

LIGHTING	COMMUNICATIONS	CONTROL	ONE-LINE SYMBOLS (CONTINUED)
<div><div><div><div><div></div><div>LUMINAIRE LEGEND</div><div>—●— FIXTURE ID</div><div>—E— 'E' DESIGNATES EMERGENCY LIGHT</div><div>—C— CIRCUIT NUMBER</div><div>—S— SWITCH CIRCUIT ID</div></div></div><div><div></div><div>RECESSED LUMINAIRE</div></div><div><div></div><div>NIGHT LIGHT</div></div><div><div></div><div>PENDANT MOUNTED</div></div><div><div></div><div>INDICATES WALL WASH RECESSED CAN LUMINAIRE</div></div><div><div></div><div>WALL MOUNT LUMINAIRE</div></div><div><div></div><div>TRACK LIGHTING</div></div><div><div></div><div>POLE MOUNTED LUMINAIRE</div></div><div><div></div><div>SHADED REGION INDICATES FACE EXIT LIGHT WALL MOUNT</div></div><div><div></div><div>EMERGENCY LIGHTING UNIT</div></div><div><div></div><div>OCCUPANCY SENSOR, CEILING MOUNTED</div></div><div><div></div><div>OCCUPANCY SENSOR, WALL MOUNTED</div></div></div></div>	<div><div></div><div>DATA OUTLET</div></div> <div><div></div><div>VOICE (TELEPHONE) OUTLET</div></div> <div><div></div><div>VOICE/DATA OUTLET</div></div> <div><div></div><div>TELEVISION (TV) OUTLET</div></div> <div><div></div><div>CLOCK OUTLET</div></div> <div><div></div><div>INTERCOM STATION</div></div> <div><div></div><div>SPEAKER, WALL MOUNT</div></div> <div><div></div><div>SPEAKER, CEILING MOUNT</div></div> <div><div></div><div>MICROPHONE OUTLET</div></div> <div><div></div><div>AUDIO/VIDEO OUTLET</div></div> <div><div></div><div>VOLUME CONTROL</div></div> <div><div></div><div>PROJECTOR</div></div> <div><div></div><div>PROJECTOR CONTROL OUTLET</div></div> <div><div></div><div>BELL/CHIME/AUDIBLE NOTIFICATION DEVICE</div></div>	<div><div></div><div>LEVEL TRANSDUCER</div></div> <div><div></div><div>FLOW METER/FLOW TUBE</div></div> <div><div></div><div>TEMPERATURE TRANSDUCER</div></div> <div><div></div><div>LIMIT SWITCH</div></div> <div><div></div><div>PRESSURE SWITCH</div></div> <div><div></div><div>TEMPERATURE SWITCH/THERMOSTAT</div></div> <div><div></div><div>FLOOD SWITCH</div></div> <div><div></div><div>LEVEL (FLOAT) SWITCH</div></div> <div><div></div><div>MOTORIZED DAMPER</div></div> <div><div></div><div>SOLENOID</div></div> <div><div></div><div>EMERGENCY PUSHBUTTON STATION</div></div> <div><div></div><div>CORD AND PLUG</div></div> <div><div></div><div>CONTROL STATION</div></div>	<div><div></div><div>SOLID STATE REDUCED VOLTAGE STARTER</div></div> <div><div></div><div>POWER MONITOR</div></div> <div><div></div><div>METER</div></div> <div><div></div><div>HIGH VOLTAGE CIRCUIT BREAKER</div></div> <div><div></div><div>DRAW OUT/BUSS STABS</div></div> <div><div></div><div>LIGHTNING ARRESTOR</div></div>
			SCHEMATIC SYMBOLS
			<div><div></div><div>RELAY COIL (NUMBER DENOTED)</div></div> <div><div></div><div>NORMALLY OPEN CONTACT</div></div> <div><div></div><div>NORMALLY CLOSED CONTACT</div></div> <div><div></div><div>THREE POSITION SELECTOR SWITCH (HAND-OFF-AUTO DENOTED)</div></div> <div><div></div><div>TWO POSITION SELECTOR SWITCH (RUN-OFF DENOTED)</div></div> <div><div></div><div>PUSH TO TEST PILOT LIGHT (COLOR DENOTED)</div></div> <div><div></div><div>PILOT LIGHT (COLOR DENOTED)</div></div> <div><div></div><div>PUSH BUTTON - NORMALLY CLOSED</div></div> <div><div></div><div>PUSH BUTTON - NORMALLY OPEN</div></div> <div><div></div><div>TIMING RELAY</div></div> <div><div></div><div>CLOSED SWITCH - TIME DELAY OPEN</div></div> <div><div></div><div>OPEN SWITCH - TIME DELAY CLOSED</div></div> <div><div></div><div>CLOSED SWITCH - TIME DELAY CLOSED</div></div> <div><div></div><div>OPEN SWITCH - TIME DELAY OPEN</div></div> <div><div></div><div>TEMPERATURE SWITCH - CLOSE ON RISING TEMPERATURE</div></div> <div><div></div><div>TEMPERATURE SWITCH - OPEN ON RISING TEMPERATURE</div></div> <div><div></div><div>SOLENOID</div></div> <div><div></div><div>CONTROL POWER TRANSFORMER</div></div> <div><div></div><div>GROUND</div></div> <div><div></div><div>OVERLOAD</div></div> <div><div></div><div>HEATER</div></div> <div><div></div><div>TERMINAL BLOCK</div></div> <div><div></div><div>CONNECTION NODE</div></div>
SWITCH		GENERAL	
<div><div><div>3</div><div>SWITCH CIRCUIT IDENTIFIER</div><div>TYPE IDENTIFIER: 2= TWO POLE, SINGLE THROW 3= THREE WAY 4= FOUR WAY D= DIMMER P= PUSH-TO-PILOT LIGHT T= TIMER SP= SPEED CONTROL K= KEYS M= MOTOR H= HORSE POWER RATED MS= MANUAL MOTOR STARTER</div></div></div>	<div><div></div><div>CABLE TRAY</div></div> <div><div></div><div>WIRELESS ACCESS POINT</div></div>	<div><div></div><div>CONDUIT/WIRE RUN - EXPPOSED/SURFACE MOUNT</div></div> <div><div></div><div>CONDUIT/WIRE RUN - CONCEALED/UNDERGROUND</div></div> <div><div></div><div>JUNCTION BOX - CEILING MOUNT</div></div> <div><div></div><div>JUNCTION BOX - WALL MOUNT</div></div> <div><div></div><div>JUNCTION BOX - FLOOR MOUNT</div></div>	<div><div></div><div>PUSH BUTTON - NORMALLY CLOSED</div></div> <div><div></div><div>PUSH BUTTON - NORMALLY OPEN</div></div> <div><div></div><div>TIMING RELAY</div></div> <div><div></div><div>CLOSED SWITCH - TIME DELAY OPEN</div></div> <div><div></div><div>OPEN SWITCH - TIME DELAY CLOSED</div></div> <div><div></div><div>CLOSED SWITCH - TIME DELAY CLOSED</div></div> <div><div></div><div>OPEN SWITCH - TIME DELAY OPEN</div></div> <div><div></div><div>TEMPERATURE SWITCH - CLOSE ON RISING TEMPERATURE</div></div> <div><div></div><div>TEMPERATURE SWITCH - OPEN ON RISING TEMPERATURE</div></div> <div><div></div><div>SOLENOID</div></div> <div><div></div><div>CONTROL POWER TRANSFORMER</div></div> <div><div></div><div>GROUND</div></div> <div><div></div><div>OVERLOAD</div></div> <div><div></div><div>HEATER</div></div> <div><div></div><div>TERMINAL BLOCK</div></div> <div><div></div><div>CONNECTION NODE</div></div>
<div><div></div><div>LIGHTING CONTROL STATION</div></div> <div><div></div><div>PHOTOCELL, DAY LIGHT SENSOR</div></div> <div><div></div><div>REMOTE EMERGENCY LIGHTING HEAD</div></div>	<div><div></div><div>ALARM STROBE</div></div> <div><div></div><div>ALARM STROBE</div></div> <div><div></div><div>ALARM HORN/SPEAKER</div></div> <div><div></div><div>ALARM PULL STATION</div></div> <div><div></div><div>SMOKE DETECTOR</div></div> <div><div></div><div>HEAT DETECTOR</div></div> <div><div></div><div>DUCT SMOKE DETECTOR</div></div> <div><div></div><div>FIRE ALARM REMOTE ANNUICIATOR</div></div> <div><div></div><div>FIRE ALARM CONTROL PANEL</div></div> <div><div></div><div>MAGNETIC DOOR HOLD OPEN</div></div> <div><div></div><div>FIRE ALARM CONTROL RELAY</div></div> <div><div></div><div>FIRE ALARM FLOW SWITCH</div></div> <div><div></div><div>FIRE ALARM TAMPER SWITCH</div></div>	<div><div></div><div>HEALTH CARE</div></div> <div><div></div><div>NURSE CALL LIGHT - WALL MOUNT</div></div> <div><div></div><div>NURSE CALL LIGHT - CEILING MOUNT</div></div> <div><div></div><div>NURSE CALL PULL STATION</div></div> <div><div></div><div>NURSE CALL STAFF LOCATION</div></div> <div><div></div><div>NURSE CALL STAFF EMERGENCY LOCATION</div></div> <div><div></div><div>NURSE CALL MASTER STATION</div></div> <div><div></div><div>NURSE CALL TERMINAL</div></div> <div><div></div><div>NURSE CALL MARQUEE</div></div> <div><div></div><div>NURSE CALL STAFF DUTY STATION/TONE STATION - WALL MOUNTED</div></div> <div><div></div><div>NURSE CALL TONE STATION - CEILING MOUNTED</div></div>	
POWER		HEALTH CARE	
<div><div></div><div>DUPLEX RECEPTACLE</div></div> <div><div></div><div>DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER</div></div> <div><div></div><div>DUPLEX RECEPTACLE, ISOLATED GROUND</div></div> <div><div></div><div>DUPLEX RECEPTACLE, SWITCHED (SPLIT)</div></div> <div><div></div><div>DUPLEX RECEPTACLE, ON EMERGENCY/STANDBY POWER CIRCUIT</div></div> <div><div></div><div>DUBBLE DUPLEX (FOURPLEX) RECEPTACLE</div></div> <div><div></div><div>DUPLEX RECEPTACLE, CEILING MOUNTED</div></div> <div><div></div><div>DUPLEX RECEPTACLE, FLOOR MOUNTED</div></div> <div><div></div><div>SPECIAL PURPOSE RECEPTACLE</div></div> <div><div></div><div>WELDING RECEPTACLE</div></div> <div><div></div><div>POWER, DISTRIBUTION, CONTROL PANEL</div></div> <div><div></div><div>TRANSFORMER (ID NOTED)</div></div> <div><div></div><div>GENERATOR</div></div> <div><div></div><div>MOTOR, SINGLE PHASE</div></div> <div><div></div><div>MOTOR, THREE PHASE</div></div> <div><div></div><div>DISCONNECT/SAFETY SWITCH</div></div> <div><div></div><div>FUSED DISCONNECT/SAFETY SWITCH</div></div> <div><div></div><div>COMBINATION MOTOR STARTER</div></div> <div><div></div><div>DISCONNECT/ENCLOSED CIRCUIT BREAKER</div></div> <div><div></div><div>UTILITY METER SOCKET</div></div> <div><div></div><div>HAND DRYER</div></div> <div><div></div><div>FLOOR BOX - GANG AND DEVICES SHOWN ON PLANS</div></div> <div><div></div><div>MULTI-OUTLET ASSEMBLY</div></div> <div><div></div><div>GROUNDING BOND POINT</div></div> <div><div></div><div>POWER POLE</div></div>	<div><div></div><div>KEYPAD</div></div> <div><div></div><div>DOOR CONTACT</div></div> <div><div></div><div>REQUEST TO EXIT</div></div> <div><div></div><div>MOTION DETECTOR</div></div> <div><div></div><div>GLASS BREAK DETECTOR</div></div> <div><div></div><div>FIRE ALARM TAMPER SWITCH</div></div> <div><div></div><div>ELECTRIFIED/MAGNETIC DOOR LOCK MECHANISM</div></div> <div><div></div><div>CCTV CAMERA (FIXED)</div></div> <div><div></div><div>CCTV CAMERA (PAN-TILT-ZOOM)</div></div>	<div><div></div><div>ONE-LINE SYMBOLS</div></div> <div><div></div><div>INCOMING LINE</div></div> <div><div></div><div>CIRCUIT BREAKER</div></div> <div><div></div><div>TRANSFORMER</div></div> <div><div></div><div>SINGLE THROW SWITCH</div></div> <div><div></div><div>DISCONNECTING FUSE</div></div> <div><div></div><div>SWITCH AND FUSE</div></div> <div><div></div><div>FUSE</div></div> <div><div></div><div>CURRENT TRANSFORMER</div></div> <div><div></div><div>MOTOR (HORSEPOWER DENOTED)</div></div> <div><div></div><div>SURGE PROTECTION DEVICE</div></div> <div><div></div><div>GENERATOR</div></div> <div><div></div><div>AUTOMATIC TRANSFER SWITCH (ATS)</div></div> <div><div></div><div>CAPACITOR</div></div> <div><div></div><div>CONTACTOR</div></div> <div><div></div><div>STARTER COMPLETE W/OVERLOADS (NEMA SIZE DENOTED)</div></div> <div><div></div><div>VARIABLE FREQUENCY DRIVE (VFD)</div></div>	
	SECURITY SYSTEMS		
	<div><div></div><div>CARD READER</div></div> <div><div></div><div>KEY PAD</div></div> <div><div></div><div>DOOR CONTACT</div></div> <div><div></div><div>REQUEST TO EXIT</div></div> <div><div></div><div>MOTION DETECTOR</div></div> <div><div></div><div>GLASS BREAK DETECTOR</div></div> <div><div></div><div>FIRE ALARM TAMPER SWITCH</div></div> <div><div></div><div>ELECTRIFIED/MAGNETIC DOOR LOCK MECHANISM</div></div> <div><div></div><div>CCTV CAMERA (FIXED)</div></div> <div><div></div><div>CCTV CAMERA (PAN-TILT-ZOOM)</div></div>		
	KEYNOTE/LEGEND SYMBOLS		
	<div><div></div><div>KEYED NOTE (NUMBER DENOTED)</div></div> <div><div></div><div>EQUIPMENT DESCRIPTION EQUIPMENT TAG (REFER TO SCHEDULE) EQUIPMENT NUMBER EQUIPMENT NAME IDENTIFIER CONDUIT/WIRE TAG (REFER TO SCHEDULE) CONDUIT IDENTIFIER</div></div> <div><div></div><div>REVISION (NUMBER DENOTED)</div></div>	<div><div></div><div>GENERATOR</div></div> <div><div></div><div>AUTOMATIC TRANSFER SWITCH (ATS)</div></div> <div><div></div><div>CAPACITOR</div></div> <div><div></div><div>CONTACTOR</div></div> <div><div></div><div>STARTER COMPLETE W/OVERLOADS (NEMA SIZE DENOTED)</div></div> <div><div></div><div>VARIABLE FREQUENCY DRIVE (VFD)</div></div>	
			SYMBOL LEGEND
			WP = WEATHER PROOF AC = ABOVE COUNTER

SHEET LIST	
SHEET NUMBER	SHEET NAME
E001	DRAWING INDEX, SYMBOLS AND ABBREVIATIONS
E201	ELECTRICAL SITE PLAN
E301	BASEMENT LIGHTING PLAN
E302	FIRST FLOOR LIGHTING PLAN
E401	BASEMENT POWER PLAN
E402	FIRST FLOOR POWER PLAN
E601	ENLARGED ELECTRICAL PLANS
E701	ELECTRICAL DETAILS
E702	ELECTRICAL DETAILS
E703	ELECTRICAL DETAILS
E801	ELECTRICAL RISER DIAGRAMS
E901	ELECTRICAL SCHEDULES
E902	ELECTRICAL SCHEDULES

ELECTRICAL ABBREVIATIONS LIST


1P 1 POLE (2P, 3P, 4P, ETC.)	DCP DOMESTIC WATER CIRCULATING PUMP	HT HEIGHT	NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	SWBD SWITCHBOARD
A AMPERE	DEPT DEPARTMENT	HTG HEATING	SYM SYMMETRICAL	SYS SYSTEM
AC ABOVE COUNTER OR AIR CONDITIONER	DET DETAIL	HV HIGH VOLTAGE	NFDS NON-FUSED SAFETY DISCONNECT SWITCH	TEL TELEPHONE
ACLG ABOVE CEILING	DIA DIAMETER	HVAC HEATING, VENTILATING AND AIR CONDITIONING	NIC NOT IN CONTRACT	TEL/DATA TELEPHONE/DATA
ADO AUTOMATIC DOOR OPENER	DIST DISTRIBUTION	HWP HYDRONIC WATER PUMP	NL NIGHT LIGHT	TERM TERMINAL
AF AMP FRAME	DN DOWN	IC INTERRUPTING CAPACITY	N.O. NORMALLY OPEN	TL TWIST LOCK
AFF ABOVE FINISHED FLOOR	DR DAMPER	IG ISOLATED GROUND	N.F. NORMALLY CLOSED	TR TAMPER RESISTANT
AFG ABOVE FINISHED GRADE	DS SAFETY DISCONNECT SWITCH	IMC INTERMEDIATE METAL CONDUIT	N.P. NORMAL POWER FACTOR	T-STAT THERMOSTAT
AFI ARC FAULT CIRCUIT INTERRUPTER	DT DOUBLE THROW	IR INFRARED	NTS NOT TO SCALE	TTC TELEPHONE TERMINAL
AHU AIR HANDLING UNIT	DWG DRAWING	I/W INTERLOCK WITH	OH OVERHEAD	TV TELEVISION
AL ALUMINUM	EC ELECTRICAL CONTRACTOR	J-BOX JUNCTION BOX	OL OVERLOADS	TVTC TELEVISION TERMINAL
ALT ALTERNATE	ELEC ELECTRIC, ELECTRICAL		PA PUBLIC ADDRESS	TYP TYPICAL
AMP AMPERE	ELEV ELEVATOR		PB PULL BOX OR PUSHBUTTON	
AMPL AMPLIFIER	EM EMERGENCY		PE PNEUMATIC ELECTRIC	UC UNDER COUNTER
ANNUN ANNUNCIATOR	ENM ELECTRICAL METALLIC TUBING	KV KILOVOLT	PEDESTAL	UE UNDERGROUND ELECTRICAL
APPROX APPROXIMATELY	EP ELECTRIC PNEUMATIC	KVA KILOVOLT-AMPERE	PF POWER FACTOR	UH UNDERGROUND
AQ-STAT AQUASTAT	EQUIP EQUIPMENT	KVAR KILOVOLT-AMPERE REACTIVE	PH PHASE	UJ UNIT HEATER
ARCH ARCHITECT, ARCHITECTURAL	EW KILOWATT	KWH KILOWATT HOUR	PV POST INDICATING VALVE	UNO UNLESS NOTED OTHERWISE
AS AMP SWITCH	EWC ELECTRIC WATER COOLER		PNL PANEL	UT UNDERGROUND TELEPHONE
AT AMP TRIP	EXIST EXISTING		PP POWER POLE	UTIL UTILITY
ATS AUTOMATIC TRANSFER SWITCH	EXH EXHAUST	LOC LOCATE OR LOCATION	PR PAIR	UV UNIT VENTILATOR OR ULTRAVIOLET
AUTO AUTOMATIC	EXP EXPLOSION PROOF	LT LIGHT	PRJ PROJECTION	
AUX AUXILIARY	FA FIRE ALARM	LTG LIGHTING	PRV POWER ROOF VENTILATOR	V VOLT
AV AUDIO VISUAL	FABP FIRE ALARM BOOSTER POWER	LV LOW VOLTAGE	PT POTENTIAL TRANSFORMER	VA VOLT-AMPERES
AWG AMERICAN WIRE GAUGE	FACP FIRE ALARM CONTROL PANEL		PVC POLYVINYL CHLORIDE (CONDUIT)	VDT VIDEO DISPLAY TERMINAL
BATT BATTERY	FAN FAN	MAX MAXIMUM	PWR POWER	VERT VERTICAL
BD BOARD	FDX FIXTURE	MAGS MAGNETIC STARTER	QUAN QUANTITY	VFD VARIABLE FREQUENCY DRIVE
BLDG BUILDING	FLR FLOOR	MCB MAIN CIRCUIT BREAKER	RCPT RECEPTACLE	VOL VOLUME
BMS BUILDING MANAGEMENT SYSTEM	FLUOR FLUORESCENT	MCC MOTOR CONTROL CENTER	REQD REQUIRED	
	FU FUSE	MDC MAIN DISTRIBUTION CENTER	RM ROOM	
	FUDS FUSED SAFETY DISCONNECT SWITCH	MDP MAIN DISTRIBUTION PANEL	RSC RIGID STEEL CONDUIT	
		MFR MANUFACTURER	RTU ROOF TOP UNIT	
		MH MANHOLE		
		MIC MICROPHONE		
		MIN MINIMUM		
		MISC MISCELLANEOUS		
		MLO MAIN LUGS ONLY		
		MMS MANUAL MOTOR STARTER		
		MOL MULTIOULET ASSEMBLY		
		MSP MOTOR STARTER PANELBOARD		
		MSBD MAIN SWITCHBOARD		
		MT MOUNT		
		MT.C EMPTY CONDUIT		
		MTS MANUAL TRANSFER SWITCH		
		MTR MOTOR, MOTORIZED		
		N.C. NORMALLY CLOSED		
		NEC NATIONAL ELECTRICAL CODE		

