EXISTING PANELBOARD SCHEDULE

Designation: **MDP** | Bus: 600A | O.C. Device: 400A DISCONNECT SWITCH | Manufacturer: | Voltage: 240V-3Ø-3W | Min. AIC. Rating: | Location: NORTH | Fed From: XFMR T-6 | Mounting: FREE STANDING | Single: x | Double:

CKT	POLE	TRIP	WIRE	GND	C	LOAD	KVA Ø A	KVA Ø B	KVA Ø C	LOAD	C	GND	WIRE	TRIP	POLE	CKT
							0.00 0.00									
	3	225				**PUMPHOUSE**		0.00 0.00								
									0.00 0.00							
1							0.00 0.00									2
3	3	70				LIGHTING PANEL		0.00 0.00		BOILER FEED PUMP				100	3	4
5									0.00 0.00							6
7							0.00 0.00									8
9	3	70				COAL HOIST		0.00 0.00		**FRESH AIR FAN**				50A	3	10
11									0.00 0.00							12
13							0.00 0.00									14
15	3					**ASSUMED LOAD**		0.00 0.00		**COMPRESSOR**				35A	3	16
17									0.00 0.00							18
19							0.00 0.00									20
21	3					BLOWER		0.00 0.00		#2 STOKER				20A	3	22
23									0.00 0.00							24
25							0.00 0.00									26
27	3	20A				**#1 SUMP PUMP**		0.00 0.00		(OFF)				20A	3	28
29									0.00 0.00							30
31							0.00 0.00									32
33	3	15A				**#2 SUMP PUMP**		0.00 0.00		(OFF)				20A	3	34
35									0.00 0.00							36
37							0.00 0.00									38
39	3	15A				SPARE		0.00 0.00		(OFF)				15A	3	40
41									0.00 0.00							42
43							0.00 0.00									44
45	3	15A				SPARE		0.00 0.00		SPACE					3	46
47									0.00 0.00							48
							0.00	0.00	0.00							

Connected Load (KVA): 0.00
Demand 80% (KVA): 0.00
Demand (AMPS): 0.00

LOADS INDICATED WITH **BOLD TEXT** ARE TO BE TRANSFERRED TO NEW PANEL. VERIFY ALL LOADS IN-FIELD.

EXISTING PANELBOARD SCHEDULE

Designation: **LP** | Bus: | O.C. Device: | Manufacturer: | Voltage: 240/120V-3Ø-4W | Min. AIC. Rating: | Location: EAST WALL | Fed From: MDP | Mounting: RECESSED | Single: x | Double:

CKT	POLE	TRIP	WIRE	GND	C	LOAD	KVA Ø A	KVA Ø B	KVA Ø C	LOAD	C	GND	WIRE	TRIP	POLE	CKT
1						LIGHTING	0.00 0.00			LIGHTING						2
3						LIGHTING		0.00 0.00		RECEPT. (OFF)						4
5						LIGHTING			0.00 0.00	LIGHTING (WATER COLUMN)						6
7						MEZZ. LIGHTING/RECEPT.	0.00 0.00			BOILER MTD. RECEPTS.						8
9						**FIRE ALARM**		0.00 0.00		LIGHTING						10
11						LIGHTING			0.00 0.00	BSMT LIGHTING/RECEPTS.						12
13						**TIME CLOCK/LIGHTING**	0.00 0.00			BOILER CONTROL PANEL 1						14
15						BOILER CONTROL PANEL 2 (OFF)		0.00 0.00		ASSUMED LOAD						16
17						**BSMT.PILOT/STEAM HEADER**			0.00 0.00	**110V PUMPS (MEZZ.)**						18
19						BLOWDOWN PIT LIGHTING	0.00 0.00			ASSUMED LOAD						20
21						ASSUMED SPARE (OFF)		0.00 0.00		ASSUMED LOAD						22
23						ASSUMED SPARE (OFF)			0.00 0.00	ASSUMED LOAD						24
25						ASSUMED LOAD	0.00 0.00			**TANK MANAGEMENT SYSTEM**						26
27						ASSUMED LOAD		0.00 0.00		ASSUMED LOAD						28
29						**SUMP PUMP**			0.00 0.00	ASSUMED SPARE (OFF)						30
31						ASSUMED LOAD	0.00 0.00			ASSUMED SPARE (OFF)						32
							0.00	0.00	0.00							

Connected Load (KVA): 0.00
Demand 80% (KVA): 0.00
Demand (AMPS): 0.00

LOADS INDICATED WITH **BOLD TEXT** ARE TO BE TRANSFERRED TO NEW PANEL. VERIFY ALL LOADS IN-FIELD.

