



Grand Falls Windsor
| perfectly centered |

YMCA ROOF REPLACEMENT

PROJECT NO. 2026-T1

JUNE 2026

PROVINCE OF NEWFOUNDLAND AND LABRADOR



PERMIT HOLDER
This Permit Allows

CECON LIMITED

To practice Professional Engineering
in Newfoundland and Labrador.
Permit No. as issued by PEG D0048
which is valid for the year **2026**



*Central Engineering Consultants of Newfoundland Limited
Gander Newfoundland*

**YMCA Roof Replacement
Grand Falls-Windsor, NL
Index**

Page 1 of 2

	<u>Section</u>	<u>Page(s)</u>
Title Sheet	N/A	(i)
Table of Contents	N/A	(ii)
Standard Specification Statement	N/A	(iii)
Information to Tenderers	N/A	4
Tender Form	N/A	3
CCDC 2 – Stipulated Price Contract	N/A	30
Supplementary General Conditions	N/A	9
Certificate of Insurance	N/A	1

DIVISION 1 - GENERAL REQUIREMENTS

Section #01 11 00 - Summary of Work
Section #01 14 00 - Work Restrictions
Section #01 21 00 - Allowances
Section #01 25 00 - Substitution Procedures
Section #01 26 00 - Contract Modification Procedures
Section #01 31 00 - Project Management and Coordination
Section #01 32 00 - Construction Progress Documentation
Section #01 33 00 - Submittal Procedures
Section #01 35 29.06 - Health and Safety Requirements
Section #01 35 43 - Environmental Procedures
Section #01 35 99 - Dust Control Procedures
Section #01 41 00 - Regulatory Requirements
Section #01 42 00 - References
Section #01 43 39 - Mock Up Requirements
Section #01 45 00 - Quality Control
Section #01 51 00 - Temporary Utilities
Section #01 52 00 - Construction Facilities
Section #01 56 00 - Temporary Barriers and Enclosures
Section #01 61 00 - Common Product Requirements
Section #01 71 00 - Examination and Preparation
Section #01 73 00 - Execution
Section #01 74 00 - Cleaning
Section #01 74 21 - Construction/Demolition Waste Management and Disposal
Section #01 77 00 - Closeout Procedures
Section #01 78 00 - Closeout Submittals
Section #01 79 00.13 - Demonstration and Training for Building Commissioning
Section #01 91 13.13 - Commissioning (Cx) Requirements
Section #01 91 13.16 - Commissioning (Cx) Forms

DIVISION 2 - EXISTING CONDITIONS

Section #02 41 16 - Structure Demolition

**YMCA Roof Replacement
Grand Falls-Windsor, NL
Index**

Page 2 of 2

DIVISION 6 - WOOD, PLASTICS AND COMPOSITES

Section #06 10 53 - Miscellaneous Rough Carpentry

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Section #07 21 13 - Board Insulation

Section #07 27 00.01 - Air Barriers

Section #07 52 00 - Modified Bituminous Membrane Roofing

Section #07 62 00 - Sheet Metal Flashing and Trim

Section #07 71 23 - Manufactured Gutters and Downspouts

Section #07 92 00 - Joint Sealers

DIVISION 9 - FINISHES

Section #09 21 16 - Gypsum Board Assemblies

DIVISION 22 - PLUMBING

Section #22 05 15 - Plumbing Specialties and Accessories

LIST OF DRAWINGS

1 of 1 Roof Replacement Plan

THESE PROJECT DOCUMENTS HAVE BEEN PREPARED FOR USE WITH AND REQUIRE BEING READ IN CONJUNCTION WITH THE MUNICIPAL WATER, SEWER AND ROADS MASTER CONSTRUCTION SPECIFICATIONS, (MAY 2024) REVISION, AS PUBLISHED BY THE PROVINCE OF NEWFOUNDLAND AND LABRADOR. THIS PUBLICATION IS AVAILABLE ON THE DEPARTMENT WEB SITE AT THE FOLLOWING LINK:

<https://www.gov.nl.ca/ti/mi/mwsr/#spec>

1. A complete Tender is comprised of the following:
 - a) The Tender Form in its entirety, with all pages and spaces for entry of information by Tenderers filled in as instructed.
 - b) Acknowledgment of addenda received by the Tenderer during the tendering period.
 - c) Tender Security (refer to clause 12 herein).
2. **Tenders shall be submitted exclusively by email to tenders@townofgfw.com up until 2:00 p.m., local time, on Monday, July 6, 2026** , hereinafter referred to as the Tender Closing. Subject heading of email to read **"2026-T1 - YMCA Roof Replacement - Grand Falls-Windsor"** . The time stamp of the email received by tenders@townofgfw.com will be used to determine if the submission was received in time - not the time it was emailed sent by the sender. Last minute submissions are not recommended.
3. Tender opening will occur 5 minutes following Tender Closing as identified above. A Microsoft Teams link can be requested by any bidder that wishes to attend the opening by contacting tenders@townofgfw.com a minimum of 3 hours before Tender Closing. Bids will be opened during a videoconference available to all bidders who request the link and virtually attend the opening.
4. Before tendering, Tenderers shall have examined the *Site* of the Work and shall have satisfied themselves as to the working conditions, including labour conditions and labour rules, the nature and kind of work to be done, any special risks associated therewith and all other matters which may be necessary in order to form a proper conception under which the work will be required to be performed. Tenderers shall not be entitled to claim at any time after closing of tenders that there was any misunderstanding in regard to all such conditions.
5. When forming their estimates and preparing their tenders, Tenderers shall take full cognizance of the content of all the Contract Documents listed in Section 00 41 42 - Tender Form - Stipulated Price.
6. Any ambiguities, inconsistencies, or uncertainties in the Contract Documents which may become apparent to Tenderers when tendering shall be advised via email to the *Consultant* at bburton@cecon.ca not less than three (3) working days before Tender Closing. Tenderers will be advised simultaneously of any decisions on such matters as necessary by means of addenda (which will be serially numbered) and all addenda issued shall be incorporated into the Contract Documents.
7. Tenderer shall fill in the Completion Time and is notified that the completion date based on this may be taken into account in considering the tenders.
8. All tenders shall be valid for acceptance for sixty (60) calendar days from the Closing Date.
9. The Agreement is included in the Contract Documents at the time of tendering and is provided for information only and shall not be completed at the time of tendering.

10. The appending of any qualifying clauses to the tender or failure to comply with these instructions and with all other relevant provisions contained in the documents in the completing of any tender may render such tender liable to disqualification as determined by the *Owner*.
11. Contract Price to exclude HST. Harmonized sales tax shall be indicated as a separate amount and included in the *Total Amount Payable*.
12. Each tender shall be accompanied by Tender Security in the amount of ten percent (10%) of the *Total Amount Payable* (inclusive of *Value Added Taxes*) in evidence of the bona fide nature of the tender. Tender security must satisfy the same requirements of Contract Security as set forth in clause 13 herein.
13. Tender and Contract Security shall be in favour of the *Owner* and shall be in the form of a Certified Cheque, irrevocable Letter of Credit or a Bond which shall guarantee to the *Owner* that in the event of the successful Tenderer declining to enter into a formal agreement with the *Owner* as called for in the Contract Documents, or declining or neglecting to provide the Insurance or Contract Security required by the Contract Documents, then the *Owner* will be reimbursed the additional cost of accepting another tender or Tender Security amount, whichever is the lesser.
 - .1 A scan of a hard copy bond, certified cheque, or irrevocable letter of credit is permitted provided the original is provided in the subsequent hard copy submission
 - .2 The bonds shall be issued by a company whose guarantee bonds are acceptable to the Government of Canada. Use the latest edition of CCDC Form 220 for a Bid Bond, a CCDC Form 221 for a Performance Bond, and a Form 222 for a Labour and Material Bond.
 - .3 Bonds may be submitted in an electronic or digital format provided it meets the following criteria:
 - .1 The version submitted by the Tenderer must be verifiable by the *Owner* with respect to the totality and wholeness of the bond form, including: the content; all digital signatures; all digital seals; with the Surety Company, or an approved verification service provider of the Surety Company.
 - .2 The version submitted must be viewable, printable, and storable in standard electronic file formats acceptable to the *Owner*, and in a single file. Allowable formats include pdf.
 - .3 The verification may be conducted by the *Owner* immediately or at any time during the life of the bond and at the discretion of the *Owner* with no requirement for passwords or fees.
 - .4 The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding subsection 12.3.1 above.
 - .5 Bonds failing the verification process will NOT be considered to be valid.
 - .6 Bonds passing the verification process will be treated as original and authentic.
14. The Tender Security of the unsuccessful Tenderers will be returned to them after the *Owner* enters into a formal agreement with the successful Tenderer or the expiration of validity of their tenders, whichever occurs first.
15. On the written acceptance by the *Owner* of a tender, that tender becomes the Contract and the Tenderer who has submitted it becomes the Contractor. The

Contractor will be required to enter into a formal agreement with the *Owner* following receipt of a written notice of acceptance from the *Owner*. The written notice of acceptance forms a Contract Agreement until the formal "Agreement" included herein is executed.

16. Within seven (7) days of written acceptance of a tender, the Contractor shall provide Contract Security in the amount and form as specified in SGC 14.1 in Section 00 73 00 - Supplementary General Conditions, and Insurance as specified in CCDC 2-2020, GC 11.1.
17. Complete the Tender Form and have corrections initialled by the individual signing the tender.
18. Where manufactured articles are described or specified in the Contract Documents by name, catalogue number of a manufacturer or supplier, Tenderers shall tender on the basis of using only such articles. Procedure concerning substitution of a specified article with another shall be in accordance with equivalents and alternates in Section 01 25 00 - Substitution Procedures.
19. The *Owner* will not defray any expenses whatsoever incurred by Tenderers in the preparation and submission of their tenders. The *Owner* reserves the right to waive any formality or technicality in any tender.
20. The *Owner* reserves the right to accept or to reject any or all tenders received, or to select a tender which is deemed by the *Owner* to be in its best interests. The *Owner* reserves the right to negotiate with the lowest compliant tenderer in the event that all tendered prices are higher than anticipated.
21. Tenders, which in the opinion of the *Owner* are considered to be informal or unbalanced, may be rejected.
22. Tenders may be amended or withdrawn without penalty, by email to tenders@townofgfw.com prior to Tender Closing. Amendments shall not disclose either original or revised total price.
 - .1 Subject line of amendment or withdrawal to read as follows:
"[Amendment]/[Withdrawal] of **2026-T1 - YMCA Roof Replacement - Grand Falls-Windsor** and submit at email address provided above. All Submissions must be received prior to Tender Closing.
 - .2 The *Owner* will not be responsible for any failure attributable to the transmission or reception of the email. The time stamp of the email received by tenders@townofgfw.com will be used to determine if the submission was received in time - not the time it was emailed sent by the sender. Last minute submissions are not recommended.

END OF SECTION

TO: Grand Falls - Windsor

5 High Street, A2A 2J8

FROM: _____

The undersigned Tenderer, having carefully read and examined the undermentioned Contract Documents prepared by **CECON LTD.** for the completion of the Grand Falls - Windsor, YMCA Roof Replacement - Project No. 2026-T1 which comprise all the tender documents in accordance with the following documents:

- Tender Form - Stipulated Price
- CCDC 2-2020:
 - Agreement Between Owner and Contractor
 - Definitions
 - General Conditions of the Stipulated Price Contract - CCDC 2-2020
 - Supplementary General Conditions
- Specifications
- Drawings
- Addendum/Addenda

hereby accepts the same as part and parcel of the Contract herein referred to, and having carefully examined the locality and site of *Work* and having full knowledge of the *Work* required and of the materials to be furnished and used, does hereby Tender and offer to enter into a contract to perform and complete, the whole of the said *Work* and provide all necessary labour, plant, tools, materials and equipment and pay all applicable taxes, as set forth and in strict accordance with the Specifications, Drawings and other Contract Documents and to do all therein called for on the terms and conditions and under the provisions therein set forth as follows.

CONTRACT PRICE	\$ _____ (A)
ADD HST (15% OF CONTRACT PRICE)	\$ _____
TOTAL AMOUNT PAYABLE	\$ _____

Tenderer's HST Registration No. _____

COMPLETION TIME

1. Tenderer agrees to achieve Ready-for-Takeover of the *Work* within _____ weeks from written notification of Award.

The Undersigned Tenderer:

- .1 Declares that this tender is valid for acceptance until _____ (being sixty (60) calendar days from the Tender Closing).
- .2 Declares that the Contract Price set forth in the Tender Form has been correctly computed for the purposes of this tender and that it includes and

- covers all duties, and handling charges; transportation; and all other charges. Harmonized sales tax is not to be included in the Contract Price.
- .3 Hands you herewith by way of Tender Security a Bid Bond or Certified Cheque or irrevocable Letter of Credit in the amount of ten percent (10%) of the *Total Amount Payable* on the understanding that in the event of this tender not being accepted by you, then this Tender Security will be returned to the undersigned Tenderer either at the time that the Contract is entered into with some other Tenderer, or at the expiration of validity of this tender, whichever is the sooner.
- .4 Undertakes in the event of your acceptance of this tender, to execute a formal agreement in the form hereto attached, within seven (7) calendar days of written acceptance and further agrees to provide the Contract Security as specified in Part 14 of Section 00 73 00 - Supplementary General Conditions, and Insurance as specified in GC 11.1.
- .5 Undertakes, in the event of your acceptance of the Tender, to achieve *Ready for Takeover* within the number of weeks of written notification of Award indicated above.
- .6 Upon request, provide evidence of ability and experience within seven (7) calendar days of request, including experience in similar *Work*, *Work* currently in progress, senior supervisory staff available for the *Work*, equipment available for the *Work*, and financial resources.
- .7 Agrees that in the event of failing or neglecting either to provide the Contract Security and Insurance and/or to execute the Agreement in the manner herein before undertaken, then the Tender Security shall be forfeited.
- .8 Agrees that unless and until a formal agreement is prepared and executed, this tender together with your written acceptance thereof shall constitute a binding Contract between us.
- .9 Understands and agrees that the *Owner* is not bound to accept the lowest or any tender which they may receive.
- .10 Agrees to provide, maintain and pay for the insurance coverages specified in the Contract Documents. One copy of all insurance policies of the Contractor and two copies of certificates of insurance, certifying to the issuance of all insurance policies, shall be furnished to the *Owner*. Each and every insurance policy shall name the Contractor, *Owner* and *Consultant* as being insured in the full amount of the insurance.
- .11 Declares to have personal knowledge of the location of the proposed *Work* and is informed as to the actual conditions and requirements, including labour conditions and labour rules and shall not claim at any time after execution of the Agreement that there was any misunderstanding in regard to such conditions and requirements.
- .12 Declares to have carefully examined the documents and Addenda No. _____ to _____ referred to in the first paragraph of this Tender Form, and the Tenderer hereby accepts and agrees to the same as forming a part of the Contract.

- .13 Understands that in the event that the tendered Contract Price is not within the project budget, the *Owner* has the right to negotiate the Contract with the low bidder or reject all tenders received.
- .14 Agrees that the Warranty Period defined in the Contract Documents shall be for a period of one (1) year from the date of Ready-for-Takeover of the *Work*.
- .15 Understands Contract Security, as specified herein, will be retained until the expiration of the Warranty Period.
- .16 Understands that Substantial Performance of the *Work* will be established in accordance with General Conditions of the Contract and applicable lien legislation at the Place of *Work*.
- .17 Understands that after the issuance of the certificate of Substantial Performance of the Work by the Consultant, provided that the Contractor has relieved the Owner from any and all claims, demands and lien claims for and in respect of the Contract, and has completed all outstanding items and corrected all deficiencies, the Contractor shall submit an application for Final Payment and the Consultant will thereafter prepare the Final Certificate for payment in accordance with the General Conditions of the Contract and applicable lien legislation at the Place of Work.
- .18 Understands that *Ready for Takeover* will only be given when the Contractor has completed all outstanding items and corrected all deficiencies. The Contractor can then submit an application for Final Payment and the *Consultant* will thereafter prepare the Final Certificate for payment in accordance with the General Conditions of the Contract.
- .19 Understands that the payment of holdback will be in accordance with the General Conditions of the Contract and subject to the provisions of the lien legislation applicable to the Place of *Work*.
- .20 Understands the occupational Health and Safety Legislation and any Workers or Workplace compensation legislation applicable to the Place of the *Work* and declares that they are in good standing and have all necessary certification as required by such legislation.
- .21 Agrees that time shall be construed as being of the essence of the Contract.

DATED THIS _____ DAY OF _____, 202____.

[Seal]

Name of Firm Tendering

Signature of Signing Officer

Witness

Name and Title (Printed)

Witness

Signature of Signing Officer

Name and Title (Printed)

Company Address

Telephone No.

Fax No.

Email

*NOTE: Tenders submitted by or on behalf of any Corporation must be signed and sealed in the name of such Corporation by a duly authorized officer or agent.

END OF SECTION

CCDC 2

Stipulated Price Contract

2 0 2 0

Name of Project

Apply a CCDC 2 copyright seal here. The application of the seal demonstrates the intention of the party proposing the use of this document that it be an accurate and unamended form of CCDC 2 – 2020 except to the extent that any alterations, additions or modifications are set forth in supplementary conditions.

CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE

CCDC 2 STIPULATED PRICE CONTRACT

TABLE OF CONTENTS

AGREEMENT BETWEEN OWNER AND CONTRACTOR

- A-1 The Work
- A-2 Agreements and Amendments
- A-3 Contract Documents
- A-4 Contract Price
- A-5 Payment
- A-6 Receipt of and Addresses for Notices in Writing
- A-7 Language of the Contract
- A-8 Succession

DEFINITIONS

- Change Directive
- Change Order
- Construction Equipment
- Consultant
- Contract
- Contract Documents
- Contract Price
- Contract Time
- Contractor
- Drawings
- Notice in Writing
- Owner
- Other Contractor
- Payment Legislation
- Place of the Work
- Product
- Project
- Ready-for-Takeover
- Shop Drawings
- Specifications
- Subcontractor
- Substantial Performance of the Work
- Supplemental Instruction
- Supplier
- Temporary Work
- Value Added Taxes
- Work
- Working Day

GENERAL CONDITIONS

PART 1 GENERAL PROVISIONS

- GC 1.1 Contract Documents
- GC 1.2 Law of the Contract
- GC 1.3 Rights and Remedies
- GC 1.4 Assignment

PART 2 ADMINISTRATION OF THE CONTRACT

- GC 2.1 Authority of the Consultant
- GC 2.2 Role of the Consultant
- GC 2.3 Review and Inspection of the Work
- GC 2.4 Defective Work

PART 3 EXECUTION OF THE WORK

- GC 3.1 Control of the Work
- GC 3.2 Construction by the Owner or Other Contractors
- GC 3.3 Temporary Work
- GC 3.4 Construction Schedule
- GC 3.5 Supervision
- GC 3.6 Subcontractors and Suppliers
- GC 3.7 Labour and Products
- GC 3.8 Shop Drawings

PART 4 ALLOWANCES

- GC 4.1 Cash Allowances
- GC 4.2 Contingency Allowance

PART 5 PAYMENT

- GC 5.1 Financing Information Required of the Owner
- GC 5.2 Applications for Payment
- GC 5.3 Payment
- GC 5.4 Substantial Performance of the Work and Payment of Holdback
- GC 5.5 Final Payment
- GC 5.6 Deferred Work
- GC 5.7 Non-conforming Work

PART 6 CHANGES IN THE WORK

- GC 6.1 Owner's Right to Make Changes
- GC 6.2 Change Order
- GC 6.3 Change Directive
- GC 6.4 Concealed or Unknown Conditions
- GC 6.5 Delays
- GC 6.6 Claims for a Change in Contract Price

PART 7 DEFAULT NOTICE

- GC 7.1 Owner's Right to Perform the Work, Terminate the Contractor's Right to Continue with the Work or Terminate the Contract
- GC 7.2 Contractor's Right to Suspend the Work or Terminate the Contract

PART 8 DISPUTE RESOLUTION

- GC 8.1 Authority of the Consultant
- GC 8.2 Adjudication
- GC 8.3 Negotiation, Mediation and Arbitration
- GC 8.4 Retention of Rights

PART 9 PROTECTION OF PERSONS AND PROPERTY

- GC 9.1 Protection of Work and Property
- GC 9.2 Toxic and Hazardous Substances
- GC 9.3 Artifacts and Fossils
- GC 9.4 Construction Safety
- GC 9.5 Mould

PART 10 GOVERNING REGULATIONS

- GC 10.1 Taxes and Duties
- GC 10.2 Laws, Notices, Permits, and Fees
- GC 10.3 Patent Fees
- GC 10.4 Workers' Compensation

PART 11 INSURANCE

- GC 11.1 Insurance

PART 12 OWNER TAKEOVER

- GC 12.1 Ready-for-Takeover
- GC 12.2 Early Occupancy by the Owner
- GC 12.3 Warranty

PART 13 INDEMNIFICATION AND WAIVER

- GC 13.1 Indemnification
- GC 13.2 Waiver of Claims

CCDC 2 is the product of a consensus-building process aimed at balancing the interests of all parties on the construction project. It reflects recommended industry practices. The CCDC and its constituent member organizations do not accept any responsibility or liability for loss or damage which may be suffered as a result of the use or interpretation of CCDC 2.

CCDC Copyright 2020

Must not be copied in whole or in part without the written permission of the CCDC.

AGREEMENT BETWEEN OWNER AND CONTRACTOR

For use when a stipulated price is the basis of payment.

This Agreement made on _____ day of _____ in the year _____.
by and between the parties

hereinafter called the "Owner"

and

hereinafter called the "Contractor"

The *Owner* and the *Contractor* agree as follows:

ARTICLE A-1 THE WORK

The *Contractor* shall:

1.1 perform the *Work* required by the *Contract Documents* for *(insert below the description or title of the Work)*

located at *(insert below the Place of the Work)*

for which the Agreement has been signed by the parties, and for which *(insert below the name of the Consultant)*

is acting as and is hereinafter called the "*Consultant*" and

1.2 do and fulfill everything indicated by the *Contract Documents*, and

1.3 commence the *Work* by the _____ day of _____ in the year _____ and, subject to adjustment in *Contract Time* as provided for in the *Contract Documents*, attain *Ready-for-Takeover*, by the _____ day of _____ in the year _____.

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

2.1 The *Contract* supersedes all prior negotiations, representations or agreements, either written or oral, relating in any manner to the *Work*, including the bid documents that are not expressly listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS.

2.2 The *Contract* may be amended only as provided in the *Contract Documents*.

ARTICLE A-3 CONTRACT DOCUMENTS

3.1 The following are the *Contract Documents* referred to in Article A-1 of the Agreement – THE WORK:

- Agreement between *Owner* and *Contractor*
- Definitions
- General Conditions

*

** (Insert here, attaching additional pages if required, a list identifying all other Contract Documents e.g. supplementary conditions; Division 01 of the Specifications – GENERAL REQUIREMENTS; Project information that the Contractor may rely upon; technical Specifications, giving a list of contents with section numbers and titles, number of pages and date; material finishing schedules; Drawings, giving drawing number, title, date, revision date or mark; addenda, giving title, number, date; time schedule)*

ARTICLE A-4 CONTRACT PRICE

4.1 The *Contract Price*, which excludes *Value Added Taxes*, is:

/100 dollars \$

4.2 *Value Added Taxes* (of _____ %) payable by the *Owner* to the *Contractor* are:

/100 dollars \$

4.3 Total amount payable by the *Owner* to the *Contractor* for the *Work* is:

/100 dollars \$

4.4 These amounts shall be subject to adjustments as provided in the *Contract Documents*.

4.5 All amounts are in Canadian funds.

ARTICLE A-5 PAYMENT

5.1 Subject to the provisions of the *Contract Documents* and *Payment Legislation*, and in accordance with legislation and statutory regulations respecting holdback percentages, the *Owner* shall:

- .1 make progress payments to the *Contractor* on account of the *Contract Price* when due in the amount certified by the *Consultant* unless otherwise prescribed by *Payment Legislation* together with such *Value Added Taxes* as may be applicable to such payments,
- .2 upon *Substantial Performance of the Work*, pay to the *Contractor* the unpaid balance of the holdback amount when due together with such *Value Added Taxes* as may be applicable to such payment, and
- .3 upon the issuance of the final certificate for payment, pay to the *Contractor* the unpaid balance of the *Contract Price* when due together with such *Value Added Taxes* as may be applicable to such payment.

5.2 Interest

- .1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by adjudication, arbitration or court, interest at the following rates on such unpaid amounts shall also become due and payable until payment:
 - (1) 2% per annum above the prime rate for the first 60 days.
 - (2) 4% per annum above the prime rate after the first 60 days.
 Such interest shall be compounded on a monthly basis. The prime rate shall be the rate of interest quoted by *(Insert name of chartered lending institution whose prime rate is to be used)*

for prime business loans as it may change from time to time.

- .2 Interest shall apply at the rate and in the manner prescribed by paragraph 5.2.1 of this Article on the settlement amount of any claim in dispute that is resolved either pursuant to Part 8 of the General Conditions – DISPUTE RESOLUTION or otherwise, from the date the amount would have been due and payable under the *Contract*, had it not been in dispute, until the date it is paid.

ARTICLE A-6 RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING

6.1 *Notices in Writing* will be addressed to the recipient at the address set out below.

6.2 The delivery of a *Notice in Writing* will be by hand, by courier, by prepaid first class mail, or by other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender.

6.3 A *Notice in Writing* delivered by one party in accordance with this *Contract* will be deemed to have been received by the other party on the date of delivery if delivered by hand or courier, or if sent by mail it will be deemed to have been received five calendar days after the date on which it was mailed, provided that if either such day is not a *Working Day*, then the *Notice in Writing* will be deemed to have been received on the *Working Day* next following such day.

6.4 A *Notice in Writing* sent by any form of electronic communication will be deemed to have been received on the date of its transmission provided that if such day is not a *Working Day* or if it is received after the end of normal business hours on the date of its transmission at the place of receipt, then it will be deemed to have been received at the opening of business at the place of receipt on the first *Working Day* next following the transmission thereof.

6.5 An address for a party may be changed by *Notice in Writing* to the other party setting out the new address in accordance with this Article.

Owner

*name of Owner**

address

email address

Contractor

*name of Contractor**

address

email address

Consultant

*name of Consultant**

address

email address

** If it is intended that a specific individual must receive the notice, that individual's name shall be indicated.*

ARTICLE A-7 LANGUAGE OF THE CONTRACT

- 7.1 When the *Contract Documents* are prepared in both the English and French languages, it is agreed that in the event of any apparent discrepancy between the English and French versions, the English / French # language shall prevail.
Complete this statement by striking out inapplicable term.
- 7.2 This Agreement is drawn in English at the request of the parties hereto. La présente convention est rédigée en anglais à la demande des parties.

ARTICLE A-8 SUCCESSION

- 8.1 The *Contract* shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representatives, successors, and assigns.

In witness whereof the parties hereto have executed this Agreement by the hands of their duly authorized representatives.

SIGNED AND DELIVERED
in the presence of:

WITNESS

OWNER

name of Owner

signature

signature

name of person signing

name and title of person signing

WITNESS

CONTRACTOR

name of Contractor

signature

signature

name of person signing

name and title of person signing

- N.B. Where legal jurisdiction, local practice or Owner or Contractor requirement calls for:*
- (a) proof of authority to execute this document, attach such proof of authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign the Agreement for and on behalf of the corporation or partnership; or*
 - (b) the affixing of a corporate seal, this Agreement should be properly sealed.*

DEFINITIONS

The following Definitions shall apply to all *Contract Documents*.

Change Directive

A *Change Directive* is a written instruction prepared by the *Consultant* and signed by the *Owner* directing the *Contractor* to proceed with a change in the *Work* within the general scope of the *Contract Documents* prior to the *Owner* and the *Contractor* agreeing upon adjustments in the *Contract Price* and the *Contract Time*.

Change Order

A *Change Order* is a written amendment to the *Contract* prepared by the *Consultant* and signed by the *Owner* and the *Contractor* stating their agreement upon:

- a change in the *Work*;
- the method of adjustment or the amount of the adjustment in the *Contract Price*, if any; and
- the extent of the adjustment in the *Contract Time*, if any.

Construction Equipment

Construction Equipment means all machinery and equipment, either operated or not operated, that is required for preparing, fabricating, conveying, erecting, or otherwise performing the *Work* but is not incorporated into the *Work*.

Consultant

The *Consultant* is the person or entity engaged by the *Owner* and identified as such in the Agreement. The *Consultant* is the Architect, the Engineer or entity licensed to practise in the province or territory of the *Place of the Work*.

Contract

The *Contract* is the undertaking by the parties to perform their respective duties, responsibilities and obligations as prescribed in the *Contract Documents* and represents the entire agreement between the parties.

Contract Documents

The *Contract Documents* consist of those documents listed in Article A-3 of the Agreement – CONTRACT DOCUMENTS and amendments agreed upon between the parties.

Contract Price

The *Contract Price* is the amount stipulated in Article A-4 of the Agreement – CONTRACT PRICE.

Contract Time

The *Contract Time* is the time from commencement of the *Work* to the date of *Ready-for-Takeover* as stipulated in paragraph 1.3 of Article A-1 of the Agreement – THE WORK .

Contractor

The *Contractor* is the person or entity identified as such in the Agreement.

Drawings

The *Drawings* are the graphic and pictorial portions of the *Contract Documents*, wherever located and whenever issued, showing the design, location and dimensions of the *Work*, generally including plans, elevations, sections, details, and diagrams.

Notice in Writing

A *Notice in Writing*, where identified in the *Contract Documents*, is a written communication between the parties or between them and the *Consultant* that is transmitted in accordance with the provisions of Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

Owner

The *Owner* is the person or entity identified as such in the Agreement.

Other Contractor

Other Contractor means a contractor, other than the *Contractor* or a *Subcontractor*, engaged by the *Owner* for the *Project*.

Payment Legislation

Payment Legislation means such legislation in effect at the *Place of the Work* which governs payment under construction contracts.

Place of the Work

The *Place of the Work* is the designated site or location of the *Work* identified in the *Contract Documents*.

Product

Product or Products means material, machinery, equipment, and fixtures forming part of the *Work*, but does not include *Construction Equipment*.

Project

The *Project* means the total construction contemplated of which the *Work* may be the whole or a part.

Ready-for-Takeover

Ready-for-Takeover shall have been attained when the conditions set out in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER have been met, as verified by the *Consultant* pursuant to paragraph 12.1.4.2 of GC 12.1 – READY-FOR-TAKEOVER.

Shop Drawings

Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, *Product* data, and other data which the *Contractor* provides to illustrate details of portions of the *Work*.

Specifications

The *Specifications* are that portion of the *Contract Documents*, wherever located and whenever issued, consisting of the written requirements and standards for *Products*, systems, workmanship, quality, and the services necessary for the performance of the *Work*.

Subcontractor

A *Subcontractor* is a person or entity having a direct contract with the *Contractor* to perform a part or parts of the *Work* at the *Place of the Work*.

Substantial Performance of the Work

Substantial Performance of the Work is as defined in the lien legislation applicable to the *Place of the Work*.

Supplemental Instruction

A *Supplemental Instruction* is an instruction, not involving adjustment in the *Contract Price* or *Contract Time*, in the form of *Specifications*, *Drawings*, schedules, samples, models, or written instructions, consistent with the intent of the *Contract Documents*. It is to be issued by the *Consultant* to supplement the *Contract Documents* as required for the performance of the *Work*.

Supplier

A *Supplier* is a person or entity having a direct contract with the *Contractor* to supply *Products*.

Temporary Work

Temporary Work means temporary supports, structures, facilities, services, and other temporary items, excluding *Construction Equipment*, required for the execution of the *Work* but not incorporated into the *Work*.

Value Added Taxes

Value Added Taxes means such sum as shall be levied upon the *Contract Price* by the Federal or any Provincial or Territorial Government and is computed as a percentage of the *Contract Price* and includes the Goods and Services Tax, the Quebec Sales Tax, the Harmonized Sales Tax, and any similar tax, the collection and payment of which have been imposed on the *Contractor* by tax legislation.

Work

The *Work* means the total construction and related services required by the *Contract Documents*.

Working Day

Working Day means a day other than a Saturday, Sunday, statutory holiday, or statutory vacation day that is observed by the construction industry in the area of the *Place of the Work*.

GENERAL CONDITIONS

PART 1 GENERAL PROVISIONS

GC 1.1 CONTRACT DOCUMENTS

- 1.1.1 The intent of the *Contract Documents* is to include the labour, *Products* and services necessary for the performance of the *Work* by the *Contractor* in accordance with these documents. It is not intended, however, that the *Contractor* shall supply products or perform work not consistent with, not covered by, or not properly inferable from the *Contract Documents*.
- 1.1.2 The *Contract Documents* are complementary, and what is required by one shall be as binding as if required by all. Performance by the *Contractor* shall be required only to the extent consistent with the *Contract Documents*.
- 1.1.3 The *Contractor* shall review the *Contract Documents* for the purpose of facilitating co-ordination and execution of the *Work* by the *Contractor*.
- 1.1.4 The *Contractor* is not responsible for errors, omissions or inconsistencies in the *Contract Documents*. If there are perceived errors, omissions or inconsistencies discovered by or made known to the *Contractor*, the *Contractor* shall promptly report to the *Consultant* and shall not proceed with the work affected until the *Contractor* has received corrected or additional information from the *Consultant*.
- 1.1.5 If there is a conflict within the *Contract Documents*:
- .1 the order of priority of documents, from highest to lowest, shall be
 - the Agreement between *Owner* and *Contractor*,
 - the Definitions,
 - Supplementary Conditions,
 - the General Conditions,
 - Division 01 of the *Specifications*,
 - technical *Specifications*,
 - material and finishing schedules,
 - the *Drawings*.
 - .2 *Drawings* of larger scale shall govern over those of smaller scale of the same date.
 - .3 dimensions shown on *Drawings* shall govern over dimensions scaled from *Drawings*.
 - .4 amended or later dated documents shall govern over earlier documents of the same type.
 - .5 noted materials and annotations shall govern over graphic indications.
- 1.1.6 Nothing contained in the *Contract Documents* shall create any contractual relationship between:
- .1 the *Owner* and a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.
 - .2 the *Consultant* and the *Contractor*, a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.
- 1.1.7 Words and abbreviations which have well known technical or trade meanings are used in the *Contract Documents* in accordance with such recognized meanings.
- 1.1.8 References in the *Contract Documents* to the singular shall be considered to include the plural as the context requires.
- 1.1.9 Neither the organization of the *Specifications* nor the arrangement of *Drawings* shall control the *Contractor* in dividing the work among *Subcontractors* and *Suppliers*.
- 1.1.10 *Specifications*, *Drawings*, models, and copies thereof furnished by the *Consultant* are and shall remain the *Consultant's* property, with the exception of the signed *Contract* sets, which shall belong to each party to the *Contract*. All *Specifications*, *Drawings* and models furnished by the *Consultant* are to be used only with respect to the *Work* and are not to be used on other work. These *Specifications*, *Drawings* and models are not to be copied or altered in any manner without the written authorization of the *Consultant*.
- 1.1.11 Physical models furnished by the *Contractor* at the *Owner's* expense are the property of the *Owner*.

GC 1.2 LAW OF THE CONTRACT

- 1.2.1 The law of the *Place of the Work* shall govern the interpretation of the *Contract*.

GC 1.3 RIGHTS AND REMEDIES

- 1.3.1 Except as expressly provided in the *Contract Documents*, the duties and obligations imposed by the *Contract Documents* and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

- 1.3.2 No action or failure to act by the *Owner*, the *Consultant* or the *Contractor* shall constitute a waiver of any right or duty afforded any of them under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

GC 1.4 ASSIGNMENT

- 1.4.1 Neither party to the *Contract* shall assign the *Contract* or a portion thereof without the written consent of the other, which consent shall not be unreasonably withheld.

PART 2 ADMINISTRATION OF THE CONTRACT

GC 2.1 AUTHORITY OF THE CONSULTANT

- 2.1.1 The *Consultant* will have authority to act on behalf of the *Owner* only to the extent provided in the *Contract Documents*, unless otherwise modified by written agreement as provided in paragraph 2.1.2.
- 2.1.2 The duties, responsibilities and limitations of authority of the *Consultant* as set forth in the *Contract Documents* shall be modified or extended only with the written consent of the *Owner*, the *Consultant* and the *Contractor*.

GC 2.2 ROLE OF THE CONSULTANT

- 2.2.1 The *Consultant* will provide administration of the *Contract* as described in the *Contract Documents*.
- 2.2.2 The *Consultant* will visit the *Place of the Work* at intervals appropriate to the progress of construction to become familiar with the progress and quality of the work and to determine if the *Work* is proceeding in general conformity with the *Contract Documents*.
- 2.2.3 If the *Owner* and the *Consultant* agree, the *Consultant* will provide at the *Place of the Work*, one or more project representatives to assist in carrying out the *Consultant's* responsibilities. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in writing to the *Contractor*.
- 2.2.4 Based on the *Consultant's* observations and evaluation of the *Contractor's* applications for payment, the *Consultant* will determine the amounts owing to the *Contractor* under the *Contract* and will issue certificates for payment as provided in Article A-5 of the Agreement – PAYMENT, GC 5.3 – PAYMENT and GC 5.5 – FINAL PAYMENT.
- 2.2.5 The *Consultant* will not be responsible for and will not have control, charge or supervision of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs required in connection with the *Work* in accordance with the applicable construction safety legislation, other regulations or general construction practice. The *Consultant* will not be responsible for the *Contractor's* failure to perform the *Work* in accordance with the *Contract Documents*.
- 2.2.6 Except with respect to GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, the *Consultant* will be, in the first instance, the interpreter of the requirements of the *Contract Documents*.
- 2.2.7 Matters in question relating to the performance of the *Work* or the interpretation of the *Contract Documents* shall be initially referred in writing to the *Consultant* by the party raising the question for interpretations and findings and copied to the other party.
- 2.2.8 Interpretations and findings of the *Consultant* shall be consistent with the intent of the *Contract Documents*. In making such interpretations and findings the *Consultant* will not show partiality to either the *Owner* or the *Contractor*.
- 2.2.9 The *Consultant's* interpretations and findings will be given in writing to the parties within a reasonable time.
- 2.2.10 With respect to claims for a change in *Contract Price*, the *Consultant* will make findings as set out in GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.
- 2.2.11 The *Consultant* will have authority to reject work which in the *Consultant's* opinion does not conform to the requirements of the *Contract Documents*. Whenever the *Consultant* considers it necessary or advisable, the *Consultant* will have authority to require inspection or testing of work, whether or not such work is fabricated, installed or completed. However, neither the authority of the *Consultant* to act nor any decision either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the *Consultant* to the *Contractor*, *Subcontractors*, *Suppliers*, or their agents, employees, or other persons performing any of the *Work*.
- 2.2.12 During the progress of the *Work* the *Consultant* will furnish *Supplemental Instructions* to the *Contractor* with reasonable promptness or in accordance with a schedule for such instructions agreed to by the *Consultant* and the *Contractor*.
- 2.2.13 The *Consultant* will review and take appropriate action upon *Shop Drawings*, samples and other submittals by the *Contractor*, in accordance with the *Contract Documents*.

- 2.2.14 The *Consultant* will prepare *Change Orders* and *Change Directives* as provided in GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 2.2.15 The *Consultant* will conduct reviews of the *Work* to determine the date of *Substantial Performance of the Work* and verify that *Ready-for-Takeover* has been attained.
- 2.2.16 All certificates issued by the *Consultant* will be to the best of the *Consultant's* knowledge, information and belief. By issuing any certificate, the *Consultant* does not guarantee the *Work* is correct or complete.
- 2.2.17 The *Consultant* will receive and review written warranties and related documents required by the *Contract* and provided by the *Contractor* and will forward such warranties and documents to the *Owner* for the *Owner's* acceptance.
- 2.2.18 If the *Consultant's* engagement is terminated, the *Owner* shall immediately engage a *Consultant* against whom the *Contractor* makes no reasonable objection and whose duties and responsibilities under the *Contract Documents* will be that of the former *Consultant*.

GC 2.3 REVIEW AND INSPECTION OF THE WORK

- 2.3.1 The *Owner* and the *Consultant* shall have access to the *Work* at all times. The *Contractor* shall provide sufficient, safe and proper facilities at all times for the review of the *Work* by the *Consultant* and the inspection of the *Work* by authorized agencies. If parts of the *Work* are in preparation at locations other than the *Place of the Work*, the *Owner* and the *Consultant* shall be given access to such work whenever it is in progress.
- 2.3.2 If work is designated for tests, inspections or approvals in the *Contract Documents*, by the *Consultant's* instructions, or by the laws or ordinances of the *Place of the Work*, the *Contractor* shall give the *Consultant* reasonable notification of when the work will be ready for review and inspection. The *Contractor* shall arrange for and shall give the *Consultant* reasonable notification of the date and time of inspections by other authorities.
- 2.3.3 The *Contractor* shall furnish promptly to the *Consultant* two copies of certificates and inspection reports relating to the *Work*.
- 2.3.4 If the *Contractor* covers, or permits to be covered, work that has been designated for special tests, inspections or approvals before such special tests, inspections or approvals are made, given or completed, the *Contractor* shall, if so directed, uncover such work, have the inspections or tests satisfactorily completed, and make good covering work at the *Contractor's* expense.
- 2.3.5 The *Consultant* may order any portion or portions of the *Work* to be examined to confirm that such work is in accordance with the requirements of the *Contract Documents*. If the work is not in accordance with the requirements of the *Contract Documents*, the *Contractor* shall correct the work and pay the cost of examination and correction. If the work is in accordance with the requirements of the *Contract Documents*, the *Owner* shall pay the cost of examination and restoration.
- 2.3.6 The *Contractor* shall pay the cost of making any test or inspection, including the cost of samples required for such test or inspection, if such test or inspection is designated in the *Contract Documents* to be performed by the *Contractor* or is required by the laws or ordinances applicable to the *Place of the Work*.
- 2.3.7 The *Contractor* shall pay the cost of samples required for any test or inspection to be performed by others if such test or inspection is designated in the *Contract Documents*.

GC 2.4 DEFECTIVE WORK

- 2.4.1 The *Contractor* shall promptly correct defective work that has been rejected by the *Consultant* as failing to conform to the *Contract Documents* whether or not the defective work was incorporated in the *Work* or the defect is the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the *Contractor*.
- 2.4.2 The *Contractor* shall make good promptly *Other Contractors' work* destroyed or damaged by such corrections at the *Contractor's* expense.
- 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 difference in value between the work as performed and that called for by the *Contract Documents*. If the *Owner* and the *Contractor* do not agree on the difference in value, they shall refer the matter to the *Consultant* for a finding.

PART 3 EXECUTION OF THE WORK

GC 3.1 CONTROL OF THE WORK

- 3.1.1 The *Contractor* shall have total control of the *Work* and shall effectively direct and supervise the *Work* so as to ensure conformity with the *Contract Documents*.

3.1.2 The *Contractor* shall be solely responsible for construction means, methods, techniques, sequences, and procedures and for co-ordinating the various parts of the *Work* under the *Contract*.

GC 3.2 CONSTRUCTION BY THE OWNER OR OTHER CONTRACTORS

3.2.1 The *Owner* reserves the right to award separate contracts in connection with other parts of the *Project* to *Other Contractors* and to perform work with own forces.

3.2.2 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Owner* shall:

- .1 provide for the co-ordination of the activities and work of *Other Contractors* and the *Owner's* own forces with the *Work* of the *Contract*;
- .2 enter into separate contracts with *Other Contractors* under conditions of contract which are compatible with the conditions of the *Contract*;
- .3 ensure that insurance coverage is provided to the same requirements as are called for in GC 11.1 – INSURANCE and co-ordinate such insurance with the insurance coverage of the *Contractor* as it affects the *Work*; and
- .4 take all reasonable precautions to avoid labour disputes or other disputes on the *Project* arising from the work of *Other Contractors* or the *Owner's* own forces.

3.2.3 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Contractor* shall:

- .1 afford the *Owner* and *Other Contractors* reasonable opportunity to store their products and execute their work;
- .2 co-ordinate and schedule the *Work* with the work of *Other Contractors* or the *Owner's* own forces that are identified in the *Contract Documents*;
- .3 participate with *Other Contractors* and the *Owner* in reviewing their construction schedules when directed to do so; and
- .4 report promptly to the *Consultant* in writing any apparent deficiencies in the work of *Other Contractors* or of the *Owner's* own forces, where such work affects the proper execution of any portion of the *Work*, prior to proceeding with that portion of the *Work*.

3.2.4 Where a change in the *Work* is required as a result of the co-ordination and integration of the work of *Other Contractors* or *Owner's* own forces with the *Work*, the changes shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

3.2.5 Disputes and other matters in question between the *Contractor* and *Other Contractors* shall be dealt with as provided in Part 8 of the General Conditions – DISPUTE RESOLUTION provided the *Other Contractors* have reciprocal obligations. The *Contractor* shall be deemed to have consented to arbitration of any dispute with any *Other Contractor* whose contract with the *Owner* contains a similar agreement to arbitrate. In the absence of *Other Contractors* having reciprocal obligations, disputes and other matters in question initiated by the *Contractor* against *Other Contractors* will be considered disputes and other matters in question between the *Contractor* and the *Owner*.

3.2.6 Should the *Owner*, the *Consultant*, *Other Contractors*, or anyone employed by them directly or indirectly be responsible for ill-timed work necessitating cutting or remedial work to be performed, the cost of such cutting or remedial work shall be valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

GC 3.3 TEMPORARY WORK

3.3.1 The *Contractor* shall have the sole responsibility for the design, erection, operation, maintenance, and removal of *Temporary Work* unless otherwise specified in the *Contract Documents*.

3.3.2 The *Contractor* shall engage and pay for registered professional engineering personnel skilled in the appropriate disciplines to perform those functions referred to in paragraph 3.3.1 where required by law or by the *Contract Documents* and in all cases where such *Temporary Work* is of such a nature that professional engineering skill is required to produce safe and satisfactory results.

3.3.3 Notwithstanding the provisions of GC 3.1 – CONTROL OF THE WORK, paragraphs 3.3.1 and 3.3.2 or provisions to the contrary elsewhere in the *Contract Documents* where such *Contract Documents* include designs for *Temporary Work* or specify a method of construction in whole or in part, such designs or methods of construction shall be considered to be part of the design of the *Work* and the *Contractor* shall not be held responsible for that part of the design or the specified method of construction. The *Contractor* shall, however, be responsible for the execution of such design or specified method of construction in the same manner as for the execution of the *Work*.

GC 3.4 CONSTRUCTION SCHEDULE

3.4.1 The *Contractor* shall:

- .1 prepare and submit to the *Owner* and the *Consultant* prior to the first application for payment, a construction schedule that indicates the timing of the major 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*;
- .2 monitor the progress of the *Work* relative to the construction schedule and update the schedule on a monthly basis or as stipulated by the *Contract Documents*; and
- .3 advise the *Consultant* of any revisions required to the schedule as the result of extensions of the *Contract Time* as provided in Part 6 of the General Conditions – CHANGES IN THE WORK.

GC 3.5 SUPERVISION

3.5.1 The *Contractor* shall provide all necessary supervision and appoint a competent representative who shall be in attendance at the *Place of the Work* while the *Work* is being performed. The appointed representative shall not be changed except for valid reason.

3.5.2 The appointed representative shall represent the *Contractor* at the *Place of the Work*. Information and instructions provided by the *Consultant* to the *Contractor*'s appointed representative shall be deemed to have been received by the *Contractor*, except with respect to Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

GC 3.6 SUBCONTRACTORS AND SUPPLIERS

3.6.1 The *Contractor* shall preserve and protect the rights of the parties under the *Contract* with respect to work to be performed under subcontract, and shall:

- .1 enter into contracts or written agreements with *Subcontractors* and *Suppliers* to require them to perform their work as provided in the *Contract Documents*;
- .2 incorporate the applicable terms and conditions of the *Contract Documents* into all contracts or written agreements with *Subcontractors* and *Suppliers*; and
- .3 be as fully responsible to the *Owner* for acts and omissions of *Subcontractors*, *Suppliers* and any persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the *Contractor*.

3.6.2 The *Contractor* shall indicate in writing, if requested by the *Owner*, those *Subcontractors* or *Suppliers* whose bids have been received by the *Contractor* which the *Contractor* would be prepared to accept for the performance of a portion of the *Work*. Should the *Owner* not object before signing the *Contract*, the *Contractor* shall employ those *Subcontractors* or *Suppliers* so identified by the *Contractor* in writing for the performance of that portion of the *Work* to which their bid applies.

3.6.3 The *Owner* may, for reasonable cause, at any time before the *Owner* has signed the *Contract*, object to the use of a proposed *Subcontractor* or *Supplier* and require the *Contractor* to employ one of the other subcontract bidders.

3.6.4 If the *Owner* requires the *Contractor* to change a proposed *Subcontractor* or *Supplier*, the *Contract Price* and *Contract Time* shall be adjusted by the difference occasioned by such required change.

3.6.5 The *Contractor* shall not be required to employ as a *Subcontractor* or *Supplier*, a person or firm to which the *Contractor* may reasonably object.

3.6.6 The *Owner*, through the *Consultant*, may provide to a *Subcontractor* or *Supplier* information as to the percentage of the *Subcontractor*'s or *Supplier*'s work which has been certified for payment.

GC 3.7 LABOUR AND PRODUCTS

3.7.1 The *Contractor* shall maintain good order and discipline among the *Contractor*'s employees engaged on the *Work* and employ only workers that are skilled in the tasks assigned.

3.7.2 The *Contractor* shall provide and pay for labour, *Products*, tools, *Construction Equipment*, water, heat, light, power, transportation, and other facilities and services necessary for the performance of the *Work* in accordance with the *Contract*.

3.7.3 Unless otherwise specified in the *Contract Documents*, *Products* provided shall be new. *Products* which are not specified shall be of a quality consistent with those specified and their use acceptable to the *Consultant*.

GC 3.8 SHOP DRAWINGS

3.8.1 The *Contractor* shall provide *Shop Drawings* as required in the *Contract Documents*.

3.8.2 The *Contractor* shall provide *Shop Drawings* to the *Consultant* to review in accordance with an agreed schedule, or in the absence of an agreed schedule, in orderly sequence and sufficiently in advance so as to cause no delay in the *Work* or in the work of *Other Contractors* or the *Owner*'s own forces.

- 3.8.3 The *Contractor* shall review all *Shop Drawings* before providing them to the *Consultant*. The *Contractor* represents by this review that:
- .1 the *Contractor* has determined and verified all applicable field measurements, field construction conditions, *Product* requirements, catalogue numbers and similar data, or will do so, and
 - .2 the *Contractor* has checked and co-ordinated each *Shop Drawing* with the requirements of the *Work* and of the *Contract Documents*.
- 3.8.4 The *Consultant's* review is for conformity to the design concept and for general arrangement only.
- 3.8.5 At the time of providing *Shop Drawings*, the *Contractor* shall expressly advise the *Consultant* in writing of any deviations in a *Shop Drawing* from the requirements of the *Contract Documents*. The *Consultant* shall indicate the acceptance or rejection of such deviation expressly in writing.
- 3.8.6 The *Consultant's* review shall not relieve the *Contractor* of responsibility for errors or omissions in the *Shop Drawings* or for meeting all requirements of the *Contract Documents*.
- 3.8.7 The *Consultant* will review and return *Shop Drawings* in accordance with the schedule agreed upon, or, in the absence of such schedule, with reasonable promptness so as to cause no delay in the performance of the *Work*.

PART 4 ALLOWANCES

GC 4.1 CASH ALLOWANCES

- 4.1.1 The *Contract Price* includes the cash allowances, if any, stated in the *Contract Documents*. The scope of the *Work* or costs included in such cash allowances shall be as described in the *Contract Documents*.
- 4.1.2 The *Contract Price*, and not the cash allowances, includes the *Contractor's* overhead and profit in connection with such cash allowances.
- 4.1.3 Expenditures under cash allowances shall be authorized by the *Owner* through the *Consultant*.
- 4.1.4 Where the actual cost of the *Work* under any cash allowance exceeds the amount of the allowance, any unexpended amounts from other cash allowances shall be reallocated, at the *Consultant's* direction, to cover the shortfall, and, in that case, there shall be no additional amount added to the *Contract Price* for overhead and profit. Only where the actual cost of the *Work* under all cash allowances exceeds the total amount of all cash allowances shall the *Contractor* be compensated for the excess incurred and substantiated, plus an amount for overhead and profit on the excess only, as set out in the *Contract Documents*.
- 4.1.5 The net amount of any unexpended cash allowances, after providing for any reallocations as contemplated in paragraph 4.1.4, shall be deducted from the *Contract Price* by *Change Order* without any adjustment for the *Contractor's* overhead and profit on such amount.
- 4.1.6 The value of the *Work* performed under a cash allowance is eligible to be included in progress payments.
- 4.1.7 The *Contractor* and the *Consultant* shall jointly prepare a schedule that shows when the items called for under cash allowances must be ordered to avoid delaying the progress of the *Work*.

