

ANNEX A

Specifications for the

Construction of the

PLUMBING RENEWAL AT ÉEC SAINTE JEANNE D'ARC

at

25 Laurelcrest Street
Brampton, Ontario

for

Conseil scolaire catholique MonAvenir
110 Drewry Avenue
Toronto, Ontario

Project No.: 2003

ISSUED
2021 01 04

Snyder

ANNEX A - SPECIFICATIONS

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1 General

1.1 THIRD-PARTY DOCUMENTS

- .1 In addition to the Drawings and the Specifications, the Owner may also distribute a collection of reports, surveys and similar types of documents relevant to the Place of the Work that have been prepared by third-parties, and are intended strictly as additional information for consideration by the bidders.
- .2 Such reports have been prepared primarily for use by the Consultant. Recommendations contained therein are not considered a requirement of this Contract unless also stated as such, either specifically or by reference, in the Contract Documents.
- .3 Bidders are cautioned that such documents, by their nature, cannot reveal all conditions that exist or can occur at the Place of the Work.
- .4 Should conditions at the Place of the Work, in the opinion of the Consultant, be found to substantially vary from those identified in the third-party documents, then changes in the Work may need to be made, with appropriate adjustments being made to the Contract Price and Contract Time.
- .5 Direct questions pertaining to third-party documents by contacting the authoring organization.

1.2 DESIGNATED SUBSTANCE SURVEYS AND AUDITS

- .1 A copy of a designated substances survey report with respect to the Place of the Work is being made available as part of the Bid Documents; described as follows:
Titled: Limited Designated Substances Survey, Room Nos. 108, 109, 110, 122, 123, 136, 137, 138, 150 and 156, 25 Laurelcrest Street, Brampton, Ontario;
Project No.: 9379;
Dated: June 3, 2020;
Prepared by: S2S Environmental Inc.
- .2 Such reports identify locations and types of designated substances present at the Place of the Work, and may include recommendations for their safe removal and disposal.
- .3 Conditions at the Place of the Work identified in the report are relevant only at the time of survey.
- .4 The condition of some building materials may have changed.
- .5 Items discovered during the execution of the Work that are not itemized within the report should be analytically tested by an accredited laboratory before further disturbance.

END OF DOCUMENT

1 General

1.1 CONTRACT DOCUMENTS

.1 Refer to GC 1.1 - Contract Documents.

.2 Work of this Contract comprises the:

Construction of the
PLUMBING RENEWAL AT ÉÉC SAINTE JEANNE D'ARC;

located at
25 Laurelcrest Street,
Brampton, Ontario;

and is further identified as Project No.: 2003.

.3 Division of the Work among Subcontractors and Suppliers is solely the Contractor's responsibility, and the Consultant assumes no responsibility to act as an arbiter to establish subcontract limits between Sections or Divisions of work.

.4 The Contract Documents were prepared by the Consultant for the account of the Owner. The material contained herein reflects the Consultant's best judgement in light of the information available to him at the time of preparation. Any use which a third party makes of the Contract Documents, or any reliance on or decisions to be made based on them, are the responsibility of such third parties. The Consultant accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on the Contract Documents.

.5 The Specifications are written using metric measurement as the basis for dimensions. This does not preclude the use of Products manufactured or produced to imperial measurements. It remains, however, the Contractor's responsibility to make the various parts of the Project come together properly and neatly in a complete manner, in accordance with the Contract Documents.

.6 The Specifications are written in imperative mood in an abbreviated form. The imperative language of the technical sections is directed to the Contractor, unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall", "the Contractor shall", and "shall be", and similar mandatory phrases by inference in the same manner as they are applied to notes on the drawings. The words "shall be" will be supplied by inference where a colon (:) is used within sentences and phrases. Except where worded to the contrary, fulfil and perform all indicated requirements whether stated imperatively or otherwise.

1.2 CONTRACT METHOD

.1 Single Contract: Construct the Work under a single lump sum contract.

1.3 CONTRACTOR USE OF THE WORK

.1 Refer to the Owner's Request for Quotation, Appendix D - RFQ Particulars, with respect to when construction operations at the Place of the Work may commence.

.2 Contractor shall limit use of the Place of the Work for execution of the Work, for storage, and for access, to allow:

- .1 Owner occupancy,
- .2 Work by other contractors, and
- .3 Public usage.

1.4 OWNER OCCUPANCY OF EXISTING FACILITY

.1 Owner will occupy premises during entire construction period for execution of normal operations.

- .2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
- 1.5 PARTIAL OWNER OCCUPANCY OF THE WORK
- .1 Schedule and substantially complete designated portions of the Work for Owner's partial occupancy prior to Substantial Performance of the Work.
 - .2 Owner will occupy designated areas for the purpose of storing furnishings and equipment, installation of equipment, and continuance of operations.
 - .3 In accordance with GC 5.9 - Non-Conforming Work, partial Owner occupancy will not be considered as an acceptance of the Work, nor in any way relieve the Contractor of his responsibility to complete the Work.
- 1.6 SUBSTANTIAL PERFORMANCE OF THE WORK
- .1 Refer to GC 5.4 - Substantial Performance of the Work.
 - .2 In accordance with the Owner's Request for Quotation, Appendix D - RFQ Particulars, Substantial Performance of the Work is required on or before August 21, 2021; with total completion of the Work required on or before August 28, 2021.

END OF SECTION

- 1 General
- 1.1 CASH ALLOWANCES
 - .1 Refer to GC 4.1 - Cash Allowances.
 - .2 Upon request, and before submission of the final application for payment, submit certified copies of invoices and statements from Suppliers and Subcontractors furnishing Products or services under a cash allowance.
 - .3 When a cash allowance is described as including the supply only of a Product, the Contractor is responsible for ensuring the cost of installation, including connections to facility services, has been included in the Contract Price. Coordinate this requirement with affected Subcontractors.
 - .4 The Contract Price includes a stipulated sum cash allowance in the amount of \$9,000 for the following parts of the Work:
 - .1 Inspection and testing, and
 - .2 Removal and disposal of asbestos-containing VCT floor tiles.

END OF SECTION

1 General

1.1 PRODUCT SUBSTITUTION PROCEDURES

- .1 Requests for substitution will only be considered when submitted in sufficient time to permit proper evaluation by the Consultant.
- .2 When requesting Consultant review of a proposed Product substitution, demonstrate that the proposed substitute will perform equally as well or better as the specified Product.
- .3 Accompany each request for substitution with a list of properties for both the specified Product and the proposed substitute, including the following information:
 - .1 Product identification, including manufacturer's name, address, telephone and fax numbers, and web site address where available.
 - .2 Manufacturer's Product data sheets, including material descriptions, compliance with applicable reference standards, and performance and test data.
 - .3 A summarized comparison of physical properties and performance characteristics for the specified Product and the proposed substitution, and clearly highlighting significant variations.
 - .4 Indication of availability of maintenance services and sources of replacement materials and parts, including associated costs and time frames.
 - .5 Indication of cost savings and reduction of construction schedule.
 - .6 Verification that the substitute will not result in additional costs or a reduction in performance to other portions of the Work.
 - .7 Reason for requesting the substitution.
- .4 The clauses "or equal", "or approved equal", or other similar clauses, will not be construed as an invitation to submit requests for substitution or to unilaterally substitute Products in place of the specified Products and systems.
- .5 The abbreviation "eg." means "for example", and a Product listed thereafter is named as an example of the Product upon which the specification is based. Similar Products from other listed manufacturers are acceptable for use, provided they meet the specified criteria.
- .6 Failure to order specified Products in adequate time to meet the approved construction schedule will not be a valid reason to submit a request for substitution. In accordance with GC 6.5 - Delays, such delays remain the responsibility of the Contractor, and will not result in an extension to the Contract Time or be subject to reimbursement by the Owner.
- .7 The Owner is under no obligation to consider Product or system substitutions recommended by the Contractor.
- .8 Remove and replace substitutions incorporated into the Work without the Consultant's written approval.

END OF SECTION

1 General

1.1 CLARIFICATIONS

- .1 Request written clarifications when the meaning of the Contract Documents is unclear.
- .2 Do not proceed with related parts of the Work until clarification is received.
- .3 Failure to notify Consultant when the Contract Documents are unclear or inconsistent will result in the Contractor incurring responsibility for resulting deficiencies and additional costs.
- .4 Clarifications issued by the Consultant are deemed to supercede the relevant parts of the Contract Documents, regardless whether those documents are cited in the written clarification.

1.2 REQUESTS FOR INTERPRETATION

- .1 The Contractor may, after exercising due diligence to locate the required information, request from the Consultant clarification or interpretation of the Contract Documents, hereinafter referred to as a request for interpretation (RFI).
- .2 Submit RFI on a form acceptable in content to the Consultant, including a detailed description of the Contractor's review of the Contract Documents leading up to the issuance of the RFI. Requests for interpretation that fail to include a detailed review description, or whose description is insufficient in the opinion of the Consultant, may not be considered and may be rejected.
- .3 Maintain a log of RFI sent to and responses received from the Consultant, complete with corresponding dates. Submit updated RFI log with each application for payment.
- .4 Submit RFI to Consultant sufficiently in advance of affected parts of the Work so as not to cause delay in the Work. Additional costs incurred as a result of failure to submit an RFI in sufficient time will not be reimbursed by Owner.
- .5 RFI will only be received from the Contractor. RFI received directly from Subcontractors or Suppliers will not be considered.
- .6 Submit one RFI per RFI form, numbered consecutively in a single sequence, in the order submitted.
- .7 The Consultant will review and respond to RFI with reasonable promptness.
- .8 The Consultant's response to RFI will not be considered a Changer Order or Change Directive, nor does it authorize changes in the Work, the Contract Price and the Contract Time.
- .9 If, at any time, the Contractor submits a large quantity of RFI, such that the Consultant cannot process them within a reasonable period of time, then the Consultant will notify the Contractor of such in writing. In this event, the Contractor and the Consultant will jointly prepare an estimate of time necessary for processing the RFI, as well as determining an order of priority among the submitted RFI. The Contractor will accommodate such necessary time at no increase in the Contract Time and Contract Price.
- .10 If the information requested in an RFI is apparent from field observations, is contained in the Contract Documents or is reasonably inferable from them, the Contractor shall be responsible to the Owner for reasonable costs charged by the Consultant for additional services required to prepare and issue such information.
- .11 A request for interpretation (RFI) will not constitute a notice of claim for a delay.

