

Spriet Associates Architects and Consulting Engineers

225232

March 4, 2026

Brooke Alvinston Inwood Community Centre Rink Slab Replacement

Municipality of Brooke Alvinston
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Section 00 21 13 Instructions to Bidders

Part 1 General

1.1 ON LINE BIDDING

- .1 Instructions to Suppliers
 - .1 Ensure offers, signed under seal, executed and dated are received before 2:00:00 pm, March 24, 2026.
 - .2 Bids shall only be accepted and received through the on line bidding system. Hard copy response submissions shall not be accepted. Emailed bids shall not be accepted.
 - .3 Offers submitted after above time will be unopened.
 - .4 Submit Supplementary Bid Information Form within 24 hours after Bid closing time.
 - .5 Offers will be opened privately immediately after time for receipt of Bids.
 - .6 Amendments to submitted offer will be permitted if received in writing prior to Bid closing and if endorsed by same party or parties who signed and sealed offer.

1.2 INTENT

- .1 Intent of this Bid call is to obtain an offer to perform Work to complete Rink Slab Replacement located at Brooke-Alvinston-Inwood Community Centre, 3310 Walnut Street, Alvinston, ON for Stipulated Price contract, in accordance with Contract Documents.
- .2 Initiate Work within 2 weeks of receipt of Contract Documents.

1.3 CONTRACT DOCUMENTS IDENTIFICATION

- .1 The Contract Documents consist of the following:
 - .1 Form of Tender and Instructions to Bidders
 - .2 Drawings and Specifications issued for Tender.
 - .3 All Addenda issued.

1.4 CONTRACT/BID DOCUMENTS

- .1 Agreement Form.
- .2 Definitions:
 - .1 Contract Document: defined in CCDC2020 Edition.
 - .2 Bid Document: Contract Documents supplemented with Instructions to Bidders and Bid Form.
 - .3 Bid, Offer, or Bidding: act of submitting an offer under seal.

- .4 Bid Price: monetary sum identified in Bid Form as an offer to perform Work.
- .3 Examination
 - .1 Upon receipt of Bid Documents verify that documents are complete.
 - .2 Immediately notify Consultant upon finding discrepancies or omissions in Bid Documents.
- .4 Queries/Addenda
 - .1 If any Bidder submitting a bid on this project is in doubt as to the true meaning and intent of any part of the Specifications or other documents, they must request an interpretation from the Consultant. If such interpretation is not requested, the bids will be presumed to be based on the interpretations or directions that may be subsequently given by the Consultant after the award of the Contract, in accordance with the provisions of the Contract.
 - .2 Should a Bidder find omissions from or discrepancies in any of the Tender Documents they should notify the Consultant, in writing, and not later than 120 hours before the closing date for tenders. If the Consultant considers that a correction, explanation, or interpretation is necessary or desirable, an addendum will be issued to all Bidders.
 - .3 Direct questions to Spriet Associates by email only. Email questions to both maryh@spriet.on.ca and mail@spriet.on.ca. Telephone calls will not be accepted.
 - .4 Addenda may be issued during Bidding period. Addenda will become part of Contract Documents. Include costs in Bid Price.
 - .1 No addendum(s) will be issued within 48 hours prior to bid closing. All addendum(s) become part of the tender documents and must be acknowledged, signed, and submitted as instructed with the bid.
 - .5 Verbal answers are only binding when confirmed by written addenda.
 - .1 No verbal communication shall modify the terms, conditions, or specifications until they are confirmed in writing. The Consultant will not be responsible for verbal instructions on any explanations or interpretation of Drawings and Specifications.
 - .6 Clarifications requested by Bidders must be in writing not less than five days before date and time set for receipt of Bids. Reply will be in form of an addendum. Addendum will be posted on the Bidding Platform to registered Bidders no later than 3 working days before receipt of Bids.
 - .7 Prior to the closing date of the tenders, any and all necessary clarifications of the Specifications or other tender documents will be in the form of written Addenda.
 - .8 The tenders shall be based on the use of the definitively mentioned article(s) or manufacturer(s).

1.5 SITE ASSESSMENTS

- .1 Site Examination
 - .1 The site shall be accepted by the Contractor in its present condition. The Contractor shall visit the site and carefully note all conditions affecting the site

and the work to be done thereon. The Contractor shall accept sole responsibility for any errors or neglect on his part in this respect.

- .2 No claims for extra payment to the Contractor will be allowed for extra work made necessary or difficulties encountered due to conditions of the site which were visible upon or reasonably inferable from an examination of the said site prior to the closing of tenders. Failure of the Contractor to visit and examine the site shall be deemed a waiver of all claims for extra payment due to any conditions of the site existing prior to the closing of tenders.
- .3 Mandatory visit to project site to be arranged for Bidders.

1.6 BID SUBMISSION

- .1 Bid Depository
 - .1 All trades to use Bid Depository system of Bid collection.
 - .2 Rules and regulations of Bid Depository, in force on day of Bid submission apply.
- .2 Bid Ineligibility
 - .1 Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may be declared informal at Owner's discretion.
 - .2 Bids with Bid Forms and enclosures which are improperly prepared may be declared informal at Owner's discretion.
 - .3 Bids that fail to include security deposit, bonding or insurance requirements may be declared informal at Owner's discretion.
- .3 Submissions
 - .1 Bidders are solely responsible for delivery of their Bids in manner and time prescribed.
 - .2 Improperly completed information, irregularities in Bid Bond, may be cause not to open Bid envelope and declare Bid informal.
 - .3 An abstract of submitted Bids will be made available to Bidders following Bid opening.

1.7 BID ENCLOSURES/REQUIREMENTS

- .1 Security Deposit:
 - .1 Bids are to be accompanied by security deposit as follows: Bid Bond in amount not less than 10 percent of Bid price.
 - .2 Endorse Bid Bond in name of Owner as obligee, signed and sealed by principal (Contractor) and surety.
 - .3 Use most current edition CCDC approved bond forms.
 - .4 Security deposit will be returned after delivery to Owner of required Performance and Labour and Materials Payment Bond(s) by accepted Bidder.
 - .5 If no contract is awarded, security deposits will be returned.
- .2 Agreement to Bond:

- .1 Submit with Bid Form and Bid Bond, Agreement to Bond, stating that surety providing Bid Bond is willing to supply Performance and Labour and Materials Payment Bond specified.
- .2 Include cost of bonds in Bid Price.
- .3 Performance Assurance
 - .1 Accepted Bidder must provide Performance and Labour and Materials Payment Bond as described in Supplementary Conditions.
 - .2 Include cost of bonds in Bid Price.
- .4 Insurance:
 - .1 Refer to GC 1.3.2 for Contractors insurance responsibility.
 - .2 Provide signed "Undertaking of Insurance" on standard form provided by insurance company stating intention to provide insurance to Bidder in accordance with insurance requirements of Contract Documents.
- .5 Bid Form Requirements:
 - .1 State in Bid Form, time required to complete Work. Completion date in Agreement must be completion time added to commencement date.
 - .2 Bidder, in submitting an offer, accepts time period stated in Contract documents for performing Work. Completion date in Agreement is completion time added to commencement date.
 - .3 Bidder, in submitting an offer, agrees to complete Work by date indicated in Contract Documents , but may propose a revision to contract time with adjustment to Bid price.
 - .4 Consideration will be given to time of completion when reviewing Bids submitted.
 - .5 Refer to Supplementary Conditions for inclusion of taxes and procedures for tax rebate claims by Owner.
- .6 Fees for Changes in Work
- .7 Bid Signing
 - .1 Bid Form to be signed under seal by Bidder.
 - .2 Sole Proprietorship: signature of sole proprietor in presence of witness who shall also sign. Insert words "Sole Proprietor" under signature. Affix seal.
 - .3 Partnership: signature of all partners in presence of witness who shall also sign. Insert word 'Partner' under each signature. Affix seal to each signature.
 - .4 Limited Company: signature of duly authorized signing officer(s) in normal signatures. Insert officer's capacity in which signing officer acts, under each signature. Affix corporate seal. If Bid is signed by officials other than President and Secretary of company, or President-Secretary-Treasurer of company, copy of by-law resolution of Board of Directors authorizing them to do so must also be submitted with Bid in Bid envelope.
 - .5 Incorporated Company: signature of duly authorized signing officer(s) in normal signatures. Insert officer's capacity in which signing officer acts, under each signature. Affix corporate seal. If Bid is signed by officials other than President

and Secretary of company, or President-Secretary-Treasurer of company, copy of by-law resolution of Board of Directors authorizing them to do so must also be submitted with Bid in Bid envelope.

- .6 Joint Venture: each party of joint venture must execute Bid under respective seals in manner appropriate to such party as described above, similar to requirements of Partnership.

1.8 OFFER ACCEPTANCE/ REJECTION

- .1 Duration of Offer:
 - .1 Bids to remain open to acceptance, and irrevocable for 60 days after Bid closing date.
- .2 Acceptance of Offer:
 - .1 Owner reserves right to accept or reject any or all offers.
 - .2 The Owner will notify the successful Tenderer that the Tender has been accepted within 45 days of the Tender opening.
 - .3 After acceptance by Owner, Consultant will issue to successful Bidder, written Bid acceptance.
 - .4 Notice of acceptance of the Tender will be by telephone and/or written notice.
 - .5 The required Contract Documents will be sent to the successful Tenderer immediately after acceptance of the Tender. The Tenderer shall fully execute and return the documents together with the applicable bonds, Certificates of Insurance and any other required documents to the Owner within 10 days of receipt.
 - .6 Following receipt by the Owner of the properly executed documents, Certificates of Insurance and Contract Bonds, the Contractor will receive written authority to proceed with the Work.
 - .7 After Bid has been accepted, unsuccessful Bids will be returned to respective Bidders with submitted Bid securities and other requested enclosures.

1.9 LAWS AND REGULATIONS

- .1 The Bidder is assumed to have made himself familiar with and abide by the Federal, Provincial, Municipal and local laws, rules and regulations which in any manner affect those engaged or employed in the Work, or in any way affect the Work, and no plea of misunderstanding will be considered on account of ignorance thereof. If the Bidder shall discover any provisions in the Drawings, Specifications or Contract which are contrary to or inconsistent with any law, rule or regulation, he shall at once report it to the Consultant in writing.

1.10 WORKPLACE SAFETY AND INSURANCE BOARD CLEARANCE

- .1 The Contractor shall, at the time of entering into any contract with the Owner, make a statutory declaration by providing a satisfactory clearance letter from the Workplace Safety and Insurance Board stating that all assessments or compensation payable to Workplace Safety and Insurance Board have been paid.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 00 26 00 Procurement Substitution Procedures

Part 1 General

1.1 RELATED DOCUMENTS

- .1 Section 01 21 00 - Allowances.
- .2 Section 01 23 00 - Alternates.
- .3 Section 01 25 00 - Substitution Procedures
- .4 Section 01 29 00 - Payment Procedures
- .5 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.2 PRODUCT/SYSTEM OPTIONS

- .1 For approval of products, other than those specified, applicants shall submit a request in writing to the Consultant. Requests shall clearly define and describe the product for which approval is requested. Requests shall be accompanied by manufacturer's literature, specifications, etc., to completely describe the item. Consideration will not be given to materials as being an equal or alternate to those specified after ten (10) working days prior to the closing of tenders.
- .2 When a product has been reviewed by the Consultant as to being an approved alternate or equal, the Consultant will issue an "Approved Alternate" memo. This memo will be sent to the individual applicant which requested the approval. The applicant must provide proof of such approval to all General Contractors to whom they may be submitting a quotation. No product will be accepted for use in the work unless it has been approved by the Consultant.
- .3 In submission of substitutions to products specified, Bidders are to include in their Bid changes required in Work to accommodate such substitutions. Later claim by Bidder for addition to Contract Price as a result of changes in Work necessitated by use of substitutions will not be considered.
- .4 Ensure submission provides sufficient information to enable Consultant to determine acceptability of such products.
- .5 Provide complete information on required revisions to other work to accommodate each substitution, dollar amount of additions to or reductions from Bid Price, including revisions to other work.
- .6 Provide specified products unless substitutions are submitted as noted and subsequently accepted.

1.3 PROCEDURE

- .1 Refer to section 01 25 00 Substitution Procedures
- .2 Form to be requested during tender from consultant, and to be completed by contractor.
- .3 Form and back up is to be submitted in a timely manor as indicated above to allow consultant to review and indicate if product will be accepted for the bidding process.

Brooke-Alvinston Rink Slab
Replacement
3310, Walnut Street, Brooke-Alvinston,
Lambton County, Ontario, N0N 1A0,
Canada
Project No: 225232
2026-03-04

Section 00 26 00
Procurement Substitution Procedures

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END OF SECTION

Section 00 31 00 Available Project Information

Part 1 General

1.1 RELIANCE ON AVAILABLE PROJECT INFORMATION

- .1 Bidders shall interpret and draw their own conclusions about available information.
- .2 The available information shall not be considered a requirement of this contract unless contained in the Contract Documents. In the case of conflict, the Drawings and/or Specifications shall govern.
- .3 Bidders may rely on the available information unless noted otherwise in this document.

1.2 DEFINITIONS

- .1 Information Documents means information of any type and in any form, related to the Project and identified in this Section as such.
- .2 Contractor is synonymous with Bidder.

1.3 STATUS OF INFORMATION DOCUMENTS

- .1 Information Documents, or any part thereof, are not part of the Contract unless listed in paragraph 1.5 below, or specifically incorporated into Contract Documents by means of copying, transcribing or referencing.

1.4 USE OF AND RELIANCE UPON INFORMATION DOCUMENTS

- .1 Information Documents are made available to Bidder by Owner for the purpose of providing Bidder with access to information available to the Owner.
- .2 Information Documents shall not be considered a representation or warranty that information contained therein is accurate, complete or appropriate.
- .3 Bidder shall interpret and draw its own conclusions about Information Documents and is encouraged to obtain specialist advice with respect thereto. The Owner assumes no responsibility for such interpretations and conclusions.
- .4 Information contained in Information Documents may be time sensitive and dates shall be considered when interpreting Information Documents.
- .5 Bidder may rely upon the data contained in Information Documents, or parts thereof, which are specifically incorporated into Contract Documents by means of copying, transcribing or referencing, but shall draw his own conclusions from such data and shall not rely on opinions or interpretations contained therein.

1.5 INFORMATION DOCUMENTS INCORPORATED INTO CONTRACT DOCUMENTS

- .1 Information Documents incorporated into Contract Documents, in whole or in part, consist of the following:
 - .1 ... Geotechnical Reports ...

END OF SECTION

Section 00 41 00 Bid Forms

Part 1 General

1.1 SUBMITTED BY:

- .1
- .2 To:The Municipality of Brooke-Alvinston.....
- .3 Attached you will find a Bid Bond made payable to the Owner for 10% of the Contract Price

1.2 PROJECT

- .1 Project No.:225232.....
- .2 Project Title:Brooke Alvinston Rink Slab Replacement.....

1.3 BASE BID

- .1 The Drawings, Specifications, and other Contract Documents for this Project have been examined, as well as the premises and job site conditions affecting the Work. The undersigned hereby offers to complete the work in accordance with the Contract Documents for the following Base Bid sum, including all taxes, but excluding HST:

.....
.....

..... Dollars
\$.....

in Canadian funds. Only HST will be added to the Base Bid. HST Dollars
\$.....

In the event that a discrepancy arises between the written bid sum and the associated numerical sum, the written bid sum will be deemed to be correct. HST will be based on the written bid sum irrespective of any discrepancy.

In submitting this Bid, the Bidder recognizes that changes to this Bid Form or unsolicited attachments or enclosures from the Bidder may be rejected by the Owner.

1.4 INSURANCE

- .1 The undersigned carries Policy # with
..... in the following amounts:
 - .1 Comprehensive General Insurance . . . \$

1.5 TIME OF COMPLETION

- .1 The undersigned hereby affirms and states that, if awarded the Contract for said work, the entire Contract will be completed within the time frame as stated in the Instructions to Bidders.
- .2 Labour and materials required to achieve substantial performance are included in the Base Bid.

1.6 SUMMARY

- .1 The undersigned agrees that the bid shall remain in effect for acceptance for a period of 60 (sixty) calendar days from the date of receipt of bids. The undersigned agrees to assume all increases in labour rates and material prices, taxes, cost indexes, or any other rates that may develop during the life of this Contract.

1.7 HARMONIZED SALES TAX (HST)

- .1 The bidder shall not include the applicable HST in the bid price, nor in any Separate, Unit, or Itemized prices. The successful contractor shall indicate on each application for payment as a separate amount the appropriate HST the Owner is obliged to pay.

1.8 ADDENDA

- .1 The undersigned acknowledges receipt of Addenda Numbers _____ through _____ inclusive, and that the price, or adjustment thereof, for all work required therein is included in this Bid.

1.9 SUBCONTRACTORS AND SUPPLIERS

- .1 If the bid is accepted, it is our intention to employ the following subcontractors and suppliers.
- .2 Refer to GC 3.6.
- .3 Description of Work:
 - Demolition
 - Excavating, Backfilling, and Grading
 - Cast-in-Place Concrete
 - Painting
 - Dasher Board
 - Mechanical
 - Controls
 - Electrical

1.10 KEY PERSONNEL

- .1 The following is a list of the Bidder's principals and key personnel who shall be provided for the Work. No personnel changes will be permitted without prior acceptance of the Consultant. Attach a detailed summary of education, work experience, and qualifications for each individual named.
- .2 Head Office Project Manager:
- .3 Site Personnel Superintendent:

1.11 SEPARATE PRICE

- .1 Separate Price #1 - replace existing rink boards with new:
Extra: \$
.....
.....(excluding HST)
- .2 Separate Price #2 - provide piping for future frost prevention system:
Extra: \$
.....
.....(excluding HST)

1.12 ACCEPTANCE AND/OR REJECTION OF BIDS

- .1 In submitting the Bid, the Bidder recognizes that changes to this Bid Form, or unsolicited attachments or enclosures from the Bidder, may be rejected by the Owner.
- .2 In submitting this Bid, the Bidder recognizes and accepts the right of the Owner to accept any bid which is deemed to be the most advantageous to the Owner, or any part thereof, at the price submitted, or to reject any or all Bids. The Owner further reserves the right to waive informalities in the bids, and any awards shall be made on bids that will give the greatest value to the Owner, based on quality, service, and price. Separate Price(s), Unit Price(s), and Labour Rates are not considered in making final decisions. These conditions will be at the Owner's sole discretion.
- .3

Signature:

Company Seal:

Name Printed:

Title:

Company:

Address:

.....

Telephone:

Date:.....

END OF SECTION

Section 00 52 00 Agreement Forms

Part 1 General

1.1 FORM OF CONTRACT DECLARATION

- .1 CCDC 2-2020 Stipulated Price Contract is the form of Contract between the Owner and Contractor for this Project, including the Agreement, Definitions and General Conditions; which are subject to modifications as indicated below

1.2 AMENDMENTS TO THE DEFINITIONS

- .1 Refer to Document 00 71 00 - Contracting definitions.

1.3 AMENDMENTS TO THE GENERAL CONDITIONS

- .1 Refer to Document 00 73 00 - Supplementary Conditions for amendments to the General Conditions.

1.4 CCDC CONTRACT AVAILABILITY

- .1 The CCDC form of Contract is a copyrighted document published by the Canadian Construction Documents Committee (CCDC). It is incorporated into these Bid Documents by reference and is available for purchase from any CCDC document outlet.

1.5 CONTRACT PREPARATION FOR SIGNING

- .1 The Consultant will prepare two (2) copies of the form of Contract for signing by the Contractor and the Owner after notice of award. Each copy will be comprised of the CCDC form of Contract with a CCDC copyright seal affixed, with a completed Agreement form, and with other Contract Documents referenced or appended.

END OF SECTION

Section 00 71 00 Contracting Definitions

Part 1 General

1.1 DEFINITIONS DECLARATION

- .1 CCDC 2-2020 Edition, Stipulated Price Contract as may be amended, forms the basis of Definitions between the Owner and Contractor.
- .2 These Definitions are bound to the CCDC 2 Definitions and CCDC 2 General Conditions.

1.2 AMENDMENTS TO WORD DEFINITIONS IN CCDC-2020

- .1 The following are amendments to definitions listed in the CCDC 2:
 - .1 Consultant add as the third and fourth sentences:
 - .1 The Consultant has been appointed by the Owner to act for the Owner in a professional capacity in relation to the Work.

1.3 ADDITIONAL WORDS AND TERMS TO CCDC 2-2020

- .1 The following words and terms are additional to the CCDC 2 Definitions:
 - .1 **Addendum:** A document that amends the Bid Documents during the Bidding Period and becomes part of the Contract Documents when a Contract is executed. (Plural: Addenda)
 - .2 **Agreement:** The signed and sealed legal instrument binding parties in a Contract, describing in strict terms their mutual arrangement, roles and responsibilities, commencement, and completion responsibilities.
 - .3 **Alternative Price:** The amount stipulated by a Bidder for an Alternative and stated as an addition, a deduction, or no change to the Bid Price.
 - .4 **Bid:** To offer as a Bid stating for what price a Contractor will assume a Contract.
 - .5 **Bid Documents:** A set of documents consisting of the Instructions to Bidders, Bid Form, Contract Documents, and other information issued for the benefit of Bidders to prepare and submit a Bid.
 - .6 **Bid Form:** The specific and detailed form used to collect information about a Bid.
 - .7 **Bidding:** The process of preparing and submitting a Bid.
 - .8 **Construction Documents:** The Drawings and Project Manual. When combined with a Contract and Contract conditions, these documents form the Contract Documents.
 - .9 **Contingency Allowance:** An additional monetary amount added to a Project cost estimate and designated to cover unpredictable or unforeseen items of Work. The amount is usually based on some percentage of the estimated cost and expended and adjusted by Change Order. It is not intended to cover additions to the scope of Work.

- .10 **Cost Plus Contract:** A Contract under which a Contractor is reimbursed for the direct and indirect costs for the performance of a Contract and, in addition, is paid a Fee for services. The Fee is usually stated as a stipulated price or as a percentage of cost.
- .11 **General Conditions:** That part of the Contract Documents which sets forth many of the rights, responsibilities and relationships of the parties involved in a Contract.
- .12 **Instructions To Bidders:** Instructions contained in the Bid Documents to convey an Owner's expectations and criteria associated with submitting a Bid.
- .13 **Request for Information:** Requests for Information (RFI's) are documents issued by the Contractor to the Consultant requesting clarification or to obtain additional information where the intent of the Contract Documents is unclear or information is missing.
- .14 **Section:** A portion of a Project Specification covering one or more segments of the total Work or requirements. Sections are included in a Project manual as required to meet Project requirements.
- .15 **Standard:** A document describing a grade or a level of quality, which has been established by a recognized agency or organization, utilizing an internal voting process.
- .16 **Separate Price:** A separate price for work to be added to the base price if selected by the Owner. This price type is not a part of the base bid price.
- .17 **Stipulated Price:** An amount set forth in a Stipulated Price Contract as the total payment for the performance of the Work. Sometimes referred to as a stipulated sum or a lump sum stipulated price.
- .18 **Submittals:** Submittals are documents or items required by the Contract Documents to be provided by the Construction Manager, such as:
- .1 Shop Drawings, samples, models, mock-ups to indicate details or characteristics, before the portion of the Work that they represent can be incorporated into the Work; and
- .2 As-built drawings and manuals to provide instructions to the operation and maintenance of the Work.
- .19 **Tender:** A term that was formally abandoned by CCDC and the Canadian Construction industry in the early 1980's in favour of the preferred term **Bid**.
- .20 **Unit Price:** The amount payable for a single unit of Work as stated in a Schedule of Prices.
- .21 **Install:** To remove from site storage, move or transport to intended location, install in position, connect to utilities, repair site caused damage, and make ready for use.
- .22 **Supply:** To acquire or purchase, ship or transport to the site, unload, remove packaging to permit inspection for damage, re-package, replace damaged items, and safely store on-site.

END OF SECTION

Section 00 72 13 General Conditions - Stipulated Price

Part 1 General

1.1 GENERAL CONDITIONS DECLARATION

- .1 CCDC 2-2020 - The General Conditions of the Stipulated Price Contract; is the General Conditions between the Owner and Contractor.

1.2 SUPPLEMENTARY CONDITIONS

- .1 Refer to Document 00 73 00 - Supplementary Conditions for amendments to these General Conditions.

1.3 LEGAL REQUIREMENTS, RULES, AND RESTRICTIONS

- .1 Definitions
 - .1 The **.Municipality of Brooke-Alvinston.....** and the Contractor will be respectively referred to herein as the Owner and the Contractor. The term subcontractor, as employed herein, includes only those having a direct contract with the Contractor. It includes one who furnishes material worked to a special design according to drawings or specifications, but does not include one who merely furnishes material not so worked.
 - .2 These General Conditions are part of the Contract.
- .2 Laws, Ordinances and Regulations
 - .1 The Contractor shall, in the performance of the Contract, comply with stipulations and representations required by all applicable Federal, Provincial, and Local Laws, Ordinances, and Regulations.
 - .2 Should the Contractor fail with respect to any of these provisions, they shall defend, indemnify, and hold harmless the Owner from any liability, damage costs, or expenses resulting from such failure.
- .3 Permits, Space Fees, and Taxes
 - .1 The Owner shall apply for and pay for the building permit. All other permits shall be paid for and obtained, and all inspection fees shall be paid for by the Contractor. The Contractor shall submit applications for permits to the Owner for inspection before filing. The Contractor shall pay all Federal, Provincial, and Local taxes and duties, of whatever character and description, incident to performance of the Contract.
- .4 City Inspections
 - .1 The Contractor will be required to complete the building inspections required for this project by using the applicable Municipality standard forms to facilitate all inspections required by the Municipality, as appropriate. It should be extended to include any other inspections from any statutory authorities. The permit and list shall be displayed together on the site and copies provided to the Consultant and Owner. As each inspection is arranged and completed the process is to be

recorded appropriately and copies forwarded to both the Consultant and Owner for record.

1.4 MATERIALS AND JOB REQUIREMENTS

- .1 Cutting and Patching Building Openings
 - .1 When it is necessary to cut or drill openings in walls, floors, roofs, etc., precautions shall be taken to prevent dust and falling debris from affecting adjacent areas. All openings shall be patched by the Contractor to match the original construction using workmen skilled in the required crafts.
- .2 Inserts and Attachments to Building Structures or Equipment
 - .1 Any attachments or inserts in walls, ceilings, or building structural members for the support of equipment, ductwork, or piping are to be provided by the Contractor. The Contractor must get permission from the Owner to make attachments to an existing structure. Such attachments must conform to all local laws and requirements.
 - .2 Any temporary attachments to building or equipment for installation purposes shall be removed by Contractor upon completion of work and any damage or defacement caused by such removal shall be repaired or replaced by and at Contractor's expense.
- .3 Interference with Owner's Work
 - .1 The Contractor will be required to cooperate with Owner's workers or Contractor's workers who may also be working within the designated construction site area.
 - .2 In the event any work is to be done on the project by the Owner or in the event the Owner's own forces are at the Place of the Work to do any work associated with the project:
 - .1 the Owner shall consult with the Contractor with respect to the scheduling and coordination of such work, and
 - .2 the Contractor shall at all times remain responsible for construction safety and shall remain the Constructor under applicable health and safety legislation.
- .4 Patching and Replacing of Damaged Work or Property
 - .1 All damage to the Owner's property, including that to roadways, sidewalks, floors, fences, doorways, glass damage, etc., that is caused by Contractor's or Subcontractor's work or workers shall be repaired by and at the expense of Contractor and the actual patching, repairing, and replacement or work under the Contact shall be done by the firm which installed the work.
- .5 Storage of Materials
 - .1 Contractor shall not occupy any space on Owner's premises for storage of materials or handling and storage of materials must be done in such manner that minimum interference occurs in connection with Owner's requirements. Hazardous or dangerous materials may be stored on the premises only if prior approval is obtained from the Owner as to the method of storage and location.

- .6 Moving Materials
 - .1 If it becomes necessary at any time during the performance of the work to move Contractor's facilities, materials, or equipment which have been placed by the Contractor without the Owner's prior approval, the Contractor shall move them or cause them to be moved when so directed by Owner without additional charge.
 - .2 No materials and equipment necessary under the Contract and delivered upon the premises shall be removed from the premises without the written consent of the Owner. Refer to General Conditions, Section 3, responsibility for equipment materials and Owner's property.
- .7 Cleaning of Premises
 - .1 Each Contractor, Subcontractor, and/or Supplier shall remove rubbish and debris from the site on a daily basis or as directed by the Owner. On completion of the work, all debris shall be removed; the floor shall be thoroughly cleaned and swept; the site shall be left in a tidy condition.
 - .2 The Contractor is responsible for compliance with all applicable laws for the removal of waste.
 - .3 Do not use Owner's equipment or facilities for cleaning or for any other reason.
- .8 Backflow Prevention – Testing
 - .1 The Contractor (or Sub-Contractor) responsible for the plumbing system is to be a certified Cross Connection and Backflow Prevention Tester who is registered with the local Municipality. Any testing and/or inspection of the backflow prevention devices (reduced pressure backflow preventers, double check valves, and pressure vacuum breakers) must adhere to the regulations specified by the Municipality, including all testing procedures and submittals of appropriate testing and inspection reports. The Contractor is to clearly indicate on the submitted forms the location of the backflow assembly, i.e. building name, room number, and what system on which the device is installed.

1.5 CONTRACTOR'S RESPONSIBILITY, INSURANCE, PROTECTION

- .1 Contractor's Responsibility
 - .1 Contractor assumes all risks of injury to persons, including death and/or damage to property, resulting from any action or operation under the Contract and/or in connection with the work, except for such injury to persons, including death and/or damage to property, caused due to the negligence of the Owner, and undertakes to defend, indemnify, and hold the Owner harmless against all such alleged injury or damage.
 - .2 The Contractor shall notify Owner in writing of all such injuries to persons or damage to property within 24 hours of the occurrence. This is to be mailed in triplicate to the Owner.
 - .3 The Contractor and/or Subcontractors and/or Suppliers will be responsible for loss of equipment or materials supplied by Contractor or Subcontractor or turned over to Contractor by Owner.
- .2 Owner's Insurance Responsibility

- .1 The Owner will maintain insurance for Fire and the Extended Coverage perils of windstorm, hail, smoke, explosion, aircraft, vehicle, riot and riot attending a strike, civil commotion including vandalism, malicious mischief and, where applicable, sprinkler leakage damage, upon the entire structure on which work of this Contract is done or to be done or upon the equipment and materials installed to one hundred percent of the insurable value thereof and the full value of only that equipment and materials delivered to the site of the project and which are to be included in and remain a part of the permanent construction, whether or not installed.
- .2 Coverage shall protect the Owner, Contractor, and Subcontractors as their interests may appear. Loss, if any, under such insurance shall be adjusted with and payable to the Owner.
- .3 Contractor's Insurance Responsibility
 - .1 It shall be the Contractor's responsibility to effect and maintain adequate Fire and Extended Coverage for perils of windstorm, hail, smoke, explosion, aircraft, vehicle, riot and riot attending a strike, civil commotion and vandalism to cover loss or damage to items of Contractor's equipment including tools, scaffolding, forms and the like, sheds and other temporary structures and their contents, owned or rented by the Contractor or for which the Contractor is liable and which are not to remain as part of the permanent construction.
- .4 Construction Safety Measures
 - .1 The Contractor will be responsible to take all necessary steps to protect personnel (workers, visitors, general public, etc.) and property from any harm during the course of the Contract.
 - .2 All work procedures and equipment will be in accordance with the Owner and legislated standards.
 - .3 Only competent personnel will be permitted on site. The Owner will determine during the site introduction who is competent and will cause to remove from the site any persons not observing or complying with safety requirements.
 - .4 The Contractor shall supply competent personnel to implement their safety program and ensure compliance with the Owner's standards and the standards of the Occupational Health and Safety Act (OHSA).
 - .5 The Owner may visit the job site on occasion. The Contractor is to ensure that safety requirements and records are properly kept and maintained. Initial disregard for safety standards will cause the Contract to be reviewed and a written record of the review will become part of the Contract Documents. Further infraction(s) can lead to loss of Contract.
 - .6 The Contractor will report to the Owner and jurisdictional authorities any accident or incident involving Contractor, public, personnel, and/or property arising from the Contractor's execution of the work.
 - .7 The Contractor will include all provisions of this contract and any agreement with subcontractors and hold all subcontractors equally responsible for safe work performance.
 - .8 If the Contractor is responsible for a delay in the progress of the work due to a violation of legislated or Owner-mandated health and safety requirements, the

Contractor shall, at no additional cost to the Owner, work such overtime and procure and utilize the necessary resources, as deemed necessary by the Owner, to avoid any delay in the final completion of the work or any of its operations.

.5 Internal Combustion Engines and Toxic Fumes

- .1 Before use of internal combustion engines on site or where any toxic fumes may be produced, the precautions required by law are to be in place for review and the Owner must be advised.
The Owner will then arrange to visit the site for the Contractor to demonstrate that the proper procedures and requirements are in place before work commences.
- .2 The Owner will request that continuous or intermittent air sample monitoring be provided by either or both the Owner and the Contractor. The need for either or both to provide continuous or intermittent air monitoring will be mutually determined, dependent on the complexity of the work and site conditions.
- .3 The duration of the work will be predetermined by the Contractor for everyone's information.
- .4 The above procedure and policy shall be adopted each and every time a new operation is to be undertaken.
- .5 It is the Contractor's responsibility to ensure that their own forces, subtrades and their subtrades, and all other appropriate personnel are advised of this policy.

.6 Insurance (Contractor Coverage)

- .1 The Contractor agrees to provide and maintain with responsible insurance carriers satisfactory to Owner, the following insurance:
 - .1 Comprehensive Liability Insurance
 - .1 The Contractor shall protect himself and indemnify and save the Owner harmless from any and all claims which may arise from the Contractor's operations under the Contract where bodily injury, death, or property damage is cause and for this purpose shall, without restricting the generality of the foregoing, maintain insurance acceptance to the Owner, to the limits of not less than noted in Section 00 73 03 Supplementary Conditions – Stipulated Price.
 - .2 Issue liability insurance in the joint names of the Owner and the Contractor.

.7 Protection of Premises and Persons

- .1 The Contractor shall properly protect Owner's and adjoining property from injury. Any damage to same shall be repaired or replaced by the Contractor without delay.
- .2 The Contractor shall provide and properly maintain warning signs, dust proof barriers, welding tarpaulins, barricades, and other safeguards for the protection of workmen and others around holes and openings, on, about, or adjacent to the work as required by the conditions and progress of the work or as directed by the Owner.

- .3 At the end of each working day all construction materials should be accumulated and piled in designated areas.
- .8 Non-Compliance with Safety Rules and Regulations
 - .1 Non-compliance of any of the safety requirements contained in this section may result in the Contractor or Subcontractor being requested to remove the offending person or persons from the Owner's premises.
- .9 Substitution of Subcontractors or Suppliers
 - .1 The Contractor must submit in writing at the time of Bid and/or when requested by the Owner the identified list of Subcontractors and/or Suppliers who will be employed on the Contract. The Contractor must also submit in writing all other sub-contractors and suppliers listed which will be employed on the Contract at the Post Bid Meeting. Substitution of named Subcontractors and Suppliers after submission of Bids will not be accepted unless a valid reason in writing is given to, and approved by, the Owner.
The reason for substitution must be provided to the original listed Subcontractor or Supplier and the Subcontractor or Supplier given an opportunity to reply to the Contractor and Owner. Contractors are expected to be fully aware of the capability and competence (eg. technical, financial, safety, etc.) of their listed Subcontractors and Suppliers and be prepared to work together prior to submission of the Bid.
Similarly, the use of the term "own forces" and the subsequent use of unlisted Subcontractors or Suppliers is not acceptable and could result in rejection of the Bid.
All Subcontractor and Supplier listings must be firm prior to the issue of a letter of intent or Contract. Failure to meet these requirements will permit the Owner to cancel the Contract at any stage.
- .10 Project Site Supervisor (Site Superintendent)
 - .1 The designated Site Superintendent (i.e. not a replacement) is to remain full time on the project until all deficiencies are completed, deemed completion has been achieved, and approval of the Owner and Consultant has been obtained.
 - .2 For the purpose of this Contract, the "Superintendent" shall mean, and shall be interchangeable with, the term "Supervisor."

1.6 SUPERVISION

- .1 Owner's Supervision
 - .1 The Owner's supervision is for the purpose of assuring the Owner that the plans and specifications are being properly executed. The Owner will not supervise or give instructions to the Contractor's employees other than the Contractor's Superintendent. While the Owner will give the Contractor all desired assistance in interpreting the Owner's drawings, specifications, and intent, such assistance shall not relieve the Contractor from any responsibility for the work.
 - .2 The fact that the Owner has permitted or overlooked faulty work or work done which is not in accordance with drawings and specifications shall not prevent the Owner from insisting that the Contractor make all work right. Any work which proves faulty shall be rectified by the Contractor without delay.

- .2 Contractor to Assist Owner
 - .1 The Contractor shall provide sufficient, safe, and proper access to facilities at all times for the inspection of the work by the Owner.
- .3 Cooperation Between Contractor, Subcontractors, and Trades
 - .1 Anything necessary on the part of any one trade to make possible or expedite the work of other trades shall be done as part of the Contract by the Contractor without additional expenses to the Owner.
- .4 Confined Space Entry Meetings
 - .1 When work is required in confined spaces a separate meeting will be convened by the Owner to discuss work strategies prior to work starting.
 - .2 No work may commence without first attending this meeting to ensure a clear understanding of procedures, policies, training, etc. that the Contractor will employ.

1.7 OWNER POLICIES AND PROCEDURES

- .1 The Owner strongly supports safety practices and wellbeing for personnel working on their property.
- .2 In addition to OHSA requirements the Owner has work procedures which must be fully complied with by all Contractors and their personnel.
- .3 The Contractor is responsible for training etc., for their employees to ensure the requirements of OHSA and the Owner's work procedures are followed.
- .4 Any person who violates the requirements of OHSA and the Owner's work procedures is subject to dismissal from the site.

END OF SECTION

Section 00 73 00 Supplementary Conditions

Part 1 General

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1.2 CCDC 2 - 2020

- .1 The Standard Construction Document for Stipulated Price Contract, 2020 English version, consisting of the Agreement Between Owner and Contractor, Definitions, and General Conditions of the Stipulated Price Contract, Parts 1 to 13 inclusive, governing same is hereby made part of these Contract Documents, with the following amendments, additions, and modifications specifically reference a change to the Agreement Definitions, or General Conditions, these amendments, additions, and modifications shall govern.
- .2 Where a General Condition or paragraph of the General Conditions of the Stipulated Price Contract is deleted by these Supplementary Conditions, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, and the numbering of the deleted item will be retained, unused.

1.3 DEFINITIONS

- .1 Add the following definitions:
 - .1 **Proper Invoice:**
means a written bill or other request for payment for services or materials in respect of an improvement under a contract, if it contains the following information and, subject to subsection (restricted on conditions), meets any other requirements that the contract specifies:
 - .1 The contractor's name and address.
 - .2 The date of the invoice and the period, milestone or other contractual payment entitlement to which the invoice relates.

- .3 Information identifying the contract or other authorization under which the services or materials were supplied, such as a contract number, contract line item number or purchase order number.
 - .4 A description, including quantity where appropriate, of the services or materials that were supplied.
 - .5 The amount payable for the services or materials that were supplied, and the payment terms.
 - .6 The name, title, mailing address and telephone number of the person to whom payment is to be sent or, if payment is to be sent to an office or department, its name, mailing address and telephone number.
 - .7 Any other information that is necessary for the proper functioning of the owner's accounts payable system that the owner reasonably requests.
 - .8 Any other information that may be prescribed. 2017, c. 24, s. 7; 2024, c. 20, Sched. 4, s. 5 (1).
- .2 **Request for Information (RFI):**
Means written documentation by the Contractor to the Owner or the Owner's representative or the Consultant requesting written clarification(s) and/or interpretation(s) of the Drawings and/or Specifications, Contract requirements and/ or other pertinent information required to complete the Work of the Contract without applying for a change or changes to the Work.
- .3 **Submittals:**
Submittals are documents or items required by the Contract Documents to be provided by the Contractor, such as:
Shop Drawings, samples models, mock-ups to indicate details or characteristics, before the portion of the Work that they represent can be incorporated into the Work and;
As-built drawings and manuals to provide instructions to the operation and maintenance of the Work.
- .4 **By Others:**
By Others, when used in the Contract Documents, shall not mean by someone other than the Contractor. The only means by which something shown or specified shall be indicated as not being in the Contract is by the use of the initials "N.I.C." or the words "not in (the) Contract" or "by Owner".
- .5 **Exposed:**
Exposed means visible by the occupants at completion of the Work, unless indicated otherwise. This includes roof area, mechanical and service spaces, inside cupboards and the like.
- .6 **OHSA:**
OHSA means the Occupational Health and Safety Act, R.S.O. 1990, c.0.1, as amended, and its regulations.
- .7 **EPA:**
EPA means the Environmental Protection Act R.S.O. 1990, c.E.19, as amended, and it's regluations.

- .8 **Bid Documents:**
Bid Documents means the Documents listed in the Instructions to Bidders 00 21 13, Section 1.3.
- .9 **Revise Owner definition as follows:**
Add to the end, "The terms "City", "City of-....." and "The Corporation of the City of" are all considered the Owner."

1.4 A-1 THE WORK

- .1 Add the following word to the beginning of paragraph 1.1: "Diligently",
- .2 Add new paragraph 1.4 in its entirety as follows:
 - .1 Provide all the labour, materials, equipment, machinery, products, and work including, without limitation, all commissioning services required by the Contract Documents in order to fully complete and construct the Work and in accordance with, and satisfaction of, all applicable federal, provincial, municipal, and local laws, regulations, rules, by-laws, guidelines, standards, permits, statutes, ordinances, and codes including, without limitation, those relating to occupational health and safety and any and all obligations, responsibilities, and duties required by or set out in any site plan agreement or approval, attributable to the Place of the Work and/or the proposed development therein, and furnish efficient business and construction administration and superintendence consistent with the interests of the Owner.

1.5 A-5 PAYMENT

- .1 5.1 "Subject to the provisions of the *Contract Documents and Payment Legislation*"
 - .1 Add: Construction Act, R.S.O. 1990, c. C.30
- .2 Delete paragraph 5.1.2 in entirety and replace with the following:
 - .1 Upon Substantial Performance of the Work, as certified by the Consultant, and one day after all lien rights have expired, pay to the Contractor any unpaid balance of holdback monies together with such Value Added Taxes as may be applicable to such payment.
- .3 In paragraph 5.1.3 revise the word "issuance" to "receipt by the Owner."
- .4 In paragraph 5.2.1(2) delete "(Insert name of chartered lending institution whose prime rate is to be used)" to "the Canadian Imperial Bank of Commerce."

1.6 A-7 LANGUAGE OF THE CONTRACT

- .1 Delete paragraph 7.1 in its entirety

1.7 GC 1.1 CONTRACT DOCUMENTS

- .1 Delete the first sentence in paragraph 1.1.1 and replace it with the following:
 - .1 The intent of the Contract Documents is to include the construction, labour, products, construction machinery and equipment, and other services necessary, complementary, or ancillary, whether described or not, for the performance and completion of the Work by the Contractor in accordance with the Contract Documents or properly inferable from them.

- .2 Add the following to the end of paragraph 1.1.1:
 - .1 The Contractor shall not avail himself of any obvious error or any error of which he becomes aware in the Contract Documents.
- .3 Delete paragraph 1.1.5.1 in entirety and replace with the following:
 - .1 .1 the order of priority of documents, from highest to lowest shall be:
 - .1 the Supplementary Conditions,
 - .2 the Agreement between the Owner and the Contractor,
 - .3 the Definitions,
 - .4 the General Conditions,
 - .5 the Addenda to the Bid Documents,
 - .6 the Request for Bid Documents,
 - .7 the Contractor's Bid,
 - .8 the Division 1 of the Specifications,
 - .9 Technical Specifications,
 - .10 Material and Finishing Schedules,
 - .11 the Drawings.
- .4 Add new paragraphs 1.1.5.6, 1.1.5.7, and 1.1.5.8 as follows:
 - .1 .6 finishes in the room finish schedules shall govern over those shown on the drawings.
 - .2 .7 architectural drawings shall have precedence over structural, plumbing, mechanical and electrical drawings in so far as outlining the design intent.
 - .3 .8 noted materials shall govern over graphic indications.
- .5 Add to the end of subparagraph 1.1.6.2:
 - .1 Except where the Consultant shall be indemnified as a third-party beneficiary as provided in subparagraphs 9.2.7.4 and 9.5.3.4 and in 13.1.3.
- .6 Add to the end of paragraph 1.1.9:
 - .1 The Specifications are divided into division and sections for convenience but shall be read as a whole and neither such division nor anything else contained in the Contract Documents will be construed to place responsibility on the Owner or the Consultant to settle disputes among the Subcontractors and Suppliers with respect to such divisions. The Drawings are, in part, diagrammatic and are intended to convey scope of the Work and indicate general and appropriate locations, arrangements and sizes of fixtures, equipment and outlets. The Contractor shall obtain more accurate information about locations, arrangements and sizes from study and coordination of the Drawings, including Shop Drawings and shall become familiar with conditions and spaces affecting those matters before proceeding with the Work. Where site conditions require reasonable minor changes in indicated locations and arrangements, the Contractor shall make such changes at no additional cost to the Owner. Similarly, where known conditions or existing conditions interfere with new installation and require

relocation, the Contractor shall include such relocation in the Work. The Contractor shall arrange and install fixtures and equipment in such a way as to conserve as much headroom and space as possible. The schedules are those portions of the Contract Documents, wherever located and whenever issued, which compile information of similar content and may consist of drawings, tables and/or lists.

- .7 Add paragraph 1.1.12 in its entirety as follows:
 - .1 1.1.12 The Consultant shall furnish to the Contractor without charge, one complete digital/electronic set of the Contract Documents, exclusive of those required by jurisdictional authorities and the executed Contract Documents. The use of these documents will be for the sole purpose to assist the Contractor to construct the project.
- .8 Add paragraph 1.1.13 in its entirety as follows:
 - .1 1.1.13 Whenever the words "approved", "as directed", "submit", "make good", "inspected" or similar wording or phrases appear throughout the Contract Documents, they shall be understood, unless otherwise provided, to mean: materials or items referred to shall be "approved by the Consultant", "submit to the Consultant", "make good to the Consultant's satisfaction", or, "inspected by the Consultant".
- .9 Add paragraph 1.1.14 in its entirety as follows:
 - .1 1.1.14 All legislation, regulations, by-laws, codes or standards quoted shall be the latest edition, including all revisions or amendments.
- .10 Add paragraph 1.1.15 in its entirety as follows:
 - .1 1.1.15 The Contractor declares and represents that in entering into the Contract with the Owner for the performance of the Work, it has reviewed any and all documentation including, without limitation, geotechnical reports provided by the Owner and has either visually investigated for itself the character of the Work to be done and all local conditions, including, without limitation, the position of all pole lines, conduits, water mains, sewers and other underground and over ground utilities and structures, or that, not having so reviewed or visually investigated, the Contractor has assumed and does hereby assume all risk of conditions now existing or arising in the course of the Work which could have been reasonably identified by a visual inspection or which are identified or inferred in any information provided by the Owner including, without limitation, any geotechnical reports, which might or could make the Work, or any items thereof more expensive in character, or more onerous to fulfil, than was contemplated or known when the Contract was signed.

