PANEL A POWER PANEL

LOCATION	**111 WAREHOUSE (E. WALL OF 112)**	VOLTAGE	**120/208 V, 3 PH, 4 W**	BUS / MAIN	**400 A, MAIN LUGS ONLY**
MOUNTING	**SURFACE**	FED FROM	**MSB, 400 A 3P**	INTERRUPTING	**22 kA, FULLY RATED**
FEEDER	**2 × 4 × 3/0 Cu + #3 Cu bond**	ISC AT PANEL	**18.0 kA**	NEUTRAL / BOND	**Isolated neutral, separate bond bar**

CKT	DESCRIPTION	BKR	WIRE	VA	A	B	C	VA	WIRE	BKR	DESCRIPTION	CKT
1	RTU-1 ROOFTOP UNIT, 10 T, GAS HEAT	60/3	#6	5,548	8,048			2,500	#10	30/3	UH-1 ELECTRIC UNIT HEATER, 7.5 KW (DOOR HEAT)	2
3	(continued)			5,548		8,048		2,500			(continued)	4
5	(continued)			5,548			8,048	2,500			(continued)	6
7	RTU-2 ROOFTOP UNIT, 10 T, GAS HEAT	60/3	#6	5,548	8,048			2,500	#10	30/3	UH-2 ELECTRIC UNIT HEATER, 7.5 KW (DOOR HEAT)	8
9	(continued)			5,548		8,048		2,500			(continued)	10
11	(continued)			5,548			8,048	2,500			(continued)	12
13	RTU-3 ROOFTOP UNIT, 7.5 T, GAS HEAT	50/3	#8	4,323	7,229			2,906	#8	50/3	AC-1 AIR COMPRESSOR, 7.5 HP	14
15	(continued)			4,323		7,229		2,906			(continued)	16
17	(continued)			4,323			7,229	2,906			(continued)	18
19	MAU-1 MAKE-UP AIR UNIT, GAS-FIRED, 3 HP FAN	15/3	#12	1,273	4,601			3,328	#8	40/2	EVSE-1 LEVEL 2 EV CHARGER, 32 A CONTINUOUS	20
21	(continued)			1,273		4,601		3,328			(continued)	22
23	(continued)			1,273			4,601	3,328	#8	40/2	EVSE-2 LEVEL 2 EV CHARGER, 32 A CONTINUOUS	24
25	SPACE	—			3,328			3,328			(continued)	26
27	EVSE-3 LEVEL 2 EV CHARGER, 32 A CONTINUOUS	40/2	#8	3,328		6,656		3,328	#8	40/2	EVSE-4 LEVEL 2 EV CHARGER, 32 A CONTINUOUS	28
29	(continued)			3,328			6,656	3,328			(continued)	30
31	WH-1 ELECTRIC WATER HEATER, 6 KW	40/2	#8	3,000	3,000					—	FUTURE EVSE-5 (EVEMS REQUIRED)	32
33	(continued)			3,000		3,000					(reserved)	34
35	FUTURE EVSE-6 (EVEMS REQUIRED)	—					1,176	1,176	#10	20/1	OHD-1 OVERHEAD DOOR OPERATOR, 1/2 HP	36
37	(reserved)				1,176			1,176	#10	20/1	OHD-2 OVERHEAD DOOR OPERATOR, 1/2 HP	38
39	SPARE	20/1								—	SPACE	40
41	SPACE	—								—	SPACE	42

CONNECTED LOAD PER PHASE A: 35,430 VA (295 A) B: 37,582 VA (313 A) C: 35,758 VA (298 A)
TOTAL CONNECTED 108,771 VA = 302 A balanced · highest phase 313 A ≤ 80 % of 400 A = 320 A

PANEL B LIGHTING AND RECEPTACLE PANEL

LOCATION	**104 CORRIDOR**	VOLTAGE	**120/208 V, 3 PH, 4 W**	BUS / MAIN	**225 A, MAIN LUGS ONLY**
MOUNTING	**RECESSED**	FED FROM	**MSB, 225 A 3P**	INTERRUPTING	**22 kA, FULLY RATED**
FEEDER	**4 × 4/0 Cu + #4 Cu bond**	ISC AT PANEL	**12.0 kA**	NEUTRAL / BOND	**Isolated neutral, separate bond bar**

