

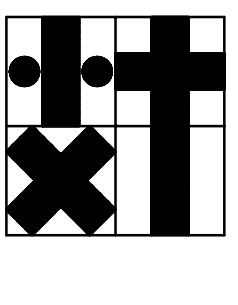


ISSUE  
01/29/12 ISSUED FOR PERMIT  
02/16/12 ISSUE FOR BID

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PROJECT NAME

Maharaja Bhog

PROJECT ADDRESS

8338 Southwest Freeway  
Houston, Texas 77074

PROJECT NUMBER

11078

SHEET NAME

ELECTRICAL  
RISER DIAGRAM

SHEET NUMBER

**E3.1**

PANEL 'LM'						120/240V, 3ø, 4W 125A AMP MCB W/ FEED THRU LUGS		MOUNTING SURFACE BUS BAR	
LOCATION: EXTERIOR	* KVA	WIRE	BRK	A	C	BRK	WIRE	KVA	* LOAD
CKT LOAD									
1 RU-1 (EXISTING)	1 15.5	#8	50/3	1	20/1	#12	1.6	1	EE-FJ3
3	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-
7 RU-2 (NEW)	1 10.9	#8	40/3	1	20/1	#12	1.1	1	EE-FJ1
9	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-
13 RU-3 (NEW)	1 10.9	#8	40/3	1	20/1	#12	1.1	1	SE-FJ2
15	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-
19 PREPARED SPACE	-	-	-	-	-	-	-	-	-
21 PREPARED SPACE	-	-	-	-	-	-	-	-	-
23 PREPARED SPACE	-	-	-	-	-	-	-	-	-
25 PREPARED SPACE	-	-	-	-	-	-	-	-	-
27 PREPARED SPACE	-	-	-	-	-	-	-	-	-
29 PREPARED SPACE	-	-	-	-	-	-	-	-	-
31 PREPARED SPACE	-	-	-	-	-	-	-	-	-
33 PREPARED SPACE	-	-	-	-	-	-	-	-	-
35 PREPARED SPACE	-	-	-	-	-	-	-	-	-
37 PREPARED SPACE	-	-	-	-	-	-	-	-	-
39 PREPARED SPACE	-	-	-	-	-	-	-	-	-
41 PREPARED SPACE	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-
TOTAL KVA = 42.2 (101.5 AMPS)									

\* NOTES  
1. PROVIDE HACR CIRCUIT BREAKER AT THIS LOCATION.

PANEL 'LU'						120/240V, 1ø, 3ø		MOUNTING SURFACE BUS BAR	
LOCATION: EXTERIOR	* KVA	WIRE	BRK	A	C	BRK	WIRE	KVA	* LOAD
CKT LOAD									
1 P.O.S. REGISTER	0.7	#12	20/1	-	-	-	-	-	COMMENCEMENT RECEPT.
3 JUNCTION	0.7	#12	20/1	-	-	-	-	-	1 SHUNT TRIP BREAKER
5 GRINDER	1.0	#12	20/1	-	-	-	-	-	COMMENCEMENT RECEPT.
7 PROCESSOR	0.8	#12	20/1	-	-	-	-	-	1 SHUNT TRIP BREAKER
9 RICE COOKER	1.5	#12	20/1	-	-	-	-	-	HOOD LIGHTS
11 RICE COOKER	1.5	#12	20/1	-	-	-	-	-	1 SHUNT TRIP BREAKER
13 DISHWASHER	1.3	#12	20/1	-	-	-	-	-	ICE MACHINE
15 DISHWASHER BE-FLUE	0.3	#12	20/1	-	-	-	-	-	REFRIGERATOR BAR
17 FREEZER	0.9	#12	20/1	-	-	-	-	-	REFRIGERATOR BAR
19 HOT WELL	6.4	#8	40/2	1	20/1	#12	0.3	0.3	P.O.S. REGISTER
21	-	-	-	-	-	-	-	-	COMMENCEMENT RECEPT.
23 TEL. TERM. BOARD	0.2	#12	20/1	-	-	-	-	-	COMMENCEMENT RECEPT.
25 ROOF/EXTER. RECEPT.	0.9	#12	20/1	-	-	-	-	-	REFRIGERATION SYS.
27 GENERAL RECEPT. MOPEN	0.9	#12	20/1	-	-	-	-	-	P.O.S. REGISTER
29 COMMENCEMENT RECEPT.	2	1.1	#12	20/1	-	-	-	-	RECEPT. DIMMING/HALL
31 LIGHTING	2	1.1	#12	20/1	-	-	-	-	BRK EQUIP.
33 LIGHTING	3	1.3	#12	20/1	-	-	-	-	1 SHUNT TRIP BREAKER
35 LIGHTING	4	0.7	#12	20/1	-	-	-	-	1 SHUNT TRIP BREAKER
37 LIGHTING	5	0.8	#12	20/1	-	-	-	-	7 THERM SIGN
39 LIGHTING	6	0.8	#12	20/1	-	-	-	-	F-1 & 2
41 LIGHTING	1.5	#12	20/1	-	-	-	-	-	DISHWASHER SE-FLUE
42	-	-	-	-	-	-	-	-	-
LIGHTING 6.8 X 1.25 = 8.5 P.O.S. LOAD X 33.2 = 138.3 TOTAL KVA = 33.2 (138.3)									

