

Part 1 General

1.1 COORIDNATION

- .1 The Contractor shall supply the names and contact information of key persons of his firm and of all sub-contractors for twenty-four (24) hour emergency service.
- .2 The Contractor shall insure that Sub-contractors collaborate with him and with each other to realize the project. He shall closely and constantly supervise their work.
- .3 To facilitate mutual progress, the Contractor shall insure that Sub-contractors receive pertinent information about work on which subsequent works depend in order to prevent conflicts. The Contractor shall also provide the environmental and surface conditions required for the execution of their works, and coordinate the sequence of all sub-trade works to avoid any potential conflicts.
- .4 The Contractor shall notify the Departmental Representative at least two (2) weeks in advance before proceeding with any demolition work or with the shut-down of any building services which might affect the Departmental Representative's daily operations and/or safety.
- .5 The Contractor shall coordinate with and notify the Departmental Representative two (2) days in advance before proceeding with any work to be performed within standard working hours(8:00 am – 5:00 pm). As well, he shall coordinate and comply with the Departmental Representative's request for any work that may cause disturbances to Departmental Representative's daily operation to be carried out outside of working hours.
- .6 The Contractor will ensure that installation drawings, templates, and all other information required for the location and installation of materials, connections, and access panels are provided, especially when the installation is to be done by other sections, and that this information is communicated to the applicable installers.
- .7 The Contractor shall have his representative present for the duration of the work in affected areas.
- .8 The Contractor has to deliver materials to be installed by another section well before the installation begins.
- .9 The Contractor shall coordinate the lining, priming and installation of sleeves, bolts, inserts and the required supports.
- .10 The Contractor is to replace installed work that is unsatisfactory for subsequent work.
- .11 The Contractor shall be responsible for incorrect information, or information given too late, that is required by Sub-contractors and the Contractor shall bear expenses thus incurred.

1.2 DOCUMENTS AND ITEMS TO BE KEPT ON SITE

- .1 The Contractor shall keep, at the job site, a minimum of one copy of each of the following documents. The Contractor shall keep them updated, in good condition, and available for review by the Departmental Representative's, the Consultants and the authorities:
 - .1 Drawings and specifications issued for construction;
 - .2 Addenda;

- .3 Applicable standards reference in specifications, as required;
 - .4 Shop drawings and other submitted documents revised and reviewed;
 - .5 Reviewed samples;
 - .6 Field Orders;
 - .7 Requests for Scope Changes;
 - .8 Change Orders;
 - .9 Supplementary Instructions;
 - .10 Field Test Reports;
 - .11 Minutes of Site Meetings and other job related meetings;
 - .12 Reviewed Construction Schedule;
 - .13 Manufacturer's installation and application instructions.
- .2 Maintain at site a permanent written record of progress of work. Make the record available at all times and provide copies when requested. Each day, include in record:
- .1 Special conditions encountered on site;
 - .2 Commencement and completion dates of the work of each trade in each area of construction site;
 - .3 Attendance record of the Contractor's and Sub-contractor's work forces on site and a record of the work they performed.
 - .4 Visits to site by the Departmental Representative's, the Consultants, jurisdictional authorities, test companies, Sub-contractors, and Suppliers.
- .3 Promptly provide the project progress report when requested by the Departmental Representative. This report must accurately provide up to date information on the present state of works and of the anticipated and planned upcoming activities.
- .4 The Contractor acknowledges and accepts that the record of progress of work mentioned in sub paragraphs .2 and .3, whether given to the Departmental Representative or not, does not relieve him of his contractual and legal responsibilities.
- .5 See also the General Conditions of Contract.

1.3 CONSTRUCTION SCHEDULE (SCHEDULE OF WORKS) (S.W.)

- .1 The Contractor shall commence work immediately when notified of the acceptance of his offer and shall complete the work within the time limits indicated in the Instructions to Bidders, taking all necessary measures, such as working overtime hours, adding resources, labour and equipment, doubling shifts and all other required activities.

