

3.0 EXECUTION

- 1.0 GENERAL Requirements
- 1.1 Comply with the requirements of the current edition of the Canadian Electrical Code (CSA 22.1) and amendments thereto, the Alberta Building Code, and the regulations of the Electrical Inspection Authorities.
2. Obtain necessary permits, pay all applicable fees. On completion, provide all necessary information to the local inspection Department.
3. Supply all necessary labour, material and specifications for complete electrical installation per drawings and specifications.
4. Examine the site and local conditions affecting trade before starting technical drawings and those of other sections for complete information and co-ordination.
5. Unless otherwise noted, all material to be new, best quality, and bear CSA approval.
6. Substitution of materials, equivalent to those specified, may be made before closing of tenders.
7. 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 other sections of main equipment.
8. Items, including distribution equipment and lighting fixtures, Maintenance Manuals: 3 required, 3 ring minimum 2" binders, indexed, include equipment brochures, shop drawings, names and addresses of suppliers.
9. Record Drawings: during construction, on a set of white prints, mark any changes after tender. Submit approved marked prints to consultant on completion of project.
- 2.0 PRODUCTS
- 2.1 Materials and Equipment
1. Raceways and conductors: metallic tubing and/or rigid galvanized steel conduit as indicated. Use AC-90 armored cable for feed runs only. Size: per Canadian Electrical Code. Motor connections: minimum 600 mm of PVC jacketed flexible steel conduit with liquid tight fittings. Exterior: rigid galvanized steel with threaded fittings.
2. Conduits: rigid galvanized steel with threaded fittings. Control wires: minimum #14 for 120 volts. Service conductors: RW90 insulation suitable for -40 deg. C. Low voltage control wiring, up to 50 volts, by Division 15.
2. Receptacles and Switches: rated 15 amps, 125 volts, specification toggle switch, rated 15 amps, 125 volts, medium specification grade. Special receptacles and connections as indicated.
3. Outlet Boxes: formed metal boxes 100 mm round or square. Standard switches and/or receptacles: cast boxes with threaded hubs. Outdoor outlet boxes and where indicated WP: cast metal with threaded hubs.
4. Branch Circuit Panels: 4200 volt, 3 phase, 4 wire branch panels, 42 ckt. unless otherwise shown and as required complete with full size breakers as required. Typewritten directory inside door to have correct circuit information.
2. Branch Circuit Breakers: Full size breakers to match panel manufacturer and interrupting capacity.
3. Fuses: 1200 x 2400 x 19mm (4" x 8" x 3/4") plywood backing for motor. Store plywood backing behind panels, 1200x2400x19mm (4"x8"x3/4").
5. Motor: Manual motor overload protection switches: single or double pole, complete with pilot light and suitable "heaters".
2. Automatic Magnetic Starters: 1, 2 or 3 pole, minimum EIMAC 0, in EIMAC 1 enclosure, CMA control transformer and auxiliary contacts as required. Motor starter shall be provided with 3 phase wire wire HQA selector and red running light.
3. Motor starters may be in separate enclosures or may be mounted in modular starter assemblies as Westinghouse 4-Plex units or similar.
6. Main Service and Distribution
1. Incoming main distribution to come from Mall Distribution system.
2. Main Service to tenancy: 200 amps, 600/347 volts, 3 phase 4-wire.
3. Provide a 1200 x 2400 x 19mm (4" x 8" x 3/4") plywood backing for main distribution equipment.
7. Service Ground
- Ground conductor from main distribution.
8. Telephone Distribution System
1. Service raceway: 100mm conduit from main telephone distribution to a GFS plywood backboard 1200mm x 2400mm x 19mm (4" x 8" x 3/4"). Provide pull rope in raceway.
2. Supply and install the conduit system where shown.
9. Lighting System
1. Lighting fixtures: as shown on drawings complete with lamps and all necessary accessories for complete and proper installation. CSA approved, recessed, surface, pendant, track, and other types. All lighting fixtures and ballasts to be energy saving type and lamps to be T-5, energy saving lamps.
2. HID fixtures to be as indicated. Ballasts for exterior fixtures to be -30°C.
3. Photo cell controlled exterior HID fixtures.
3. Plastic Lenses: minimum 3/16" thick configuration as per schedule.
4. Exit Lights: Complete with LED lamps, metal housing, 6" high letters, 120V and 12V operation.
5. Battery Operated Emergency Lighting - Combination Emergency/Exit Lighting: Full automatic operation on power failure for 90 minutes minimum. Units complete with battery rated at minimum 36 watts, fully automatic charger with automatic high and low rates, built-in test switch, remote and local 9w tungsten mini-lights (white) high rate charge indicator, remote and local 9w tungsten mini-lights (white) high rate charge indicator, 5 year guarantee.
10. Disconnect Switches: non-lased, for motor driven equipment, EIMAC 3 for exterior.