GC 4.2 CONTINGENCY ALLOWANCE

- 4.2.1 The *Contract Price* includes the contingency allowance, if any, stated in the *Contract Documents*.
- 4.2.2 The contingency allowance includes the *Contractor's* overhead and profit in connection with such contingency allowance.
- 4.2.3 Expenditures under the contingency allowance shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 4.2.4 The *Contract Price* shall be adjusted by *Change Order* to provide for any difference between the expenditures authorized under paragraph 4.2.3 and the contingency allowance.

PART 5 PAYMENT

GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

- 5.1.1 The *Owner* shall, at the request of the *Contractor*, before signing the *Contract*, and promptly from time to time thereafter, furnish to the *Contractor* reasonable evidence that financial arrangements have been made to fulfill the *Owner's* obligations under the *Contract*.
- 5.1.2 The *Owner* shall give the *Contractor Notice in Writing* of any material change in the *Owner's* financial arrangements to fulfill the *Owner's* obligations under the *Contract* during the performance of the *Contract*.

GC 5.2 APPLICATIONS FOR PAYMENT

- 5.2.1 Applications for payment on account as provided in Article A-5 of the Agreement – PAYMENT shall be submitted monthly to the *Owner* and the *Consultant* simultaneously as the *Work* progresses.
- 5.2.2 Applications for payment shall be dated the last day of each payment period, which is the last day of the month or an alternative day of the month agreed in writing by the parties.
- 5.2.3 The amount claimed shall be for the value, proportionate to the amount of the *Contract*, of *Work* performed and *Products* delivered to the *Place of the Work* as of the last day of the payment period.
- 5.2.4 The *Contractor* shall submit to the *Consultant*, at least 15 calendar days before the first application for payment, a schedule of values for the parts of the *Work*, aggregating the total amount of the *Contract Price*, so as to facilitate evaluation of applications for payment.
- 5.2.5 The schedule of values shall be made out in such form as specified in the *Contract* and supported by such evidence as the *Consultant* may reasonably require.
- 5.2.6 Applications for payment shall be based on the schedule of values accepted by the *Consultant* and shall comply with the provisions of *Payment Legislation*.
- 5.2.7 Each application for payment shall include evidence of compliance with workers' compensation legislation at the *Place of the Work* and after the first payment, a declaration by the *Contractor* as to the distribution made of the amounts previously received using document CCDC 9A 'Statutory Declaration'.
- 5.2.8 Applications for payment for *Products* delivered to the *Place of the Work* but not yet incorporated into the *Work* shall be supported by such evidence as the *Consultant* may reasonably require to establish the value and delivery of the *Products*.

GC 5.3 PAYMENT

- 5.3.1 After receipt by the *Consultant* and the *Owner* of an application for payment submitted by the *Contractor* in accordance with GC 5.2 – APPLICATIONS FOR PAYMENT:
 - .1 The *Consultant* will issue to the *Owner* and copy to the *Contractor*, no later than 10 calendar days after the receipt of the application for payment, a certificate for payment in the amount applied for, or in such other amount as the *Consultant* determines to be properly due. If the *Consultant* certifies a different amount, or rejects the application or part thereof, the *Owner* shall promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.
 - .2 The *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement – PAYMENT on or before 28 calendar days after the receipt by the *Owner* and the *Consultant* of the application for payment, and in any event, in compliance with *Payment Legislation*.

GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK

- 5.4.1 The *Consultant* will review the *Work* to certify or verify the validity of the application for *Substantial Performance of the Work* and will promptly, and in any event, no later than 20 calendar days after receipt of the *Contractors* application:
 - .1 advise the *Contractor* in writing that the *Work* or the designated portion of the *Work* is not substantially performed and give reasons why, or
 - .2 state the date of *Substantial Performance of the Work* or a designated portion of the *Work* in a certificate and issue a copy of that certificate to each of the *Owner* and the *Contractor*.
- 5.4.2 Where the holdback amount required by the applicable lien legislation has not been placed in a separate lien holdback account, the *Owner* shall, no later than 10 calendar days prior to the expiry of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*, place the holdback amount in a bank account in the joint names of the *Owner* and the *Contractor*.
- 5.4.3 Subject to the requirements of any *Payment Legislation*, all holdback amount prescribed by the applicable lien legislation for the *Work* shall become due and payable to the *Contractor* no later than 10 *Working Days* following the expiration of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*.
- 5.4.4 The *Contractor* shall submit an application for payment of the lien holdback amount in accordance with GC 5.3 – PAYMENT.
- 5.4.5 Where legislation permits progressive release of the holdback for a portion of the *Work* and the *Consultant* has certified or verified that the part of the *Work* has been performed prior to *Substantial Performance of the Work*, the *Owner* hereby agrees to release, and shall release, such portion to the *Contractor* in accordance with such legislation.

5.4.6 Notwithstanding any progressive release of the holdback, the *Contractor* shall ensure that such parts of the *Work* are protected pending the issuance of a final certificate for payment and be responsible for the correction of defects or work not performed regardless of whether or not such was apparent when the holdback was released.

GC 5.5 FINAL PAYMENT

5.5.1 When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment.

5.5.2 The *Consultant* will, no later than 10 calendar days after the receipt of an application from the *Contractor* for final payment, review the *Work* to verify the validity of the application and when the *Consultant* finds the *Contractor*'s application for final payment valid, the *Consultant* will promptly issue a final certificate for payment to the *Owner*, with a copy to the *Contractor*.

5.5.3 If the *Consultant* rejects the application or part thereof, the *Owner* will promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.

5.5.4 Subject to the provision of paragraph 10.4.1 of GC 10.4 – WORKERS' COMPENSATION, and any legislation applicable to the *Place of the Work*, the *Owner* shall, no later than 5 calendar days after the issuance of a final certificate for payment, pay the *Contractor* as provided in Article A-5 of the Agreement – PAYMENT and in any event, in compliance with *Payment Legislation*.

GC 5.6 DEFERRED WORK

5.6.1 If because of climatic or other conditions reasonably beyond the control of the *Contractor*, or if the *Owner* and the *Contractor* agree that, there are items of work that must be deferred, payment in full for that portion of the *Work* which has been performed as certified by the *Consultant* shall not be withheld or delayed by the *Owner* on account thereof, but the *Owner* may withhold, until the remaining portion of the *Work* is finished, only such an amount that the *Consultant* determines is sufficient and reasonable to cover the cost of performing such deferred *Work*.

GC 5.7 NON-CONFORMING WORK

5.7.1 No payment by the *Owner* under the *Contract* nor partial or entire use or occupancy of the *Work* by the *Owner* shall constitute an acceptance of any portion of the *Work* or *Products* which are not in accordance with the requirements of the *Contract Documents*.

PART 6 CHANGES IN THE WORK

GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

6.1.1 The *Owner*, through the *Consultant*, without invalidating the *Contract*, may make:

- .1 changes in the *Work* consisting of additions, deletions or other revisions to the *Work* by *Change Order* or *Change Directive*, and
- .2 changes to the *Contract Time* for the *Work*, or any part thereof, by *Change Order*.

6.1.2 The *Contractor* shall not perform a change in the *Work* without a *Change Order* or a *Change Directive*.

GC 6.2 CHANGE ORDER

6.2.1 When a change in the *Work* is proposed or required, the *Consultant* will provide the *Contractor* with a written description of the proposed change in the *Work*. The *Contractor* shall promptly present to the *Consultant*, in a form that can be reasonably evaluated, a method of adjustment or an amount of adjustment for the *Contract Price*, if any, and the adjustment in the *Contract Time*, if any, for the proposed change in the *Work*.

6.2.2 When the *Owner* and the *Contractor* agree to the adjustments in the *Contract Price* and *Contract Time* or to the method to be used to determine the adjustments, such agreement shall be effective immediately and shall be recorded in a *Change Order*. The value of the work performed as the result of a *Change Order* shall be included in the applications for progress payment.

GC 6.3 CHANGE DIRECTIVE

6.3.1 If the *Owner* requires the *Contractor* to proceed with a change in the *Work* prior to the *Owner* and the *Contractor* agreeing upon the corresponding adjustment in *Contract Price* and *Contract Time*, the *Owner*, through the *Consultant*, shall issue a *Change Directive*.

6.3.2 A *Change Directive* shall only be used to direct a change in the *Work* which is within the general scope of the *Contract Documents*.

6.3.3 A *Change Directive* shall not be used to direct a change in the *Contract Time* only.

- 6.3.4 Upon receipt of a *Change Directive*, the *Contractor* shall proceed promptly with the change in the *Work*.
- 6.3.5 For the purpose of valuing *Change Directives*, changes in the *Work* that are not substitutions or otherwise related to each other shall not be grouped together in the same *Change Directive*.
- 6.3.6 The adjustment in the *Contract Price* for a change carried out by way of a *Change Directive* shall be determined on the basis of the cost of the *Contractor*'s actual expenditures and savings attributable to the *Change Directive*, valued in accordance with paragraph 6.3.7 and as follows:
- 1 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 percentage fee on such net increase.
 - 2 If the change results in a net decrease in the *Contractor*'s cost, the *Contract Price* shall be decreased by the amount of the net decrease in the *Contractor*'s cost, without adjustment for the *Contractor*'s percentage fee.
 - 3 The *Contractor*'s fee shall be as specified in the *Contract Documents* or as otherwise agreed by the parties.
- 6.3.7 The cost of performing the work attributable to the *Change Directive* shall be limited to the actual cost of the following in as much as it contributes directly to the implementation of the *Change Directive*:

Labour

- 1 rates that are listed in the schedule or as agreed by the *Owner* and the *Contractor* including wages, benefits, compensation, contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan for:
 - (1) trade labour in the direct employ of the *Contractor*;
 - (2) the *Contractor*'s personnel when stationed at the field office;
 - (3) the *Contractor*'s personnel engaged at shops or on the road, in expediting the production or transportation of materials or equipment; and
 - (4) the *Contractor*'s office personnel engaged in a technical capacity, or other personnel identified in Article A-3 of the Agreement – CONTRACT DOCUMENTS for the time spent in the performance of the *Work*;

Products, Construction Equipment and Temporary Work

- 2 cost of all *Products* including cost of transportation thereof;
- 3 in the absence of agreed rates, cost less salvage value of *Construction Equipment*, *Temporary Work* and tools, exclusive of hand tools under \$1,000 owned by the *Contractor*;
- 4 rental cost of *Construction Equipment*, *Temporary Work* and tools, exclusive of hand tools under \$1,000;
- 5 cost of all equipment and services required for the *Contractor*'s field office;

Subcontract

- 6 subcontract amounts of Subcontractor with pricing mechanism approved by the *Owner*;

Others

- 7 travel and subsistence expenses of the *Contractor*'s personnel described in paragraph 6.3.7.1;
- 8 deposits lost provided that they are not caused by negligent acts or omissions of the *Contractor*;
- 9 cost of quality assurance such as independent inspection and testing services;
- 10 charges levied by authorities having jurisdiction at the *Place of the Work*;
- 11 royalties, patent license fees, and damages for infringement of patents and cost of defending suits therefor subject always to the *Contractor*'s obligations to indemnify the *Owner* as provided in paragraph 10.3.1 of GC 10.3 – PATENT FEES;
- 12 premium for all contract securities and insurance for which the *Contractor* is required, by the *Contract Documents*, to provide, maintain and pay in relation to the performance of the *Work*;
- 13 losses and expenses sustained by the *Contractor* for matters which are the subject of insurance under the policies prescribed in GC 11.1 – INSURANCE when such losses and expenses are not recoverable because the amounts are in excess of collectible amounts or within the deductible amounts;
- 14 taxes and duties, other than *Value Added Taxes*, income, capital, or property taxes, relating to the *Work* for which the *Contractor* is liable;
- 15 charges for voice and data communications, courier services, expressage, transmittal and reproduction of documents, and petty cash items;
- 16 cost for removal and disposal of waste products and debris;
- 17 legal costs, incurred by the *Contractor*, in relation to the performance of the *Work* provided that they are not:
 - (1) relating to a dispute between the *Owner* and the *Contractor* unless such costs are part of a settlement or awarded by arbitration or court,
 - (2) the result of the negligent acts or omissions of the *Contractor*, or
 - (3) the result of a breach of this *Contract* by the *Contractor*;
- 18 cost of auditing when requested by the *Owner*; and
- 19 cost of *Project* specific information technology in accordance with the method determined by the parties.

- 6.3.8 Notwithstanding any other provisions contained in the General Conditions of the *Contract*, it is the intention of the parties that the cost of any item under any cost element referred to in paragraph 6.3.7 shall cover and include any and all costs or liabilities attributable to the *Change Directive* other than those which are the result of or occasioned by any failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor's* attention to the *Work*. Any cost due to failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor's* performance of the *Work* attributable to the *Change Directive* shall be borne by the *Contractor*.
- 6.3.9 The *Contractor* shall keep full and detailed accounts and records necessary for the documentation of the cost of performing the *Work* attributable to the *Change Directive* and shall provide the *Consultant* with copies thereof.
- 6.3.10 For the purpose of valuing *Change Directives*, the *Owner* shall be afforded reasonable access to all of the *Contractor's* pertinent documents related to the cost of performing the *Work* attributable to the *Change Directive*.
- 6.3.11 Pending determination of the final amount of a *Change Directive*, the undisputed value of the *Work* performed as the result of a *Change Directive* is eligible to be included in progress payments.
- 6.3.12 If the *Owner* and the *Contractor* do not agree on the proposed adjustment in the *Contract Time* attributable to the change in the *Work*, or the method of determining it, the adjustment shall be referred to the *Consultant* for a finding.
- 6.3.13 When the *Owner* and the *Contractor* reach agreement on the adjustment to the *Contract Price* and to the *Contract Time*, this agreement shall be recorded in a *Change Order*.

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

- 6.4.1 If the *Owner* or the *Contractor* discover conditions at the *Place of the Work* which are:
- .1 subsurface or otherwise concealed physical conditions which existed before the commencement of the *Work* and differ materially from those indicated in the *Contract Documents*; or
 - .2 physical conditions, other than conditions due to weather, that are of a nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the *Contract Documents*,
- then the observing party shall give *Notice in Writing* to the other party of such conditions before they are disturbed and in no event later than 5 *Working Days* after first observance of the conditions.
- 6.4.2 The *Consultant* will promptly investigate such conditions and make a finding. If the finding is that the conditions differ materially and this would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Owner*, through the *Consultant*, shall issue appropriate instructions for a change in the *Work* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.
- 6.4.3 If the *Consultant* finds that the conditions at the *Place of the Work* are not materially different or that no change in the *Contract Price* or the *Contract Time* is justified, the *Consultant* will promptly inform the *Owner* and the *Contractor* in writing.
- 6.4.4 If such concealed or unknown conditions relate to toxic and hazardous substances and materials, artifacts and fossils, or mould, the parties will be governed by the provisions of GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES, GC 9.3 – ARTIFACTS AND FOSSILS and GC 9.5 – MOULD.

GC 6.5 DELAYS

- 6.5.1 If the *Contractor* is delayed in the performance of the *Work* by the *Owner*, the *Consultant*, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the *Contract Documents*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.
- 6.5.2 If the *Contractor* is delayed in the performance of the *Work* by a stop work order issued by a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Contractor* or any person employed or engaged by the *Contractor* directly or indirectly, resulting in the failure of the *Contractor* to attain *Ready-for-Takeover* by the date stipulated in Article A-1 of the Agreement – THE WORK, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.
- 6.5.3 If the *Contractor* is delayed in the performance of the *Work* by:
- .1 labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized contractors' association, of which the *Contractor* is a member or to which the *Contractor* is otherwise bound),
 - .2 fire, unusual delay by common carriers or unavoidable casualties,
 - .3 abnormally adverse weather conditions, or

- 4 any cause beyond the *Contractor's* control other than one resulting from a default or breach of *Contract* by the *Contractor*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as the result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for costs incurred by such delays unless such delays result from actions by the *Owner*, the *Consultant* or anyone employed or engaged by them directly or indirectly.
- 6.5.4 No extension shall be made for delay unless *Notice in Writing* of the cause of delay is given to the *Consultant* not later than 10 *Working Days* after the commencement of the delay. In the case of a continuing cause of delay only one *Notice in Writing* shall be necessary.
- 6.5.5 If no schedule is made under paragraph 2.2.12 of GC 2.2 – ROLE OF THE CONSULTANT, then no request for extension shall be made because of failure of the *Consultant* to furnish instructions until 10 *Working Days* after demand for such instructions has been made.

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

- 6.6.1 If the *Contractor* intends to make a claim for an increase to the *Contract Price*, or if the *Owner* intends to make a claim against the *Contractor* for a credit to the *Contract Price*, the party that intends to make the claim shall give timely *Notice in Writing* of intent to claim to the other party and to the *Consultant*.
- 6.6.2 Upon commencement of the event or series of events giving rise to a claim, the party intending to make the claim shall:
- .1 take all reasonable measures to mitigate any loss or expense which may be incurred as a result of such event or series of events, and
 - .2 keep such records as may be necessary to support the claim.
- 6.6.3 The party making the claim shall submit within a reasonable time to the *Consultant* a detailed account of the amount claimed and the grounds upon which the claim is based and the *Consultant* will make a finding upon such claim.
- 6.6.4 Where the event or series of events giving rise to the claim has a continuing effect, the detailed account submitted under paragraph 6.6.3 shall be considered to be an interim account and the party making the claim shall, at such intervals as the *Consultant* may reasonably require, submit further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.
- 6.6.5 The *Consultant's* findings, with respect to a claim made by either party, will be given by *Notice in Writing* to both parties within 30 *Working Days* after receipt of the claim by the *Consultant*, or within such other time period as may be agreed by the parties.
- 6.6.6 If such finding is not acceptable to either party, the claim shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION.

PART 7 DEFAULT NOTICE

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

- 7.1.1 If the *Contractor* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Contractor's* insolvency, or if a receiver is appointed because of the *Contractor's* insolvency, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, terminate the *Contractor's* right to continue with the *Work*, by giving the *Contractor* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.1.2 If the *Contractor* neglects to perform the *Work* properly or otherwise fails to comply with the requirements of the *Contract* to a substantial degree and if the *Consultant* has given a written statement to the *Owner* and *Contractor* which provides the detail of such neglect to perform the *Work* properly or such failure to comply with the requirements of the *Contract* to a substantial degree, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, give the *Contractor Notice in Writing*, containing particulars of the default including references to applicable provisions of the *Contract*, that the *Contractor* is in default of the *Contractor's* contractual obligations and instruct the *Contractor* to correct the default in the 5 *Working Days* immediately following the receipt of such *Notice in Writing*.
- 7.1.3 If the default cannot be corrected in the 5 *Working Days* specified or in such other time period as may be subsequently agreed in writing by the parties, the *Contractor* shall be in compliance with the *Owner's* instructions if the *Contractor*:
- .1 commences the correction of the default within the specified time,
 - .2 provides the *Owner* with an acceptable schedule for such correction, and
 - .3 corrects the default in accordance with the *Contract* terms and with such schedule.

- 7.1.4 If the *Contractor* fails to correct the default in the time specified or in such other time period as may be subsequently agreed in writing by the parties, without prejudice to any other right or remedy the *Owner* may have, the *Owner* may by giving *Notice in Writing*:
- .1 correct such default and deduct the cost thereof from any payment then or thereafter due the *Contractor* for the *Work* provided the *Consultant* has certified such cost to the *Owner* and the *Contractor*, or
 - .2 terminate the *Contractor*'s right to continue with the *Work* in whole or in part or terminate the *Contract*.
- 7.1.5 If the *Owner* terminates the *Contractor*'s right to continue with the *Work* as provided in paragraphs 7.1.1 and 7.1.4, the *Owner* shall be entitled to:
- .1 take possession of the *Work* and *Products* at the *Place of the Work*; subject to the rights of third parties, utilize the *Construction Equipment* at the *Place of the Work*; finish the *Work* by whatever method the *Owner* may consider expedient, but without undue delay or expense,
 - .2 withhold further payment to the *Contractor* until a final certificate for payment is issued,
 - .3 charge the *Contractor* the amount by which the full cost of finishing the *Work* as certified by the *Consultant*, including compensation to the *Consultant* for the *Consultant*'s additional services and a reasonable allowance as determined by the *Consultant* to cover the cost of corrections to work performed by the *Contractor* that may be required under GC 12.3 – WARRANTY, exceeds the unpaid balance of the *Contract Price*; however, if such cost of finishing the *Work* is less than the unpaid balance of the *Contract Price*, the *Owner* shall pay the *Contractor* the difference, and
 - .4 on expiry of the warranty period, charge the *Contractor* the amount by which the cost of corrections to the *Contractor*'s work under GC 12.3 – WARRANTY exceeds the allowance provided for such corrections, or if the cost of such corrections is less than the allowance, pay the *Contractor* the difference.
- 7.1.6 The *Contractor*'s obligation under the *Contract* as to quality, correction and warranty of the work performed by the *Contractor* up to the time of termination shall continue in force after such termination of the *Contract*.

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

- 7.2.1 If the *Owner* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Owner*'s insolvency, or if a receiver is appointed because of the *Owner*'s insolvency, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.2.2 If the *Work* is suspended or otherwise delayed for a period of 20 *Working Days* or more under an order of a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Contractor* or of anyone directly or indirectly employed or engaged by the *Contractor*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* *Notice in Writing* to that effect.
- 7.2.3 The *Contractor* may give *Notice in Writing* to the *Owner*, with a copy to the *Consultant*, that the *Owner* is in default of the *Owner*'s contractual obligations if:
- .1 the *Owner* fails to furnish, when so requested by the *Contractor*, reasonable evidence that financial arrangements have been made to fulfill the *Owner*'s obligations under the *Contract*,
 - .2 the *Consultant* fails to issue a certificate as provided in Part 5 of the General Conditions – PAYMENT,
 - .3 the *Owner* fails to pay the *Contractor* when due the amounts certified by the *Consultant* or awarded by adjudication, arbitration or court, or
 - .4 the *Owner* fails to comply with the requirements of the *Contract* to a substantial degree and the *Consultant*, except for GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, gives a written statement to the *Owner* and the *Contractor* that provides detail of such failure to comply with the requirements of the *Contract* to a substantial degree.
- 7.2.4 The *Contractor*'s *Notice in Writing* to the *Owner* provided under paragraph 7.2.3 shall advise that if the default is not corrected within 5 *Working Days* following the receipt of the *Notice in Writing*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, suspend the *Work* or terminate the *Contract*.
- 7.2.5 If the *Contractor* terminates the *Contract* by giving a *Notice in Writing* to the *Owner* under the conditions set out above, the *Contractor* shall be entitled to be paid for all work performed including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the termination of the *Contract*.

PART 8 DISPUTE RESOLUTION

GC 8.1 AUTHORITY OF THE CONSULTANT

- 8.1.1 Differences between the parties to the *Contract* as to the interpretation, application or administration of the *Contract* or any failure to agree where agreement between the parties is called for, herein collectively called disputes, which are not resolved

in the first instance by findings of the *Consultant* as provided in GC 2.2 – ROLE OF THE CONSULTANT, shall be settled in accordance with the requirements of Part 8 of the General Conditions – DISPUTE RESOLUTION.

- 8.1.2 If a dispute arises under the *Contract* in respect of a matter in which the *Consultant* has no authority under the *Contract* to make a finding, 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 apply to that dispute with the necessary changes to detail as may be required.
- 8.1.3 If a dispute is not resolved promptly, the *Consultant* will give such instructions as in the *Consultant's* opinion are necessary for the proper performance of the *Work* and to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by so doing neither party will jeopardize any claim the party may have. If it is subsequently determined that such instructions were in error or at variance with the *Contract Documents*, the *Owner* shall pay the *Contractor* costs incurred by the *Contractor* in carrying out such instructions which the *Contractor* was required to do beyond what the *Contract Documents* correctly understood and interpreted would have required, including costs resulting from interruption of the *Work*.

GC 8.2 ADJUDICATION

- 8.2.1 Nothing in this *Contract* shall be deemed to affect the rights of the parties to resolve any dispute by adjudication as may be prescribed by applicable legislation.

GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

- 8.3.1 In accordance with the rules for mediation as provided in CCDC 40 ‘Rules for Mediation and Arbitration of Construction Industry Disputes’ in effect at the time of bid closing, the parties shall appoint a Project Mediator
- .1 within 20 *Working Days* after the *Contract* was awarded, or
 - .2 if the parties neglected to make an appointment within the 20 *Working Days*, within 10 *Working Days* after either party by *Notice in Writing* requests that the Project Mediator be appointed.
- 8.3.2 A party shall be conclusively deemed to have accepted a finding of the *Consultant* under GC 2.2 – ROLE OF THE CONSULTANT and to have expressly waived and released the other party from any claims in respect of the particular matter dealt with in that finding unless, within 15 *Working Days* after receipt of that finding, the party sends a *Notice in Writing* of dispute to the other party and to the *Consultant*, which contains the particulars of the matter in dispute and the relevant provisions of the *Contract Documents*. The responding party shall send a *Notice in Writing* of reply to the dispute within 10 *Working Days* after receipt of such *Notice in Writing* setting out particulars of this response and any relevant provisions of the *Contract Documents*.
- 8.3.3 The parties shall make all reasonable efforts to resolve their dispute by amicable negotiations and agree to provide, without prejudice, frank, candid, and timely disclosure of relevant facts, information and documents to facilitate these negotiations.
- 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 shall request the Project Mediator to assist the parties to reach agreement on any unresolved 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.
- 8.3.5 If the dispute has not been resolved at the mediation or within such further period as is agreed by the parties, the Project Mediator will terminate the mediated negotiations by giving *Notice in Writing* to the *Owner*, the *Contractor* and the *Consultant*.
- 8.3.6 By giving a *Notice in Writing* to the other party and the *Consultant*, not later than 10 *Working Days* after the date of termination of the mediated negotiations under paragraph 8.3.5, either party may refer the dispute to be finally resolved by arbitration under the rules of arbitration as provided in CCDC 40 in effect at the time of bid closing. The arbitration shall be conducted in the jurisdiction of the *Place of the Work*.
- 8.3.7 On expiration of the 10 *Working Days*, the arbitration agreement under paragraph 8.3.6 is not binding on the parties and, if a *Notice in Writing* is not given under paragraph 8.3.6 within the required time, the parties may refer the unresolved dispute to the courts or to any other form of dispute resolution, including arbitration, which they have agreed to use.
- 8.3.8 If neither party, by *Notice in Writing*, given within 10 *Working Days* of the date of *Notice in Writing* requesting arbitration in paragraph 8.3.6, requires that a dispute be arbitrated immediately, all disputes referred to arbitration as provided in paragraph 8.3.6 shall be:
- .1 held in abeyance until:
 - (1) *Ready-for-Takeover*,
 - (2) the *Contract* has been terminated, or
 - (3) the *Contractor* has abandoned the *Work*,whichever is earlier; and

.2 consolidated into a single arbitration under the rules governing the arbitration under paragraph 8.3.6.

GC 8.4 RETENTION OF RIGHTS

- 8.4.1 It is agreed that no act by either party shall be construed as a renunciation or waiver of any rights or recourses, provided the party has given the *Notice in Writing* required under Part 8 of the General Conditions – DISPUTE RESOLUTION and has carried out the instructions as provided in paragraph 8.1.3 of GC 8.1 – AUTHORITY OF THE CONSULTANT.
- 8.4.2 Nothing in Part 8 of the General Conditions – DISPUTE RESOLUTION shall be construed in any way to limit a party from asserting any statutory right to a lien under applicable lien legislation of the jurisdiction of the *Place of the Work* and the assertion of such right by initiating judicial proceedings is not to be construed as a waiver of any right that party may have under paragraph 8.3.6 of GC 8.3 – NEGOTIATION, MEDIATION AND ARBITRATION to proceed by way of arbitration to adjudicate the merits of the claim upon which such a lien is based.

PART 9 PROTECTION OF PERSONS AND PROPERTY

GC 9.1 PROTECTION OF WORK AND PROPERTY

- 9.1.1 The *Contractor* shall protect the *Work*, the *Owner's* property and property adjacent to the *Place of the Work* from damage which may arise as the result of the *Contractor's* operations under the *Contract*, and shall be responsible for such damage, except damage which occurs as the result of:
- .1 errors or omissions in the *Contract Documents*; or
 - .2 acts or omissions by the *Owner*, the *Consultant*, *Other Contractors*, or their agents and employees.
- 9.1.2 Before commencing any work, the *Contractor* shall determine the location of all underground utilities and structures indicated in the *Contract Documents* or that are reasonably apparent in an inspection of the *Place of the Work*.
- 9.1.3 Should the *Contractor* in the performance of the *Contract* damage the *Work*, the *Owner's* property or property adjacent to the *Place of the Work*, the *Contractor* shall be responsible for making good such damage at the *Contractor's* expense.
- 9.1.4 Should damage occur to the *Work* or the *Owner's* property for which the *Contractor* is not responsible, as provided in paragraph 9.1.1, the *Contractor* shall make good such damage to the *Work* and, if the *Owner* so directs, to the *Owner's* property. The *Contract Price* and *Contract Time* shall be adjusted as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

- 9.2.1 For the purposes of applicable legislation related to toxic and hazardous substances, the *Owner* shall be deemed to have control and management of the *Place of the Work* with respect to existing conditions.
- 9.2.2 Prior to the *Contractor* commencing the *Work*, the *Owner* shall,
- .1 take all reasonable steps to determine whether any toxic or hazardous substances are present at the *Place of the Work*, and
 - .2 provide the *Consultant* and the *Contractor* with a written list of any such substances that are known to exist and their locations.
- 9.2.3 The *Owner* shall take all reasonable steps to ensure that no person's exposure to any toxic or hazardous substance exceeds the time weighted levels prescribed by applicable legislation at the *Place of the Work* and that no property is damaged or destroyed as a result of exposure to, or the presence of, toxic or hazardous substances which were at the *Place of the Work* prior to the *Contractor* commencing the *Work*.
- 9.2.4 Unless the *Contract* expressly provides otherwise, the *Owner* shall be responsible for taking all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to dispose of, store or otherwise render harmless any toxic or hazardous substance which was present at the *Place of the Work* prior to the *Contractor* commencing the *Work*.
- 9.2.5 If the *Contractor*
- .1 encounters toxic or hazardous substances at the *Place of the Work*, or
 - .2 has reasonable grounds to believe that toxic or hazardous substances are present at the *Place of the Work*, which were not brought to the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible and which were not disclosed by the *Owner* or which were disclosed but have not been dealt with as required under paragraph 9.2.4, the *Contractor* shall
 - .3 take all reasonable steps, including stopping the *Work*, to ensure that no person's exposure to any toxic or hazardous substance exceeds any applicable time weighted levels prescribed by applicable legislation at the *Place of the Work*, and
 - .4 immediately report the circumstances to the *Consultant* and the *Owner* in writing.

- 9.2.6 If the *Owner* and the *Contractor* do not agree on the existence, significance of, or whether the toxic or hazardous substances were brought onto the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.
- 9.2.7 If the *Owner* and the *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were not brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall promptly at the *Owner's* own expense:
- .1 take all steps as required under paragraph 9.2.4;
 - .2 reimburse the *Contractor* for the costs of all steps taken pursuant to paragraph 9.2.5;
 - .3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in 9.2.6 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay; and
 - .4 indemnify the *Contractor* as required by GC 13.1 – INDEMNIFICATION.
- 9.2.8 If the *Owner* and the *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Contractor* shall promptly at the *Contractor's* own expense:
- .1 take all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to safely remove and dispose the toxic or hazardous substances;
 - .2 make good any damage to the *Work*, the *Owner's* property or property adjacent to the place of the *Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY;
 - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.2.6; and
 - .4 indemnify the *Owner* as required by GC 13.1 – INDEMNIFICATION.
- 9.2.9 If either party does not accept the expert's findings under paragraph 9.2.6, the disagreement shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraph 9.2.7 or 9.2.8 it being understood that by so doing, neither party will jeopardize any claim that party may have to be reimbursed as provided by GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.

GC 9.3 ARTIFACTS AND FOSSILS

- 9.3.1 Fossils, coins, articles of value or antiquity, structures and other remains or things of scientific or historic interest discovered at the *Place or Work* shall, as between the *Owner* and the *Contractor*, be deemed to be the absolute property of the *Owner*.
- 9.3.2 The *Contractor* shall take all reasonable precautions to prevent removal or damage to discoveries as identified in paragraph 9.3.1, and shall advise the *Consultant* upon discovery of such items.
- 9.3.3 The *Consultant* will investigate the impact on the *Work* of the discoveries identified in paragraph 9.3.1. If conditions are found that would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Owner*, through the *Consultant*, shall issue appropriate instructions for a change in the *Work* as provided in GC 6.2 – CHANGE ORDER or GC 6.3 – CHANGE DIRECTIVE.

GC 9.4 CONSTRUCTION SAFETY

- 9.4.1 The *Contractor* shall be responsible for establishing, initiating, maintaining, and supervising all health and safety precautions and programs in connection with the performance of the *Work* in accordance with the applicable health and safety legislation.
- 9.4.2 The *Owner* and the *Contractor* shall comply with all health and safety precautions and programs established at the *Place of the Work*.
- 9.4.3 The *Owner* and the *Contractor* shall comply with the rules, regulations and practices required by the applicable health and safety legislation.
- 9.4.4 The *Owner* shall cause the *Consultant*, *Other Contractors* and the *Owner's* own forces to comply with all health and safety precautions and programs established by the *Contractor* at the *Place of the Work*.
- 9.4.5 Nothing in this *Contract* shall affect the determination of liability under the applicable health and safety legislation.

GC 9.5 MOULD

- 9.5.1 If the *Contractor* or the *Owner* observes or reasonably suspects the presence of mould at the *Place of the Work*, the remediation of which is not expressly part of the *Work*,
- .1 the observing party shall promptly report the circumstances to the other party in writing,
 - .2 the *Contractor* shall promptly take all reasonable steps, including stopping the *Work* if necessary, to ensure that no person suffers injury, sickness or death and that no property is damaged as a result of exposure to or the presence of the mould, and

- 3 if the *Owner* and the *Contractor* do not agree on the existence, significance or cause of the mould or as to what steps need be taken to deal with it, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.
- 9.5.2 If the *Owner* and the *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was caused by the *Contractor's* operations under the *Contract*, the *Contractor* shall promptly, at the *Contractor's* own expense:
- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould,
 - .2 make good any damage to the *Work*, the *Owner's* property or property adjacent to the *Place of the Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY,
 - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.5.1.3, and
 - .4 indemnify the *Owner* as required by GC 13.1 – INDEMNIFICATION.
- 9.5.3 If the *Owner* and the *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was not caused by the *Contractor's* operations under the *Contract*, the *Owner* shall promptly, at the *Owner's* own expense:
- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould,
 - .2 reimburse the *Contractor* for the cost of taking the steps under paragraph 9.5.1.2 and making good any damage to the *Work* as provided in paragraph 9.1.4 of GC 9.1 – PROTECTION OF WORK AND PROPERTY,
 - .3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in paragraph 9.5.1.3 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay, and
 - .4 indemnify the *Contractor* as required by GC 13.1 – INDEMNIFICATION.
- 9.5.4 If either party does not accept the expert's finding under paragraph 9.5.1.3, the disagreement shall be settled in accordance with Part 8 of the General Conditions – DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraphs 9.5.2 or 9.5.3, it being understood that by so doing neither party will jeopardize any claim the party may have to be reimbursed as provided by GC 9.5 – MOULD.

PART 10 GOVERNING REGULATIONS

GC 10.1 TAXES AND DUTIES

- 10.1.1 The *Contract Price* shall include all taxes and customs duties in effect at the time of the bid closing except for *Value Added Taxes* payable by the *Owner* to the *Contractor* as stipulated in Article A-4 of the Agreement – CONTRACT PRICE.
- 10.1.2 Any increase or decrease in costs to the *Contractor* due to changes in taxes and duties after the time of the bid closing shall increase or decrease the *Contract Price* accordingly.

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

- 10.2.1 The laws of the *Place of the Work* shall govern the *Work*.
- 10.2.2 The *Owner* shall obtain and pay for development approvals, building permit, permanent easements, rights of servitude, and all other necessary approvals and permits, except for the permits and fees referred to in paragraph 10.2.3 or for which the *Contract Documents* specify as the responsibility of the *Contractor*.
- 10.2.3 The *Contractor* shall be responsible for the procurement of permits, licences, inspections, and certificates, which are necessary for the performance of the *Work* and customarily obtained by contractors in the jurisdiction of the *Place of the Work* after the issuance of the building permit. The *Contract Price* includes the cost of these permits, licences, inspections, and certificates, and their procurement.
- 10.2.4 The *Contractor* shall 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.
- 10.2.5 The *Contractor* shall not be responsible for verifying that the *Contract Documents* are in compliance with the applicable laws, ordinances, rules, regulations, or codes relating to the *Work*. If the *Contract Documents* are at variance therewith, or if, subsequent to the time of bid closing, changes are made to the applicable laws, ordinances, rules, regulations, or codes which require modification to the *Contract Documents*, the *Contractor* shall advise the *Consultant* in writing requesting direction immediately upon such variance or change becoming known. The *Consultant* will issue the changes required to the *Contract Documents* as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.

- 10.2.6 If the *Contractor* fails to advise the *Consultant* in writing; fails to obtain direction as required in paragraph 10.2.5; and performs work knowing it to be 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.
- 10.2.7 If, subsequent to the time of bid closing, changes are made to applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction which affect the cost of the *Work*, either party may submit a claim in accordance with the requirements of GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.

GC 10.3 PATENT FEES

- 10.3.1 The *Contractor* shall pay the royalties and patent licence fees required for the performance of the *Contract*. The *Contractor* shall hold the *Owner* harmless from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor*'s performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention by the *Contractor* or anyone for whose acts the *Contractor* may be liable.
- 10.3.2 The *Owner* shall hold the *Contractor* harmless against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor*'s performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention in executing anything for the purpose of the *Contract*, the physical model, plan or design of which was supplied to the *Contractor* as part of the *Contract*.

GC 10.4 WORKERS' COMPENSATION

- 10.4.1 Prior to commencing the *Work*, and again with the *Contractor*'s applications for payment, the *Contractor* shall provide evidence of compliance with workers' compensation legislation at the *Place of the Work*.

PART 11 INSURANCE

GC 11.1 INSURANCE

- 11.1.1 Without restricting the generality of GC 13.1 – INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the requirements of which are specified in CCDC 41 'CCDC Insurance Requirements' in effect at the time of bid closing except as hereinafter provided:
1. General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner* and the *Consultant* as insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Ready-for-Takeover*. Liability coverage shall be provided for completed operations hazards from the date of *Ready-for-Takeover* on an ongoing basis for a period of 6 years following *Ready-for-Takeover*.
 2. Automobile Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
 3. Unmanned aerial vehicle aircraft, manned aircraft or watercraft Liability Insurance when owned or non-owned manned or unmanned aircraft or watercraft are used directly or indirectly in the performance of the *Work*.
 4. "Broad form" property insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The "Broad form" property insurance shall be provided from the date of commencement of the *Work* until the earliest of:
 - (1) 10 calendar days after the date of *Ready-for-Takeover*;
 - (2) on the commencement of use or occupancy of any part or section of the *Work* unless such use or occupancy is for construction purposes, habitational, office, banking, convenience store under 465 square metres in area, or parking purposes, or for the installation, testing and commissioning of equipment forming part of the *Work*; and
 - (3) when left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.
 5. Boiler and machinery insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The coverage shall be maintained continuously from commencement of use or operation of the boiler and machinery objects insured by the policy and until 10 calendar days after the date of *Ready-for-Takeover*.
 6. The "Broad form" property and boiler and machinery policies shall provide that, in the case of a loss or damage, payment shall be made to the *Owner* and the *Contractor* as their respective interests may appear. In the event of loss or damage:
 - (1) the *Contractor* shall act on behalf of the *Owner* for the purpose of adjusting the amount of such loss or damage payment with the insurers. When the extent of the loss or damage is determined, the *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except

that the *Contractor* shall be entitled to such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*;

- (2) the *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount which the *Owner's* interest in restoration of the *Work* has been appraised, such amount to be paid as the restoration of the *Work* proceeds in accordance with the progress payment provisions. In addition the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor's* interest in the restoration of the *Work*; and
- (3) to the *Work* arising from the work of the *Owner*, the *Owner's* own forces or *Other Contractors*, the *Owner* shall, in accordance with the *Owner's* obligations under the provisions relating to construction by the *Owner* or *Other Contractors*, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as in accordance with the progress payment provisions.

- .7 *Contractors' Equipment Insurance* from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
- .8 *Contractors' Pollution Liability Insurance* from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.

11.1.2 Prior to commencement of the *Work* and upon the placement, renewal, amendment, or extension of all or any part of the insurance, the *Contractor* shall promptly provide the *Owner* with confirmation of coverage and, if required, a certified true copy of the policies certified by an authorized representative of the insurer together with copies of any amending endorsements applicable to the *Work*.

11.1.3 The parties shall pay their share of the deductible amounts in direct proportion to their responsibility in regards to any loss for which the above policies are required to pay, except where such amounts may be excluded by the terms of the *Contract*.

11.1.4 If the *Contractor* fails to provide or maintain insurance as required by the *Contract Documents*, then the *Owner* shall have the right to provide and maintain such insurance and give evidence to the *Contractor* and the *Consultant*. The *Contractor* shall pay the cost thereof to the *Owner* on demand or the *Owner* may deduct the cost from the amount which is due or may become due to the *Contractor*.

11.1.5 All required insurance policies shall be with insurers licensed to underwrite insurance in the jurisdiction of the *Place of the Work*.

11.1.6 If a revised version of CCDC 41 is published, which specifies reduced insurance requirements, the parties shall address such reduction, prior to the *Contractor's* insurance policy becoming due for renewal, and record any agreement in a *Change Order*.

11.1.7 If a revised version of CCDC 41 is published, which specifies increased insurance requirements, the *Owner* may request the increased coverage from the *Contractor* by way of a *Change Order*.

11.1.8 A *Change Directive* shall not be used to direct a change in the insurance requirements in response to the revision of CCDC 41.

PART 12 OWNER TAKEOVER

GC 12.1 READY-FOR-TAKEOVER

12.1.1 The prerequisites to attaining *Ready-for-Takeover* of the *Work* are limited to the following:

- .1 The *Consultant* has certified or verified the *Substantial Performance of the Work*.
- .2 Evidence of compliance with the requirements for occupancy or occupancy permit as prescribed by the authorities having jurisdiction.
- .3 Final cleaning and waste removal at the time of applying for *Ready-for-Takeover*, as required by the *Contract Documents*.
- .4 The delivery to the *Owner* of such operations and maintenance documents reasonably necessary for immediate operation and maintenance, as required by the *Contract Documents*.
- .5 Make available a copy of the as-built drawings completed to date on site.
- .6 Startup, testing required for immediate occupancy, as required by the *Contract Documents*.
- .7 Ability to secure access to the *Work* has been provided to the *Owner*, if required by the *Contract Documents*.
- .8 Demonstration and training, as required by the *Contract Documents*, is scheduled by the *Contractor* acting reasonably.

12.1.2 If any prerequisites set forth in paragraphs 12.1.1.3 to 12.1.1.6 must be deferred because of conditions reasonably beyond the control of the *Contractor*, or by agreement between the *Owner* and the *Contractor* to do so, *Ready-for-Takeover* shall not be delayed.

12.1.3 When the *Contractor* considers that the *Work* is *Ready-for-Takeover*, the *Contractor* shall deliver to the *Consultant* and to the *Owner* a comprehensive list of items to be completed or corrected, together with a written application for *Ready-for-Takeover* for review. Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.

12.1.4 The *Consultant* will review the *Work* to verify the validity of the application and will promptly, and in any event, no later than 10 calendar days after receipt of the *Contractor's* list and application:

- .1 advise the *Contractor* in writing that the *Work* is not *Ready-for-Takeover* and give reasons why, or
- .2 confirm the date of *Ready-for-Takeover* in writing to each of the *Owner* and the *Contractor*.

12.1.5 Immediately following the confirmation of the date of *Ready-for-Takeover*, the *Contractor*, in consultation with the *Consultant*, shall establish a reasonable date for finishing the *Work*.

12.1.6 The provision of GC 12.1 – READY-FOR-TAKEOVER shall be subject to GC 12.2 – EARLY OCCUPANCY BY THE OWNER.

GC 12.2 EARLY OCCUPANCY BY THE OWNER

12.2.1 The *Owner* may take occupancy of a part or the entirety of the *Work* before *Ready-for-Takeover* has been attained only as agreed by the *Contractor* which agreement shall not be unreasonably withheld.

12.2.2 The *Owner* shall not occupy a part or the entirety of the *Work* without prior approval by authorities having jurisdiction.

12.2.3 If the *Owner* takes occupancy of a part of the *Work* before *Ready-for-Takeover* has been attained:

- .1 The part of the *Work* which is occupied shall be deemed to have been taken over by the *Owner* as from the date on which it is occupied.
- .2 The *Contractor* shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the *Owner*.
- .3 The warranty period specified in paragraph 12.3.1 of GC 12.3 – WARRANTY for that part of the *Work* shall start from the date on which it is occupied.

12.2.4 If the *Owner* takes occupancy of the entirety of the *Work* before all the prerequisites are met as described in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER, the *Work* shall, subject to the requirements of the applicable lien legislation, be deemed to achieve *Ready-for-Takeover*. This shall not relieve the *Contractor*'s responsibility to complete the *Work* in a timely manner.

GC 12.3 WARRANTY

12.3.1 Except for extended warranties as described in paragraph 12.3.6, the warranty period under the *Contract* is one year from the date when *Ready-for-Takeover* has been attained.

12.3.2 The *Contractor* shall be responsible for the proper performance of the *Work* to the extent that the design and *Contract Documents* permit such performance.

12.3.3 The *Owner*, through the *Consultant*, shall promptly give the *Contractor Notice in Writing* of observed defects and deficiencies which occur during the one year warranty period.

12.3.4 Subject to paragraph 12.3.2, the *Contractor* shall correct promptly, at the *Contractor*'s expense, defects or deficiencies in the *Work* which appear prior to and during the one year warranty period.

12.3.5 The *Contractor* shall correct or pay for damage resulting from corrections made under the requirements of paragraph 12.3.4.

12.3.6 Any extended warranties required beyond the one year warranty period as described in paragraph 12.3.1, shall be as specified in the *Contract Documents*. Extended warranties shall be issued by the warrantor to the benefit of the *Owner*. The *Contractor*'s responsibility with respect to extended warranties shall be limited to obtaining any such extended warranties from the warrantor. The obligations under such extended warranties are solely the responsibilities of the warrantor.

PART 13 INDEMNIFICATION AND WAIVER

GC 13.1 INDEMNIFICATION

13.1.1 Without restricting the parties' obligation to indemnify respecting toxic and hazardous substances, patent fees and defect in title claims all as described in paragraphs 13.1.4 and 13.1.5, the *Owner* and the *Contractor* shall each indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings whether in respect to losses suffered by them or in respect to claims by third parties that arise out of, or are attributable in any respect to their involvement as parties to this *Contract*, provided such claims are:

- .1 caused by:
 - (1) the negligent acts or omissions of the party from whom indemnification is sought or anyone for whose negligent acts or omissions that party is liable, or
 - (2) a failure of the party to the *Contract* from whom indemnification is sought to fulfill its terms or conditions; and
- .2 made by *Notice in Writing* within a period of 6 years from the *Ready-for-Takeover* date or within such shorter period as may be prescribed by any limitation statute of the Province or Territory of the *Place of the Work*.

The parties expressly waive the right to indemnity for claims other than those provided for in this *Contract*.

- 13.1.2 The obligation of either party to indemnify as set forth in paragraph 13.1.1 shall be limited as follows:
- .1 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is to be provided by either party pursuant to GC 11.1 – INSURANCE, the minimum liability insurance limit for one occurrence, of the applicable insurance policy, as referred to in CCDC 41 in effect at the time of bid closing.
 - .2 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is not required to be provided by either party in accordance with GC 11.1 – INSURANCE, the greater of the *Contract Price* as recorded in Article A-4 – CONTRACT PRICE or \$2,000,000, but in no event shall the sum be greater than \$20,000,000.
 - .3 In respect to indemnification by a party against the other with respect to losses suffered by them, such obligation shall be restricted to direct loss and damage, and neither party shall have any liability to the other for indirect, consequential, punitive or exemplary damages.
 - .4 In respect to indemnification respecting claims by third parties, the obligation to indemnify is without limit.
- 13.1.3 The obligation of either party to indemnify the other as set forth in paragraphs 13.1.1 and 13.1.2 shall be inclusive of interest and all legal costs.
- 13.1.4 The *Owner* and the *Contractor* shall indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of their obligations described in GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.
- 13.1.5 The *Owner* shall indemnify and hold harmless the *Contractor* from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings:
- .1 as described in paragraph 10.3.2 of GC 10.3 – PATENT FEES, and
 - .2 arising out of the *Contractor*'s performance of the *Contract* which are attributable to a lack of or defect in title or an alleged lack of or defect in title to the *Place of the Work*.
- 13.1.6 In respect to any claim for indemnity or to be held harmless by the *Owner* or the *Contractor*:
- .1 *Notice in Writing* of such claim shall be given within a reasonable time after the facts upon which such claim is based become known; and
 - .2 should any party be required as a result of its obligation to indemnify another to pay or satisfy a final order, judgment or award made against the party entitled by this contract to be indemnified, then the indemnifying party upon assuming all liability for any costs that might result shall have the right to appeal in the name of the party against whom such final order or judgment has been made until such rights of appeal have been exhausted.

