

Part 1 General

1.1 SHOP DRAWINGS AND PRODUCT DATA

- .1 Submit shop drawings and product data in accordance with Section 26 05 01.
- .2 Manufacturer shall provide a complete set of shop drawings for this specific project. Drawings shall include, but not be limited to, equipment supplied, wiring diagrams installation instructions, and operating instructions produced specifically for this project. Drawings shall be approved by the Electrical Consultant before fabrication and supply of equipment.

1.2 OPERATING AND MAINTENANCE DATA

- .1 Provide data for incorporation into Electrical Maintenance Manual specified in Section 26 05 01. Include complete information and drawings describing and depicting the entire system as installed, including all information necessary for maintaining, troubleshooting, and / or expanding the system at a future date.
- .2 Submit a detailed operating, maintenance and testing procedure document prepared specifically for this project.

1.3 SUPPLIER QUALIFICATIONS

- .1 The supplier shall be fully qualified in the performance of work specified herein. Service personnel shall be located within the Province of Saskatchewan and shall be experienced in the installation and operation of the system. The supplier shall be an established fire alarm supplier with a service department maintained in Saskatchewan.

1.4 VERIFICATION

- .1 Upon completion of installation of the system within each phase, a factory trained manufacturers representative shall perform a complete verification and inspection of all installed equipment, including each and every component, such as manual stations, automatic ionization detectors, sprinkler flow and tamper switches, audible signalling appliances, monitor modules, control modules, control equipment, etc., to ensure the following:
 - .1 That the type of equipment installed is that designated by the electrical consultant's specifications and plans.
 - .2 That the wiring connections to all equipment are correct and in accordance with CSA and ULC requirements.
 - .3 That the equipment is installed in accordance with the Manufacturers recommendations.
 - .4 That the regulations concerning the supervision of components have been adhered to (e.g. stations, detectors, signal devices, etc.) and are properly wired and supervised.
 - .5 That any subsequent changes necessary to conform to the above will be done by the Contractor, with technical advice supplied by the Manufacturer.
 - .6 That activation of the fire alarm system results in a signal received by the fire department.

- .2 During the verification, the Contractor shall supply to the Manufacturer, one (1) electrician and one (1) helper.
- .3 The Contractor shall also supply any required equipment such as ladders, scaffolding, etc.
- .4 To assist the Installer in preparing his bid, the Manufacturer shall indicate the number of hours necessary to complete this verification.
- .5 Upon completion of the verification and when all of the above conditions have been complied with, the Manufacturer shall issue to the Electrical Consultant the following:
 - .1 A copy of the inspecting technician's report, showing the location of each device, address of each device, and certifying the test results of each device.
 - .2 A certificate of verification confirming that the inspection has been completed, and indicating the condition of the system during the inspection and certification.
- .6 Complete multiple verifications as required to accommodate phasing of construction and/or partial occupancy by the owner.

1.5 SOFTWARE MODIFICATION

- .1 Provide the services of a factory trained and authorized technician to perform all system software modifications, upgrades or changes.
- .2 Provide all hardware, software, programming tools and documentation necessary to modify the fire alarm system on site. Modification includes addition and deletion of devices, circuits, zones and changes to system operation and custom label changes for devices or zones. The system structure and software shall place no limit on the type or extent of software modifications on-site.

Part 2 Products

2.1 WIRE AND CABLE

- .1 Conducts: Copper, to CSA C22.2 and as follows:
 - .1 Refer to riser drawing for particular wiring specifications and as follows:
 - .2 Conductor Insulation: Minimum rating 300 volts. Single conductor RW90XLPE (X-link).
 - .3 Multi-conductor cables 105C with outer PVC jacket, colour coded, FAS rated.
 - .4 Conductor sizes as follows:
 - .a Minimum conductor size for alarm initiating circuits shall be #18 AWG.
 - .b Minimum conductor size for signal circuits shall be #16 AWG.
 - .c Minimum conductor size for AC circuits shall be #12 AWG.
 - .d Minimum conductor size for visual signal appliance circuits shall be #14 AWG.
 - .e Size all Fire Alarm wiring for maximum 3% voltage drop at maximum load at last device in run.

- .5 Main data risers and loops between fire separations to be approved fire rated cables in accordance with the manufacturers rated system requirements.
- .6 Selection of the type of cable to be at discretion of Fire Alarm installer but the system shall meet all code requirements, when complete. All wiring to be terminated in terminal panels, junction boxes, etc. on suitable identified terminal strips or blocks, and to be neatly installed, laced and tagged where required. All terminals in terminal panels and junction boxes to be made with solderless connectors to terminal blocks with separate terminal for each conductor.
- .7 All wiring to be tag identified at the points of connection.
- .8 Provide a ground conductor with all system wiring and bond all metal parts including device boxes.

2.2 MANUFACTURERS

- .1 All equipment and components shall be the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a protected premises protective signalling fire alarm and smoke control system. The authorized representative of the manufacturer of the major equipment, such as control panels, shall be responsible for the satisfactory installation of the complete system.
- .2 Acceptable manufacturers: Existing Fire Alarm on site is manufactured by Siemens.

Part 3 Execution

3.1 INSTALLATION

- .1 Class "A" wiring shall be used for the fire alarm system. The primary wiring circuit and the return circuit shall not be installed in the same conduit.
- .2 All fire alarm system wiring shall be contained in conduit.
- .3 Manufacturer shall allow for a required amount of on-the-job-site assistance for the Contractor during the construction period.
- .4 The entire installation shall be performed under the supervision of the Manufacturer. Upon completion of the installation, the Manufacturer shall check the entire system to the approval of the Electrical Consultant. The Manufacturer shall verify the entire system and demonstrate its complete operation to those having jurisdiction.
- .5 All fire alarm conductors shall be free of splices and t-taps and shall be installed continuous between devices.
- .6 Existing fire alarm system wiring may be reused providing the conductors are continuous between devices. No terminations will be permitted in junction boxes between devices. Contractor is responsible to ensure the integrity of existing conductors wherever they are reused.

END OF SECTION