NIST

325 BROADWAY ST
BOULDER, CO 80305

2

DRAWING LOG

nPwr™ Inc.
Design-Build Electrical
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Indianapolis, IN 46236
P# (317) 723-3375
F# (317) 826-8264

#	SHEET TITLE	REVIEW SET 2020.05.05	CONSTRUCTION SET 2020.05.13	REVISION 1 2020.11.05	REVISION 2 2020.11.13
E0.0	TITLE SHEET	•	•	•	
E0.1	SYMBOLS AND ABBREVIATIONS	•	•		
E1.0	SITE	•	•	•	
E1.1	SITE ELECTRICAL WORK AREA				•
E3.0	PAD POWER	•	•	•	•
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E8.1	SINGLE LINE DIAGRAM	•	•	•	

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE DRAWINGS & SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

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REV	DATE	DESCRIPTION
1	2020.11.06	RENAMED PANELS
2	2020.11.16	SITE ELECTRICAL WORK AREA ADDED

JOB NO : 19056

DRAWN BY : MB

ISSUE DATE : CONSTRUCTION SET 2020.05.13

E0.0
TITLE SHEET

SCHEMATICS

SYMBOL	DESCRIPTION
	CAPACITOR
	CIRCUIT BREAKER - OPEN
	CIRCUIT BREAKER - CLOSED
	PRIMARY DRAW OUT
	LOW VOLTAGE DRAW OUT CIRCUIT BREAKER
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
CT	CURRENT TRANSFORMER CABINET
M	METER
	UNFUSED DISCONNECT
	FUSED DISCONNECT
	FUSE
	OVERLOAD RELAY
	GROUNDING CONNECTION
K	KIRK KEY INTERLOCK SYSTEM
M	MOTOR
ST	SHUNT TRIP
	MAGNETIC STARTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
G	GENERATOR
	TRANSFORMER

CIRCUITRY & RACEWAYS

SYMBOL	DESCRIPTION
	CONDUIT CONCEALED IN FINISHED AREAS, EXPOSED IN UNFINISHED AREAS
	UNDERGROUND CONDUIT
	MC CABLE
	LOW VOLTAGE WIRE
	END OF RUN, CAP & STAKE
	CONDUIT STUB UP
	RUN CONTINUATION INDICATION
	FLEXIBLE CONNECTION TO EQUIPMENT
	HOMERUN TO PANELBOARD

MOTORS

SYMBOL	DESCRIPTION
	DISCONNECT SWITCH, UNFUSED TYPE, SIZE AS INDICATED ON PANEL SCHEDULE OR ONE-LINE DIAGRAM.
	DISCONNECT SWITCH, FUSED TYPE, SIZE AS INDICATED ON DRAWINGS.
$	MOTOR STARTER SWITCH
	MAGNETIC MOTOR STARTER.
	COMBINATION MAGNETIC STARTER/ DISCONNECT SWITCH.
ATC	AUTOMATIC TEMPERATURE CONTROL PANEL
CP	EQUIPMENT CONTROL PANEL
	PUSH BUTTON
	ON/ OFF PUSHBUTTON
	UP/DOWN/STOP PUSHBUTTON

POWER DISTRIBUTION EQUIPMENT

SYMBOL	DESCRIPTION
	LIGHTING/ POWER PANEL (RECESSED)
	LIGHTING/ POWER PANEL (SURFACE)
	DISTRIBUTION PANEL
	SERVICE SWITCHGEAR
T	DRY TRANSFORMER - FLOOR MOUNTED
T	DRY TRANSFORMER - SUSPENDED
T	TRANSFORMER - PAD MOUNT
CT	CURRENT TRANSFORMER CABINET
GEN SET	GENERATOR
MCC	MOTOR CONTROL CENTER
M Meter	METER AND SOCKET
ATS	AUTOMATIC TRANSFER SWITCH

FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION
FS	WATER FLOW SWITCH
TS	TAMPER SWITCH
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR
PIV	POST INDICATOR VALVE

OUTLETS AND RECEPTACLES

SYMBOL	DESCRIPTION
	FLOOR DUPLEX RECEPT
	DUPLEX RECEPT
	DUPLEX RECEPT W/ EMERGENCY CIRCUIT
	SINGLE RECEPT
	SINGLE RECEPT W/ EMERGENCY CIRCUIT
	QUAD RECEPT
	QUAD RECEPT W/ EMERGENCY CIRCUIT
	MULTI-OUTLET ASSEMBLY / PLUGMOLD
J	POWER AND DATA/ VOICE FURNITURE FEED
	SPECIAL RECEPT
J	POWER AND DATA/ VOICE RECESSED FLOOR BOX
J	JUNCTION BOX
	DUPLEX RECEPT - CEILING MOUNT
	QUAD RECEPT - CEILING MOUNT

TYPICAL RECEPTACLE AND OUTLET ANNOTATIONS

"a"=	SWITCHED OUTLET, "a" INDICATES SWITCH CONTROL
"B"=	PEDESTAL MOUNTED ON BENCH TOP
"D"=	DEDICATED DEVICE ON INDIVIDUAL BRANCH CIRCUIT.
"GFI"=	GROUND FAULT CIRCUIT INTERUPTER, PERSONAL PROTECTION.
"IG"=	ISOLATED GROUND RECEPTACLE WITH SEPARATE GREEN GROUND CONDUCTOR TO ISOLALATED GROUND BUS IN PANEL.
"USB"=	UNIVERSAL SERIAL BUS
"WR"=	WEATHER RESISTANT GFCI RECEPTACLE WITH "NRTL" LISTED COVER PLATE FOR WET LOCATION WITH PLUG INSTALLED. MTD. 48" AFF UNLESS OTHERWISE INDICATED.
+XX=	DIMENSIONED HEIGHT

MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
M	EXHAUST FAN
	UNIT HEATER
WH	WATER HEATER

LIGHTING SYMBOLS

SYMBOL	DESCRIPTION
	2'x4' FIXTURE (RECESSED)
	1'x4' FIXTURE (RECESSED)
	2'x2' FIXTURE (RECESSED)
	STRIP FIXTURE (DRAWN TO APPROXIMATE SHAPE AND TO SCALE OR LARGE ENOUGH FOR CLARITY)
	WALL MOUNTED LINEAR FIXTURE (DRAWN TO APPROXIMATE SHAPE AND TO SCALE OR LARGE ENOUGH FOR CLARITY)
	HI BAY FIXTURE
	SUSPENDED, PENDANT, CHAIN, STEM, OR CABLE HUNG FIXTURE
	SURFACE MOUNTED FIXTURE (DRAWN TO APPROXIMATE SHAPE AND TO SCALE OR LARGE ENOUGH FOR CLARITY)
	CAN LIGHT
	CAN DIRECTIONAL LIGHT
	INTERIOR WALL MOUNTED FIXTURE
	TRACK LIGHTING
	EXIT SIGN
	COMBO EXIT/EMERGENCY DUAL HEAD FIXTURE
	COMBO EXIT/EMERGENCY DUAL HEAD FIXTURE WITH REMOTE HEAD
	EGRESS DIRECTION ARROW
	EMERGENCY DUAL HEAD FIXTURE WITH BATTERY PACK
	DOCK LIGHT ARM FIXTURE
	FLOOD LIGHT
	BOLLARD FIXTURE
D	CANOPY FIXTURE
	SINGLE POLE MOUNTED LIGHT FIXTURE
	EXTERIOR WALL PACK
	MANDOOR LIGHT FIXTURE
	AT GRADE OR FLOOR MOUNTED
	STOP - GO LIGHT

*A DIAGONAL HATCH PATTERN WITHIN A LIGHT FIXTURE SYMBOL INDICATES AN EMERGENCY BACK UP POWER SUPPLY.
*SOME FIXTURES ARE EMERGENCY BY NATURE AND DO NOT REQUIRE THE DIAGONAL HATCH PATTERN.
*SPECIFIC DETAILS FOR EACH FIXTURE REPRESENTED MAY BE FOUND IN ASSOCIATED FIXTURE SCHEDULE IN THIS DRAWING SET.