GC 13.2 WAIVER OF CLAIMS

- 13.2.1 Subject to any lien legislation applicable to the *Place of the Work*, the *Contractor* waives and releases the *Owner* from all claims which the *Contractor* has or reasonably ought to have knowledge of that could be advanced by the *Contractor* against the *Owner* under the *Contract*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the *Ready-for-Takeover* date, except as follows:
- .1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* no later than 5 calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work* or 20 calendar days following the *Ready-for-Takeover* date, whichever is later;
 - .2 indemnification for claims advanced against the *Contractor* by third parties for which a right of indemnification may be asserted by the *Contractor* against the *Owner* pursuant to the provisions of this *Contract*;
 - .3 claims respecting toxic and hazardous substances, patent fees and defect in title matters for which a right of indemnity could be asserted by the *Contractor* pursuant to the provisions of paragraphs 13.1.4 or 13.1.5 of GC 13.1 – INDEMNIFICATION; and
 - .4 claims resulting from acts or omissions which occur after the *Ready-for-Takeover* date.
- 13.2.2 The *Contractor* waives and releases the *Owner* from all claims resulting from acts or omissions which occurred after the *Ready-for-Takeover* date except for:
- .1 indemnification respecting third party claims, and claims respecting toxic and hazardous substances, patent fees and defect in title matters, all as referred in paragraphs 13.2.1.2 and 13.2.1.3; and
 - .2 claims for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* within 395 calendar days following the *Ready-for-Takeover* date.
- 13.2.3 Subject to any lien legislation applicable to the *Place of the Work*, the *Owner* waives and releases the *Contractor* from all claims which the *Owner* has or reasonably ought to have knowledge of that could be advanced by the *Owner* against the *Contractor* under the *Contract*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the *Ready-for-Takeover* date, except as follows:
- .1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* no later than 20 calendar days following the *Ready-for-Takeover* date;

- .2 indemnification for claims advanced against the *Owner* by third parties for which a right of indemnification may be asserted by the *Owner* against the *Contractor* pursuant to the provisions of this *Contract*;
 - .3 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor* pursuant to the provisions of paragraph 13.1.4 of GC 13.1 – INDEMNIFICATION;
 - .4 damages arising from the *Contractor*'s actions which result in substantial defects or deficiencies in the *Work*. "Substantial defects or deficiencies" mean those defects or deficiencies in the *Work* which affect the *Work* to such an extent or in such a manner that a significant part or the whole of the *Work* is unfit for the purpose intended by the *Contract Documents*;
 - .5 claims arising pursuant to GC 12.3 – WARRANTY; and
 - .6 claims arising from acts or omissions which occur after the *Ready-for-Takeover* date.
- 13.2.4 Respecting claims arising upon substantial defects and deficiencies in the *Work*, as referenced in paragraph 13.2.3.4, and notwithstanding paragraph 13.2.3.5, the *Owner* waives and releases the *Contractor* from all claims except claims for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* within a period of six years from the *Ready-for-Takeover* date, provided that any limitation statute of the Province or Territory of the *Place of the Work* permit such agreement. If the applicable limitation statute does not permit such agreement, the time within which any such claim may be brought shall be such shorter period as may be prescribed by any limitation statute of the Province or Territory of the *Place of the Work*.
- 13.2.5 The *Owner* waives and releases the *Contractor* from all claims arising from acts or omissions which occur after the *Ready-for-Takeover* date, except for:
- .1 indemnification for claims advanced against the *Owner* by third parties, as referenced in paragraph 13.2.3.2;
 - .2 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor*, as referenced in paragraph 13.2.3.3;
 - .3 claims arising under GC 12.3 – WARRANTY; and
 - .4 claims for which *Notice in Writing* has been received by the *Contractor* from the *Owner* within 395 calendar days following the *Ready-for-Takeover* date.
- 13.2.6 "Notice in Writing of claim" as provided for in GC 13.2 – WAIVER OF CLAIMS to preserve a claim or right of action which would otherwise, by the provisions of GC 13.2 – WAIVER OF CLAIMS, be deemed to be waived, must include the following:
- .1 a clear and unequivocal statement of an intention to claim;
 - .2 a statement as to the nature of the claim and the grounds upon which the claim is based; and
 - .3 a statement of the estimated quantum of the claim.
- 13.2.7 A claim for lien asserted under the lien legislation prevailing at the *Place of the Work* shall qualify as notice of claim for the purposes of this *Contract*.
- 13.2.8 The party giving the *Notice in Writing* of claim as provided for in GC 13.2 – WAIVER OF CLAIMS shall submit within a reasonable time a detailed account of the amount claimed.
- 13.2.9 Where the event or series of events giving rise to a claim made under paragraphs 13.2.1 or 13.2.3 has a continuing effect, the detailed account submitted under paragraph 13.2.8 shall be considered to be an interim account and the party making the claim shall submit further interim accounts, at reasonable intervals, giving the accumulated amount of the claim and any further grounds upon which such claim is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.
- 13.2.10 Nothing in GC 13.2 – WAIVER OF CLAIMS shall be deemed to affect the rights of the parties under any lien legislation or limitations legislation prevailing at the *Place of the Work*.

AMENDMENTS TO DEFINITIONS

- .1 Add the following definition: Proper Invoice
“*Proper Invoice* means a “proper invoice” as defined in the *Payment Legislation*, if any, and as may be modified by written agreement between the parties to the extent permitted by such *Payment Legislation*.”
- .2 Add the following definition: 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*.”

SUPPLEMENTARY CONDITIONS

PART 1 GENERAL PROVISIONS

GC 1.1 CONTRACT DOCUMENTS

- .1 Delete paragraphs 1.1.3 and 1.1.4 in their entirety and replace them with the following:
- “1.1.3 The *Contractor* shall review the *Contract Documents* for the purpose of facilitating and co-ordination and execution of the *Work* by the *Contractor*. The *Contractor* shall report promptly to the *Consultant* any ambiguities, design issues or other matters requiring clarification made known to the *Contractor* or that the *Contractor* may discover from such a review. Such review by the *Contractor* shall comply with the standard of care described in paragraph 3.9.1 of the *Contract*.
- 1.1.4 Except for its obligation to review the *Contract Documents* and report the result pursuant to paragraph 1.1.3, the *Contractor* is not responsible for ambiguities, design issues or other matters requiring clarification in the *Contract Documents* and does not assume any responsibility to the *Owner* or to the *Consultant* for the accuracy of the *Contract Documents*. Without limiting the foregoing, the *Contractor* shall not be liable for any damages or costs resulting from any ambiguities, design issues or other matters requiring clarification in the *Contract Documents* which the *Contractor* could not reasonably have discovered from such a review in accordance with the standard of care. If the *Contractor* does discover any ambiguities, design issues or other matters requiring clarification in the *Contract Documents*, the *Contractor* shall not proceed with the work affected until the *Contractor* has received modified or additional information from the *Consultant*. The impacts of any ambiguities, design issues or other matters requiring clarification in the *Contract Documents*, including to the *Contract Price* and *Contract Time*, shall be addressed by the parties in accordance with Part 6 – CHANGES.”
- .2 Add the following to the end of subparagraph 1.1.6.2:
“Except to the extent the *Consultant* is indemnified as a third party beneficiary as provided in subparagraphs 9.2.7.4 and 9.5.3.4 and in paragraph 13.1.3.”

PART 2 ADMINISTRATION OF THE CONTRACT

GC 2.2 ROLE OF THE CONSULTANT

- .1 In paragraph 2.2.3 add the following to the end:

“Without limiting the foregoing, the *Consultant* may appoint one or more authorized representatives in writing who may fulfill the obligations of the *Consultant* under this *Contract*.”
- .2 In paragraph 2.2.8 add the words “, written statements” after the word “interpretations” in both the first and second sentences; and
 - i. add the following to the end of paragraph 2.2.8:

“The *Owner* and the *Contractor* shall waive any claims against the *Consultant* arising out of its making of any interpretations, written statements or findings in accordance with paragraphs 2.2.6, 2.2.7, 2.2.8, and 7.1.2, but only to the extent that any such interpretations, written statements, and findings are made by the *Consultant* in an unbiased manner, and in accordance with the *Consultant*’s professional standard of care at law.”
- .3 In paragraph 2.2.13 add the words “which are provided” before the words “by the *Contractor*”.

GC 2.4 DEFECTIVE WORK

- .1 In paragraph 2.4.1:
 - i. Add after the words “shall promptly correct” the phrase “in a manner acceptable to the *Owner* and the *Consultant*”; and
 - ii. Add after the words “*Contract Documents*” the phrase “or work that the *Contractor* discovers to be defective, whether or not the defective work had been identified by the *Consultant*, and”.
- .2 Add new paragraph 2.4.4 as follows:

“2.4.4 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*.”

PART 3 EXECUTION OF THE WORK

GC 3.1 CONTROL OF THE WORK

- .1 Add new paragraph 3.1.3 as follows:

“3.1.3 Prior to commencing individual procurement, fabrication and construction activities, the *Contractor* shall verify, at the *Place of the 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.”

GC 3.2 CONSTRUCTION BY OWNER AND OTHER CONTRACTORS

.1 Add new paragraph 3.2.7 as follows:

“3.2.7 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 that are specified to be *Owner* purchased and *Contractor* installed or hooked up are required at the site to avoid delaying the progress of the *Work*.”

GC 3.7 LABOUR AND PRODUCTS

.1 Add the following to the end of paragraph 3.7.1:

“The *Contractor* represents that it has sufficient skilled employees to replace, subject to the *Owner*’s approval, acting reasonably, its designated supervisor and project manager in the event of death, incapacity, removal or resignation.”

.2 Add new paragraphs 3.7.4 and 3.7.5 as follows:

“3.7.4 The *Owner* shall provide the *Contractor* in a timely manner with all relevant information (including storage, protection, and installation requirements) regarding *Products* to be supplied by the *Owner* or other contractors and, prior to delivery of any such *Products* to the *Place of the Work*, the *Owner* shall obtain the *Contractor*’s written approval of the delivery date and proposed storage, protection and installation requirements.

3.7.5 Once the *Contractor* has accepted delivery of *Products*, the *Contractor* shall be responsible for the safe storage and protection of *Products* as required to avoid dangerous conditions or contamination to the *Products* or other persons or property. *Products* shall be stored in locations and at the *Place of the Work* to the satisfaction of the *Owner* and the *Consultant* as agreed and approved by the *Contractor* pursuant to paragraph 3.7.4.

Notwithstanding the foregoing, the *Contractor* shall not be responsible for any *Products* supplied by the *Owner* or other contractors unless:

- (i) the *Contract Documents* expressly stipulate that such *Product* is to be the *Contractor*’s responsibility and to be installed by the *Contractor* as part of the *Work*;
- (ii) the *Contractor* has or has received from the *Owner* proof of insurance coverage sufficient, at a minimum, to cover the replacement cost of such *Product*; and
- (iii) the *Owner* obtained the *Contractor*’s approval as required by paragraph 3.7.4.”

GC 3.8 SHOP DRAWINGS

.1 Add the words “AND OTHER SUBMITTALS” to the title of GC 3.8 after the words “SHOP DRAWINGS”.

.2 Add the words “and *Submittals*” after the words “*Shop Drawings*” in paragraphs 3.8.1, 3.8.2, 3.8.3, 3.8.3.2, 3.8.5, 3.8.6, and 3.8.7.

.3 Delete paragraph 3.8.2 in its entirety and replace it with new paragraph 3.8.2 as follows:

“3.8.2 Prior to the first application for payment, the *Contractor* and the *Consultant* shall jointly prepare a schedule of the dates for submission and return of *Shop Drawings* and *Submittals* in an orderly sequence.”

- .4 Delete the words “with reasonable promptness so as to cause no delay in the performance of the Work” and replace them with the words “within 10 *Working Days* or such longer period as may be reasonably required” in paragraph 3.8.7.

GC 3.9 PERFORMANCE BY CONTRACTOR

- .1 Add new General Condition GC 3.9 as follows:

“GC 3.9 PERFORMANCE BY CONTRACTOR

- 3.9.1 In performing its services and obligations under the *Contract*, the *Contractor* shall exercise a standard of care, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The *Contractor* acknowledges and agrees that throughout the *Contract*, the *Contractor’s* obligations, duties and responsibilities shall be interpreted in accordance with this standard. The *Contractor* shall exercise the same standard of due care and diligence in respect of any *Products*, personnel, or procedures which it may recommend to the *Owner*.”

PART 4 ALLOWANCES

GC 4.1 CASH ALLOWANCES

- .1 Delete paragraph 4.1.7 in its entirety and replace it with the following:
- “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 are required to be delivered to the *Place of the Work* to avoid delaying the progress of the *Work*.”
- .2 Add new paragraph 4.1.8 as follows:
- “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.”

PART 5 PAYMENT

GC 5.4 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

- .1 Delete all paragraphs of GC 5.4 in their entirety and replace them with the following paragraphs:
- “5.4.1 When the *Contractor* considers that the *Work* is substantially performed, or if permitted by the lien legislation applicable to the *Place of the Work* a designated portion thereof which the *Owner* agrees to accept separately is substantially performed, the *Contractor* shall, within five (5) *Working Days*, deliver to the *Consultant* and to the *Owner* a comprehensive list of items to be completed or corrected, together with a written application for a review by the *Consultant* to establish *Substantial Performance of the Work* or substantial performance of the designated portion of the *Work*. Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.”

- 5.4.2 The *Consultant* will review the *Work* to certify or verify the validity of the application and shall promptly, and in any event, no later than 10 calendar days after receipt of the *Contractor's* application:
- .1 advise the *Contractor* in writing that the *Work* or the designated portion of the *Work* is not substantially performed and give reasons why, or
 - .2 state the date of *Substantial Performance of the Work* or a designated portion of the *Work* in a certificate and issue a copy of that certificate to each of the *Owner* and the *Contractor*.
- 5.4.3 Where the holdback amount required by the applicable lien legislation has not been placed in a separate lien holdback account, the *Owner* shall, no later than 10 calendar days prior to the expiry of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*, place the holdback amount in a bank account in the joint names of the *Owner* and the *Contractor*.
- 5.4.4 Subject to the requirements of any *Payment Legislation*, all holdback amounts prescribed by the applicable lien legislation for the *Place of the Work* shall become due and payable to the *Contractor* no later than 10 *Working Days* following the expiration of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*, as certified or verified by the *Consultant* when permitted by any *Payment Legislation*.
- 5.4.5 The *Contractor* shall submit an application for release of the lien holdback amount in accordance with the lien legislation applicable to the *Place of the Work*. Except to the extent required by any *Payment Legislation*, such application for release of the holdback shall not constitute an application for payment that is subject to *Proper Invoice* requirements.
- 5.4.6 Where legislation permits progressive release of the holdback for a portion of the *Work* and the *Consultant* has certified or verified that the part of the *Work* has been performed prior to *Substantial Performance of the Work*, the *Owner* hereby agrees to release, and shall release the holdback for such portion of the *Work* to the *Contractor* in accordance with such legislation.
- 5.4.7 Notwithstanding any progressive release of the holdback, the *Contractor* shall ensure that such parts of the *Work* are protected pending the issuance of a final certificate for payment or until the *Owner* takes early occupancy in accordance with GC12.2, whichever comes first, and shall be responsible for the correction of defects or work not performed regardless of whether or not such was apparent when the holdback was released.”

GC 5.5 FINAL PAYMENT

- .1 Add to the end of paragraph 5.5.1 the following sentence:
“The application for final payment shall meet the requirements of a *Proper Invoice*.”
- .2 Add the following to the end of paragraph 5.5.3:
“Subject to any *Payment Legislation*, when the *Consultant* finds the *Contractor's* application for final payment to be not valid, the *Contractor* shall revise and resubmit the application when the *Contractor* has addressed the reasons given by the *Consultant*.”

PART 6 CHANGES IN THE WORK

GC 6.3 CHANGE DIRECTIVE

- .1 Delete the word “and” from the end of subparagraph 6.3.7.18.
- .2 Delete the period from the end of subparagraph 6.3.7.19 and replace it with “; and”.
- .3 Add new subparagraph 6.3.7.20 as follows:
“.20 safety measures and requirements.”

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

- .1 Add new paragraph 6.4.5:
“6.4.5 The *Contractor* confirms that, prior to bidding the *Project*, it carefully reviewed the *Place of the Work* and applied to that review the degree of care and skill described in paragraph 3.9.1, 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 review undertaken in accordance with this paragraph 6.4.5.”

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.

PART 8 DISPUTE RESOLUTION

GC 8.2 ADJUDICATION

- .1 Delete the word “prescribed” from paragraph 8.2.1 and substitute the words “provided for”.

GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

- .1 Add the following new paragraphs 8.3.9 to 8.3.13:
“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 8.3.13 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.”

- 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.
- 8.3.11 Without limiting and subject to the *Owner* and *Contractor's* rights under paragraph 8.3.12 to challenge whether the *Consultant* has satisfied the requirements of paragraph 8.3.10, if an election is made under paragraph 8.3.10:
- .1 the *Owner* or *Contractor* may request particulars and evidence of the *Consultant's* vested or contingent financial interest in the outcome of the arbitration;
 - .2 the *Consultant* shall participate in the appointment of the arbitrator; and,
 - .3 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.
- 8.3.12 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.
- 8.3.13 The provisions of paragraph 8.3.9 shall apply (with all appropriate changes being made) to written notice to be given by the *Consultant* to any sub-consultant."

PART 9 PROTECTION OF PERSONS AND PROPERTY

GC 9.1 PROTECTION OF WORK AND PROPERTY

- .1 Delete subparagraph 9.1.1.1 in its entirety and replace it with the following:
 - “.1 errors or omissions in the *Contract Documents* which the *Contractor* could not have discovered applying the standard of care described in paragraph 3.9.1;”
- .2 Delete paragraph 9.1.2 in its entirety and replace it with the following:

“9.1.2 Before commencing any *Work*, the *Contractor* shall determine the locations of all underground utilities and structures indicated in the *Contract Documents*, or that are discoverable by applying to an inspection of the *Place of the Work* the degree of care and skill described in paragraph 3.9.1.”

GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

- .1 Add the following words to paragraph 9.2.6 after the word "responsible":
"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,"
- .2 Add the words "and the *Consultant*" after the word "*Contractor*" in subparagraph 9.2.7.4.
- .3 Add the following words to paragraph 9.2.8 after the word "responsible":
"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,"

GC 9.5 MOULD

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

PART 10 GOVERNING REGULATIONS

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

- .1 Delete from the first line of paragraph 10.2.5 the word, "The" and substitute the words "Subject to paragraph 3.9.1, the".

PART 12 OWNER TAKEOVER

GC 12.1 READY-FOR-TAKEOVER

- .1 After the second occurrence of the term "*Ready-for-Takeover*" insert before the term "*Ready-for-Takeover*" in paragraph 12.1.3 the words "determination of".

GC 12.2 EARLY OCCUPANCY BY THE OWNER

- .1 Delete the word "achieve" in paragraph 12.2.4 and replace it with the words "have achieved".

GC 12.3 WARRANTY

- .1 Delete the word "The" from the first line of paragraph 12.3.2 and replace it with the words "Subject to paragraph 3.9.1, the".

PART 13 INDEMNIFICATION AND WAIVER

GC 13.1 INDEMNIFICATION

- .1 Add new paragraph 13.1.0 as follows:
 - "13.1.0 The *Contractor* shall indemnify and hold harmless the *Consultant*, its agents and employees from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by third parties that arise out of, or are attributable to the *Contractor's* performance of the *Contract*, provided such claims are:
 - .1 attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, and
 - .2 caused by negligent acts or omissions of the *Contractor* or anyone for whose negligent acts or omissions the *Contractor* is liable, and
 - .3 made by *Notice in Writing* within a period of 6 years from the *Ready-for-Takeover* date or within such shorter such period as may be prescribed by any limitation statute or the Province or Territory of the *Place of Work*."
- .2 Add the words "13.1.0," after the word "paragraphs" in paragraph 13.1.3.

[End of recommended supplementary conditions]

CERTIFICATE OF INSURANCE

DESCRIPTION & LOCATION OF WORK				
PROJECT NO:		AWARD DATE:		VALUE:
INSURER:				
INSURER ADDRESS:				
BROKER:				
BROKER ADDRESS:				
INSURED NAME OF CONTRACTOR:				
CONTRACTOR ADDRESS:				
ADDITIONAL INSURED (Excluding Automobile Liability Policy) <input checked="" type="checkbox"/> The OWNER: <input checked="" type="checkbox"/> "His Majesty the King in Right of the Province of NL as represented by the Minister of Transportation & Infrastructure. Dept. of Transportation & Infrastructure, P.O. Box 8700, St. John's, NL., A1B 4J6, Attn: Tendering & Contracts <input checked="" type="checkbox"/> The Occupant/Operator of the Property: <input checked="" type="checkbox"/> Project Consultants of the OWNER (excluding professional liabilities)				
ADDITIONAL INSURED FOR FEDERAL FUNDED PROJECTS (where applicable) <input type="checkbox"/> His Majesty the King in Right of Canada				
This document certifies that the following policies of insurance and indicated coverage are at present in force subject to the terms, conditions and exclusions as contained therein covering the operations of the insured in connection with the above noted contract made between the named insured and the Owner.				
POLICY TYPE	POLICY NUMBER	INCEPTION DATE	EXPIRY DATE Y/M/D	LIMITS OF LIABILITY
1.1 COMMERCIAL GENERAL LIABILITY or 1.2 WRAP-UP LIABILITY (Including where indicated) A. BLASTING B. PILE DRIVING OR CAISSON WORK C. REMOVAL OR WEAKENING OF SUPPORT				\$5,000,000 Minimum
2A. BUILDERS' RISK "BROAD FORM" or 2B. INSTALLATION FLOATER "BROAD FORM" or 2C. PIERS, WHARVES, & DOCKS RIDER				100% Contract Value of structure if Exceeds \$25,000
3. AUTOMOBILE LIABILITY INSURANCE				\$2,000,000 Minimum
4. AIRCRAFT AND/OR WATERCRAFT WATERCRAFT LIABILITY (IF APPLICABLE)	Not required			\$2,000,000 Minimum
5. AIRPORT CONTRACTOR LIABILITY	Not required			\$5,000,000.00 Minimum
6. ENVIRONMENTAL IMPAIRMENT LIABILITY				\$2,000,000.00 Minimum
The Insurer agrees to notify the Owner and His Majesty, as defined above, in writing, thirty (30) days prior to cancellation, termination or material change of any policy.				
NAME OF INSURER'S OFFICER or AUTHORIZED REPRESENTATIVE :	SIGNATURE:		Date:	
			Tel.:	
			Email:	
Issuance of this certificate shall not limit or restrict the right of the Owner to request at any time duplicate certified copies of said insurance policies.				

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 11 00 – Summary of Works

Page 1 of 2

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Title and description of Work.
- .2 Contractor use of premises.
- .3 Owner occupancy.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises general construction replacement of the roof of the YMCA in Grand Falls-Windsor NL and further identified as YMCA Roof Replacement.
- .2 Work included in this contract comprises of removing existing roof and installing new roof as per drawings.
- .3 The Work under this Contract will be substantially performed within **two (2)** months from the date of notification of award of contract.

1.3 CONTRACTOR USE OF PREMISES

- .1 Contractor has unrestricted use of site.
- .2 Coordinate use of premises under direction of Owner.
- .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .4 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .5 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Owner.

1.4 OWNER OCCUPANCY

- .1 Owner will occupy premises during entire construction period for execution of normal operations.
- .2 Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 11 00 – Summary of Works

Page 2 of 2

1.5 RELATED WORK

- .1 The following specification sections are referenced to indicate work responsibilities as specified and carried in other sections.
 - .1 Section 21 05 00 – Common Work Results for Fire Suppression.
 - .2 Section 21 05 01 – Common Work Results for Mechanical.
 - .3 Section 22 05 00 – Common Work Results for Plumbing.
 - .4 Section 23 05 00 – Common Work Results for HVAC.
 - .5 Section 25 05 01 – EMCS – General Requirements.
 - .6 Section 26 05 00 – Common Work Results – Electrical.

1.6 ON-SITE DOCUMENTS

- .1 Maintain at job site documents as indicated in Section 01 31 00 – Project Management and Coordination.

1.7 CONTRACT DOCUMENTS

- .1 Legends and schedules in the Issued for Tender Drawings take precedence over the Technical Specifications with respect to products and materials identified.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section – 01 14 00 Work Restrictions

Page 1 of 1

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Connecting to existing services.
- .2 Special scheduling requirements.

1.2 RELATED SECTIONS

- .1 Section 01 32 00 – Construct Progress Documentation.
- .2 Section 01 56 00 - Temporary Barriers and Enclosures.

1.3 EXISTING SERVICES

- .1 Notify Owner and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Owner a notice of three (3) working days for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3 Provide for pedestrian and vehicular traffic.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 21 00 – Allowances

Page 1 of 1

PART 1 GENERAL

1.1 CASH ALLOWANCES

- .1 Include in Contract Price, cash allowances as stated herein:
 - Cash allowance to cover costs for _____.
- .2 Expend each allowance as directed by Owner.
- .3 Cash allowances, unless otherwise specified, cover net cost to Contractor of services, products, construction machinery and equipment, freight, handling, unloading, storage installation and other authorized expenses incurred in performing Work.
- .4 Each cash allowance will be adjusted to actual cost as defined hereunder and contract price will be amended accordingly by written order.
- .5 Contract Price will be adjusted by written order to provide for an excess or deficit to each cash allowance.
- .6 Progress payments for work and material authorized under cash allowances will be made in accordance with contract terms of payment.
- .7 The Contract Price and not cash allowance, includes contractor's overhead and profit in connection with such cash allowance.
- .8 Progress payments on accounts of work authorized under cash allowances shall be included in monthly certificate for payment.
- .9 Schedule shall be prepared jointly by Owner and Contractor to show when items called for under cash allowances must be authorized by Owner for ordering purposes so that progress of work will not be delayed.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2017/05/31

Section 01 25 00 – Substitution Procedures

Page 1 of 4

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- .1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- .1 Section includes administrative and procedural requirements for substitutions.

1.3 RELATED SECTIONS

- .1 Section 01 61 00 – Common Product Requirements.

1.4 DEFINITIONS

- .1 Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by General Contractor.
- .2 Substitutions for Cause: Changes proposed by General Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
- .3 Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to General Contractor or Owner. No substitutions for convenience are permitted.

1.5 ACTION SUBMITTALS

- .1 Substitution Requests: Submit one (1) copy of each request, in PDF format, for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section Number and Title, and Drawing Numbers and Titles.
 - .1 Substitution Request Form: Use form provided at the end of this section.
 - .2 Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - .1 Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2017/05/31

Section 01 25 00 – Substitution Procedures

Page 2 of 4

- .2 Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
- .3 Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
- .4 Product Data, including drawings and descriptions of products and fabrication and installation procedures.
- .5 Samples, where applicable or requested.
- .6 Certificates and qualification data, where applicable or requested.
- .7 List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
- .8 Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
- .9 Detailed comparison of General Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
- .10 Cost information, including a proposal of change, if any, in the Contract Sum.
- .11 General Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
- .12 General Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .3 Owner Action: If necessary, Owner will request additional information or documentation for evaluation within five (5) working days of receipt of a request for substitution. Owner will notify General Contractor of acceptance or rejection of proposed substitution within ten (10) working days of receipt of request, or five (5) working days of receipt of additional information or documentation, whichever is later.
 - .1 Forms of Acceptance: Change Order, Construction Change Order, or Owner Supplemental Instructions for minor changes in the Work.
 - .2 Use product specified if Owner does not issue a decision on use of a proposed substitution within time allocated.

1.6 QUALITY ASSURANCE

- .1 Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.7 PROCEDURES

- .1 Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 PRODUCTS

2.1 SUBSTITUTIONS

- .1 Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) days prior to the time required for preparation and review of related submittals.
 - .1 Conditions: Owner will consider General Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner will return requests without action, except to record noncompliance with these requirements:
 - .1 Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - .2 Requested substitution provides sustainable design characteristics that specified product provided.
 - .3 Substitution request is fully documented and properly submitted.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2017/05/31

Section 01 25 00 – Substitution Procedures

Page 4 of 4

- .4 Requested substitution will not adversely affect General Contractor's construction schedule.
 - .5 Requested substitution has received necessary approvals of authorities having jurisdiction.
 - .6 Requested substitution is compatible with other portions of the Work.
 - .7 Requested substitution has been coordinated with other portions of the Work.
 - .8 Requested substitution provides specified warranty.
 - .9 If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- .2 Substitutions for Convenience: Not permitted.

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**Equal or Substitute
Product Request Form**

Request Phase: Pre-Tender Post Tender
 (If Pre-Tender Only) Current Tender Due Date: _____
 Request No: _____ Dated: _____
 Project Name: _____
 Project Location: _____
 Project No.: _____ Contract No.: _____

References: Specifications(s): Section(s): _____ Paragraph(s): _____ Drawings(s): Drawing No(s): _____ Detail No(s): _____
Contractually Specified Product _____ Contractor Proposed Product _____
Proposed Product is: Equal <input type="checkbox"/> Substitute <input type="checkbox"/>
<i>See attached data for both specified and proposed products as required by Section 01 61 00.</i>
Data Attached: Drawings: <input type="checkbox"/> Product Data: <input type="checkbox"/> Reports: <input type="checkbox"/> Samples: <input type="checkbox"/> Tests: <input type="checkbox"/> Other: _____
Reason(s) for not providing the Specified Product:
Similar Installation: Project: _____ Address: _____ Architect: _____ Owner: _____ Date Installed: _____

Post-Tender: Will proposed substitution impact other parts of the Work? No <input type="checkbox"/> Yes <input type="checkbox"/> Will proposed substitution increase Contract Time? No <input type="checkbox"/> Yes <input type="checkbox"/> <i>If Yes attached explanation by number of Days.</i> _____
Actual Dollar Savings if substitution is accepted: \$ _____
The undersigned Certified that the proposed Request for an Equal or Substitute conforms to all the requirements of Division 01 – General requirements, Section 01 25 00 – Substitution Procedures.
Request Submitted by General Contractor _____ <div style="text-align: right; margin-left: 400px;"><i>(Firm's Name)</i></div>
By: _____ Title: _____ <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <i>(Print Name)</i> <i>(Title)</i> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> _____ _____ </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <i>(Signature)</i> <i>(Date)</i> </div>

Request Received on (Date): _____

Owner's Review – This Substitution is:

- Approved.
(Submittals in accordance with Section 01 33 00 – Submittal Procedures)
- Approved as Noted.
(Submittals in accordance with Section 01 33 00 – Submittal Procedures)
- Rejected.
(Use Specified Materials)
- Rejected:
(Request Not Received Within Specified Time Period – Use Specified Materials)

Review Issued By: _____
(Print Name) *(Signature)*

(Date)

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- .1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- .2 The General Contractor's attention is specifically directed, but not limited, to the following documents for additional requirements:
 - .1 General Conditions of Stipulated Price Contract.
 - .2 Supplementary General Conditions.

1.2 SUMMARY

- .1 Section includes administrative and procedural requirements for handling and processing Contract modifications. Contractor shall develop and implement a system acceptable to Owner for the preparation, review and processing of Proposed Change Orders, contingency and allowance expenditure authorizations, Change Orders, and requests for information.

1.3 RELATED SECTIONS

- .1 Section 01 25 00 - Substitution Procedures.

1.4 DEFINITIONS

- .1 Free Float – the maximum amount of time a scheduled activity can be delayed without delaying the early start date of any succeeding activities or violating a schedule restraint, (or the range an activity can move around without affecting the start of any activity after it.)
- .2 Total Float – the maximum amount of time a scheduled activity can be delayed or extended from its early start date without delaying the project finish date or violating a schedule restraint, (the range an activity can move around without affecting the end date of the project.)

1.5 MINOR CHANGES IN THE WORK

- .1 Owner will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

1.6 OWNER INITIATED PROPOSAL CHANGES

- .1 Owner may issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - .1 Work Proposed Change Orders issued by Owner are not instructions either to stop work in progress or to execute the proposed change.
 - .2 Within time specified in Proposed Change Order or ten (10) working days, when not otherwise specified, after receipt of Proposed Change Order, submit a quotation for cost adjustments to the Contract Sum and the Contract Time necessary to execute the change. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - .1 Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - .2 Include costs of labor and supervision directly attributable to the change.
 - .3 Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

1.7 GENERAL CONTRACTOR INITIATED PROPOSED CHANGES

- .1 If latent or changed conditions require modifications to the Contract, the General Contractor may initiate a claim by submitting a request for a change to Owner.
 - .1 Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - .2 Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - .3 Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
 - .4 Include costs of labor and supervision directly attributable to the change.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .5 Include an updated General Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- .6 Comply with requirements in Section 01 25 00 - Substitution Procedures if the proposed change requires substitution of one product or system for product or system specified.

1.8 CHANGE ORDER PROCEDURES

- .1 On approval of a Proposed Change Order for the Work, Owner will issue a Contract Change Order signed by the Owner and must be signed by the General Contractor and returned to the Owner.

1.9 CONSTRUCTION CHANGE DIRECTIVE

- .1 Owner may issue a Construction Change Directive.
- .2 A Construction Change Directive
 - .1 Instructs Contractor to proceed with a change in the Work, for potential inclusion in a Change Order.
 - .2 Contains a complete description of change in the Work.
 - .3 Designates method to be followed to determine change in the Contract Sum or the Contract Time.
- .3 Documentation:
 - .1 Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - .2 After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.10 REQUESTS FOR INFORMATION (RFI)

- .1 In the event that the General Contractor or any Subcontractor involved in the Work, determines that some portion of the drawings, specifications, or other contract documents requires clarification or interpretation by the Owner, the General Contractor shall submit a Request for Information (RFI) in writing to the Owner.
- .2 RFI's may only be submitted by the General Contractor and shall only be submitted on the RFI Form as required by the Owner. Any RFI's submitted, not on the official RFI Form will be returned to the Contractor unreviewed.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .3 In the RFI, the General Contractor shall clearly and concisely set forth the issue for which clarification or interpretation is sought and why a response is needed from the Owner.
- .4 In the RFI, the General Contractor shall set forth an interpretation or understanding of the requirement along with reasons why such an understanding was reached.
- .5 The Owner will review all RFI's to determine whether they are valid RFI's. If it is determined that the document is not a valid RFI, it will be returned to the General Contractor, unreviewed, with an explanation why it was deemed not valid.
- .6 A RFI Response shall be issued within ten (10) working days of receipt of the request from the General Contractor unless the Owner determines that a longer time is necessary to provide an adequate response. If a longer time is determined necessary by the Owner, the Owner will, within five (5) working days of receipt of the request, notify the General Contractor of the anticipated response time.
- .7 If the General Contractor submits a RFI on an activity with ten (10) working days or less of float on the current project schedule, the General Contractor shall not be entitled to any time extension due to the time it takes the Owner to respond to the request provided that the Owner's responds within the ten (10) working days set forth above.
- .8 A RFI Response from Owner will not change any requirement of the Contract Documents. In the event the General Contractor believes that the RFI Response will cause a change to the requirements of the Contract Documents, the General Contractor shall within five (5) working days give written notice to the Owner stating that the General Contractor believes the RFI Response will result in a Change Order and the Contractor intends to submit a "Proposed Change Order" request. Failure to give such written notice of five (5) working days shall waive the General Contractor's right to seek additional time or cost under the requirements of the Contract Documents.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2017/05/31 Section 01 26 00 – Contract Modification Procedures

Page 5 of 7

Request For Information (RFI)

RFI No.: _____ Page No.: _____ Date Requested: _____
Project Name: _____
Project Location: _____
Project No.: _____ Contract No.: _____
Contractor: _____

CONTRACTOR'S REQUEST FOR INFORMATION

RFI Subject: _____

References: Specification(s): _____ Section(s): _____ Paragraph(s): _____
Drawings(s): Drawing No(s): _____ Detail No(s): _____

Potential Cost Impact: _____

Potential Schedule Impact: _____

Request By: _____
(Print Name) *(Signature)*

Information Requested:

General Contractor's Recommendation:

Request For Information (RFI)

OWNER'S RESPONSE

Date Received: _____ Date Answered: _____

Request Reviewed By: _____

(Print Name)

(Signature)

(Date)

Owner's Response to Contractor:

Attachments From Owner:

Note: The RFI system is intended to provide an efficient mechanism for responding to General Contractor's Requests for Information. It does not provide authority to proceed with additional work. If the General Contractor considers the RFI response a changed condition, provide written notice to the Owner in accordance with Contract provisions.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 01 31 00 - Project Management
and Coordination

Re-Issued 2022/10/11

Page 1 of 6

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Coordination work with other contractors and subcontractors under administration of Owner.
- .2 Scheduled project meetings.

1.2 RELATED SECTIONS

- .1 Section 01 11 00 - Summary of Work.
- .2 Section 01 91 13.13 – Commissioning (Cx) Requirements.

1.3 DESCRIPTION

- .1 Coordination of progress schedules, submittals, use of site, temporary utilities, construction facilities, and construction Work, with progress of Work of other contractors and subcontractors under instructions of Owner.

1.4 PROJECT MEETINGS

- .1 Project meetings to be held at times and locations as determined by Owner.
- .2 Owner will arrange project meetings and record and distribute minutes.

1.5 CONSTRUCTION ORGANIZATION AND START-UP

- .1 Within ten (10) working days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Establish time and location of meetings and notify parties concerned minimum five (5) days before meeting.
- .3 Agenda to include following:
 - .1 Appointment of official representative of participants in Work.
 - .2 Schedule of Work, progress scheduling in accordance with Section 01 32 00 - Construction Progress Documentation.
 - .3 Schedule of submission of shop drawings, samples, colour chips in accordance with Section 01 33 00 - Submittal Procedures.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 31 00 - Project Management
and Coordination

Re-Issued 2022/10/11

Page 2 of 6

- .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 51 00 - Temporary Utilities.
- .5 Delivery schedule of specified equipment in accordance with Section 01 32 00 - Construction Progress Documentation.
- .6 Site security in accordance with Section 01 52 00 - Construction Facilities.
- .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
- .8 Record drawings in accordance with Section 01 78 00 - Closeout Submittals.
- .9 Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.
- .10 Take-over procedures, acceptance, and warranties in accordance with Section 01 77 00 - Closeout Procedures and 01 78 00 - Closeout Submittals.
- .11 Monthly progress claims, administrative procedures, photographs, and holdbacks.
- .12 Appointment of inspection and testing agencies or firms in accordance with Section 01 45 00 - Quality Control.
- .13 Insurances and transcript of policies.
- .4 Comply with Owner's allocation of mobilization areas of site; for field offices and sheds, for access, traffic, and parking facilities.
- .5 During construction coordinate use of site and facilities through Owner's procedures for intra-project communications: Submittals, reports and records, schedules, coordination of drawings, recommendations, and resolution of ambiguities and conflicts.
- .6 Comply with instructions of Owner for use of temporary utilities and construction facilities.

1.6 ON-SITE DOCUMENTS

- .1 Maintain at job site, one copy each of the following:
 - .1 Contract drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed shop drawings.
 - .5 List of outstanding shop drawings.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 31 00 - Project Management
and Coordination

Re-Issued 2022/10/11

Page 3 of 6

- .6 Change orders.
- .7 Other modifications to Contract.
- .8 Field test reports.
- .9 Copy of approved Work schedule.
- .10 Health and Safety Plan and other Safety related documents.
- .11 Manufacturers' installation and application instructions.
- .12 Labour conditions and wage schedules.
- .13 Other documents as specified.

1.7 SCHEDULES

- .1 Submit preliminary construction progress schedule in accordance with Section 01 32 00 - Construction Progress Documents to Owner coordinated with Owner's project schedule. Schedule to show anticipated progress stages and final completion of work within time period required by contract documents.
- .2 After review, revise and resubmit schedule to comply with project schedule requirements.
- .3 During progress of Work revise and resubmit at project progress meetings or as directed by Owner.

1.8 SUBMITTALS

- .1 Make submittal to Owner's for review.
- .2 Submit preliminary shop drawings, product data and samples in accordance with Section 01 33 00 – Submittal Procedures 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 Owner.
- .3 Submit requests for payment for review to Owner.
- .4 Submit requests for interpretation of Contract Documents, and obtain instructions through Owner.
- .5 Process change orders through Owner.
- .6 Deliver closeout submittals for review by Owner.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 31 00 - Project Management
and Coordination

Re-Issued 2022/10/11

Page 4 of 6

1.9 COORDINATION

- .1 Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
- .2 Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection and operation.
- .3 Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
- .4 Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair of all components, mechanical, electrical, and otherwise,
 - .1 Provide adequate clearances for installation and maintenance of equipment.
 - .2 Install work to permit removal of parts requiring periodic replacement or maintenance.
 - .3 Arrange pipes, ducts, raceways and equipment to permit ready access to valves, cocks, traps, starters, motors, and control components.
 - .4 Doors and access panels shall be kept clear.
 - .5 Utilize space efficiently so that adequate accessibility is retained for future maintenance, repairs, modifications and additions.
 - .6 Check the locations selected for all sprinkler heads and check the Architectural reflected ceiling plans to prevent conflicts between the trades.
 - .7 Contractor is cautioned that, where specific dimensions are not indicated or where Drawings are schematic in nature, as with most Electrical and Mechanical Drawings, Contractor shall have sole responsibility to coordinate the work to meet this requirement.
- .5 Make adequate provisions to accommodate items scheduled for later installation.
- .6 Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work and completion within the specified Contract duration. Such administrative activities include, but are not limited to, the following:
 - .1 Preparation of Contractor's Construction Schedule.
 - .2 Installation and removal of temporary facilities and controls.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 01 31 00 - Project Management
and Coordination

Re-Issued 2022/10/11

Page 5 of 6

- .3 Delivery and processing of submittals.
- .4 Progress meetings.
- .5 Start-up, check-out, and final acceptance of systems.
- .6 Project closeout activities.
- .7 Protection of existing and new work.
- .7 Changes required in the Work of the Contract, caused by the Contractor's neglect to coordinate the work with others shall be made at the Contractor's own expense.

1.10 COORDINATION DRAWINGS

- .1 Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
- .2 Contractor to submit to the Owner, in AutoCAD format, coordination drawings, drawn accurately to a scale large enough to indicate and resolve conflicts.
- .3 Indicating the functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
- .4 Do not base coordination drawings on standard printed data.
- .5 Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
- .6 Show location and size of access doors required for access to concealed dampers, valves, and other controls.
- .7 Indicate required installation sequences.
- .8 Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements.
- .9 Minor dimension changes and difficult installations will not be considered changes to the Contract.
- .10 Owner will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination. If Owner determines that coordination drawings are not being prepared in sufficient

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 01 31 00 - Project Management
and Coordination

Re-Issued 2022/10/11

Page 6 of 6

scope or detail, or are otherwise deficient, Owner will so inform Contractor, who shall make changes as directed and resubmit.

1.11 CLOSEOUT PROCEDURES

- .1 Notify Owner when Work is considered ready for Substantial Performance.
- .2 Accompany Owner on preliminary inspection to determine items listed for completion or correction.
- .3 Comply with Owner's instructions for correction of items of Work listed in executed certificate of Substantial Performance and for access to Owner-occupied areas.
- .4 Notify Owner of instructions of items of Work determined in Owner's final inspection.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 77 00 - Closeout Procedures.

1.2 SCHEDULES REQUIRED

- .1 Submit schedules as follows:
 - .1 Construction Progress Schedule.
 - .2 Submittal Schedule for Shop Drawings and Product Data.
 - .3 Submittal Schedule for Samples.
 - .4 Product Delivery Schedule.
 - .5 Cash Allowance Schedule for purchasing Products.
 - .6 Shutdown or closure activity.

1.3 FORMAT

- .1 Prepare schedule in form of a horizontal bar chart.
- .2 Provide a separate bar for each major item of work, trade or operation.
- .3 Split horizontally for projected and actual performance.
- .4 Provide horizontal time scale identifying first work day of each week.
- .5 Format for listings: chronological order of start of each item of work.
- .6 Identification of listings: By Systems description.

1.4 SUBMISSION

- .1 Submit initial format of schedules within 15 working days after award of Contract.
- .2 Submit schedules in electronic format, forward on disc as PDF files.
- .3 Submit one opaque reproduction, plus 2 copies to be retained by Owner.
- .4 Owner will review schedule and return review copy within ten (10) working days after receipt.
- .5 Resubmit finalized schedule within seven (7) working days after return of review copy.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 32 00 - Construction Progress
Documentation

Re-Issued 2016/01/25

Page 2 of 3

- .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) working days, any problems anticipated by timetable shown in schedule.

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 SUBMITTALS SCHEDULE

- .1 Include schedule for submitting shop drawings, product data, and samples.
- .2 Indicate dates for submitting, review time, resubmission time, last date for meeting fabrication schedule.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 33 00 – Submittal Procedures

Page 1 of 6

PART 1 GENERAL

1.1 SECTIONS INCLUDE

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

1.2 RELATED SECTIONS

- .1 Section 01 32 00 – Construction Progress Documentation.
- .2 Section 01 43 39 – Mock Up Requirements.
- .3 Section 01 45 00 – Quality Control.
- .4 Section 01 78 00 – Closeout Submittals.

1.3 ADMINISTRATIVE

- .1 This section specifies general requirements and procedures for contractor's submissions of shop drawings, product data, samples and mock-ups to Owner 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 an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with work until relevant submissions are reviewed by Owner.
- .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 prior to submission to Owner. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated 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 shall be considered rejected.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 33 00 – Submittal Procedures

Page 2 of 6

- .6 Notify Owner, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are coordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Owner's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Owner's review of submission, unless Owner gives written acceptance of specific deviations.
- .10 Make any changes in submissions which Owner may require consistent with Contract Documents and resubmit as directed by Owner. When resubmitting, notify Owner in writing of revisions other than those requested.
- .11 Notify Owner, in writing, when resubmitting, of any revisions other than those requested by Owner.
- .12 Keep one reviewed copy of each submission on site.

1.4 SUBMITTALS

- .1 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.
- .2 Coordinate each submission with requirements of work and Contract Documents. Individual submissions will not be reviewed until all related information is available.
- .3 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 design drawings and specifications.
- .4 Allow ten (10) working days for Owner's review of each submission.
- .5 Adjustments made on shop drawings by Owner are not intended to change contract price. If adjustments affect value of Work, state such in writing to Owner immediately after receipt of approval of shop drawings. If

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 33 00 – Submittal Procedures

Page 3 of 6

value of work is to change a change order must be issued prior to proceeding with work.

- .6 Structural Attachments:
 - .1 Make changes in shop drawings as Owner may require, consistent with Contract Documents. When resubmitting, notify Owner in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, 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.
- .8 Submissions shall 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 field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field 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.
- .9 After Owner's review, distribute copies.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 33 00 – Submittal Procedures

Page 4 of 6

- .10 Submit one (1) electronic copy in PDF format of shop drawings for each requirement requested in specification Sections and as Owner may reasonably request.
- .11 Submit electronic copy in PDF format of product data sheets or brochures for requirements requested in Specification Sections and as requested by Owner where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Delete information not applicable to project.
- .13 Supplement standard information to provide details applicable to project.
- .14 Cross-reference product data information to applicable portions of Contract Documents.
- .15 If upon review by Owner, 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.
- .16 Samples: examples of materials, equipment, quality, finishes, workmanship. Label samples with origin and intended use.
- .17 Notify Owner in writing, at time of submission of deviations in samples from requirements of contract documents.
- .18 Where colour, pattern or texture is criterion, submit full range of samples.
- .19 Adjustments made on samples by Owner are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Owner prior to proceeding with Work.
- .20 Make changes in samples, which Owner may require, consistent with Contract Documents.
- .21 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.
- .22 Submit drawings stamped and signed by Professional Engineer registered or licensed in the Province of Newfoundland and Labrador.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 33 00 – Submittal Procedures

Page 5 of 6

1.5 MOCK-UPS

- .1 Erect mock-ups in accordance with Section 01 43 39 – Mock Up Requirements.

1.6 PROGRESS PHOTOGRAPHS

- .1 Progress photograph to be electronically formatted and labelled as to location and view.

1.7 SHOP DRAWINGS REVIEW

- .1 The review of shop drawings by Owner is for the sole purpose of ascertaining conformance with the general concept. This review shall not mean that Owner approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the construction and contract documents. Without restricting the generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all sub-trades.

1.8 STRUCTURAL ATTACHMENTS

- .1 Contractor to engage a third party Professional Structural Engineer, licensed to practice in the Province of Newfoundland and Labrador, for submission of stamped and signed shop drawings indicating acceptable mounting procedures for all equipment which is suspended, mounted or otherwise attached. The Structural Engineer to also verify correct installation of the equipment. This equipment will include but is not limited:
 - .1 Gym Diffusers
 - .2 Gym Light Grilles
 - .3 Gym Heaters
 - .4 Basketball Backstops
 - .5 Stage Lighting Equipment (Pulleys, Winches, Ceiling Connections)
 - .6 Curtains & Curtain Tracks
 - .7 Scoreclock
 - .8 Cord Reels
 - .9 Uni-Strut Track System
 - .10 Speakers

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 33 00 – Submittal Procedures

Page 6 of 6

- .11 Intercom Speakers
- .12 De-Stratification Fans
- .13 TV Monitors
- .14 Stair Lift System
- .15 Light Pole Bases (Exterior)
- .16 Flagpoles (Exterior)
- .17 Chimney Supports (Oil Furnaces)
- .18 Ladders / Alternating Stairs
- .19 Folding Partitions
- .20 Light Fixtures (Clipped or Chained)
- .21 Overbed Lighting
- .22 Examination Lighting
- .23 Surgical Lighting
- .24 Patient Lift System
- .25 Patient Monitor Mounts
- .26 Ceiling Mounted Diagnostic Equipment
- .27 Cantilevered Diagnostic Equipment
- .28 Bariatric Equipment
- .29 Washroom Grab Bars / Swing Up Bars
- .30 Washroom Ceiling Hung Partitions
- .31 Baby Change Tables - Wall Mounted
- .32 CCTV Cameras
- .33 Fall Arrest Anchors
- .34 Wall Mounted Heat Pumps, Evaporators

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

- .1 Canadian Standards Association (CSA)
 - .1 CAN/CSA-Z259.1, Body Belts and Saddles for Work Positioning and Travel Restraint.
 - .2 CAN/CSA-Z259.10, Full Body Harnesses.
 - .3 CAN/CSA-Z259.11, Energy Absorbers and Lanyards.
 - .4 CAN/CSA-Z259.2.1, Fall Arresters, Vertical Lifelines and Rails.
 - .5 FCC No. 301, Standard for Construction Operations.
 - .6 CSA Z275.2, Occupational Safety Code for Diving Operations.
 - .7 CSA Z275.4, Competency Standard for Divers Operations.
 - .8 CSA Z797, Code of Practice for Access Scaffold.
- .2 FCC No. 302, Standard for Welding and Cutting.
- .3 Transportation of Dangerous Goods Act & Regulations.
- .4 Newfoundland and Labrador Occupational Health and Safety Act, Amended
- .5 Consolidated Newfoundland and Labrador Regulations 1149 WHMIS Regulations under the Occupational Health and Safety Act.
- .6 Consolidated Newfoundland and Labrador Occupational Health and Safety Regulations under the Occupational Health and Safety Act.
- .7 Canada Labour Code, Part 2.
- .8 National Building Code of Canada.
- .9 Department of Transportation and Infrastructure Occupational Health and Safety Manual.
- .10 Department of Transportation and Infrastructure Contractor Safety Management Program.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 43 - Environmental Procedures.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 2 of 34

- .3 Section 01 41 00 - Regulatory Requirements.
- .4 Section 02 82 00.02 - Asbestos Abatement.

1.3 GENERAL

- .1 All work to be performed in accordance with the requirements of the Newfoundland and Labrador Occupational Health and Safety Act and Regulations as amended, the Department of Transportation and Infrastructure's Contractor Safety Management Program and any specified Contract requirements.
- .2 The Contractor shall comply with and enforce compliance by employees, subcontractors, suppliers and visitors with all safety requirements of the Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with the Site Specific Health and Safety Plan (SSSP).
- .3 The Contractor is responsible for all work coordination at the project site, safety oversight, and must maintain full ownership and control of safety within the project area at all times.
 - .1 The Contractor shall ensure co-ordination of work schedules and tasks, and communication thereof for the purpose of ensuring health and safety on the worksite.
- .4 Owner may perform project due diligence, site visits, safety monitoring activities, make suggestions or recommendations for improvement, and/or request changes in how work is performed. Notwithstanding, the Contractor has full responsibility, authority, and accountability for safely performing all work on the project site and/or under the project. Owner solely relies on the Contractor to know how to safely perform all Work including making appropriate decisions on Owner recommendations or requests.
- .5 The Contractor shall ensure that in addition to those requirements set forth in the OHS Act and Regulations, all persons, including those employed by the Contractor or their subcontractors, working on projects for DTI shall wear the following mandatory Personal Protective Equipment at ALL times while working on the project.
 - .1 CSA approved safety boots meeting the CSA Z195 Standard.
 - .2 CSA approved hard hat meeting the CSA Z94.1 Standard.
 - .3 CSA approved safety glasses meeting CSA Z94 Standard.
 - .4 High visibility apparel as defined in the OHS Regulations.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 3 of 34

- .5 Where noise exceeds standards set out in the OHS Regulations hearing protection shall be worn, and hearing conservation program implemented.
- .6 Other personal protective equipment, as may be required by the work tasks, hazard assessments or the Contractor, depending on duties being performed.