1.3 VARIATIONS

- .1 Refer to GC 6.1 - Owner's Right to Make Changes, GC 6.2 - Change Order and GC 6.3 - Change Directive.
- .2 The measurement of variations to the Contract Price shall be on the basis of units of material and labour, estimated by the Contractor and evaluated by the Consultant.
- .3 Once a Proposed Change has been issued by the Consultant, ensure no construction occurs that may increase the cost of the contemplated variation.
- .4 The Consultant will assess the cost of each change before issuing a Change Order. Assist the Consultant with this task by quoting variations in a complete manner, listing:
 - .1 Quantity of each material,
 - .2 Unit cost of each material,
 - .3 Man hours involved,
 - .4 Cost per hour,
 - .5 Subcontractor quotations, and
 - .6 Mark-up.
- .5 The Consultant may require further quotations in order to show a breakdown of costs.
- .6 The Owner and the Consultant will not be responsible for delays to the Work resulting from late, incomplete or inadequately broken down valuations submitted by the Contractor.
- .7 Minor variations may be made in the Work from time to time as approved by the Consultant. Such alterations or adjustments shall not constitute a change in cost unless a request is made at the time. No extra will be contemplated except where a clear indication is made that extra payment is claimed, in which case a Proposed Change or Change Directive will be issued by the Consultant in accordance with GC 6.1 - Owner's Right to Make Changes or GC 6.3 - Change Directive. Unless this procedure is followed, no claims for extras will be allowed.

END OF SECTION

- 1 General
- 1.1 COORDINATION
 - .1 Coordinate the Work to ensure the Work proceeds safely and expeditiously.
 - .2 Ensure adequate communication among involved parties.
 - .3 Allocate mobilization areas at the Place of the Work; for field offices and sheds, for access, traffic, and parking facilities.
 - .4 Coordinate use of the Place of the Work and facilities through procedures for submittals, reports and records, schedules, coordination of Drawings, recommendations, and resolution of ambiguities and conflicts.
 - .5 Submit information required for preparation of coordination and interference drawings. Review and approve revised drawings for submission to Consultant.
- 1.2 DOCUMENTS AT THE PLACE OF THE WORK
 - .1 Maintain an up-to-date copy of the following documents at the Place of the Work:
 - .1 The Contract Documents, including the Drawings, Specifications, addenda, bid revisions, Notices in Writing, Supplemental Instructions, proposed changes, Change Orders, Change Directives, and other modifications to the Contract.
 - .2 Accepted Shop Drawings, Product data and samples.
 - .3 Quality control submittals, including test and evaluation reports.
 - .4 Manufacturer's instructions, including installation and maintenance guidelines.
 - .5 Construction schedule.
 - .6 Additional requested schedules.
 - .7 Consultant's field review reports and deficiency reports.
 - .8 Reports from authorities having jurisdiction.
 - .9 Permits.
 - .10 Construction daily log.
 - .11 Record as-built documents as described in Section 01 78 00.
 - .2 Make documents available to Consultant for review at the Place of the Work.
 - .3 Construction Daily Log: Maintain a construction log, recording on a daily basis the following information:
 - .1 Number of workers actively working at the Place of the Work, organized on a Subcontract basis.
 - .2 Subcontractors working at the Place of the Work.
 - .3 Identify the parts of the Work being worked on.
 - .4 Identify the working hours being kept at the Place of the Work.
 - .5 Activities with intermittent progress.
 - .6 Time lost with an explanation as to cause.
 - .7 Difficulties encountered, such as construction activity delays, labour inefficiencies, labour shortages, etc.
 - .8 Product deliveries.
 - .9 Equipment mobilization and de-mobilization.
 - .10 Demolition conditions.
 - .11 Start and finish dates for each part of the Work.
- 1.3 OTHER CONTRACTORS
 - .1 Cooperate with any separate contractor employed by the Owner and, if necessary, co-ordinate with their work.
 - .2 Submit necessary information to Owner to assist in the required scheduling of such contractors.

1.4 GENERAL REQUIREMENTS FOR MEETINGS

- .1 Schedule and administer meetings in consultation with Consultant, throughout the progress of the Work.
- .2 Prepare agenda for meetings.
- .3 Distribute written notice of each meeting 4 days in advance of meeting date to Consultant and Owner.
- .4 Provide physical space and make arrangements for meetings.
- .5 Preside at meetings.
- .6 Record the minutes. Include significant proceedings and decisions. Identify action by the parties.
- .7 Submit draft copy of minutes to Consultant within two Working Days after meeting.
- .8 Consultant will review minutes and will submit comments for any necessary revisions or additions within 3 Working Days.
- .9 Update minutes to reflect Consultant's comments.
- .10 Reproduce and distribute copies of minutes within 5 days after meeting and transmit to meeting participants, affected parties not in attendance, the Consultant, and the Owner.
- .11 Representative of Contractor, Subcontractor, and Suppliers attending meetings shall be qualified and authorized to act on behalf of the party each represents.
- .12 Schedule meetings on a day that is determined to be convenient by both Contractor and Consultant.

1.5 PRE-CONSTRUCTION MEETING

- .1 Within 15 days after award of Contract, request a meeting with the Owner to discuss and resolve administrative procedures and responsibilities.
- .2 Conduct meetings with Subcontractors and Suppliers to discuss and resolve administrative procedures and responsibilities.
- .3 Owner, Consultant, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .4 Establish time and location of meeting and notify parties concerned a minimum of 5 days before meeting date.
- .5 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .6 Pre-construction Meeting Agenda: Include the following:
 - .1 Appointment of official representative of participants in the Work;
 - .2 Schedule of Work, progress scheduling;
 - .3 Schedule of submissions of Shop Drawings, samples, colour chips;
 - .4 Requirements for temporary facilities, Project identification sign, field offices, storage sheds, temporary utilities, protective enclosures;
 - .5 Delivery schedule of specified equipment;
 - .6 Site security;
 - .7 Proposed change, Change Order, and Change Directive procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements;
 - .8 Owner-furnished Products;
 - .9 As-built drawings;

- .10 Operation and maintenance manuals;
- .11 Take-over procedures, acceptance, warranties, extra stock materials;
- .12 Monthly progress claims, administrative procedures, photographs, holdbacks;
- .13 Procedures for the publication of the Certificate of Substantial Performance of the Work, including identification of the publisher, and notification of Subcontractors and Suppliers;
- .14 Appointment of inspection and testing agencies or firms; and
- .15 Insurances, transcripts of policies.

1.6 PREINSTALLATION MEETINGS

- .1 During the course of the Work, schedule preinstallation meetings as required by the Contract Documents.
- .2 Wherever possible, schedule preinstallation meetings on the same date as regularly scheduled progress meetings.
- .3 The Contractor, affected Subcontractors and Suppliers, manufacturer's representatives, field inspectors and supervisors, the Consultant and any other specified parties are to be in attendance.
- .4 Preinstallation Meeting Agenda: Include the following:
 - .1 Review of existing conditions and affected parts of the Work, and any testing thereof;
 - .2 Review of installation procedures and requirements;
 - .3 Review of environmental and field condition requirements;
 - .4 Schedule of the applicable parts of the Work;
 - .5 Schedule of submission for samples and other items requiring Consultant's selection;
 - .6 Requirements for Temporary Work;
 - .7 Requirements for notification for reviews. Allow a minimum of 48 hours notice for Consultant to review the affected parts of the Work;
 - .8 Requirements for inspections and tests as applicable. Schedule and undertake inspections and tests;
 - .9 Delivery schedule for Products; and
 - .10 Special requirements and procedures necessary to comply with regulatory requirements and authorities having jurisdiction.

1.7 PROGRESS AND PROGRESS DRAW MEETINGS

- .1 During course of the Work and two weeks prior to completion of the Contract, schedule progress meetings bi-weekly.
- .2 During course of the Work, schedule progress draw meetings monthly.
- .3 Submit to Consultant a copy of the application for payment not less than two Working Days before scheduled progress draw meeting. Consultant may require changes to the application for payment prior to progress draw meeting.
- .4 Contractor, major Subcontractors involved in Work, Consultant, and Owner are to be in attendance.
- .5 Progress Meeting Agenda: Include the following:
 - .1 Review, approval of minutes of previous meeting;
 - .2 Review progress of the Work since previous meeting;
 - .3 Field observations, problems, conflicts;
 - .4 Problems impeding construction schedule;
 - .5 Review of off-site fabrication delivery schedules;
 - .6 Corrective measuring and procedures to regain Project schedule;
 - .7 Revision of construction progress schedule;
 - .8 Progress, schedule, during succeeding work period;
 - .9 Review Submittal schedules, as-built drawings: Expedite as required;
 - .10 Maintenance of quality standards;

- .11 Review of proposed changes for affect on construction progress schedule, and on completion date; and
- .12 Other business.

END OF SECTION

- 1 General
- 1.1 SUBMISSION REQUIREMENTS
 - .1 Submit initial schedules within 15 days after award of Contract.
 - .2 Revise and resubmit updated schedules with each application for payment.
 - .3 The Consultant will not review an application for payment that does not include updated schedules.
 - .4 Submit schedules electronically as Adobe Acrobat (.pdf) files.
- 1.2 CONSTRUCTION PROGRESS SCHEDULE
 - .1 Prepare construction progress schedule using the critical path method of scheduling.
 - .2 Include complete sequence of construction activities.
 - .3 Include dates for commencement and completion of each major element of construction, including dates of inspections and tests.
 - .4 Show projected percentage of completion of each item as of first day of month.
 - .5 Indicate progress of each activity to date of submission of the schedule.
 - .6 Show changes occurring since previous submission of schedule:
 - .1 Major changes in scope.
 - .2 Change Orders and Change Directives.
 - .3 Activities modified since previous submission.
 - .4 Revised projections of progress and completion.
 - .5 Other identifiable changes.
 - .7 Provide a narrative report to define:
 - .1 Problem areas, anticipated delays, and impact on schedule.
 - .2 Corrective action recommended and its effect.
 - .3 Effect of changes on schedules of other contractors.
- 1.3 ADDITIONAL SCHEDULES
 - .1 Concurrently with construction progress schedule, submit a cash flow schedule, a schedule of values, a Submittal schedule, a Product and equipment delivery schedule and an inspection and testing schedule; in formats acceptable to Consultant.
 - .2 Cash Flow Schedule: Broken down on a monthly basis, indicating anticipated monthly progress billings for duration of Contract.
 - .3 Schedule of Values: In accordance with CCDC 24-2016, A Guide to Model Forms and Support Documents.
 - .4 Submittal Schedule:
 - .1 Refer to GC 3.10 - Shop Drawings.
 - .2 Indicate anticipated submission dates and review periods for Shop Drawings, samples, lists of materials and other documentation.
 - .3 Highlight critical items, including latest date for Submittal review by Consultant.
 - .4 Design sequence of submissions to reflect requirements of construction schedule.
 - .5 Product and Equipment Delivery Schedule: Indicate list of Products and manufactured equipment complete with order dates and anticipated delivery dates.

