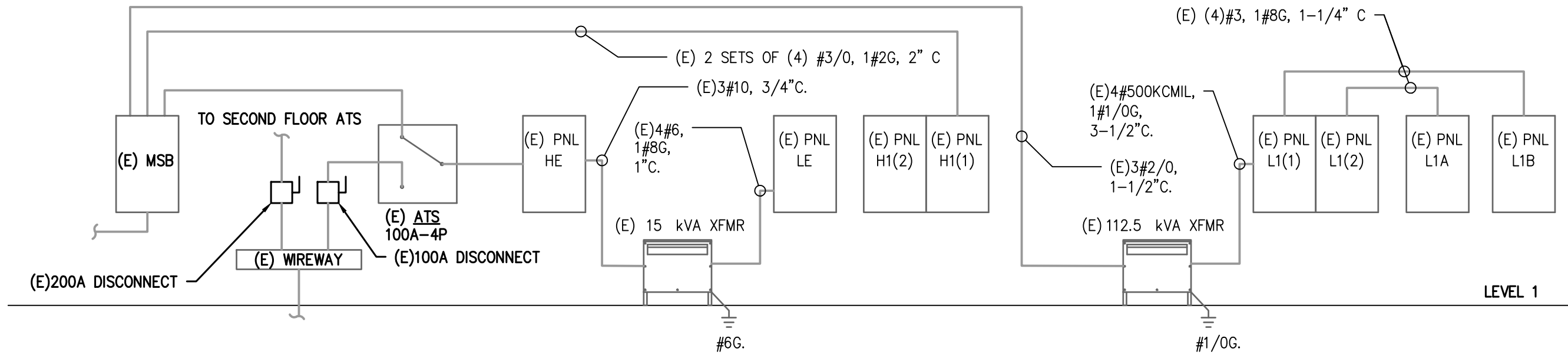




01 PARTIAL ELECTRICAL DISTRIBUTION DIAGRAM

SCALE: NO SCALE

VOLTAGE DROP CALCULATION:

VOLTAGE DROP CALCULATIONS HAVE BEEN PERFORMED. NO CIRCUIT HAS A VOLTAGE DROP HIGHER THAN 3%.

ELECTRICAL LOAD ANALYSIS					
PROJECT NAME: WOODFOREST TOWN CENTER					
PROJECT NUMBER: 26181.00					
SERVICE VOLTAGE:		277/480V, 3 PHASE, 4 WIRE, WYE			
SERVICE RATING:		400 AMPS			
GROSS AREA:		3,703 SQUARE FEET			
LOAD DESCRIPTION	CODE	CONNECTED LOAD (kVA)	DEMAND FACTORS (%)	DESIGN LOAD (kVA)	REMARKS
LIGHTS (1.3 VA/FT ²):	4.8	1.6	125%	6.0	NEC 220.42, 43, 44, 45
SIGN LIGHTS:		0.5	125%	0.6	NEC 220.14.F
SITE LIGHTS:		0.0	125%	0.0	NEC 220.42, 43, 44, 45
RECEPTACLES:	3.7	0.0	10kVA+50%	3.7	NEC 220.14.H, I, J, K, 220.47
EQUIPMENT:		24.1	100%	24.1	NEC 220.14.A
WATER HEATERS:		0.0	100%	0.0	NEC 220.14.A
HVAC:		0.0	100%	0.0	NEC 220.14.C, 220.50
ELECTRIC HEAT:		0.0	100%	0.0	NEC 220.51
LARGEST MOTOR:		0.0	125%	0.0	NEC 430.22
TOTAL DESIGN LOAD:		34	kVA		
@ 480V, 3 PHASE:		41	AMPS		