Any use of, reliance upon, any part of parts of the documentation and/or geotechnical report(s) by any party, including a tenderer, proponent, or any party or parties carrying on any Work associated with the project, is at the sole risk and responsibility of such party or parties. The Owner makes no representation or warranty as to the accuracy, completeness or appropriateness of the contents of the documentation and/or geotechnical report and assumes no liability for same.

The Contractor further declares and represents that in tendering for the Work and in entering into the Contract, that it has satisfied itself and will assume the risk for

the nature and location of the Work, the character of the equipment and facilities needed preliminary to and during prosecution of the Work, the general and local conditions and all other matters which can in any way affect the work under the Contract, and in so carrying out this examination the Contractor has assessed and will assume the risk for and has made its own estimate of the facilities and difficulties to be encountered; and has allowed for all conditions that could have a bearing on the cost of the work or the time allowed for its completion.

.11 Add paragraph 1.1.16 in its entirety as follows:

- .1 1.1.16 Except as otherwise provided for in the Contract Documents, all loss or damage occasioned to the Work or arising out of the nature of the Work to be done, or from the normal action of the elements or from any reasonably foreseeable circumstance in the prosecution of the same, or from any normal difficulties which may be encountered in the prosecution of the Work, having regard to the nature thereof, shall be sustained and borne by the Contractor including all material required to replace any defective or rejected Work, or to restore any failure shall be all at the expense of the Contractor.
- Without limiting the foregoing, where the completion date for the construction of the Works makes necessary the performance of all or Front End Master Spec Project No: 1000-4 Section 00 73 00 Supplementary Conditions 2024-11-12 Page 6 of 36 Spriet Associates Architects and Consulting Engineers Client: part of the Works under winter conditions, then except as specifically stated otherwise in the Contract Documents, the Contractor shall do all things necessary for the performance and protection of such winter work without additional compensation or claim thereof.

1.8 GC 1.4 ASSIGNMENT

.1 Delete paragraph 1.4.1 in entirety and replace with the following:

- .1 The Contractor shall not assign the Contract, or any portion thereof, without the prior written consent of the Owner. The Owner shall be entitled to assign the Contract to any person, corporation or other entity (the "Assignee"). Upon the assumption by the Assignee of the Owner's obligations under the Contract, the Owner shall be released from its obligations arising under the Contract.

1.9 2.2 ROLE OF THE CONSULTANT

.1 Add to the end of paragraph 2.2.2 the following:

- .1 The Consultant's reviews shall be a general review only, not a detailed inspection of all the Work. Such review does not relieve the Contractor of responsibility for errors, omissions or deviations in the Work or of responsibility for meeting all requirements of the Contract Documents, unless a deviation has been accepted in writing by the Consultant.

.2 Add the word ", schedules" after the word "techniques" in paragraph 2.2.5.

.3 Add to the end of the second sentence of paragraph 2.2.5: , or to adhere to the construction schedule. Contractor will remain fully responsible for errors, omissions of deviations in the Work and for meeting all the requirements of the Contract Documents whether or not the Work has been reviewed by the Consultant.

.4 Amend paragraph 2.2.6 by deleting the following:

- .1 "except with respect to GC 5.1 - Financing Information Required of the Owner".
- .5 Add at the end of paragraph 2.2.8 the following:
 - .1 The Owner and the Contractor shall waive any claims against the Consultant arising out of the making of such interpretations and findings in accordance with paragraphs 2.2.6., 2.2.7. and 2.2.8.
- .6 Add to the end of paragraph 2.2.12 the following:
 - .1 If, in the option of the Contractor, the Supplemental Instruction involves an adjustment in the Contract Price or in the Contract Time, it shall, within ten (10) Working Days of the receipt of a Supplemental Instruction, provide the Consultant with a written notice to that effect, Failure to provide written notification within the stipulated time shall preclude the Contractor from making a claim for an adjustment in the Contract Price or Contact Time as a result of the Supplemental Instruction.
- .7 Amend new paragraph 2.2.13 as follows:
 - .1 Delete the comma after the word "Contractor" and add the words "which are provided" before the words "in accordance" in paragraph 2.2.14.
- .8 Add new paragraph 2.2.19 in its entirety as follows:
 - .1 2.2.19 The Consultant, at the Owner's request, will participate at any negotiation, mediation or arbitration as provided in GC-8 DISPUTE RESOLUTION".
- .9 Add new paragraph 2.2.20 in it entirety as follows:
 - .1 2.2.20 The Consultant, on behalf of the Owner, acting reasonably, may require the Contractor to remove from the Project any personnel, including project managers, superintendents or Subcontractors. Such persons shall be replaced by the Contractor in a timely fashion to the satisfaction of the Consultant or the Owner, at no cost to the Owner.

1.10 GC 2.3 REVIEW AND INSPECTION OF THE WORK

- .1 Amend paragraph 2.3.1 as follows:
 - .1 Add the words "and the Owner" immediately following the words "the Consultant" appearing in the second sentence.
- .2 Amend paragraph 2.3.3 as follows:
 - .1 Add the words "and the Owner" immediately following the words "the Consultant".
- .3 Amend paragraph 2.3.4 as follows:
 - .1 After the word "inspections" insert "review" in all three occurrences.

1.11 GC 2.4 DEFECTIVE WORK

- .1 Add new subparagraphs 2.4.1.1, 2.4.1.2 and 2.4.1.3 as follows:
 - .1 The Contractor shall rectify, in a manner acceptable to the Owner and the Consultant, all defective work and deficiencies throughout the Work, whether or not they are specifically identified by the Consultant.

- .2 The Contractor shall prioritize the correction of any defective work which, in the sole discretion of the Owner, adversely affects the day-to-day operation of the Owner.
- .3 The Contractor agrees to correct, or reimburse the Owner for, all damage, to the Work and/or the property, goods and/or equipment of the Owner and/or the Owner's tenants, where the damage is the result of any defective work of the Contractor.
- .2 Delete paragraph 2.4.3 in entirety and replace with the following:
 - .1 2.4.3 If in the opinion of the Consultant it is not expedient to correct defective work or work not performed as provided in the Contract Documents, the Owner may deduct from the amount otherwise due to the Contractor the greater of (i) the difference in value between the Work as performed and that called for by the Contract Documents and (ii) the cost to rectify the defective or substandard work. If the Owner and the Contractor do not agree on the difference in value or the cost to rectify the work, they shall refer the matter to the Consultant for determination.
- .3 Add new paragraph 2.4.4 in its entirety as follows:
 - .1 2.4.4 Neither acceptance of the Work by the Consultant or the Owner, nor any failure by the Consultant of the Owner to identify, observe or warn of defective work or any deficiency in the Work shall relieve the Contractor from the sole responsibility for rectifying such defect or deficiency at the Contractor's sole cost.
- .4 Add new paragraph 2.4.5 in its entirety as follows:
 - .1 The Contractor shall correct all defective work identified at the time of Ready for Takeover within ninety (90) calendar days of the Ready for Takeover date, unless otherwise approved in writing by the Owner. Should the Contractor fail to complete such defective work within this period, the Owner may, without further notice, engage others to complete the outstanding work. All costs incurred by the Owner in completing the defective work, including but not limited to the cost of work by others and any additional fees for review or inspection by the Owner's consultants, shall be borne by the Contractor and may be deducted from the Contract Price or recovered as a debt due to the Owner.

1.12 GC 3.1 CONTROL OF THE WORK

- .1 Add new paragraph 3.1.3 in its entirety as follows:
 - .1 3.1.3 Prior to commencing individual procurement, fabrication and construction activities, the Contractor shall verify, at the Place of Work, all relevant measurements and levels necessary for proper and complete fabrication, assembly and installation of the Work and shall further carefully compare such field measurements and conditions with the requirements of the Contract Documents. Where dimensions are not included or contradictions exist, or exact locations are not apparent, the Contractor shall immediately notify the Consultant in writing and obtain written instructions from the Consultant before proceeding with any part of the affected work.
- .2 Add new paragraph 3.1.4 in its entirety as follows:

- .1 3.1.4 The Contractor's workmanship shall be, in every respect, best practice and the Work shall be performed in accordance with the best modern industry practice. The Contractor acknowledges, confirms, represents and warrants to the Owner that:
 - .1 In performing the Work, it shall at all times exercise the degree of care and skill that ought to be exercised by contractors in performing work of the nature contemplated herein; and
 - .2 It has the necessary experience, skill and expertise required to enable it to fulfil its obligations, duties, liabilities and responsibilities herein.

1.13 GC 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS

- .1 Delete section 3.2.1 in entirety and replace with the following:
 - .1 3.2.1 In the event any work is to be done on the project by the Owner, or in the event the Owner's own forces are at the Place of the Work to do any work associated with the project:
 - .1 the Owner shall consult with the Contractor with respect to the scheduling and coordination of such work, and
 - .2 the Contractor shall at all times remain responsible for construction safety in accordance with GC 3.5.1 and shall remain the Constructor under applicable health and safety legislation.

1.14 GC 3.3 TEMPORARY WORK

- .1 Amend paragraph 3.3.2 as follows following:
 - .1 After the word "personnel" add: , registered in the Province of Ontario,
- .2 Add new paragraph 3.3.4 in its entirety as follows:
 - .1 3.3.4 The Contactor shall adequately protect all adjacent existing surfaces to remain and all new finished surfaces from damage or residue of dust until the space is turned over to the Owner for its intended use, or, if necessary, until total completion of the Work.

1.15 GC 3.4 CONSTRUCTION SCHEDULE

- .1 Delete paragraph 3.4.1.1 in entirety and replace with the following:
 - .1 within ten (10) working days of receiving written confirmation of the award of the Contract, prepare and submit to the Owner and the Consultant for their review and acceptance, a construction schedule that indicates the timing of the activities of the Work and provides sufficient detail of the critical events and their inter-relationship to demonstrate the Work will be performed in conformity with the Contract Time and in schedule for Products whose delivery is critical to the schedule for the Work or are required by the Contract to be included in a Products delivery schedule.
The Contractor shall employ construction scheduling software that permits the progress of the Work to be monitored in relation to the critical path established in the schedule. Once accepted by the Owner and the Consultant, the construction schedule submitted by the Contactor shall become the baseline construction schedule.

- .2 Delete paragraph 3.4.1.2 in entirety and replace with the following:
 - .1 monitor the progress of the Work on a weekly basis relative to the baseline construction schedule, or any successor or revised schedule accepted by the Owner; update the schedule on a monthly basis, at a minimum, or as required by the Consultant and advise the Consultant and the Owner weekly in writing of any variation from the baseline or slippage in the schedule; and submit a two (2) week look-ahead related to the higher-level tasks listed in the construction schedule. The Contractor shall attend bi-weekly job site meetings and any meetings of the Owner when reasonably called upon to do so to discuss the said schedule and subsequent progress of construction relating to said schedules.
- .3 Add new paragraph 3.4.1.4 in its entirety as follows:
 - .1 .4 Carry out the Work to completion as rapidly as possible consistent with good practice, safe working conditions and reasonable economy;
- .4 Add new paragraph 3.4.1.5 in its entirety as follows:
 - .1 .5 Commence the Work immediately upon award of Contract and shall provide Sufficient labour for the steady progress of the Work including overtime work, if required to meet the scheduled rate of completion, at all times working in compliance with the OHSA.
- .5 Add new paragraph 3.4.1.6 in its entirety as follows:
 - .1 .6 Provide overtime work without cost to the Owner if such is deemed necessary to meet the schedule.
- .6 Add new paragraph 3.4.2 in its entirety as follows:
 - .1 3.4.2 if, at any time, it should appear to the Owner or the Consultant that the actual progress of the Work is behind schedule or is likely to become behind schedule, or if the Contractor has given notice of such to the Owner or the Consultant pursuant to subparagraph 3.4.1.2, the Contractor shall, either at the request of the Owner or the Consultant, or following giving notice pursuant to subparagraph 3.4.1.2, take appropriate steps to cause the actual progress of the Work to conform to the schedule or minimize the resulting delay. Within five (5) calendar days of the request by the Owner or the Consultant of the notice being given pursuant to subparagraph 3.4.1.3, the Contractor shall produce and present to the Owner and the Consultant a recovery plan demonstrating how the Contractor will achieve the recovery of the schedule.
- .7 Add new paragraph 3.4.3 in its entirety as follows:
 - .1 3.4.3 Work shall be carried out in accordance with the required construction schedule prepared by the Contractor beforehand and approved by, where applicable, the Consultant, and by the Owner.
- .8 Add new paragraph 3.4.4 in its entirety as follows:
 - .1 3.4.4 The Contract Price shall include all costs required to phase the work of the Project in order that the various stages of the Work as called for in the Contract Documents and the functional needs of the Owner are maintained.

1.16 GC 3.5 SUPERVISION

- .1 Amend paragraph 3.5.1 as follows:

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- .1 In paragraph 3.5.1 on the first line after the words “who shall be in” insert “full time”
- .2 In paragraph 3.5.1, after “valid reason”, add: which shall be provided in writing and in consultation with the Consultant and the Owner.
- .2 Delete paragraph 3.5.2 in entirety and replace with the following:
 - .1 3.5.2 The supervisor, and any project manager appointed by the Contactor, shall represent the Contractor at the Place of the Work and shall have full authority to act on written instructions given by the Consultant and/or the Owner. Instructions given to the supervisor or project manager shall be deemed to have been given to the Contractor and both the supervisor and any project manager shall have full authority to act on behalf of the Contractor and bind the Contractor in the matters related to the Contract.
- .3 Add new paragraph 3.5.3 in its entirety as follows:
 - .1 “.5.3 The appointed representative assigned to the Project shall be fully competent to implement efficiently all requirements for scheduling, coordination, field engineering, reviews, inspections and submittals defined in the specifications and have minimum 5 years documented Superintendent/Project Management experience.
- .4 Add new paragraph 3.5.4 in its entirety as follows:
 - .1 3.5.4 The Consultant shall reserve the right to review the record of experience and credentials of the appointed representative assigned to this Project prior to commencement of Work, during Work or any change of the representative by the Contractor pursuant to paragraph 3.5.1.
- .5 Add new paragraph 3.5.5 in its entirety as follows:
 - .1 3.5.5 The Owner may, at any time during the course of the Work, request the replacement of the appointed representative(s). Immediately upon receipt of the request, the Contractor shall make arrangements to appoint an acceptable replacement, which is approved by the Owner.

1.17 GC 3.6 SUBCONTRACTORS AND SUPPLIERS

- .1 Amend paragraph 3.6.1.1 as follows:
 - .1 add to the end of the second line: including any warranties and service agreements which extend beyond the terms of this Contract.
- .2 Add new paragraph 3.6.1.4 in its entirety as follows:
 - .1 .4 The Contractor shall ensure that, and make it a condition of any engagement of a Subcontractor that, if any individual who performs any work or who will be present at the Place of the Work on behalf of the Contractor or a Subcontractor would not ordinarily be considered to be a “worker” under the Workplace Safety and Insurance, such individual shall have obtained voluntary coverage under the Workplace Safety and Insurance Act so that such statute shall apply to such individual as a “worker” and shall have a valid personal coverage identification card at all times during which such individual is performing any work or is present at the Place of the Work. The Contractor shall require all Subcontractors to have similar requirements for the Sub-subcontractors.

- .3 Amend paragraph 3.6.2 as follows:
 - .1 In the first line, delete the words “if requested by the Owner” and add to the end of the paragraph the following: The Contractor agrees not to change Subcontractors without the prior written approval of the Owner, which approval will not be unreasonably withheld.
- .4 Add new paragraph 3.6.7 in its entirety as follows:
 - .1 3.6.7 The Contractor shall employ those Subcontractors, Suppliers or Contractors Own Forces proposed in the bid for the specific item of work. If the Contractor wishes to substitute a Subcontractor, Suppliers or Contractors Own Forces other than the one named in the bid, the Contractor shall provide the Consultant and Owner with the following:
 - .1 Reason(s) for the substitution
 - .2 Documentation from the originally named Subcontractor, Suppliers or Contractors Own Forces indicating their desire to withdraw from the project including the reason(s) for the withdrawal; and
 - .3 The proposed substitute Subcontractor’s, Supplier’s or Contractors Own Forces experience and competence to carry out the work
 - .4 Employment of the proposed substitute Subcontractor, Suppliers or Contractors Own Forces on the project is subject to the written consent of the Owner.
- .5 Add new paragraph 3.6.8 in its entirety as follows:
 - .1 3.6.8 The approval of Subcontractors, Suppliers or Contractors Own Forces by the Owner in no way signifies a relationship between the Owner and any Employment of the proposed substitute Subcontractor, Suppliers or Contractors Own Forces on the project is subject to the written consent of the Owner.
- .6 Add new paragraph 3.6.9 in its entirety as follows:
 - .1 3.6.9 Work performed by Subcontractors, Suppliers or Contractors Own Forces other than those named in the bid, or substitutions consented to by the Owner as described in 3.6.7, may not be paid for by the Owner.

1.18 GC 3.7 LABOUR AND PRODUCTS

- .1 Delete paragraph 3.7.2 in entirety and replace with the following:
 - .1 3.7.2 Products provided shall be new and shall conform to all current applicable specifications of the Canadian Standards Association, Canadian Standards Board or General Standards Board, ASTM, National Building Code, provincial and municipal building codes, fire safety standards, and all governmental authorities and regulatory agencies having jurisdiction at the Place of the Work, unless otherwise specified. Products which are not specified shall be of a quality consistent with those specified and their use acceptable to the Consultant.

Products brought on to the Place of Work by the Contractor shall be deemed to be the property of the Owner, but the Owner shall be under no liability for loss thereof or damage thereto arising from any cause whatsoever. The said Products shall be at the sole risk of the Contractor.

- .2 Delete paragraph 3.7.3 in entirety and replace with the following:
 - .1 3.7.3 Unless otherwise specified in the Contract Documents, Products provided shall be new and as specified. The Contractor shall not provide substitutions for specified Products without the express written consent of the Consultant and the Owner.
- .3 Add new paragraph 3.7.4 in its entirety as follows:
 - .1 3.7.4 The Contractor is responsible for the safe on-site storage of Products and their protection (including Products supplied by the Owner and other contractors to be installed under the Contract) in such ways as to avoid dangerous conditions or contamination to the Products or other persons or property and in locations at the Place of the Work to the satisfaction of the Owner and the Consultant. The Owner shall provide all relevant information on the Products to be supplied by the Owner.
- .4 Add new paragraph 3.7.5 in its entirety as follows:
 - .1 3.7.5 The Contractor shall not employ any persons on the Work whose labour affiliation (or lack thereof) is incompatible with other labour employed in connection with this Project.
- .5 Add new paragraph 3.7.6 in its entirety as follows:
 - .1 3.7.6 Ensure that rates of wages, hours and conditions of work are in accordance with codes generally recognized and accepted in the locality.
- .6 Add new paragraph 3.7.7 in its entirety as follows:
 - .1 3.7.7 Products which are specified by their proprietary names or by part or catalogue number shall form the basis for the specifications and tenders. No substitutes for these may be used without the Consultant's approval in writing. Substitutes will be considered only when submitted with the bids and on the appropriate form. In applying for permission to use substitutes, the Contractor shall prove to the Consultant's satisfaction that the substitute is equal to the specified product and is compatible in every respect with the configuration and design of the Project, not requiring any change thereto to accommodate the substitution. Each application shall be accompanied by a list of properties of the specified product and the proposed substitute. No application to use substitutes will be considered unless made in this way.
- .7 Add new paragraph 3.7.8 in its entirety as follows:
 - .1 3.7.8 When requesting approval for the use of substitutes, the Contractor shall include in their submission any effect that the substitute may have on the Contract Price and be prepared to reimburse the Owner for all costs that may become evident later as a result of the substitution.
- .8 Add new paragraph 3.7.9 in its entirety as follows:
 - .1 3.7.9 The Contractor shall use all Products in strict accordance with the manufacturers' directions except where specified otherwise. Whenever specific reference to manufacturers' direction or instructions is made in specifications, the Contractor shall submit copies of said instructions or directions or both for approval before commencing to use such Products. Whenever more than one Product is specified for one use, the Contractor may select for their use any of

the Products so specified unless the specifications or the drawings indicate otherwise.

- .9 Add new paragraph 3.7.10 in its entirety as follows:
 - .1 3.7.10 Materials, appliances, equipment and other Products are sometimes specified by reference to brand names, proprietary names, trademarks or symbols. In such cases, the name of a manufacturer, distributor, Supplier or dealer is sometimes given to assist the Contractor to find a source Supplier. This shall not relieve the Contractor from their responsibility to find their own source of supply even if the source named no longer supplies the Product specified. If the Contractor is unable to obtain the specified Product, they shall supply a substitute Product equal to or better than the specified Product, as approved by the Consultant with no extra compensation. Should the Contractor be unable to obtain a substitute Product equal to or superior to the specified Product and the Owner accepts an inferior Product, the Contract Price shall be adjusted accordingly, as approved by the Consultant.
- .10 Add new paragraph 3.7.11 in its entirety as follows:
 - .1 3.7.11 The Contractor shall use Canadian made Products where the price and quality thereof are comparable to corresponding foreign made Products.
- .11 Add new paragraph 3.7.12 in its entirety as follows:
 - .1 3.7.12 All work shall be of the highest quality performed by persons trained and skilled in accordance with the best practices for each particular Section of the Work and trade. Provide special work and performance standards specified.
- .12 Add new paragraph 3.7.13 in its entirety as follows:
 - .1 3.7.13 Where materials or workmanship are specified to comply to a standard such as a Building Code, Canadian Standards Association, Canadian General Standards Board or American Society for Testing and Materials, it shall mean the latest revised edition of the standard at the time of receipt of bids.

1.19 GC 3.8 SHOP DRAWINGS

- .1 Add the words "AND OTHER SUBMITTALS" to the Title after "SHOP DRAWINGS".
- .2 Add "and Submittals" after the words "Shop Drawings" in paragraphs 3.8.1, 3.8.3, 3.8.5, 3.8.6, 3.8.7.
- .3 Delete paragraph 3.8.2 in entirety and replace with the following:
 - .1 3.8.2 The Contractor shall prepare a Shop Drawing schedule of the dates for provision, review and return of Shop Drawings and Submittals and submit to the Consultant for review.
 - .1 The Contractor shall provide Shop Drawings to the Consultant to review in accordance with approved Shop Drawing Schedule, in orderly sequence and sufficiently in advance so as to cause no delay in the Work or in the work of Other Contractors of the Owner's own forces.
- .4 In paragraph 3.8.3.1, change "determined and verified all applicable field measurements" to read: determined, verified and correlated all applicable field measurements
- .5 Delete the last sentence in paragraph 3.8.5.

- .6 Add the following to the end of paragraph 3.8.7:
 - .1 The Contractor shall allow the Consultant 10 Working Days to review shop drawings from the date of receipt to the date of postage with a courier. The Contractor shall periodically re-submit the Shop Drawings Schedule to correspond to changes in the construction schedule. If re- submission of shop drawings is required a further 10 Working Day period is required for Consultant's review.
- .7 Add new paragraph 3.8.8 in its entirety as follows:
 - .1 3.8.8 The Consultant's review of shop drawings does not relieve the Contractor of their responsibility to review all information pertaining to:
 - .1 detail design
 - .2 dimensions
 - .3 information pertaining to fabrication processes
 - .4 techniques of construction and installation
 - .5 coordination of the work of Subcontractors
- .8 Add new paragraph 3.8.9 in its entirety as follows:
 - .1 3.8.9 The Contractor shall submit shop drawings in accordance with the shop drawing procedures specified in Section 01 33 00 – Submittal Procedures.
- .9 Add new paragraph 3.8.10 in its entirety as follows:
 - .1 3.8.10 Only shop drawings indicated as "Reviewed", "Reviewed for General Design, "Reviewed as Modified, or Reviewed as Noted" and bearing the Consultant's review data and initials, shall be used at the Place of the Work.
- .10 Add new paragraph 3.8.11 in its entirety as follows:
 - .1 3.8.11 Reviewed shop drawings shall not authorize changes in cost to the Owner nor shall they authorize changes to the construction schedule.

1.20 GC 4.1 CASH ALLOWANCES

- .1 In paragraph 4.1.1 add the following: The Consultant may direct the Contractor to bid work for which payment is made from a cash allowance.
- .2 Delete paragraph 4.1.4 in entirety and replace with the following:
 - .1 4.1.4 Where costs exceed the amount under an allowance, unexpended amounts from other cash allowances will be relocated at the Consultant's direction to cover the shortfall without additional overhead and profit charges attributed. Overhead and profit charges may only be charged to overruns on the sum total of cash allowances. The maximum mark-up on authorized overrun on cash allowances shall be 5%.
- .3 Delete paragraph 4.1.7 in entirety and replace with the following:
 - .1 4.1.7 At the commencement of the work, the contractor shall prepare for the review and acceptance of the Owner and the Consultant a schedule indicating the times, within the construction schedule referred to in GC 3.4, that items called for under cash allowances and items that are specified to be Owner purchased

and Contractor installed or hooked up as required at the site to avoid delaying the progress of the Work.

- .4 Add new paragraph 4.1.8 in its entirety as follows:
 - .1 4.1.8 The Owner reserves the right to call, or to have the Contractor call, for competitive bids for portions of the Work, to be paid for from cash allowances.
- .5 Add new paragraph 4.1.9 in its entirety as follows:
 - .1 4.1.9 Administration of Cash Allowances:
 - .1 Expenditure of Cash Allowance items will be authorized in writing.
 - .2 Contractor shall administer, upon direction from the Consultant. Competitive quotations are where applicable. When competitive quotations are not applicable, a complete breakdown into net costs of labour and materials (all trades) is required.
 - .3 The invited bidders for quotes on Work under cash allowances shall be acceptable to the Consultant. The successful bidder shall then enter into a sub-contract arrangement with the Contractor.
- .6 Add new paragraph 4.1.10 in its entirety as follows:
 - .1 4.1.10 Testing Allowances:
 - .1 When included in the Contract it is to cover the cost of inspection and testing work done by the independent inspection and testing company appointed by the Consultant, and does not cover labour costs, overhead, or profit of the Contractor for work such as sampling, transportation of samples, etc., done by the Contractor. Cash allowances for inspection and testing do not cover the cost of re-testing of materials required due to the failure to meet the requirements of the applicable specification.
- .7 Add new paragraph 4.1.11 in its entirety as follows:
 - .1 4.1.11 Hardware Allowance:
 - .1 When included in the Contract, it is to cover the cost of materials only and does not cover installation costs of the Contractor, unless noted otherwise within the allowance.

1.21 GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

- .1 Delete GC 5.1 in its entirety.

1.22 GC 5.2 APPLICATIONS FOR PAYMENT

- .1 Add new paragraph 5.2.1.1
 - .1 Draft payment shall be submitted 10 calendar days prior to the proper invoice submission
 - .2 Proper invoices shall be submitted to the Owner and the Consultant on a monthly basis and shall be dated the first (1st) day of each month. Where the first (1st) falls on a weekend or statutory holiday, the invoice date shall be the next business day. Proper invoices shall be submitted a minimum ten (10) days

following issuance of the draft invoice in order to comply with invoicing date requirements.

- .2 In paragraph 5.2.3, delete the words “as of the last day of the payment period.” and add: less than two weeks prior to their incorporation into the Work, unless otherwise approved by the Consultant.
- .3 In paragraph 5.2.4, on the first line, revise “15 calendar days” to “20 calendar days”.
- .4 Add to the end of paragraph 5.2.7 as follows:
 - .1 Any Products delivered to the Place of the Work but not yet incorporated into the Work shall remain at the risk of the Contractor notwithstanding that title has passed to the Owner pursuant to GC 13.1 – OWNERSHIP OF MATERIALS.
- .5 Add new paragraph 5.2.9 in its entirety as follows:
 - .1 5.2.9 The Contractor shall submit as required, a valid and unexpired certificate from the authority responsible for worker’ compensation at the Place of the Work, attesting that it is registered with such authority and that its account is in good standing.
- .6 Add new paragraph 5.2.10 in its entirety as follows:
 - .1 5.2.11 With each application for progress payment after the first, and as a condition of receiving such progress payment, the Contractor shall provide an updated Construction Schedule in accordance with GC 3.5 – CONSTRUCTION SCHEDULE.
- .7 Add new paragraph 5.2.11 in its entirety as follows:
 - .1 5.2.12 Prior to each application for payment, the Contractor and Consultant shall jointly check the progress of the Work at the site.

1.23 GC 5.3 PAYMENT

- .1 Add new paragraph 5.3.2 in its entirety as follows:
 - .1 5.3.2 There shall be no additional certification of payments after Substantial Performance of the Work until the Contractor has achieved total completion of the Works.

1.24 GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK

- .1 Delete paragraph 5.4.2 in its entirety.
- .2 Amend section 5.4.3: delete "no later than 10 working days". Replace with: no later than 15 working days.
- .3 Add new sub paragraph 5.4.4 in its entirety as follows:
 - .1 5.4.4. (1) The Contractor shall submit a draft application for the release of holdback not less than thirty (30) days prior to the expiry of the sixty (60)-day lien period, for review by the Consultant and to allow the Owner to commence processing.
Applications for payment of holdback shall include an itemized breakdown identifying the amount of holdback retained under each prior certificate for payment.

- .2 5.4.4. (2) At the commencement of the lien period sixty (60) - day the contractor is to provide :
 - .1 5.4.4.(2.1.) Statutory declaration
 - .2 5.4.4. (2.2.) Confirmation no notices of lien have been received
 - .3 5.4.4. (2.3.) WSIB clearance / other closeout docs if required
 - .1 The Contractor must be registered as an employer or independent operator (as the case may be) with the Workplace Safety and Insurance Board (WSIB). The Contractor shall be required to enroll in the WSIB e-Clearance service and provide the Owner with a Clearance Certificate Number through the e-Clearance service. The Contractor must maintain their account with the WSIB in good standing throughout the duration of the Work under this order and shall ensure that its e- Clearance is automatically renewed prior to its expiry. At no time may Work proceed or continue under the Contract in the absence of a current Clearance Certificate Number from WSIB.
- .3 Add new sub paragraph 5.4.5 in its entirety as follows:
 - .1 5.4.5 (1) Where the duration of the Work exceeds one (1) year, the Contractor shall submit an application for annual release of holdback no later than thirty (30) days prior to the anniversary of the date the Contract was entered into. The application shall identify the amount of holdback proposed to be released and shall include an itemized breakdown of holdback amounts retained from each prior payment certificate, together with the percentage of holdback to be released to each trade.
 - .2 5.4.5 (2) The Contractor shall, on behalf of the Owner, publish the notice of annual release of holdback in accordance with the Construction Act (Ontario) no later than fourteen (14) days after the anniversary of the date the Contract was entered into.
- .4 Add new paragraph 5.4.7 in its entirety as follows:
 - .1 5.4.7 Together with the submission of its written application for Substantial Performance of the Work, the Contractor shall submit to the Consultant and to the Owner a statutory declaration setting forth in reasonable detail any then outstanding and unresolved disputes or claims between the Contractor and any Subcontractor or Supplier, including any claims allegedly arising from delay, which are, directly or indirectly, related to any then outstanding or anticipated disputes or claims between the Contractor and the Owner, and this disclosure shall, at a minimum:
 - .1 identify the parties involved;
 - .2 identify the amount in dispute;
 - .3 provide a brief statement summarizing the position of each party;
 - .4 include copies of any correspondence or documents in support of either party's position;
 - .5 include copies of any documents of any court or arbitration process related to the matter;

- .6 identify the dispute or claim between the Contractor and the Owner to which the matter relates; and
- .7 include a copy of any written agreement or a summary of any oral agreement between the parties related to resolution of the matter.
- .2 The disclosure requirements detailed herein are of a continuing nature and survive completion of the Work. Accordingly, the Contractor shall supplement the information provided with the original statutory declaration with additional materials pertaining to new or existing disputes or claims, as they become available.

1.25 GC 5.5 FINAL PAYMENT

- .1 Amend paragraph 5.5.2 as follows:
 - .1 Delete from the first line of the paragraph the words, "calendar days" and substitute the words "Working Days".
- .2 Amend paragraph 5.5.4 as follows:
 - .1 Delete from the second line of paragraph the words, "5 Working Days after issuance" and substitute the word "15 days after receipt of".
- .3 Add new paragraph 5.5.5 in its entirety as follows:
 - .1 5.5.5 Notwithstanding paragraph 5.5.4, the Owner shall retain a lien holdback on the finishing work in accordance with the lien legislation applicable to the Place of the Work, which shall become due in accordance with paragraph 5.4.3 and the Contractor shall submit an application for payment of the lien holdback amount for the finishing work in accordance with paragraph 5.4.4.
- .4 Add new paragraph 5.5.6 in its entirety as follows:
 - .1 5.5.6. The Contractor may apply for release of the warranty holdback upon expiry of the warranty period (typically 12 months from Substantial Performance), provided all Work has been completed, and all deficiencies corrected and accepted. The warranty holdback is separate from the statutory lien holdback and is not governed by the Construction Act, it is Contractual.
- .5 Add new paragraph 5.5.7 in its entirety as follows:
 - .1 5.5.7. The Contractor may apply for release of the Close-Out Document holdback upon submission and acceptance of all required close-out documentation to the satisfaction of the Consultant. The Close-Out Document holdback is separate from the statutory lien holdback and is not governed by the Construction Act, it is Contractual.

1.26 GC 5.6 DEFERRED WORK

- .1 Delete 5.6.1 in entirety and replace with the following:
 - .1 5.6.1 If because of climatic or other conditions reasonably beyond the control of the Contractor, there are items of work that cannot be performed, or should there be items of work which have been rejected by the Consultant pursuant to GC 2.4.1 which have not been corrected, the Owner may withhold, until the remaining portion of the Work is finished and all defective Work has been

corrected, such an amount that the Consultant determines is sufficient and reasonable to cover the cost of performing or correcting such work.

- .2 Add new paragraph 5.6.2 in its entirety as follows:
 - .1 5.6.2 The Contractor shall be responsible for any legal costs borne by the Owner related to lien action. The Owner may withhold any such amount sufficient to cover such legal costs.
- .3 Add new paragraph 5.6.3 in its entirety as follows:
 - .1 5.6.3 Notwithstanding other provisions, where the Contractor owes monies to the Owner then the Owner may set-off such monies from payments due and owing to the Contractor pursuant to this Contract.

1.27 GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

- .1 Add new paragraph 6.1.3 in its entirety as follows:
 - .1 6.1.3 No extension to Contract Time shall be granted for changes in the Work unless the Contractor can clearly demonstrate that such changes significantly alter the overall construction schedule submitted at the commencement of the work. All costs associated with extensions of contract time, if approved, are to be included in the relevant change order.
- .2 Add new paragraph 6.1.4 in its entirety as follows:
 - .1 6.1.4 If changes to the Contract become in excess of 10% of the contract price, the Contractor shall inform Insurance or Surety Company or Companies who have issued Performance Bonds, Liability Insurance and Property Insurance for this Contract, of these changes and shall, subject to approval by the Consultant and the Owner, initiate and pay such adjustments on behalf of the Owner and a Change Order will be issued by the Consultant, to reimburse the Contractor.

1.28 GC 6.2 CHANGE ORDER

- .1 Delete paragraph 6.2.1 in entirety and replace with the following:
 - .1 6.2.1 Quotations submitted by the Contractor for any Changes to the Work must be accompanied by a complete itemized breakdown of all costs so that the total price can be properly assessed. Include any costs associated with extensions in time. Overhead and profit shall be calculated as per paragraph 6.2.8 of this section.
- .2 Delete paragraph 6.2.2 in entirety and replace with the following:
 - .1 6.2.2 When a change in the Work is proposed or required the Contractor shall within 10 calendar days present to the Consultant for review and recommendation his/her claim for a change in the Contract Price and change in Contract Time with appropriate documentation in a form acceptable to the Consultant. Should the specified date for receipt of the itemized quotation be insufficient, the Contractor, within 5 calendar days of the above date, advise the Consultant in writing of the proposed date of delivery of the quotation. No additional claims will be permitted should the Contractor fail to advise the Consultant. The Consultant will satisfy her/himself as to the correctness of such claim and, when approved by the Owner, a change order shall be issued to the Contractor amending the Contract Price and Contract Time as appropriate.

The value of work performed in the change shall be included for payment with the regular certificates for payment.

- .3 Add new paragraph 6.2.3 in its entirety as follows:
 - .1 6.2.3 In the case of changes in the Work to be paid for under methods (b) and (c) of paragraph 6.2.1, the form of presentation of costs and methods of measurement shall be agreed to by the Consultant and Contractor before proceeding with the change. The Contractor shall keep accurate records, as agreed upon, of quantities or costs and present an account of the cost of the change in the Work, together with vouchers where applicable.
- .4 Add new paragraph 6.2.4 in its entirety as follows:
 - .1 6.2.4 If the method of valuation, measurement, change in Contract Price and change in Contract Time cannot be promptly agreed upon and the change is required to be proceeded with then the Consultant in the first instance will establish the method of valuation, measurement, the change in Contract Price and Contract Time subject to his finding in the manner set out in PART 8, DISPUTE RESOLUTION. In this case the Consultant will, with the consent of the Owner, issue a written authorization for the change setting out the method of valuation and if by lump sum his valuation of the change in Contract Price and Contract Time.
- .5 Add new paragraph 6.2.5 in its entirety as follows:
 - .1 6.2.5 In the case of a dispute in the valuation of a change authorized in the Work and pending final determination of such value, the Consultant will certify the value of work performed in accordance with his own evaluation of the change and include the amount with the regular certificates for payment. The Contractor shall keep accurate records of quantities and cost of such work.
- .6 Add new paragraph 6.2.6 in its entirety as follows:
 - .1 6.2.6 It is intended in all matters referred to above that both the Consultant and Contractor shall act promptly.
- .7 Add new paragraph 6.2.7 in its entirety as follows:
 - .1 6.2.7 When and if the Contractor is notified by the Consultant of proposed changes in the Work he shall prepare and submit to the Consultant at his earliest convenience a full statement of the additional or less costs of such work in an itemized breakdown form and such costs shall be based on the materials and methods specified and/or shown in/on the Contract Documents unless the Contractor is specifically notified to the contrary in each case.
- .8 Add new paragraph 6.2.8 in its entirety as follows:
 - .1 6.2.8 If the change results in a net increase in the Contractor's cost, the Contract Price shall be increased by the amount of the net increase in the Contractor's cost, plus the Contractor's overhead and profit shall be calculated on the following basis:
 - .1 combined overhead and profit mark-up on the Contractor's work shall not exceed ten percent (10%)

- .2 the Contractor's combined overhead and profit mark-up on Subcontractors' work shall not exceed five percent (5%);
- .3 combined overhead and profit mark-up charged by Subcontractors on their own work shall not exceed ten percent (10%).
- .4 Hourly rates are defined as being the charge out base labour rate cost including EI, CPP, Vacation Pay, and benefits. These rates may be requested at Bid time or at the Post Bid Review Meeting or at any time thereafter for review and agreement.
- .5 Materials are defined as being actual cost.
- .6 Overhead is defined as being inclusive of, and not limited to, the following:
 - .1 Head Office and site operations and facilities
 - .2 Head Office and site administration and supervision and scheduling
 - .3 All duties and taxes for permits and other licenses required by jurisdictional authorities
 - .4 All requirements of Submittals Section and as-built/maintenance manuals requirements
 - .5 All requirements of Quality Control Section
 - .6 Expenses related to site safety.
- .7 Changes resulting in a credit to the contract shall be no less than 75% of the above calculations.
- .9 Add new paragraph 6.2.9 in its entirety as follows:
 - .1 "6.2.9 No allowance will be made for travel and related living expenses incurred by the Contractor or any sub-contractor while traveling to and from the construction site."
- .10 Add new paragraph 6.2.10 in its entirety as follows:
 - .1 6.2.10 Statements submitted by the Contractor in respect to payment for changes to the Contract Price shall be accompanied by complete documentation indicating the following:
 - .1 A Gantt Chart showing the full impact of the change to the construction schedule. Include the critical path.
 - .2 Complete additional or less costs resulting from the change including delay claims or future expenses, if applicable.
 - .3 Quotations, unless previously arranged in writing, shall be valid for a period of 30 days.

Any statement or quotation not including present and future cost and time impacts shall be deemed to have no effect on the contract time or price. Changes in contract (or claims for delays) will not be considered after the formal submission of a statement or quotation by the Contractor.

- .4 All quotations or statements must be itemized and summarized in the following format:

ITEM	LABOUR	MATERIAL	OVERHEAD PROFIT
1.General Costs		Sub-Total	
2.Structural Costs		Sub-Total	
3.Architectural Costs		Sub-Total	
4.Mechanical Costs		Sub-Total	
5.Electrical Costs		Sub-Total	
6.Site Services Costs			
7.Landscaping Costs		Sub-Total	
		Net-Total	
Note: HST excluded.		Gross	

- .5 All quotations or statements shall include, in all the summarized items described in this Section, a comprehensive, detailed breakdown of all materials and labour affecting the proposed changes in the work. Quotations or statements not complying with this requirement shall be returned to the Contractor for resubmission.

- .11 Add new paragraph 6.2.11 in its entirety as follows:

- .1 6.2.11 If, in the option of the Contractor, a Supplemental Instruction involves an adjustment in the Contract Price or in the Contract Time, it shall within five (5) Working Days of receipt of a Supplemental Instruction, provide the Consultant with a notice in writing to that effect. In the event that the Contractor needs additional information to determine whether a Supplemental Instruction involves an adjustment of the Contract Price or in the Contract Time, it may issue a written request to the Consultant seeking such additional information, within five (5) Working days of receipt of Supplemental Instruction. The Contractor shall, within five (5) Working days of receipt of such additional information, provide the Consultant with the written notice described in the first sentence of this paragraph. Failure to provide written notification within the time stipulated shall be deemed an acceptance of the Supplemental Instruction by the Contractor, without any adjustment in the Contract Price or Contract Time.

1.29 GC 6.3 CHANGE DIRECTIVE

- .1 In paragraph 6.3.6.1, on the second line delete "percentage fee on such net increase." and insert the following:
- .1 overhead and profit, which shall be calculated on the following basis:
- .1 combined overhead and profit mark-up on the Contractor's work shall not exceed ten percent (10%);
- .2 the Contractor's combined overhead and profit mark-up on the Subcontractors' work shall not exceed five percent (5%);
- .3 combined overhead and profit mark-up charged by Subcontractors on their own work shall not exceed ten percent (10%).

1.30 GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

- .1 In subparagraph 6.4.1.1 add to the end of the sentence: or any geotechnical reports that were made available to the Contractor prior to the Contract.
- .2 Add new subparagraph 6.4.5 in its entirety as follows:
 - .1 6.4.5 The Contractor confirms that, prior to bidding the Project, it carefully investigated the Place of the Work and applied to that investigation the degree of care and skill described in paragraph 3.10.1, given the amount of time provided between the issue of the bid documents and the actual closing of bids, the degree of access provided to the Contractor prior to submission of bid, and the sufficiency and completeness of the information provided by the Owner. The Contractor is not entitled to compensation or to an extension of the Contract Time for conditions which could reasonably have been ascertained by the Contractor by such careful investigation undertaken prior to the submission of the bid.

1.31 GC 6.5 DELAYS

- .1 In paragraph 6.5.1. in the second sentence add “and direct” between the words “reasonable” and “costs”.
- .2 Delete the period at the end of paragraph 6.5.1, and add the following words:
 - .1 , provided that the Owner shall not be liable for any other costs or damages whatsoever including, without limitation, any indirect, consequential, or special damages, such as loss of profits, loss of opportunity or loss of productivity resulting from such delay.
- .3 In paragraph 6.5.2. in the second sentence add “and direct” between the words “reasonable” and “costs”.
- .4 Delete the period at the end of paragraph 6.5.2, and add the following words:
 - .1 , provided that the Owner shall not be liable for any other costs or damages whatsoever including, without limitation, any indirect, consequential, or special damages, such as loss of profits, loss of opportunity or loss of productivity resulting from such delay.
- .5 Add the following to the end of subparagraph 6.5.3.4:
 - .1 provided that the Owner shall, in such instance, only be liable for reasonable and direct costs incurred by the Contractor and shall not be liable for any other costs or damages whatsoever including, without limitation, any indirect, consequential, or special damages, such as loss of profits, loss of opportunity or loss of productivity resulting from such delay. Notwithstanding the foregoing, the Contractor shall use its best efforts to minimize the impact of such event upon the performance of the Work and Contract Time.
- .6 At the end of the paragraph 6.5.4 add as follows:
 - .1 No claim for delay shall be considered valid unless a copy of the notice requested to be given to the Consultant, has been sent simultaneously to the Owner. No valid claim for additional payment arising from a delay will be payable to the Contractor unless the Contractor has prepared, or caused to be prepared,

- records of all Work and the costs of the Work, on a weekly basis as the Work proceeds, and submits such records in support of the claim.
- .7 In paragraph 6.5.5, add the following:
- .1 In case the additional instructions require pricing by the Contractor, the above 10 day period shall commence after a fully substantiated price has been submitted by the Contractor to the Consultant.
- .8 Add new paragraph 6.5.6 in its entirety as follows:
- .1 6.5.6 If the Contractor is delayed in the performance of the Work by an act or omission of the Contractor or anyone employed or engaged by the Contractor directly or indirectly, or by any cause within the Contractor's control, then the Contract Time shall be extended for such reasonable time as the Consultant may decide in consultation with the Contractor. The Owner shall be reimbursed by the Contractor for all reasonable costs incurred by the Owner as the result of such delay, including all services required by the Owner from the Consultant as a result of such delay by the Contractor and, in particular, the cost of the Consultant's services during the period between the date of Substantial Performance of the Work stated in Article A-1 herein as the same may be extended through the provisions of these General Conditions and any later, actual date of Substantial Performance of the Work achieved by the Contractor.
- .9 Add new paragraph 6.5.7 in its entirety as follows:
- .1 6.5.7 If the Work should be behind schedule for a reason other than as described in GC 6.5.1 to 6.5.6 or if any of the Subcontractors delay the progress of any portion of the Work necessary to complete the Work on schedule, the Contractor shall use all possible measures and, if necessary, extraordinary measures to bring the Work back on schedule. The Contractor shall exercise all reasonable means within its discretion, such as directing any Subcontractor creating delays to increase their labour forces and overtime as may be needed. The Contractor shall provide any additional supervision, coordination and expediting including overtime by its own personnel as may be required to achieve this end. The costs and expenses incurred by the use of such measures and overtime shall be borne by the Contractor and/or its Subcontractors.
- .10 Add new paragraph 6.5.8 in its entirety as follows:
- .1 6.5.8 Without limiting the obligations of the Contractor described in GC 3.2 – CONSTRUCTION BY OWNER OR OTHER CONTRACTORS or GC 9.4 – CONSTRUCTION SAFETY, the Owner may, by notice in writing, direct the Contractor to stop the Work where the Owner determines that there is an imminent risk to the safety of persons or property at the Place of the Work. In the event that the Contractor receives such notice, it shall immediately stop the Work and secure the site. The Contractor shall not be entitled to an extension of the Contract Time or to an increase in the Contract Price unless the resulting delay, if any, would entitle the Contractor to an extension of the Contract Time or the reimbursement of the Contractor's costs as provided in paragraphs 6.5.1, 6.5.2 or 6.5.3.
- .11 Add new paragraph 6.5.9 in its entirety as follows:
- .1 6.5.9 In the event of a delay which results in a stoppage of the Work, the Contractor will take all reasonable steps to protect the Work for the entire period

of the delay. The cost of such protection will be paid by the Owner unless and to the extent the delay was caused directly or indirectly by the Contractor.

