

PART 1 ELECTRICAL GENERAL CONDITIONS

1.1 GENERAL

1. The specification covering the General Conditions of the Contract, General Specifications, Instructions to Bidders 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. Arrange for, and co-ordinate, rough-in and final inspections with City of Winnipeg, Contract Administrator.

1.3 EXAMINATION

1. Examine the Contract Architectural, interior design, structural and mechanical drawings to ensure that the work under this Contract can be satisfactorily carried out. Report any discrepancies to the Contract Administrator in accordance the B4.
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 APPROVAL OF MATERIAL

1. Request for approval of material as equals or alternates shall be in accordance with B6.

1.7 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.

1.8 "AS-BUILT" DRAWINGS

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. As-builts shall include circuiting of new and existing equipment to remain. Transfer changes to electronic disc AutoCAD file. Submit disc and hard copy for final review and submission to The City.
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.

1.9. TEST

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

1.10 GUARANTEE

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

1.11 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.

1.12. GROUNDING

1. The entire installation shall be grounded in accordance with the Canadian Electrical Code.
2. Isolated ground conductors for panels shall be minimum #6 (green insulation) and be in one continuous, separate run, to the building water main (unless noted otherwise). Where required, panels shall be equipped with a separate isolated ground bus connected to the aforementioned ground conductor.

1.13. 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 the Building The 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.

1.14 WORK IN EXISTING BUILDING

1. The building shall remain open and in normal operation during the construction period of this contract.
2. Where existing services such as electrical power, fire alarm system, television system, are required to be disrupted and/or shutdown coordinate the shut-downs with the The City and carry out the work at a time and in a manner acceptable to them. Carefully schedule all disruptions and/or shutdowns and ensure that the duration of same is kept to a minimum. Submit for approval, a written schedule of each disruption at least 72 hours in advance of performing work and obtain The City's written consent prior to implementing.
3. Should any connections be required to maintain services during work in the existing building, supply and install all necessary material and equipment and provide all labour at no extra cost. Should any existing system be damaged, make full repairs without extra cost, and to the satisfaction of The City.
4. The drawings indicate major items of equipment to be deleted or relocated but may not indicate every item of equipment or conduit to be deleted or relocated. Be responsible for determining which existing equipment is to be deleted or relocated by examining the site and Construction Documents.
5. Where existing devices (receptacles, switches) mounted on a wall which will be covered with a new finish, provide an extension ring, coverplate, etc. as required to mount the device to the new wall.
6. Existing junction boxes shall remain accessible.
7. Refer to General Conditions for phasing and staging of work and adhere to that program. Comply with instructions regarding working hours necessary to maintain the building in operation.
8. It shall be the responsibility of the Electrical subcontractor to ensure that any coring of holes through the deck will not penetrate existing conduits, cables or mechanical equipment in or under the floor slabs. He shall be responsible to take any and all action as deemed necessary by the Contract Administrator to correct any such penetrations at his cost. No coring shall be undertaken unless permission is given by the Contract Administrator.
9. When new ceilings are to be installed, existing devices are to be relocated down to new ceiling unless otherwise noted.
10. Where existing ceilings are to be lowered down, all excess devices are to be relocated down to new height and all runs to be extended to suit.

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. Conduit and wiring shall be grouped where possible and clipped in a neat and workmanlike manner.
3. Conduit runs shall be installed and inspected before AC-90 runs are installed.

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 coverplates are utilized, the circuit identification to be attached to the outlet box, visible when the coverplate is removed.

2.4. 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 subcontractor shall provide 120V circuit in location designated by Controls subcontractor.
3. Electrical subcontractor to provide all control wiring for The 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.

2.7 CUTTING AND PATCHING

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

2.8 DISTRIBUTION

1. Arrangement and size of components shall be as shown on drawing.
2. Provide new breakers for renovations as shown on drawing and appropriate mounting hardware to sit existing distribution. Exact requirement to be determined prior to Bid Opportunity closing.

2.9 DEVICES

1. Provide stainless steel coverplates for recessed devices.

END OF SECTION