- .6 Inspection and Testing Schedule:
 - .1 Schedule inspection and testing in consultation with Owner's appointed inspection and testing agency.
 - .2 Identify time required for the performance of tests and inspections, and for the preparation and distribution of reports.

END OF SECTION

1 General

1.1 ADMINISTRATIVE

- .1 Collect Submittals requested by the Contract Documents, as required by authorities having jurisdiction and as may be reasonably requested by the Consultant from relevant Subcontractors, Suppliers and manufacturers.
- .2 Make submissions with reasonable promptness and in an orderly sequence so as not to delay the Work. Be responsible for delays and pay additional costs as a result of failure to make submissions in due time to allow proper reviews.
- .3 Submittals containing unauthorized substitutions will be rejected. Refer to Section 01 25 00 for substitution procedures.
- .4 Ensure submissions are complete for each particular Submittal required.
- .5 Where submissions are not complete, indicate which Submittal components are not included, and stating when they will be made available. The Consultant reserves the right to delay their review of the Submittal until the submission is complete.
- .6 Do not proceed with parts of the Work affected by a Submittal, including ordering of Products, until relevant Submittal has been reviewed and accepted by the Consultant.
- .7 Prepare Submittals in units of measurement consistent with those used on the Drawings.

1.2 SUBMISSION PROCEDURES

- .1 Coordinate each Submittal with the Contract Documents.
- .2 Include with each submission a duplicate transmittal document indicating the following:
 - .1 Date of initial submission,
 - .2 Date of each resubmission, and
 - .3 Project title and Consultant's Project number.
- .3 Indicate on each submission, the following information:
 - .1 Name of Contractor,
 - .2 Name of Subcontractor,
 - .3 Name of Supplier (as applicable),
 - .4 Name of manufacturer (as applicable),
 - .5 Name of person responsible for preparation of submission, and
 - .6 Relevant specification Section numbers.
- .4 Identify Submittals numerically by Section number, numeric indicator, revision number and a brief worded description. For example, a Submittal for masonry wall ties might be identified as "04 05 19-01-R0-Wall Ties".
- .5 When required by Consultant's review, make necessary changes to Submittal and resubmit for final acceptance.
- .6 Notify Consultant in writing of any additional revisions made to Submittal beyond those required by Consultant's review.
- .7 Upon acceptance of Submittal by Consultant, distribute copies to affected parties.

1.3 REVIEW BY CONTRACTOR

- .1 Before making submissions to the Consultant, review Submittals for conformity to Contract Documents.
- .2 Contractor's review of Submittals must be conducted by the authorized representative familiar with the Work.

- .3 Check each Submittal and make necessary notations before forwarding Submittals to the Consultant.
- .4 Distribute copies of Submittals to affected Subcontractors for their comment prior to submitting them to the Consultant.
- .5 Verify noted dimensions with actual constructed measurements at the Place of the Work.
- .6 Confirm fabrication techniques and installation means and methods.
- .7 Where Submittal does not conform to the Contract Documents, reject Submittal and return to source for revisions. Do not forward rejected Submittals to the Consultant.
- .8 Contractor assumes sole responsibility for conflicts that may arise in the execution of the Work as a result of failure to properly review and coordinate Submittals.
- .9 Submittals forwarded to the Consultant must bear the Contractor's review stamp, signed and dated by the authorized representative.
- .10 Submittals received by the Consultant that fail to include the Contractor's review stamp, date and signature will be returned without review.
- .11 Notify Consultant in writing of changes made on Submittals to the Contract Documents. Consultant's review of Submittals does not relieve the Contractor of responsibility for unauthorized changes made to the Contract Documents.
- .12 Keep copies of accepted Submittals at the Place of the Work in a neat, orderly condition.
- .13 Perform the Work in conformance with accepted Submittals. Remove and replace Products not matching accepted Submittals.

1.4 REVIEW BY CONSULTANT

- .1 Review of Submittals by Consultant is only for general conformity to the Contract Documents.
- .2 Consultant review does not imply approval of the construction means, methods, techniques or detailing, responsibility for which remains with the Contractor.
- .3 Consultant review does not relieve the Contractor of responsibility for errors or omissions in the Submittals, or responsibility for meeting requirements of the Contract Documents.
- .4 Consultant markings on Submittals and resulting required actions:
 - .1 Submittals requiring no changes will be marked 'REVIEWED', and will be submitted for as-built purposes.
 - .2 Submittals requiring some minor changes will be marked 'REVIEWED AS NOTED', and will be revised and submitted for as-built purposes.
 - .3 Submittals requiring substantial changes will be marked as 'REVISE AND RESUBMIT' and will be revised and resubmitted until the Consultant subsequently marks them as 'REVIEWED' or 'REVIEWED AS NOTED'.
- .5 Consultant's review and markings on Submittals do not authorize changes in the Work.
- .6 If, in the Contractor's opinion, the Consultant's review of a Submittal constitutes a change in the Work, then the Contractor will notify the Consultant in writing and request an interpretation as specified in Section 01 26 00.
- .7 If the Consultant determines that a change in the Work is justified, then a Change Order itemizing the change in Contract Price and Contract Time will be issued.
- .8 Submittals not requested by the Contract Documents or Consultant, or not required by authorities having jurisdiction, will not be reviewed by the Consultant, and will be returned marked as NOT REVIEWED.

1.5 ENGINEERED SUBMITTALS

- .1 Submittals required to be sealed by a professional engineer are to be prepared, sealed, signed and dated under the direct control and supervision of a qualified professional engineer licensed to practice in the Place of the Work.
- .2 Include proof of professional liability insurance with a minimum limit of liability of \$5,000,000 per claim, and identifying insurer, policy number, and policy term on duly signed certificate of insurance.
- .3 Design includes life safety, sizing of supports, anchors, framing, connections, spans and as additionally required to meet or exceed requirements of applicable codes, standards, regulations, authorities having jurisdiction and design requirements of the Contract Documents.
- .4 Engineered Submittals are to include design calculations, complete with references to codes and standards used in such calculations, supporting the proposed design represented in the Submittal. Prepare calculations in a clear and comprehensive manner so that they can be properly reviewed.
- .5 The Submittal engineer shall undertake periodic field review, including review of associated mock-ups when applicable. Such reviews will include review during fabrication at the point of manufacture, and during installation at the Place of the Work. Prepare and submit a field review report for each review undertaken.
- .6 Conduct field reviews at intervals appropriate to the progress of the parts of the Work relevant to the engineered Submittal. Report on progress and quality of the affected parts of the Work. Determine if installation is in general conformity with the Contract Documents and in strict conformance with the accepted engineered Submittal.
- .7 Upon completion of the parts of the Work affected by an engineered Submittal, the Submittal engineer shall prepare and submit a Letter of General Conformity to the Contractor, the Consultant and the authorities having jurisdiction. Certify that the parts of the Work affected by the engineered Submittal have been designed, fabricated and installed in accordance with the Contract Documents and the applicable codes.
- .8 Include costs of Submittal engineer's services in the Contract Price.

1.6 SUBMITTALS PRIOR TO START OF WORK

- .1 Submit the following documents within the time stipulated, or, if not stipulated, prior to first application for payment:
 - .1 Insurance certificates,
 - .2 Surety bonds (where applicable),
 - .3 Workplace Safety and Insurance Board certificates,
 - .4 Construction progress schedule,
 - .5 Interference drawings,
 - .6 Schedule of values,
 - .7 Cash flow schedule,
 - .8 Submittal schedule,
 - .9 Inspection and testing schedule, and
 - .10 Equipment delivery schedule.

1.7 PRODUCT DATA

- .1 Submit Product data sheets and brochures electronically in the form of Adobe Acrobat (.pdf) files for requirements requested in specification Sections and as the Consultant may reasonably request where Shop Drawings will not be prepared due to standardized manufacture of Product.

- .2 Include sufficient space for application of review stamps by Contractor and Consultant.
- .3 After review, the Consultant will return marked-up Product data sheets to the Contractor . Produce and distribute the necessary copies to affected parties.
- .4 Retain one set of accepted Product data sheets for inclusion in the operating and maintenance manuals. Refer to Section 01 78 00.

1.8 SHOP DRAWINGS

- .1 Refer to GC 3.10 - Shop Drawings.
- .2 Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, Product, and other data which the Contractor submits to illustrate details of a portion of the Work.
- .3 Adjustments made on Shop Drawings by the Consultant are not intended to change the Contract Price or Contract Time. If adjustments affect the Contract Price or Contract Time, state such in writing to the Consultant prior to proceeding with the Work.
- .4 Make changes in Shop Drawings as the Consultant may require, consistent with Contract Documents. When resubmitting, notify the Consultant in writing of any revisions other than those requested.
- .5 At no time or under any circumstances, shall Shop Drawings be considered part of the Contract Documents.
- .6 Submit Shop Drawings which require approval of any legally constituted authority having jurisdiction to such authority for approval.
- .7 Unless specified otherwise, submit Shop Drawings electronically as Adobe Acrobat (.pdf) files for each requirement requested in specification Sections and as Consultant may reasonably request.
- .8 Include sufficient space for application of review stamps by Contractor and Consultant.
- .9 Shop Drawings are to be legible, and basically include the following information:
 - .1 Fabrication and erection dimensions.
 - .2 Plans, Sections, Elevations, arrangements and sufficient full-size details indicating complete construction, components, methods of assembly and interconnections with adjacent parts of the Work.
 - .3 Design and engineering calculations, substantiating member sizes and connections, based on design loads.
 - .4 Clear assignment of responsibility for the parts of the Work described thereon. Do not include phrases such as; "by others" or "by purchaser". Shop Drawings marked in this manner will be rejected.
 - .5 Location and type of exposed anchors and fasteners, including any concealed reinforcements for attachment of same.
 - .6 Adhesives, joinery methods and bonding agents.
 - .7 Grades and Types of Products, including their physical characteristics, finishes and other fabrication information.
 - .8 Configurations, sizes, and styles of Product required.
 - .9 Mechanical and electrical characteristics of equipment.
 - .10 Data verifying superimposed loads will not affect function, appearance or safety of installed components and adjacent construction.
 - .11 Chases, sleeves, cuts and holes required, including those required in adjacent structural building elements.
 - .12 Locations and types of welded connections. Include AWS symbols and indicate net weld lengths and sizes.
 - .13 Product and manufacturer names, complete with model numbers.