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CONSTRUCTION DOCUMENTS 100%

NO	REVISION	DATE
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MINNESOTA

[Signature]
DATE: 04/01/2015


DESIGNED BY: JKH
DRAWN BY: JKH
CHECKED BY: JKH
DATE: 04/01/2015

PROJECT
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING: NEW IT
DESIGNED BY: ARM
DRAWN BY: CAB
CHECKED BY: JKH
DATE: 04/01/2015

DATE: 04.01.15
FIGURE: AS NOTED
PROJECT: 656-14246
DRAWING: E001

St. Cloud VA Health Care System
Brainerd | Montevideo | Alexandria



JLG 130708

A

B

C

D

E

F

one eighth inch = one foot
0 4 8
one quarter inch = one foot
0 4 8
three eighths inch = one foot
0 4 8
one half inch = one foot
0 4 8
three quarters inch = one foot
0 2 4 6
one inch = one foot
0 6
one and one half inches = one foot
0 6 1
three inches = one foot
0 6 12

A

B

C

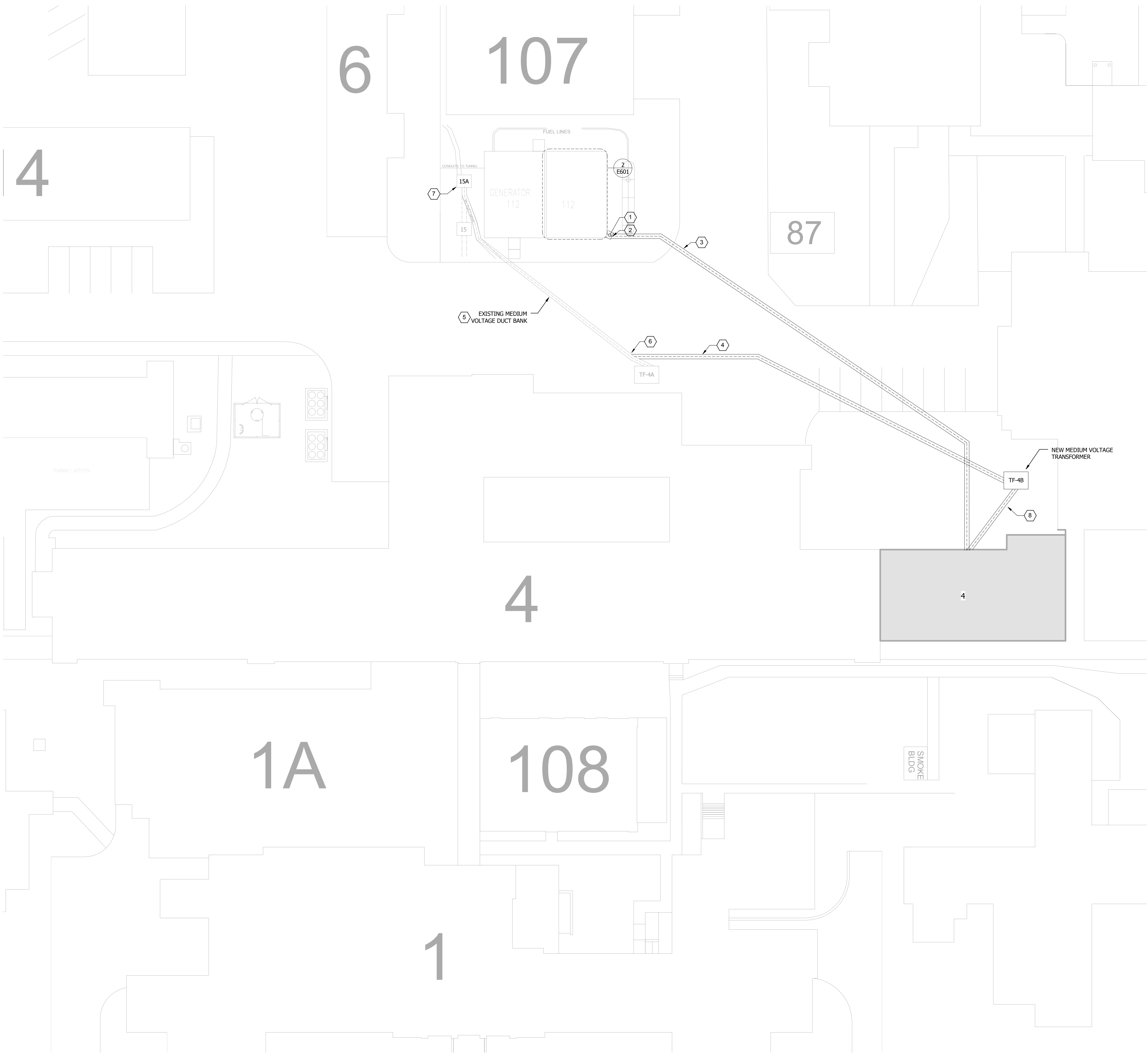
D

E

F

- GENERAL NOTES:
- COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH THE COR.
 - SAWJUT EXISTING ASPHALT AND CONCRETE SURFACES TO INSTALL NEW DUCT BANKS. ALL SURFACES SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.

- (X) KEYNOTES:
- EXISTING UNDERGROUND CONDUITS STUBBED OUT FROM BUILDING 112E. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF STUB OUTS PRIOR TO INSTALLATION. CONDUIT STUBB OUT ARE AS FOLLOWS:
1) TWO (2) 3" CONDUITS TO EMERGENCY EQUIPMENT FEED SWITCHBOARD
2) ONE (1) 1.5" CONDUIT TO EMERGENCY ESSENTIAL FEED SWITCHBOARD.
3) ONE (1) 1" CONDUIT TO GENERATOR CONTROL CIRCUIT
 - SPLICE NEW 3" UNDERGROUND CONDUITS TO EXISTING UNDERGROUND CONDUITS PRIOR TO PULLING NEW CONDUCTORS. NEW 2" UNDERGROUND CONDUITS TO BE RAN INSIDE THE BUILDING. SPLICE NEW 1" UNDERGROUND CONDUIT TO EXISTING UNDERGROUND 1" CONDUIT PRIOR TO PULLING NEW CONDUCTORS.
 - CONDUITS TO GENERATOR BUILDING SHALL BE ENCASED IN A CONCRETE DUCT BANK.
 - MEDIUM VOLTAGE CONDUIT AND WIRE TO BE ENCASED IN A CONCRETE DUCT BANK.
 - EXISTING UNDERGROUND DUCT BANK CONTAINS TWO 4" PVC CONDUITS. ONE CONDUIT FEED BUILDING 4 TRANSFORMER, THE OTHER CONDUIT IS A SPARE. USE THE SPARE CONDUIT TO FEED THE NEW TRANSFORMER.
 - INTERCEPT THE SPARE CONDUIT IN THE EXISTING DUCTBANK. REPAIR DUCTBANK AND INTEGRATE INTO NEW DUCT BANK. PROTECT END OF SPARE CONDUIT ENTERING X-FORMER, CONTRACTOR SHALL OBTAIN GOVERNMENT'S APPROVAL PRIOR TO PATCHING CONCRETE AND BACKFILL.
 - EXISTING 4-COMPARTMENT MEDIUM VOLTAGE SWITCH WITH ONE SPARE COMPARTMENT. USE THE SPARE COMPARTMENT TO FEED THE NEW TRANSFORMER. PROVIDE CABLE TERMINATIONS AND DEAD FRONT LOAD BREAKS. PROVIDE SMU-20 30E FUSE AND N-FITTINGS FOR EACH PHASE. REPLACE EXISTING IDENTIFICATION NAMEPLATE ON THE EXTERIOR OF THE CABINET.
 - CONDUITS FROM NEW TRANSFORMER TO NEW BUILDING SERVICE ENTRANCE SHALL BE ENCASED IN A CONCRETE DUCT BANK.



1 ELECTRICAL SITE PLAN
0 10' 20' 40'

CONSTRUCTION DOCUMENTS 100%

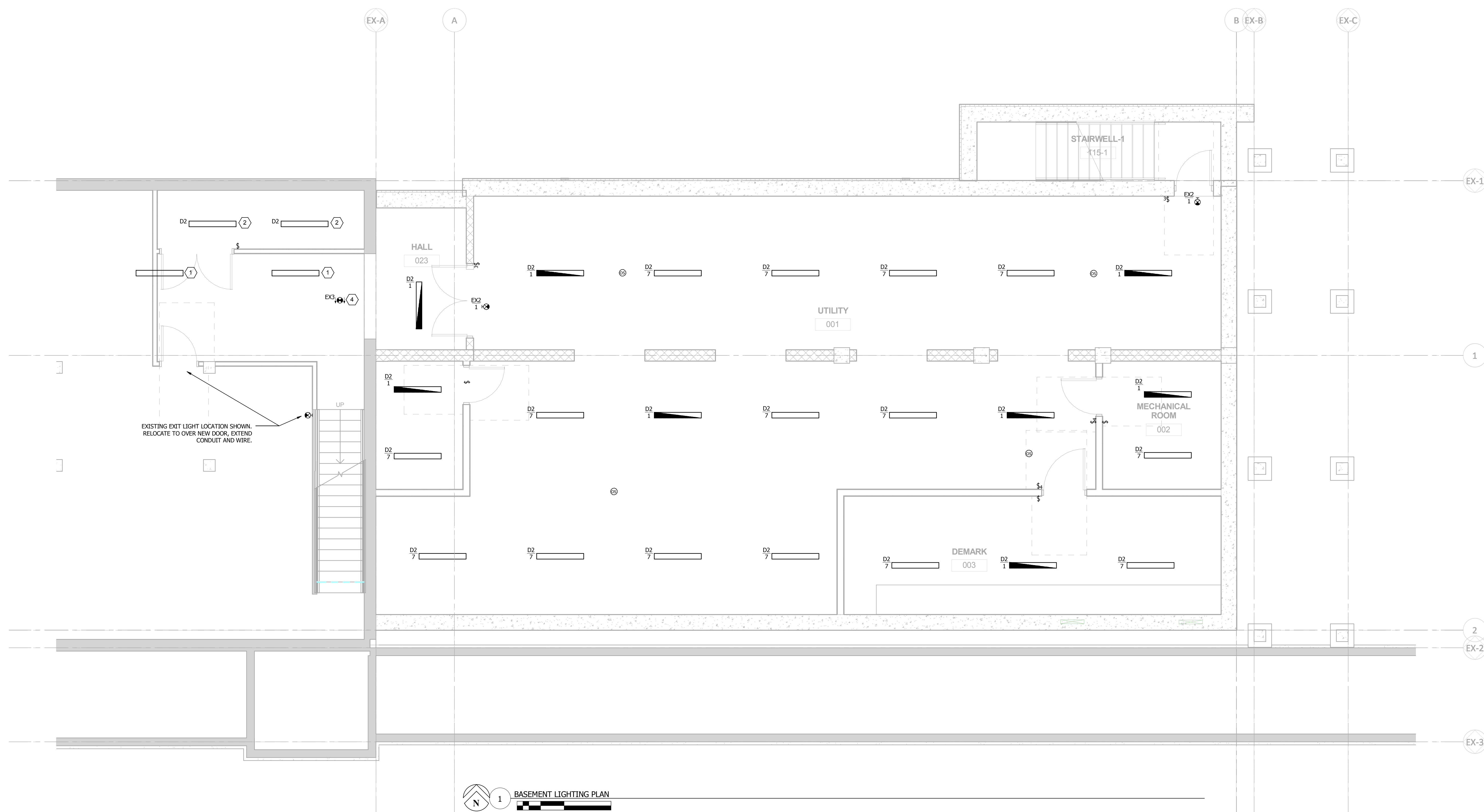
<div>Design Tree ENGINEERING AND LAND SURVEYING</div> <div>Alexandria Office 120 17th Avenue W, Alexandria, MN 56308 (520) 762-1290</div> <div>St. Cloud Office 3339 West St. Germain, Suite 250 St. Cloud, MN 56301 (320) 217-5557</div>		<div>JLG architects</div> <div>Alexandria 525 Broadway Street Alexandria, MN 56308 phone 320.759.9030 facsimile 320.759.9062 www.jlgarchitects.com copyright © 2014</div> <div>JLG 130708</div>	<div>STAMPED I HEREBY CERTIFY THAT THIS PLAN SPECIFICALLY ON BEHALF AND PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER REGISTERED UNDER THE LAWS OF THE STATE OF MINNESOTA</div> <div>DATE: 04/01/2015</div> <div>REG. NO.</div>	<div>DRAWING TITLE ELECTRICAL SITE PLAN</div> <div>PROJECT CONSTRUCT NEW IT CENTER FOR HEALTH CARE TECHNOLOGY MANAGEMENT EXPANSION</div> <div>BUILDING NEW IT</div> <div>DESIGNED BY RSB</div> <div>DRAWN ARM</div> <div>DATE 04.01.15</div> <div>REVISION AS NOTED</div> <div>PROJECT NO. 656-14-246</div> <div>LOCATION ST. CLOUD VA HCS ST. CLOUD, MN 56303</div> <div>DRAWING NO. E201</div>	<div>St. Cloud VA Health Care System Brainerd Montevideo Alexandria</div>
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GENERAL NOTES:

1. LUMINAIRES IN ARE TO BE MOUNTED TO THE CEILING, UNLESS NOTED OTHERWISE.
2. IN MECH ROOM 002 AND DEMARC ROOM 003, CHAIN HANG FIXTURE SO THAT LENS OF FIXTURE IS FLUSH WITH BOTTOM OF CEILING MOUNTED DUCT WORK.
3. FIXTURES SHOWN AS NIGHT LIGHTS ARE TO ALSO SERVE AS EMERGENCY EGRESS LIGHTING. LUMINAIRES SHALL BE POWERED FROM AN EMERGENCY POWERED PANEL AS CIRCUITED AND SHALL BE UNSWITCHED.

 KEYNOTES

1. EXISTING CHAIN HUNG FIXTURES. RELOCATE FIXTURES TO POSITION THEM IN THE STAIRWELL AREA SO NOT TO CONFLICT WITH EXISTING WALLS. RECIRCUIT FIXTURES SO THEY BECOME UNSWITCHED NIGHT LIGHTS.
2. NEW CHAIN HUNG FIXTURES. POWER FROM EXISTING LIGHTING CIRCUIT.
3. CIRCUIT NEW EXIT LIGHT WITH RELOCATED STAIRWELL LIGHTING.



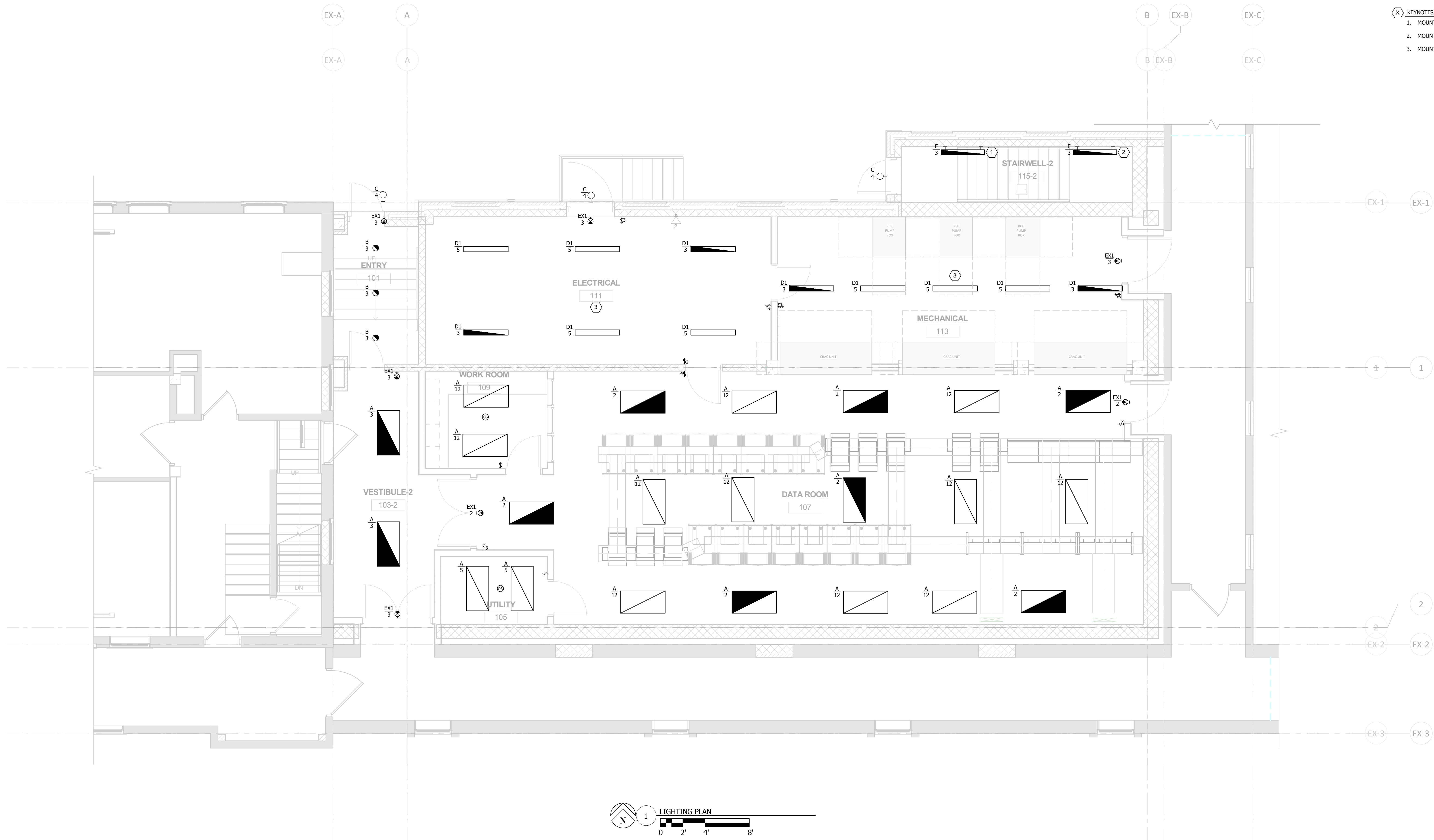
CONSTRUCTION DOCUMENTS 100%

[illegible]

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

- GENERAL NOTES:
1. FIXTURES SHOWN AS NIGHT LIGHTS ARE TO ALSO SERVE AS EMERGENCY EGRESS LIGHTING. LUMINAIRES SHALL BE POWERED FROM AN EMERGENCY POWERED PANEL AS CIRCUITED AND SHALL BE UNSWITCHED.
 2. EXTERIOR LUMINAIRES SHALL BE POWERED FROM AN EMERGENCY POWERED PANEL AS CIRCUITED AND DUALY SERVE AS EMERGENCY EGRESS LIGHTING.

- KEYNOTES:
1. MOUNT LUMINAIRE 8'-6" ABOVE STAIR LANDING.
 2. MOUNT LUMINAIRE 8'-6" ABOVE FINISHED FLOOR.
 3. MOUNT LUMINAIRES IN THIS SPACE 9' ABOVE FINISHED FLOOR.