EXISTING PANELBOARD SCHEDULE

Designation: **PP** | Bus: 60A | O.C. Device: M.L.O. | Manufacturer: | Voltage: 120/240 1Ø-3W | Min. AIC. Rating: | Location: NORTHEAST WALL | Fed From: 10KVA XFMR | Mounting: RECESSED | Single: x | Double:

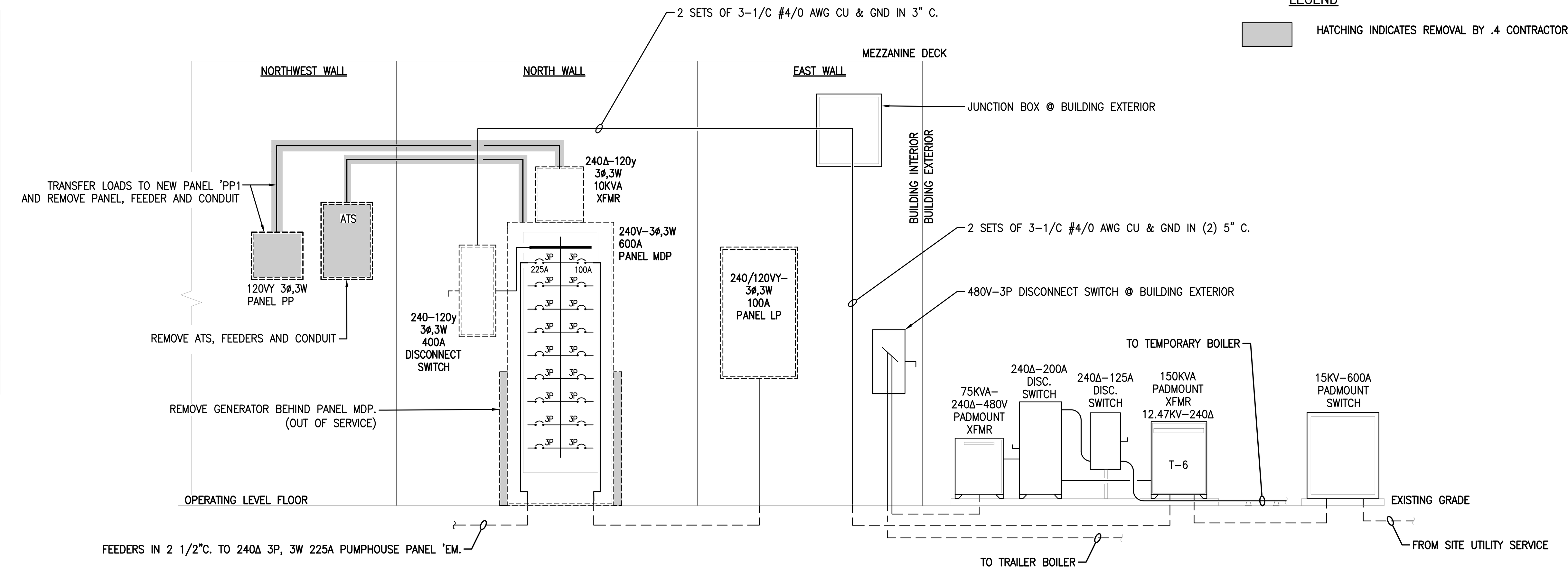
CKT	POLE	TRIP	WIRE	GND	C	LOAD	KVA Ø A	KVA Ø B	LOAD	C	GND	WIRE	TRIP	POLE	CKT
1						BATHROOM LIGHTS	1.00 1.00		OFFICE LIGHTS						2
3						RECEPTACLES		1.00 1.00	RECEPTACLES						4
						Total/Phase	2.00	2.00							

Connected Load (KVA): 4.00
Demand 80% (KVA): 3.20
Demand (AMPS): 13.33

EXISTING PANELBOARD SCHEDULES
SCALE: N.T.S.