- .12 Add new paragraph 6.5.10. in its entirety as follows:
 - .1 6.5.10. Liquidating Damages will occur if the Contractor fails to achieve:
 - .2 6.5.10. (1) Rink slab pour by: June 19, 2026
 - .3 6.5.10. (2) Refrigeration installation / commissioning : July 31, 2026
 - .4 6.5.10. (3) If such failure is not excused under GC 6.5, the Contractor shall pay the Owner liquidated damages in the amount of \$1,000 per calendar day for each day beyond the required date.
 - .5 6.5.10. (4) Maximum limit of damages shall not exceed 10% of the contract price.
 - .6 6.5.10. (5) Upon award of contract, the contract may propose alternative dated of completion for rink slab pour and refrigeration installation / commissioning, but the dates for Substantial Performance and Ready-for-Takeover and not flexible.

1.32 GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

- .1 Add the words "as noted in paragraph 6.6.3" after the words "of the claim" in paragraph 6.6.5 and add the words "and the consultant", at the end of paragraph 6.6.5.

1.33 GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, OR TERMINATE THE CONTRACT

- .1 Add new paragraph 7.1.3.4 in its entirety as follows:
 - .1 .4 An "acceptable schedule" as referred to in paragraph 7.1.3.2 means a schedule approved by the Consultant and the Owner wherein the default can be corrected within the balance of the Contract Time and shall not cause delay to any other aspect of the Work or the work of other contractors, and in no event shall it be deemed to give a right to extend the Contract Time.
 - .2 In subparagraph 7.1.5.3 add "Owner and" between "including compensation to the" and "Consultant for the". Also add "Owner's and" between "for the" and "Consultant's additional services".

1.34 GC 7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT

- .1 In paragraph 7.2.1, add "and the Consultant" between the words "bankruptcy" and "Notice in Writing".
- .2 Add new paragraph 7.2.3.5 in its entirety as follows:
 - .1 .5 The foregoing defaults in contractual obligations shall not apply to the withholding of certificates or payments, or both, in accordance with the General Conditions, because of the Contractor's failure to pay all claims promptly, nor because of the registration of liens against the Owner's property, until such claims and liens are discharged.
- .3 Add new paragraph 7.2.3.6 in its entirety as follows:
 - .1 .6 If the Contractor stops the Work or terminates the Contract as provided for in paragraph 7.2.1 to 7.2.5 above, the Contractor shall ensure the Place of Work

and the Work is left in a safe, secure condition as required by authorities having jurisdiction as well as the Contract Documents.

1.35 GC 8.1 AUTHORITY OF THE CONSULTANT

- .1 Add new paragraph 8.1.4 in its entirety as follows:
 - .1 8.1.4 Notwithstanding any other paragraph, the Consultant shall not have authority to make a finding and the procedures set out in paragraph 8.1.3 and paragraphs 8.3.3 to 8.3.8 of GC 8.3 - NEGOTIATION, MEDIATION AND ARBITRATION, and in GC 8.4 - RETENTION OF RIGHTS shall not apply to:
 - .1 any claim by a third party against the Owner and/or the Contractor for any personal injury, including death, or damage to property;
 - .2 any claim for indemnity as between the Owner and Contractor; or
 - .3 any claim or dispute that is insured or subject to a subrogated right of an insurer.

1.36 GC 8.3 NEGOTIATION, MEDIATION, AND ARBITRATION

- .1 Delete paragraph 8.3.4 in entirety and replace with the following:
 - .1 8.3.4 After a period of 10 Working Days following receipt of a responding party's Notice in Writing of reply under paragraph 8.3.2, the parties may request the Project Mediator to assist the parties to reach agreement on any unresolved dispute, who shall do so only with the consent of all parties involved in the dispute. The mediated negotiations shall be conducted in accordance with the rules for mediation as provided in CCDC 40 in effect at the time of bid closing.
- .2 Delete paragraph 8.3.6 in entirety and replace with the following:
 - .1 8.3.6 When a dispute has not been resolved through negotiation or mediation, within 10 Working Days after the date of termination of the mediated negotiations under paragraph 8.3.5, either party may give a Notice in Writing to the other party and to the Consultant inviting the other party to agree to submit the dispute to be finally resolved by arbitration, pursuant to provisions of the Arbitration Act, 1991. If the other party wishes to accept the invitation to submit the dispute to arbitration, it shall so indicate by the delivery of a responding Notice in Writing within 10 Working Days of receipt of the invitation. If, within the required times, no invitation is made or, if made, is not accepted, either party may refer the dispute to the courts or to any other form of dispute resolution, including arbitration, which the parties may agree to use.
- .3 Delete paragraph 8.3.7 in its entirety.
- .4 Delete paragraph 8.3.8 in its entirety.
- .5 Add new paragraph 8.3.9 in its entirety as follows:
 - .1 8.3.9 Within five days of receipt of the notice of arbitration by the responding party under paragraph 8.3.6, the Owner and the Contractor shall give the Consultant a written notice containing:
 - .1 a copy of the notice of arbitration;
 - .2 a copy of supplementary conditions 8.3.9 to 8.3.14 of this Contract, and;

- .3 any claims or issues which the Contractor or the Owner, as the case may be, wishes to raise in relation to the Consultant arising out of the issues in dispute in the arbitration.
- .6 Add new paragraph 8.3.10 in its entirety as follows:
 - .1 8.3.10 The Owner and the Contractor agree that the Consultant may elect, within ten days of receipt of the notice under paragraph 8.3.9, to become a full party to the arbitration under paragraph 8.3.6 if the Consultant:
 - .1 has a vested or contingent financial interest in the outcome of the arbitration;
 - .2 gives the notice of election to the Owner and the Contractor before the arbitrator is appointed;
 - .3 agrees to be a party to the arbitration within the meaning of the rules referred to in paragraph 8.3.6; and
 - .4 agrees to be bound by the arbitral award made in the arbitration.
- .7 Add new paragraph 8.3.11 in its entirety as follows:
 - .1 8.3.11 If an election is made under paragraph 8.3.10, the Consultant may participate in the appointment of the arbitrator and, notwithstanding the rules referred to in paragraph 8.3.6, the time period for reaching agreement on the appointment of the arbitrator shall begin to run from the date the respondent receives a copy of the notice of arbitration.
- .8 Add new paragraph 8.3.12 in its entirety as follows:
 - .1 8.3.12 The arbitrator in the arbitration in which the Consultant has elected under paragraph 8.3.10 to become a full party may:
 - .1 on application of the Owner or the Contractor, determine whether the Consultant has satisfied the requirements of paragraph 8.3.10, and;
 - .2 make any procedural order considered necessary to facilitate the addition of the Consultant as a party to the arbitration.
- .9 Add new paragraph 8.3.13 in its entirety as follows:
 - .1 8.3.13 The provisions of paragraph 8.3.9 shall apply mutatis mutandis to written notice to be given by the Consultant to any sub-consultant.
- .10 Add new paragraph 8.3.14 in its entirety as follows:
 - .1 8.3.14 In the event of notice of arbitration given by the Consultant to a sub-consultant, the sub-consultant is not entitled to any election with respect to the proceeding as outlined in 8.3.10 and is deemed to be bound by the arbitration proceeding.
- .11 Add new paragraph 8.3.15 in its entirety as follows:
 - .1 8.3.15 Unless the arbitrator orders otherwise, each party shall bear their own costs of the arbitration and the cost of arbitrator(s) and any arbitration facilities shall be apportioned equally between the parties hereto.

1.37 GC 9.1 PROTECTION OF WORK AND PROPERTY

- .1 Delete subparagraph 9.1.1 in its entirety and substitute with the following
 - .1 .1 errors or omissions in the Contract Documents which the Contractor could not have discovered applying the standard of care described in paragraph 3.10.1;
- .2 Delete paragraph 9.1.2 in its entirety and substitute with the following
 - .1 9.1.2 Before commencing any Work, the Contractor shall determine the locations of all underground utilities and structures indicated in or reasonably determinable from the Contract Documents, or that are discoverable from an inspection of the Place of Work, exercising the degree of care and skill described in paragraph 3.10.1.
- .3 Add new paragraph 9.1.5 in its entirety as follows:
 - .1 9.1.5 The Contractor shall provide and maintain hoarding and dust screens in accordance with local bylaws and Construction Safety Council, and to the Consultant's approval. The Contractor shall locate hoarding either in accordance with instructions received from the Consultant at the first site meeting or as specified in the Contact Documents.
- .4 Add new paragraph 9.1.6 in its entirety as follows:
 - .1 9.1.6 The Contractor shall be responsible for securing the Place of Work at all times and shall take all reasonable precautions necessary to protect the Place of Work, its contents, materials (including Owner supplied materials) and the public from loss or damage during and after working hours. Where the Consultant or the Owner deems the provision of security guard services to be necessary, the Contractor shall provide those services at the Owner's expense.

1.38 GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

- .1 In paragraph 9.2.1, after the word "legislation" insert "and the Occupational Health and Safety Act of Ontario (OHSA) and amendments to the Act and all regulations under the Act"
- .2 Amend paragraph 9.2.6 as follows:
 - .1 After the word "responsible", add the following: or whether any toxic or hazardous substances or materials already at the Place of the Work (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the Contractor or anyone for whom the Contractor is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the Owner or others.
- .3 Add "and the Consultant" after the word "Contractor" in subparagraph 9.2.7.4.
- .4 Amend paragraph 9.2.8 as follows:
 - .1 After the word "responsible", add the following: or that any toxic or hazardous substances or materials already at the Place of the Work (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the Contractor or anyone for whom the Contractor is responsible in a manner which does not comply with

legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the Owner or others.

- .5 Add new paragraph 9.2.10 in its entirety as follows:
 - .1 9.2.10 It shall be the responsibility of the Contractor to ensure that the following Workplace Hazardous Material Information System regulations are adhered to on the job site:
 - .1 All personnel shall have received WHMIS training;
 - .2 All materials being used, falling under WHMIS guidelines, shall be labelled in accordance with up-to-date and valid WHMIS requirements;
 - .3 Appropriate Material Safety Data Sheets shall be available at all times.

1.39 GC 9.4 CONSTRUCTION SAFETY

- .1 Add new paragraph 9.4.6 in its entirety as follows:
 - .1 9.4.6 Prior to the commencement of the Work, the Contractor shall submit to the Owner:
 - .1 a current WSIB clearance certificate;
 - .2 copies of the Contractor's insurance policies having application to the Project or certificates of insurance, at the option of the Owner;
 - .3 documentation of the Contractor's in-house safety-related programs, including, but not limited to, Contractor's Health and Safety Policy and Contractor's Health and Safety Program Manual.
- .2 Add new paragraph 9.4.7 in its entirety as follows:
 - .1 9.4.7 The Contractor shall indemnify and save harmless the Owner, its agents, officers, directors, employees, consultants, successors and assigns from and against the consequences of any and all safety infractions committed by the Contractor under OHSA, including the payment of legal fees and disbursements on a solicitor and Owner basis. Such indemnity shall apply to the extent to which the Owner is not covered by insurance, provided that the indemnity contained in this paragraph shall be limited to costs and damages resulting directly from such infractions and shall not extend to any consequential, indirect or special damages.
- .3 Add new paragraph 9.4.8 in its entirety as follows:
 - .1 9.4.8 Each Contractor and Subcontractor having an accident or incident on the project site, as prescribed in Sections 8 through 11 of the Construction Regulations under the OHSA, shall notify the Director of Facilities and the Project Manager for the City; and the General Contractor, as constructor, shall advise the Workplace Safety and Insurance Board and the Ministry of Labour, if so required by the OHSA.
- .4 Add new paragraph 9.4.9 in its entirety as follows:
 - .1 9.4.9 Failure to comply with these provisions and all applicable legislation, including the OHSA and the Environmental Protection Act and regulations made thereunder, may result in the cancellation of this Contract and no further monies will be owed by the Owner from the date of cancellation. As well, the Owner may

withhold any monies owing to the Contractor in order to cover any losses the Owner may incur in order to have the Work completed by whatever means the Owner deems appropriate.

1.40 GC 9.5 MOULD

- .1 Add "and the Consultant" after "Contractor" in subparagraph 9.5.3.4.

1.41 GC 10.1 TAXES AND DUTIES

- .1 Add to the end of paragraph 10.1.2: The Contractor shall keep a record of all taxes and duties carried in the Contract Price and records and invoices of accounts subject to such taxes and duties paid for substantiating any adjustments in the event of changes in legislation during the course of the Contract and for the purpose of claiming exemption or recovering taxes and duties paid.
- .2 Add new paragraph 10.1.3 in its entirety as follows:
 - .1 10.1.3 Where the Owner is entitled to an exemption or a recovery of sales taxes, customs duties, excise taxes or Value Added Taxes applicable to the Contract, the Contractor shall, at the request of the Owner, assist with application for any exemption, recovery or refund of all such taxes and duties and all amounts recovered or exemptions obtained shall be for the sole benefit of the Owner. The Contractor agrees to endorse over to the Owner any cheques received from the federal or provincial governments, or any other taxing authority, as may be required to give effect to this paragraph.
- .3 Add new paragraph 10.1.4 in its entirety as follows:
 - .1 10.1.4 Upon registration of this agreement, the Contractor shall provide the Owner with its GST registration number.
- .4 Add new paragraph 10.1.5 in its entirety as follows:
 - .1 10.1.5 For out of Ontario Contractors who have a GST registration number, the Contractor shall invoice the Owner for the Ontario HST for applicable goods and services delivered in Ontario. For out of Ontario Contractors who do not have a GST registration number, the Owner will self-assess the HST on applicable goods and services delivered in Ontario. If the Contractor does not have a business office in Canada and does not provide a waiver of income tax withholding from the Canada Revenue Agency, the Owner will withhold and remit income tax as necessary.

1.42 GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

- .1 In paragraph 10.2.1, add "...including, but not limited to OHSA, EPA and all regulations made under these Acts."
- .2 Add to the end of paragraph 10.2.2 "Application and administration work required to obtain the building permit will be performed by the Consultant."
- .3 Add to the end of paragraph 10.2.3 as follows:
 - .1 " , as well as the filing of any "Notice of Project". The Contractor, when necessary, shall also be responsible for the filing of the "Notice of Project" with the Ministry of Labour under the OHSA."
- .4 Delete paragraph 10.2.4 in entirety and replace with the following:

.1 "10.2.4 The Contractor shall give the required notices and shall comply, and shall require its employees, agents and Subcontractors and Suppliers to comply, with all laws, ordinances, guidelines, standards, permits, statutes, by-laws, rules, regulations, or codes and all of the Owner's policies and procedures which are or become in force and are applicable to the performance of the Work including, without limitation, all those relating to the preservation of the public health, occupational health and safety and to construction safety."

.5 Delete from the first line of paragraph 10.2.5 the word, "The" and substitute the words: "Subject to paragraph 3.8.1, the".

1.43 GC 10.4 WORKERS' COMPENSATION

.1 Delete 10.4.1 in entirety and replace with the following:

.1 "10.4.1 The Contractor must be registered as an employer or independent operator with the Workplace Safety and Insurance Board (WSIB). The Contractor shall be required to enroll in the WSIB eClearance service and provide the Owner with a Clearance Certificate Number through the e-Clearance service. The Contractor must maintain his or her account with the WSIB in good standing throughout the duration of the work under this order, and shall ensure that its eClearance is automatically renewed prior to its expiry. At no time may work proceed or continue under the contract in the absence of a current Clearance Certificate Number from the WSIB."

.2 Add new paragraph 10.4.2 in its entirety as follows:

.1 "10.4.2 The Contractor is also required to obtain and provide from any and all Subcontractors, including any and all independent operators who perform Work as a Sub-contractor, copies of current clearance certificates and is expected to continue to maintain and provide updated clearance certificates throughout the period of Work under this contract. No Work under this Contract may be performed in the absence of a current clearance certificate which applies to any Contractor, Subcontractor, worker or independent operator who is to perform the Work."

1.44 GC 11.1 INSURANCE

.1 Delete paragraph 11.1.1 in entirety and replace with the following:

.1 "11.1.1 Without restricting the generality of GC 13.1 Indemnification the following insurance coverages are specified as minimum requirements of this Contract. The Contractor's attention is directed to the insurance requirements below. It is highly recommended that the Contractor confer with their respective insurance carriers or brokers to determine in advance of bid submission the availability of insurance certificates and endorsements as prescribed and provided herein. It is the responsibility of the Contractor and/or their Insurance Broker to review all potential operations and exposures to determine if the coverage and limits noted below are sufficient to address all insurance related exposures presented by the specifications of this Contract. The Contractor shall insure its undertaking, business and equipment under the following coverage so as to protect and indemnify and save harmless the Owner:

.1 Commercial General Liability Insurance:
The Contractor shall maintain liability insurance acceptable to the Owner

throughout the term of this Agreement. Coverage shall consist of a comprehensive policy of public liability and property damage insurance, with all applicable coverage endorsements available, in an amount of not less than \$5,000,000 per occurrence. Such insurance shall name The Owner, and any other person or party identified in the Contract Documents, as an additional insured with a cross liability endorsement and severability of interests provision. The policy Self- Insured Retention (SIR)/deductible shall not exceed \$100,000 per claim and if the policy has an aggregate limit, the amount of the aggregate shall be double the required per-occurrence limit. A combination of primary coverage plus umbrella or excess liability insurance coverage may be used.

In the event that the Contract includes shoring, blasting, excavation, underpinning, demolition, pile driving, caisson work and work below ground surface including tunneling and grading: such insurance coverage shall be endorsed to cover shoring, blasting, excavation, underpinning, demolition, pile driving, caisson work and work below ground surface including tunneling and grading.

The Owner reserves the right to request an alternative to the Commercial General Liability Insurance policy in the form of a Wrap-Up Liability Insurance policy. If this option is exercised, it will be specified elsewhere in the Contract Documents.

.2 Owned and Non-Owned Automobile Liability Insurance:

.1 The Contractor shall maintain automobile liability insurance on all Owned, Non-Owned, and Leased Automobiles used in the performance of the work to a limit of \$5,000,000 throughout the term of this Agreement.

.3 Unless otherwise specified in the Contract Documents, the Contractor shall provide and maintain during the term of the Agreement, Broad Form Contractors' Equipment Insurance coverage for construction machinery and equipment used by the Contractor for the performance of the work. Such insurance shall be in a form acceptable to the Owner and shall not allow subrogation claims by the Insurer against the Owner. Subject to satisfactory proof of financial capability by the Contractor to self-insure their equipment, the Owner agrees to waive the equipment insurance requirement.

.4 In the event that the Contract includes the installation of any machinery and equipment not covered under a Builders Risk Insurance policy, the Contractor shall provide and maintain during the term of the Agreement an All Risk Installation Floater Insurance policy covering the installation of any machinery and equipment associated with the Contract. Coverage shall be in an amount equal to the value of the machinery and/or equipment and shall include coverage while it is in transit to and awaiting installation at the work site.

.5 Unless otherwise specified in the Contract Documents, the Contractor shall provide and maintain during the term of the Contract, Broad Form Builders' Risk Insurance coverage to the amount of 1.1 times the full replacement cost of the Contract.

The Builders Risk shall be underwritten on the following basis:

- .1 Policy deductible shall not exceed \$5,000 without prior approval by the Owner. If a loss occurs, the deductible shall be the sole responsibility of the Contractor.
- .2 The Contractor and the Owner must be named as co-insured on the policy.
- .3 The policy shall contain a clause which will allow occupancy prior to the completion or acceptance of the entire work.
- .4 A copy of the Builder's Risk Certificate shall be furnished to all parties prior to the commencement of the Contract.
- .6 In the event that the Contract includes the replacement of boilers, machinery or equipment, the Contractor shall provide and maintain Boiler & Machinery Insurance coverage on a Comprehensive Plus Form to the full replacement cost of the boiler, machinery and equipment.
- .7 In the event that the Contract requires the Contractor to retain professional consultants, architects, landscape architects, planners and/or engineers, the Contractor shall ensure its professional consultants, architects, landscape architects, planners and engineers, providing a professional service in connection with the Contract, maintain until three (3) years after the Agreement, Professional Liability Insurance to a limit not less than \$1,000,000 providing coverage for acts or errors and omissions arising from their professional services performed under this Agreement. The policy SIR/deductible shall not exceed \$100,000 per claim and if the policy has an aggregate limit, the amount of the aggregate shall be double the required per claim limit. Certificates evidencing such coverage shall be supplied to the Owner prior to the completion of the Contract and in accordance with the provisions stated above.
- .8 When specified elsewhere in the Contract Documents, the Contractor shall take out and keep in force Contractor's Pollution Liability (CPL) coverage to ensure that their work does not exacerbate any pre-existing environmental condition during construction. Coverage shall be in an amount of not less than \$2,000,000 per claim or per occurrence, or such greater amount as the Owner may from time to time require, naming the Owner as an additional insured, which coverage shall be maintained in force for 12 months following the termination of the Contract. The policy SIR/deductible shall not exceed \$100,000 per claim and if the policy has an aggregate limit, the amount of the aggregate shall be double the required per occurrence limit.
- .9 In the event any aircraft and/or watercraft are used directly or indirectly in the performance of the work, Aircraft and/or Watercraft Liability Insurance shall be maintained by the Contractor throughout the term of this Agreement. Coverage shall be in an amount of not less than \$5,000,000 per occurrence.
- .10 Provisions:

- .1 All Insurers must be licensed in Ontario. The Contractor shall forward a Certificate of Insurance [on the Owner's Form (CERTIFICATE OF INSURANCE – CONTRACTOR)] evidencing this insurance with the executed Agreement. The Certificate shall state that coverage will not be cancelled, terminated, amended or otherwise changed or modified except after thirty (30) days (fifteen (15) days if cancellation is due to non payment of premium) prior written notice by certified mail to the Owner.

It is also understood and agreed that in the event of a claim any deductible or self-insured retention under these policies of insurance shall be the sole responsibility of the Contractor and that this coverage shall preclude subrogation claims against the Owner and any other person insured under the policy and be primary insurance in response to claims. Any insurance or self-insurance maintained by the Owner and any other person insured under the policy shall be considered excess of the Contractor's insurance and shall not contribute with it. The minimum amount of insurance required herein shall not modify, waive or otherwise alter the Contractor's obligation to fully indemnify the Owner under this Agreement. Any failure to comply with any provision of the insurance policy by the Contractor shall not affect coverage provided to the Owner.

The Owner reserves the right to modify the insurance requirements as deemed suitable.

.11 Third Party Claims Process:

- .1 The Owner's claims process for third party Contractor claims is to refer the claimant directly to the Contractor and to leave the resolution of the claim with the Contractor. This applies regardless of whether or not it is an insured loss. As the Owner has a responsibility to the taxpayers, the Owner must ensure that claimants are dealt with in a fair and efficient manner. Claims reported to the Contractor, either directly by a third party or through the Owner shall be promptly investigated by the Contractor. The Contractor shall make contact with the third party claimant within 48 hours of receipt of notice of a claim. The Contractor shall initiate an investigation of the claim immediately upon notice and advise the third party claimant in writing, with a copy to the Owner, of the status of their claim within 20 business days of the notice. Upon resolution of the claim, the Contractor shall issue a letter to the Claimant, with a copy to the Owner, which will include the reasons for their position. Should this position not resolve the claim and be accepted by the third party claimant, the Contractor shall immediately report the claim to its Insurer for a further review. (Insurer for this purpose is defined as either the Claims Department of the Contractor's Insurance Company or the Claim's Administrator at the

Contractor's Insurance Broker.) The Contractor's Insurer upon receipt of this claim shall advise the third party claimant by letter, with a copy to the Owner, that they are now investigating the claim. When a final position on the claim has been determined, the Contractor's Insurer shall advise the third party claimant by letter, with a copy to the Owner. Failure to follow this procedure shall permit the Owner to investigate and resolve any such claims. Nothing herein shall limit the right of the Owner to investigate and resolve any such claims notwithstanding the response the Contractor and/or its Insurer and to seek indemnification from the Contractor or to exercise of any other rights under the Contract. The Owner may, without breaching this Contract, retain from the funds owing to the Contractor an amount that, as between the Owner and the Contractor, is equal to the balance in the Owner's favour of all outstanding debts, claims or damages, whether or not related to this Contract.

1.45 GC 12.1 READY-FOR-TAKEOVER

- .1 Add note 12.1.1. (.9):
 - .1 Provide the *Owner* with CAD as-builts drawings completed to date. Base drawings will be provided by consultant team.
- .2 Add note 12.1.4. (.1)
 - .1 If project exceeds initial proposed schedule, contractor will be responsible for cost of consultant to complete inspection and any follow-up inspections required. (travel and expenses included)
- .3 Add new paragraph 12.1.7 in its entirety:
 - .1 "12.1.7 **0.5%** of the Contractor's bid price shall be allocated as a separate holdback for the submission of record drawings, as-built drawings, operation and maintenance manuals, warranties, and other close-out documentation required by the Contract Documents. The Contractor shall have the right to invoice the Owner for the balance of the Close-Out Documents when the consultants have received and approved the entire package of documents."
 - .2 Close-Out Document holdback is a contractual agreement with the purpose to ensure a timely delivery of close-out documents at ready-for-takeover. The release will be applied when the task is deemed 100% complete, and complies with 01 78 00 Closeout submittals

1.46 GC 12.3 WARRANTY

- .1 Delete paragraph 12.3.2 in its entirety.
- .2 Amend paragraph 12.3.4 as follows:
 - .1 Add the word "all" after the word "expense" in the first line.
- .3 Delete paragraph 12.3.5 in entirety and replace with the following:
 - .1 "12.3.5 The Contractor agrees to correct, or reimburse the Owner for, all damage, to the Work and/or the property, goods and/or equipment of the Owner

and/or the Owner's tenants, where the damage is the result of any defect or deficiency that is covered pursuant to the warranty herein."

- .4 Add new paragraph 12.3.7 in its entirety as follows:
 - .1 "12.3.7 The Contractor shall commence or correct any deficiency within two working days after receiving a notice from the Owner or the Consultant, and complete the work as expeditiously as possible, except that in case the deficiency would prevent maintaining security or keep basic systems essential to the ongoing business of the Owner and/or their tenants, operational as designed, all necessary corrections and/or installations of temporary replacements shall be carried out immediately as an emergency service. Should the Contractor fail to provide this emergency service within 8 hours of a request made during normal business hours of the Contractor the Owner is authorized, regardless of GC 3.1 – Control of the Work, to carry out all necessary repairs or replacements at the Contractor's expense."
- .5 Add new paragraph 12.3.8 in its entirety as follows:
 - .1 "12.3.8 The Contractor shall submit written warranty or guarantee certificates and extended warranty or guarantees for all work as required in the specifications. The guarantee shall be addressed to the Owner and state the following:
 - .1 Date of Ready-For-Takeover as applicable to the Warranty or Guarantee Period.
 - .2 Name of Project to be same as indicated in the Contract.
 - .3 Terms and Conditions.
 - .4 Warranty or Guarantee Period."
- .6 Add new paragraph 12.3.9 in its entirety as follows:
 - .1 "12.3.9 Use of the building systems during construction for temporary heat will require written approval from the Owner and shall not have any effect on the warranty period of those systems and equipment in use. The warranty period will not begin until Ready-For- Takeover has been attained."
- .7 Add new paragraph 12.3.10 in its entirety as follows:
 - .1 "12.3.10 **2.5%** of the Contractor's bid price shall be allocated as a holdback for security for the Contractor's performance of its warranty obligations. In the event the Contractor fails to correct a defect or deficiency during the warranty period within the required time and/or fails to pay for the redesign, reconstruction and other costs related to damages arising from a defect or deficiency, the Owner shall have the right to use the warranty holdback, or such part of it still being held by the Owner to pay for the costs of remedying the defect or deficiency and any redesign, reconstruction or other costs relating to the defect or deficiency. If the costs are greater than the amount of the warranty holdback, the Contractor shall pay the additional costs upon receipt of an invoice from the Owner. The Contractor shall have the right to invoice the Owner for the balance of the warranty holdback at the end of the warranty period or extended warranty period as described in paragraphs 12.3.1 and 12.3.6."

- .1 Warranty holdback is a contractual agreement with the purpose to secure warranty and deficiency obligations. The release can be applied for at the expiry of the warranty period.

1.47 GC 13.1 INDEMNIFICATION

- .1 Delete paragraph 13.1.1 in entirety and replace with the following:
 - .1 “.1 The Contractor, both during and after the term of this Agreement, shall at all times, and at its own cost, expense and risk, defend, indemnify and hold harmless the Owner and the upper-tier municipality in which the works are carried out, their elected officials, officers, employees, volunteers, agents, contractors, the Contract Administrator, all respective heirs and executors, successors and assigns, from any and all losses, damages (including, but not limited to, incidental, indirect, special and consequential damages, or any loss of use, revenue or profit by any person, organization or entity), fines, penalties and surcharges, liabilities (including, but not limited to, any and all liability for damages to property and injury to persons, including death), judgments, claims, demands, causes of action, contracts, suits, actions or other proceedings of any kind (including, but not limited to, proceedings of a criminal or quasi-criminal nature) and expenses (including, but not limited to, legal fees on a substantial indemnity basis), which the indemnified persons or person may suffer or incur, howsoever caused, arising out of or in consequence of or directly or indirectly attributable to the Work required to be performed by the Contractor, its agents, employees and Subcontractors on behalf of the Owner, provided such losses, damages, fines, penalties and surcharges, liabilities, judgments, claims, demands, causes of action, contracts, suits, actions or other proceedings of any kind and expenses as defined above are due or claimed to be due to the negligence, breach of contract, and/or breach of law of the Contractor, its agents, employees or Subcontractors.”
- .2 Delete GC 13.1.2 in its entirety.
- .3 Delete GC 13.1.3 in its entirety.

1.48 GC 13.2 WAIVER OF CLAIMS

- .1 Delete GC 13.2 in its entirety.

END OF SECTION

Section 00 73 63 Contract Security Requirements

Part 1 General

1.1 BID BOND

- .1 The bidder shall include with the Form of Tender a Bid Bond in the amount of 10% of the Contract Price.
- .2 Endorse the Bid Bond in the name of the Owner
- .3 The Bid Bond will be returned after delivery to the Owner of the required Performance and Labour and Materials Payment Bond(s) by the accepted bidder.
- .4 The Bid Bond will become payable in the event of the failure of the Tenderer to sign the Contract within a period of forty-five (45) days from the submission thereof by the Owner.
- .5 If no Contract is awarded, all security deposits will be returned.

1.2 PERFORMANCE BOND

- .1 Provide security for performance of the Contract in the form of a Performance Bond issued by a duly licensed surety company authorized to transact surety business in the province of the Place of the Work.
- .2 Issue bond in the amount of 50% of the Contract Price, to assure the faithful performance of the Contract, including corrections to the Work required under GC 12.3 - Warranty.
- .3 Sign bond in the name Name of the Owner as the obligee, and signed, sealed, and dated by both Contractor and surety company.
- .4 Submit signed bond to Owner within 45 days after contract award.

1.3 LABOUR AND MATERIAL PAYMENT BOND

- .1 Provide security for labour and material payment in the form of a Labour and Material Bond issued by a duly licensed surety company authorized to transact surety business in the province of the Place of the Work.
- .2 Sign bond in the name Name of the Owner as the obligee, and signed, sealed, and dated by both Contractor and surety company.
- .3 Issue bond in the amount of 50% of the Contract Price, to assure faithful payment of monies to parties in contract with the Contract.
- .4 Submit signed bond to Owner within 45 days after contract award.

END OF SECTION

Section 01 00 00 General Requirements

Part 1 General

1.1 DESCRIPTION

- .1 Work under this Contract as detailed in the contract documents includes but is not restricted to, the supply of all labour, materials, services and incidentals in order to perform the work.
- .2 Except where specified otherwise, all requirements of Section 01 00 00 General Requirements shall apply to the Work of all other sections of the specifications.
- .3 Study all Contract Documents to determine additional work required by your Section on which the work of other Sections depends.

1.2 DOCUMENTS REQUIRED ON SITE

- .1 One copy of the following is to be on site and accessible:
 - .1 Drawings and Specifications
 - .2 Addenda
 - .3 Change Orders
 - .4 Other Modifications to the Contract
 - .5 Field Reports
 - .6 Test Reports
 - .7 Copy of Approvals, up to date, work schedule
 - .8 Manufacturer's installation and application instructions
 - .9 Copy of the "Material Safety Data Sheet" (MSDS) for all materials and products on site as required by the "Workplace Hazardous Materials Information System" (WHMIS).
 - .10 A day-to-day record of all work performed,
 - .11 Shop Drawings

1.3 DOCUMENTS

- .1 The Contractor shall be responsible to see that all of his sub-contractors are fully informed in regard to the General Conditions, regulations, revisions, and addenda which may be issued.
- .2 No deviation from the Drawings and Specification shall be made in the execution of the work, without the written approval of the Consultant.

1.4 SPECIFICATION FORMAT

- .1 These Specifications are not intended as a detailed description of installation methods but serve to indicate particular requirements in the completed work.
- .2 Conform to the Current Ontario Building Code together with all its related supplements, hereinafter referred to as the "Code". Where Drawings and/or Specifications exceed Code requirements, provide such additional requirements
- .3 The Specifications are divided into Divisions and Sections for the convenience of the Contractor and the Consultant, and shall be interpreted as a whole.
- .4 Where the aforementioned Code or this Specification does not provide all information necessary for complete installation of an item, then the manufacturer's instruction for first quality workmanship shall be strictly complied with.
- .5 Where words in the Contract Documents occur in the singular number, they shall be taken as plural where applicable in accordance with the quantities required to satisfy the requirements of the Contract.

1.5 SUBCONTRACTING

- .1 The Contractor cannot subcontract the Project.

1.6 WORK SCHEDULE

- .1 Schedules required
 - .1 Construction progress schedule
 - .2 Schedule of values of the work
 - .3 Schedule for processing shop drawings, product data and samples
 - .4 Schedule for mock-up reviews of the key building components.
- .2 Provide a schedule in accordance with GC 3.5.1 showing anticipated progress stages and final completion of Work within time period quoted in the Bid Form. Schedule to include dates for the following:
 - .1 Submission of shop drawings, material lists and samples
 - .2 Start and completion of all major elements of Work including removals, structural repairs, interior fit-up, by area of Work
 - .3 Substantial completion and total completion
- .3 Submit an updated and revised schedule with each claim for payment

1.7 WORK SEQUENCE

- .1 Construct Work in stages to accommodate Owner's use of premises during construction
- .2 Adhere to approved construction schedule and coordinate with owner occupancy during construction
- .3 Construct Work in stages to provide for continuous public usage; Do not close off public usage of facilities until use of one stage of work will provide alternate usage.

1.8 COORDINATION

- .1 Allocate mobilization areas of site; for field offices and sheds, for stockpiling, access, traffic, and parking facilities. Provide a plan for approval by owner and consultant.
- .2 During construction co-ordinate use of site and facilities through procedures for submittals, reports and records, schedules, co-ordination of drawings, recommendations, and resolution of ambiguities and conflicts.
- .3 Provide information required for preparation of co-ordination drawings. Review and approved revised drawings for submission to Consultant.
- .4 The responsibility as to which sub-trade provides required articles, labour, or materials to be built in or provided, rests solely with the Contractor. Extras will not be considered, based on grounds of difference in interpretation of Specifications and Drawings.

1.9 EXAMINATION

- .1 Examine the work upon which your work depends. Report to the Consultant in writing any defects in such work. The application of your work or any part of it shall be deemed acceptance of the work upon which your work or that part of it which has been applied depends
- .2 Drawings are, in part, diagrammatic and are intended to convey scope of work and indicate general and approximate location, arrangement and sizes of fixtures and indicate general and approximate location, arrangement and sizes of fixtures and equipment. Obtain more accurate information about locations, arrangements and sizes from study and co-operation of shop drawings, including Architectural, Structural, Mechanical, and Electrical Drawings and become familiar with conditions and spaces affecting these matters before proceeding with the work. Where job conditions require reasonable changes in indicated locations and arrangements, make changes at no additional cost to the Contract. Install and arrange fixtures and equipment in such a way as to conserve as much headroom and space as possible.

1.10 LINES, LEVELS AND DIMENSIONS

- .1 The Contractor shall, immediately upon entering the project site for purpose of beginning work, locate all general reference points and take such action as is necessary to prevent their destruction; lay out his own work and be responsible for all lines, elevations and measurements of buildings, grading, paving, utilities and other work executed by him under the Contract. Establish lines and levels, locate and layout, by instrumentation. The Contractor must exercise proper precaution to verify figures shown on the Drawings before laying out work and will be held responsible for any error resulting from his failure to exercise such precaution.
- .2 Line and levels are generally as shown on drawings.
- .3 Verify lines, levels and dimensions and report errors or inconsistencies in the drawings to the Consultant before commencing.
- .4 On completion of foundation work, provide and pay for a certified survey (performed by a Registered Land Surveyor) showing dimensions, locations, angles and elevations of work.
- .5 Drawings are, in part, diagrammatic and are provided to convey the design intent and scope of Work, as well as indicate the general and approximate location, arrangement and size of fixtures and equipment. Obtain more accurate information about locations,

arrangements and sizes at the site and become familiar with conditions and spaces affecting these matters before proceeding with Work. Where job conditions require reasonable changes in indicated locations and arrangements, make changes at no additional cost to owner. Similarly, where existing conditions interfere with new installations and require relocation, include such relocation in the Work of this Contract.

1.11 STANDARDS AND DEFINITIONS

- .1 Where a reference is made in the specifications to Standards produced by various organizations, conform to the latest edition of the standard, as amended and revised at date of Contract.

1.12 SUBMITTALS

- .1 Administrative
 - .1 Submit to the Consultant submittals listed for review with reasonable promptness and in an orderly sequence as to not cause delay in the Work.
 - .2 Work affected by submittal shall not proceed until review is complete.
 - .3 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of the Work and Contract Documents.
 - .4 Verify field measurements and affected adjacent Work are coordinated.
 - .5 Organize and track each submittal per instructions in Section 01 33 00 Submittal Procedures.
- .2 Shop Drawings and Product Data
 - .1 "Shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of the Work.
 - .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connection, explanatory notes and other information necessary for completion of Work.
 - .3 Mark-ups done by Consultant are not intended to change Contract Price.
 - .4 Make changes in shop drawings as consultant may require.
 - .5 Submittals intended to illustrate colours and finishes shall be submitted in physical form. Digital submission for colours and finishes will not be reviewed.
 - .6 Electronic submissions of shop drawings are to be emailed to the Consultant Project Manager. Only provide hard copies if requested (3 copies)
 - .7 Electronic submissions of product data sheets or brochures 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
- .3 Samples

- .1 Samples are to be provided in accordance with the specification section. The Consultant has the right to request samples even if not specified within specific sections to further clarify if required.
- .2 Deliver samples prepaid to Consultant's business address.
- .4 Operating Maintenance Manuals
 - .1 Two weeks prior to Substantial Performance of the Work, submit to Consultant, 2 copies of operating and maintenance manual/documentation upon project completion.
 - .2 Manuals to contain operational information on equipment, cleaning and lubrication schedules, filters, overhaul and adjustment schedules and similar maintenance information.
 - .3 Bind contents in a three-ring, hard covered, plastic jacketed binder. Organize contents into applicable categories of work, parallel to specifications Sections.
 - .4 Each binder shall also contain a complete list of contents and a complete list of subcontractors used for this project and shall include phone numbers, addresses and contact personnel. Each section shall be properly partitioned.
 - .5 Maintenance Manuals shall be submitted to the Consultant in electronic and hard copy format; one hard copy in matching 3-ring binders and 2 USB's and they shall contain the following documents:
 - .1 Printed or type-written copies of maintenance procedures where indicated in the specifications.
 - .2 All require warranty and guarantee certificates
 - .3 As-Recorded drawings as required elsewhere in this Section
 - .4 Inspection and Verification Certificates
- .5 Recorded Drawings
 - .1 After award of Contract, Consultant will provide a set of drawings for purpose of maintaining record drawings. Accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by Consultant.
 - .2 Record locations of concealed components of mechanical and electrical services.
 - .3 Identify drawings as "Project Record Copy". Maintain in new condition and make available for review on site by Consultant.
 - .4 On completion of Work and prior to final review, submit record documents to Consultant.
 - .5 Record drawings not submitted on completion of Work will be cause for the Consultant to withhold a retainage amount.
- .6 Progress Reports
 - .1 Supply for distribution a minimum of every 2 weeks a written description of the project status and specific information about the work that will affect the building occupants. Increase the frequency of the submission as necessary to keep the Owners informed. Liaise with Owner's Representative and Consultant with

respect to all issues impacting the building occupants' use of the site and building.

1.13 PROGRESS CLAIMS

- .1 Progress claims submitted for payment during the course of the project shall be based on the cost breakdown in accordance with the Schedule of Value, or modified as requested by the Consultant at the beginning of the project
- .2 Progress claims shall be submitted in duplicate the first week of each month for the Work completed the previous month. Only one claim per month shall be submitted.
- .3 A revised and updated work schedule is to be submitted by the Contractor with each progress claim.

1.14 MEASUREMENTS FOR PAYMENT

- .1 Notify Consultant sufficiently in advance of operations to permit required measurements for payment.

1.15 CONTRACTOR'S USE OF SITE

- .1 Due to occupancy of the existing buildings and grounds, areas of work, storage, and disposal bin location on site will be designated by the Consultant before commencement of Work. The boundaries established thereby shall be strictly observed. Do not unreasonably encumber site with materials or equipment which interfere with the Owner.
- .2 Obtain and pay for use of additional storage or work areas as needed for operations at no additional expense to the Owner.
- .3 When required for Contractor to conduct the Work, close off access to site by placing barricades or posting guards to prevent access to unauthorized personnel. Unauthorized personnel shall mean the public and anyone not directly concerned with the execution, supervision or inspection of the Work.
- .4 Existing or new roofs areas must be protected with plywood or suitable sheet material if they are to be used for the transportation of materials or equipment or excessive traffic. Coordinate use with the Owner.
- .5 Parking of private vehicles for the Contractor's work force are available on site, within area designated by Owner.
- .6 No signs or advertisements of any description, other than notices regarding safety, cautions, and instructions, shall be put around the building or site without the approval of the Consultant.
- .7 The Contractor shall be responsible for care and cleaning of areas within the building that are affected by the Work.
- .8 Washroom Facilities
 - .1 Contractor to provide and maintain washroom facilities for all workers and subtrades. Washrooms inside the building are not to be used by the contractor.
 - .2 Provide adequate portable toilet facilities with weatherproof enclosures, all to the approval of the Department of Health, Municipal Regulations, and the Consultant. These facilities shall be removed and the site left in a neat, clean and sanitary condition upon completion of the work.

- .9 Emergency Contact
 - .1 Provide a 24 hour emergency contact telephone number in the event that an emergency arises as a result of the work being undertaken.
 - .2 Ensure that emergency service has a maximum response time of 3 hours and can accommodate all conditions that may arise from the work including water damage, hoarding, security, mechanical failure, electrical failure, gas service interruption, utility interruption, broken glass and any other related failure.

1.16 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

- .1 Provide construction facilities and temporary controls to execute work efficiently. Remove from site all such work after use.
- .2 Erect hoarding to protect public, workers, public and private property from injury or damage.
- .3 Provide sufficient sanitary facilities for workers in accordance with local health authorities. Maintain in clean condition. Existing facilities, if designated for the Contractor's use, are to be maintained throughout the construction period.
- .4 Provide temporary heating required during construction period, including attendance, maintenance and fuel, at no additional cost to the Owner. Ventilate heated areas and keep building free of exhaust or combustion gases. Provide protection on floors and adjacent surfaces to prevent damage, particularly when refueling
 - .1 Heat, heating equipment, and shelter: Contractor shall provide and maintain, unless otherwise specified, heat and shelter to keep that work which requires protection from cold adequately warm and sheltered from elements, and allow it to be done safely and well.
 - .2 Permanent heating systems of the building may be used during construction, provided all warranties are still provided as of the date of Substantial Completion, proper servicing is maintained, extra precautions are taken to protect the system, the entire system is brought up to an "as new" condition at the time of completion, and all costs are borne by the Contractor. The maintenance program and agreement must be submitted to the Consultant and approval received before using the permanent heating system.
- .5 Provide a continuous supply of potable water for construction use. Arrange for connection with appropriate utility company and pay costs for installation, utility charges, maintenance and removal.
- .6 Arrange for connection with appropriate utility company and pay costs for installation, maintenance and removal of power required during construction.
- .7 Provide and maintain as long as required, an approved temporary building for the Contractor's Office. This Office shall be provided with heat, power, light, and a table for the examination of drawings. Contractor to have a cellular phone on site to allow for communications with Consultant
- .8 Provide and pay for temporary telephone necessary for own use at no additional charge to the Owner.

- .9 Prevent overloading of any part of the building. Do not store or stockpile material or equipment on floors or roofs. Do not cut, drill or sleeve any load-bearing structural member.
 - .1 Do not apply undue loads onto slab of underground garage without obtaining written approval from a registered structural engineer.
- .10 Protect existing Work or Work of other trades from damage. Damaged Work shall be made good by appropriate trades at the expense of the Contractor.
- .11 Provide a fully qualified hoist operator to operate hoist equipment. All trades to make their own financial arrangements with Contractor for use thereof.
- .12 Provide weather tight enclosures to unfinished areas or openings, and all openings in roofs. Take precautions to protect openings made in the building from entry of elements and of persons during the Work and to protect existing structure and finishes from damage as a result of the Work. Work damaged or defaced, due to a failure in providing such protection, is to be removed and replaced, or repaired, as directed by the Consultant at no additional cost to the Owner.
- .13 The Contractor shall provide tarpaulins and/or other coverings for the protection of interior finishes and exterior surfaces adjacent to work areas.
- .14 Drips or smears of bitumen, adhesives, caulking or sealing compounds on adjacent Work, interior finishes, carpet or furniture, shall be removed completely without damage to the building.
- .15 Suitable platforms, wheeling stages and/or plywood shall be provided to protect the roof system from possible damage caused by material and equipment being moved, mounted or stored on the roof system.
- .16 Where security has been reduced by Work of Contract, provide temporary means to maintain security.
- .17 Provide temporary dust screens, barriers and warning signs in locations where renovation and alteration work is adjacent to occupied or "Not in Contract" areas.
- .18 Execution of Work within occupied premises shall cause a minimum interference with the use of the building. Maintain maximum safety to occupants during Work. Take reasonable measures for control of noise and dust. Dust protection measures will be judged by their effectiveness. Any clean-up required is to be completed by the Contractor at no cost to the Owner.
- .19 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .20 Do not operate any equipment or machinery, or undertake any dust generating operations, near or adjacent to air intakes. Provide protection to air intakes as required to prevent the entry of dust or other contaminants into the building or building mechanical systems or those of the surrounding buildings.
- .21 Dispose of rainwater off roofs and away from the buildings until the roof drains, scuppers, eaves troughs and downspouts are installed and connected properly
- .22 Open fires and burning of rubbish are not permitted on the site.

