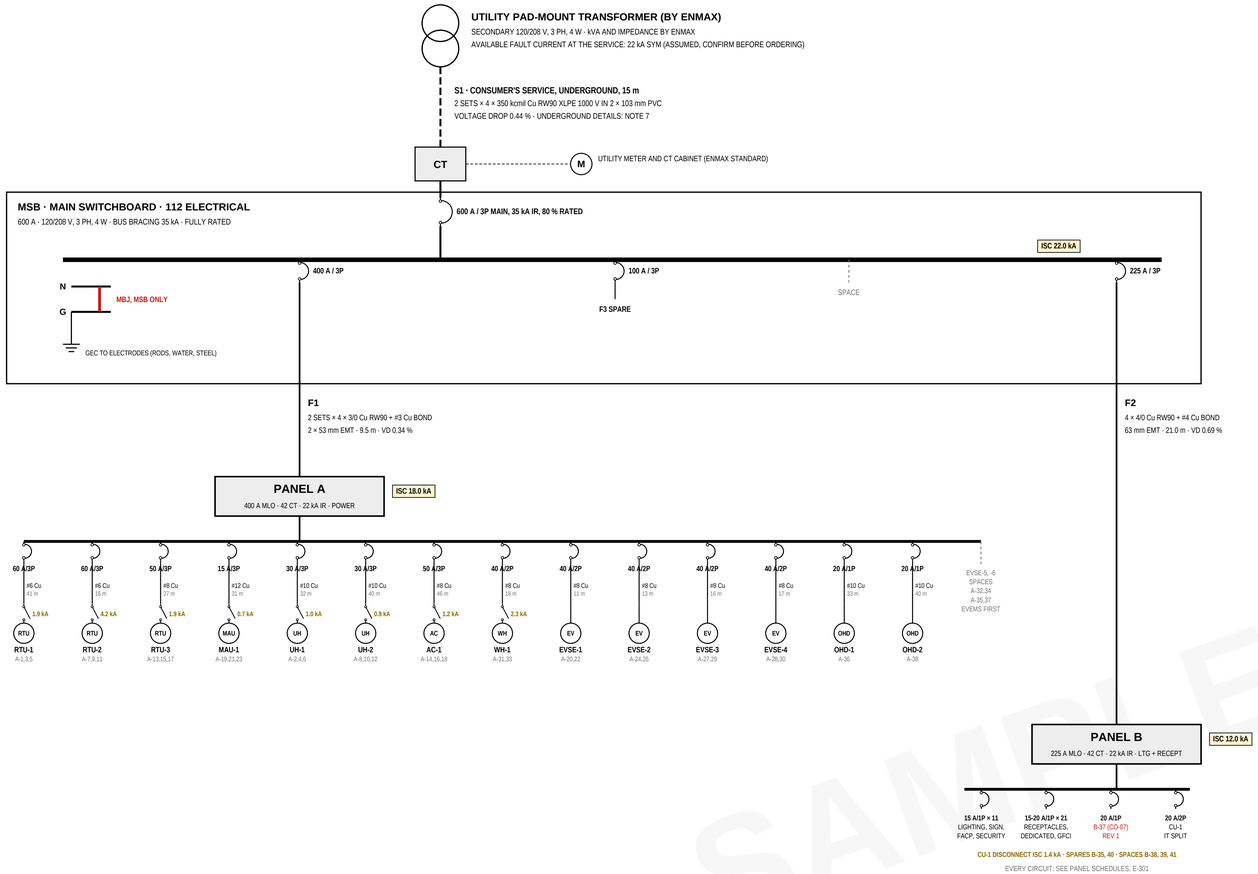
1 / E-201

SINGLE-LINE DIAGRAM

NOT TO SCALE



SLD SYMBOLS

- Circuit breaker (rating / poles)
- Disconnect switch, non-fused
- Load (motor, EV, heater)
- ISC 12.0 kA — Available fault current
- Underground
- Main bonding jumper

FEEDER SCHEDULE

TAG	FROM	TO	OCPD	CONDUCTORS	BOND	RACEWAY	L (m)	VD %	ISC kA
S1	ENMAX	MSB	600 A	2 sets × 4 × 350 kcmil Cu	—	2 × 103 mm PVC	15.0	0.44	22.0
F1	MSB	PANEL A	400 A	2 sets × 4 × 3/0 Cu	#3 Cu	2 × 53 mm EMT	9.5	0.34	18.0
F2	MSB	PANEL B	225 A	4 × 4/0 Cu	#4 Cu	63 mm EMT	21.0	0.69	12.0