CKT	DESCRIPTION	BKR	WIRE	VA	A	B	C	VA	WIRE	BKR	DESCRIPTION	CKT
1	LTG SHOWROOM PENDANTS ROWS 1-2	15/1	#12	480	1,560			1,080	#12	20/1	RECEPT SHOWROOM WALLS	2
3	LTG SHOWROOM ROW 3 + TRACKS	15/1	#12	480		1,560		1,080	#12	20/1	RECEPT SHOWROOM FLOOR BOXES	4
5	LTG RECEPTION, CORRIDOR, WASHROOMS	15/1	#12	195			1,095	900	#12	20/1	RECEPT RECEPTION, CORRIDOR	6
7	LTG OPEN OFFICE	15/1	#12	600	2,040			1,440	#12	20/1	FF-1 WORKSTATIONS 1-4	8
9	LTG MEETING, OFFICES, STAFF	15/1	#12	640		2,080		1,440	#12	20/1	FF-2 WORKSTATIONS 5-8	10
11	LTG WAREHOUSE HIGH-BAYS ROW N	15/1	#12	900			2,340	1,440	#12	20/1	FF-3 WORKSTATIONS 9-12	12
13	LTG WAREHOUSE HIGH-BAYS ROW C	15/1	#12	900	2,400			1,500	#12	20/1	COPIER (DEDICATED)	14
15	LTG WAREHOUSE HIGH-BAYS ROW S	15/1	#12	750		2,470		1,720	#12	20/1	RECEPT MEETING + AV	16
17	LTG ELEC/IT, EMERG. UNITS, EXITS (UNSW.)	15/1	#12	378			1,818	1,440	#12	20/1	RECEPT OFFICES 109, 110	18
19	LTG EXTERIOR WALL PACKS + POLES (LC-1)	15/1	#10	480	1,980			1,500	#12	20/1	STAFF COUNTER (GFCI)	20
21	SIGN (LC-1)	15/1	#12	1,200		2,700		1,500	#12	20/1	STAFF COUNTER (GFCI)	22
23	CU-1 IT ROOM SPLIT SYSTEM	20/2	#12	1,248			2,048	800	#12	15/1	REFRIGERATOR (DEDICATED)	24
25	(continued)			1,248	2,448			1,200	#12	15/1	DISHWASHER (GFCI)	26
27	FIRE ALARM CONTROL UNIT (LOCK ON, RED)	15/1	#12	300		1,800		1,500	#12	20/1	MICROWAVE (DEDICATED)	28
29	SECURITY / ACCESS CONTROL	15/1	#12	300			1,160	860	#12	15/1	WASHROOM GFCI + EF-1, EF-2	30
31	ROOF SERVICE RECEPTACLES (WP GFCI)	20/1	#12	360	1,620			1,260	#12	20/1	RECEPT WAREHOUSE WEST + ELEC RM	32
33	EXTERIOR RECEPTACLES (WP GFCI)	20/1	#12	540		1,620		1,080	#12	20/1	RECEPT WAREHOUSE EAST	34
35	SPARE	20/1					1,800	1,800	#12	20/1	IT RACK 1 (DEDICATED)	36
37	RECEPT OFFICE 110 (CO-07)	20/1	#12	360	360					—	SPACE	38
39	SPACE	—								20/1	SPARE	40
41	SPACE	—					1,800	1,800	#12	20/1	IT RACK 2 (DEDICATED)	42

CONNECTED LOAD PER PHASE A: 12,408 VA (103 A) B: 12,230 VA (102 A) C: 12,061 VA (101 A)
TOTAL CONNECTED 36,699 VA = 102 A balanced · highest phase 103 A ≤ 80 % of 225 A = 180 A

MSB MAIN SWITCHBOARD · 112 ELECTRICAL

600 A · 120/208 V, 3 PH, 4 W · BUS BRACING 35 kA · FULLY RATED

POS	DEVICE	FEEDS	CALC. VA	CHECK 80 %
MAIN	600 A 3P · 35 kA	Service S1	147,497	409 A ≤ 480
F1	400 A 3P	PANEL A	108,771	302 A ≤ 320
F2	225 A 3P	PANEL B	58,676	163 A ≤ 180
F3	100 A 3P	SPARE	—	—
F4	—	SPACE	—	—

Calculated loads from E-302: the service by Rule 8-210; feeders taken conservatively (Panel B on the Table 14 basic load of the whole floor).

PANEL A WITH FUTURE EVSE-5, -6

CASE	VA	AMPS	80 % OF 400 A
Panel A today	108,771	302 A	OK
+ EVSE-5, -6 (2 × 32 A)	13,312		
Panel A with both	122,083	339 A	> 320 A

Connecting the future chargers needs an EV energy management system that holds the chargers' total within Panel A's capacity, or a larger panel. Rough-in only in this contract.

PANEL SCHEDULE NOTES

1. Odd circuits left, even right; phases A-B-C by row. Loads in VA; amps per phase at 120 V.
2. Breakers 22 kA IR, bolt-on, fully rated. Spares: breakers OFF, labelled SPARE. Spaces: filler plates.
3. Typed directory inside each door. Panel label with name, supply, voltage and available fault current (detail 5/E-501).
4. Rev 1 (CO-07): B-37, 20 A 1P, two duplex receptacles in 110 OFFICE, AC90 12/2 from Panel B (cloud and delta 1).
5. FACP breaker B-27 lockable in the ON position with red handle marking (Section 32).
6. Mechanical breaker sizes are design values: confirm MOCP against the approved submittals before ordering.

SAMPLE · FICTIONAL JOB · NOT FOR CONSTRUCTION
Shows the format of an AI-drafted set. A real set uses your title block and your standards.

SAMPLE

YOUR LOGO

YOUR COMPANY ELECTRIC LTD.
ELECTRICAL CONTRACTOR
Calgary, Alberta
Your address, phone, email
Master Electrician: your name, No.

REVIEW AND SIGNATURE

MASTER ELECTRICIAN SIGNATURE

P.ENG. SEAL (WHERE REQUIRED)

SAMPLE: NOT REVIEWED, NOT SIGNED, NOT SEALED

PROJECT
OFFICE / SHOWROOM / WAREHOUSE FIT-OUT AND 600 A SERVICE
CALGARY, ALBERTA · FICTIONAL SITE. NO REAL ADDRESS.
OWNER: EXAMPLE OWNER LTD. (FICTIONAL)
PROJECT NO. AS-24-0247

REVISIONS

NO.	DATE	DESCRIPTION
0	2026-09-04	ISSUED FOR PERMIT
1	2026-10-23	CO-07: TWO RECEPTACLES ADDED IN OFFICE 110, NEW CIRCUIT B-37

DRAWN	AI DRAFT (ALPHA SEED)
CHECKED	ESTIMATOR / DESIGNER
REVIEWED	MASTER ELECTRICIAN
SCALE	NTS
DATE	2026-10-23

SHEET TITLE
PANEL SCHEDULES
MSB, Panel A, Panel B · Rev 1 (CO-07: B-37)

SHEET
E-301
PROJECT NO. AS-24-0247