1.4 SUBMITTALS

- .1 At least 10 (ten) working days prior to commencing any site work: submit to Owner copies of:
 - .1 A complete Site Specific Health and Safety Plan (SSSP).
 - .2 If work entails blasting, submit the following:
 - .1 Valid Blaster's Certificate and Certificates of Qualification acceptable to the OHS Regulations 5/12 under section 419 identifying the Level of Qualification for the project requirements (Journey Persons Blaster Certificate will still be accepted). An acceptable letter of extension of blasters certificate from the Apprenticeship and Trades Certification Division of the Provincial Department of Immigration, Skills and Labour is required when certificate expires (5 years max.). Certificate numbers and names are required for all blasters proposed for the project.
 - .2 Temporary Magazine License, when required issued, by Natural Resources Canada.
 - .3 Explosives Vehicle Certificate, when required, issued by Transport Canada for transport of explosives regulated under the Transportation of Dangerous Good Act.
 - .4 Blaster resume which clearly states and demonstrates:
 - .1 Minimum five (5) years of experience in handling, storage and detonation of explosives.
 - .2 Training at a blaster's school which is acceptable to the provincial government.
 - .3 If work entails diving, submit the following:
 - .1 Diver(s) and dive supervisor (s).
 - .1 Copy of valid Diving Certificate and Supervisor Certificate from the Diving Certification Board of Canada (or equivalent) for the required work on the project. (i.e. Restricted SCUBA Diver, Unrestricted SCUBA Diver, SCUBA Supervisor, Restricted Surface-Supplied Diver, Unrestricted Surface-Supplied Diver, etc. (See www.divercertification.com))

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 4 of 34

- .2 Resume which clearly demonstrates years of experience for the specific type (SCUBA, Surface Supplied Air, etc.) of diving to be performed at the site and projects completed to achieve minimum number of logged bottom time, hours and
- .3 First aid and CPR Training Certification.
- .2 Dive tender(s) resume which clearly states relevant training (including first aid and (CPR) and experience for the specific task (i.e. dive tender log book).
- .3 Current (less than one year) medical examination certificate (s) from a licensed medical doctor in the Province of Newfoundland and Labrador who is knowledgeable and competent in diving and hyperbaric medicine for all dives.
- .4 Certificates of Analysis for quality/purity of breathing air to be used by diver(s).
- .5 Documentation showing that diving life support equipment is in good working order and properly maintained.
- .6 Copies of documentation shall be submitted to show:
 - .1 An up-to-date dive site listing of the contact Hyperbaric facility and phone numbers for each location.
 - .2 Written arrangements with standby physician(s) specializing in diving/hyperbaric medicine for contingent emergency response and post dive follow-up for 48 hours after dive is completed.
 - .3 Effective means of communication between the diving supervisor and physician are available.
 - .4 The name, location and telephone number of the hospital and emergency department nearest the dive site.
- .4 If work entails confined space, submit the following:
 - .1 Copies of current confined space entry training certificates acceptable to Workplace NL, as well as copies of confined space entry programs, confined space assessment, safe work practices and rescue plans.
- .2 Review and acceptance of the SSSP and other submitted documents by the Owner shall only be viewed as acknowledgement that the contractor has submitted the required documentation under this specification section.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 5 of 34

- .3 Owner makes no representation and provides no warranty for the accuracy, completeness and legislative compliance of the Site Specific Health and Safety Plan and other submitted documents by this acceptance.
- .4 Responsibility for errors and omissions in the SSSP and other submitted documents is not relieved by acceptance by Owner.
- .5 Contractor to complete and submit to the Construction Manager, on a monthly basis, the Monthly Safety Performance Form, indicating monthly OHS performance indicators, OHS activities, training information and equipment maintenance.
 - .1 Monthly Safety Performance Form: use form provided at the end of this section.

1.5 OCCUPATIONAL HEALTH AND SAFETY (SITE SPECIFIC HEALTH AND SAFETY PLANS)

- .1 Conduct operations in accordance with latest edition of the Newfoundland Occupational Health and Safety (OHS) Act and Regulations, with specific reference to codes and standards referenced therein, the Department of Transportation and Infrastructure Occupational Health and Safety Manual (<https://www.gov.nl.ca/ti/files/publications-ohs-full.pdf>), and the Department of Transportation and Infrastructure Contractor Safety Management Plan (<https://www.gov.nl.ca/ti/files/Contractor-Safety-Management-program-November-20212.pdf>).
- .2 Prepare a detailed Site Specific Health and Safety Plan (SSSP) that shall identify, evaluate and control job specific hazards through a detailed hazard assessment of the tendered project outlining phases of the project and hazards/controls associated with specific work, equipment, locations and tasks associated with the work conducted during each phase of the project and the necessary control measures to be implemented for managing hazards.
- .3 The plan shall also ensure adequate policies, procedures and safe work practices are in place to manage hazards identified in the hazard assessment that cannot be addressed through engineering controls.
- .4 It is the responsibility of the Contractor to submit only one SSSP that incorporates all relevant portions of their subcontractors' safety documentation.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 6 of 34

- .5 For projects exceeding thirty (30) days, provide a copy of the SSSP upon request to Occupational Health and Safety Division, Digital Government and Service NL, Province of Newfoundland and Labrador and the Owner.
- .6 The written SSSP shall incorporate the following:
 - .1 Hazard assessment results.
 - .2 Engineering and administrative demonstrative controls (work-practices and procedures) to be implemented for managing identified and potential hazards, and comply with applicable federal and provincial legislation and more stringent requirements that have been specified in these specifications.
 - .3 An organizational structure, in the form of an organizational chart with contact information of the key positions, which shall establish the specific chain of command and specify the overall responsibilities of contractor's employees at the work site.
 - .1 The chart shall also include relevant information for all subcontractors.
 - .4 Identification of the designated qualified work coordinator(s) (i.e. Supervisor, Contractor Safety Representative) as per Section 21 of the OHS Regulations.
 - .5 A comprehensive work plan which shall:
 - .1 Outline the phases of the Project and the required tasks, equipment, positions, resources and objectives for each phase, including all subcontracted work.
 - .2 Conduct a detailed hazard assessment of each project phase, including all subcontracted work, taking into consideration the objectives, tasks, equipment, positions, resources, training, etc.
 - .3 Identify the controls required for all identified hazards and project phases that may include engineering controls, policies, procedures, equipment, safe work practices, training and communication with staff, etc.
 - .6 Establish personnel requirements for implementing the plan and controls, and establish site-specific training and notification requirements and schedules.
 - .7 A personal protection equipment (PPE) Program which shall detail PPE:
 - .1 Selection criteria based on site hazards as determined by the hazard assessment.
 - .2 Use, maintenance, inspection and storage requirements and procedures.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 7 of 34

- .3 Decontamination and disposal procedures.
- .4 Inspection procedures prior to, during and after use, and other appropriate medical considerations.
- .5 Limitations during temperature extremes, heat stress and other appropriate medical consideration.
- .8 An emergency response procedure, refer to clause [1.6 Supervision and Emergency Response Procedure](#) of this section for requirements.
- .9 A hazard communication program for informing workers, visitors and individuals outside of the work area as required. This will include but not be limited to a visitor safety and orientation policy and program that will include education on hazards, required PPE and accompaniment while on site.
 - .1 This program shall also take into consideration the safety of the general public that may come in contact with the work site and appropriate measures for notification and safety
- .10 A hearing conservation program in accordance with Part VI, Section 68 of the OHS Regulations.
- .11 A vehicle inspection matrix (tabular or spreadsheet format) showing required inspection type and date of most recent inspection for all powered mobile equipment (including light vehicles) that will be used in fulfilling the terms of the contract, including rented and the subcontractor's equipment. Upon request, the Contractor shall provide to the Owner, individual inspection forms that at a minimum state that the equipment is in a safe operating condition and is signed by a qualified journeyman mechanic..
- .12 A complete listing of employee names, their driver's license classification, expiry date, endorsements and the type of equipment that they are qualified to operate for the complete scope of work for this project. The Driver's License Number should not be provided as this is confidential information. Provision of the License Number may breach *PIPEDA* - the Personal Information Protection and Electronic Documents Act. (Federal Act) or *ATIPPA* - *Access to Information and Protection of Privacy Act* - Part IV. (Provincial Act of Newfoundland and Labrador). This shall also include documentation where required of certification in power line hazards.
- .13 An acceptable parking policy for all powered mobile equipment to be used on this project. The policy shall, at a minimum, be based on a hazard assessment that considers factors such as equipment type, potential for roll over, load capacity of the parking area, pedestrian and vehicular traffic, and potential for equipment

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 8 of 34

- tampering, equipment energy, and equipment contact with power lines.
- .14 A diving program which shall contain standard operating procedures to be followed in the diving operation.
- .15 A traffic control plan. Refer to clause [1.24 Traffic Control](#).
- .16 A fall protection plan, if necessary. Refer to clause [1.22 Working at Heights](#).
- .17 A dust suppression management program, if necessary.
- .18 An assessment of all possible risks of violence for the project and corresponding control measures. Considerations should include location and circumstances of the site, previous history of incidents and or possible triggers.
- .19 .
- .20 General safety rules.
- .7 Periodically review and modify as required each component of the SSSP when a new hazard is identified during completion of work and when an error or omission is identified in any part of the SSSP.
- .8 Review the completeness of the hazard assessment immediately prior to commencing work, when a new hazard is identified during completion of work and when an error or omission is identified.
 - .1 Be solely responsible for investigating, evaluating and managing any report of actual or potential hazards.
 - .2 Clearly define accident incident investigation procedures.
 - .3 Clearly define policy and processes for early and safe return to work.
 - .4 Retain copies of all completed hazard assessments at the project site and make available to the Owner immediately upon request.
- .9 Implement all requirements of the SSSP.
 - .1 Ensure that every person entering the project site is informed of requirements under the SSSP.
 - .2 Take all necessary measures to immediately implement any engineering controls, administrative controls, personal protective equipment required or termination of work procedures to ensure compliance with the SSSP.
- .10 Conduct site orientations to advise workers of the hazards on their worksites. Site orientations to be performed by the party most familiar with the hazards of the worksite.

- .11 Hold regular toolbox talks, with additional talks if there are changes to the job.
- .12 Conduct weekly site inspections of the worksite.

1.6 SUPERVISION AND EMERGENCY RESCUE PROCEDURE

- .1 Develop an organizational structure which establishes a specific chain of command and overall responsibilities of all employees at the work site.
- .2 Carry out work under the direct supervision of competent persons responsible for safety by ensuring the work complies with the appropriate section of OHS Act and Regulations
- .3 Assign a sufficient number of supervisory personnel to the work site.
 - .1 Any person assigned to supervisory duties shall not conduct significant work in relation to the contract that inhibits them from the ability to properly supervise the work site.
- .4 Ensure the site supervisor has complete understanding, working knowledge and familiarity with the SSSP, applicable codes and standards as well as the OHS Act and Regulations.
- .5 Ensure the site supervisor fully implements, enforces, and monitors the SSSP.
- .6 Prior to the start of work, ensure that the site supervisor(s) have the training, knowledge, and understanding in:
 - .1 Project tasks and construction activities.
 - .2 Hazard recognition evaluation and control.
 - .3 Development and implementation of safe work practices and procedures.
 - .4 Accident incident investigations and reporting.
 - .5 Workplace violence and harassment prevention.
 - .6 Equipment maintenance and inspections required for preventive safety.
 - .7 Care and maintenance of PPE to be used on site.
 - .8 Standard First Aid training certified by WorkplaceNL.
 - .9 WHMIS 2015.
- .7 The Site Supervisor shall:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 10 of 34

- .1 Be responsible for project safety by ensuring the work complies with all requirements of the SSSP and with the appropriate section(s) of OHS Act and Regulations, latest edition.
 - .2 Prior to mobilization on site, hold a pre-start Health and Safety meeting with the Contractors, subcontractors, and Owner to review of the SSSP including all its contents.
 - .3 Be responsible for the delivery and documentation of the site safety orientations and ensure that personnel who have not been oriented are not permitted to enter the site. This applies to all workers (Contractor, Subcontractor, and Department), and visitors.
 - .4 Advise of the health and safety hazards for the work site, provide written or verbal instructions of any precautions to be taken to protect everyone at the work site and ensure that the applicable personal protective equipment is used and worn on site at all times.
 - .5 Review hazard assessment for completeness immediately prior to commencing work, when a new hazard is identified during completion of work, or when an error or omission is identified.
 - .6 Address all safety concerns brought to their attention in a timely manner depending on the severity of the hazard.
 - .7 Be responsible for the maintenance of a daily log of inspections, meetings, infractions and mitigating measures. The log is to be filed daily and copies provided to the Owner as requested.
 - .8 Be responsible to log, investigate, track and follow-up on mitigations for all near misses, incidents and/or accidents.
 - .9 Promote employees' right to work in a respectful, harassment-free, and psychologically healthy and safe work environment. Assist the Owner to investigate incidents of workplace violence or harassment carried out against a DTI employee by contractor or sub-contractor employees.
 - .10 Ensure the correct traffic control signage plan is utilized on site and staff have been notified of the requirements. Ensure that road signage is inspected for accuracy and condition by a competent and trained person upon set-up, each morning prior to work, and at any point in which the signage requires change during the workday or life of the contract. A Traffic Control and Signage Log must be submitted with the Contractor's Monthly OHS Performance Report.
 - .11 If required for the project, coordinate with and support the efforts of the on-site safety representative.
- .8 Assign a dedicated on-site safety representative to assist the Site Supervisor during the completion of high-risk activities. This person shall

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 11 of 34

have training, knowledge, and understanding regarding the activity(s) being completed. High-risk activities may include, but are not limited to:

- .1 Heavy lift operations which includes items greater than 1000 kg or which may need an engineered lift plan due to other identified risk factors.
- .2 Lift operations that occur closer than 10 m of energized power lines or close proximity to moving traffic, public and residential areas, or other sensitive locations.
- .3 When greater than three (3) employers are working in close proximity at the same time. Close proximity execution means any time the operations of each employer are close enough to directly influence or add risk to another employer.
- .4 Working within or near highly populated residential areas when there is an appreciable ongoing risk to the public that needs continual safety oversight.
- .5 When a complex traffic control plan is needed in high volume areas.
- .6 Work involving confined space entry.
- .7 Working with or near toxic and hazardous substances.
- .8 Any other high-risk activity identified through hazard/risk assessment by the Contractor or by the Owner.
- .9 In such instances, the Contractor may request and the Department may agree that such dedicated safety representation is not needed if the Contractor demonstrates there are adequate safety controls in place to mitigate the risk.
- .9 Provide a suitable means of communications and check-in for workers required to work alone.
- .10 Develop an emergency rescue plan for the job site and ensure that supervisors and workers are trained in the emergency rescue plan.
- .11 The emergency response plan shall address, as a minimum:
 - .1 Pre-emergency planning (included the assessment of controls to reduce the likelihood of such an emergency if possible).
 - .2 Personnel roles, lines of authority and communication (include a communication list of all emergency services in the immediate and surrounding areas).
 - .3 Emergency recognition and prevention (identification of each potential type of emergency and evaluation of requirements for response).

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 12 of 34

- .4 Required communication equipment including landlines, mobile phones, radios, satellite phones, and/or other equipment needed to ensure appropriate emergency communications in the area of the Project.
- .5 Safe distances and places of refuge.
- .6 Site security and control.
- .7 Evacuation routes and procedures.
- .8 Decontamination procedures which are not covered by the site specific safety and health plan.
- .9 Emergency medical treatment and first aid.
- .10 Emergency alarm, notification and response procedures including procedures for reporting incidents to local, provincial and federal government departments.
- .11 PPE and emergency equipment.
- .12 Procedures for handling emergency incidents.
- .13 Procedures and protocol for working alone and/or remote working.
- .14 Site specific emergency response training requirements and schedules.
- .15 For diving operation, include procedures for:
 - .1 Managing deteriorating environmental conditions.
 - .2 Managing unexpected weather or sea-state condition.
 - .3 Evacuation of diver(s) under pressures greater than atmospheric pressure.
 - .4 In-water emergency transfers.
 - .5 Managing failing of equipment below the surface that impairs the ability of a diver to complete a dive.
 - .6 Managing failure of any major component of diving plant or equipment.
 - .7 Emergency signalling between divers involved in the diving program and between the diver(s) and the attendants using umbilical, tethers or other suitable methods.
 - .8 Mobilizing stand-by divers.
 - .9 Mobilizing crafts, stand-by boats and any other devices to be used for rescue.
 - .10 Contacting evacuation, rescue, treatment facilities and medical services that will be used in the diving program.
 - .11 Operation of emergency power and lighting facilities.
- .12 The emergency response procedures shall be rehearsed regularly as part of the overall training program and the results documented. The

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 13 of 34

frequency at which all aspects of the emergency response plan will be rehearsed must be stated.

- .13 Provide adequate first aid facilities for the jobsite and ensure that a minimum number of workers are trained in first aid in accordance with the Occupational Health and Safety First Aid Regulations.

1.7 CONTRACTORS SAFETY REPRESENTATIVE

- .1 The contractor shall employ a Contractor's Safety Representative (CSR) who shall have as a minimum successfully completed the following training, and must have current credentials for those that have expiration dates:

Editorial Note

Replace sentence 1.7.1 with the following if the Design Manager specifies a requirement for a site dedicated full time Contractor's Safety Representative (CSR). Delete this editorial note if a full time site dedicated Contractor's Safety Representative (CSR) is not specifically required.

The contractor shall employ a site dedicated full time Contractor's Safety Representative (CSR) who must be on site during execution of the Work. Periodic absences during the workday of short duration for project related activities are acceptable provided they have been pre-arranged with DTI's construction manager. In unusual situations absences of one full day or longer will require a replacement. The replacement will be required to have prior familiarization with the site and the SSSP. The CSR and any temporary replacement shall have as a minimum successfully completed the following training, and must have current credentials for those that have expiration dates:

- .1 Training in hazardous materials management and response/protocols.
- .2 Training in the use, maintenance of fall protection systems certified by Workplace NL at a minimum.
- .3 Training in the inspection of scaffolding in accordance with CSA Z797.
- .4 Training in confined space entry protocols, techniques and rescue plans, certified by Workplace NL at a minimum.
- .5 Supervisory training.
- .6 Training in records and statistics.
- .7 Training in hazard identification, inspections, analysis and control.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 14 of 34

- .8 Training in WHMIS 2015.
- .9 Training in health and safety program content.
- .10 Training in investigations and reporting.
- .11 Training in occupational health/hygiene.
- .12 Training in employee training and communication.
- .13 Training in Emergency Preparedness and First Aid.
- .14 A working knowledge of, and experience satisfactory to the Department, using the occupational safety and health legislation and regulations specific to Newfoundland and Labrador.
- .15 Experience, satisfactory to the Department, with the safe work practices required for execution of the work and operation of equipment specific to the project.
- .16 Experience, satisfactory to the Department, in developing and monitoring site safety and housekeeping policies.
- .17 Experience, satisfactory to the Department, in developing and monitoring a preventative maintenance and inspection program for Construction Site Equipment.
- .2 The CSR shall:
 - .1 Be responsible for developing, implementing, daily enforcement, monitoring and updating of the SSSP.
 - .2 Be responsible for the delivery of the site safety orientation and ensure that the personnel who have not been orientated are not permitted to enter the site. This applies to workers, inspectors and visitors.
 - .3 Report directly to and be under direction of the Site Superintendent or Contractor's Project Manager.
 - .4 Prior to mobilization on-site, hold an orientation meeting with the contractors, subcontractors and Owner to review project occupational health and safety. Include but not limit meeting to a review of:
 - .1 The SSSP.
 - .2 Construction Safety Measures.
 - .3 Supervision and Emergency Rescue Procedures.
 - .4 Hazard Assessments
 - .5 Maintain a daily log of inspections, meetings, infractions and mitigating measures. Log is to be filed daily and copies to be provided to the Site Superintendent and Owner.
 - .6 The CSR shall have:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 15 of 34

- .1 Formal training in OHS Management (degree, diploma, or certificate) combined with at least two (2) years of relevant experience, or
- .2 A designation of National Construction Safety Officer (NCSO), Construction Safety Officer (CSO), Canadian Registered Safety Professional (CRSP), Canadian Registered Safety Technician (CRST), or Certified Health and Safety Consultant (CHSC), or other similar designation.

1.8 HEALTH AND SAFETY COMMITTEE

- .1 Establish an Occupational Health and Safety Committee where ten or more workers are employed on the job site for greater than 30 days as per the OHS Act and Regulations.
- .2 Committee members shall receive training from a WorkplaceNL recognized training provider.
- .3 Provide a copy of all committee minutes with the Contractor's Monthly OHS Performance Report.

1.9 CONTRACTOR ROLES AND RESPONSIBILITIES

- .1 Ensure that their organization is staffed appropriately to ensure completion of project tasks and all necessary safety related duties and responsibilities.
- .2 Ensure co-ordination of work schedules and tasks, and communication thereof for the purpose of ensuring health and safety on the worksite.
- .3 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.
- .4 Develop a SSSP that thoroughly assesses the health and safety hazards of each project phase, including all subcontracted work.
- .5 Implement all requirements of the SSSP. The Contractor shall take all necessary measures to immediately implement any engineering controls, administrative controls, personal protective equipment required or termination of work procedures to ensure compliance with the SSSP and the OHS Act and Regulations. All measures should be immediately communicated to staff.
- .6 Comply with and enforce compliance by employees, subcontractors, suppliers and visitors with safety requirements of Contract Documents,

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 16 of 34

applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with SSSP.

- .7 Where safety risks exist, the contractor must stop the work until such time as the risk can be mitigated to a safe level.
- .8 Take appropriate steps to ensure that the hazards are mitigated to a safe level, workers are notified of the hazards and how to protect themselves. As well, workers must be provided with any new safe work practices or information regarding mitigation of the risk.
- .9 Periodically review and modify the SSSP as required including but not limited to when a new hazard is identified during completion of work or when an error or omission is identified in any part of the SSSP.
- .10 Support/permit periodic inspections of the Contractor's work by the Owner to maintain compliance with the SSSP. Inspections may include visual inspections of the site and documentation, as well as testing and sampling as required.
- .11 Be responsible for any and all costs associated with delays as a result of the Contractor's failure to comply with the requirements outlined in this Section or the OHS Act and Regulations.
- .12 Ensure that all workers receive necessary training as per the training matrix contained in the SSSP prior to the start of work. Maintain training records in a tabular format or spreadsheet for all employees on the project site and complete periodic reviews to ensure that necessary re-certifications are completed prior to expiration dates.
- .13 Ensure all equipment, vehicles, tools, or other devices necessary throughout the Project are suitable for the task and are inspected and maintained in accordance with the manufacturers' specifications and/or CSA standards adopted by the OHS Regulations.
- .14 Be responsible to ensure that site inspections have been completed at no less than one (1) week intervals. These site inspections shall include risk assessments where the nature of the ongoing work or tasks associated with the work increase in risk or significantly change due to phases in the project or project progression.
- .15 Ensure that toolbox meetings are held with staff no less than once per week and shall include review of safety related information that is pertinent to the safety of employees.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 17 of 34

- .16 Ensure that all toolbox meetings, site inspections, risk assessments, OHS Committee meetings and any OHS Directives or reports are documented and submitted with the Contractor's Monthly OHS Performance Report.
- .17 Review for completeness the hazard assessment results immediately prior to commencing work, when a new hazard is identified during completion of work or when an error or omission is identified.
- .18 Be solely responsible for investigating, evaluating and managing any report of actual or potential hazards.
- .19 Retain copies of all completed hazard assessments at the project site and provide a copy to the Owner. Copies of any hazard assessments not included in the original SSSP must be submitted immediately to the Owner and noted on the Contractor's Monthly OHS Performance Report.
- .20 Promote the employees' right to work in a respectful, harassment-free, and psychologically healthy and safe work environment. Assist the Owner to investigate incidents of workplace violence or harassment carried out against a DTI employee by contractor or sub-contractor employees.

1.10 UNFORSEEN HAZARDS

- .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident 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. Advise Owner verbally and in writing.

1.11 REPORTING AND INVESTIGATION

- .1 The Contractor shall adhere to a documented incident, hazard, safety reporting, and investigation process. The system shall:
 - .1 Ensure all hazards, near misses, incidents, accidents, injuries, equipment damage are recorded and properly investigated.
 - .2 Rank actual and potential severity of observations and report all high potential near misses, accidents, and incidents immediately to the Owner and to the OHS Division of Digital Government and Service NL.
 - .3 Advise the Owner and the OHS Division of Digital Government and Service NL verbally and in writing immediately of any incident that results in serious injury to a person or results in the death of a person; or had the reasonable potential to cause serious injury.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 18 of 34

- .4 Provide a copy of all notifications made to the OHS Division of Digital Government and Service NL to Transportation and Infrastructure.
- .5 Where life safety risks or other high potential risks exists, the Contractor must stop work until such time as the risk can be mitigated to a safe level.
- .6 Make appropriate steps to ensure that the hazards are mitigated to a safe level, workers are notified of the hazards and how to protect themselves. Additionally, workers must be provided with any new safe work practices or information regarding mitigation of the risk.

1.12 INSTRUCTION AND TRAINING

- .1 Workers shall not participate in or supervise any activity on the work site until they have been trained to a level required by this job function and responsibility.
- .2 Contractors shall develop an OHS training program that reflects OHS Legislative requirements and specific safety hazards based on Project work
- .3 Training shall as a minimum thoroughly cover the following:
 - .1 Federal and Provincial Health and Safety Legislation requirements including roles and responsibilities of workers and person(s) responsible for implementing, monitoring and enforcing health and safety requirements.
 - .2 Safety and health hazards associated with working on a contaminated site including recognition of symptoms and signs which might indicate over exposure to hazards.
 - .3 Limitations, use, maintenance and disinfection-decontamination of personal protective equipment associated with completing work.
 - .4 Limitations, use, maintenance and care of engineering controls and equipment.
 - .5 Limitations and use of emergency notifications and response equipment including emergency response protocol.
 - .6 Work practices and procedures to minimize the risk of an accident and hazardous occurrence from exposure to a hazard.
 - .7 Workers must receive training from a WorkplaceNL recognized training provider as outlined in the OHS legislation (i.e. fall protection, confined space entry, power line hazards, traffic control persons training).

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 19 of 34

- .8 Training in the use, care and maintenance of PPE to be used on site.
- .9 Training in the Contractor's emergency response plan for the Project. Workers engaged in fall arrest or confined space rescue operations will require specific training for the tasks involved.
- .10 All workers at site must receive training in Workplace Violence and Harassment Prevention.
- .11 Training in WHMIS 2015.
- .12 Safety and health hazards associated with working in extreme weather conditions (i.e. heat/cold hazards).
- .4 Provide and maintain training of workers, as required, by Federal and Provincial legislation.
- .5 Provide copies of all training records to Owner for review, before a worker is to enter the work site. Site training records must be in tabular or spreadsheet format, stating employee name, occupation, required training, date that training was obtained and expiry date. This must be signed and dated by a member of the Contractor's management team.
- .6 Authorized visitors shall not access the work site until they have been:
 - .1 Notified of the names of persons responsible for implementing, monitoring and enforcing the SSSP.
 - .2 Briefed on safety and health hazards present on the site.
 - .3 Instructed in the proper use and limitations of personal protective equipment.
 - .4 Briefed as the emergency response protocol including notification and evacuation process.
 - .5 Informed of practices and procedures to minimize risks from hazards and applicable to activities performed by visitors.
 - .6 Accompanied while on site, and provided with the appropriate PPE.
- .7 All workers will be instructed and trained on the hazards associated with work they will perform and how to protect themselves. This will include a review of all safe work practices, the reporting and documentation of hazards, reporting accidents and injuries as well as, formal training in areas of high risk (i.e. fall protection, power line hazards, traffic control persons training).
- .8 The work site shall have the appropriate number of persons trained in emergency and Standard First Aid according to the First Aid Regulations.

1.13 CONSTRUCTION SAFETY MEASURES

- .1 Observe construction safety measures of National Building Code, latest edition, Federal and Provincial Government, OHS Act and Regulations, Workplace NL and Municipal Authority provided that in any case of conflict or discrepancy more stringent requirements shall apply.
- .2 Administer the project in a manner that will ensure, at all times, full compliance with Federal and Provincial Acts, regulations and applicable safety codes and the SSSP.
- .3 Provide Owner with copies of all orders, directions and any other documentation, issued by the Occupational Health and Safety Division, Digital Government and Service NL, immediately after receipt.
- .4 Forward copies of all orders, directions or any other documentation immediately after receipt.

1.14 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 and authority having jurisdiction, and in consultation with Owner.

1.15 HEALTH AND SAFETY MONITORING

- .1 Periodic inspections of the contractor's work may be carried out by the Owner to maintain compliance with the Health and Safety Program. Inspections will include visual inspections as well as testing and sampling as required.
- .2 The contractor shall be responsible for any and all costs associated with delays as a result of contractor's failure to comply with the requirements outlined in this section.

1.16 NOTIFICATION

- .1 For projects exceeding thirty (30) days or more, the contractor shall, prior to the commencement of work, notify in writing the Occupational Health and Safety Division, Digital Government and Service NL with the following information and provide a copy to the Owner:
 - .1 Name and location of construction site.
 - .2 Company name and mailing address of contractor doing the work.
 - .3 The number of workers to be employed.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 21 of 34

.4 A copy of the SSSP, if requested.

1.17 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Owner.
- .2 Provide Owner with written report of action taken to correct non-compliance of health and safety issues identified within ten (10) working days.
- .3 Owner may stop work if non-compliance of health and safety regulations is not corrected.

1.18 WHMIS 2015

- .1 Ensure that all controlled products are in accordance with the Workplace Hazardous Materials Information System (WHMIS 2015) Regulations and Chemical Substances of the OHS Act and Regulations regarding use, handling, labelling, storage, and disposal of hazardous materials.
- .2 Deliver copies of relevant Safety Data Sheets (SDS) to job site and the Owner. The SDS must be acceptable to Labour Canada and Health and Welfare Canada for all controlled products that will be used in the performance of this work. All SDS should be located in accessible locations for all workers and visitors throughout the site, bound and organized in binders.
- .3 Train workers required to use or work in close proximity to controlled products as per OHS Act and Regulations. This must be documented as part of the on-site orientation and a copy provided to the Owner.
- .4 Label controlled products at jobsite as per OHS and Regulations and WHMIS.
- .5 Provide appropriate emergency facilities as specified in the SDS where workers might be exposed to contact with chemicals, e.g. eye-wash facilities, emergency shower.
 - .1 Workers to be trained in use of such emergency equipment.
- .6 Contractor shall provide appropriate personal protective equipment as specified in the SDS where workers are required to use controlled products.
 - .1 Properly fit workers for personal protective equipment

- .2 Train workers in care, use and maintenance of personal protective equipment.
- .7 No controlled products are to be brought on-site without prior approved SDS.
- .8 The SDS are to remain on site at all times and are accessible to everyone on site.

1.19 OVERLOADING

- .1 The Contractor's Full Time CSR and/or Site Superintendent shall ensure no part of work or associated equipment is subjected to loading that will endanger its safety or will cause permanent deformation.
- .2 Ensure equipment operations follow manufacturer's operating manual.

1.20 FALSEWORK

- .1 Design and construct falsework in accordance with CSA S269.1.

1.21 SCAFFOLDING

- .1 Design, erect, inspect, operate, modify, and dismantle scaffolding in accordance with CSA Z797, Part XI: sections 147-249 of the OH&S Act and Regulations, and the scaffold manufacturer's written instructions.
- .2 Provide trained and certified Competent Scaffold Erectors for all scaffold erection, modification and dismantling. Training certification must be valid at time of erection, modification and dismantling of scaffold.
- .3 Conduct and document daily inspections of scaffolding by trained and certified Competent Scaffold Inspectors or Erectors. Training certification must be valid at the time of inspection.
 - .1 Records and copies of these inspections shall be kept on site and provided upon request to the Department of Transportation and Infrastructure officials, Owner, etc.
- .4 Scaffolding inspection reports may be required to be provided with the Contractor's Monthly OHS Performance Reports, at the discretion of the Owner.
- .5 Provide a scaffold tagging system as described in CSA Z797.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 23 of 34

- .6 Ensure that all industry best practices for safe scaffold usage, including fall protection, proper loading, safe access, electrical hazards, exit door management and other concerns are strictly adhered to.

1.22 WORKING AT HEIGHTS

- .1 Develop a site specific fall protection plan, including a rescue plan, and provide it to the Owner as a part of the SSSP when fall protection systems are required during the course of the Project
- .2 Ensure that fall restraint or fall arrest devices are used by all workers working at elevations greater than 3.05 meters above grade or floor level in accordance with CSA Z259, where alternate fall protection systems are not provided in accordance with Occupational Health and Safety Act and Regulations.
- .3 All workers performing work at height and who will be required to utilize a fall arrest system must be trained in a fall protection program certified by the Workplace NL. Training must be current and valid at the time of use.
- .4 Prior to working at height workers shall be instructed in a Contractor Safe Work Practice for working at height and associated Rescue Plan for working at heights, developed specific to the work to be performed, locations and risks.
- .5 Maintain a list of all persons trained in WorkplaceNL certified fall protection training on site. To be combined with other training records as required in a tabular or spreadsheet format listed throughout this Section.
- .6 Ensure regular inspections of all fall protection and fall arrest equipment are completed and that records are maintained and kept on site. Daily inspections of fall restraint and horizontal fall protection/arrest systems shall be conducted.
- .7 Ensure that manufacturer's specifications for engineered fall protection/arrest/restraint systems are kept on site at all times.
- .8 Develop Working from Height Safe Work Practices specific to the Work, location and risks, and ensure the workers receive specific instruction regarding the work tasks and associated rescue plans.
- .9 Ensure that rescue equipment for fall rescues is kept in close proximity to workers working at height.

- .10 Where necessary the Contractor shall ensure that adequate protection from falling debris is addressed in site specific safety plans, this may include debris nets, barriers, etc.

1.23 PERSONAL PROTECTIVE EQUIPMENT

- .1 Ensure workers on the jobsite use personal protective equipment appropriate to the hazards identified in the SSSP and those workers are trained in the proper care, use, and maintenance of such equipment.
- .2 PPE selections shall be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, task-specific conditions, duration and hazards and potential hazards identified on site. PPE must also be fitted for the worker.
- .3 Provide workers and visitors to the site with proper respiratory protection equipment.
 - .1 No work shall be performed in an area where an airborne contaminant exceeds recommendations of the ACGIH, do not meet the appropriate standards for the specific contaminants or are not in accordance with the OHS regulations.
 - .2 Respiratory protection shall be provided in accordance with the requirements of the Occupational Health and Safety Division, Digital Government and Service NL and these specifications.
 - .3 Establish, implement and maintain a respirator inspection and maintenance program in accordance with the CSA standard identified in the OHS Regulations.
 - .4 Copies of all respirator owners' maintenance manuals shall be kept at all times at the contractor's site office.
- .4 Provide and maintain a supply of dermal protection equipment to allow visitors and all workers proper dermal protection.
 - .1 Dermal protection shall be sufficient to act as a protective barrier between the skin and an airborne contaminant or hazardous material. Dermal protection shall also be provided for all physical hazards.
 - .2 Dermal protection equipment shall not be used after exceeding 75% of the break through time. The break through time shall be based on the contaminant which requires the least amount of time to break through the protective equipment
 - .3 Copies of all dermal protection user specifications, owners and maintenance manuals shall be kept at all times at the contractor's site office.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 25 of 34

- .4 Establish, implement and maintain air inspection program to ensure proper dermal protection in accordance with CSA, NIOSH, U.S. EPA and manufacturer's requirements.
- .5 Provide all workers and up to five (5) visitors to the site with proper hearing protection. Workers and visitors shall not be exposed to noise levels greater than 85 dB (A) over an eight hour shift without proper hearing protection, in accordance with the Hearing Conservation Program.
- .6 Provide all workers and up to five (5) visitors to the site with CSA approved eye protection sufficient to act as a protective barrier between the eye and airborne contaminants, hazardous materials and physical hazard.
- .7 Provide workers and up to five (5) visitors to the site with CSA approved hard hats meeting the CSA Z94.1.
- .8 Provide high visibility apparel as defined in Occupational Health and Safety Regulations.
- .9 Provide CSA approved safety boots meeting CSA Z195.
- .10 Provide other personal protective equipment, as may be required by the owner, depending on duties being performed.

1.24 TRAFFIC CONTROL

- .1 Provide traffic control measures when working on, or adjacent to, roadways in accordance with the Traffic Control Manual, latest edition, Department of Transportation and Infrastructure.
 - .1 This will include but is not limited to appropriate signage, traffic control persons and control vehicles.
- .2 Ensure daily completion of the Department of Transportation and Infrastructure, Traffic Control and Signage Log. The log will be submitted monthly with the Contractor Monthly Safety Performance Form and may be inspected randomly by DTI staff for completion and accuracy.
- .3 Complete hazard assessments for traffic control plans to identify hazards unique to the work (i.e., volume of heavy equipment, size of lanes and barriers to protect workers from traffic, additional decreases in posted speeds, etc.).
- .4 The Contractor shall ensure that traffic control persons have completed Traffic Control Person Level I training as certified by WorkplaceNL.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 26 of 34

- .5 The Contractor shall ensure that a competent individual is responsible for monitoring, maintaining and adjusting traffic control plans throughout the life of the project. This individual shall:
 - .1 Have completed Traffic Control Person Level II training as certified by WorkplaceNL.
 - .2 Be provided with authority and resources to ensure continuous monitoring of the worksite and revision of the traffic control plan when necessary.
 - .3 Be responsible to complete the Traffic Control and Signage Log to accompany the Contractor's Monthly Safety Performance Form requirements.
 - .4 Ensure compliance with Part XVI of the OHS Regulations 5/12.

1.25 EXCAVATION SAFETY

- .1 Protect excavations more than 1.25 metres deep against cave-ins or wall collapse by side wall sloping to the appropriate angle of repose, an engineered shoring/sheathing system or an approved trench box.
 - .1 Provide a ladder which can extend from the bottom of the excavation to at least 0.91 metres above the top of the excavation.
- .2 Ensure that all excavations less than 1.25 metres deep are effectively protected when hazardous ground movement may be expected.
- .3 Design trench boxes, certified by a registered Professional Engineer, and fabricated by a reputable manufacturer. Provide the manufacturer's Depth Certificate Statement permanently affixed. Use trench boxes in strict accordance with manufacturer's instructions and depth certification data.
- .4 For excavations deeper than six (6) metres, provide a certificate from a registered Professional Engineer stating that the protection methods proposed have been properly designed in accordance with accepted engineering practice. The engineer's certificate shall verify that the trench boxes, if used, are properly designed and constructed to suit the depth and soil conditions.
- .5 Ensure that the superintendent and every crew chief, foreperson and lead hand engaged in trenching operations or working in trenches have in his/her possession a copy of Occupational Health and Safety Regulations: Part XVII: Construction, Excavation and Demolition and Part XVIII: Excavation, Underground Work and Rock Crushing.

- .6 Ensure that the Department of Digital Government and Service NL, OHS Division signs off on excavations greater than five (5) meters.

1.26 BLASTING OPERATIONS

- .1 Ensure blasting operations are carried out under the direct visual supervision of a certified Blaster either registered with the Apprenticeship and Trades Certification Division of the Department of Immigration, Skills and Labour or has been issued a certificate from completion of a program approved by Department of Digital Government and Service NL. Ensure that the certificate level is appropriate for the blasting activities which will occur. Comply with the requirements of:
 - .1 Explosives Act.
 - .2 Explosives Regulations.
 - .3 Newfoundland Regulation 5/12, Occupational Health and Safety Regulations.
 - .4 Role of certified blaster set out in section 419 of the Occupational Health and Safety Regulations 5/12.
- .2 Store explosives in accordance with the “Explosives Act (Canada)” and transport, handle and use in the manner prescribed by the manufacturer of the substance and subject to specific regulations. An inventory of explosives shall be kept.
- .3 Ensure that workers required to transport explosives have a valid Transportation of Dangerous Goods Training Certification in accordance with the “Act to Promote Public Safety in the Transportation of Dangerous Goods, and the “Explosives Act (Canada)”. Vehicle used to transport explosives on site shall be placarded and explosives shall be transported in containers that are lined with non-sparking material (reference section 428 of the Occupational Health and Safety Regulations 5/12 comply with section 42. Detonators shall not be placed in a magazine or daybox with other types of explosives or in a compartment of a vehicle with another type of explosive.
- .4 Use of explosives on site shall comply with the Occupational Health and Safety Regulations 5/12 General Blasting requirements set out in Part XIX of the Regulations.
- .5 Loaded holes shall be clearly identified with barricades put in place to prevent access to the holes. Drilling shall not be done closer to a loaded bore hole than a distance half the total depth of the hole being drilled and in no case shall drilling be conducted at a distance closer than 6.0 m from a loaded borehole. Drill cuttings shall not be used as stemming material.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 28 of 34

- .6 Advise the public by suitable public notices, advertisements, house to house contacts etc. for blasting operations in close proximity to areas occupied by the public. Advise of the warning device to be sounded and the procedure to be used before detonation of individual blasts. Roads and approaches to the danger area to be guarded or barricaded to prevent anyone from entering. Loaded holes which have not been fired by the end of the day shall not be left unattended.
- .7 Prior to detonation of a blast, give sufficient warning in every direction and ensure that all persons have reached a place of safety before the blast is fired.
- .8 File an Emergency Response Assistance Plan with the Explosives Branch, Natural Resources Canada.
- .9 Blaster shall:
 - .1 Be solely responsible for implementation of the Explosives Management Program.
 - .2 Have a valid blaster's safety certificate from the Apprenticeship and Trades Certification Division of the Department of Immigration, Skills and Labour, and have a valid temporary Magazine License, when required issued by Natural Resources Canada, for storage and explosives.
 - .3 Possess a thorough working knowledge of the Federal Explosives Act and Provincial Regulations.
 - .4 Possess a specialized training in handling storage and detonation of explosives.
 - .5 Keep a field journal concerning the blasting activities.

1.27 CONFINED SPACE WORK

- .1 Comply with the Newfoundland and Labrador Occupational Health and Safety Regulations.
- .2 Ensure a hazard assessment has been conducted related to the confined space and the work to be performed within the space.
- .3 Provide approved air monitoring equipment where workers are working in confined spaces and ensure any test equipment to be used is calibrated, in good working order and used by trained persons.
- .4 Ensure all required PPE is provided to the workers and workers are trained in its use, care and selection.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 29 of 34

- .5 Develop a confined space entry (CSE) program specific to the nature of work performed and in accordance with OHS Act and Regulations and ensure supervisors and workers are trained in the confined space entry program. This shall include training on the CSE permit system, rescue plan, testing, communication equipment and all equipment and safe work procedures conducted in and around the confined space.
 - .1 Ensure that personal protective equipment and emergency rescue equipment appropriate to the nature of the work being performed is provided and used.
- .6 Provide and maintain training of workers through a provider certified by the Workplace NL.
- .7 Provide Owner with a copy of an “Entry Permit” for each entry into the confined space to ensure compliance Provincial Legislation.

1.28 HAZARDOUS MATERIALS

- .1 Should material resembling hazardous materials (e.g. asbestos/mould) not previously identified/documentated be encountered during the execution of work, stop work and notify Owner. Do not proceed until written instructions have been received from Owner.
- .2 Unless otherwise noted the services of a recognized Environmental Consultant to provide all air monitoring and testing services required by regulatory requirements for hazardous materials abatement and repair.

1.29 HEAVY EQUIPMENT

- .1 Ensure mobile equipment used on jobsite is of the type specified in OHS Act and Regulations fitted with a Roll Over Protective (ROP) Structure and Falling Object Protective (FOP) Structure.
- .2 Ensure that operators of mobile equipment have adequate instruction and are competent in the operation of mobile equipment.
- .3 Provide certificate of training in Power Line Hazards for operators of heavy equipment.
- .4 Obtain written clearance from the power utility where equipment is used in close proximity to (within 5.5 metres) overhead or underground power lines.
- .5 Equip cranes with:

- .1 A mechanism which will effectively prevent the hook assembly from running into the top boom pulley.
- .2 A legible load chart.
- .3 A maintenance log book.

1.30 TREE AND BRUSH CLEARING

- .1 Ensure workers using chain saws or brush saws wear the following safety equipment:
 - .1 CSA safety hat fitted with face screen or shield.
 - .2 Hearing protection, e.g. ear muffs.
 - .3 CSA approved chain saw pants.
 - .4 CSA approved chain saw boots.
 - .5 CSA approved eye protection.
 - .6 Cut resistant gloves.
- .2 Equip chain saws with a safety chain break.
- .3 A safe work practice (SWP) must be developed, implemented and all workers trained in the SWP prior to undertaking such tasks and utilizing tree and brush clearing equipment.

1.31 DIVING OPERATIONS

- .1 Ensure diving operations conform to CSA Z275.2 - Occupational Safety Code for Diving Operations and CSA Z275.4 - Competency Standard for Diving Operations.
- .2 Sampling:
 - .1 Prior to commencing diving activities, sample water and analyze sample(s) for:
 - .1 Fecal Coliforms (Escherichia coli).
 - .2 Total Coliforms.
 - .3 Any health hazard identified during the site specific hazard assessment.
 - .4 Any parameter as directed by the Department of Digital Government and Service NL, Government of Newfoundland and Labrador.
 - .2 Water will be designated a contaminant if the chemical concentration of a contaminant exceeds:
 - .1 200 fecal Coliforms (Escherichia coli) per 1000 milliliter of water.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 31 of 34

- .2 100 times the guidelines concentration established in the most recent Guidelines of Canadian Drinking Water Quality.
- .3 Any other criteria established by the Department of Digital Government and Service NL, Government of Newfoundland and Labrador.
- .3 Sample analysis is to be completed by a laboratory that is accredited by the Canadian Associates of Environmental and Analytical Laboratories (CAEAL) or other national equivalent.
- .4 Dive personnel must meet the minimum competency requirements of CSA 275.4.
 - .1 The Dive supervisor(s) shall as a minimum:
 - .1 Possess a Valid Category 1 Diving Certificate, or equivalent, for a minimum of three (3) years for the type of diving to be performed.
 - .2 Have completed one hundred and fifty (150) hours of logged diving time for the type of diving to be performed.
 - .3 Have completed fifty (50) hours of dive supervision for the type of diving to be performed.
 - .2 Diver(s) shall as a minimum:
 - .1 Possess a valid Category 1 Diving Certificate or equivalent, for the type of diving to be performed.
 - .2 Have completed fifty (50) hours of logged dive time for the type of diving to be performed.
- .5 A diving operation shall be interrupted or discontinued or not commenced when:
 - .1 Continuation of the diving operation would or is likely to compromise the safety of any person involved in the diving operation.
 - .2 The water currents at the underwater work site are likely to compromise the safety of any person involved in the diving operation.
 - .3 Combustible material is stored too close for safety to any diving plant and equipment used in the diving operation.
- .6 A diving operation shall:
 - .1 Not be conducted in the vicinity for any other activity that might pose a danger to any person involved in the diving operation.
 - .2 Not use any craft that has insufficient power or stability for the safe continuity of the diving operation.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 32 of 34

- .3 Provide measures for making work area boundary and stopping unauthorized entry into the work area.
- .4 Provide adequate illumination of the dive site and the underwater work site of the diving operation.
- .7 Provide, at the worksite while completing diving operations, a diving operations log book that is permanently bound and has numbered pages.
 - .1 Produce on request, any log books, records or other documentation associated with the diving operation, for inspection by Owner.
 - .2 As a minimum, for each diving operation enter into the diving operation logbook:
 - .1 date and time the diving operation commenced and terminated including any time the diving operation was interrupted
 - .2 name of supervisor; names of all other persons involved
 - .3 the procedures followed
 - .4 the decompression table and the schedule in that the decompression table was used
 - .5 the maximum depth, bottom time, dive time and total dive time for each dive
 - .6 the type of diving plant and equipment and the type of breathing mixture used
 - .7 the type of discomfort, injury or illness including decompression sickness, suffered by any person involved
 - .8 any environmental conditions that affected or might have affected the diving operation
 - .9 any other factors relevant to the safety to health of any person involved
- .8 Diving in free swim mode is not permitted at the work site.
- .9 Provide separate first aid supplies for dive operation. All dive team personnel shall be trained in first aid and cardiopulmonary resuscitation (CPR).
- .10 Provide medical oxygen for emergency response at work site. The dive supervisor shall be trained in administering medical oxygen.

1.32 WORKPLACE VIOLENCE AND HARASSMENT

- .1 Develop a Workplace Violence and Harassment Prevention Plan for the project that complies with the latest edition of the OHS Regulations.

1.33 WORKING OVER OR NEAR WATER

- .1 Where the risk of entering water is identified and other means of fall protection or rescue are not adequate to prevent the worker from entering the water, develop water rescue plans and ensure that workers on site are trained.
- .2 Keep and maintain a list of all persons trained in water rescue on site. This list shall be combined with other training records as required in a tabular or spreadsheet format listed throughout this Section.
- .3 Require that workers wear personal flotation devices where workers are at risk of entering the water.
- .4 Ensure that life-saving equipment is available near entry site for water rescue. This may include life boats, throw lines, life preservers, etc.

1.34 ACCESS, EGRESS AND WALKWAYS

- .1 Ensure that all accesses, egresses and walkways are continuously monitored for hazards which may include slips, trips, slippery conditions and other hazards.
- .2 Develop provisions for snow clearing of walkways, accesses and egresses.
- .3 Ensure that all access, egress hatches, holes or other potential hazards of this nature are clearly identified to workers and adequately covered.

1.35 RIGGING AND SLINGING

- .1 Ensure that workers required to perform work related to rigging and slinging are trained and deemed competent in such operations and practices.
- .2 Maintain and inspect all rigging and slinging equipment in accordance with manufacturers' specifications, CSA Standards and OHS Regulations.
- .3 Ensure that the working load limit of rigging and slinging equipment on site is marked and visible on the product.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 35 29.06 – Health and Safety
Requirements

Re-Issued 2022/10/11

Page 34 of 34

- .4 At a minimum, ensure that rigging and slinging operations meet the requirements of the OHS Act and Regulations.
- .5 Ensure that rigging and slinging equipment identified in daily inspections or otherwise identified as damaged, worn or unacceptable to manufacturers' specifications, appropriate standards or OHS Regulations is immediately taken out of service and destroyed.

1.36 WORK STOPPAGE

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

1.37 OWNER'S STATEMENT

- .1 The Owner shall not be responsible for injury or damage occasioned by a failure of the Contractor to adhere to the provisions of this Section.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

Contractor Information				
Contractor/Company Name				
Report Prepared By				
Report for Period		Beginning:	Ending:	
Project and Location				
Contact	Name		Contact Number	
Project Manager				
Contractor CSR				
Site Superintendent				
Monthly OHS Performance Indicators				
Lagging Indicators		Leading Indicators		
<i>Indicate the total within reporting period above</i>	Monthly Total	<i>Indicate the total within reporting period above</i>	Monthly Total	Records available
Lost Time Injuries		Tool Box Talks (safety specific)*		
Working Days Lost		OHS Committee/Rep Meetings*		
Return to Work Plans		Bi-Weekly Project Meeting		
First Aid Incidents		Site Safety Orientations		
Medical Aid Incidents		Weekly Site Inspections*		
Total Hours Worked (site)		Hazard Reports Submitted		
Accident /Incident reports*		Hazard Assessments Conducted*		
Accident Incident Investigations Conducted*		Traffic Control Signage Log Completed*		
		NLCSA Certificate of Recognition (COR)*		
OHS Division Activities				
OHS Division Inspections		OHS Division Directives Issued*		
Sub-Contractor Information				
Name sub-contractors working on site	Description of work conducted by sub-contractors		Days on site	COR Certified (Y/N)
Training Information				
Training conducted with staff	Brief description of training conducted with safety or work practice focus		Total staff trained	Records available (Y/N)
Equipment Maintenance				
Annual equipment inspections conducted (Y/N)	All equipment passed inspection (Y/N)	Records Available (Y/N)	Non-Routine maintenance required? Identify equipment	List maintenance conducted
Report completed on:		Signature:		

Please attach information pertaining to items highlighted with an asterisk ()*

Definitions

1. **Accident** – An undesired event resulting in death, ill health, damage or other loss.
2. **Accident/Incident Investigation** – An investigation by the employer into the root cause of an accident or incident to identify hazards and prevent workplace accidents/incidents from recurring.
3. **Accident/Incident Report** – all accidents and incidents must be reported, whether through an internal reporting structure or through the Workplace NL employers Form 7. All accidents of a serious nature must also be reported to the PHS Division within 24 hours (serious accidents as outlined in Section 54(3) of the OHS Act).
4. **First Aid Incident** – An occupational injury/illness that requires first aid treatment only and does not result in loss of time from work or restricted work.
5. **Incident** – An unplanned, undesired event that had the potential to cause injury or other damage.
6. **Lost-Time Injury** – An injury/illness resulting in Lost Days beyond the date of injury as a direct result of the occupational injury/illness incident on the project.
7. **Medical Aid incident** – A classification of occupational injury/illness for medical treatment beyond first aid injury where there has been no lost days, i.e., visit to a health care provider or hospital specific to the injury.
8. **Total Hours Worked** – Total number of hours of employment (i.e., the actual worked hours) of all employees for each contractor and sub-contractor companies for the reporting period specific to the project.
9. **Working Days Lost** – The number of calendar days that the employee is unable to work beyond the day of the injury specific to the project in which the injury occurred. Calculate total days for all employees working on the project.