- .2 The Contractor shall prepare and submit to the Architect a construction schedule, showing interdependencies between parts of the work, start and ending dates and shall clearly identify all milestones.
- .3 The Contractor shall coordinate with Sub-contractors and his Materials and Services Suppliers, and shall incorporate all sub-contract scheduling data into the project schedule.
- .4 The schedule must be updated on a bi-weekly basis to accurately reflect the current progress and present status of construction. The schedule must be updated when Change Orders are approved and added.
- .5 Responsibility to meet project deadlines remains solely with the Contractor, despite any consultations he may have with the Departmental Representative, or the Architect.
- .6 The Departmental Representative will reject any claim for extra payment and/or may request an extension of the contract time in order to place orders and/or sign sub-contracts.
- .7 Schedule specific requirements:
 - .1 The schedule to be prepared by the Contractor shall take into account the Departmental Representative's requirements noted below. Refer to Items 3.8 through 3.14.
 - .2 The Contractor must also refer to the Departmental Representative's/Contractor Contract.
- .8 The detailed schedule shall be presented on an A1 format, as follows:
 - .1 Prepare a "Bar Chart" (GANTT) schedule. A graphic display of schedule-related information. In a typical bar chart, activities or other Project elements are listed on the lower left side of chart, dates are shown across the top, and activity durations are shown as date-placed horizontal bars. Generally, Bar Chart should be derived from commercially available computerized project management software.
 - .2 Assign a distinct bar to each operation or sub-trade.
 - .3 Represent time on a horizontal linear scale identifying the first day of each workweek.
 - .4 Identify the beginning and end of each activity and its milestones.
- .9 The schedule shall be established with realistic dates and in a logical sequence.
- .10 The schedule shall also include the following activities:
 - .1 Shop drawings, mock-ups, samples and technical data submittal dates;
 - .2 Delivery dates of important equipment and materials;
 - .3 Start and end dates of works described in each section of the specifications;
 - .4 Date of substantial completion of works in relation to the stipulated end of works as called for in the contractual documents;

- .5 The critical path of works.
 - .6 Contemplated Change Notices.
 - .7 Change Orders.
 - .11 The Contractor shall inspect the overall development of works with the Architect, the Consultants and the Departmental Representative at least once every week to assert the progress of each current activity and its compliance with the schedule. The Contractor shall explain, in writing, the reason of any slippage and its impact on the overall progress of works. The Contractor shall explain the compensatory measures to be undertaken to recuperate the lost time. Changes and increased costs, for which the Contractor is responsible for, are to be covered by the Contractor.
 - .12 At each request for payment, the Contractor shall submit a work progress report (percentage planned versus actual percentage) for the Architect to review and distribute.
 - .13 The Contractor shall undertake all required measures and obtain authorization, if necessary, to ensure compliance with the schedule.
 - .14 The Contractor shall revise his schedule, if required by the Architect, when:
 - .1 There is no relationship between real work progress and the approved schedule;
 - .2 The sequence of works needs to be revised to recapture the accumulated delays;
 - .3 Delays are granted.
- 1.4 SITE VISITS AND MEETINGS
- .1 Site visits and site coordination meetings will be held weekly and minuted by the Contractor. The Contractor shall be present at all of these meetings, with the Sub-contractors when their presence is requested. All Consultants whose presence is required shall be notified by the Architect, as required.
 - .2 At the kick-off meeting the following subject matters, in addition to other matters, shall be discussed:
 - .1 The general procedures concerning the project progress;
 - .2 Milestones;
 - .3 Communication protocols and methods;
 - .4 All other pertinent matters.
 - .3 Reports and minutes of meetings shall be drafted by the Contractor and distributed to the Owner, the Architect, and the Consultants. The Contractor shall distribute the minutes to his Sub-contractors and Suppliers as needed.
 - .4 The Contractor shall hold regular meetings with his Sub-contractors and the Architect who shall in form and/or invite the Consultants, in writing, as required. The minutes of these meetings shall be drafted by the Contractor and distributed to all present with copies sent to the Departmental Representative and the Consultants.

1.5 SUBMITTAL OF DOCUMENTS AND SAMPLES - GENERALITIES

- .1 This section specifies the general requirements and procedures for the Contractor's submissions of product data, shop drawings, samples and mock-ups for the Architect and Consultant's review. Additional specific requirements for submissions are specified in individual Technical Sections.
- .2 Make additional submissions to other parties as directed by the Architect and the Consultants, as their interests are concerned. These parties include, but shall not be limited to, Authorities Having Jurisdiction (AHJ) and Sub-contractors whose work must be coordinated with the present Contract's scope of work.
- .3 Ensure that submissions of all required documents and samples are made in a timely manner, to allow for review without delaying the construction schedule. Allow five (5) working days for review and return of the submittals.
- .4 Coordinate the submittals with the requirements of the work and with the Contract documents. Separately submitted documents shall not be reviewed. All related documents must be submitted together.
- .5 Ensure that field measurements are exact and are coordinated with the affected adjacent works. Indicate the dimensions on shop drawings.
- .6 Present submittals in the same units of measurements as those indicated on Architectural and Consultant's drawings.
- .7 Review, coordinate, sign and stamp submittals prior to submission to the Architect and the Consultants. This review indicates that necessary requirements have been taken into account and verified, and that each submittal has been checked and coordinated with the requirements of the work and Contract Documents. Submittals that are not stamped, signed, dated, and identified as to the specific project will be returned without being examined and shall be considered rejected. No claim for an extension of the Contract as a result of this rejection will be considered.
- .8 All submissions are to be accompanied by a transmittal letter, containing the following information:
 - .1 Date;
 - .2 Project title and number;
 - .3 Contractor's name and address;
 - .4 Identification and quantity of each shop drawing, product data sheet and sample;
 - .5 Identification of the Specifications section number and product abbreviation as expressed in that section, for work submitted;
 - .6 Other pertinent data.
- .9 Submissions shall include:
 - .1 Submission date and revision dates;
 - .2 Project title and number;

