEMENS

ERIE VAMC
135 EAST 38TH ST, ERIE, PA 16501
ROOM R/F RIGHT – LUMINOS AGILE

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ALL RIGHTS ARE RESERVED.

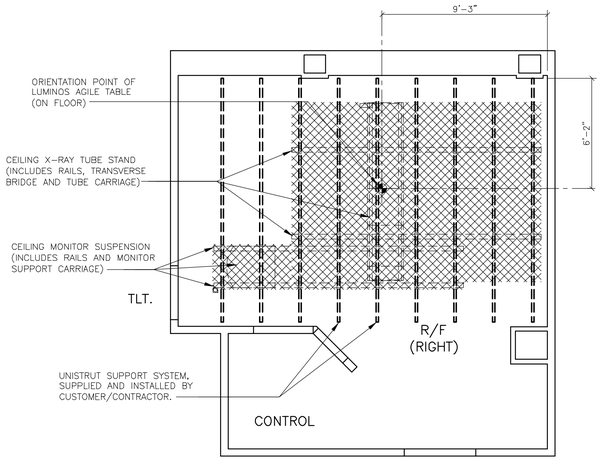
PROJECT #: 1303120
SHEET 1 OF 6
DRAWN BY: J. DILLON
SCALE: AS NOTED
REF. #: 30167509
DATE: 12/03/13
SHEET: A-101

ATTENTION:

– THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.
– THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.
– IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION DOCUMENTS FOR REFERENCE.
– ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.
– THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X–RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

REFERENCE DOCUMENT – NOT FOR CONSTRUCTION

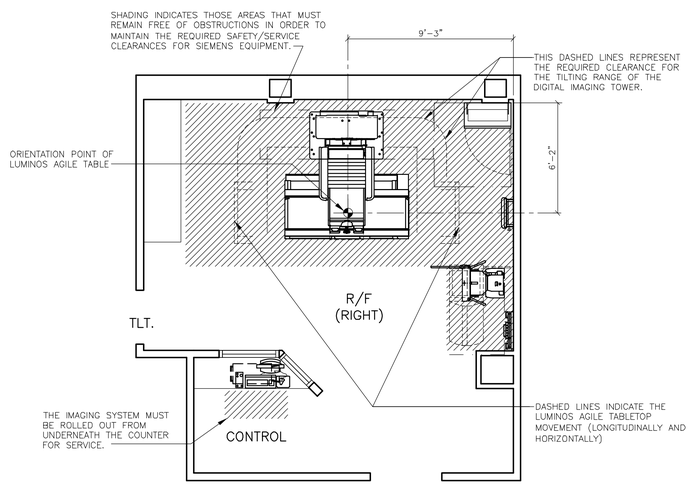
NOTE: SEE THE "STRUCTURAL CEILING PLAN" ON SHEET S-101 FOR DIMENSION LOCATIONS AND DESCRIPTIONS OF ALL ITEMS SHOWN ON THIS PLAN.



ATTENTION! OVERHEAD LIGHTING, HVAC DUCTS, SPRINKLERS, ETC. MUST NOT BE LOCATED WITHIN SIEMENS CEILING RAIL SYSTEMS. SHADED AREA INDICATES AREA NOT TO CONTAIN ITEMS THAT EXTEND BELOW THE FINISHED CEILING AND WHERE INCANDESCENT LIGHTING IS NOT ALLOWED. PLEASE COORDINATE THE PLACEMENT OF THESE ITEMS WITH THE SIEMENS PROJECT MANAGER.

REFLECTED CEILING PLAN

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



NOTE: FOR DESCRIPTIONS OF ALL SIEMENS EQUIPMENT SHOWN ON THIS PLAN, SEE THE "ARCHITECTURAL EQUIPMENT PLAN" ON SHEET A-101.

SAFETY/SERVICE CLEARANCE PLAN

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

CEILING NOTES

1) ALL CEILING MOUNTED LIGHT FIXTURES, MECHANICAL REGISTERS AND SPRINKLER HEADS SHALL BE FLUSH WITH FINISHED CEILING, SHALL BE OUTSIDE OF ALL HATCHED AREAS AND SHALL BE SPECIFIED BY THE ARCHITECT OF RECORD AND SUBSEQUENT CONSULTING ENGINEERS.

2) THE ACTUAL CEILING DESIGN AND COORDINATION OF LIGHTING AND MECHANICAL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE ARCHITECT OF RECORD AND HIS SUBSEQUENT CONSULTING ENGINEERS.

3) THE CUSTOMER/CONTRACTOR SHALL BE RESPONSIBLE FOR FABRICATING, SUPPLYING AND INSTALLING ALL LIGHT, MECHANICAL AND STRUCTURAL SUPPORTING SYSTEMS. SIEMENS MEDICAL SOLUTIONS INC. IS ONLY RESPONSIBLE FOR THE SUPPLYING, INSTALLING AND CALIBRATION OF SMS EQUIPMENT AS SPECIFIED ON THE EQUIPMENT SCHEDULE AS SHOWN ON SHEET A-101.

4) ALL ELECTRICAL AND STRUCTURAL SYSTEMS SHOWN ON THE REFLECTED CEILING PLAN HAVE BEEN COORDINATED WITH THE EQUIPMENT LOCATIONS AS SHOWN ON THE 1/4" SCALE ARCHITECTURAL EQUIPMENT PLAN (SHEET A-101). ANY CHANGES TO THE SMS EQUIPMENT CONFIGURATION AS SHOWN, DUE TO PLACEMENT OF LIGHTING, STRUCTURAL, ELECTRICAL AND MECHANICAL SYSTEMS, MUST BE APPROVED IN WRITING BY THE SMS PROJECT MANAGER PRIOR TO THE COMPLETION OF CONSTRUCTION DOCUMENTS.

LIGHTING GUIDELINES

ROOM LIGHTING IS THE RESPONSIBILITY OF THE CUSTOMER. HOWEVER, SIEMENS OFFERS THE FOLLOWING RECOMMENDATIONS, AS A GENERAL GUIDE ONLY, WHEN PLANNING FOR LIGHTING.

1) OVERALL GENERAL ILLUMINATION IS NECESSARY FOR CLEAN UP AND MAINTENANCE OF EQUIPMENT.

2) THE LIGHTING IN ROOMS IN WHICH DIAGNOSES ARE MADE ON VIDEO DISPLAY UNITS (MONITORS) MUST MEET THE FOLLOWING REQUIREMENTS:

– ADJUSTABLE, GLARE-FREE AND REPRODUCIBLE SETTING OF LIGHTING (I.E. DIMMER WITH SCALE)

– NO REFLECTIONS FROM WINDOWS, LAMPS AND VIEWING BOXES WHEN THE MONITORS ARE IN THEIR STANDARD OPERATING POSITION.

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
1	12/03/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS.

-ISSUE BLOCK-

PROJECT MANAGER: ROBERT ENGLISH
TEL: (412) 480-1265 EXT:
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ROOM R/F RIGHT – LUMINOS AGILE

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ALL RIGHTS ARE RESERVED.

PROJECT #: 1303120

SHEET: A-102

SHEET 2 OF 6

DRAWN BY: J. DILLON

SCALES: AS NOTED

REF. #: 30167509

DATE: 12/03/13

LUMINOS AGILE REV 1

ATTENTION:

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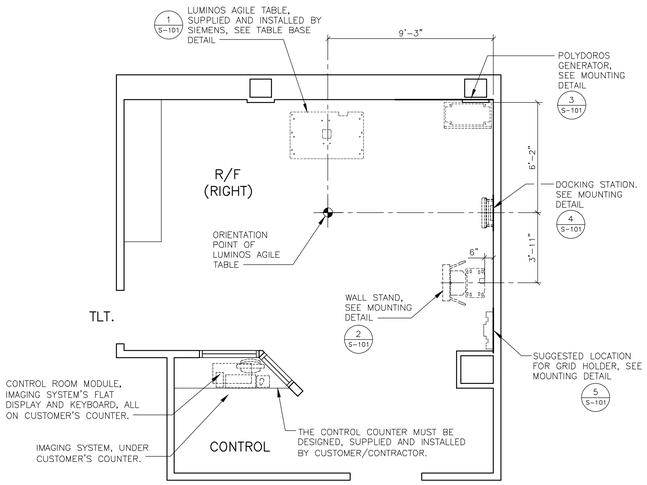
REFERENCE DOCUMENT - NOT FOR CONSTRUCTION



NOTE: FOR THE WEIGHTS OF ALL SIEMENS EQUIPMENT SHOWN ON THIS PLAN, SEE THE "EQUIPMENT LEGEND" ON SHEET A-101.

STRUCTURAL FLOOR PLAN

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

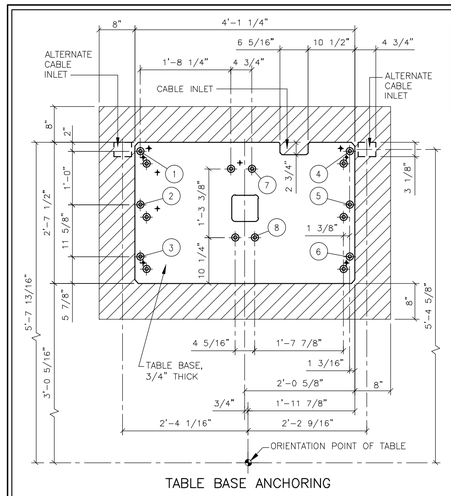


TABLE BASE ANCHORING

MAXIMUM ANCHORING POINT FORCES IN POUNDS								
POINTS	1	2	3	4	5	6	7	8
TENSILE FORCE	1,352	686	20	1,517	851	182	1,517	851

NOTES:

1) THE TABLE IS SUPPLIED AND INSTALLED BY SIEMENS. THE TABLE BASE IS ANCHORED IN EIGHT LOCATIONS WITH 1/2" (M12) DIAMETER BOLTS. EIGHT HILTI MODELS HSL-3 M12/50 (REQUIRED ANCHOR EMBEDMENT DEPTH IS 5 1/8") AND EIGHT HSL-3-G M12/100 (REQUIRED ANCHOR EMBEDMENT DEPTH IS 7 1/2") ARE SUPPLIED. THE MINIMUM CONCRETE QUALITY IS 3700 PSI. ALTERNATE ANCHORING POINTS (ADJACENT TO PRIMARY) ARE PROVIDED. MOUNTING POINTS 1-6 CAN BE DRILLED DIRECTLY FROM THE BASE. MOUNTING POINTS 7 AND 8 MUST BE DRILLED SEPARATELY.

2) THE TABLE BASE MUST BE INSTALLED ON A SOLID STRUCTURE WITH SUFFICIENT LOAD-BEARING CAPACITY. THE STRUCTURAL ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAIL OF THIS ANCHORING STRUCTURE. THE MINIMUM STRUCTURAL AREA TO INCLUDE THE TABLE BASE LOCATION AND THE AREA SURROUNDING THE BASE, AS INDICATED BY THE SHADING ON THIS DETAIL.

3) THE TABLE BASE IS MOUNTED DIRECTLY TO THE FLOOR STRUCTURE WITH AREA IN THE DIRECT VICINITY OF THE BASE TO BE FREE OF ALL FLOOR FINISHES AND ADHESIVE.

4) THE FLOOR SHALL BE TRUE, SMOOTH AND LEVEL WITHIN 1/16" OVER 3 FT. IN THE MOUNTING AREA OF THE TABLE BASE, AS INDICATED BY THE SHADING.

1 **LUMINOS AGILE TABLE BASE MOUNTING DETAIL** SCALE: 3/4"=1'

STRUCTURAL NOTES

1) THE CUSTOMER/CONTRACTOR SHALL FURNISH AND INSTALL ALL STRUCTURAL SUPPORT MEMBERS AND NEEDED HARDWARE FOR THE INSTALLATION OF THE SIEMENS EQUIPMENT.

2) THE OVERHEAD STRUCTURAL SUPPORT SYSTEM SHALL BE FIXED, RIGID AND BRACED FOR SWAY.

3) ALL STRUCTURAL SUPPORT MEMBERS SHALL BE TRUE, SQUARE, LEVEL, PARALLEL AND COPLANAR WITH RESPECT TO EACH OTHER, WITH A HORIZONTAL STRUCTURAL SUPPORT MEMBER TO BE LOCATED AND SET WITH A TRANSIT.

4) ALL STRUCTURAL SUPPORT DETAILS SHOWN ARE SAMPLE DETAILS BASED UPON TYPICAL AND STANDARD BUILDING PRACTICES AND ARE NOT INTENDED AS ACTUAL CONSTRUCTION DETAILS. ALL CONSTRUCTION DETAILS AND SUPPORT CALCULATIONS SHALL BE PREPARED BY A PROFESSIONAL STRUCTURAL ENGINEER AT THE CUSTOMER'S EXPENSE. IN THE EVENT AN EXISTING SUPPORT SYSTEM IS TO BE USED, IT WILL BE THE CUSTOMER'S RESPONSIBILITY TO VERIFY THE INTEGRITY OF THAT SYSTEM.

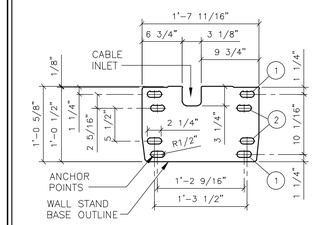
5) WHERE SHOWN ON THE 1/4" STRUCTURAL FLOOR PLAN, THERE ARE ON OCCASION MOUNTING FRAMES FURNISHED BY SMS. THESE FRAMES ARE TO BE SET BY THE CONTRACTOR, UNDER THE SUPERVISION OF SMS PERSONNEL. THE CUSTOMER/CONTRACTOR IS RESPONSIBLE FOR ALL FRAMES INSTALLED BY HIM TO BE WATER LEVEL AND ANCHORED PROPERLY.

6) ALL CEILING FIXTURES (I.E. AIR SUPPLY GRILLES, AIR RETURN GRILLES, EXHAUST GRILLES, SPRINKLER HEADS, INCANDESCENT AND FLUORESCENT LIGHT FIXTURES, INTERCOM SPEAKERS, MEDICAL GAS COLUMNS, ETC.) SHALL BE INSTALLED FLUSH MOUNTED WITH THE FINISHED CEILING TO PROVIDE FREE AND UNRESTRICTED TRAVEL OF THE SMS CEILING MOUNTED EQUIPMENT.

7) THE BOTTOM SIDE OF THE UNISTRUT CEILING GRID AND ANY CEILING MOUNTED SUPPORT PLATES ARE TO BE INSTALLED FLUSH WITH THE FINISHED CEILING. THE CUSTOMER/CONTRACTOR SHALL ALSO PROVIDE COVERSTRIPS FOR THE UNISTRUT.

8) THE STRUCTURAL PLANNING AS SHOWN ON THE 1/4" STRUCTURAL PLAN HAS BEEN COORDINATED WITH THE EQUIPMENT LOCATION AS SHOWN ON THE 1/4" EQUIPMENT LAYOUT PLAN. FOR THIS REASON, ANY DEVIATIONS FROM THE STRUCTURAL PLANNING AS SHOWN MUST BE APPROVED BY SMS PLANNING DEPARTMENT.

9) THE STRUCTURAL ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAIL OF FLOOR, WALL AND CEILING STRUCTURES IN ACCORDANCE WITH THE WEIGHTS, MOMENTS AND FORCES AS SHOWN ON OUR STRUCTURAL CALCULATIONS, OR INFORMATION,IN CONSIDERATION OF FORCES AS DETERMINED PER LOCAL GOVERNING BUILDING CODES.



FRONT OF WALL STAND

NOTES:

THE WALL STAND MUST BE INSTALLED ON A SOLID STRUCTURE WITH SUFFICIENT LOADING BEARING CAPACITY. THE STRUCTURAL ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAIL OF THIS ANCHORING STRUCTURE. THE MINIMUM STRUCTURAL AREA TO INCLUDE THE WALL STAND BASE LOCATION AND THE AREA SURROUNDING THE BASE.

THERE ARE EIGHT HOLES IN THE WALL STAND BASE FOR ANCHORING. FOUR POINTS OUT OF EIGHT ARE REQUIRED FOR PROPER INSTALLATION. THE MAXIMUM TENSILE FORCE PER ANCHORING POINT IS 878 LBS.

FOUR HILTI HSL-3 M12/100 ANCHORS ARE SUPPLIED. TO ENSURE SUFFICIENT ANCHORING, A MINIMUM CONCRETE THICKNESS OF 6 5/16" IS REQUIRED, WITH A MINIMUM CONCRETE QUALITY OF 3700 PSI.

THE WALL STAND IS SUPPLIED AND INSTALLED BY SIEMENS. THE AREA OF THE FLOOR WHERE THE WALL STAND IS TO BE MOUNTED MUST BE LEVEL WITHIN 1/16" OVER 3 FT.

(1) MOUNTING HOLES
(2) ALTERNATE MOUNTING HOLES

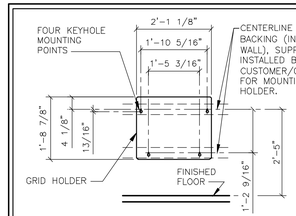
REV 0

2 **WALL STAND BASE DETAIL** SCALE: 1"=1'-0"

ACCESSORY ITEMS MOUNTING

VARIOUS ACCESSORY ITEMS MAY BE PURCHASED WITH THIS SIEMENS SYSTEM THAT INCLUDE STORAGE BRACKETS FOR WALL MOUNTING. THE LOCATION OF THESE ITEMS WILL DEPEND ON EACH CUSTOMER'S PREFERANCE AND WORKFLOW. FOR ALL ACCESSORY ITEMS PURCHASED, THE CUSTOMER IS RESPONSIBLE FOR LOCATING AND INSTALLING ALL STORAGE BRACKETS, AND PROVIDING ANY NECESSARY BACKING OR MOUNTING SUPPORT FOR THESE ITEMS.