SWITCHES AND SENSORS

SYMBOL	DESCRIPTION
$	SINGLE POLE SWITCH
$2	DOUBLE POLE SWITCH
$3	THREE WAY SWITCH
$4	FOUR WAY SWITCH
$a	SWITCH CONTROL (lower case letter)
$K	KEY OPERATED SWITCH
$KP	KEY OPERATED SWITCH W/ PILOT LIGHT
$LV	LOW VOLTAGE SWITCH
$MC	MOMENTARY CONTACT SWITCH
$P	SWITCH W/ PILOT LIGHT
$R	ROTARY SPEED CONTROL SWITCH
$T	TIMER SWITCH
$D	DIMMER SWITCH
	OCCUPANCY SENSOR, WALL MOUNT W/ OFF-AUTO SWITCH
	OCCUPANCY SENSOR, CEILING MOUNTED
PC	PHOTOCELL

COMMUNICATION SYMBOLS

SYMBOL	DESCRIPTION
	DATA OUTLET
	FLOOR DATA OUTLET
	TELEPHONE OUTLET
	FLOOR TELEPHONE OUTLET
	TELE/DATA OUTLET
	FLOOR TELE/DATA OUTLET
S	SPEAKER
M	MICROPHONE - WALL MOUNTED
TV	CABLE ANTENNA OUTLET

SECURITY SYMBOLS

SYMBOL	DESCRIPTION
C	CAMERA
	ELECTRIC DOOR STRIKE
IC	INTERCOM UNIT
CR	CARD READER
SCP	SECURITY CONTROL PANEL
B	DOOR BELL
DC	DOOR CONTACT
MI	MASTER INTERCOM
K	SECURITY KEYPAD
O	SECURITY EXIT PUSH BUTTON

NOTE DESIGNATIONS

SYMBOL	DESCRIPTION
#	KEYED NOTE
#	FEEDER NUMBER
X E0.1	DETAIL REFERENCE
X X	SECTION/ELEVATION REFERENCE
XX-XX	FIELD CHANGE NOTICE
#	REVISION NUMBER

ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
1P	ONE POLE	DT	DUSTTIGHT	HTR	HEATER	NC	NORMALLY CLOSED	SIG	SIGNAL
2P	TWO POLE	E	WIRED ON EMERGENCY CIRCUIT	HW	HOT WATER	NEC	NATIONAL ELECTRIC CODE	SN	SOLID NEUTRAL
3P	THREE POLE	EA	EACH	Hz	HERTZ (CYCLE) PER SECOND	NF	NON-FUSED	SP	SPARE
4P	FOUR POLE	EC	ELECTRICAL CONTRACTOR	IAM	INDIVIDUAL ADDRESSABLE MODULE	NIC	NOT IN CONTRACT	SPKR	SPEAKER
3P4W	THREE POLE, FOUR WIRE	EF	EXHAUST FAN	IC	INTERCOMMUNICATION	NL	NIGHT LIGHT	SPL	SPLICE
A	AMPERE	E.G.C.	EQUIPMENT GROUNDING CONDUCTOR	ID	IDENTIFICATION	NM	NONMETALLIC SHEATHED CABLE	SS	STAINLESS STEEL
AC	ALTERNATING CURRENT	ELEC	ELECTRIC(AL)	IG	ISOLATED GROUND	NO	NORMALLY OPEN	STP	SHIELDED TWISTED PAIR
AF	AMP FRAME	EMER	EMERGENCY	IMC	INTERMEDIATE METAL CONDUIT	NRTL	NATIONALLY RECOGNIZED TESTING LAB	STL	CARBON STEEL
AFCI	ARC-FAULT CIRCUIT INTERRUPTER	EMT	ELECTRIC METALLIC TUBING	IPS	INTERRUPTIBLE POWER SUPPLY	#	NUMBER	SUSP	SUSPENDED
AFF	ABOVE FINISHED FLOOR	ENCL	ENCLOSURE	IR	PASSIVE INFRARED	NTS	NOT TO SCALE	SW	SWITCH
AFG	ABOVE FINISHED GRADE	EOL	END OF LINE	JB	JUNCTION BOX	O2	OXYGEN	SWBD	SWITCHBOARD
AHU	AIR HANDLING UNIT	EPO	EMERGENCY POWER OFF	KCMIL	THOUSAND CIRCULAR MILS	OHD	OVERHEAD DOOR OPERATOR	SWGR	SWITCHGEAR
AIC	AMPERE INTERRUPTING CAPACITY	EQUIP	EQUIPMENT	K/O	KNOCK-OUT	P	POLE	TC	TELEPHONE CABINET
AL	ALUMINUM	EWC	ELECTRIC WATER COOLER	KVA	KILOVOLT AMPERE	PB	PULL BOX	TCI	TELECOMMUNICATIONS CABLING INSTALLER
AS	AMP SWITCH	EWH	ELECTRIC WATER HEATER	KVAR	KILOVOLT AMPERE REACTIVE	PC	PLUMBING SYSTEM CONTRACTOR	TCP	TEMPERATURE CONTROL PANEL
AT	AMP TRIP	EXIST.	EXISTING	KW	KILOWATT	PE	PRIMARY SERVICE	TEL/DATA	TELEPHONE/DATA
ARCH	ARCHITECT	F	FLUSH	LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT	PH, Ø	PHASE	TEL	TELEPHONE
ATS	AUTOMATIC TRANSFER SWITCH	FA	FIRE ALARM	LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT	PNL	PANEL(BOARD)	TEMP	TEMPORARY
AUD	AUDIOMETER BOX CONNECTION	FBO	FURNISHED BY OTHERS	LP	LIGHTING PANELBOARD	PIV	POST INDICATING VALVE	TERM	TERMINAL(S)
AUX	AUXILIARY	FC	FIRE PROTECTION CONTRACTOR	LS	LIMIT SWITCH	PP	POWER PANEL	TV	TELEVISION
A/V	AUDIO VISUAL	FCU	FAN COIL UNIT	LTG	LIGHTING	PR	PAIR	TYP	TYPICAL
AWG	AMERICAN WIRE GAUGE	FDN	FOUNDATION	LV	LOW VOLTAGE	PRI	PRIMARY	UC	UNDER COUNTER
B.C.	BRANCH CIRCUIT	FIXT	FIXTURE	MAINT	MAINTAINED	PT	POTENTIAL TRANSFORMER	UG	UNDERGROUND
BLDG	BUILDING	FLA	FULL LOAD AMPS	MAU	MAKE-UP AIR UNIT	PVC	POLYVINYL CHLORIDE CONDUIT	UH	UNIT HEATER
C	CONDUIT	FLEX	FLEXIBLE	MAX	MAXIMUM	PWR	POWER	U.O.I.	UNLESS OTHERWISE INDICATED
CAM	CAMERA	FLR	FLOOR	MC	METAL CLAD CABLE	RE	REMOVE EXISTING	UPS	UNINTERRUPTIBLE POWER SOURCE
CAT	CATALOG	FMC	FLEXIBLE METALLIC CONDUIT	MCB	MAIN CIRCUIT BREAKER	REC	RECESSED	UTIL	UTILITY
CATV	CABLE TELEVISION	FRE	FIBERGLASS REINFORCED EPOXY CONDUIT	MCC	MOTOR CONTROL CENTER	RECP	RECEPTACLE(S)	UTP	UNSHIELDED TWISTED PAIR
CB	CIRCUIT BREAKER	FURN	FURNITURE	MD	MOTORIZED DAMPER	REF	ROOF EXHAUST FAN	V	VOLT
CKT	CIRCUIT	GC	GENERAL CONTRACTOR	MDP	MAIN DISTRIBUTION PANEL	RL	RELOCATE EXISTING	VT	VAPORTIGHT
COL	COLUMN	G.E.C.	GROUNDING ELECTRODE CONDUCTOR	MISC	MISCELLANEOUS	RM	ROOM	Y	WYE
C.T.	CURRENT TRANSFORMER	GEN	GENERATOR	MFR	MANUFACTURER	RMC	RIGID METAL CONDUIT	W	WATT
CU	COPPER	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	MLO	MAIN LUGS ONLY	RT	RAINTIGHT	W/	WITH
℄	CENTERLINE	GFPE	GROUND FAULT PROTECTION EQUIPMENT	MOD	MOTOR OPERATED DISCONNECT SWITCH	RTU	ROOFTOP UNIT	WH	WATTHOUR
DC	DIRECT CURRENT	GND	GROUNDED	MTD	MOUNTED	RSC	RIGID STEEL CONDUIT	WT	WATERTIGHT
Δ	DELTA	GRC	GALVANIZED RIGID CONDUIT	MTG	MOUNTING	S	SURFACE MOUNTED	XFMR	TRANSFORMER
DET	DETECTOR	HGT	HEIGHT	MTS	MANUAL TRANSFER SWITCH	SCH	SCHEDULE	XP	EXPLOSION PROOF
DISC	DISCONNECT	HP	HORSEPOWER	MWS	(LISTED) MANUFACTURED WIRING SYSTEM	SD	SMOKE DAMPER	ZAM	ZONE ADAPTER MODULAR
DIST	DISTRIBUTION	HV	HIGH VOLTAGE	N	NORTH	SE	SECONDARY ELECTRIC SERVICE	+72	MOUNTING UNITS TO ℄ AFF OR AFG
DN	DOWN	HVAC	HEATING, VENTILATION AND AIR CONDITIONING	N/A	NOT APPLICABLE	SEC	SECONDARY		
DWG	DRAWING								