Contractor Information			
Contractor/Company Name			
Report Prepared By			
Project and Location			
Contact	Name	Contact Number	
Project Manager			
Contractor CSR			
Site Superintendent			
Log No. _____			
Date/Time:		Number/Name of Signage Layout from TCM:	
Condition/Placement of Signage:			
Current/Expected Weather Conditions:		Signage/Equipment Adequate for work and Conditions (Y/N):	
Deficiencies Completed Prior to Start of Work (Signage Repairs, Replacements, Upgrading, etc.)			
Report Completed By:		Date/Time:	
TI Representative:		Date/Time:	
Log No. _____			
Date/Time:		Number/Name of Signage Layout from TCM:	
Condition/Placement of Signage:			
Current/Expected Weather Conditions:		Signage/Equipment Adequate for work and Conditions (Y/N):	
Deficiencies Completed Prior to Start of Work (Signage Repairs, Replacements, Upgrading, etc.)			
Report Completed By:		Date/Time:	
TI Representative:		Date/Time:	
Log No. _____			
Date/Time:		Number/Name of Signage Layout from TCM:	
Condition/Placement of Signage:			
Current/Expected Weather Conditions:		Signage/Equipment Adequate for work and Conditions (Y/N):	
Deficiencies Completed Prior to Start of Work (Signage Repairs, Replacements, Upgrading, etc.)			
Report Completed By:		Date/Time:	
TI Representative:		Date/Time:	
Log No. _____			
Date/Time:		Number/Name of Signage Layout from TCM:	
Condition/Placement of Signage:			
Current/Expected Weather Conditions:		Signage/Equipment Adequate for work and Conditions (Y/N):	
Deficiencies Completed Prior to Start of Work (Signage Repairs, Replacements, Upgrading, etc.)			
Report Completed By:		Date/Time:	
TI Representative:		Date/Time:	

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 01 35 43 – Environmental Procedures

Page 1 of 3

PART 1 GENERAL

1.1 FIRES

- .1 Fires and burning of rubbish on site not permitted.

1.2 DISPOSAL OF WASTES

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.3 DRAINAGE

- .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.4 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties where indicated.
- .2 Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2.0 m.
- .3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .4 Minimize stripping of topsoil and vegetation.
- .5 Restrict tree removal to areas indicated or designated by Owner.

1.5 WORK ADJACENT TO WATERWAYS

- .1 Do not operate construction equipment in waterways.
- .2 Do not use waterway beds for borrow material.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 01 35 43 – Environmental Procedures

Page 2 of 3

- .3 Do not dump excavated fill, waste material or debris in waterways.
- .4 Design and construct temporary crossings to minimize erosion to waterways.
- .5 Do not skid logs or construction materials across waterways.
- .6 Avoid indicated spawning beds when constructing temporary crossings of waterways.
- .7 Do not blast under water or within 100 m of indicated spawning beds.

1.6 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.7 NOTIFICATION

- .1 Owner will notify Contractor in writing of observed non-compliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of environmental protection. Contractor: after receipt of such notice, inform Owner of proposed corrective action and take such action as approved by Owner.
- .2 Owner may issue stop order of work until satisfactory corrective action has been taken.
- .3 No time extensions will be granted or equitable adjustments allowed to Contractor for such suspensions.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 01 35 43 – Environmental Procedures

Page 3 of 3

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

PART 1 GENERAL

1.1 SUMMARY

- .1 Where building related projects involve work that could potentially disturb asbestos or lead based paints, disturbances must be carefully controlled by registered abatement contractors in accordance with the Occupational Health and Safety Regulations (OHS) and other applicable Sections in this Contract. The purpose of this procedure is to ensure that nuisance dust, not containing asbestos or lead, is controlled in an effective manner.

- .2 Section includes:
 - .1 Ensuring any maintenance, repair, construction or renovation activity that impacts building materials or creates dust is performed in such a way as to eliminate, minimize, contain and clean up any and all dust generated by the activity. This applies to work preparation, work activities and post-work activities.
 - .2 This applies to, but is not limited to, the following types of dust generating activities:
 - .1 Disturbing gypsum board, plaster or other surfacing materials.
 - .2 Disturbing concrete or wood containing materials.
 - .3 Handling or disturbing fibrous building insulation.
 - .4 Generating welding fumes: in addition to the requirements of this procedure, a hot work permit is also required to be completed by the contractor and submitted to the Owner for review if hot work is required in an occupied building.

1.2 RELATED WORK

- .1 Division 1 – General Requirements.
- .2 Section 02 82 00.02 - Asbestos Abatement.
- .3 Section 06 10 53 – Miscellaneous Rough Carpentry.
- .4 Section 07 26 00 - Vapour Retarder.

1.3 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.205, Sealer for Application to Asbestos-Fibre-Releasing Materials.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .2 Canadian Standards Association (CSA)
 - .1 CAN/CSA Z317.13-F07, Infection Control During Construction, Renovation and Maintenance of Health Care Facilities.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Polyethylene sheet in accordance with Section 07 26 00 - Vapour Retarders.
- .2 Wood studs for stand-alone barriers in accordance with Section 06 10 53 - Miscellaneous Rough Carpentry.

PART 3 EXECUTION

3.1 PRE-WORK ACTIVITIES

- .1 The contractor shall ensure the following prior to commencing work:
 - .1 Specific dust generating activities and associated controls shall be addressed in the Site Specific Health and Safety Plan.
 - .2 Workforce, including sub-contractors, must be made aware of the site dust control requirements.
 - .3 Check the various work zones within the building and adjacent areas to confirm the area are clean.
 - .4 Access to all active work areas shall be restricted to authorized contractors.
 - .5 For occupied buildings, dust generating activities shall be performed after normal hours of operations, unless prior permission if received from the Owner.

3.2 WORK ACTIVITIES

- .1 Dust producing projects shall be classified as small scale, medium scale or large scale projects, as detailed in paragraph 3.3.
- .2 For all dust generating activities, Contractor is required to have Site Safety Officer present to ensure dust control procedures are properly followed.
- .3 Any dust related complaints brought to the Contractors attention, must be immediately reported to Owner, and an incident investigation must be initiated to prevent reoccurrence.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .4 Where practical, dust generation should be eliminated or minimized through the use of proper engineering controls (i.e. containment at source such as drilling wall surface through a wet sponge, wet suppression, use of HEPA vacuum equipped tools, etc).

- .5 Dust generating power tools shall be equipped with HEPA filtered dust collectors where practical. Power tools capable of generating dust without dust collection shall only be used in conjunction with suitable work area containment and with Owner's approval.

- .6 Walk-off mats shall be employed for medium and large scale dust generating projects at all worker entrances/exits. Purpose of these mats is to trap dust from equipment and shoes of personnel leaving the dust contaminated work zone. Mats shall be vacuumed daily, or more frequently as necessary, using HEPA filtered vacuums. Mats shall be of sufficient size to place both feet on mat at once.

3.3 PROJECT CLASSIFICATION

- .1 Class A - Small Scale Project: (Dust producing activities disturbing less than one (1) linear meter or one (1) square meter of material. These are small scale, short duration jobs generating minimal dust.
 - .1 Some examples include:
 - .1 Installing wires or cables, sanding/repairing small section of wall, cutting out gypsum board to install receptacles.
 - .2 Carry out Work as follows:
 - .1 Remove all furniture, fixtures and belongings from the work area to a minimum of 1.5 m in all directions.
 - .2 Restrict access to immediate work area. Keep all doors closed where practical. Post "Dust Hazard Area – Do Not Enter" signs at all entrances to work area. In common areas use barrier tape to establish the regulated area.
 - .3 Place a drop cloth of polyethylene sheeting immediately underneath the work area extending a minimum of 1.5 m in each direction (unless flooring is easily cleanable).
 - .4 Cover all air return or exhaust vents if within 1.5 m of the work area with polyethylene sheeting and duct tape.
 - .5 Complete the task, minimizing dust production, as prescribed in paragraph 3.2 - Work Activities.
 - .6 When the work is completed, wet-wipe polyethylene sheeting and flooring and if necessary, other areas close by with a damp rag.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .7 Visually inspect the area for any remaining dust and wet wipe as necessary.
 - .8 If installed, remove polyethylene sheeting from air return and exhaust vents.
 - .9 Where practical, transport debris after hours using least congested and most direct routes. If any debris is spilled outside the work area, immediately wet-wipe debris.
 - .10 Clean all tools and equipment before removal from the work area.
- .2 .Class B - Medium Scale Project (Dust producing activities disturbing greater than one (1) square meter and less than 30 square meters of material) with anticipated moderate dust levels that are typically one shift or more in duration.
- .1 Examples include:
 - .1 Sanding several sheets of gypsum board.
 - .2 Electrical work above ceiling tiles where general debris is known above the ceiling.
 - .3 Removing numerous ceiling tiles in an area.
 - .4 New wall construction.
 - .2 Carry out the Work as follows:
 - .1 Determine the most effective way of isolating the work area from occupants (i.e. using plastic barriers or by sealing off doors).
 - .2 Complete all items specified under small scale projects.
 - .3 While performing the work, limit the dust generated by removing the materials in sections, lightly misting the material as necessary. Debris shall be bagged immediately for disposal. In addition to wet wiping, HEPA filtered vacuum systems shall be employed where practical to limit airborne dust.
 - .4 When the task is completed, HEPA vacuum and/or wet wipe the polyethylene sheeting.
 - .5 Prior to removing any temporary wall partitions from floor to ceiling or polyethylene barriers, a final inspection shall be preformed by the Site Safety Officer or designate to ensure proper clean up has been completed. This inspection shall be documented by the Contractor and made available at the request of the Owner.
 - .6 Establishment of containment may result in the accumulation of dust within the enclosure. As such, the need for respiratory protection and decontamination would be greater

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

than for small scale projects (i.e. N95 half face respirator with tyvek body covering).

- .3 Class C - Large Scale Projects (Dust Producing Activities disturbing greater than 30 meters of material with anticipated high dust levels and typically involves multiple work shifts.
 - .1 Examples include:
 - .1 Major demolition or construction.
 - .2 Extensive renovations to wall or ceiling surfaces.
 - .3 Generating significant amounts of concrete dust.
 - .2 Carry out the Work as follows:
 - .1 Complete all items as prescribed under the Medium Scale Projects section.
 - .2 If the work produces dust that cannot be limited by removal in sections or misting and the work area configuration allows, use HEPA filtered negative air units with the intake directly across from the dust generating activity. Exhaust the HEPA unit outside the building.
 - .3 If using a disposal cart or container to transport debris within the building, ensure the lid is tightly secured and the wheels are clean prior to exiting the work area.
 - .4 If local source capture is employed (i.e. HEPA filtered power tool) and no significant debris anticipated then treat as a medium scale project.
 - .5 Negative air units shall be left operating at the completion of cleanup, for the duration stipulated in Table 4, CAN/CSA Z317.13-F07.
 - .6 Windows, doors, exhaust vents and supply intakes shall be sealed off in dust generating areas. Upper seals must be employed where necessary to prevent the spread of dust into adjacent areas.
 - .7 The contractor must be able to show that the work zone is negatively pressurized in relation to adjacent occupied areas.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 02 82 00.02 – Asbestos Abatement

1.2 REFERENCES AND CODES

- .1 Perform Work in accordance with National Building Code of Canada (NBC) including all amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Specific design and performance requirements listed in specifications or indicated on Drawings may exceed minimum requirements established by referenced Building Code; these requirements will govern over the minimum requirements listed in Building Code:
 - .1 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

1.3 HAZARDOUS MATERIAL DISCOVERY

- .1 Asbestos: stop work immediately should materials believed to contain asbestos be encountered in during the execution of the work and notify Owner. Do not proceed until written instructions have been received from Owner. Perform asbestos abatement and repair in accordance with Newfoundland and Labrador Asbestos Abatement Regulations, Latest Edition.
- .2 Mould: stop work immediately should material resembling mould be encountered during the execution of work and notify Owner. Do not proceed until written instructions have been received from Owner.

1.4 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions.

1.5 RELICS AND ANTIQUITIES

- .1 Protect relics, antiquities, items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during course of work.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/09/10 Section 01 41 00 – Regulatory Requirements

Page 2 of 2

- .2 Give immediate notice to Owner and await Owner's written instructions before proceeding with work in this area.
- .3 Relics, antiquities and items of historical or scientific interest remain Her Majesty's property.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- .1 Drawings and general provisions of this contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

1.2 INDUSTRY STANDARDS

- .1 Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made part of the Contract Documents by reference.
- .2 All construction industry standards referenced in this specification to meet the edition of the standard referenced by the National Building Code of Canada (NBC). If the construction industry standard is not referenced in the National Building Code of Canada (NBC), the latest edition of the standard shall apply.
- .3 Each entity engaged in construction on this Project must be familiar with construction industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Construction Documents.
 - .1 Where copies of construction industry standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available upon request.

1.3 ABBREVIATIONS AND ACRONYMS FOR INDUSTRY ORGANIZATIONS

- .1 Where abbreviations and acronyms are used, they shall mean the recognized name of the entities in the following list. Names are believed to be accurate and up-to-date as of the date of the Contract Documents.
- .2 Industry Organizations:
 - .1 Air Conditioning and Mechanical Contractors Association (AMCA).
 - .2 Air Conditioning and Refrigeration Institute (ARI).
 - .3 Americans with Disability Act (ADA).
 - .4 Air Movement and Control Association (AMCA).
 - .5 The Aluminum Association, Inc. (AA).

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 42 00 – References

Page 2 of 5

- .6 American Architectural Manufacturers Association (AAMA).
- .7 American Association of State Highway and Transportation Officials (AASHTO).
- .8 American Association of Textile Chemists and Colourists (AATCC).
- .9 American Bearing Manufacturers Association (ABMA).
- .10 American Boiler Manufacturer's Association (ABMA).
- .11 American Concrete Institute (ACI).
- .12 American Industrial Hygiene Association (AIHA).
- .13 American Institute of Steel Construction (AISC).
- .14 American Iron & Steel Institute (AISI).
- .15 American National Standards Institute (ANSI).
- .16 American Petroleum Institute (API).
- .17 American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
- .18 American Society of Mechanical Engineers (ASME).
- .19 American Society of Sanitary Engineer's (ASSE).
- .20 American Society for Testing and Materials (ASTM).
- .21 American Water Works Association (AWWA).
- .22 American Welding Society (AWS).
- .23 American Wood-Preservers' Association (AWPA).
- .24 Architectural Woodwork Institute (AWI).
- .25 Architectural Woodwork Manufacturers Association of Canada (AWMAC).
- .26 Asphalt Institute (AI).
- .27 Associated Air Balance Council (AABC).
- .28 Association of the Wall and Ceilings Industries International (AWEI).
- .29 Atomic Energy Control Board Regulations.
- .30 Brick Industry Association (BIA).
- .31 Building Industry Consulting Services International (BICSI).
- .32 Canada Green Building Council (CaGCB).
- .33 Canada Labour Code.
- .34 Canadian Council of Ministers of the Environment (CCME).
- .35 Canadian Code for Preferred Packaging.
- .36 Canadian Construction Materials Centre (CCMC).
- .37 Canadian Environmental Protection Act (CEPA).
- .38 Canadian Gas Association (CGA).
- .39 Canadian General Standards Board (CGSB).

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 42 00 – References

Page 3 of 5

- .40 Canadian Institute of Steel Construction (CISC).
- .41 Canadian Nursery Landscape Association (CNLA).
- .42 Canadian Paint Manufacturer's Association (CPMA).
- .43 Canadian Roofing Contractors' Association (CRCA).
- .44 Canadian Sheet Steel Building Institute (CSSBI).
- .45 Canadian Standards Association (CSA).
- .46 Canadian Steel Door and Frame Manufacturers' Association (CSDFMA).
- .47 Canadian Urethane Foam Contractors' Association Inc. (CUFCA).
- .48 Carpet and Rug Institute (CRI).
- .49 Ceramic Tile Institute (CTI).
- .50 Consumer Electronics Association (CEA).
- .51 Cooling Technology Institute (CTI).
- .52 Department of Justice Canada (Jus).
- .53 Electrical and Electronic Manufacturers' Association of Canada (EEMAC).
- .54 Electronic Industries Alliance (EIA).
- .55 Environment Canada (EC).
- .56 The Environmental Choice Program.
- .57 Environmental Protection Agency (EPA).
- .58 Environmental Protection Services (EPS).
- .59 ETL Listing Laboratories (ETL).
- .60 Factory Mutual (FM).
- .61 Federal Communications Commission (FCC).
- .62 Flat Glass Manufacturers Association (FGMA).
- .63 Green Seal Environmental Standards.
- .64 Health Canada - Workplace Hazardous Materials Information System (WHMIS).
- .65 Hydraulics Institute (HI).
- .66 Hydronic Institute of Boiler and Radiator Manufacturers (IBR).
- .67 Industry Canada - Terminal Attachment Program.
- .68 Institute of Electrical and Electronics Engineers (IEEE).
- .69 Institute for Research in Construction (IRC).
- .70 Insulated Cable Engineers Association (ICEA).
- .71 International ElectroTechnical Commission (IEC).
- .72 International Masonry Industry All-Weather Council (IMIAC).
- .73 International Standards Organization (ISO).
- .74 Laminators Safety Glass Association (LSGA).

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 42 00 – References

Page 4 of 5

- .75 Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS).
- .76 Master Painters Institute (MPI).
- .77 National Energy Code of Canada for Buildings (NECB).
- .78 National Association of Architectural Metal Manufactures (NAAMM).
- .79 National Association of Corrosion Engineers (NACE).
- .80 National Building Code of Canada (NBC).
- .81 National Bureau of Standards/Products Standard (NBS/PS).
- .82 National Electrical Manufacturers Association (NEMA).
- .83 National Environmental Balancing Bureau (NEBB).
- .84 National Fire Code of Canada (NFC).
- .85 National Fire Protection Association (NFPA).
- .86 National Floor Covering Association (NFCA).
- .87 National Hardwood Lumber Association (NHLA).
- .88 National Lumber Grades Authority (NLGA).
- .89 National Plumbing Code of Canada (NPC).
- .90 National Research Council Canada (NRC).
- .91 National Roofing Contractors Association (NRCA).
- .92 National Sanitation Foundation (NSF).
- .93 Newfoundland Occupational Health and Safety Act.
- .94 Plumbing and Drainage Institute (PDI).
- .95 Province of Newfoundland and Labrador Building Accessibility Regulations.
- .96 Provincial Boiler, Pressure Vessel and Compressed Gas Regulations.
- .97 Scientific Equipment and Furniture Association (SEFA).
- .98 Sealant and Waterproofer's Institute.
- .99 Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).
- .100 Society of Automotive Engineers (SAE).
- .101 The Society for Protective Coatings (SSPC).
- .102 South Coast Air Quality Management District (SCAQMD).
- .103 Telecommunications Distribution Methods Manual (TDMM).
- .104 Telecommunications Industries Association (TIA).
- .105 Terrazzo Tile and Marble Association of Canada (TTMAC).
- .106 Thermal Insulation Association of Canada (TIAC).
- .107 Transport Canada (TC).

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 42 00 – References

Page 5 of 5

- .108 Transport Canada - Marine Safety (TCMS).
- .109 Treasury Board of Canada (TB).
- .110 Treasury Board Information Technology Standard (TBITS).
- .111 Truss Plate Institute of Canada (TPIC).
- .112 Underwriters' Laboratories Inc. (UL).
- .113 Underwriter's Laboratories of Canada (ULC).
- .114 United States Federal Trade Commission (US Federal Trade Commission).
- .115 U.S. Coast Guard Equipment List (USCG).
- .116 U.S. Department of Transportation (DOT).
- .117 National Fireproofing Contractors Association (NFCA).

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 43 39 – Mock Up Requirements

Page 1 of 4

PART 1 GENERAL

1.1 SUMMARY

- .1 This Section includes general requirements for constructing field mock ups. Refer to technical sections for more product-specific mock up requirements.
- .2 Requirements for mock ups are supplemental to requirements for samples and field samples as specified in individual technical sections.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 45 00 – Quality Control.

1.3 DEFINITIONS

- .1 Mock ups: Full-size, physical example assemblies, constructed on-site, to illustrate finishes and materials. Mock ups are used to:
 - .1 Verify selections made under Sample submittals;
 - .2 Demonstrate aesthetic effects and, where indicated, qualities of materials and execution;
 - .3 Review construction, coordination, testing or operation;
 - .4 Show interference between dissimilar materials; and
 - .5 Demonstrate compliance with specified installation tolerances.
- .2 Mock ups are not Samples.

1.4 QUALITY ASSURANCE

- .1 Before installing portions of the Work requiring mock ups, build mock ups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed work:
 - .1 Build mock ups in location and of size and profile indicated, or if not indicated, as directed by Owner.
 - .2 Provide Owner minimum five (5) working days advance notice of dates and times when mock ups will be constructed and able to be inspected.
 - .3 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.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 43 39 – Mock Up Requirements

Page 2 of 4

- .4 Allow five (5) working days for Owner's initial review and re-review of each mock up.
- .5 Do not complete production of materials for final Project site until Owner's review of mock up has been obtained.
- .6 Where mock up is rejected, replace, rebuild and/or modify mock up as directed by the Owner.
- .7 Demonstrate the proposed range of aesthetic effects and workmanship.
- .8 Employ supervisory personal to oversee mock up construction. Employ same workers that will be employed during the construction of the Project.
- .9 Unless otherwise indicated, accepted mock ups establish the standard by which the Work will be judged.
- .10 Maintain mock ups during construction in an undisturbed condition as a standard of judging the completed Work.
- .11 Mock ups may remain part of the finished product, unless otherwise indicated.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

Note: Edit Mock Up Schedule to suit project.

Mock Up Schedule				
Section	Contractor Verification – Mock Up Complete	Date	Contractor Verification – Mock Up Review Requested	Date
04 05 00 - Common Work Results for Masonry				
04 20 00.08 - Masonry for Minor Works				
04 21 13 - Brick Unit Masonry				
04 22 00 - Concrete Unit Masonry				
04 23 00 - Glass Unit Masonry				
06 40 00 - Architectural Woodwork				
06 40 23.13 - Plastic Laminate Finishing for Interior Architectural Woodwork				
07 13 26 - Self Adhered Sheet Waterproofing				
07 21 29 - Sprayed Insulation – Polyurethane Foam				
07 26 00 - Vapour Retarders				
07 27 00.01 - Air Barriers – Descriptive or Proprietary				
07 42 23 - Composite Wall Panels				
07 52 00 - Modified Bituminous Membrane Roofing				
07 54 23 - Thermoplastic Polyolefin (TPO) Roofing				
07 81 00 - Applied Fireproofing				
07 84 00 - Firestopping				
07 92 00 - Joint Sealants				
08 44 13 - Glazed Aluminum Curtain Walls				
08 51 13 - Aluminum Windows				
08 62 00 - Plastic Skylights				
08 80 00 - Glazing				

**Mock Up Schedule
Required Sections**

09 01 90.62 - Exterior Re-Painting				
09 01 90.63 - Interior Re-Painting				
09 21 16 - Gypsum Board Assemblies				
09 30 13 - Ceramic Tiling				
09 30 15 - Quarry and Paver Tiling				
09 51 13 - Acoustic Panel Ceilings				
09 65 16 - Resilient Sheet Flooring				
09 65 20 - Safety Sheet Flooring				
09 72 16 - Vinyl Coated Fabric Wall Covering				
09 80 00 - Acoustic Treatment				
09 91 13 - Exterior Painting				
09 91 23 - Interior Painting				
10 21 13.13 - Metal Toilet Partitions				
12 20 00 - Curtains and Drapes				
12 59 13 - Panel Hung Component System Furniture				

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 01 45 00 – Quality Control

Page 1 of 4

PART 1 GENERAL

1.1 SECTIONS INCLUDE

- .1 Inspection and testing, administrative and enforcement requirements.
- .2 Tests and mix designs.
- .3 Mock-ups.
- .4 Mill tests.
- .5 Equipment and system adjust and balance.

1.2 RELATED SECTIONS

- .1 Section 01 21 00 – Allowances.
- .2 Section 01 33 00 – Submittal Procedures.
- .3 Section 01 43 39 – Mock Up Requirements.
- .4 Section 01 78 00 – Closeout Submittals.

1.3 INSPECTION

- .1 Allow Owner access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give 48 hours notice requesting inspection if Work is designated for special tests, inspections or approvals by Owner's instructions.
- .3 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.
- .4 Owner may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Owner shall pay cost of examination and replacement.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 01 45 00 – Quality Control

Page 2 of 4

1.4 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will be engaged by Owner for purpose of inspecting and/or testing portions of Work.
- .2 Allocated costs: to Section 01 21 00 – Allowances and Section 01 29 83 – Payment Procedures: Testing Laboratory Services.
- .3 Provide equipment required for executing inspection and testing by appointed agencies.
- .4 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .5 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Owner at no cost to Owner. Pay costs for retesting and reinspection.

1.5 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.6 PROCEDURES

- .1 Notify appropriate agency and Owner in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.7 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 Owner as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 01 45 00 – Quality Control

Page 3 of 4

- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Owner it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner may deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which shall be determined by Owner.

1.8 REPORTS

- .1 Submit 3 copies of inspection and test reports to Owner, plus electronic copies in PDF format.
- .2 Provide copy to Subcontractor of work being inspected or tested, manufacturer or fabricator of material being inspected or tested.
- .3 Include copy of all inspection and test reports in Commissioning Manuals.

1.9 MOCK-UPS

- .1 Refer to Section 01 43 39 for Mock Up Requirements.

1.10 EQUIPMENT AND SYSTEMS

- .1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.
- .2 Mechanical – coordinate with mechanical division.
- .3 Electrical – Coordinate with electrical division.

1.11 FIRE SEPARATIONS

- .1 Provide fire separation labelling/stenciling as per Sections 09 91 23 – Interior Painting and 09 01 90.63 – Interior Re-Painting.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 01 45 00 – Quality Control

Page 4 of 4

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 51 00 – Temporary Utilities

Page 1 of 5

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 52 00 - Construction Facilities.
- .2 Section 01 56 00 - Temporary Barriers and Enclosures.

1.2 INSTALLATION AND REMOVAL

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 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 WATER SUPPLY (*Edit to suit project*)

- .1 Arrange for connection with appropriate utility company and pay all costs for installation, maintenance and removal.
- .2 Owner will provide continuous supply of potable water for construction use. Contractor is responsible for connection at the source.

1.5 TEMPORARY HEATING AND VENTILATION (*Edit to suit project*)

- .1 Pay for costs of temporary heat and ventilation used during construction, including costs of installation, fuel operation, maintenance and removal of equipment. Use of direct, fired heaters discharging waste products into work areas will not be permitted unless prior approval is given by Owner.
- .2 Owner will provide and pay for temporary power during constructing for temporary lighting and operating of power tools, to the extent available on site. Contractor to connect to existing power supply in accordance with governing regulations and the Canadian Electrical Code, latest edition.
 - .1 Temporary power for equipment requiring in excess of above is responsibility of Contractor.
- .3 Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders are not permitted.
- .4 Provide temporary heat and ventilation in enclosed areas as required to:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 51 00 – Temporary Utilities

Page 2 of 5

- .1 Facilitate progress of Work.
- .2 Protect Work and products against dampness and cold.
- .3 Prevent moisture 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.
- .5 Maintain temperatures of minimum 10°C and relative humidity less than 60% in areas where construction is in progress.
 - .1 Maintain minimum temperature of 10°C or higher where specified as soon as finished work is commenced. Maintain until acceptance of structure by Owner.
 - .2 Maintain ambient temperature and humidity levels as required for comfort of office personnel.
- .6 Ventilating:
 - .1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied 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 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 operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .7 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.
- .8 Be responsible for damage to Work due to failure in providing adequate heat, humidity and protection during construction.
- .9 Use of new or existing systems for temporary heating, ventilating or air conditioning will not be permitted.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 51 00 – Temporary Utilities

Page 3 of 5

1.6 TEMPORARY POWER AND LIGHT

- .1 Provide and pay for temporary power during constructing for temporary lighting, heating, site construction trailers and operating of power tools in accordance with governing regulations and the Canadian Electrical Code, latest edition.
- .2 Arrange for connection with Utility company. Pay all costs for installation, maintenance and removal of cables, distribution and branch panel boards, poles, lighting, heating and general power receptacles as required.
- .3 Temporary power for electric cranes and other equipment requiring in excess of above is responsibility of Contractor.
- .4 Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floors and stairs is not less than 162 lx. Temporary lighting to consist of wiring, pig tail sockets and 75 watt shatterproof incandescent lamps to provide a minimum light level of 162 lux.
- .5 Electrical power and lighting systems installed under this contract may be used for construction requirements only with prior approval of Owner provided that guarantees are not affected. Make good damage to electrical system caused by use under this contract. Replace lamps which have been used for more than 3 months.
- .6 General contractor responsible for payment of all electrical energy charges associated with temporary power up to date of substantial completion.

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.
- .2 Burning rubbish and construction waste materials is not permitted on site.

1.8 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 area and premises in sanitary condition.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 51 00 – Temporary Utilities

Page 4 of 5

- .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 Owner.

1.9 TEMPORARY COMMUNICATION FACILITIES

- .1 Provide and pay for temporary telephone, fax, data hook up, lines and equipment necessary for own use and use of Owner.

1.10 SITE SIGN AND NOTICES

- .1 Contractor is responsible for the construction of job sign frame and the installation of the plywood job sign. Timber frame shall be constructed as specified and detailed on “Job Sign Support Frame Detail”. Plywood job sign shall be as per layout on “Job Sign Detail”. These drawings documents are published at <http://www.gov.nl.ca/ti/works/signs> under the Project Signs Link and is to be picked up by contractor at the Sign Shop, Department of Transportation and Infrastructure, White Hills, St. John’s, Newfoundland and Labrador. Plywood job sign and timber frame shall remain the property of the Owner and shall be disposed of at the discretion of the Owner.
- .2 Locate job sign as directed by Owner so as to ensure good visibility by passing traffic.
- .3 Construct timber job sign frame using two (2) 140 x 140mm timber posts set vertically in concrete to a ground depth of 1000mm or below the frost line, whichever is greater. Install three (3) 38 x 89mm horizontal timber braces, all as shown on “Job Sign Support Frame Detail” published at <http://www.gov.nl.ca/ti/works/signs> under the Project Signs Link. Attach plywood sign to timber frame using galvanized nails. Paint timber frame with two (2) coats of white paint if using untreated timber. Backfill compact and level ground around job sign frame to the satisfaction of the Owner.

1.11 REMOVAL OF TEMPORARY FACILITIES

- .1 Remove temporary facilities from site when directed by Owner.
- .2 When project is closed down at end of construction season keep temporary facilities operational until close down or removal is approved by Owner.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 51 00 – Temporary Utilities

Page 5 of 5

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 52 00 – Construction Facilities

Page 1 of 4

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Construction aids.
- .2 Office and sheds.
- .3 Parking.
- .4 Project identification.

1.2 RELATED SECTIONS

- .1 Section 01 35 29.06 – Health and Safety Requirements
- .2 Section 01 51 00 - Temporary Utilities.
- .3 Section 01 56 00 - Temporary Barriers and Enclosures.

1.3 INSTALLATION AND REMOVAL

- .1 Provide construction facilities in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.4 SCAFFOLDING

- .1 Provide and maintain scaffolding in rigid, secure and safe manner.
- .2 Erect scaffolding independent of walls. Remove promptly when no longer required. Refer to Section 01 35 29.06 – Health and Safety Requirements.

1.5 HOISTING

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

1.6 SITE STORAGE/LOADING

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 52 00 – Construction Facilities

Page 2 of 4

- .2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

1.7 CONSTRUCTION PARKING

- .1 Parking will be permitted on site provided it does not disrupt performance of work.
- .2 Provide and maintain adequate access to project site.
- .3 Build and maintain temporary roads where indicated or directed by Owner and provide snow removal during period of Work.
- .4 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads.

1.8 CONTRACTOR'S SITE OFFICES

- .1 Provide office heated to 22 °C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table, fax machine, telephone, file cabinet and chair. Provide an accessible washroom within the contractor's site office.
- .2 Accessible washroom, meeting space and entrance to contractor's site office to meet the accessibility requirements of the NL Accessibility Act and Regulations, and CSA B651, Accessible Design for the Built Environment.
- .3 Provide a clearly marked and fully stocked first-aid case in a readily available location.
- .4 Subcontractors may provide their own offices as necessary. Direct location of these offices.

1.9 OWNER'S SITE OFFICE

- .1 Provide temporary office for Owner.
- .2 Inside dimensions minimum 4.8 m long x 3 m wide x 2.4 m high, with floor 0.3 m above grade, complete with 4 - 50% opening windows and one lockable door. Door and access to the Owner's site office to meet the accessibility requirements of the NL Accessibility Act and Regulations, and CSA B651, Accessible Design for the Built Environment.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 52 00 – Construction Facilities

Page 3 of 4

- .3 Insulate building and provide heating system to maintain 22°C inside temperature at -20°C outside temperature.
- .4 Finish inside walls and ceiling with plywood, hardboard or wallboard and paint in selected colours. Finish floor with 19mm thick plywood.
- .5 Install electrical lighting system to provide min 750 lx using surface mounted, shielded commercial fixtures with 10% upward light component.
- .6 Site office to have washroom facility complete with running water and sewage disposal. Maintain supply of washroom supplies. Washroom to meet the accessibility requirements of the NL Accessibility Act and Regulations, and CSA B651, Accessible Design for the Built Environment.
- .7 Equip office with drawing laydown table, fax machine, file cabinet, two chairs, telephone, phone line for internet.
- .8 Maintain in clean condition.

1.10 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in a 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 a manner to cause least interference with work activities.

1.11 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 area and premises in sanitary condition.

1.12 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.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25 Section 01 52 00 – Construction Facilities

Page 4 of 4

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 01 56 00 Temporary Barriers
and Enclosures

Re-Issued 2010/09/02

Page 1 of 3

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Barriers.
- .2 Environmental Controls.
- .3 Traffic Controls.
- .4 Fire Routes.

1.2 RELATED SECTIONS

- .1 Section 01 51 00 – Temporary Utilities.
- .2 Section 01 52 00 – Construction Facilities.

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 HOARDING

- .1 Erect temporary site enclosures using 38 x 89 mm construction grade lumber framing at 600 mm centres, installed on 89 x 89 mm wood posts at 2400 mm centres or 50 mm dia. steel posts at 2400 mm centres. Posts to be placed in post holes filled with concrete to minimum 900 mm depth. Finish temporary site enclosures with 1200 x 2400 x 13 mm exterior grade fir plywood to CSA O121 or chain link fence fabric to Section 32 31 13 – Chain Link Fences and Gates.
- .2 Apply plywood panels or chain link fence fabric vertically flush and butt jointed.
- .3 Provide one lockable truck entrance gate and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys.
- .4 Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 01 56 00 Temporary Barriers
and Enclosures

Re-Issued 2010/09/02

Page 2 of 3

- .5 Paint public side of site enclosure in selected colours with one coat primer to CGSB 1.189M and one coat exterior paint to CGSB 1.59. Maintain public side of enclosure in clean condition.
- .6 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

1.5 GUARD RAILS AND BARRICADES

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

1.6 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 Erect enclosures to allow access for installation of materials and working inside enclosure.
- .4 Design enclosures to withstand wind pressure and snow loading.

1.7 DUST TIGHT SCREENS

- .1 Provide dust tight screens or insulated partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
- .2 Maintain and relocate protection until such work is complete.

1.8 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.
- .2 Build and maintain temporary roads where indicated or directed and provide snow removal during period on 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 Contractor's use of roads.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 01 56 00 Temporary Barriers
and Enclosures

Re-Issued 2010/09/02

Page 3 of 3

1.9 PUBLIC TRAFFIC FLOW

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect the public.

1.10 FIRE ROUTES

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

1.11 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.

1.12 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 Owner locations and installation schedule 3 days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Field engineering survey services to measure and stake site.
- .2 Survey services to establish and confirm inverts for Work.
- .3 Recording of subsurface conditions found.

1.2 QUALIFICATIONS OF SURVEYOR

- .1 Qualified registered land surveyor, licensed to practise in the Province of Newfoundland and Labrador.

1.3 SURVEY REFERENCE POINTS

- .1 Existing base horizontal and vertical control points are designated on drawings.
- .2 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
- .3 Make no changes or relocations without prior written notice to Owner.
- .4 Report to Owner when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- .5 Require surveyor to replace control points in accordance with original survey control.

1.4 SURVEY REQUIREMENTS

- .1 Establish permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
- .2 Establish lines and levels, locate and lay out, by instrumentation.
- .3 Stake for grading, fill placement.
- .4 Establish pipe invert elevations.
- .5 Stake batter boards for foundations.
- .6 Establish foundation column locations and floor elevations.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .7 Establish lines and levels for mechanical and electrical work.

1.5 EXISTING SERVICES

- .1 Where work involves breaking into or connecting to existing services, carry out work at times directed by authorities having jurisdiction, with minimum of disturbance to pedestrian and vehicular traffic.
- .2 Before commencing work, establish location and extent of service lines in area of Work and notify Owner of findings.
- .3 Remove abandoned service lines within 2.0 m of structures. Cap or otherwise seal lines at cut-off points as directed by Owner.

1.6 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 Owner 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 Owner.

1.7 RECORDS

- .1 Maintain a complete, accurate log of control and survey work as it progresses.
- .2 Record locations of maintained, re-routed and abandoned service lines.

1.8 SUBMITTALS

- .1 Submit name and address of Surveyor to Owner.
- .2 On request of Owner, submit documentation to verify accuracy of field engineering work.
- .3 Submit certificate signed by surveyor certifying and noting those elevations and locations of completed Work that conform and do not conform with Contract Documents.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18 Section 01 71 00 – Examination and Preparation

Page 3 of 3

1.9 SUBSURFACE CONDITIONS

- .1 Promptly notify Consultant in writing if subsurface conditions at Place of Work differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.
- .2 After prompt investigation, should Owner determine that conditions do differ materially, instructions will be issued for changes in Work.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 **GENERAL**

1.1 **SECTION INCLUDES**

- .1 Requirements and limitations for cutting and patching the Work.

1.2 **RELATED SECTIONS**

- .1 Section 01 11 00 - Summary of Work.
- .2 Section 01 33 00 - Submittal Procedures.

1.3 **SUBMITTALS**

- .1 Submit written request in advance of cutting or alteration which affects:
 - .1 Structural integrity of any element of Project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of any operational element.
 - .4 Visual qualities of sight-exposed elements.
 - .5 Work of Owner or separate contractor.
- .2 Include in request:
 - .1 Identification of Project.
 - .2 Location and description of affected Work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed Work, and products to be used.
 - .5 Alternatives to cutting and patching.
 - .6 Effect on Work of Owner or separate contractor.
 - .7 Written permission of affected separate contractor.
 - .8 Date and time work will be executed.

1.4 **PREPARATION**

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 01 73 00 – Execution

Page 2 of 3

- .5 Provide protection from elements for areas which may be exposed by uncovering work; maintain excavations free of water.
- .6 Obtain Owner's approval before cutting, boring or sleeving load-bearing members.

1.5 EXECUTION

- .1 Execute cutting, fitting, and patching including excavation and fill, to complete Work.
- .2 Fit several parts together, to integrate with other Work.
- .3 Uncover Work to install ill-timed Work.
- .4 Remove and replace defective and non-conforming Work.
- .5 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- .6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .7 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .8 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .9 Restore work with new products in accordance with requirements of Contract Documents.
- .10 Fit Work to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .11 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material in accordance with Section 07 84 00 - Firestopping, full thickness of the construction element.
- .12 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.
- .13 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.
- .14 Make cuts with clean, true, smooth edges.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 01 73 00 – Execution

Page 3 of 3

- .15 Where new work connects with existing, and where existing work is altered, cut, patch and make good to match existing work.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 GENERAL

1.1 GENERAL

- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .2 Store volatile waste in covered metal containers and remove from premises at end of each working day.
- .3 Provide adequate ventilation during use of volatile or noxious substances. Use for building ventilation systems is not permitted for this purpose.

1.2 RELATED SECTION

- .1 Section 01 77 00 - Closeout Procedures.

1.3 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.
- .2 Remove waste materials and debris from site at the end of each working day. Do not burn waste materials on site.
- .3 Clear snow and ice from access to building.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.
- .7 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .8 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .9 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .10 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 74 00 – Cleaning

Page 2 of 3

- .11 Provide and use marked separate bins for recycling. Refer to Section 01 74 21 – Construction/Waste Management and Disposal.
- .12 Dispose of waste materials and debris at designated dumping areas off site.

1.4 FINAL CLEANING

- .1 Refer to General Conditions.
- .2 When Work is Substantially Performed, 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 When the Work is Totally Performed, remove surplus products, tools, construction machinery and equipment. Remove waste products and debris other than that caused by the Owner or other Contractors.
- .5 Remove waste materials from the site at regularly scheduled times or dispose of as directed by the Owner. Do not burn waste materials on site.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Leave the work broom clean before the inspection process commences.
- .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 and ceilings.
- .10 Clean lighting reflectors, lenses, and other lighting surfaces.
- .11 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
- .12 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.
- .13 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2022/10/11

Section 01 74 00 – Cleaning

Page 3 of 3

- .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 roofs, gutters, downspouts and drainage systems. Clean areaways and sunken wells.
- .17 Sweep and wash clean paved areas.
- .18 Clean equipment and fixtures to a sanitary condition; clean or replace filters of mechanical equipment.
- .19 Remove snow and ice from access to building.
- .20 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 74 21 – Construction/Demolition Waste
Management and Disposal

Re-issued 2009/10/01

Page 1 of 4

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Text, schedules and procedures for systematic Waste Management Program for construction, deconstruction, demolition, and renovation projects, including:
 - .1 Diversion of Materials.
 - .2 Waste Audit (WA) - Schedule A.
 - .3 Waste Reduction Workplan (WRW) - Schedule B.
 - .4 Demolition Waste Audit (DWA) - Schedule C.
 - .5 Cost/Revenue Analysis Workplan (CRAW) - Schedule D.
 - .6 Materials Source Separation Program (MSSP).
 - .7 Canadian Governmental Responsibility for the Environment Resources - Schedule E.

1.2 DEFINITIONS

- .1 Demolition Waste Audit (DWA): Relates to actual waste generated from project.
- .2 Materials Source Separation Program (MSSP): Consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .3 Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others.
- .4 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .5 Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .6 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 74 21 – Construction/Demolition Waste
Management and Disposal

Re-issued 2009/10/01

Page 2 of 4

- .2 Returning reusable items including pallets or unused products to vendors.
- .7 Salvage: Removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .8 Separate Condition: Refers to waste sorted into individual types.
- .9 Source Separation: Acts of keeping different types of waste materials separate beginning from first time they became waste.

1.3 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)

- .1 Prepare MSSP and have ready for use prior to project start-up.
- .2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by authorities having jurisdiction.
- .3 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
- .4 Provide containers to deposit reusable and recyclable materials.
- .5 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
- .6 Locate separated materials in areas which minimize material damage.
- .7 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
 - .1 Transport to recycling facility.

1.4 STORAGE, HANDLING AND PROTECTION

- .1 Unless specified otherwise, materials for removal become Contractor's property.
- .2 Protect, stockpile, store and catalogue salvaged items.
- .3 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to approved local facility.
- .4 Protect structural components not removed for demolition from movement or damage.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 74 21 – Construction/Demolition Waste
Management and Disposal

Re-issued 2009/10/01

Page 3 of 4

- .5 Support affected structures. If safety of building is endangered, cease operations and immediately notify Department having jurisdiction.
- .6 Protect surface drainage, mechanical and electrical from damage and blockage.
- .7 Separate and store materials produced during dismantling of structures in designated areas.
- .8 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
- .1 On-site source separation is recommended.

1.5 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of any waste into waterways, storm, or sanitary sewers.
- .3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .4 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.

1.6 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Provide security measures approved by Owner.

1.7 SCHEDULING

- .1 Coordinate Work with other activities at site to ensure timely and orderly progress of Work.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 74 21 – Construction/Demolition Waste
Management and Disposal

Re-issued 2009/10/01

Page 4 of 4

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 APPLICATION

- .1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

3.2 CLEANING

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Source separate materials to be reused/recycled into specified sort areas.

3.3 DIVERSION OF MATERIALS

- .1 From following list, separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by Owner and consistent with applicable fire regulations.
 - .1 Mark containers or stockpile areas.
 - .2 Provide instruction on disposal practices.
- .2 On-site sale or distribution of salvaged materials to third parties is not permitted.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/02/07

Section 01 77 00 – Closeout Procedures

Page 1 of 2

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 74 00 - Cleaning.
- .2 Section 01 78 00 - Closeout Submittals.
- .3 Section 01 91 13.13 - Commissioning (Cx) Requirements.

1.2 FINAL INSPECTION AND DECLARATION PROCEDURES

- .1 Contractor's Inspection: The Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects; repair as required. Notify the Owner in writing of satisfactory completion of the Contractor's Inspection and that corrections have been made. Request an Owner's Consultant's Inspection.
- .2 Owner's Inspection: Owner and the Contractor will perform an inspection of the Work to identify obvious defects or deficiencies. The contractor shall correct Work accordingly.
- .3 Completion: submit written certificate that the 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 and balanced and are fully operational.
 - .4 Certificates required by Fire Commissioner, Utility companies have been submitted.
 - .5 Operation of systems have been demonstrated to Owner's personnel.
 - .6 Commissioning of building systems: completed in accordance with section 01 91 13.13 – Commissioning (Cx) Requirements and copies of final Commissioning Report submitted to Owner.
 - .7 Work is complete and ready for Final Inspection.
- .4 Final Inspection: When items noted above are completed, request final inspection of Work by the Owner, representative of DTI and the Contractor. If Work is deemed incomplete by the Owner, complete outstanding items and request a reinspection.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/02/07

Section 01 77 00 – Closeout Procedures

Page 2 of 2

- .5 Declaration of Substantial Performance: When the Owner considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for Certificate of Substantial Performance. Refer to General Conditions for specifics to application.
- .6 Commencement of Lien and Warranty Periods: The date of DTI acceptance of the submitted declaration of Substantial Performance shall be the date for commencement for the warranty period and commencement of the lien period.
- .7 Declaration of Total Performance: When the Owner considers final deficiencies and defects have been corrected and it appears requirements of the Contract have been totally performed, make application for certificate of Total Performance. Refer to General Conditions for specifics to application. If Work is deemed incomplete by the Consultant, complete the outstanding items and request a reinspection.

1.3 REINSPECTION

- .1 Should status of work require reinspection by Owner due to failure of work to comply with Contractor's claims for inspection, Owner will deduct amount of compensation for reinspection services from payment to Contractor.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 1 of 10

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 As-built, samples, and specifications.
- .2 Equipment and systems.
- .3 Product data, materials and finishes, and related information.
- .4 Operation and maintenance data.
- .5 Spare parts, special tools and maintenance materials.
- .6 Warranties and bonds.
- .7 Final site survey.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 71 00 - Examination and Preparation.
- .4 Section 01 77 00 - Closeout Procedures.
- .5 Section 01 91 13.13 - Commissioning (Cx) Requirements.

1.3 SUBMISSION

- .1 Prepare instructions and data using personnel experienced in maintenance and operation of described products.
- .2 Submit one copy of completed volumes in final form 15 days prior to final inspection.
- .3 Copy will be returned after final inspection, with Owner's comments.
- .4 Revise content of documents as required prior to final submittal.
- .5 Two weeks prior to Substantial Performance of the Work, submit to the Owner, two final copies of operating and maintenance manuals.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 2 of 10

- .6 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.
- .7 If requested, furnish evidence as to type, source and quality of products provided.
- .8 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .9 Pay costs of transportation.

1.4 FORMAT

- .1 Organize data in the form of an instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3 When multiple binders are used, correlate data into related consistent groupings. 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 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. Bind in with text; fold larger drawings to size of text pages.
- .9 Provide CAD files in DWG format on CD. Also provide electronic files in PDF format.

1.5 CONTENTS - EACH VOLUME

- .1 Table of Contents: provide title of project; names, addresses, and telephone numbers of Consultant and Contractor with name of responsible parties; schedule of products and systems, indexed to content of volume.
- .2 For each product or system:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 3 of 10

- .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 clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .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. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.
- .6 Training: Refer to Section 01 91 13.13 – Commissioning (Cx) Requirements.

1.6 AS-BUILTS AND SAMPLES

- .1 In addition to requirements in General Conditions, maintain at the site for Owner one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to the Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction. 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. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Owner.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 4 of 10

1.7 RECORDING ACTUAL SITE CONDITIONS

- .1 Record information on set of blue line opaque drawings, provided by Owner.
- .2 Provide felt tip marking pens, maintaining red color pens for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: legibly 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 Field changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not 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: submit manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.
- .7 At completion of project, provide all recorded information on print drawings. Transfer recorded information to AutoCAD files in DWG format. Submit DWG files, also with electronic files in PDF format as part of the Closeout Submittals.

1.8 FINAL SURVEY

- .1 Submit final site survey certificate certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 5 of 10

1.9 EQUIPMENT AND SYSTEMS

- .1 Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. 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. Include regulation, control, stopping, shut-down, and emergency instructions. 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
- .15 Additional requirements: As specified in individual specification sections.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 6 of 10

1.10 MATERIALS AND FINISHES

- .1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. 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.

1.11 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 site location as directed; place and store.
- .4 Receive and catalogue all items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit prior to final payment.

1.12 MAINTENANCE 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 site location as directed; place and store.
- .4 Receive and catalogue all items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit prior to final payment.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 7 of 10

1.13 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 project site place and store.
- .4 Receive and catalogue all items. Submit inventory listing to Owner. Include approved listings in Maintenance Manual.

1.14 STORAGE, HANDLING AND PROTECTION

- .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 to satisfaction of Owner.

1.15 WARRANTIES AND BONDS

- .1 Develop warranty management plan to contain information relevant to Warranties.
- .2 Submit warranty management plan to Owner's approval.
- .3 Warranty management plan to include required actions and documents to assure that Owner 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 Assemble approved information in binder and submit upon acceptance of work. Organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 8 of 10

- .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 the applicable item of work.
- .4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
- .5 Verify that documents are in proper form, contain full information, and are notarized.
- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.
- .6 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, transformers, and commissioned systems such as fire protection, alarm systems, sprinkler systems, lightning protection systems.
 - .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.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 9 of 10

- .12 Typical response time and repair time expected for various warranted equipment.
- .4 Procedure and status of tagging of equipment covered by extended warranties.
- .5 Post copies of instructions near selected pieces of equipment where operation is critical for warranty and/or safety reasons.
- .7 Respond in a timely manner to oral or written notification of required construction warranty repair work.
- .8 Written verification will follow oral instructions. Failure to respond will be cause for the Owner to proceed with action against Contractor.

1.16 PRE-WARRANTY CONFERENCE

- .1 Meet with Owner to develop understanding of requirements of this section. Schedule meeting prior to contract completion, and at time designated by Owner.
- .2 Owner will establish communication procedures for:
 - .1 Notification of construction warranty defects.
 - .2 Determine priorities for type of defect.
 - .3 Determine reasonable time for response.