NOTE: ALL LOADS AND DEMAND FACTORS ARE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NEC ARTICLE 220

PROJECT NAME: WOODFOREST TOWN CENTER											
PROJECT NUMBER: 26181.00											
PANEL: L1B						EXISTING PANEL					
VOLTAGE: 120/208V, 3PH, 4W		BUS: 100 AMP		MAINS: M.L.O.		ACCESSORIES:		NEMA: 1			
CODES: 0=LIGHTS 1=RECEP 2=EQUIP 3=A/C 4=HTG 5=125% LGST MTR 6=KITCHEN 7=PREVIOUSLY CALCULATED											
CODE	LOAD	CIRCUIT DESCRIPTION	BKR	CKT	PH	CKT	BKR	CIRCUIT DESCRIPTION	LOAD	CODE	
6	989	UC ICE MACHINE	*	20/1	1	A	2	20/1	RECEP.	900 1	
2	900	PC	*	20/1	3	B	4	20/1	RECEP.	540 1	
2	900	PC	*	20/1	5	C	6	20/1	RECEP.	950 1	
2	900	PC	*	20/1	7	A	8	20/1	DISHWASHER	2100 6	
2	900	PC	*	20/1	9	B	10	20/1	COOLER	713 6	
2	900	PC	*	20/1	11	C	12	20/1	EXISTING	540 1	
2	900	PC	*	20/1	13	A	14	20/1	COFFEE MACHINE	800 6	
1	900	RECEP.	*	20/1	15	B	16	20/1	COPY MACHINE	800 2	
1	540	RECEP.	*	20/1	17	C	18	20/1	EXISTING	540 1	
1	900	RECEP.	*	20/1	19	A	20	20/1	ATM	1000 2	
2	540	NEW DIRECTORY	*	20/1	21	B	22	20/1	EXISTING	540 1	
2	1000	ATM	*	40/1	23	C	24	20/1	POWER BANK	800 2	
2	2000	ATM	*	25/1	25	A	26	20/1	FREEZER	1188 6	
1	540	CORRIDOR REC	*	20/1	27	B	28	20/1	COFFEE MACHINE	800 6	
6	800	FREEZER	*	20/1	29	C	30	20/1	COFFEE MACHINE	800 6	
6	240	UNDER COUNTER FRIDGE	****	20/1	31	A	32	20/2	EXISTING	800 2	
6	1440	COFFEE GRINDER	****	20/1	33	B	34	---	---	800 2	
6	1528	HOT WATER TOWER	****	20/1	35	C	36	20/2	IDF ROOM RACK	800 2	
6	1800	BLENDER	****	20/1	37	A	38	---	---	800 2	
6	2300	ESPRESSO MACHINE	****	30/2	39	B	40	20/2	TURBO CHEF	2000 6	
6	2300	---	****	---	41	C	42	---	---	2000 6	
LIGHTS		RECEP.	EQUIP.	MOTORS	EL. HEAT	PHASE		CONN.KVA	LOAD FACTORS	DES. KVA	DES. AMP
0		1800	11026	0	0	A		12.8	LIGHTS @ 125%	12.8	107
0		2520	8654	0	0	B		11.2	EQUIP. @ 100%	11.2	93
0		2570	9228	0	0	C		11.8	LG. MOTOR @125%	11.8	98
0		6890	28908	0	0	TOTAL		35.8	RECEPS @ 10kW+50%	35.8	99

* EXISTING CIRCUIT BREAKER - ESTIMATED LOAD
** EXISTING SPARE CIRCUIT BREAKER
*** EXISTING BREAKER SPACE
**** REPLACE EXISTING BREAKER AS SHOWN

ELECTRICAL DISTRIBUTION DIAGRAM NOTES:

- CONDUCTOR SIZES SHOWN ARE FOR COPPER CONDUCTORS WITH THWN INSULATION IN EMT (4" C., OR LESS) OR RIGID CONDUIT (> 4" C.). PROVIDE GROUNDING CONDUCTORS FOR ALL CONDUIT. GROUNDING CONDUCTORS ARE NEEDED FOR ALL PVC CONDUIT.
- SHORT CIRCUIT CURRENT VALUES ARE GIVEN IN RMS SYMMETRICAL AMPERES. PREFIX 'FCA' INDICATES MAXIMUM AVAILABLE FAULT CURRENT. PREFIX 'FCLT' INDICATES APPARENT LET-THRU CURRENT FROM UPSTREAM CURRENT LIMITING DEVICE.
- ELECTRICAL SYSTEM SHALL BE FULLY RATED. SERIES RATED EQUIPMENT IS NOT ACCEPTABLE.
- PROVIDE FULL LENGTH, FULL SIZE INSULATED GROUND AND NEUTRAL BUS IN ALL PANELBOARDS.
- REFER TO ELECTRICAL UTILITY SPECIFICATIONS FOR ALL WORK AT SERVICE POINT OF ATTACHMENT.
- CONTRACTOR TO VERIFY FAULT CURRENT AVAILABLE AT UTILITY TRANSFORMER SECONDARY WITH ELECTRICAL UTILITY FOR THE FINAL SELECTION OF EQUIPMENT AIC RATINGS.
- SPARES AND SPACES ARE INDICATED ON PANELBOARD SCHEDULES.
- FLEXIBLE METAL CONDUIT SHALL NOT BE USED IN WET LOCATIONS OR WET AREAS.
- ALL FEEDER AND BRANCH CIRCUIT WIRING METHODS SHALL INCLUDE AN EQUIPMENT-GROUNDING CONDUCTOR PER NEC.
- ALL CONDUIT BELOW GRADE OR IN CONCRETE SLABS SHALL BE PVC. MAXIMUM CONDUIT SIZE FOR CONDUIT IN CONCRETE SLABS IS 3/4".
- A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2 X 3 IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION. COH ELECTRICAL CODE 504.1.1.

PROJECT NAME: WOODFOREST TOWN CENTER																																		
PROJECT NUMBER: 26181.00																																		
PANEL: H1(1)				EXISTING PANEL																														
VOLTAGE: 277/480V, 3PH, 4W				BUS: 400 AMP		MAINS: M.L.O.		ACCESSORIES:		NEMA: 1																								
CODES: 0=LIGHTS 1=RECEP 2=EQUIP 3=A/C 4=HTG 5=125% LGST MTR 6=KITCHEN 7=PREVIOUSLY CALCULATED																																		
CODE	LOAD	CIRCUIT DESCRIPTION	BKR	CKT	PH	CKT	BKR	CIRCUIT DESCRIPTION	LOAD	CODE																								
0	1500	LIGHTING GRID	*	20/1	1	A	2	20/1	LIGHTING GRID	* 1000 0																								
0	1500	LIGHTING GRID	*	20/1	3	B	4	20/1	LIGHTING GRID	* 1000 0																								
0	1500	LIGHTING GRID	*	20/1	5	C	6	20/1	LIGHTING GRID	* 1000 0																								
0	1000	LIGHTING GRID	*	20/1	7	A	8	20/1	LIGHTING GRID	* 1000 0																								
0	1000	LIGHTING GRID	*	20/1	9	B	10	20/1	LIGHTING GRID	* 1000 0																								
0	1000	LIGHTING GRID	*	20/1	11	C	12	20/1	LIGHTING GRID	* 1000 0																								
0	1000	LIGHTING GRID	*	20/1	13	A	14	20/1	CORE LIGHTING	* 1000 0																								
0	1000	LIGHTING GRID	*	20/1	15	B	16	20/1	CORE LIGHTING	* 1000 0																								
0		SPARE	**	20/1	17	C	18	20/1	LOBBY LIGHTING	* 1000 0																								
4	3000	H2O HEAT	*	20/1	19	A	20	20/1	SOFFIT LIGHTING	* 1000 0																								
0	1000	EXISTING	*	20/1	21	B	22	20/1	EXISTING	* 1000 0																								
4	3000	H2O HEAT KIT	*	20/1	23	C	24	20/1	POLE LIGHTING	* 1000 0																								
1	500	SIGN LIGHT	*	20/1	25	A	26	20/1	SPARE	**																								
		SPARE	**	20/1	27	B	28	20/1	SPARE	**																								
4	6000	WATER HEATER	****	30/1	29	C	30	---	SPACE	***																								
		SPACE	***	31	A	32	35/3	VAV	*	3																								
		SPACE	***	33	B	34	---	---	*	3																								
4	6000	WATER HEATER	*	30/1	35	C	36	---	---	*	3																							
3	8000	AHU-7	*	70/3	37	A	38	45/3	VAV	*	3																							
3	8000	---	*	---	39	B	40	---	---	*	3																							
3	8000	---	*	---	41	C	42	---	---	*	3																							
LIGHTS							PHASE		PHASE		CONN.KVA		LOAD FACTORS		DES. KVA		DES. AMP																	
7500							500		0		8000		3000		A		19.0		LIGHTS @ 125%		20.9		75											
8500							0		0		8000		0		B		16.5		EQUIP. @ 100%		18.6		67											
6500							0		0		8000		15000		C		29.5		LG. MOTOR @125%		31.1		112											
22500							500		0		24000		18000		TOTAL		TOTAL		65.0		RECEPS @ 10kW+50%		70.6		85									
SUB-FEED PANELS:																																		
PANEL NAME							S.F. KVA							LOAD FACTORS							DES. KVA							DES. AMP						
PANEL H1(2)							90.0							SUB FEED @ 100%							90.0							108						

