

ISSUE FOR: PRICING & PERMIT 11/15/2010

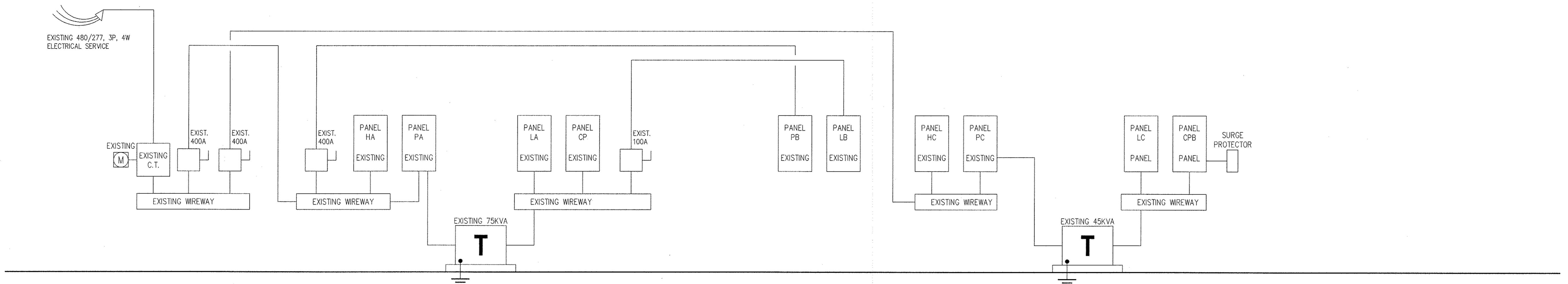
EL CENTRO DE CORAZON ALTERNATIONS
SOUTHEAST COMMUNITY SERVICE CENTER
5801 LONG DRIVE, HOUSTON, TEXAS 77067
MENTAL HEALTH MENTAL RETARDATION AUTHORITY OF HARRIS COUNTY

JIM GWIN ARCHITECTS
3100 RUIJER
HOUSTON, TEXAS 77077
PH: 281.222.2222
FAX: 281.222.2222
WWW.JIMGWINARCHITECTS.COM



PROJECT NUMBER
DRAWN BY JYC
CHECKED BY JYC
SHEET DATE 11/15/2010
ELECTRICAL - RISER DIAGRAMS & PANEL SCHEDULES

E5



01 ELECTRICAL RISER DIAGRAM N.T.S.

480Y/277V 3Ph 4W, full size neutral, w/copper ground bus

PANEL "HA"
Copper Bus Rating: 100 AMP
Mains Rating (M.C.B.): 100 AMP
Existing Feeder: 1 run of 483, 1 #8 G, 2" C.
Feeder Ampacity = 100A

(All Branch Breakers Shall Be Bolt-On Type)

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIP POLE (Note 2)	CKT # (Note 2)	PH (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION		
EMERG. LIGHTING	EX	2.12	7.7	2#12, 1#12G, 1/2" C	20 / 1	1	A	2	20 / 1	2#12, 1#12G, 1/2" C	10.4	2.88	EX	BLDG LIGHTING
LIGHTING	EX	3.70	13.4	2#12, 1#12G, 1/2" C	20 / 1	3	B	4	20 / 1	2#12, 1#12G, 1/2" C	6.8	1.88	EX	LOBBY LIGHTING
LIGHTING	EX	3.40	12.3	2#12, 1#12G, 1/2" C	20 / 1	5	C	6	20 / 1	2#12, 1#12G, 1/2" C	3.8	1.05	EX	CANOPY LIGHTING
LIGHTING	EX	3.54	12.8	2#12, 1#12G, 1/2" C	20 / 1	7	A	8	20 / 1	2#12, 1#12G, 1/2" C	12.3	3.42	EX	LIGHTING
LIGHTING	EX	3.46	12.5	2#12, 1#12G, 1/2" C	20 / 1	9	B	10	20 / 1	2#12, 1#12G, 1/2" C	11.7	3.25	EX	LIGHTING
LIGHTING	EX	3.08	11.1	2#12, 1#12G, 1/2" C	20 / 1	11	C	12	20 / 1	2#12, 1#12G, 1/2" C	12.9	3.58	EX	LIGHTING
LIGHTING	EX	2.64	9.5	2#12, 1#12G, 1/2" C	20 / 1	13	A	14	20 / 1	2#12, 1#12G, 1/2" C	12.7	3.52	EX	LIGHTING
SPARE	EX				20 / 1	15	B	16	20 / 1				SPARE	
SPARE	EX				20 / 1	17	C	18	20 / 1				SPARE	
SPACE ONLY					20 / 1	19	A	20	20 / 1				SPACE ONLY	
SPACE ONLY					20 / 1	21	B	22	20 / 1				SPACE ONLY	
SPACE ONLY					20 / 1	23	C	24	20 / 1				SPACE ONLY	