1.17 WARRANTY TAGS

- .1 Tag, at time of installation, each warranted item. Provide durable, oil and water resistant tag approved by Owner.
- .2 Leave date of acceptance until project is accepted for occupancy.
- .3 Indicate 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.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2016/01/25

Section 01 78 00 – Closeout Submittals

Page 10 of 10

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)
Requirements

Re-Issued 2022/10/11

Page 1 of 19

PART 1 GENERAL

1.1 SUMMARY

- .1 Section Includes
 - .1 General requirements relating to commissioning of project's components and systems, specifying general requirements for Installation Verification and Performance Verification of components, equipment, sub-systems, systems, and integrated systems.
- .2 Acronyms
 - .1 CxA – Commissioning Authority.
 - .2 Cx – Commissioning.
 - .3 EMCS – Energy Monitoring and Control Systems.
 - .4 O&M – Operation and Maintenance.
 - .5 PV – Performance Verification.
 - .6 TAB – Testing, Adjusting and Balancing.
 - .7 GC – General Contractor
 - .8 TSI – Technical Services Inspector
 - .9 LEED - Leadership in Energy and Environmental Design

1.2 COMMISSIONING INTENT

- .1 Undertake Cx to bring the facility to a fully operational state and free of deficiencies in the most effective and timely manner available, ensuring the design intent is met by all systems.
- .2 Cx incorporates inspection and quality assurance activities as construction progresses, including start up, installation verification, performance verification, fine tuning, and operator training.
- .3 Bear all costs associated with the required personnel and test equipment as outlined in specification sections and Cx Manual and all costs with organizing and managing the activities of the applicable subtrades as identified in this section.
- .4 Fully document all tests and inspections performed during the construction, at start up, installation verification and performance verification and fine tuning. Incorporate into final commissioning documentation.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 2 of 19

- .5 Provide direct training to designated staff responsible for the operation and maintenance of the building equipment and systems.

1.3 RELATED SECTIONS

- .1 Section 01 45 00 - Quality Control.
- .2 Section 01 77 00 - Closeout Procedures.
- .3 Section 01 78 00 - Closeout Submittals.
- .4 Section 01 79 00.13 – Demonstration and Training for Building Commissioning.
- .5 Section 01 91 13.16 - Commissioning (Cx) Forms.

1.4 COMMISSIONING OVERVIEW

- .1 Cx is a planned program of tests, procedures and checks carried out systematically on systems and integrated systems of the finished project.
- .2 Cx is an intensive quality assurance process that begins at the beginning of the project and continues through to the first year of occupancy. The process focuses upon verifying and documenting that the facility and all of its systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the Owners Project Requirements.
- .3 Cx activities supplement field quality and testing procedures described in relevant technical sections.
- .4 Cx identifies issues in Planning and Design stages which are addressed during Construction and Cx stages to ensure the built facility is constructed and proven to operate satisfactorily under weather, environmental and occupancy conditions to meet functional and operational requirements. Cx activities include transfer of critical knowledge to facility operational personnel.
- .5 Complete inspection and verification activities as required by the specifications and Cx Manual as construction progresses.
- .6 Take responsibility to:
 - .1 Review the Cx manual with the commissioning team.
 - .2 Complete all items as identified in the Cx manual. This includes work by subcontractors, test agencies, equipment representatives and manufacturer agents.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 3 of 19

- .3 Review Contract Documents and inspect the Work to ensure completeness of the Work and compliance with the Contract Documents.
- .4 Correct deficiencies resulting from installation and performance verifications.
- .5 Test, adjust and balance equipment and systems identified in Divisions 2-44.
- .6 Submit the completed manual and project record documents as specified.
- .7 Update the documentation manuals prior to each project meeting.
- .7 The Substantial Completion Certificate will not be issued until the commissioning process is completed and the final reports and commissioning documentation are received.
- .8 The Cx Manual provides direction for the Cx process during design and construction, provides resolution for issues such as scheduling, roles and responsibilities, lines of communication and reporting, approvals and coordination.

1.5 COMMISSIONING TEAM

- .1 The commissioning team shall consist of: *(as applicable to project)*
 - .1 Department Representative(s):
 - .1 Design Manager (DM).
 - .2 Construction Manager (CM).
 - .3 Project Coordinator (PC).
 - .4 Engineer/Architect/Consultant (AE).
 - .5 Technical Services Inspectors (TSI).
 - .2 User Representatives/Owner.
 - .3 General Contractor (GC):
 - .1 Mechanical Contractor.
 - .2 Fire Protection Contractor.
 - .3 Controls Contractor (CC).
 - .4 Electrical Contractor.
 - .5 Fire Alarm Contractor.
 - .6 Security Systems Contractor.
 - .7 Communications Systems Contractor.
 - .4 Commissioning Authority (CxA).
 - .5 Manufacturer's Technicians.
 - .6 Testing Agencies.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 4 of 19

- .7 Building Manager (BM).
- .8 Design Consultant (DC).
- .2 Roles of the commissioning team shall be as follows:
 - .1 CxA (Commissioning Authority):
 - .1 Reviews Owner’s Project Requirements, Basis of Design and design documents at all stages of submittal and provides comments to the DM.
 - .2 Records all comments as history for the project commissioning.
 - .3 Produces the Commissioning Manual for review by the DM and DC, and modifies based on their comments as necessary.
 - .4 Provides “Issued for Construction” Commissioning Manual to the DM.
 - .5 Provides guidance on the Commissioning Process, and responsibilities of Commissioning Team members.
 - .6 Reviews contractor shop drawings for related commissioning information.
 - .7 Coordinates and chairs (in person or via teleconference) the commissioning kick-off meeting and progress meetings.
 - .8 Prepares and distributes the meeting agenda and minutes.
 - .9 Attends when necessary Installation Verification.
 - .10 Reviews completed Installation Verification checklists and signs off.
 - .11 Attends Performance Verification and signs off on check lists.
 - .12 Attends owner training sessions.
 - .13 Verifies that training is complete.
 - .14 Reviews completed Cx manual as submitted by the contractor.
 - .15 Prepares Summary Commissioning Report and submits to the CM.
 - .16 Prepares letter for CM indicating acceptance of the completed commissioning activities.
 - .17 Verifies that seasonal or deferred Commissioning is completed.
 - .18 Coordinates ten (10) month building review and issues occupant survey.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)
Requirements

Re-Issued 2022/10/11

Page 5 of 19

- .2 DM (Design Manager):
 - .1 Reviews Owner’s Project Requirements, Basis of Design and design documents at all stages of submittal. Compiles all comments from all reviewers and submits to document originator.
 - .2 Submits all documentation required by the CxA in a timely manner.
 - .3 Identifies Cx team members.
 - .4 Provides a list of equipment and systems included in the design to the CxA for inclusion in preliminary manual.
 - .5 Reviews Cx manual in draft and final revisions. Provides comments to the CxA as necessary on the Commissioning Manual.
 - .6 Forwards the Cx Manual for review by the DC, receives comments and issues them to the CxA.
 - .7 Ensures that the Cx Manual is issued with the tender documents.
 - .8 Issues IFC Cx Manual to the CM.
 - .9 Reviews contractor shop drawings and provide comments to the CM.
 - .10 Attends Cx kick-off meeting during the design phase.
 - .11 Attends commissioning progress meetings as required.
 - .12 Attends Installation Verification as required.
 - .13 Attends Cx Performance Verification or provides representative.
 - .14 Attends training sessions or sends representative knowledgeable in the design.
 - .15 Assists with ten (10) month building review.
- .3 CM (Construction Manager):
 - .1 Main contact for CxA during construction phase.
 - .2 Distributes “Issued for Construction” Cx Manual to GC.
 - .3 Notifies CxA of any Cx related issues raised during construction (i.e. change orders).
 - .4 Provides times during any project meetings to discuss Cx with the entire team.
 - .5 Attends Cx meetings (construction phase).
 - .6 Coordinates Cx schedule for Installation Verification and Performance Verification with GC and ensures all TI representatives are available to witness testing as required for Installation Verification and Performance Verification.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 6 of 19

- .7 Attend Performance Verification.
- .8 Ensures Cx Team is following/completing Cx Manual.
- .9 Coordinates training schedules, and arranges for video recording of sessions if required.
- .10 Reviews project record documents.
- .11 Ensures that O&M manuals, maintenance materials, as-built drawings and warranties have been submitted and reviewed.
- .12 Provides CxA with reviewed As Built documents, O&M Manuals, and Warranties for inclusion in the Summary Commissioning Report.
- .13 Receives the completed Cx Manual from the GC and submits to the CxA for review.
- .14 Receives the Summary Commissioning Report from the CxA and submits to the Owner.
- .15 Coordinates ten (10) month building review and issues occupant survey.
- .16 Verifies that all maintenance materials, spare parts and tools are received from the GC as per specifications.
- .4 BM (Building Manager):
 - .1 Reviews the Basis of Design developed by the DC and provides comments to the DM.
 - .2 Reviews all design documents and provides comments to the DM.
 - .3 Coordinates maintenance staff participation in Cx activities.
 - .4 Reviews O&M documentation and attends training.
 - .5 Attends all training sessions.
 - .6 Receives and retains a copy of the Commissioning Summary Report.
 - .7 Provides maintenance representatives to facilitate the 10 month building review as necessary.
 - .8 Attends commissioning meetings as necessary.
- .5 GC (General Contractor):
 - .1 Maintains as-built drawings on site during construction.
 - .2 Submits shop drawing in accordance with the specifications.
 - .3 Ensures the Cx Manual is on site and being completed and kept up to date by all sub-trades.
 - .4 Executes the Cx process ensuring that sub-trades perform their responsibilities and integrate Cx into the construction process.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 7 of 19

- .5 Ensures equipment manufacturers and vendors provide documentation to facilitate the Commissioning work and perform startups.
- .6 Coordinates and schedules Cx activities, submits schedule for review and comment by TI staff.
- .7 Conducts Installation Verification and signs off checklists.
- .8 Provides written confirmation all systems are operational prior to start of Performance Verification.
- .9 Conducts Performance Verification with all required Commissioning Team members present.
- .10 Ensures that all required personal are available for the verification.
- .11 Maintains an up to date version of the Cx manual on site with checklists completed on installed/operational systems.
- .12 Provides all required training.
- .13 Coordinates location, schedule.
- .14 Provides facilities (location, materials).
- .15 Ensures qualified factory trained technicians are available to facilitate training.
- .16 Provides copies of all training material.
- .17 Obtains occupancy approvals/permits.
- .18 Submits completed manual to CM.
- .19 Provides the following information for inclusion in the Commissioning Summary Report.
 - .20 Training Records.
 - .21 Operation and Maintenance Manuals.
 - .22 Warranties.
 - .23 Completed commissioning Checklists.
 - .24 List of spare parts turned over.
 - .25 Supplies maintenance materials and tools as per specification.
 - .26 Attends all commissioning meetings.
- .6 PC (Project Coordinator):
 - .1 If there is no PC assigned to the project, then these duties are completed by the CM.
 - .2 Attends Installation Verification and Performance Verification demonstrations.
 - .3 Ensures Cx manual is on site and kept up to date by the GC.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 8 of 19

- .4 Verifies maintenance materials are provided by the GC as per the contract documents.
- .5 Ensures GC is maintaining as-built drawings on site during construction.
- .6 Attends training sessions as necessary and directed by the CM.
- .7 Attends all commissioning meetings.
- .7 TSI (Technical Services Inspector):
 - .1 Attends Installation Verification and Performance Verification for equipment within their discipline.
 - .2 Signs off on commissioning checklists within their discipline.
 - .3 Attends training sessions as necessary and directed by the CM.
 - .4 Attends all commissioning meetings.
- .8 Sub Trades:
 - .1 Demonstrates correct system performance.
 - .2 Perform commissioning duties as directed by the GC.
- .9 DC (Design Consultant):
 - .1 Reviews the Owner Project Requirements and provides comment to the DM.
 - .2 Produces the Basis of Design and submits to the DM for review and comment. Revise as necessary based on comments and changes in Owner Project Requirements.
 - .3 Develops system descriptions and forwards to the CxA, for inclusion in the Cx Manual.
 - .4 Reviews drafts of the Cx Manual, including the installation and Performance Verification checklists, and provides comments to the DM.
 - .5 Provides project narrative for inclusion in the Cx Manual.
 - .6 The DC shall provide to the CxA a complete list of all equipment and information required to populate the commissioning checklists with the following information:
 - .1 identification number.
 - .2 location.
 - .3 type, proposed manufacture, make, model.
 - .4 operating parameter (max, normal, min).
 - .5 electrical requirements.
 - .6 control comments.
 - .7 other pertinent information.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 9 of 19

- .7 Incorporates commissioning specification into the project documents.
- .8 Reviews contractor shop drawing submittals.
- .9 Attends periodic site visits to ensure systems meet the design intent and operate as outline in the specifications.
- .10 Attends and signs off checklist for Installation Verification.
- .11 Attends Performance Verification and signs off on checklists for the appropriate discipline.
- .12 Develops and submits Systems Manuals to the CM (these will be included in the Commissioning Summary Report).
- .13 Provides system overview during training.
- .14 Attends training as required.
- .15 Attends commissioning meetings.
- .16 Attends ten (10) month building review activities.
- .10 Owner:
 - .1 Produces the Owner Project Requirements and submits to the DM.
 - .2 Reviews the Basis of Design developed by the DC and provides comments to the DM.
 - .3 Reviews all design documents and provides comments to the DM.
 - .4 Coordinates maintenance staff participation in Cx activities.
 - .5 Reviews O&M documentation and attends training.
 - .6 Attends all training sessions.
 - .7 Receives and retains a copy of the Commissioning Summary Report.
 - .8 Provides maintenance representatives to facilitate the ten (10) month building review as necessary.
 - .9 Attends commissioning meetings as necessary.

1.6 NON-CONFORMANCE TO PERFORMANCE VERIFICATION REQUIREMENTS

- .1 During Cx, should equipment, system components, and associated controls be identified as incorrectly installed, malfunctioning or not performing as per specifications, the contractor shall correct deficiencies, re-verify equipment and components within the system, including related systems as deemed necessary by the Owner, to ensure effective and accurate operation.
- .2 Minor deficiencies may be corrected at the time of identification. For systems requiring major repairs, the Commissioning Team shall move on

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 10 of 19

to the next system to be commissioning. The Contractor shall notify the CM when the work is complete.

- .3 Costs for corrective work, additional tests, inspections, to determine acceptability and proper performance of such items to be borne by Contractor.

1.7 CONFLICTS

- .1 Report conflicts between requirements of this section, other sections, and the Cx Manual to the CM to obtain clarification prior to the start of work.
- .2 Failure to report conflict and obtain clarification will result in application of most stringent requirement.

1.8 SUBMITTALS

- .1 Prior to starting Cx the Contractor shall provide a set of equipment and system submittals. These submittals are supplemented by the installation and start-up procedures, O&M data, performance data, control drawings and any changes that may affect commissioned systems.
- .2 Submit no later than four (4) weeks after award of Contract:
 - .1 Name of Contractor's Cx coordinator.
 - .2 Preliminary Cx schedule. Submit final Cx schedule to CxA for review prior to performance verification.
 - .3 Submit the names of all personnel for approval by the CxA. Designate who has managerial responsibilities for coordination of installation verification and performance verification.
 - .4 Submit documentation to confirm personnel compliance with quality assurance provisions.
- .3 Any changes to the information submitted must be re-submitted Ensure certified trades persons, certified testing agencies and/or factory authorized personnel participate in commissioning tasks.
- .4 Prior to start of Performance Verification:
 - .1 Submit TAB report to CxA for review.
 - .2 Submit start-up documentation to CxA for review.
 - .3 Submit completed Installation Verification checklists.
- .5 Fifteen (15) days prior to application for Substantial Completion:
 - .1 Submit three (3) copies of final commissioning manual and applicable forms to the CM for review.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 11 of 19

- .2 Submit reports of performance verifications postponed due to seasonal, climatic, occupancy, or other reasons beyond the Contractor's control, promptly after execution of those services.
- .6 Ensure each form bears the required signatures as indicated on the form.
- .7 Submit as-built drawings, schematics, O&M manuals, maintenance materials and warranties to CM for review.
- .8 Where structurally attached equipment is included in the scope of work, engage a third party Professional Structural Engineer, licensed to practice in the Province of Newfoundland and Labrador, for submission of stamped and signed shop drawings indicating acceptable mounting procedures for all equipment which is suspended, mounted or otherwise attached, as per Section 01 33 00 – Submittal Procedures. The Structural Engineer to also verify correct installation of the equipment.

1.9 COMMISSIONING DOCUMENTATION

- .1 Refer to Section 01 91 13.16 - Commissioning (Cx) Forms for requirements and instructions for use as well as the Cx Manual
- .2 Checklists will be provided to the Contractor by the CM during the construction stage.
- .3 Installing subcontractors are to date and initial the checklists as construction and verifications are completed.
- .4 The general contractor is to submit completed checklists to the CxA for review and acceptance.
- .5 Once all documents have been reviewed and accepted the general contractor shall submit final commissioning documents in electronic form (PDF) and original signed copies.

1.10 COMMISSIONING SCHEDULE

- .1 Submit preliminary Cx schedule in Gantt Chart format to CxA no later than four (4) weeks after award of contract. A sample Cx Schedule is provided in the Cx Manual.
- .2 Submit final Cx schedule in Gantt Chart format to CxA for review four (4) weeks prior to performance verification. A sample Cx Schedule is provided in the Cx Manual.
- .3 Provide adequate time for Cx activities prescribed in technical sections, commissioning sections and the Cx manual including all on site activities

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 12 of 19

as well as documentation procedures. Time should be allowed for re-verification should any system be rejected upon completion of initial verification.

- .4 Provide adequate time for training.

1.11 COMMISSIONING MEETINGS

- .1 The CM will convene Cx meeting consisting of all members of the design and construction teams to address building systems to be commissioned. Items to be discussed will include commissioning requirements, completion and start-up schedules, and roles and responsibilities.
- .2 CxA to make necessary updates and changes to the CxManual and deliver to the CM who will distribute to all other parties as necessary.
- .3 Convene Cx meetings following project meetings and as specified herein to resolve issues, monitor progress and identify deficiencies relating to Cx.
- .4 Continue Cx meetings on regular basis until commissioning deliverables have been addressed.
- .5 At 60% construction completion stage CxA to call a separate Cx meeting to review progress, discuss schedule of equipment start-up activities and prepare for Cx. Issues at meeting to include:
 - .1 Review duties and responsibilities of Contractor and subcontractors, addressing delays and potential problems.
 - .2 Determine the degree of involvement of trades and manufacturer's representatives in the commissioning process.
- .6 Thereafter Cx meetings to be held until project completion and as required during equipment start-up and functional testing period.
- .7 Meetings will be chaired by the CxA or CM, meeting minutes will be prepared and issued by the CxA or CM. Clarifications to the minutes must be submitted within 5 days of issue, after which, the issued set becomes the official project record.
- .8 Ensure subcontractors and relevant manufacturer representatives are present at 60% and subsequent Cx meetings and as required.

1.12 STARTING AND TESTING

- .1 Contractor assumes liabilities and costs for inspections, including disassembly and re-assembly after approval, starting, testing and

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 13 of 19

adjusting, and supply of testing equipment, and all associated costs of installation and performance verification.

1.13 WITNESSING OF STARTING AND TESTING

- .1 Provide twenty eight (28) days' notice prior to commencement.
- .2 Owner to witness start-up and testing.
- .3 Contractor's Cx Coordinator to be present at tests performed and documented by sub-trades, suppliers and equipment manufacturers.

1.14 MANUFACTURER'S INVOLVEMENT

- .1 The Contractor shall obtain manufacturers installation, start-up and operations instructions prior to start-up of components, equipment and systems.
 - .1 Compare completed installation with manufacturer's published data, record discrepancies, and review with manufacturer.
 - .2 Modify procedures detrimental to equipment performance and review same with manufacturer before start-up.
- .2 Integrity of warranties:
 - .1 Use manufacturer's trained start-up personnel where specified elsewhere in other divisions or required to maintain integrity of warranty.
 - .2 Verify with manufacturer that testing as specified will not void warranties.
- .3 Qualifications of manufacturer's personnel:
 - .1 Experienced in design, installation and operation of equipment and systems.
 - .2 Ability to interpret test results accurately.
 - .3 Ability to report results in clear, concise, logical manner.

1.15 PROCEDURES

- .1 Verify that equipment and systems are complete, clean, and operating in normal and safe manner prior to conducting Performance Verification.
- .2 Conduct Commissioning in following distinct phases:
 - .1 Included in delivery and installation:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 14 of 19

- .1 Verification of conformity to specification, approved shop drawings and completion of product information report forms.
- .2 Visual inspection of quality of installation.
- .2 Installation Verification: follow accepted start-up procedures.
- .3 Performance Verification: document equipment performance. Include repetition of tests after correcting deficiencies.
- .4 Post-substantial performance verification: to include fine-tuning.
- .3 Correct deficiencies and obtain approval from CxA after distinct phases have been completed and before commencing next phase.
- .4 Document required tests on checklists provided in the Cx Manual as well on any supplied Manufacturer forms.
- .5 Failure to follow accepted Commissioning Processes will result in re-evaluation of equipment by an independent testing agency selected by CxA. If results reveal that equipment Commissioning Process was not in accordance with requirements, and resulted in damage to equipment, implement following:
 - .1 Minor equipment/systems: if evaluation report concludes that damage is minor, implement corrective measures approved by CxA.
 - .2 Major equipment/systems: If evaluation report concludes that major damage has occurred, CxA shall reject equipment to be removed from site and replaced with new.
 - .3 Subject new equipment/systems to specified Commissioning Process

1.16 COMMISSIONING DOCUMENTATION

- .1 Assemble Installation Verification documentation and submit to CxA for approval before commencement of Performance Verification.
- .2 Installation Verification documentation to include:
 - .1 Factory and on-site test certificates for specified equipment.
 - .2 Inspection reports.
 - .3 Signed Installation Verification check lists.
 - .4 Start-up reports.
 - .5 Step-by-step description of complete start-up procedures, to permit the contractor or CxA to repeat start-up at any time.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 15 of 19

1.17 OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS

- .1 After Performance Verification, operate and maintain equipment and systems as directed by equipment/system manufacturer.
- .2 With assistance of manufacturer develop written maintenance program and submit to CxA for approval before implementation.
- .3 Operate and maintain systems for minimum twenty one (21) days for commissioning to be completed.
- .4 After completion of commissioning, operate and maintain systems until issuance of Substantial Completion

1.18 TEST RESULTS

- .1 If start-up, testing and/or performance verification produce unacceptable results, repair, replace or repeat specified starting and/or performance verification procedures until acceptable results are achieved.
- .2 Provide personnel, resources and materials, assume all costs for re-verification.

1.19 INSTRUMENTS / EQUIPMENT

- .1 Submit to CxA for review and approval:
 - .1 Complete list of instruments proposed to be used.
 - .2 Listed data including, serial number, current calibration certificate, calibration date, calibration expiry date and calibration accuracy.
- .2 Provide all required equipment to complete commissioning.
- .3 Provide all Arc Flash Personal Protective Equipment as required. Provide commissioning personnel with the appropriate Arc Flash Protection training.

1.20 PERFORMANCE VERIFICATION

- .1 Notify CxA at least twenty eight (28) days prior to start of Performance Verifications.
- .2 Start Performance Verification after elements of building affecting start-up and performance verification of systems have been completed.
- .3 Ensure all HVAC systems have been thoroughly cleaned.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 16 of 19

- .4 Conduct performance verification once identified pre-requisite activities are completed for a system and approved by the CxA.
- .5 Test all building systems including architectural, structural, civil, mechanical and electrical components and operating procedures by challenging these systems to realistic operating conditions and train operational staff.
- .6 Run systems through all sequences of operation and verify response of components.
- .7 Notwithstanding all-inclusive requirements specified in this section, additional separate commissioning may be required at a later date for equipment and systems whose full operation is dependent on seasonal conditions. Job conditions for Peak Performance Verification are as follows:
 - .1 Summer sequence commissioning to take place between June 1st and September 15th when outside ambient temperatures are at least 22°C;
 - .2 Winter sequence commissioning to take place between November 1st and March 31st when outside ambient temperature is no greater than minus 10°C.
- .8 Carry out Cx:
 - .1 Under actual operating conditions, over entire operating range, in all modes.
 - .2 On independent systems and interacting systems.
- .9 Cx procedures to be repeatable and reported results are to be verifiable.
- .10 Follow equipment manufacturer's operating instructions.
- .11 EMCS trending to be available as supporting documentation for performance verification.
- .12 Contractor to obtain all documentation, including updated points list, controls sequences and setpoints, and submit documentation to commissioning authority for review. At completion of commissioning, scan completed manuals to electronic format on CD(s) in PDF format as required and submit to CxA.

1.21 WITNESSING COMMISSIONING

- .1 CxA along with designated representatives to witness activities and verify results.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 17 of 19

1.22 AUTHORITIES HAVING JURISDICTION

- .1 Where specified start-up, testing or commissioning procedures duplicate verification requirements of authority having jurisdiction, arrange for authority to witness procedures so as to avoid duplication of tests and to facilitate expedient acceptance of facility.
- .2 If the CxA is not available to witness, the certificates of approval from the Authority Having Jurisdiction will be accepted as adequate.
- .3 Obtain certificates of approval, acceptance and compliance with rules and regulation of authority having jurisdiction.
- .4 Provide copies to CxA within five (5) working days of test and with Cx report.

1.23 REPEAT VERIFICATIONS

- .1 Assume costs incurred by Owner's Commissioning representatives for second and subsequent verifications where:
 - .1 Verification of reported results fails to receive CxA's approval.
 - .2 Repetition of second verification again fails to receive approval.
 - .3 CxA deems Contractor's request for second verification was premature.

1.24 DEFICIENCIES, FAULTS, DEFECTS

- .1 Report problems, faults or defects affecting Cx to the Owner in writing. Stop Cx until problems are rectified. Proceed with written approval from CxA.
- .2 Correct deficiencies found during start-up and Cx to satisfaction of CxA.

1.25 COMPLETION OF COMMISSIONING

- .1 Upon completion of Cx leave systems in normal operating mode.
- .2 Except for warranty and seasonal verification activities, complete Cx prior to application for Substantial Completion.
- .3 Cx to be considered complete when all Cx deliverables have been submitted and accepted by CxA.
- .4 The CxA is to compile a Final Commissioning Report summarizing all tasks, findings and documentation of the commissioning process. The Final Commissioning Report is to incorporate all test reports by sub-

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 18 of 19

contractors, manufacturer's and controlling authorities including the following list. The Contractor shall turn over all materials per this specification.

- .1 Evaluation of operating condition of the systems at the time of functional test completion.
- .2 Deficiencies that were discovered and measures taken to correct them.
- .3 Functional test procedures and results.
- .4 Documentation of all commissioning field activities as they progressed.
- .5 Description and estimated schedule of required deferred testing.
- .5 The Contractor to provide O&M manuals, maintenance materials, warranties and training records.

1.26 ACTIVITIES UPON COMPLETION OF COMMISSIONING

- .1 When changes are made to baseline components or system settings established during Cx process notify the CxA. The CxA will update and provide Cx forms for affected item.

1.27 TRAINING

- .1 In accordance with Section 01 79 00.13 – Demonstration and Training for Building Commissioning, the Cx Manual and respective technical sections.

1.28 MAINTENANCE MATERIALS, SPARE PARTS, SPECIAL TOOLS

- .1 Supply, deliver, and document maintenance materials, spare parts, and special tools as specified in contract. Provide transmittal documenting all materials provided.

1.29 OCCUPANCY

- .1 Cooperate fully with CxA during stages of acceptance and occupancy of facility.

1.30 PERFORMANCE VERIFICATION TOLERANCES

- .1 Application tolerances:
 - .1 Specified range of acceptable deviations of measured values from specified values or specified design criteria, except for special areas, to be within +/- 5 % of specified values.
- .2 Instrument accuracy tolerances:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.13 – Commissioning (Cx)

Re-Issued 2022/10/11

Requirements

Page 19 of 19

.1 To be of higher order of magnitude than equipment or system being tested.

.3 Measurement tolerances during verification:

.1 Unless otherwise identified, recorded values to be within +/- 2 % of specified values.

1.31 OWNER'S PERFORMANCE TESTING

.1 Performance testing of equipment or system by CxA will not relieve Contractor from compliance with specified start-up and testing procedures.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 SCHEDULE

.1 Provide a detailed schedule as per this section for on-site verification activities by the commissioning team based on the Cx Manual provided by the CxA. Be responsible for resource allocation respecting the exact number and duration for personnel required to perform the tasks required.

.2 This schedule shall be submitted with the general construction schedule monthly. The level of detail shall increase as the construction progresses.

3.2 COMMISSIONING TASKS

.1 Refer to the Cx Manual provided by the CxA for a list of tasks to be conducted for the commissioning process. Further specifics are provided within applicable specification sections.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.16 – Commissioning (Cx)

Re-Issued 2019/02/07

Forms

Page 1 of 2

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Commissioning forms to be completed for equipment, systems and integrated systems.

1.2 RELATED SECTIONS

- .1 Section 01 78 00 – Closeout Submittals.
- .2 Section 01 79 00.13 – Demonstration and Training for Building Commissioning.
- .3 Section 01 91 13.13 – Commissioning (Cx) Requirements.

1.3 INSTALLATION VERIFICATION CHECK LISTS

- .1 Prior to initiation of Performance Verification the CxA will develop and provide to the contractor the required project specific Cx Manual which will include the Installation Verification check lists.
- .2 Completed Installation Verification Checklists to be submitted to CxA for review and approval.
- .3 Include the following data:
 - .1 Product manufacturer's installation instructions and recommended checks.
 - .2 Special procedures as specified in relevant technical sections.
 - .3 Items considered good installation and engineering industry practices deemed appropriate for proper and efficient operation.
- .4 Equipment manufacturer's installation/start-up check lists are acceptable for use in conjunction with installation verification check lists forming part of the Cx manual. Manufacturer's check sheets used must be attached to final document submittals.
- .5 Installer to sign check lists upon completion, certifying stated checks and inspections have been performed. Completed check lists to be submitted by the contractor at completion of the Commissioning Process.
- .6 Use of check lists will be considered part of commissioning process.

1.4 PERFORMANCE VERIFICATION CHECK LISTS

- .1 The CxA will develop and provide to the Contractor the required project specific Cx Manual including the Performance Verification check lists.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 01 91 13.16 – Commissioning (Cx)

Re-Issued 2019/02/07

Forms

Page 2 of 2

- .2 Completed Performance Verification Checklists to be submitted to CxA for review and approval.

- .3 Strategy for Use:
 - .1 Contractor will provide required shop drawings information and verify correct installation and operation of items indicated on these forms.
 - .2 Confirm operation as per design criteria and intent.
 - .3 Identify variances between design and operation and reasons for variances.
 - .4 Verify operation in specified normal and emergency modes and under specified load conditions.
 - .5 Record analytical and substantiating data.
 - .6 Verify reported results.
 - .7 Form to bear signatures of recording technician and reviewed and signed off by General Contractor, Installing Contractor, Consultant, DTI Representative, and the Commissioning Agent.
 - .8 Reported results in true measured SI (metric) unit values.
 - .9 Maintain copy on site during start-up, testing and commissioning period.
 - .10 Forms to be both hard copy and electronic format.

- .4 Upon completion of Performance Verification the contractor shall submit all completed checklists to the CxA.

- .5 Final submittal shall include all Installation Verification, Performance Verification check lists, training records, maintenance materials transmittals, written warranties and a list of all Cx activities postponed due to seasonal, climatic, occupancy, or other reasons beyond the contractor's control.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

PART 1 GENERAL

1.1 SUMMARY

- .1 This Section includes requirements for the following:
 - .1 Demolition and removal of buildings and structures.
 - .2 Demolition and removal of site improvements adjacent to a building or structure being demolished.
 - .3 Demolition and removal of concrete foundations and piles.
 - .4 Abandoning in place and removing below grade construction.
 - .5 Disconnecting, capping or sealing, and abandoning in place or removing site utilities.

1.2 RELATED SECTIONS

- .1 Section 01 11 00 - Summary of Work
- .2 Section 01 35 29.06 - Health and Safety Requirements
- .3 Section 01 35 43 - Environmental Procedures
- .4 Section 01 52 00 - Construction Facilities
- .5 Section 01 56 00 - Temporary Barriers and Enclosures
- .6 Section 01 74 21 - Construction/Demolition Waste Management and Disposal
- .7 Section 02 41 13 - Selective Site Demolition
- .8 Section 02 41 19.16 - Selective Interior Demolition
- .9 Section 02 41 99 - Demolition for Minor Works

1.3 REFERENCES

- .1 Canadian Standards Association (CSA).
 - .1 CSA S350, Code of Practice for Safety in Demolition of Structures
- .2 Department of justice Canada (Jus)
 - .1 Canadian Environmental Assessment Act (CEAA)
 - .2 Canadian Environmental Protection Act (CEPA)
- .3 National Fire Protection Association (NFPA)

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/09/10

Section 02 41 16 - Structure Demolition

Page 2 of 9

- .1 NFPA 241-13, Standard for Safeguarding Construction, Alteration, and Demolition Operations
- .4 National Research Council Canada (NRC)
 - .1 National Building Code of Canada (NBC)

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Coordinate with Owner for the material ownership as follows:
 - .1 Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property. Demolished materials shall become Contractor's property and shall be removed from Project site.
 - .2 Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during demolition remain Owner's property:
 - .1 Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.
 - .2 Coordinate with Owner, who will establish special procedures for removal and salvage operations.
- .2 Convene pre-installation meeting one week prior to beginning work of this section to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Verify existing site conditions adjacent to demolition work.
 - .4 Coordinate with other construction sub trades.
 - .5 Arrange for site visit with Owner to examine existing site conditions adjacent to demolition work, prior to start of Work.
- .3 Hold project meetings every month.
 - .1 Ensure key personnel, site supervisor, project manager, subcontractor representatives attend.
- .4 Scheduling:
 - .1 Employ necessary means to meet project time lines without compromising specified minimum rates of material diversion.
 - .2 Notify Owner in writing when unforeseen delays occur.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

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

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/09/10

Section 02 41 16 - Structure Demolition

Page 3 of 9

- .2 Provide the following submittals before starting any work of this Section.
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Newfoundland and Labrador as follows:
 - .2 Demolition drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning.
 - .3 Submit schedule of demolition activities indicating:
 - .1 Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
 - .2 Interruption of utility services.
 - .3 Coordination for shutoff, capping, and continuation of utility services.
 - .4 Locations of temporary partitions and means of egress.
 - .4 Submit a plan of demolition area indicating extent of temporary facilities and supports, methods of removal and demolition prepared by a professional engineer in accordance with requirements of Authority Having Jurisdiction.
 - .5 Submit information for companies and personnel indicating their capabilities and experience to perform work of this Section including; but not limited to, lists of completed projects with project names and addresses, for work of similar complexity and extent.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.7 EXISTING CONDITIONS

- .1 Should material resembling spray or trowel applied asbestos or any other designated substance be encountered in course of demolition, stop work, take preventative measures, and notify Owner immediately. Do not proceed until written instructions have been received.
- .2 Structures to be demolished to be based on their condition on date that tender is accepted.
- .3 Salvage items identified by Owner. Remove, protect and store salvaged items as directed by Owner. Deliver to Owner as directed.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/09/10

Section 02 41 16 - Structure Demolition

Page 4 of 9

1.8 ENVIRONMENTAL PROTECTION

- .1 Ensure work is done in accordance with Section 01 35 43 – Environmental Procedures.
- .2 Prevent movement, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, adjacent grades parts of existing building to remain.
- .3 Support affected structures and, if safety of structure being demolished or adjacent structures or services appears to be endangered cease operations and notify Owner.
- .4 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.
- .5 Ensure that demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- .6 Fires and burning of waste or materials is not permitted on site.
- .7 Do not bury waste or materials on site.
- .8 Do not dispose of waste or volatile materials such as mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers. Ensure proper disposal procedures are maintained throughout project.
- .9 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers, or onto adjacent properties.
- .10 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authorities' requirements.
- .11 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .12 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.
- .13 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.
- .14 Conduct structure demolition so Owner's operations will not be disrupted.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/09/10

Section 02 41 16 - Structure Demolition

Page 5 of 9

- .1 Provide not less than three (3) days' notice to Owner of activities that will affect operations.
- .2 Maintain access to existing walkways, exits, and other adjacent occupied or used facilities:
 - .1 Do not close or obstruct walkways, exits, or other occupied or used facilities without written permission from Owner.

1.9 RODENT CONTROL

- .1 Engage the services of a professional Pest Control Firm to survey the building and immediate areas to ascertain presence of any pests that would be impacted by removal and demolition activities. The Pest Control Firm will take measures to properly abate any such noted pests in accordance with regulatory requirements and provide certification that building areas are free and clear prior to commencement of building abatement and removal activities.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Survey existing conditions and correlate with requirements indicated to determine extent of structure demolition required.
- .2 Inventory and record the condition of items being removed and salvaged.
- .3 When unanticipated mechanical, electrical, or structural elements are encountered, investigate and measure the nature and extent of the element.
- .4 Perform engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during structure demolition operations.

3.2 PREPARATION

- .1 Do work in accordance with 01 35 29.06 – Health and Safety Requirements.
- .2 Disconnect electrical and telephone service lines entering buildings to be demolished. Post warning signs on electrical lines and equipment which

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/09/10

Section 02 41 16 - Structure Demolition

Page 6 of 9

must remain energized to serve other properties during period of demolition.

- .3 Disconnect and cap designated mechanical services.
 - .1 Sewer and water lines: remove to property line.
 - .2 Other underground services: remove and dispose of as directed by Owner.
- .4 Do not disrupt active or energized utilities designated to remain undisturbed.
- .5 Remove rodent and vermin as required by Owner.

3.3 SAFETY CODE

- .1 Do demolition work in accordance with Section 01 56 00 – Temporary Barriers and Enclosures.
- .2 Blasting operations not permitted during demolition.

3.4 DEMOLITION

- .1 Demolish foundation walls to minimum of 300mm below finished grade.
- .2 Demolish foundation walls and footings, and concrete floors below or on grade.
- .3 Break 100mm holes per 10m² area in concrete slabs which are not to be removed, to prevent accumulation of water. Keep floor drains open if permanent drainage still connected.
- .4 Pieces of concrete and masonry not larger than 200 mm broken from demolition work may be used as backfill in open basements on excavations provided voids are filled. Keep demolition fill 300 mm below finished grade level. Do not backfill basement areas until inspected by Owner.
- .5 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
- .6 At end of each day's work, leave Work in safe and stable condition. Protect interiors of parts not to be demolished from exterior elements at all times.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/09/10

Section 02 41 16 - Structure Demolition

Page 7 of 9

- .7 Demolish to minimize dusting. Keep materials wetted as directed by Owner.
- .8 Remove structural framing.
- .9 Contain all fibrous materials (e.g. Insulation) to minimize release of airborne fiber while being transported to waste disposal site or alternative disposal location.
- .10 Only dispose of material specified by selected alternative disposal option as directed by Owner.
- .11 Ensure that these materials will not be disposed of in landfill or waste stream destined for landfill.
- .12 Remove and dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction.
- .13 Environmental:
 - .1 Remove contaminated or dangerous materials as defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimized danger at site or during disposal.
 - .2 Septic Tanks:
 - .1 Pump out buried septic tanks, left in place. Fill with sand.
 - .2 Remove tanks within area of new construction or under paved areas and slabs.
- .14 Prior to the start of any demolition work remove contaminated or hazardous materials as defined by authorities having jurisdiction, from site and dispose of at designated disposal facilities.
- .15 Prior to the start of any demolition work remove underground storage tanks and piping as directed.
- .16 Use natural lighting to work by wherever possible. Shut off all lighting except those required for security purposes at the end of each day.

3.5 STOCKPILING

- .1 Stockpile materials in a location as directed by Owner.
- .2 Designate appropriate security resources/measures to prevent vandalism, damage and theft.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2019/09/10

Section 02 41 16 - Structure Demolition

Page 8 of 9

- .3 Separate from general waste stream each of the following materials. Stockpile materials in neat and orderly fashion in location and as directed by Owner for alternate disposal. Stockpile materials in accordance with applicable fire regulations.
 - .1 Glass fiber ceiling tiles.
 - .2 Wood fiber ceiling tiles.
 - .3 Power source poles deemed unfit for reuse by Owner.
 - .4 Wiring and conduit.
 - .5 Outlets/Switches
 - .6 Floor receptacles.
 - .7 Metal duct work, baffles, HVAC equipment.
 - .8 Demountable partitions.
 - .9 Drapes.
 - .10 Tracks and blinds.
 - .11 Insulation batts.
 - .12 Miscellaneous metals.
 - .13 Carpet.
- .4 Supply separate, clearly-marked disposal bins for all categories of waste material. Do not remove bins from site until inspected and approved by Owner.
- .5 Provide collection areas for collection of miscellaneous metals in the area of demolition.

3.6 REMOVAL FROM SITE

- .1 Notify Owner in writing of any materials identified as not suitable for alternate disposal. Provide reasons prior to approval for disposal.
- .2 Dispose of materials as directed by Owner.
- .3 Remove stockpiled material as directed by Owner when it interferes with operations of project construction.
- .4 Remove stockpiles of like materials by an alternate disposal option once collection of materials is complete.
- .5 Transport material designated for alternate disposal in accordance with applicable regulations.
- .6 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

3.7 REPORTING

- .1 Record off-site removal of debris and materials and provide following information regarding removed materials to Owner within two (2) working days.
 - .1 Time and date of Removal
 - .2 Description of Material
 - .3 Weight and Quantity of Materials.
 - .4 Breakdown of reuse, recycling and landfill quantities.
 - .5 End Demolition of Materials.

3.8 COORDINATION

- .1 Coordinate alternative disposal activities with Owner's on site waste diversion representative.

3.9 PEST CONTROL

- .1 Engage the services of s professional Pest Control Firm to survey the building and immediate areas to ascertain the presence of any pests that would impacted by demolition and removal activities.
- .2 Pest Control Firm to take measures to properly abate any such noted pests in accordance with regulatory requirements and provide certification that the building areas are free and clear prior to commencement of building abatement and removal activities.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28 Section 06 10 53 – Miscellaneous Rough Carpentry

Page 1 of 8

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Section 06 05 73 - Wood Treatment.
- .3 Section 06 17 53 - Shop-Fabricated Wood Trusses.
- .4 Section 07 52 00 - Modified Bituminous Membrane Roofing
- .5 Section 07 92 00 - Joint Sealants.
- .6 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM A123/A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .2 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .3 ASTM C578, Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - .4 ASTM C1396/C1396M, Standard Specification for Gypsum Board.
 - .5 ASTM D5055, Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists.
 - .6 ASTM F1667, Standard Specification for Driven Fasteners: Nails, Spikes and Staples.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-71.26, Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems.
- .3 Canadian Wood Council
 - .1 Wood Design Manual.
 - .2 Engineering Guide for Wood Frame Construction.
- .4 Canadian Standards Association (CSA)
 - .1 CSA A123.2, Asphalt Coated Roofing Sheets.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .2 CSA B111, Wire Nails, Spikes and Staples.
- .3 CSA 0112.9, Evaluation of Adhesives for Structural Wood Products (Exterior Exposure).
- .4 CSA O121, Douglas Fir Plywood.
- .5 CSA-O141, Softwood Lumber.
- .6 CSA O151, Canadian Softwood Plywood.
- .7 CSA-O325.0, Construction Sheathing.
- .5 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber.
- .6 National Research Council Canada (NRC)
 - .1 National Building Code of Canada (NBC).

1.3 QUALITY ASSURANCE

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ANSI standards.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Submit proof of compatibility between Alkaline Copper Quaternary (ACQ) pressure treated lumber and fasteners to be utilized.
- .3 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for wood products and accessories and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Include manufacturer's pre-engineered floor, ceiling and roof joist span charts, and manufacturer's pre-engineered installation details.
 - .3 Submit certified test reports for prefabricated structural members from approved independent laboratory indicating compliance with specifications for specified performance characteristics and physical properties.
 - .4 Submit CCMC Product Evaluation Report for engineered wood products.
 - .5 Submit manufacturer's installation instructions.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .4 Shop Drawings:
 - .1 For structural applications or conditions beyond the scope of the manufacturer's pre-engineered design information, submit drawings stamped and signed by professional engineer registered or licensed in the Province of Newfoundland and Labrador.
 - .2 Include on drawings:
 - .1 Design data in accordance with CAN/CSA-O86 and CWC Engineering Guide for Wood Frame Construction.
 - .2 Indicate configuration and spacing of joists, hanger and connector types, fasteners, locations and design values; bearing details.
 - .3 Submit stress diagrams or print out of computer design indicating design loads for members. Indicate allowable load and stress increase.
 - .4 Indicate arrangement of webs or other members to accommodate ducts and other specialties

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00-Common Product Requirements.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in dry location, off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store materials off ground with moisture barrier at both ground level and as a cover forming a well-ventilated enclosure, with drainage to prevent standing water.
 - .3 Store wood I-beams and I-joists on edge.
 - .4 Stack, lift, brace, cut and notch engineered lumber products in strict accordance with manufacturer's instructions and recommendations.
 - .5 Store and protect architecturally exposed lumber from[nicks, scratches, and blemishes.
 - .6 Replace defective or damaged materials with new.
 - .7 Store separated reusable wood waste convenient to cutting station and work areas.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28 Section 06 10 53 – Miscellaneous Rough Carpentry

Page 4 of 8

PART 2 PRODUCTS

2.1 STRUCTURAL FRAMING

- .1 Lumber: unless specified otherwise, softwood, No. 1 or No. 2 grade, S4S, moisture content 19% (S-dry) or less in accordance with following standards:
 - .1 CAN/CSA-O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Wood I-joists in accordance with Prefabricated Wood I-Joists ASTM D5055.
- .3 Framing and board lumber: in accordance with NBC.
- .4 Furring, blocking, nailing strips, grounds, rough bucks, fascia backing and sleepers:
 - .1 Board sizes: "Standard" or better grade.
 - .2 Dimension sizes: "Standard" light framing or better grade.
 - .3 Post and timbers sizes: "Standard" or better grade.
- .5 Pressure treated material to be Alkaline Copper Quaternary (ACQ).
- .6 Where indicated, provide pressure treated materials for furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers in accordance with Section 06 05 73.

2.2 PANEL MATERIALS

- .1 Plywood, OSB and wood based composite panels: to CAN/CSA-O325.0.
- .2 Douglas fir plywood (DFP): to CSA O121, standard construction.
- .3 Canadian softwood plywood (CSP): to CSA O151, standard construction.
- .4 Insulating fiberboard sheathing: to CAN/CSA-A247.
- .5 Expanded polystyrene sheathing: to Section 07 21 13 – Board Insulation.
- .6 Gypsum sheathing: to 09 21 16 – Gypsum Board Assemblies.

2.3 ACCESSORIES

- .1 Exterior wall sheathing paper: to CAN/CGSB-51.32 single ply, spunbonded olefin type coated impregnated as indicated.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .2 Polyethylene film: to Section 07 26 00 – Vapour Retarders.
- .3 Sill Gasket Air seal: closed cell polyurethane or polyethylene.
- .4 Sealants: Section 07 92 00 – Joint Sealants.
- .5 General purpose adhesive: to CSA O112.9.
- .6 Nails, spikes and staples: to CSA B111.
- .7 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
- .8 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, explosive actuated fastening devices, recommended for purpose by manufacturer.
- .9 Joist hangers: minimum 1 mm thick sheet steel, galvanized ZF001 coating designation.
- .10 Roof sheathing H-Clips: formed "H" shape, thickness to suit panel material, type approved by Owner.

2.4 FASTENER FINISHES

- .1 Galvanizing: to ASTM A123/A123M, ASTM A653, use galvanized fasteners for exterior work, interior highly humid areas and fire-retardant treated lumber.

2.5 WOOD PRESERVATIVE

- .1 Surface-applied wood preservative: clear or copper naphthenate or 5% pentachlorophenol solution, water repellent preservative.

PART 3 EXECUTION

3.1 PREPARATION

- .1 Treat surfaces of material with wood preservative, before installation.
- .2 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber and one minute soak on plywood.
- .3 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .4 Treat all material as indicated as follows:
 - .1 Wood fascia, backing, curbs, nailers.
 - .2 Wood furring for sheeting/siding on outside surface of exterior masonry concrete walls.
 - .3 Wood sleepers supporting wood subflooring over concrete slabs in contact with ground or fill.

3.2 SYSTEMS INTEGRATION

- .1 Install air barrier and vapour retarder sheeting around framing members to ensure continuity of protection and to lap and seal to main sheets.
- .2 Install insulation in exterior wall framing cavities that will not be accessible after completion of framing.
- .3 Install sill plate gasket in continuous lengths between concrete surfaces and wood framing.

3.3 INSTALLATION

- .1 Comply with requirements of NBC latest edition, Part 9 supplemented by following paragraphs.
- .2 Install members true to line, levels and elevations, square and plumb.
- .3 Construct continuous members from pieces of longest practical length.
- .4 Install spanning members with "crown-edge" up.
- .5 Select exposed framing for appearance. Install lumber and panel materials so that grade-marks and other defacing marks are concealed or are removed by sanding where materials are left exposed.
- .6 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .7 Countersink bolts where necessary to provide clearance for other work.
- .8 Install specified panel product for each application.
- .9 Install subflooring and combined subfloor and underlay with panel end-joints located on solid bearing, staggered at least 800 mm.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .1 In addition to mechanical fasteners, apply subflooring adhesive under panels installed on wood joints. Place continuous adhesive bead in accordance with manufacturer's instructions, single-bead on each joist and double-bead on joists where panel ends butt.
- .2 Use decking screws for mechanical fasteners when weather conditions are unsuitable for subflooring adhesive.
- .10 Install wall sheathing in accordance with manufacturer's printed instructions.
- .11 Install roof sheathing in accordance with requirements of NBC.
- .12 Install furring and blocking as required to space-out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding electrical equipment mounting boards, and other work as required.
- .13 Install furring to support siding applied vertically where there is no blocking and where sheathing is not suitable for direct nailing.
 - .1 Align and plumb faces of furring and blocking to tolerance of 1:600.
- .14 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.
- .15 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners. Coordinate height of roof curbs with Section 07 52 00 – Modified Bituminous Membrane Roofing.
- .16 Install sleepers as indicated.
- .17 Use dust collectors and high quality respirator masks when cutting or sanding wood panels.

3.4 SCHEDULES

- .1 Roof sheathing:
 - .1 Plywood, DFP or CSP sheathing grade (SHG) T&G edge, 16 mm thick, unless otherwise indicated.
- .2 Exterior wall sheathing:
 - .1 Plywood, DFP or CSP sheathing grade or (SHG) grade, T&G edge, 16 mm thick, unless otherwise indicated.
 - .2 Expanded polystyrene sheathing, Type 1, RSI indicated, shiplapped edges, thickness as indicated.
 - .3 Gypsum sheathing, Section 09 21 16 – Gypsum Board Assemblies.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .3 Subflooring:
 - .1 Plywood, DFP or CSP sheathing grade (SHG) T&G edge, 19 mm thick, unless otherwise indicated.
- .4 Electrical equipment mounting boards:
 - .1 Plywood, DFP or CSP grade, (G1S) select square edge 16 mm thick, unless otherwise indicated.
- .5 Underlay:
 - .1 Plywood, DFP or CSP sheathing grade (Select), square edge 6 mm thick, unless otherwise indicated.

3.5 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by rough carpentry installation.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 07 11 13 – Bituminous Dampproofing

Page 1 of 4

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Materials and installation for asphalt for use as dampproofing.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 51 00 - Temporary Utilities.
- .3 Section 01 61 00 - Common Product Requirements.
- .4 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.3 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB 37.2, Emulsified Asphalt, Mineral-Colloid Type, Unfilled, for Dampproofing and Waterproofing and for Roof Coatings.
 - .2 CAN/CGSB 37.3, Application of Emulsified Asphalts for Dampproofing or Waterproofing.
 - .3 CAN/CGSB 37.5, Cutback Asphalt Plastic Cement.
 - .4 CGSB 37-GP-9Ma, Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
 - .5 CGSB 37-GP-11M, Application of Cutback Asphalt Plastic Cement.
 - .6 CAN/CGSB 37.16, Filled, Cutback, Asphalt for Dampproofing and Waterproofing.
 - .7 CGSB 37-GP-36M, Application for Filled Cutback Asphalts for Dampproofing and Waterproofing.
- .2 National Research Council Canada (NRC)/Institute for Research in Construction (IRC)
 - .1 Canadian Construction Materials Centre (CCMC)

1.4 PRODUCT DATA

- .1 Submit product data sheets for bituminous dampproofing products. Including:
 - .1 Product characteristics.
 - .2 Performance criteria.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 07 11 13 – Bituminous Dampproofing

Page 2 of 4

- .3 Application methods.
- .4 Limitations.
- .2 Manufacturer's Instructions: Provide to indicate special handling criteria, installation sequence, cleaning procedures.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, handle, store and protect materials of this section in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Provide and maintain dry, off-ground weatherproof storage.
- .3 Store materials on supports to prevent deformation.
- .4 Remove only in quantities required for same day use.
- .5 Store materials in accordance with manufacturer's written instructions.