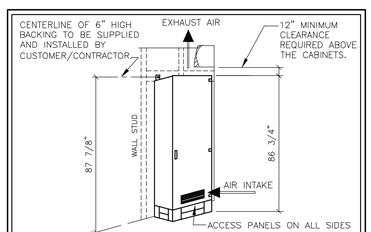
REV 0



FRONT ELEVATION FOR SUGGESTED GRID HOLDER MOUNTING

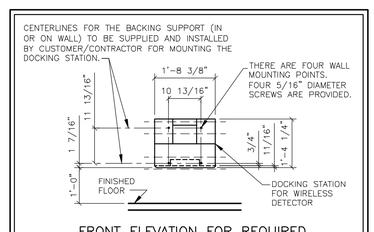
REV 0

5 **HOLDER MOUNTING** SCALE: 1/2"=1'-0"



THE GENERATOR CABINET IS SUPPLIED AND INSTALLED BY SIEMENS. WALL MOUNTING THIS CABINET IS REQUIRED SO THE ELECTRONIC ASSEMBLIES CAN BE SWUNG OUT FOR SERVICE. THE DOORS MUST SWING OPEN AND CANNOT BE REMOVED. SOFFITS AND HEADERS ABOVE GENERATOR MUST BE VERIFIED BY CUSTOMER/CONTRACTOR.

3 **GENERATOR CABINET INSTALLATION** SCALE: NONE REV 1



FRONT ELEVATION FOR REQUIRED DOCKING STATION MOUNTING

REV 0

4 **DOCKING STATION** SCALE: 1/2"=1'-0"

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
0	12/03/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS

-ISSUE BLOCK-

PROJECT MANAGER: ROBERT ENGLISH
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ROOM R/F RIGHT - LUMINOS AGILE

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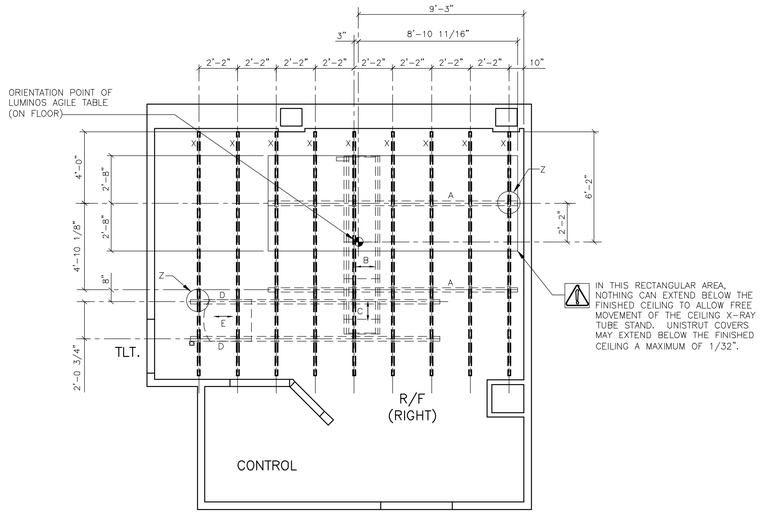
PROJECT #: 1303120
SHEET 3 OF 6
DRAWN BY: J. DILLON
SCALE: AS NOTED
REF. #: 30167509
DATE: 12/03/13
SHEET: S-101

LUMINOS AGILE REV 1

ATTENTION:

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.
- THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.
- IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION DOCUMENTS FOR REFERENCE.
- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.
- THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

REFERENCE DOCUMENT - NOT FOR CONSTRUCTION



STRUCTURAL CEILING PLAN

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

CEILING PLAN LEGEND

SUPPLIED/INSTALLED BY SIEMENS

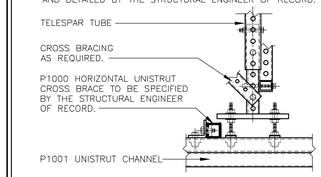
SYM	DESCRIPTION	DET
A	LONGITUDINAL RAILS ATTACHED TO "P-1001" UNISTRUT	2
B	TRANSVERSE BRIDGE MOVES ALONG LONGITUDINAL RAILS	–
C	TELESCOPE MOVES ALONG TRANSVERSE BRIDGE	–
D	MONITOR RAILS ATTACHED TO "P-1001" UNISTRUT	3
E	MONITOR CARRIAGE MOVES ALONG LONGITUDINAL RAILS	–
Z	LONGITUDINAL RAIL SUPPORT MOUNTING POINT BOLTED TO UNISTRUT FRAME	2,3

SUPPLIED/INSTALLED BY CUSTOMER/CONTRACTOR

SYM	DESCRIPTION	DET
X	"P-1001" UNISTRUT MOUNTED FLUSH WITH FINISHED CEILING. MUST BE LEVEL WITHIN ±1/8".	1

NOTE:
ALL STRUCTURAL SUPPORT DETAILS SHOWN ARE SAMPLE DETAILS BASED UPON TYPICAL AND STANDARD BUILDING PRACTICES AND ARE NOT INTENDED AS ACTUAL CONSTRUCTION DETAILS. ALL CONSTRUCTION DETAILS AND SUPPORT CALCULATIONS SHALL BE PREPARED BY A PROFESSIONAL STRUCTURAL ENGINEER AT THE CUSTOMER'S EXPENSE. IN THE EVENT AN EXISTING SUPPORT SYSTEM IS TO BE USED, IT WILL BE THE CUSTOMER'S RESPONSIBILITY TO VERIFY THE INTEGRITY OF THAT SYSTEM.

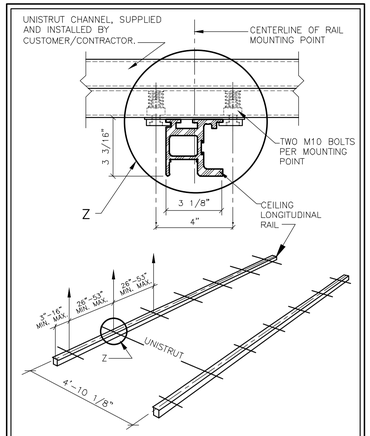
ABOVE TELESPAR ANCHORING MUST BE DESIGNED, SPECIFIED AND DETAILED BY THE STRUCTURAL ENGINEER OF RECORD.



NOTE: UNISTRUT CHANNEL COVERS MUST BE SUPPLIED AND INSTALLED BY CONTRACTOR AFTER EQUIPMENT HAS BE MOUNTED TO THE CEILING.

THIS DETAIL SHOWS A UNIVERSAL TELESPAR DROP THAT IS TYPICAL OF THE STRUCTURAL SUPPORT SYSTEM USED FOR CEILING MOUNTED IMAGING EQUIPMENT. THE ACTUAL STRUCTURAL SUPPORT SYSTEM MUST BE DESIGNED, DETAILED AND SPECIFIED BY THE STRUCTURAL ENGINEER OF RECORD. UNLESS OTHERWISE SPECIFIED, THE CUSTOMER/CONTRACTOR SHALL SUPPLY AND INSTALL ALL SUPPORT MEMBERS AND NEEDED HARDWARE. IN THE EVENT AN EXISTING SUPPORT SYSTEM IS TO BE USED, IT WILL BE THE CUSTOMER'S RESPONSIBILITY TO VERIFY THE INTEGRITY OF THAT SYSTEM. SEE THE 1/4" SCALE PLAN FOR LOCATIONS AND SPACING OF P1001 UNISTRUT CHANNELS.

1	UNISTRUT DETAIL	SCALE: NONE



MOUNTING POINT "Z" IS TYPICAL OF ALL INTERSECTIONS OF UNISTRUT AND CEILING LONGITUDINAL RAILS. THE MAXIMUM LOAD PER MOUNTING POINT "Z" IS 1,125 LBS (EXCEPT WHERE SEISMIC LOADS GOVERN). SUPPORT STRUCTURE DEFLECTION <1/16" OVER 3 FT.

MOUNTING DETAIL FOR 3M TRANSVERSE BRIDGE

REV 0

2	CEILING RAILS	SCALE: NONE

ROOM HEIGHT REQUIREMENTS

ROOM HEIGHT WITHOUT CEILING STAND

MINIMUM ROOM HEIGHT	RESTRICTION WITH +/-90° ROTATION
8'-2 1/2" TO LESS THAN 10'-4"	– MAXIMUM TABLETOP EXTENSION OF 11 1/2" WITH A ROOM HEIGHT OF 8'-2 1/2" – DIGITAL IMAGING TOWER CANNOT BE IN THE EXTREME HEAD-END POSITION WITH A ROOM HEIGHT OF 8'-2 1/2" – RESTRICTIONS IN THE MOVEMENT RANGE WITH AUTOMATIC CORRECTION OF MOVEMENT.
10'-4" OR GREATER	NO RESTRICTIONS

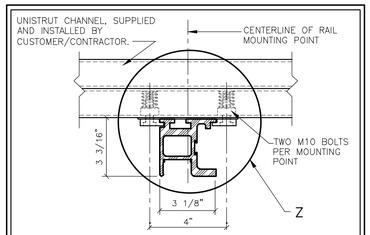
ROOM HEIGHT WITH CEILING STAND

		USABLE TABLE HEIGHT AT 45° SID (3)
MINIMUM ROOM HEIGHT	8'-9 1/8"	2'-6"
MINIMUM ROOM HEIGHT FOR 60" SID TO TABLE (3)	9'-7" (1)	3'-4"
MAXIMUM ROOM HEIGHT WITHOUT THE TUBE STAND TELESCOPE EXTENSION	9'-5 5/8" (1)	3'-2"
	9'-10 7/8" (2)	3'-7 3/8"
MAXIMUM ROOM HEIGHT WITH THE TUBE STAND TELESCOPE EXTENSION	10'-1 1/2" (1)	3'-2"
	10'-7" (2)	3'-7 3/8"

1) UPRIGHT (0°) EXPOSURES ARE POSSIBLE AT LOWEST POSITION OF WALL STAND.

2) UPRIGHT (0°) EXPOSURES ARE NOT POSSIBLE AT LOWEST POSITION OF WALL STAND.

3) WITH SECOND PLANE OF CEILING STAND.



THE MAXIMUM LOAD PER MOUNTING POINT "Z" FOR DCS-1/2: 810 LBS. (EXCEPT WHERE SEISMIC LOADS GOVERN).

MOUNTING DETAIL

REV 0

3	DCS-1/2 CEILING RAIL	SCALE: NONE

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
1	12/03/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS

-ISSUE BLOCK-

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ROOM R/F RIGHT – LUMINOS AGILE

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PROJECT #: 1303120

SHEET: S-102

SHEET 4 OF 6

DRAWN BY: J. DILLON

SCALE: AS NOTED

REF. #: 30167509

DATE: 12/03/13

LUMINOS AGILE REV 1

ATTENTION:

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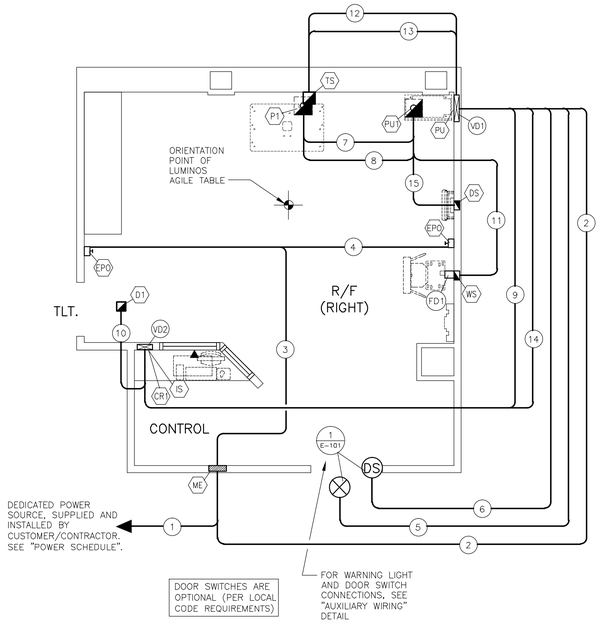

ELECTRICAL RACEWAY PLAN

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

ELECTRICAL LEGEND

SYM	SIZE	DESCRIPTION SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR	REMARKS
XB	10"x4"	OPENING IN FACE OF "VD2" JUST BELOW THE CONTROL COUNTER.	
TT	6"x6"x6"	PULL BOX MOUNTED FLUSH WITH FINISHED CEILING, WITH REMOVABLE COVER.	FOR DCS CEILING MONITOR
XB	6"x6"x4"	PULL BOX MOUNTED FLUSH WITH FINISHED WALL CENTERLINE 12" ABOVE THE FINISHED FLOOR.	FOR DOCKING STATION
EPO	---	EMERGENCY POWER OFF BUTTON WITH PROTECTIVE COVER, MOUNTED 5'-0" ABOVE THE FINISHED FLOOR.	SEE POWER REQ/SCHEDULE
TS	10"x4"	OPENING IN FACE OF "VD2", CENTERLINE 6" ABOVE THE FINISHED FLOOR.	FOR IMAGING SYSTEM
ME	3-PHASE	MAIN ENCLOSURE WITH CIRCUIT BREAKER MOUNTED CENTERLINE 5'-0" ABOVE THE FINISHED FLOOR.	SEE POWER REQ/SCHEDULE
PT	AS REQUIRED	PULL BOX MOUNTED UNDER FLOOR SLAB WITH 4" DIA. SLEEVE RUNNING THROUGH FLOOR SLAB THAT ENDS FLUSH WITH FINISHED FLOOR UNDER THE TABLE BASE.	SIZED BY ELEC. CONTRCTR.
PG	18"x4"	OPENING IN FACE OF "VD1" AT THE FLOOR LINE.	FOR GENERATOR
PG	AS REQUIRED	PULL BOX MOUNTED UNDER FLOOR SLAB WITH 4" DIA. SLEEVE RUNNING THROUGH FLOOR SLAB AND END FLUSH WITH FINISHED FLOOR UNDER POLYDOROS GENERATOR.	SIZED BY ELEC. CONTRCTR.
TS	8"x8"x8"	PULL BOX MOUNTED FLUSH WITH FINISHED CEILING, WITH REMOVABLE COVER.	FOR CEILING TUBE STAND
WS	6"x6"x4"	PULL BOX MOUNTED FLUSH WITH FINISHED WALL AT THE FLOOR LINE AND FITTED WITH REMOVABLE COVER.	FOR WALL STAND
FD1	4 3/4"x1 3/4"	FLOOR DUCT (6" LONG WIREMOLD 4000 OR EQUIVALENT) SURFACE MOUNTED ON FLOOR FROM PULL BOX "WS" TO REAR OF WALL STAND BASE, TO PROVIDE COVER FOR CABLES.	FOR WALL STAND
VD1	18"x3 1/2"	VERTICAL DUCT MOUNTED FLUSH WITH FINISHED WALL FROM ABOVE THE FINISHED CEILING TO END AT THE FLOOR LINE. THIS DUCT MUST BE DIVIDED INTO THREE EQUAL SECTIONS TO PROVIDE FOR SEPARATION OF CABLES.	
VD2	10"x3 1/2"	VERTICAL DUCT MOUNTED FLUSH WITH FINISHED WALL FROM ABOVE THE FINISHED CEILING TO END AT THE FLOOR LINE. THIS DUCT MUST BE DIVIDED INTO THREE SECTIONS: ONE 4" AND TWO 3", TO PROVIDE FOR SEPARATION OF CABLES.	
	-	NOTES: 1. WARNING LIGHTS AND DOOR SWITCHES ARE THE RESPONSIBILITY OF THE CUSTOMER/CONTRACTOR. SEE "AUXILIARY WIRING" DETAIL. 2. TO TURN ROOM LIGHTS OFF FROM THE SIEMENS EQUIPMENT, SEE "ROOM LIGHTING WIRING" DETAIL.	
1	AS REQUIRED	CONDUIT FROM POWER SOURCE TO MAIN ENCLOSURE (ME).	SIZED BY ELEC. CONTRCTR.
2	AS REQUIRED	CONDUIT FROM "ME" TO "VD1" (PU).	SIZED BY ELEC. CONTRCTR.
3	AS REQUIRED	CONDUIT FROM "ME" TO "EPO".	SIZED BY ELEC. CONTRCTR.
4	AS REQUIRED	CONDUIT FROM "EPO" TO "EPO".	SIZED BY ELEC. CONTRCTR.
5	AS REQUIRED	CONDUIT FROM "VD1" (PU) VIA RELAY CIRCUITRY TO WARNING LIGHT.	SIZED BY ELEC. CONTRCTR.
6	AS REQUIRED	CONDUIT FROM "VD1" (PU) TO DOOR SWITCH.	SIZED BY ELEC. CONTRCTR.
7	(2) 2 1/2" DIA.	CONDUITS FROM "P1" TO "PU1". (OR TWO 3" DIA. CONDUITS)	MAX. CONDUIT LENGTH 17 FT.
8	(2) 2 1/2" DIA.	CONDUITS FROM "P1" TO "PU1".	MAX. CONDUIT LENGTH 17 FT.
9	2 1/2" DIA.	CONDUIT FROM "VD2" (CR1) TO "VD1" (PU).	MAX. CONDUIT LENGTH 39 FT.
10	2 1/2" DIA.	CONDUIT FROM "VD2" (IS) TO "D1".	MAX. CONDUIT LENGTH 49 FT.
11	2 1/2" DIA.	CONDUIT FROM "PU1" TO "WS".	MAX. CONDUIT LENGTH 30 FT.
12	(2) 2 1/2" DIA.	CONDUITS FROM "VD1" (PU) TO "TS".	MAX. CONDUIT LENGTH 22 FT.
13	2" DIA.	CONDUITS FROM "VD1" (PU) TO "TS".	MAX. CONDUIT LENGTH 22 FT.
14	(2) 2 1/2" DIA.	CONDUITS FROM "VD2" (IS) TO "VD1" (PU).	MAX. CONDUIT LENGTH 39 FT.
15	1 1/2" DIA.	CONDUIT FROM "PU1" TO "DOS".	MAX. CONDUIT LENGTH 30 FT.

ELECTRICAL NOTES

1) COMPLIANCE: ELECTRICAL WORK SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA-70), O.S.H.A. REGULATIONS, AS WELL AS APPLICABLE REGULATIONS OF CITY, COUNTY, STATE AND FEDERAL AGENCIES. PROVIDE MATERIALS AND EQUIPMENT THAT COMPLY TO ANSI, IEEE AND NEMA STANDARDS. WHERE APPLICABLE, PROVIDE ONLY MATERIALS AND PRODUCTS THAT ARE U.L. LISTED AND LABELED. CUSTOMER'S/CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF NECA STANDARD OF INSTALLATION.