CONSTRUCTION DOCUMENTS 100%

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DATE: 04/01/2015 REG. NO. MN 43384

DRAWING TITLE
FIRST FLOOR LIGHTING PLAN

PROJECT
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

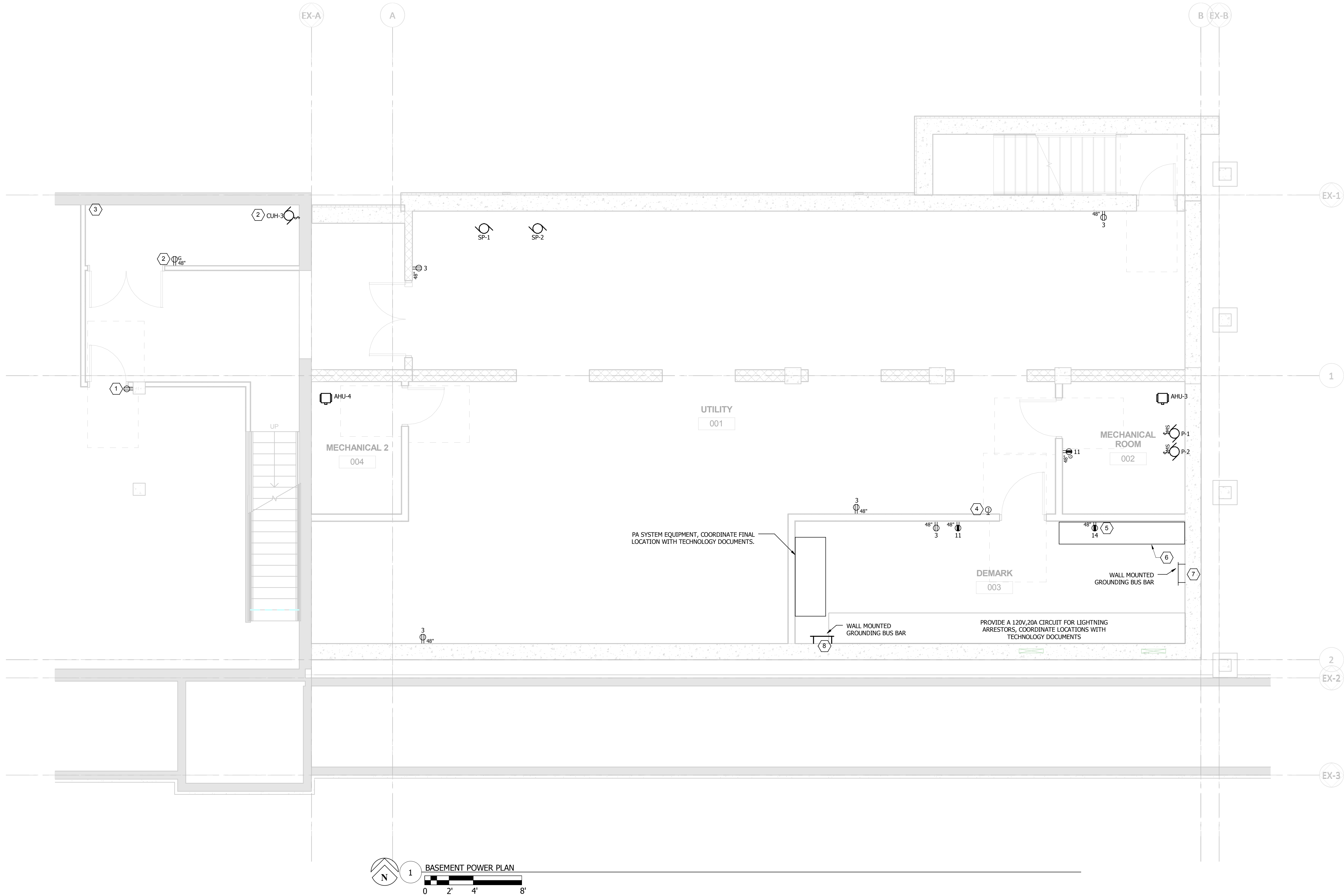
SUBMIT
NEW IT
DESIGNED BY
RSB
DRAWN BY
ARM
CHECKED BY
DATE
ST. CLOUD VA HCS
ST. CLOUD, MN 56303

DATE
04.01.15
FILED
AS NOTED
PROJECT
656-14-246
SHEET
E302



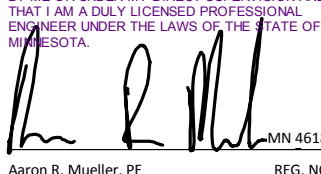



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one eighth inch = one foot

- (X) KEYNOTES:
1. REMOVE EXISTING RECEPTACLE.
 2. CIRCUIT NEW DEVICE TO EXISTING RECEPTACLE CIRCUIT IN BASEMENT OF BUILDING 4.
 3. COORDINATE WALL MOUNTED MECHANICAL EQUIPMENT MODIFICATIONS NEEDED FOR COORDINATION OF NEW WALL WITH THE MECHANICAL DOCUMENTS.
 4. DOUBLE GANG JUNCTION BOX MOUNTED AT DOOR HANDLE HEIGHT FOR CARD READER. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28. COORDINATE SIZE OF JUNCTION BOX REQUIRED FOR THE KEYPAD PROVIDED UNDER DIVISION 28 PRIOR TO INSTALLATION. COORDINATE ADDITIONAL CONDUIT REQUIREMENTS WITH DIVISION 28.
 5. EMERGENCY RECEPTACLE DEDICATED FOR CENTURYLINK EQUIPMENT. COORDINATE FINAL LOCATION WITH CENTURYLINK AND THE COR.
 6. SPACE DEDICATED FOR CENTURYLINK VOICE/DATA SERVICE EQUIPMENT. CONTRACTOR SHALL INCLUDE ALL CENTURYLINK WORK IN THE BASEBID PRICE. CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH CENTURYLINK AND ESTABLISHING THE NEW SERVICE AT THE BUILDING. REFER TO TECHNOLOGY DOCUMENTS FOR ADDITIONAL INFORMATION.
 7. GROUNDING BUS BAR DEDICATED FOR CENTURYLINK EQUIPMENT. COORDINATE FINAL LOCATION WITH CENTURYLINK. PROVIDE A 1/0AWG GROUNDING CONDUCTOR TO SERVICE ENTRANCE EQUIPMENT.
 8. GROUNDING BUS BAR DEDICATED FOR LIGHTNING ARRESTORS AND DEMARK EQUIPMENT. COORDINATE FINAL LOCATION WITH TECHNOLOGY EQUIPMENT SUPPLIER. PROVIDE A 1/0AWG GROUNDING CONDUCTOR TO SERVICE ENTRANCE EQUIPMENT.
- GENERAL NOTES:
1. PROVIDE A 208V/20A CIRCUIT TO THE PA EQUIPMENT. COORDINATE FINAL LOCATION WITH THE TECHNOLOGY DOCUMENTS AND THE COR. CONTRACTOR SHALL FIELD VERIFY VOLTAGE AND RATING OF EXISTING PA EQUIPMENT PRIOR TO ROUGH-INS. REFER TO TECHNOLOGY DOCUMENTS FOR ADDITIONAL INFORMATION.



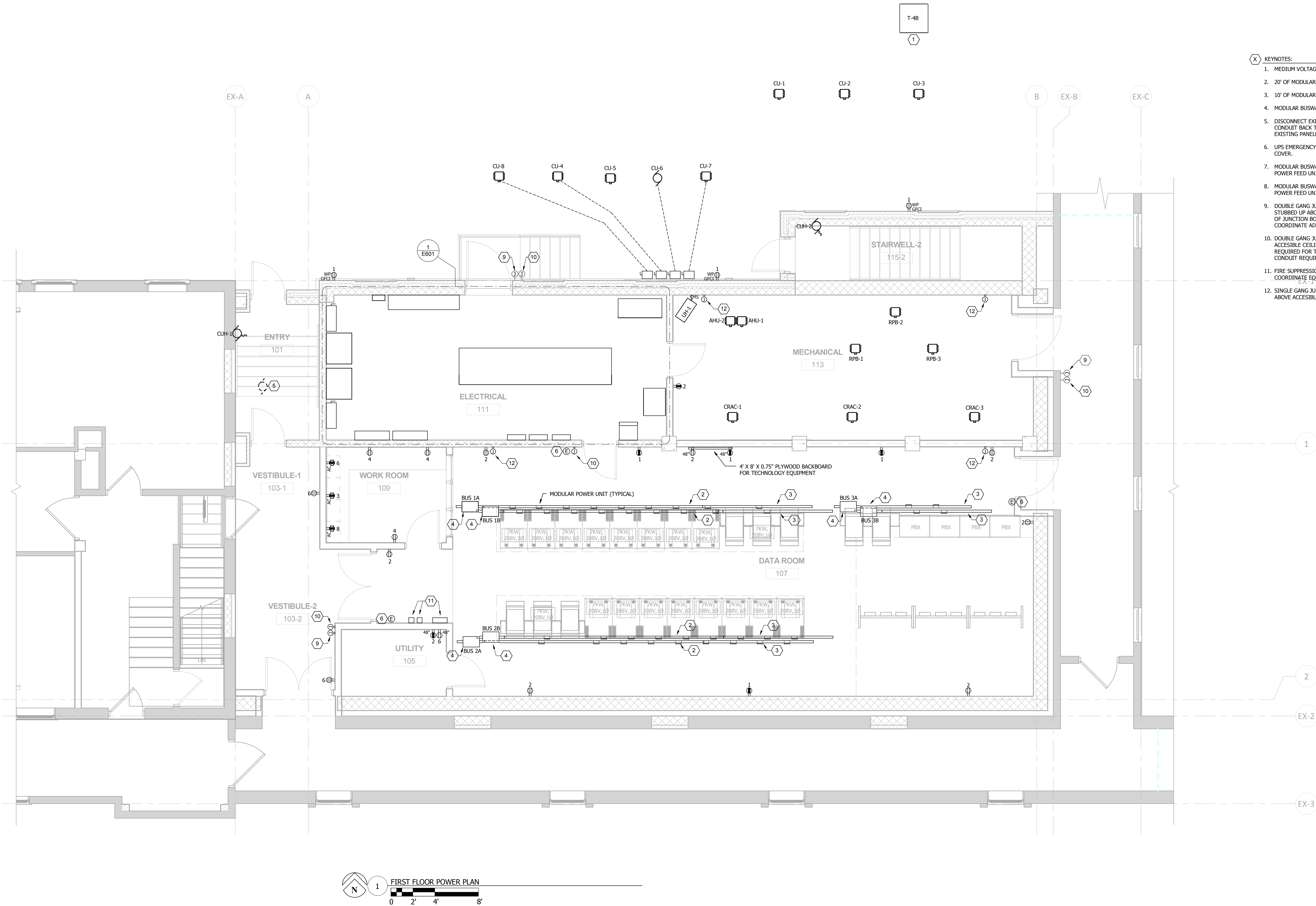
CONSTRUCTION DOCUMENTS 100%

<div>NO</div> <div>REVISION</div> <div>DATE</div>			<div><div>Design Tree</div><div>ENGINEERING AND LAND SURVEYING</div></div> <div><div>Alexandria Office</div><div>120 17th Avenue W,</div><div>Alexandria, MN 56308</div><div>(520) 762-1290</div></div> <div><div>St. Cloud Office</div><div>3339 West St. Germain, Suite 250</div><div>St. Cloud, MN 56301</div><div>(320) 217-5557</div></div>		<div><div>Alexandria</div><div>525 Broadway Street</div><div>Alexandria, MN 56308</div><div>phone 320.759.9030</div><div>facsimile 320.759.9062</div><div>www.jlgarchitects.com</div><div>copyright © 2014</div></div> <div>JLG 130708</div>		<div><div>STAMPED</div><div>LEGIBILITY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA</div><div></div><div>AARON K. MUELLER, PE</div><div>REG. NO. MN 43384</div><div>DATE: 04/01/2015</div></div>		<div>DRAWING TITLE</div> <div>BASEMENT POWER PLAN</div>		<div>PROJECT TITLE</div> <div>CONSTRUCT NEW IT CENTER FOR HEALTH CARE TECHNOLOGY MANAGEMENT EXPANSION</div>		<div>DATE</div> <div>04.01.15</div> <div>FILED</div> <div>AS NOTED</div> <div>PROJECT NO.</div> <div>656-14-246</div>		<div>BUILDING</div> <div>NEW IT</div> <div>DESIGNED BY</div> <div>RSB</div> <div>DRAWN</div> <div>ARM</div> <div>CHECKED</div> <div></div> <div>LOCATION</div> <div>ST. CLOUD VA HCS</div> <div>ST. CLOUD, MN 56303</div> <div>DRAWING NO.</div> <div>E401</div>		<div><div>St. Cloud VA</div><div>Health Care System</div><div>Brainerd Montevideo Alexandria</div></div>	
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- GENERAL NOTES:
1. MOUNT MODULAR BUSWAY TO THE STRUCTURAL CEILING. PROVIDE MANUFACTURER MOUNTING HARDWARE AND DEVICES FOR SECURING THE BUSWAY. MODULAR DEVICES SHALL BE LOCATED UNDER THE GRID CEILING. COORDINATE LOCATION WITH OTHER CEILING MOUNTED EQUIPMENT AND DATA RACK LOCATIONS.
 2. SEAL ALL CONDUIT OPENINGS THROUGH DATA ROOM WALLS WITH DUCT SEAL OR SIMILAR TO PREVENT THE FIRE SUPPRESSION GAS TO LEAK INTO ADJACENT AREAS.
 3. REFER TO TECHNOLOGY DRAWINGS FOR CONDUIT ROUGH-INS REQUIRED FOR SECURITY EQUIPMENT. NOT ALL ROUGH-INS ARE SHOWN ON THIS DRAWING.
 4. PROVIDE A 120V CIRCUIT ABOVE EACH DOOR WITH A CARD READER. REFER TO TECHNOLOGY DOCUMENTS FOR ADDITIONAL INFORMATION.

- (X) KEYNOTES:
1. MEDIUM VOLTAGE PAD MOUNT TRANSFORMER. REFER TO SITE PLANS FOR LOCATION.
 2. 20' OF MODULAR BUSWAY; QUANTITY OF MODULAR POWER UNITS AS SHOWN.
 3. 10' OF MODULAR BUSWAY; QUANTITY OF MODULAR POWER UNITS AS SHOWN.
 4. MODULAR BUSWAY END POWER FEED UNIT, SIZE AND ORIENTATE FOR INSTALLATION IN SPACE ABOVE CEILING.
 5. DISCONNECT EXISTING CONDENSING UNIT AND OUTDOOR WALL MOUNTED DISCONNECT SWITCH. REMOVE ALL CONDUIT BACK TO NEAREST JUNCTION BOX UTILIZED BY OTHER CIRCUITS AND REMOVE AND WIRING BACK TO EXISTING PANELBOARD IN BUILDING 4.
 6. UPS EMERGENCY POWER SHUTDOWN PUSH-BUTTON PROVIDED IN A PROTECTED ENCLOSURE WITH FLIP OPEN COVER.
 7. MODULAR BUSWAY END POWER FEED UNIT, SIZE AND ORIENTATE FOR INSTALLATION IN SPACE ABOVE CEILING. POWER FEED UNIT TO BE FED FROM SAME CIRCUIT FEEDING BUS 3A.
 8. MODULAR BUSWAY END POWER FEED UNIT, SIZE AND ORIENTATE FOR INSTALLATION IN SPACE ABOVE CEILING. POWER FEED UNIT TO BE FED FROM SAME CIRCUIT FEEDING BUS 3B.
 9. DOUBLE GANG JUNCTION BOX MOUNTED AT DOOR HANDLE HEIGHT FOR CARD READER. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28. COORDINATE SIZE OF JUNCTION BOX REQUIRED FOR THE KEYPAD PROVIDED UNDER DIVISION 28 PRIOR TO INSTALLATION. COORDINATE ADDITIONAL CONDUIT REQUIREMENTS WITH DIVISION 28.
 10. DOUBLE GANG JUNCTION BOX MOUNTED AT 46" AFF FOR KEY PAD. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28. COORDINATE SIZE OF JUNCTION BOX REQUIRED FOR THE KEYPAD PROVIDED UNDER DIVISION 28 PRIOR TO INSTALLATION. COORDINATE ADDITIONAL CONDUIT REQUIREMENTS WITH DIVISION 28.
 11. FIRE SUPPRESSION AND DETECTION EQUIPMENT, PROVIDE 120V CIRCUITS TO THIS EQUIPMENT UNDER DIVISION 26. COORDINATE EQUIPMENT REQUIREMENTS AND LOCATION WITH THE DIVISION 28 DOCUMENTS.
 12. SINGLE GANG JUNCTION BOX MOUNTED AT 8" AFF FOR MOTION DETECTOR. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28.



CONSTRUCTION DOCUMENTS 100%

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DATE: 04/01/2015

DRAWING TITLE
FIRST FLOOR POWER PLAN

PROJECT
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING
NEW IT

DESIGNED BY
RSB

DRAWN
ARM

CHECKED
DATE

LOCATION
ST. CLOUD VA HCS
ST. CLOUD, MN 56303

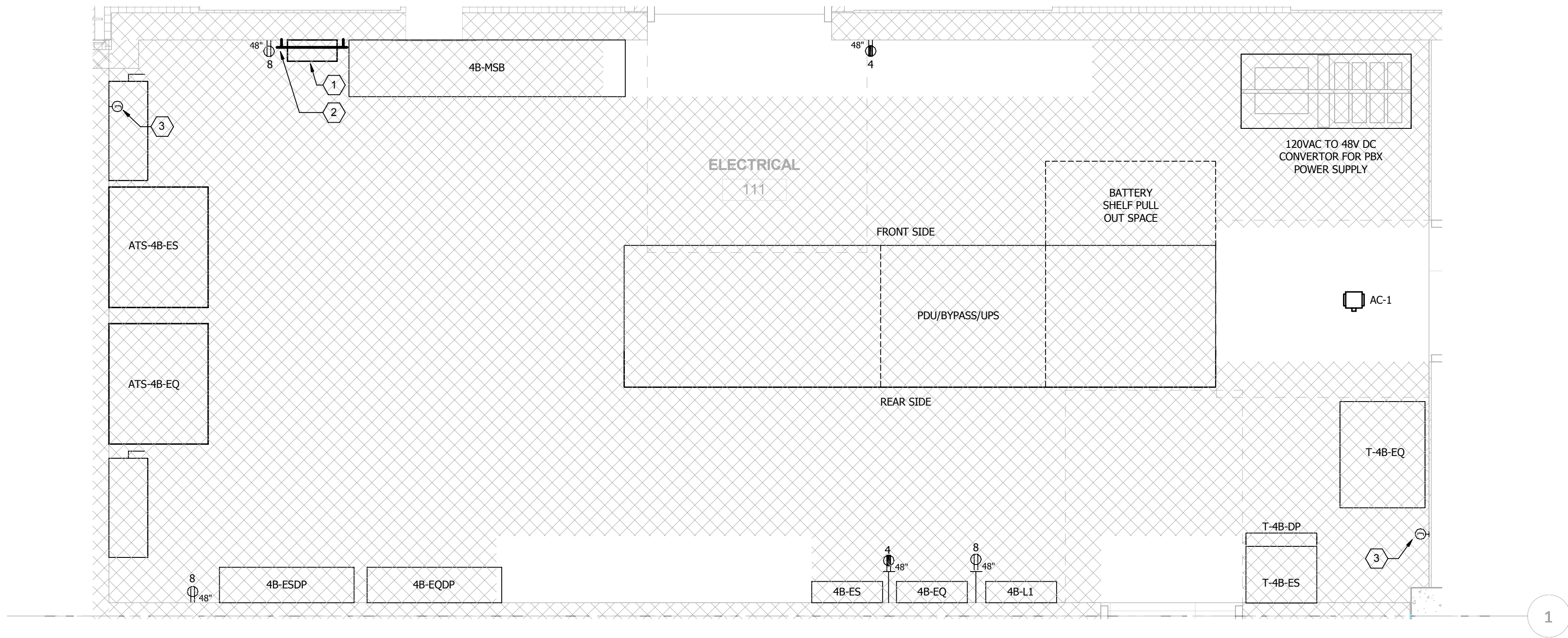
DRAWING NO.
E402

DATE
04.01.15

PROJECT NO.
656-14-246



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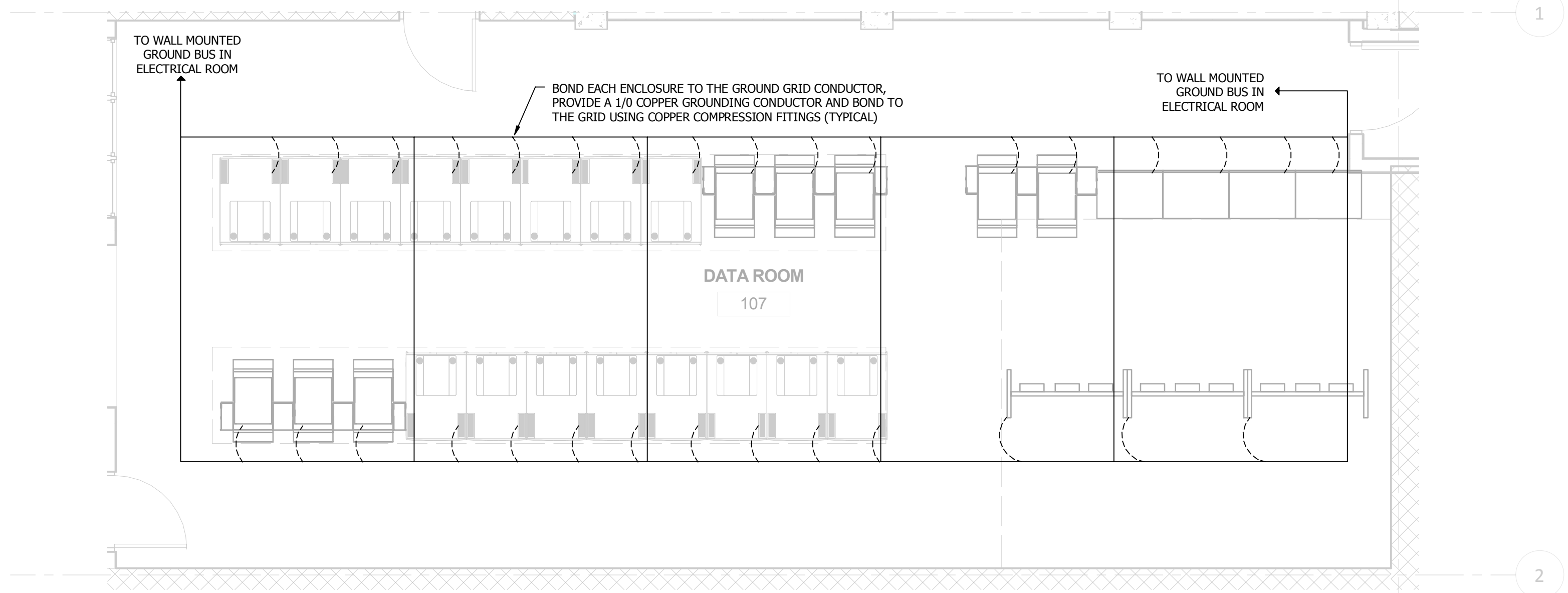
KEYNOTES:

1. POWER METERING EQUIPMENT. PROVIDE SQUARE D ION 7550 IN AN WALL MOUNTED ENCLOSURE. PROVIDE A SQUARE D POWER LOGIC METER IN A SEPERATE ENCLOSURE MOUNTED BELOW THE ION 7550 ENCLOSURE. PROVIDE CT'S AT THE MAIN SWITCHBOARD AND CABLING TO THE POWER METER. PROVIDE A FIDELIN 8892 CABLE BETWEEN THE POWER METER AND THE ION 7550. PROVIDE REQUIRED CONDUIT, CABLING AND PROGRAMING TO CONNECT THE METERING SYSTEMS TO THE CAMPUS MONITORING NETWORK.
2. WALL MOUNTED GROUNDING BUSS BAR MOUNTED ABOVE POWER METERING EQUIPMENT.
3. SINGLE GANG JUNCTION BOX MOUNTED AT 8' AFF FOR MOTION DETECTOR. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28.

