

CIRC. NO.		LOAD TYPE	LOAD DESCRIPTION	AMP. SIZE	AMP. SIZE	LOAD DESCRIPTION	LOAD TYPE	LOAD V. A.	CIRC. NO.		
1	876	LHT	LTS PUMP ROOM	20	A	20	1	LTS ELEC. RM, OFFICE	LHT	657	2
3	1200	WIR	EXHAUST FANS AND LOUVER	20	B	20	1	RECEPTACLE WEST WALL	RPT	200	4
5	300	LHT	OUTSIDE LIGHTS	20	C	20	1	RECEPTACLES BY PUMPS	RPT	600	6
7	200	RPT	FLOW SWITCH & ANAL. READOUT	20	A	20	1	RECEPTACLES CHLORINE AREA	RPT	800	8
9	200	RPT	CHLORINE ANALYZER	20	B	20	1	RECEPTACLES DISPLAY CAB. RAL	RPT	200	10
11	500	PAN	CHLORINE CONTROL AND CQ1	20	C	20	1	INSTRUMENT DISPLAY CABINET	RPT	200	12
13			PANELBOARD: GENSET	20	A	20	1	SPARE			14
15			SPARE	20	B	20	1	SPARE			16
17			SPARE	20	C	20	1	SPARE			18
19			SPARE	20	A	20	1	SPARE			20
21			SPARE	20	B	20	1	AREA LEAK ALARM	PAN	200	22
23			SPARE	20	C	20	1	DUCT SMOKE DETECTORS	PAN	200	24
25			SPACE		A	20	1	ROOFTOP REC	RPT	200	26
27			SPACE		B	40	2	OU-1	WIR	4119	28
29			SPACE		C						30

- 1 EXISTING LOAD RELOCATED FROM EXISTING PANEL. FIELD VERIFY LOAD AND UPDATE PANEL DIRECTORY.
- 2 PROVIDE CIRCUIT BREAKER LOCK-ON CLIP. PAINT RED.

PANELBOARD: L	CONNECTED KVA:			DEMAND FACTOR			CONT. FACT			SIZING AMPS:		
	PH-A	PH-B	PH-C	TOTAL	PH-A	PH-B	PH-C	TOTAL	PH-A	PH-B	PH-C	
Lighting	1.8	0.0	0.3	2.1	1.0	2.1	1.25	7.1	18.2	0.0	3.1	
Receptacles	1.2	1.0	0.8	3.0	1.0	3.0	1.0	8.2	10.0	8.0	6.7	
Power	0.7	0.9	0.7	2.3	1.0	2.3	1.0	6.4	5.8	7.5	5.8	
Largest Motor	0.0	1.9	1.9	3.9	1.0	3.9	1.25	13.4	0.0	20.2	20.2	
Motors	0.0	1.3	0.1	1.5	1.0	1.5	1.0	4.0	0.0	11.0	11.0	
Heating	0.6	0.6	0.0	1.1	1.0	1.1	1.25	3.9	5.9	5.9	0.0	
Spare					0.2	2.8	1.0	7.6	7.6	7.6	7.6	
<b>TOTAL KVA:</b>	<b>4.2</b>	<b>5.7</b>	<b>3.9</b>	<b>13.8</b>		<b>16.5</b>		<b>TOTAL AMPS:</b>	<b>PH-A</b>	<b>PH-B</b>	<b>PH-C</b>	
<b>TOTAL AMPS:</b>	<b>35.0</b>	<b>48.0</b>	<b>32.0</b>	<b>38.2</b>		<b>50.6</b>			<b>47.5</b>	<b>60.2</b>	<b>44.4</b>	

## EQUIPMENT CONNECTION SCHEDULE

PROCESS EQUIPMENT CONNECTIONS													
UNIT DESIG.	UNIT VOLTAGE	LOAD			PANEL DEVICE			DEVICE AT UNIT			REMARKS OR SEE THE FEEDER SCHEDULE		
		H.P.	FLA	KVA	CIRCUIT NUMBER	BKR./SW./FUSE	NEMA START. SIZE	BKR./SW./FUSE	NEMA START. SIZE	OTHER			
P	PUMP												
1	480/3	60	77.0	63.99	DP-4	150		3		200	3	VFD	1 3 #1/0 AWG THWN; #6 AWG GRD; 2" C.
2	480/3	60	77.0	63.99	DP-6	150		3		200	3	VFD	1 3 #1/0 AWG THWN; #6 AWG GRD; 2" C.
3	480/3	20	27.0	22.44	DP-8	60		3		60	3	VFD	1 3 #4 AWG THWN; #10 AWG GRD; 1-1/4" C.
H	HOIST												
1	480/3	2	3.4	2.825	DP-10	20		3		30	5,6,3		1 3 #12 AWG THWN; #12 AWG GRD; 1/2" C.