2) QUALITY ASSURANCE: THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD TO INSURE THAT THE NEW WORK WILL FIT TO THE EXISTING STRUCTURE AS SHOWN ON THE DRAWINGS. SHOULD ANY CONDITIONS EXIST OR BE DISCOVERED THAT PREVENT THE INSTALLATION OF WORK AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION OF EQUIPMENT, OR THE PERFORMANCE OF ANY WORK THAT MAY BE AFFECTED. DO NOT ALTER DRAWINGS, DIMENSIONS, OR SPECIFICATIONS IN ANY WAY WITHOUT CONTACTING AND RECEIVING WRITTEN CONFIRMATION FROM SMS PROGRAM MANAGER. ALL DIMENSIONS ARE FROM FINISHED SURFACES. CONDUIT AND PULL BOXES TO BE INSTALLED BY THE CUSTOMER/CONTRACTOR WITH LOCATIONS BEING FIELD VERIFIED BY SMS PROJECT MANAGER.

3) POWER SUPPLY SOURCE: POWER SUPPLIES FOR SIEMENS MEDICAL SOLUTIONS EQUIPMENT SHALL BE DEDICATED SERVICES KEPT ENTIRELY FREE AND INDEPENDENT OF ALL OTHER BUILDING WIRING AND EQUIPMENT, SUCH AS: ELEVATORS, GENERATORS, PUMPS, HVAC SYSTEMS, ETC. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE CUSTOMER/UTILITY COMPANY FIELD REPRESENTATIVE.

4) WORK FURNISHED BY CUSTOMER/CONTRACTOR: WORK NOT PROVIDED BY SIEMENS MEDICAL SOLUTIONS BUT SHOWN ON DRAWINGS TO BE FURNISHED AND INSTALLED BY CUSTOMER/CONTRACTOR INCLUDES THE FOLLOWING BUT IS NOT LIMITED TO UNLESS NOTED OTHERWISE: ELECTRICAL RACEWAYS AND DUCTS, WIRING TROUGHS, PULL BOXES, CONDUITS, CIRCUIT BREAKERS, EMERGENCY OFF BUTTONS, DOOR SWITCHES, WARNING LIGHTS, WIRING, WIRING DEVICES, CONNECTORS, LIGHTING EQUIPMENT AND GROUNDING.

5) RACEWAY AND CONDUIT NOTES: RACEWAY SHALL BE ELECTRIC METALLIC TUBING (EMT) FOR RIGID CONDUIT WORK, OR WHERE SHORT OFF-SET CONNECTIONS ARE REQUIRED LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE USED. FIELD BENDS SHALL NOT BE LESS THAN AS SHOWN IN TABLE 346-10 OF THE NATIONAL ELECTRICAL CODE. PROVIDE A JETLINE "SUPER TRUE TAPE", OR EQUIVALENT CONDUIT MEASURING TAPE FISH LINE IN ALL RACEWAYS AND CONDUITS.

CONDUIT BODIES SHALL NOT BE USED. WHERE A CONDUIT ENTERS A BOX, FITTING, OR OTHER ENCLOSURE, AN INSULATED THROAT CONNECTOR SHALL BE PROVIDED TO PROTECT THE WIRE FROM ABRASION. CONNECTORS SHALL BE DOUBLE SET SCREW TYPE, STEEL CONCRETE TIGHT.

KEEP RACEWAYS AT LEAST 6 INCHES AWAY FROM PARALLEL RUNS OF FLUES OR STEAM AND HOT WATER PIPES. INSTALL RACEWAY RUNS ABOVE WATER AND STEAM PIPES PROVIDED THAT CABLE RUN DISTANCES ARE MAINTAINED. USE TEMPORARY CLOSURES TO PREVENT FOREIGN MATTER FROM ENTERING RACEWAY.

CONDUIT RUNS ARE SHOWN SCHEMATICALLY. INSTALL CONDUIT WITH A MINIMUM OF BENDS IN THE SHORTEST PRACTICAL DISTANCE CONSIDERING THE BUILDING CONSTRUCTION AND OBSTRUCTIONS, EXCEPT AS OTHERWISE INDICATED. THE CONTRACTOR SHALL MAKE CERTAIN THAT ANY CONDUIT/RACEWAY RUNS CONTAINING SIEMENS MEDICAL SYSTEMS CABLES DO NOT EXCEED THE SPECIFIED MAXIMUM DISTANCES AS SHOWN ON THE ELECTRICAL DETAILS.

PROVIDE ENCLOSED METAL RACEWAY SYSTEM (WIRE DUCT) WHERE SHOWN ON DRAWINGS WITH DIVIDERS TO SEPARATE THE DUCT (FOR POWER AND SIEMENS MEDICAL SOLUTIONS CABLING). DIVIDERS AND CROSSOVER PIECES TO BE PROVIDED AS NECESSARY. FOR UL CERTIFIED SYSTEMS, THE CABLE TO CABLE AS WELL AS THE CIRCUIT TO CIRCUIT SEPARATION REQUIREMENT WAS EVALUATED DURING THE UL SYSTEM INVESTIGATION OF THIS EQUIPMENT. ADDITIONAL SEPARATION OF THE SYSTEM CABLE ASSEMBLIES INTO SEPARATE OR PARTITIONED RACEWAYS, UNLESS OTHERWISE NOTED, IS NOT NECESSARY TO INSURE SEPARATION OF CIRCUITS, AS THEY CAN BE IN THE SAME RACEWAY.

PROVIDE WIRE DUCT/RACEWAY WITH ACCESSIBLE REMOVABLE COVERS. LOCATIONS OF OPENINGS TO BE CUT IN FIELD ARE TO BE COORDINATED WITH SIEMENS PROJECT MANAGER. ELECTRICAL PULL BOXES AND RACEWAY COVERS SHALL BE INSTALLED IN A MANNER TO ALLOW ACCESSIBILITY FOR INSTALLATION AND MAINTENANCE. IN- FLOOR TRENCH DUCT AND FLUSH FLOOR BOXES SHALL BE PROVIDED WITH FULLY GASKETED REMOVABLE COVERS.

6) WIRING: WIRING SHALL BE INSTALLED IN METAL RACEWAY, 600 VOLT CLASS, STRANDED TYPE THHN-THWN, SINGLE CONDUCTOR ANNEALED COPPER FOR A MAXIMUM OPERATING TEMPERATURE OF 75° C (165° F), SIZED AS INDICATED. THE CUSTOMER/CONTRACTOR SHALL LEAVE MINIMUM 10 FT. WIRE TAILS AT ALL OUTLET POINTS WITH WIRE IDENTIFICATION TAGGED AT BOTH ENDS FOR FINAL CONNECTION BY SIEMENS MEDICAL SOLUTIONS.

7) IN ADDITION TO THE CIRCUIT BREAKER LOAD CURRENT RATING, CONSIDERATION MUST ALSO BE GIVEN TO SELECTING CIRCUIT BREAKERS THAT HAVE A HIGH ENOUGH SHORT CIRCUIT CURRENT WITHSTAND RATING TO SAFELY COORDINATE WITH THE POWER SYSTEM AVAILABLE SHORT CIRCUIT CURRENT. GENERALLY, WHEN THE 480 VOLT, 3 PHASE, X-RAY EQUIPMENT IS SERVED FROM A POWER SUPPLY SYSTEM THAT IS PROVIDED WITH A 500 kVA OR SMALLER TRANSFORMER, A STANDARD 14,000 RMS AMPERE WITHSTAND RATED CIRCUIT BREAKER WILL BE ADEQUATE. HOWEVER, IF THE POWER SUPPLY SYSTEM TRANSFORMER IS LARGER THAN 500 kVA, THEN THE CIRCUIT BREAKERS HAVING A SHORT CIRCUIT WITHSTAND RATING GREATER THAN 14,000 RMS AMPERES MAY BE REQUIRED.

CONTRACTOR SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
PANEL	1	ME	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER REQ/SCHEDULE
ME	2,VD1	PU	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER REQ/SCHEDULE
ME	3	EPO	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE.
EPO	4	EPO	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE.
PU	VD1,5	W.L.	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE AUXILIARY WIRING DTL.
PU	VD1,6	D.SW.	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE AUXILIARY WIRING DTL.

SIEMENS SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
P1	7	PU1	W100 UNIT/GENERATOR, X-RAY TUBE (INCLUDES 30V, 300V, 600V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 22.5 FT.
P1	8	PU1	W400 UNIT/GENERATOR, POWER SUPPLY AND XCS (INCLUDES 30V, 300V, 600V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 22.5 FT.
CR1	VD2,9,VD1	PU	W310, CONTROL ROOM MODULE (300 V CABLE)	MAXIMUM LENGTH 59 FT.
IS	LOOSE	CR1	IMAGING SYSTEM FLAT DISPLAY AND KEYBOARD	MAXIMUM LENGTH 11 FT.
IS		D1	W200 FOR 1-DISPLAY, W300 FOR 2-DISPLAYS, (INCLUDES 30V, 300V AND 600V CABLES)	MAXIMUM LENGTH 59 FT.
PU1	11	WS	W150M/W150P (INCLUDES 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 36 FT.
PU	VD1,12,13	TS	W110 AND HIGH TENSION CABLES (INCLUDES 30V, 300V, 600V AND ETHERNET CABLES)	MAXIMUM LENGTH 32 FT.
IS	VD2,14,VD1	PU	W500 FL-C/GENERATOR, RADIATION DISPLAY (INCLUDES 30V, 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 59 FT.
IS	VD2,14,VD1	PU	W610 ((INCLUDES 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 59 FT.
PU1	15	DOS	W610 (INCLUDES 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 36 FT.

CONTRACTOR SUPPLIED ITEMS

ALL ITEMS, INCLUDING BUT NOT LIMITED TO CONDUITS, DUCTS, CIRCUIT BREAKERS, EMERGENCY OFF BUTTONS, DOOR SWITCHES, AND WARNING LIGHTS, SHOWN IN THESE PLANS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/ELECTRICAL CONTRACTOR, UNLESS OTHERWISE SPECIFIED.

CABLE LENGTH LIMITATIONS

THE CONDUITS ARE SHOWN SCHEMATICALLY IN THIS PLAN AND MUST BE RUN IN THE SHORTEST POSSIBLE DISTANCE BETWEEN TERMINATION POINTS. ANY VARIATION IN THE ROUTING OF DUCTS COULD RESULT IN CABLE LENGTH LIMITATIONS BEING EXCEEDED. THEREFORE, ANY CHANGES MUST BE APPROVED BY THE SIEMENS PROJECT MANAGER.

SYMBOLS

ALL MAY NOT APPLY

	MAIN PANEL OR ENCLOSURE BY CUSTOMER/CONTRACTOR
	OPENING IN RACEWAY OR TRENCHDUCT
	PULLBOX IN (FLOOR/WALL/CEILING)
	OPENING IN ACCESS FLOORING
X	WARNING LIGHT (X-RAY ON)
DS	DOOR SAFETY SWITCH
EPO	(EPO) EMERGENCY POWER OFF BUTTON
	TRENCHDUCT
	CEILING DUCT
	UNDER FLOOR DUCT
	SURFACE DUCT
	VERTICAL DUCT
	ETHERNET CONNECTION TO CUSTOMER'S INFORMATION SYSTEMS NETWORK (VERIFY WITH SMS PROJECT MANAGER).
	110 VOLT, 20 AMP, HOSPITAL GRADE DUPLEX OUTLET UNLESS OTHERWISE STATED.

CONDUIT LENGTH CALCULATIONS

FOR SITE SPECIFIC INSTANCES WHERE CABLES ARE BEING ROUTED IN A COMBINATION OF CONDUIT AND DUCTS, THE MAXIMUM LENGTH FOR THOSE CONDUITS, AS LISTED ON THE ELECTRICAL LEGEND, HAS BEEN CALCULATED BASED UPON THE DUCT LAYOUT SHOWN AND THE FOLLOWING ASSUMED VALUES:

1) VERTICAL DUCTS - 10'-0"
2) FLOOR PENETRATIONS THROUGH CONCRETE SLAB - 3'-0"

IF THE ACTUAL SITE SPECIFIC CONDITIONS EXCEED THESE ASSUMED VALUES AND/OR THE DUCT LOCATIONS ARE ALTERED, IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO RECALCULATE THE MAXIMUM LENGTH OF THE CONDUITS EFFECTED.

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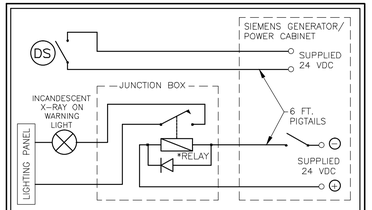
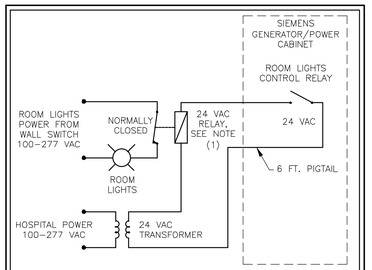


*NORMALLY OPEN RELAY WITH A 24 VOLT, DC COIL (NOT TO EXCEED 5 WATTS) AND A STEERING DIODE WIRED OVER THE RELAY COIL, SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. SIEMENS TO PROVIDE CONTROL SIGNAL TO RELAY. CONTRACTOR SUPPLIED AND INSTALLED JUNCTION BOX.

WARNING LIGHT AND DOOR SWITCH SCHEMATIC

1	AUXILIARY WIRING	SCALE: NONE	REV 0



NOTES;
1) NORMALLY CLOSED RELAY WITH A 24 VOLT, AC COIL (NOT TO EXCEED 5 WATTS), SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. SIEMENS ONLY PROVIDES CONTROL SIGNAL TO RELAY.

2) ALL ITEMS SHOWN ARE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR, WITH THE EXCEPTION OF THE SIEMENS GENERATOR/POWER CABINET.

ROOM LIGHTS SCHEMATIC

REV 0

2	ROOM LIGHTING WIRING	SCALE: NONE

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
0	12/03/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS

-ISSUE BLOCK-

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ALL RIGHTS ARE RESERVED.

PROJECT #: 1303120

SHEET 5 OF 6

DRAWN BY: J. DILLON

SHEET: E-101

SCALE: AS NOTED

REF. #: 30167509

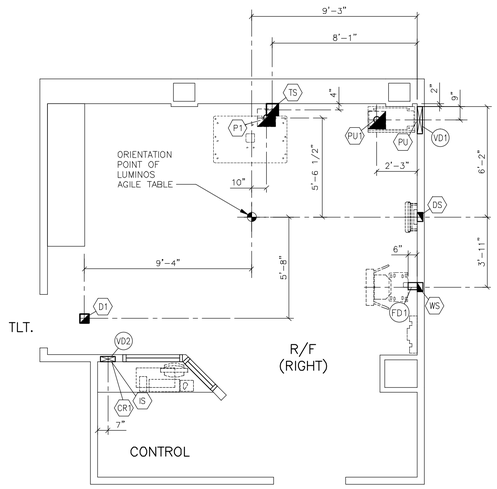
DATE: 12/03/13

LUMINOS AGILE REV 1

ATTENTION:

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.
- THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.
- IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION DOCUMENTS FOR REFERENCE.
- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.
- THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

REFERENCE DOCUMENT - NOT FOR CONSTRUCTION



ELECTRICAL DIMENSION PLAN

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

POWER QUALITY

POOR POWER WILL ALTER EQUIPMENT PERFORMANCE

IT IS IN THE CUSTOMER'S INTEREST THAT THE ELECTRICAL CONTRACTOR BE RESPONSIBLE FOR TESTING AND VERIFYING THAT THE EQUIPMENT POWER SUPPLY COMPLIES WITH THE SIEMENS SPECIFICATIONS.

GROUNDING NOTES

EQUIPMENT GROUND CONDUCTOR TO COMPLY WITH THE FOLLOWING:

1) SIZED EQUIVALENT TO THE PHASE CONDUCTORS (FULL SIZED GROUND).
2) DERIVED FROM THE ELECTRICAL SERVICE, TRANSFORMER OR MAIN DISTRIBUTION PANEL FEEDING THE SIEMENS EQUIPMENT.
3) RUN IN THE SAME CONDUIT, TROUGH OR RACEWAY AS THE PHASE CONDUCTORS.
4) CONTINUOUS, WITH NO BREAKS OR USE OF CONDUIT, CHASSIS OR EARTH AS THE SOLE GROUNDING PATH.
5) BONDED TO CHASSIS AND/OR CONDUIT IN ACCORDANCE WITH THE NEC REQUIREMENTS.
6) MINIMIZE CONNECTIONS OR TERMINALS TO ENSURE CONTINUITY OVER THE LIFE OF THE INSTALLATION.
7) AS A NORM, THERE SHOULD NOT BE ANY CURRENT PRESENCE ON THE GROUND CONDUCTOR, BUT IT IS ACCEPTABLE TO HAVE <500mA DURING OPERATION OF THE IMAGING EQUIPMENT.

POLYDOROS F65

X-RAY GENERATOR POWER REQUIREMENTS

INCOMING POWER:	480 VOLTS, 3 PHASE, 60Hz
CIRCUIT BREAKER:	70 AMPS.
GENERATOR OUTPUT:	65 kW
ALLOWABLE IMPEDANCE:	0.24 OHMS.
MAXIMUM MOMENTARY LOAD:	105 kVA
LINE VOLTAGE VARIATION:	± 10% MAX.
PHASE BALANCE:	2% MAX BETWEEN ANY 2 PHASES
FREQUENCY VARIATION:	± 1 Hz
VOLTAGE SURGES: INSTANTANEOUS VARIATION:	10% MAX. ABOVE LINE VOLTAGE 20 msec. MAX. DURATION
VOLTAGE SAGS:	10% MAX. BELOW LINE VOLTAGE 20 msec. MAX. DURATION
LINE TRANSIENTS (SPIKES):	50% MAX. ABOVE LINE VOLTAGE 5 msec. MAX. DURATION
GROUND IMPEDANCE:	0.25 OHMS MAX.

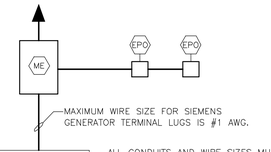
NOTE:
ALL INCOMING POWER SUPPLIES, FOR THE SIEMENS EQUIPMENT, ARE TO BE DEDICATED (BACK TO SOURCE) ISOLATED AND INSULATED FROM ANY OTHER EQUIPMENT, SUCH AS, ELEVATORS, GENERATORS, HVAC SYSTEMS, ETC.