- .14 Installation guidelines.
 - .15 Operation and maintenance guidelines.
 - .10 Refer to individual specification Sections for Product-specific requirements of Shop Drawings.
 - .11 After review, the Consultant will return marked-up Shop Drawings to Contractor. Produce and distribute the necessary copies to affected parties.
 - .12 Retain one set of accepted Shop Drawings for inclusion in the operating and maintenance manuals. Refer to Section 01 78 00.
- 1.9 SAMPLES
- .1 Submit samples to Consultant as requested in the Contract Documents.
 - .2 Identify samples with Project name and number, Consultant's name, Contractor's name, Subcontractor's name, date of submission, specification Section number, manufacturer's name, Product name and Model number, and colour name and number.
 - .3 Upon request of Consultant, prepare representative panels of Products, illustrating the selected textures and colours.
- 1.10 INTERFERENCE DRAWINGS
- .1 Prepare a set of interference drawings, identifying and resolving potential conflicts among various parts of the Work, including sprinkler systems, HVAC ductwork, plumbing and drainage lines, lighting, and electrical systems.
 - .2 Submit three copies of interference drawings to Consultant prior to start of Work.
 - .3 Coordinate and review interference drawings with affected Subcontractors prior to commencement of their portions of the Work.
- 1.11 CERTIFICATES AND CERTIFICATION SUBMITTALS
- .1 Submit written statements, as requested in the Contract Documents, certifying the installed Products meet the specified criteria.
 - .2 Include signature of person responsible for preparing certification.
- 1.12 TEST AND EVALUATION REPORTS
- .1 Submit manufacturers' test and evaluation reports electronically as Adobe Acrobat (.pdf) files for requirements requested in specification Sections and as the Consultant may reasonably request.
 - .2 Ensure results are expressed in metric units of measurement. Test and evaluation reports recording results only in imperial units of measurement may be rejected.
 - .3 Clearly indicate compliance with specified performance criteria, tested in accordance with specified test methods, and conducted by an independent testing agency.
 - .4 Test results achieved through the use of alternative test methods will be rejected.

END OF SECTION

- 1 General
- 1.1 PROPER CONDUCT OF WORKERS
 - .1 Refer to GC 3.8 - Labour and Products.
 - .2 Ensure workers conduct themselves in a proper and civilized manner at all times.
 - .3 Workers using improper language, cat calls, lewd comments or improper behaviour will be required to leave the Place of the Work and will be replaced by the Contractor.
 - .4 Workers are required to be properly attired at all times.
 - .5 Workers wearing clothing exhibiting hateful or offensive images or language will be required to replace or cover such clothing. Workers refusing to do so will be required to leave the Place of the Work and will be replaced by the Contractor.
 - .6 Smoking or vaping of any substance is not permitted at the Place of the Work.
 - .7 The consumption of alcohol and the use of controlled substances is not permitted at the Place of the Work.
- 1.2 SPECIAL PROCEDURES FOR INFECTION CONTROL
 - .1 Conform to the latest edition of CCA COVID-19 - Standardized Protocols for All Canadian Construction Sites.
 - .2 Conform to Owner's required procedures for Covid-19 with respect to workers entering and working in the existing building.
- 1.3 LABOUR CONDITIONS
 - .1 Ensure rates of wages, working hours, and conditions at the Place of the Work are in accordance with regulatory requirements and the authorities having jurisdiction.
- 1.4 EMERGENCY CONTACT INFORMATION
 - .1 Submit to the authority having jurisdiction the emergency contact information for the site superintendent; for their use 24 hours a day, 7 days a week, 52 weeks a year.
 - .2 Immediately notify the authority having jurisdiction when the emergency contact information changes.
- 1.5 NOISY WORK RESTRICTIONS
 - .1 Conform to applicable noise regulations and legislation.
 - .2 Schedule noisy work, or work requiring the use of pneumatic tools, in a manner to avoid disturbance to existing building occupants.
 - .3 This may require portions of the Work to be performed outside normal working hours.
- 1.6 SPECIAL PROCEDURES FOR CONTRACTORS WORKING IN THE EXISTING FACILITY
 - .1 Comply with Owner's procedures and requirements for construction personnel working in existing buildings.
 - .2 Conform to the latest edition of "Guidelines For Maintaining Fire Safety During Construction in Existing Buildings", as issued by the Office of the Fire Marshal.
 - .3 Coordinate requirements with local fire department. Discuss fire safety planning issues and alternative measures.

1.7 TIME OF WORK RESTRICTIONS IN THE EXISTING FACILITY

- .1 When performing portions of the Work within the existing facility beyond the defined areas of construction, coordinate with the Owner's representative at the Place of the Work to ensure the operational program of the existing facility is not disrupted. Conduct such coordination not less than 48 hours prior to commencing such portions of the Work.
- .2 Work performed within the existing facility beyond the defined areas of construction is restricted to Mondays to Fridays, between the hours of 7:30 am and 4:00 pm.
- .3 Make special arrangements with Owner to perform portions of the Work in the existing facility beyond the defined areas of construction outside of these hours. Submit requests for special arrangements not less than 48 hours in advance.
- .4 Submit written notice to Owner and Owner's representative at the Place of the Work within 24 hours of any potential disruptions to the continuing operations of the existing facility.
- .5 Schedule the Work so as to avoid potential disruptions to the continuing operations of the existing facility. Notify Owner in writing at least 24 hours in advance of any potential disruption to any adjoining areas to the Place of the Work. Cooperate with Owner when scheduling such portions of the Work.

1.8 FOOD AND BEVERAGE RESTRICTIONS IN THE EXISTING FACILITY

- .1 Limit the consumption of food and beverages in existing buildings to only those areas designated by the Owner.
- .2 There shall be no food or beverages allowed within the existing facility beyond the defined areas of construction.
- .3 Only water will be permitted to be consumed within the existing facility.
- .4 No sunflower seeds, peanuts, nuts, or similar foods are permitted anywhere at the Place of the Work.
- .5 Workers found to be in violation of this requirement will be required to leave the Place of the Work and will be replaced by the Contractor.

1.9 FIRE ALARMS IN THE EXISTING FACILITY

- .1 Fire and smoke sensors are installed throughout the existing building. These devices may be triggered by jarring either directly or indirectly while working in adjacent building areas.
- .2 Determine nature and exact locations of existing fire and smoke sensors prior to the commencement of the Work.
- .3 Notify Owner prior to commencement of any part of the Work in the vicinity of fire and smoke sensor devices.
- .4 Owner reserves the right to charge the Contractor for costs incurred by false activation of fire alarms as a result of the execution of the Work.

1.10 SPILL RESPONSE

- .1 Prepare and initiate a spill response procedure in accordance with appropriate regulatory agencies' requirements prior to commencing the Work.
- .2 Supply and maintain a spill kit at the Place of the Work.

1.11 SPECIAL PROCEDURES FOR WORKING IN CONFINED SPACES

- .1 Perform work in confined spaces in accordance with applicable legislation.

- .2 Work in confined spaces must be supervised and performed by licenced confined space and hazardous materials personnel.

1.12 SPECIAL PROCEDURES FOR WORKING WITH DESIGNATED SUBSTANCES

- .1 Prepare and initiate a health and safety plan in accordance with appropriate regulatory agencies' requirements prior to commencing work activities involving the excavation, transport or handling of potentially contaminated material.
- .2 Keep an up-to-date copy of the health and safety plan at the Place of the Work.
- .3 Adhere to the health and safety plan for the duration of the removal and disposal of contaminated material from the Place of the Work.
- .4 Provide and maintain a safe working environment for on-site personnel and minimize the impact of construction activities on the general public and the surrounding environment.
- .5 Verify that workers and visitors to the Place of the Work have and are adequately trained in the use of the appropriate personal protective equipment.
- .6 Should any unforeseen, or site-peculiar safety related factor, hazard, or condition become evident during the performance of the Work, notify the authority having jurisdiction and the Consultant immediately, and take prudent temporary action to establish and maintain safe working conditions until suitable permanent action can be implemented. Safeguard workers, the public and the surrounding area from contamination.
- .7 Perform routine air monitoring at the Place of the Work, testing for organic vapours, explosive conditions and oxygen deficient conditions. Evacuate affected areas immediately and implement corrective measures if unsatisfactory conditions are discovered.
- .8 In the event of injury to on-site personnel, contact the designated hospital and describe the injury prior to or during transport of injured personnel. Transport the injured personnel to the defined medical facility along a predefined route.
- .9 Take appropriate measures to minimize the contact of vehicles and equipment with potentially contaminated materials. Vehicles, equipment and workers which do contact contaminated materials shall be decontaminated in an approved manner prior to leaving the Place of the Work.

END OF SECTION

1 General

1.1 REGULATORY REQUIREMENTS

- .1 Conform to the latest editions of the following regulatory requirements, hereinafter referred to as codes:
 - .1 The Ontario Building Code;
 - .2 The Ontario Fire Code;
 - .3 The Ontario Plumbing Code;
 - .4 The Canadian Electrical Code;
 - .5 The Ontario Construction Act;
 - .6 The Occupational Health and Safety Act (Construction Projects);
 - .7 The Elevating Devices Act;
 - .8 The Workplace Hazardous Materials Information System Regulation (WHMIS);
 - .9 Waste Audits and Waste Reduction Workplans; and
 - .10 Industrial, Commercial and Institutional Source Separation Programs.
- .2 Conform to requirements of authorities having jurisdiction, including public utilities.
- .3 Nothing contained in the Contract Documents shall be so construed as to be in conflict with any law, by-law, or regulation of the municipal, regional, provincial, or other authorities having jurisdiction.

1.2 PERMITS AND FEES

- .1 Refer to GC 10.2 - Laws, Notices, Permits and Fees.
- .2 Determine detailed requirements of authorities having jurisdiction.

