

PART 1 ELECTRICAL GENERAL CONDITIONS

1.1 GENERAL

1. The specification covering the General Conditions of the Contract, General Specifications, and all associated sections from an integral part of this specification and shall be read in conjunction herewith.

1.2 SCOPE

1. Provide all materials, labour, plant and equipment required for a complete and working installation as herein specified and as shown on the drawings.
2. The electrical installation shall be in accordance with the current edition of the Canadian Electrical Code, Provincial and Municipal codes and regulations.
3. Obtain all permits, approvals and pay all related fees required for this installation.
4. All equipment supplied under this Contract shall be new and be C.S.A. approved.
5. Co-ordinate all telephone conduit runs with MTS before installation begins.
6. Arrange for, and co-ordinate, rough-in and final inspections with City of Winnipeg, Contract Administrator and building engineer.

1.3 EXAMINATION

1. Examine the architectural, structural and mechanical drawings to ensure that the Work under this Contract can be satisfactorily carried out. Report any discrepancies to the Contract Administrator prior to submission of tender.
2. Examine the Site, local conditions and all existing apparatus if any to be re-used and verify that the condition of this equipment is suitable for its intended use in the new construction.

1.4 SUPERVISION

1. Supervise the Work at all times through a responsible and competent supervisor.
2. Full co-operation shall be shown with other trades to facilitate installations and to avoid delays in carrying out the Work.

1.5 ACCURACY OF DATA

1. Drawings are schematic; exact locations, distances, levels and other dimensions shall be governed by the building as constructed.
2. Outlets or equipment shall be moved to any point within a 10' radius when the Contract Administrator requests relocation before the Work has been substantially completed, without additional cost.
3. Branch circuit wiring shall be installed with circuits arranged exactly as shown on the drawings. Conduit and cable runs may be modified to suit the installation.

1.6 SHOP DRAWINGS

1. Submit shop drawings of electrical equipment to the Contract Administrator for review. Fabrication of equipment shall not commence until the Contract Administrator has reviewed shop drawings of such equipment. Two sets shall be submitted with local Inspection Department approval where required.

1.7 "AS-BUILT" DRAWINGS

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1. Keep a record set of drawings on the Site at all times recording any changes that may occur. Submit these drawings to the Contract Administrator upon completion of the Work.
2. Submit a Certificate of Inspection from the local Inspection Authority upon completion of Work and include with As-builts.
3. The Contract Administrator reserves the right to recommend that a portion of the Contract funds be withheld pending submission of acceptable as-built drawings.

1.8 TEST

1. The electrical installation shall be completely tested demonstrating that the equipment and systems installed perform in the manner intended.

1.9 GUARANTEE

1. The satisfactory operation of all Work shall be guaranteed for a period of 12 calendar months after final acceptance of the building.

1.10 REQUEST FOR CHANGE

1. All quotations in response to request for change shall be submitted complete with an itemized cost breakdown of all materials and labour required in the change.

1.11 GROUNDING

1. The entire installation shall be grounded in accordance with the Canadian Electrical Code.

1.12 WORKMANSHIP

1. Install equipment, conduit and cables in a workmanlike manner to present a neat appearance to the satisfaction of the Contract Administrator. Install conduit and cable runs parallel and perpendicular in chases, behind furring or above ceilings. In areas where systems are to be exposed (electrical room only), install neatly and group to present a tidy appearance.
2. Install equipment and apparatus requiring maintenance, adjustment or eventual replacement with adequate clearances and accessibility for same.
3. Include, in the Work, all requirements shown on the shop drawings or manufacturers' installation instructions.
4. Replace Work unsatisfactory to the Contract Administrator without extra cost.
5. All conduit must be clipped to structural concrete by means of anchors or supported by Unistrut hangers as close to U/S as possible. Tie wraps for wire hanging and fastening is not acceptable, unless pre-authorized by City. Perforated strapping is also unacceptable.
6. All support material for all luminaires, outlet boxes, junction boxes, etc. in a non-combustible building shall be of non-combustible material. Wood is not acceptable.

PART 2 MATERIALS AND INSTALLATION

2.1 OUTLET BOXES

1. Outlet, junction and switch boxes shall be galvanized pressed steel of size and type to suit each individual application.

2. Outlets shall not be located anywhere on the outside curtain wall. Outlets shown thus shall be mounted on the nearest dividing wall 2' from outside wall, or nearest furred out column.