A NEUTRAL CONDUCTOR, IF PRESENT, IS NOT USED FOR THE LINE VOLTAGE CONNECTION TO THE SIEMENS EQUIPMENT. IF THE NEUTRAL CONDUCTOR IS PROVIDED, IT SHOULD NOT BE ELECTRICALLY CONNECTED AT ANY POINT IN THE POWER DISTRIBUTION TO THE SIEMENS EQUIPMENT UNLESS SPECIFICALLY REQUIRED. UNINTENTIONAL NEUTRAL TO GROUND BONDS MAY VIOLATE LOCAL AND NATIONAL ELECTRICAL CODES, AS WELL AS CREATE GROUNDING PROBLEMS.

ATTENTION:
SIEMENS MEDICAL SYSTEMS, INC. RECOMMENDS THAT THE INCOMING POWER LINES BE ANALYZED WITH RESPECT TO TRANSIENT SURGES AND IMPULSES, SAGS, AND OVERVOLTAGES.

REV 0

POWER SCHEDULE



ALL CONDUITS AND WIRE SIZES MUST BE DETERMINED BY THE ELECTRICAL ENGINEER ON RECORD PER N.E.C. AND TO MAINTAIN SIEMENS IMPEDANCE REQUIREMENTS.

ITEM	QTY	DESCRIPTION
ME	1	MAIN ENCLOSURE WITH MAIN BREAKER FLUSH OR SURFACE MOUNTED. MAIN BREAKER MUST HAVE A TRIPPING DEVICE SO WHEN ANY EPO IS PRESSED THE MAIN BREAKER TRIPS. THIS TRIPPING DEVICE CONTROL CIRCUIT MUST BE OF FAIL-SAFE DESIGN. THE CONTROL CIRCUIT FOR THE EPO'S MUST HAVE AN ENERGY STORAGE SOURCE SO THAT THE CONTROL CIRCUIT NEVER LOSES POWER.
		MAIN BREAKER AMPS: SEE POWER REQUIREMENTS

VOLTS	PHASES	NEUTRAL	GROUND	TOTAL WIRES
480Y	3	0	1	4 (NOTE 1)

1) ALL WIRES MUST BE SAME SIZE.

EPO	VARIES	EMERGENCY POWER OFF BUTTON WITH PROTECTIVE COVER THAT PREVENTS ACCIDENTAL ACTIVATION OF THE EPO BUTTON. THE EPO MUST BE OF FAIL-SAFE DESIGN. THE CONTROL CIRCUIT FOR THE EPO'S MUST HAVE AN ENERGY STORAGE SOURCE SO THAT THE CONTROL CIRCUIT NEVER LOSES POWER. ALL EPO'S ARE TO BE LATCHING TYPE AND MUST BE RESET BEFORE MAIN BREAKER CAN BE RESET. IF ANY OPTIONAL UPS EQUIPMENT IS PROVIDED BY SIEMENS, THE CUSTOMER/CONTRACTOR SHALL PROVIDE AN ADDITIONAL CONTACT IN EACH EPO AND PROVIDE SEPARATE WIRING FOR AN ADDITIONAL EPO CIRCUIT AS REQUIRED. PLEASE COORDINATE THE TYPE OF CONTACT REQUIRED FOR THE UPS CIRCUIT WITH SIEMENS PROJECT MANAGER. THE EPO'S MUST BE INSTALLED BY A QUALIFIED ELECTRICAL CONTRACTOR ACCORDING TO NATIONAL ELECTRICAL CODE, STATE AND LOCAL REGULATIONS. MEASURES SHOULD BE TAKEN TO DESIGN THE CIRCUIT IN SUCH A WAY THAT IT WILL ALWAYS WORK WHEN THE MEDICAL EQUIPMENT IS POWERED. THE CUSTOMER IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION OF THE EPOs AND THEIR ASSOCIATED CIRCUITS AND MUST MAKE THE FINAL DETERMINATION CONSIDERING ALL SITE CONDITIONS AND REGULATORY FACTORS.

ALL ITEMS LISTED IN THIS SCHEDULE SHALL BE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR.

REV 0

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
1	12/03/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS

-ISSUE BLOCK-

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ROOM R/F RIGHT - LUMINOS AGILE

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PROJECT #: 1303120
SHEET: E-102
SHEET 6 OF 6
DRAWN BY: J. DILLON
SCALE: AS NOTED
REF. #: 30167509
DATE: 12/03/13

LUMINOS AGILE REV 1

ATTENTION:

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.
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- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.
- THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

REFERENCE DOCUMENT - NOT FOR CONSTRUCTION

ERIE VAMC

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Erie, PA 16501

LUMINOS AGILE

Contents:

Sheet No.	Description
A-101	EQUIPMENT PLAN-DETAILS, LEGEND, AND NOTES
A-102	REFLECTED CLNG. & SAFETY/SERVICE PLANS-NOTES
S-101	STRUCTURAL FLOOR/CEILING PLANS-DETAILS, & NOTES
S-102	STRUCTURAL CEILING PLAN-DETAILS AND NOTES
E-101	ELECTRICAL PLAN(S)-LEGEND AND NOTES
E-102	ELECTRICAL PLAN-LEGEND AND NOTES

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ERIE VAMC

Project #: 1303121

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ERIE VAMC

LUMINOS AGILE
ROOM R/F LEFT

Issue #: 0
Date: 12/02/13

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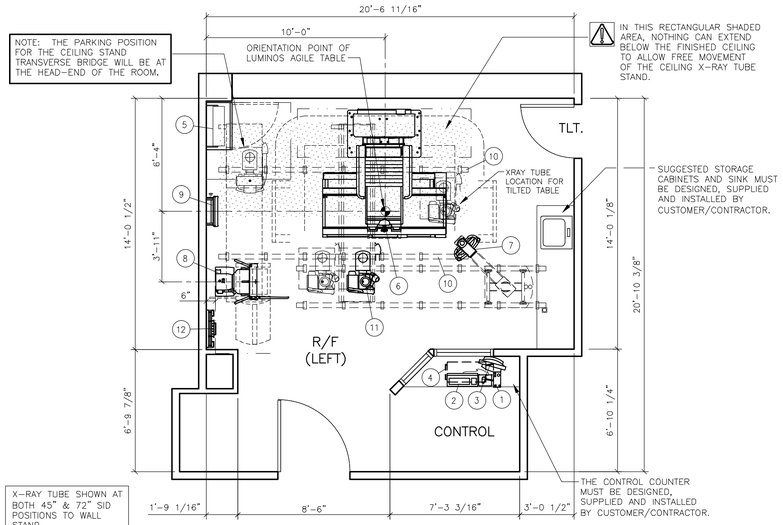


THIS SET OF FINAL DRAWINGS IS REFLECTIVE OF THE LATEST SALES CONFIGURATION. ANY CHANGES TO THIS SALES CONFIGURATION MAY REQUIRE A REVISION TO THIS PROJECT PLAN. IF REQUESTED, SIEMENS WILL PRODUCE A REVISED SET OF FINAL DRAWINGS TO REFLECT THE CHANGES, HOWEVER SIEMENS IS NOT RESPONSIBLE FOR ANY CONSTRUCTION COSTS ASSOCIATED WITH THE CHANGES THAT OCCUR FROM THIS PLAN MODIFICATION.

ARCHITECTURAL EQUIPMENT PLAN

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

EQUIPMENT LEGEND

NO	DESCRIPTION	SMS SYM	WEIGHT (LBS)	BTU/HR TO AIR	DIMENSIONS (INCHES) W	D	H	REMARKS
1	CONTROL ROOM MODULE	SR	2	–	4 3/4	10 1/16	3 3/16	ON CUSTOMER'S COUNTER
2	IMAGING SYSTEM – KEYBOARD AND MOUSE	–	–	–	–	–	–	ON CUSTOMER'S COUNTER
3	B/W FLAT SCREEN CONTROL ROOM MONITOR	–	–	–	–	–	–	ON CUSTOMER'S COUNTER
4	IMAGING SYSTEM (UNDER COUNTER)	IS	110	1,468	17 3/8*	32 1/2*	27*	*INCLUDES 5 1/8" BEHIND, 4" ABOVE AND ALONG CONTAINER.
5	POLYDOROS F65 (65 kW) GENERATOR CABINET	XR	838	2,048**	31 1/2	17 1/8	86 3/4	**DURING OPERATION, 1,195 IN STANDBY MODE
6	LUMINOS AGILE (+90/–20) TABLE	DT	3,793	2,900***	83	88	77	***DURING OPERATION, 512 IN STANDBY MODE
7	DCS–1 IC–DVI FLAT DISPLAY & TOUCH DISPLAY ON CEILING SUSPENSION	DV	419	512	167 1/8	27 7/8	*A	*A – 63"MIN. AND 102" MAX.
8	YSIO WALL STAND WITH MOBILE DETECTOR (LEFT LOADING)	PX	551	819	30	37*B	83	*B – MAX. IN HORIZONTAL POSITION
9	DOCKING STATION (WALL MOUNTED)	DS	40	256	20 3/8	7 13/16	16 1/4	WITHIN 11.5 FT. OF WALL STAND
10	CEILING RAILS FOR FULLY SYNCHRONIZED TUBE STAND	–	59	–	167 3/8	3	3 1/2	SIZE AND WEIGHT PER RAIL
11	3M TRANSVERSE BRIDGE AND X-RAY TUBE STAND	CS	772	853	119 1/4	39	4	
12	GRID HOLDER (WALL MOUNTED)	–	63	–	25 1/16	6 7/16	21 11/16	SUGGESTED LOCATION

ARCHITECTURAL NOTES

1) ALL PRELIMINARY EQUIPMENT LAYOUTS SUBMITTED BY SIEMENS MEDICAL SOLUTIONS, INC. (SMS HEREAFTER) ARE BASED ON THE RECOMMENDED SPACE NECESSARY FOR THE OPERATION AND SERVICEABILITY OF THE EQUIPMENT BEING PROPOSED. SMS WILL NOT SUBMIT AN EQUIPMENT LAYOUT THAT IS NOT IN THE BEST INTEREST OF BOTH THE CUSTOMER AND SMS. ALL EQUIPMENT LAYOUTS ARE BASED EITHER ON AN ACTUAL SITE LOCATION SURVEY OR ARCHITECTURAL DRAWINGS SUPPLIED TO SMS. SMS WILL NOT BE RESPONSIBLE FOR ANY ALTERATIONS THAT ENCROACH WITHIN DESIGNATED SAFETY AND SERVICE CLEARANCE ZONES AS INDICATED ON DRAWINGS (IE. PIPE CHASES, VENTILATION DUCTS, CASEWORK, AND SOFFITS, ETC.) MADE BY THE CUSTOMER OR REQUIRED BY A CUSTOMER'S ARCHITECTURAL FIRM ONCE PRELIMINARY DRAWINGS HAVE BEEN SUBMITTED AND APPROVED. DO NOT ALTER ANY SPECIFICATIONS AND/OR DIMENSIONS WITHOUT CONTACTING AND RECEIVING WRITTEN CONFIRMATION FROM SMS PROJECT MANAGER.
2) SMS IS NOT AN ARCHITECTURAL OR ENGINEERING FIRM. DRAWINGS SUPPLIED BY SMS ARE NOT CONSTRUCTION DRAWINGS. THEREFORE, THESE DRAWINGS ARE TO BE USED ONLY FOR INFORMATION TO COMPLEMENT ACTUAL CONSTRUCTION DRAWINGS AVAILABLE FROM A CUSTOMER APPOINTED ARCHITECTURAL REPRESENTATIVE OR A CUSTOMER'S ENGINEERING DESIGN GROUP. THE CUSTOMER'S ARCHITECT AND GENERAL CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE CODES AND PROFESSIONAL DESIGN REQUIREMENTS.
3) THE CUSTOMER IS RESPONSIBLE FOR ALL ROOM AND AREA PREPARATION COSTS, PROFESSIONAL FEES, PERMITS, REPORTS, AND INSPECTION FEES.
4) EQUIPMENT WARRANTIES, EXPRESSED OR IMPLIED ON THE PART OF SMS SHALL BE CONTINGENT UPON STRICT COMPLIANCE WITH THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL AND RECOMMENDATIONS AND REQUIREMENTS CONTAINED IN THESE DRAWINGS, UNLESS SPECIFIED OTHERWISE.
5) ALL DIMENSIONS SHOWN ARE TAKEN FROM FINISHED SURFACES UNLESS SPECIFIED OTHERWISE.
6) THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST. ACTUAL PROTECTION REQUIREMENTS SHALL BE SPECIFIED BY A REGISTERED RADIATION PHYSICIST AT CUSTOMER'S ENGAGEMENT AND EXPENSE. RESPONSIBILITY FOR ALL INFORMATION AS TO THE ROOM LOCATION, USE, AND NUMBER OF ANTICIPATED EXAMINATIONS TO BE PERFORMED PER TIME PERIOD SHALL BE PROVIDED TO THE PHYSICIST BY THE CUSTOMER. THE CUSTOMER SHALL FURTHER TAKE ALL RESPONSIBILITY IN THE COMMUNICATION AND COORDINATION OF ACTIVITIES OF THE RADIATION PHYSICIST AND THE ARCHITECTURAL REPRESENTATIVE.
7) SMS SHALL BE RESPONSIBLE FOR SMS EQUIPMENT INSTALLATION AND CALIBRATION, CONNECTION AND INSTALLATION OF SMS PROVIDED CABLES, AND CONNECTION OF CONTRACTOR PROVIDED WIRES TO SMS EQUIPMENT. IN THE EVENT THAT SPECIFIC TRADE RULES OR LICENSE REQUIREMENTS PROHIBIT THIS, THE CUSTOMER SHALL INITIATE THE SERVICES OF APPROVED OTHER CONTRACTORS AND PAY FOR SELECTED, APPROVED PARTIES TO PERFORM THIS WORK WITH JOB SUPERVISION TO BE PROVIDED BY SMS. CALIBRATION WHEN ACCOMPLISHED OUTSIDE OF NORMAL INSTALLATION SEQUENCES DUE TO CONTRACTOR OR TRADE RULE ACTIONS OR REQUIREMENTS SHALL BE SUPPORTED BY, CHARGED TO, AND ACCEPTED BY THE CUSTOMER AS AN ADDITIONAL INSTALLATION EXPENSE.
8) THE CUSTOMER SHALL VERIFY WITH SMS PROJECT MANAGER FINAL INSTALLATION DRAWINGS THE LOCATIONS AND TRAVEL OF ALL ANCILLARY EQUIPMENT TO BE CEILING OR WALL MOUNTED (IE: O.R. LIGHTS, MEDICAL GAS COLUMNS, PHYSIOLOGICAL MONITORING INJECTORS, CRT PLATFORMS, SPRINKLER HEADS, SMOKE DETECTORS, ELECTRICAL OUTLETS, HVAC GRILLES, SPEAKERS, AND GENERAL ROOM LIGHTING, ETC.).
9) THE GENERAL CONTRACTOR/CUSTOMER SHALL BE RESPONSIBLE FOR ALL FINAL PAINT, TOUCH-UP AND ANY COSMETIC OR TRIM WORK WHICH NEEDS TO BE OR IS REQUIRED TO BE COMPLETED AFTER THE INSTALLATION OF THE SMS EQUIPMENT AND ANY ASSOCIATED SUPPORT APPARATUS.

TABLE TECHNICAL DATA

ENVIRONMENT:	59°F – 95°F OPERATING ROOM TEMPERATURE (NOTE: MAXIMUM 82°F WITH WIRELESS DETECTOR) 20% – 75% PERMISSIBLE RELATIVE AIR HUMIDITY (NON–CONDENSING)
TRANSPORTING/ RIGGING:	UNIT BASE WEIGHT: 1,901 LBS. WITH PACKING 1,610 LBS. WITHOUT PACKING (WITH TRANSPORT CARRIAGE) DIMENSIONS WITH PACKING: 53"L X 36"W X 67"H UNIT SUPPORT WEIGHT: 2,095 LBS. WITH PACKING 1,517 LBS. WITHOUT PACKING (WITH TRANSPORT CARRIAGE) DIMENSIONS WITH PACKING: 97"L X 52"W X 56"H DIMENSIONS WITHOUT PACKING (WITH TRANSPORT CARRIAGE): 116"L X 32"W X 60"H (WHEELS OUTSIDE) 95"L X 32"W X 60"H (ALL WHEELS INSIDE) 107"L X 32"W X 60"H (TWO WHEELS INSIDE) MINIMUM DOOR OPENING FOR TRANSPORT CARRIAGE: 34"W WITH MINIMUM 8'–3" CORRIDOR WIDTH 48"W WITH MINIMUM 6'–1" CORRIDOR WIDTH

SIEMENS REMOTE SERVICES (SRS)

TO ENSURE THE UPTIME OF YOUR SYSTEM DURING THE WARRANTY PERIOD (AND BEYOND WITH A SERVICE AGREEMENT), SIEMENS REMOTE SERVICES (SRS) REQUIRES REMOTE LOCAL AREA NETWORK ACCESS TO SIEMENS SYSTEMS.

SRS REQUIRES ONE OF THE FOLLOWING CONNECTION METHODS:

(PREFERRED) VPN CONNECTION

THE PREFERRED CONNECTION METHOD IS (VPN) VIRTUAL PRIVATE NETWORK (WHERE THE CUSTOMER HAS AVAILABLE A VPN CAPABLE FIREWALL OR OTHER VPN APPLIANCE). THIS METHOD PROVIDES THE POSSIBILITY FOR REMOTE SYSTEM DIAGNOSTICS WITHOUT ADDITIONAL HARDWARE. PLEASE CONTACT SIEMENS REMOTE SERVICES (800–888–SIEM) TO DETERMINE IF THIS METHOD IS SUITABLE FOR YOUR SITE.

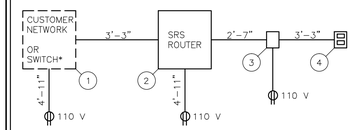
(OPTIONAL) SRS ROUTER CONNECTION

– THE SRS ROUTER IS SUPPLIED BY SIEMENS AND INSTALLED AT THE CUSTOMER'S SITE, WHILE STILL REMAINING THE PROPERTY OF SIEMENS. THE CUSTOMER'S NETWORK ADMINISTRATOR AND SIEMENS REMOTE SERVICES SHALL DETERMINE THE TYPE AND LOCATION OF THE SRS ROUTER REQUIRED.