- .23 Protect existing building, curbs, roads and lanes. If, during work, any portion of the building, curbs, roads or lanes are damaged, the damage shall be repaired at no extra expense to the Owner.
- .24 Maintain temporary entrances to Building, including enclosed hoardings if deemed necessary by the Consultant. Bridge temporary excavation with materials and construction to safely support any load that could be imposed. Co-ordinate access to existing building with Owner.
- .25 At commencement of work protect all fences, trees, shrubs, and landscape elements from incidental damage as required.
- .26 Interior Protection (if required):
 - .1 Undertake a pre-construction survey of interior prior to undertaking any work. Record all observations in writing or by photographic or video record and notify the Consultant in writing of any pre-existing conditions prior to commencing work.
 - .2 While working inside, all workmen must, at all times, wear either clean footwear used only for interior work or clean footwear guards
 - .3 All traffic paths shall be protected by canvas drop cloths and protection of the floors must be maintained at all times. Remove the traffic paths and clean areas at the end of each working day.
 - .4 Repair any interior damage caused by the work.
- .27 Dewatering trenches and building from damage by rainwater, ground water, backing up of drains or sewers, and other water, frost and other weather conditions. Provide sheeting, piling, shoring, pumps, equipment, temporary drainage and enclosures required for this protection. Provide necessary pumps including spare pump for keeping project free of water throughout construction period. Pump water to existing sewers by adequate means

1.17 SCAFFOLDING

- .1 Erect scaffolding independent of walls. Use it in such a manner as to interfere as little as possible with other trades. When not in use, it shall be movable to permit installation of other work. Construct and maintain scaffolding in a rigid, secure, and safe manner. Remove it promptly when no longer required

1.18 CONCEALMENT OF PIPES, DUCTS, TUBING AND WIRING

- .1 Pipes, ducts, tubing and wiring shall be concealed in the floor, wall and ceiling construction of finished areas except where indicated otherwise.

1.19 PROJECT MEETINGS

- .1 A start-up meeting will be held prior to commencement of Work and at a suitable time and location, as approved by Consultant.
- .2 The Contractor will schedule and administer project progress meetings at least every two weeks. The Contractor shall assume responsibility for recording and distributing minutes within 3 working days following the meeting. The minutes shall indicate actions to be taken, and by which party.
- .3 The Contractor shall notify all parties concerned of the time and place of the meetings.

1.20 CODES AND STANDARDS

- .1 The Specifications are not intended as a detailed description of installation methods, but do indicate particular requirements in the completed Work.
- .2 Conform to the local Building By-Law, together with all its related supplements, hereinafter referred to as the "Code" or "code". Where Drawings and Specifications exceed the requirements of the code requirements, provide such additional requirements
- .3 Where a material is designated on Drawings or in the Specifications for a certain application, unless otherwise specified, that material shall conform to standards designated in the applicable Code. Similarly, unless otherwise specified, installation methods and standards of workmanship shall also conform to standards invoked by the aforementioned code.
- .4 Where reference is made to a specification/code/standard, conform to the latest edition of the specification/code/standard, as amended, as of the date of the Contract

1.21 QUALITY CONTROL

- .1 Work will be reviewed by the Consultant to evaluate general conformance with the contract documents. The Contractor is responsible to maintain quality control over all aspects of the Work.
- .2 Review and testing are specified as precautions against oversight or errors in the performance of the Contract. These precautions do not in any way relieve the Contractor of his responsibility to perform the Work in conformance with the Contract Documents.
- .3 The Owner and the Consultant shall have unlimited access to all Work at any time requested. If parts of the Work are in preparation at locations other than the Place of the Work, access shall be given to such Work whenever it is in progress.
- .4 Give forty-eight (48) hours notice requesting review if Work is designated for review or approvals by the Consultant.
- .5 If the Contractor covers or permits to be covered Work that has been designated for special tests, review, or approvals before such is made, the Contractor must, at its own expense, uncover the Work, have the Work reviewed or tests satisfactorily completed and make good all Work.
- .6 The Consultant may order any part of the Work to be reviewed if such Work is suspected to be not in accordance with the Contract Documents. The Contractor shall be responsible for the cost of examination, replacement or repair.
- .7 Remove defective Work, whether the result of poor workmanship, use of defective products or damage and whether incorporated in the Work or not, which has been rejected by the Consultant as failing to conform to the Contract Documents. Replace or re-execute in accordance with the Contract Documents.
- .8 Make good other Contractor's Work damaged by such removals or replacements promptly.

1.22 MOCK-UPS

- .1 Prepare mock-ups as requested by the Consultant and where mock-ups are required by the specifications herein.
- .2 Construct in locations as directed by the Consultant

- .3 Prepare mock-ups for Consultant review with reasonable promptness and in an orderly sequence, so as not to cause any delay in the Work.
- .4 Failure to prepare mock-ups 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 Remove mock-ups at conclusion of Work or when acceptable to Consultant.
- .6 The approved mock-up may form part of the completed contract Work at the discretion of the Consultant

1.23 LOCATION OF EQUIPMENT AND FIXTURES

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate. Coordination between complete drawing set.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Consultant of impending installation and obtain his approval for actual location.
- .4 Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.
- .5 All electrical work to be completed by a licensed contractor certified to work the voltage ratings. Acquisition of the necessary permits is the responsibility of the electrical contractor.
- .6 All vents and vent terminations for natural gas or propane fire appliances removed during repairs must be replaced by a licensed gas fitter employed by a registered gas contractor. The installation of gas appliance is to be in accordance with Document MA00188SA "Reinstallation of Gas Appliance Vents - Update" by the Ministry of Municipal Affairs and as amended by any later regulations.

1.24 ADDITIONAL DRAWINGS

- .1 Consultant may furnish additional drawings to assist proper execution of Work. These drawings will be issued for clarification only. Such drawings shall have same meaning and intent as if they were included in Contract documents

1.25 CUTTING AND PATCHING

- .1 Submit written request in advance of cutting or alteration which affects the integrity of structural elements, weather-exposed or moisture resistant elements, visual qualities of sight-exposed elements, or Work of the Owner or separate Contractors
- .2 Inspect existing conditions, including elements subject to damage or movement during cutting and patching. After uncovering, inspect conditions affecting performance of the Work. Beginning of cutting or patching means acceptance of existing conditions.
- .3 Perform cutting, fitting, and patching as necessary to complete the Work. Provide openings in non-structural elements for penetrations of mechanical and electrical Work. Prepare proper surfaces to receive patching and finishing. Restore Work with new products in accordance with the Contract Documents or to match existing.

- .4 At penetration of fire-rated wall, ceiling, or floor construction, completely seal voids with fire rated material for full thickness of construction element
- .5 Cut rigid materials using power saw or core drill. Pneumatic or impact tools not allowed.
- .6 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .7 Refinish surfaces to match adjacent finishes; for continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

1.26 MATERIALS AND EQUIPMENT

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of the best quality for the purpose intended. If requested, supply evidence as to type, source and quality of products provided. Should any dispute arise as to quality or fitness of items incorporated in the Work, decision rests strictly with the Consultant based upon requirements of the Contract Documents
- .2 Defective products will be rejected, regardless of previous inspections and/or reviews. Inspections and reviews do not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Provide and maintain, in a clean and orderly condition, lockable weatherproof trailers for storage of tools, equipment and materials.
- .4 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause the least interference with work activities.
- .5 Should any dispute arise as to quality or fitness of products, decision rests strictly with Consultant based upon requirements of Contract Documents.
- .6 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Consultant to require removal and re-installation at no increase in Contract Price.
- .7 Where a material is specified and work is to be done in accordance with the manufacturer's specifications, said specifications shall be as issued by the manufacturer(s) at the date of signing the Contract. The Contractor is to be responsible for making themselves acquainted with these specifications, and they shall become a part of the Specifications for this work, with the same force as though printed in full in the Contract Specifications.
- .8 All materials must be shipped prepaid and consigned to the Contractor or sub-contractor. All materials shall be delivered to the building site at the Contractor's expense. The Contractor must be responsible for the transporting of all materials to and from the work.
- .9 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .10 Notify the Consultant in writing of any conflict between these specifications and the manufacturer's instructions. The Consultant will designate which document is to be followed.
- .11 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact. Store material and equipment in accordance with supplier's instructions.

- .12 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
- .13 Touch-up damaged factory finished surfaces to the Consultant's satisfaction. Use primer or enamel to match original. Do not paint over name plates.

1.27 PROTECTION

- .1 Take reasonable and required measures, including those required by authorities having jurisdiction, to protect public and private property from damage. Make full restitution for such harm and damage resulting from failure to take adequate protective measures. Make good damage resulting from failure to take adequate protective measures. Make good damage from whatever cause. Comply with requirements of Construction Safety Act, latest issue.
- .2 Provide safety helmets for Consultant, Owner and any other authorized visitors to the site if required
- .3 Provide guard rails, barriers, and pavement protection as required for protection of public and private property, and as required by law and by authorities having jurisdiction. Erect sturdy railings around shafts, stairwells, and the like to protect workmen and public from injury. Alter, remove and relocate or replace as required, hoardings, barriers, and entrances therein as required by authorities having jurisdiction, and by the Work.
- .4 Provide and maintain guard lights at barricades, railings, obstructions, in streets, roads or sidewalks and at trenches or pits adjacent to public walks or roads.
- .5 Take all necessary precautions to guard site, premises, materials and the public at times other than when supervised work is in progress.
- .6 Provide and maintain in working order, suitable, Underwriter's labelled fire extinguishers and locate in prominent positions, to the approval of authorities having jurisdiction.
- .7 Completely protect all trees existing on adjacent properties except where specified otherwise, indicated otherwise on the Drawings, or instructed otherwise by the Consultant. Protect roots during excavation and grading so that they receive the minimum possible disturbance and damage.
- .8 During the progress of the Work, the Contractor shall be held responsible for full and complete protection of all portions of the building and their contents. Any damage caused by failure of the performance of these requirements must be made good by the Contractor at his own expense to the entire satisfaction of the Owner and the Consultant.

1.28 REMOVED MATERIALS

- .1 Except as expressly stated otherwise, material indicated for removal becomes the property of the Contractor and shall be taken from the site. Material removed from the site shall be disposed of in accordance with all Federal, Provincial and Municipal regulations.

1.29 WORKMANSHIP

- .1 Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Consultant if required Work is such as to make it impractical to produce required results.

- .2 Do not employ any unfit person or anyone unskilled in their required duties. the Owner and the Consultant, reserve the right to require the dismissal from the site any worker(s) deemed incompetent, careless or insubordinate
- .3 Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with the Consultant, whose decision is final.
- .4 Furnish all labour, materials and equipment to complete the Work as described. "Work as described" includes all incidental items that by implication, good trade practice, or customary usage, are required to complete the Work, even though they may not be specifically mentioned or shown.

1.30 PUBLIC UTILITIES

- .1 Notify Public Utilities and obtain locations of utilities prior to excavation.

1.31 CLEANING

- .1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining Work.
- .2 At least once per day, remove accumulations of waste material and debris. Provide a waste container and remove waste materials and debris from the site at regularly scheduled times or dispose of as directed by the Consultant. Cost for removal and disposal of waste material shall be included in the Contract Price.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Remove dirt and dust, clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, mechanical, electrical fixtures and interior and exterior surfaces. Vacuum carpets. Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer. As directed by the Consultant, replace or repair broken, scratched, stained or disfigured building elements.
- .5 Clean roofs, gutters, downspouts, and drainage systems upon completion of the Work.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .8 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly repaired surfaces nor contaminate building systems.
- .9 Broom clean paved surfaces, rake clean other surfaces of grounds as directed by the Owner or the Consultant.
- .10 Make good any damage to the landscaping, sodding and flower beds outside the area of Work damaged by the Contractor's equipment, materials or his work force.
- .11 Clean interior areas prior to start of the interior finishing work, maintain areas free of dust and other contaminants during finishing operations.
- .12 Clean the inside of all windows affected by or adjacent to work at the completion of interior repairs.

- .13 Clean the outside of all windows immediately after the completion of the exterior work.
- .14 Wax, seal or prepare floor finishes, as recommended by the manufacturer. Co-ordinate final application of wax and sealers with Owner's maintenance staff. Supply listing of products and instructions.
- .15 Final cleaning requirements beyond the "broom clean" requirement noted in this sub-section is to be performed by the General Contractor's cleaning contractor. All co-ordination and charges shall be the responsibility of the General Contractor. The complete building shall be cleaned to highest standard, to allow the Owner to occupy the building without further cleaning by Owner's staff.

1.32 DOCUMENTS UPON SUBSTANTIAL COMPLETION

- .1 Prior to applying for Substantial Completion, carefully inspect the Work and ensure it is substantially complete.
- .2 Following the date of Substantial Completion, the Contractor is to provide warranties fully executed and notarized.
- .3 Submit a final statement of accounting, giving total adjusted Contract Price, previous payments, and monies remaining due.
- .4 Provide a statutory declaration that all sub trades and suppliers have been compensated for materials and labour.
- .5 Submit certificate of good standing from the Workers' Compensation Board.
- .6 Comply with the requirements of the Construction Act. The 60 day lien period shall commence upon the date of Substantial Completion as certified by the Consultant.

1.33 TAKEOVER PROCEDURES

- .1 Notify the Consultant, in writing, of satisfactory completion of the Work and request for the final review.
- .2 The Contractor and all sub-contractors shall conduct an inspection of the work, identify deficiencies and defects; repair as required. Notify the Consultant in writing of satisfactory completion of the Contractor's Inspection and that corrections have been made. Request a Consultant's Review. Provide a written copy of the Contractor's deficiency report with the request for the Consultant's Review.
- .3 The Consultants together with the Owner and the Contractor will perform a review of the work to identify obvious defects or deficiencies. The Contractor shall correct work accordingly.

END OF SECTION

Section 01 11 00 Summary of Work

Part 1 General

1.1 SECTION INCLUDES

- .1 Documents and terminology.
- .2 Associated requirements.
- .3 Work expectations.
- .4 Work by other parties.
- .5 Occupancy and premises usage.

1.2 RELATED REQUIREMENTS

- .1 Section 01 21 00 - Allowances.
- .2 Section 01 78 00 - Closeout Submittals.
- .3 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 RELATED DOCUMENTS

- .1 Section 00 52 00 - Agreement Forms.
- .2 Section 00 71 00 - Contracting Definitions.
- .3 Section 00 73 00 - Supplementary Conditions.
- .4 All other Division 01 specification sections.
- .5 Division 01 sections describe requirements applicable to all Sections within Divisions 02 to 49 inclusive.

1.4 WORDS AND TERMS

- .1 Refer to and acknowledge other words, terms, and definitions in CCDC 2 Definitions. Additional words and terms are cited in Section 00 71 00.

1.5 COMPLEMENTARY DOCUMENTS

- .1 Drawings, specifications, and schedules are complementary each to the other and what is called for by one to be binding as if called for by all. Should any discrepancy appear between documents that leave doubt as to the intent or meaning, abide by priority of documents established in the General Conditions or obtain direction from the Consultant.
- .2 Drawings indicate general location and route of building services. Install building services not shown or indicated diagrammatically in schematic or riser diagrams to provide an operational assembly or system.
- .3 Examine all discipline drawings, specifications, and schedules and related Work to ensure that Work can be satisfactorily executed. Conflicts or additional work beyond work described to be brought to attention of Consultant.

1.6 DESCRIPTION OF THE WORK

- .1 Work of this Contract comprises demolition, and general construction of a new rink slab and refrigeration upgrades, located at 3310 Walnut St, Alvinston, ON N0N 1A0, Canada; and identified as Brooke-Alvinston-Inwood Community Centre Complex.
- .2 Division of the Work among Subcontractors, suppliers/vendors, and other contractors is solely the Contractor's responsibility. Neither the Owner nor Consultant assumes any responsibility to act as an arbiter to establish subcontract terms between sectors or disciplines of work.

1.7 CONSTRUCTION SCHEDULE

- .1 Separate from the requirements of the Bid Submission, submit a detailed construction schedule within ten (10) working days of notification of bid acceptance, for approval.
- .2 Correct, revise, update, and otherwise maintain schedule during progress of construction. Supply each corrected, revised and updated schedule to Owner, Consultant, and Subcontractors. Include the Critical Path.
- .3 Prepare schedule as indicated in Section 01 33 00, Submittal Procedures.
- .4 Work on site is to commence immediately such that Substantial Performance of the Work is achieved for Owner occupancy before the date noted in Section 1.8
- .5 Total completion to be achieved before or on the date noted in Section 1.9

1.8 PERFORMANCE OF THE WORK

- .1 Substantial Performance of the Work is required before August 12, 2026.
- .2 Substantial Performance of the Work is required at the following milestone dates:
 - .1 Rink Slab Pour: Before June 19, 2026.
 - .2 Refrigeration Installation / Commissioning: Before July 31, 2026.
- .3 Refer to Supplemental Conditions 00 73 00 for liquidating damages (GC 6.5)

1.9 READY-FOR-TAKEOVER

- .1 Ready-for-Takeover is required for Owner occupancy before Sept 3, 2026.
 - .1 Refer to Supplemental Conditions 00 73 00 for liquidating damages (GC 6.5)
- .2 Perform all prerequisite activities identified in the General Conditions, including a list of incomplete items, before applying for Ready-for-Takeover.

1.10 WORK SEQUENCE

- .1 Construct Work in to accommodate Owner's usage requirements during the construction period, coordinate construction schedule and operations with Consultant.
- .2 Coordinate Progress Schedule and with Owner use during construction.
- .3 Maintain fire access and control of fire protection equipment.

1.11 CONTRACT METHOD

- .1 Construct Work under single, stipulated price contract.

- .2 Relations and responsibilities are between the Contractor and the Owner.
- .3 Provide the required bonds and liability insurance to ensure such specified assurances to the Owner.
- .4 Assigned Subcontractors are required to provide requested bonds covering faithful performance of subcontracted work, to the Owner plus payment of related obligations.
- .5 Refer to Section 01 21 00 for cash allowance amounts applicable to assignable contracts.
- .6 Assume responsibility for assigned contracts as Subcontracts forming part of the Work.
- .7 Contract Documents were prepared by the Consultant for the Owner. 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, suffered by any third party as a result of decisions made or actions based on the Contract Documents.
- .8 For purposes of reference in these Contract Documents, the term "Contractor" shall mean the party in contract with the Owner.

1.12 DOCUMENTS AT THE SITE

- .1 The contractor shall keep one copy of current Contract Documents, submittals, reports, and records of meetings at the place of work, in good order and available to the Owner and the Consultant.

1.13 SPECIFICATIONS

- .1 Division 01, General Requirements, of the Specifications generally specifies work and coordination that is the direct responsibility of the Contractor, but should not be interpreted to define absolutely the limits of responsibility that must be established between the Contractor and his Subcontractors.
- .2 Ensure that Subcontractors understand that the General Conditions of the Contract, Supplementary Conditions, and Division 01, General Requirements, apply to all sections of the Specifications governing their work.
- .3 Work in these Specifications is divided into descriptive sections which are not intended to identify absolute contractual limits between Subcontractors, nor between the Contractor and his Subcontractors. The Contractor shall organize division of labour and supply of materials essential to complete the Project in all its parts and provide a total enclosure and protection from weather of interior spaces, as established in the General Conditions of the Contract.
- .4 Wherever in the Contract Documents the words "approval", "approved", "direction", "directed", "selection", "selected", "request", "requested", "report", and similar words are used, such approvals, directions, selections, requests and reports shall be given by the Consultant.
- .5 Wherever in the Contract Documents the word "provide" is used in any form, it shall mean that the work concerned shall include both supply and installation of the products required for completion of specified work to which reference is made.
- .6 Wherever in the Contract Documents the word "include" is used in any form, the items of Work listed following shall not be interpreted to be restricted to only those items that are listed.

- .7 Wherever in the Contract Documents the words "indicated" or "shown" are used they shall apply as meaning "indicated on Drawings and/or Schedules" or "shown on Drawings and/or Schedules" unless the context expresses another meaning.
- .8 Wherever in these specifications it is specified that work to which reference is made shall proceed or shall meet approval, direction, selection or request of jurisdictional authorities or others, such approval, direction, selection or request shall be in writing.
- .9 Wherever in these specifications it is specified that work shall be repaired, made good or replaced, it shall be performed without any additional cost to the Owner
- .10 Wherever in the Contract Documents the term "exposed to view" is used it shall refer to surfaces that are within the line of vision of persons from any accessible viewpoint, both within and without the building. Where any part of a surface is exposed to view, all other portions of that surface shall also be considered as exposed to view.

1.14 DIVISION 00 AND 01, GENERAL REQUIRMENTS

- .1 The provisions of all Division 00 and Division 01 and all sections contained therein shall apply to each Section of Divisions 02 to 50, inclusive, which form a part of the specifications for this Project.

1.15 DRAWINGS

- .1 Drawings indicate scope of the Work and the general and approximate location, arrangement and size of fixtures, equipment, ducts, piping, conduit and outlets. The Contractor will determine accurate locations, arrangements and sizes by study and coordination of architectural, structural, mechanical, electric and equipment drawings and shop drawings. Before proceeding with the Work, ensure that spaces and arrangements which affect installations are adequate and coordinated

1.16 DOCUMENTS PROVIDED

- .1 Owner will supply the Contractor with:
 - .1 Electronic documents, in electronically delivered Adobe PDF formats.
 - .2 Electronic documents: Access to storage in a designated project Common Data Environment (CDE) platform.
 - .3 Paper documents: three 3sets of Contract Documents for construction purposes, which includes two (2)sets for record "as-built" purposes. The Contractor may obtain additional sets of Contract Documents at the cost of printing, handling and shipping.
- .2 An electronic set of documents will be provided near the end of the Project for purposes of transferring changed information recorded on as-built documents to the electronic Record Documents.

1.17 WORK PERFORMED UNDER SEPARATE CONTRACTS

- .1 Work which is not to be included in this Contract and/or noted as "N.I.C." on the Drawings shall be governed by Amendments to CCDC 2-2020 GC 3.2 herein.
- .2 Work which may be performed under separate contracts or by Owner and which will affect the work of the Contract include:
 - .1 The supply and installation of loose furniture.

- .2 I.T. Equipment (including patch cables).
- .3 Hydro Upgrade

1.18 OWNER-SUPPLIED PRODUCTS

- .1 Obtain the necessary Shop Drawings from the Owner and proceed to coordinate details for installation, expedite, receive, unload, install, connect and test the specified equipment, and be responsible for warranty.
- .2 Equipment specifications for pre-purchased items are included at the end of the project specification, printed on blue paper for confirmation only.
- .3 Receive Owner-supplied Products and equipment F.O.B. and store and process Products and equipment until installation.
- .4 Owner Responsibilities:
 - .1 Arrange for delivery of shop drawings, product data, samples, manufacturer's instructions, and certificates to Project Manager.
 - .2 Deliver supplier's bill of materials to Project Manager.
 - .3 Arrange and pay for delivery to the Place of the Work in accordance with Progress Schedule.
 - .4 Inspect deliveries jointly with 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.
- .5 Contractor Responsibilities:
 - .1 Designate submittals and delivery date for each Product in progress schedule.
 - .2 Review shop drawings, product data, samples, 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 Products at site.
 - .4 Inspect deliveries jointly with Owner; record shortages, and damaged or defective items.
 - .5 Handle Products at site, including uncrating and storage.
 - .6 Protect Products from damage, and from exposure to elements.
 - .7 Assemble, install, connect, adjust, and finish Products.
 - .8 Arrange for installation inspections required by public authorities.
 - .9 Repair or replace items damaged by Contractor or Subcontractor on site (under their control).

1.19 CONTRACTOR USE OF PREMISES

- .1 Contractor has unrestricted use of site until Substantial Performance of the Work.

- .2 Limit use of site and premises to allow:
 - .1 Owner and public occupancy.
 - .2 Work by Others.
 - .3 Use of site and premises by the public.
- .3 Emergency Building Exits During Construction: Limited to occupied areas.
- .4 Construction Operations: Limited to areas noted on Drawings.
- .5 Time Restrictions for Performing Exterior & Interior Work: 7-5.
- .6 Utility Outages and Shutdown: to Coordinate with Consultant.

1.20 OWNER OCCUPANCY

- .1 Owner will occupy premises during entire construction period for execution of normal operations.
 - .1 The Owner reserves the right to occupy and use portions of the premises, whether partially or entirely completed, or whether completed on schedule or not, provided such occupancy does not interfere with the Contractor's continuing work.
 - .2 Partial occupancy or installation by the Owner of his equipment shall not imply acceptance of the Work in whole, or in part, nor shall it imply acknowledgment that terms of the Agreement are fulfilled.
 - .3 The Contractor shall not be entitled to indemnity for interference with performance of the Work due to Owner's occupancy of areas of Project prior to Total Performance but after date of Substantial Performance.
- .2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
- .3 Maintain fire and life safety systems and public access to exits during all stages of the Work.

1.21 PARTIAL OWNER OCCUPANCY

- .1 Schedule and substantially complete designated portions of Work for Owner's occupancy prior to Ready-for-Takeover.
 - .1
- .2 Owner will occupy designated areas for purpose of storage of furnishings and equipment & installation of equipment.
- .3 Execute Certificate of Ready-for-Takeover of the Work for each designated portion of Work prior to Owner occupancy. Project Manager shall allow:
 - .1 Access for Owner personnel.
 - .2 Use of parking facilities.
 - .3 Operation of communications and electrical systems.
- .4 On occupancy, Owner will provide for occupied areas:
 - .1 Operation of communication and electrical systems.

- .2 Maintenance.
- .3 Security.
- .5 Maintain fire and life safety systems and public access to exit to be maintained during all stages of the Work.

1.22 LIST OF MATERIALS AND MANUFACTURERS

- .1 Upon award of the Contract, the Contractor shall within fifteen (15) days submit to the Consultant a complete list of materials together with quality descriptions, manufacturers and the names of Sub-Contractors responsible for installation and delivery dates.
- .2 Such list must verify compliance with Specifications.
- .3 Materials not complying with Specifications will not be accepted

1.23 EXAMINATION

- .1 Site: Examine the site and ensure that each Section performing work related to site conditions has examined it, so that all are fully informed on all particulars which affect Project Work.
- .2 Ensure by examination that all physical features at the Work, and working restrictions and limitations which exist are known, so that the Owner is not restricted in his use of the premises for their needs.
- .3 Previously Completed Work:
 - .1 Where dimensions are required for proper fabrication, verify dimensions of completed work in place before fabrication and installation of work to be incorporated with it.
 - .2 Verify that previously executed work and surfaces are satisfactory for installation or application, or both and that performance of subsequent work will not be adversely affected.
 - .3 Ensure that work installed in an unsatisfactory manner is corrected by those responsible for its installation before further work proceeds.
 - .4 Rejected work resulting from application to, or installation on, or incorporation with, unsatisfactory previous work will be considered the responsibility of those performing the later work.
- .4 Construction Measurements:
 - .1 Before commencing installation of work, verify that the layout is accurate in accordance with intent of Drawings, and that positions, levels, and clearances to adjacent work are maintained.
 - .2 Before commencing any work, verify that all clearances required by jurisdictional authorities can be maintained.
 - .3 If work is installed in wrong location, correct it before construction continues.
- .5 Existing Photographs:
 - .1 Prior to the commencement of the work, prepare a photographic record of both the interior and exterior spaces that clearly demonstrate the existing conditions.

1.24 PROTECTION OF WORK, PROPERTY AND PERSONS

- .1 Provide necessary methods, materials, and construction to ensure that no damage or harm to work, materials, property and persons results from the Work of this Contract. Temporary facilities relating to protection are specified in Section 01 53 00, Temporary Construction.
- .2 Protect excavated areas from damage by frost, and water from natural sources and from backed up drain lines and sewers.
- .3 Keep excavations, basements, and pits free of water. Pump dry as required.
- .4 Protect building from damage by water and exposure to weather. Remove snow and ice immediately from interior of building.
- .5 Protect adjacent private and public property from damage and, if damaged, make good to match in all details. Re-sod and replant damaged lawns and planting to its original condition, except in areas designated to receive landscaping under this Contract or other contract.
- .6 Keep surfaces, on which finish materials will be applied, free from grease, oil, and other contamination which would be detrimental in any way to the application of finish materials
- .7 Protect glass and other finishes against heat, slag and weld spatter by provision of adequate shielding.
- .8 Do not permit strippable tape or coatings to become baked on surfaces which they protect.
- .9 Do not apply visible markings to surfaces exposed to view in finished state or that receive transparent finishes.
- .10 Protect existing surfaces and surfaces of completed work exposed to view from staining, disfigurement and all other damage by restriction of access or by use of physical means suitable to the material and surface location. Establish with each Subcontractor the suitability of such protection in each case.
- .11 Schedule finish work at end of construction when interference from tradesmen is at a minimum.
- .12 Brace and shore masonry walls until their designed lateral support is incorporated at both top and bottom. Do not permit backfilling at masonry walls below grade until floor systems are installed and lateral bracing is thus achieved.
- .13 Enforce fire prevention methods at site. Do not permit bonfires, open flame heating devices or accumulation of debris. Use flammable materials only if proper safety precautions are taken, both in use and storage.
- .14 Provide and maintain in working order, suitable U.L.C. labelled fire extinguishers and locate them in prominent locations and to approval of jurisdictional authorities.
- .15 Do not store flammable materials in the building. Take necessary measures to prevent spontaneous combustion. Place cloths and other disposable materials that are a fire hazard in closed metal containers and remove them from the building every night.
- .16 Where flammable materials are being applied, ensure that adequate ventilation is provided, spark-proof equipment is used, and smoking and open flames are prohibited.

- .17 Ensure that volatile fluid wastes are not disposed of in storm or sanitary sewers or in open drain courses
- .18 Public Utilities and Services:
 - .1 Verify location of and limitations imposed by, existing mechanical, electrical, telephone and similar services, and protect them from damage. If necessary, relocate active services to ensure that they function continuously in safety and without risk of damage.
 - .2 Cap off and remove unused utility services encountered during work after approval is given by the utilities concerned or jurisdictional authorities, whichever may apply. Relocation, removal, protection and capping of existing utility services shall be performed only by the applicable utility, and of other services by licensed mechanics.
 - .3 Coordinate the capping off, removal and re-connection of a utility with the utility concerned, and make payment for costs involved
- .19 Ensure that precautions are taken to prevent leakage and spillage from plumbing and mechanical work that may damage surfaces and materials.
- .20 Give constant close supervision to roofing and/or waterproofing membranes following their installation, during the time they are temporarily protected or exposed, to ensure that no damage occurs to them before completion of building. Protect especially against damage from traffic or work performed on top of completed roofing when temperature is over 27°C (85°F).
- .21 Ensure that physical protection and barriers to prevent traffic are installed for waterproofing membranes. Provide barricades or guards to prevent traffic over horizontal membranes until permanent protection is provided. Inspect membranes with waterproofing Subcontractor before they are finally covered.
- .22 Floors:
 - .1 Keep trowelled concrete floors free from oils, grease or other materials likely to damage them, discolour them or affect bond of applied finishes. Keep floors as dry as possible.
 - .2 To prevent soiling or damage to finish flooring where pedestrian traffic occurs after the flooring has been installed, install and maintain 0.152 mm (6 mil) polyethylene membrane or reinforced kraft paper temporary protection, secured in place and with joints sealed by reinforced pressure sensitive tape
 - .3 Install plywood panels of minimum 6 mm (¼") thickness over completed finish flooring materials on which further construction work is performed or delivery of products is made, or both. Seal joints between panels with reinforced pressure sensitive tape.
- .23 Protect metal deck on which construction personnel work, and on which materials are stored, with substantial planking.
- .24 Prevent spread of dust, dirt and other such materials beyond the construction site by wetting, or by other approved means, as it accumulates
- .25 Provide safety helmets to loan to visitors to the site.

1.25 FASTENINGS

- .1 Include in the work of each Section necessary fastenings, anchors, inserts, attachment accessories, and adhesives. Where installation of devices is in work of other Sections, deliver devices in ample time for installation, locate devices for other Sections and cooperate with other Sections as they require.
- .2 Do not install fiber, plastic or wood plugs or blocking for fastenings in masonry, concrete, or metal construction, unless specified or indicated on Drawings.
- .3 Do not use fastenings which cause spalling or cracking of materials in which installed.
- .4 Do not use powder actuated fastening devices which are stressed in withdrawal on any part of this work without written approval of the Consultant. Take particularly stringent safety precautions when using powder actuated fastenings. Devices and use must comply with CSA A166-1961 "Safety Code for Explosive Actuated Tools" and latest amendment. Only low velocity plunger-type devices are permitted.
- .5 Use only approved driven fasteners
- .6 Expansion Bolts:
 - .1 Whenever expansion type fastening devices of any kind which rely upon friction forces created by expansion of the device in concrete or masonry are to be used, submit following data to Consultant for review:
 - .1 load carrying capacity of device
 - .2 nature and magnitude of force to be applied to device with supporting data
 - .3 materials to which device is fastened
 - .4 whether device is self-drilling or, if not, the size of bit to be used to drill holes to receive the device
 - .5 installation procedure to ensure that fastener is secure and reliable and that metal reinforcing is not damaged.

The Consultant may request that all such data bear the seal of a professional structural engineer licensed to practice at the location of the Work.
 - .2 If requested by the Consultant, conduct on-site tests of installed fasteners using an approved independent testing company with properly designed and calibrated force measuring apparatus. Costs for such testing shall be borne by the Owner.
- .7 Install metal-to-metal fastenings fabricated of the same metal, or of a metal which will not set up electrolytic action causing damage to fastenings or components, or both. Use noncorrosive or hot dip galvanized steel fastenings for exterior work, and where attached to, or contained within, exterior walls and slabs, unless stainless steel or other material is specifically requested in the affected specification Section. Leave steel anchors bare where cast in concrete.
- .8 Install work with fastenings or adhesives in sufficient quantity to ensure permanent secure anchorage of materials, construction, components, and equipment. Space anchors within limits of load-bearing or shear capacity.

- .9 Space exposed fastenings evenly and in an organized pattern. Keep number to a minimum. Provide exposed fastenings and accessories in same material, texture, colour and finish as adjacent materials on which they occur, unless indicated otherwise.

1.26 LIGHTING FIXTURES AT SUSPENDED CEILINGS

- .1 Ensure that secure support for lighting fixtures is provided by suspended ceilings, or by separate hangers, or by both.
- .2 Coordinate the ceiling system and lighting fixture installations to provide adequate support.
- .3 Submit affidavits with acceptable design information confirming that the installation of the suspended ceiling system and/or separate fixture hangers provided by the lighting fixture installer will provide adequate support for the lighting fixtures without exceeding specified deflection tolerances for the ceiling system.
- .4 Conform to current requirements of the Electrical Inspection Department of Ontario Hydro.

1.27 DIELECTRIC SEPARATION

- .1 Ensure that a dielectric separator approved by the Consultant is provided in a permanent manner over entire contact surfaces to prevent electrolytic action (galvanic corrosion) between dissimilar metals. Similarly, prevent corrosion to aluminum in contact with alkaline materials such as contained in concrete, masonry and like construction.

1.28 EMBEDDED CONDUIT, PIPE AND SLEEVES

- .1 Slabs on Grade:
 - .1 Conduits or pipes embedded in concrete slabs on grade shall not be larger in outside diameter than 1/3 the thickness of the slab, and shall have minimum 50 mm (2") concrete cover to finished surface.
 - .2 Where crossovers occur, one conduit or pipe shall be depressed to pass under the other and sub-grade depressed to increase the slab thickness locally.
 - .3 Parallel conduits or pipes shall not be closer than three diameters center to center.
 - .4 For conduits greater than 1/3 slab thickness, depress sub-grade to maintain minimum 50 mm (2") concrete above and below conduit, extend coverage 150 mm (6") minimum each side of conduit.
- .2 Suspended Slabs, Beams or Walls:
 - .1 Sleeves, conduits and pipes which pass through suspended slabs, beams or walls, shall be in approved locations which do not impair strength of construction. Space them at not less than 3 diameter o.c.
 - .2 Conduits or other pipes which are continuously embedded in concrete slabs or walls, shall be installed in center of slab or wall, shall have a maximum outside diameter of 50 mm (2"), and shall, in parallel installation, be not less than 150 mm (6") on centers. A maximum of 6 such conduits shall be run in any bay of slab or wall. Crossovers shall not be permitted within slab or wall thickness unless the crossing conduits can remain within the mid third of slab or wall

thickness. No conduit other than light (19 mm (¾") OD maximum) shall be embedded in suspended slabs or walls thinner than 150 mm (6").

1.29 THERMAL EXPANSION AND CONTRACTION

- .1 Conform to manufacturer's recommended installation temperatures. If finishes such as tile, resilient flooring, stone, etc. are installed at temperatures different from operation of service temperatures, make provision for expansion and contraction in service as approved by Consultant. Repair all resulting damage should expansion provisions prove inadequate.

1.30 FINISHES, APPEARANCE

- .1 Exposed surfaces shall be finished to approval of Consultant. Colour, tone, texture, grain, pattern, smoothness, flatness, evenness, transparency and translucency matching and appearance of elements in finished surface and of surface shall be to Consultant's approval.

1.31 CLEANING DURING CONSTRUCTION

- .1 The General Contractor will be responsible to keep the site clean during construction to meet the requirements listed below.
- .2 Ensure that spatters, droppings, soil, labels, and debris are removed from surfaces to receive finishes, before they set up. Leave work and adjacent finished work in new condition.
- .3 Use only cleaning materials which are recommended for the purpose by both the manufacturer of the surface to be cleaned and of the cleaning material.
- .4 Maintain premises "broom clean" at all times. Vacuum clean interior areas immediately before finish painting commences.
- .5 Do not burn or bury waste material at site. Remove as often as required to avoid accumulation.
- .6 Do not allow waste material and debris to accumulate in an unsightly or hazardous manner. Sprinkle dusty accumulations with water. Provide containers in which to collect waste material and debris
- .7 Control lowering of materials. Use as few handlings as possible. Do not drop or throw materials from storeys above grade.
- .8 Ensure that cleaning operations are scheduled to avoid deposit of dust or other foreign matter on surfaces during finishing work and until wet or tacky surfaces are cured.
- .9 Each Section shall supply the Contractor with instructions for final cleaning of his work, and for inclusion in Project Data Book as specified in each trade Section and in Section 01 33 00, Submittals.
- .10 Powerwash all new concrete and stone horizontal surfaces to remove construction vehicle tire markings. This will also apply to concrete curbs. Leave no trace of construction vehicle traffic on the site.

1.32 ADJUSTING

- .1 Ensure that all components of assemblies fit snugly, accurately and in true planes, and that moving parts operate positively and freely, without binding and scraping.

- .2 Verify that work functions properly, and adjust it accordingly to ensure satisfactory operation.
- .3 Lubricate products as recommended by the supplier.

1.33 SALVAGE

- .1 Unless otherwise specified, materials on the site at the time of signing of Contract shall remain property of Owner. The Contractor shall deliver those items indicated on the drawings to the Owner as directed by the Consultant
- .2 Unless otherwise specified, salvaged material resulting from construction, and surplus materials and construction debris shall become property of Contractor, who shall dispose of it away from site.
- .3 Treasure, such as coins, bills, papers of value, and articles of antiquity, discovered during digging, demolition and cutting at the site shall remain property of Owner, and shall be delivered immediately into his custody.
- .4 When salvage items and materials are delivered to the Owner by the Contractor, the Contractor shall submit to the Owner a Certificate of Receipt which is to be endorsed by the Owner's representative. The Contractor shall incorporate copies of the Certificate of Receipt in the Project Data Books in accordance with Section 01 33 00, Submittals.

END OF SECTION

Section 01 14 25 Designated Substances Report

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 00 72 13 - General Conditions - Stipulated Price

1.2 DEFINITIONS

- .1 Designated Substances: Are those substances designated as hazardous by the Ministry of Labour under the Occupational Health and Safety Act. The following substances have been identified as designated substances:
 - .1 Acrylonitrile
 - .2 Arsenic
 - .3 Asbestos
 - .4 Benzene
 - .5 Coke Oven Emissions
 - .6 Ethylene Oxide
 - .7 Isocyanates
 - .8 Lead
 - .9 Mercury
 - .10 Silica
 - .11 Vinyl Chloride
 - .12 Polychlorinated Biphenyls (PCBs)
 - .13 Halocarbons
 - .14 Mould and Water Damage
 - .15 Other Hazardous Materials; such as formaldehyde, cadmium, styrene, nickel and coal tar products
- .2 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities, and hazardous products, including but not limited to: corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.
- .3 Polychlorinated Biphenyls (PCBs): includes chlorobiphenyls referred to in Column I of item 1 of the List of Toxic Substances in Schedule I of Canadian Environmental Protection Act (CEPA).
- .4 Toxic: substance is considered toxic if it is listed on Toxic Substances List found in Schedule 1 of CEPA.

- .5 List of Toxic Substances: found in Schedule 1 of CEPA, lists substances that have been assessed as toxic. Federal Government can make regulations with respect to a substance specified on List of Toxic Substances. Column II of this list identifies type of regulation applicable to each substance.

1.3 REFERENCE STANDARDS

- .1 Refer to laws, by laws, ordinances, rules, regulations and orders of authority having jurisdictions, and other legally enforceable requirements applicable to Work at that area; or become in force during Work performance.
- .2 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.
 - .1 Canadian Environmental Protection Act, 1999 (CEPA 1999)
 - .2 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
 - .3 Province of Ontario
 - .1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. 1990, c.0.1, as amended and O. Reg. 213/91 as amended - Updated 2016.

1.4 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit Site-specific Health and Safety Plan, within 7 days after date of Notice to proceed and before mobilization to Site. List relevant hazardous or contaminated materials or substances required by the authority having jurisdiction which need to be included in the Contractor's Health and Safety Plan.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 19 00 Specifications and Documents

Part 1 General

1.1 SECTION INCLUDES

- .1 Words and terms.
- .2 Complementary documents.
- .3 Precedence of Documents.
- .4 Specification grammar.

1.2 RELATED DOCUMENTS

- .1 Document 00 72 13 - General Conditions - Stipulated Price.
- .2 Section 01 11 00 – Summary of Work.
- .3 This section describes requirements applicable to all sections within Divisions 02 to 49.

1.3 WORDS AND TERMS

- .1 Conform to definitions and their defined meanings in the Agreement and Definitions portion of CCDC 2 for supplementary words and terms.
- .2 The following words and terms are applicable to the Contract Documents for this project:
- .3 Addendum: A document that amends the Bid Documents during the Bidding Period and becomes part of the Contract Documents when a Contract is executed. (Plural: Addenda).
- .4 Agreement: The signed and sealed legal instrument binding parties in a Contract, describing in strict terms their mutual arrangement, roles and responsibilities, commencement, and completion responsibilities.
- .5 Alternative Price: The amount stipulated by a Bidder for an Alternative and stated as an addition, a deduction, or no change to the Bid Price.
- .6 Bid: To offer as a Bid stating for what price a Contractor will assume a Contract.
- .7 Bid Documents: A set of documents consisting of the Instructions to Bidders, Bid Form, Contract Documents, and other information issued for the benefit of Bidders to prepare and submit a Bid.
- .8 Bid Form: The specific and detailed form used to collect information about a Bid.
- .9 Bidding: The process of preparing and submitting a Bid.
- .10 Construction Documents: The Drawings and Project Manual. When combined with a Contract and Contract conditions, these documents form the Contract Documents.
- .11 Contingency Allowance: An additional monetary amount added to a Project cost estimate and designated to cover unpredictable or unforeseen items of Work. The amount is usually based on some percentage of the estimated cost and expended and adjusted by Change Order. It is not intended to cover additions to the scope of Work.

- .12 Cost Plus Contract: A Contract under which a Contractor is reimbursed for the direct and indirect costs for the performance of a Contract and, in addition, is paid a Fee for services. The Fee is usually stated as a stipulated price or as a percentage of cost.
- .13 General Conditions: That part of the Contract Documents that sets forth many of the rights, responsibilities and relationships of the parties involved in a Contract.
- .14 Instructions To Bidders: Instructions contained in the Bid Documents to convey an Owner's expectations and criteria associated with submitting a Bid.
- .15 Section: A portion of a Project Specification covering one or more segments of the total Work or requirements. Sections are included in a Project manual as required to meet Project requirements.
- .16 Standard: A document describing a grade or a level of quality, which has been established by a recognized agency or organization, utilizing an internal voting process.
- .17 Separate Price: A separate price for work to be added to the base price if selected by the Owner. This price type is not a part of the base bid price.
- .18 Stipulated Price: An amount set forth in a Stipulated Price Contract as the total payment for the performance of the Work. Sometimes referred to as a stipulated sum or a lump sum stipulated price.
- .19 Tender: A term that was formally abandoned by CCDC and the Canadian Construction industry in the early 1980's in favour of the preferred term Bid.
- .20 Unit Price: The amount payable for a single unit of Work as stated in a Schedule of Prices.
- .21 Install: To remove from site storage, move or transport to intended location, install in position, connect to utilities, repair site caused damage, and make ready for use.
- .22 Supply: To acquire or purchase, ship or transport to the site, unload, remove packaging to permit inspection for damage, re-package, replace damaged items, and safely store on-site.

1.4 COMPLEMENTARY DOCUMENTS

- .1 Generally, drawings indicate graphically, the dimensions and location of components and equipment. Specifications indicate specific components, assemblies, and identify quality.
- .2 Drawings, specifications, diagrams and schedules are complementary, each to the other, and what is required by one, to be binding as if required by all.
- .3 Should any conflict or discrepancy appear between documents, which leaves doubt as to the intent or meaning, apply the Precedence of Documents article below or obtain guidance or direction from Consultant.
- .4 Examine all discipline drawings, specifications, schedules, diagrams and related Work to ensure that Work can be satisfactorily executed.
- .5 All specification sections of the Project Manual and Drawings are affected by requirements of Division 01 sections.