LEGEND

HATCHING INDICATES REMOVAL BY .4 CONTRACTOR.



1/E-5 SEQUENCE 1 DEMOLITION ONE-LINE DIAGRAM
SCALE: N.T.S.

NEW PANELBOARD SCHEDULE

Designation: **MDP** | Bus: 600A | O.C. Device: 600A M.C.B | Manufacturer: SQUARED OR EQUAL | Voltage: 240V-3Ø-3W | Min. AIC. Rating: 42,000 | Location: ELEC. AREA | Fed From: EXISTING XFMR T-6 | Mounting: SURFACE | Single: x | Double:

CKT	POLE	TRIP	WIRE	GND	C	LOAD	KVA Ø A	KVA Ø B	KVA Ø C	LOAD	C	GND	WIRE	TRIP	POLE	CKT
1			*				12.00 1.20						10			2
3	3	225	*	*	*	***PUMPHOUSE***		12.00 1.20		***COMPRESSOR***	3/4"	10	10	35A	3	4
5			*						12.00 1.20				10			6
7			12				1.00 1.00						12			8
9	3	20	12	12	3/4"	***#1 SUMP PUMP***		1.00 1.00		***#2 SUMP PUMP***	3/4"	12	12	15A	3	10
11			12						1.00 1.00				12			12
13							3.00 0.00						8			14
15	3	VIF	VIF	VIF	VIF	***ASSUMED LOAD***		3.00 4.00		***FRESH AIR FAN***	3/4"	10	8	50	3	16
17									3.00 4.00				8			18
19			12				0.75 0.00									20
21	2	20	12	12	3/4"	BLOWDOWN SUMP PUMP		0.75 0.00		SPARE				20	3	22
23						BLANK			0.00 0.00							24
25							0.00 0.00									26
27	3					SPACE		0.00 0.00		SPACE					3	28
29									0.00 0.00							30
31							0.00 0.00									32
33	3					SPACE		0.00 0.00		SPACE					3	34
35									0.00 0.00							36
37							0.00 0.00									38
39	3					***DEAERATOR TANK (TEMP)***		0.00 0.00		***BOILER FEED PUMP (TEMP)***				100A	3	40
41									0.00 0.00							42
43			*				6.42 23.60						*			44
45	3	110A	*	*	*	TRANSFORMER T-1		8.30 23.60		TRANSFORMER T-2	*	*	*	250	3	46
47			*						5.00 23.60				*			48
							48.97	54.85	50.80							

Connected Load (KVA): 154.62
Demand 80% (KVA): 123.70
Demand (AMPS): 298.06

LOADS INDICATED IN ***BOLD ITALIC TEXT*** ARE EXISTING LOADS TRANSFERRED TO NEW PANEL. ***(TEMP)*** INDICATES TEMPORARY CIRCUIT TO EXISTING EQUIPMENT TO BE REMOVED. VERIFY ALL EXISTING LOADS TO BE TRANSFERRED TO NEW PANEL IN-FIELD.
* REFER TO ONE-LINE DIAGRAM VIF - VERIFY IN-FIELD

NEW PANELBOARD SCHEDULE

Designation: **PP1** | Bus: 100A | O.C. Device: M.L.O. | Manufacturer: SQUARE D OR EQUAL | Voltage: 208Y/120V-3Ø-4W | Min. AIC. Rating: 12,000 | Location: ELEC. AREA | Fed From: XFMR T-1 | Mounting: SURFACE | Single: x | Double:

CKT	POLE	TRIP	WIRE	GND	C	LOAD	KVA Ø A	KVA Ø B	KVA Ø C	LOAD	C	GND	WIRE	TRIP	POLE	CKT
1	1	20	12	12	3/4"	BASEMENT/MEZZANINE LIGHTING	0.48 0.44			OPERATING FLOOR LIGHTING	3/4"	12	12	20	1	2
3	1	20	12	12	3/4"	EXTERIOR LIGHTING		0.85 1.20		HIGH BAY LIGHTING	3/4"	12	12	20	1	4
5	1	20	12	12	3/4"	BASEMENT RECEPTACLES			0.80 0.80	EAST WALL RECEPTACLES	3/4"	12	12	20	1	6
7	1	20	12	12	3/4"	SOUTH WALL RECEPTACLES	0.80 0.80			WEST WALL RECEPTACLES	3/4"	12	12	20	1	8
9	1	20	12	12	3/4"	OFFICE/ BATH RECEPTACLES		0.80 0.80		COLUMN RECEPTACLES	3/4"	12	12	20	1	10
11	1	20	12	12	3/4"	COLUMN RECEPTACLES			0.80 0.80	ELECTRICAL AREA RECEPTACLES	3/4"	12	12	20	1	12
13	1	20	12	12	3/4"	RECEPTACLES	0.80 0.80			RECEPTACLES	3/4"	12	12	20	1	14
15	1	20	12	12	3/4"	STEAM HEADER		1.00 1.00		AC-1	3/4"	12	12	20	1	16
17	1	20				SPARE			0.00 0.30	***WATER HEATER***	3/4"	12	12	20	1	18
19	1	40	8	8	3/4"	SIREN AC POWER	0.40 0.40			DDC CONTROLS	3/4"	12	12	20	1	20
21	1	20	12	12	3/4"	***TIMECLOCK/LIGHTING***		0.20 0.60		BOILER 1 LV CONTROLS	3/4"	12	12	20	1	22
23	1	20	12	12	3/4"	***FIRE ALARM***			0.50 0.60	BOILER 2 LV CONTROLS	3/4"	12	12	20	1	24
25	1	20	12	12	3/4"	***STEAM HEADER (TEMP)***	0.80 0.70			***TANK MANAGEMENT SYSTEM***	3/4"	12	12	20	1	26
27	1	30	10	10	3/4"	***SUMP PUMP***		1.10 0.75		***110V PUMPS (MEZZ.)***	3/4"	12	12	20	1	28
29	2	20	12	12	3/4"	CU-1			0.80 0.00	SPARE				20	1	30
31			12				0.80 0.00			SPARE				20	1	32
33	1	20				SPARE		0.00 0.00		SPARE				20	1	34
35	1	20				SPARE			0.00 0.00	SPARE				20	1	36
37	1	20				SPARE	0.00 0.00			SPARE				20	1	38
39	1	20				SPARE		0.00 0.00		SPARE				20	1	40
41	1	20				SPARE			0.00 0.00	SPARE				20	1	42
							7.22	8.30	5.40							

Connected Load (KVA): 20.92
Demand 80% (KVA): 16.74
Demand (AMPS): 46.49

LOADS INDICATED IN ***BOLD ITALIC TEXT*** ARE EXISTING LOADS TRANSFERRED TO NEW PANEL. ***(TEMP)*** INDICATES TEMPORARY CIRCUIT TO EXISTING EQUIPMENT TO BE REMOVED. VERIFY ALL EXISTING LOADS TO BE TRANSFERRED TO NEW PANEL IN-FIELD.
* REFER TO ONE-LINE DIAGRAM

NEW PANELBOARD SCHEDULE

Designation: **PP2** | Bus: 150A | O.C. Device: 150A M.C.B. | Manufacturer: SQUARE D OR EQUAL | Voltage: 480Y/277V-3Ø-4W | Min. AIC. Rating: | Location: ELEC. AREA | Fed From: XFMR T-2 | Mounting: SURFACE | Single: x | Double:

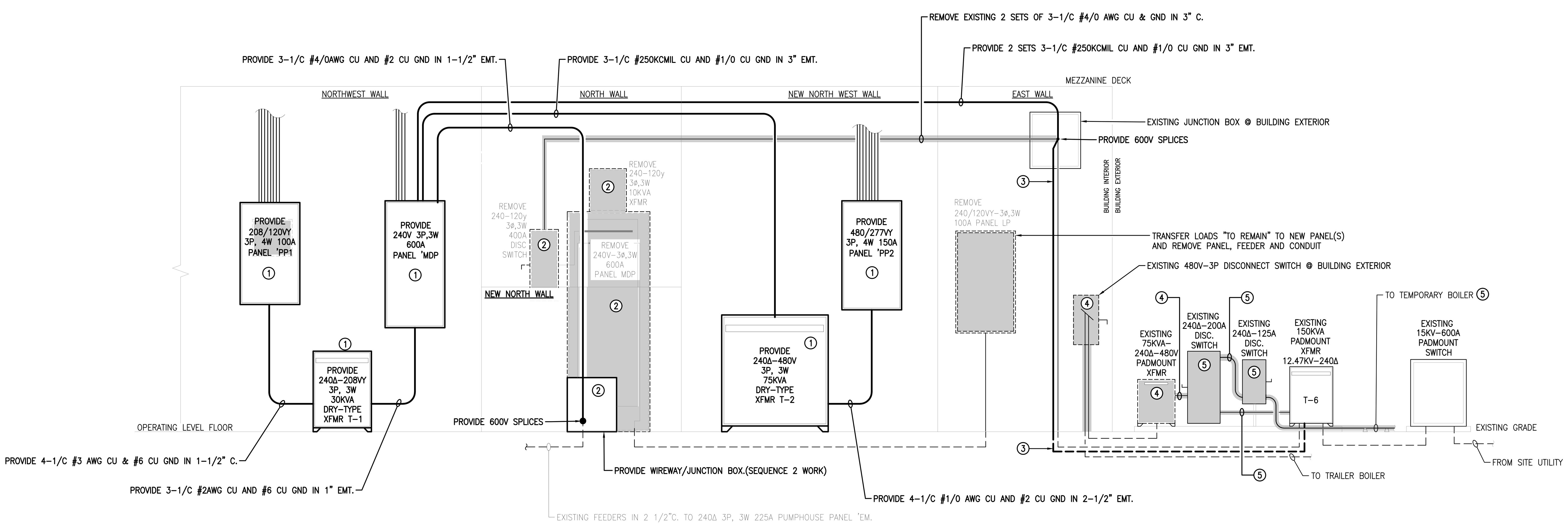
CKT	POLE	TRIP	WIRE	GND	C	LOAD	KVA Ø A	KVA Ø B	KVA Ø C	LOAD	C	GND	WIRE	TRIP	POLE	CKT
1			2				15.00 13.30						8			2
3	3	100	2	6	2"	BOILER #1 CONTROL PANEL		15.00 13.30		BOILER #2 CONTROL PANEL			8	80	3	4
5			2						15.00 13.30				8			6
7			12				0.40 0.40						12			8
9	3	15	12	12	3/4"	AIR SUPPLY FAN #1		0.40 0.40		AIR SUPPLY FAN #2	3/4"	12	12	15	3	10
11			12						0.40 0.40				12			12
13			12				1.60 1.60						12			14
15	3	15	12	12	3/4"	CONDENSATE RETURN UNIT		1.60 1.60		CHEMICAL FEED UNIT	3/4"	12	12	15	3	16
17			12						1.60 1.60				12			18
19							0.00 1.60						12			20
21	3	15				SPARE		0.00 1.60		BOILER FEED UNIT	3/4"	12	12	15	3	22
23									0.00 1.60				12			24
25							0.00 0.00									26
27	3					SPACE		0.00 0.00		SPACE					3	28
29									0.00 0.00							30
31	1	20				SPARE	0.00 0.00			SPARE				20	1	32
33	1	20				SPARE		0.00 0.00		SPARE				20	1	34
35	1	20				SPARE			0.00 0.00	SPARE				20	1	36
37							0.00 0.00									38
39	3					SPACE		0.00 0.00		SPACE					3	40
41									0.00 0.00							42
							33.90	33.90	33.90							

Connected Load (KVA): 101.70
Demand 80% (KVA): 81.36
Demand (AMPS): 98.02

LOADS INDICATED IN ***BOLD ITALIC TEXT*** ARE EXISTING LOADS TRANSFERRED TO NEW PANEL. ***(TEMP)*** INDICATES TEMPORARY CIRCUIT TO EXISTING EQUIPMENT TO BE REMOVED. VERIFY ALL EXISTING LOADS TO BE TRANSFERRED TO NEW PANEL IN-FIELD.
* REFER TO ONE-LINE DIAGRAM

NEW PANELBOARD SCHEDULES
SCALE: N.T.S.