- .3 Name and address of:
 - .1 Sub-contractors;
 - .2 Suppliers;
 - .3 Manufacturers.
- .4 Applicable Specifications section title and number.
- .5 The Contractor's stamp, signed by the Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .6 An accredited Engineer's stamp, if so required in individual sections;
- .7 Details of appropriate portions of work, as applicable:
 - .1 Fabrication;
 - .2 Layout showing dimensions, including identified field dimensions and clearances;
 - .3 Setting anchoring or erecting details;
 - .4 Capacities and power requirements;
 - .5 Performance and output characteristics;
 - .6 Applicable Standards;
 - .7 Operating weight;
 - .8 Wiring diagrams;
 - .9 Single line and schematic diagrams;
 - .10 Relationships to adjacent work.
- .10 Notify the Architect and Consultants in writing, at the time submission, to identify deviations from requirements of Contract Documents and stating the reasons for deviations.
- .11 The Contractor's responsibility for deviations between their submission and Contract Document requirements is not relieved by the Architect's and Consultant's review of submissions, unless they provide written acceptance of specific deviations.
- .12 The review of submitted documents and articles by the Architect and Consultants is limited to their conformity to the general design concept. Their review does not imply approval of the detailed conception, which remains solely the responsibility of the Contractor and Sub-contractors who have submitted the documents and articles; and it does not relieve them of their responsibility to submit complete and accurate documents, articles and samples in conformity with all work requirements and Contract Documents.

The Contractor remains responsible for providing on-site dimensions and exact measurements, fabrication, installation and detailed construction techniques as well as the coordination of works executed by all other trades and Sub-contractors.

- .13 Make required changes in the submissions, in line with Contract Documents, as requested by the Architect and Consultants, and resubmit as directed, this without any increase in Contract price. Notify the Architect and Consultants if an increase is required due to these changes.
- .14 Notify the Architect and Consultants, in writing, when resubmitting, of any revisions other than those requested by them.
- .15 Keep a copy of each reviewed submitted document and samples on site.
- .16 Submit required drawings for the coordination between different trades or sub-contactors.
- .17 Work affected by the required submittals shall not begin until the review is complete.
- .18 Keep an onsite logbook of all submitted documents, including dates of submissions, reviews, and resubmissions. Update this logbook and review at each site meeting.

1.6 PRODUCT DATA SHEETS (T.L. / C.C. / T.R. /M.I.)

- .1 Product data includes the following:
 - .1 Technical literature (T.L.): This includes manufacturer's catalogue sheets, brochures, documentation, graphs and performance charts and diagrams, description and test results illustrating fabricated products.
 - .2 Certificate of Conformity (C.C.): Conformity with specific specification requirements and standards.
 - .3 Test Reports (T.R.): Supply of test reports done on site, as required and as called for in Contract Documents.
 - .4 Maintenance Instructions (M.I.).
- .2 Submit two (2) copies of product data, on 215mm x 280mm sheets (8 ½" x 11").
- .3 Delete information that is not applicable to the project.
- .4 Supplement standard information to provide details applicable to the project.
- .5 Cross reference product data information to applicable portions of Contract Documents.
- .6 Indicate also the following information:
 - .1 Manufacturer's address, telephone and fax numbers and names of contract persons;
 - .2 Trade name, model and catalogue number;
 - .3 Performance, descriptive and test data;

- .4 Manufacturer's installation or application instructions;
 - .5 Certificate of conformity to Canadian and local building codes and applicable standard requirements.
 - .6 Safety requirements.
- 1.7 SHOP DRAWINGS (S.D.)
- .1 The review of Shop Drawings is for the sole purpose of ascertaining conformance with the general design concept. This review shall not imply approval of the inherent design details, responsibility for which shall remain with the Contractor, and these reviews shall not relieve the Contractor of his responsibility for errors or omissions in the Shop Drawings nor of his responsibility for meeting all requirements in the Contract Documents. The Contractor is responsible for confirming and correlating dimensions at the job site, for providing information that pertains solely to fabrication processes or to construction and installation techniques, and for the coordination of all trade works.
 - .2 Copies of engineering data sheets, catalogue cut sheets and standard diagrams may be substituted for Shop Drawings where applicable.
 - .3 Show the following on Shop Drawings:
 - .1 Clear and obvious indications of any proposed changes from Contract Drawings and Specifications.
 - .2 Fabrication and fitting details on which the dimensions are clearly indicated, including site surveyed dimensions, as well as openings and clearances.
 - .3 Details indicating construction assemblies and the relationships with adjacent works.
 - .4 Detailed information, templates and installation instructions required for the incorporation and execution of the work.
 - .5 Installation procedures of systems that incorporate other systems, where all equipment details and connections are coordinated.
 - .6 Types of anchors and their locations, as well as all exposed fasteners to be utilized.
 - .7 Materials and their finishes.
 - .8 Descriptive names of equipment, their capacities, power requirements and characteristics.
 - .9 Mechanical and electrical characteristics, when called for.
 - .10 Schematic and electrical wiring line diagrams.
 - .11 Information to indicate that superimposed loads will not affect the function, appearance, and safety of the detailed work, as well as the related adjacent work.
 - .12 Assumed design loads, as well as the dimensions, materials and specifications of load-bearing members.