GENERAL NOTES:

1. VERIFY ALL EQUIPMENT DIMENSIONS, DEDICATED WORK SPACE AND ROOM LAYOUT PRIOR TO ORDERING EQUIPMENT. IF A CONFLICT EXISTS NOTIFY THE COR.
2. PROVIDE A SCALED DRAWING OF THE EQUIPMENT LAYOUT IN THE SPACE SHOWING ACTUAL DIMENSIONS OF ALL PROPOSED EQUIPMENT. THE DRAWING SHALL BE PROVIDED WITH THE EQUIPMENT SUBMITTALS.
3. GRAY CROSSHATCHING REPRESENTS SPACE DEDICATED FOR ELECTRICAL EQUIPMENT TO MEET NFPA 70 REQUIRED EQUIPMENT CLEARANCES.
4. ALL DIMENSIONS ARE BASED ON EQUIPMENT USED AS BASIS OF DESIGN.
5. PDU/UPS TO BE CONNECTED TO THE CAMPUS MONITORING SYSTEM. COORDINATE REQUIREMENTS WITH THE CONTROL SYSTEM PROVIDER. PROVIDE CONDUIT AND CABLING AS NEEDED TO ESTABLISH COMMUNICATIONS.

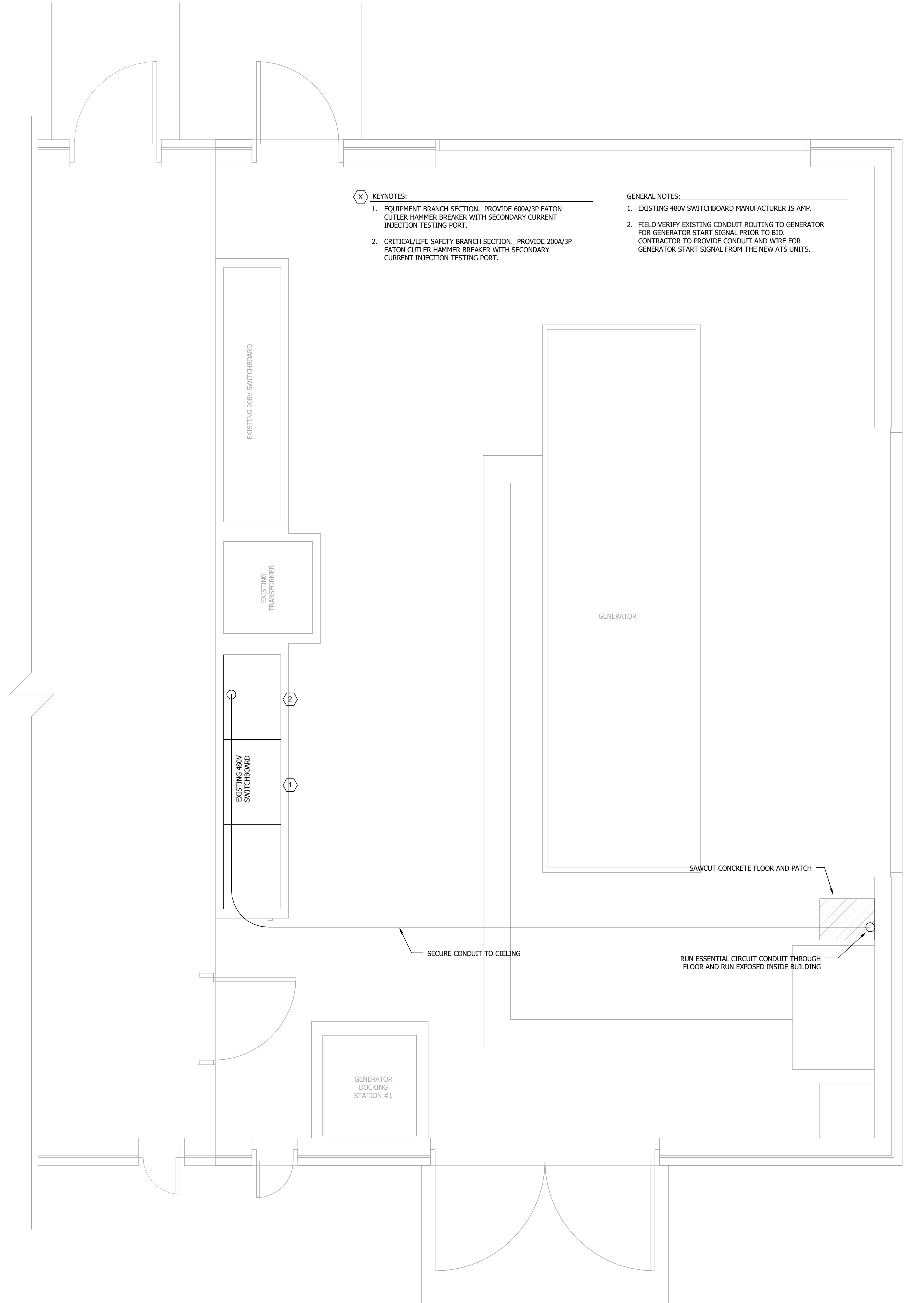
ENLARGED PLAN - ELECTRICAL ROOM 111



GENERAL NOTES:

1. GROUNDING GRID AND EQUIPMENT CONNECTIONS SHALL BE LOCATED IN THE RAISED FLOOR SPACE.
2. MOUNT THE GROUNDING GRID CONDUCTOR TO THE RAISED FLOOR SUPPORTS USING BRONZE, U-BOLT GROUNDING CLAMPS. SPACE BETWEEN CLAMPS SHALL NOT BE GREATER THAN 5'.

DATA ROOM GROUNDING GRID



KEYNOTES:

1. EQUIPMENT BRANCH SECTION. PROVIDE 600A/3P EATON CUTLER HAMMER BREAKER WITH SECONDARY CURRENT INJECTION TESTING PORT.
2. CRITICAL/LIFE SAFETY BRANCH SECTION. PROVIDE 200A/3P EATON CUTLER HAMMER BREAKER WITH SECONDARY CURRENT INJECTION TESTING PORT.

GENERAL NOTES:

1. EXISTING 480V SWITCHBOARD MANUFACTURER IS AMP.
2. FIELD VERIFY EXISTING CONDUIT ROUTING TO GENERATOR FOR GENERATOR START SIGNAL. PRIOR TO BID, CONTRACTOR TO PROVIDE CONDUIT AND WIRE FOR GENERATOR START SIGNAL FROM THE NEW ATS UNITS.

ENLARGED PLAN - BUILDING 112E

CONSTRUCTION DOCUMENTS 100%



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DRAWING TITLE
ENLARGED ELECTRICAL PLANS

PROJECT
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING
NEW IT

DESIGNED BY
RSB

DRAWN
Author

DATE
04.01.15

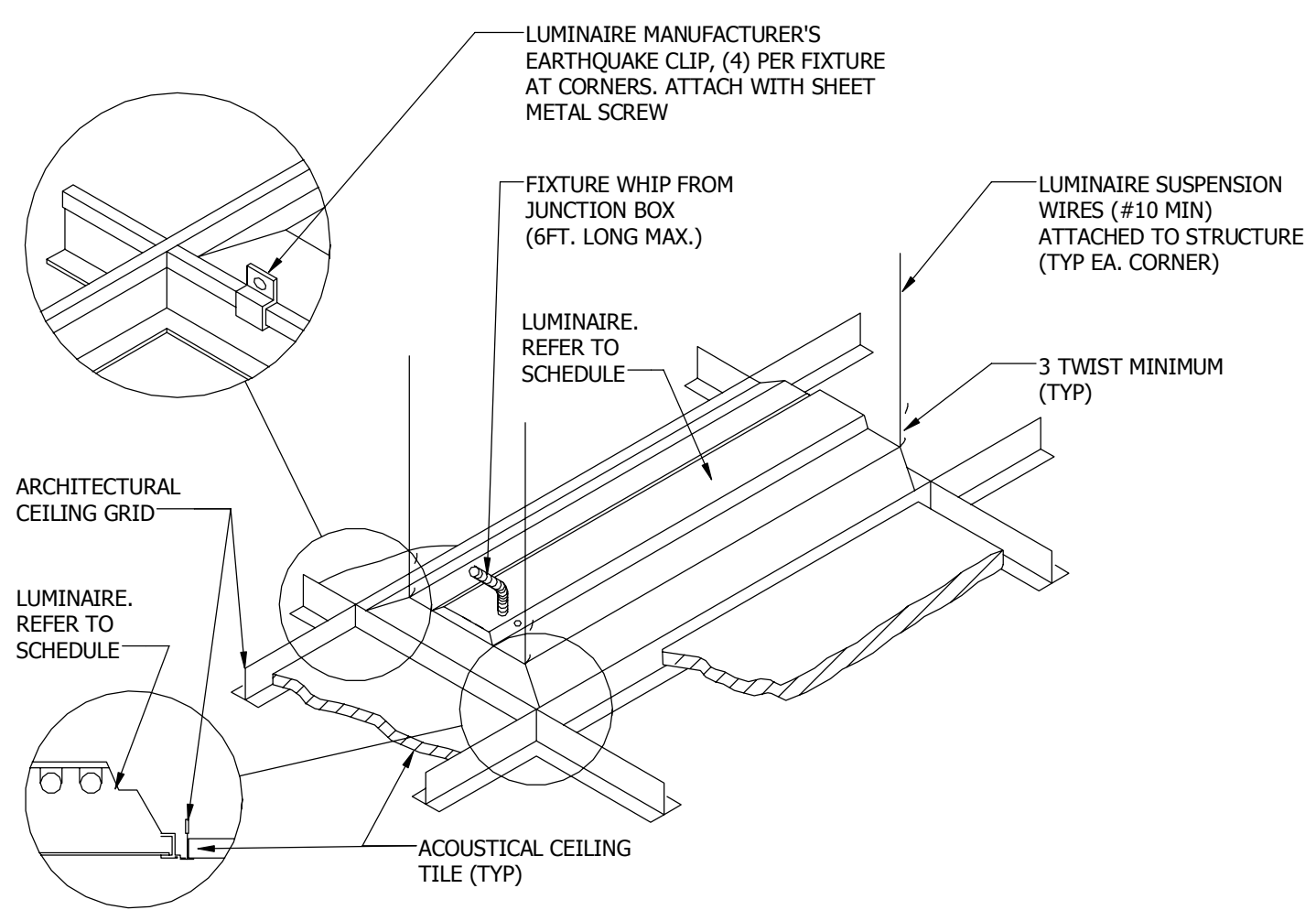
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PROJECT NO.
656-14-246

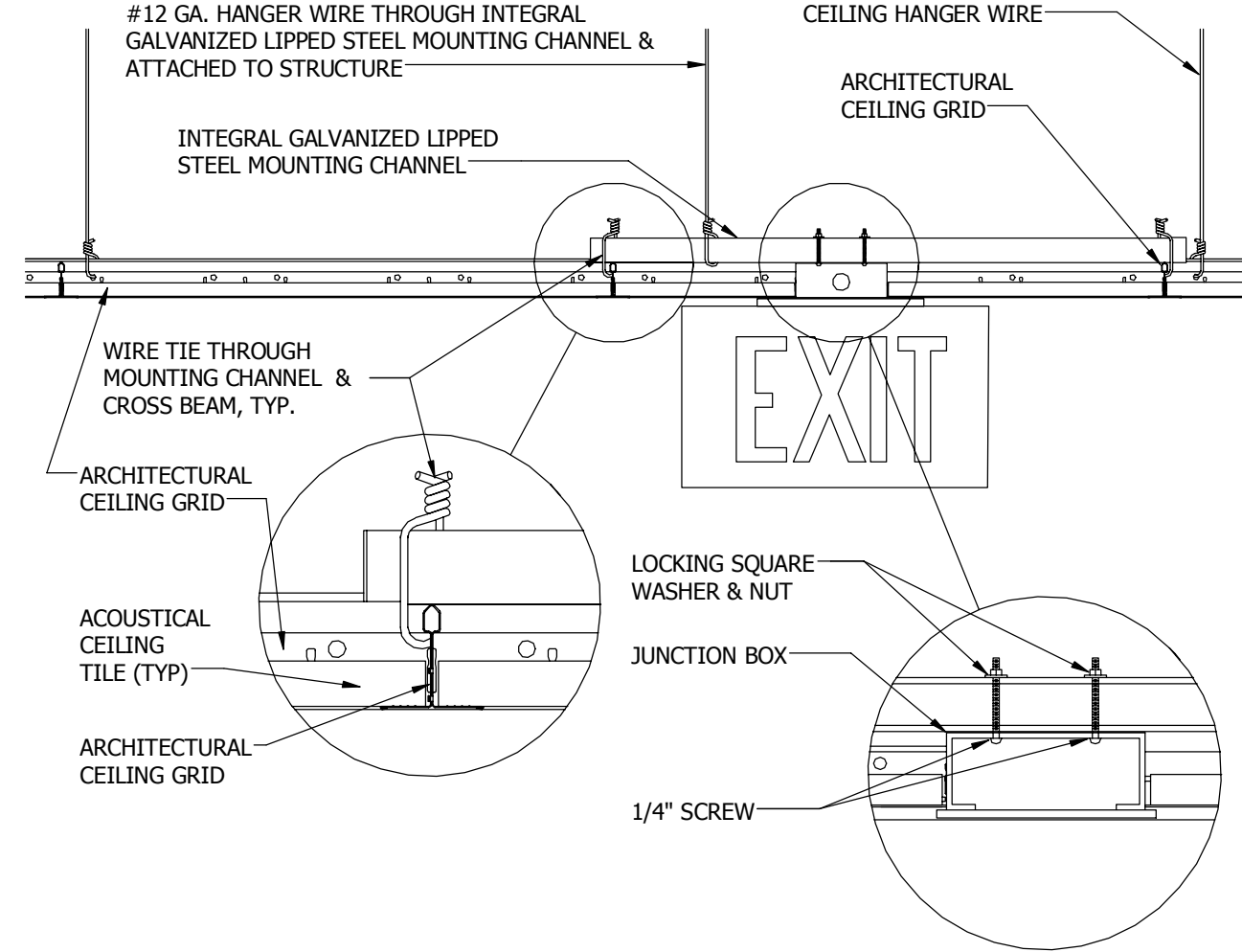
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DRAWING NO.
E601