1.3 REFERENCES

- .1 Where edition date is not specified, consider that references to manufacturer's data, and published codes, standards and specifications are made to the latest edition or revision, approved by the issuing organization.
- .2 Reference standards and specifications are quoted to establish minimum standards. Work which in quality exceeds the specified minimum will be considered to conform.
- .3 The requirements of the Contract Documents govern over the requirements of reference standards and specifications.
- .4 Standards, specifications, associations and regulatory agencies are generally referred to throughout the Contract Documents by their abbreviated designations, as listed below:
 - .1 AA The Aluminum Association;
 - .2 AAMA American Architectural Manufacturers Association;
 - .3 ACI American Concrete Institute;
 - .4 AISI American Iron and Steel Institute;
 - .5 AMCA Air Movement and Air Control Association;
 - .6 ANSI American National Standards Institute;
 - .7 ARI Air Conditioning and Refrigeration Institute;
 - .8 ASME American Society of Mechanical Engineering;
 - .9 ASTM American Society for Testing and Materials;
 - .10 ASHRAE American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.;
 - .11 AWMAC Architectural Woodwork Manufacturers' Association of Canada;
 - .12 BHMA Builders Hardware Manufacturers Association;
 - .13 CCMPA Canadian Concrete Masonry Producers Association;
 - .14 CFCA Concrete Floor Contractors Association of Canada;
 - .15 CGA Canadian Gas Association;
 - .16 CGSB Canadian General Standards Board;

.17	CHPVA	Canadian Hardwood Plywood and Veneer Association;
.18	CISC	Canadian Institute of Steel Construction;
.19	CISCA	Ceiling & Interior Systems Construction Association;
.20	CKCA	Canadian Kitchen Cabinet Association;
.21	CLFMI	Chain Link Fence Manufacturers' Institute;
.22	CPCI	Canadian Precast Concrete Institute;
.23	CPCQA	Canadian Precast Concrete Quality Assurance;
.24	CPSC	Consumer Product Safety Commission;
.25	CRCA	Canadian Roofing Contractors' Association;
.26	CRI	Carpet and Rug Institute;
.27	CSA	Canadian Standards Association;
.28	CSC	Construction Specifications Canada;
.29	CSDMA	Canadian Steel Door Manufacturers' Association;
.30	CSSBI	Canadian Sheet Steel Building Institute;
.31	CUFCA	Canadian Urethane Foam Contractors Association Inc.;
.32	CWC	Canadian Wood Council;
.33	DASMA	Door & Access Systems Manufacturers' Association, International;
.34	DHI	Door and Hardware Institute;
.35	DIN	Deutsches Institut für Normung E.V.;
.36	GA	Gypsum Association;
.37	GANA	Glass Association of North America;
.38	HPVA	Hardwood Plywood and Veneer Association;
.39	ICRI	International Concrete Repair Institute;
.40	IGMAC	Insulated Glass Manufacturers' Association of Canada;
.41	ISCA	Interior Systems Contractors Association of Ontario;
.42	IWFA	International Window Film Association;
.43	MPI	Master Painters' Institute;
.44	NFPA	National Fire Protection Association;
.45	NFRC	National Fenestration Rating Council Incorporated;
.46	NHLA	National Hardwood Lumber Association;
.47	NLGA	National Lumber Grades Authority;
.48	OIRCA	Ontario Industrial Roofing Contractors' Association;
.49	OMCA	Ontario Masonry Contractors' Association;
.50	PCI	Precast Concrete Institute;
.51	RSIC	Reinforcing Steel Institute of Canada;
.52	SMACNA	Sheet Metal and Air Conditioning Contractors' National Association;
.53	SSPC	Steel Structures Painting Council;
.54	SWI	Sealant and Waterproofer's Institute;
.55	TTMAC	Terrazzo, Tile & Marble Association of Canada;
.56	ULC	Underwriters' Laboratories of Canada;
.57	ULI	Underwriters' Laboratories Incorporated;
.58	WDMA	Window and Door Manufacturers' Association; and
.59	WHI	Warnock-Hersey International.

1.4 QUALITY ASSURANCE

- .1 Quality of work shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed.
- .2 Maintain good order and discipline among workers engaged on the Project. Do not employ on the Work anyone not skilled in the tasks assigned.
- .3 Immediately notify the Consultant if required Work is such as to make it impractical to produce required results.
- .4 Decisions as to the quality or fitness of work in cases of dispute rest solely with the Consultant, whose decision is final.

1.5 QUALITY CONTROL

- .1 Refer to GC 2.3 - Review and Inspection of the Work.

1.6 TESTING AND INSPECTION SERVICES

- .1 Independent inspection and testing agencies will be engaged by the Owner for the purpose of inspecting and testing portions of the Work.
- .2 Cost of inspection and testing shall be paid from cash Allowance specified in Section 01 21 00.
- .3 Supply equipment required for executing inspection and testing by the appointed agencies.
- .4 Employment of inspection and testing agencies does not relax the responsibility to perform Work in accordance with the Contract Documents.
- .5 If defects are revealed during inspection and testing, the appointed agency will request additional inspection and testing to ascertain full degree of defect. Correct defect and irregularities as advised by Consultant at no additional cost to Owner. Pay costs for retesting and reinspection.
- .6 Allow inspection and testing agencies access to the Work, off-site manufacturing and fabrication plants.
- .7 Cooperate to provide reasonable facilities for such access.
- .8 Notify the appropriate agency and Consultant in advance of the requirement for tests, in order that attendance arrangements can be made.
- .9 Submit samples or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in the Work.
- .10 Provide labour and facilities to obtain and handle samples and materials at the Place of the Work. Provide sufficient space to store and cure test samples.

1.7 DEFECTIVE WORK

- .1 Refer to GC 2.4 - Defective Work.

1.8 QUALITY CONTROL REPORTS

- .1 Promptly submit quality control reports electronically in the form of Adobe Acrobat (.pdf) files, to each of the following:
 - .1 Consultant.
 - .2 Owner.
 - .3 Authorities having jurisdiction.
- .2 Forward copy of quality control reports promptly to each affected Subcontractor.

1.9 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as may be required.
- .2 The costs of tests and mix designs beyond those called for in the Contract Documents or beyond those required by the laws of the Place of Work shall be appraised by the Consultant and may be authorized as recoverable.

1.10 MANUFACTURER FIELD REVIEW

- .1 When required by the Contract Documents, arrange for a qualified manufacturer's representative to review relevant parts of the Work and verify those portions of the Work are being executed in accordance with the manufacturer's written recommendations and installation guidelines.
- .2 Manufacturer field review services are intended to ensure that the specified Products are being used and are being installed on substrates that have been prepared in accordance with the manufacturer's written recommendations.
- .3 Unless specified otherwise, the manufacturer's representative will undertake a minimum of one field review, with additional reviews being conducted as deemed necessary by the manufacturer.
- .4 Within two Working Days of a field review, the manufacturer will submit a field review report recording the manufacturer representative's observations and recommendations.
- .5 Distribute copies of the manufacturer's field review reports to the affected Subcontractor, Consultant and authorities having jurisdiction.

1.11 MOCK-UPS

- .1 Prepare mock-ups for portions of the Work specifically requested in the Contract Documents. Include work of all Sections required to provide each mock-up.
- .2 Construct mock-ups in locations acceptable to Consultant.
- .3 Prepare mock-up for Consultant review with reasonable promptness and in an orderly sequence, so as not to cause delay in the Work.
- .4 Failure to prepare mock-up in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 If requested, the Consultant will assist in preparing a schedule fixing the dates for preparation.
- .6 Protect and maintain accepted mock-ups until directed to be removed.
- .7 Commence the parts of the Work demonstrated by mock-up only after Consultant has reviewed and accepted the mock-up.
- .8 Accepted mock-ups will become the standard for the quality of Products and quality of work against which the Work will be compared.
- .9 Remove and replace Products and work not matching the accepted standard demonstrated in the accepted mock-up.
- .10 Specification section identifies whether the mock-up may remain as part of the Work or must be removed.

1.12 EQUIPMENT AND SYSTEMS

- .1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.
- .2 Refer to facility services Sections for definitive requirements.

END OF SECTION

- 1 General
- 1.1 ADMINISTRATIVE REQUIREMENTS
 - .1 Provide temporary utilities, facilities and controls in order to execute the Work expeditiously.
 - .2 Maintain temporary utilities, facilities and controls in a neat and tidy condition.
 - .3 Remove temporary utilities, facilities and controls from the Place of the Work after use.
- 1.2 TEMPORARY WORK
 - .1 Refer to GC 3.3 - Temporary Work.
- 1.3 TEMPORARY UTILITIES
 - .1 Temporary Electricity
 - .1 The Owner will designate an existing source, and pay the usage costs, for temporary power during construction to provide adequate temporary lighting; operation of power tools; temporary heating and ventilation; and to ensure the proper completion of the Work.
 - .2 Arrange for connection to the designated source, and pay costs for installation, maintenance and removal.
 - .3 Ensure use of existing power source does not interrupt or affect the continuing operations of Owner's facility.
 - .4 Provide and maintain temporary electrical systems to CSA C22.1-18, Canadian Electrical Code, Part 1 - Safety Standard for Electrical Installations.
 - .2 Temporary Heating, Cooling and Ventilating
 - .1 Provide temporary heating and cooling required during construction period, including attendance, maintenance and fuel.
 - .2 Maintain temperatures of minimum 10 degrees C and maximum of 35 degrees C in areas where construction is in progress, unless indicated otherwise in specifications.
 - .3 Temporary heaters will be forced hot air type, operated in a well ventilated location. Vent direct fired heaters directly to exterior and extend vent beyond wall face to avoid staining. Open flame heaters or salamanders are not permitted.
 - .4 Uniformly distribute heat to avoid hot and cold areas and to prevent excessive drying.
 - .5 Upon approval of the Owner, the permanent heating system of the building, or portions thereof, may be used when available. Be responsible for damage thereto.
 - .6 On completion of Work, replace filters in permanent heating system and clean all ducts.
 - .7 Ventilation: Provide minimum one air change per hour for enclosed areas receiving architectural finishes.
 - .8 Ensure adequate ventilation whenever using hazardous or volatile adhesives, coatings or substances.
 - .9 Do not allow excessive build up of moisture in the Work.
 - .3 Temporary Lighting: Provide and maintain suitable lighting during hours of darkness at danger points.
 - .4 Temporary Communications: Provide temporary telephone, and wireless internet services at the Place of the Work, for own use and use of the Consultant.
 - .5 Temporary Water:
 - .1 The Owner will designate an existing source, and pay the usage costs, for a continuous supply of potable water for construction use.
 - .2 Arrange for connection to the designated source, and pay costs for installation, maintenance and removal.
 - .3 Ensure use of existing water sources does not interrupt or affect the continuing operations of Owner's facility.