PANEL "HA" LOAD ANALYSIS

CODE DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED LOAD (KVA)	NEC CALCULATION	REFERENCE
LIGHTING	L				
RECEPTACLES	R				
COOLING LOADS	C				
HEATING LOADS	H				
MOTOR	MT				
MISC. NON-CONTINUOUS LOADS	MIS				
MISC. CONTINUOUS LOADS	MC				
KITCHEN LOADS	K				
OUTSIDE LIGHTING	OL				
EXISTING LOADS	EX	1.25	41.5	51.9	
TRANSFORMER LOADS	X				
25% LARGEST MOTOR	-				
TOTAL LOAD (KVA)			41.5 KVA	51.9 KVA	
TOTAL LOAD (AMP AVG)			49.9 AMP	62.4 AMP	

208Y/120V 3Ph 4W, full size neutral, w/copper ground bus

PANEL "LC"
Copper Bus Rating: 150 AMP
Mains Rating (M.C.B.): 150 AMP
Existing Feeder: 1 run of 4810, 1 #8 G, 2 1/2" C.
Feeder Ampacity = 150A

(All Branch Breakers Shall Be Bolt-On Type)

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIP POLE (Note 2)	CKT # (Note 2)	PH (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION		
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	1	A	2	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	3	B	4	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	5	C	6	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	7	A	8	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	9	B	10	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	11	C	12	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	13	A	14	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	15	B	16	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	17	C	18	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	19	A	20	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	21	B	22	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	23	C	24	20 / 1	2#12, 1#12G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	25	A	26	20 / 1	2#12, 1#12G, 1/2" C	6.7	0.80	EX	APPL. RECEPTACLE
WATER HEATER	EX	1.50	12.5	2#12, 1#12G, 1/2" C	20 / 1	27	B	28	20 / 1	2#12, 1#12G, 1/2" C	6.7	0.80	EX	APPL. RECEPTACLE
EDF	EX	1.20	10.0	2#12, 1#12G, 1/2" C	20 / 1	29	C	30	20 / 1	2#12, 1#12G, 1/2" C	12.5	1.50	EX	COPIER
EDF	EX	1.20	10.0	2#12, 1#12G, 1/2" C	20 / 1	31	A	32	20 / 1	2#12, 1#12G, 1/2" C	3.3	0.40	EX	EXHAUST FAN & LIGHTING
6 D.R. EXAM RM ADULT	R	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	33	B	34	20 / 1	2#12, 1#12G, 1/2" C	4.5	0.54	R	3 D.R.
6 D.R. EXAM RM CHILDREN	R	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	35	C	36	20 / 1	2#12, 1#12G, 1/2" C	4.5	0.54	R	3 D.R.
9 D.R. GENERAL	R	1.62	13.5	2#12, 1#12G, 1/2" C	20 / 1	37	A	38	20 / 1	2#12, 1#12G, 1/2" C	6.5	0.8	MIS	REFRIGERATOR 780W
2 D.R.	R	0.36	3.0	2#12, 1#12G, 1/2" C	20 / 1	39	B	40	20 / 1	2#12, 1#12G, 1/2" C	8.3	1.0	MIS	DISHWASHER 1000W
3 D.R.	R	0.54	4.5	2#12, 1#12G, 1/2" C	20 / 1	41	C	42	20 / 1	2#12, 1#12G, 1/2" C	4.5	0.54	R	3 D.R.

PANEL "LC" LOAD ANALYSIS

CODE DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED LOAD (KVA)	NEC CALCULATION	REFERENCE
LIGHTING	L				
RECEPTACLES	R				
COOLING LOADS	C				
HEATING LOADS	H				
MOTOR	MT				
MISC. NON-CONTINUOUS LOADS	MIS				
MISC. CONTINUOUS LOADS	MC				
KITCHEN LOADS	K				
OUTSIDE LIGHTING	OL				
EXISTING LOADS	EX	1.25	34.4	43.0	
TRANSFORMER LOADS	X				
25% LARGEST MOTOR	-				
TOTAL LOAD (KVA)			42.5 KVA	51.1 KVA	
TOTAL LOAD (AMP AVG)			117.9 AMP	141.8 AMP	

208Y/120V 3Ph 4W, full size neutral, w/copper ground bus

PANEL "LB"
Copper Bus Rating: 225 AMP
Mains Rating (M.C.B.): 225 AMP
Existing Feeder: 1 run of 4840, 1 #2 G, 3" C.
Feeder Ampacity = 230A

(All Branch Breakers Shall Be Bolt-On Type)