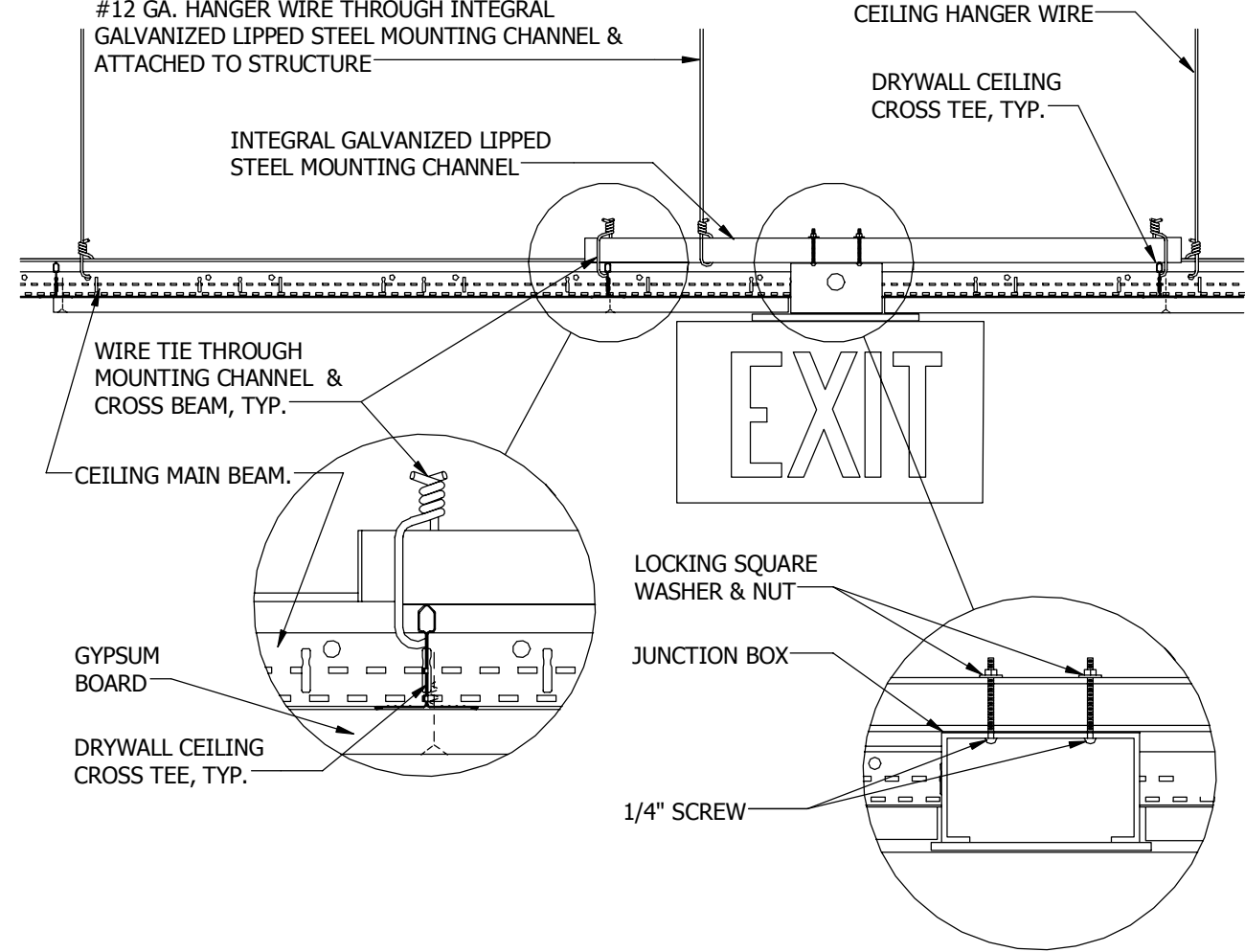




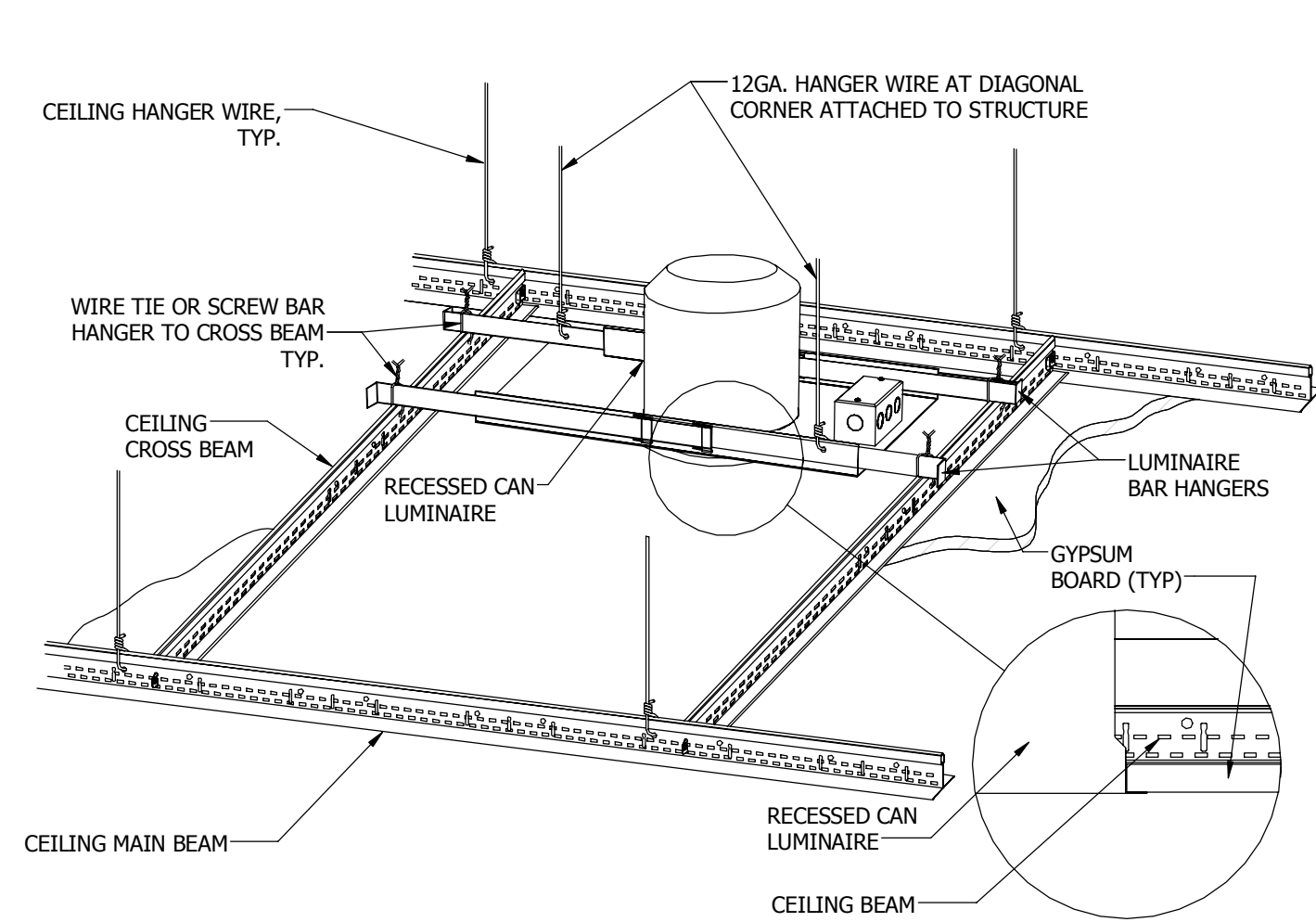
1 LUMINAIRE MOUNTING - LAY-IN CEILING
NOT TO SCALE



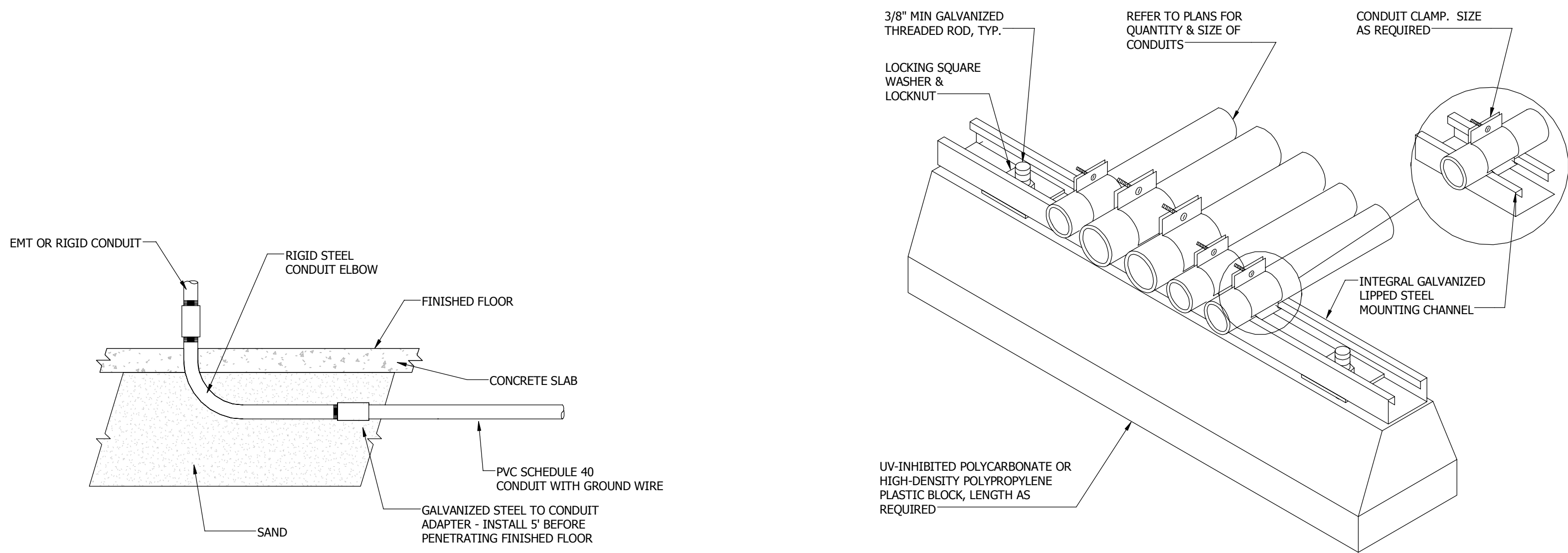
2 EXIT SIGN MOUNTING - LAY-IN CEILING
NOT TO SCALE



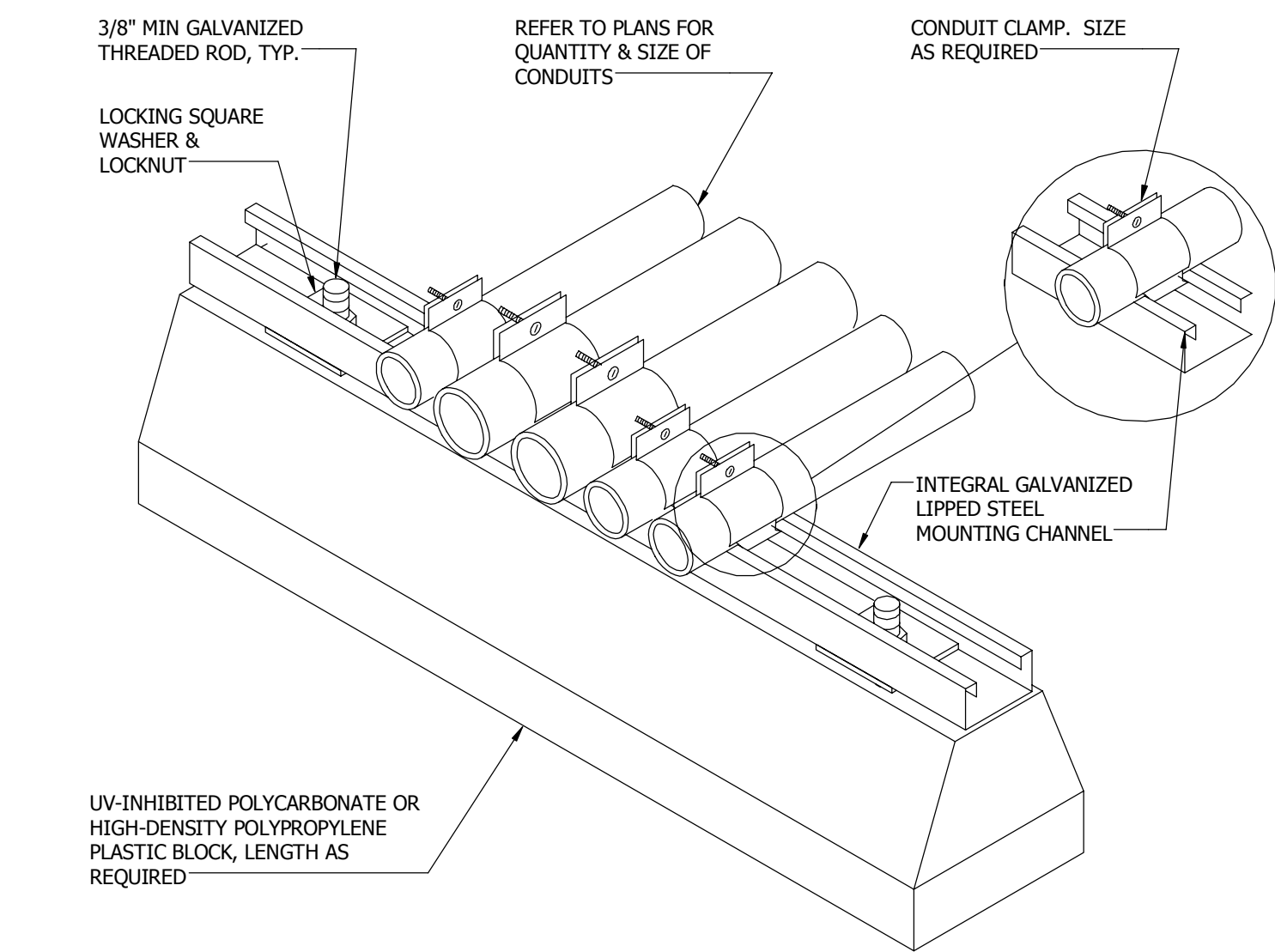
3 EXIT SIGN MOUNTING - GYPBOARD CEILING
NOT TO SCALE



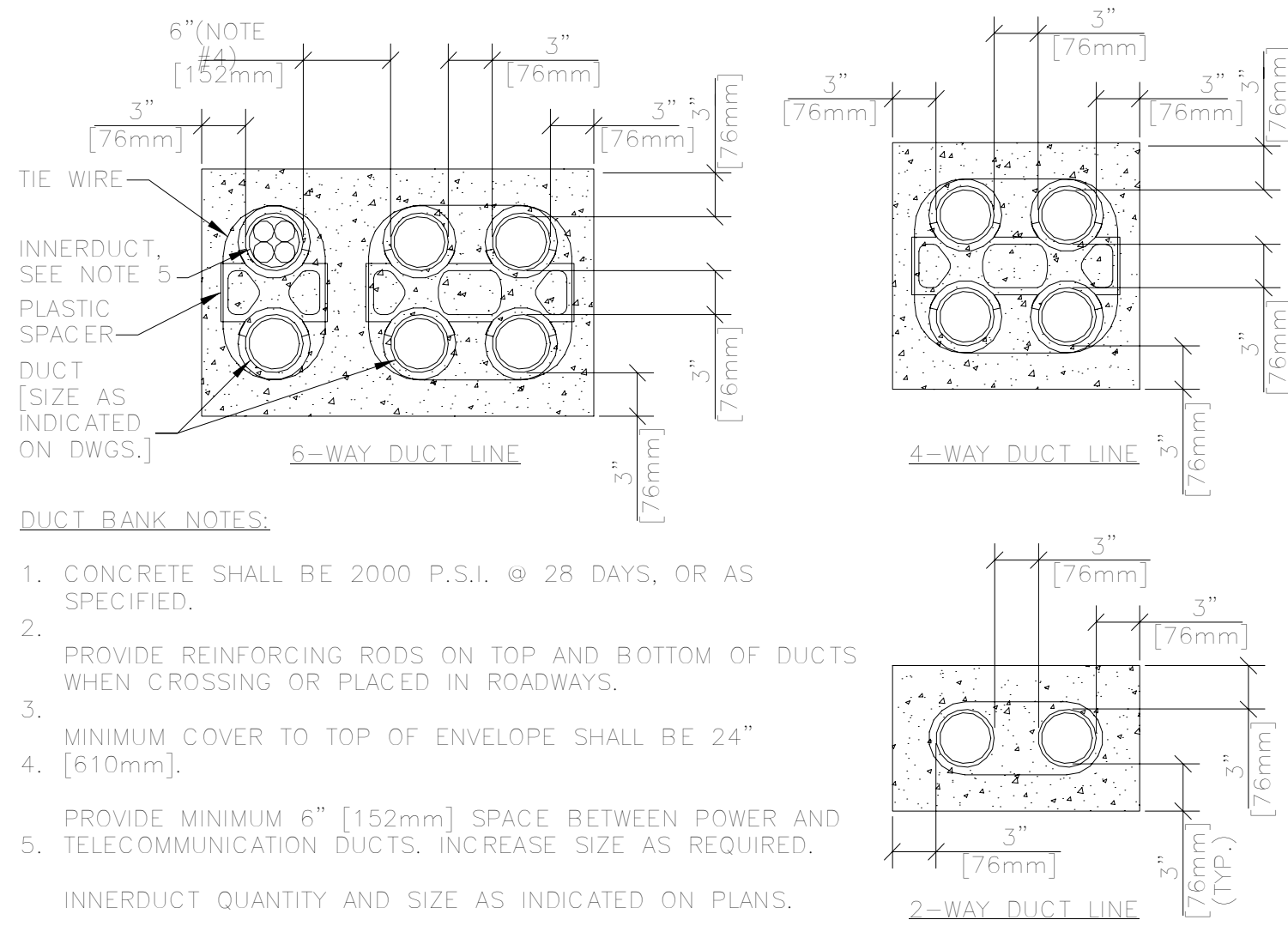
4 DOWNLIGHT MOUNTING - GYPBOARD CEILING
NOT TO SCALE



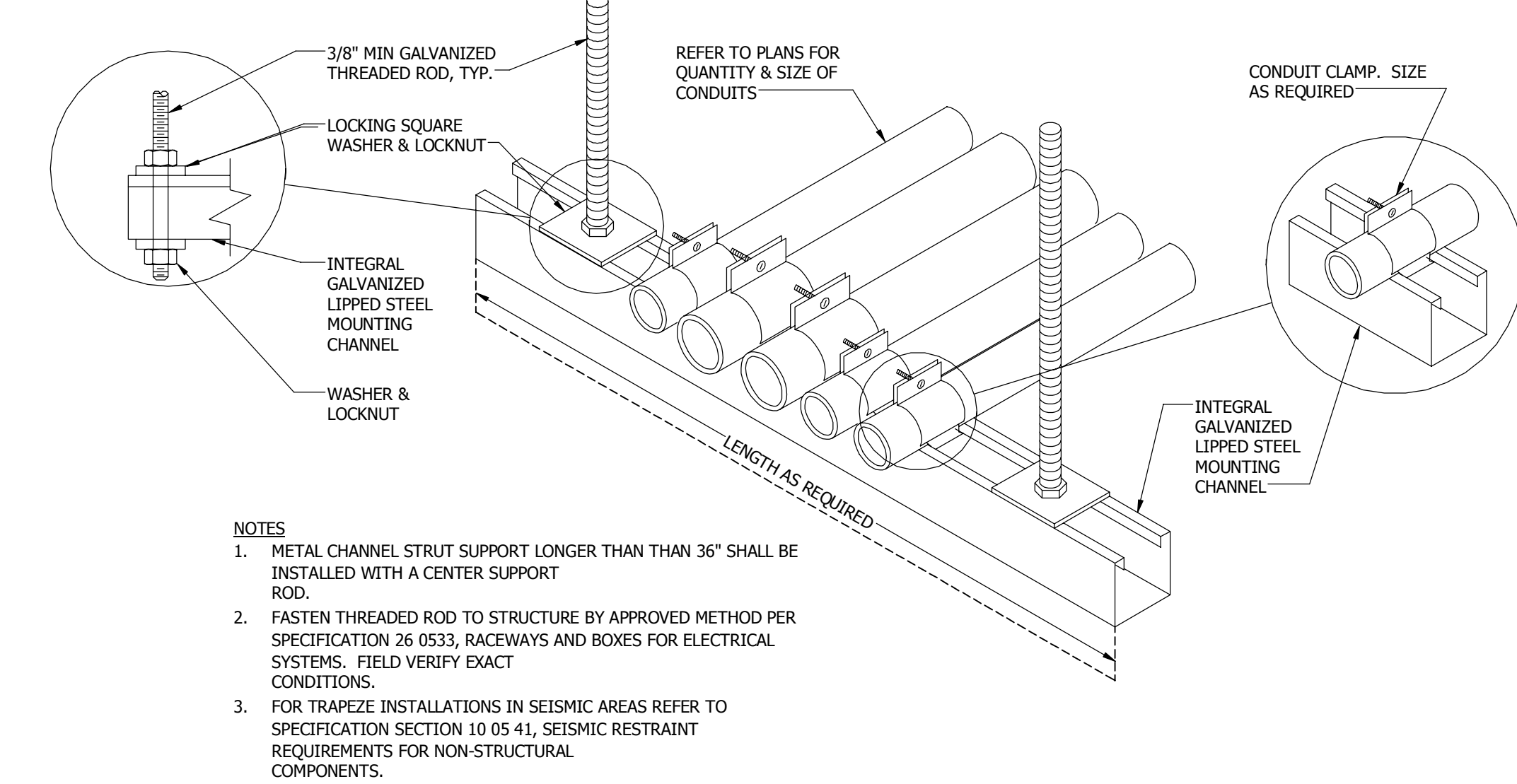
5 BELOW SLAB CONDUIT
NOT TO SCALE



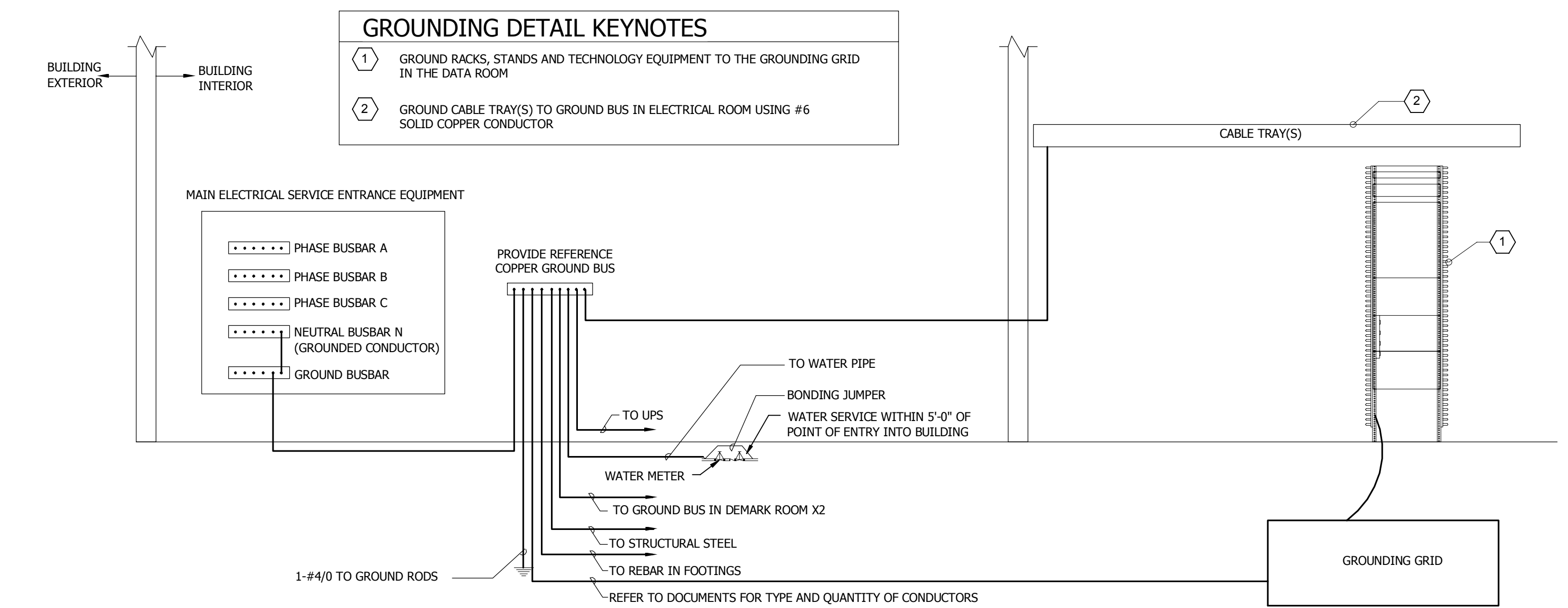
6 ROOF CONDUIT SUPPORT
NOT TO SCALE



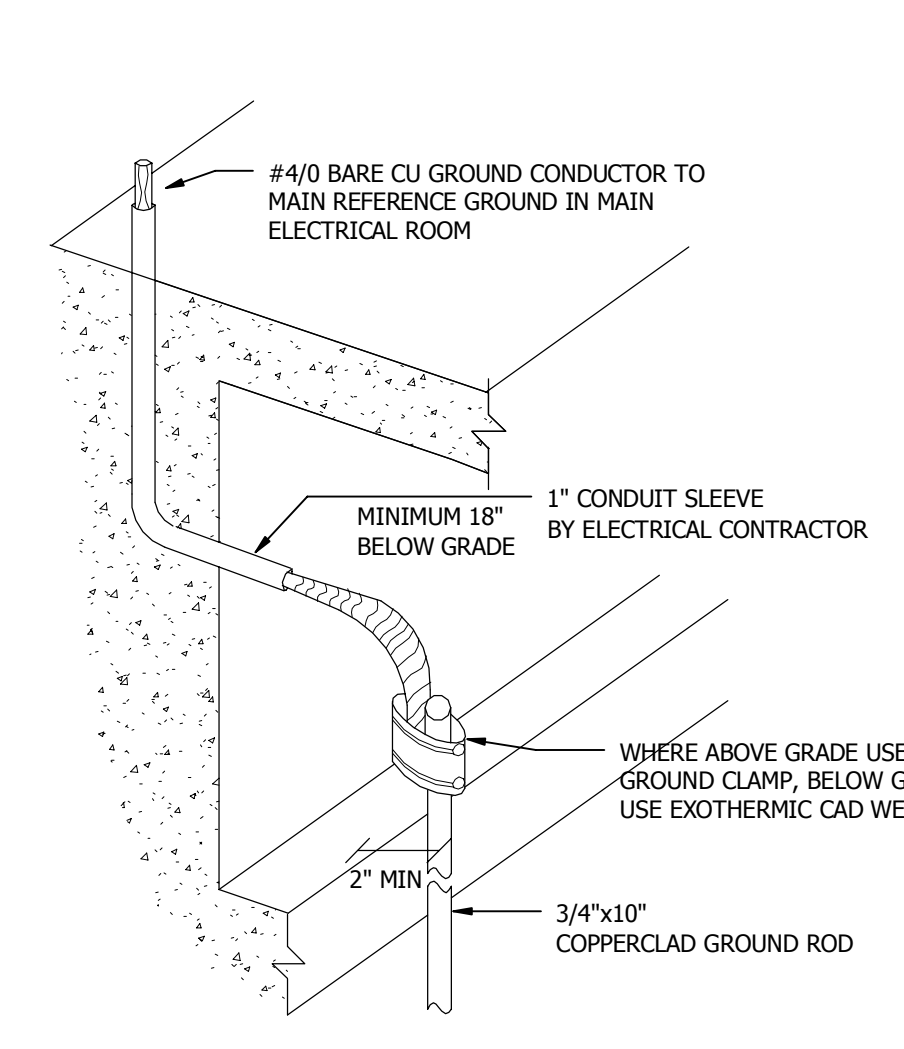
7 VA STANDARD DUCT BANK DETAILS
NOT TO SCALE



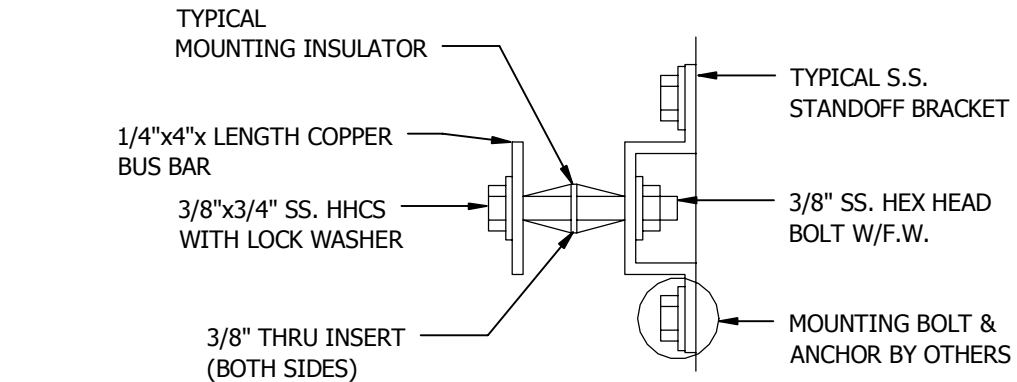
8 CONDUIT TRAPEZE MOUNTING
NOT TO SCALE



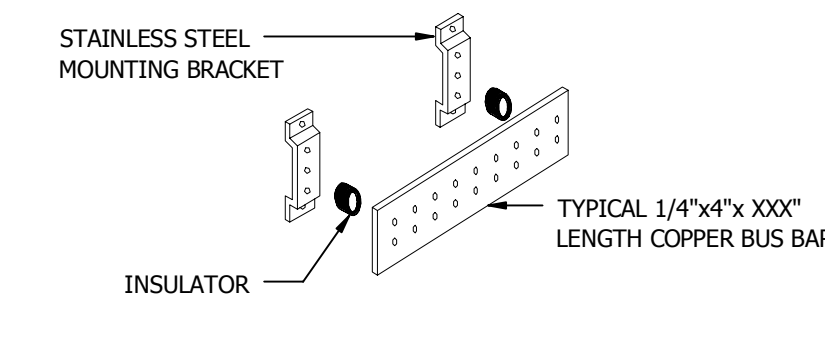
9 TYPICAL ELECTRICAL GROUNDING BUS DETAIL
NOT TO SCALE



10 TYPICAL ELECTRICAL GROUNDING ROD DETAIL
NOT TO SCALE



11 TYPICAL ELECTRICAL GROUNDING BUS INSULATOR DETAIL
NOT TO SCALE



12 TYPICAL ELECTRICAL GROUNDING BUS BAR DETAIL
NOT TO SCALE

CONSTRUCTION DOCUMENTS 100%

NO	REVISION	DATE

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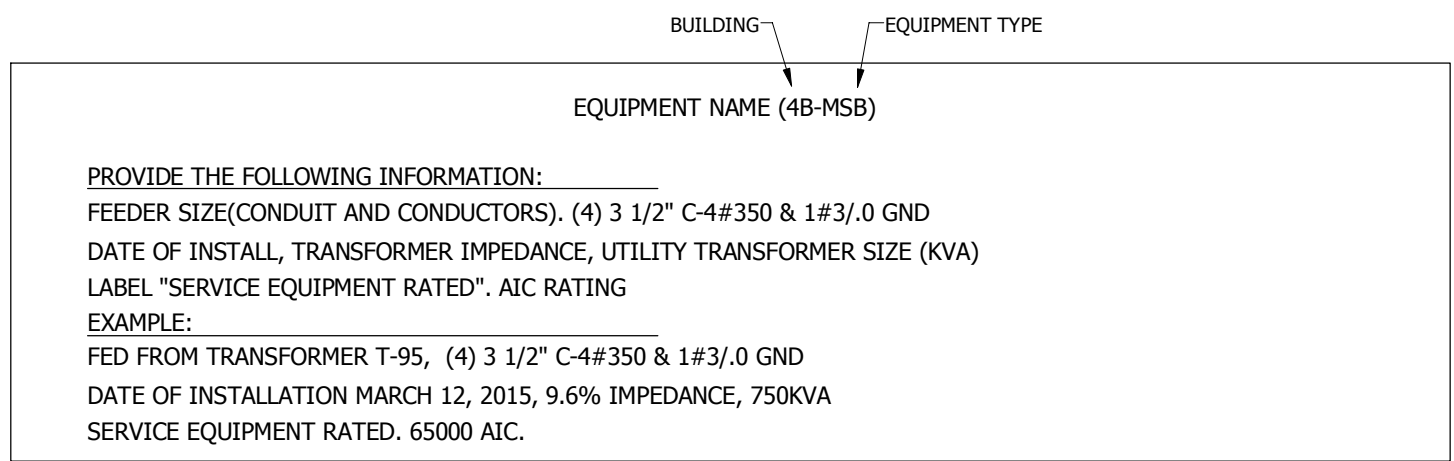
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DRAWING TITLE
ELECTRICAL DETAILS

PROJECT
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION
BLDG/ROOM
NEW IT
DESIGNED BY
RSB
DRAWN BY
ARM
DATE
04.01.15
TYP. SIZE
AS NOTED
PROJECT NO.
656-14246
SHEET NO.
E701

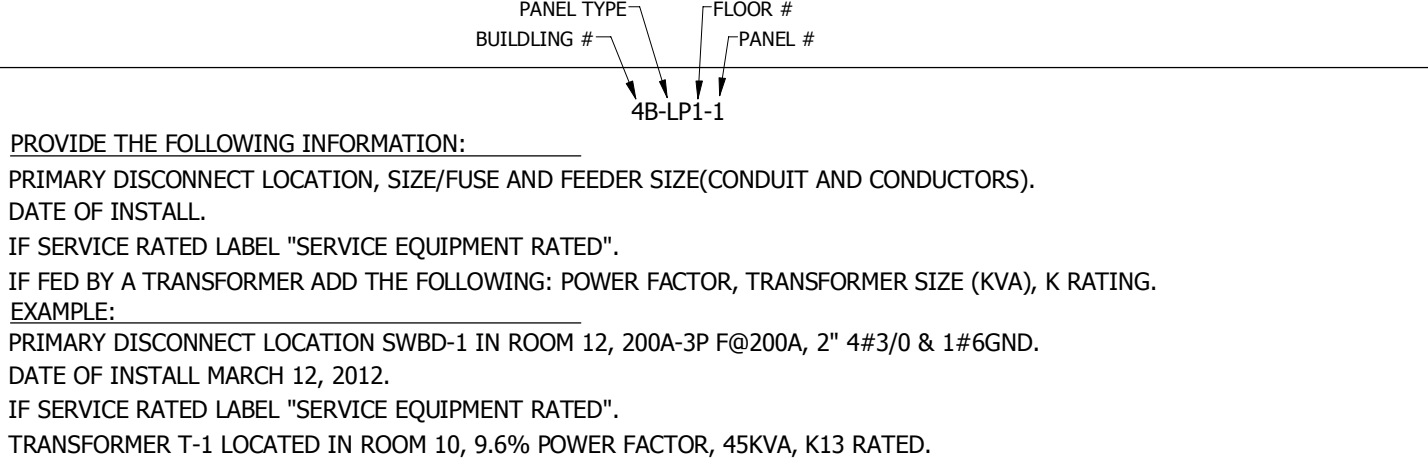


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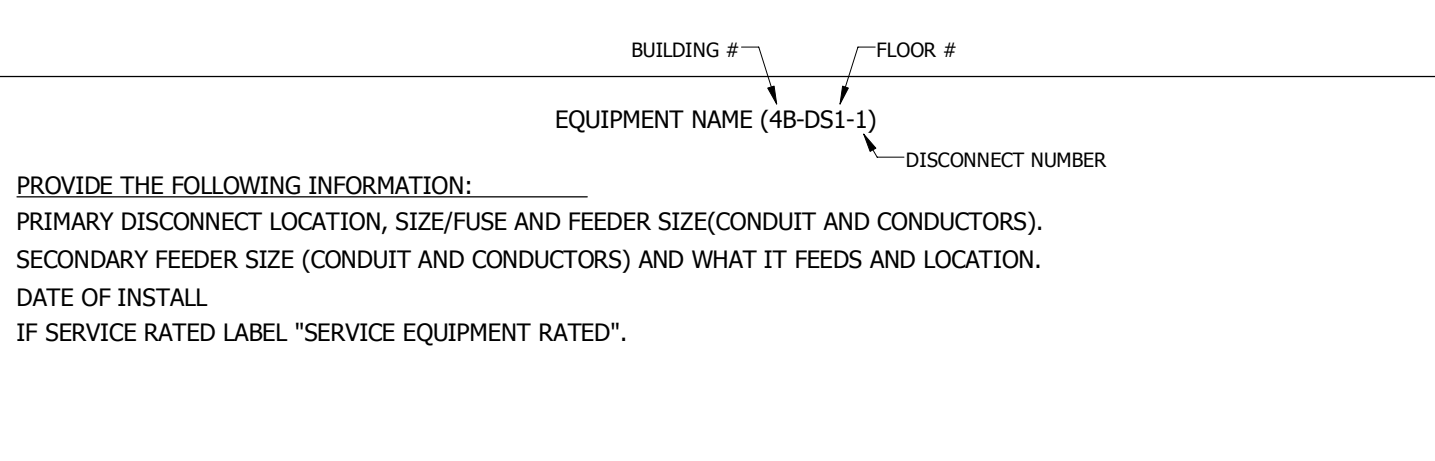
- NOTES:
1. PROVIDE SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.
 2. THE ABOVE LABELING IS MINIMUM REQUIRED. IN ADDITION TO THE MINIMUM REQUIREMENT, ADD ALL LABELING REQUIRED PER THE NEC.
 3. LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT SO IT'S IN SIGHT.

1 SERVICE EQUIPMENT LABEL
NOT TO SCALE



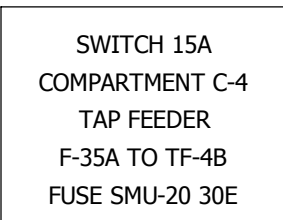
- NOTES:
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 2. THE ABOVE LABELING IS MINIMUM REQUIRED. IN ADDITION TO THE MINIMUM REQUIREMENT, ADD ALL LABELING REQUIRED PER THE NEC.
 3. LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT SO IT'S IN SIGHT.

2 PANEL LABEL
NOT TO SCALE



- NOTES:
1. PROVIDE SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.