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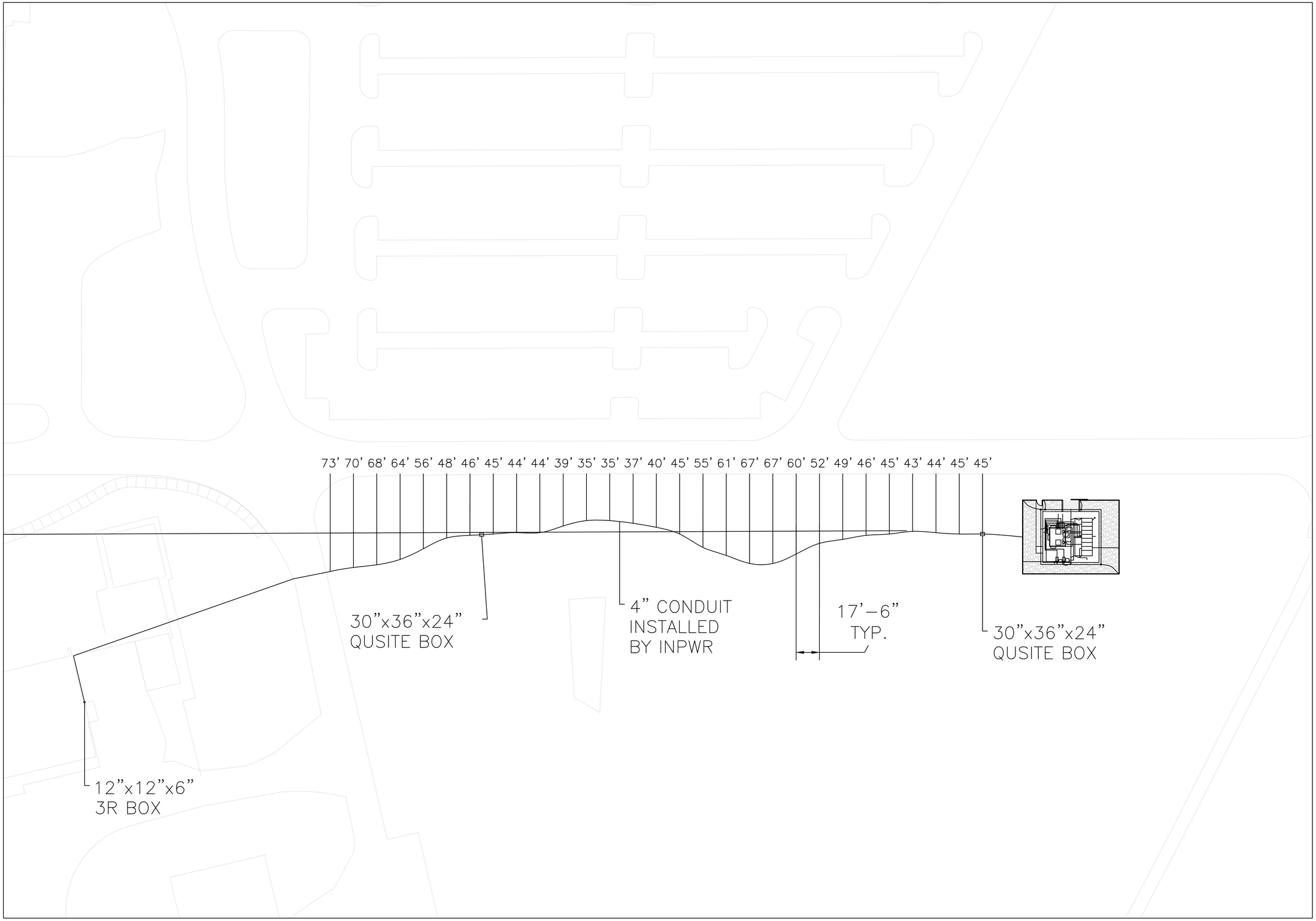
REV	DATE	DESCRIPTION
1	2020.11.06	RENAMED PANELS
2	2020.11.16	SITE ELECTRICAL WORK AREA ADDED