– THE SRS ROUTER IS CONNECTED TO AN ANALOG MODEM THAT IS SUPPLIED BY SIEMENS, WHICH THEN IN TURN IS CONNECTED TO AN ANALOG PHONE LINE THAT IS SUPPLIED BY THE CUSTOMER. ONE SRS ROUTER ALLOWS REMOTE DIAGNOSTICS TO MULTIPLE MEDICAL SYSTEMS.

– THE SRS ROUTER SHOULD BE INSTALLED IN A SECURE LOCATION (CUSTOMER'S NETWORK COMPUTER ROOM) THAT HAS LIMITED ACCESS. IT CAN BE LOCATED ON A SHELF, TABLE, OR IN A CABINET. THE CONNECTION CABLES (WITH INDICATED LENGTHS BELOW) ARE INCLUDED WITH DELIVERY.

SRS ROUTER CONNECTION DIAGRAM



NOTE: ALL POWER OUTLETS ARE SUPPLIED/INSTALLED BY CUSTOMER.

1. ETHERNET SWITCH OR HUB, SUPPLIED BY CUSTOMER
2. SRS ROUTER, SUPPLIED BY SIEMENS (SIZE: 11.2"W X 8.7"D X 5.5"H, WEIGHT: 2 LBS.)
3. ANALOG MODEM, SUPPLIED BY SIEMENS
4. ANALOG PHONE LINE, SUPPLIED BY CUSTOMER

* OPTIONAL SWITCH AND CABLES ARE NOT INCLUDED, BUT CAN BE ORDERED FROM SIEMENS.

SIEMENS REMOTE SERVICE — SCALE: NONE

SITE READINESS GUIDELINES

THE FOLLOWING GENERAL CONDITIONS ARE NECESSARY TO HAVE THE STATUS OF "READY SITE":
1) PROPER POWER AVAILABLE AT SIEMENS EQUIPMENT POWER CABINET LOCATION AND ALL POWER OUTLETS FUNCTIONING.
2) AIR CONDITIONING/HUMIDIFICATION SYSTEMS COMPLETE, TESTED, AND FUNCTIONING PROPERLY ACCORDING TO SIEMENS SPECIFICATIONS.
3) PROPER LIGHTING INSTALLED AND FUNCTIONING.
4) PLUMBING COMPLETE EXCEPT FOR ANY FINAL CONNECTIONS TO SIEMENS EQUIPMENT.
5) ALL CABLE TRAYS/DUCTS/CONDUITS CORRECTLY SIZED, LOCATED, AND INSTALLED ACCORDING TO THE SIEMENS DRAWINGS.
6) ALL REINFORCEMENT PLATES/UNISTRUT INSTALLED AS REQUIRED.
7) ROOM FOR EQUIPMENT INSTALLATION AND IMMEDIATE VICINITY IS DUST–FREE AND IS TO REMAIN SO FOR THE DURATION OF THE INSTALLATION.
8) A SECURE AREA (APPROXIMATELY 10' x 10') IS AVAILABLE AT EQUIPMENT DELIVERY FOR PARTS AND INSTALLATION TOOLS.
9) CUSTOMER SUPPLIED CAMERAS AND PROCESSORS INSTALLED.
10) CUSTOMER APPROVAL FOR SIEMENS REMOTE SERVICES (SRS) CONNECTION, AND CUSTOMER'S I.T. CONTACT INFORMATION AND IP ADDRESSES ESTABLISHED.
11) WALLS TO BE PRIMED AND PAINTED, FLOORS TO BE TILED EXCEPT IN AREAS OF THE EQUIPMENT BASE PLATES.

IF THESE CONDITIONS ARE NOT MET, THE SIEMENS PROJECT MANAGER AND THE DESIGNATED SIEMENS INSTALLATION SUPERVISOR SHALL RESCHEDULE THE INSTALLATION START DATE. NOTE: ADDITIONAL COST MAY BE INCURRED BY THE CUSTOMER/CONTRACTOR AND DELIVERY DATES MAY NEED TO BE RESCHEDULED, WHEN THE SIEMENS SITE READINESS GUIDELINES ARE NOT MET.

ROOM MEASUREMENTS

ALL ROOM MEASUREMENTS AND ROOM DETAIL SPECIFICATIONS MUST BE VERIFIED ON SITE PRIOR TO BEGINNING ANY CONSTRUCTION WORK.

MAGNETIC FIELD PRECAUTIONS

THE PRESENCE OF MAGNETIC FIELDS IN THE VICINITY OF EQUIPMENT MAY HAVE AN ADVERSE EFFECT. IT IS THE CUSTOMER'S RESPONSIBILITY TO VERIFY THAT THE FOLLOWING VALUES ARE NOT EXCEEDED.

MAXIMUM ALLOWABLE MAGNETIC FIELD	DEVICES
1.0mT (10 GAUSS)	COMPUTERS, MAGNETIC DISK DRIVES, OSCILLOSCOPES, PROCESSORS
0.5mT (5 GAUSS)	X–RAY TUBES, B/W MONITORS, MAGNETIC DATA CARRIERS, DATA STORAGE DRIVES
0.2mT (2 GAUSS)	SIEMENS CT SCANNERS
0.15mT (1.5 GAUSS)	COLOR MONITORS, SIEMENS LINEAR ACCELERATORS
0.05mT (0.5 GAUSS)	X–RAY IMAGE INTENSIFIERS, GAMMA CAMERAS, PET/CYCLOTRON, OTHER LINEAR ACCELERATORS
MAGNETIC FIELDS SHOULD BE MEASURED PRIOR TO DELIVERY	

ENVIRONMENTAL/POWER AUDIT

AS AN INDICATION OF OUR COMMITMENT TO QUALITY, SIEMENS MAY, AT NO COST TO YOUR FACILITY, CHECK THE OPERATING ENVIRONMENT AFTER SYSTEM TURNOVER TO DETERMINE IF THE REQUIREMENTS FOR TEMPERATURE, HUMIDITY, POWER, AND GROUNDING ARE MET AS PER SIEMENS' PUBLISHED SPECIFICATIONS. SIEMENS WILL GENERATE A WRITTEN REPORT DETAILING THE ENVIRONMENTAL AND ELECTRICAL CONDITION OF THE SITE AFTER TURNOVER AND WILL SHARE THE REPORT WITH YOU. IN THE EVENT WE IDENTIFY ANY ENVIRONMENTAL/POWER DEFICIENCIES AT THE SITE, YOUR FACILITY WILL BE REQUESTED TO CORRECT DEFICIENCIES WITHIN THIRTY (30) DAYS. SHOULD ANY CORRECTIVE ACTIONS BE NECESSARY, AND UPON REQUEST, SIEMENS WILL PROVIDE GUIDANCE IN AN EFFORT TO FACILITATE RESOLUTION. PLEASE BE ADVISED THAT AFTER 30 DAYS NOTICE ANY REPAIR OR MAINTENANCE SERVICES NECESSITATED BY SEVERE DEFICIENCIES WILL FALL OUTSIDE YOUR WARRANTY COVERAGE.

WIRELESS DETECTOR CONNECTION

OPERATION OF THE WIRELESS DETECTOR CAN BE AFFECTED BY OTHER WLAN DEVICES IN THE VICINITY OF THIS INSTALLATION. TO AVOID ANY CONFLICTS, THE CUSTOMER MUST PROVIDE A LIST OF EXISTING WLAN CHANNELS (FREQUENCIES) OR THE SPECIFIC CHANNEL (FREQUENCY) THEY DESIRE TO BE USED FOR THE WIRELESS DETECTOR.

THE WIRELESS CONNECTION IS ENCRYPTED (WPA2) AND IS BASED ON TWO WLAN STANDARDS, WITHIN WHICH SEVERAL CHANNELS (FREQUENCIES) ARE AVAILABLE:
1) 11G STANDARD – OPERATES AT 2.5 GHz
2) 11A STANDARD – OPERATES AT 5 AND 6 GHz

THE STANDARD (11G OR 11A) CAN BE SET BY SIEMENS SERVICE VIA THE SERVICE SOFTWARE INSTALLED ON THE IMAGING SYSTEM.

THE WIRELESS CONNECTION IS ONLY USED TO TRANSFER DATA BETWEEN SIEMENS EQUIPMENT AND IS NOT USED TO SEND DATA TO THE CUSTOMER'S NETWORK.

REV 0

ROOM HEIGHT REQUIREMENTS

ROOM HEIGHT WITHOUT CEILING STAND

MINIMUM ROOM HEIGHT	RESTRICTION WITH +/–90° ROTATION
8'–2 1/2" TO LESS THAN 10'–4"	– MAXIMUM TABLETOP EXTENSION OF 11 1/2" WITH A ROOM HEIGHT OF 8'–2 1/2" – DIGITAL IMAGING TOWER CANNOT BE IN THE EXTREME HEAD–END POSITION WITH A ROOM HEIGHT OF 8'–2 1/2" – RESTRICTIONS IN THE MOVEMENT RANGE WITH AUTOMATIC CORRECTION OF MOVEMENT.
10'–4" OR GREATER	NO RESTRICTIONS

ROOM HEIGHT WITH CEILING STAND

		USABLE TABLE HEIGHT AT 45° SID (3)
MINIMUM ROOM HEIGHT	8'–9 1/8"	2'–6"
MINIMUM ROOM HEIGHT FOR 60" SID TO TABLE (3)	9'–7" (1)	3'–4"
MAXIMUM ROOM HEIGHT WITHOUT THE TUBE STAND TELESCOPE EXTENSION	9'–5 5/8" (1)	3'–2"
	9'–10 7/8" (2)	3'–7 3/8"
MAXIMUM ROOM HEIGHT WITH THE TUBE STAND TELESCOPE EXTENSION	10'–1 1/2" (1)	3'–2"
	10'–7" (2)	3'–7 3/8"

1) UPRIGHT (0°) EXPOSURES ARE POSSIBLE AT LOWEST POSITION OF WALL STAND.

2) UPRIGHT (0°) EXPOSURES ARE NOT POSSIBLE AT LOWEST POSITION OF WALL STAND.

3) WITH SECOND PLANE OF CEILING STAND.

CEILING STAND TECHNICAL DATA

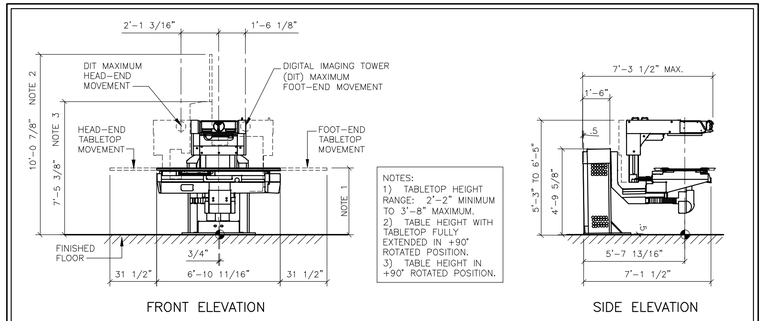
TRANSPORTING INFORMATION

CEILING TRANSVERSE BRIDGE (3M)	SIZE: 126"L x 32"W x 10"H WEIGHT: 419 LBS.
CEILING TRANSVERSE BRIDGE (4M)	SIZE: 174"L x 32"W x 10"H WEIGHT: 512 LBS.
X–RAY TUBE SUPPORT FULLY SYNCHRONIZED (WITHOUT CARRIAGE)	SIZE: 67"L x 41"W x 52"H WEIGHT: 827 LBS.
MOBILE DETECTOR WALL STAND (WITH PACKING AND CRATE TOP)	SIZE: 92"L x 35"W x 42"H WEIGHT: 898 LBS.
MINIMUM DOOR OPENING: MINIMUM CORRIDOR WIDTH:	37" 6'–11"

ENVIRONMENTAL CONDITIONS

	IN OPERATION	TRANSPORT
PERMISSIBLE AMBIENT TEMPERATURE (WITH WIRELESS DETECTOR)	59°F TO 82°F	–4°F TO 131°F
PERMISSIBLE RELATIVE HUMIDITY	20 TO 75%	10 TO 95%

REV 0



NOTES:
1) TABLETOP HEIGHT RANGE: 2'–2" MINIMUM TO 3'–8" MAXIMUM.
2) TABLE HEIGHT WITH TABLETOP FULLY EXTENDED IN +90° ROTATED POSITION.
3) TABLE HEIGHT IN +90° ROTATED POSITION.

FRONT ELEVATION — SIDE ELEVATION

DET — LUMINOS AGILE TABLE ELEVATION — SCALE: 1/4"=1'-0"

STATE AGENCY REVIEW

PRIOR TO SIEMENS EQUIPMENT INSTALLATION, APPROVAL OF CONSTRUCTION OR STRUCTURAL MODIFICATIONS UTILIZING X–RAY FOR DIAGNOSTIC OR THERAPEUTIC PURPOSES, MUST BE OBTAINED BY THE CUSTOMER FROM THE APPROPRIATE STATE AGENCY, IF APPLICABLE.

RESOURCE LIST (SMS USE ONLY)

DESIGNATION	PG NUMBER	DATE
LUMINOS AGILE	XPD1–320.891.01.03.02	09.12

LUMINOS AGILE REV 1

SYM	DATE	DESCRIPTION
1	12/02/13	R–101–A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS.

–ISSUE BLOCK–

PROJECT MANAGER: ROBERT ENGLISH
TEL: (412) 480–1265
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EMAIL: robert.english@siemens.com

SIEMENS

ERIE VAMC
135 EAST 38TH ST, ERIE, PA 16501
ROOM R/F LEFT – LUMINOS AGILE

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PROJECT #: 1303121
SHEET 1 OF 6
DRAWN BY: J. DILLON
SCALE: AS NOTED
REF. #: 30168098
DATE: 12/02/13
SHEET: A-101

ATTENTION:

– THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.
– THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.
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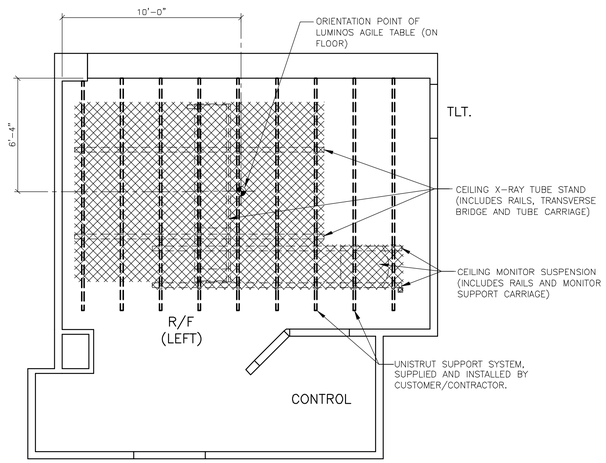
– ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.
– THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X–RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

REFERENCE DOCUMENT – NOT FOR CONSTRUCTION

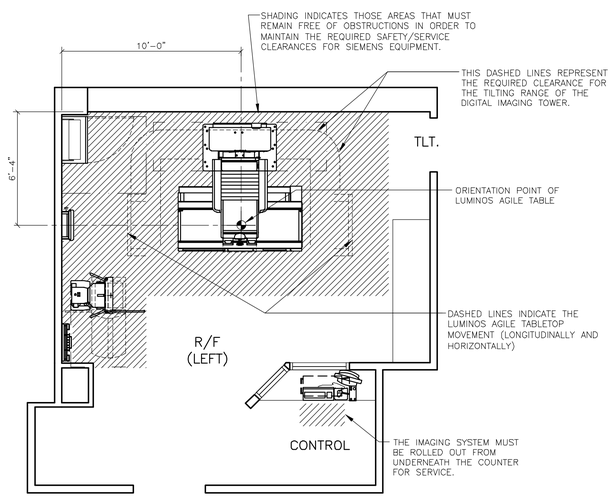
NOTE: SEE THE "STRUCTURAL CEILING PLAN" ON SHEET S-101 FOR DIMENSION LOCATIONS AND DESCRIPTIONS OF ALL ITEMS SHOWN ON THIS PLAN.



ATTENTION! OVERHEAD LIGHTING, HVAC DUCTS, SPRINKLERS, ETC. MUST NOT BE LOCATED WITHIN SIEMENS CEILING RAIL SYSTEMS. SHADED AREA INDICATES AREA NOT TO CONTAIN ITEMS THAT EXTEND BELOW THE FINISHED CEILING AND WHERE INCANDESCENT LIGHTING IS NOT ALLOWED. PLEASE COORDINATE THE PLACEMENT OF THESE ITEMS WITH THE SIEMENS PROJECT MANAGER.

REFLECTED CEILING PLAN

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



NOTE: FOR DESCRIPTIONS OF ALL SIEMENS EQUIPMENT SHOWN ON THIS PLAN, SEE THE "ARCHITECTURAL EQUIPMENT PLAN" ON SHEET A-101.

SAFETY/SERVICE CLEARANCE PLAN

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

CEILING NOTES

1) ALL CEILING MOUNTED LIGHT FIXTURES, MECHANICAL REGISTERS AND SPRINKLER HEADS SHALL BE FLUSH WITH FINISHED CEILING, SHALL BE OUTSIDE OF ALL HATCHED AREAS AND SHALL BE SPECIFIED BY THE ARCHITECT OF RECORD AND SUBSEQUENT CONSULTING ENGINEERS.

2) THE ACTUAL CEILING DESIGN AND COORDINATION OF LIGHTING AND MECHANICAL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE ARCHITECT OF RECORD AND HIS SUBSEQUENT CONSULTING ENGINEERS.

3) THE CUSTOMER/CONTRACTOR SHALL BE RESPONSIBLE FOR FABRICATING, SUPPLYING AND INSTALLING ALL LIGHT, MECHANICAL AND STRUCTURAL SUPPORTING SYSTEMS. SIEMENS MEDICAL SOLUTIONS INC. IS ONLY RESPONSIBLE FOR THE SUPPLYING, INSTALLING AND CALIBRATION OF SMS EQUIPMENT AS SPECIFIED ON THE EQUIPMENT SCHEDULE AS SHOWN ON SHEET A-101.

