

GENERATOR LOAD ANALYSIS
OPTIMUM CARE, HOUSTON TX

SERVICE VOLTAGE: 208Y/120V, 3 PHASE, 4 WIRE

	CONN. LOAD KVA	DIV. %	CALCULATED LOAD KVA	CALCULATED LOAD KW	CALCULATED LOAD AMP	COMMENTS
1 LIGHTS	4.5	1.25	5.7	4.5	15.8	
2 RECEPTACLES (QTY 62@180VA EACH)	11.2		10.6	8.6	29.4	NEC Art. 220.44
3 COOLING LOADS	25.9		25.9	20.7	71.7	Cooling loads larger than heating
4 HEATING LOADS (non-coincident w/cooling)						
5 HEATING LOADS (coincident w/cooling)						
6 MOTOR	12.1		12.1	9.7	33.6	
7 MISC. NON-CONTINUOUS LOADS	7.4	100%	7.4	6.0	20.7	
8 MISC. CONTINUOUS LOADS						
9 KITCHEN LOADS	9.1	65%	5.9	4.7	16.5	NEC2011 Article 220.56
10 OUTSIDE LIGHTING						
11 NON-COINCIDENT LOADS						
TOTAL LOADS	70.2 kva		67.6 kva	54.1 kw	187.6 A	
125% x "TOTAL LOADS" above						
Standard Generator size closest to line above						
Proposed Generator Size			125.0 kva	100 KW	347.0 A	
Generator Output Breaker	347 x 1.25 = 433.7 (Select 400Amp, 80% rated breaker)				400Amp	
Proposed Automatic Transfer Switch					400Amp	
Provide feeder from Generator	2 runs of 4#3/0, 1#3/0, 2 1/2" C					
Ampacity of Generator feeder					400 Amp	
Spare Generator Capacity Available						
Percent Spare Generator Capacity Available = 85 %						
Available short circuit current at output breaker						
3,851 Amp						

ELECTRICAL LOAD ANALYSIS
OPTIMUM CARE, HOUSTON TX

SERVICE VOLTAGE: 208Y/120V, 3 PHASE, 4 WIRE
OCCUPANCY: OFFICE BUILDING

	CONN. LOAD KVA	DIV. %	CALCULATED LOAD KVA	CALCULATED LOAD AMP	COMMENTS
1 LIGHTS (select larger of (a) or (b))					
(a) CONNECTED LOADS		8.9			Connected loads smaller than Code loads
(b) 10,000 SF x 3.5	35.1	125%	43.9	121.8	code loads larger than connected loads
2 RECEPTACLES (QTY 122@180VA EACH)		22.0	16.0	44.4	NEC2011 Art. 220.44, First 10KVA @100%, Remainder @50%
3 COOLING LOADS		44.6	44.6	123.7	Cooling loads larger than heating
4 HEATING LOADS (non-coincident w/cooling)					
5 HEATING LOADS (coincident w/cooling)					
6 MOTOR		23.2	23.2	64.4	
7 MISC. NON-CONTINUOUS LOADS		13.6	100%	13.6	37.7
8 MISC. CONTINUOUS LOADS					
9 KITCHEN LOADS	9.1	65%	5.9	16.5	NEC2011 Article 220.56
10 TRANSFORMER SPARE CAPACITY					
11 EXISTING LOADS					
25% largest motor (Largest Motor 1.7KVA)	1.7	25%	0.4	1.1	
TOTAL LOADS	121.4 kva		147.5 kva	409.5 A	
PROPOSED SERVICE CAPACITY					
**Provide service feeder from Power Co: 3 runs of 4#500 KCM, 1 #3/0 G, 4" conduit					
Service Feeder Capacity	411 KVA		1140 AMP		
Provide bussed C.T. can per CenterPoint's service standards					
SPARE CAPACITY AVAILABLE					
PERCENT SPARE CAPACITY AVAILABLE					
32%					
** May omit ground wire where not required by local power company.					

