ELECTRICAL

OFFICE / SHOWROOM / WAREHOUSE FIT-OUT AND 600 A SERVICE

CALGARY, ALBERTA · PROJECT AS-24-0247
SAMPLE DRAWING SET · FICTIONAL JOB

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

DRAWING LIST

SHEET	TITLE	REV
E-001	COVER SHEET, LEGEND AND GENERAL NOTES	1
E-101	LIGHTING PLAN	0
E-102	POWER AND SYSTEMS PLAN	1
E-201	SINGLE-LINE DIAGRAM AND FAULT CURRENT	0
E-301	PANEL SCHEDULES	1
E-302	LOAD CALCULATION AND VOLTAGE DROP	1
E-501	DETAILS	0

PROJECT DATA

ITEM	VALUE
Occupancy	Office / showroom / warehouse, single storey
Gross floor area	1,080 m² (36 m × 30 m)
Service	600 A, 120/208 V, 3-phase, 4-wire, underground
Supply authority	ENMAX Power (transformer, primary, metering)
Calculated load	147.5 kVA = 409 A (CEC Rule 8-210, see E-302)
Fault current at MSB	22.0 kA sym, assumed — confirm with ENMAX
Distribution	MSB 600 A · Panel A 400 A (power) · Panel B 225 A (lighting, receptacles)
EV charging	4 × Level 2 (32 A) now, 2 roughed in (EVEMS needed to connect)
Code	CEC Part I 2024 (CSA C22.1:24), in force in Alberta since April 1, 2025
Permit	City of Calgary electrical permit by the contractor's Master Electrician
Plans examination	Required: service 600 A or greater (City form PL 1219), see E-201

SYMBOL LEGEND

- A LED troffer 600 × 1200, recessed
- B LED downlight 150 mm
- C LED linear pendant 1200 mm
- D LED high-bay
- E LED strip, surface
- T Track with heads
- F Wall pack, exterior
- G Area light on pole
- EM Emergency lighting unit, two heads
- X Exit sign, running-man pictogram
- S Switch (letter = switch leg)
- SD 0-10 V dimmer
- OS Wall-box occupancy sensor
- OS Ceiling occupancy sensor
- LC-1 Lighting control panel LC-1
- Duplex receptacle 15 A, 400 mm AFF
- GFCI GFCI receptacle
- WP GFCI WP GFCI, in-use cover
- Dedicated receptacle 5-20R
- Floor box with duplex
- FF Furniture feed
- Data outlet back box (cabling by others)
- Disconnect switch, non-fused
- M Motor connection
- EV EV charger (dashed: future rough-in)
- Panelboard, surface
- Panelboard, recessed
- Equipment on roof, see roof plan
- B-7 Home run to panel, circuit number
- Branch wiring, same circuit
- 3 Keyed note
- 1 Revision (cloud + delta)
- Ground electrode

ABBREVIATIONS

AFF	Above finished floor	**FLA**	Full-load amperes	**MSB**	Main switchboard
AFG	Above finished grade	**GEC**	Grounding electrode conductor	**NF**	Non-fused
AC90	Armoured cable, 90 °C	**GFCI**	Ground-fault circuit interrupter	**OHD**	Overhead door
BKR	Breaker	**IR**	Interrupting rating	**RTU**	Rooftop unit
CT	Current transformer (utility metering)	**ISC**	Available short-circuit current	**RW90**	Copper conductor, XLPE, 90 °C
EMT	Electrical metallic tubing	**MBJ**	Main bonding jumper	**UNO**	Unless noted otherwise
EVEMS	EV energy management system	**MCA**	Minimum circuit ampacity	**VD**	Voltage drop
EVSE	EV supply equipment (charger)	**MLO**	Main lugs only	**WP**	Weatherproof
FACP	Fire alarm control panel	**MOCP**	Maximum overcurrent protection		