1.5 PRECEDENCE OF DOCUMENTS

- .1 In the event of conflict within and between the Contract Documents, the order of priority within specifications and drawings for this project are - from highest to lowest:

- .1 the Agreement and Definitions between the Owner and the Contractor;
- .2 the Defined Terms;
- .3 Supplementary Conditions;
- .4 the General Conditions;
- .5 Sections of Division 01 of the specifications;
- .6 Sections of Divisions 02 through 49 of the specifications.
- .7 Schedules and Keynotes:
 - .1 Material and finishing schedules within the specifications, then;
 - .2 Material and finishing schedules on drawings, then;
 - .3 Keynotes and definitions thereto, then;
- .8 Diagrams.
- .9 Drawings:
 - .1 Drawings of larger scale shall govern over those of smaller scale of the same date, then;
 - .2 Dimensions shown on drawings shall govern over dimensions scaled from drawings, then;
 - .3 Location of utility outlets indicated on architectural detail drawings takes precedence over positions or mounting heights located on mechanical or electrical Drawings.
- .10 Later dated documents shall govern over earlier documents of the same type.
- .2 In the event of conflict between documents, the decision of the Consultant shall be final.

1.6 SPECIFICATION GRAMMAR

- .1 Specifications are written in the imperative (command) mode, in an abbreviated form.
- .2 Imperative language of the technical sections is always directed to the Contractor identified as a primary constructor, as sole executor of the Contract, unless specifically noted otherwise.
 - .1 This form of imperative (command) mode statement requires the primary constructor to perform such action or Work.
 - .2 Perform all requirements of the Contract Documents whether stated imperatively or otherwise.
- .3 Division of the Work among subcontractors, suppliers, or others is solely the prime constructor's responsibility. The Consultant(s) and specification authors assume no responsibility to function or act as an arbiter to establish subcontract scope or limits between sections or divisions of Work.

END OF SECTION

Section 01 21 00 Allowances

Part 1 General

1.1 SECTION INCLUDES

- .1 Cash allowances.
- .2 Inspection and testing allowances.
- .3 Contingency allowance.

1.2 RELATED REQUIREMENTS

- .1 Section 01 29 00 - Payment Procedures.
- .2 Section 01 25 00 - Substitution Procedures.
- .3 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 COORDINATION

- .1 Refer to Divisions 20-23 and 26 for allowances not covered in this section that may refer to, but not limited to:
 - .1 HVAC equipment upgrades or alternates
 - .2 Controls integration / BAS tie-in
 - .3 Electrical service upgrades
 - .4 Generator or UPS tie-ins
 - .5 Fire alarm modifications beyond base drawings
 - .6 Temporary power beyond base duration

1.4 INSPECTING AND TESTING ALLOWANCES

- .1 Costs Included in Inspecting and Testing Allowances: Cost of engaging an inspecting or testing agency; execution of inspecting and tests; and reporting results.
- .2 Costs Not Included in the Inspecting and Testing Allowance But Included in the Contract Price:
 - .1 Costs of incidental labour and facilities required to assist inspecting or testing agency.
 - .2 Costs of testing services used by Contractor separate from Contract Document requirements.
 - .3 Costs of retesting upon failure of previous tests as determined by Consultant.
- .3 Payment Procedures:
 - .1 Submit one (1) copy of the inspecting or testing firm's invoice with next application for payment.

- .2 Pay invoice on approval by Consultant.
- .4 Inspecting and Testing Allowances Schedule:
 - .1 Include the sum of \$20,000 for the purpose of independent testing and inspection services of the following:
 - .1 Earth Work:
 - .1 Soil Bearing Capacity
 - .2 Engineered Fill
 - .3 Foundation Excavation
 - .4 Sub-grade Compaction
 - .5 Granular Base & Compaction
 - .6 Back-fill & Compaction
 - .7 Trenching, Bedding and Back-fill (Services)
 - .8 Contaminated Soils (removal and reuse)
 - .2 Cast-in-place Concrete
 - .3 Steel Reinforcing
 - .4 Structural Steel
 - .1 Conventional Structural Steel
 - .2 Miscellaneous Steel Construction
 - .5 Designated Substances Abatement Inspection
 - .5 Differences in cost will be adjusted by Change Order.

1.5 CONTINGENCY ALLOWANCE

- .1 Include in the Contract, a stipulated price of \$100000 for use upon Owner's written instruction via Change Order.
- .2 Contractor's costs for Products, delivery, installation, labour, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.
- .3 Funds will be drawn from the Contingency Allowance only by Change Order.
- .4 At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

END OF SECTION

Section 01 22 00 Prices

Part 1 General

1.1 SECTION INCLUDES

- .1 Quantity measurement with unit value of products determined by and expanded in the Bid Documents.
- .2 Schedule of products and their quantities.
- .3 Schedule of applicable values.
- .4 Itemized Prices.
- .5 Separate Prices.

1.2 RELATED REQUIREMENTS

- .1 Refer to CCDC 2-2020 for specific contractual requirements.
- .2 Section 01 25 00 - Substitution Procedures: Substitutions and Modification Requirements.
- .3 Section 01 29 00 – Payment Procedures: Application for Payment.

1.3 PRICES - GENERAL

- .1 Prices included in the Contract shall be complete for the applicable work, and shall constitute the full consideration, payment, compensation and remuneration to the Contractor for all such work. For greater certainty, but without limitation to the foregoing, such prices shall constitute full and complete consideration, payment, compensation and remuneration to the Contractor for the following (subject to adjustments only as specified in the Contract Documents):
 - .1 Expenditures for wages and for salaries of workmen, engineers, superintendents, draftsmen, foremen, timekeepers, accountants, expeditors, clerks, watchmen and such other personnel as may be approved, employed directly under the Contractor and while engaged on the applicable work at the site and expenditures for traveling and board allowances of such employees when required by location of the applicable work or when covered by trade agreements and when approved; provided, however, that nothing shall be included for wages or salary of the Contractor if an individual, or of any member of the Contractor's firm if the Contractor is a firm or the salary of any officer of the Corporation if the Contractor is a corporation, unless otherwise agreed to in writing;
 - .2 Expenditures for material used in or required in connection with the construction of the applicable work including material tests and mix designs required by the laws or ordinances of any authority having jurisdiction and not included under Subparagraph .9;
 - .3 Expenditures for preparation, inspection, delivery, installation and removal of materials, plant, tools and supplies;

- .4 Temporary facilities as required for the applicable work;
- .5 Traveling expenses properly incurred by the Contractor in connection with the inspection and supervision of the applicable work or in connection with the inspection of materials prepared or in course of preparation for the applicable work and in expediting their delivery;
- .6 Rentals of all equipment whether rented from the Contractor or others, in accordance with approved rental agreements including any approved applicable insurance premiums thereon and expenditures for transportation to and from the site of such equipment, costs of loading and unloading, cost of installation, dismantling and removal thereof and repairs of replacements during its use on the applicable work, exclusive of any repairs which may be necessary because of defects in the equipment when brought to the Work or appearing within thirty (30) days thereafter;
- .7 The cost of all expendable materials, supplies, light, power, heat, water and tools (other than tools customarily provided by tradesmen) less the salvage value thereof at the completion of the applicable work;
- .8 Assessments under the Worker's Compensation Act, the Unemployment Insurance Act, Canada Pension Act, statutes providing for government hospitalization, vacations with pay or any similar statutes; or payments on account of usual vacations made by the Contractor to his employees engaged on the applicable work at the site, to the extent to which such assessments or payments for vacations with pay relate to the work covered by the specified price; and all sales taxes or other taxes where applicable;
- .9 The amounts of all Subcontracts related to the specified price;
- .10 Premiums on all insurance policies and bonds called for under this Contract as related to the specified price;
- .11 Royalties for the use of any patented invention on the applicable work;
- .12 Fees for licenses and all required permits (other than building permit) in connection with the applicable work;
- .13 Duties and all applicable taxes, except H.S.T., imposed on the applicable work; and
- .14 Such other expenditures in connection with the applicable work as may be approved;
- .15 Provided always that except with the consent of the Owner, the above items of cost shall be at rates comparable with those prevailing in the locality of the Work.

1.4 UNIT PRICES

- .1 Unit Prices are NOT subjected to the Bid evaluation process.
- .2 Unit Prices shall be applied at the sole discretion of the Owner. The Owner reserves the right to re-negotiate these Unit Prices during construction if the Unit Prices are found to be significantly higher than acceptable current market range.
- .3 Unit Prices included in the Contract, and which were submitted as a part of the Bid, shall be based on units of measurement described in the bidding documents to include for

labour, materials, preparation of shop drawings, design fees, delivery, handling, disposal of surplus material, overhead and profit, all applicable taxes except HST, and any other direct or indirect expenditures, of such work measured complete in place, and as further described in other Sections of the Specifications.

- .4 Unit Prices for specified units of measurements shall apply to any and all work which can be measured in the said units regardless of the variations in productivity and job conditions, or the time when instructions to carry out that work will be issued.
- .5 Unit Prices shall apply only to the net change in quantities for each unit of work in each change to the work, provided that the instructions to change have been given before the start of applicable work and/or ordering of equipment.
- .6 After the applicable work has started, the Unit Prices shall cover the new work without any credit for the work already completed. Work completed and to be removed to accommodate new work shall be paid for as described for Changes in the Work in the General Conditions on a lump sum or by cost and fixed or percentage fee basis.
- .7 Unit Prices for "CREDIT" shall be not less than 75% of Unit Prices for "EXTRA".
- .8 Provide Unit Prices are listed on Specification Section 00 41 00 Bid Form, paragraph 1.13
UNIT PRICES.

1.5 **SPRARATE PRICES**

- .1 Refer to Section 01 23 00 Alternatives
- .2 Unit Prices are NOT subjected to the Bid evaluation process.
- .3 Separate Prices are NOT subjected to the Bid evaluation process.
- .4 The intent of Separate Prices is to allow the Owner to add portions of work outlined below at the Owner's discretion. They are inclusive of all labour, material, tools, equipment, overhead and profit, and taxes, but exclude HST.
- .5 Separate Prices, requested in the Bid Documents and expressed as an extra to the Stipulated Price shall be used in calculation of the Contract Amount consistent with their acceptance or rejection by the Owner. The required Separate Prices are:
 - .1 Separate Price #1
 - .1 Description: Replace complete dasherboard system.
 - .2 Separate Price #2
 - .1 Description: Install frost prevention system pipes under rink slab and stub in refrigeration room for future connection.

1.6 **TAXES**

- .1 Refer to Section 00 73 03 Supplementary Conditions - Stipulated Price, for requirements relating to the Harmonized Sales Tax (H.S.T.).

END OF SECTION

Section 01 23 00 Alternates

Part 1 General

1.1 SECTION INCLUDES

- .1 Alternative products, systems, and procedures.

1.2 RELATED REQUIREMENTS

- .1 Section 01 21 00 - Allowances.
- .2 Section 01 25 00 - Substitution Procedures.
- .3 Section 01 29 00 - Payment Procedures.
- .4 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 ALTERNATIVES

- .1 Accepted Alternatives will be identified in Owner-Contractor Agreement.
- .2 Submit alternatives identifying the effect on adjacent or related components.
- .3 Alternatives quoted on Bid Forms will be reviewed and accepted or rejected at the Owner's option. Accepted alternatives will be identified in the Owner-Contractor Agreement.
- .4 Coordinate related work and modify surrounding work to integrate the Work of each alternative.

1.4 SCHEDULE OF ALTERNATIVES

- .1 Description:
 - .1 Alternative described herein shall be priced separately in the Bid Form.
 - .2 The Owner reserves the right to accept or reject any Alternative.
 - .3 If accepted, the Alternative shall form part of the Contract.
- .2 Alternative No. 1 - Dasher Board System
 - .1 Base Bid Item:
 - .2 Alternative Bid Item:
- .3 Alternative No 2. - Refrigeration (Frost Prevention piping)
 - .1 Base Bid Item:
 - .2 Alternative Bid Item:

END OF SECTION

Section 01 25 00 Substitution Procedures

Part 1 General

1.1 SECTION INCLUDES

- .1 Substitutions.

1.2 RELATED REQUIREMENTS

- .1 Section 01 21 00 - Allowances.
- .2 Section 01 23 00 - Alternates.
- .3 Section 01 29 00 - Payment Procedures.
- .4 Section 01 35 69 - Sustainable Design Requirements.
- .5 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 SUBSTITUTIONS

- .1 Instructions to Bidders specify time restrictions for submitting requests for Substitutions during the bidding period to requirements specified in this section.
 - .1 Request a form from the consultants and submit all required items listed in sentence (7)
- .2 Consultant will consider requests for Substitutions only within thirty (30) days after date of Owner-Contractor Agreement.
 - .1 If the Contractor proposes substitutions not specified in the Contract Documents, the Contractor is responsible for all consultant review costs, including any coordination or redesign. These costs will be back-charged or deducted from the Contract Price.
- .3 Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.
- .4 Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
 - .1 It is the contractors responsibility to provide the information of substituted product, and all documents comparing performance to the specified product with cost savings and reasoning for substitution. Product and warranty must be equal or exceed.
- .5 A request constitutes a representation that the Contractor:
 - .1 Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - .2 Will provide the same warranty for the Substitution as for the specified Product.
 - .3 Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.

- .4 Waives claims for additional costs or time extension that may subsequently become apparent.
- .5 Will reimburse Owner and Consultant for review or redesign services associated with re-approval by authorities.
- .6 Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- .7 Substitution Submittal Procedure:
 - .1 Request a form from the consultants and submit all required items below.
 - .2 Submit electronic copies of request for Substitution for consideration. Limit each request to one (1) proposed Substitution.
 - .3 Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on proposer.
 - .4 The Consultant will notify Contractor in writing of decision to accept or reject request.

END OF SECTION

Section 01 29 00 Payment Procedures

Part 1 General

1.1 REFERENCE STANDARDS

- .1 Owner/Contractor Agreement.
- .2 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-2020, Stipulated Price Contract.

1.2 APPLICATIONS FOR PROGRESS PAYMENT

- .1 Refer to CCDC 2.
- .2 Submit a CCDC 24 electronic form using an authorized electronic signature, or a printed copy with an authorized signature.
- .3 Make applications for payment on account as monthly as Work progresses.
- .4 Accompany applications with the following:
 - .1 CCDC 9A-2001 Statutory Declaration form
 - .2 Current copy of Workplace Safety & Insurance Board Clearance Certificate
 - .3 Supporting documents for requested payment.
- .5 Date applications for payment last day of agreed monthly payment period and ensure amount claimed is for value, proportionate to amount of Contract, of Work performed and Products delivered to Place of Work at that date.
- .6 Submit to Consultant, at least 14 days before first application for payment. Schedule of values for parts of Work, aggregating total amount of Contract Price, to facilitate evaluation of applications for payment.

1.3 SCHEDULE OF VALUES

- .1 Refer to CCDC 2.
- .2 Provide schedule of values supported by evidence as Consultant may reasonably direct and when accepted by Consultant, be used as basis for applications for payment.
- .3 Include statement based on schedule of values with each application for payment.
- .4 Support claims for products delivered to Place of Work but not yet incorporated into Work by such evidence as Consultant may reasonably require to establish value and delivery of products.

1.4 PREPARING SCHEDULE OF UNIT PRICE TABLE ITEMS

- .1 Submit separate schedule of unit price items of Work requested in Bid form.
- .2 Make form of submittal parallel to Schedule of Values, with each line item identified same as line item in Schedule of Values. Include in unit prices only:

- .1 Cost of material.
 - .2 Delivery and unloading at site.
 - .3 Sales taxes.
 - .4 Installation, overhead and profit.
- .3 Ensure unit prices multiplied by quantities given equal material cost of that item in Schedule of Values.

1.5 PROGRESS PAYMENT

- .1 Refer to CCDC 2.
- .2 Submit a progress payment schedule on CCDC 24 electronic form using an authorized electronic signature, or a printed copy with an authorized signature.
- .3 Accompany applications with a CCDC 9A-2001 - Statutory Declaration form and current copy of Workplace Safety & Insurance Board Clearance Certificate.
- .4 Consultant will issue to Owner, no later than 10 days after receipt of an application for payment, certificate for payment in amount applied for or in such other amount as Consultant determines to be due. If Consultant amends application, Consultant will give notification in writing giving reasons for amendment.

1.6 SUBSTANTIAL PERFORMANCE OF WORK

- .1 Refer to CCDC 2.
- .2 Submit a schedule of payments on CCDC 24 electronic form using an authorized electronic signature
- .3 Accompany applications with a CCDC 9A-2001 Statutory Declaration form and current Workplace Safety & Insurance Board Clearance Certificate.
- .4 Prepare and submit to Consultant comprehensive list of items to be completed or corrected and apply for a review by Consultant to establish Substantial Performance of Work or substantial performance of designated portion of Work when Work is substantially performed if permitted by lien legislation applicable to Place of Work designated portion which Owner agrees to accept separately is substantially performed. Failure to include items on list does not alter responsibility to complete Contract.
- .5 Request Consultant review to establish Substantial Performance of the Work.
- .6 Where permitted by local lien legislation, Contractor may apply for substantial performance of a designated portion of the Work, subject to Owner acceptance of that portion of the Work being substantially performed.
- .7 No later than 10 days after receipt of list and application, Consultant will review Work to verify validity of application, and no later than 7 days after completing review, will notify Contractor if Work or designated portion of Work is substantially performed.
- .8 Consultant: state date of Substantial Performance of Work or designated portion of Work in certificate.

- .9 Immediately following issuance of certificate of Substantial Performance of Work, in consultation with Consultant, establish reasonable date for finishing Work.

1.7 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF WORK

- .1 Refer to CCDC 2.
- .2 After issuance of certificate of Substantial Performance of Work:
 - .1 Submit application for payment of holdback amount.
 - .2 Submit sworn statement that accounts for labour, subcontracts, products, construction machinery and equipment, and other indebtedness which may have been incurred in Substantial Performance of Work and for which Owner might in be held responsible have been paid in full, except for amounts properly retained as holdback or as identified amount in dispute.
- .3 After receipt of application for payment and sworn statement, Consultant will issue certificate for payment of holdback amount.
- .4 Amount authorized by certificate for payment of hold-back amount is due and payable on day following expiration of hold-back period stipulated in lien legislation applicable to Place of the Work.
- .5 Amount authorized by certificate for payment of holdback amount is due and payable on day following expiration of holdback period stipulated in lien legislation applicable to Place of Work. Where lien legislation does not exist or apply, holdback amount is due and payable in accordance with other legislation, industry practice, or provisions which may be agreed to between parties. Owner may retain out of holdback amount sums required by law to satisfy liens against Work or, if permitted by lien legislation applicable to Place of Work, other third party monetary claims against Contractor which are enforceable against Owner.

1.8 PROGRESSIVE RELEASE OF HOLDBACK

- .1 Refer to CCDC 2.
- .2 Refer to Supplemental Conditions 00 73 00.
- .3 Where legislation permits, if Consultant has certified that Work of subcontractor or supplier has been performed prior to Substantial Performance of Work, Owner will pay holdback amount retained for such subcontract Work, or products supplied by such supplier, on day following expiration of holdback period for such Work stipulated in lien legislation applicable to Place of Work.
- .4 In addition to provisions of preceding paragraph, and certificate wording, ensure that such subcontract Work or products is protected pending issuance of final certificate for payment and be responsible for correction of defects or Work not performed regardless of whether or not such was apparent when such certificates were issued.

1.9 FINAL PAYMENT

- .1 Refer to CCDC 2.
- .2 Submit application for final payment when Work is completed.

- .3 Consultant will, no later than 10 working days after receipt of application for final payment, review Work to verify validity of application. Consultant will give notification that application is valid or give reasons why it is not valid, no later than 7 days after reviewing Work.
- .4 Consultant will issue final certificate for payment when application for final payment is found valid.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 31 00 Project Management and Coordination

Part 1 General

1.1 SECTION INCLUDES

- .1 Coordination Work with other contractors and work by Owner under administration of Consultant or Project Manager.
- .2 Scheduled progress and Pre-installation meetings.

1.2 RELATED REQUIREMENTS

- .1 Section 01 32 00 - Construction Progress Documentation.
- .2 Section 01 33 00 - Submittal Procedures.
 - .1 This section describes requirements applicable to all Sections within Divisions 02 to 49

1.3 COORDINATION

- .1 Perform coordination of progress schedules, submittals, use of site, temporary utilities, construction facilities and construction Work, with progress of Work of others, under instructions of Consultant and Project Manager.

1.4 PROJECT MEETINGS

- .1 Schedule and administer bi-weekly project meetings throughout progress of Work as determined by Consultant.
- .2 Schedule and administer pre-installation meetings when specified in sections and when required to coordinate related or affected Work.
- .3 Prepare agenda for meetings.
- .4 Distribute written notice of each meeting four (4) days in advance of meeting date to Consultant and Owner.
- .5 Provide physical space and make arrangements for meetings.
- .6 Preside at meetings.
- .7 Record minutes. Include significant proceedings and decisions. Identify action by parties.
- .8 Reproduce and distribute copies of minutes within three (3) days after each meeting and transmit to meeting participants, Owner, Consultant, and affected parties not in attendance.

1.5 CONSTRUCTION ORGANIZATION AND START-UP

- .1 Within fifteen (15) days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Consultant, Owner, Contractor, major Subcontractors, field inspectors and supervisors are to be in attendance.

- .3 Establish time and location of meeting and notify parties concerned minimum five (5) days before meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Agenda to include following:
 - .1 Bid Review
 - .1 Contract Amount/HST
 - .2 Separate Prices/Alternate Prices/Unit Prices/Labour Rates
 - .3 Itemized Prices
 - .4 Allowances
 - .5 List of Subcontractors & Suppliers
 - .6 Post Bid Addenda/Negotiations
 - .2 Approvals
 - .1 Building Permit Status
 - .2 Site Plan Approval
 - .3 Owner Internal Approvals
 - .3 Appointment of official representative of participants in Work.
 - .1 Site Contacts
 - .1 Contractor (24 hr)
 - .2 Consultant
 - .3 Owner
 - .4 Schedule of Work, progress scheduling as specified in Section 01 32 00.
 - .1 Mobilization
 - .2 Locates and Service Interrupts
 - .1 Owner
 - .2 Ontario One Call
 - .3 Long Delivery Items
 - .4 Phasing
 - .5 Completion
 - .5 Schedule of submission of shop drawings, samples, colour chips as specified in Section 01 33 00.
 - .6 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences as specified in Section 01 51 00.
 - .7 Delivery schedule of specified equipment as specified in Section 01 32 00.
 - .8 Site security & safety as specified in Section 01 35 29.

- .9 Site Set-Up
 - .1 Access & Staging Area
 - .2 Hoarding & Signage
 - .3 Security & Lighting
 - .4 Use of Temporary Services
 - .1 power
 - .2 elevators
 - .3 water
 - .4 washrooms
 - .5 care taking equipment/ladders, etc.
 - .6 waste holding & removal
- .10 Parking
- .11 Keys & I.D.
- .12 Hours of Work
- .13 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
- .14 Owner-furnished Products.
- .15 Record drawings as specified in Section 01 78 20.
- .16 Maintenance material and data as specified in Section 01 78 20.
- .17 Take-over procedures, acceptance, and warranties as specified Section 01 78 20.
- .18 Monthly progress claims, administrative procedures, photographs, and holdbacks.
- .19 Appointment of inspection and testing agencies or firms as specified in Section 01 45 00.
- .20 Insurances and transcript of policies.
- .6 Comply with Consultant's allocation of mobilization areas of site; for field offices and sheds, for construction, access, traffic, and parking facilities.
- .7 During construction, coordinate use of site and facilities through Consultant's procedures for intra-project communications: Submittals, reports and records, schedules, coordination of drawings, recommendations, and resolution of ambiguities and conflicts.
- .8 Comply with instructions of Consultant for use of temporary utilities and construction facilities.
- .9 Coordinate field engineering and layout work with Consultant.

1.6 ON-SITE DOCUMENTS

- .1 Maintain at job site, one copy each of the following:

Spriet Associates Architects and Consulting Engineers
Client: Municipality of Brooke-Alvinston

- .1 Contract drawings.
- .2 Specifications.
- .3 Addenda.
- .4 Reviewed shop drawings.
- .5 Change orders.
- .6 Other modifications to Contract.
- .7 Field test reports.
- .8 Copy of approved Work schedule.
- .9 Manufacturers' installation and application instructions.
- .10 Labour conditions and wage schedules.
- .11 Applicable current editions of municipal regulations and by-laws. Current building codes, complete with addenda bulletins applicable to the Place of the Work.

1.7 SCHEDULES

- .1 Submit preliminary construction progress schedule as specified in Section 01 32 00 to Consultant coordinated with Consultant's project schedule.
- .2 After review, revise and resubmit schedule to comply with revised project schedule.
- .3 During progress of Work revise and resubmit as directed by Consultant.

1.8 CONSTRUCTION PROGRESS MEETINGS

- .1 During course of Work and 4 weeks prior to project completion, schedule progress meetings bi-weekly.
- .2 Contractor, major subcontractors involved in Work Owner and Consultant are to be in attendance.
- .3 Notify parties minimum of 5 days prior to meetings.
- .4 Record minutes of meetings, and circulate to attending parties and affected parties not in attendance within 3 days after meeting.
- .5 Agenda to include following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems that impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.

- .10 Maintenance of quality standards.
- .11 Review proposed changes for effect on construction schedule and on completion date.
- .12 Review site safety and security issues.
- .13 Other business.

1.9 SUBMITTALS

- .1 Prepare and issue submittals to Consultant for review.
- .2 Submit preliminary Shop Drawings, product data and samples as specified in Section 01 33 00 for review for compliance with Contract Documents; for field dimensions and clearances, for relation to available space, and for relation to Work of other contracts. After review, revise and resubmit for transmittal to Consultant.
- .3 Submit requests for payment for review, and for transmittal to Consultant.
- .4 Submit requests for interpretation of Contract Documents, and obtain instructions through Consultant.
- .5 Process substitutions through Consultant.
- .6 Process change orders through Consultant.
- .7 Deliver closeout submittals for review and preliminary inspections, for transmittal to Consultant.

1.10 COORDINATION DRAWINGS

- .1 Provide information required by Consultant for preparation of coordination Drawings.
- .2 Review and approve revised Drawings for submittal to Consultant.

1.11 CLOSEOUT PROCEDURES

- .1 Notify Consultant when Work is considered ready for Substantial Performance.
- .2 Accompany Consultant on preliminary inspection to determine items listed for completion or correction.
- .3 Comply with Consultant's instructions for correction of items of Work listed as to be completed or corrected with the Ready-For-Takeover application.
- .4 Notify Consultant of instructions for completion of items of Work determined in Consultant's final inspection.

END OF SECTION

Section 01 32 00 Construction Progress Documentation

Part 1 General

1.1 SECTION INCLUDES

- .1 Schedules, form, content, submission.
- .2 Critical path scheduling.
- .3 Recording As-Built documents.
- .4 Progress photographs.
- .5 Submittals schedule.

1.2 RELATED REQUIREMENTS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 SCHEDULES

- .1 Submit schedules as follows:
 - .1 Submittal Schedule for Shop Drawings and Product Data.
 - .2 Submittal Schedule for Samples.
 - .3 Submittal Schedule for timeliness of Owner-furnished Products.
 - .4 Product Delivery Schedule.
 - .5 Cash Allowance Schedule for acquiring Products only or Products and Installation, or Installation only.
 - .6 Shutdown or closure activity.
- .2 Schedule Format.
 - .1 Prepare schedule in form of a horizontal GANTT bar chart.
 - .2 Provide a separate bar for each major item of work.
 - .3 Split horizontally for projected and actual performance.
 - .4 Provide horizontal time scale identifying first Working Day of each week.
 - .5 Format for listings: Chronological order of start of each item of work.
 - .6 Identification of listings: By specification Section numbers.
- .3 Schedule Submission.
 - .1 Submit initial format of schedules within fifteen (15) days after award of Contract.
 - .2 Submit schedules in electronic format, forward through e-mail as *.pdf files.
 - .3 Submit one (1) electronic copy to be retained by Owner.

- .4 Consultant will review schedule and return review copy within ten (10) days after receipt.
- .5 Resubmit finalized schedule within seven (7) days after return of review copy.
- .6 Submit revised progress schedule with each application for payment.
- .7 Distribute copies of revised schedule to:
 - .1 Job site office.
 - .2 Subcontractors.
 - .3 Other concerned parties.
- .8 Instruct recipients to report to Contractor within ten (10) days, any problems anticipated by timetable shown in schedule.

1.4 CONSTRUCTION PROGRESS SCHEDULING

- .1 Submit initial schedule in duplicate within fifteen (15) days after date of Owner-Contractor Agreement.
- .2 Revise and resubmit as required.
- .3 Submit revised schedules with each Application for Payment, identifying changes since previous version.
- .4 Submit a computer generated chart with separate line for each section of Work, identifying first workday of each week.
- .5 Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- .6 Indicate estimated percentage of completion for each item of Work at each submission.
- .7 Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and required by Allowances.
- .8 Include dates for commencement and completion of each major element of construction as follows.
 - .1 Site clearing.
 - .2 Site utilities.
 - .3 Foundation Work.
 - .4 Structural framing.
 - .5 Special Subcontractor Work.
 - .6 Equipment Installations.
 - .7 Finishes.
- .9 Indicate projected percentage of completion of each item as of first day of month.
- .10 Indicate progress of each activity to date of submission schedule.
- .11 Indicate changes occurring since previous submission of schedule:
 - .1 Major changes in scope.

- .2 Activities modified since previous submission.
- .3 Revised projections of progress and completion.
- .4 Other identifiable changes.
- .12 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 prime contractors.

1.5 CRITICAL PATH SCHEDULING

- .1 Include complete sequence of construction activities.
- .2 Include dates for commencement and completion of each major element of construction as follows.
 - .1 Site clearing.
 - .2 Site utilities.
 - .3 Foundation work.
 - .4 Structural framing.
 - .5 Special subcontractor work.
 - .6 Equipment installations.
 - .7 Finishes.
- .3 Show projected percentage of completion of each item as of first day of month.
- .4 Indicate progress of each activity to date of submission schedule.
- .5 Show changes occurring since previous submission of schedule:
 - .1 Major changes in scope.
 - .2 Activities modified since previous submission.
 - .3 Revised projections of progress and completion.
 - .4 Other identifiable changes.
- .6 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 prime contractors.

1.6 RECORDING ACTUAL CONDITIONS ON AS BUILT DOCUMENTS

- .1 Record updated information on drawings and Project Manual provided by Consultant.
- .2 Record changed information by annotating with separate colours for each major system.
- .3 Record information concurrently with construction progress. Do not conceal Work of the Project until required information is accurately recorded.

- .4 Contract drawings and Shop Drawings: record actual construction of each item, including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not indicated on original Contract Drawings.
 - .7 References to related shop drawings and modifications.
- .5 Specifications: legibly mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .6 Other Documents: Maintain manufacturer's certifications, inspection certifications, and field test records required by individual specifications sections.
- .7 Electronic as built document format
 - .1 Make as-built documents available electronically, accessible by all project personnel who require access, including Consultant.
 - .2 Enable navigation of electronic documents accessed from mobile devices such as computer tablets.
 - .3 Label as-built documents in accordance with section number listings in List of Contents of the Project Manual. Label each document AS-BUILT DOCUMENTS on every page.
- .8 Physical as built document format
 - .1 Store as-built documents in field office apart from documents used for construction. Provide files, racks, and secure storage. Length of time Months
 - .2 Label as-built documents and file in accordance with section number listings in List of Contents of the Project Manual. Label each document AS-BUILT DOCUMENTS in neat, large, printed letters.
 - .3 Maintain as-built documents in clean, dry and legible condition. Do not use as-built documents for construction purposes.
 - .4 Keep as-built documents and samples available for inspection by Consultant.
- .9 Samples: Maintain physical samples of products installed in the project at field office in clean, dry condition. Keep samples available for inspection by Consultant. Do not use samples for construction purposes.

1.7 PROGRESS PHOTOGRAPHS

- .1 Digital Photography.

- .1 Submit electronic digitalcopy of colourdigital photography in jpgformat, minimum 4megapixel resolution.
- .2 Identification: Name and number of project and date of exposure indicated.
- .2 Frequency: Monthly with progress statement.
- .3 Frequency: Upload to a shared cloud daily when progress is taking place.
- .4 Number of photos required:
 - .1 Prior to construction: Provide necessary number of photographs, as required to document existing conditions to verify damage to adjacent property which may or may not have occurred during construction: minimum 12 photos.
 - .2 Each progress draw: provide twenty four (24) construction photographs each month to accompany each application for progress draw to document the stage of the work from points selected by the Consultant showing as much as possible of the work installed during the previous month.
 - .3 Provide minimum of eight (8) photographs on each Meeting Report and for each Progress Meeting.
 - .4 Completion: when the work is completed, contractor shall arrange to take final photographs of the project from a minimum of six (6) points of view.

1.8 SUBMITTALS SCHEDULE

- .1 Include schedule for submitting Shop Drawings, product data, samples.
- .2 Indicate dates for submitting, review time, resubmission time, and last date for meeting fabrication schedule.
- .3 Include dates when delivery will be required for Owner-furnished products.
- .4 Include dates when reviewed submittals will be required from Consultant.

END OF SECTION

Section 01 33 00 Submittal Procedures

Part 1 General

1.1 SECTION INCLUDES

- .1 Shop drawings and product data.
- .2 Samples.
- .3 Certificates and transcripts.

1.2 RELATED REQUIREMENTS

- .1 Section 01 32 00 Construction Progress Documents
- .2 Section 01 78 00 Closeout Submittals
- .3 Other sections requesting submittals.
- .4 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Submit to Consultant submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals before submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify Consultant, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify site measurements and affected adjacent Work are coordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.
- .10 Keep one reviewed copy of each submission on site.

1.4 SHOP DRAWINGS AND PRODUCT DATA

- .1 Refer to Section 01 00 00 General Requirements.
- .2 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .3 Submit drawings stamped and signed by professional engineer registered or licensed in Ontario, Canada.
- .4 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to Contract drawings and specifications.
- .5 Allow 7 days for Consultant's review of each submission.
- .6 Adjustments made on shop drawings by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant before proceeding with Work.
- .7 Make changes in shop drawings as Consultant may require, consistent with Contract Documents. When resubmitting, notify Consultant in writing of revisions other than those requested.
- .8 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data, and sample.
 - .5 Other pertinent data.
- .9 Submissions to include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of site measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.

- .2 Layout, showing dimensions, including identified site dimensions and clearances.
- .3 Setting or erection details.
- .4 Capacities.
- .5 Performance characteristics.
- .6 Standards.
- .7 Operating weight.
- .8 Wiring diagrams.
- .9 Single line and schematic diagrams.
- .10 Relationship to adjacent work.
- .10 After Consultant's review, distribute copies.
- .11 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.
- .12 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Consultant where shop drawings will not be prepared due to standardized manufacture of product.
- .13 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Consultant.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within 3 years of date of Contract award for project.
- .14 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Consultant.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of Contract complete with project name.
- .15 Submit electronic copies of manufacturers instructions for requirements requested in specification Sections and as requested by Consultant.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Safety Data Sheets concerning impedances, hazards and safety precautions.
- .16 Submit electronic copies of Manufacturer's Site Reports for requirements requested in specification Sections and as requested by Consultant.
- .17 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .18 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Consultant.

- .19 Delete information not applicable to project.
- .20 Supplement standard information to provide details applicable to project.
- .21 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.5 SAMPLES

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Consultant's.
- .3 Notify Consultant in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant before proceeding with Work.
- .6 Make changes in samples which Consultant may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.6 MOCK-UPS

- .1 Erect mock-ups in accordance with section 01 45 00 - Quality Control.

1.7 PHOTOGRAPHIC DOCUMENTATION

- .1 Submit electronic copy of digital photography in jpg format, standard resolution as directed by [Consultant].
- .2 Project identification: name and number of project and date of exposure indicated.
- .3 Frequency of photographic documentation: weekly.
 - .1 Upon completion of: as directed by [Consultant].

1.8 CERTIFICATES AND TRANSCRIPTS

- .1 Submit to the Consultant within two (2) weeks after award of contract the following:
 - .1 Workers Compensation Bond status.
 - .2 Insurance Forms.
 - .3 Performance Bond.
 - .4 Materials and Labour Bond.
 - .5 Monthly billing format indicating detailed line items and values.
 - .6 Sample of quotation format.

- .7 Construction Schedule.
- .8 Shop Drawing Schedule.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 35 23 HEALTH AND SAFETY

Part 1 General

1.1 SECTION INCLUDES

- .1 Safety requirements and adherence.

1.2 RELATED SECTIONS

- .1 Section 00 31 16 - Available Project Information Existing Data
- .2 Section 01 31 00 - Project Managing and Coordination
- .3 Section 01 33 00 - Submittal Procedures
- .4 Section 01 35 29 – Health and Safety for Contaminated Sites
- .5 This section describes requirements applicable to all Sections within Divisions 02 to 49

1.3 REFERENCES

- .1 Province of Ontario: Occupational Health and Safety Act, Regulation and Code R.S.A - Amended 1995, including requirements for a "Prime Contractor" as defined by the Act.

1.4 SAFETY PLAN

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Consultant may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.5 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00.
- .2 Submit site-specific Health and Safety Plan: Within ten (10) days after award of contract and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of safety and health risk or hazard analysis for site tasks and operation.
 - .2 Results of site specific safety hazard assessment.
- .3 Submit copies of Contractor's authorized representative's work site health and safety inspection reports to Authority Having Jurisdiction.
- .4 Submit copies of reports or directions issued by Federal, Provincial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Submit Material Safety Data Sheets (MSDS) to Consultant.

- .7 Consultant's review of Contractor's Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 Medical Surveillance: Where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work and submit additional certifications for any new site personnel to Consultant.
- .9 On-site Contingency and Emergency Response Plan: Address standard operating procedures to be implemented during emergency situations.
- .10 File Notice of Project with Provincial authorities prior to commencement of Work.

1.6 SAFETY ACTIVITIES

- .1 Schedule and administer Health and Safety meeting with Consultant prior to commencement of Work.
- .2 Perform Work in accordance with Section 01 41 00 - Regulatory Requirements and this section.
- .3 Work shall include protection measures consisting of materials, constructions and methods required by the Occupational Health and Safety Act, 2006 as amended, of the Province of Ontario, and as otherwise imposed by jurisdictional authorities to save persons and property from harm.
- .4 Ensure that pollution and environmental control of construction activities are exercised as required during the Work.
- .5 Except where special permission is obtained, maintain clear access for roads and sidewalks on public property.
- .6 Maintain roads and sidewalks clear of construction materials and debris, including excavated material, according to the local Municipality standards and requirements. Clean roads and sidewalks as frequently as required to ensure that they are cleared of materials, debris and excavated materials.
- .7 Remove snow and ice from sidewalks as required by the Municipality.

1.7 HEALTH AND SAFETY COORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator. Health and Safety Coordinator must:
 - .1 Have minimum two (2) years' site-related working experience.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing and monitoring site-specific Contractor's Health and Safety Plan.
 - .5 Be on site during execution of Work and report directly to and be under direction of site supervisor.

1.8 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Consultant.

1.9 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Consultant.
- .2 Provide Consultant with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Consultant may stop Work if non-compliance of health and safety regulations is not corrected.

1.10 HAZARDOUS WORK

- .1 Blasting or other use of explosives is not permitted.

1.11 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

1.12 FIRE PROTECTION

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by governing codes, regulations and bylaws.
- .2 Burning rubbish and construction waste materials is not permitted on site.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 35 29.06

Health and Safety Requirements

Part 1 General

1.1 REFERENCE STANDARDS

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Province of Ontario
 - .1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. 1990, c.0.1, as amended and O. Reg. 213/91 as amended - Updated 2005.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
- .3 Submit pdf copies of Contractor's authorized representative's work site health and safety inspection reports to Consultant weekly.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Submit WHMIS Safety Data Sheets (SDS) in accordance with Section 01 47 15 - Sustainable Requirements: Construction and Section 02 81 00 - Hazardous Materials.
- .7 Consultant's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Consultant.
- .9 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.3 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Contractor shall be responsible and assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility with 3 weeks of contract award. Contractor to submit written acknowledgement to CSST along with Ouverture de Chantier Notice.

- .3 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.4 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.

1.5 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.6 CONSTRUCTION SAFETY MEASURES

- .1 The Contractor will comply with all regulatory and statutory Occupational Health and Safety Acts and Regulations including the Owner Policies and will be responsible to take all necessary steps to protect personnel (workers, visitors, general public, etc.) and property, from any harm during the course of the contract.
- .2 All work procedures and equipment will be in accordance with Owner and legislated standards.
- .3 Only competent personnel will be permitted on site. The Owner will determine during the "site introduction" who is competent, and will cause to remove from the site any persons not observing or complying with safety requirements.
- .4 The contractor shall supply competent personnel to implement their safety program and ensure that the Owner's standards, and those of the OHSA, are being complied with.
- .5 The Owner will monitor to ensure that safety requirements are met, and that safety records are properly kept and maintained. Initial disregard for safety standards will cause the contract to be reviewed and a written record of the review will become part of the contract documents. A second infraction can lead to loss of contract.
- .6 The contractor will report to the Owner, and jurisdictional authorities, any accident or incident involving contractor, university or public; personnel and/or property, arising from the contractor's execution of the work.
- .7 The contractor will include all provisions of this contract in any agreement with subcontractors, and hold all subcontractors equally responsible for safe work performance.
- .8 If the contractor is responsible for a delay in the progress of the work due to an infraction of legislated or Owner health and safety requirements, the contractor will, without additional cost to the Owner, work such overtime, acquire and use for the execution as to be necessary, in the opinion of the Owner's representative to avoid delay in the final completion of the work or any operations thereof.
- .9 Provide flag persons as required under the OH&S Act.
- .10 Occupational Health and Safety Policy
 - .1 The Owner has a Health and Safety Policy. Contractors are to ensure that employees and those of Subcontractors are advised of this Policy. Owners Health and Safety Policy is available upon request.
 - .2 The General Contractor shall carry out this project in strict accordance with Occupational Health and Safety Acts; the regulation for construction projects,

- Ontario Regulation 213/91 as amended by Ontario Regulation 631/94, and other prescribed regulations as they may pertain to the work.
- .3 This Contractor shall also provide full time supervision of on-site activities by all workers to ensure applicable regulations and specification requirements are followed at all times.
 - .4 This Contractor shall take all necessary precautions to ensure the continuous safety of the contract workers, the Owner, and general public at large on the Owner's property.
 - .5 To allow the Owner to properly participate in site safety the following information will be requested from the General Contractor:
 - .1 Assurance that all employed on this project are complying with the requirements of the Occupational Health and Safety Act, and prescribed regulations.
 - .2 A copy of letters of confirmation or register of requisite worker training.
 - .3 Copies of all rules posted.
 - .4 A list of all manuals, certificates, etc. in place in the site office on site as required under the Act.
 - .5 Copies of all regular safety meetings minutes.
 - .6 The number of people employed at the site.
 - .7 Composition of Health and Safety and Trade Committees in place as appropriate.
 - .8 A description of a discipline program.
 - .9 A copy of all Ministry of Labour and Construction Safety Inspectors Reports to be forwarded to the Owner.
 - .10 A copy of scheduled regular safety meetings from now until the end of this project.
 - .11 Internal Combustion Engines and Toxic Fumes
 - .1 Include the following in Contract Documents:
 - .1 Before use of internal combustion engines on site or where any toxic vapours may be produced the precautions required by law are to be in place for review and the Owner must be advised.
 - .2 The Owner will then arrange to visit the site for the Contractor to demonstrate that the proper procedures and requirements are in place before work commences.
 - .3 The Owner will request that continuous or intermittent air sample monitoring be provided by either or both the Owner and the Contractor. The need for either or both to provide continuous or intermittent air monitoring will be mutually determined dependent on the complexity of the work and site conditions.
 - .4 The duration of the work will be predetermined by the Contractor for everyone's information.

- .5 The above procedure and policy shall be adopted each and every time a new operation is to be undertaken.
- .6 It is the Contractor's responsibility to ensure that his own forces, subtrades, and their subtrades and all other appropriate personnel are advised of this policy.
- .12 All Contractors working in or in proximity to high voltage electrical rooms will be required to have had Electrical Awareness Training in accordance with Owner's requirements.
- .13 No powder activated tools allowed.

1.7 FIRE PROTECTION

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws of the Local Municipality.
- .2 The following equipment shall be considered as a minimum. Provide additional equipment as required to meet all codes, regulations and bylaws.
 - .1 One (1) fire extinguisher at each tool house, temporary works office, storage room and workshop on side.
 - .2 Provide and maintain temporary fire protection during construction as required by Fire Insurance Company regulations and municipal fire prevention authorities.
 - .3 Maintain fire hydrants in operating order in existing building areas. (if applicable).
 - .4 Extinguishers, generally, shall be 2.0 gallon capacity of soda acid type. Where subject to lower temperatures, they shall be antifreeze type.
 - .5 In proximity to gas, oil, grease, or paint storage locations extinguishers shall be 10# CO².
 - .6 Keep extinguishers fully charged.
- .3 Provide continuous fire watch when torching roofing, 24 hours per day, everyday. Provide 24 hour continuous fire watch once work is complete. No exception to this requirement will be considered.

1.8 OVERLOADING

- .1 Ensure no part of Work is subjected to a load which will endanger its safety or will cause permanent deformation.

1.9 ENVIRONMENTAL PROTECTION

- .1 Comply with Municipal and Provincial regulations governing handling and disposal of demolished material.

1.10 CONFINED SPACE ENTRY PROCEDURES

- .1 Any person entering a Confined Space as defined by the Occupational Health and Safety Act must have current and up to date training.
- .2 Be aware of other policies such as (but not limited to) high voltage vault training, and asbestos policies.

1.11 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Consultant may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.12 RESPONSIBILITY

- .1 The Owner strongly supports safety practices for personnel working on their Property.
- .2 In addition to Occupational Health and Safety Act requirements, the Owner has work procedures which must be fully complied with by all Contractors and their personnel.
- .3 The Contractor is responsible for training, etc., for their employees to ensure the requirements of the Occupational Health and Safety Act and the Owner's work procedures are followed.
- .4 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .5 Contractor will be responsible and assume the role Constructor as described in the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.
- .6 Contractor shall be the Principal Contractor as described in the Quebec Act Respecting Health and Safety code for the Construction for only their scope and areas of work as defined and described this project specification.
- .7 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
- .8 Any person who violates the requirements of the Occupational Health and Safety Act and the Owner's work procedures is subject to dismissal from the site.
- .9 Be aware of the Owner's Policies and Procedures. Copies of these are available from the Owner.

1.13 COMPLIANCE REQUIREMENTS

- .1 Comply with Ontario Occupational Health and Safety Act, R.S.O. 1990, c. 0.1 and Ontario Regulations for Construction Projects, O. Reg. 213/91.
- .2 Comply with Occupational Health and Safety Regulations, 1996.
- .3 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.14 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Consultant verbally and in writing.
- .2 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise Health and Safety co-ordinator and follow procedures in

accordance with Acts and Regulations of Province having jurisdiction and advise Consultant verbally and in writing.

1.15 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have working knowledge of occupational safety and health regulations.
 - .2 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .3 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

1.16 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Consultant.