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIP POLE (Note 2)	CKT # (Note 2)	PH (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION		
EDF 650VA	EX	0.7	5.4	2#12, 1#12G, 1/2" C	20 / 1	1	A	2	20 / 1	2#10, 1#10G, 1/2" C	16.7	2.00	EX	VENDING
EDF 650VA	EX	0.7	5.4	2#12, 1#12G, 1/2" C	20 / 1	3	B	4	20 / 1	2#10, 1#10G, 1/2" C	16.7	2.00	EX	VENDING
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	5	C	6	20 / 1	2#10, 1#10G, 1/2" C	16.7	2.00	EX	VENDING
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	7	A	8	20 / 1	2#10, 1#10G, 1/2" C	16.7	2.00	EX	COPIER
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	9	B	10	20 / 1	2#10, 1#10G, 1/2" C	16.7	2.00	EX	COPIER
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	11	C	12	20 / 1	2#10, 1#10G, 1/2" C	6.5	0.8	MIS	REFRIGERATOR 780W
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	13	A	14	20 / 1	2#10, 1#10G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	15	B	16	20 / 1	2#10, 1#10G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	17	C	18	20 / 1	2#10, 1#10G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	19	A	20	20 / 1	2#10, 1#10G, 1/2" C	9.0	1.08	EX	6 D.R.
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	21	B	22	20 / 1	2#10, 1#10G, 1/2" C	1.9	0.2	MT	HWHP-112HP-1.9Rta Manual Mtr Sw Ht
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	23	C	24	20 / 1	2#12, 1#12G, 1/2" C	12.5	1.5	MIS	END-1 12.5A
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	25	A	26	20 / 1	2#12, 1#12G, 1/2" C	12.5	1.5	MIS	END-1 12.5A
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	27	B	28	20 / 1				SPARE	
6 D.R.	EX	1.08	9.0	2#12, 1#12G, 1/2" C	20 / 1	29	C	30	20 / 1				SPACE ONLY	
SPACE ONLY					20 / 1	31	A	32	20 / 1				SPACE ONLY	
SPACE ONLY					20 / 1	33	B	34	20 / 1				SPACE ONLY	
SPACE ONLY					20 / 1	35	C	36	20 / 1				SPACE ONLY	
SPACE ONLY					20 / 1	37	A	38	20 / 1				SPACE ONLY	
SPACE ONLY					20 / 1	39	B	40	20 / 1				SPACE ONLY	
SPACE ONLY					20 / 1	41	C	42	20 / 1				SPACE ONLY	

PANEL "LB" LOAD ANALYSIS

CODE DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED LOAD (KVA)	NEC CALCULATION	REFERENCE
LIGHTING	L				
RECEPTACLES	R				
COOLING LOADS	C				
HEATING LOADS	H				
MOTOR	MT				
MISC. NON-CONTINUOUS LOADS	MIS				
MISC. CONTINUOUS LOADS	MC				
KITCHEN LOADS	K				
OUTSIDE LIGHTING	OL				
EXISTING LOADS	EX	1.25	28.9	36.2	
TRANSFORMER LOADS	X				
25% LARGEST MOTOR	-				
TOTAL LOAD (KVA)			0.2	0.1	
TOTAL LOAD (AMP AVG)			32.9 AMP	40.2 AMP	

480Y/277V 3Ph 4W, full size neutral, w/copper ground bus

PANEL "HC"
Copper Bus Rating: 80 AMP
Mains Rating (M.C.B.): 80 AMP
Existing Feeder: 1 run of 485, 1 #8 G, 1 1/4" C.
Feeder Ampacity = 65A

(All Branch Breakers Shall Be Bolt-On Type)

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIP POLE (Note 2)	CKT # (Note 2)	PH (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION		
EMERG. LIGHTING	EX	1.39	5.0	2#12, 1#12G, 1/2" C	20 / 1	1	A	2	20 / 1	2#12, 1#12G, 1/2" C	11.5	3.18	EX	LIGHTING
CANOPY LIGHTING	EX	0.56	2.0	2#12, 1#12G, 1/2" C	20 / 1	3	B	4	20 / 1	2#12, 1#12G, 1/2" C	11.0	3.06	EX	LIGHTING
BUILDING LIGHTING	EX	0.53	1.9	2#12, 1#12G, 1/2" C	20 / 1	5	C	6	20 / 1	2#12, 1#12G, 1/2" C	11.9	3.30	EX	LIGHTING
LIGHTING	EX	3.00	10.8	2#12, 1#12G, 1/2" C	20 / 1	7	A	8	20 / 1	2#12, 1#12G, 1/2" C	11.5	3.19	EX	LIGHTING
LIGHTING	EX	3.00	10.8	2#12, 1#12G, 1/2" C	20 / 1	9	B	10	20 / 1	2#12, 1#12G, 1/2" C	10.8	3.0	MIS	HWHT-16.8A ***Disc36A2P/800V/N/1
LIGHTING	EX	3.66	13.2	2#12, 1#12G, 1/2" C	20 / 1	11	C	12	20 / 1				SPARE	
SPACE ONLY					20 / 1	13	A	14	20 / 1				SPACE ONLY	