JOB NO : 19056

DRAWN BY : MB

ISSUE DATE : CONSTRUCTION SET 2020.05.13

E0.1
SYMBOLS AND ABBREVIATIONS



1 E1.0 SITE
SCALE: 1/32" = 1'-0"
0 32 64

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E1.0
SITE

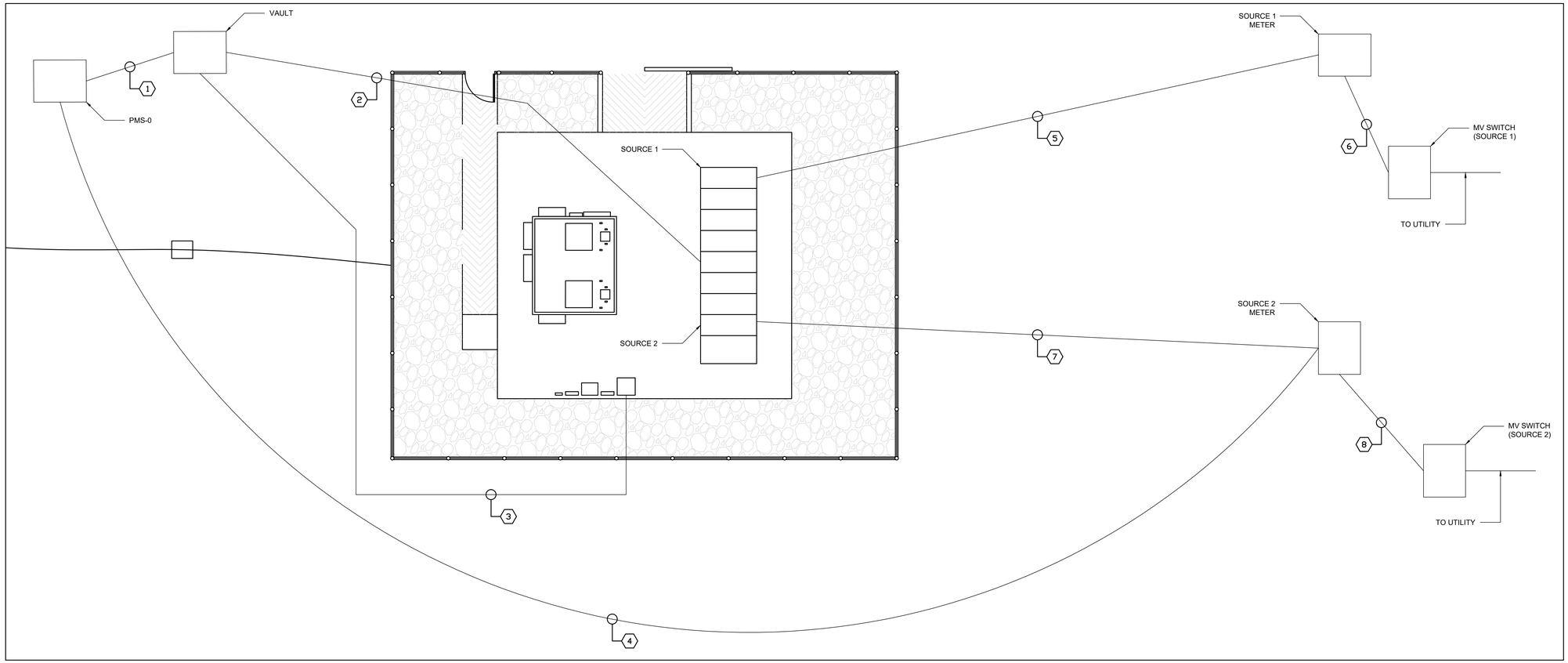
2

FEEDER SCHEDULE

FEEDER	DESCRIPTION/WIRE SIZE	SIZE
1	EXISTING - BY OTHERS	N/A
2	4-500MCM 15KV CU & 600V CU GND	(1) 5" C.
3	3-#2 15KV CU & 600V CU GND	(1) 4" C.
4	BYPASS	(1) 5" C.
5	3-500KCML 15KV CU & 600V CU GND + (1) SPARE	(2) 6" C.
6	EXISTING - BY OTHERS	N/A
7	3-500KCML 15KV CU & 600V CU GND + (1) SPARE	(2) 6" C.
8	EXISTING - BY OTHERS	N/A

GENERAL NOTES

A. ALL LOCATIONS OF GEAR OUTSIDE GATED AREA IS TO BE CONSIDERED GENERAL AND NOT EXACT



1 E1.1 SITE ELECTRICAL WORK AREA

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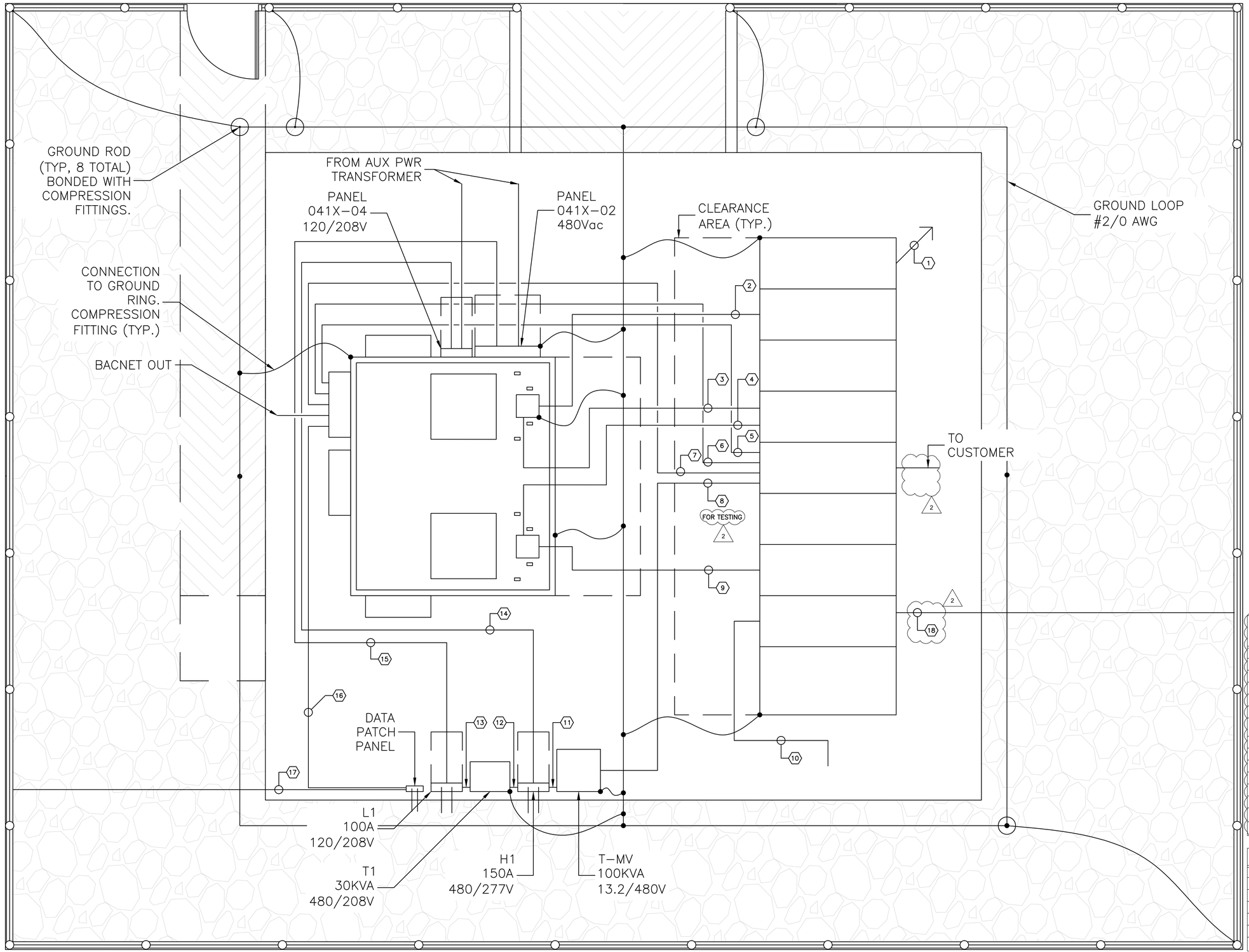
E1.1
SITE ELECTRICAL WORK AREA