- 1 ALL CONNECTIONS AND ELECTRICAL EQUIPMENT LISTED IN SCHEDULE SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. FIELD VERIFY CONNECTION REQUIREMENTS AND EQUIPMENT PROVIDED BY OTHERS PRIOR TO ROUGH-IN.
- 2 REFER TO CIVIL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTIONS OF INTERLOCKING, INSTRUMENT LOCATIONS, REMOTE CONTROL PANELS AND DEVICES, AND OTHER CONTROLS OF PROCESS EQUIPMENT.
- 3 SIZE FUSES FOR MOTOR FUSTATS BASED ON 125% OF MANUFACTURER'S NAMEPLATE FULL LOAD AMPERAGE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

## TRANSFORMER SCHEDULE

TRANS. DESIGN.	EQUIPMENT TYPE	KVA SIZE	PRIMARY VOLTAGE	SECONDARY VOLTAGE	GRNDING ELECTR. COND.	NOTES
T-L	DRY-TYPE DOE 2016	30	480/3Ph/3W	208/120/3Ph/4W	#6 CU	AIR COOLED, /, FLOOR MTD.

### GENERAL ONE-LINE DIAGRAM NOTES:

- 1. UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
- 2. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A LIGHT LINE, IS EXISTING TO REMAIN.
- 3. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK LINE, IS NEW WORK UNDER THIS CONTRACT.

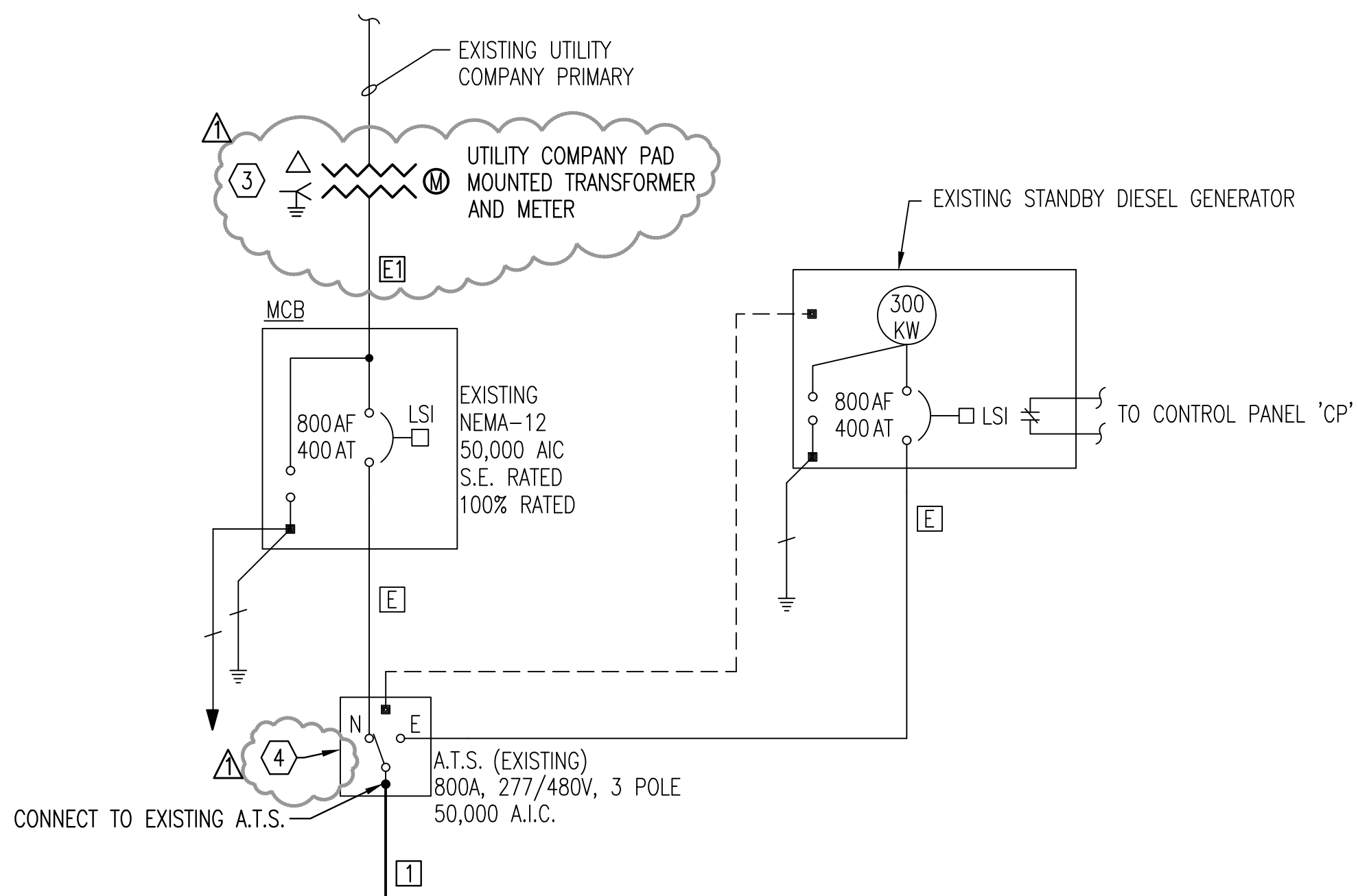
### KEYED ONE-LINE DIAGRAM NOTES:

- 1 RECONNECT EXISTING LOAD.
- 2 EXTEND AND CONNECT EXISTING BRANCH CIRCUITS AS REQUIRED.
- 3 UTILITY COMPANY TRANSFORMER TO BE REPLACED IN THE SAME LOCATION. COORDINATE ALL WORK WITH THE UTILITY COMPANY AND THE OWNER. COORDINATE DOWNTIME WITH THE OWNER IN ADVANCE.
- 4 REPROGRAM THE ATS AS REQUIRED FOR CLOSED TRANSITION OPERATION.

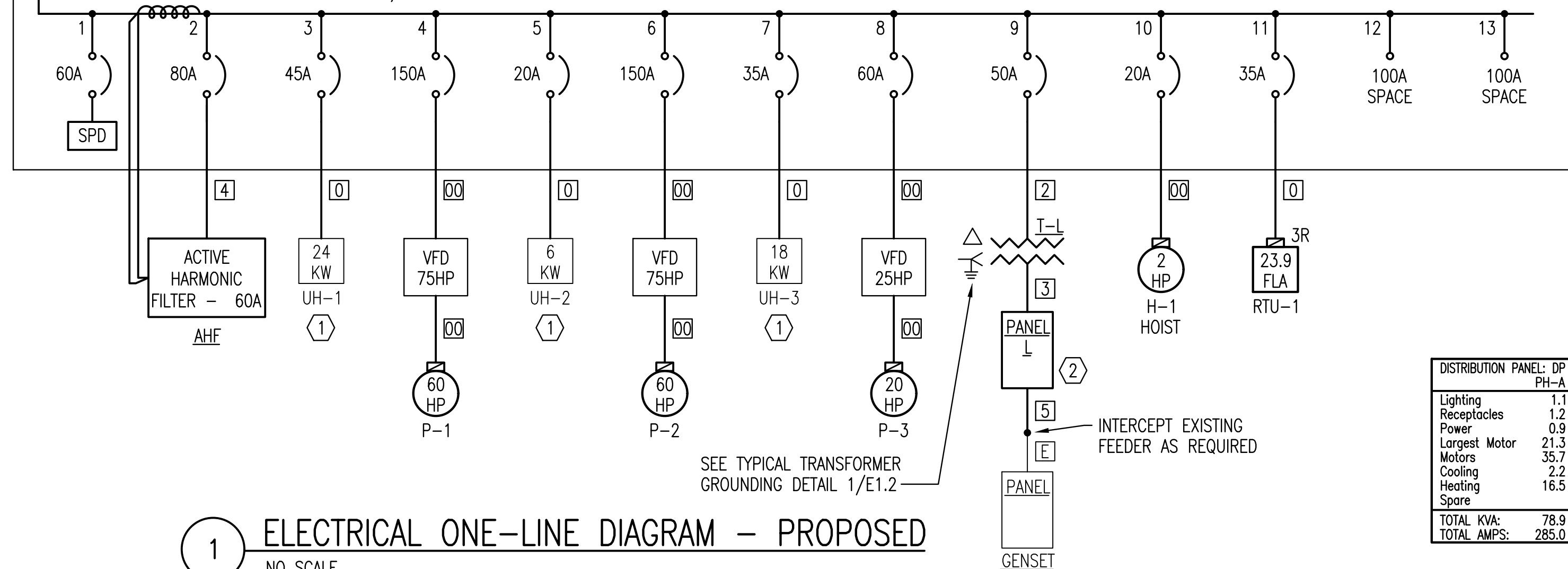
## EQUIPMENT CONNECTION SCHEDULE

MECHANICAL EQUIPMENT CONNECTIONS															
UNIT DESIG.	UNIT VOLTAGE	LOAD			PANEL DEVICE			DEVICE AT UNIT			REMARKS OR SEE THE FEEDER SCHEDULE				
		H.P.	FLA	KVA	CIRCUIT NUMBER	BKR./SW./FUSE	NEMA START. SIZE	BKR./SW./FUSE	NEMA START. SIZE	OTHER					
UH	UNIT HEATER														
1	480/3	28.9	24.02	DP-3	45		3				1 3 #6 AWG THWN; #10 AWG GRD; 1" C.	EXISTING UNIT			
2	480/3	7.2	5.983	DP-5	20		3				1 3 #12 AWG THWN; #12 AWG GRD; 1/2" C.	EXISTING UNIT			
3	480/3	21.7	18.03	DP-7	35		3				1 3 #8 AWG THWN; #10 AWG GRD; 3/4" C.	EXISTING UNIT			
OU	DUCTLESS SPLIT														
1	208/1	18.6A	19.8	4.118	L:28	40		2		30	30	2	NEMA-3R	1 2 #8 AWG THWN; #10 AWG GRD; 3/4" C.	OUTDOOR UNIT
IU	INDOOR UNIT														
1	208/1	1A	1.0	0.208	OU-1:			2		20	2	MMS		1 2 #12 AWG THWN; #12 AWG GRD; 1/2" C.	FED FROM OUTDOOR UNIT
RTU	ROOF TOP UNIT														
1	480/3	8.1A	23.9	19.86	DP-11	35		3		30	30	3	NEMA-3R	1 3 #8 AWG THWN; #10 AWG GRD; 3/4" C.	

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- 2 REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTIONS OF INTERLOCKING, THERMOSTAT LOCATIONS, EXHAUST FAN CONTROL SWITCHES, AND OTHER CONTROLS OF MECHANICAL EQUIPMENT.
- 3 SIZE FUSES FOR MOTOR FUSTATS BASED ON 125% OF MANUFACTURER'S NAMEPLATE FULL LOAD AMPERAGE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 4 PROVIDE DUCT MOUNTED SMOKE DETECTORS IN THE SUPPLY AND RETURN DUCTS. VERIFY THE REQUIRED QUANTITY OF DUCT SMOKE DETECTORS FOR EACH UNIT