1.4 USE OF NEW PERMANENT UTILITIES

- .1 When new permanent utilities are used during the execution of the Work, pay for usage costs at prevailing rates.
- .2 Maintain new permanent utilities used for construction purposes. Make Good damage prior to Owner occupancy.

1.5 CONSTRUCTION FACILITIES

- .1 Field Offices
 - .1 Provide and maintain in clean condition during progress of Work, an adequately lighted, heated and ventilated construction office, with sufficient space and furnishings to accommodate the holding of meetings, the filing of documents, and the laying out of Contract Documents.
 - .2 Subcontractors may provide their own offices as necessary. Direct the location of these offices.
- .2 Storage Facilities
 - .1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of Products and Construction Equipment.
 - .2 Do not store Products or Construction Equipment in the field office.
- .3 First Aid
 - .1 Provide appropriate emergency and first aid equipment as prescribed by authorities having jurisdiction.
 - .2 Mount emergency and first aid equipment in a prominent and easily accessible location with easily identifiable labels.
 - .3 A minimum of one person trained in basic first aid must be present at the Place of the Work at all times during the execution of the Work. This person may perform other duties, but must be immediately available to render first aid when needed.
- .4 Sanitary Facilities
 - .1 Provide a sufficient quantity of temporary sanitary facilities, separate for male and female workers, in accordance with local health authorities.
 - .2 Keep sanitary facilities clean and fully stocked with the necessary supplies at all times.
 - .3 Existing permanent sanitary facilities may not be used during the construction period.
 - .4 Except where connected to municipal sewer system, periodically remove wastes from the Place of the Work.

1.6 HOISTS AND CRANES

- .1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment.
- .2 Make financial arrangements with Subcontractors for use thereof.
- .3 Hoists and cranes shall be operated by qualified operator.

1.7 VEHICULAR ACCESS AND PARKING

- .1 Clean municipal roadways located immediately adjacent to the Place of the Work, regardless of cause, as follows:
 - .1 At least once per week on Friday afternoons, just before the end of the Working Day,
 - .2 After construction equipment or vehicles have left the Place of the Work, resulting in soil or debris being deposited on roadway surfaces,
 - .3 As directed by the authorities having jurisdiction, and
 - .4 As directed by Consultant.
- .2 Clean private roadways as necessary, and as directed by Consultant.

- .3 Coordinate access restrictions with Subcontractors.
- .4 Make adequate arrangements to maintain continuous access by emergency vehicles.
- .5 Road Closures: Conform to requirements of authorities having jurisdiction.
- .6 Parking will be permitted at the Place of the Work, as long as it does not disrupt the performance of the Work and the continuing operations of the Owner.

1.8 TEMPORARY BARRIERS AND ENCLOSURES

- .1 Protective Enclosures:
 - .1 Erect dust-tight protective enclosures at the Place of the Work around defined areas of construction, to protect the public, workers, and public and private property from injury or damage.
 - .2 Provide lockable gates to restrict access to authorized construction personnel.
 - .3 Provide and maintain complete safety protection at open shafts in floors, roof decks and other working surfaces.
 - .4 Provide and maintain suitable warning signs as required by applicable regulations and by-laws.
- .2 Security Measures:
 - .1 Become familiar with the Place of the Work and the surrounding neighbourhood.
 - .2 Implement adequate security measures to prevent vandalism, theft, arson, and trespassing by unauthorized persons at the Place of the Work.
 - .3 Maintain security measures for 24 hours a day, 7 days a week, 52 weeks of the year, including times when construction may be shut down due to strikes or lockouts.
 - .4 Remove security measures only after Owner occupancy of the Project.
- .3 Existing Building Entrances and Exits:
 - .1 Maintain existing building entrances and exits to ensure public safety.
 - .2 Where existing entrances and exits are blocked or adversely affected by construction activities, Provide temporary entrances and exits in accordance with Code requirements.

END OF SECTION

- 1 General
- 1.1 BASIC PRODUCT REQUIREMENTS
 - .1 Refer to GC 3.8 - Labour and Products.
 - .2 Products referred to in the singular implies the supply and installation of as many Products as necessary to complete the Work.
 - .3 Unless specified otherwise, the Consultant may select colours from manufacturers' complete ranges of available colours, textures and patterns, including those considered to be premium.
 - .4 Conceal trademarks and labels, including applied labels, in finished areas of the Work. Trademarks and labels that are essential for identifying Products for maintenance purposes, and for identifying life safety, fire resistance and temperature rise ratings may remain visible.
 - .5 Not In Contract (NIC) means an item that requires coordination for its later installation, and which is not Provided as part of the Work.
 - .6 Owner-Furnished Products (OFP) means a Product that will be supplied by the Owner to the Contractor for installation as part of the Work.
- 1.2 OWNER-FURNISHED PRODUCTS
 - .1 Owner's Responsibilities
 - .1 Arrange for delivery of Shop Drawings, Product data, samples, manufacturer's instructions and certificates to Contractor.
 - .2 Deliver supplier's bill of materials to Contractor.
 - .3 Arrange and pay for delivery to the Place of the Work in accordance with construction progress schedule.
 - .4 Inspect deliveries jointly with the Contractor.
 - .5 Submit claims for transportation damage.
 - .6 Arrange for replacement of damaged, defective or missing items.
 - .7 Arrange for manufacturer's field services; arrange for and deliver manufacturer's warranties and bonds to Contractor.
 - .2 Contractor's Responsibilities
 - .1 Designate submittals and delivery date for each Owner-Furnished Product in construction progress schedule.
 - .2 Review Shop Drawings, Product data, samples, manufacturer's instructions and other submittals. Submit to Consultant notification of any observed discrepancies or problems anticipated due to non-conformance with Contract Documents.
 - .3 Receive and unload Owner-Furnished Products at the Place of the Work.
 - .4 Inspect deliveries jointly with Owner, record shortages and damaged or defective items.
 - .5 Handle Owner-Furnished Products at the Place of the Work, including uncrating and storage.
 - .6 Protect Owner-Furnished Products from damage and from exposure to elements.
 - .7 Assemble, install, connect, adjust and finish Owner-Furnished Products.
 - .8 Conduct installation inspections required by public authorities.
 - .9 Repair or replace Owner-Furnished Products damaged by Contractor or Subcontractors at the Place of the Work.
- 1.3 PRODUCT DELIVERY REQUIREMENTS
 - .1 Ensure that Products are packaged, delivered and stored to prevent damage and to ensure that their moisture content is not increased beyond manufactured or specified installation limits.
 - .2 Label packaged goods to completely describe contents.

- .3 Immediately review Product delivery requirements and anticipate foreseeable supply delays for any items.
- .4 In the event of failure to notify the Consultant at commencement of Work, the Consultant reserves the right to substitute more readily available products of similar character, at no increase in Contract Price.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- .1 Handle and store Products in a manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Provide necessary protection for those materials that require it.
- .3 Store Products in a neat and tidy manner.
- .4 Store packaged or bundle Product in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in the Work.
- .5 Do not allow Product to be placed in contact with the ground nor with other materials that could stain them. Store Product subject to damage from weather in weatherproof enclosures.
- .6 Store paint and other volatile substances in a separate structure located at least 15 metres from the existing facility, and equipped with a fire extinguisher.
- .7 Store Products within the existing facility only as and when approved by the Owner. Move materials stored within the existing facility should they become a hindrance to the Work, or delivery of other Products, or the continuing operations of the Owner.
- .8 Receive, handle, protect and store Products purchased by the Owner for the Work as it is delivered to the premises.
- .9 Remove flammable rubbish and packing materials from the Place of the Work.

END OF SECTION

- 1 General
- 1.1 CONCEALED CONDITIONS
 - .1 Refer to GC 6.4 - Concealed or Unknown Conditions.
- 1.2 EXAMINATION AND ACCEPTANCE OF CONDITIONS
 - .1 Verify conditions are ready to receive installation.
 - .2 Ensure substrate surfaces are clean, dimensionally stable, cured and free of contaminants such as oil, sealers and curing compounds.
 - .3 Notify Consultant in writing of unacceptable conditions.
 - .4 Commencement of installation means acceptance of conditions.

END OF SECTION

1 General

1.1 EXECUTION REQUIREMENTS

- .1 Unless noted otherwise, install, apply or erect Products in strict accordance with manufacturer's written installation instructions and guidelines.
- .2 Specifications requiring the installation, erection or application of Products to conform to a consensus standard does not replace or supercede the requirement to also conform to the manufacturer's written installation instructions and guidelines.
- .3 Where a manufacturer's installation instructions and the requirements of a specified consensus standard are contradictory, the manufacturer's written installation instructions and guidelines will govern.
- .4 Improper installation, application or erection of Products will result in the Consultant requiring their complete removal and replacement with new Products at no increase in Contract Price.
- .5 In finished areas, conceal pipes, ducts, and wiring in floors, walls and ceilings, except where indicated otherwise.
- .6 Extra payment for incidental furring or other enclosure will not be approved.
- .7 Prevent electrolytic and galvanic reactions from occurring between dissimilar metals and materials.
- .8 Make holes and voids required for facility service penetrations of correct size to accommodate the penetrating items plus any fill material such as backer rods and joint sealants, firestops and smoke seals, and insulation.
- .9 Remedial Work: Refer to GC 3.12 - Cutting and Remedial Work, and Section 01 73 29.

1.2 SITE STORAGE AND OVERLOADING

- .1 Refer to GC 3.11 - Use of the Work.
- .2 Unless specifically indicated, do not cut, drill or sleeve any load bearing structural member without the written approval of Consultant.

1.3 EXISTING UTILITIES

- .1 Refer to GC 9.1 - Protection of Work and Property.
- .2 When breaking into or connecting to existing services' utilities, execute Work at times directed by local governing authorities, with a minimum of disturbance to Work, and pedestrian and vehicular traffic.
- .3 Protect, relocate or maintain existing active services.
- .4 When existing services are encountered, cap off in a manner approved by the authority having jurisdiction and stake or otherwise record the location of the capped service.