 2. THE ABOVE LABELING IS MINIMUM REQUIRED. IN ADDITION TO THE MINIMUM REQUIREMENT, ADD ALL LABELING REQUIRED PER THE NEC.
 3. LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT SO IT'S IN SIGHT.

3 DISCONNECT LABEL
NOT TO SCALE



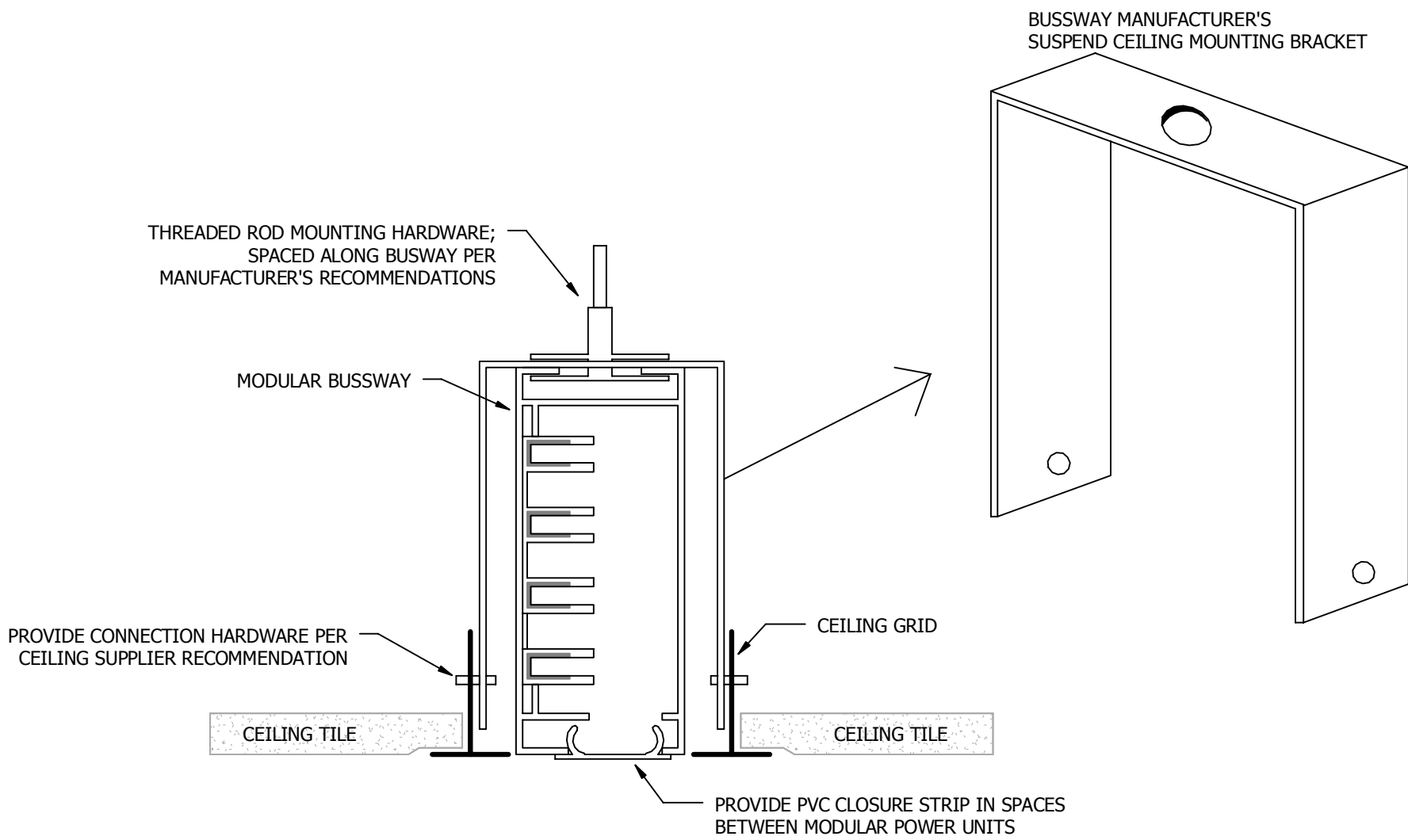
- NOTES:
1. LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT SO IT'S IN SIGHT.

4 MEDIUM VOLTAGE SWITCH LABEL
NOT TO SCALE

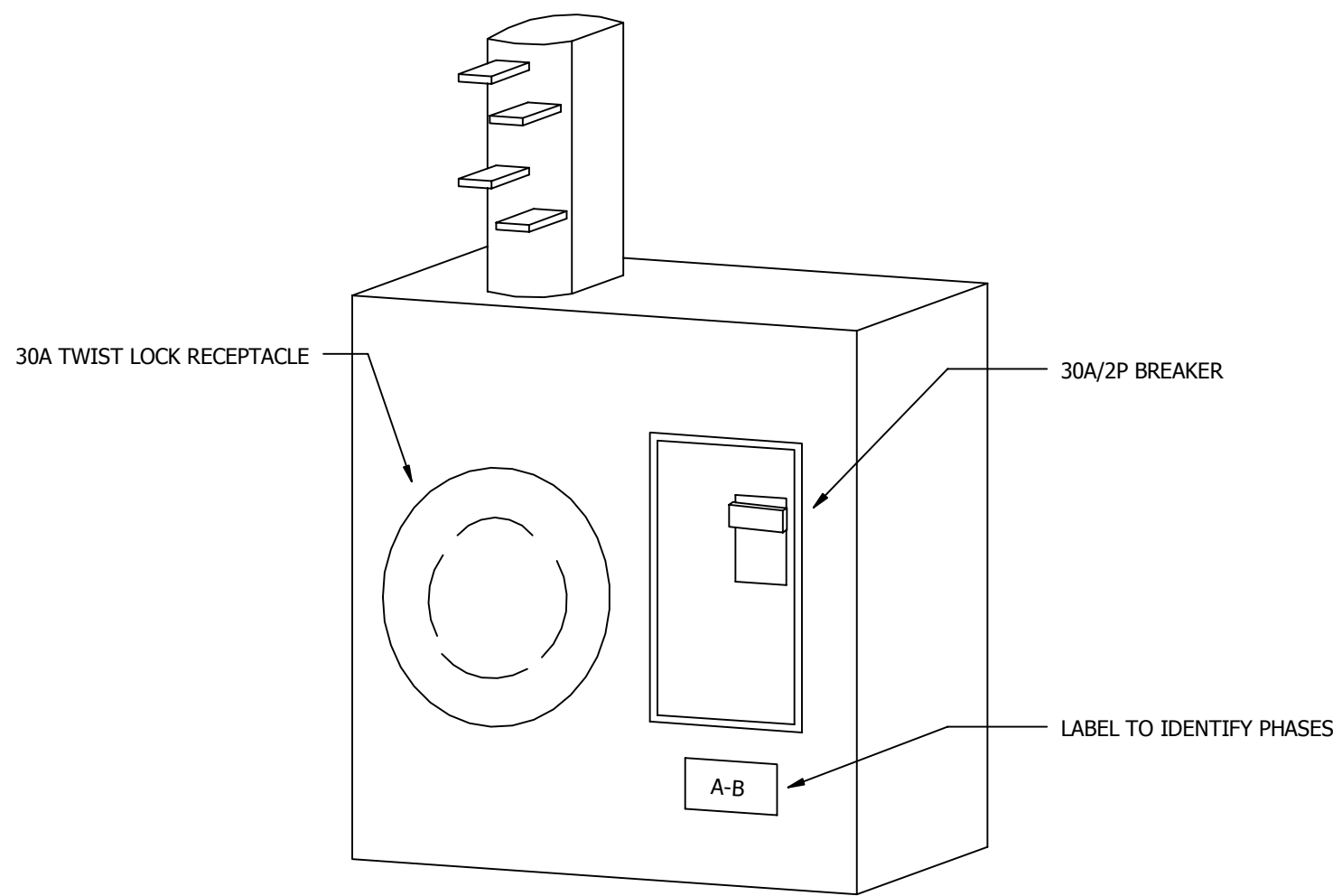


- GENERAL NOTES:
1. PROVIDE MOUNTING HARDWARE FOR MODULAR BUS PER MANUFACTURER RECOMMENDATIONS.
 2. MODULAR BUS MOUNTING HARDWARE SHALL BE MOUNTED TO THE UNISTRUT GRID WHICH IS PROVIDED UNDER THE ARCHITECTURAL DOCUMENTS. PROVIDE ADDITIONAL UNTRACK PEICES AND ACCESSORIES AS NEEDED TO ALIGN UNTRACK WITH MODULAR BUS MOUNTING HARDWARE.
 3. COORDINATE CEILING GRID PEICES AND ACCESSORIES FOR MOUNTING IN THE GRID CEILING WITH THE CEILING SUPPLIER AND MODULAR BUS MANUFACTURER. PROVIDE ALL HARDWARE REQUIRED FOR A COMPLETE INSTALLATION.
 4. NOT ALL EQUIPMENT IS SHOWN.

5 MODULAR BUS ELEVATION (TYPICAL)



6 MODULAR BUSS CROSS SECTION MOUNTING DETAIL
NOT TO SCALE



7 MODULAR POWER UNIT
NOT TO SCALE

CONSTRUCTION DOCUMENTS 100%

NO	REVISION	DATE

VA FORM 05-6231



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JLG 130708

STAMPED
I HEREBY CERTIFY THAT THIS PLAN
SPECIFICATION OR REPORT WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION AND
THAT I AM A LICENSED PROFESSIONAL ENGINEER
REGISTERED UNDER THE LAWS OF THE STATE OF
MINNESOTA

DATE: 04/01/2015

DRAWING TITLE
ELECTRICAL DETAILS

PROJECT
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING
NEW IT

DESIGNED BY
RSB

DRAWN
ARM

CHECKED
E702

SHEET
04.01.15

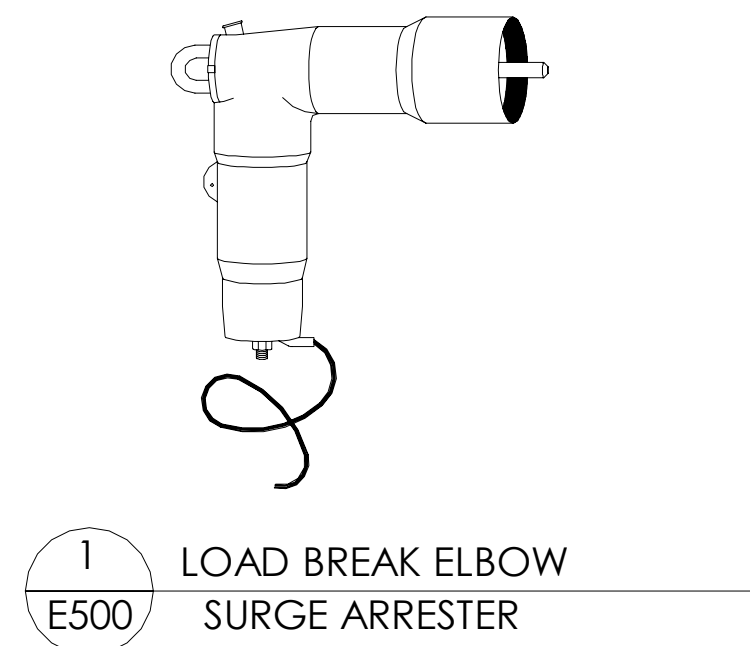
TITLE
AS NOTED

PROJECT NO.
656-14-246

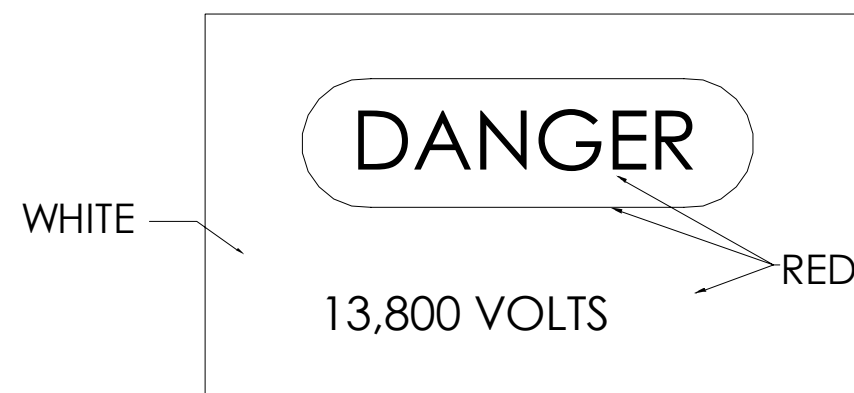


three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

13.8 KV TRANSFORMER SCHEDULE							
NUMBER	TRANSFORMER (By Building)	TYPE	PRIMARY VOLTAGE	SECONDARY VOLTAGE	CONNECTION TYPE	RATING	REMARKS
TF-4B	BUILDING 4	PAD	13.8 KV	480Y/277	DELTA-WYE	750KVA	



1
E500
LOAD BREAK ELBOW
SURGE ARRESTER



NOTE:
USE "DANGER" SIGNS ON ALL DUCTS, PULLBOXES, AND JUNCTION BOXES CONTAINING CONDUCTORS OPERATING AT POTENTIALS OVER 600 VOLTS.
USE "WARNING" SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.