1.17 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Consultant.
- .2 Provide Consultant with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Consultant may stop Work if non-compliance of health and safety regulations is not corrected.

1.18 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 41 00 Regulatory Requirements

Part 1 General

1.1 SUMMARY

- .1 This Section references laws, bylaws, ordinances, rules, regulations, codes, orders of Authority Having Jurisdiction (AHJ), and other legally enforceable requirements applicable to the Work and that are or become enforced during performance of the Work.

1.2 RELATED REQUIREMENTS

- .1 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 DEFINITIONS

- .1 Reference Standards: Means consensus standards, trade association standards, guides, and other publications expressly referenced in the Contract Documents.

1.4 LAWS, NOTICES, AND PERMITS

- .1 The laws of the Place of the Work shall govern the Work.
- .2 Give the required notices and comply with the laws, ordinances, rules, regulations, or codes which are or become in force during the performance of the Work and which relate to the Work, to the preservation of the public health and to construction safety.
- .3 If the Contractor knowingly performs or allows work to be performed that is contrary to any laws, ordinances, rules, regulations, or codes, the Contractor shall be responsible for and shall correct the violations thereof; and shall bear the costs, expenses, and damages attributable to the failure to comply with the provisions of such laws, ordinances, rules, regulations, or codes.
- .4 Determine detailed requirements of authorities having jurisdiction.
- .5 Pay construction damage deposits levied by municipality in connection with the issuance of a building permit.

1.5 FEES

- .1 The Owner shall obtain and pay for the building permit, permanent easements, and rights of servitude.
- .2 Regulatory Requirements: Except as otherwise specified, Contractor shall apply for, obtain, and pay fees associated with permits, licenses, certificates, and approvals required by regulatory requirements and Contract Documents, based on General Conditions of Contract and the following:
 - .1 Regulatory requirements and fees in force at the time of bid closing, and
 - .2 A change in regulatory requirements or fees scheduled to become effective after the time of bid closing and of which public notice has been given before the time of bid closing.

1.6 HAZARDOUS MATERIAL DISCOVERY

- .1 Asbestos: If material resembling asbestos is encountered in course of demolition work, immediately stop work and notify Consultant.

1.7 PERSONNEL SMOKING

- .1 Comply with regulatory and Owner imposed smoking restrictions during execution of the Work within or outside the premises.

Part 2 Products

2.1 PERMIT REQUIREMENTS

- .1 Building Permit:
 - .1 Contractor shall apply for, obtain and pay for building permit on behalf of Owner, and other permits required for Work and its various parts.
 - .2 Owner has applied for and will be paying for building permit. Contractor is responsible for obtaining or coordinating other permits required for Work and its various parts.
 - .3 Contractor will require that specific Subcontractors obtain and pay for some permits required by authorities having jurisdiction (AHJ), where their work is affected by work requiring permits including all permits.
 - .4 Contractor shall display building permit and other permits in a conspicuous location at the Place of the Work.
- .2 Occupancy Permits:
 - .1 Contractor shall apply for, obtain, and pay for occupancy permits, including partial occupancy permits where required by AHJ.
 - .2 Contractor shall correct deficiencies in accordance with Consultant's instructions. If a deficiency is not corrected, the Owner reserves the right to make correction and charge Contractor for costs incurred.
 - .3 Contractor shall turn occupancy permits over to Owner.

Part 3 Execution - Not Used

END OF SECTION

Section 01 45 00 Quality Control

Part 1 General

1.1 SUMMARY

- .1 This Section describes administrative and procedural requirements for reactive activities to verify that completed Work conforms to Contract Documents requirements.
- .2 Having inspection and testing agencies by Contractor or Owner does not relieve the Contractor of their responsibility to perform Work in accordance with Contract Documents.

1.2 RELATED SECTIONS

- .1 Section 01 21 00 - Allowances.
- .2 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 REFERENCES

- .1 ISO/IEC 17025-20065 - General Requirements for the Competence of Testing and Calibration Laboratories.
- .2 SCC (Standards Council of Canada).

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Cash Allowances for independent inspection and testing services to be retained and paid for by the Contractor as described in Section 01 21 00 - Allowances. This Cash Allowance(s) excludes any inspection and testing that is for the Contractor's own quality control, and excludes inspection and testing required by authority having jurisdiction.
- .2 Allow Authorities Having Jurisdiction (AHJ) access to Work on site, manufacturing off site, and fabrication off site with inspection and testing agencies. If part of Work is in preparation at locations other than Place of Work, cooperate to provide reasonable access to such Work whenever it is in progress.
- .3 Retain and pay for inspection and testing that are designated for Contractor's own quality control plan, and when testing and inspection are required by AHJ..
- .4 Give timely notice requesting inspection whenever portions of the Work are designated for special tests, inspections or approvals, either when described in the Contract Documents or when required by law in the Place of the Work.
- .5 Give advanced notice to Consultant and to each inspection/testing agency for inspection and testing required by Contract Documents or by AHJ.
- .6 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections, or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

- .2 Submit schedule of testing and inspection activities to Consultant, Owner, applicable Subcontractors, testing agencies, and other affected parties. Include the following:
 - .1 List each testing and inspection agency
 - .2 Identify types of tests and inspections for each agency, and cross reference to applicable specification Section number-title in Contract Documents
 - .3 Description of test and inspection
 - .4 Identify applicable reference standard
 - .5 Identify test and inspection method
 - .6 Indicate number of each test and inspection required
- .3 Submit one digital copy of each quality assurance inspection and test report to Consultant, except where a technical specification Section indicates otherwise.
- .4 Submit reports for inspection and testing required by Contract Documents or by AHJ and performed by Contractor-retained inspection and testing agencies within ten days after inspection or test is completed, except where a technical specification Section indicates a different time period.
- .5 Submit one digital copy of each quality control inspection and test report to Consultant, except where a technical specification Section indicates otherwise.
- .6 Deliver copies of quality control reports to Subcontractor of work being inspected or tested.

1.6 SITE QUALITY CONTROL PROCEDURES

- .1 Provide labour, Construction Equipment, and temporary facilities to obtain and handle test samples and materials on site. Arrange for sufficient space to store and cure test samples.
- .2 Deliver samples and materials required for testing, as requested in technical specification Sections. Submit with reasonable promptness and in an orderly sequence to avoid delays in Work.

1.7 TESTING AND INSPECTION SERVICES

- .1 Consultant may order any part of the Work to be reviewed or inspected if Work is suspected to be not in accordance with Contract Documents.
- .2 If, upon review such work is found not in accordance with Contract Documents, correct such Work and pay cost of additional review and correction.
- .3 If such Work is found in accordance with Contract Documents, Owner will pay cost of review and replacement.
- .4 Independent Inspection and Testing Agencies will be engaged by Owner for purpose of inspecting and testing portions of Work. Cost of such services will be allocated to Section 01 21 00: Allowances.
- .5 Provide equipment required for executing inspection and testing by appointed agencies.
- .6 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and testing to ascertain full degree of defect. Correct defect and

irregularities as advised by Consultant at no cost to Owner. Pay costs for retesting and reinspection.

- .7 Quality control testing and inspection reports to include the following:
 - .1 Project name and number
 - .2 Testing/Inspection agency's name, address, telephone number, and website
 - .3 Date of issuing report
 - .4 Dates and locations of tests, inspections, or samples
 - .5 Description of the Work and test and inspection method
 - .6 Numbers and titles of associated specification Sections
 - .7 Test and inspection data and interpretation of test results (e.g., pass or fail)
 - .8 Ambient conditions at time of test, inspection, or sampling
 - .9 Recommendations on re-testing and re-inspecting, if applicable

1.8 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage, and whether incorporated in Work or not, which has been rejected by Consultant as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Consultant it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner may deduct from Contract Price the difference in value between Work performed and that called for by Contract Documents, amount of which shall be determined by Consultant.

1.9 REPORTS

- .1 Submit electric * .pdf copy of signed inspection and test reports to Consultant and Project Manager.
- .2 Provide signed paper copies to manufacturer or fabricator of material being inspected or tested and Subcontractor of work being inspected or tested.

1.10 TESTS AND MIX DESIGNS

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

1.11 MOCK-UP

- .1 Prepare mock-up for Work specifically requested in specifications. Include for Work of all Sections required to provide mock-ups.
- .2 Construct in all locations acceptable to Consultant.

- .3 Prepare mock-ups for Consultant's review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.
- .4 Failure to prepare mock-ups 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, Consultant will assist in preparing a schedule fixing dates for preparation.
- .6 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed.

1.12 MILL TESTS

- .1 Submit mill test certificates as required of specification Sections.

1.13 EQUIPMENT AND SYSTEMS

- .1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 51 00 Temporary Utilities

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 52 00 - Construction Facilities.
- .2 Section 01 53 00 - Temporary Construction.
- .3 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.2 INSTALLATION AND REMOVAL

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Salvage and assist in recycling products for potential reuse.
- .3 Remove from site all such work after use.

1.3 DEWATERING

- .1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

1.4 TEMPORARY ELECTRICITY

- .1 Owner will provide for temporary electricity for lighting and operating of power tools during construction to a maximum supply of 230 volts 30 amps.
- .2 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance, and removal.
- .3 Temporary electricity for electric cranes and other equipment requiring a supply in excess of above is responsibility of Contractor and based on General Conditions of Contract.
- .4 Electrical power systems installed under this Contract may be used for construction requirements only with prior approval from Consultant if warranties are not affected.
 - .1 Repair damage to electrical system caused by use under this Contract.
 - .2 Replace lamps which have been used for more than two (2) months.
- .5 Provide and maintain temporary lighting throughout project. Ensure level of illumination is not less than 15 foot candles.

1.5 TEMPORARY FIRE PROTECTION

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.

1.6 TEMPORARY HEATING, COOLING, AND VENTILATING

- .1 Provide temporary heating as required during construction period, including attendance, maintenance and fuel.

- .2 Construction heaters used inside building must be vented to outside or be of the flameless (vent free) type. Solid fuel salamanders are not permitted.
- .3 Provide temporary heat and ventilation in enclosed areas as required to:
 - .1 Facilitate progress of Work.
 - .2 Protect Work and Products against dampness and cold.
 - .3 Prevent moisture and condensation on surfaces.
 - .4 Provide ambient temperatures and humidity levels for storage, installation, and curing of materials.
 - .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .4 Maintain minimum temperatures of 15 °C in areas where construction is in progress.
- .5 Ventilating:
 - .1 Prevent accumulations of dust, fumes, mists, vapours, or gases in occupied areas during construction.
 - .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
 - .3 Dispose of exhaust materials in a manner that will not result in harmful exposure to persons.
 - .4 Ventilate storage spaces containing hazardous or volatile materials.
 - .5 Ventilate temporary sanitary facilities.
 - .6 Continue operating ventilation and exhaust system after cessation of work process until complete removal of harmful contaminants is ensured.
- .6 Permanent heating, ventilating, and air conditioning system of building, may be used when available. Be responsible for damage to systems if use is permitted.
- .7 On completion of Work for which permanent heating system is used, replace filters,.
- .8 Ensure Date of Substantial Performance and Warranties for heating system does not start until entire system is in as near original condition as possible and is certified by Consultant.
- .9 Pay costs for maintaining temporary heat when using permanent heating system.
- .10 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
 - .1 Conform with applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.
- .11 Be responsible for damage to Work due to failure to provide adequate heat and protection during construction.

1.7 TEMPORARY LIGHTING

- .1 Provide and maintain temporary lighting throughout Project. Ensure level of illumination on all floors and stairs is not less than 162 lx.
- .2 Electrical lighting systems installed under this Contract may be used for construction requirements only with prior approval of Consultant if warranties are not affected.
 - .1 Repair damage to lighting systems caused by use under this Contract.
 - .2 Replace lamps that have been used for more than 2 months.

1.8 TEMPORARY TELECOMMUNICATIONS

- .1 Provide and pay for temporary high-speed internet and telephone hook-up, line/lines up to construction trailer. Provide all lines and equipment necessary for own use and use of Consultant.

1.9 TEMPORARY WATER

- .1 Provide continuous supply of potable water for construction use.
- .2 Arrange for connection with appropriate utility company and pay costs for installation, maintenance, and removal.
- .3 Pay for utility charges at prevailing rates, based on General Conditions of Contract.

Part 2 Products - Not Used

Part 3 Execution

3.1 INSTALLATION AND REMOVAL

- .1 Provide temporary utilities to execute Work expeditiously.
- .2 Remove all such temporary utilities from site after use.

END OF SECTION

Section 01 52 00 Construction Facilities

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 51 00 - Temporary Utilities.
- .2 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.2 REFERENCE STANDARDS

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-2020, Stipulated Price Contract.
- .2 Canadian General Standards Board (CGSB)
 - .1 [CAN/CGSB 1.189-00](#), Exterior Alkyd Primer for Wood.
 - .2 [CGSB 1.59-97](#), Alkyd Exterior Gloss Enamel.
- .3 CSA Group (CSA)
 - .1 [CSA-A23.1/A23.2-04](#), Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA-0121-M1978(R2003), Douglas Fir Plywood.
 - .3 [CAN/CSA-S269.2-M1987\(R2003\)](#), Access Scaffolding for Construction Purposes.
 - .4 [CAN/CSA-Z321-96\(R2001\)](#), Signs and Symbols for the Occupational Environment.
- .4 Public Works Government Services Canada (PWGSC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions 'C', In Effect as of: May 14, 2004.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.4 INSTALLATION AND REMOVAL

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .2 Identify areas which have to be gravelled to prevent tracking of mud.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

1.5 SCAFFOLDING

- .1 Scaffolding in accordance with [CAN/CSA-S269.2](#).
- .2 Provide and maintain ladders, ramps, platforms, scaffolding, temporary stairs, swing staging and as required.

1.6 HOISTING

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

1.7 ELEVATORS

- .1 Designated existing and permanent elevators not to be used by construction personnel and transporting of materials. Co-ordinate use with Consultant.
- .2 Provide protective coverings for finish surfaces of cars and entrances.

1.8 SITE STORAGE/LOADING

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.9 CONSTRUCTION PARKING

- .1 Parking will be permitted on site in Owner designated areas provided it does not disrupt the continuing operation of the facility and performance of Work, as well as public access to entrance. Maintain safe and adequate access to project site and entrance, clear of construction materials and debris.
- .2 Build and maintain temporary roads for construction where required and provide snow removal during period of Work.
- .3 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.
- .4 Clean runways and taxi areas where used by Contractor's equipment.

1.10 SECURITY

- .1 Provide temporary fire rated and completely secure dust free construction partition/barrier to separate the existing facility from the construction site. Any doors in this portion/barrier shall be fire rated with locking hardware coordinated with the Owner. When the above cannot be achieved, the Contractor shall provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays. Contractor to notify the Owner in advance of such conditions.

1.11 OFFICES

- .1 Provide office heated to 22 degrees C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table.
- .2 Provide marked and fully stocked first-aid case in a readily available location.

- .3 Subcontractors to provide their own offices as necessary. Direct location of these offices.

1.12 EQUIPMENT, TOOL, AND MATERIALS STORAGE

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.13 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep sanitary facilities clean and fully stocked with the necessary supplies at all times.
- .3 When permanent water and drain connections are completed, provide temporary water closets and urinals complete with temporary enclosures, inside building. Permanent facilities may be used on approval of Consultant.
- .4 Except where connected to municipal sewer system, periodically remove wastes from Site.
- .5 New permanent facilities may not be used.

1.14 CONSTRUCTION SIGNAGE

- .1 Provide and erect project sign, within three weeks of signing Contract, in a location designated by Consultant.
- .2 Construction sign 3 x 3 m, of wood frame and plywood construction painted with exhibit lettering produced by a professional sign painter.
- .3 Indicate on sign, name of Owner, Consultant Contractor and Subcontractor, of design style approved by [Consultant].
- .4 No other signs or advertisements, other than warning signs, are permitted on site.
- .5 Locate project identification sign where indicated and construct as follows:
 - .1 Build concrete foundation, erect framework, and attach signboard to framing.
 - .2 Paint surfaces of signboard and framing with one coat primer and two coats enamel. Colour white on signboard face, black on other surfaces.
 - .3 Apply vinyl sign face overlay to painted signboard face in accordance with installation instruction supplied.
- .6 Direct requests for approval to erect Consultant/Contractor signboard to Consultant. For consideration general appearance of Consultant/Contractor signboard must conform to project identification site sign. Wording in both official languages.
- .7 Signs and notices for safety and instruction in both official languages Graphic symbols to [CAN/CSA-Z321](#).
- .8 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Consultant.

1.15 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Consultant.
- .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .4 Protect travelling public from damage to person and property.
- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.
- .7 Construct access and haul roads necessary.
- .8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
- .9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .10 Dust control: adequate to ensure safe operation at all times.
- .11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by Consultant.
- .12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
- .13 Provide snow removal during period of Work.
- .14 Remove, upon completion of work, haul roads designated by Consultant.

1.16 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

Part 2 Products - Not Used

Part 3 Execution

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to or requirements of authorities having jurisdiction, whichever is more stringent.

- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

END OF SECTION

Section 01 53 00 Temporary Construction

Part 1 General

1.1 SECTION INCLUDES

- .1 Site enclosure.
- .2 Guardrails and barriers.
- .3 Weather enclosures.
- .4 Dust tight barriers.
- .5 Protection for off-site and public property.
- .6 Protection of applied finishes.
- .7 Protection of surrounding Work.

1.2 RELATED REQUIREMENTS

- .1 Section 01 51 00 - Temporary Utilities.
- .2 Section 01 35 69 - Sustainable Design Requirements.
- .3 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.4 GUARDRAILS AND BARRIERS

- .1 Provide secure, rigid guardrails and barricades around deep excavations, open shafts, open stairwells, open edges of floors and roofs.
- .2 Provide as required by governing authorities.

1.5 WEATHER ENCLOSURES

- .1 Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.
- .2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
- .3 Design enclosures to withstand wind pressure and snow loading.

1.6 DUST TIGHT BARRIERS

- .1 Provide dust tight barriers and screens or insulated partitions to localize dust generating activities, and for protection of workers, finished areas of Work and to separate the construction from the existing building and public.

- .2 Screens shall consist of 12 mm drywall on steel stud framing and 4 mil polyethylene. All joints shall be taped. Insulated wall at exterior locations and at separation to existing building. These screens are to be maintained at all times until completion of the work when they are to be removed.
- .3 Maintain and relocate protection until such work is complete.
- .4 Locate in such a manner as to maintain means of egress to all exits as required by jurisdictions having authority.

1.7 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.8 PROTECTION OF APPLIED FINISHES

- .1 Provide protection for finished and partially finished surfaces and equipment during performance of Work.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Confirm with Consultant locations and installation schedule one (1) days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

1.9 PROTECTION OF SURROUNDING WORK

- .1 Provide protection for finished and partially finished Work from damage.
- .2 Provide necessary cover and protection.
- .3 Be responsible for damage incurred due to lack of or improper or inappropriate protection.

END OF SECTION

Section 01 56 00 Temporary Barriers and Enclosures

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 02 41 00 Demolition.

1.2 EXISTING CONDITIONS

- .1 Take over structures to be based on their condition on the date that tender is accepted.
- .2 All temporary structures are not to impede the use or occupancy of the building.
- .3 Coordinate installation of during off-hours in evenings or weekends.
- .4 Do not modify or alter the existing building structure or finishes. All installation to be temporary and fully removable.

1.3 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.4 GUARD RAILS AND BARRICADES

- .1 Provide secure, rigid guard rails and barricades around deep excavations and open edges of floors.

1.5 DUST TIGHT SCREENS

- .1 Provide continuous sheet layer (minimum 6 mil polyethylene sheet) at ceiling / truss bottom chord level to collect and contain dust and small debris and separate occupied areas below from falling minor dust and debris caused by the work activities and for the protection of the public and building equipment.
- .2 Install any necessary temporary members or hoarding to provide sufficient support to the collection sheet layer. Ensure openings at sides of layer to allow air movement from building HVAC systems.
- .3 Maintain and relocate protection until such work is complete.
- .4 Make good all damages caused by the installation.
- .5 Remove and dispose of sheet and debris.
- .6 Clean up area and affected trusses and make good to pre-construction condition.

1.6 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.7 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.8 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.9 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Confirm with Consultant locations and installation schedule 3 days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

1.10 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 71 00 Examination and Preparation

Part 1 General

1.1 RECORDS

- .1 Maintain a complete, accurate log of control and survey work as Work progresses.
- .2 On completion of foundations and major site improvements, prepare and submit a certified survey showing dimensions, locations, angles, and elevations of Work.
- .3 Record locations of maintained, re-routed, and abandoned service lines.

1.2 SUBSURFACE CONDITIONS

- .1 Promptly notify Consultant in writing if discovered surface or subsurface conditions at place of work differ materially from those indicated in Contract Documents.
- .2 Advise the Consultant of a reasonable assumption of probable conditions when determined.
- .3 After prompt investigation, should Consultant determine that conditions do differ materially, instructions will be issued for changes in work as provided in Changes or Change Orders set out in Section 01 29 00.

Part 2 Products - Not Used

Part 3 Execution

3.1 EXAMINATION REQUIREMENTS

- .1 Verification of Conditions:
 - .1 Verify that substrate conditions are acceptable for installation of materials, assemblies, and systems in accordance with manufacturer's instructions and recommendations.
 - .2 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
 - .3 After uncovering, inspect conditions affecting performance of Work.
 - .4 Proceed with installation only after unacceptable conditions are remedied.
 - .5 Proceeding with cutting, patching, or installation means acceptance of existing conditions.
 - .6 Existing Services:
 - .1 Confirm locations and extent of service lines in area of Work before beginning work on site. Notify Consultant of findings.
- .2 Pre-Installation Testing:

- .1 Perform manufacturer-recommended pre-installation site test of substrate and submit report of test results indicating whether test results meet the manufacturer's minimum requirements and recommendations.
- .3 Location of Equipment and Fixtures
 - .1 Location of equipment, fixtures, and outlets indicated or specified are to be considered as approximate.
 - .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
 - .3 Inform Consultant of impending installation and obtain approval for actual location.
 - .4 Submit field drawings to indicate relative position of various services and equipment when required by Consultant.
- .4 Evaluation and Assessment:
 - .1 Verify that pre-existing substrate conditions are acceptable for installation of materials, assemblies, and systems in accordance with manufacturer's instructions and recommendations.
 - .2 Proceed with installation only after unacceptable conditions are remedied.

END OF SECTION

Section 01 73 29 Cutting and Patching

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 11 00 - Summary of Work.
- .2 Section 01 25 00 - Substitution Procedures: Product options and substitutions.
- .3 Section 01 32 00 - Construction Progress Documentation: Submittals and scheduling.
- .4 Section 01 35 13 – Work in Existing Building.
- .5 Section 01 61 00 - Common Product Requirements.
- .6 Section 01 62 00 - Product Exchange Procedures: Product options and substitutions.
- .7 This section describes requirements applicable to all Sections within Divisions 02 to 49.
 - .1 Cutting and patching incidental to work of the section.
 - .2 Advance notification to other sections of openings required in work of those sections.
 - .3 Limitations on cutting structural members.

1.2 SUBMITTALS

- .1 Submit written request in advance of cutting or alteration that affects:
 - .1 Structural integrity of any element of Project.
 - .2 Integrity of weather exposed or moisture resistant element.
 - .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 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 contractor.
 - .8 Date and time work will be executed.

Part 2 Products

2.1 MATERIALS

- .1 Primary Products: Those required for original installation.
- .2 Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 25 00.

Part 3 Execution

3.1 EXAMINATION

- .1 Examine existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering existing Work, assess conditions affecting performance of work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- .1 Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- .2 Provide protection from elements for areas that may be exposed by uncovering work.
- .3 Maintain excavations free of water.

3.3 CUTTING

- .1 Execute cutting and fitting including excavation and fill to complete the Work.
- .2 Uncover work to install improperly sequenced work.
- .3 Remove and replace defective or non-conforming work.
- .4 Remove samples of installed work for testing when requested.
- .5 Provide openings in the Work for penetration of mechanical and electrical work.
- .6 Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- .7 Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

3.4 PATCHING

- .1 Execute patching to complement adjacent Work.
- .2 Fit Products together to integrate with other Work.
- .3 Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- .4 Employ original installer to perform patching for weather exposed and moisture resistant elements, and sight-exposed surfaces.
- .5 Restore work with new Products in accordance with requirements of Contract Documents.

- .6 Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .7 At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material to Section 07 84 00, to full thickness of the penetrated element.
- .8 Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

END OF SECTION

Section 01 74 00 Cleaning

Part 1 General

1.1 SECTION INCLUDES

- .1 Progressive cleaning.
- .2 Cleaning prior to acceptance.

1.2 RELATED REQUIREMENTS

- .1 Section 01 74 19 - Construction Waste Managing and Disposal.
- .2 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 REFERENCE STANDARDS

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-2020, Stipulated Price Contract.
- .2 CSA Group/International Organization for Standardization (CSA ISO):
 - .1 CSA ISO 14024:20, Environmental labels and declarations – Type 1 – environmental labelling – Principles and procedures
- .3 Green Seal, Inc. (GS):
 - .1 GS-34-2017, Green Seal Standard for Cleaning and Degreasing Agents
 - .2 GS-37-2022, Green Seal Standard for Cleaning Products for Industrial and Institutional Use
 - .3 GS-40-2020, Green Seal Standard for Floor-Care Products for Industrial and Institutional Use
 - .4 GS-52-2022, Green Seal Standard for Specialty Cleaning Products for Household Use
 - .5 GS-53-2022, Green Seal Standard for Specialty Cleaning Products for Industrial and Institutional Use
- .4 Underwriters' Laboratories Inc. (UL):
 - .1 UL 2759-2011, Standard for Sustainability for Hard Surface Cleaners
 - .2 UL 2767-2011, Standard for Paint and Varnish Remover
 - .3 UL 2777-2011, Standard for Sustainability for Hard Floor Care Products
 - .4 UL 2791-2012, Standard for Sustainability for Drain and/or Grease Trap Additives
 - .5 UL 2792-2012, Standard for Sustainability for Cleaning and Degreasing Compounds: Biologically-based

- .6 UL 2795-2012, Standard for Sustainability for Carpet and Upholstery Care Products
- .7 UL 2796-2012, Standard for Sustainability for Odor Control Products
- .8 UL 2798-2012, Standard for Sustainability for Biological Digestion Additives for Cleaning and Odour Control

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination:
 - .1 Coordinate with Section 23 01 05 - Operation and Maintenance of HVAC Systems During Construction for related cleaning requirements.
 - .2 Notify the Consultant if cleaning is required due to actions of the Owner or other contractors.
- .2 Scheduling: Schedule cleaning operations so resulting dust and other contaminants will not fall on recently painted surfaces or contaminate building ventilation systems.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products

2.1 CLEANING MATERIALS

- .1 Cleaning Agents and Materials: Low VOC content.

Part 3 Execution

3.1 PREPARATION

- .1 Provide adequate temporary ventilation during use of volatile or noxious cleaning substances.
- .2 If no indoor air quality plan is in place comply with this section:
 - .1 Protect indoor air quality during construction and prior to occupancy
 - .2 Minimize exposure to dust, fumes, VOCs, and other airborne contaminants
 - .3 Prevent contamination of HVAC systems and finished materials
 - .4 Comply with applicable standards (e.g., CSA, ASHRAE, LEED, OBC best practices)
 - .1 ASHRAE 62.1 – Ventilation for Acceptable Indoor Air Quality

3.2 GENERAL REQUIREMENTS

- .1 Use cleaning products recommended by, or acceptable to, the manufacturer of surfaces to be cleaned. Use cleaning products that will not void installed products' warranties.
 - .1 Sustainability characteristics:
 - .1 Use cleaning products certified to one or more of the following standards:

- .1 A type 1 environmental labelling program in accordance with CSA ISO 14024;
 - .2 EPA's Safety Choice Standard;
 - .3 GS-34, GS-37, CS-40, GS-52, GS-53; or
 - .4 UL 2759, UL 2767, UL 2777, UL 2791, UL 2792, UL 2795, UL 2796, or UL 2798.
- .2 Use cleaning products in accordance with manufacturer's instructions.
 - .3 Test each cleaning product and procedure in a small inconspicuous area to verify no adverse reaction occurs with surface before proceeding with cleaning remainder of surface.
 - .4 Clean stained surfaces as soon as possible.

3.3 PROGRESS CLEANING

- .1 Maintain the Work in a tidy and safe condition, free from accumulation of waste materials and debris, including when caused by the Owner or other contractors.
- .2 Remove waste materials from site at regularly scheduled times or dispose of as directed by Consultant. Do not burn waste materials on site, unless approved by Consultant.
 - .1 Dispose of waste materials and debris off site.
 - .2 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Containers:
 - .1 Provide on-site steel framed, hinged lid containers for collection of waste materials and debris.
 - .2 Provide and use clearly marked, separate bins for recycling.
 - .3 Refer to Section 01 74 19.
- .5 Remove waste material and debris from site and deposit in waste container at end of each working day.
- .6 Clean interior areas prior to start of finish work, and maintain areas free of dust and other contaminants during finishing operations.
- .7 Remove dust, debris, and other contaminants from wall and other cavities before enclosing.
- .8 Clean interior areas before start of finish work. Maintain areas free of dust and other contaminants during finishing operations.
- .9 Provide adequate ventilation during use of volatile or noxious substances. Use of enclosure ventilation systems is not permitted for this purpose.
- .10 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

- .11 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.
- .12 Clean dirt or mud tracked onto paved or surfaced roadways.
- .13 Clear snow and ice from access to buildings, sidewalks and paving, in accordance with local regulations. Remove cleared snow from site or if approved Pile cleared snow in designated areas.

3.4 CLEANING PRIOR TO ACCEPTANCE - SUBSTANTIAL PERFORMANCE

- .1 Additional notes in final cleaning to be followed to complete project
- .2 Prior to applying for Substantial Performance of the Work, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .3 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .4 Prior to final review, remove surplus products, tools, construction machinery and equipment.
- .5 Remove waste products and debris including that caused by Owner or other Contractors.
- .6 Remove waste materials from site at regularly scheduled times or dispose of as directed by Consultant. Do not burn waste materials on site, unless approved by Consultant.
- .7 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .8 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
- .9 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, floors.
- .10 Clean lighting reflectors, lenses, and other lighting surfaces.
- .11 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
- .12 Clean and polish surface finishes, as recommended by manufacturer.
- .13 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .14 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .15 Remove dirt and other disfiguration from exterior surfaces.
- .16 Clean and sweep roofs, gutters, areaways, and sunken wells.
- .17 Sweep and wash clean paved areas.
- .18 Clean equipment and fixtures to a sanitary condition; replace filters of mechanical equipment.
- .19 Clean roof surfaces, down-spouts, and drainage components.

- .20 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .21 Remove snow and ice from access to facilities.

3.5 FINAL CLEANING

- .1 Execute final cleaning prior to final project assessment. Refer to Section 01 74 00.
- .2 Remove surplus products, tools, construction machinery, and equipment not required for performance of remaining Work before Consultant's final review.
- .3 Remove waste and surplus materials, rubbish, and construction facilities from the site.
- .4 Replace broken, scratched, or otherwise disfigured glass and mirrors.
- .5 Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- .6 Clean and polish exposed glass-, mirror-, stainless steel-, and chrome-surfaces.
- .7 Clean hardware, wall tile, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures.
- .8 Remove stains, spots, marks, and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, and floors.
- .9 Remove dust and vacuum interior building surfaces, behind grilles, louvres, and screens.
- .10 Wax, seal, or otherwise apply treatments to floor finishes as recommended by each flooring manufacturer.
- .11 Remove paint from:
 - .1 mechanical nameplates;
 - .2 electrical nameplates; and
 - .3 permanent labels required by authorities having jurisdiction or regulatory agencies, such as CSA, cUL, NFPA, ULC, WHI, etc.
- .12 Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- .13 Clean plumbing fixtures to a sanitary condition.
- .14 Clean permanent filters and replace disposable filters for plumbing and HVAC equipment used during construction.
- .15 Replace all disposable filters in equipment during construction. Ensure owner have new clean filters for Ready-For -Takeover
- .16 Remove dust and other contaminants from lighting reflectors, lenses, lamps, bulbs, and other lighting surfaces.
- .17 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .18 Clean and sweep roofs, gutters, areaways, downspouts, sunken window wells, and related drainage systems.

- .19 Remove dirt and other disfiguration from exterior building surfaces.
- .20 Re-clean areas soiled by workers before Owner occupancy.
- .21 Broom clean and power wash exterior sidewalks and stairs.
- .22 Sweep and power wash clean paved areas , including parking areas and roads.
- .23 Clean landscaped areas of construction-related waste and leaves.
- .24 Remove snow and ice from primary pedestrian and vehicular access routes to building.

END OF SECTION

Section 01 74 19 Waste Management and Disposal

Part 1 General

1.1 SUMMARY

- .1 This Section includes requirements for management of construction waste and disposal, which forms the Contractor 's commitment to reduce and divert waste materials from landfill and includes the following:
 - .1 Preparation of a Draft Construction Waste Management Plan that will be used to track the success of the Construction Waste Management Plan against actual waste diversion from landfill.
 - .2 Preparation of a Construction Waste Management Plan that provides guidance on a logical progression of tasks and procedures to be followed in a pollution prevention program to reduce or eliminate the generation of waste, the loss of natural resources, and process emissions through source reduction, reuse, recycling, and reclamation.
 - .3 Preparation of monthly progress reports indicating cumulative totals representing progress towards achieving diversion and reduction goals of waste materials away from landfill and identifying any special programs, landfill options or alternatives to landfill used during construction.
 - .4 Preparation of a Construction Waste Management Report containing detailed information indicating total waste produced by the Project, types of waste material and quantity of each material, and total waste diverted and diversion rates indicated as a percentage of the total waste produced.
- .2 Owner has established that this Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors be employed by the Contractor.

1.2 RELATED REQUIREMENTS

- .1 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 DEFINITIONS

- .1 Clean Waste: Untreated and unpainted; not contaminated with oils, solvents, sealants or similar materials.
- .2 Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, re-modeling, repair and demolition operations.
- .3 Hazardous: Exhibiting the characteristics of hazardous substances including properties such as ignitability, corrosiveness, toxicity, or reactivity.
- .4 Non-hazardous: Exhibiting none of the characteristics of hazardous substances, including properties such as ignitability, corrosiveness, toxicity, or reactivity.

- .5 Non-toxic: Not poisonous to humans either immediately or after a long period of exposure.
- .6 Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- .7 Recycle: To remove a waste material from the Project site to another site for remanufacture into a new product for reuse by others.
- .8 Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form; recycling does not include burning, incinerating, or thermally destroying waste.
- .9 Return: To give back reusable items or unused products to vendors for credit.
- .10 Reuse: To reuse a construction waste material in some manner on the Project site.
- .11 Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.
- .12 Sediment: Soil and other debris that has been eroded and transported by storm or well production run off water.
- .13 Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- .14 Toxic: Poisonous to humans either immediately or after a long period of exposure.
- .15 Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- .16 Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products over time through outgassing:
 - .1 Solvents in paints and other coatings;
 - .2 Wood preservatives; strippers and household cleaners;
 - .3 Adhesives in particleboard, fiberboard, and some plywood; and foam insulation.
 - .4 When released, VOC's can contribute to the formation of smog and can cause respiratory tract problems, headaches, eye irritations, nausea, damage to the liver, kidneys, and central nervous system, and possibly cancer.
- .17 Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.
- .18 Construction Waste Management Plan: A project related plan for the collection, transportation, and disposal of the waste generated at the construction site; the purpose of the plan is to ultimately reduce the amount of material being landfilled.

1.4 REFERENCE STANDARDS

- .1 ASTM International (ASTM)
 - .1 [ASTM E1609](#) 01, Standard Guide for Development and Implementation of a Pollution Prevention Program
- .2 Recycling Certification Institute (RCI)
 - .1 RCI Certification Construction and Demolition Materials Recycling

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination: Coordinate waste management requirements with all Divisions of the Work for the Project, and ensure that requirements of the Construction Waste Management Plan are followed.
- .2 Preconstruction Meeting: Arrange a pre-construction meeting in accordance with Section 01 31 00 - Project Management and Coordination before starting any Work of the Contract attended by the Owner, Contractor, affected Subcontractor 's and Consultant to discuss the Contractor 's Construction Waste Management Plan and to develop mutual understanding of the requirements for a consistent policy towards waste reduction and recycling.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit required information in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Action Submittals: Provide the following submittals before starting any work of this Section:
 - .1 Draft Construction Waste Management Plan (Draft CWM Plan): Submit to Consultant a preliminary analysis of anticipated site generated waste by listing a minimum of five (5) construction or demolition waste streams that have potential to generate the most volume of material indicating methods that will be used to divert construction waste from landfill and source reduction strategies; Consultant will provide commentary before development of Contractor 's Construction Waste Management Plan.
 - .2 Construction Waste Management Plan (CWM Plan): Submit a CWM Plan for this Project before any waste removal from site and that includes the following information:
 - .1 Material Streams: Analysis of the proposed jobsite waste being generated, including material types and quantities forming a part of identified material streams in the Draft CWM Plan; materials removed from site destined for alternative daily cover at landfill sites and land clearing debris cannot be considered as contributing to waste diversion and will be included as a component of the total waste generated for the site.
 - .2 Recycling Haulers and Markets: Investigate local haulers and markets for recyclable materials, and incorporate into CWM Plan.
 - .3 Alternative Waste Disposal: Prepare a listing of each material proposed to be salvaged, reused, recycled or composted during the course of the Project, and the proposed local market for each material.
 - .4 Landfill Options: The name of the landfill where trash will be disposed of; landfill materials will form a part of the total waste generated by the Project.
 - .5 Materials Handling Procedures: A description of the means by which any recycled waste materials will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.

- .6 Transportation: A description of the means of transportation of the recyclable materials, whether materials will be site separated and self hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site, and destination of materials.

1.7 QUALITY ASSURANCE

- .1 Resources for Development of Construction Waste Management Report (CWM Report): The following sources may be useful in developing the Draft Construction Waste Management Plan:
 - .1 Recycling Haulers and Markets: Investigate local haulers and markets for recyclable materials, and incorporate into CWM Plan.
 - .2 Waste-to-Energy Systems: Investigate local waste-to-energy incentives where systems for diverting materials from landfill for reuse or recycling are not available.
- .2 Certifications: Provide proof of the following during the course of the Work:
 - .1 Compliance Certification: Provide proof that recycling center is third party verified and is listed as a Certified Facility through the registration and certification requirements of the Recycling Certification Institute.

1.8 DELIVERY, STORAGE, AND HANDLING

- .1 Storage Requirements: Implement a recycling/reuse program that includes separate collection of waste materials as appropriate to the Project waste and the available recycling and reuse programs in the Project area.
- .2 Handling Requirements: Clean materials that are contaminated before placing in collection containers and ensure that waste destined for landfill does not get mixed in with recycled materials:
 - .1 Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling process.
 - .2 Arrange for collection by or delivery to the appropriate recycling or reuse facility.
- .3 Hazardous Waste and Hazardous Materials: Handle in accordance with applicable regulations.

Part 2 Products - Not Used

Part 3 Execution

3.1 (CWM PLAN) IMPLEMENTATION

- .1 Manager: Contractor is responsible for designating an on site party or parties responsible for instructing workers and overseeing and documenting results of the CWM Plan for the Project.
- .2 Distribution: Distribute copies of the CWM Plan to the job site foreman, each Subcontractor, the Owner, the Consultant and other site personnel as required to maintain CWM Plan.

- .3 Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, composting and return methods being used for the Project to Subcontractor 's at appropriate stages of the Project.
- .4 Separation Facilities: Lay out and label a specific area to facilitate separation of materials for potential recycling, salvage, reuse, composting and return:
 - .1 Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.
 - .2 Hazardous wastes shall be separated, stored, and disposed of in accordance with local regulations.
- .5 Progressive Documentation: Submit a monthly summary of waste generated by the Project to ensure that waste diversion goals are on track with Project requirements:
 - .1 Submittal of waste summary can coincide with application for progress payment, or similar milestone event as agreed upon between the Owner, Contractor and Consultant.
 - .2 Monthly waste summary shall contain the following information:
 - .1 The amount in tonnes or m³ and location of material landfilled,
 - .2 The amount in tonnes or m³ and location of materials diverted from landfill, and
 - .3 Indication of progress based on total waste generated by the Project with materials diverted from landfill as a percentage.

3.2 SUBCONTRACTOR'S RESPONSIBILITY

- .1 Subcontractor 's shall cooperate fully with the Contractor to implement the CWM Plan.
- .2 Failure to cooperate may result in the Owner not achieving their environmental goals, and may result in penalties being assessed by the Contractor to the responsible Subcontractor 's.

END OF SECTION

Section 01 77 00 Closeout Procedures

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 78 10: Closeout Submittals.

1.2 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Consultant in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .2 Request Consultant's inspection.
 - .2 Consultant's Inspection:
 - .1 Consultant and Contractor to inspect Work and identify defects and deficiencies.
 - .2 Contractor to correct Work as directed.
 - .3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:
 - .1 Work: completed and inspected for compliance with Contract Documents.
 - .2 Defects: corrected and deficiencies completed.
 - .3 Equipment and systems: tested, adjusted and fully operational.
 - .4 Operation of systems: demonstrated to Owner's personnel.
 - .5 Work: complete and ready for final inspection.
 - .4 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Consultant, and Contractor.
 - .2 When Work incomplete according to Consultant and Owner, complete outstanding items and request re-inspection.
 - .5 Declaration of Substantial Performance: when Consultant considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
 - .6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement

for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

- .7 Final Payment:
 - .1 When Consultant considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .2 Refer to CCDC 2: when Work deemed incomplete by Consultant, complete outstanding items and request re-inspection.
- .8 Provide all closeout Documentation as per Section 01 78 10 Closeout Submittals.
- .9 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.3 FINAL CLEANING

- .1 Clean in accordance with Section 01 74 00 - Cleaning.
 - .1 At completion of work, remove waste materials, rubbish, tools, equipment, machinery, and surplus materials, and clean all surfaces exposed to view; leave project clean and ready for occupancy.
- .2 Be responsible for final cleaning of both new work areas and existing areas affected by new work; including but not limited to the following:
 - .1 Clean and polish new and existing glass.
 - .2 Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
 - .3 Final cleaning will be done to the Owner's satisfaction before substantial performance can be claimed.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 78 00 Closeout Submittals

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 45 00 - Quality Control.
- .3 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.2 REFERENCE STANDARDS

- .1 Canadian Environmental Protection Act (CEPA):
 - .1 SOR/2008-197, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations

1.3 INSPECTIONS AND DECLARATIONS

- .1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of work, identify deficiencies and defects, and repair as required to conform to contract documents.
 - .1 Notify Consultant in writing of satisfactory completion of Contractor's and Sub Contractor's Inspection and that corrections have been made.
 - .2 Request Consultant's Inspection.
- .2 Consultant's Inspection: Consultant and Contractor will perform inspection of work to identify defects or deficiencies. Correct defective and deficient work accordingly.
- .3 Completion: Submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with contract documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Equipment and systems have been tested, adjusted, balanced, and are fully operational.
 - .4 Certificates required by authorities having jurisdiction have been submitted.
 - .5 Operation of systems have been demonstrated to Owner's personnel.
 - .6 Work is complete and ready for final inspection.
- .4 Final Inspection: When items noted above are completed, request final inspection of work by Consultant. If work is deemed incomplete by Consultant, complete outstanding items and request re-inspection.
- .5 Declaration of Substantial Performance: When Consultant consider deficiencies and defects have been corrected and it appears requirements of contract have been substantially performed, make application for Substantial Performance of the Work.

- .6 Commencement of Warranty Periods: The date of Substantial Performance of the Work shall be the date for commencement of the warranty period.
- .7 Commencement of Lien Periods: The date of publication of the certificate of Substantial Performance of the Work shall be the date for commencement of the lien period, unless required otherwise by the lien legislation applicable at the Place of the Work.
- .8 Final Payment: When Consultant and Owner consider final deficiencies and defects have been corrected and it appears requirements of Contract have been completed, make application for final payment.
- .9 Payment of Hold-back: After issuance of certificate of Substantial Performance of the Work, submit an application for payment of hold-back amount.

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-warranty Meeting:
 - .1 Convene meeting one week before Contract completion with Consultant, in accordance with Section 01 31 00 Project Management and Coordination to:
 - .1 Verify Project requirements.
 - .2 Review installation instructions and warranty requirements.
 - .2 Consultant to establish communication procedures for:
 - .1 Notifying construction warranty defects.
 - .2 Determine priorities for type of defects.
 - .3 Determine reasonable response time.
 - .3 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.
 - .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Four weeks before Substantial Performance of the Work, submit to the Consultant, one final copies of operating and maintenance manuals in English.
 - .1 Prepare instructions and data using personnel experienced in maintenance and operation of described products.
 - .2 Known information that is missing or not available at the time of this submission shall be identified with a contrasting colour placeholder page clearly indicating the information and the expected date to be received. The progress copy will be returned with Consultant's comments no more than 2 weeks later for Contractor/Subcontractor completion. Re-submit one (1) week prior to Substantial Performance the completed document for final Consultant approval. Contractor to provide one (1) pdf copy and three (3) hard copies of the final document to the Consultant prior to Substantial Performance. One (1) hard copy of the above may be delivered to the site if directed by the Owner.

- .3 Provide spare parts, maintenance materials and special tools of same quality and manufacture as products provided in Work.
- .4 Provide evidence, if requested, for type, source and quality of products supplied.
- .5 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .6 Pay costs of transportation.

1.6 FORMAT

- .1 Organize data as instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 8.5 x 11 inch with spine and face pockets.
- .3 When multiple binders are used correlate data into related consistent groupings.
 - .1 Identify contents of each binder on spine.
- .4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Arrange content by systems, under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: manufacturer's printed data, or typewritten data.
- .8 Drawings: Provide with reinforced punched binder tab.
 - .1 Bind in with text; fold larger drawings to size of text pages.
- .9 Provide 1:1 scaled CAD files in *.PDF format on USB drive.

1.7 CONTENTS - PROJECT RECORD DOCUMENTS

- .1 Table of Contents: Provide:
 - .1 Title of Project
 - .2 Date of submission
 - .3 Names, addresses, and telephone numbers of Consultant and Contractor with name of responsible parties.
 - .4 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:
 - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
 - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

- .5 Typewritten Text: As required to supplement product data.
 - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.
- .6 Certificate of Acceptance: Relevant certificates issued by authorities having jurisdiction, including code compliance certificate.

1.8 AS-BUILT DOCUMENTS AND SAMPLES

- .1 Maintain, in addition to requirements in General Conditions, one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Site test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in site office apart from documents used for construction.
 - .1 Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
 - .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.
 - .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Consultant.