1.4 INTERFERENCES

- .1 Prior to commencement of the Work, coordinate placement of Products to ensure components are properly accommodated within designed spaces. Prepare and submit interference drawings as specified in Section 01 33 00.
- .2 Be responsible for additional work and costs necessitated by failure to coordinate the parts of the Work.

- .3 Provide adequate access and clearances around Products as required by authorities having jurisdiction, and as required for maintenance purposes by manufacturers.
- .4 Notify Consultant if Contract Documents are in conflict with access and clearance requirements.

1.5 LOCATION OF FIXTURES AND FITMENTS

- .1 The locations of fixtures and fitments, such as access panels, outlets, and facility service items, indicated on the Drawings are approximate only.
- .2 Locate fixtures and fitments precisely in the Work after consultation with the affected installer and the Consultant.

1.6 INSERTS, ANCHORS AND FASTENERS

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Provide fasteners to the full required complement. Products with missing fasteners will be rejected by the Consultant.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in the affected specification Section.
- .4 Use only factory made, threaded or toggle type inserts for supports and anchors, properly sized for load being carried.
- .5 Where inserts cannot be placed, use factory made expansion shields for light weights only.
- .6 Provide inserts, holes, anchor bolts and sleeves during placement or fabrication of structural elements.
- .7 Fasteners stressed in withdrawal will be rejected.
- .8 Metal fasteners are to be of a material that will not set up a galvanic reaction with the materials being fastened.
- .9 Powder-actuated fasteners are to be a system suitable for the specific application, corrosion-resistant, and capable of sustaining without failure a load equal to 10 times the design load when tested to ASTM E1190.
- .10 Do not use powder-actuated fasteners stressed in withdrawal for finished work.
- .11 Do not use powder-actuated fasteners within 100 mm of concrete or masonry edges.
- .12 Do not use powder-actuated fasteners in post-tensioned concrete.

1.7 TEMPLATES, BUILT-INS AND DIMENSIONS

- .1 Take dimensions necessary for the proper execution of the Work.
- .2 Assume responsibility for accuracy and completeness of dimensions.
- .3 Provide forms, templates, anchors, inserts and accessories to be fixed to or inserted as part of the Work.
- .4 Prepare and submit setting drawings, templates and other information necessary for the placement and installation of Products, holes, sleeves, inserts, anchors, accessories, fastenings, connections and access panels.

- .5 Supply items in sufficient time, complete with templates and other necessary information, to accommodate installation without causing delay to the Work. Failure to do so will not result in an increase in Contract Price and Contract Time.
- .6 Verify that the Work, as it proceeds, is executed in accordance with dimensions and positions indicated, which maintain levels and clearances to adjacent work, as set out in the Contract Documents.
- .7 Ensure defective and rejected work is corrected before subsequent construction commences. Refer to Section 01 71 00.
- .8 Verify details and measurements at the Place of the Work prior to fabricating Products of special design to ensure fit.

END OF SECTION

1 General

1.1 SUBMITTALS

.1 Submit written request in advance of cutting or alteration which affects:

- .1 Structural integrity of any element of Project.
- .2 Integrity of weather-exposed or moisture-resistant elements.
- .3 Efficiency, maintenance or safety of any operational element.
- .4 Visual qualities of sight-exposed elements.
- .5 Work of Owner or separate contractor.

.2 Include in request:

- .1 Identification of Project.
- .2 Location and description of affected work.
- .3 Statement on necessity for cutting or alteration.
- .4 Description of proposed work, and products to be used.
- .5 Alternatives to cutting and patching.
- .6 Effect on work of Owner or separate contractor.
- .7 Written permission of affected separate contractors.
- .8 Date and time work will be executed.

1.2 MATERIALS

- .1 Required for original installation.
- .2 Change in Materials: Submit requests for substitutions as specified in Section 01 25 00.

1.3 PREPARATION

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of work.
- .3 Beginning of cutting and patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which may be exposed by uncovering work; maintain excavations free of water.

1.4 EXECUTION

- .1 Refer to GC 3.12 - Cutting and Remedial Work.
- .2 Execute cutting, fitting, and patching, including excavation and fill, necessary to complete the Work.
- .3 Fit the several parts together, to integrate with other work.
- .4 Uncover work to install ill-timed work.
- .5 Remove and replace defective and non-conforming work.
- .6 Remove samples of installed work for testing.
- .7 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical work.
- .8 Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.

- .9 Employ experienced workers to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .10 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed with masonry materials without prior written approval.
- .11 Restore work with new Products in accordance with the requirements of Contract Documents.
- .12 Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .13 At penetration of fire-rated wall, ceiling or floor construction, completely seal voids with firestopping and smoke seal materials, full thickness of the construction element.
- .14 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

END OF SECTION

1 General

1.1 PROGRESS CLEANING

- .1 Maintain the Work in tidy condition, free from accumulation of waste products and debris, other than that caused by the Owner or other contractors.
- .2 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .3 Remove waste material and debris from the Place of the Work in an approved manner at the end of each Working Day.
- .4 Clean interior areas prior to installing finishing Products.
- .5 Maintain areas free of dust and other contaminants during finishing operations.

1.2 FINAL CLEANING

- .1 Refer to GC 3.13 - Cleanup.
- .2 Provide professional cleaning by a recognized, established cleaning company.
- .3 Standards Meeting: Prior to final cleaning, hold a meeting at the Place of the Work to determine the acceptable standard of cleaning. Owner, Consultant, Contractor and cleaning Subcontractor to be in attendance.
- .4 Lock each room after completing final cleaning in that area.
- .5 Restrict access to areas that have been final cleaned. Re-clean areas that have been accessed by workers prior to Owner occupancy.
- .6 Remove stains, dirt and smudges from finished surfaces. Conform to respective manufacturers' recommendations.
- .7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, and plastic laminate.
- .8 Replace broken, scratched or disfigured glass.
- .9 Clean electrical and mechanical fixtures and other fittings of labels, wrappings, paper and other foreign material.
- .10 Vacuum clean and dust building interiors, including inside ducts, blowers and coils and behind grilles, louvres and screens.
- .11 Power wash exterior paved surfaces.

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Conform to CCA 81-2001, A Best Practices Guide to Solid Waste Reduction.
- .2 Fire and burning of rubbish and waste materials at the Place of the Work is not permitted.
- .3 Burying of rubbish and waste materials at the Place of the Work is not permitted.
- .4 Disposal of waste or volatile materials, such as kerosene, mineral spirits, oil or paint thinner into storm or sanitary sewers is prohibited. Collect such waste materials in appropriate containers and dispose of in accordance with the regulations and guidelines of the authority having jurisdiction.
- .5 Provide on-site disposal service for rubbish accumulated by Subcontractors and Suppliers, in accordance with the authorities having jurisdiction.

- .6 Prevent extraneous materials from contaminating air beyond application areas by providing temporary enclosures as specified in Section 01 50 00.
 - .7 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.
 - .8 Deposit packaging materials in appropriate container at the Place of the Work for recycling or reuse.
 - .9 Avoid using landfill waste disposal procedures when recycling facilities are available.
 - .10 Keep discarded packaging away from children.
- 1.4 HAZARDOUS WASTE DISPOSAL
- .1 If and when required, remove and dispose of contaminated material in accordance with the regulations and guidelines of the authority having jurisdiction.
 - .2 Contaminated material shall be transported by a licensed waste hauling company.
 - .3 Submit a copy of the hauling company's Certificate of Approval to the authority having jurisdiction prior to the transport of any contaminated material.
 - .4 Stockpile suspected contaminated material temporarily in neat and secure stockpiles overlying a double layer of 0.20 mm thick high density polyethylene.
 - .5 Isolate stockpiles from the remainder of the Place of the Work and cover with a single layer of 0.20 mm thick polyethylene to prevent entry, wind disturbance or the collection of surface water.
 - .6 Do not transport potentially contaminated material until such material has been identified by the appropriate authority.

END OF SECTION

- 1 General
- 1.1 QUALITY ASSURANCE
 - .1 Perform services under direction of supervisor qualified under certification requirements of sponsoring association.
- 1.2 SUBMITTALS
 - .1 Prior to start of the Work, submit names of specialty personnel proposed to perform services.
 - .2 Submit 3 copies of final reports on applicable forms.
- 1.3 SYSTEM START-UP PROCEDURES
 - .1 Comply with procedural standards of certifying associations under whose standards these services will be performed.
 - .2 Arrange for affected Subcontractors and Suppliers to send senior and capable personnel for demonstrations, training and start-up instructions prior to system start-up.
 - .3 Start-up plumbing pumps and other power-operated equipment, bringing them to expected operational levels.
 - .4 Report to Consultant any deficiencies or defects noted during start-up.
 - .5 Prepare each system for testing and balancing.
- 1.4 TESTING, ADJUSTING AND BALANCING PROCEDURES
 - .1 Test equipment, balance distribution systems, and adjust devices for building equipment and systems noted above.
 - .2 Cooperate with testing organization, provide access to equipment and systems.
 - .3 Notify testing organization 7 days prior to when the Project will be ready for testing, adjusting, and balancing.
 - .4 Provide instruments required for test, adjust, and balance operations.
 - .5 Verify systems installation is complete and in continuous operation.
 - .6 Verify equipment is in full operation.

END OF SECTION

- 1 General
- 1.1 PROTECTING INSTALLED CONSTRUCTION AND ADJACENT PROPERTY
 - .1 Refer to GC 9.1 - Protection of Work and Property.
 - .2 Refer to various sections of Specifications for requirements regarding protection of installed Products.
 - .3 Adequately protect parts of the Work that are either completed or in-progress.
 - .4 Unless specified otherwise, maintain protection until Substantial Performance of the Work.
 - .5 Provide protective coverings at walls, projections, corners and jambs, sills and soffits of openings in and adjacent to traffic areas.
 - .6 Remove protection and protective coverings upon expiry of specified duration.
 - .7 Provide protection for completed and partially completed finishes and equipment during performance of the Work.
 - .8 Protect pre-finished Products from damage by other construction materials and operations.
- 1.2 UNDERGROUND AND CONCEALED SERVICES
 - .1 Protect pipes, ducts, cables, conduits, wires and other services against damage arising from the performance of the Work.
 - .2 Take necessary precautions to locate the underground and concealed services and to protect them from damage.
- 1.3 MAKING GOOD
 - .1 Make Good means to restore new or existing work after being damaged, cut, patched, or rejected by the Consultant. Use materials identical to the original materials, with visible surfaces matching the appearance of the original surfaces in all details, and with no apparent junctions between new and original surfaces.
 - .2 Make Good defective and damaged portions of the Work.
 - .3 Make Good damage to property adjacent to the Place of the Work.
 - .4 Make Good damage to the Work resulting from lack of adequate heating protection.
 - .5 Make Good damaged services in accordance with the authority having jurisdiction.