1.6 PROJECT/SITE ENVIRONMENTAL REQUIREMENTS

- .1 Temperature, relative humidity, moisture content.
 - .1 Apply dampproofing materials only when surfaces and ambient temperatures are within manufacturers' prescribed limits.
 - .2 Do not proceed with Work when wind chill effect would tend to set bitumen before proper curing takes place.
 - .3 Maintain air temperature and substrate temperature at dampproofing installation area above 5°C for 24 hours before, during and 24 hours after installation.
 - .4 Do not apply dampproofing in wet weather.
- .2 Safety: Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of asphalt, sealing compounds, primers and caulking materials.
- .3 Ventilation:
 - .1 Ventilate enclosed spaces in accordance with Section 01 51 00 - Temporary Utilities.
 - .2 Provide continuous ventilation during and after dampproofing application. Run ventilation system 24 hours per day during installation; provide continuous Ventilation for 3 days after completion of dampproofing installation.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 07 11 13 – Bituminous Dampproofing

Page 3 of 4

PART 2 PRODUCTS

2.1 MATERIALS

- .1 For application and curing at temperatures above 5° C: waterproof emulsion, mineral colloid emulsifier type to CAN/CGSB 37.2.
 - .1 Package label or bill of lading for bulk hot liquid asphalt must indicate type, flash point, equiviscous temperature range and final blowing temperature.
- .2 For applications and curing at temperatures above 0° C but below 5° C: solvent type waterproofing and dampproofing compound of selected asphalts and fibers to CAN/CGSB 37.16.
 - .1 Package label or bill of lading for bulk hot liquid asphalt must indicate type, flash point, equiviscous temperature range and final blowing temperature.
- .3 Primer for applications at temperatures above 0° C but below 5° C: asphalt/solvent cutback to CAN/CGSB 37.9.
- .4 Sealing compound: plastic cutback asphalt cement to CAN/CGSB-37.5. C.

PART 3 EXECUTION

3.1 WORKMANSHIP

- .1 Keep hot asphalt:
 - .1 Below its flash point.
 - .2 At or below its final blowing temperature.
 - .3 Within its equiviscous temperature range at place of application.

3.2 PREPARATION

- .1 Before applying dampproofing:
 - .1 Seal exterior joints between foundation walls and footings, joints between concrete floor slab and foundation and around penetrations through dampproofing with sealing compound.

3.3 APPLICATION

- .1 Do dampproofing in accordance with CAN/CGSB 37.3 and CGSB 37-GP-36M except where specified otherwise.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Issued 2008/03/18

Section 07 11 13 – Bituminous Dampproofing

Page 4 of 4

- .2 Do sealing work in accordance with CGSB 37-GP-11M except where specified otherwise.
- .3 Do priming of surface in accordance with CGSB 37-GP-15M except where specified otherwise.
- .4 Apply primer.

3.4 SCHEDULE

- .1 Apply continuous, uniform coating to entire exterior faces of foundation walls from 50 mm below finished grade level to and including tops of foundation wall footings.
- .2 Apply continuous, uniform coating to exterior side of foundation walls enclosing rooms below finished grade. Include exterior portion of interior walls where floors in adjacent rooms are at different elevations.
- .3 Apply two additional coats of dampproofing to vertical corners and construction joints for a minimum width of 230 mm on each side, and all around and for 230 mm along pipes passing through walls.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Materials and installation methods providing primary air/vapour barrier materials and assemblies.
- .2 Air/vapour barrier materials to provide continuous seal between components of building envelope and building penetrations.

1.2 RELATED SECTIONS

- .1 Section 01 43 39 – Mock Up Requirements.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 51 00 - Temporary Utilities.
- .4 Section 01 61 00 - Common Product Requirements.
- .5 Section 07 92 00 - Joint Sealants.

1.3 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-19.13M, Sealing Compound, One Component, Elastomeric Chemical Curing.
 - .2 CAN/CGSB-19.18M, Sealing Compound, One Component, Silicone Base Solvent Curing.
 - .3 CAN/CGSB-19.24M, Multi-Component, Chemical Curing Sealing Compound.
 - .4 CGSB 19-GP-14M, Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing.
- .2 National Building Code of Canada (NBCC)
 - .1 NBCC, Part 5 - Environmental Separation
- .3 Sealant and Waterproofer's Institute - Sealant and Caulking Guide Specification.

1.4 SUBMITTALS

- .1 Submit manufacturer's product data sheets.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 27 00.01 – Air Barriers –
Descriptive or Proprietary

Re-Issued 2020/08/28

Page 2 of 9

- .2 Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

- .1 Perform Work in accordance with Sealant and Waterproofer's Institute - Sealant and Caulking Guide Specification requirements for materials and installation.
- .2 Perform Work in accordance with National Air Barrier Association - Professional Contractor Quality Assurance Program and requirements for materials and installation.
- .3 Manufacturer's Representative:
 - .1 Inspect substrate prior to commencement of work, twice during application of membrane and at commissioning to ascertain that air/vapour barrier system is installed according to membrane manufacturer's most current published specifications and details.
 - .2 Provide technical assistance to applicator and assist where required in correct installation of membrane.
 - .3 Provide certificate of quality compliance upon satisfactory completion of installation.
- .4 Maintain one copy of documents on site.

1.6 QUALIFICATIONS

- .1 Applicator: Company specializing in performing work of this section with minimum 5 years documented experience with installation of air/vapour barrier systems. Complete installation must be approved by the material manufacturer.
- .2 Applicator: Company who is currently licensed by certifying organization must maintain their license throughout the duration of the project.

1.7 MOCK-UP

- .1 Construct mock-up in accordance with Section 01 43 39 – Mock Up Requirements.
- .2 Construct typical panel, 10 m² minimum, incorporating wall openings, insulation, building corner condition, illustrating materials interface and seals.
- .3 Locate where directed.

1.8 PRE- INSTALLATION MEETINGS

- .1 Convene one week prior to commencing work of this section.

1.9 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver, store and handle materials in accordance with manufacturer's written instructions. Deliver membrane materials in factory wrapped packaging indicating name of manufacturer and product.
- .3 Avoid spillage. Immediately notify Owner if spillage occurs and start clean up procedures.
- .4 Clean spills and leave area as it was prior to spill.
- .5 Store roll materials on end in original packaging.
- .6 Store primers at temperatures of 5°C and above to facilitate handling. Keep solvent away from open flame and excessive heat.

1.10 PROJECT ENVIRONMENTAL REQUIREMENTS

- .1 Do not install solvent curing sealants or vapour release adhesive materials in enclosed spaces without ventilation.
- .2 Ventilate enclosed spaces in accordance with Section 01 51 00 - Temporary Utilities.
- .3 Maintain temperature and humidity recommended by materials manufactures before, during and after installation.

1.11 WARRANTY

- .1 Provide a written warranty for work of this section from Manufacturer for failure due to defective materials and from contractor for failure due to defective installation workmanship for ten (10) years respectively from the date of Substantial Completion.
- .2 Include coverage of installed sealant and sheet materials which fail to achieve air tight and watertight seal, exhibit loss of adhesion or cohesion or do not cure.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 27 00.01 – Air Barriers –
Descriptive or Proprietary

Re-Issued 2020/08/28

Page 5 of 9

.2	Service Temperature:	-29° C to 49° C
.3	Elongation:	1500%
.4	Tensile Strength:	0.10 MPa
.5	Water Vapour Permeance:	0.03 perms
.6	Air Leakage at 75 Pa:	< 0.02 L/s/m ²

2.3 LIQUID MEMBRANE VAPOUR PERMEABLE AIR BARRIER (TYPE 3)

- .1 Water-based air-barrier providing a tough, seamless, elastomeric membrane when cured, allowing moisture vapour to pass through it, wet film thickness 2.3 mm, cured film thickness 1.15 mm.
- .2 Liquid membrane vapour permeable air barrier physical properties:
 - .1 Application Temperature: min. 4° C
 - .2 Service Temperature: -29° C to 49° C
 - .3 Elongation: 1500%
 - .4 Water Vapour Permeance: 12 perms
 - .5 Air Leakage at 75 Pa: < 0.02 L/s/m²

2.4 SHEET MEMBRANE VAPOUR PERMEABLE AIR BARRIER (TYPE 4)

- .1 Self-adhering reinforced modified polyolefin tri-laminate water resistive, vapour permeable, air barrier membrane to the following properties:
 - .1 Weight: 160 g/m²
 - .2 Water Vapour Transmission: 202 g/m²
 - .3 Tensile Strength: 182N MD and 129N CD
 - .4 Water Vapour Permeance: 1658 ng/Pa.m².s
 - .5 Air Leakage: <0.02 L/s/m²
 - .6 Average Dry Breaking Force: 565N MD and 405N CD

2.5 EXTERIOR WALL SHEATHING PAPER

- .1 Spunbonded olefin type coated impregnated sheathing paper to CAN/CGSB-51.32 single ply, as indicated.

2.6 SEALANTS

- .1 Sealants in accordance with Section 07 92 00 - Joint Sealants.
- .2 Primer: recommended by sealant manufacturer.
- .3 Primer for type 4 Air Barrier: quick setting, synthetic rubber based adhesive aerosol.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 27 00.01 – Air Barriers –
Descriptive or Proprietary

Re-Issued 2020/08/28

Page 6 of 9

2.7 SCHEDULE

- .1 Type 1 Air Barrier: for installation on any solid surface.
- .2 Type 2 Air Barrier: for installation on masonry or concrete surfaces.
- .3 Type 3 Air Barrier: for installation on wood/gypsum board surfaces.
- .4 Type 4 Air Barrier: for installation on any solid surface approved by manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Verify that surfaces and conditions are ready to accept the Work of this section.
- .2 Ensure all surfaces are clean, dry, sound, smooth, continuous and comply with air barrier manufacturer's requirements.
- .3 Report any unsatisfactory conditions to the Owner in writing.
- .4 Do not start work until deficiencies have been corrected.

3.2 PREPARATION

- .1 Remove loose or foreign matter which might impair adhesion of materials.
- .2 Ensure all substrates are clean of oil or excess dust; all masonry joints struck flush, and open joints filled; and all concrete surfaces free of large voids, spalled areas or sharp protrusions.
- .3 Ensure all substrates are free of surface moisture prior to application of membrane and primer.
- .4 Ensure metal closures are free of sharp edges and burrs.
- .5 Prime substrate surfaces to receive adhesive and sealants in accordance with manufacturer's instructions.

3.3 INSTALLATION (SHEET MEMBRANE)

- .1 Install materials in accordance with manufacturer's instructions.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 27 00.01 – Air Barriers –
Descriptive or Proprietary

Re-Issued 2020/08/28

Page 7 of 9

- .2 Over the properly prepared substrate surface apply primer, as per manufacturer's recommendations, with a roller and allow drying to a tacky surface. Prime only area to be covered in a working day. Re-prime area not covered with membrane within 24 hours.
- .3 After primer has dried, using a hand roller firmly press the entire membrane onto the primed surface, in strict accordance with membrane manufacturer's written instructions.
- .4 Ensure complete coverage of and adhesion of all substrates to receive membrane, including wall penetrations. Co-operate with other trades to ensure continuity of membrane.
- .5 Overlap membrane 50mm and carefully smooth out with a roller to ensure full continuous bond throughout overlaps without fissures or fishmouthing.
- .6 It is important that a complete air seal be achieved. Be responsible for the completeness of membrane wherever it is not specifically detailed. Consult with Owner if there is any doubt as to the integrity of membrane, whether detailed or not.
- .7 In order to ensure a complete seal, seal membrane to all penetrations in an approved manner.
- .8 Apply a trowelled bead of mastic to all terminations of the membrane at the end of a day's work.
- .9 Do not enclose membrane until it has been inspected and approved by Owner. Inform Owner two (2) working days prior to required inspection.

3.4 INSTALLATION (LIQUID MEMBRANE AIR/VAPOUR BARRIER)

- .1 Install materials in accordance with manufacturer's instructions.
- .2 Prepare surfaces ensuring they are clean, structurally sound and smooth. Patch all cracks, small voids, irregularities and small deformities with manufacturer approved patch material.
- .3 Apply minimum 150 mm wide self-adhering air barrier strip between joints of dissimilar building materials.
- .4 Apply liquid membrane to substrate by spraying or nap roller as per manufacturer's instructions.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 27 00.01 – Air Barriers –
Descriptive or Proprietary

Re-Issued 2020/08/28

Page 8 of 9

- .5 Ensure complete coverage of and adhesion of all substrates to receive liquid membrane, including wall penetrations. Co-operate with other trades to ensure continuity of membrane.
- .6 It is important that a complete air seal be achieved. Be responsible for the completeness of liquid membrane wherever it is not specifically detailed. Consult with Owner if there is any doubt as to the integrity of the liquid membrane, whether detailed or not.
- .7 In order to ensure a complete seal, seal liquid membrane to all penetrations in an approved manner.
- .8 Do not enclose membrane until it has been inspected and approved by Owner. Inform Owner two (2) working days prior to required inspection.

3.5 INSTALLATION (LIQUID MEMBRANE VAPOUR PERMEABLE AIR BARRIER)

- .1 Install materials in accordance with manufacturer's instructions.
- .2 Prepare surfaces ensuring they are clean, structurally sound and smooth. Patch all cracks, small voids, irregularities and small deformities with manufacturer approved patch material.
- .3 Joints in exterior sheeting of 6.4 mm or greater to be covered with tape or filled with mastic caulking compound prior to application of liquid membrane as per manufacturer's recommendations.
- .4 Apply minimum 150 mm wide self-adhering air barrier strip between joints of dissimilar building materials.
- .5 Apply liquid membrane to substrate by spraying or roller as per manufacturer's instructions.
- .6 Ensure complete coverage of and adhesion of all substrates to receive liquid membrane, including wall penetrations. Co-operate with other trades to ensure continuity of membrane.
- .7 It is important that a complete air seal be achieved. Be responsible for the completeness of liquid membrane wherever it is not specifically detailed. Consult with Owner if there is any doubt as to the integrity of the liquid membrane, whether detailed or not.
- .8 In order to ensure a complete seal, seal liquid membrane to all penetrations in an approved manner.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 27 00.01 – Air Barriers –
Descriptive or Proprietary

Re-Issued 2020/08/28

Page 9 of 9

- .9 Do not enclose membrane until it has been inspected and approved by Owner. Inform Owner two (2) working days prior to required inspection.

3.6 PROTECTION OF WORK

- .1 Protect finished Work in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Do not permit adjacent work to damage work of this section.
- .3 Ensure finished Work is protected from climatic conditions.

3.7 INSPECTION

- .1 Carefully inspect for continuity of air barrier prior to placement of insulation.
- .2 Repair all deficient membrane areas.
- .3 Misaligned or inadequately lapped seams, punctures or other damage must be repaired with a patch of air barrier membrane extending 50mm in all directions from edge of damaged areas.
- .4 Cover membrane immediately after Owner's inspection to protect from damage by other trades.

3.8 TESTING

- .1 Air leakage testing as directed by Owner and paid for by contractor will be performed by professional testing agency for the locations selected at random for penetrations, laps, corners, etc.
- .2 Testing will be witnessed by Owner and test reports will be signed by tester, site representative and contractor.
- .3 Inform Owner two (2) working days prior to required testing.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 1 of 19

PART 1 GENERAL

1.1 RELATED WORK

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 43 - Environmental Procedures.
- .3 Section 01 43 39 – Mock Up Requirements.
- .4 Section 01 45 00 - Quality Control.
- .5 Section 01 61 00 - Common Product Requirements.
- .6 Section 01 74 00 - Cleaning.
- .7 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .8 Section 01 78 00 - Closeout Submittals.
- .9 Section 06 10 53 - Miscellaneous Rough Carpentry.
- .10 Section 07 62 00 - Sheet Metal Flashing and Trim.
- .11 Section 07 92 00 - Joint Sealants.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM C 1177/C1177M, Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- .2 Canadian General Standards Board (CGSB).
 - .1 CGSB 37-GP-19M, Cement, Plastic, Cutback Tar.
 - .2 CAN/CGSB-37.29, Rubber- Asphalt Sealing Compound.
 - .3 CAN/CGSB - 51.33 Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction.
- .3 Canadian Roofing Contractor's Association (CRCA)
 - .1 CRCA Specification Manual.
- .4 Underwriters Laboratories' of Canada (ULC)

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 2 of 19

- .1 CAN/ULC-S701, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
- .2 CAN/ULC-S702.2, Standard for Mineral Fibre Thermal Insulation for Buildings.
- .3 CAN/ULC-S704, Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.

1.3 SECTION INCLUDES

- .1 Removal of stone cover, membrane, membrane flashing, metal counter flashing, deck sheathing, and air/vapour barrier, exposing existing deck.
- .2 Provision of new deck sheathing, air/vapour barrier, insulation, membrane, membrane flashing and metal counter flashing.

1.4 SHOP DRAWINGS

- .1 Indicate in shop drawings flashings, control joints, tapered insulation details, roof drains and all required roofing materials.
- .2 Provide layout for tapered insulation.

1.5 STORAGE AND HANDLING

- .1 Refer to Section 01 61 00 - Common Product Requirements for storage and handling requirements.
- .2 Store materials off-ground in weatherproof storage.
- .3 Store materials in upright position. Store membrane rolls with selvage edge up, store as per manufacturer's requirements to meet warranty.
- .4 Remove only in quantities required for same day use.
- .5 Place plywood runways over work to protect work and enable work flow.
- .6 Store sealants at +5°C minimum.
- .7 Store insulation protected from daylight, weather and deleterious materials.

1.6 ENVIRONMENTAL REQUIREMENTS

- .1 Do not install roofing when temperature remains below -18°C for torch application, or to manufacturers' recommendations for mop application.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous

Re-Issued 2020/08/28

Membrane Roofing

Page 3 of 19

- .2 Minimum temperature for solvent-based adhesive is -5°C.
- .3 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

1.7 PROTECTION

- .1 Fire Extinguishers: maintain one stored pressure rechargeable type with hose and shut-off nozzle, ULC labeled for A, B and C class protection. Size 9 kg on roof per torch applicator, within 10 m of torch applicator.
- .2 Contractor to provide safety person on site at all times during the roofing process and shall remain on site two (2) hours after work has ceased or after torching has stopped. Safety person shall scan the perimeter and roof penetration details with a hand held infrared gun.
- .3 Remove only as much existing roofing as can be replaced by the end of each working day.
- .4 Contractor to verify existing under deck mounted electrical conduits prior to installing mechanically fastened roof assembly.

1.8 WARRANTY

- .1 Provide a written guarantee signed and issued in the name of The Owner by the Roofing System Manufacturer stating that roofing membrane is free from manufacturing defects and that the system will stay in place and remain leak proof for a period of ten (10) years from date of Substantial Certificate of Completion, subject to the standard limitations and conditions of the manufacturer.
- .2 Provide a written guarantee, signed and issued in the name of the Owner by the Contractor, stating that the roofing application has been performed in compliance with the plans and specifications, and for two (2) years from the date of Substantial Certificate of Completion, the Contractor shall repair, at no expense to the Owner, any defects which result of a failure to comply with the plans and specifications.
- .3 Defective work shall include, but not limited to: leaking, wind uplift, delamination of roofing materials, reduction of thermal value due to moisture in insulation, crazing and ridging.
- .4 Warranty to be non-prorated.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 4 of 19

1.9 COMPATIBILITY

- .1 Compatibility between components of roofing system is essential. Provide written declaration to Owner stating that materials and components, as assembled in system, meet this requirement.

1.10 QUALITY ASSURANCE

- .1 Provide certificate signed by roofing manufacturer verifying that installer is approved, authorized and/or licensed by manufacturer to install specified products and is eligible to obtain the specified warranty of the section.
- .2 Applicators: minimum 5 years proven experience.
- .3 Manufacturer's representative:
 - .1 Inspect roofing system at the start of construction, midway and as required for commissioning. Additional inspections may be carried out at the discretion of the Roofing System Manufacturer.
 - .2 Provide technical assistance where required to correct installation of roofing system.
 - .3 Provide manufacturer's written acceptance of roofing installation based on specified inspections.
- .4 Refer to Section 01 33 00 – Submittal Procedures and Section 01 45 00 - Quality Control for submission procedures.
- .5 Submit laboratory test reports certifying compliance of bitumens and membranes with specification requirements.

1.11 MOCK-UP

- .1 If requested construct mock-up in accordance with Section 01 43 39 – Mock Up Requirements.
- .2 Mock up to be 10 m² minimum size showing typical membrane lap joint, one inside and one outside corner parapet flashing. Insulation and fastening method, air/vapour barrier lap, gypsum board and fastening method and workmanship.

PART 2 PRODUCTS

2.1 THERMAL BARRIER AND AIR/VAPOUR BARRIER
Option 1

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous

Re-Issued 2020/08/28

Membrane Roofing

Page 5 of 19

- .1 Thermal Barrier: Pre-primed glass mat faced gypsum panel non-asphaltic, highly filled proprietary heat-cured coating on one side, to ASTM C1177, 12.7 mm thick.
- .2 Air/Vapour Barrier: Self adhering peel and stick air/vapour barrier composed of Styrene-Butadiene-Styrene (SBS) modified bitumen reinforced with high density polyethylene film, anti slip surface, minimum thickness 1.0 mm.

Option 2

- .1 Thermal Barrier and air/vapour barrier: to CAN 2-51.31-M84, rigid mineral wool fiber board manufactured from basalt rock and steel slag, butt edge, CFC and HCFC free, 19 mm thick with a factory laminated 190 g/m² non woven polyester reinforced SBS modified bituminous membrane with a sanded surface to CGSB-37.56-M.

2.2 INSULATION AND COVER BOARD COMPONENTS

- .1 For sloped roof decks or roof structures, provide uniform thickness rigid insulation.
- .2 For flat roof decks or roof structures, provide custom designed tapered insulation with minimum slope of 2.0 mm in 100 mm (2%). Taper insulation to drain, minimum RSI value at drain to be 1.3.
- .3 Expanded Polystyrene Insulation (EPS), Cover Board and Asphalt Recover Board:
 - .1 Expanded Polystyrene Insulation (EPS):
 - .1 To CAN/ULC-S701, Type 1, square edged.
 - .2 Insulation value thickness per cm based on values listed in the latest edition of NRC - Evaluation Listings.
 - .3 Provide two layers of insulation installed with staggered joints.
 - .2 Cover Board: Nonstructural, glass mat faced gypsum panel with water-resistant core to ASTM C1177, 6.35 mm thick.
 - .3 Asphalt Recover Board: Semi-rigid asphalt roofing substrate composed of mineral core between glass fibre mats, 1200 x 1500mm sheets, minimum thickness 3.0 mm.
- .4 Extruded Polystyrene Insulation (XPS) and two layers of Asphalt Recover Board:
 - .1 Extruded Polystyrene Insulation (XPS):

YMCA Roof Replacement
Grand Falls-Windsor, NL
Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 6 of 19

- .1 To CAN/ULC-S701, Type 2, square edged.
- .2 Insulation value thickness per cm based on values listed in the latest edition of NRC - Evaluation Listings.
- .3 Provide two layers of insulation installed with staggered joints.
- .2 Two layers of Asphalt Recover Board: Semi-rigid asphalt roofing substrate composed of mineral core between glass fibre mats, 1200 x 1500mm sheets, minimum thickness 3.0 mm each.
- .5 Polyisocyanurate Insulation and Asphalt Recover Board:
 - .1 Polyisocyanurate Insulation:
 - .1 To CAN/ULC-S704, glass reinforced felt facers, square edged and containing no CFC.
 - .2 Insulation value thickness per cm based on values listed in the latest edition of NRC - Evaluation Listings.
 - .3 Provide two layers of insulation installed with staggered joints.
 - .2 Asphalt Recover Board: Semi-rigid asphalt roofing substrate composed of mineral core between glass fibre mats, 1200 x 1500mm sheets, minimum thickness 3.0 mm.
- .6 Total assembly RSI value:
 - .1 Minimum average RSI value of assembly insulation components to be 4.0. Insulation assembly components to consist of thermal barrier, insulation and cover board.

2.3 BASE SHEET

- .1 Base Sheet: Base sheet: to CGSB-37.56-M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet, non woven, polyester reinforcement, weighing 180 g/m².
 - .1 Type 2, fully adhered.
 - .2 Class P-plain surfaced.
 - .3 Grade 2.
 - .4 Top and bottom surfaces:
 - .1 Polyethylene/polyethylene.
 - .5 Base sheet membrane properties:
 - .1 Strain energy (longitudinal/transversal): 9.0/7.0 kN/m.
 - .2 Breaking strength (longitudinal/transversal): 17.0/12.5 N/5 cm.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 7 of 19

- .3 Ultimate elongation (longitudinal/transversal): 60/65 %.
- .4 Tear resistance: 60 N.
- .5 Cold bending at -30 degrees C: no cracking.
- .6 Static puncture resistance: > 400.
- .7 Dimensional Stability: -0.3 / 0.3 %.

2.4 CAP SHEET

- .1 Cap sheet: to CGSB-37.56-M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet, glass, polyester reinforcement, weighing 250 g/m².
 - .1 Type 2, fully adhered.
 - .2 Class G-granule surfaced.
 - .3 Grade 2.
 - .4 Bottom surface polyethylene.
 - .5 Colour to be light grey unless otherwise indicated.
 - .6 Cap sheet membrane properties:
 - .1 Strain energy (longitudinal/transversal): 10.0/10.0 kN/m.
 - .2 Breaking strength (longitudinal/transversal): 18.0/10.0 kN/m.
 - .3 Ultimate elongation (longitudinal/transversal): 60/65 %.
 - .4 Tear resistance: 75 N.
 - .5 Cold bending at -30 degrees C: No cracking.
 - .6 Static puncture resistance: > 420.
 - .7 Dimensional Stability: -0.8 / -0.2 %.
- .2 Minimum total thickness if base sheet and cap sheet combined to be 5.8 mm. Cap sheet and base sheet to be of same manufacturer.
- .3 Install contrasting colour cap sheet, 2.0 m wide, along the entire perimeter of all roof sections. Contrasting colour cap sheet to be installed over cap sheet. Colour to be as per Owner selection from manufacturer's standard colour range.

2.5 BASE SHEET FLASHING

- .1 To CGSB-37.56-M, Type 2, Class C, Grade 2, non-woven polyester reinforced 180g/m², self-adhesive membrane with polyethylene top face and release film under face.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous

Re-Issued 2020/08/28

Membrane Roofing

Page 8 of 19

2.6 SEALERS

- .1 Mastic made of synthetic rubbers, plasticized with bitumen and solvents with aluminum pigments to provide greater resistance to U.V.

2.7 PRIMERS

- .1 For self-adhesive membranes: A blend of elastomeric bitumen, volatile solvents and adhesive enhancing resins used to prime porous and non-porous substrates such as gypsum board, wood, concrete or metal to enhance the adhesion of self-adhesive membranes at temperatures above -10° C.
- .2 For heat welded membranes: A blend of elastomeric bitumen, volatile solvents and adhesive enhancing additives used to prime concrete or metal substrates to enhance the adhesion of torch-applied membranes.

2.8 FASTENERS

- .1 Fasteners: minimum #14 mechanical fasteners made of case-hardened carbon steel with corrosion resistance coating, complying with FM standards. 75 mm diameter round or hexagon stress plates complying with CSA B35.3 and FM 4470 approval standards, diameter and lengths as required to suit total assembly thickness. Ensure fasteners have the following deck penetration:
 - .1 For concrete decks: minimum 25 mm.
 - .2 For wood decks: minimum 25 mm.
 - .3 For metal decks: minimum 19 mm and maximum 25 mm longer than assembly being secured. Fasteners to engage metal deck top flange. At gymnasium locations, fastener points of all fasteners to be removed.
- .2 Roofing adhesive: single-component, moisture cured, solvent free polyurethane adhesive, dispensed from a portable disposable pre-pressurized container.

2.9 ROOF DRAINS

- .1 As per section 22 05 15 – Plumbing Specialties and Accessories.
- .2 Sump pan: provide 600 x 600 mm sloped insulation sump at drains.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 9 of 19

PART 3 EXECUTION

3.1 WORKMANSHIP

- .1 Do roofing work in accordance with applicable, standard in Canadian Roofing Contractors Association (CRCA) Roofing Specifications Manual, except where specified otherwise.

3.2 PROTECTION

- .1 Cover walls and adjacent work where materials hoisted or used.
- .2 Use warning signs and barriers. Maintain in good order until completion of work.
- .3 Clean off drips and smears of bituminous material immediately.
- .4 Dispose of rain water off roof and away from face of building until roof drains or hoppers installed and connected. Refer to Section 01 35 43 - Environmental Procedures for site drainage requirements.
- .5 Protect roof from traffic and damage.
- .6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed work and materials out of storage.
- .7 Install insulation promptly to avoid possibility of condensation beneath vapour retarder.
- .8 Take necessary measures ensuring no penetration of the elements will occur to the building after commencement of work, including but not limited to water.
- .9 Only remove quantities of existing roofing material and install quantities of new roofing materials per day that can be covered with waterproofing membranes.

3.3 EXAMINATION ROOF DECKS

- .1 Examine roof decks and immediately inform of Owner in writing of defects.
- .2 Prior to commencement of work ensure:
 - .1 Decks are firm, straight, smooth, dry, and free of snow, ice or frost, and swept clean of dust and debris.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 10 of 19

- .2 Curbs have been built. Coordinate height of roof curbs with Section 06 10 53 – Miscellaneous Rough Carpentry.
- .3 Roof drains have been installed at proper elevations relative to finished roof surface.
- .4 Plywood and lumber nailer plates have been installed to deck, walls and parapets as indicated.
- .3 Do not install roofing materials during rain or snowfall.

3.4 EXPOSED MEMBRANE ROOFING APPLICATION (METAL ROOF DECK)

- .1 Thermal Barrier and Air/Vapour Barrier:

Option 1

- .1 Place thermal barrier with long axis of each sheet transverse to steel deck ribs, with end joints staggered and fully supported on ribs.
- .2 Secure thermal barrier to metal deck using one (1) fastener per board, located at the centre of the board, fasteners to be FMRC approved. **OR** , apply beads of roofing adhesive to metal deck in accordance with manufacturer's written instructions. Adhere thermal barrier in adhesive and walk-in thermal barrier to insure maximum contact with adhesive.
- .3 Fit butt edge joints in firm contact with one another.
- .4 Prime all surfaces of thermal barrier to receive self-adhering modified bituminous sheet air/vapour barrier as per manufacturer's instructions.
- .5 Apply self-adhering modified bituminous sheet air/vapour barrier to thermal barrier in an overlapping shingle fashion. Stagger all vertical joints.
- .6 Align modified bituminous sheet air/vapour barrier, remove protective film and press firmly into place. Ensure minimum 50 mm overlap at all ends and side laps. Roll membrane, including seams, with counter top roller to ensure full contact.

Option 2

- .1 Fasten laminated thermal barrier and air/vapour barrier in accordance with manufacturers illustrated specifications manual. **OR** , apply beads of roofing adhesive to metal deck in accordance with manufacturer's written instructions. Adhere thermal barrier in

YMCA Roof Replacement
Grand Falls-Windsor, NL
Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 11 of 19

- adhesive and walk-in thermal barrier to insure maximum contact with adhesive.
- .2 Install boards by butting edges snugly and without warping, as level to each other as possible, and perfectly adhered to the substrate.
 - .3 Because of the nature of the system, air/vapour barrier membrane joints can be aligned (no staggering) to facilitate the installation of the reinforcing band.
 - .4 To avoid infiltrations, adhere the first 75 mm of the self-adhesive side laps using a roller, then heat-weld the last 25 mm.
 - .5 Seal the end joints by welding a 300 mm wide protection band centered on the joint.
- .2 Insulation
- .1 Loosely lay layer of insulation over thermal barrier and air/vapour barrier. **OR** apply beads of roofing adhesive to air/vapour barrier in accordance with manufacturer's written instructions. Adhere insulation in adhesive and walk-in insulation boards to insure maximum contact with adhesive.
 - .2 Place boards in parallel rows with ends staggered, and in firm contact with one another.
 - .3 Cut end boards to suit.
 - .4 Install tapered insulation in accordance with shop drawings.
- .3 Cover Board Components (Expanded Polystyrene (EPS)):
- .1 Loosely lay cover board over EPS insulation. **OR**, apply beads of roofing adhesive to insulation in accordance with manufacturer's written instructions. Adhere cover board in adhesive and walk-in cover boards to insure maximum contact with adhesive.
 - .2 Place boards in parallel rows with ends staggered and in firm contact with one another.
 - .3 Cut end boards to suit.
 - .4 Mechanically fasten asphalt recover board over cover board with plates and fasteners. **OR**, apply beads of roofing adhesive to cover board in accordance with manufacturer's written instructions. Adhere asphalt recover board in adhesive and walk-in asphalt recover boards to insure maximum contact with adhesive.
 - .5 Fit boards tight together. Stagger joints between asphalt recover board and cover board. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location,

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 12 of 19

for insulation and cover board, in accordance with manufacturer's recommendations.

OR

Cover Board Components (Extruded Polystyrene (XPS)):

- .1 Cover XPS insulation with two layers of asphalt recover board.
- .2 Place boards in parallel rows with ends staggered and in firm contact with one another.
- .3 Cut end boards to suit.
- .4 Mechanically fasten asphalt recover board with plates and fasteners. **OR**, apply beads of roofing adhesive for each layer of asphalt recover board in accordance with manufacturer's written instructions. Adhere each layer of asphalt recover board in adhesive and walk-in asphalt recover boards to insure maximum contact with adhesive.
- .5 Fit boards tight together. Stagger joints between layers of asphalt recover board. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location, for insulation and cover board, in accordance with manufacturer's recommendations.

OR

Cover Board Components (Polyisocyanurate (Polyiso)):

- .1 Cover Polyiso insulation with one layer of asphalt recover board.
- .2 Place boards in parallel rows with ends staggered and in firm contact with one another.
- .3 Cut end boards to suit.
- .4 Mechanically fasten asphalt recover board with plates and fasteners. **OR**, apply beads of roofing adhesive to insulation in accordance with manufacturer's written instructions. Adhere asphalt recover board in adhesive and walk-in asphalt recover boards to insure maximum contact with adhesive.
- .5 Fit boards tight together. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location, for insulation and cover board, in accordance with manufacturer's recommendations.

.4 Base Sheet Application:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 13 of 19

- .1 Starting at low point of roof, perpendicular to slope, unroll base sheet, align and reroll from both ends.
- .2 Unroll and torch base sheet onto recover board taking care not to burn membrane or its reinforcement.
- .3 Lap sheets 75 mm minimum for side and 150 mm minimum for end laps.
- .4 Application to be free of blisters, wrinkles and fishmouths.

- .5 **Cap Sheet Application:**
 - .1 Starting at low point on roof, perpendicular to slope, unroll cap sheet, align and reroll from both ends.
 - .2 Unroll and torch cap sheet onto base sheet taking care not to burn membrane or its reinforcement.
 - .3 Lap sheets 75 mm minimum for side laps and 150 mm minimum for end laps. Offset joints in cap sheet 300 mm minimum from those in base sheet.
 - .4 Application to be free of blisters, fishmouths and wrinkles.
 - .5 Do membrane application in accordance with manufacturer's recommendations.

- .6 **Flashings:**
 - .1 Complete installation of flashing base sheet stripping prior to installing membrane cap sheet.
 - .2 Torch, base and cap sheet onto substrate in 1 metre wide strips.
 - .3 Lap flashing base sheet to membrane base sheet minimum 150 mm and seal by torch welding.
 - .4 Lap flashing cap sheet to membrane cap sheet 250 mm minimum and torch weld.
 - .5 Provide 75 mm minimum side lap and seal.
 - .6 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.
 - .7 Do work in accordance with manufacturer's recommendations.

3.5 EXPOSED MEMBRANE ROOFING APPLICATION (CONCRETE DECK)

- .1 **Air/Vapour Barrier:**
 - .1 Prime all surfaces to receive self-adhering modified bituminous sheet air/vapour barrier as per manufacturer's instructions.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 14 of 19

- .2 Apply self-adhering modified bituminous sheet air/vapour barrier to concrete deck substrate in an overlapping shingle fashion. Stagger all vertical joints.
- .3 Align modified bituminous sheet air/vapour barrier, remove protective film and press firmly into place. Ensure minimum 50 mm overlap at all ends and side laps. Roll membrane, including seams, with counter top roller to ensure full contact.
- .2 Insulation
 - .1 Apply beads of roofing adhesive to air/vapour barrier in accordance with manufacturer's written instructions.
 - .2 Adhere insulation in adhesive and walk-in insulation boards to insure maximum contact with adhesive.
 - .3 Place boards in parallel rows with ends staggered, and in firm contact with one another.
 - .4 Cut end boards to suit.
 - .5 Install tapered insulation in accordance with shop drawings.
- .3 Cover Board Components (Expanded Polystyrene (EPS)):
 - .1 Apply beads of roofing adhesive to insulation in accordance with manufacturer's written instructions.
 - .2 Adhere cover board in adhesive and walk-in cover boards to insure maximum contact with adhesive.
 - .3 Place boards in parallel rows with ends staggered and in firm contact with one another.
 - .4 Cut end boards to suit.
 - .5 Apply beads of roofing adhesive to cover board in accordance with manufacturer's written instructions.
 - .6 Adhere asphalt recover board in adhesive and walk-in asphalt recover boards to insure maximum contact with adhesive.
 - .7 Fit boards tight together. Stagger joints between asphalt recover board and cover board. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location, for insulation and cover board, using FMRC approved roofing adhesive placed in accordance with manufacturer's recommendations.

OR

Cover Board Components (Extruded Polystyrene (XPS)):

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 15 of 19

- .1 Apply beads of roofing adhesive to insulation in accordance with manufacturer's written instructions.
- .2 Adhere asphalt recover board in adhesive and walk-in asphalt recover boards to insure maximum contact with adhesive.
- .3 Place boards in parallel rows with ends staggered and in firm contact with one another.
- .4 Cut end boards to suit.
- .5 Apply beads of roofing adhesive to first layer of asphalt recover board in accordance with manufacturer's written instructions.
- .6 Adhere second layer of asphalt recover board in adhesive and walk-in asphalt recover boards to insure maximum contact with adhesive.
- .7 Fit boards tight together. Stagger joints between layers of asphalt recover board. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location, for insulation and cover board, using FMRC approved roofing adhesive placed in accordance with manufacturer's recommendations.

OR

Cover Board Components (Polyisocyanurate (Polyiso)):

- .1 Apply beads of roofing adhesive to insulation in accordance with manufacturer's written instructions.
 - .2 Adhere asphalt recover board in adhesive and walk-in asphalt recover boards to insure maximum contact with adhesive.
 - .3 Place boards in parallel rows with ends staggered and in firm contact with one another.
 - .4 Cut end boards to suit.
 - .5 Fit boards tight together. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location, for insulation and cover board, using FMRC approved roofing adhesive placed in accordance with manufacturer's recommendations.
- .4 **Base Sheet Application:**
- .1 Starting at low point of roof, perpendicular to slope, unroll base sheet, align and reroll from both ends.
 - .2 Unroll and torch base sheet onto recover board taking care not to burn membrane or its reinforcement.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous

Re-Issued 2020/08/28

Membrane Roofing

Page 16 of 19

- .3 Lap sheets 75 mm minimum for side and 150 mm minimum for end laps.
- .4 Application to be free of blisters, wrinkles and fishmouths.

- .5 Cap Sheet Application:
 - .1 Starting at low point on roof, perpendicular to slope, unroll cap sheet, align and reroll from both ends.
 - .2 Unroll and torch cap sheet onto base sheet taking care not to burn membrane or its reinforcement.
 - .3 Lap sheets 75 mm minimum for side laps and 150 mm minimum for end laps. Offset joints in cap sheet 300 mm minimum from those in base sheet.
 - .4 Application to be free of blisters, fishmouths and wrinkles.
 - .5 Do membrane application in accordance with manufacturer's recommendations.

- .6 Flashings:
 - .1 Complete installation of flashing base sheet stripping prior to installing membrane cap sheet.
 - .2 Torch, base and cap sheet onto substrate in 1 metre wide strips.
 - .3 Lap flashing base sheet to membrane base sheet minimum 150 mm and seal by torch welding.
 - .4 Lap flashing cap sheet to membrane cap sheet 250 mm minimum and torch weld.
 - .5 Provide 75 mm minimum side lap and seal.
 - .6 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.
 - .7 Do work in accordance with manufacturer's recommendations.

3.6 EXPOSED MEMBRANE ROOFING APPLICATION (WOOD DECK)

- .1 Air/Vapour Barrier:
 - .1 Prime all surfaces to receive self-adhering modified bituminous sheet air/vapour barrier as per manufacturer's instructions.
 - .2 Apply self-adhering modified bituminous sheet air/vapour barrier to wood deck substrate in an overlapping shingle fashion. Stagger all vertical joints.
 - .3 Align modified bituminous sheet air/vapour barrier, remove protective film and press firmly into place. Ensure minimum 50 mm

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 17 of 19

overlap at all ends and side laps. Roll membrane, including seams, with counter top roller to ensure full contact.

.2 Insulation

- .1 Loosely lay layer of insulation over air/vapour barrier.
- .2 Place boards in parallel rows with ends staggered, and in firm contact with one another.
- .3 Cut end boards to suit.
- .4 Install tapered insulation in accordance with shop drawings.

.3 Cover Board Components (Expanded Polystyrene (EPS)):

- .1 Loosely lay cover board over EPS insulation.
- .2 Place boards in parallel rows with ends staggered and in firm contact with one another.
- .3 Cut end boards to suit.
- .4 Mechanically fasten asphalt recover board over cover board with plates and fasteners.
- .5 Fit boards tight together. Stagger joints between asphalt recover board and cover board. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location, for insulation and cover board, using FMRC approved fasteners placed in accordance with manufacturer's recommendations.

OR

Cover Board Components (Extruded Polystyrene (XPS)):

- .1 Cover XPS insulation with two layers of asphalt recover board.
- .2 Place boards in parallel rows with ends staggered and in firm contact with one another.
- .3 Cut end boards to suit.
- .4 Mechanically fasten asphalt recover board with plates and fasteners.
- .5 Fit boards tight together. Stagger joints between layers of asphalt recover board. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location, for insulation and cover board, using FMRC approved fasteners placed in accordance with manufacturer's recommendations.

OR

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 18 of 19

Cover Board Components (Polyisocyanurate (Polyiso)):

- .1 Cover Polyiso insulation with one layer of asphalt recover board.
 - .2 Place boards in parallel rows with ends staggered and in firm contact with one another.
 - .3 Cut end boards to suit.
 - .4 Mechanically fasten asphalt recover board with plates and fasteners.
 - .5 Fit boards tight together. Install fasteners/adhesive based on design wind uplift securement requirements, for the building site location, for insulation and cover board, using FMRC approved fasteners placed in accordance with manufacturer's recommendations.
- .4 Base Sheet Application:
- .1 Starting at low point of roof, perpendicular to slope, unroll base sheet, align and reroll from both ends.
 - .2 Unroll and torch base sheet onto recover board taking care not to burn membrane or its reinforcement.
 - .3 Lap sheets 75 mm minimum for side and 150 mm minimum for end laps.
 - .4 Application to be free of blisters, wrinkles and fishmouths.
- .5 Cap Sheet Application:
- .1 Starting at low point on roof, perpendicular to slope, unroll cap sheet, align and reroll from both ends.
 - .2 Unroll and torch cap sheet onto base sheet taking care not to burn membrane or its reinforcement.
 - .3 Lap sheets 75 mm minimum for side laps and 150 mm minimum for end laps. Offset joints in cap sheet 300 mm minimum from those in base sheet.
 - .4 Application to be free of blisters, fishmouths and wrinkles.
 - .5 Do membrane application in accordance with manufacturer's recommendations.
- .6 Flashings:
- .1 Complete installation of flashing base sheet stripping prior to installing membrane cap sheet.
 - .2 Torch, base and cap sheet onto substrate in 1 metre wide strips.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 07 52 00 - Modified Bituminous
Membrane Roofing

Re-Issued 2020/08/28

Page 19 of 19

- .3 Lap flashing base sheet to membrane base sheet minimum 150 mm and seal by torch welding.
- .4 Lap flashing cap sheet to membrane cap sheet 250 mm minimum and torch weld.
- .5 .Provide 75 mm minimum side lap and seal.
- .6 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.
- .7 Do work in accordance with manufacturer's recommendations.

3.7 ROOF PENETRATIONS

- .1 Install roof drain pans, vent stack covers and other roof penetration Flashings and seal to membrane in accordance with the manufacturer's recommendations and details.
- .2 All new roof drains and relocated roof drains to be installed by certified plumber. Coordinate installation and relocation of roof drains so that work can be inspected by Owner prior to commencement of remaining roof work.

3.8 CLEANING

- .1 Perform in accordance with Section 01 74 00 - Cleaning.
- .2 Check drains to ensure cleanliness and proper function, and remove debris, equipment and excess material from site.

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .3 Section 06 10 53 – Miscellaneous Rough Carpentry.
- .4 Section 07 52 00 – Modified Bituminous Membrane Roofing.
- .5 Section 07 61 00 – Sheet Metal Roofing.
- .6 Section 07 92 00 – Joint Sealants.

1.2 REFERENCES

- .1 The Aluminum Association Inc. (AA)
 - .1 AA Aluminum Design Manual, Part VIII Guidelines for Aluminum Sheet Metal Work in Building Construction.
 - .2 AA DAF45, Designation System for Aluminum Finishes.
- .2 American Society for Testing and Materials (ASTM International)
 - .1 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .2 ASTM A755/A755M, Standard Specification for Steel Sheet, Metallic coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.
 - .3 ASTM A792/A792M, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
 - .4 ASTM D523, Standard Test Method for Specular Gloss.
- .3 Canadian Roofing Contractors Association (CRCA)
 - .1 Roofing Specifications Manual.
- .4 Canadian Standards Association (CSA International)
 - .1 CSA A123.3, Asphalt Saturated Organic Roofing Felt.
 - .2 CSA B111, Wire Nails, Spikes and Staples.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 62 00 – Sheet Metal Flashing
and Trim

Re-Issued 2019/09/10

Page 2 of 5

- .5 Canadian Sheet Steel Building Institute (CSSBI)
 - .1 CSSBI S8, Quality and Performance Specification for Prefinished Sheet Steel Used for Building Products.
 - .2 CSSBI B17, Barrier Series Prefinished Steel Sheet: Product Performance & Applications.
 - .3 CSSBI Sheet Steel Facts #12, Fastener Guide for Sheet Steel Building Products.

1.3 ACTION AND INFORMATION SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature including product specifications and technical data sheets for sheet metal flashing fasteners and accessory materials. Include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Submit shop drawings for all sheet metal fabrications.
 - .2 Indicate sheet thickness, flashing dimensions and fastenings. Include anchorage, expansion joints and other provisions for thermal movement.
 - .3 Submit manufacturer's catalogue cut sheets for manufactured items.
- .4 Samples:
 - .1 Submit 50 x 50 mm samples of each type of sheet metal material, finishes and colour.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Handle and store flashing materials to prevent creasing, buckling, scratching, or other damage.

PART 2 PRODUCTS

2.1 SHEET METAL MATERIALS

- .1 Provide sheet metal in base metal thickness specified. Where no thickness specified, provide base sheet metal in thickness recommended in SMACNA Architectural Sheet Metal Manual for type of item being fabricated, but not less than the thickness required by the authority having jurisdiction.
- .2 Aluminum-zinc alloy coated steel sheet: to ASTM A792/A792M, commercial quality, grade 33 with AZ150 coating, regular spangle surface, 0.60 mm base metal thickness. Pre-painted to CGSB –GP-71.

2.2 PREFINISHED STEEL SHEET

- .1 Prefinished steel with factory applied two-coat polyvinylidene fluoride resin on specified steel sheet substrate conforming to ASTM A755.
 - .1 Class F1S
 - .2 Colour as selected by Owner from manufacturer's standard range.
 - .3 Specular gloss: 30 units +/- 5 in accordance with ASTM D523.
 - .4 Exposed coating thickness: dry film coating system thickness not less than 22 micrometres.
 - .5 Resistance to accelerated weathering for caulk rating of 8, colour fade 5 units or less and erosion rate less than 20 % to ASTM D822 as follows:
 - .1 Outdoor exposure period 2500 hours.
 - .2 Humidity resistance exposure period 5000 hours.

2.3 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Underlay for metal flashing: No. 15 perforated asphalt felt to CSA A123.3.
- .3 Sealants: Section 07 92 00 – Joint Sealants.
- .4 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness same as sheet metal being secured.
- .5 Fasteners: of same material as sheet metal, to CSA B111, ring thread flat head roofing nails of length and thickness suitable for metal flashing application.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**
Section 07 62 00 – Sheet Metal Flashing
and Trim

Re-Issued 2019/09/10

Page 4 of 5

- .6 Washers: of same material as sheet metal, 1 mm thick with rubber packings.
- .7 Touch-up paint: as recommended by prefinished material manufacturer.

2.4 FABRICATION

- .1 Fabricate metal flashings and other sheet metal work in accordance with applicable CRCA 'FL' series details as indicated.
- .2 Fabricate aluminum flashings and other sheet aluminum work in accordance with Aluminum Association Aluminum Sheet Metal Work in Building Construction.
- .3 Form pieces in 2400 mm maximum lengths. Make allowance for expansion at joints.
- .4 Hem exposed edges on underside 12 mm. Mitre and seal corners with sealant.
- .5 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .6 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

2.5 METAL FLASHINGS

- .1 Form flashings, copings and fascias to profiles indicated of 0.60 mm thick prefinished steel.

PART 3 EXECUTION

3.1 INSTALLATION

- .1 Install sheet metal work in accordance with CRCA FL series details and as detailed.
- .2 Use concealed fastenings except where approved before installation.
- .3 Provide underlay under sheet metal. Secure in place and lap joints 100 mm.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 62 00 – Sheet Metal Flashing
and Trim

Re-Issued 2019/09/10

Page 5 of 5

- .4 Counterflash bituminous flashings at intersections of roof with vertical surfaces and curbs. Flash joints using S-lock forming tight fit over hook strips, as detailed.
- .5 Lock end joints and caulk with sealant.
- .6 Where flashing installed with mechanical fasteners, install fasteners in slots or oversize holes to allow expansion and contraction of flashings.
- .7 Provide isolation coating or impervious self-adhesive membrane to separate aluminum items from concrete and masonry.

3.2 CLEANING

- .1 Proceed in accordance with Section 01 74 00 – Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.
- .3 Leave work areas clean, free from grease, finger marks and stains.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 71 23 – Manufactured Gutters and
Downspouts

Re-Issued 2017/05/31

Page 1 of 3

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Section 06 10 53 – Miscellaneous Rough Carpentry.
- .4 Section 07 52 00 - Modified Bituminous Membrane Roofing.
- .5 Section 07 61 00 - Sheet Metal Roofing.
- .6 Section 07 62 00 - Sheet Metal Flashing and Trim.
- .7 Section 07 92 00 - Joint Sealants.

1.2 REFERENCES

- .1 The Aluminum Association Inc. (AA)
 - .1 Aluminum Sheet Metal Work in Building Construction.
 - .2 AA DAF45, Designation System for Aluminum Finishes.
- .2 American Society for Testing and Materials (ASTM International)
 - .1 ASTM A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .2 ASTM A792/A792M, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
 - .3 ASTM D523, Standard Test Method for Specular Gloss.
 - .4 ASTM D822, Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
- .3 Canadian General Standards Board (CGBS)
 - .1 CAN/CGSB-37.5, Cutback Asphalt Plastic Cement.
- .4 Canadian Standards Association (CSA International)
 - .1 CSA B111, Wire Nails, Spikes and Staples.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 71 23 – Manufactured Gutters and
Downspouts

Re-Issued 2017/05/31

Page 2 of 3

1.3 SUBMITTALS

- .1 Submit duplicate 50 x 50 mm samples of each type of sheet metal material, colour and finish.
- .2 Clearly indicate bending, folding, jointing, fastening installation details.