WITH THE FINAL INSTALLED DUCTWORK LAYOUT TO MEET NFPA REQUIREMENTS. PROVIDE FAN SHUT DOWN RELAY TO SHUT DOWN MECHANICAL UNIT UPON DETECTION OF SMOKE. PROVIDE 120V STAND ALONE DUCT DETECTOR HOUSING WITH SMOKE DETECTOR (EQUAL TO SIMPLEX 4098-9687) AND REMOTE CONTROL STATION (EQUAL TO SIMPLEX 4098-9842).
- 5 MINI-SPLIT SYSTEM: INDOOR UNIT IS FED FROM THE OUTDOOR UNIT, PROVIDE INTERCONNECTING WIRING AS REQUIRED. PROVIDE A 3-POLE MANUAL MOTOR STARTING SWITCH WITHOUT OVERLOADS FOR INDOOR LOCAL DISCONNECTING MEANS. PROVIDE WITH APPROPRIATE COVERPLATE. FIELD VERIFY ALL CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN WITH EQUIPMENT PROVIDED.
- 6 CONNECT EXISTING UNIT AS REQUIRED. FIELD VERIFY CONNECTION REQUIREMENTS.



DISTRIBUTION PANEL 'DP' 400A, 480V, 3Ø, 3W 50,000 AIC RATED



1 ELECTRICAL ONE-LINE DIAGRAM - PROPOSED NO SCALE

## FEEDER SCHEDULE

DESIG.	EQUIPMENT SERVED	CONDUCTORS		GROUND SIZE PER SET	ISOLATED GROUND SIZE	CONDUIT SIZE PER SET	SPARE CONDUIT	
		SETS	NO.					
1	DISTRIBUTION PANEL: DP	1	4	#500 KCMIL CU	#3	---	4" C.	---
2	TRANSFORMER:T-L	1	3	#6 AWG CU	#10	---	1" C.	---
3	PANELBOARD:L	1	4	#1 AWG CU	#6	---	2" C.	---
4	ACTIVE HARMONIC FILTER	1	4	#3 AWG CU	#8	---	1-1/2" C.	---
5	EXIST. PANEL:GENSET	1	3	#8 AWG CU	#8	---	1" C.	---
E	EXISTING TO REMAIN							
1	EXISTING TO BE MODIFIED	2	4	#500 KCMIL CU	---	---	4" C.	---
0	SEE MECHANICAL EQUIPMENT CONNECTION SCHEDULE							
00	SEE PROCESS EQUIPMENT CONNECTION SCHEDULE							

- 1 PROVIDE AND INSTALL #500 KCMIL NEUTRAL CONDUCTOR IN EXISTING CONDUITS WITH EXISTING PHASE CONDUCTORS.



Issued for Bid CL 4/30/2019

Revision By Date

CITY OF WICHITA, KANSAS

### ELECTRICAL ONE-LINE DIAGRAM - PROPOSED

37TH STREET BOOSTER PUMP STATION IMPROVEMENTS

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Designed by RWW Job No. 34-170920-000 Sh. E0.3 of  
Drawn by MAL Date DECEMBER 2018