GENERAL NOTES

1. Install to the Canadian Electrical Code, Part I, 2024 (CSA C22.1:24) as adopted in Alberta, Alberta Electrical STANDATA, City of Calgary requirements, NBC (Alberta Edition) 2023 and NECB 2020.
2. Electrical permit by the contractor's Master Electrician (City of Calgary). Service 600 A: submit E-201 information and the PL 1219 checklist before booking the main service inspection.
3. Confirm the available fault current with ENMAX before ordering equipment. Ratings on E-201 assume 22 kA at the service.
4. Copper conductors throughout, RW90 XLPE (1000 V for the underground service). Minimum #12 Cu for branch circuits.
5. AC90 concealed in office areas. EMT exposed in the warehouse, 112 ELECTRICAL and 113 IT ROOM. PVC underground. Liquidtight flex for final connections to equipment.
6. Separate bonding conductor in every raceway, sized to Table 16. Main bonding jumper in the MSB only; neutrals and grounds isolated in Panels A and B (detail 1/E-501).
7. Continuous loads not to exceed 80 % of the overcurrent device rating (Rule 8-104).
8. Typed panel directories. Equipment marking to Rule 2-100; shock and arc flash warning labels to Rule 2-306 (detail 5/E-501).
9. Firestop every penetration of a fire separation with a listed system matching the separation's rating.
10. Mechanical nameplate values shown are design values. Confirm MCA / MOCP from the approved mechanical submittals before setting breakers.
11. Coordinate the underground service route, transformer pad and metering with ENMAX and the general contractor.
12. Test before the final inspection: insulation resistance on feeders, GFCI function, emergency lighting run time, torque log for lugs.

SCOPE OF WORK

1. New 600 A, 120/208 V, 3-phase service, underground from the ENMAX transformer, CT metering, main switchboard (MSB).
2. Panel A (400 A, power) and Panel B (225 A, lighting and receptacles), feeders F1 and F2.
3. Lighting: 31 troffers, 13 downlights, 12 pendants, 17 high-bays, 2 tracks, 12 emergency units, 6 exit signs, 7 wall packs, 2 pole lights; time-clock and occupancy control (NECB 2020).
4. Receptacles, floor boxes, furniture feeds, dedicated circuits; GFCI where required.
5. Mechanical connections: three rooftop units, make-up air unit, two unit heaters, compressor, water heater, exhaust fans, IT split system.
6. EV charging: four Level 2 chargers on Panel A, two more roughed in.
7. Rev 1, change order CO-07: two receptacles in 110 OFFICE on new circuit B-37.
8. Not included: utility work, trenching and bases, fire alarm devices, data cabling, EV charger network subscription (see estimate E-0247).

ABOUT THIS SAMPLE

This is a sample set for a fictional job. The building, the owner, the quantities and the prices are invented.

It shows the format of the drawings and documents Alpha Seed's AI drafts for an electrical contractor: your title block, your standards, your price book.

Nothing here has been reviewed, signed or sealed. On a real job your Master Electrician (and, where required, the engineer) reviews and signs every sheet. Not for construction.

Free to use as a reference or a template. No warranty. Verify every value against the CEC, STANDATA and the City of Calgary for your own job.

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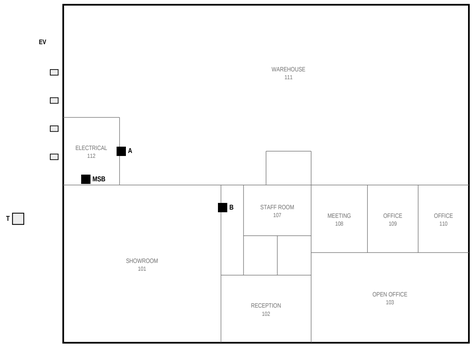
KEY PLAN

SCALE 1:250



CODES, STANDARDS AND AUTHORITIES

CODE OR AUTHORITY	COVERS	NOTE
CEC Part I, 2024 (CSA C22.1:24)	All electrical work	In force in Alberta since April 1, 2025
Alberta Electrical STANDATA	Interpretations and variances to the CEC	Current bulletins at the time of permit
NBC (Alberta Edition) 2023	Emergency lighting, exit signs, fire separations, accessibility	Building permit by others
NECB 2020	Lighting power and automatic lighting controls	Applies to this fit-out (Part 3 building)
CSA C22.2 No. 141	Emergency lighting units	Test before the final inspection
City of Calgary	Electrical permit (Master Electrician); PL 1219 plans examination	Service 600 A or greater
ENMAX Power	Transformer, primary, metering, service connection	Confirm the fault level in writing

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
COVER SHEET, LEGEND AND GENERAL NOTES
Drawing list · project data

SHEET
E-001
PROJECT NO. AS-24-0247