STANDARD PROPORTIONS ALL DIMENSIONS IN INCHES				
SIGN SIZE		RED OVAL		WORD DANGER
Min. Height	Width	Height	Width	Height
3 1/2 x 5		1 7/16 x 4 1/4		23/32

"DANGER" / "WARNING" SIGN



2
E500
EQUIPMENT WARNING SIGNS
NO SCALE

EQUIPMENT NAME

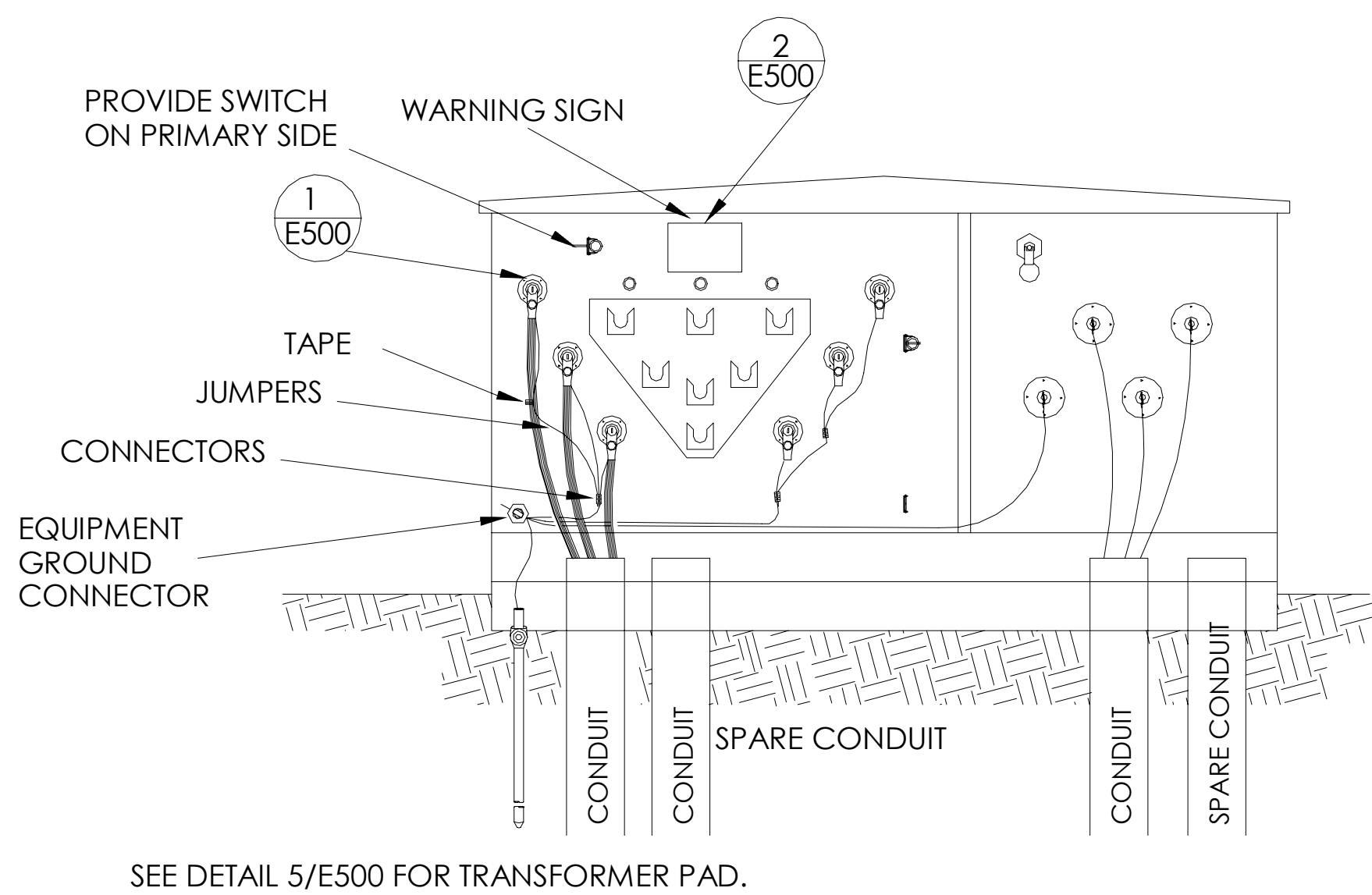
PRIMARY DISCONNECT LOCATION, SIZE/FUSE AND FEEDER SIZE(CONDUIT AND CONDUCTORS).
SECONDARY DISCONNECT LOCATION, SIZE/FUSE AND FEEDER SIZE(CONDUIT AND CONDUCTORS).
DATE, TRANSFORMER POWER FACTOR, TRANSFORMER SIZE IF FEED FROM TRANSFORMER
IF SERVICE RATED LABEL "SERVICE EQUIPMENT RATED".
AIC RATING.

NOTES:
USE "WARNING" SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.
THE ABOVE LABELING IS MINIMUM REQUIRED ALSO ADD ALL LABELING PER NEC.

LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT WITH BOLTS OR RIVETS.



3
E500
EQUIPMENT LABELING SIGNS
NO SCALE

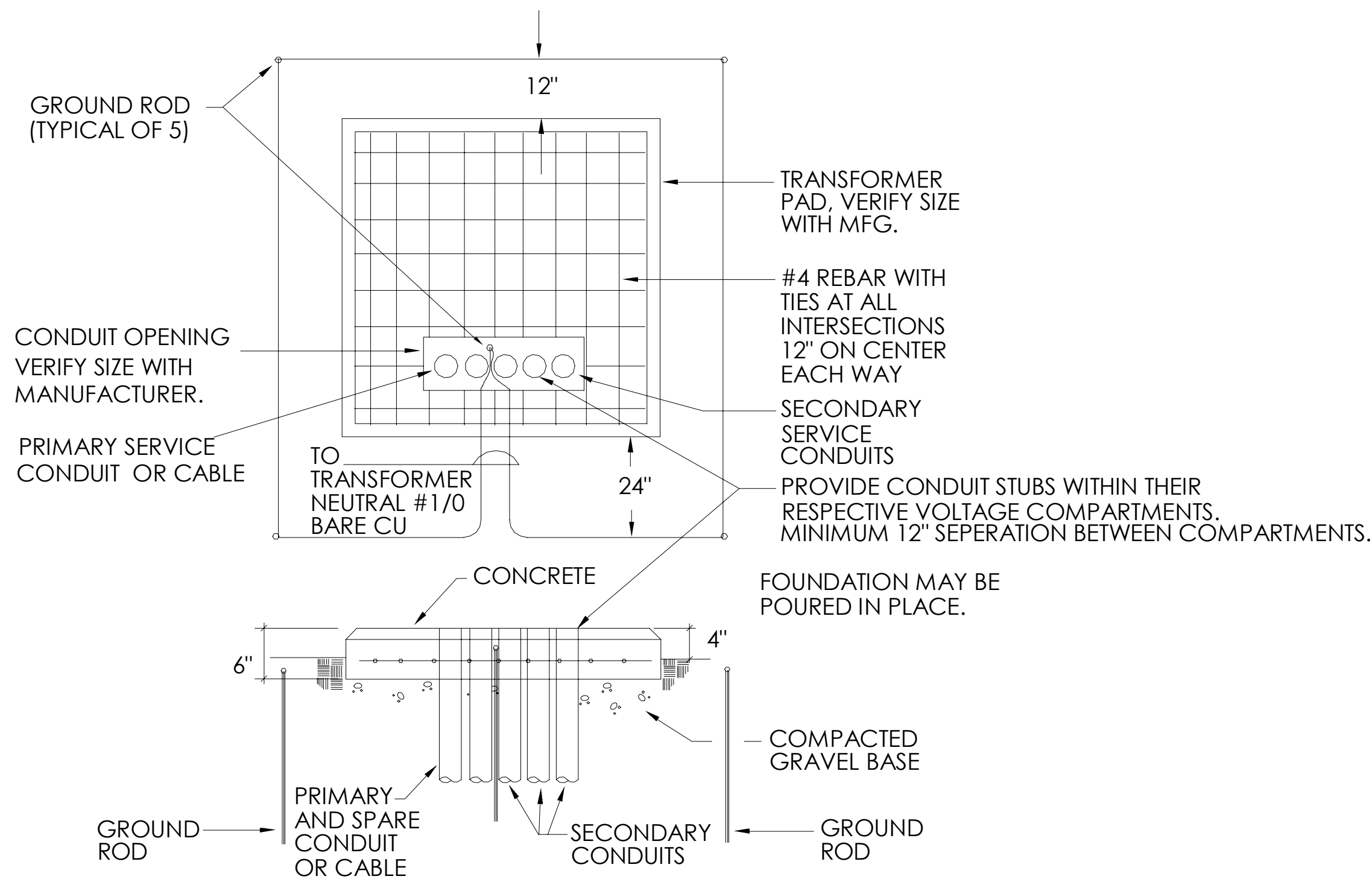


SEE DETAIL 5/E500 FOR TRANSFORMER PAD.

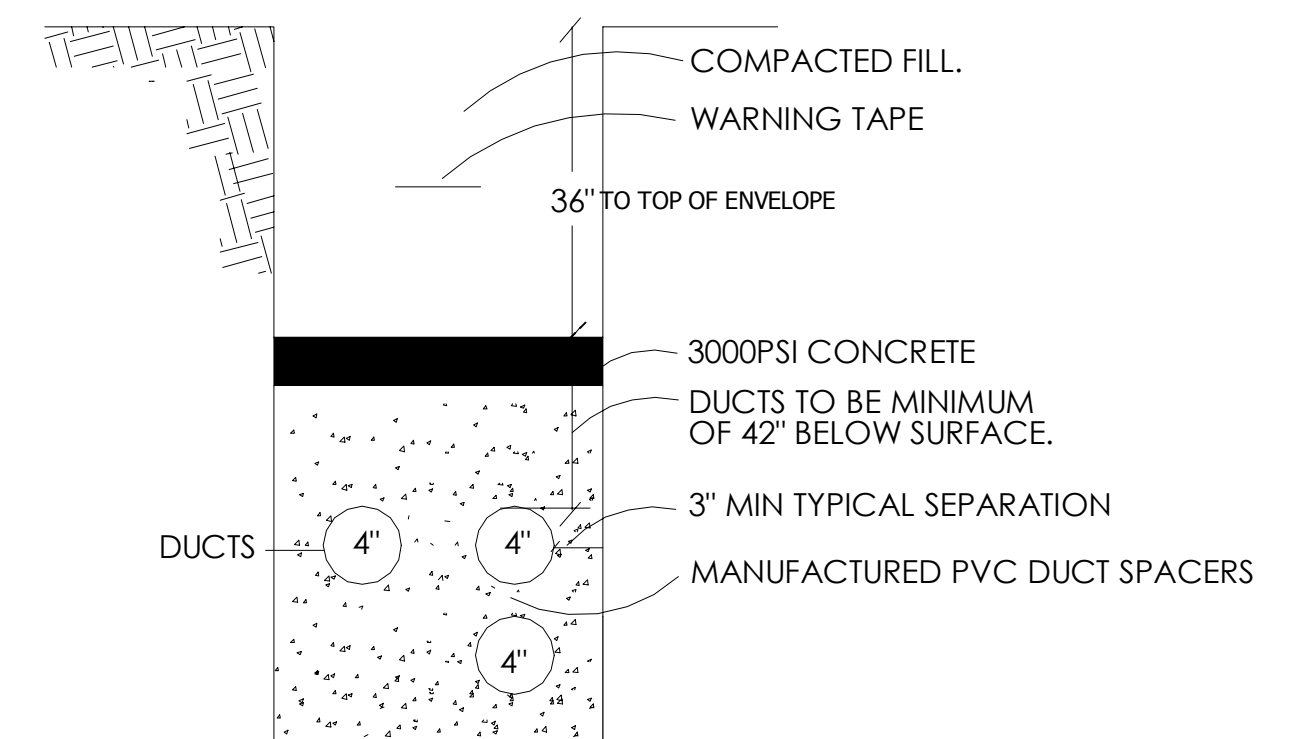


4
E500
THREE PHASE PAD MOUNTED TRANSFORMER
NO SCALE

TRANSFORMER BY CONTRACTOR.
INCLUDING FEATURES:
ADJUSTABLE TAP SETTINGS.
BAYONET FUSES
PRIMARY ROTARY SWITCH (OIL COMPARTMENT)
OIL SAMPLE PORT ON SECONDARY SIDE
LOCKABLE DOOR
SEE SPECIFICATIONS 26-12-19



5
E500
NEW TRANSFORMER PAD DETAIL
NO SCALE



6
E500
DUCTBANK AND TRENCH DETAIL
NO SCALE

CONSTRUCTION DOCUMENTS 100%

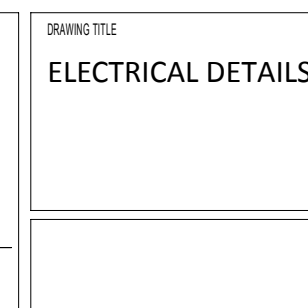
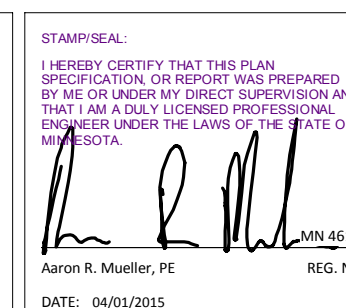


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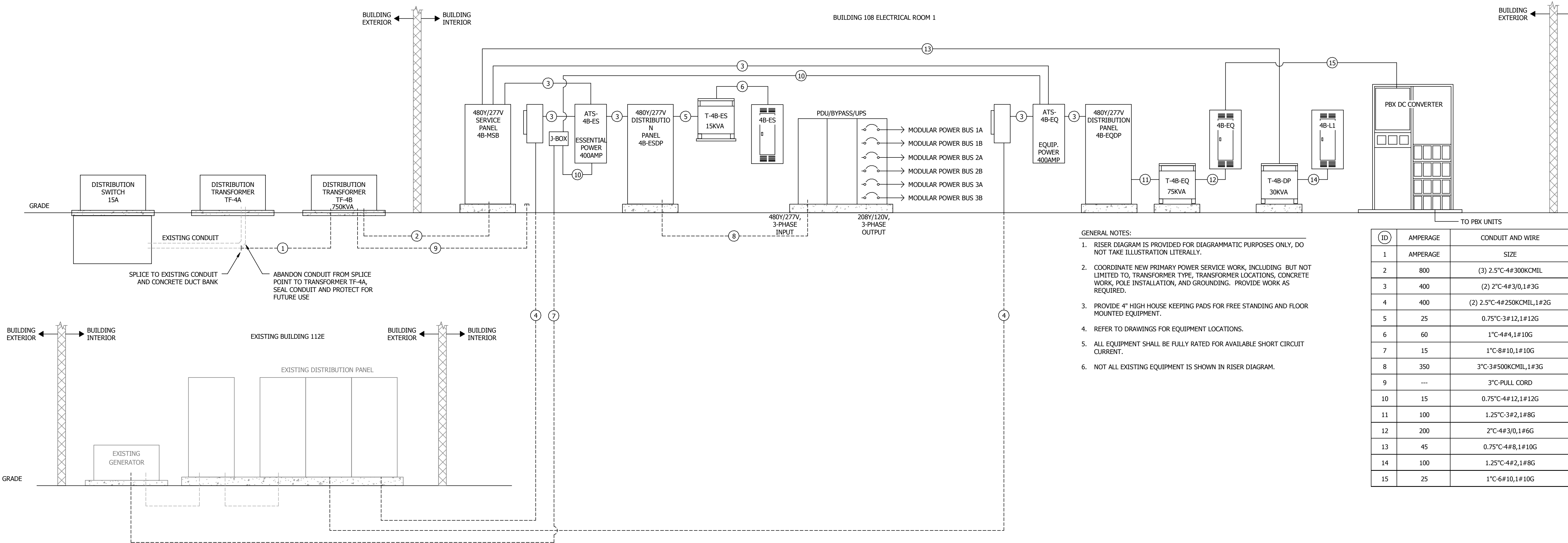


JLG 130708



PROJECT: CONSTRUCT NEW IT CENTER FOR HEALTH CARE TECHNOLOGY MANAGEMENT EXPANSION				DATE 04.01.15
DRAWN BY: NEW IT				DATE 04.01.15
CHECKED BY: RSB				DATE 04.01.15
DESIGNED BY: ARM				DATE 04.01.15
LOCATION: ST. CLOUD VA HCS ST. CLOUD, MN 56303				DATE 04.01.15





- GENERAL NOTES:
1. RISER DIAGRAM IS PROVIDED FOR DIAGRAMMATIC PURPOSES ONLY, DO NOT TAKE ILLUSTRATION LITERALLY.
 2. COORDINATE NEW PRIMARY POWER SERVICE WORK, INCLUDING BUT NOT LIMITED TO, TRANSFORMER TYPE, TRANSFORMER LOCATIONS, CONCRETE WORK, POLE INSTALLATION, AND GROUNDING. PROVIDE WORK AS REQUIRED.
 3. PROVIDE 4" HIGH HOUSE KEEPING PADS FOR FREE STANDING AND FLOOR MOUNTED EQUIPMENT.
 4. REFER TO DRAWINGS FOR EQUIPMENT LOCATIONS.
 5. ALL EQUIPMENT SHALL BE FULLY RATED FOR AVAILABLE SHORT CIRCUIT CURRENT.
 6. NOT ALL EXISTING EQUIPMENT IS SHOWN IN RISER DIAGRAM.

(ID)	AMPERAGE	CONDUIT AND WIRE SIZE
1	AMPERAGE	SIZE
2	800	(3) 2.5" C-4#300KCMIL
3	400	(2) 2" C-4#3/0,1#3G
4	400	(2) 2.5" C-4#250KCMIL,1#2G
5	25	0.75" C-3#12,1#12G
6	60	1" C-4#4,1#10G
7	15	1" C-8#10,1#10G
8	350	3" C-3#500KCMIL,1#3G
9	---	3" C-PULL CORD
10	15	0.75" C-4#12,1#12G
11	100	1.25" C-3#2,1#8G
12	200	2" C-4#3/0,1#6G
13	45	0.75" C-4#8,1#10G
14	100	1.25" C-4#2,1#8G
15	25	1" C-6#10,1#10G

1 RISER DIAGRAM
NOT TO SCALE

CONSTRUCTION DOCUMENTS 100%

NO	REVISION	DATE

VA FORM 05-6231



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JLG 130708

STAMPED
I hereby certify that this plan
specification or report was prepared
by me or under my direct supervision and
that I am a duly licensed professional
engineer under the laws of the state of
Minnesota.