KEYED NOTES

- C.T. CAN: PROVIDE BUSSED C.T. CAN IN ACCORDANCE WITH POWER UTILITY TERMS AND CONDITIONS AGREEMENT.
- GROUND ROD: AT EACH GROUND ROD LOCATION, PROVIDE A 3/4" X 10-FT COPPER CLAD STEEL GROUND ROD. REFER TO GROUNDING DETAIL 07/E4.02.
- (1) 1" CONDUIT FOR CONTROLS. IN ADDITION, PROVIDE A 1" CONDUIT FROM GENERATOR CONTROLS LOCATION TO THE REMOTE ANNUNCIATOR PANEL.
- SURGE PROTECTIVE DEVICE (SPD): PROVIDE SPD AT SERVICE ENTRANCE, CONNECT SPD TO LOAD SIDE OF THE SERVICE ENTRANCE DISCONNECT OVERCURRENT DEVICE. SPD'S TO BE AS MADE BY RAYVOSS (HOUSTON REP: WILDCAT ELECTRIC SUPPLY, TIM MOREHEAD 713-676-0600), OR EQUAL BY MISSION CRITICALGARD (HOUSTON REP: LEE TECHNOLOGIES 713-874-0204). SPD AT SERVICE ENTRANCE TO BE HIGH EXPOSURE TYPE, 200,000A SURGE CAPACITY PER PHASE - PROVIDE RAYVOSS STRIKESORB 80 OR MISSION CRITICALGARD 300 SERIES.
- PROVIDE CONCRETE ENCASMENT FOR SERVICE ENTRANCE DUCTBANK WHERE ROUTED UNDERGROUND. PROVIDE ENCASMENT BETWEEN THE METER AND THE SERVICE ENTRANCE DISCONNECT SWITCH PANEL. SERVICE ENTRANCE DISCONNECT PANEL IS PANEL DP2.
- NATURAL GAS GENERATOR FOR FACILITY. REFER TO GENERATOR LOAD ANALYSIS THIS SHEET AND SPECIFICATION SECTION 26 36 12 ON SHEET 01.E02 FOR ADDITIONAL INFORMATION.
- FEEDER IS OVERSIZED FOR VOLTAGE DROP CONSIDERATIONS.

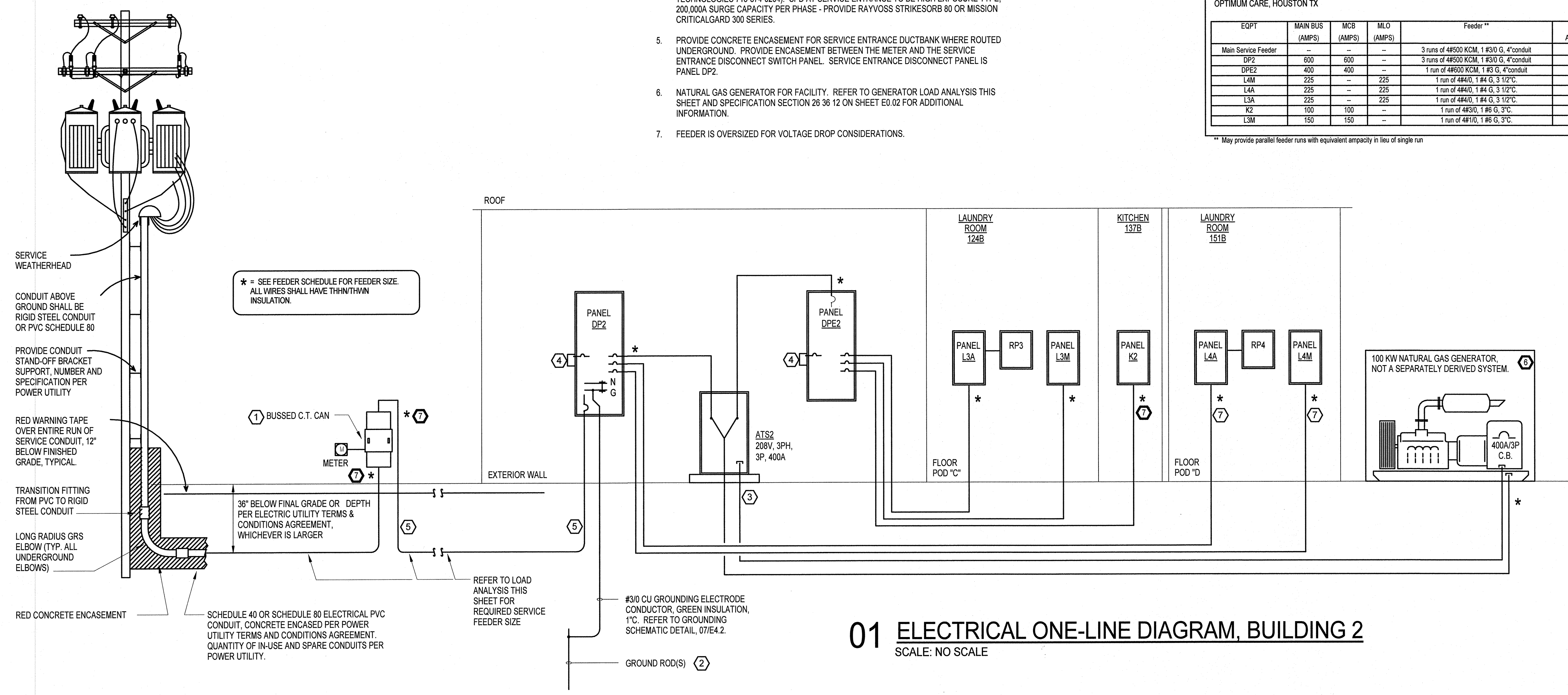
Equipment Short Circuit Ratings Summary (Point-to-Point Calculation)
OPTIMUM CARE, HOUSTON TX