\* NOTES  
1. SHUNT TRIP BREAKER.  
2. VIA RELAY 'RT' IN LEVTON 'Z-4WY' RELAY PANEL. (TIMELOCK ON/OFF)  
3. VIA RELAY 'RT' IN LEVTON 'Z-4WY' RELAY PANEL. (TIMELOCK ON/OFF)  
4. VIA RELAY 'RE' IN LEVTON 'Z-4WY' RELAY PANEL. (TIMELOCK ON/OFF)  
5. VIA RELAY 'RE' IN LEVTON 'Z-4WY' RELAY PANEL. (TIMELOCK ON/OFF)  
6. VIA RELAY 'RE' IN LEVTON 'Z-4WY' RELAY PANEL. (TIMELOCK ON/OFF)  
7. VIA RELAY 'RE' IN LEVTON 'Z-4WY' RELAY PANEL. (PHOTOCELL ON/OFF)

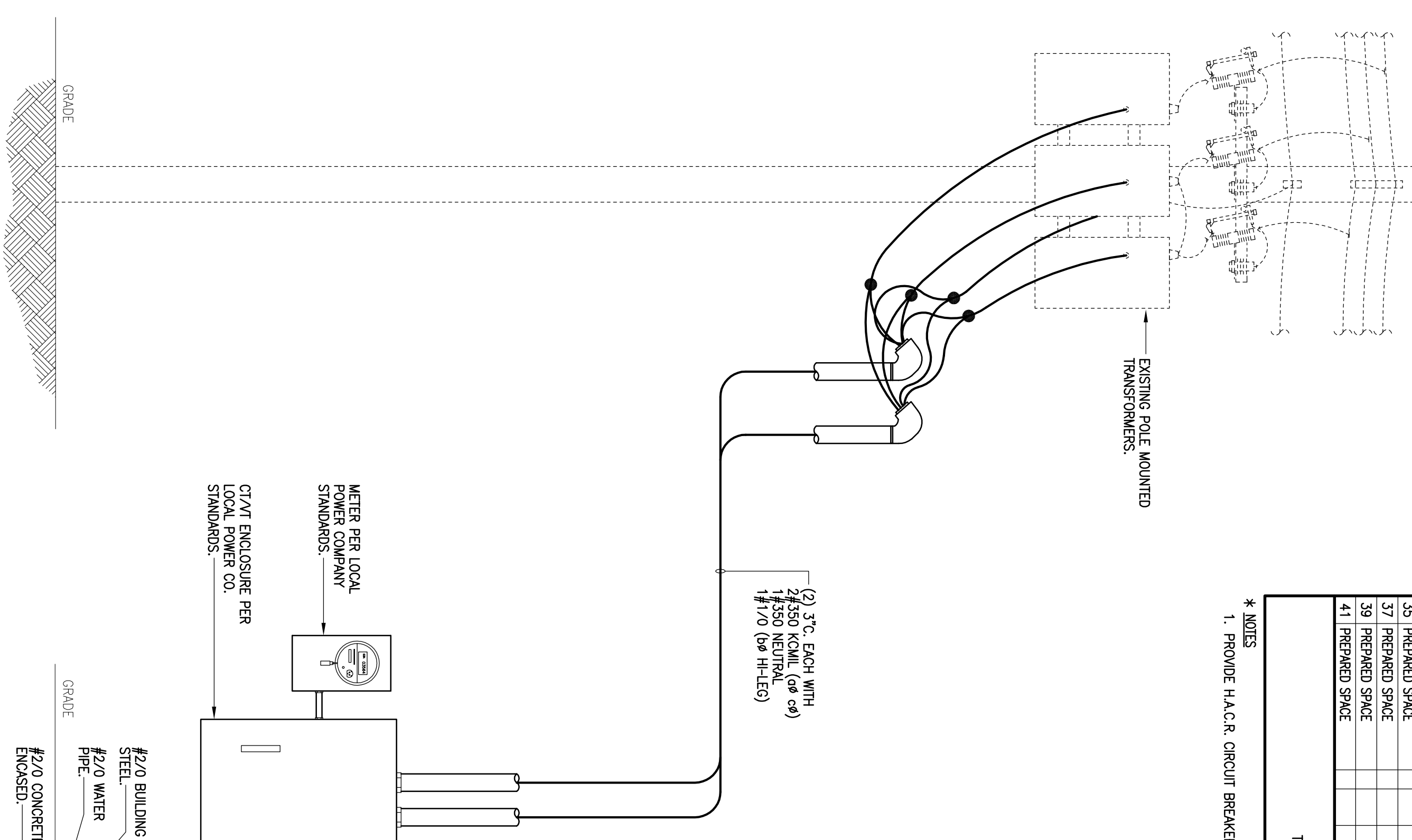
PANEL 'LL2'						120/240V, 1ø, 3ø		MOUNTING SURFACE BUS BAR	
LOCATION: EXTERIOR	* KVA	WIRE	BRK	A	C	BRK	WIRE	KVA	* LOAD
CKT LOAD									
1 THM-1	#12	0.2	20/1	-	-	-	-	-	SPACE
3 THM-2	#12	0.2	20/1	-	-	-	-	-	SPACE
5 SPACE	-	-	-	-	-	-	-	-	SPACE
7 SPACE	-	-	-	-	-	-	-	-	SPACE
9 SPACE	-	-	-	-	-	-	-	-	SPACE
11 SPACE	-	-	-	-	-	-	-	-	SPACE
13 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
15 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
17 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
19 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
21 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
23 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
25 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
27 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
29 PREPARED SPACE	-	-	-	-	-	-	-	-	PREPARED SPACE
30	-	-	-	-	-	-	-	-	PREPARED SPACE
TOTAL KVA = 0.4 (1.7 AMPS)									