2.2 WIRING METHODS

1. Unless otherwise shown on the drawings, all wires shall be copper, minimum #12 AWG with 90°C x-link insulation. Wiring to be installed in conduit.
2. Wiring in concrete or masonry construction shall be in steel electrical metallic tubing (EMT). Provide a separate grounding conductor in EMT conduit runs embedded in concrete slabs. Conduits installed in areas exposed to moisture shall have watertight fittings.
3. All wiring in finished areas shall be concealed. Conduits shall be run at right angles to the building lines.
4. Conduit and wiring shall be grouped where possible and clipped in a neat and workmanlike manner.
5. AC-90 cable to be used for drops from conduit systems to recessed lighting fixtures in accessible ceilings or outlet boxes in steel stud walls only. Home runs shall be in conduit. Maximum run of AC-90 in accessible ceiling space shall be 5'-0".
6. Existing AC-90 runs to base building panels shall be removed and replaced with conduit and wire within this Contract. All unused communication and power wiring in ceiling space shall be removed.
7. Each circuit for computer equipment shall have a separate neutral conductor.
8. Conduit runs shall be installed and inspected before AC-90 runs are installed to ensure conformance with Item 3 herein.

2.3 IDENTIFICATION OF EQUIPMENT

1. All equipment, including receptacles, shall be identified with engraved lamacoid nameplates either screwed or riveted in place. Self-adhesive type is not acceptable. Where Phenolic plastic cover plates are utilized, the circuit identification to be attached to the outlet box, visible when the cover plate is removed.

2.4

2.5 MECHANICAL EQUIPMENT WIRING

1. Provide starters and wiring for all heating, ventilating and plumbing equipment unless specified otherwise.
2. Control wiring for mechanical equipment shall be performed by Div. 15 Electrical Contractor shall provide 120V circuit in location designated by Controls Contractor.
3. Electrical Contractor to provide all control wiring for City supplied equipment and as designed on drawing.
4. Refer to the mechanical drawings for the exact location of mechanical equipment requiring an electrical connection.

2.6 LUMINAIRES

1. Supply and install all luminaires complete with lamps. All new luminaires shall be provided with electronic ballast, Power Smart approved.
2. Install luminaires if supplied by the The City, as indicated.
3. Re-lamp all fixtures to be re-used.
4. Lighting shall adhere to the Manitoba Hydro Power Smart Program. Linear fluorescent ballasts shall be applicable for the "Premium" rebate category (dimmable and 8' systems are under one rebate level).

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5. All compact fluorescent fixtures shall contain Power Smart approved ballasts. T5 fluorescent fixtures, LED exit signs and occupancy sensors shall be rebateable under this program. Pulse start fixtures to be totally enclosed.
6. To ensure these products are supplied, and to facilitate the application process, shop drawings shall include the quantity, manufacturer, catalogue number and a specification sheet of each ballast to be used in each linear and compact fluorescent fixture.
7. A copy of the Power Smart Listing should be provided with each applicable product submitted.
8. A summary of total quantity, manufacturer and catalogue number shall be provided for furtherance to the Contract Administrator for application preparation. This is to be submitted with approval shop drawings.
9. 347 volt luminaire shall be complete with integral disconnect switch to conform to Canadian Electrical Code Part 1 Rule 30-308(4).

2.7 PANELBOARDS

1. Provide a 200 amp, 120/240V 1Ø load centre complete with forty-two (42) circuits for main distribution. Panels shall be complete with panel trim having concealed hinges and trim mounting screws, locking door with flush catch. Provide two keys for each panel.
2. Circuit breakers shall be bolt on moulded case with thermal breakers rated at 10,000A symmetrical.
3. Affix typewritten directory to the inside of the panel board indicating loads controlled by each circuit.
4. Panel boards to be surface or recessed mounted as indicated.
5. Revise the directory in existing panels to suit revised circuiting (typewritten). Place existing directory behind new directory for verification by Contract Administrator.