AVAILABLE FAULT CURRENT (POINT-TO-POINT METHOD)

LOCATION	FROM / VIA	ISC kA	RATING kA	OK	NOTE
MSB (service)	UTILITY	22.00	35	YES	Utility value, assumed — confirm with ENMAX
PANEL A	F1: 2 × 3/0 Cu, 9.5 m	18.00	22	YES	Fully rated
PANEL B	F2: 4/0 Cu, 21.0 m	11.98	22	YES	Fully rated
RTU-1 disconnect	#6 Cu, 41.4 m	1.92	10	YES	10 kA rated switch
RTU-2 disconnect	#6 Cu, 16.4 m	4.16	10	YES	10 kA rated switch
RTU-3 disconnect	#8 Cu, 27.4 m	1.86	10	YES	10 kA rated switch
MAU-1 disconnect	#12 Cu, 31.4 m	0.69	10	YES	10 kA rated switch
UH-1 disconnect	#10 Cu, 32.5 m	1.04	10	YES	10 kA rated switch
UH-2 disconnect	#10 Cu, 39.5 m	0.87	10	YES	10 kA rated switch
AC-1 disconnect	#8 Cu, 45.9 m	1.16	10	YES	10 kA rated switch
WH-1 disconnect	#8 Cu, 18.4 m	2.29	10	YES	10 kA rated switch
CU-1 disconnect	#12 Cu, 12.0 m	1.41	10	YES	10 kA rated switch

3-phase bolted faults, copper in steel conduit, C values from the Eaton Bussmann point-to-point tables. Single-phase loads as line-to-line faults (0.866 × ISC). The utility value is assumed: replace it with ENMAX's letter before submission.

CITY OF CALGARY PL 1219 (R2025-04) · SERVICE 600 A OR GREATER

#	ITEM	THIS PROJECT
1	Single line diagram	This sheet
2	Manufacturer's shop drawings	MSB, Panel A, Panel B: attach the supplier's submittals
3	Short circuit current at the main service	22.0 kA (assumed, confirm with ENMAX)
4	ISC at downstream panelboards and disconnect switches	Fault current table above
5	Switchgear bracing (rating)	MSB bus bracing 35 kA
6	Series rated?	No
7	Fully rated?	Yes: every device rated at or above its available ISC
8	Overcurrent devices of 1200 A or higher?	None (largest: the 600 A main)
9	Means to reduce arc fault clearing time (Rule 2-306(3))	Not applicable: no device of 1200 A or higher
10	Site in a flood plain area?	To confirm on the City of Calgary flood map
11	Underground conductors 1/0 and larger	Yes, S1: ampacity method stated in note 7

EQUIPMENT RATINGS AGAINST AVAILABLE FAULT CURRENT

EQUIPMENT	SIZE	RATING	AVAILABLE	OK
MSB main breaker	600 A 3P	35 kA	22.0 kA	YES
MSB bus bracing	600 A	35 kA	22.0 kA	YES
Panel A + branch breakers	400 A MLO	22 kA	18.0 kA	YES
Panel B + branch breakers	225 A MLO	22 kA	12.0 kA	YES
Disconnect switches (worst case)	15-60 A	10 kA	4.2 kA	YES
EVSE-1 to -4 (SCCR on the nameplate)	40 A 2P	10 kA	3.5 kA	YES

NOTES

1. Main bonding jumper in the MSB only. Panels A and B: isolated neutral bar, separate bond bar (detail 1/E-501).
2. Every panelboard and disconnect rated at or above the available fault current shown (fully rated system).
3. Continuous loads at 80 % of the breaker rating. Service and feeder calculations on E-302.
4. Label every panel with its name, supply, voltage and available fault current; equipment marking to Rule 2-100 (detail 5/E-501).
5. Shock and arc flash warning labels on the MSB and the panelboards (Rule 2-306).
6. Future EVSE-5 and -6 need an EV energy management system before connection (Panel A capacity, E-302).
7. Underground service S1: ampacity from Rule 4-004 and Appendix D for the installed configuration, burial to the CEC and ENMAX standards. State the table and configuration on the submission.

SAMPLE

SAMPLE · FICTIONAL JOB · NOT FOR CONSTRUCTION

Shows the format of an AI-drafted set. A real set uses your title block and your standards.

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

SINGLE-LINE DIAGRAM AND FAULT CURRENT

City of Calgary PL 1219 information

SHEET **E-201**

PROJECT NO. AS-24-0247