1 E3.0 PAD POWER
SCALE: 3/8" = 1'-0"
0 6 12

GENERAL NOTES

A. ALL UNLABELED CONDUITS ARE TO BE ASSUMED TO BE 2" EMPTY PVC.

B. CABLE SIZE & TYPE PROVIDED BY STS.

C. CIRCUIT L1-2 CONNECTING (1) GFCI UNDER L1 PANEL IS NOT SHOWN.

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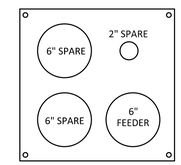

2 E3.0 FEEDER #1/10 BANK SECTION
SCALE: 1-1/2" = 1'-0"
0 .125" .25"

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MV POWER & CONTROL CABLE SCHEDULE (NOTE B)

FEEDER	WIRE SIZE	SIZE
1	3-500KCML 15KV CU & 600V CU GND + SPARE	(2) 6" C.
2	3-500KCML 15KV CU & 600V CU GND	6" C.
3	3-500KCML 15KV CU & 600V CU GND	6" C.
4	3-500KCML 15KV CU & 600V CU GND	6" C.
5	(1) 14AWG-19C THHN CU	4" C.
6	(3) 10AWG, 4 CONDUCTOR SHIELDED CABLE + (3) 12AWG, 4 CONDUCTOR SHIELDED CABLE	4" C.
7	(2) CAT 6 ETHERNET CABLES	2" C.
8	3-#2AWG 15KV CU & 600V CU GND	(2) 3" C.
9	3-500KCML 15KV CU & 600V CU GND	6" C.
10	3-500KCML 15KV CU & 600V CU GND	6" C.
16	FIBER CABLE	4" C.
17	FIBER CABLE	4" C.
18	3-500KCML 15KV CU & 600V CU GND + SPARE	(2) 6" C.

FEEDER SCHEDULE

FEEDER	WIRE SIZE	SIZE
11	(4) #1/0 AWG CU	1-1/2" C.
12	(3) #8 AWG CU + (1) #8 AWG CU GND	1" C.
13	(4) #3 AWG CU + (1) #8 AWG CU GND	1-1/4" C.
14	(4) #3 AWG CU + (1) #8 AWG CU GND	1-1/4" C.
15	(4) #3 AWG CU + (1) #8 AWG CU GND	1-1/4" C.

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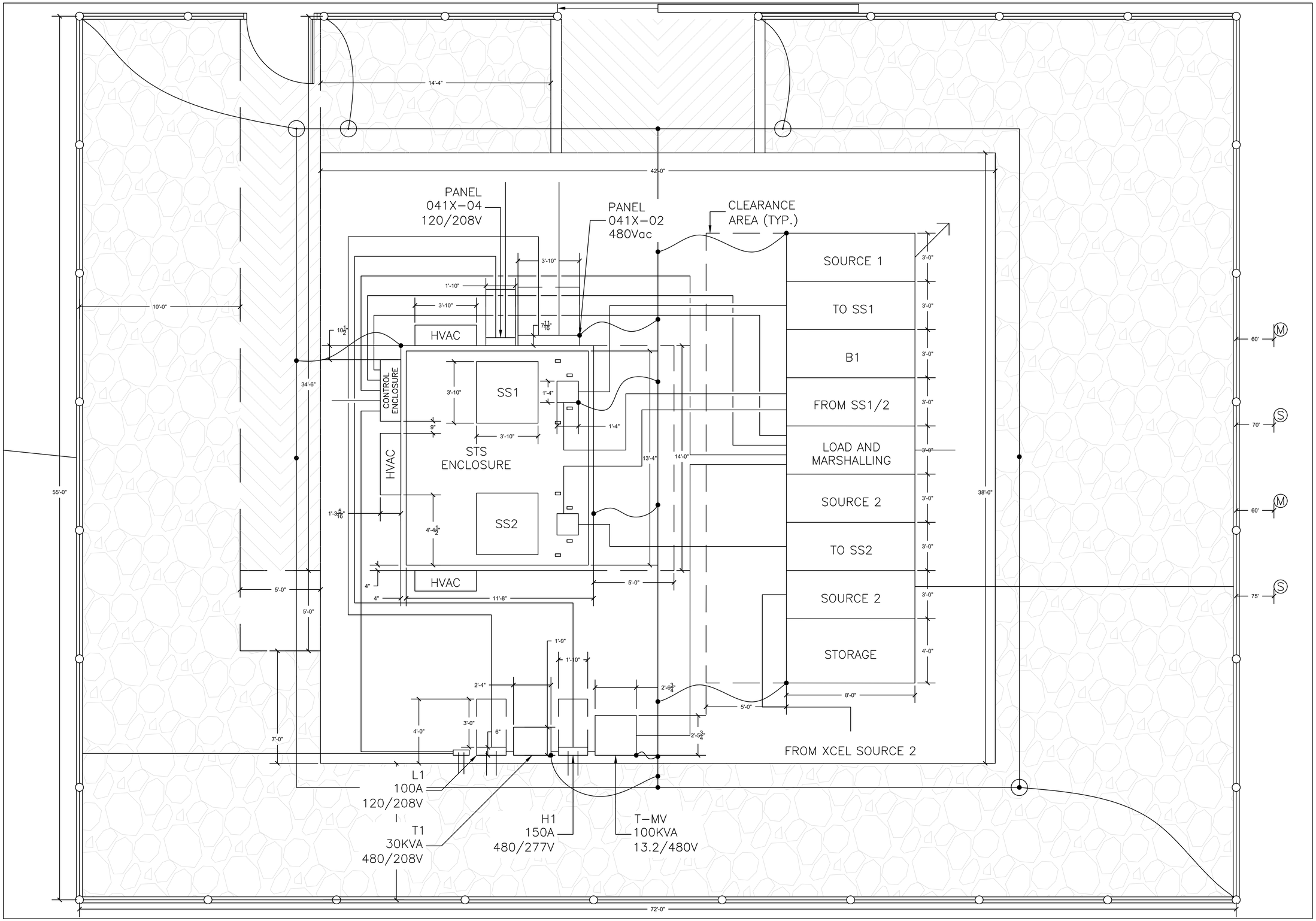
PAD POWER



1 E7.1 ELECTRICAL DIMENSIONS

SCALE: 3/8" = 1'-0"