REBID SUBMISSION
FEBRUARY 26, 2024



2/E-5 SEQUENCE 1 NEW WORK ONE-LINE DIAGRAM
SCALE: N.T.S.

SEQUENCE 2 WORK

PROPOSED SEQUENCE OF WORK

1. PROVIDE AND ENERGIZE NEW 'MDP, 'PP1 AND 'PP2 PANELS. PROVIDE NEW GROUNDING RING TO EQUIPMENT. PROVIDE LIGHTING AND RECEPTACLES AND TRANSFER ALL LOADS "TO REMAIN" TO NEW SERVICE PANELS.
2. REMOVE EXISTING 'MDP PANEL, 400A DISCONNECT AND 10KVA TRANSFORMER AND PROVIDE WIREWAY/JUNCTION BOX. PROVIDE PERMANENT SPLICES AND FEEDER TO PUMP HOUSE CIRCUIT.
3. AFTER REMOVAL OF EXISTING 'MDP PANEL, REMOVE EXISTING FEEDERS AND PROVIDE 2 SETS OF 3-1/C #250KCMIL CU AND #1/0 CU GND IN EXISTING CONDUIT TO EXISTING 150KVA PADMOUNTED TRANSFORMER.
4. REMOVE EXISTING EXTERIOR TRAILER BOILER FEEDER, EXPOSED CONDUIT AND EQUIPMENT AFTER RELOCATION OF TRAILER MOUNTED BOILER TO BUILDING INTERIOR. (SEQUENCE 2 WORK) TURN OVER TO CLIENT AGENCY ALL DISCONNECT SWITCHES, TRANSFORMERS AND LOAD CENTERS LOCATED WITHIN BOILER TRAILER. (NOTE: NOT ALL EQUIPMENT SHOWN ON PLANS)
5. REMOVE EXISTING EXTERIOR TEMPORARY BOILER FEEDER, EXPOSED CONDUIT AND EQUIPMENT AFTER BOILER 1 AND BOILER 2 @ BOILER HOUSE INTERIOR ARE ON-LINE. COORDINATE WITH .2 CONTRACTOR FOR SEQUENCING. TURN OVER TO CLIENT AGENCY ALL DISCONNECT SWITCHES, TRANSFORMERS AND LOAD CENTERS LOCATED WITHIN BOILER TRAILER. (NOTE: NOT ALL EQUIPMENT SHOWN ON PLANS)

LEGEND

HATCHING INDICATES REMOVAL BY .4 CONTRACTOR.
DARK LINE TYPES INDICATE NEW.
LIGHT LINE TYPES INDICATE EXISTING.

VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING:
0 1
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

RECORD REVISIONS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER RICHARD SZATKOWSKI No. 044441-E

SIGNATURE 02-26-2024 DATE

ARRIS ENGINEERING GROUP, LTD.
667 SOUTH RIVER STREET
PLAINS, PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. C-0304-0015 PHASE 2

ELIZABETHTOWN TRAINING ACADEMY - RENOVATE BOILER PLANT AND DOMESTIC / FIRE PROTECTION PIPING
DEPARTMENT of CORRECTIONS
ELIZABETHTOWN, LANCASTER COUNTY, PA

PANELBOARD SCHEDULES AND ONE-LINE DIAGRAMS

DRAWN BY	DATE	DRAWING No.
S. LOVE	FEB 2023	E-5
CHECKED BY: R. SZATKOWSKI	SCALE: AS NOTED	

FILE PATH: F:\1400.01 0304-0015 P2 Elizabethtown Boiler\Drawings\No Base Bid Drawings\4.Electrical CD\E-5_Panelboard Schedules and One-Line Diagrams.dwg
LAST SAVED: 2024.02.23 01:18 PM