3.1 EXECUTION

1. All work to be of high quality. Clean up all debris from electrical portion of the project. The installation to meet the latest requirements of the Canadian Electrical Code, Provincial, Municipal and Local Codes, and Local Inspection Department.
2. Provide branch circuit wiring for all lighting and power circuits.
3. Allow for a variation of 3000 mm from locations shown for outlets and switches without extra cost. Confirm final location prior to installation.
4. Identify the following electrical equipment with 3mm thick plastic, engraved black faced ionocod nameplates with mechanical fixings:
  1. Panels: identify breaker panels, as indicated on drawings and electrical equipment.
  2. Enclosed breakers, disconnect switches, starters, contactors.
  3. Terminal cabinets and pullboxes: indicate system and voltage.
  4. On/Off switches: indicate on/off being served.
5. Grounding:
  1. Use solderless type ground connectors. Maintain continuity of ground throughout system.
  2. Wiring of Mechanical Equipment, control wires, motors, starters, electrical equipment, power and control wiring for mechanical equipment. This includes breakers, disconnects, starters, conduit, wiring and complete connection. Refer to Mechanical drawings, schedules and specifications. Confirm voltage, phase, and size of mechanical equipment.
  3. Size breakers and feeders per O.E.C.
7. Lighting System:
  1. Lighting system per the schedule and as indicated, conduit system, wiring, hangers, and all necessary items required for a complete system including control (switches, contactors, etc) Run 120 volt AC and 12 volt DC power into exit lights.
  2. Cooperate with personnel of other divisions to determine the proper location of lights, switches, etc., to avoid conflict between electrical and other divisions. 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 in or on which they are to be installed.
8. Fire Alarm System shall addressable and monitored.
 

NOTE: THE BASE BUILDING FIRE ALARM COMPANY SHALL BE USED FOR SUPPLY AND INSTALLATION ON ALL COMPONENTS AND WORK UNDER THIS PHASE OF THE PROJECT.

  1. Re-install existing fire alarm system, and reconfigure to the new floor plan.
  2. Provide continuous ground to all device outlet boxes.
  3. System verification per CAN4-S537. Provide all personnel, equipment including 2-way radios, and materials for verification after installation is 100% complete.
  4. Turn off 120 volt power to the Fire Alarm System for 24 hours before the verification. System to operate on standby battery supply for 24 hours. Continuous operation of all alarm devices before restoration of 120 volt AC power.
  5. remote alarm monitoring to the telephone terminal board for fire alarm monitoring.
  6. Separate alarm zone per sprinkler flow switches. N/A
  7. Separate trouble and supervisory trouble signal only for tamper switches (Supervisory requires a panel re-set). N/A
  8. The Engineer will invoice Visions Electronics Ltd. for the fire alarm verification.
- 1.1 Telephone Service
  1. Make arrangements with the Telephone Company to provide for the service to the telephone terminal board.
  2. Provide, to the terminal board, 120 volt duplex and no. 6 ground wire from the main ground.

NOTE: ELECTRICAL CONTRACTOR SHALL REVIEW DIVISION 15 PLANS AND SPECIFICATIONS TO DETERMINE THE COMPLETE SCOPE OF WORK REQUIRED TO CONNECT ALL MECHANICAL COMPONENTS TO THE BUILDING ELECTRICAL SYSTEM.

ALL ELECTRICAL OUTLET PLUG SHALL BE LOCATED AT 12" A.F.F. UNLESS NOTE OTHERWISE.

MAXIMUM OF FOUR (4) PLUGS PER 15 AMP BREAKER UNLESS NOTED OTHERWISE.

DESIGN & INSTALL ALL MECHANICAL SYSTEMS TO THE FOLLOWING CODES AND STANDARDS:

- ALBERTA BUILDING CODE - 2006
- ALBERTA FIRE CODE - LATEST EDITION
- CANADIAN ELECTRICAL CODE - LATEST EDITION
- NATIONAL BUILDING CODE - LATEST EDITION
- NATIONAL FIRE CODE - LATEST EDITION
- MEP-13 & ALL OTHER APPLICABLE NIPA SECTIONS
- CANADIAN PLUMBING CODE - LATEST EDITION
- NATIONAL GAS INSTALLATION CODE CSA-B149
- SMOKA

FIELD REVIEW:

THE ENGINEER HAS BEEN RETAINED ONLY FOR PERIODIC SITE INSPECTIONS TO VERIFY THE WORK IS BEING CONSTRUCTED IN ACCORDANCE WITH THE PROJECT TO THE CONTRACT DOCUMENTS.

THE ENGINEERS ASSUME NO RESPONSIBILITY FOR ON-SITE WORKER SAFETY FOR OTHER THAN THEIR OWN CONTRACTS. THE OWNER AND/OR CONTRACTOR SHALL SAFETY ACT.