1.9 RECORD DOCUMENTS

- .1 Four (4) weeks prior to Substantial Performance of the Work, provide on DVD the marked up information from the as-built documents to a master set of drawing and specification files provided by the Consultant, as follows:
 - .1 Drawings: Adobe Acrobat and AutoCAD current release.
 - .2 Specifications: Adobe Acrobat and Microsoft Word.
- .2 Mark revised documents as "RECORD DOCUMENTS". Include all revisions, with special emphasis on structural steel, electrical, reinforced concrete, and mechanical.
- .3 Employ a competent computer draftsman to indicate changes on the electronic set of record drawings. Provide updated record drawings in AutoCAD current release.
- .4 Employ a competent specification writer to indicate changes to the electronic set of record specifications. Provide updated record specifications in Adobe Acrobat and Microsoft Word on USB drive.

- .5 Submit completed record documents to Consultant on a USB drive, accompanied by one (1) hard copy set.

1.10 RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS

- .1 Record information on set of black line opaque drawings, and in copy of Project Manual, provided by Consultant.
- .2 Use felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress.
 - .1 Do not conceal Work until required information is recorded.
 - .2 Failure to document this information may result in adjustments to the billing.
- .4 Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Site changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not on original Contract Drawings.
 - .7 Referenced Standards to related shop drawings and modifications.
- .5 Specifications: mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .6 Other Documents: Maintain manufacturer's certifications, inspection certifications, and site test records, required by individual specifications Sections.
- .7 Provide digital photos, if requested, for site records.

1.11 EQUIPMENT AND SYSTEMS

- .1 For each item of equipment and each system include description of unit or system, and component parts.
 - .1 Give function, normal operation characteristics and limiting conditions.
 - .2 Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- .2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.
- .3 Include installed colour coded wiring diagrams.

- .4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences.
 - .1 Include regulation, control, stopping, shut-down, and emergency instructions.
 - .2 Include summer, winter, and any special operating instructions.
- .5 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- .6 Provide servicing and lubrication schedule, and list of lubricants required.
- .7 Include manufacturer's printed operation and maintenance instructions.
- .8 Include sequence of operation by controls manufacturer.
- .9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- .10 Provide installed control diagrams by controls manufacturer.
- .11 Provide Contractor's coordination drawings, with installed colour coded piping diagrams.
- .12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- .13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- .14 Include test and balancing reports as specified in Section 01 45 00 - Quality Control and Section 01 91 00- Commissioning.
- .15 Underground and Above ground storage tank inspection documentation, registration, forms, decommissioning and removal in accordance with CEPA SOR/2008-197.
- .16 Additional requirements: As specified in individual specification Sections.

1.12 MATERIALS AND FINISHES

- .1 Building products, applied materials, and finishes: Include product data, with catalogue number, size, composition, and colour and texture designations.
 - .1 Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and weather-exposed products: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional requirements: As specified in individual specifications Sections.

1.13 MAINTENANCE MATERIALS

- .1 Spare Parts:
 - .1 Provide spare parts, in quantities specified in individual specification Sections.
 - .2 Provide items of same manufacture and quality as items in Work.

- .3 Deliver to location as directed; place and store.
- .4 Receive and catalogue items.
 - .1 Submit inventory listing to Consultant.
 - .2 Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit before final payment.
- .2 Extra Stock Materials:
 - .1 Provide maintenance and extra materials, in quantities specified in individual specification Sections.
 - .2 Provide items of same manufacture and quality as items in Work.
 - .3 Deliver to location as directed; place and store.
 - .4 Receive and catalogue items.
 - .1 Submit inventory listing to Consultant.
 - .2 Include approved listings in Maintenance Manual.
 - .5 Obtain receipt for delivered products and submit before to final payment.
- .3 Special Tools:
 - .1 Provide special tools, in quantities specified in individual specification Section.
 - .2 Provide items with tags identifying their associated function and equipment.
 - .3 Deliver to location as directed; place and store.
 - .4 Receive and catalogue items.
 - .1 Submit inventory listing to Consultant.
 - .2 Include approved listings in Maintenance Manual.

1.14 DELIVERY, STORAGE, AND HANDLING

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and for review by Consultant.

1.15 WARRANTIES AND BONDS

- .1 Develop warranty management plan to contain information relevant to Warranties.
- .2 Submit warranty management plan, 30 days before planned pre-warranty conference, to Consultant approval.
- .3 Warranty management plan to include required actions and documents to assure that Consultant receives warranties to which it is entitled.

- .4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
- .5 Submit, warranty information made available during construction phase, to Consultant for approval before each monthly pay estimate.
- .6 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by Subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
 - .4 Verify that documents are in proper form, contain full information, and are notarized.
 - .5 Co-execute submittals when required.
 - .6 Retain warranties and bonds until time specified for submittal.
- .7 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- .8 Conduct joint 4 month and 9 month warranty inspection, measured from time of acceptance, by Consultant.
- .9 Include information contained in warranty management plan as follows:
 - .1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Contractors, Subcontractors, manufacturers, or suppliers involved.
 - .2 Listing and status of delivery of Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, and transformers, etc....
 - .3 Provide list for each warranted equipment, item, feature of construction or system indicating:
 - .1 Name of item.
 - .2 Model and serial numbers.
 - .3 Location where installed.
 - .4 Name and phone numbers of manufacturers or suppliers.
 - .5 Names, addresses and telephone numbers of sources of spare parts.
 - .6 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.
 - .7 Cross-reference to warranty certificates as applicable.
 - .8 Starting point and duration of warranty period.

- .9 Summary of maintenance procedures required to continue warranty in force.
- .10 Cross-Reference to specific pertinent Operation and Maintenance manuals.
- .11 Organization, names and phone numbers of persons to call for warranty service.
- .12 Typical response time and repair time expected for various warranted equipment.
- .4 Contractor's plans for attendance at 4 and 9 month post-construction warranty inspections.
- .5 Procedure and status of tagging of equipment covered by extended warranties.
- .6 Post copies of instructions near selected pieces of equipment where operation is critical for warranty and/or safety reasons.
- .10 Respond in timely manner to oral or written notification of required construction warranty repair work.
- .11 Written verification to follow oral instructions.
 - .1 Failure to respond will be cause for the Consultant to proceed with action against Contractor.

1.16 WARRANTY TAGS

- .1 Tag, at time of installation, each warranted item. Provide durable, oil- and water-resistant tag approved by Consultant.
- .2 Attach tags with copper wire and spray with waterproof silicone coating.
- .3 Leave date of acceptance until project is accepted for occupancy.
- .4 Indicate the following information on tag:
 - .1 Type of product/material.
 - .2 Model number.
 - .3 Serial number.
 - .4 Contract number.
 - .5 Warranty period.
 - .6 Inspector's signature.
 - .7 Construction Contractor.

Part 2 Products - Not Used

Part 3 Execution - Not Used

END OF SECTION

Section 01 91 00 Commissioning

Part 1 General

1.1 SECTION INCLUDES

- .1 Commissioning, testing and documentation.
- .2 Division 1, General Requirements is a part of this section and shall apply to this section. Conform with requirements of all sections of the General Requirements and any supplements and/or addenda, as it applies to the work of this section.
- .3 Audit testing and the commissioning auditor.
- .4 General Requirements for Facility Commissioning, includes 4-season testing, for 1-year minimum.
- .5 General Requirements for Arena Operation are October 1 - April 30 testing, for a 1 year minimum.
- .6 This section is to be read in conjunction with other sections relating to commissioning.

1.2 RELATED REQUIREMENTS

- .1 Section 26 01 20 – Commissioning and Integrated Testing of Life Safety and Fire Protection System.
- .2 Section 26 51 16 – Digital Occupancy & Daylight Control Systems.
- .3 Section 01 33 00 - Submittal Procedures.
- .4 Section 01 35 69 - Sustainable Design Requirements.
- .5 Section 01 71 00 - Examination and Preparation.
- .6 Section 01 75 16 - Start.
- .7 Section 01 75 19 - Testing, Adjusting and Balancing: Mechanical systems.
- .8 Section 01 79 00 - Demonstration and Training.
- .9 This section describes requirements applicable to all Sections within Divisions 02 to 49.

1.3 COMMISSIONING OBJECTIVES

- .1 Objectives of commissioning process are:
 - .1 Support quality management through monitoring and checking of installation.
 - .2 Verify system performance through testing and commissioning of completed installation.
 - .3 Move completed facility from “static completion” state to optimal “dynamic” operating state.
 - .4 Transfer facility from Contractor to Owner in such a manner that provision of a quality facility to Owner has been assured.

- .5 Optimize operating and maintenance through delivery of comprehensive quality training and instruction to Owner's operating personnel.
- .6 Assure provision of accurate and useful historical records, such as, as-built drawings, test certificates, etc. to Owner. Such records provide important data for operating and maintaining systems as well as for future system testing, maintenance or renovations and to trouble shoot and repair the components of systems.
- .7 Extend commissioning into operational phase in order to verify performance levels under a range of operating conditions; such as change of seasons. This process will help to avoid unforeseen or hidden operating and maintenance expenses that may develop later on.
- .8 Monitor operation, performance and maintenance programs; optimize system's performance under normal operating conditions, reasonable possible operating conditions (equipment failure, partial system failure, etc.), partial occupancy, and full occupancy, under the direction and review of Commissioning Authority. This phase lasts throughout warranty period and involves activities to ensure completion of:
 - .1 System debugging and optimization
 - .2 Completion of training and instruction for operating and maintenance personnel
 - .3 Completion of all commissioning activities on defective, seasonally sensitive systems, for varying modes and periodic simulated emergency conditions
- .9 Commissioning shall be considered complete when all of the objectives of commissioning, as specified herein, have been achieved.
- .2 The commissioning process shall encompass and co-ordinate the following areas:
 - .1 System documentation
 - .2 Equipment start-up and Performance Testing (Pre-Functional Testing)
 - .3 Testing and balancing
 - .4 Control system calibration
 - .5 System start-up and Performance Testing (Function Testing)
 - .6 Training
 - .7 Deficiency Documentation and Resolution
- .3 General Requirements:
 - .1 Operating equipment and systems shall be tested in the presence of the Commissioning Authority (and the Consultant – at the Consultant's option) to demonstrate compliance with specified requirements. To minimize the time of Commissioning Team members, testing shall be done in four seasonal single blocks of time insofar as possible.
 - .2 Testing shall be conducted under specified design operating conditions as recommended or approved by the Commissioning Authority and Consultant, and outlined in the Pre-Functional and Functional Performance Tests.

- .3 All elements of systems shall be tested to demonstrate that total systems satisfy all requirements of these Specifications. Testing shall be accomplished on hierarchical basis. Test each piece of equipment for proper operation, followed by each sub-system, followed by entire system, followed by any inter-ties of other major systems.
- .4 All special testing materials and equipment shall be provided by the appropriate Contractor, as determined by the Prime Contractor.
- .5 Provide three copies of all test reports and records to the Commissioning Authority.

1.4 COMMISSIONING MEETINGS, SCHEDULING, AND REPORTING

- .1 Contractor shall include the commissioning activities in their construction schedule and shall schedule for all tests and equipment start-up in the construction schedule.
- .2 Commissioning meetings shall be scheduled as required. The meetings shall address commissioning related responsibilities as well as all specified testing, documentation, O&M manuals, training, and post construction requirements. The testing schedules and results of all tests shall be reviewed at the meetings.
- .3 Where construction may be completed in phases, allow for the frequency of meetings to correspond to the varying stages of construction of each phase.
- .4 Testing forms and reports associated with the commissioned systems shall be directed to the Owner, to the Consultant, and to the Commissioning Authority.
- .5 The forms and reports to be issued shall include:
 - .1 Shop drawings, issued and accepted
 - .2 Installation verification checklists
 - .3 Testing forms
 - .4 Reports resulting from tests
 - .5 Testing schedule
 - .6 TAB Report
 - .7 Equipment start-up reports
 - .8 Pressure test reports
- .6 Test Procedure and Test Documentation:
 - .1 The Commissioning Authority will provide the Prime Contractor with Pre-Functional and Functional test procedures and test documentation reports. The Prime Contractor may propose alternate documentation and may alter the test procedures and test documentation to suit as-built conditions. However, the Prime Contractor will be expected to co-operate to the level of detail and general approach of the provided test procedures and test documentation.
 - .2 The verification testing procedures shall address all operating characteristics of all mechanical equipment and systems, including:
 - .1 Equipment Checklist
 - .1 Dehumidifier(s)

- .2 Pumps
- .3 Controllers/Valves/Dampers
- .4 Relays/Sensors/Transducers
- .2 System Checklist
 - .1 Dehumidifier(s)
 - .2 Pumps

1.5 REGULATORY REQUIREMENTS

- .1 Arrange for regulatory authorities to witness those commissioning start up procedures that are also required by regulatory authorities.
- .2 Obtain certificates of approval and for compliance with regulations from Authorities Having Jurisdiction; include copies of certificates with start up reports.

1.6 CONTRACT COMMISSIONING REQUIREMENTS

- .1 Witnessing: Allow commissioning team members to witness starting, testing, adjusting, and balancing procedures.
- .2 Costs: Pay costs associated with starting, testing, adjusting, and relevant instruments and supplies required to perform those duties.
- .3 Employ experienced personnel for equipment start-up and commissioning, who are able to interpret results of readings and tests and report the system status in a clear and concise manner.
- .4 Provide all equipment required to perform testing, balancing, and commissioning of systems. Calibrate instruments used in start up as accurate; provide calibration certificates if requested by the Commissioning Manager.
- .5 Utilize equipment check certificates and other commissioning documents required by the Commissioning Manager.
- .6 Verify that equipment is installed in accordance with Contract Documents, and reviewed shop drawings. Sign and date static check certificates.
- .7 Do not start up equipment unless static check sheets have been completed and submitted.
- .8 Complete in detail, and sign operating check certificates.

1.7 RESPONSIBILITIES OF CONTRACTOR

- .1 Responsibilities of Contractor are as follows:
 - .1 Construction Phase:
 - .1 Manage and ensure entire installation comply with requirements of the Contract Documents.
 - .2 Submit shop drawings complete with Contractor's Stamp of Review.
 - .3 Submit working detail (interference or installation) drawings.
 - .4 Complete commissioning installation verification checklists.

- .5 Submit a commissioning schedule. This schedule shall include:
 - .1 Time schedule for system and equipment commissioning which are in compliance with the timing and sequences of installation. In this schedule allow for additional time for testing and commissioning, such that re-test of the equipment can be performed in a timely manner if required without impacting the overall project schedule or cause delay to Project completion.
 - .2 Dates for completion of required factory tests prior to equipment delivery to the site shall be indicated in the schedule.
 - .3 Dates for completion of required manufacturer start-up testing shall be indicated in the schedule.
 - .4 Commissioning schedule is to be fully integrated into the project schedule, clearly indicating which activities must occur prior to commissioning activities taking place.
- .6 Prepare and submit testing and commissioning record or report forms for review and approval.
- .7 Attend progress and commissioning meetings.
- .8 Promptly rectify or replace reported deficiencies and defects.
- .9 Where required by codes and/or specification, retain manufacturers and/or independent third parties to provide service for testing and certification of the systems and training of Owner's personnel.
- .10 Provide training and instruction to the Owner's operating personnel.
- .11 Perform testing and start-up of equipment and systems to the satisfaction of the Consultant and Commissioning Authority. Provide completed startup forms to the Consultant and Commissioning Authority.
- .12 Perform functional testing of equipment and systems to the satisfaction of the Consultant and Commissioning Authority. Functional testing will be directed by the Commissioning Authority as required. Functional performance testing forms will be completed by the Commissioning Authority.
- .13 Pay for and be responsible for all inspections required by codes, specification and Authorities having Jurisdiction. Obtain and submit all Certificate of Approval for such inspections and verifications.
- .14 Submit for review as-built drawings including those for location of control devices and wiring and operating and maintenance manuals for each equipment as per the specification requirements.
- .15 Provide Operating and Maintenance Manuals for review by the Consultant and Commissioning Authority with all the testing and commissioning results and reports incorporated.
- .16 Provide all documentation required for assembly of the Systems Manual. Refer to Sections 01 91 14 and 01 91 15.
- .17 Obtain, issue and assign warranties for equipment and systems to the Owner.

- .18 Provision of all necessary test equipment shall be the responsibility of the contractor. Provide recently validated calibration certificate for all equipment to be used for verification prior to testing and commissioning commencement.
- .2 Post-Construction Phase:
 - .1 Optimize operation according to occupant's needs, using the System Description Manual prepared by the Commissioning Authority as reference points.
 - .2 Complete all commissioning procedures and activities and performance verification procedures which were delayed or not concluded during the commissioning phase.
 - .3 Revise all "as-built" and operating and maintenance documents to reflect all changes, modifications, revisions and adjustment upon completion of commissioning.
 - .4 Participate in the end-of-warranty commissioning review meeting coordinated by the Commissioning Authority. promptly rectify or replace reported deficiencies and defects resulting from this meeting.

1.8 DEMONSTRATION AND TRAINING

- .1 General:
 - .1 Each of the following manufacturers/suppliers shall deliver training to the Owners appointed staff and management who will provide operating services:
 - .1 Dehumidification Units
 - .2 Controls
 - .2 Each of the manufacturers required to deliver training as part of this Specification shall comply with training schedules, formats and structures designed and provided by the commissioning contractor. The commissioning contractor is the final authority on the substance, content and quality of the instruction to be delivered.
 - .3 Submittals:
 - .1 Manufacturer/Suppliers shall submit lesson plans to the commissioning contractor three (3) weeks prior to the scheduled training session.
 - .2 Each manufacturer/supplier shall revise the lesson plan according to the direction and assistance of the commissioning contractor.
 - .3 If requested the commissioning contractor the revised lesson plan shall be re-submitted one (1) week prior to the scheduled training sessions.
 - .4 Quality Assurance:
 - .1 The Owner reserves the right to videotape each training session.

- .2 Each manufacturer/supplier required to deliver training shall use the following tools to facilitate learning:
 - .1 Visual aids: use of overhead projectors, flipcharts, videos and/or slides.
 - .2 Printed material: each participant shall receive a copy of the material to be reviewed at the commencement of each session.
- .2 Instructions:
 - .1 Thoroughly instruct Owner's authorized representative(s) in safe operation of systems and equipment after installation of Work. Coordinate with Consultant and arrange commissioning program and schedule for instruction times. Submit a training schedule to Consultant, minimum 8 weeks prior to start of training.
 - .2 Arrange and pay for services of qualified service engineers and manufacturers' representatives to instruct Owner's authorized representatives on specialized portions of installation, such as refrigeration machines, vs, automatic controls and water treatment.
 - .3 Submit a complete record of instructions as part of maintenance instructions and data book given to Consultant. For each instructional period, supply following data:
 - .1 Date
 - .2 System or equipment involved
 - .3 Names of persons giving instructions
 - .4 Names of persons being instructed
 - .5 Other persons present
 - .4 Carry out instructional period during a continuous period agreed with Consultant.
 - .5 Permit usage of systems prior to Substantial Performance for purpose of testing and learning operational procedures. This usage shall not affect warranties and no claim for damage shall be made against Consultant for any injury or breakage to any part or parts of above due to aforementioned tests, where such injuries or breakage are caused by a weakness or inadequacy of parts, or by defective materials or quality of performance of any kind.
 - .6 At end of training, obtain and submit to Consultant, signature of Owner's authorized representative(s) stating they understand system and equipment installation, operation and maintenance requirements.
 - .7 Obtain and submit to Consultant, letters from manufacturers of equipment and systems indicating their technical representatives have inspected and tested equipment and systems installed and have approved methods of installation, connections and operation.
 - .8 Only exception to foregoing requirements for acceptance of equipment and systems, will be 'fine tuning' which may be performed prior to Completion of Contract.

- .9 In conjunction with foregoing requirements, Contractor shall arrange necessary inspections and obtain written approval and acceptance of equipment and systems requiring approval by authorities having jurisdiction, and subsequent correction of those unacceptable items to satisfaction of such authorities.

Part 2 Products

2.1 WARRANTY

- .1 Involvement of Commissioning Authority does not void any guarantees or warranties nor does it relieve Contractor of any contractual responsibilities.

Part 3 Execution - Not Used

END OF SECTION

Section 02 41 16 Structure demolition

Part 1 General

1.1 SECTION INCLUDES

- .1 Demolition and removal of slabs-on-grade.
- .2 Disconnecting and removal of identified utilities.
- .3 Removal or Filling of underground tanks and piping.
 - .1 As identified on plans or instructed by Engineer

1.2 RELATED REQUIREMENTS

- .1 Section 02 41 19 - Selective Demolition.

1.3 INFORMATIONAL SUBMITTALS

- .1 Section 01 33 00: Submission procedures.

1.4 CLOSEOUT SUBMITTALS

- .1 Section 01 78 00: Submission procedures.
- .2 Record Documentation: Accurately record actual locations of capped utilities and subsurface obstructions.

1.5 QUALITY ASSURANCE

- .1 Demolition Firm: Company specializing in manufacturing the Products specified in this section with minimum three (3) years documented experience.

Part 2 Products

2.1 DESCRIPTION

- .1 Regulatory Requirements:
 - .1 Obtain required permits from authorities.
 - .2 Notify affected utility companies before starting work and comply with their requirements.
 - .3 Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.

Part 3 Execution

3.1 PREPARATION

- .1 Provide, erect, and maintain temporary barriers and security devices at locations indicated.
- .2 Protect existing structures which are not to be demolished.

- .3 Prevent movement or settlement of adjacent structures. Provide bracing and shoring.
- .4 Mark location of utilities.

3.2 DEMOLITION REQUIREMENTS

- .1 Conduct demolition to minimize interference with adjacent structures.
- .2 Cease operations immediately if adjacent structures appear to be in danger. Notify Consultant and authority having jurisdiction. Do not resume operations until directed.
- .3 Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access at all times.

3.3 DEMOLITION

- .1 Disconnect remove and cap and identify designated utilities within demolition areas.
- .2 Remove concrete slabs on grade.
- .3 Break up concrete slabs on grade to permit natural moisture drainage.
- .4 Empty buried tanks located within demolition area. Remove buried tanks, components, and piping from site.
- .5 Backfill areas excavated caused as a result of demolition in accordance with Section 31 23 33.01.
- .6 Rough grade and compact areas affected by demolition to maintain site grades and contours.
- .7 Remove demolished materials from site.
- .8 Do not burn or bury materials on site. Leave site in clean condition.
- .9 Remove temporary work.

END OF SECTION

Section 02 41 19 Selective demolition

Part 1 General

1.1 SECTION INCLUDES

- .1 Division 1, General Requirements is a part of this section and shall apply to this section. Conform with requirements of all sections of the General Requirements and any supplements and/or addenda, as it applies to the work of this section
- .2 Alteration project procedures.
- .3 Removal of designated building equipment and fixtures.
- .4 Removal of designated construction.
- .5 Disposal of materials.
- .6 Identification of utilities.
- .7 Refer to items as indicated.

1.2 RELATED REQUIREMENTS

- .1 Section 01 31 00 - Available Project Information.
- .2 Section 01 21 00 - Allowances.

1.3 ALTERATION PROJECT PROCEDURES

- .1 Materials: As specified in Product sections; match existing Products and work for patching and extending work.
- .2 The general intent is to completely remove all materials noted and shown on the drawings from the site in its entirety
- .3 Employ skilled and experienced installer to perform alteration work.
- .4 Include all equipment necessary (cranes, conveyors, hoists and scaffolds, garbage chutes) and disposal bins
- .5 Co-operate and co-ordinate the access, hoisting and scheduling of selective demolition works with the Owner and other Contractors.
- .6 Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- .7 Provide and co-ordinate the installation of temporary covers, railings, supports and other protection as required and as directed by the Consultant.
- .8 Remove, cut, and patch Work in a manner to minimize damage and to provide means of restoring Products and finishes to specified condition.
- .9 If any existing features noted to remain are damaged, restore it to the original condition or as directed by the Consultant.

- .10 Protect all the existing building features to remain as noted in the documents and in accordance with applicable local regulations
- .11 Schedule a pre-construction survey/site walk thru determine present condition of the building and identify any material/equipment that is specified to be salvaged. Unless specifically noted, carefully remove, clean, store and turn over to the Owner. The decision on the items to be recycled/re-used will be determined by the Owner.
- .12 Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with a neat transition to adjacent finishes.
- .13 Where new Work abuts or aligns with existing, provide a smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- .14 When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and submit recommendation to Consultant for review.
- .15 Where a change of plane of 6 mm or more occurs, submit recommendation for providing a smooth transition; to Consultant for review.
- .16 Patch or replace portions of existing surfaces which are damaged, lifted, discoloured, or showing other imperfections.
- .17 Finish surfaces as specified in individual Product sections.
- .18 Locate/cap all utilities entering/exiting the building as required and shown on the mechanical and electrical documentation.
- .19 All cutting and patching required by the mechanical and electrical trades, to be provided by this Contractor, unless specifically noted otherwise.
- .20 Prevent debris from blocking surface drainage systems, all driveway entrances and exits, and all mechanical and electrical systems which must remain in operation

1.4 INFORMATIONAL SUBMITTALS

- .1 Section 01 33 00: Submission procedures.

1.5 CLOSEOUT SUBMITTALS

- .1 Section 01 78 00: Submission procedures.
- .2 Record Documentation: Accurately record actual locations of capped utilities, and subsurface obstructions.

1.6 SITE CONDITIONS

- .1 Conduct demolition to minimize interference with adjacent and occupied building areas.
- .2 Cease operations immediately if structure appears to be in danger and notify Consultant. Do not resume operations until directed.

Part 2 Products

2.1 DESCRIPTION

- .1 Regulatory Requirements:

- .1 Conform to applicable code for demolition work, dust control, products requiring electrical re-connection and disconnection.
- .2 Obtain required permits from authorities.
- .3 Do not close or obstruct egress width to any building or site exit.
- .4 Do not disable or disrupt building fire or life safety systems without three (3) days prior written notice to Owner.
- .5 Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.

2.2 MATERIALS

- .1 Use materials required to replace or repair existing work and materials that matches the existing materials in all details to the satisfaction of the Owner.

Part 3 Execution

3.1 PREPARATION

- .1 Provide, erect, and maintain temporary barriers at locations indicated.
- .2 Protect existing materials which are not to be demolished.
- .3 Notify affected utility companies before starting work and comply with their requirements.
- .4 Mark location and termination of utilities.
- .5 Provide appropriate temporary signage including signage for exit or building egress.
- .6 Disconnect and re-route electrical and telephone service lines entering areas to be demolished in accordance with authorities having jurisdiction. Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition
- .7 Disconnect and cap mechanical services in accordance with authorities having jurisdiction.
- .8 Do not disrupt active or energized utilities designated to remain undisturbed unless otherwise indicated in the Contract Documents.

3.2 DEMOLITION

- .1 Disconnect identify designated utilities within demolition areas.
- .2 Demolish in an orderly and careful manner. Protect existing supporting structural members.
- .3 Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.
- .4 Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.
- .5 Remove temporary Work.
- .6 All selective demolition work as indicated on the drawings.

- .7 Retain the services of a qualified electrician or electrical sub-contractor, as part of this Contractor's workforce.
- .8 Retain the services of a qualified plumber or plumbing sub-contractor, as part of this Contractor's workforce.
- .9 Remove all debris and leave the building and site in a safe, clean, tidy and dry condition.

3.3 REPORT BY ENVIRONMENTAL ENGINEER

- .1 If material resembling hazardous material is encountered in course of demolition work, immediately stop work and notify the Owner and Consultants

3.4 EXISTING CONDITION REVIEW

- .1 If designated substances are discovered, properly abated and prior to any further demolition work proceeding, conduct a survey of the property to determine the present condition of all features and finishes
- .2 Include in survey, Contractor, Owner, and Consultant.
- .3 Provide 48 hours prior notice to all participants
- .4 Upon completion of the demolition work of this Contract, conduct a similar survey of the above features by the same individuals
- .5 Upon completion of the demolition work of this Contract, conduct a similar survey of the above features by the same individuals.
- .6 Finishes and features found damaged, marked, cracked or broken, resulting from the demolition contract work will be refinished, repaired or restored to original condition, as found just prior to the demolition work of this contract, by others. Cost of the refinished, repair or restoration will be borne by the Contractor, except only if it can be shown that the damage was caused beyond his control.

END OF SECTION

Section 03 30 00 Cast-in-Place Concrete

Part 1 General

1.1 SECTION INCLUDES

- .1 Cast-in-place concrete slab on grade.
- .2 Control, expansion and contraction joint devices associated with concrete work including embedments and joint sealants.

1.2 RELATED REQUIREMENTS

- .1 Conform to Division 1 General Requirements.
- .2 Section 13 18 13 Ice Rink Floor Slab

1.3 REFERENCE STANDARDS

- .1 [ACI-PRC 305-20 Guide to hot weather concreting](#)
- .2 [ACI-PRC 306R-16 Guide to cold weather concreting](#)
- .3 [ASTM A820/A820M-22 Standard specification for steel fibers for fibre-reinforced concrete](#)
- .4 [ASTM B221-21 Standard specification for aluminum and aluminum-alloy extruded bars, rods, wire, profiles, and tubes](#)
- .5 [ASTM B221M-21 Standard specification for aluminum and aluminum-alloy extruded bars, rods, wire, profiles, and tubes \(metric\)](#)
- .6 [ASTM C260/C260M-10a\(2016\) Standard specification for air-entraining admixtures for concrete](#)
- .7 [ASTM C494/C494M-24 Standard specification for chemical admixtures for concrete](#)
- .8 [ASTM D994/D994M-11\(2016\) Standard specification for preformed expansion joint filler for concrete \(bituminous type\)](#)
- .9 [ASTM D1751-23 Standard specification for preformed expansion joint filler for concrete paving and structural construction \(nonextruding and resilient bituminous types\)](#)
- .10 [CSA A23.1:24/A23.2:24 Concrete materials and methods of concrete construction/test methods and standard practices for concrete](#)

1.4 ACTION SUBMITTALS

- .1 Section 01 33 00: Submission procedures.
 - .1 Submit shop drawings for reinforcing steel shop consisting of bar bending details, lists and placing drawings
 - .2 On placing drawings, indicate sizes, spacing, location and quantities of reinforcement and mechanical splices, with identifying code marks to permit correct placement without reference to structural drawings. Indicate sizes, spacing and location of chairs, spacers and hangers. Do drawings in accordance

with Reinforcing Steel Manual of Standard Practice, by Reinforcing Steel Institute of Ontario.

- .3 Design and detail lap lengths and bar development lengths to [CSA A23.3:19](#), unless otherwise indicated. Provide type C tension lap splices unless otherwise indicated
- .2 Product Data: Provide data on joint devices, attachment accessories, admixtures.

1.5 INFORMATIONAL SUBMITTALS

- .1 Section 01 33 00: Submission procedures.
- .2 Test Data: Minimum five (5) weeks prior to starting concrete work, submit manufacturer's test data and certification by qualified independent inspection and testing laboratory that following materials will meet specified requirements:
 - .1 Portland cement.
 - .2 Blended hydraulic cement.
 - .3 Portland-limestone cement.
 - .4 Supplementary cementing materials.
 - .5 Grout.
 - .6 Admixtures.
 - .7 Aggregates.
 - .8 Water.
- .3 Certification: Provide certification that mix proportions selected will produce concrete of quality, yield and strength as specified in concrete mixes, and will comply with CSA-A23.1/A23.2.
- .4 Certification: Provide certification that plant, equipment, and materials to be used in concrete comply with requirements of CSA-A23.1/A23.2.
- .5 Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent Work.
- .6 The slump test shall be used as a guide to workability, and to control the consistency of the concrete, especially from batch to batch. The value of slump for reinforced concrete within vertical formwork such as walls or beams shall be 3" (75mm) plus or minus 1" (25mm), and for all other concrete shall be 2 1/2" (64mm) plus or minus 1" (25mm) unless otherwise approved by the Consultant.
- .7 All exposed exterior concrete shall be air entrained unless approved otherwise by the Consultant. A sufficient air entraining agent shall be added to the concrete mix to provide the total air content as shown in the following table.
 Determination of total air content shall be made by means of an air meter of approved design at the point of placing.

Nominal Maximum Size of Course Aggregate	Total Air Content
1 1/2" (37.5mm)	5.5% +/- 1.0%
1" (26.5mm)	5.5% +/- 1.0%

3/4" (19mm)	6.0% +/- 1.0%
1/2" (13.2mm)	7.0% +/- 1.0%
3/8" (9.5mm)	8.0% +/- 1.0%

- .8 No other admixtures unless otherwise specified in this Section will be permitted without the approval of the Consultant

1.6 QUALITY ASSURANCE

- .1 Perform Work in accordance with CSA-A23.1/A23.2.
- .2 Acquire cement and aggregate from same source for all work.
- .3 Conform to CSA-A23.1/A23.2 when concreting during hot weather.
- .4 Conform to CSA-A23.1/A23.2 when concreting during cold weather.
- .5 Before ordering any concrete, the Contractor shall obtain from the ready-mix manufacturer and submit to the Consultant for approval, recent test reports from an approved testing laboratory on samples of materials and concrete taken from the ready-mix supplier, and a statement giving the proportions by dry weight of cement, and fine and coarse aggregates that will be used in the manufacture of each class of concrete to be ordered by the Contractor.
- .6 In case of doubt as to the quality of the concrete provided by the proposed supplier, the Consultant may, at his option, order the Contractor not to use the concrete on the Work from such proposed supplier and the Contractor shall arrange for another acceptable source of supply.
- .7 Equipment used for mixing or agitating concrete shall be clean and in good mechanical condition. Trucks may be subject to examination and individual approval by the Consultant to check for accumulation of hardened material, blade wear, water gauging, general condition and efficiency, etc.
- .8 The proportions of materials shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around the reinforcement. The mix proportions shall be such that the concrete will not easily segregate or cause excess free water to collect on the surface.

1.7 FIELD QUALITY CONTROL

- .1 All operations relating to mixing, placing, and curing shall be controlled by the Consultant. The Contractor shall provide unhindered access to the work for purposes of inspection and selection of samples. The Contractor shall provide the necessary protection for the specimens against injury or loss.
- .2 All concrete sampling and testing shall be carried out by an independent inspection and testing company appointed by the Consultant, and paid for out of the Testing Allowance (see Section 00 73 03 Supplementary Conditions - Stipulated Price). Note that re-testing of materials required due to failure to meet the requirements of this specification shall be paid for directly by the Contractor and not out of the Testing Allowance. Send copies of the concrete test reports to the concrete supplier, the Contractor, and the Consultant.
- .3 The Contractor shall notify the inspection and testing company twenty-four hours before each concrete placing operation.

- .4 During the progress of the Work, make concrete compression test specimens from concrete being used in the construction. Store, cure, and test specimens to [CSA A23.2:19](#).
- .5 For each strength test, make three compressive strength test cylinders. Test one cylinder at 7 days; test the remaining two cylinders at 28 days.
- .6 For all types of construction where the time of removal of formwork is being controlled by strength tests, additional tests may be required.
- .7 Regularly control the consistency of concrete by means of slump tests. In no case shall there be less than one slump test taken for each strength test made.
- .8 Make one air test at the same time as, and from the same pour of concrete as, each slump test is made.
- .9 If the 7-day strength of any test specimen falls below 50% of the specified 28-day strength, the Consultant will inform the Contractor and may require that additional curing operations be implemented immediately on those portions of the structure represented by that specimen. The cost of any additional such curing shall be borne entirely by the Contractor.
- .10 To conform to the strength requirements of this specification, the average of all 28-day tests for each class of concrete shall exceed the specified strength, and no individual 28-day test shall fall below 80% of the specified strength. If this criterion is not met, the Consultant shall have the right to require one or more of the following be done, at the sole expense of the Contractor:
 - .1 Changes in the mix proportions for the remainder of the Work.
 - .2 Additional curing on those portions of the structure represented by the test specimens which failed.
 - .3 That cores be drilled (from the portions of the structure in question) and tested in accordance with [CSA A23.2:19](#).
 - .4 Non-destructive testing of the structure or structural elements shall be in accordance with [CSA A23.2:19](#).
- .11 If, after the above requirements have been carried out, the Consultant is not satisfied that the concrete in the structure is of the specified quality, he may demand a strengthening or replacement of those portions in which the concrete failed to develop the required strength. The costs of such strengthening or replacement shall be borne entirely by the Contractor.

1.8 CLOSEOUT SUBMITTALS

- .1 Section 01 78 00: Submission procedures.
- .2 Record Documentation: Accurately record actual locations of embedded utilities and components.

Part 2 Products

2.1 MATERIALS

- .1 Design and produce all concrete to develop a compressive strength of 25 MPa (3625 psi) at 28 days except as noted: exterior sidewalks, slabs, curbs and concrete topping over

- precast structural concrete shall be 32 MPa at 28 days, minimum cement content 350 kg/meter cubed. Air content shall be 4% except for troweled interior slabs and footings.
- .2 Reinforcing steel: carbon steel, grade 400, deformed bars to [CSA G30.18:21](#) unless indicated otherwise. Reinforcing steel in walls of salt structure to be epoxy coated.
 - .3 Welded steel wire fabric: to [ASTM A 1064/A 1064M](#). Provide in flat sheets only. Refer to drawings for sizes.
 - .4 Welded deformed steel wire fabric: to [ASTM A 1064/A 1064M](#). Provide in flat sheets only.
 - .5 Chairs (for welded steel wire fabric support): shall be Class A, HC (High Chair), Type B, standard finish. Height of chair to be as such to allow 2" (50mm) concrete cover over wire fabric.
 - .6 Bolsters, bar supports, spacers: to [CSA A23.1:19](#).
 - .7 Mechanical splices: subject to approval of Consultant.
 - .8 Cement: normal Portland cement to [CAN/CSA-A3000](#).
 - .9 Fine Aggregates: Normal density aggregates, graded to CSA-A23.1/A23.2; maximum aggregate size 10 mm.
 - .10 Coarse Aggregates: Normal density aggregates, graded to CSA-A23.1/A23.2, Group I; maximum aggregate size 19 mm.
 - .11 Lightweight Aggregate: ASTM C330/C330M, for structural concrete.
 - .12 Water for making concrete and grout: clean, potable, and free from oil, acid, alkali, organic matter or other deleterious substances to CSA-A23.1/A23.2
 - .13 Air entraining admixtures: to [ASTM C 260](#).
 - .14 Membrane-curing compounds (when approved for use): oil and wax free 100% resin base compounds to [ASTM-C3 09-11](#).
 - .15 Joint sealant: approved non-sag polysulphide type suitable for interior or exterior use in moving or static joints.

Part 3 Execution

3.1 EXAMINATION

- .1 Section 01 71 00: Verify existing conditions before starting work.
- .2 Verify all dimensions and locations required on drawings.
- .3 Verify requirements for concrete cover over reinforcement.
- .4 Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not impede concrete placement.
- .5 Verify locations of all openings and embedments required for other architectural, mechanical and electrical work.
- .6 Verify the locations and elevations of excavations and other existing work. Immediately notify the Consultant of any failure of the building components to fit together properly. Corrective measures shall be undertaken only as approved by the Consultant.

- .7 The Contractor shall examine both the contract drawings and the shop drawings pertaining to other trades, and shall make provisions for the installation of all necessary anchors and anchorage devices, inserts, sleeves, bolts, bearing plates and assemblies, and all other items specifically shown as being embedded in concrete members.
- .8 The Contractor shall notify the Consultant of his intentions to place concrete for any part of the Work at least 48 hours before placement to allow the Consultant to inspect the applicable formwork, falsework, reinforcing steel, and site preparation and conditions.

3.2 PREPARATION

- .1 Prepare previously placed concrete and apply bonding agent to manufacturer's written instructions.
 - .1 Prepare by:
 - .1 Mechanical roughening.
 - .2 Cleaning with steel brush.
 - .3 Sanding with abrasive wheel.
 - .4 Sand blasting to +/- 6 mm roughness.
 - .2 In locations where new concrete is dowelled to existing work, drill holes in existing concrete, with size as shown on Drawings.
 - .3 Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

3.3 BENDING OF REINFORCING

- .1 Bend reinforcing steel accurately to suit the concrete dimensions indicated on the drawings and the protective cover requirements of this specification. Make all bends cold.
- .2 Minimum inside radius of bends for stirrups, and beam and column ties shall equal one bar diameter.
- .3 Minimum inside radius of bends for all other bars shall be as shown in the following table, except that for standard hooks for bar sizes 10M to 30M inclusive, the minimum radius may be equal to 5 bar diameters, and for standard hooks for bar sizes 35M to 55M inclusive, the minimum radius may be equal to 10 bar diameters for grade 400 MPa steel:

	Bar Size	Min. Bending Inside Radius
1.	10M & 15M	2 1/2 bar diameters
2.	20M & 25M	3 bar diameters
3.	30M & 35M	4 bar diameters

3.4 PLACING REINFORCING

- .1 Handle and store reinforcing steel on the job site so that no damage will be caused to the material, to the existing structures on the site, and to the work of other trades in progress. Store reinforcing steel on wood blocking above ground and keep free of mud, oil, and other foreign matter.

- .2 Free reinforcing steel of dirt, scale, or other coatings that will destroy or reduce the bond at the time of concrete placement. Where there is a delay in placing concrete, reinforcing steel shall be re-inspected by the Consultant and cleaned when necessary.
- .3 Place reinforcing steel accurately and secure in position adequately using concrete or steel chairs or spacers and annealed iron tie wires. Brick, wood, tile, etc. shall not be used. At outside surfaces, bend tie wire ends inward to give at least the same cover as required for reinforcing steel.
- .4 Splices shall provide sufficient lap to transfer the stress between bars by bond and shear. The clear distance between bars shall also apply to the clear distance between a contact splice and adjacent contact splices or bars. In slabs, beams, and girders, avoid splices of reinforcement at points of maximum stress.
- .5 The minimum clear distance between parallel bars, except in columns, shall equal the nominal diameter of the bars. In no case shall the clear distance between be less than 1" (25 mm) nor less than one and one-third times the maximum size of the course aggregate. Where reinforcing steel between beams and girders is placed in two or more layers, the clear distance between the layers shall not be less than one inch, and the bars in the upper layers shall be placed directly above those in the bottom layer.
- .6 The reinforcing steel for footings and other principal structural members in which the concrete is deposited against the ground shall have not less than 3" (75 mm) of concrete between it and the ground contact surface. If concrete surfaces after removal of the forms are to be exposed to the weather, or to be in contact with the ground, the reinforcing steel shall be protected with not less than 2" (50 mm) of concrete for bars more than 5/8" (16 mm) diameter, and 1 1/2" (40 mm) for 5/8" (16 mm) diameter bars or smaller.
- .7 The concrete cover for reinforcing steel at surfaces not exposed directly to the ground or weather shall be not less than 3/4" (20 mm) for slabs and walls and not less than 1 1/2" (40 mm) for beams, girders, and columns. In concrete joist floors in which the clear distance between joists is not more than 2'-4" (700 mm), the protective covering for reinforcing steel shall be at least 3/4" (20 mm).
- .8 Concrete cover for reinforcing steel shall in all cases be at least equal to the diameter of the round bars.

3.5 PLACING FABRIC REINFORCING

- .1 Place fabric reinforcing accurately and secure in position using steel chairs specified and annealed tie wires. Fabric to sit on chairs spaced in a 24" (600mm) grid each way. The fabric reinforcing shall be lapped 6" (150mm) minimum and tied securely to the chair.

3.6 PLACING CONCRETE

- .1 Place concrete in accordance with CSA-A23.1/A23.2.
- .2 Ensure reinforcement, inserts, embedded parts, and formed expansion/contraction joints are not disturbed during concrete placement.
- .3 Install vapour retarder under interior slabs on grade. Lap joints minimum 300 mm and seal watertight by sealant applied between overlapping edges and ends.
- .4 Repair vapour retarder damaged during placement of concrete reinforcing. Repair with vapour retarder material; lap over damaged areas minimum 150 mm and seal watertight.
- .5 Separate slabs on grade from vertical surfaces with as noted thick joint filler.

- .6 Place joint filler in floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- .7 Install joint devices to manufacturer's written instructions.
- .8 Install construction joint devices in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- .9 Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- .10 Place concrete continuously between predetermined expansion, control, and construction joints.
- .11 Do not interrupt successive placement; do not permit cold joints to occur.
- .12 Screed floors level, maintaining surface flatness to either:
 - .1 CSA-A23.1/A23.2.
 - .2 Maximum 6 mm in 3 m.

3.7 READY MIXED CONCRETE

- .1 Deliver the concrete to the site of the work and complete the discharge within one and one-half (1 1/2) hours after the introduction of the mixing water to the cement and aggregates. In hot weather, or under conditions contributing to quick stiffening of the concrete, or where high early cement is used, or where the temperature of the concrete is 27 degrees C or above, this time shall not exceed 45 minutes.
- .2 When the concrete is mixed in a truck mixer, the mixing operation shall begin within 30 minutes after the cement has been intermingled with aggregates.
- .3 Do not haul ready mixed concrete more than 50 km in order to reach the Work, regardless of the time involved.
- .4 The approved Ready-Mixed Concrete Operation shall be equipped with suitable and adequate heating equipment capable of heating the stockpiles of aggregates, the batch bins and mix water, as required. If not, the operation will be approved for summer use only. This equipment shall be available in working order at all times when needed between October 1 and May 1.
- .5 Convey concrete from the mixer to the place of final deposit at a uniform rate, by methods which will prevent the separation or loss of materials. Size and design equipment for chuting, pumping, and pneumatically conveying concrete to ensure a practically continuous flow of concrete at the delivery end without separation of materials. Conveying equipment shall be thoroughly flushed with water before and after each run and the water used for this purpose shall be discharged outside the forms.
- .6 When concrete pumps are used to place concrete, the required slumps as specified in this section may be increased 1" (25 mm) for each 100' (30 m) of piping through which the concrete is pumped, but the maximum slump measured at the pump shall not exceed 6" (150 mm). The Contractor shall arrange with the ready mix supplier, and pay any additional costs required, for mix designs which will maintain the required strength of concrete pumped at high slump.
- .7 Wet down all forms thoroughly before depositing concrete, except in freezing weather. Use no chemicals to free ice from the hardened concrete in the forms.

- .8 Deposit concrete in the forms as nearly as practicable in its final position to avoid re-handling, and in approximately horizontal layers. The vertical height of free fall shall not exceed 5'-0" (1500 mm).
- .9 Carry on the concreting at such a rate that the concrete is at all times plastic and flows readily into the spaces between reinforcing steel. No concrete that is partially hardened or has been contaminated by foreign material shall be deposited in the work, nor shall re-tempered concrete be used. Do not deposit concrete during rain unless adequately protected, and in any case shall be protected from rain until it has cured sufficiently so that it will not be damaged.
- .10 Carry on the concreting as a continuous operation until the placing of the panel or sections is completed in such a manner that fresh concrete will not be deposited on concrete which has hardened sufficiently to cause formation of seams and planes or weakness within the section. Maintain the top surface generally level. Make construction joints as required, in accordance to this section.
- .11 Compact all concrete thoroughly by suitable means during placing, and compact around the reinforcing steel and embedded fixtures and into the corners of the forms.
- .12 Compact all concrete (unless otherwise permitted by the Consultant) by mechanical vibrators for internal use in the forms. Where walls are thin, or heavy reinforcement obstructs the use of an internal vibrator, or for surfaces relatively inaccessible from within, use external vibrators. Maintain at least one extra vibrator on the site as a standby unit. If vibrators are electrically powered, a standby generator will be required.
- .13 Operate internal vibrators at a speed of not less than 3600 impulses per minute. Apply vibrators at the points of deposit and in the area of the freshly placed concrete. Allow vibrator to sink of its own weight in the concrete until it penetrates to the previous layer of concrete; withdraw immediately at the same speed at which it sank, and then move about 12" (300mm) to a new location, and repeat the process. Take care that the reinforcing steel and attached fittings are not disturbed.
- .14 Take care that vibration of concrete is not continued after capillary continuity has been achieved as indicated by the glistening of a film of water at the top surface of the concrete.