DATE: 04/01/2015

DRAWING TITLE
ELECTRICAL RISER DIAGRAMS

PROJECT
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING
NEW IT

DESIGNED BY
ARM

DRAWN
ARM

CHECKED
DATE

LOCATION
ST. CLOUD VA HCS
ST. CLOUD, MN 56303

DATE
04.01.15

SCALE
AS NOTED

PROJECT NO.
656-14-246

DRAWING NO.
E801



LUMINAIRE SCHEDULE										
ID TAG	TYPE	INPUT LOAD	MOUNTING	LIGHT SOURCE	VOLTAGE/BALLAST	DESCRIPTION	COLOR	APPROVED MANUFACTURER		
A	2x4 ARCHITECTURAL LED TROFFER	40 VA	RECESSED	LED, 4000 MIN. DELIVERED LUMENS, 3,500K, CRI OF 90+	MULTIVOLT/ELECTRONIC DIMING	20-GAUGE STEEL HOUSING, FIELD REPLACEABLE LIGHT ENGINE, POWER SUPPLY, THERMAL MANAGEMENT, AND POSTICAL MIXING COMPONENTS, ONE-PIECE LOWER REFLECTOR WITH A TEXTURED HIGH REFLECTANCE WHITE POLYESTER POWDER COATING, DIFFUSING LENS INTEGRATED WITH UPWARD-FACING LED STRIP TO ELIMINATE DIRECT VIEW OF LEDS WITH LOWER REFLECTOR.	WHITE	CRE24 SERIES, OR EQUAL		
B	6" DOWNLIGHT EXTERIOR WALL	25 VA	RECESSED WALL	LED 1700 LUMENS	120V	OPEN CLEAR		GOTHAM LIGHTING EVO SERIES, OR EQUAL		
C		27 VA		LED (1) 21 LED LIGHT/BAR 80CRI	120V	TWO PIECE, DIE CAST ALUMINUM HOUSING AND REMOVABLE HINGED DOOR FRAME, TYPE 4 DIST., BRONZE IN COLOR, INTEGRAL PHOTOCCELL	BRONZE	COOPER ISW IMPACT ELITE SMALL WEDGE SERIES, OR EQUAL		
D1	4' LED STRIPLIGHT	43 VA	CHAIN HUNG	LED, 3000 DELIVERED LUMENS, 4000K	120V/ELECTRONIC	CODE-GAUGE COLD ROLLED STEEL HOUSING CHANNEL, SNAP ON/OFF LENS DIFFUSER, TOOLLESS CHANNEL COVER REMOVAL	WHITE	LITHONIA ZL2N SERIES, OR EQUAL		
D2	4' LED STRIPLIGHT	43 VA	SURFACE MOUNT	LED, 3000 DELIVERED LUMENS, 4000K	120V/ELECTRONIC	CODE-GAUGE COLD ROLLED STEEL HOUSING CHANNEL, SNAP ON/OFF LENS DIFFUSER, TOOLLESS CHANNEL COVER REMOVAL	WHITE	LITHONIA ZL2N SERIES, OR EQUAL		
E2	EXIT SIGN W/EMERGENCY LIGHTING	6 VA	UNIVERSAL	LED	120V	TERMOPLASTIC IMPACT RESISTANT, SCRATCH RESISTANT, CORROSION RESISTANT HOUSING, LED LAMP HEADS	WHITE W/RED LETTERING	LITHONIA LHQM SERIES, SURE-LITE APCH7R, OR EQUAL		
EX1	EXIT SIGN	6 VA	UNIVERSAL	LED	120V	DIE CAST, BRUSHED ALUMINUM FACE, BLACK HOUSING, RED LETTERS, FACES AND ARROWS AS SHOWN ON PLANS	BRUSHED ALUMINUM FACE, BLACK HOUSING	LITHONIA LE SERIES, OR EQUAL		
EX2	EXIT SIGN W/EMERGENCY LIGHTING	6 VA	UNIVERSAL	LED	120V	TERMOPLASTIC IMPACT RESISTANT, SCRATCH RESISTANT, CORROSION RESISTANT HOUSING, LED LAMP HEADS	WHITE W/RED LETTERING	LITHONIA LHQM SERIES, SURE-LITE APCH7R, OR EQUAL		
EX3	EXIT SIGN	5 VA	UNIVERSAL	LED	120V	TERMOPLASTIC IMPACT RESISTANT, SCRATCH RESISTANT, CORROSION RESISTANT HOUSING	WHITE HOUSING, RED LETTERING	LITHONIA LQM SERIES, OR EQUAL		
F	LED STAIR LIGHT	24 VA	SURFACE/WALL	LED; 2505 DELIVERED LUMENS, 3500K	120V/ELECTRONIC	INTEGRAL OCCUPANY SENSOR TO DIM LIGHT TO 25% ON WHEN UNOCCUPIED AND 100% ON WHEN OCCUPIED, HIGH IMPACT ACRYLIC DIFFUSER, CRESCENT-SHAPE LINEAR FACETED REFRACTOR SYSTEM, CODE GAUGE ROLLED STEEL HOUSING	WHITE POLYESTER POWDER COAT	LITHONIA WL SERIES, OR EQUAL		

SWITCHBOARD: 4B-MSB					
LOCATION: ELECTRICAL 111 ENCLOSURE: NEMA 1 MOUNTING: FREE STANDING			VOTLS: 480Y/277 PHASES: 3 WIRES: 4		BUSS RATING: 1000 A MAINS TYPE: BREAKER MAINS RATING: 800 A
CKT	DESCRIPTION	POLES	RATING	LOAD	NOTES
1	4B-ESDP	3	400 A	248.145	100% RATED BREAKER
2	4B-EQDP	3	400 A	226.854	100% RATED BREAKER
3	T-4B-DP	3	20 A	10.871	
4	CU-4	3	20 A	9.650	
5	CU-7	3	15 A	5.000	
6	CU-8	3	20 A	9.650	
7	AHU-1	3	15 A	1.000	
8	AHU-2	3	15 A	1.000	
9	AHU-3	3	20 A	1.000	
10	AHU-4	3	15 A	1.500	
11	SPARE	3	100 A		
12	SPARE	3	20 A		
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
TOTAL CONNECTED LOAD				514670	TOTAL CALCULATED LOAD: 620 AMPS
NOTES: 1. 100% RATED MAIN BREAKER 2. PROVIDE INTEGRAL SPD					

MOTOR AND EQUIPMENT SCHEDULE														
EQUIPMENT ID	LOCATION	EQUIPMENT DATA			VOLTS	PHASE	DISCONNECT			STARTER DATA		FEEDER SIZE	NOTES	
		HP	FLA	KW			PROVIDED BY	AMPS/POLES	FUSES	LOCATION	PROVIDED BY			TYPE/SIZE
AC-1	ELECTRICAL RM 111	19.8		25	480	3						0.75"C-3#10,1#10G		
AHU-1	MECHANICAL RM 113	1.0		15	480	3	MECH					0.75"C-3#12,1#12G		
AHU-2	MECHANICAL RM 113	1		15	480	3	MECH					0.75"C-3#12,1#12G		
AHU-3	MECH ROOM 002	1.0		15	480V	3	MECH				MECH	0.75"C-3#12,1#12G		
AHU-4	MECH RM 2 004	1.75		15	480V	3	MECH				MECH	0.75"C-3#12,1#12G		
CRAC-1	MECHANICAL RM 3	59.6		80	480	3	MECH				AT UNIT	1"C-3#3,1#8G		
CRAC-2	MECHANICAL RM 3	59.6		80	480	3	MECH				AT UNIT	MECH	1"C-3#3,1#8G	
CRAC-3	MECHANICAL RM 3	59.6		80	480	3	MECH				AT UNIT	MECH	1"C-3#3,1#8G	
CU-1	EXTERIOR	5.6		15	480V	3	MECH				AT UNIT	MECH	0.75"C-3#12,1#12G	
CU-2	EXTERIOR	5.6		15	480V	3	MECH				AT UNIT	MECH	0.75"C-3#12,1#12G	
CU-3	EXTERIOR	4656		15	480V	3	MECH				AT UNIT	MECH	0.75"C-3#12,1#12G	
CU-4	EXTERIOR	11.6		20	480	3	ELEC	30A/3P			NEAR UNIT	MECH	0.75"C-3#12,1#12G	
CU-5	EXTERIOR	11.7		20	480	3	MECH					MECH	0.75"C-3#12,1#12G	
CU-6	EXTERIOR	12.4		20	208V	1	ELEC	30A/3P			AT UNIT	MECH	0.75"C-2#12,1#12G	
CU-7	EXTERIOR	6		15	480V	3	ELEC	30A/3P			AT UNIT	MECH	0.75"C-3#12,1#12G	
CU-8	EXTERIOR	11.6		20	480	3	ELEC	30A/3P			AT UNIT	MECH	0.75"C-3#12,1#12G	
CUH-1	ENTRY 101			15	120V	1	ELEC				AT UNIT	MECH	0.75"C-2#12,1#12G	
CUH-2	STAIRWELL-2 RM 115-2			15	120V	1	ELEC				AT UNIT	MECH	0.75"C-2#12,1#12G	
CUH-3	BASEMENT BUILDING 4			15	120V	1	ELEC				AT UNIT	MECH	0.75"C-2#12,1#12G	
P-1	MECHANICAL ROOM 002			15A	120V	1					ELEC	MS	AT UNIT	
P-2	MECHANICAL ROOM 002			15A	120V	1					ELEC	MS	AT UNIT	
RPB-1	MECHANICAL RM 3	7.0		15	480V	3	MECH				AT UNIT	MECH	0.75"C-3#12,1#12G	
RPB-2	MECHANICAL RM 3	7.0		15	480V	3	MECH				AT UNIT	MECH	0.75"C-3#12,1#12G	
RPB-3	MECHANICAL RM 3	7.0		15	480V	3	MECH				AT UNIT	MECH	0.75"C-3#12,1#12G	
SP-1	UTILITY RM 001			15A	120V	1	MECH				AT UNIT	MECH	0.75"C-2#12,1#12G	
SP-2	UTILITY RM 001			15A	120V	1	MECH				AT UNIT	MECH	0.75"C-2#12,1#12G	
UH-1	MECHANICAL RM 3		2		120	1	ELEC				NEAR UNIT		0.75"C-2#12,1#12G	
NOTES:										LEGEND:				
1. -----										FRAC = FRACTIONAL HORSEPOWER MS = MANUAL MOTOR STARTER VFD = VARIABLE FREQUENCY DRIVE SSRV = SOLID STATE REDUCED VOLTAGE STARTER FVNR = FULL VOLTAGE NON-REVERSING STARTER M = MOTOR RATED SWITCH MANUF = PROVIDE FUSES PER MANUFACTURER RECOMMENDATIONS MECH = PROVIDED BY EQUIPMENT SUPPLIER OR WITH EQUIPMENT ELEC = PROVIDED UNDER DIVISION 26				

PANELBOARD SCHEDULE		NAME: 4B-L1		CIRCUIT BREAKER: X				MAIN RATING: 100A								
		LOCATION: ELECTRICAL ROOM		MAIN LUGS ONLY:				VOLTAGE: 208Y/120								
		MOUNTING: SURFACE		WIRES: 4				PHASE: 3								
CKT	CIRCUIT DESCRIPTION			TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION		CKT
1	R. EXTERIOR			20 A	1	540	1260						1	20 A	R. RM 6	2
3	R. RMS 001, 002, 003			20 A	1			900	540				1	20 A	R. RM 16	4
5	L. RMS 105, 111, 113			20 A	1					381	540		1	20 A	R. RM. 17	6
7	L. RMS 001, 002, 003, 023			20 A	1	645	540						1	20 A	R. RM 111, 113	8
9	CU-6			20 A	2			1290	1500				1	20 A	DEMARC RM LIGHTNING ARRESTORS	10
11				20 A	1					1290	0		1	20 A	SPARE	12
13	CABINET UNIT HEATERS CUH-1, CUH-2			20 A	1	1000	0						1	20 A	SPARE	14
15	SPARE			20 A	1			0	0				1	20 A	SPARE	16
17	SPARE			20 A	1					0	0		1	20 A	SPARE	18
19	SPARE			20 A	1	0	0						1	20 A	SPARE	20
21	SPARE			20 A	1			0	0				1	20 A	SPARE	22
23	SPARE			20 A	1					0	0		1	20 A	SPARE	24
25	SPARE			20 A	1	0	0						1	20 A	SPARE	26
27	SPARE			20 A	1			0	0				1	20 A	SPARE	28
29	SPARE			20 A	1					0	0		1	20 A	SPARE	30
31	SPARE			20 A	1	0	0						1	20 A	SPARE	32
33	SPACE			--	--			0	0			--	--	SPACE		34
35	SPACE			--	--					0	0	--	--	SPACE		36
37	SPACE			--	--	0	0					--	--	SPACE		38
39	SPACE			--	--			0	0			--	--	SPACE		40
41	SPACE			--	--					0	0	--	--	SPACE		42
TOTAL CONNECTED LOAD				10425 VA		TOTAL CALCULATED DEMAND				10871		TOTAL CALCULATED AMPS				30
GENERAL NOTES:						KEY NOTES:										
1.						* GFCCI RATED BREAKER										
2.						** PROVIDE HACR RATED BREAKER										
3.						*** ISOLATED GROUND CIRCUIT										

CONSTRUCTION DOCUMENTS 100%

No

REVISION

DATE

Design Tree

ENGINEERING AND LAND SURVEYING

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LEGIBILITY: CERTIFY THAT THIS PLAN
SPECIFICALLY ON REPORT WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION AND
I AM A LICENSED PROFESSIONAL ENGINEER
REGISTERED UNDER THE LAWS OF THE STATE OF
MINNESOTA

DATE: 04/01/2015

REG. NO.

DESIGNED BY
NEW IT

DESIGNED BY
RSB

DRAWN BY
ARM

CHECKED BY
DATE

PROJECT
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

DATE
04.01.15

FILE NO.
AS NOTED

PROJECT NO.
656-14-246

LOCATION
ST. CLOUD VA HCS
ST. CLOUD, MN 56303

DRAWING NO.
E901

St. Cloud VA

Health Care System

Brainerd | Montevideo | Alexandria

PANELBOARD SCHEDULE		NAME: 4B-ESDP		CIRCUIT BREAKER: X		MAIN RATING: 400							
		LOCATION: ELECTRICAL RM 111		MAIN LUGS ONLY:		VOLTAGE: 480Y/277							
		MOUNTING: SURFACE		WIRES: 4		PHASE: 3							
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1				81200	2147								2
3	UPS AC RECTIFIER INPUT	350 A	3			81200	1484						4
5								81200	2000				6
7				0	0								8
9	SPARE	20 A	3			0	0						10
11								0	0				12
13	SPACE	--	--	0	0					--	--	SPACE	14
15	SPACE	--	--			0	0			--	--	SPACE	16
17	SPACE	--	--					0	0	--	--	SPACE	18
19	SPACE	--	--	0	0					--	--	SPACE	20
21	SPACE	--	--			0	0			--	--	SPACE	22
23	SPACE	--	--					0	0	--	--	SPACE	24
25	SPACE	--	--	0	0					--	--	SPACE	26
27	SPACE	--	--			0	0			--	--	SPACE	28
29	SPACE	--	--					0	0	--	--	SPACE	30
TOTAL CONNECTED LOAD		249231 VA				TOTAL CALCULATED DEMAND		248145				TOTAL CALCULATED AMPS	298
GENERAL NOTES:						KEY NOTES:							
1. PROVIDE INTEGRAL SPD						* GFCCI RATED BREAKER							
2. 100% RATED MAIN BREAKER						** PROVIDE HACR RATED BREAKER							
3.						*** ISOLATED GROUND CIRCUIT							

PANELBOARD SCHEDULE		NAME: 4B-EQDP		CIRCUIT BREAKER: X		MAIN RATING: 400								
		LOCATION: ELECTRICAL RM 111		MAIN LUGS ONLY:		VOLTAGE: 480Y/277								
		MOUNTING: SURFACE		WIRES: 4		PHASE: 3								
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT	
1	SPARE	20 A	3	0	16667					3	80 A	CRAC-1	2	
3						0	16667						4	
5								0	16667					6
7	RPB-1	15 A	3	1940	16667					3	80 A	CRAC-2	8	
9						1940	16667						10	
11								1940	16667				12	
13	RPB-2	15 A	3	1940	16667					3	80 A	CRAC-3	14	
15						1940	16667						16	
17								1940	16667				18	
19	RPB-3	15 A	3	1940	1552					3	15 A	CU-1	20	
21						1940	1552						22	
23								1940	1552				24	
25	AC-1	25 A	3	5487	1552					3	15 A	CU-2	26	
27						5487	1552						28	
29								5487	1552				30	
31	SPARE	15 A	3	0	1552					3	15 A	CU-3	32	
33						0	1552						34	
35								0	1552				36	
37	T-4B-EQ	20 A	3	4700	3215					3	20 A	CU-5	38	
39						1920	3215						40	
41								4420	3215				42	
TOTAL CONNECTED LOAD		227894 VA		TOTAL CALCULATED DEMAND						226714		TOTAL CALCULATED AMPS		273
GENERAL NOTES:				KEY NOTES:										
1. PROVIDE INTEGRAL SPD				* GFCCI RATED BREAKER										
2. 100% RATED MAIN BREAKER				** PROVIDE HACR RATED BREAKER										
3.				*** ISOLATED GROUND CIRCUIT										

PANELBOARD SCHEDULE				NAME: 4B-ES		CIRCUIT BREAKER: X		MAIN RATING: 60					
				LOCATION: ELECTRICAL RM 111		MAIN LUGS ONLY:		VOLTAGE: 208Y/120					
				MOUNTING: SURFACE		WIRES: 4		PHASE: 3					
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	L RMS 001	20 A	1	356	291					1	20 A	L RM 107	2
3	L RMS 101,103-2, 111, 113, 115-2	20 A	1			403	81			1	20 A	L EXTERIOR	4
5	CLEAN AGENT CONTROL PANEL	20 A	1					1000	500	1	20 A	JOHNSON CONTROLS PANEL	6
7	EARLY WARNING AIR SAMPLING CONTROL PANEL 1	20 A	1	1000	0					1	20 A	SPARE	8
9	EARLY WARNING AIR SAMPLING CONTROL PANEL 1	20 A	1			1000	0			1	20 A	SPARE	10
11	PA SYSTEM EQUIPMENT	20 A	2					500	0	1	20 A	SPARE	12
13				500	0					1	20 A	SPARE	14
15	SPARE	20 A	1			0	0			1	20 A	SPARE	16
17	SPARE	20 A	1					0	0	1	20 A	SPARE	18
19	SPARE	20 A	1	0	0					1	20 A	SPARE	20
21	SPARE	20 A	1			0	0			1	20 A	SPARE	22
23	SPARE	20 A	1					0	0	1	20 A	SPARE	24
25	SPARE	20 A	1	0	0					1	20 A	SPARE	26
27	SPARE	20 A	1			0	0			1	20 A	SPARE	28
29	SPARE	20 A	1					0	0	1	20 A	SPARE	30
TOTAL CONNECTED LOAD		5631 VA		TOTAL CALCULATED DEMAND		4545		TOTAL CALCULATED AMPS		13			
GENERAL NOTES:				KEY NOTES:									
1.				* GFCCI RATED BREAKER									
2.				** PROVIDE HACR RATED BREAKER									
3.				*** ISOLATED GROUND CIRCUIT									


PANELBOARD SCHEDULE		NAME: 4B-EQ		CIRCUIT BREAKER: X				MAIN RATING: 200						
		LOCATION: ELECTRICAL RM 111		MAIN LUGS ONLY:				VOLTAGE: 208Y/120						
		MOUNTING: SURFACE		WIRES: 4				PHASE: 3						
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT	
1	R. RM 6	20 A	1	720	360					1	20 A	R. RM 113,002, 105	2	
3	R. RM. 16	20 A	1			360	360			1	20 A	R. RM 4	4	
5	MECHANICAL ROOM 002 HW AND GLYCOL PUMPS	20 A	1					1000	360	1	20 A	R. RM 16	6	
7	SUMP PUMP SP-1	20 A	1	1000	360					1	20 A	R. RM. 16	8	
9	SUMP PUMP SP-1	20 A	1			1000	200			1	20 A	UH-1	10	
11	R. RMS 002, 003, 004	20 A	1					540	440	1	20 A	L RMS 107, 109	12	
13	DOOR ELECTRIC STRIKES	20 A	1	500	180					1	20 A	RM 003 CENTURYLINK EQUIPMENT	14	
15	SECURITY CONTROL	20 A	1			500	0			1	20 A	SPARE	16	
17	SPARE	20 A	1					0	0	1	20 A	SPARE	18	
19	SPARE	20 A	1	0	0					1	20 A	SPARE	20	
21	SPARE	20 A	1			0	2080			2	25 A	DC POWER CONVERTER RECTIFIER 1	22	
23	SPARE	20 A	1					0	2080				24	
25	SPARE	20 A	1	0	2080					2	25 A	DC POWER CONVERTER RECTIFIER 1	26	
27	SPARE	20 A	1			0	2080						28	
29	SPARE	20 A	1					0	2080				30	
31	SPARE	20 A	1	0	2080					2	25 A	DC POWER CONVERTER RECTIFIER 1	32	
33	SPARE	20 A	1			0	0			1	20 A	SPARE	34	
35	SPARE	20 A	1					0	0	1	20 A	SPARE	36	
37	SPARE	20 A	1	0	0					1	20 A	SPARE	38	
39	SPARE	20 A	1			0	0			1	20 A	SPARE	40	
41	SPARE	20 A	1					0	0	1	20 A	SPARE	42	
TOTAL CONNECTED LOAD		20360 VA		TOTAL CALCULATED DEMAND						19320		TOTAL CALCULATED AMPS		53
GENERAL NOTES:				KEY NOTES:										
1.				* GFCCI RATED BREAKER										
2.				** PROVIDE HACR RATED BREAKER										
3.				*** ISOLATED GROUND CIRCUIT										

CONSTRUCTION DOCUMENTS 100%

NO

REVISION

DATE



Design Tree


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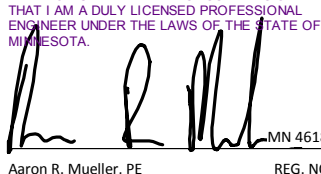
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BY AN ARCHITECT OR ENGINEER
REGISTERED UNDER THE LAWS OF THE STATE OF
MINNESOTA



AARON K. MUELLER, PE
DATE: 04/01/2015

REG. NO.

DRAWING TITLE

ELECTRICAL SCHEDULES

PROJECT DATA

CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING

NEW IT

DESIGNED BY

RSB

DRAWN

ARM

CHECKED

DATE

DATE

04.01.15

FILED

AS NOTED

PROJECT

656-14-246

ST. CLOUD VA HCS
ST. CLOUD, MN 56303

E902



St. Cloud VA
Health Care System

Brainerd | Montevideo | Alexandria

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