PLANS EXAMINATION:

PLANS ARE NOT TO BE USED FOR CONSTRUCTION UNTIL REVISED AND APPROVED BY THE ENGINEER. THE ENGINEER'S REVIEW OF THE PLANS IS LIMITED TO THE INFORMATION PROVIDED BY THE OWNER AND/OR CONTRACTOR. THE ENGINEER'S REVIEW OF THE PLANS IS LIMITED TO THE INFORMATION PROVIDED BY THE OWNER AND/OR CONTRACTOR. THE ENGINEER'S REVIEW OF THE PLANS IS LIMITED TO THE INFORMATION PROVIDED BY THE OWNER AND/OR CONTRACTOR.

DRAWING REVIEW:

DRAWINGS MUST NOT BE SCALED. THE CONTRACTOR MUST CROSS-REFERENCE ALL ANNOTATIONS, DIMENSIONS, FOUNDATION, ELECTRICAL AND MECHANICAL DIMENSIONS AND SPECIFICATIONS MUST BE REFERENCED TO THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK.



JUNE 21, 2012

REVISIONS		
NO.	DESCRIPTION	DATE
1	BUILDING PERMIT	JULY 10, 12
2	ADD EMERGENCY COMBO PARKS.	JULY 13, 12
3	TENDER	JULY 19, 12
4	SITE AND POWER PLAN CHANGES	AUG 07, 12
5	SITE AND POWER PLAN CHANGES	AUG 15, 12
6	4" U/G HI VOLT CONDUIT ADDED	AUG 15, 12

**R. Lamontagne, P. Eng.**  
 P.O. Box 2531  
 Didsbury, Alberta, T0M 0W0  
 Tel: (403) 703 6161  
 E MAIL: rlamont@shaw.ca

**PROJECT**  
 500 RANCH MARKET RETAIL DEVELOPMENT  
 500 RANCH MARKET  
 STRATHMORE, AB

**TITLE:**  
 SPECIFICATIONS

SCALE	DATE	DRAWING NO.
AS SHOWN	MAY 28, 2012	
DRAWN BY	CHECKED BY	E1
DATE	DATE	REVISION: 6

LEGEND FOR VISIONS WORK		
<b>MISC. DEVICES</b>	<b>RECEPTACLES</b>	<b>FIRE ALARM DEVICES</b>
<ul style="list-style-type: none"> <li>⊖ ELECTRICAL PANEL</li> <li>⊖ MOTOR</li> <li>⊖ DISCONNECT, NON-FUSED</li> <li>⊖ DISCONNECT, FUSED</li> <li>⊖ COMBINATION MOTOR STARTER</li> <li>⊖ THERMOSTAT</li> </ul>	<ul style="list-style-type: none"> <li>⊖ SINGLE</li> <li>⊖ DUPLEX</li> <li>⊖ DUPLEX</li> <li>⊖ GFI</li> <li>⊖ WEATHERPROOF</li> <li>⊖ DEDICATED</li> <li>⊖ FOURPLEX, WALL MOUNTED</li> <li>⊖ CEILING MOUNTED J.B.</li> <li>⊖ FLOOR MOUNTED J.B.</li> <li>⊖ DENOTE DEVICE TO BE INSTALLED ABOVE COUNTER</li> </ul>	<ul style="list-style-type: none"> <li>⊖ MANUAL PULL STATION</li> <li>⊖ BELL</li> <li>⊖ STROBE</li> <li>⊖ HORN/STROBE</li> <li>⊖ SMOKE DETECTOR</li> <li>⊖ SMOKE DETECTOR, DUCT</li> <li>⊖ HEAT DETECTOR, FIXED TEMP.</li> <li>⊖ HEAT DETECTOR, RATE OF RISE</li> <li>⊖ SMOKE ALARM</li> <li>⊖ CONTROL PANEL</li> </ul>
<b>COMMUNICATIONS</b>	<b>SWITCHES</b>	<b>EXIT/EMERGENCY LIGHTING</b>
<ul style="list-style-type: none"> <li>⊖ OUTLET, TELEPHONE</li> <li>⊖ OUTLET, DATA</li> <li>⊖ OUTLET, TELEVISION</li> <li>⊖ OUTLET, MICROPHONE</li> <li>⊖ OUTLET, SATELLITE</li> <li>⊖ SPEAKER</li> </ul>	<ul style="list-style-type: none"> <li>⊖ SINGLE</li> <li>⊖ 3-WAY</li> <li>⊖ 4-WAY</li> <li>⊖ DIMMER</li> <li>⊖ VARIABLE SPEED</li> <li>⊖ MANUAL MOTOR PROTECTION SWITCH</li> </ul>	<ul style="list-style-type: none"> <li>⊖ EXIT SIGN</li> <li>⊖ EXIT LIGHTING, 2 HEAD REMOTE</li> <li>⊖ EMERGENCY LIGHTING, BATTERY PACK</li> <li>⊖ C/W 2 LAMPS</li> <li>⊖ EMERGENCY LIGHTING BATTERY PACK</li> <li>⊖ EMERGENCY LIGHTING, EXIT SIGN COMBO PACK</li> </ul>