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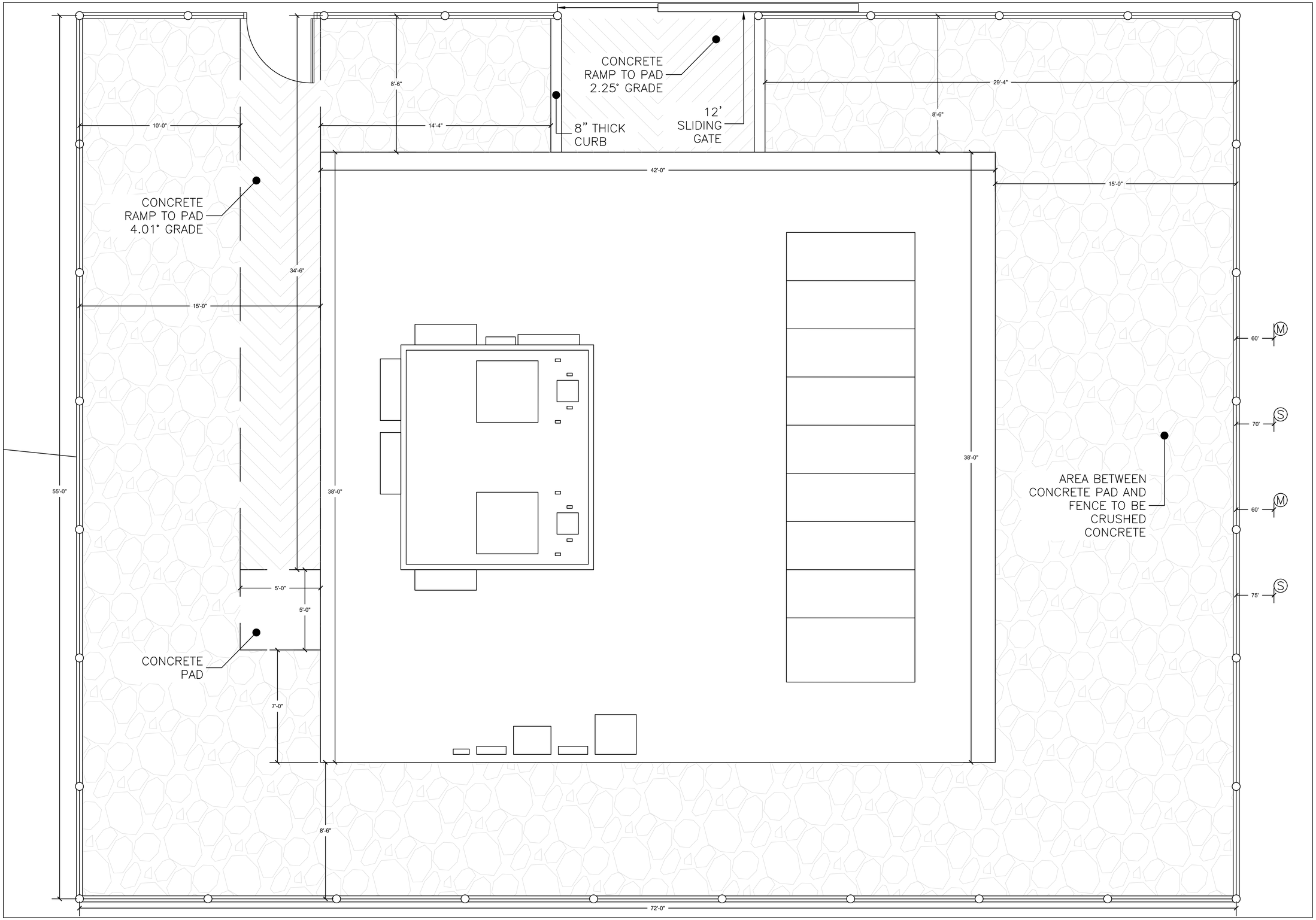

1 E7.2 CONCRETE DIMENSIONS

SCALE: 3/8" = 1'-0"

0 6 12

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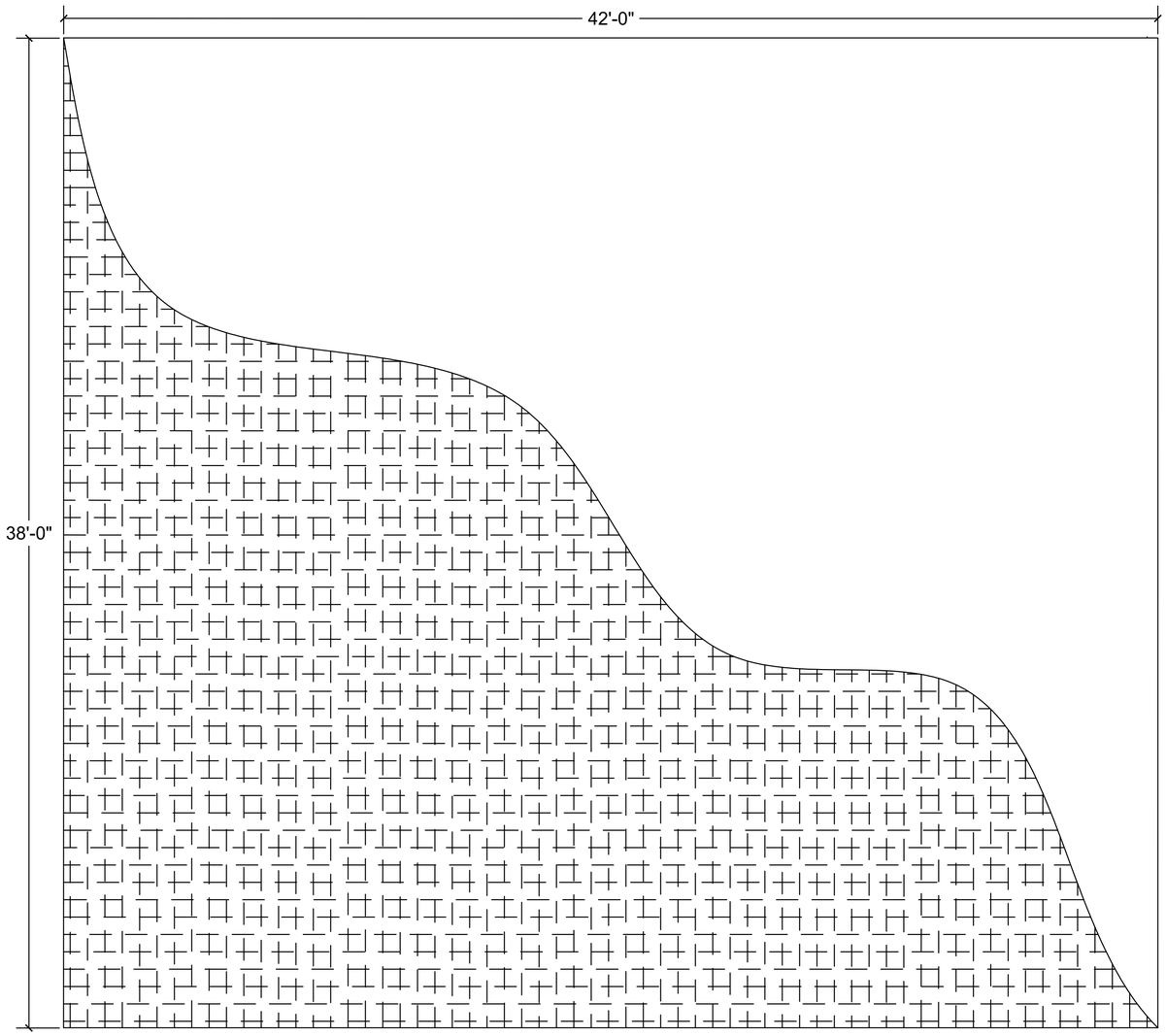

