ELECTRICAL SPECIFICATION – OFFICE WAREHOUSE CONDOMINIUM 240040 FRONTIER PLACE S.E ROCKYVIEW, ALBERTA

A - GENERAL

1. General Requirements

a) Comply with the requirement of the current edition of the Canadian Electrical Code (CSA 22.1) and amendments thereto and the regulations of the Electrical Inspection Authorities.

b) Obtain necessary permits, pay all applicable fees. On completion obtain certificates of approval from the local Inspection Department, turn over all certificates to the Engineer.

c) Supply all necessary labour, material and equipment for complete electrical installation per drawings and specifications.

d) Examine the site and local conditions affecting trade before submitting tender.

e) Unless otherwise noted all material to be new, best quality, and bear CSA approval.

f) Substitution of materials, equivalent to those specified, may be made only after written approval has been obtained from the Engineer before closing of tenders.

g) Guarantee all work and equipment installed for twelve (12) months after completion. Replace without charge any defective items provided that failure is not due to improper usage by others.

h) Shop drawings: four (4) copies required to show details of main equipment items.

i) Maintenance Manuals: Required, 3 ring binders, indexed, include equipment brochures, shop drawings, names and addresses of suppliers.

j) Record Drawings: Record deviations from contract documents caused by site conditions and changes ordered after tender.

2. Products

a) Materials and Equipment

i) Raceways and Conductors
Raceways: electrical metallic tubing and/or rigid galvanized steel conduit. Use AC-90 armoured able for end runs only. Sized: per Canadian Electrical Code Exterior: rigid galvanized steel with threaded fitting.

- Conductors: copper, minimum #12, lumex or as shown , R90 X-link insulation. Control Wires: minimum #14 for 120 volts. Service conductors: RW90 insulation suitable for -40°C.

a) Installation

i) All work to be performed by competent tradesmen, in a workmanlike matter. Clean up all debris from electrical portion of the project. The installation to meet the latest requirements of the Canadian Electrical Code, Provincial, Municipal, Local Codes and Local Inspection Department.

ii) Provide branch circuit wiring for all lighting and power circuits. .

iii) Allow for a variatiCn of 73m from locations shown for outlets and equipment without extra cost. Confirm final location prior to installation.

iv) Telephone cables and data by owner.

v) Where interruption of power service to occupied space is required, obtain permission from Owner before shutting down power.

vi) Seal all new conduit openings through fire rated walls to ensure required fire separation is maintained.

vii) Identify the following electrical equipment with 1¼" thick plastic, engraved black faced lamacoid nameplates with mechanical fixings:
Panels: Identify power panels, distribution panels and lighting panels as indicated on drawings and indicate main voltages.

- Disconnect switches, starters, and contactors: indicate equipment being controlled and voltage.
- Terminal cabinets and pullboxes: indicate system and voltage.
- On/Off switches: Indicate areas being served.

viii) Grounding: connect neutral and non-current carrying parts of equipment via a single copper conductor to ground grid or as required by the Inspection Authority. Use solderless type ground connectors. Maintain continuity of ground to all outlets, switches, controllers, motors, etc.

ix) Wiring of Mechanical Equipment: supply and install necessary electrical equipment, power and control wiring for mechanical equipment. This includes breakers, disconnects, starters, conduit, wiring and complete connection.

x) Lighting System:

- Install all fixtures, conduit system, wiring, hangers, T-bar clips, and all necessary items required for a complete system.

Cooperate with personnel of other divisions to determine the proper location of lights, switches, etc., to avoid confliction between the electrical installation and the mechanical ducts, pipes, ceiling layout, etc., determine exact position of lighting outlets in the mechanical area only after all mechanical layouts in

- these rooms have been finalized; ensure that fixtures suit the type of ceiling of which they are to be installed.

i) Mounting Height

- All mounting heights noted below are above finished floor to centre of box, unless otherwise shown.

⇒ Exterior Receptacles 60"
⇒ Receptacles in finished area (i.e. office and corridors) 18"
⇒ Receptacles (above counter splash back) 8"
⇒ Switches 42"
⇒ Panelboard (to top) 72"

ii) Fire Alarm System

- New Panel- addressable notifier.