4) ALL ELECTRICAL AND STRUCTURAL SYSTEMS SHOWN ON THE REFLECTED CEILING PLAN HAVE BEEN COORDINATED WITH THE EQUIPMENT LOCATIONS AS SHOWN ON THE 1/4" SCALE ARCHITECTURAL EQUIPMENT PLAN (SHEET A-101). ANY CHANGES TO THE SMS EQUIPMENT CONFIGURATION AS SHOWN, DUE TO PLACEMENT OF LIGHTING, STRUCTURAL, ELECTRICAL AND MECHANICAL SYSTEMS, MUST BE APPROVED IN WRITING BY THE SMS PROJECT MANAGER PRIOR TO THE COMPLETION OF CONSTRUCTION DOCUMENTS.

LIGHTING GUIDELINES

ROOM LIGHTING IS THE RESPONSIBILITY OF THE CUSTOMER. HOWEVER, SIEMENS OFFERS THE FOLLOWING RECOMMENDATIONS, AS A GENERAL GUIDE ONLY, WHEN PLANNING FOR LIGHTING.

1) OVERALL GENERAL ILLUMINATION IS NECESSARY FOR CLEAN UP AND MAINTENANCE OF EQUIPMENT.

2) THE LIGHTING IN ROOMS IN WHICH DIAGNOSES ARE MADE ON VIDEO DISPLAY UNITS (MONITORS) MUST MEET THE FOLLOWING REQUIREMENTS:

- ADJUSTABLE, GLARE-FREE AND REPRODUCIBLE SETTING OF LIGHTING (I.E. DIMMER WITH SCALE)

- NO REFLECTIONS FROM WINDOWS, LAMPS AND VIEWING BOXES WHEN THE MONITORS ARE IN THEIR STANDARD OPERATING POSITION.

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
1	12/02/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS.

-ISSUE BLOCK-

PROJECT MANAGER: ROBERT ENGLISH
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ROOM R/F LEFT - LUMINOS AGILE

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PROJECT #: 1303121

SHEET: A-102

SHEET 2 OF 6

DRAWN BY: J. DILLON

SCALE: AS NOTED

REF. #: 30168098

DATE: 12/02/13

LUMINOS AGILE REV 1

ATTENTION:

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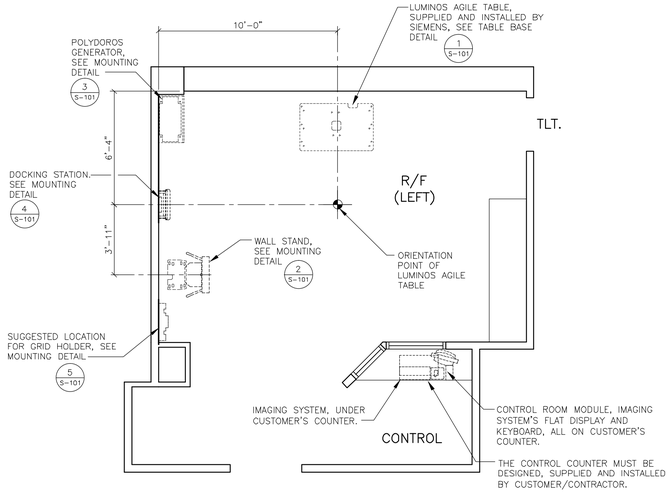


NOTE: FOR THE WEIGHTS OF ALL SIEMENS EQUIPMENT SHOWN ON THIS PLAN, SEE THE "EQUIPMENT LEGEND" ON SHEET A-101.

STRUCTURAL FLOOR PLAN

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

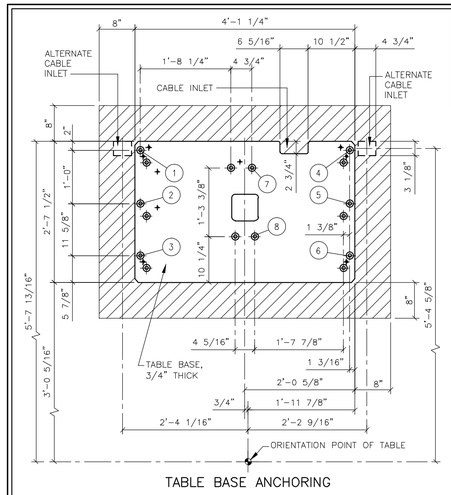


TABLE BASE ANCHORING

MAXIMUM ANCHORING POINT FORCES IN POUNDS								
POINTS	1	2	3	4	5	6	7	8
TENSILE FORCE	1,352	686	20	1,517	851	182	1,517	851

NOTES:

1) THE TABLE IS SUPPLIED AND INSTALLED BY SIEMENS. THE TABLE BASE IS ANCHORED IN EIGHT LOCATIONS WITH 1/2" (M12) DIAMETER BOLTS. EIGHT HILTI MODELS HSL-3 M12/50 (REQUIRED ANCHOR EMBEDMENT DEPTH IS 5 1/8") AND EIGHT HSL-3-G M12/100 (REQUIRED ANCHOR EMBEDMENT DEPTH IS 7 1/2") ARE SUPPLIED. THE MINIMUM CONCRETE QUALITY IS 3700 PSI. ALTERNATE ANCHORING POINTS (ADJACENT TO PRIMARY) ARE PROVIDED. MOUNTING POINTS 1-6 CAN BE DRILLED DIRECTLY FROM THE BASE. MOUNTING POINTS 7 AND 8 MUST BE DRILLED SEPARATELY.

2) THE TABLE BASE MUST BE INSTALLED ON A SOLID STRUCTURE WITH SUFFICIENT LOAD-BEARING CAPACITY. THE STRUCTURAL ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAIL OF THIS ANCHORING STRUCTURE. THE MINIMUM STRUCTURAL AREA TO INCLUDE THE TABLE BASE LOCATION AND THE AREA SURROUNDING THE BASE, AS INDICATED BY THE SHADING ON THIS DETAIL.

3) THE TABLE BASE IS MOUNTED DIRECTLY TO THE FLOOR STRUCTURE WITH AREA IN THE DIRECT VICINITY OF THE BASE TO BE FREE OF ALL FLOOR FINISHES AND ADHESIVE.

4) THE FLOOR SHALL BE TRUE, SMOOTH AND LEVEL WITHIN 1/16" OVER 3 FT. IN THE MOUNTING AREA OF THE TABLE BASE, AS INDICATED BY THE SHADING.

1 **LUMINOS AGILE TABLE BASE MOUNTING DETAIL** SCALE: 3/4"=1'

STRUCTURAL NOTES

1) THE CUSTOMER/CONTRACTOR SHALL FURNISH AND INSTALL ALL STRUCTURAL SUPPORT MEMBERS AND NEEDED HARDWARE FOR THE INSTALLATION OF THE SIEMENS EQUIPMENT.

2) THE OVERHEAD STRUCTURAL SUPPORT SYSTEM SHALL BE FIXED, RIGID AND BRACED FOR SWAY.

3) ALL STRUCTURAL SUPPORT MEMBERS SHALL BE TRUE, SQUARE, LEVEL, PARALLEL AND COPLANAR WITH RESPECT TO EACH OTHER, WITH A HORIZONTAL STRUCTURAL SUPPORT MEMBER TO BE LOCATED AND SET WITH A TRANSIT.

4) ALL STRUCTURAL SUPPORT DETAILS SHOWN ARE SAMPLE DETAILS BASED UPON TYPICAL AND STANDARD BUILDING PRACTICES AND ARE NOT INTENDED AS ACTUAL CONSTRUCTION DETAILS. ALL CONSTRUCTION DETAILS AND SUPPORT CALCULATIONS SHALL BE PREPARED BY A PROFESSIONAL STRUCTURAL ENGINEER AT THE CUSTOMER'S EXPENSE. IN THE EVENT AN EXISTING SUPPORT SYSTEM IS TO BE USED, IT WILL BE THE CUSTOMER'S RESPONSIBILITY TO VERIFY THE INTEGRITY OF THAT SYSTEM.

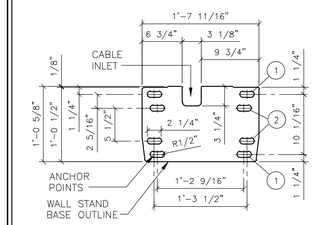
5) WHERE SHOWN ON THE 1/4" STRUCTURAL FLOOR PLAN, THERE ARE ON OCCASION MOUNTING FRAMES FURNISHED BY SMS. THESE FRAMES ARE TO BE SET BY THE CONTRACTOR, UNDER THE SUPERVISION OF SMS PERSONNEL. THE CUSTOMER/CONTRACTOR IS RESPONSIBLE FOR ALL FRAMES INSTALLED BY HIM TO BE WATER LEVEL AND ANCHORED PROPERLY.

6) ALL CEILING FIXTURES (I.E. AIR SUPPLY GRILLES, AIR RETURN GRILLES, EXHAUST GRILLES, SPRINKLER HEADS, INCANDESCENT AND FLUORESCENT LIGHT FIXTURES, INTERCOM SPEAKERS, MEDICAL GAS COLUMNS, ETC.) SHALL BE INSTALLED FLUSH MOUNTED WITH THE FINISHED CEILING TO PROVIDE FREE AND UNRESTRICTED TRAVEL OF THE SMS CEILING MOUNTED EQUIPMENT.

7) THE BOTTOM SIDE OF THE UNISTRUT CEILING GRID AND ANY CEILING MOUNTED SUPPORT PLATES ARE TO BE INSTALLED FLUSH WITH THE FINISHED CEILING. THE CUSTOMER/CONTRACTOR SHALL ALSO PROVIDE COVERSTRIPS FOR THE UNISTRUT.

8) THE STRUCTURAL PLANNING AS SHOWN ON THE 1/4" STRUCTURAL PLAN HAS BEEN COORDINATED WITH THE EQUIPMENT LOCATION AS SHOWN ON THE 1/4" EQUIPMENT LAYOUT PLAN. FOR THIS REASON, ANY DEVIATIONS FROM THE STRUCTURAL PLANNING AS SHOWN MUST BE APPROVED BY SMS PLANNING DEPARTMENT.

9) THE STRUCTURAL ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAIL OF FLOOR, WALL AND CEILING STRUCTURES IN ACCORDANCE WITH THE WEIGHTS, MOMENTS AND FORCES AS SHOWN ON OUR STRUCTURAL CALCULATIONS, OR INFORMATION,IN CONSIDERATION OF FORCES AS DETERMINED PER LOCAL GOVERNING BUILDING CODES.



FRONT OF WALL STAND

NOTES:

THE WALL STAND MUST BE INSTALLED ON A SOLID STRUCTURE WITH SUFFICIENT LOADING BEARING CAPACITY. THE STRUCTURAL ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAIL OF THIS ANCHORING STRUCTURE. THE MINIMUM STRUCTURAL AREA TO INCLUDE THE WALL STAND BASE LOCATION AND THE AREA SURROUNDING THE BASE.

THERE ARE EIGHT HOLES IN THE WALL STAND BASE FOR ANCHORING. FOUR POINTS OUT OF EIGHT ARE REQUIRED FOR PROPER INSTALLATION. THE MAXIMUM TENSILE FORCE PER ANCHORING POINT IS 878 LBS.

FOUR HILTI HSL-3 M12/100 ANCHORS ARE SUPPLIED. TO ENSURE SUFFICIENT ANCHORING, A MINIMUM CONCRETE THICKNESS OF 6 5/16" IS REQUIRED, WITH A MINIMUM CONCRETE QUALITY OF 3700 PSI.

THE WALL STAND IS SUPPLIED AND INSTALLED BY SIEMENS. THE AREA OF THE FLOOR WHERE THE WALL STAND IS TO BE MOUNTED MUST BE LEVEL WITHIN 1/16" OVER 3 FT.

1 MOUNTING HOLES

2 ALTERNATE MOUNTING HOLES

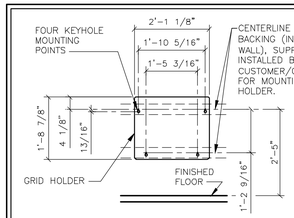
REV 0

2 **WALL STAND BASE DETAIL** SCALE: 1"=1'-0"

ACCESSORY ITEMS MOUNTING

VARIOUS ACCESSORY ITEMS MAY BE PURCHASED WITH THIS SIEMENS SYSTEM THAT INCLUDE STORAGE BRACKETS FOR WALL MOUNTING. THE LOCATION OF THESE IITEMS WILL DEPEND ON EACH CUSTOMER'S PREFERANCE AND WORKFLOW. FOR ALL ACCESSORY ITEMS PURCHASED, THE CUSTOMER IS RESPONSIBLE FOR LOCATING AND INSTALLING ALL STORAGE BRACKETS, AND PROVIDING ANY NECESSARY BACKING OR MOUNTING SUPPORT FOR THESE ITEMS.

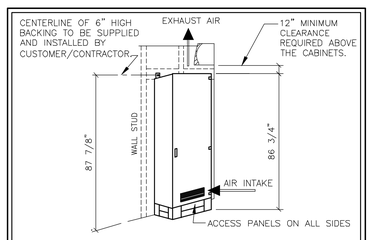
REV 0



FRONT ELEVATION FOR SUGGESTED GRID HOLDER MOUNTING

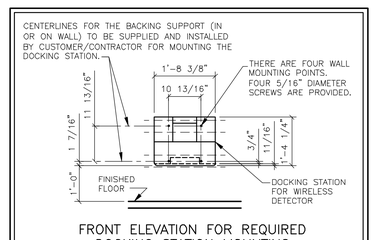
REV 0

5 **HOLDER MOUNTING** SCALE: 1/2"=1'-0"



THE GENERATOR CABINET IS SUPPLIED AND INSTALLED BY SIEMENS. WALL MOUNTING THIS CABINET IS REQUIRED SO THE ELECTRONIC ASSEMBLIES CAN BE SWUNG OUT FOR SERVICE. THE DOORS MUST SWING OPEN AND CANNOT BE REMOVED. SOFFITS AND HEADERS ABOVE GENERATOR MUST BE VERIFIED BY CUSTOMER/CONTRACTOR.

3 **GENERATOR CABINET INSTALLATION** SCALE: NONE REV 1



FRONT ELEVATION FOR REQUIRED DOCKING STATION MOUNTING

REV 0

4 **DOCKING STATION** SCALE: 1/2"=1'-0"

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
0	12/02/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS

-ISSUE BLOCK-

PROJECT MANAGER: ROBERT ENGLISH
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ROOM R/F LEFT - LUMINOS AGILE

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ALL RIGHTS ARE RESERVED.

PROJECT #: 1303121
SHEET 3 OF 6
DRAWN BY: J. DILLON
SCALE: AS NOTED
REF. #: 30168098
DATE: 12/02/13
SHEET: S-101

LUMINOS AGILE REV 1

ATTENTION:

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.
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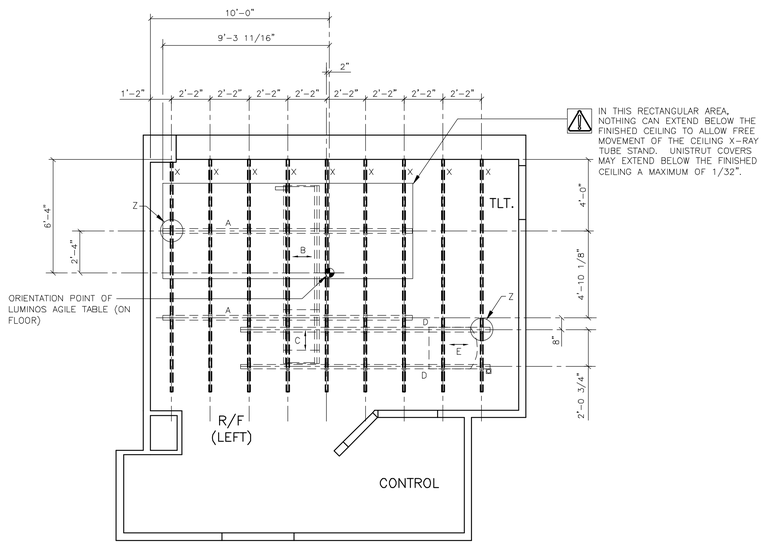
- THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

REFERENCE DOCUMENT - NOT FOR CONSTRUCTION



STRUCTURAL CEILING PLAN

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

CEILING PLAN LEGEND

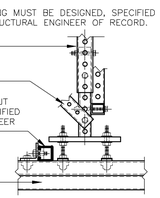
SUPPLIED/INSTALLED BY SIEMENS

SYM	DESCRIPTION	DET
A	LONGITUDINAL RAILS ATTACHED TO "P-1001" UNISTRUT	2
B	TRANSVERSE BRIDGE MOVES ALONG LONGITUDINAL RAILS	–
C	TELESCOPE MOVES ALONG TRANSVERSE BRIDGE	–
D	MONITOR RAILS ATTACHED TO "P-1001" UNISTRUT	3
E	MONITOR CARRIAGE MOVES ALONG LONGITUDINAL RAILS	–
Z	LONGITUDINAL RAIL SUPPORT MOUNTING POINT BOLTED TO UNISTRUT FRAME	2,3

SUPPLIED/INSTALLED BY CUSTOMER/CONTRACTOR

SYM	DESCRIPTION	DET
X	"P-1001" UNISTRUT MOUNTED FLUSH WITH FINISHED CEILING. MUST BE LEVEL WITHIN ±1/8".	1

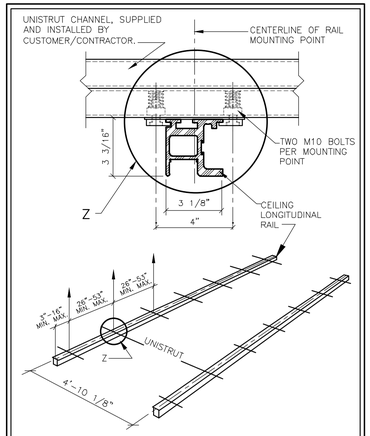
NOTE:
ALL STRUCTURAL SUPPORT DETAILS SHOWN ARE SAMPLE DETAILS BASED UPON TYPICAL AND STANDARD BUILDING PRACTICES AND ARE NOT INTENDED AS ACTUAL CONSTRUCTION DETAILS. ALL CONSTRUCTION DETAILS AND SUPPORT CALCULATIONS SHALL BE PREPARED BY A PROFESSIONAL STRUCTURAL ENGINEER AT THE CUSTOMER'S EXPENSE. IN THE EVENT AN EXISTING SUPPORT SYSTEM IS TO BE USED, IT WILL BE THE CUSTOMER'S RESPONSIBILITY TO VERIFY THE INTEGRITY OF THAT SYSTEM.