1 E7.3 CONCRETE PAD REBAR
SCALE: 3/8" = 1'-0"
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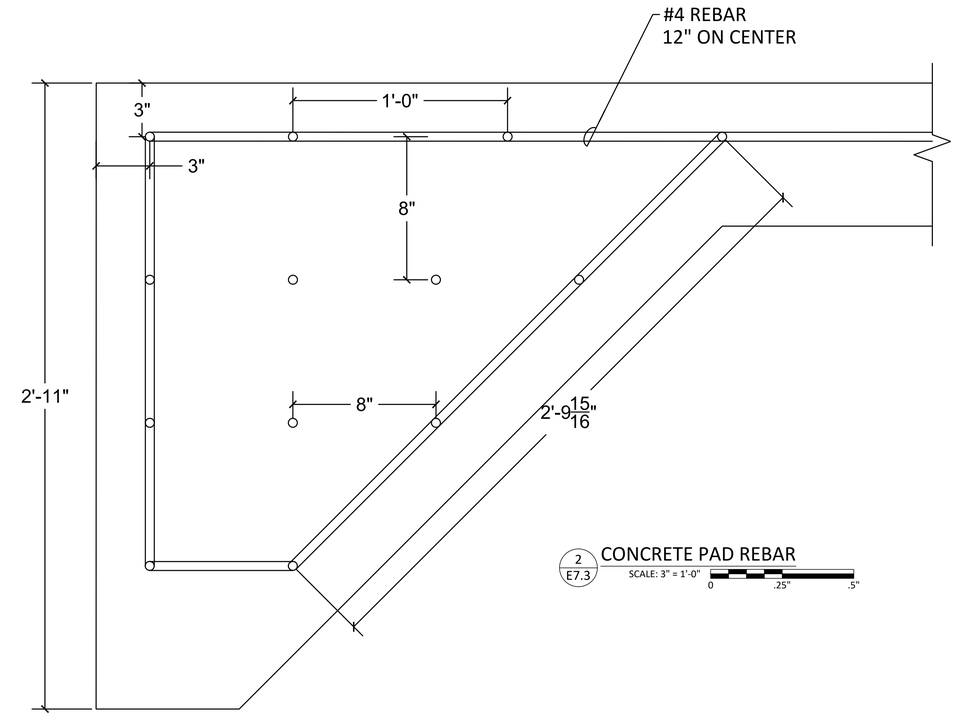
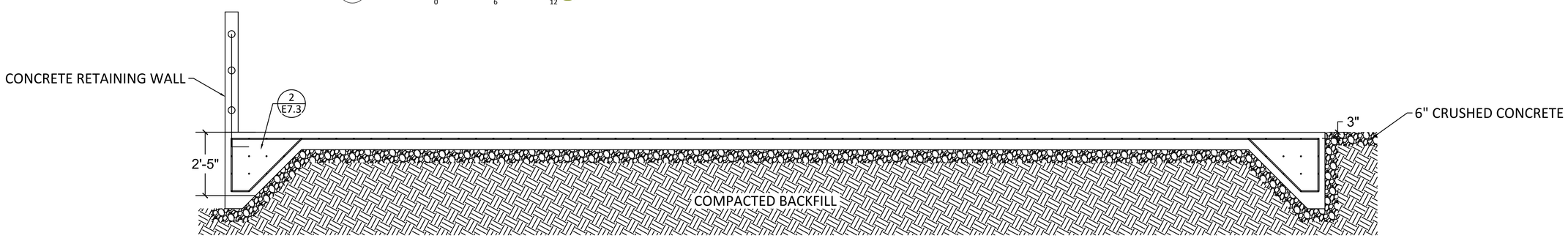


2 E7.3 CONCRETE PAD REBAR
SCALE: 3" = 1'-0"
0 .25" .5"



3 E7.3 CONCRETE PAD REBAR
SCALE: 1/2" = 1'-0"
0 2 4

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE DRAWINGS & SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

nPwr Inc.
Design-Build Electrical
10640 Dame Dr. Suite M
Indianapolis, IN 46236
P# (317) 823-3372
F# (317) 826-8264

NIST
325 BROADWAY ST
BOULDER, CO 80305

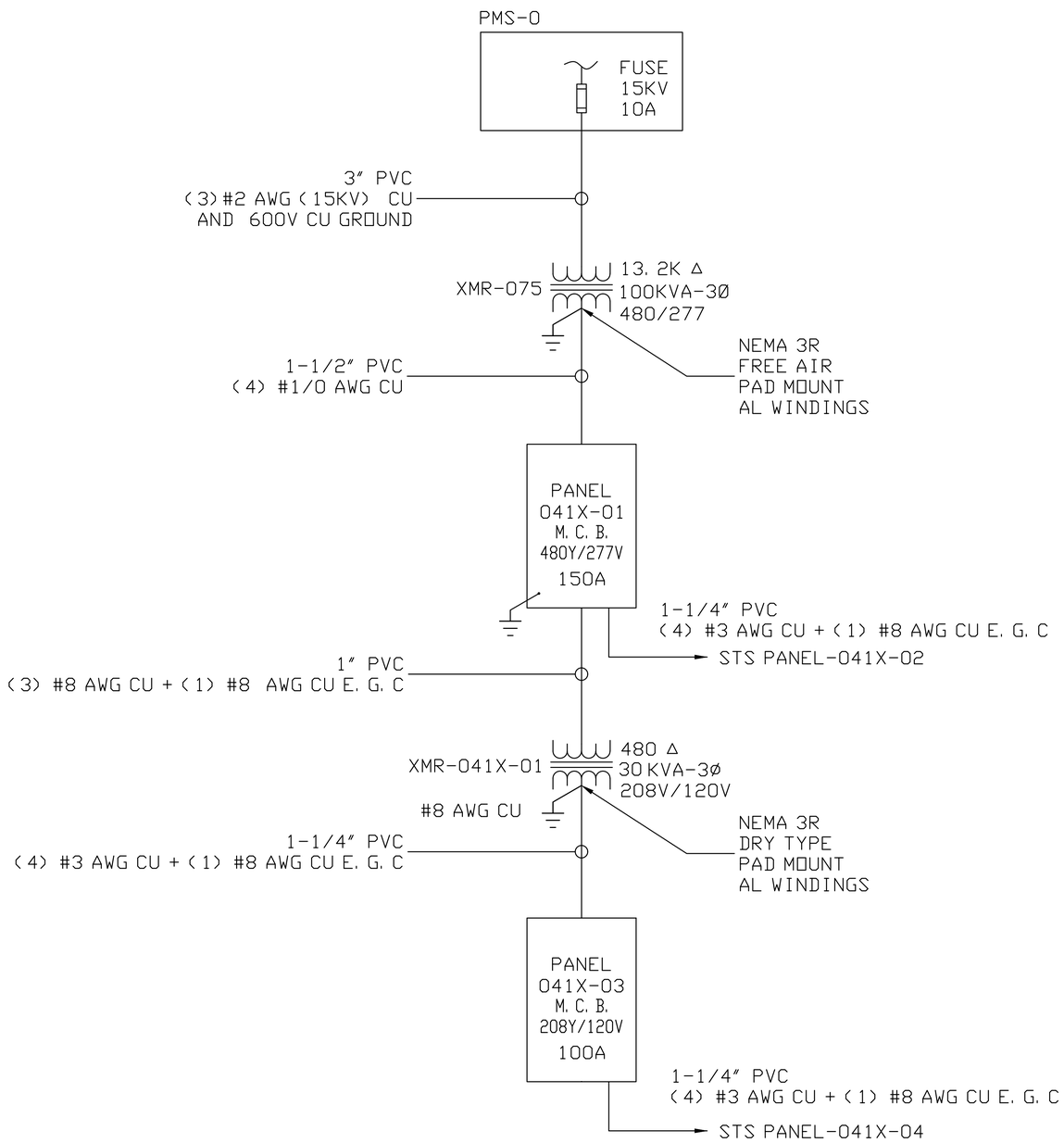
REV	DATE	DESCRIPTION
1	2020.11.06	RENAMED PANELS
2	2020.11.16	SITE ELECTRICAL WORK AREA ADDED