120 VAC operation, supervised, single stage non-coded, general evacuation c/w DC charger and Gell Cell battery pack. Include trouble silence/1 amp test and reset switches inside a lockable cover .

- Smoke Detectors – addressable

Products of combustion and/or photoelectric devices mounted individually and/or on ventilation ductwork c/w sensitivity adjustment and alarm lamp.

- Thermal Detectors - addressable

Fixed temperature 57°C and/or combination fixed temperature and rate of rise (8 degrees per minute) devices.

- Break Glass Pull Stations - addressable

Open circuit type c/w red enamel finish.- addressable

- Signal Devices

24 VDC, 6" and/or 10" bells indoors, and/or 24 VDC, 10" weatherproof bells outdoors. Finish with red enamel c/w strobe lights. Provide horn/strobe devices in each new suite c/w 10 minute over ride switch.

i) Fire Alarm System Installation
Installation per CAN4-S524

- Verification per CAN4-S537. Provide all personnel, equipment and materials for verification after installation is 100% complete.
- After completion of installation, a complete system verification shall be performed by the fire alarm manufacturer and as noted. The test shall be one by a qualified technician, factory trained and in permanent employ of the manufacturer. Test to include the following:

⇒ Initiate alarms from each alarm initiating device such as heat detectors, smoke detectors, breakglass stations etc.

⇒ Verify operation of all signal devices. Check audibility of all signals.

- All costs involved in this inspection, including manufacturer's electrical contractor's, and the Engineer's, shall be included in total price. Engineer's portion shall be $950.00 (Nine Hundred & Fifty Dollars).

ii) Battery Operated Emergency Lighting Unit

- Full automatic operation on power failure for 12 v operation with minimum operating time of one half hour with all nine W sealed beams on.

Unit complete with long life lead acid battery rated at 200 watts, fully automatic charger with automatic high and low rates, built-in test switch, remote and local sealed beam lights, high rate charge indicator, battery state indicator, mounting brackets, automatic disconnection at low-charge condition and five year guarantee

i) Receptacles and Switches

- Parallel blade receptacles: rated 15 amps, 125 volts, specification grade. Isolated ground receptacles: Hubbell #1G-5262 or equal. SPS1 toggle switch: rated 15 amps, 125 volts, specification grade.

ii) Outlet Boxes

- For lighting fixtures: formed metal boxes 4" round or square. For surface mounted switches and/or receptacles: formed metal boxes rectangular or squares. For flush mounted switches and/or receptacles: formed square boxes c/w plaster rings or sectional device boxes. Outdoor outlet boxes and where indicated WP: cast metal with threaded hubs.

iii) Branch Circuit Panels

- New: 208/120 volts, 3 phase, 4 wire branch panel, complete with bolted full size breakers as per drawings. Typewritten directory inside door.
- Branch Circuit Breakers: Bolted full size breakers to match panel manufacturer and interrupting capacity. Up to date typewritten directory inside door to include new circuits in existing panels.

iv) Incoming Service

- New underground service.

v) Main Service and Distribution

- New Main Service: 800 amps, 575 volt, 3 phase, 4 wire, distribution.

vi) Grounding

- New ground system.

vii) Telephone Raceway Syste

- Supply and install a conduit system including outlet boxes, covers, pull boxes, etc. as shown, and described under raceways.
- Lighting fixtures: supplied and installed by this contractor.
- Provide lamps for luminaires as required.

viii) Disconnect Switches

- Provide disconnect switches for motor driven equipment as required by CEC.

GENERAL NOTES

NOTE:

NO.	DATE	DESCRIPTION

REVISIONS

SEALS:

PERMIT TO PRACTICE
D.F.K. ENGINEERING CANADA LTD.
Signature
Date
PERMIT NUMBER: P 3276
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

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PROJECT TITLE:
OFFICE WAREHOUSE CONDOMINIUM
240040 FRONTIER PLACE S.E
ROCKY VIEW ALBERTA.

SHEET TITLE:
ELECTRICAL SPECIFICATION

DRAWN	CHECKED	APPROVED
R. KUMAR	D. BURTON	G. PYBUS

SCALE:	PROJECT NO:
N.T.S	29-2411
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REVISION:

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OF 5