END OF SECTION

- 1 General
- 1.1 CLOSEOUT PROCEDURES
 - .1 Conform to OAA/OGCA Document 100-2007.
 - .2 Additional Reviews Required of the Consultant: In the event the Consultant must undertake additional reviews and assessments beyond those described, and resulting from either the Contractor's lack of preparation or his inability to correct the deficiencies within the time prescribed, then the Contractor shall reimburse the Consultant for such additional reviews and assessments, paid for at the Consultant's standard hourly rate.
- 1.2 WARRANTY
 - .1 Refer to GC 12.3 - Warranty.

END OF SECTION

1 General

1.1 OPERATION AND MAINTENANCE MANUALS

- .1 Two weeks prior to making an Application for Substantial Performance of the Work, submit one draft copy of the completed operation and maintenance manuals.
- .2 Consultant will review the draft copy of the operation and maintenance manuals, and will return it to the Contractor within 5 Working Days with marked-up comments.
- .3 Revise operation and maintenance manuals as required prior to final submission.
- .4 Upon making an Application for Substantial Performance of the Work, submit to Consultant two bound hard copies and one Adobe Acrobat (PDF) electronic copy of the final operation and maintenance manuals.
- .5 Organize data in the form of an instructional manual, with the hard copies bound in commercial-quality binders, 8-1/2" x 11" size, with maximum ring size.
- .6 Cover: Identify each binder with typed or printed title "Operation and Maintenance Manuals"; listing the volume number, Project name, and identifying the subject matter of contents.
- .7 Arrange content by systems, under Section numbers and sequence of Table of Contents.
- .8 Provide hard copies with tabbed fly leaf for each separate Product and system, with typed description of Product and major component parts of equipment.
- .9 Provide electronic copy with electronic bookmarks for each separate Product and system, with description of Product and major component parts of equipment.
- .10 Extended Warranties: Arranged in systematic order matching specification format. Include a listing of extended warranties. Each warranty must indicate the name and address of the Project, the name of the Owner and the corresponding Section number and title, and the issuer's name, address, telephone and fax number, contact person information, seal and signature.
- .11 Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .12 Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .13 As a minimum requirement, include the following material as applicable:
 - .1 Table of Contents. If more than one volume is required, provide a cross-reference contents page at the front of each volume.
 - .2 Complete list of Subcontractors and Suppliers, indicating name, address, telephone and fax numbers, contact person information, and description of work performed.
 - .3 Complete list of Products used in the Work, indicating Product name, part number or code and manufacturer for each listing.
 - .4 Reviewed and accepted copies of Shop Drawings, Product data, samples, test and evaluation reports, certificates, and manufacturer field reports.
 - .5 Finish hardware schedule, as amended.
 - .6 Schedule of paints and coatings, including identification of each surface with applicable paint or coating used. Enclose copy of colour schedule.
 - .7 Maintenance instructions for all finished surfaces.
 - .8 Brochures, cuts of equipment and fixtures.
 - .9 Operating and maintenance instructions for equipment.
 - .10 Valve manual.
 - .11 Controls schematics.
 - .12 Air and water balancing reports.

- .13 Extended warranties.
- .14 Maintenance contracts.
- .15 Other data required by the Contract Documents.

1.2 AS-BUILT DOCUMENTS

- .1 Promptly record deviations, revisions, omissions and additions to the Work from that indicated in the Contract Documents on a set the Drawings.
- .2 Keep as-built documents up to date at all times. Failure to do so may impact the certified amount payable.
- .3 Record information concurrently with construction progress. Do not conceal work until required information is recorded.
- .4 Legibly mark substitutions to record actual Products installed.
- .5 Maintain manufacturers' certifications, inspection certifications, schedules, and field test records as required by the Contract Documents.
- .6 Clearly label marked-up documents as "AS-BUILT".
- .7 Prior to Substantial Performance of the Work, collect as-built documents and electronically transfer information to a master set of drawing files provided by the Consultant, in the most recent version of Autodesk AutoCAD.
- .8 Employ a competent computer draftsperson to indicate changes on the electronic set of the as-built documents.
- .9 Upon making an Application for Substantial Performance of the Work, electronically submit completed As-built Drawings in the form of AutoCAD (.dwg) drawing files, accompanied by two hard copy sets.

1.3 SPARE PARTS, SPECIAL TOOLS AND EXTRA STOCK MATERIALS

- .1 Two weeks prior to making an Application for Substantial Performance of the Work, submit to Consultant special tools and equipment supplied for maintenance purposes.
- .2 Spare parts and extra stock materials shall be new, not damaged or defective, and of same quality and manufacture as Products Provided in the Work. If requested, furnish evidence as to type, source and quality of Products being supplied.
- .3 Spare parts and extra stock materials found to be defective or damaged will be rejected, regardless of previous inspections.
- .4 Replace defective spare parts and extra stock materials at own expense.
- .5 Store spare parts and extra stock materials in a manner to prevent damage or deterioration.
- .6 Provide spare parts, special tools, maintenance and extra stock materials in quantities specified in individual specification Sections.

END OF SECTION

1 General

1.1 DEMONSTRATION AND TRAINING

- .1 Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, and maintenance of each item of equipment at agreed upon times, at the designated locations.
- .2 Owner will prepare a list of personnel to receive instructions, and will coordinate their attendance at agreed upon times.
- .3 Prior to demonstrations proceeding, ensure equipment has been inspected and put into proper operation, including start-up, testing, adjusting and balancing.
- .4 Instruct personnel in phases of operation and maintenance using operation and maintenance manuals as the basis of instruction.
- .5 Review contents of operating and maintenance manual in detail to explain all aspects of operation and maintenance.
- .6 Allow Owner to video record demonstration and training instructions.
- .7 Prepare and insert additional data in operations and maintenance manuals when the need for additional data becomes apparent during instructions.

END OF SECTION

- 1 General
- 1.1 REFERENCES
 - .1 CSA S350-M1980 (R2003): Code of Practice for Safety in Demolition of Structures.
 - .2 CSA Z783-12: Deconstruction of Buildings and Their Related Parts.
- 1.2 SEQUENCING
 - .1 Schedule deconstruction activities to minimize disruption to existing building operations.
 - .2 Verify deconstruction schedule with Consultant prior to commencement of the Work.
 - .3 Protect occupants from dust and from any danger arising from deconstruction operations. Refer to Section 01 50 00.
- 1.3 SPECIAL PROCEDURE SUBMITTALS
 - .1 Submit three copies of each photograph taken of existing conditions to Consultant.
- 1.4 QUALIFICATIONS
 - .1 Demolition Supervisor: An individual experienced in the deconstruction of buildings to ensure that deconstruction is carried out safely, expeditiously, and without unnecessary damage to materials and surfaces that are designated to remain.
- 1.5 FIELD CONDITIONS
 - .1 Inspect and photograph existing adjacent surfaces and assemblies.
 - .2 Record conditions and stability in a manner suitable for evaluation of possible damage caused by deconstruction operations.
 - .3 Approximate locations of existing building services may be indicated on Drawings. The Consultant assumes no responsibility for the accuracy of this information.
- 2 Products
- 2.1 REGULATORY REQUIREMENTS
 - .1 Permits and Fees: Include tipping charges and other related fees necessary for the completion of the deconstruction operations.
 - .2 Utilities: Obtain approval from the appropriate authorities prior to commencing deconstruction operations.
 - .3 Hazardous Waste: Conform to authorities having jurisdiction.
- 2.2 EQUIPMENT
 - .1 Deconstruction: Appropriate equipment for the type of deconstruction being contemplated.
 - .2 Do not use heavy equipment for making openings in existing walls or in confined spaces where damage to other work may result.
- 3 Execution
- 3.1 EXAMINATION
 - .1 Refer to Section 01 71 00.

- .2 Verify locations and construction of structures to be demolished.
- .3 Verify construction and details of other existing and adjacent property.
- .4 Verify location of utility and other services.
- .5 Undertake x-ray investigations of existing concrete designated for selective demolition to determine locations of concealed reinforcing.

3.2 PREPARATION

- .1 Erect shoring, bracing and other temporary structures to prevent collapse, settlement and movement of property. Refer to Section 01 50 00.
- .2 Provide and maintain dust protection screen as specified in Section 01 50 00.
- .3 Barricade access by unauthorized persons to areas in which deconstruction is in-progress.
- .4 Post danger signs in conspicuous locations to warn persons that deconstruction is in-progress.
- .5 Erect protection to ensure safe access that must be maintained to existing areas still occupied by the public.
- .6 Protect adjacent property from damage caused by deconstruction operations.
- .7 Remove flammable and contaminated materials, and refuse from area before deconstruction operations commence.
- .8 Arrange for the disconnection, capping and plugging of any building services that may be affected by deconstruction operations.

3.3 DECONSTRUCTION

- .1 Perform deconstruction work in an expeditious and safe manner.
- .2 Conform to CSA S350-M and CSA Z783.
- .3 Confine deconstruction operations to only the areas required.
- .4 Prevent and contain the spread of dust.
- .5 Do not drop debris more than one storey unless in an enclosed chute. Lower large components carefully, under control and fully supported at all times.
- .6 Withdraw or flatten protruding nails as deconstruction operations proceed.

3.4 SALVAGE

- .1 Carefully remove materials scheduled for salvage to CSA Z783. Protect from damage.
- .2 Store salvaged materials in secure locations, protected from damage.
- .3 Items not scheduled for salvage become the property of the Contractor.

3.5 CLEANING

- .1 Leave the Place of the Work in a clean and orderly condition, ready for use by others.
- .2 Remove debris as specified in Section 01 74 00 and in accordance with authorities having jurisdiction.
- .3 Remove protections, barricades and other temporary constructions on completion of deconstruction operations.

- .4 Make Good property and materials damaged during deconstruction operations.

END OF SECTION