* EXISTING CIRCUIT BREAKER - ESTIMATED LOAD
** EXISTING SPARE CIRCUIT BREAKER
*** EXISTING BREAKER SPACE
**** REPLACE EXISTING BREAKER AS SHOWN

PROJECT NAME: WOODFOREST TOWN CENTER											
PROJECT NUMBER: 26181.00											
PANEL: L1(2)											
EXISTING PANEL											
VOLTAGE: 120/208V, 3PH, 4W BUS: 225 AMP MAINS: M.L.O. ACCESSORIES: NEMA: 1											
CODES: 0=LIGHTS 1=RECEP 2=EQUIP 3=A/C 4=HTG 5=125% LGST MTR 6=KITCHEN 7=PREVIOUSLY CALCULATED											
CODE	LOAD	CIRCUIT DESCRIPTION	BKR	CKT	PH	CKT	BKR	CIRCUIT DESCRIPTION	LOAD	CODE	
1	900	RECEP.	*	20/1	43	A	44	20/1	LTS	1000 0	
1	540	EXISTING	*	20/1	45	B	46	20/1	RECEP.	900 1	
1	900	RECEP.	*	20/1	47	C	48	20/1	RECEP.	540 1	
1	540	RECEP.	*	20/1	49	A	50	20/1	RECEP.	900 1	
1	900	RECEP.	*	20/1	51	B	52	20/1	RECEP.	540 1	
1	540	EXISTING	*	30/1	53	C	54	20/1	RECEP.	900 1	
0	1000	LTS	*	20/1	55	A	56	20/1	RECEP.	540 1	
1	900	RECEP.	*	20/1	57	B	58	20/1	RECEP.	900 1	
1	540	RECEP.	*	20/1	59	C	60	20/1	RECEP.	540 1	
1	900	RECEP.	*	20/1	61	A	62	20/1	RECEP.	900 1	
1	540	RECEP.	*	20/1	63	B	64	20/1	RECEP.	540 1	
1	900	RECEP.	*	20/1	65	C	66	20/1	RECEP.	900 1	
1	540	RECEP.	*	20/1	67	A	68	30/2	OVEN	2000 4	
1	900	RECEP.	*	20/1	69	B	70	---	---	2000 4	
1	540	RECEP.	*	20/1	71	C	72	20/1	RECEP.	900 1	
1	900	RECEP.	*	20/1	73	A	74	20/1	RECEP.	540 1	
1	540	RECEP.	*	20/1	75	B	76	20/1	RECEP.	900 1	
1	900	RECEP.	*	20/1	77	C	78	20/1	RECEP.	540 1	
1	540	RECEP.	*	20/1	79	A	80	100/3	PANEL LA	9516 7	
1	900	RECEP.	*	20/1	81	B	82	---	---	9980 7	
1	540	RECEP.	*	20/1	83	C	84	---	---	10864 7	
LIGHTS RECEP. EQUIP. MOTORS EL. HEAT PHASE											
2000		7200	0	0	2000	A	20.7 LIGHTS @ 125%		9.8	81	
0		9000	0	0	2000	B	21.0 EQUIP. @ 100%		8.2	68	
0		9180	0	0	0	C	20.0 LG. MOTOR @125%		6.3	52	
2000		25380	0	0	4000	TOTAL	61.7 RECEPTS @ 10kW+50%		24.2	67	
SUB-FEED PANELS:											
PANEL NAME						S.F. KVA		LOAD FACTORS		DES. KVA DES. AMP	
PANEL A						26.6		SUB FEED @ 100%		26.6 74	