JOB NO : 19056

DRAWN BY : MB

ISSUE DATE : CONSTRUCTION SET 2020.05.13

E7.3
CONCRETE PAD REBAR



1 / E8.1 SINGLE LINE DIAGRAM

Panel "041X-01"

MCB	Nema Rating 3R	XMR-075	
Main Type	Nema Rating	Fed From	Panel Location

Voltage: 277 | 480 | 3P, 4W | C/B Type: | Feed Thru:
Mounting: SURFACE | C/B RATING: 150A-80% | Iso. Ground:
Bus Amps: 150 | C/B A.I.C.: 22KA | 200% Neutral:

Load Type	Description	Breaker Size	Pole	Connected Load Per Phase A	B	C	A	B	C	Pole	Breaker Size	Description	Load Type
	PROVISION		1	0			0			2		PROVISION	
	PROVISION		3		0			0		4		PROVISION	
	PROVISION		5			0			0	6		PROVISION	
	PROVISION		7	0			0			8		PROVISION	
	PROVISION		9		0			0		10		PROVISION	
	PROVISION		11			0			0	12		PROVISION	
	PROVISION		13	0			0			14		PROVISION	
	PROVISION		15		0			0		16		PROVISION	
	PROVISION		17			0			0	18		PROVISION	
	PROVISION		19	0			0			20		PROVISION	
	PROVISION		21		0			0		22		PROVISION	
	PROVISION		23			0			0	24		PROVISION	
	PROVISION		25	0			0			26	20	SPARE	
	PROVISION		27		0			0		28	20	SPARE	
	PROVISION		29			0			0	30	20	SPARE	
	*		31	16600			2927			32		*	
	STS PANEL-041X-02	100/3	33		16600			2927		34	45/3	XFMR "XMR-041X-01", PANEL "L1"	
	*		35			16600			2927	36		*	
	*		37	0			2927			38		*	
	SPARE	30/3	39		0			2927		40	20/3	SPARE	
	*		41			0			2927	42		*	
				A: 22454		B: 22454		C: 22454					

		Demand Factor		Connected		Notes
Lighting	0 KVA	125% =	0			
Receptacle	0 KVA	100% =	0	KVA	AMPS	
Appliance	0 KVA	100% =	0			
Equipment	0 KVA	100% =	0	Phase "A" 22.45	81.06	
Motor Loads	0 KVA	100% =	0			
Refrigeration	0 KVA	100% =	0	Phase "B" 22.45	81.06	
Electric Heat	0 KVA	100% =	0			
Cooling	0 KVA	100% =	0	Phase "C" 22.45	81.06	
Battery Charging	0 KVA	100% =	0			
Welder	0 KVA	100% =	0	Total: 67.36	81.06	
Kitchen	0 KVA	100% =	0			
Misc.	58.581 KVA	100% =	58.581			
Redundancy	0 KVA	0% =	0			
Future	0 KVA	0% =	0			
Largest Motor (25% Increase)	KVA	25% =	0			

Panel "041X-03"

MCB	Nema Rating 3R	XMR-041X-01	
Main Type	Nema Rating	Fed From	Panel Location

Voltage: 120 | 208 | 3P, 4W | C/B Type: | Feed Thru:
Mounting: SURFACE | C/B RATING: 100-80% | Iso. Ground:
Bus Amps: 100 | C/B A.I.C.: 10KA | 200% Neutral:

Load Type	Description	Breaker Size	Pole	Connected Load Per Phase A	B	C	A	B	C	Pole	Breaker Size	Description	Load Type
	*		1	2927			180			2	20	GFCI	
	STS PANEL-041X-04	100/3	3		2927			0		4	20	SPARE	
	*		5			2927			0	6	20	SPARE	
	SPARE	20	7	0			0			8	20	SPARE	
	SPARE	20	9		0			0		10	20	SPARE	
	SPARE	20	11			0			0	12	20	SPARE	
	PROVISION		13	0			0			14		PROVISION	
	PROVISION		15		0			0		16		PROVISION	
	PROVISION		17			0			0	18		PROVISION	
	PROVISION		19	0			0			20		PROVISION	
	PROVISION		21		0			0		22		PROVISION	
	PROVISION		23			0			0	24		PROVISION	
	PROVISION		25	0			0			26		PROVISION	
	PROVISION		27		0			0		28		PROVISION	
	PROVISION		29			0			0	30		PROVISION	
	PROVISION		31	0			0			32		PROVISION	
	PROVISION		33		0			0		34		PROVISION	
	PROVISION		35			0			0	36		PROVISION	
	PROVISION		37	0			0			38		PROVISION	
	PROVISION		39		0			0		40		PROVISION	
	PROVISION		41			0			0	42		PROVISION	
		Phase Totals:		A: 3107		B: 2927		C: 2927					

Load Descriptions	Connected	Demand Factor		Connected		Notes
Lighting	0 KVA	125% =	0			
Receptacle	0.18 KVA	100% =	0.18	KVA	AMPS	
Appliance	0 KVA	100% =	0			
Equipment	0 KVA	100% =	0	Phase "A" 3.11	25.89	
Motor Loads	0 KVA	100% =	0			
Refrigeration	0 KVA	100% =	0	Phase "B" 2.93	24.39	
Electric Heat	0 KVA	100% =	0			
Cooling	0 KVA	100% =	0	Phase "C" 2.93	24.39	
Battery Charging	0 KVA	100% =	0			
Welder	0 KVA	100% =	0	Total: 8.96	24.89	
Kitchen	0 KVA	100% =	0			
Misc.	8.781 KVA	100% =	8.781			
Redundancy	0 KVA	0% =	0			
Future	0 KVA	0% =	0			
Largest Motor (25% Increase)	KVA	25% =	0			

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JOB NO : 19056

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ISSUE DATE : CONSTRUCTION SET 2020.05.13

E8.1
SINGLE LINE DIAGRAM