EQPT	DIST. FROM UPSTREAM EQPT (FT)	CALCULATED SHORT CKT CURRENT (AMPS)	EQPT A.I.C. RATINGS (AMPS)
DP2	180	14,021	22,000
DPE2	10	13,609	22,000
L3A	15	12,012	22,000
L3M	15	11,062	22,000
L4M	95	7,428	10,000
L4A	95	7,428	10,000
K2	95	6,837	10,000

Feeder Schedule 2
OPTIMUM CARE, HOUSTON TX

EQPT	MAIN BUS (AMPS)	MCB (AMPS)	MLO (AMPS)	Feeder **	Feeder Ampacity
Main Service Feeder	-	-	-	3 runs of 4#500 KCM, 1 #3/0 G, 4" conduit	1140A
DP2	600	600	-	3 runs of 4#500 KCM, 1 #3/0 G, 4" conduit	1140A
DPE2	400	400	-	1 run of 4#500 KCM, 1 #3/0 G, 4" conduit	420A
L4M	225	-	225	1 run of 4#4/0, 1 #4 G, 3 1/2" C	230A
L4A	225	-	225	1 run of 4#4/0, 1 #4 G, 3 1/2" C	230A
L3A	225	-	225	1 run of 4#4/0, 1 #4 G, 3 1/2" C	230A
K2	100	100	-	1 run of 4#3/0, 1 #6 G, 3" C	200A
L3M	150	150	-	1 run of 4#1/0, 1 #6 G, 3" C	150A

** May provide parallel feeder runs with equivalent ampacity in lieu of single run



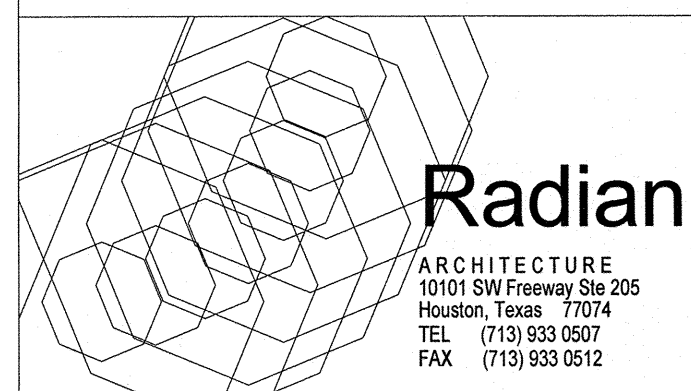
01 ELECTRICAL ONE-LINE DIAGRAM, BUILDING 2
SCALE: NO SCALE

REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL PHASING INFORMATION.



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OPTIMUM CARE
SUGAR LAND, TEXAS



Revision Schedule

#	Date	Description

Project No.
ONE-LINE DIAGRAM, BUILDING 2
Sheet No.

E3.02