NOTE: UNISTRUT CHANNEL COVERS MUST BE SUPPLIED AND INSTALLED BY CONTRACTOR AFTER EQUIPMENT HAS BE MOUNTED TO THE CEILING.

THIS DETAIL SHOWS A UNIVERSAL TELESPAR DROP THAT IS TYPICAL OF THE STRUCTURAL SUPPORT SYSTEM USED FOR CEILING MOUNTED IMAGING EQUIPMENT. THE ACTUAL STRUCTURAL SUPPORT SYSTEM MUST BE DESIGNED, DETAILED AND SPECIFIED BY THE STRUCTURAL ENGINEER OF RECORD. UNLESS OTHERWISE SPECIFIED, THE CUSTOMER/CONTRACTOR SHALL SUPPLY AND INSTALL ALL SUPPORT MEMBERS AND NEEDED HARDWARE. IN THE EVENT AN EXISTING SUPPORT SYSTEM IS TO BE USED, IT WILL BE THE CUSTOMER'S RESPONSIBILITY TO VERIFY THE INTEGRITY OF THAT SYSTEM. SEE THE 1/4" SCALE PLAN FOR LOCATIONS AND SPACING OF P1001 UNISTRUT CHANNELS.

1	UNISTRUT DETAIL	SCALE: NONE



MOUNTING POINT "Z" IS TYPICAL OF ALL INTERSECTIONS OF UNISTRUT AND CEILING LONGITUDINAL RAILS. THE MAXIMUM LOAD PER MOUNTING POINT "Z" IS 1,125 LBS (EXCEPT WHERE SEISMIC LOADS GOVERN). SUPPORT STRUCTURE DEFLECTION <1/16" OVER 3 FT.

MOUNTING DETAIL FOR 3M TRANSVERSE BRIDGE

REV 0

2	CEILING RAILS	SCALE: NONE

ROOM HEIGHT REQUIREMENTS

ROOM HEIGHT WITHOUT CEILING STAND

MINIMUM ROOM HEIGHT	RESTRICTION WITH +/-90° ROTATION
8'-2 1/2" TO LESS THAN 10'-4"	– MAXIMUM TABLETOP EXTENSION OF 11 1/2" WITH A ROOM HEIGHT OF 8'-2 1/2" – DIGITAL IMAGING TOWER CANNOT BE IN THE EXTREME HEAD-END POSITION WITH A ROOM HEIGHT OF 8'-2 1/2" – RESTRICTIONS IN THE MOVEMENT RANGE WITH AUTOMATIC CORRECTION OF MOVEMENT.
10'-4" OR GREATER	NO RESTRICTIONS

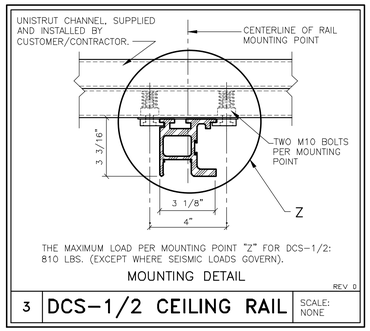
ROOM HEIGHT WITH CEILING STAND

		USABLE TABLE HEIGHT AT 45° SID (3)
MINIMUM ROOM HEIGHT	8'-9 1/8"	2'-6"
MINIMUM ROOM HEIGHT FOR 60" SID TO TABLE (3)	9'-7" (1)	3'-4"
MAXIMUM ROOM HEIGHT WITHOUT THE TUBE STAND TELESCOPE EXTENSION	9'-5 5/8" (1)	3'-2"
	9'-10 7/8" (2)	3'-7 3/8"
MAXIMUM ROOM HEIGHT WITH THE TUBE STAND TELESCOPE EXTENSION	10'-1 1/2" (1)	3'-2"
	10'-7" (2)	3'-7 3/8"

1) UPRIGHT (0°) EXPOSURES ARE POSSIBLE AT LOWEST POSITION OF WALL STAND.

2) UPRIGHT (0°) EXPOSURES ARE NOT POSSIBLE AT LOWEST POSITION OF WALL STAND.

3) WITH SECOND PLANE OF CEILING STAND.



THE MAXIMUM LOAD PER MOUNTING POINT "Z" FOR DCS-1/2: 810 LBS. (EXCEPT WHERE SEISMIC LOADS GOVERN).

MOUNTING DETAIL

REV 0

3	DCS-1/2 CEILING RAIL	SCALE: NONE

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
1	12/02/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS.

-ISSUE BLOCK-

PROJECT MANAGER: ROBERT ENGLISH
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ERIE VAMC
135 EAST 38TH ST, ERIE, PA 16501
ROOM R/F LEFT – LUMINOS AGILE

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ALL RIGHTS ARE RESERVED.

PROJECT #: 1303121

SHEET: S-102

SHEET 4 OF 6

DRAWN BY: J. DILLON

SCALE: AS NOTED

REF. #: 30168098

DATE: 12/02/13

LUMINOS AGILE REV 1

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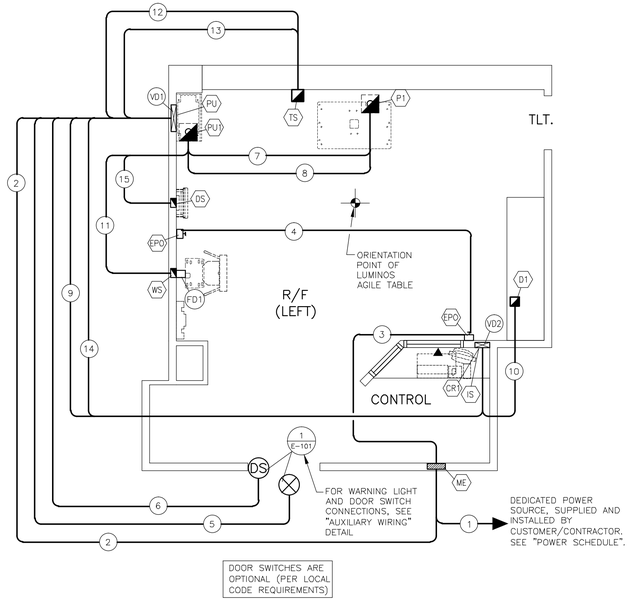


DOOR SWITCHES ARE OPTIONAL (PER LOCAL CODE REQUIREMENTS)

ELECTRICAL RACEWAY PLAN

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

ELECTRICAL LEGEND

SYM	SIZE	DESCRIPTION SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR	REMARKS
EPO	10"x4"	OPENING IN FACE OF "VD2" JUST BELOW THE CONTROL COUNTER.	
PU1	6"x6"x6"	PULL BOX MOUNTED FLUSH WITH FINISHED CEILING, WITH REMOVABLE COVER.	FOR DCS CEILING MONITOR
PU2	6"x6"x4"	PULL BOX MOUNTED FLUSH WITH FINISHED WALL CENTERLINE 12" ABOVE THE FINISHED FLOOR.	FOR DOCKING STATION
DS	---	EMERGENCY POWER OFF BUTTON WITH PROTECTIVE COVER, MOUNTED 5'-0" ABOVE THE FINISHED FLOOR.	SEE POWER REQ/SCHEDULE
IS	10"x4"	OPENING IN FACE OF "VD2", CENTERLINE 6" ABOVE THE FINISHED FLOOR.	FOR IMAGING SYSTEM
ME	3-PHASE	MAIN ENCLOSURE WITH CIRCUIT BREAKER MOUNTED CENTERLINE 5'-0" ABOVE THE FINISHED FLOOR.	SEE POWER REQ/SCHEDULE
PU1	AS REQUIRED	PULL BOX MOUNTED UNDER FLOOR SLAB WITH 4" DIA. SLEEVE RUNNING THROUGH FLOOR SLAB THAT ENDS FLUSH WITH FINISHED FLOOR UNDER THE TABLE BASE.	SIZED BY ELEC. CONTRCTR.
PU2	18"x4"	OPENING IN FACE OF "VD1" AT THE FLOOR LINE.	FOR GENERATOR
PU1	AS REQUIRED	PULL BOX MOUNTED UNDER FLOOR SLAB WITH 4" DIA. SLEEVE RUNNING THROUGH FLOOR SLAB AND END FLUSH WITH FINISHED FLOOR UNDER POLYDOROS GENERATOR.	SIZED BY ELEC. CONTRCTR.
TS	8"x8"x8"	PULL BOX MOUNTED FLUSH WITH FINISHED CEILING, WITH REMOVABLE COVER.	FOR CEILING TUBE STAND
WS	6"x6"x4"	PULL BOX MOUNTED FLUSH WITH FINISHED WALL AT THE FLOOR LINE AND FITTED WITH REMOVABLE COVER.	FOR WALL STAND
ID1	4 3/4"x1 3/4"	FLOOR DUCT (6" LONG WIREMOLD 4000 OR EQUIVALENT) SURFACE MOUNTED ON FLOOR FROM PULL BOX "WS" TO REAR OF WALL STAND BASE, TO PROVIDE COVER FOR CABLES.	FOR WALL STAND
VD1	18"x3 1/2"	VERTICAL DUCT MOUNTED FLUSH WITH FINISHED WALL FROM ABOVE THE FINISHED CEILING TO END AT THE FLOOR LINE. THIS DUCT MUST BE DIVIDED INTO THREE EQUAL SECTIONS TO PROVIDE FOR SEPARATION OF CABLES.	
VD2	10"x3 1/2"	VERTICAL DUCT MOUNTED FLUSH WITH FINISHED WALL FROM ABOVE THE FINISHED CEILING TO END AT THE FLOOR LINE. THIS DUCT MUST BE DIVIDED INTO THREE SECTIONS: ONE 4" AND TWO 3", TO PROVIDE FOR SEPARATION OF CABLES.	
<>	-	NOTES: 1. WARNING LIGHTS AND DOOR SWITCHES ARE THE RESPONSIBILITY OF THE CUSTOMER/CONTRACTOR. SEE "AUXILIARY WIRING" DETAIL. 2. TO TURN ROOM LIGHTS OFF FROM THE SIEMENS EQUIPMENT, SEE "ROOM LIGHTING WIRING" DETAIL.	
1	AS REQUIRED	CONDUIT FROM POWER SOURCE TO MAIN ENCLOSURE (ME).	SIZED BY ELEC. CONTRCTR.
2	AS REQUIRED	CONDUIT FROM "ME" TO "VD1" (PU).	SIZED BY ELEC. CONTRCTR.
3	AS REQUIRED	CONDUIT FROM "ME" TO "EPO".	SIZED BY ELEC. CONTRCTR.
4	AS REQUIRED	CONDUIT FROM "EPO" TO "EPO".	SIZED BY ELEC. CONTRCTR.
5	AS REQUIRED	CONDUIT FROM "VD1" (PU) VIA RELAY CIRCUITRY TO WARNING LIGHT.	SIZED BY ELEC. CONTRCTR.
6	AS REQUIRED	CONDUIT FROM "VD1" (PU) TO DOOR SWITCH.	SIZED BY ELEC. CONTRCTR.
7	(2) 2 1/2" DIA.	CONDUITS FROM "P1" TO "PU1". (OR TWO 3" DIA. CONDUITS)	MAX. CONDUIT LENGTH 17 FT.
8	(2) 2 1/2" DIA.	CONDUITS FROM "P1" TO "PU1".	MAX. CONDUIT LENGTH 17 FT.
9	2 1/2" DIA.	CONDUIT FROM "VD2" (CR1) TO "VD1" (PU).	MAX. CONDUIT LENGTH 39 FT.
10	2 1/2" DIA.	CONDUIT FROM "VD2" (IS) TO "D1".	MAX. CONDUIT LENGTH 49 FT.
11	2 1/2" DIA.	CONDUIT FROM "PU1" TO "WS".	MAX. CONDUIT LENGTH 30 FT.
12	(2) 2 1/2" DIA.	CONDUITS FROM "VD1" (PU) TO "TS".	MAX. CONDUIT LENGTH 22 FT.
13	2" DIA.	CONDUITS FROM "VD1" (PU) TO "TS".	MAX. CONDUIT LENGTH 22 FT.
14	(2) 2 1/2" DIA.	CONDUITS FROM "VD2" (IS) TO "VD1" (PU).	MAX. CONDUIT LENGTH 39 FT.
15	1 1/2" DIA.	CONDUIT FROM "PU1" TO "DOS".	MAX. CONDUIT LENGTH 30 FT.

ELECTRICAL NOTES

1) COMPLIANCE: ELECTRICAL WORK SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA-70), O.S.H.A. REGULATIONS, AS WELL AS APPLICABLE REGULATIONS OF CITY, COUNTY, STATE AND FEDERAL AGENCIES. PROVIDE MATERIALS AND EQUIPMENT THAT COMPLY TO ANSI, IEEE AND NEMA STANDARDS. WHERE APPLICABLE, PROVIDE ONLY MATERIALS AND PRODUCTS THAT ARE U.L. LISTED AND LABELED. CUSTOMER'S/CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF NECA STANDARD OF INSTALLATION.

2) QUALITY ASSURANCE: THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD TO INSURE THAT THE NEW WORK WILL FIT TO THE EXISTING STRUCTURE AS SHOWN ON THE DRAWINGS. SHOULD ANY CONDITIONS EXIST OR BE DISCOVERED THAT PREVENT THE INSTALLATION OF WORK AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION OF EQUIPMENT, OR THE PERFORMANCE OF ANY WORK THAT MAY BE AFFECTED. DO NOT ALTER DRAWINGS, DIMENSIONS, OR SPECIFICATIONS IN ANY WAY WITHOUT CONTACTING AND RECEIVING WRITTEN CONFIRMATION FROM SMS PROGRAM MANAGER. ALL DIMENSIONS ARE FROM FINISHED SURFACES. CONDUIT AND PULL BOXES TO BE INSTALLED BY THE CUSTOMER/CONTRACTOR WITH LOCATIONS BEING FIELD VERIFIED BY SMS PROJECT MANAGER.

3) POWER SUPPLY SOURCE: POWER SUPPLIES FOR SIEMENS MEDICAL SOLUTIONS EQUIPMENT SHALL BE DEDICATED SERVICES KEPT ENTIRELY FREE AND INDEPENDENT OF ALL OTHER BUILDING WIRING AND EQUIPMENT, SUCH AS: ELEVATORS, GENERATORS, PUMPS, HVAC SYSTEMS, ETC. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE CUSTOMER/UTILITY COMPANY FIELD REPRESENTATIVE.

4) WORK FURNISHED BY CUSTOMER/CONTRACTOR: WORK NOT PROVIDED BY SIEMENS MEDICAL SOLUTIONS BUT SHOWN ON DRAWINGS TO BE FURNISHED AND INSTALLED BY CUSTOMER/CONTRACTOR INCLUDES THE FOLLOWING BUT IS NOT LIMITED TO UNLESS NOTED OTHERWISE: ELECTRICAL RACEWAYS AND DUCTS, WIRING TROUGHS, PULL BOXES, CONDUITS, CIRCUIT BREAKERS, EMERGENCY OFF BUTTONS, DOOR SWITCHES, WARNING LIGHTS, WIRING, WIRING DEVICES, CONNECTORS, LIGHTING EQUIPMENT AND GROUNDING.

5) RACEWAY AND CONDUIT NOTES: RACEWAY SHALL BE ELECTRIC METALLIC TUBING (EMT) FOR RIGID CONDUIT WORK, OR WHERE SHORT OFF-SET CONNECTIONS ARE REQUIRED LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE USED. FIELD BENDS SHALL NOT BE LESS THAN AS SHOWN IN TABLE 346-10 OF THE NATIONAL ELECTRICAL CODE. PROVIDE A JETLINE "SUPER TRUE TAPE", OR EQUIVALENT CONDUIT MEASURING TAPE FISH LINE IN ALL RACEWAYS AND CONDUITS.

CONDUIT BODIES SHALL NOT BE USED. WHERE A CONDUIT ENTERS A BOX, FITTING, OR OTHER ENCLOSURE, AN INSULATED THROAT CONNECTOR SHALL BE PROVIDED TO PROTECT THE WIRE FROM ABRASION. CONNECTORS SHALL BE DOUBLE SET SCREW TYPE, STEEL CONCRETE TIGHT.

KEEP RACEWAYS AT LEAST 6 INCHES AWAY FROM PARALLEL RUNS OF FLUES OR STEAM AND HOT WATER PIPES. INSTALL RACEWAY RUNS ABOVE WATER AND STEAM PIPES PROVIDED THAT CABLE RUN DISTANCES ARE MAINTAINED. USE TEMPORARY CLOSURES TO PREVENT FOREIGN MATTER FROM ENTERING RACEWAY.

CONDUIT RUNS ARE SHOWN SCHEMATICALLY. INSTALL CONDUIT WITH A MINIMUM OF BENDS IN THE SHORTEST PRACTICAL DISTANCE CONSIDERING THE BUILDING CONSTRUCTION AND OBSTRUCTIONS, EXCEPT AS OTHERWISE INDICATED. THE CONTRACTOR SHALL MAKE CERTAIN THAT ANY CONDUIT/RACEWAY RUNS CONTAINING SIEMENS MEDICAL SYSTEMS CABLES DO NOT EXCEED THE SPECIFIED MAXIMUM DISTANCES AS SHOWN ON THE ELECTRICAL DETAILS.

PROVIDE ENCLOSED METAL RACEWAY SYSTEM (WIRE DUCT) WHERE SHOWN ON DRAWINGS WITH DIVIDERS TO SEPARATE THE DUCT (FOR POWER AND SIEMENS MEDICAL SOLUTIONS CABLING). DIVIDERS AND CROSSOVER PIECES TO BE PROVIDED AS NECESSARY. FOR UL CERTIFIED SYSTEMS, THE CABLE TO CABLE AS WELL AS THE CIRCUIT TO CIRCUIT SEPARATION REQUIREMENT WAS EVALUATED DURING THE UL SYSTEM INVESTIGATION OF THIS EQUIPMENT. ADDITIONAL SEPARATION OF THE SYSTEM CABLE ASSEMBLIES INTO SEPARATE OR PARTITIONED RACEWAYS, UNLESS OTHERWISE NOTED, IS NOT NECESSARY TO INSURE SEPARATION OF CIRCUITS, AS THEY CAN BE IN THE SAME RACEWAY.