3.8 CURING AND PROTECTION

- .1 Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical damage.
- .2 Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - .1 Cure all unformed concrete surfaces using burlap and water unless otherwise approved.
 - .2 Water for curing: clean and free from any materials which will cause staining or discolouration of the concrete.
 - .3 The Consultant may permit curing by use of a moisture vapour barrier or a membrane compound where, in his/her opinion, either procedure will adequately cure the concrete.
- .3 Cure floor surfaces in accordance with CSA-A23.1/A23.2.

- .4 Ponding: Maintain 100% coverage of water over floor slab areas continuously for four (4) days.
- .5 Spraying: Spray water over floor slab areas and maintain wet cure for seven (7) days.
 - .1 Keep the exposed surfaces continuously moist for at least 7 consecutive days after placing when normal Portland or sulphate-resisting cements are used, and for at least 3 consecutive days when High Early Strength Portland cement is used.
- .6 Curing Formed Surfaces: If the formwork is left in place for 7 days, no additional curing will be required. If the formwork is removed in less than 7 days, cure the concrete in the manner specified for unformed surfaces.

3.9 COLD WEATHER REQUIREMENTS

- .1 When the surrounding air temperature is lower than 4 degrees C, pre-heat all aggregates and water to arrive at the Work having a temperature not less than 15 degrees C, nor greater than 32 degrees C, unless otherwise permitted in writing by the Consultant.
- .2 Where the anticipated minimum air temperature is 4 degrees C or falls only a little below for a short period of time, and the concrete is protected from high winds by virtue of its location relative to the atmosphere such as in an excavation, or by other means, such as tarpaulins or sheeting securely covering the Work, provide normal curing only as required by this Section.
- .3 Where the anticipated minimum air temperature is between -1 degree C and 4 degrees C or falls only a little below -1 degree C for a short period of time, make the following provisions:
 - .1 Cover formed surfaces with securely tied or fastened, and overlapping tarpaulins, or sheeting, to provide a dead air space adjacent to the formwork.
 - .2 Cover unformed surfaces with tarpaulins, waterproof kraft paper, or polyethylene sheeting (4 mil minimum) as soon after placing concrete as possible. Cover this covering with 6" (150mm) of tightly packed dry straw or equivalent thickness of dry insulation. This insulating material shall be kept dry at all times by covering with water-proof sheeting or by other means.
- .4 Where the anticipated minimum air temperature is below -1 degree C and will remain below -1 degree C for long periods of time, make the following provisions:
 - .1 Protect ground surfaces (on which concrete will be placed) from freezing immediately after excavation with tightly packed dry straw or other dry insulating material of thicknesses as approved by the Consultant for the ambient conditions.
 - .2 Construct weather tight protective housings around the Work and keep the housings clear of the concrete a minimum of 12" (300mm) all around to permit free circulation of air over all parts of the Work.
 - .3 Defrost all reinforcing, forms, and ground surfaces (which will be in contact with the concrete) before placing any concrete in the Work.
 - .4 Keep the concrete within the housing at a temperature of 10 degrees C for not less than 7 days after placing. Keep the relative humidity in the housing above 95%. The housing, covering, and/or other methods used for protection shall

- remain in place and intact for at least 24 hours after artificial heating is discontinued.
- .5 As an alternative to maintaining the atmosphere within the housing at a relative humidity of not less than 95%, provide normal curing within the housing as specified in this Section, and in addition, keep wooden formwork wetted at all times.
 - .6 Adequately vent hot air blowers (used for providing heat within the housing) to prevent the accumulation of carbon dioxide within the housing.
 - .7 The use of salamanders, coke stoves, oil or gas burners and similar spot heaters which have an open flame and intense local heat, shall not be permitted.
- .5 If approved in writing by the Consultant, calcium chloride in quantity not exceeding 2% by weight of the cement may be used in concrete mixes to prevent freezing in cold weather. The use of and quantity of calcium chloride to be added will be determined by the Consultant. Calcium chloride shall not be used with alkali-sulphate resisting cement, or where other additives are used.

3.10 FIELD QUALITY CONTROL

- .1 Inspection and Testing:
 - .1 Section 01 45 00: Field testing and inspection.
 - .2 Provide free access to Work and cooperate with appointed firm.
 - .3 Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
 - .4 Tests of cement and aggregates may be performed to ensure conformance with specified requirements.
 - .5 Three (3) concrete test cylinders will be taken and tested for every 50 cu m or less, of each class of concrete placed.
 - .1 Minimum one (1) test per day.
 - .6 One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete it represents.
 - .7 One slump or flow test and one air test will be taken for each set of test cylinders.

3.11 DEFECTIVE CONCRETE

- .1 Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- .2 Repair or replacement of defective concrete will be determined by the Consultant.
- .3 Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Consultant for each individual area.

3.12 CLEAN UP

- .1 On completion of the work of this section, all protection erected under this section shall be removed, all damage to this work and to the work of other trades resulting from the execution of the work of this section shall be made good, and all surplus materials,

debris, tools, plant, and equipment shall be removed from the premises, and the building(s) and site left in a condition satisfactory to the Consultant.

END OF SECTION

Section 03 30 10 Concrete Floor Slab on Grade

Part 1 General

1.1 GENERAL REQUIREMENTS

- .1 Conform to Division 1 General Requirements.
- .2 Section 31 23 33.01 Excavating, Backfilling, Compacting and Rough Grading

1.2 WORK INCLUDED

- .1 The work covered by this section includes but is not necessarily limited to the supply and installation of concrete floor slabs on grade, under slab vapour barrier and rigid insulation concrete floor finishing, including hardening and application of cure and seal products.

1.3 REFERENCE STANDARDS

- .1 [CSA A23.1:24/A23.2:24 Concrete materials and methods of concrete construction/test methods and standard practices for concrete](#)

1.4 SOURCE QUALITY CONTROL AND SAMPLES

- .1 Upon request, provide Consultant with certified copy of mill test report of reinforcing steel, showing physical and chemical analysis, minimum 5 weeks prior to commencing reinforcing work.
- .2 Upon request only, and at least 4 weeks prior to commencing work, inform Consultant of proposed source of reinforcing steel, aggregates, and cement and all proposed admixtures, and provide access for sampling.
- .3 Before ordering any concrete, the Contractor shall obtain from the ready-mix manufacturer and submit to the Consultant for approval, recent test reports from an approved testing laboratory on samples of materials and concrete taken from the ready-mix supplier, and a statement giving the proportions by dry weight of cement, and fine and coarse aggregates that will be used in the manufacture of each class of concrete to be ordered by the Contractor.
- .4 In case of doubt as to the quality of the concrete provided by the proposed supplier, the Consultant may, at his option, order the Contractor not to use the concrete on the Work from such proposed supplier and the Contractor shall arrange for another acceptable source of supply.
- .5 Equipment used for mixing or agitating concrete shall be clean and in good mechanical condition. Trucks may be subject to examination and individual approval by the Consultant to check for accumulation of hardened material, blade wear, water gauging, general condition and efficiency, etc.
- .6 The proportions of materials shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around the reinforcement. The mix proportions shall be such that the concrete will not easily segregate or cause excess free water to collect on the surface.

- .7 The slump test shall be used as a guide to workability, and to control the consistency of the concrete, especially from batch to batch. The value of slump for concrete shall be 2 1/2" (64mm) plus or minus 1" (25mm) unless otherwise approved by the Consultant.
- .8 No other admixtures will be permitted without the approval of the Consultant.

1.5 QUALITY ASSURANCE

- .1 Perform Work in accordance with CSA-A23.1/A23.2.
- .2 Installer Qualifications: Company specializing in performing the work of this section with minimum three (3) years documented experience and approved by the manufacturer.

1.6 MATERIAL HANDLING AND TESTING

- .1 Conform to Section 03 30 00 Cast-in-Place Concrete for reference to general material handling, Cold Weather Requirements, and Field Quality Control.
- .2 Deliver materials in manufacturer's packaging including application instructions.

1.7 SITE CONDITIONS (CONCRETE FINISHING)

- .1 Temporary Lighting: Minimum 200 W light source, placed 2.5 m (8 ft) above the floor surface, for each 40 sq m (425 sq ft) of floor being finished.
- .2 Do not finish floors until interior heating system is operational.
- .3 Temporary Heat: Ambient temperature of 10 degrees C (50 degrees F) minimum.
- .4 Ventilation: Sufficient to prevent injurious gases from temporary heat or other sources affecting concrete.

Part 2 Products

2.1 MATERIALS

- .1 Concrete used for all floor slabs on grade shall have a minimum compressive strength of 25 MPa (3625 psi) at 28 days.
- .2 Minimum Portland cement content for concrete floor slabs on grade: 350 kg/cubic metre.
- .3 Welded wire mesh where indicated on the drawings shall conform to **ASTM A 1064/A 1064/M**. Sizes shall be as noted on the drawings. Provide in flat sheets only.
- .4 Chairs (for welded steel wire fabric support): shall be Type B, No. 87, 5/16" gauge galvanized wire 3 1/2" high as manufactured by Dayton Superior Canada, Acron, Richmond. Approved alternates will be accepted by Consultant.
- .5 Pre-moulded joint filler: non-extruding and resilient flexible synthetic or PVC foam type conforming to the requirements of [ASTM D 1752](#), and shall be used at all locations where floor slabs abut foundation walls W.R. Meadows Ceramic.
- .6 Liquid densifying/hardening compound: propriety blend of silicate polymers:
 - .1 "Ashford Formular" by Duracon Consulting
 - .2 Euclid "Euco Diamand Hard"
 - .3 Dayton Superior "Day-Chem Sure Hard" (J-17)
 - .4 W.R. Meadows "Liquid Hard"

- .5 Sika "Sikafloor 35"
- .6 Master Builders Mastertop CST
- .7 Concrete floor curing and sealing compound: approved clear, acrylic polymer type, free flowing liquid which will adhere to damp concrete and meets the moisture retention requirements of [ASTM C 309](#), Type 1, Class B, and will not affect the bond of finished floor adhesives and/or joint sealants:
 - .1 Sealtight, Vocomp-20 by W.R. Meadows
 - .2 Flortec by Sternson Construction Products
 - .3 Acryseal by Master Builders Technologies
 - .4 Super Aquacure by the Euclid Chemical Company
- .8 Sawcut filler: Sealtight Rezi-Weld Flex or Thoroc EP280 as manufactured by Chamrex.
- .9 Non-Slip Strips: Non-slip abrasive cement strip filler shall be two parts fine aluminum oxide to one part cement, in colour selected by the Consultant. Non-slip channel inserts shall be zinc, 10mm x 10mm x 20 gauge, dovetail shaped channels with anchors.
- .10 Vapour barrier: commercial quality stego wrap vapour barrier, 15 mil thickness with taped joints.
- .11 Rigid insulation: extruded, conforming to [CAN/ULC-S701.1:2017](#), Type 4, 30 psi, DOW SM or equal.

Part 3 Execution

3.1 PLACING FABRIC REINFORCING

- .1 Place fabric reinforcing accurately and secure in position using steel chairs specified and annealed tie wires. Fabric to sit on chairs spaced in a 24" (600mm) grid each way. The fabric reinforcing shall be lapped 6" (150mm) minimum and tied securely to the chair.

3.2 PREPARATION AND PLACEMENT

- .1 The floor slab shall be poured on a level, well compacted sub-base. The sub-base must not deviate by more than 3/8" (10mm) in either way from the specified profile.
- .2 Water-cement ratio may under no circumstances exceed 0.55. The concrete workability may be improved by the use of plasticizers.
- .3 Floor slabs shall be placed by a continuous pour the limits of each room. Placement of concrete shall be in accordance with good construction practices.

3.3 FLOOR FINISH

- .1 These surfaces are to be free from open texturing, plucked aggregates, local projections, and shall be such that when tested with a 10'-0" (3m) long straight edge (provided by the contractor at his expense), place anywhere in any direction of the surface, there shall be no gaps greater than 1/8" (3mm) between the bottom of the straight edge and the surface of the concrete. No variation will be permitted across and joint.
- .2 Areas that do not meet the required surface accuracy shall be rectified as follows at the Contractor's expense:
 - .1 Grind down any areas higher than 1/8" (3mm) below the correct surface.

- .2 Correct any areas lower than 1/8" (3mm) below the correct surface by grinding down the adjacent high areas.
- .3 All grinding shall be carried out by an approved machine of a type and capacity suitable for the total area of grinding involved until the surface meets the specified requirements.
- .3 All unformed surfaces shall be finished by screeding followed by floating.
- .4 Screeding shall consist of moving a straight edge or template with a sawing motion along wood or metal strips established as guides. This shall be done immediately after consolidation of the concrete to give the surface its approximate shape and elevation.
- .5 After screeding, the surface shall be brought to the specified uniformity and accuracy with a wood float held in a floating position and worked in a circular or sawing motion slowly from side to side of the surface to the other and back again.
- .6 All building floor surfaces, unless otherwise specified, after wood floating, shall be finished with a steel trowel or finishing machine. Trowelling shall be continued until the required finish is obtained during the time which the temperature shall be maintained at a minimum of 10 degrees C. In order to prevent excess fines from working to the surface, steel trowel finishing shall be delayed until the concrete surface can no longer be dented with a finger. Dry cement or cement and sand shall not be used to blot up excess water.
- .7 Concrete floor slabs shall have surfaces sealed with one coat of specified sealer at a rate of 7.2 sq.m. / litre (300 s.f. / gal). Apply in strict accordance with manufacturer's written instructions.
- .8 Concrete floor slabs on the grade which shall be left exposed in the finished structure shall have its surface hardened with an application of the specified product at a rate of 4.0 kg / sq.m. (80 lbs / 100 s.f.). Apply in strict accordance with the manufacturer's written instructions. Surface of concrete shall be polished.
- .9 Cut shrinkage joints as quickly as possible after concrete has hardened in such a way that the edges of the joints do not crumble. Saw cuts shall be 1/8" (3mm) wide with a depth of 1/3 of slab thickness. Saw cut joints shall be made so that the distance between joints does not exceed 20' -0" (6100mm). For joint layout, the location of columns, recesses, and changes of width of floor must be taken into account. The contractor of this section shall submit joint location drawings to the Consultant for review at an agreed date prior to casting the floor.
- .10 Fill all saw cuts exposed in the finished building with sawcut filler specified.

3.4 CLEAN UP

- .1 On completion of the work of this section, all protection erected under this section shall be removed, all damage to this work and to the work of other trades resulting from the execution of the work of this section shall be made good, and all surplus materials, debris, tools, plant, and equipment shall be removed from the premises, and the building(s) and site left in a condition satisfactory to the Consultant.

END OF SECTION

Section 13 18 13 Ice Rink Floor Slab

Part 1 General

1.1 GENERAL REQUIREMENTS

- .1 Conform to Division 1 General Requirements.

1.2 REFERENCE STANDARDS

- .1 Do cast-in-place concrete work in accordance with [CSA A23.1:19](#) and [ACI 315R-18](#), and testing in accordance with [CSA A23.2:19](#), except where specified otherwise.
- .2 All concrete work shall be done in accordance with the requirements of Section 03 30 00 Cast-in-Place Concrete and the special requirements applicable to ice rink floor slabs listed below.

1.3 WORK INCLUDED

- .1 Supply all labour, materials, equipment, services, and protection for the complete installation of the reinforced concrete rink slab as detailed on the drawings and noted herein.

1.4 SOURCE QUALITY CONTROL AND SAMPLES

- .1 Upon request, provide Consultant with certified copy of mill test report of reinforcing steel, showing physical and chemical analysis, minimum 5 weeks prior to commencing reinforcing work.
- .2 Upon request only, and at least 4 weeks prior to commencing work, inform Consultant of proposed source of reinforcing steel, aggregates, cement, and all proposed admixtures, and provide access for sampling.
- .3 Before ordering any concrete the Contractor shall obtain from the ready-mix manufacturer and submit to the Consultant for approval recent test reports from an approved testing laboratory on samples of materials and concrete taken from the ready-mix supplier, and a statement giving the proportions by dry weight of cement, and fine and coarse aggregates that will be used in the manufacture of each class of concrete to be ordered by the Contractor.
- .4 In case of doubt as to the quality of the concrete provided by the proposed supplier, the Consultant may, at his option, order the Contractor not to use the concrete on the work from such proposed supplier and the Contractor shall arrange for another acceptable source of supply.
- .5 Equipment used for mixing or agitating concrete shall be clean and in good mechanical condition. Trucks may be subject to examination and individual approval by the Consultant to check for accumulation of hardened material, blade wear, water gauging, general condition and efficiency, etc.
- .6 The proportions of materials shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around the reinforcement. The mix

proportions shall be such that the concrete will not easily segregate or cause excess free water to collect on the surface.

- .7 No other admixtures will be permitted without the approval of the Consultant.

1.5 MATERIAL HANDLING

- .1 Conform to Section 03 30 00 Cast-in-Place Concrete for reference to general material handling, Cold Weather Requirements, and Field Quality Control.

Part 2 Products

2.1 MATERIALS

- .1 Bedding sand shall be clean, sharp, natural sand, graded such that when dry 100% will pass a #8 sieve and not more than 35% will pass a #50 sieve.
- .2 Under-rink insulation shall be 4" thick extruded polystyrene foam with integral polystyrene foam with integral polystyrene skin meeting [CAN/ULC-S701.1:2017](#) Type 4.
- .3 Concrete used for the rink slab shall be ready-mixed and shall have a 28 day compressive strength of 30 MPa (4500 p.s.i.). Minimum Portland cement content to be 355kg/cubic metre.
- .4 Reinforcing Steel: carbon steel, Grade 400, deformed bars to [CSA G30.18:21](#) (R1998) unless indicated otherwise.
- .5 Cold-drawn annealed steel wire ties: to [CSA G30.3-M1983](#). (R1998)
- .6 Welded steel wire fabric: to [CSA G30.5-M1983](#). Provide in flat sheets only.
- .7 Return bend fastening device: refer to the drawings for details on anchoring device for the stretching and holding of the plastic rink slab refrigeration piping.
- .8 Surface hardeners: Sureflex TR premixed, non-metallic floor hardener as manufactured by Euclid Chemical.

Part 3 Execution

3.1 GENERAL

- .1 Before commencing any work, examine existing work and the work of other trades, and verify the locations and elevations of excavations and other existing work. Immediately notify the Consultant of any failure of the building components to fit together properly. Corrective measures shall be undertaken only as approved by the Consultant.
- .2 The Contractor shall examine both the contract drawings and the shop drawings pertaining to other trades, and shall make provisions for the installation of all necessary anchors and anchorage devices, inserts, sleeves, bolts, bearing plates and assemblies, and all other items specifically shown as being embedded in concrete members.
- .3 The Contractor shall notify the Consultant of his intentions to place concrete for any part of the Work at least 48 hours before placement to allow the Consultant to inspect the applicable work

3.2 PREPARATORY WORK

- .1 Before commencing work on the rink slab the natural subsoil shall be excavated to the level of the required granular base, the header trench shall be completed up to the level of the underside of the rink slab.

3.3 INSTALLATION OF INSULATION, REINFORCING, AND REFRIGERANT PIPING

- .1 Insulation shall be at all times handled with care, and when stored on the job site, shall be neatly stacked in a dry place out of the way of construction operations. Insulation shall be covered with tarpaulins for protection from weather, and weighted down for protection from wind damage.
- .2 Insulation shall be laid on the sand base after the sand base has been screeded, compacted and checked for grade. The finished surface of the insulation shall be within $3/16" \pm$ from the required surface.
- .3 Insulation shall be applied to the full extent shown on the drawings. The insulation sheets shall be laid in two layers, tightly butted together on all sides, with staggered joints and shall be covered with two sheets of 6 mil poly.
- .4 The Concrete Contractor will be required to co-ordinate his work with the work of the Refrigeration Contractor during all phases of the work on the rink slab.
- .5 The Refrigeration Contractor will supply and install the pipe chairs and plastic pipe and at the same time, the Concrete Contractor shall install the bottom reinforcing bars as shown on the drawings.
- .6 All bottom bars shall be supplied in lengths not less than 24' and lapped splices shall have at least a 15" overlap.
- .7 After installation of the pipe chairs, plastic pipe, and bottom reinforcing, the Refrigeration Contractor will anchor and stretch the plastic refrigerant piping. The Concrete Contractor shall supply all necessary anchorage devices for stretching the plastic pipe.
- .8 After the refrigerant piping has been installed, the Concrete Contractor shall then install the top layer of welded wire fabric reinforcing. The wire fabric shall be lapped 6" minimum and tied securely to the pipe chair supports. All tie wires for both top and bottom reinforcing must be turned away from the piping to avoid injury to the plastic pipe.
- .9 After installation of the plastic piping and all reinforcing, the Refrigeration Contractor will pressure test the plastic pipe.

3.4 GOAL POST INSERTS

- .1 The Concrete Contractor shall supply 'Megg-Net' goal post insert system (drop in style) (as supplied by Riley - Megg Industries, Paris, Ontario (1-800-265-3588)) for hockey nets and these shall be positioned in the rink slab as indicated on the Drawings, and be securely fastened to the reinforcing steel.

3.5 PLACING CONCRETE

- .1 Concrete placement must be carried on in a continuous basis until completion. Concrete shall be placed in 10' to 12' wide lanes running transversely across the rink starting at the same side and maintaining the same direction each time so that new concrete will be placed adjacent to the oldest concrete of the previous lane. The changing of shifts must

- be done so that there is no delay in placing, and meal hours for crews must be staggered to avoid any stoppage in the placing operation.
- .2 A second concrete pump shall be present on site on stand by to ensure the pour continuity in the event of failure of the first pump.
 - .3 Concrete shall be placed from manually operated buggies or by pumping, as no trucks, cranes, or power buggies will be permitted inside the building. If manually operated buggies are used, runways shall be erected using 4' X 8' X 3/4" fir plywood sheets in good structural condition laid on the pipe chair supports and properly lapped to ensure that no direct weight comes onto the plastic piping. If concrete is pumped, a standby unit must be available on the site to ensure no stoppage in the placing operation due to mechanical failure of the pumping equipment.
 - .4 During the concrete placing operation, the Refrigeration Contractor will circulate water through the plastic piping to prevent the pipe from collapsing, to minimize expansion, and to maintain a constant temperature in the concrete during the placing operation.
 - .5 The Concrete Contractor shall at all times take precautions to ensure that the plastic pipe is not punctured or otherwise damaged. The plastic pipe will sag and be displaced under the weight of the concrete being placed and the Concrete Contractor shall provide all labour required to raise the plastic pipe and wire fabric to its proper position and to move the concrete into place beneath the pipes.
 - .6 A slump of 4" (maximum) will be permitted for this work and the compacting of the concrete shall be done by carefully hand rodding and tamping as the use of vibrators will not be permitted.
 - .7 An engineers level shall be on the site at all times during the placing operation, and shall be used to establish the required finished surface of the rink slab to a tolerance 1/8" ± from true level.

3.6 FINISHING

- .1 Finishing of the rink floor slab shall be done by a Contractor with proven experience in the finishing of large floor slabs such as arena rink slabs, gymnasium floors, etc. The Contractor shall submit to the Consultant for verification, a list of past installations of this type completed successfully.
- .2 Strike off the concrete at the required surface elevation, and mechanically float the surface after initial set. Broadcast uniformly over the surface floor hardener in at least two applications at a total rate of 80 lbs. of hardener per 100 square feet of surface. Straight-edge the surface after each application of hardener at right angles to the previous operation and float mechanical trowel to a smooth, glossy finish.

3.7 CURING PROTECTION

- .1 As soon as possible after finishing, wet the surface and cover the whole area with polyethylene sheets with all joints carefully lapped. Moist cure for at least fourteen (14) days.
- .2 The concrete slab shall be closed to all but very light traffic for at least 14 days or until the concrete has hardened to a point where it will not be damaged.
- .3 The refrigeration system shall not be put into operation until the concrete has attained the design compressive strength.

3.8 CLEAN UP

- .1 On completion of the work of this Section, all protection erected under this Section shall be removed, all damage to this work and to the work of other trades resulting from the execution of the work of this Section shall be made good, and all surplus materials, debris, tools, plant, and equipment shall be removed from the premises, and the building(s) and site left in a condition satisfactory to the Consultant.

END OF SECTION

Section 13 18 16 Ice-Rink Arena Board System

Part 1 General

1.1 GENERAL

- .1 Comply with requirements of General and Supplementary Conditions, and Division 1, General Requirements.

1.2 SECTION INCLUDES

- .1 The work of this Section shall include, but not be limited to, the following:
 - .1 Manufacture, supply and installation of a complete factory prefabricated, arena board system with spectator shielding, including team, penalty and officials' boxes as indicated on the drawings and specified herein.

1.3 RELATED SECTIONS

- .1 Provide area for secure, covered storage area at the site: Division 1, General Requirements.
- .2 Provide clear access into the rink area by forklift.
- .3 Provisions to keep the general public, and workers not involved in erection of work of this Section, a safe distance from erection operations: Division 1, General Requirements.
- .4 Maintaining suitable temperatures and other related site conditions necessary for the proper performance of the work of this section: Division 1, General Requirements.
- .5 Final cleaning to be carried out as specified in Division 1, General Requirements

1.4 UNIT PRICES / OPTIONAL PRICE

- .1 Submit unit prices stating the increase or decrease to the Contract Price for additional or deleted work listed. This will allow accurate "apples-to-apples" comparison between all base system bid prices. Unit prices shall include all labour, materials, products, equipment, services and respective overhead, profit, taxes, disbursements and related charges, and shall represent the actual addition or credit to the Contract Price.
 - .1 Provide design, materials and cost estimates on a per panel basis, for installing 2440 mm (8') advertising panels in locations selected by the owner: each
 - .2 Acrylic glass cleaner and reconditioning kit
 - .3 Additional items not specified, suggested.

1.5 SUBMITTALS

- .1 Shop Drawings
 - .1 Shop drawings shall be submitted by manufacturer. Drawings shall be submitted to Contractor, Engineer, Architect or Owner for approval prior to actual fabrication of materials.

- .2 1.Shop drawings shall show, in appropriate scale, dimensions, details of arena board system, glazing assemblies, methods of joining, fastening, bonding, joint locations, methods of anchoring, sizes of anchors, glazing details and glazing methods, hardware, installation procedures, provision of expansion and contraction, details of other pertinent components of the work, and adjacent constructions to which work of this Section will be attached.
- .3 1.Shop drawings shall indicate dimensional layout and placement drawings for installation of existing anchors.
- .2 Samples
 - .1 Submit samples of materials, finishes and colors for review.
- .3 Operation and Maintenance Data
 - .1 On completion of installation, supply three copies of instructions covering removal and replacement of panel system, reglazing, adjustments and other relevant operating and maintenance data.
 - .2 Provide "As Built" drawings showing overall layout of the boards and glass.

1.6 QUALITY ASSURANCE

- .1 Qualifications
 - .1 Arena board system shall be provided by a firm having a minimum of 5 years satisfactory experience supplying and installing arena boards, using persons trained and skilled in type of work required for both manufacturing and installing.
 - .2 All welding must be completed by a certified CWB welder according to CSA-W47.1 for steel and W47.2 for aluminum.
 - .3 CWB certificates must be supplied before the PO will be issued.
 - .4 1.Dasher Board suppliers must also be ISO certified 9001:2015.
 - .5 All materials shall be manufactured and installed per plans and specifications. Any deviations to this specification, unless approved in writing by the owner, will be charged back to the supplier at the Owner's discretion.

1.7 PROJECT / SITE CONDITIONS

- .1 Environmental Requirements: Ensure that installation takes place only, when temperatures and other conditions are suitable for safe and proper installation.
- .2 Field Measurements: Verify location and layout of arena gates and removable panels to align with seating aisles where required.
 - .1 Existing opening to remain in same locations unless coordinated with consultant.
 - .2 Player benches, time keeper, and penalty box to remain same size, replace.

1.8 WARRANTY

- .1 A.Warrant the work of this section against defects in materials and workmanship for a period of two (2) years from the date of substantial completion of the contract. Misuse, abuse and/or accident not caused by normal use excluded. Glass breakage is excluded.

1.9 DELIVERY

- .1 Delivery and installation shall allow for sufficient manufacturing and installation time prior to the project completion date and mutually agreeable between Owner and Manufacturer.
- .2 Refer to 00 73 00 Supplementals Conditions for critical dates and Liquidating Damages.

Part 2 Products

2.1 MANUFACTURERS

- .1 The following manufacturers are acceptable:
 - .1 Welmar Recreational Products Inc
7018 Wellington 124 S, Guelph, Ontario, Canada
Phone (519) 763-6633 Fax (519) 763-2013
 - .2 Other approved manufacturer, meeting the requirements of this Section.
Alternative suppliers must be approved through the proper process complying with divisions 00 and 01 during tender.

2.2 RINK DIMENSIONS

- .1 Rink size shall be nominally 186' long x 85' wide x 28' radius corners or as shown on drawings. Size shall be field verified by manufacturer.
- .2 Rink size is existing with a curb. Dasher boards will be installed on the existing curb replacing the existing dasher boards. Field verify

2.3 MATERIALS

- .1 Dasherboard Frames: Lightweight structural aluminum modular panels with seamless channels.
- .2 High Density Polyethylene (HDPE): High Impact, integrally coloured, high-density polyethylene. Colours for top sill and kick strip.
- .3 RinkShield acrylic Safety Glass: for the sides / ends
- .4 Hardware: zinc plated steel.
- .5 Anchor Bolts (for arena board panels): Zinc plated steel
- .6 Rubber Flooring: 19mm (3/4") thick Black rubber flooring for the boxes.

2.4 FABRICATION

- .1 General
 - .1 As far as practical, execute fitting and assembly in the shop with the various parts or assemblies ready for erection at the project site.
 - .2 Accurately fit together all joints, corners and intersections. Match components carefully to produce continuity of line and design. NOTE: All welding to be completed by CWB certified welders.
 - .3 Provide devices for anchoring the assemblies to the substrate with adjustment to permit correct and accurate alignment.

- .4 Fabricate anchoring devices required to secure the work of this Section. Supply anchors and layout drawing.
- .5 System components shall be numbered for ease of installation, disassembly, and reinstallation.

2.5 SYSTEM DESCRIPTION FOR BASE BID REQUIREMENTS

.1 Arena Panels

- .1 Arena panels shall be factory prefabricated in demountable sections. The design of all panels whether straight, curved or in which a gate is located shall be similar. Each panel to be 42" (1067mm) in height and shall be made of extruded structural aluminum box sections assembled into frames using high strength fasteners. Aluminum to be mill finish. Frames shall allow for fastening of the HDPE facing and anchoring at base. Ensure flush mating of the HDPE facing at arena panel joints.
- .2 Typical sections shall consist of a minimum two vertical posts and three horizontal stringers. Frames shall be connected end to end with heavy duty, 5/8" (16mm) bolts and shall be connected to rink slab/perimeter concrete structure with minimum 5/8" (16mm) threaded rods and nuts or bolts, epoxied into the perimeter concrete.
- .3 Cladding: Panels to be clad with 1/2" (12mm) white High-Density Polyethylene (HDPE) facing the full height of each panel, and with 1/2" (12mm) color impregnated HDPE cap rail and 7 7/8" (200 mm) high kickplate (10' high for a sand floor), color to be selected from standard options (red, blue, yellow and gold). Both edges of cap rail shall have a smooth and radiused edge. Top edge of kick plate to have a radiused edge. Reprocessed polyethylene is not acceptable. Where acrylic shielding is specified, the cap rail shall be routed to accept shielding. Sill channels are not acceptable.
- .4 The HDPE facing shall be attached to the arena board framing with 1/4" (6 mm) diameter screws. Screws to be zinc-plated except for bottom row of kickplate, which is to be stainless steel. Heads of screws shall be painted to color match the facing, kick plate or top cap as appropriate, or if stainless steel, may be left unpainted. Spacing of the screws shall not exceed 9" (225 mm) on center.
- .5 Color extensions of red and blue game lines shall be color HDPE strips inlaid flush to the HDPE facing and inlaid flush to the HDPE kickplate in conformance with rink layout requirements per governing bodies.

.2 Players, Penalty, and Officials' Boxes/Benches/Floors

- .1 Boxes shall consist of arena board enclosures similar to rink arena boards.
- .2 Boxes shall consist of two (2) team boxes, two (2) penalty boxes and one (1) officials' / timekeeper's box; located as indicated on drawings.
- .3 Interior finish of boxes shall be of similar construction as ice-side of arena boards, utilizing 3/8" (10mm) thick HDPE, to height of mid-stringer on front side (to provide a water bottle shelf), full height on other sides. Framing shall be similar construction as arena boards.
- .4 Player boxes shall be approximately 43'-0" (13,106mm) long in north rink and 37'-0" (11,277mm) long in south rink by 5'-0" (1,525mm) deep, as indicated on

- drawings. Access via two gates per box on ice side and one additional 36" (914mm) wide gate at the back or end of each box, as indicated on drawings.
- .5 Penalty boxes shall be approximately 11'-0" (3,352mm) long in north rink and 8'-1" (2,464mm) long in the south rink by 4'-8" (1,422 mm) deep in north rink and 5'-0" (1,525mm) deep in the south rink, as indicated on drawings, with access via one gate on ice side, and one additional 36" (914mm) wide gate at the end of one box, as indicated on drawings
 - .6 Timekeepers' box shall be approximately 11'-8" (3,556 mm) long in the north rink and 7'-9" (2,362mm) long in the south rink by 4'-8" (1,422 mm) deep in the north and 5'-0" (1,525mm) deep in the south rink, as indicated on drawings, accessed at the side of the box by one 36" (914mm) gate, as indicated on architectural drawings. TK Table with supports, 16" x 8'-0" (2,438mm), as shown on drawings, with bottom pencil holder.
 - .7 Benches shall be 40'-0" (12,192mm) long in north rink and 29'-0" (8,839mm) long in the south rink in player boxes and full box width in penalty boxes. Benches shall be a nominal 9-1/2" (240mm) deep. Benches shall be extruded anodized aluminium with the seating surface being clad with 1/2" (12.7mm) HDPE. Benches to be mounted on pedestals at 22" (560mm) above floor. Bench pedestals shall be of a 1/4" (6mm) aluminium base plate with 1 1/2" x 3" (38.1mm x 75mm) aluminium post. Bench pedestal locations to be positioned along the length of the bench as required.
 - .8 Provide 6-3/4" (170mm) high raised wood framed floors, with 3/4" plywood and 1/2" (12mm) rubber mat as shown on drawings.
Plywood: CSA O121, Douglas Fir plywood, exterior waterproof type, Grade G/Solid (Canadian Standard), or Product Standard PS-1, Douglas Fir plywood, exterior waterproof type (American Standard).
 - .9 Provide coaches walkways, 8" (200mm) high with 1/2" (12mm) rubber mat on top and exposed sides covered with 3/8" (10mm) white HDPE. Walkway shall be 18" deep.
- .3 **Spectator Shielding**
- .1 Provide 1/2" (12mm) "Arena Ready" clear tempered glass at the sides at a height of 48" above the top of the boards, as per drawings. Height shown is above cap rail.
 - .2 Provide 5/8" (15mm) "Arena Ready" tempered glass at the ends and radius corners at a height of 72" above the top of the boards, as per drawings. Height shown is above cap rail.
 - .3 Tempered Safety Glass:
 - .1 Clear, colorless, fully toughened, heat tempered safety glass. The roll-wave distortion shall not exceed 0.127 mm (0.005") from peak to valley. Each piece of tempered glass shall bear the stamp of approval from a certified testing facility, proving the glass meets standards such as:
 - .1 ANSI Z97.1-2009 Class A;
CPSC 16 CFR 1201 Category II;
CAN/CGSB 12.1-M90;

ASTM C1048; or
CAN/CGSB-12.1, Type 2

- .2 The stamp shall be in a location that will be visible and legible after boards and shielding are installed.
- .3 Note: ASTM & ANSI are American reference standards; CPSC & CAN/CGSB are Canadian reference standards.
- .4 Shielding shall not be installed in front of the player's boxes. Shielding shall be installed on sides and back of player's, penalty and timer's box and in front of penalty and timer's boxes.
- .5 A 3.25" diameter speaker hole shall be provided in shielding in front of the timer's boxes.

.4 Spectator Shielding Supports

- .1 Provision for attachment of shielding glazing to the vertical supports shall be by means of an extruded, mill finish aluminum "Quick Release" shield support. This aluminum support shall run continuously to within 12" (300mm) of the top of the glazing; an extruded face plate will slot into aluminum support with no screws. Plastic "U" shaped gaskets protect the glass edges. At the gates only, the support is a two piece with a screw-applied face plate. The shield support system must facilitate the replacement of shields from the ice side without requiring additional support or securing of the adjacent shields.
- .2 Shielding and supports shall be designed for easy removal without tools for events when arena boards will remain in place but shielding and shielding supports are to be removed, including the gates.
- .3 Provide an easily replaceable protective corner bumper pad shall be provided to a height of not less than 36" above boards.

.5 Gates

- .1 Access and Machine gates in locations as shown on drawings, with one piece 1" (25mm) and 1-1/2" (37mm) thick replaceable White HDPE Thresholds. Access gates shall be built into standard 8' 0" (2440mm) sections and shall be 4' 0" (1,219mm) wide, left or right-hand swing. Gate latch shall be a single latch type. Double access gates shall be double gates incorporated into a standard 8' 0" (2438mm) panel, with locking hardware similar to equipment gates. All gate latches and hinges to be zinc plated.
- .2 Players gates shall be built into standard 2440 mm (8'-0") sections and shall be 760 mm (2'-6") wide, left or right hand swing. Gate latch to be a single latch type.
- .3 Provide a flush mounted push-button latch release in the cap rail on the ice entrance gates where shields would otherwise prevent latch operation. The push-button shall be designed to be simple to operate from both sides of the shielding (suitable for opening gates with hockey glove on hand), yet prevent accidental opening.
- .4 Equipment gates shall be double gates with a 8' 0" (2,440mm). Each leaf should be 4' wide (1,219mm).
- .5 Each equipment gate unit shall be equipped with Heavy Duty Adjustable Hinges with built in adjustment features that simplifies alignment and installation and one

locking clamp or sliding bar and two retractable flush bolts into the threshold or floor.

- .6 Each equipment gate unit shall be equipped with adjustable heavy-duty spring-loaded casters with the direction of travel fixed to the arc of the door.
- .7 Provide "Gate Levelling Screws" at all gate locations (the gates can be realigned with the ice in).
- .8 Quantity and size of gates to be shown in drawings.

.6 Board Anchors

- .1 For precast anchors, the dasher board manufacturer shall provide a supervisor on site during the concrete pour to ensure anchor integrity.

.7 Spare Components

- .1 Supply, in addition to quantities required for the Work, extra materials and products to the owner:
 - .1 Fifty (50) additional painted screws of each color required for fastening of HDPE facings.
 - .2 Two (2) extra pieces of facing, cap rail (straight and curved) and kickplate.
 - .3 Two (2) extra pieces of each standard size piece of tempered glass for the ends and sides.
 - .4 Two (2) extra pieces of 72" x 96" x nominal 1/2" acrylic to handle all special sizes of glass.

.2 DESIGN AND PERFORMANCE REQUIREMENTS

- .1 Design loadings (Specified):
 - .1 Concentrated load $P = 2.7 \text{ kN}$ (600 lbf) applied at mid span of top rail (i.e. top of arena board assembly). {Note: Player impact load}
 - .2 Uniformly distributed load of 2.7 kN/m (180 lb./ft.) applied along top rail.
 - .3 {Note: Player impact load; OBC 4.1.10.1.(c)}
 - .4 Uniformly distributed load of 4.8 kPa (100 psf) applied across the entire face of the arena board. {Note: Stacking load case}
- .2 Member Resistances (Factored): SYMBOL IS CONTROL $V = 8,45$ (phi)
 - .1 Axial Resistance:
 - .1 Tension: $T_r = \phi A_n F_y$; $T_r = 85 \phi A_n F_u$
 - .2 Compression: $C_r = \phi A F_c$
 - .2 Shear Resistance:
 - .1 $V_r = \phi 0.60 A_w F_c$; $\phi 0.60 A_w F_y$; $\phi hNWR$
 - .3 Moment Resistance:

.1 Mr = □ S.Fy (Class 2 Sections)

2.6 OPTIONAL FEATURES

- .1 Submit unit prices stating the increase or decrease to the Contract Price for additional or deleted work listed below. Unit prices shall include all labor, materials, products, equipment, services and respective overhead, profit, taxes, disbursements and related charges, and shall represent the actual addition or credit to the Contract Price.

2.7 OPTIONS - PROTECTIVE NETTING

- .1 Install ~~Black Nylon/White Nylon/Clear Monofilament/Used Kevlar (based on availability)/Kevlar~~ protective netting around both ends of the rink (including radii), and both sides (entire rink) to a height of 12' above shielding or as shown on drawings.
- .2 Netting shall be fastened to the shielding supports in such a way to prevent pucks from falling outside the rink area.
- .3 Netting to be attached to a conduit frame at the top which is suspended from the ceiling and mirrors the radii of the dasher boards.
- .4 Netting hardware package to include beam clamps, cables and misc. hardware required for a complete installation.

2.8 OPTIONS - GAP CLOSURES

- .1 Provide 2-piece 3/8" HDPE angle between the boards and all raised areas behind the boards and/or as shown on drawings. Attach to backer panel or dasher board framing.

2.9 OPTIONS - SEAMLESS GLASS

- .1 The glass must be rigidly retained along the bottom edge, with no less than 89 mm (3 1/2") extended into the top rail of the arena board framing. Glass to be retained using a continuous aluminium "U" channel. There must be adequate venting on the underside, to allow for proper cleaning of the glass retaining channels, should breakage occur. The glass must not come into contact with any metal parts, which may cause breakage. A 1/4" glass spacer block is to be provided in the channel to protect the glass edges from touching each other. The shield support system must facilitate the replacement of shields from the ice side without requiring additional support or securement of the adjacent shields.
- .2 A spring-loaded polycarbonate clip is required at the top of the glass allowing the adjacent pieces of glass space between them and to allow for independent movement between the panes of glass. Non spring-loaded clips are not acceptable.

Part 3 Execution

3.1 EXAMINATION

- .1 Before commencing erection and installation, examine the work of other Sections to which the work of this Section will be attached.
- .2 Report immediately in writing to the Contractor/Architect/Engineer, all discrepancies in accuracy and suitability, conditions that will adversely affect the installation and permanency of the work of this Section.

3.2 INSTALLATION

- .1 General
 - .1 Provide a complete installation of the board system by the manufacturer or manufacturer approved dealer in accordance with the drawings and specifications.
 - .2 Installation shall be in strict conformance with the manufacturers requirements and instructions.
- .2 Adjusting
 - .1 Upon completion of the Work of this Section, inspect, test and adjust installation.
 - .2 Test all operable elements and ensure easy and smooth operation.
 - .3 Upon completion of installation do a general clean-up.
- .3 Cleaning
 - .1 Final cleaning to be carried out as part of General Conditions.

END OF SECTION

Section 13175 Refrigeration Equipment

Part 1 General

1.1 GENERAL REQUIREMENTS

- .1 Conform to Division 1 General Requirements.

1.2 WORK INCLUDED

- .1 The work covered by this section includes, but is not necessarily limited to, the draining of the existing brine, storage of brine on site for re-installation, removal of the existing rink piping and chairs. The supply and installation of new refrigeration piping in floor slab, pressure testing piping while concrete is poured, draining and refilling the system with brine after the slab is poured.

1.3 WORK EXCLUDED

- .1 The rink slab is specified in other sections of the specification.

Part 2 Products

2.1 MATERIALS

- .1 Rink Floor Polyethylene Piping: All rink floor piping shall be 1.049" (27mm) ID x 1.25" (32mm) OD linear low density, virgin polyethylene resin, CSA approved pipe specifically manufactured for rink use.
- .2 Rink Cooling Pipe Supports: Supply and install top-loading type "M" rink pipe support chairs made of steel rod fabricated with a 3" (76mm) wide, 245 gauge steel base plate on the bottom. Rink pipe supports shall be fabricated to provide a polyethylene pipe lift to all over 1 $\frac{3}{4}$ " (44mm) thick concrete coverage over the top of rink piping.

Part 3 Execution

3.1 INSTALLATION OF RINK PIPING

- .1 Pipe chairs shall space the cooling rink floor piping on 4" (102mm) centres and shall be placed in rows on 3'-0" (914mm) centres down the length of the rink. Overlap chairs by one (1) pipe at the end of each chair..
- .2 Rink floor cooling piping shall be installed on 4" (102mm) centres. The only permitted connections or joints in the cooling floor piping, shall be at the headers and at the 180° steel return bends. Pipes shall be fastened to the header and return bends via stainless steel clamps with carbon steel screws, two (2) clamps per pipe connection.
- .3 The rink cooling floor and header system shall be tested with water pressure at a minimum of 50 psig (345kPa) for 48 hours, prior to pouring of concrete. Pressure shall remain on the floor for the duration of the rink pour.
- .4 To repair a polyethylene pipe leak the pipe is to be cut at the leak. A 1" (25mm) plastic insert coupling, with two clamps on either side, is to be installed and re-tested. Replace the entire pipe circuit if a pipe leak is found while the pipe is still accessible.

- .5 Return bend wire ties are to be cut after the concrete floor pour, through the perimeter side of the expansion joint to permit the floor slab to contract during operation.

3.2 BRINE CHARGE

- .1 Re-install the brine in the system and top up if required.

3.3 REFRIGERATION SYSTEM COMMISSIONING

- .1 The refrigeration system shall be commissioned by a qualified refrigeration mechanic including testing and adjusting all operating controls. The refrigeration contractor shall instruct the owner's representative in the operation and control of all equipment on the refrigeration system.
- .2 The procedure for the initial rink concrete slab controlled temperature reduction and making of the first sheet of ice is as follows:
 - .1 A minimum 28-day cure period is required on the concrete prior to reducing the floor temperature.
 - .2 The new concrete slab should be thoroughly cleaned and rinsed. A non-oil based detergent type soap, can be applied by a power scrubber or hand mopped. Ensure any traces of petroleum-based distillates have been removed.
 - .3 Reduce the concrete slab temperature down to 32F. The full compressor capacity of the system will be used to minimize the time required to reduce the floor concrete slab temperature to 32F.
 - .4 Maintain the concrete slab temperature at 32F for 24 hours.
 - .5 Reduce the concrete slab at a rate of 3F per day until a temperature of approximately 20F is reached.
 - .6 Owner begins ice-making process.

END OF SECTION



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