- .13 Dimensions and locations of proposed chases, sleeves, cuts, and perforations in structural members.
- .14 Applicable standards.
- .15 Any other details required under specific sections of these specifications.
- .4 Before the submittal of Shop Drawings for the Architect and Consultants review, the Contractor shall:
 - .1 Verify the conformity of the shop drawings to Contract drawings and specifications in terms of pertinence, quality, characteristics and layout.
 - .2 Review and correct the drawings.
 - .3 Verify all required dimensions on site, including dimensions of existing conditions. Coordinate with the Engineer all required dimension verification schedules.
 - .4 Coordinate the submission drawings with the project requirements and Contract Documents. The submitted documents shall not be reviewed if incomplete and if Related information is not available.
- .5 Submit two (2) prints of each drawing. Digitized PDF's (Portable Document Format) are allowed.
- .6 Submit Shop Drawings folded into 215 mm x 280 mm (8 ½" x 11") format with title blocks appearing on the outside. Drawings must be clear and legible. Digitized PDF's (Portable Document Format) are allowed.
- .7 Shop Drawings that require extensive corrections will be sent back for revision and resubmission.
- .8 Shop Drawings not requiring resubmission will be sent back with review comments only.
- .9 Do not add new details or information to shop drawings after final review, except when approval is granted.
- .10 Construct or fabricate the work exactly as shown on shop drawings. If shop practice dictates revisions, revise drawings and resubmit.
- 1.8 INSPECTION COMPANY REPORTS (I.C.R.)
 - .1 Submit copies of test reports as specified in various sections of the Specifications for "Source Quality Control" and "Field Quality Control" immediately after they are completed. See also Section 01 45 00 – Quality Control.
 - .2 Submit three (3) copies of each report unless specified otherwise, signed by the responsible officer from the inspection and testing company.
 - .3 Submit an additional report directly to the Engineer.
 - .4 Each report shall include:
 - .1 Date of issue.

- .2 Project name and number.
- .3 Name and address of inspection and testing company.
- .4 Name and signature of inspector or tester.
- .5 Identification of inspection or test.
- .6 Identification of product and the Specifications section covering inspected or tested work.
- .7 Location of the inspection area or of where the tested material was derived from.
- .8 Type of inspection or test.
- .9 Remarks and observations on compliance with Contract Documents.
- 1.9 COORDINATION DRAWINGS (C.D.)
 - .1 Supply the required coordination drawings, to insure the adequate follow up of subsequent works. Insure that equipment, fixture, wiring and connections are clearly identified.
 - .2 Submit drawings on time, before fabrication and installation of affected works.
- 1.10 NORMAL AND EXTENDED WARRANTY (N.W. / E.W.)
 - .1 Submit a normal or extended warranty for the supply and installation for all materials, equipment and workmanship, referred to in the Technical Sections of the Specifications. for architectural sections, refer to the summary in Section 01 30 00 – T Sample Warranty.
 - .2 Unless otherwise noted, submit a normal warranty (N.W.) of one year for all materials, equipment and workmanship, effective from the date of Substantial Completion of Works.
 - .3 The Extended Warranty (E.W.) extends the Normal Warranty for a period defined in the Applicable Technical Section.
 - .4 Except if indicated otherwise in the Technical Sections of the Specifications, submit the Warranties on a standard Form of Warranty, a sample of which is given in Section 01 30 00 – T Sample Warranty.
- 1.11 OTHER SUBMITTALS (O.S.)
 - .1 Supply copies of signed contracts with sub-contractors and of purchase orders to materials and equipment suppliers.
 - .2 Supply proofs of purchase when and if requested by the Architect and Consultants.
 - .3 See Section 01 71 00 – Examination and Preparation for submittals at the Project Closeout.
- Part 2 Products**
 - 2.1 NOT USED

Part 3	Execution
3.1	NOT USED

END OF SECTION