PROVIDE WIRE DUCT/RACEWAY WITH ACCESSIBLE REMOVABLE COVERS. LOCATIONS OF OPENINGS TO BE CUT IN FIELD ARE TO BE COORDINATED WITH SIEMENS PROJECT MANAGER. ELECTRICAL PULL BOXES AND RACEWAY COVERS SHALL BE INSTALLED IN A MANNER TO ALLOW ACCESSIBILITY FOR INSTALLATION AND MAINTENANCE. IN- FLOOR TRENCH DUCT AND FLUSH FLOOR BOXES SHALL BE PROVIDED WITH FULLY GASKETED REMOVABLE COVERS.

6) WIRING: WIRING SHALL BE INSTALLED IN METAL RACEWAY, 600 VOLT CLASS, STRANDED TYPE THHN-THWN, SINGLE CONDUCTOR ANNEALED COPPER FOR A MAXIMUM OPERATING TEMPERATURE OF 75° C (165° F). SIZED AS INDICATED. THE CUSTOMER/CONTRACTOR SHALL LEAVE MINIMUM 10 FT. WIRE TAILS AT ALL OUTLET POINTS WITH WIRE IDENTIFICATION TAGGED AT BOTH ENDS FOR FINAL CONNECTION BY SIEMENS MEDICAL SOLUTIONS.

7) IN ADDITION TO THE CIRCUIT BREAKER LOAD CURRENT RATING, CONSIDERATION MUST ALSO BE GIVEN TO SELECTING CIRCUIT BREAKERS THAT HAVE A HIGH ENOUGH SHORT CIRCUIT CURRENT WITHSTAND RATING TO SAFELY COORDINATE WITH THE POWER SYSTEM AVAILABLE SHORT CIRCUIT CURRENT. GENERALLY, WHEN THE 480 VOLT, 3 PHASE, X-RAY EQUIPMENT IS SERVED FROM A POWER SUPPLY SYSTEM THAT IS PROVIDED WITH A 500 kVA OR SMALLER TRANSFORMER, A STANDARD 14,000 RMS AMPERE WITHSTAND RATED CIRCUIT BREAKER WILL BE ADEQUATE. HOWEVER, IF THE POWER SUPPLY SYSTEM TRANSFORMER IS LARGER THAN 500 kVA, THEN THE CIRCUIT BREAKERS HAVING A SHORT CIRCUIT WITHSTAND RATING GREATER THAN 14,000 RMS AMPERES MAY BE REQUIRED.

CONTRACTOR SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
PANEL	1	ME	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER REQ/SCHEDULE
ME	2,VD1	PU	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER REQ/SCHEDULE
ME	3	EPO	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE.
EPO	4	EPO	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE POWER SCHEDULE.
PU	VD1,5	W.L.	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE AUXILIARY WIRING DTL.
PU	VD1,6	D.SW.	DETERMINED BY ELECTRICAL CONTRACTOR.	SEE AUXILIARY WIRING DTL.

SIEMENS SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
P1	7	PU1	W100 UNIT/GENERATOR, X-RAY TUBE (INCLUDES 30V, 300V, 600V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 22.5 FT.
P1	8	PU1	W400 UNIT/GENERATOR, POWER SUPPLY AND XCS (INCLUDES 30V, 300V, 600V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 22.5 FT.
CR1	VD2,9,VD1	PU	W310, CONTROL ROOM MODULE (300 V CABLE)	MAXIMUM LENGTH 59 FT.
IS	LOOSE	CR1	IMAGING SYSTEM FLAT DISPLAY AND KEYBOARD	MAXIMUM LENGTH 11 FT.
IS		D1	W200 FOR 1-DISPLAY, W300 FOR 2-DISPLAYS, (INCLUDES 30V, 300V AND 600V CABLES)	MAXIMUM LENGTH 59 FT.
PU1	11	WS	W150M/W150P (INCLUDES 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 36 FT.
PU	VD1,12,13	TS	W110 AND HIGH TENSION CABLES (INCLUDES 30V, 300V, 600V AND ETHERNET CABLES)	MAXIMUM LENGTH 32 FT.
IS	VD2,14,VD1	PU	W500 FL-C/GENERATOR, RADIATION DISPLAY (INCLUDES 30V, 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 59 FT.
IS	VD2,14,VD1	PU	W610 ((INCLUDES 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 59 FT.
PU1	15	DOS	W610 (INCLUDES 300V AND FIBER OPTIC CABLES)	MAXIMUM LENGTH 36 FT.

CONTRACTOR SUPPLIED ITEMS

ALL ITEMS, INCLUDING BUT NOT LIMITED TO CONDUITS, DUCTS, CIRCUIT BREAKERS, EMERGENCY OFF BUTTONS, DOOR SWITCHES, AND WARNING LIGHTS, SHOWN IN THESE PLANS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/ELECTRICAL CONTRACTOR, UNLESS OTHERWISE SPECIFIED.

CABLE LENGTH LIMITATIONS

THE CONDUITS ARE SHOWN SCHEMATICALLY IN THIS PLAN AND MUST BE RUN IN THE SHORTEST POSSIBLE DISTANCE BETWEEN TERMINATION POINTS. ANY VARIATION IN THE ROUTING OF DUCTS COULD RESULT IN CABLE LENGTH LIMITATIONS BEING EXCEEDED. THEREFORE, ANY CHANGES MUST BE APPROVED BY THE SIEMENS PROJECT MANAGER.

CONDUIT LENGTH CALCULATIONS

FOR SITE SPECIFIC INSTANCES WHERE CABLES ARE BEING ROUTED IN A COMBINATION OF CONDUIT AND DUCTS, THE MAXIMUM LENGTH FOR THOSE CONDUITS, AS LISTED ON THE ELECTRICAL LEGEND, HAS BEEN CALCULATED BASED UPON THE DUCT LAYOUT SHOWN AND THE FOLLOWING ASSUMED VALUES:

1) VERTICAL DUCTS - 10'-0"
2) FLOOR PENETRATIONS THROUGH CONCRETE SLAB - 3'-0"

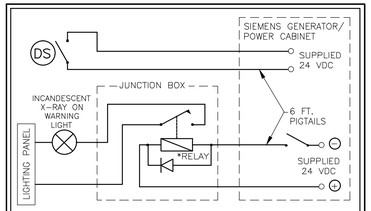
IF THE ACTUAL SITE SPECIFIC CONDITIONS EXCEED THESE ASSUMED VALUES AND/OR THE DUCT LOCATIONS ARE ALTERED, IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO RECALCULATE THE MAXIMUM LENGTH OF THE CONDUITS EFFECTED.

REV 0

SYMBOLS

ALL MAY NOT APPLY

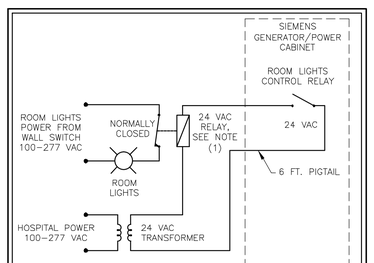
	MAIN PANEL OR ENCLOSURE BY CUSTOMER/CONTRACTOR
	OPENING IN RACEWAY OR TRENCHDUCT
	PULLBOX IN (FLOOR/WALL/CEILING)
	OPENING IN ACCESS FLOORING
	WARNING LIGHT (X-RAY ON)
DS	DOOR SAFETY SWITCH
	(EPO) EMERGENCY POWER OFF BUTTON
	TRENCHDUCT
	CEILING DUCT
	UNDER FLOOR DUCT
	SURFACE DUCT
	VERTICAL DUCT
	ETHERNET CONNECTION TO CUSTOMER'S INFORMATION SYSTEMS NETWORK (VERIFY WITH SMS PROJECT MANAGER).
	110 VOLT, 20 AMP, HOSPITAL GRADE DUPLEX OUTLET UNLESS OTHERWISE STATED.



*NORMALLY OPEN RELAY WITH A 24 VOLT, DC COIL (NOT TO EXCEED 5 WATTS) AND A STEERING DIODE WIRED OVER THE RELAY COIL, SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. SIEMENS TO PROVIDE CONTROL SIGNAL TO RELAY. CONTRACTOR SUPPLIED AND INSTALLED JUNCTION BOX.

WARNING LIGHT AND DOOR SWITCH SCHEMATIC

1	AUXILIARY WIRING	SCALE: NONE	REV 0



NOTES;
1) NORMALLY CLOSED RELAY WITH A 24 VOLT, AC COIL (NOT TO EXCEED 5 WATTS), SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. SIEMENS ONLY PROVIDES CONTROL SIGNAL TO RELAY.

2) ALL ITEMS SHOWN ARE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR, WITH THE EXCEPTION OF THE SIEMENS GENERATOR/POWER CABINET.

ROOM LIGHTS SCHEMATIC

REV 0

2	ROOM LIGHTING WIRING	SCALE: NONE

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

SYM	DATE	DESCRIPTION
0	12/02/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS.

-ISSUE BLOCK-

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ROOM R/F LEFT - LUMINOS AGILE

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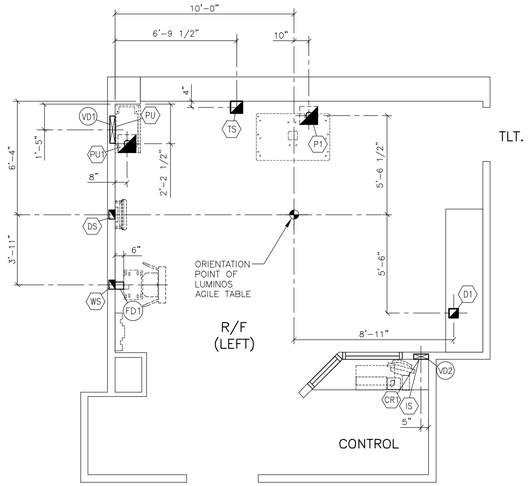
PROJECT #: 1303121
SHEET 5 OF 6
DRAWN BY: J. DILLON
SCALE: AS NOTED
REF. #: 30168098
DATE: 12/02/13
SHEET: E-101

LUMINOS AGILE
REV 1

ATTENTION:

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.
- THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.
- IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION DOCUMENTS FOR REFERENCE.
- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.
- THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

REFERENCE DOCUMENT - NOT FOR CONSTRUCTION



ELECTRICAL DIMENSION PLAN

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

POWER QUALITY

POOR POWER WILL ALTER EQUIPMENT PERFORMANCE

IT IS IN THE CUSTOMER'S INTEREST THAT THE ELECTRICAL CONTRACTOR BE RESPONSIBLE FOR TESTING AND VERIFYING THAT THE EQUIPMENT POWER SUPPLY COMPLIES WITH THE SIEMENS SPECIFICATIONS.

GROUNDING NOTES

EQUIPMENT GROUND CONDUCTOR TO COMPLY WITH THE FOLLOWING:

1) SIZED EQUIVALENT TO THE PHASE CONDUCTORS (FULL SIZED GROUND).
2) DERIVED FROM THE ELECTRICAL SERVICE, TRANSFORMER OR MAIN DISTRIBUTION PANEL FEEDING THE SIEMENS EQUIPMENT.
3) RUN IN THE SAME CONDUIT, TROUGH OR RACEWAY AS THE PHASE CONDUCTORS.
4) CONTINUOUS, WITH NO BREAKS OR USE OF CONDUIT, CHASSIS OR EARTH AS THE SOLE GROUNDING PATH.
5) BONDED TO CHASSIS AND/OR CONDUIT IN ACCORDANCE WITH THE NEC REQUIREMENTS.
6) MINIMIZE CONNECTIONS OR TERMINALS TO ENSURE CONTINUITY OVER THE LIFE OF THE INSTALLATION.
7) AS A NORM, THERE SHOULD NOT BE ANY CURRENT PRESENCE ON THE GROUND CONDUCTOR, BUT IT IS ACCEPTABLE TO HAVE <500mA DURING OPERATION OF THE IMAGING EQUIPMENT.

POLYDOROS F65

X-RAY GENERATOR POWER REQUIREMENTS

INCOMING POWER:	480 VOLTS, 3 PHASE, 60Hz
CIRCUIT BREAKER:	70 AMPS.
GENERATOR OUTPUT:	65 kW
ALLOWABLE IMPEDANCE:	0.24 OHMS.
MAXIMUM MOMENTARY LOAD:	105 kVA
LINE VOLTAGE VARIATION:	± 10% MAX.
PHASE BALANCE:	2% MAX BETWEEN ANY 2 PHASES
FREQUENCY VARIATION:	± 1 Hz
VOLTAGE SURGES:	10% MAX. ABOVE LINE VOLTAGE
INSTANTANEOUS VARIATION:	20 msec. MAX. DURATION
VOLTAGE SAGS:	10% MAX. BELOW LINE VOLTAGE
	20 msec. MAX. DURATION
LINE TRANSIENTS (SPIKES):	50% MAX. ABOVE LINE VOLTAGE
	5 msec. MAX. DURATION
GROUND IMPEDANCE:	0.25 OHMS MAX.

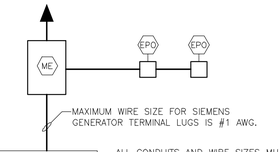
NOTE:
ALL INCOMING POWER SUPPLIES, FOR THE SIEMENS EQUIPMENT, ARE TO BE DEDICATED (BACK TO SOURCE) ISOLATED AND INSULATED FROM ANY OTHER EQUIPMENT, SUCH AS, ELEVATORS, GENERATORS, HVAC SYSTEMS, ETC.

A NEUTRAL CONDUCTOR, IF PRESENT, IS NOT USED FOR THE LINE VOLTAGE CONNECTION TO THE SIEMENS EQUIPMENT. IF THE NEUTRAL CONDUCTOR IS PROVIDED, IT SHOULD NOT BE ELECTRICALLY CONNECTED AT ANY POINT IN THE POWER DISTRIBUTION TO THE SIEMENS EQUIPMENT UNLESS SPECIFICALLY REQUIRED. UNINTENTIONAL NEUTRAL TO GROUND BONDS MAY VIOLATE LOCAL AND NATIONAL ELECTRICAL CODES, AS WELL AS CREATE GROUNDING PROBLEMS.

ATTENTION:
SIEMENS MEDICAL SYSTEMS, INC. RECOMMENDS THAT THE INCOMING POWER LINES BE ANALYZED WITH RESPECT TO TRANSIENT SURGES AND IMPULSES, SAGS, AND OVERVOLTAGES.

REV 0

POWER SCHEDULE



ALL CONDUITS AND WIRE SIZES MUST BE DETERMINED BY THE ELECTRICAL ENGINEER ON RECORD PER N.E.C. AND TO MAINTAIN SIEMENS IMPEDANCE REQUIREMENTS.

ITEM	QTY	DESCRIPTION
ME	1	MAIN ENCLOSURE WITH MAIN BREAKER FLUSH OR SURFACE MOUNTED. MAIN BREAKER MUST HAVE A TRIPPING DEVICE SO WHEN ANY EPO IS PRESSED THE MAIN BREAKER TRIPS. THIS TRIPPING DEVICE. CONTROL CIRCUIT MUST BE OF FAIL-SAFE DESIGN. THE CONTROL CIRCUIT FOR THE EPO'S MUST HAVE AN ENERGY STORAGE SOURCE SO THAT THE CONTROL CIRCUIT NEVER LOSES POWER.
		MAIN BREAKER AMPS: SEE POWER REQUIREMENTS

VOLTS	PHASES	NEUTRAL	GROUND	TOTAL WIRES
480Y	3	0	1	4 (NOTE 1)

1) ALL WIRES MUST BE SAME SIZE.

EPO	VARIES	EMERGENCY POWER OFF BUTTON WITH PROTECTIVE COVER THAT PREVENTS ACCIDENTAL ACTIVATION OF THE EPO BUTTON. THE EPO MUST BE OF FAIL-SAFE DESIGN, THE CONTROL CIRCUIT FOR THE EPO'S MUST HAVE AN ENERGY STORAGE SOURCE SO THAT THE CONTROL CIRCUIT NEVER LOSES POWER. ALL EPO'S ARE TO BE LATCHING TYPE AND MUST BE RESET BEFORE MAIN BREAKER CAN BE RESET. IF ANY OPTIONAL UPS EQUIPMENT IS PROVIDED BY SIEMENS, THE CUSTOMER/CONTRACTOR SHALL PROVIDE AN ADDITIONAL CONTACT IN EACH EPO AND PROVIDE SEPARATE WIRING FOR AN ADDITIONAL EPO CIRCUIT AS REQUIRED. PLEASE COORDINATE THE TYPE OF CONTACT REQUIRED FOR THE UPS CIRCUIT WITH SIEMENS PROJECT MANAGER. THE EPO'S MUST BE INSTALLED BY A QUALIFIED ELECTRICAL CONTRACTOR ACCORDING TO NATIONAL ELECTRICAL CODE, STATE AND LOCAL REGULATIONS. MEASURES SHOULD BE TAKEN TO DESIGN THE CIRCUIT IN SUCH A WAY THAT IT WILL ALWAYS WORK WHEN THE MEDICAL EQUIPMENT IS POWERED. THE CUSTOMER IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION OF THE EPOs AND THEIR ASSOCIATED CIRCUITS AND MUST MAKE THE FINAL DETERMINATION CONSIDERING ALL SITE CONDITIONS AND REGULATORY FACTORS.

ALL ITEMS LISTED IN THIS SCHEDULE SHALL BE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR.

REV 0

MINIMUM CEILING HEIGHT W/RESTRICTION	CEILING HEIGHT WITHOUT RESTRICTION	RECOMMENDED CEILING HEIGHT
SEE RM HT REQMTS	SEE RM HT REQMTS	9'-6"

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SYM	DATE	DESCRIPTION
1	12/02/13	R-101-A VERSION DATED 10/14/13 APPROVED BY CUSTOMER FOR FINALS

-ISSUE BLOCK-

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PROJECT #: 1303121
SHEET: E-102
SHEET 6 OF 6
DRAWN BY: J. DILLON
SCALE: AS NOTED
REF. #: 30168098
DATE: 12/02/13

LUMINOS AGILE REV 1

REFERENCE DOCUMENT - NOT FOR CONSTRUCTION