2.8 CUTTING AND PATCHING

1. Arrange and pay for all cutting and patching as required for the electrical installation.

2.9 DEVICES

1. Colours of receptacles, switches, outlets and cover plates shall be confirmed with Contract Administrator.
2. Switches shall be totally enclosed in moulded housing, 15AC1 or 20AC1 series, 15 amps or 20 amps, 125 VAC as indicated equal to Hubbell No. 1201, P & S No. 15AC1, or Bryant No. 4801. Mount switches 48" A.F.F. unless otherwise noted.
3. Receptacles shall be 15 ampere, 125 VAC, ivory, parallel slot, U-ground, side and back wiring screw terminate. Approved manufacturers are: Hubbell No. 5262, Arrow Hart No. 5262, Bryant No. 5262. Mount receptacles 16" A.F.F. unless noted otherwise.
4. Isolated ground receptacles shall be Pass & Seymour IG6200 pr Bryant No. GF-5262-I with orange face. Mount receptacle 16" A.F.F. unless noted otherwise.
5. Incandescent lighting dimmer controls shall be Lutron Nova T rated at 1500, 1000 or 600 watts as indicated on drawing. Colour of dimmer snap-on cover shall be ivory colour or shall match existing, unless indicated otherwise on drawing. Mount dimmers 48" A.F.F. unless otherwise noted.
6. Provide stainless steel cover plates for recessed devices.

2.10 CITY SUPPLIED EQUIPMENT

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1. Wire and connect all The City supplied equipment as shown on the drawings. Verify nameplate ratings with power provisions. Any discrepancies shall be reported to the Contract Administrator.
2. All City-supplied equipment, with the exception of plug-in types, shall be hard-wired at locations shown on the drawings.

2.11 INCOMING TELEPHONE SYSTEM

1. Coordinate installation of telephone service with Provider.
2. Install telephone service facilities.
3. Backboard: Provide 2'x2'x3/4" (19 mm) thick plywood backboard mounted 36" (914mm) above finished floor for termination of the telephone entrance cable.

END OF SECTION

PART 1 - GENERAL

The following is a performance type specification which has been developed so proposals can be requested from two security system Contractors. This specification should be read in conjunction with floor plans. Include all pertinent information regarding all equipment that is to be provided as part of the proposal.

The proposal shall include at a minimum the following information.

1. Contractor to include a \$2,000.00 cash allowance within their Total Bid Price for the security system. The Contractor shall secure two prices from firms to be determined by the Contract Administrator. Contractor administrative cost for obtaining the two quotes, is to be included in the Total Bid Cost and not the cash allowance. Any surplus funds remaining in the cash allowance will be retained by the City. The Contractor will be compensated for any costs over and above the cash allowance amount.
2. Cost to supply and install all required equipment, wiring and conduit as required to provide a completely operational centrally monitored security system.
3. Submit complete equipment specifications which are to include as part of proposed system.
4. Indicate monthly cost to monitor the system.
5. All security wiring shall be fully concealed with the wall / ceiling cavities and all penetrations to the buildings air-vapor barrier system are to fully sealed after installation. The Office-Staff Building and Cold Storage Building are to interconnected with a underground cable suitable for burial.
6. The system shall be warranted for a period of one full year from time of acceptance against defects in either equipment and or workmanship.

PART 2 – SECURITY SYSTEM & OPERATIONAL DESCRIPTION

The Office-Staff Building and Cold Storage Building shall have centrally monitored security systems, the individual building are to be equipped with the following devices.

Office-Staff Building

1. The Office-Staff building exterior door shall be equipped with a concealed contacts, note this door is to be a steel door and frame. (14 gauge steel frames and 16 gauge steel door skin faces).
2. The Staff Lunch and Office area is also to be equipped with an infrared type motion detector and also break glass type detectors, locate detectors to ensure intrusion detection.
3. Equip Office –Staff building with 120 v / battery type smoke detectors to Office area, Staff Area, washrooms and Storage Room.
4. The Office-Staff building crawl space shall be equipped with a low temperature detector to warn monitoring station that plumbing systems are in danger of freezing.

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5. Locate security system entry control pad near the Office-Staff building entry door.
6. Supply and install exterior weatherproof / vandal proof type siren and strobe light to building gable most visible to highway, and interconnect to alarm system service panel.

Cold Storage Building

1. Both Cold Storage building exterior man doors shall be equipped with a concealed contacts, note these doors are to be a steel door and frame. (14 gauge steel frames and 16 gauge steel door skin faces).
2. Equip Cold Storage building exterior overhead doors with a concealed contacts, note these doors are to be a insulated steel door panel type.
3. Locate security system entry control pads near both the Cold Storage building entry doors.
4. Supply and install exterior weatherproof / vandal proof type siren and strobe light to building gable most visible to highway, and interconnect to alarm system service panel.

END OF SECTION