\* NOTES

ELECTRICAL LOAD ANALYSIS				
LOCATION: 8338 SOUTHWEST FREEWAY HOUSTON, TEXAS 77074				
PROJECT DESCRIPTION: 2606 SQ. FT. REMODEL OF AN EXISTING LEASE SPACE.				
LOAD DESCRIPTION 120/240V, 3ø - 4W	LOAD KVA	LOAD (FULL LOAD AMPS)		
	Aø	Bø	Cø	N
LIGHTING LOAD 3W/SQ. FT. (2,606 SQ.FT.) AT 1.25% = 9.7	9.7	80.8	-	80.8
RECEPTACLES - FIRST 10 KW OF 3.7 KVA AT 100% = N/A	N/A	30.8	-	30.8
REMAINER 3.7 KVA AT 50% (N.E.C. 220-13) = N/A	3.7	30.8	-	30.8
HVAC: 3ø ROOF TOP UNITS AT 100% =	37.3	89.7	89.7	-
3ø EXHAUST/SUPPLY FANS AT 100% =	4.9	11.8	11.8	-
PLUMBING EQUIPMENT AT 100% =	0.4	3.3	-	3.3
MISCELLANEOUS NON-CONTINUOUS AT 100% =	15.3	127.5	-	127.5
MISCELLANEOUS CONTINUOUS 5.5 KVA AT 125% (N.E.C. 215-2) =	6.9	57.5	-	57.5
TOTAL ESTIMATED CONNECTED LOAD =	78.2	401.4	101.5	401.4
SERVICE PROVIDED =		600	300	600

SHORT CIRCUIT CALCULATIONS USING BUSMAN POINT TO POINT METHOD:

ULTIMATE FAULT CURRENT FROM CENTER POINT ENERGY = 72,900 AMPS AT 240 VOLTS, 3 PHASE.  
 1. SERVICE FROM POLE MOUNTED TRANSFORMER WITH #350 KCMIL CU IN 3 INCH CONDUIT FOR 120/240 VOLT, 3 PHASE, 4 WIRE SERVICE TO BUILDING, APPROXIMATELY 150 FT FROM SERVICE DROP TO SERVICE GUTTER  
 A.  $F = 1.73 \times 150 \times 72,900$  \_\_\_\_\_ = 4.0  
     19,704 X 240  
 B.  $M = 1$   
 C.  $72,900 \times 0.2 = 14,580$  AMPS RMS SHORT CIRCUIT CURRENT AT MAIN SWITCH.  
 D. ALL PANELS RATED AT 25,000 A.I.C. RMS SYM.



1 ELECTRICAL RISER DIAGRAM

SCALE: NOT TO SCALE