1.4 DELIVERY AND STORAGE

- .1 Store products off ground and under cover in a dry, well ventilated enclosure.
- .2 Stack pre-formed material in manner to prevent twisting, bending and rubbing.
- .3 Provide protection for galvanized and pre-coated surfaces.
- .4 Prevent contact of dissimilar metals during storage. Protect from acids, flux, and other corrosive materials and elements.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Sheet aluminum 0.64 mm thick. Color as selected by Owner.
- .2 Trough size: 200 mm wide.
- .3 Trough Supports: continuous aluminum with a perforated aluminum cover that covers the complete trough to prevent debris from getting stuck in the trough and downpipe.
- .4 Downpipes: 0.64 mm thick aluminum.
- .5 Downpipe straps: 0.72 mm thick aluminum.
- .6 Sealant: As per Section 07 92 00 – Joint Sealants.
- .7 Elbows and tees: aluminum same as trough.

2.2 FABRICATION

- .1 Fabricate sheet aluminum work in accordance with Aluminum Association Aluminum Sheet Metal Work in Building Construction.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 07 71 23 – Manufactured Gutters and
Downspouts

Re-Issued 2017/05/31

Page 3 of 3

- .2 Fabricate eavestrough in continuous length up to a maximum length of 12 metres.
- .3 Form eavestrough to an Ogee profile, 125 mm wide and a 305 mm girth.

PART 3 EXECUTION

3.1 INSTALLATION

- .1 Install trough supports/debris catchers to provide a continuous slope to drain all water from the trough.
- .2 Cut opening in the trough to receive the downpipes.
- .3 Install the trough and snap in to the supports (no exposed screws or nails permitted). Install elbows and tees as required. Provide for expansion joints to prevent warping where required.
- .4 Install aluminum downpipes to a distance of 1.5 metres from the grade. Install aluminum straps 1200 mm o.c designed to match the pipe profile and fasten to building with aluminum or stainless steel screws.
- .5 Install sewer type downpiping from the aluminum downpiping to a point 300 mm above the grade. Install aluminum straps designed to suit the pipe profile and fasten to the wall with aluminum or stainless steel screws.
- .6 Install sealant as required to ensure all joints are watertight.
- .7 When work is completed, provide a water test to ensure there are no leaks and that all the water runs from the trough.

3.2 CLEANING

- .1 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.
- .2 Leave works areas clean, free from grease, finger marks and stains.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Materials, preparation and application for caulking and sealants.
- .2 Text to complete other various Sections containing sealant or caulking specifications, including Section 07 52 00 - Modified Bituminous Membrane Roofing.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 43 39 – Mock Up Requirements.
- .3 Section 01 45 00 - Quality Control.
- .4 Section 01 61 00 - Common Product Requirements.
- .5 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.3 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM C919, Standard Practice for Use of Sealants in Acoustical Applications.
 - .2 Canadian General Standards Board (CGSB)
 - .1 CGSB 19-GP-5M, Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1).
 - .2 CAN/CGSB-19.13, Sealing Compound, One-component, Elastomeric, Chemical Curing.
 - .3 CGSB 19-GP-14M, Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).
 - .4 CAN/CGSB-19.17, One-Component Acrylic Emulsion Base Sealing Compound.
 - .5 CAN/CGSB-19.24, Multi-component, Chemical Curing Sealing Compound.
- .3 Department of Justice Canada (Jus)

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 2 of 11

- .1 Canadian Environmental Protection Act (CEPA).
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Safety Data Sheets (SDS).
- .5 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act (TDGA).

1.4 SUBMITTALS

- .1 Manufacturer's product to describe.
 - .1 Caulking compound.
 - .2 Primers.
 - .3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.
 - .4 Installation instructions, surface preparation and product limitations.
- .2 Submit duplicate samples of each type of material and colour.
- .3 Cured samples of exposed sealants for each color where required to match adjacent material.
- .4 Manufacturers' instructions to include installation instructions for each product used.

1.5 QUALITY ASSURANCE

- .1 Manufacturer Qualifications: company engaged in the manufacturing of products specified in this section with a minimum of ten (10) years documented experience.
- .2 Applicator Qualifications: Experienced installer equipped and trained for application of joint sealant required for this project with record of successful completion of projects of similar scope.
 - .1 Applicator to be approved by sealant manufacturer.
 - .2 Applicator to submit documentation of a minimum three (3) successfully completed projects of similar size, scope and complexity.

1.6 MOCK-UP

- .1 Construct mock-up in accordance with Section 01 43 39 – Mock Up Requirements.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 3 of 11

- .2 Construct mock-up to show location, size, shape and depth of joints complete with back-up material, primer, caulking and sealant. Mock-up may be part of finished work.
- .3 Mock-up will be used:
 - .1 To judge workmanship, substrate preparation, operation of equipment and material application.

1.7 FIELD ADHESION/COHESION TESTS

- .1 Test Frequency:
 - .1 Perform a field test each type of sealant and substrate combination, for all interior and exterior sealants associated with the building envelope.
 - .2 Perform three (3) additional tests for each failed test.
- .2 Locate test joints as directed by Owner. Tests to be performed in the presence of the Owner and/or manufacturer's representative.
- .3 Notify Owner seven (7) days prior to dates tests are to be performed.
- .4 Test joint sealants by hand-pull methods #1 and # 2. Record test results in Field Adhesion/Cohesion Test Form.
 - .1 Test Method #1:
 - .1 Make a knife cut horizontally from one side of the joint to the other.
 - .2 Make two (2) vertical cuts (from the horizontal cut) approximately 75 mm long on each side of the joint.
 - .3 Pry out flap created from cuts.
 - .4 Firmly grasp flap and slowly pull at 90° from sealant plane.
 - .5 Pull flap until adhesive or cohesive failure occurs.
 - .1 Adhesive failure will be evidenced by the sealant pulling off clean from the substrate.
 - .2 Cohesion failure will be evidenced by the sealant ripping or failing within itself, leaving well-adhered sealant to the substrate.
 - (Cohesive failure is considered a positive result).**
 - .2 Test Method # 2:
 - .1 Follow steps one (1) through four (4) of Test Method # 1.
 - .2 Mark a benchmark on the sealant 25 mm (1") from the plane of the installed sealant.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 4 of 11

- .3 Firmly grasp the flap and pull slowly, while holding a ruler parallel to the sealant flap. Note the position of the benchmark on the ruler.
 - .4 Refer to manufacturer's printed literature for each sealant tested for the required extension factor pass criteria; (i.e.: if the 25 mm (1") benchmark on the sealant can be pulled to 100 mm (4") and held with no failure of sealant, 400% elongation is achieved.)
 - .5 **If no failure occurs prior to the manufacturer's stated extension factor, the test is successful.** Extension factor should be three (3) times the movement capability of the sealant.
- .5 Inspect joints for:
 - .1 Complete fill,
 - .2 Absence of voids,
 - .3 Primer,
 - .4 Proper width/depth ratio, and
 - .5 Back up material.
 - .6 Repair sealants pulled in test area by applying new sealants following same procedures used to original seal joints.
 - .7 Contractor shall repair test areas at no additional cost to the Owner.

1.8 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.
- .3 Condition products to approximately 16 to 20 degrees C for use in accordance with manufacturer's recommendations.
- .4 Handle all products with appropriate precautions and care as stated on the Material Safety Data Sheet.

1.9 PROJECT CONDITIONS

- .1 Environmental Limitations:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 5 of 11

- .1 Do not proceed with installation of joint sealants under following conditions:
 - .1 When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4°C.
 - .2 When joint substrates are wet.
 - .3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .2 Joint-Width Conditions:
 - .1 Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
- .3 Joint-Substrate Conditions:
 - .1 Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

PART 2 PRODUCTS

2.1 SEALANT MATERIALS

- .1 Sealants and Caulking compounds must:
 - .1 Meet or exceed all applicable governmental and industrial safety and performance standards; and
 - .2 Be manufactured and transported in such a manner that all steps of the process, including the disposal of waste products arising therefrom, will meet the requirements of all applicable governmental acts, by laws and regulations including, for facilities located in Canada, the Fisheries Act and the Canadian Environmental Protection Act (CEPA).
- .2 Sealant and caulking compounds must not be formulated or manufactured with: aromatic solvents, fibrous talc or asbestos, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium, barium or their compounds, except barium sulphate.
- .3 Sealant and caulking compounds must not contain a total of volatile organic compound (VOC's) in excess of 100 grams per litre as calculated from records of the amounts of constituents used to make the product.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 6 of 11

- .4 Sealant and caulking compounds must be accompanied by detailed instructions for proper application so as to minimize health concerns and maximize performance, and information describing proper disposal methods.
- .5 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.
- .6 When low toxicity caulks are not possible, confine usage to areas which off-gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off-gas time.
- .7 Where sealants are qualified with primers use only these primers.
- .8 Sealants acceptable for use on this project must be listed on CGSB Qualified Products List issued by CGSB Qualification Board for Joint Sealants. Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

- .1 Single component, low odor, moisture cure, medium modulus, low VOC sealant for use in sealing air/vapour barrier penetrations, to ASTM C920, Type S, Grade NS, Class 35.
 - .1 ASTM C719: $\pm 35\%$.
 - .2 Ultimate Elongation: 450 - 550%.
 - .3 Modulus, 100%: 275 - 345 kPa.
 - .4 Shore A Hardness: 25 ± 5 .
 - .5 Tensile Strength: 1034 – 1378 kPa.
 - .6 Maximum VOC: 5 g/L.
- .2 Single component, medium modulus, high-performance, neutral-cure silicone sealant for general purpose exterior use, to ASTM C920, Type S, Grade NS, Class 35, Use NT, M, A and O.
 - .1 ASTM C719: $\pm 25\%$.
 - .2 Ultimate Elongation: 550%.
 - .3 Modulus, 50% extension: 380 kPa.
 - .4 Shore A Hardness: 25 ± 5 .
 - .5 Tensile Strength: 1240 kPa.
 - .6 Maximum VOC: 35 g/L.
 - .7 Colour to be selected from manufacturer's standard range.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 7 of 11

- .3 Single component, low modulus, neutral-cure silicone sealant for general purpose masonry use, to ASTM C920, Type S, Grade NS, Class 50, Use T, NT, M, G, A and O.
 - .1 ASTM C719: $\pm 50\%$.
 - .2 Ultimate Elongation: 1600%.
 - .3 Modulus, 50% extension: 193 kPa.
 - .4 Shore A Hardness: 15.
 - .5 Tensile Strength: 690 kPa.
 - .6 Maximum VOC: 22 g/L.
 - .7 Colour to be selected from manufacturer's standard range.

- .4 Two-component, high modulus, neutral-cure flexible silicone rubber sealant for use with aluminum window and curtain wall fabrication, assembly and glazing installation, to ASTM C1184 and ASTM C920, Type M, Grade NS, Class 12 ½, Use NT.
 - .1 ASTM C719: $\pm 25\%$.
 - .2 Ultimate Elongation: 120%.
 - .3 Shore A Hardness: 30 - 40.
 - .4 Tensile Strength: 2000 kPa.
 - .5 Maximum VOC: < 18 g/L.

- .5 Single component, medium modulus, neutral-cure silicone sealant for general roofing applications, to ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A and O.
 - .1 ASTM C719: $\pm 50\%$.
 - .2 Shore A Hardness: 35.
 - .3 Tensile Strength: 415 kPa.
 - .4 Maximum VOC: 28 g/L.
 - .5 Colour to be selected from manufacturer's standard range.

- .6 Single component, chemical cure, silicone rubber sealant, for use with plumbing fixtures, showers, sinks, tubs, and junction of counter tops and adjacent wall finishes, to ASTM C920, Type S, Grade NS, Class 25, Use NT.
 - .1 Shore A Hardness: 25.
 - .2 Tensile Strength: 2100 kPa.
 - .3 Maximum VOC: 36 g/L.
 - .4 Colour to be selected from manufacturer's standard range.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 8 of 11

- .7 Single component, high-performance, elastomeric polyurethane sealant, paintable, for general purpose interior use, to ASTM C920, Type S, Grade NS, Class 35, Use NT, M, A, T, O and I.
 - .1 ASTM C719: 35%.
 - .2 Ultimate Elongation: 800%.
 - .3 Shore A Hardness: 25 - 30.
 - .4 Tensile Strength: 2400 kPa.
 - .5 Maximum VOC: 35 g/L.
 - .6 Colour to be selected from manufacturer's standard range.
- .8 Single component, non-skinning, non-hardening, synthetic rubber sealant for use in acoustical applications, to CAN/CGSB 19.21.
 - .1 Shrinkage: maximum 20%.
 - .2 Maximum VOC: 53 g/L.
 - .3 Sag: Maximum 4.0 mm.
- .9 Two-component, non-sag, tamper resistant, elastomeric polyurethane sealant, for use in interior joints, penetrations, doors, windows, perimeters of fixtures, where a flexible security sealant is required due to idle tampering or vandalism, to ASTM C920, type M, Grade NS, Class 12.5, Use T₁, M and O.
 - .1 Ultimate Elongation: 175 - 200%.
 - .2 Shore A Hardness: 40 - 45.
 - .3 Tensile Strength: 2000 to 2400 kPa.
 - .4 Maximum VOC: Activator - < 25 g/L, Base - < 100 g/L.
 - .5 Colour to be selected from manufacturer's standard range.

2.3 ACCESSORIES

- .1 Primer: Type as recommended by sealant manufacturer. Primer to be compatible with joint forming materials.
- .2 Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer and compatible with joint forming materials.
- .3 Preformed Compressible and Non-Compressible back-up materials.
 - .1 Polyethylene, Urethane, Neoprene or Vinyl Foam.
 - .1 Extruded closed cell foam backer rod.
 - .2 Size: oversize 30 to 50 %.
 - .2 Neoprene or Butyl Rubber.
 - .1 Round solid rod, Shore A hardness 70.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 9 of 11

- .3 High Density Foam.
 - .1 Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m³ density, or neoprene foam backer, size as recommended by manufacturer.
- .4 Bond Breaker Tape.
 - .1 Polyethylene bond breaker tape which will not bond to sealant.

PART 3 EXECUTION

3.1 PROTECTION

- .1 Protect installed Work of other trades from staining or contamination.

3.2 SURFACE PREPARATION

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair work.
- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .4 Ensure joint surfaces are dry and frost free.
- .5 All joint forming materials to be primed prior to sealant installation.
- .6 Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

- .1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

- .1 Apply bond breaker tape where required to manufacturer's instructions.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 10 of 11

- .2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 MIXING

- .1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.6 APPLICATION

- .1 Sealant.
 - .1 Apply sealant in accordance with manufacturer's written instructions.
 - .2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
 - .3 Apply sealant in continuous beads.
 - .4 Apply sealant using gun with proper size nozzle.
 - .5 Use sufficient pressure to fill voids and joints solid.
 - .6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
 - .7 Tool exposed surfaces before skinning begins to give slightly concave shape.
 - .8 Remove excess compound promptly as work progresses and upon completion.
- .2 Curing.
 - .1 Cure sealants in accordance with sealant manufacturer's instructions.
 - .2 Do not cover up sealants until proper curing has taken place.
- .3 Cleanup.
 - .1 Clean adjacent surfaces immediately and leave Work neat and clean.
 - .2 Remove excess and droppings, using recommended cleaners as work progresses.
 - .3 Remove masking tape after initial set of sealant.

3.7 CLEANING

- .1 Clean adjacent surfaces immediately and leave Work neat and clean.
- .2 Remove excess and droppings, using recommended cleaners as work progresses.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2020/08/28

Section 07 92 00 – Joint Sealants

Page 11 of 11

- .3 Remove masking tape after initial set of sealant.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 43 39 – Mock Up Requirements.
- .3 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .4 Section 06 10 53 – Miscellaneous Rough Carpentry.
- .5 Section 07 21 16 - Blanket Insulation.
- .6 Section 07 84 00 – Firestopping.

1.2 REFERENCES

- .1 American Society for Testing and Materials, (ASTM)
 - .1 ASTM C475, Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
 - .2 ASTM C514, Specification for Nails for the Application of Gypsum Board.
 - .3 ASTM C840, Specification for Application and Finishing of Gypsum Board.
 - .4 ASTM C954, Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
 - .5 ASTM C1002, Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
 - .6 ASTM C1047, Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
 - .7 ASTM C1280, Standard Specification for Application of Gypsum Sheathing.
 - .8 ASTM C1177/C1177M, Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
 - .9 ASTM C1178/C1178M, Standard Specification for Glass Mat Water-Resistant Gypsum Backing Board.
 - .10 ASTM C1396/C1396M, Standard Specification for Gypsum Wallboard.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .11 ASTM C1629, Standard Classification for Abuse Resistant Nondecorated Interior Gypsum Panel Products and Fibre Reinforced Cement Panels.
- .12 ASTM D3273, Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- .13 ASTM E90, Standard Test method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- .2 Association of the Wall and Ceilings Industries International (AWCI)
 - .1 AWCI Levels of Gypsum Board Finish.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.34, Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
- .4 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102, Surface Burning Characteristics of Building Materials and Assemblies.

1.3 SUBMITTALS

- .1 Submit 300 mm size samples of corner and casing beads insulating strip.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver materials in original packages, containers or bundles bearing manufacturers brand name and identification.
- .2 Store materials inside, level, under cover. Keep dry. Protect from weather, other elements and damage from construction operations and other causes.
- .3 Handle gypsum boards to prevent damage to edges, ends or surfaces. Protect metal accessories and trim from being bent or damaged.

1.5 SITE ENVIRONMENTAL REQUIREMENTS

- .1 Maintain temperature minimum 10° C, maximum 21° C for 48 hours prior to and during application of gypsum boards and joint treatment, and for at least 48 hours after completion of joint treatment.
- .2 Apply board and joint treatment to dry, frost free surfaces.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .3 Ventilation: Ventilate building spaces as required to remove excess moisture that would prevent drying of joint treatment material immediately after its application.

1.6 QUALIFICATIONS

- .1 Dry wall installers: minimum 5 years proven experience.

1.7 MOCKUPS

- .1 Submit Mock-Ups in accordance with Section 01 43 39 – Mock Up Requirements.
- .2 Construct mock up gypsum board wall installation including one inside corner and one outside corner. Mock-up may be part of finished work.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Standard board: to ASTM C1396/C1396M regular and Type X, thicknesses as indicated on drawings, 1200 mm wide x maximum practical length, ends square cut, edges bevelled.
- .2 Glass mat water-resistant gypsum board: to ASTM C1178/C1178M with glass mat facings, both sides, regular and Type X, thicknesses as indicated on drawings, 1200 mm wide x maximum practical length, ends square cut, long edges tapered.
- .3 Glass mat exterior gypsum board sheathing: to ASTM C1177/C1177M regular and Type X, thicknesses as indicated on drawings, 1200 mm wide x maximum practical length, ends and long edges square cut.
- .4 Moisture and mold resistant gypsum board: to ATSM D3273, moisture-resistant gypsum core enclosed in 100% recycled moisture and mold resistant papers, regular and Type X, thicknesses as indicated on drawings, 1200 mm wide x maximum practical length, ends square cut, long edges tapered.
- .5 Abuse resistant gypsum board: to ASTM C1629, fire rated gypsum board core with additives to enhance surface indentation resistance and impact resistance, enclosed in 100% recycled moisture and mold resistant papers, Type X, 16 mm thick, ends square cut, long edges tapered.
 - .1 Surface Abrasion Resistance: Classification Level 1 to ASTM C1629.
 - .2 Indentation Resistance: Classification Level 1 to ASTM C1629.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .3 Soft Body Impact Resistance: Classification Level 2 to ASTM C1629.
- .4 Hard Body Impact Resistance; Classification Level 1 to ASTM C1629.
- .6 Acoustically enhanced gypsum board: to ASTM E90, inner core layer - viscoelastic damping polymer, outer core layers – enhanced, high density mold-resistant gypsum core, regular and Type X, thicknesses as indicated on drawings, 1200 mm wide x maximum practical length, ends square cut, long edges tapered.
 - .1 Surface Abrasion Resistance: Classification Level 3 to ASTM C1629.
 - .2 Indentation Resistance: Classification Level 1 to ASTM C1629.
 - .3 Soft Body Impact Resistance: Classification Level 2 to ASTM C1629.
 - .4 Hard Body Impact Resistance; Classification Level 1 to ASTM C1629.
- .7 Metal furring runners, hangers, tie wires, inserts, anchors: to CSA A82.30 galvanized.
- .8 Drywall furring channels: 0.5 mm core thickness galvanized steel channels for screw attachment of gypsum board.
- .9 Resilient drywall furring: 0.5 mm base steel thickness galvanized steel for resilient attachment of gypsum board.
- .10 Nails: to ASTM C514.
- .11 Steel drill screws: to ASTM C1002.
- .12 Stud adhesive: to CAN/CGSB-71.25.
- .13 Laminating compound: as recommended by manufacturer, asbestos-free.
- .14 Casing beads, corner beads, control joints and edge trim: to ASTM C1047, metal, zinc-coated by hot-dip process 0.5 mm base thickness, perforated flanges, one piece length per location.
- .15 Sealants: in accordance with Section 07 92 00 - Joint Sealants.
- .16 Acoustic sealant: to CGSB 19-GP-21M.
- .17 Polyethylene: to CAN/CGSB-51.34, Type 2.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .18 Insulating strip: rubberized, moisture resistant, 3.0 mm thick cork strip, 12 mm wide, with self sticking permanent adhesive on one face, lengths as required.
- .19 Joint compound: to ASTM C475, asbestos-free.

2.2 FINISHES

- .1 Texture finish: asbestos-free standard white texture coating and primer-sealer, recommended by gypsum board manufacturer.

PART 3 EXECUTION

3.1 ERECTION

- .1 Do application and finishing of gypsum board in accordance with ASTM C840 except where specified otherwise.
- .2 Do application of gypsum sheathing to ASTM C1280.
- .3 Erect hangers and runner channels for suspended gypsum board ceilings in accordance with ASTM C840 except where specified otherwise.
- .4 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.
- .5 Install work level to tolerance of 1:1200.
- .6 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers, grilles, and other protrusions.
- .7 Install 19 x 64 mm furring channels parallel to, and at exact locations of steel stud partition header track.
- .8 Furr for gypsum board faced vertical bulkheads within and at termination of ceilings.
- .9 Furr above suspended ceilings for gypsum board fire and sound stops and to form plenum areas as indicated.
- .10 Install wall furring for gypsum board wall finishes in accordance with ASTM C840, except where specified otherwise.
- .11 Furr openings and around built-in equipment, cabinets, access panels, on four sides. Extend furring into reveals. Check clearances with equipment suppliers.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .12 Furr duct shafts, beams, columns, pipes and exposed services where indicated.

3.2 APPLICATION

- .1 Do not apply gypsum board until bucks, anchors, blocking, sound attenuation, electrical and mechanical work are approved.
- .2 Apply single/double layer gypsum board to wood or metal furring or framing using screw fasteners. Maximum spacing of screws 300 mm oc.
 - .1 Single-Layer Application:
 - .1 Apply gypsum board on ceilings prior to application of walls in accordance with ASTM C840.
 - .2 Apply gypsum board vertically or horizontally, providing sheet lengths that will minimize end joints.
 - .2 Double-Layer Application:
 - .1 Install gypsum board for base layer and exposed gypsum board for face layer.
 - .2 Apply base layer to ceilings prior to base layer application on walls; apply face layers in same sequence. Offset joints between layers at least 250 mm.
 - .3 Apply base layers at right angles to supports unless otherwise indicated.
 - .4 Apply base layer on walls and face layers vertically with joints of base layer over supports and face layer joints offset at least 250 mm with base layer joints.
- .3 Apply single layer gypsum board to concrete or concrete block surfaces, where indicated, using laminating adhesive.
 - .1 Comply with gypsum board manufacturer's recommendations.
 - .2 Brace or fasten gypsum board until fastening adhesive has set.
 - .3 Mechanically fasten gypsum board at top and bottom of each sheet.
- .4 Apply water-resistant gypsum board where wall tiles are to be applied and adjacent to slop sinks janitors closets. Apply water-resistant sealant to edges, ends, cut-outs which expose gypsum core and to fastener heads. Do not apply joint treatment on areas to receive tile finish.
- .5 Apply 12 mm diameter bead of acoustic sealant continuously around periphery of each face of partitioning to seal gypsum board/structure junction where partitions abut fixed building components. Seal full perimeter of cut-outs around electrical boxes, ducts, in partitions where perimeter sealed with acoustic sealant.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .6 Install ceiling boards in direction that will minimize number of end-butt joints. Stagger end joints at least 250 mm.
- .7 Install gypsum board on walls vertically to avoid end-butt joints. At stairwells and similar high walls, install boards horizontally with end joints staggered over studs, except where local codes or fire-rated assemblies require vertical application.
- .8 Install gypsum board with face side out.
- .9 Do not install damaged or damp boards.
- .10 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.

3.3 INSTALLATION

- .1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges. Secure at 150 mm oc using contact adhesive for full length.
- .2 Install casing beads around perimeter of suspended ceilings.
- .3 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated. Seal joints with sealant.
- .4 Install insulating strips continuously at edges of gypsum board and casing beads abutting metal window and exterior door frames, to provide thermal break.
- .5 Construct control joints of two back-to-back casing beads set in gypsum board facing and supported independently on both sides of joint.
- .6 Provide continuous polyethylene dust barrier behind and across control joints.
- .7 Locate control joints at changes in substrate construction.
- .8 Install control joints straight and true.
- .9 Construct expansion joints as detailed, at building expansion and construction joints. Provide continuous dust barrier.
- .10 Install expansion joint straight and true.
- .11 Install access doors to electrical and mechanical fixtures specified in respective sections.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

- .1 Rigidly secure frames to furring or framing systems.
- .12 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.
- .13 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with Association of the Wall and Ceiling Industries (AWCI) International Recommended Specification on Levels of Gypsum Board Finish:
 - .1 Levels of finish:
 - .1 Level 2: Embed tape for joints and interior angles in joint compound and apply one separate coat of joint compound over joints, angles, fastener heads and accessories; surfaces free of excess joint compound; tool marks and ridges are acceptable.(For use where water resistant gypsum backing board is used as a substrate for tile.)
 - .2 Level 4: Embed tape for joints and interior angles in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads and accessories; surfaces smooth and free of tool marks and ridges.
- .14 Finish corner beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.
- .15 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.
- .16 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
- .17 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.
- .18 Apply one coat of white primer sealer over surface to be textured. When dry apply textured finish in accordance with manufacturer's instructions.
- .19 Mix joint compound slightly thinner than for joint taping.
- .20 Apply thin coat to entire surface using trowel or drywall broadknife to fill surface texture differences, variations or tool marks.
- .21 Allow skim coat to dry completely.
- .22 Remove ridges by light sanding or wiping with damp cloth.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Re-Issued 2021/05/31 Section 09 21 16 – Gypsum Board Assemblies

Page 9 of 9

- .23 Provide protection that ensures gypsum drywall work will remain without damage or deterioration at time of substantial completion.

3.4 SCHEDULES

- .1 Construct fire rated assemblies where indicated, seal penetrations, as per Section 07 84 00 – Firestopping.

END OF SECTION

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 1 of 22

PART 1 GENERAL

1.1 SUMMARY

- .1 Section Includes:
 - .1 Materials and installation for plumbing specialties and accessories.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 35 29.06 – Health and Safety Requirements.
- .3 Section 01 45 00 – Quality Control.
- .4 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
- .5 Section 01 78 00 – Closeout Submittals.
- .6 Section 01 91 13.13 – Commissioning (Cx) Requirements.

1.3 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A126, Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.
 - .2 ASTM B62, Specification for Composition Bronze or Ounce Metal Castings.
- .2 American Water Works Association (AWWA)
 - .1 AWWA C700, Cold Water Meters-Displacement Type, Bronze Main Case.
 - .2 AWWA C701, Cold Water Meters-Turbine Type for Customer Service.
 - .3 AWWA C702, Cold Water Meters-Compound Type.
- .3 American National Standards Institute (ANSI)
 - .1 ANSI Z358.1 Emergency eyewash and shower equipment.
- .4 Canadian Standards Association (CSA)

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 2 of 22

- .1 CSA-B64 Series, Backflow Preventers and Vacuum Breakers.
- .2 CSA-B356, Water Pressure Reducing Valves for Domestic Water Supply Systems.
- .5 Health Canada/Workplace Hazardous Materials Information Systems (WHMIS).
 - .1 Safety Data Sheets (SDS).
- .6 Plumbing and Drainage Institute (PDI)
 - .1 PDI-G101, Testing and Rating Procedure for Grease Interceptors with Appendix of Installation and Maintenance.
 - .2 PDI-WH201, Water Hammer Arresters Standard.

1.4 SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and datasheet for fixtures and equipment.
 - .2 Indicate dimensions, construction details and materials for specified items.
 - .3 Submit WHMIS SDS in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOC's for adhesive and solvents during application and curing.
- .3 Shop Drawings:
 - .1 Submit shop drawings to indicate materials, finishes, method of anchorage, number of anchors, dimensions, construction and assembly details and accessories.
- .4 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .5 Instructions: submit manufacturer's installation instructions.
- .6 Closeout submittals: submit maintenance and engineering data for incorporation into manual specified in Section 01 78 00 – Closeout Submittals. Include:
 - .1 Description of plumbing specialties and accessories, giving manufacturer's name, type, model, year and capacity.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 3 of 22

- .2 Details of operation, servicing and maintenance.
- .3 Recommended spare parts list.

1.5 QUALITY ASSURANCE

- .1 Pre-Installation Meetings:
 - .1 Convene pre-installation meeting one week prior to beginning work of this Section and on-site installations.
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review manufacturer's installation instructions and warranty requirements.
 - .2 Health and Safety:
 - .1 Do construction occupational health and safety in accordance with Section 01 35 29.06 – Health and Safety Requirements.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.
 - .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
 - .3 Collect and separate for disposal, paper, plastic, polystyrene, corrugated cardboard packaging materials in appropriate on-site bins for recycling in accordance with Waste Management Plan.
 - .4 Divert unused metal materials from landfill to metal recycling facility as approved by Owner.
 - .5 Fold up metal and plastic banding flatten and place in designated area for recycling.

1.7 WARRANTY

- .1 Provide a written guarantee, signed and issued in the name of the owner, against defective materials and workmanship for a period of one (1) year from the date of Substantial Completion.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 4 of 22

PART 2 PRODUCTS

2.1 FLOOR DRAINS

- .1 FD-1: general duty; cast iron body, round adjustable head, 125 mm, sediment basket nickel bronze strainer, integral seepage pan and clamping collar, trap primer connection.
- .2 FD-3: combination funnel floor drain; coated cast iron body with integral seepage pan, clamping collar, nickel-bronze adjustable head strainer with integral oval funnel, trap primer connection.
- .3 FD-4: planters; coated cast-iron body with integral seepage pan, clamping collar, vertically adjustable nickel-bronze adjustable head strainer, vandal-proof NPS2 perforated dome and standpipe, stainless steel screen, trap primer connection.

2.2 ROOF DRAINS

- .1 RD-1; Standard coated roof drain with cast iron body 381 mm diameter, with aluminum dome, under-deck clamp to suit roof construction, flashing clamp ring with integral gravel stop.
- .2 RD-2: Cornice, sill or canopy drain; cast iron body with 150 mm diameter cast bronze dome or strainer and flashing clamp, under deck clamp.
- .3 RD-3: parapet or scupper drain; cast iron body with 303 mm x 305 mm oblique aluminum strainer/grate and flashing clamp.
- .4 RD-4: inverted roofing system; cast iron body with aluminum dome, under-deck clamp and sump receiver to suit roof construction, with integral gravel stop and stainless steel drainage grid.

2.3 CLEANOUTS

- .1 Cleanout plugs: heavy cast iron male ferrule with brass screws and threaded brass or bronze plug. Sealing-caulked lead seat or neoprene gasket.
- .2 Access covers:
 - .1 Wall access: face or wall type, or stainless steel square cover with flush head securing screws, bevelled edge frame complete with anchoring lugs.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 5 of 22

- .2 Floor access: round cast iron body and frame with adjustable secured nickel bronze top.
 - .1 Plugs: bronze with neoprene gasket.
 - .2 Cover for unfinished concrete floors: cast iron round, gasket, vandal-proof screws.
 - .3 Cover for terrazzo finish: polished nickel bronze brass with recessed cover for filling with terrazzo, vandal-proof locking screws.
 - .4 Cover for tile and linoleum floors: polished nickel bronze with recessed cover for linoleum or tile infill, complete with vandal-proof locking screws.
 - .5 Cover for carpeted floors: polished nickel bronze with deep flange cover for carpet infill, complete with carpet retainer vandal-proof locking screws.

2.4 NON FREEZE WALL HYDRANTS

- .1 Recessed with integral vacuum breaker, integral backflow preventer, NPS $\frac{3}{4}$ hose outlet, removable operating key, polished bronze finish, encased, non-freeze, anti-siphon, automatic draining, wall clamp, replaceable bronze seat and washer.

2.5 WATER HAMMER ARRESTORS

- .1 Stainless steel or copper construction, bellows or piston type: to PDI-WH201.

2.6 BACK FLOW PREVENTERS

- .1 To CSA-B64 Series.
- .2 Application: domestic service entrance and fire protection system service entrance.
 - .1 Domestic water:
 - .1 Reduced pressure principle type consisting of a pressure differential relief valve located between two independently operated spring-loaded centre guided check valves.
 - .2 Ductile iron construction with FDA approved fusion epoxy coat inside and out.
 - .3 Compound check.
 - .4 Single access cover.
 - .5 Maximum temperature range: 0.5°C to 60°C.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 6 of 22

- .6 Maximum pressure: 1205 kPa.
- .7 CSA certified.
- .2 Fire protection water:
 - .1 Same as above except without compound check and with FM and ULC approval for fire protection service.
- .3 Application: install on domestic cold water supply to electrode steam humidifier, emergency eyewash and drench shower.
 - .1 Bronze body construction.
 - .2 Internal pressure differential relief valve located in a zone between two positive seating check modules with captured springs and silicone seat discs.
 - .3 Seats and discs replaceable in both check modules and the relief valve.
 - .4 Assembly to include two resilient seated isolation valves, four resilient seated test cocks, protective wye strainer with 20 mesh screen, union end connections and an air gap drain fitting.
 - .5 Reduced pressure zone type backflow preventer.
- .4 Provide backflow preventer test kit as follows:
 - .1 Maximum working pressure: 1205 kPa.
 - .2 Maximum working temperature: 98.8°C.
 - .3 0-103 kPa and 0-15 psig dual scale pressure gauge with 114 mm diameter face, $\pm 2\%$ accuracy.
 - .4 Test valves: two (2) ball valves and one (1) needle valve.
 - .5 Hoses: three (3) one (1) metre test hoses with female threaded swivel coupling.
 - .6 Adapters:
 - .1 Three (3) NPS $\frac{1}{4}$ threaded coupling adapters.
 - .2 Three (3) NPS $\frac{1}{2}$ x NPS $\frac{1}{4}$ bushings.
 - .3 Three (3) NPS $\frac{3}{4}$ x NPS $\frac{1}{4}$ bushings.
 - .7 400 mm long securing strap.
 - .8 Moisture resistant instruction guide.
 - .9 Light weight, shock resistant molded plastic case with foam inserts.

2.7 VACUUM BREAKERS

- .1 To CSA-B64 Series.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

**Section 22 05 15 – Plumbing Specialties
and Accessories**

Re-Issued 2021/05/31

Page 7 of 22

- .2 Atmospheric vacuum breaker, where indicated:
 - .1 Plain brass body with silicone disc.
 - .2 Suitable for temperatures up to 82°C.
 - .3 Maximum operating pressure: 860 kPa.
 - .4 Size: as indicated.
- .3 Hose connection vacuum breaker:
 - .1 NPS ¾ female hose thread inlet, NPS ¾ male hose thread outlet, brass finish.

2.8 PRESSURE REGULATORS

- .1 Capacity: as indicated.
 - .1 Inlet pressure: 1034 kPa.
 - .2 Outlet pressure: 413 kPa.
 - .3 Capacity: as indicated.
- .2 Up to NPS1-1/2 bronze bodies, screwed: to ASTM B62, strainer and stainless steel strainer screen.
- .3 NPS2 and over, semi-steel bodies, Class 125, flanged: to ASTM A126, Class B, strainer.
- .4 Semi-steel spring chambers with bronze trim.

2.9 BACKWATER VALVES

- .1 Coated extra heavy cast iron body with bronze seat, bronze flapper and threaded cover.
- .2 Access:
 - .1 Surface access.
 - .2 Concrete access pit with steel cover, as indicated.

2.10 HOSE BIBBS AND SEDIMENT FAUCETS

- .1 Bronze construction complete with integral back flow preventer, hose thread spout, replaceable composition disc, and chrome plated in finished areas.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 8 of 22

2.11 WATER MAKE-UP ASSEMBLY

- .1 Complete with backflow preventer, pressure gauge on inlet and outlet, pressure reducing valve to CSA B356, pressure relief valve on low pressure side and gate valves on inlet and outlet, strainer.

2.12 WATER METERS

- .1 Displacement type to AWWA C700, Turbine type to AWWA C701, Compound type to AWWA C702.
- .2 Capacity: flow rate, pressure drop, pipe connections as indicated.
- .3 Accessories: remote readout device, pulse output or 4-20 mA current output.

2.13 TRAP SEAL PRIMERS

- .1 Pressure drop actuated:
 - .1 Brass body construction with inlet opening of ½ male NPT and outlet opening of female ½ NPT.
 - .2 Provide complete with four-hole view built-in air gap to prevent any backflow from trap being fed into the water supply.
 - .3 Provide removable inlet filter screen.
 - .4 Capacity to serve up to four (4) floor drains.
 - .5 Provide complete with trap seal primer distribution unit as follows:
 - .1 Brass body construction.
 - .2 ½ NPT inlet connection.
 - .3 Four (4) 3/8 FPT brass nipple outlet connections.
 - .4 Four (4) 6 mm diameter vent holes in lid to provide air gap and backflow protection.
- .2 Up to 12 floor drains: Electronic trap priming manifold with:
 - .1 Vacuum breaker
 - .2 Pre-set 24 hour time clock
 - .3 Manual override switch
 - .4 120V solenoid valve
 - .5 120V or 3 wire connection.
 - .6 NPS ¾ inlet connection.
 - .7 Calibrated manifold.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 9 of 22

- .8 Water hammer arrestor
 - .9 Mounted in steel cabinet
 - .10 Compression outlet fittings
 - .11 Inlet shut off valve
 - .12 Supplies minimum 59 ml @ 138 kPa.
- .3 Trap guard:
- .1 All elastomeric normally closed trap guard device utilizes a normally closed seal to prevent evaporation of the trap seal and to protect against sewer gases from backing up into habitable areas. It opens with fluid flow and allows liquid drainage to flow through into the building drain.

2.14 STRAINERS

- .1 860 kPa, Y type with 20 mesh, monel, bronze or stainless steel removable screen.
- .2 NPS2 and under, bronze body, screwed ends, with brass cap, tapped blowoff and plug.
- .3 NPS2½ and over, cast iron body, flanged ends, with bolted cap, tapped blow off connection with bronze ball valve.

2.15 GREASE INTERCEPTORS

- .1 Dura coated interior and exterior fabricated steel low type grease interceptors rated as indicated with grease holding capacity as indicated. Unit shall be supplied complete with internal air relief bypass, bronze cleanout plug and trap seal with removable combination pressure equalizer/flow diffusing baffles, gasketed secured cover.
- .2 Provide optional enzyme port in cover.
- .3 Provide internal or external flow control for field installation. External flow control with orifice sized to suit rated flow as outlined above. External flow control to have inlet/outlet connections as indicated.
- .4 Supply grease interceptor with one (1) year supply of poly-enzyme.
- .5 Grease interceptor shall carry the PDI label.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 10 of 22

2.16 ACID NEUTRALIZATION DEVICES

- .1 Chemical dilution tank:
 - .1 Chemical neutralization tanks to be constructed of seamless natural linear low density polyethylene resins. Tank to have uniform wall thickness and be free of any stresses.
 - .2 Tanks to be provided complete with side inlet/outlet connections.
 - .3 Tanks to be supplied with side plumbing vent connection.
 - .4 Each tank inlet/outlet to accept connection to corrosion resistant drainage piping system utilizing threaded male adaptor and mechanical joint connections.
 - .5 Tanks to be provided with bolted cover complete with vapour tight cover gasket pre-cut to cover bolt hole pattern.
 - .6 Connections: as indicated.
 - .7 Size (total volume, not effective volume):
 - .1 As indicated.
 - .8 Neutralization tank overall height and diameter to be as follows:
 - .1 As indicated.
 - .9 Neutralization tank inlet/outlet location on tank will be field determined by Contractor after rough-in of chemical resistant waste piping.
- .2 Chemical neutralization tank sediment interceptor:
 - .1 Chemical neutralization tank sediment interceptors to be constructed of seamless natural linear low density polyethylene resins. Tanks to have uniform thickness and be free of any stresses.
 - .2 Tanks to be provided complete with side inlet/outlet connections.
 - .3 Tanks to be supplied without plumbing vent connection.
 - .4 Each tank inlet/outlet to accept connection to corrosion resistant drainage piping system utilizing male threaded adaptor and mechanical joint connections.
 - .5 Tanks to be provided complete with bolted cover complete with vapour tight cover gasket pre-cut to cover bolt hole pattern.
 - .6 Connections: as indicated.
 - .7 Sizes (total tank volume, not solids retained in basket):
 - .1 Capacity: as indicated.
 - .8 Sediment interceptor overall height and diameter as indicated.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 11 of 22

- .9 Sediment interceptor inlet/outlet location on tank wall to be field determined by Contractor after rough-in of chemical resistant waste piping.
- .10 Sediment interceptor to be fully recessed in pre-formed concrete pit constructed by the General Contractor. The General Contractor is to be responsible to supply cover over pit to accommodate pedestrian traffic.
- .11 Sediment interceptor solids baskets shall consist of a perforated polyethylene liner with 4.7 mm diameter perforations.
- .12 The General Contractor to be responsible to fabricate and install steel frame structure to support sediment interceptor if required to facilitate connection to neutralization tank at proper invert.

**2.17 COMBINATION EMERGENCY DRENCH SHOWER/EYEWASH UNIT
(BARRIER FREE)**

- .1 Bowl: 254 mm diameter corrosion resistant stainless steel bowl.
- .2 Shower head: 254 mm diameter corrosion resistant stainless steel shower head.
- .3 Pipe and fittings: stainless steel with protective yellow safety coating.
- .4 Operation:
 - .1 Shower: pull rod with triangular handle.
 - .2 Eyewash: large, highly visible push handle.
- .5 Pipe and Fittings: Schedule 40, stainless steel, complete with orange or yellow polyethylene cover on vertical piping for high visibility and corrosion resistance.
- .6 Water supply: NPS 1/2.
- .7 Waste: NPS 1 ¼.
- .8 Shower valve: chrome-plated NPS 1 stay-open ball valve.
- .9 Eyewash valve: chrome-plated NPS ½ stay-open ball valve.
- .10 Eyewash spray head assembly: chrome-plated brass spray head assembly with twin, soft flow, eyewash heads and protective sprayhead covers. Integral flow control to ensure safe, steady flow under varying water supply conditions.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 12 of 22

- .11 Identification sign: 355 mm x 90 mm sign for wall mounting. Sign to read "**EMERGENCY DRENCH SHOWER/EYEWASH UNIT**".
- .12 Location: as indicated.

2.18 EMERGENCY EYEWASH AND COMBINATION EMERGENCY DRENCH SHOWER/EYEWASH THERMOSTATIC MIXING VALVE

- .1 To ANSI Z358.1.
- .2 Liquid-filled thermal motor and piston control mechanism with positive shut-off of hot water when cold water supply is lost to prevent scalding.
- .3 Valve shall allow cold water flow in the event of loss or interruption of the hot water supply or thermostatic failure.
- .4 Vandal-resistant temperature adjustment.
- .5 Rough bronze finish.
- .6 Temperature range: 18°C to 35°C.
- .7 Accuracy: $\pm 1.67^{\circ}\text{C}$.
- .8 Maximum operating pressure: 860 kPa.
- .9 Maximum inlet temperature: 82°C.
- .10 Provide complete with dial thermometer.
- .11 Check stops on inlet of hot/cold.
- .12 Provide complete with 18 gauge surface mounted stainless steel enclosure. Dimension of enclosure to be 610 mm high x 578 mm wide x 165 mm deep.
- .13 Capacity: 98.5 L/min at 310 kPa differential pressure with a cold flow bypass capacity of 50.0 L/min at 310 kPa differential pressure.
- .14 Application: emergency fixtures as indicated.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 13 of 22

2.19 EMERGENCY EYEWASH THERMOSTATIC MIXING VALVE

- .1 Same as thermostatic mixing valve specified in Item 2.18 except for the following:
 - .1 Wall enclosure dimensions to be 318 mm high x 279 mm wide x 165 mm deep.
 - .2 Capacity: 35.6 L/min at 310 kPa differential pressure with a cold flow bypass capacity of 25.7 L/min at 310 kPa differential pressure.

2.20 EMERGENCY EYEWASH FIXTURE - PEDESTAL MOUNTED (BARRIER FREE)

- .1 Application: as indicated.
- .2 Bowl: 254 mm diameter corrosion resistant stainless steel bowl.
- .3 Face spring ring: chrome plated circular spray ring to provide supplemental face spray. Provide complete with flow control to ensure adequate flow from eyewash nozzles and face spray ring.
- .4 Spray Head Assembly: Chrome plated brass spray head assembly with twin, soft flow, eye wash heads and protective spray head covers. The integral flow control shall ensure safe, steady flow under varying water supply conditions.
- .5 Valve: chrome plated brass, NPS ½ stay-open ball valve.
- .6 Operation: hand operated by a large, highly visible safety yellow PVC push handle.
- .7 Waste: Dome type strainer and NPS 1 ¼ drain fitting furnished.
- .8 Water Supply: NPS ½.
- .9 Pipe and fittings: stainless steel with protective yellow safety coating.
- .10 Identification sign: 355 mm x 90 mm sign for wall mounting. Sign to read "**EMERGENCY EYEWASH FOUNTAIN**".

2.21 PIPE WALL AND FLOOR PENETRATION SEAL

- .1 Application:

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

**Section 22 05 15 – Plumbing Specialties
and Accessories**

Re-Issued 2021/05/31

Page 14 of 22

- .1 Pipes penetrating exterior concrete walls below grade and concrete floors on grade.
- .2 Seal material to be EPDM.
- .3 Pressure plates to be glass-reinforced plastic.
- .4 Bolts and nuts to be stainless steel 18-8.
- .5 Suitable temperature range to be -40°C to 121°C.
- .6 Wall sleeves to be Schedule 40 black iron pipe. Sleeves in exterior walls to be galvanized.
- .7 Floor sleeves to be Schedule 40 black iron pipe.
- .8 Wall and floor sleeves to be sufficiently long to mount flush with interior and exterior walls and flush with finished floor of slab-on-grade floors, 50 mm above floor, for floors above grade.

2.22 DOMESTIC CLOTHES WASHER SUPPLY FITTING

- .1 To control both hot and cold water simultaneously.
- .2 "Finger-tip" lever operation.
- .3 Bronze body construction with NPT ½ copper connections and satin chrome finish.
- .4 Provide complete with mini water hammer arrestor on hot and cold.
- .5 Mount in 300 mm x 300 mm x 100 mm deep stainless steel valve box, 16 gauge, #4 finish. Provide access door and complete with back in box.

2.23 TEMPERED WATER ASSEMBLY

- .1 Quantity: as indicated
- .2 Hi/Lo combination assembly mounted in wall mounted (surface) stainless steel cabinet.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 15 of 22

- .3 Capacity:
 - .1 High capacity: as indicated @ 310 kPa differential pressure (maximum flow).
 - .2 Low capacity: as indicated @ 34 kPa differential pressure (minimum flow).
- .4 Provide check stops on hot/cold water inlet to each valve.
- .5 Provide a pressure regulating valve that responds to varying flow requirements.
- .6 Each tempered water valve to be thermostatic mixing type with liquid filled thermostatic motors that sense and control water temperature.
- .7 Assembly shall be capable of maintaining water temperature to within 8°C above setpoint within the range of 4°C to 71°C.
- .8 Valves to be bronze body.
- .9 Valves to be ASSE and CSA approved.
- .10 Provide pressure gauges on inlet/outlet of high capacity valve.
- .11 Provide dial thermometer at discharge of tempered water assembly.

2.24 POTABLE WATER THERMAL EXPANSION TANK

- .1 Quantity: as indicated.
- .2 Application: absorb expanded water from domestic hot water tanks because of the inability to expand back into the Town potable water system due to the presence of a backflow preventer on the incoming water supply to the building.
- .3 ASME Section VIII construction and label.
- .4 FDA approved butyl bladder.
- .5 1NPT stainless steel system connection.
- .6 Standard tire air charging valve connection.
- .7 1033 kPa maximum working pressure.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 16 of 22

- .8 Vertical tank, floor mounted.
- .9 Dimensions: as indicated.
- .10 Tank volume: as indicated.
- .11 Acceptance volume: as indicated.
- .12 Red primer exterior finish.
- .13 Air pre-charge to be adjusted in field by the Mechanical Contractor to equal the residual cold water pressure on the discharge side of the pressure reducing valve on the domestic water service entrance by the Mechanical Contractor.

**2.25 COMBINATION EMERGENCY DRENCH SHOWER/EYEWASH UNIT
FLOW SWITCH ALARM SYSTEM**

- .1 Suitable for connection to drench shower with NPS 1-1/2 inlet piping rated for a flow of 1.89 L/s.
- .2 System to be fully grounded and electrically insulated from water piping for safety.
- .3 Power supply: 120/1/60 with 0.5 amp current draw.
- .4 Electrical connection: Pre-wired 1800 mm long multiple conductor, quick connect, waterproof cable for easy connection to the alarm assembly.
- .5 Flow Switch: UL listed and CSA approved. Watertight and completely assembled for easy hook-up to alarm assembly.
- .6 Strobe light: UL Listed and CSA approved. Light intensity to be 258,000 maximum effective candella on horizontal axis. Safety amber-colored glass complete with dust cover. All solid state components with no moving parts for maintenance-free operation.
- .7 Audible Horn: UL listed, externally adjustable from 78-103 decibels at 3.0 meters. Horn designed to sound away from the injured person.
- .8 On/Off Switch: Enables horn to be turned off while the strobe light continues to flash and the water flows.
- .9 Provide complete with one (1) year warranty.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 17 of 22

2.26 EMERGENCY EYEWASH FLOW SWITCH ALARM SYSTEM

- .1 Suitable for connection to emergency eyewash with NPS ½ inlet piping rated for a flow of 0.32 L/s.
- .2 Alarm horn and strobe light to be wall-mounted above and to side of emergency eyewash. Ensure audible horn points away from injured person.
- .3 Construction: Same as Item 2.25, except flow switch sized as per Item 2.26.1 above.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.

3.2 INSTALLATION

- .1 Install in accordance with National Plumbing Code of Canada, and local authority having jurisdiction.
- .2 Install in accordance with manufacturer's instructions and as specified.

3.3 CLEANOUTS

- .1 In addition to those required by code, and as indicated, install at base of soil and waste stacks, and rainwater leaders.
- .2 Bring cleanouts to wall or finished floor unless serviceable from below floor.
- .3 Building drain cleanout and stack base cleanouts: line size to maximum NPS4.

3.4 NON FREEZE WALL HYDRANTS

- .1 Install 600 mm above finished grade unless otherwise indicated.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 18 of 22

3.5 WATER HAMMER ARRESTORS

- .1 Install on branch supplies to fixtures or group of fixtures where indicated.

3.6 BACK FLOW PREVENTORS

- .1 Install in accordance with CSA-B64 Series, where indicated and elsewhere as required by code.
 - .1 Reduced pressure type where backflow would constitute a health hazard.
 - .2 Double check type where backflow would constitute a nuisance or be aesthetically objectionable or material which would not constitute a health hazard.
- .2 Pipe discharge to terminate over nearest drain and or service sink.

3.7 BACKWATER VALVES

- .1 Install in main sewer lines where indicated.
- .2 Install in access pit as indicated.

3.8 HOSE BIBBS AND SEDIMENT FAUCETS

- .1 Install at bottom of risers, at low points to drain systems, and as indicated.

3.9 TRAP SEAL PRIMERS

- .1 Install for floor drains and elsewhere, as indicated.
- .2 Install on cold water supply to nearest frequently used plumbing fixture, in concealed space, to approval of Owner.
- .3 Install Type K soft copper tubing to floor drain.

3.10 STRAINERS

- .1 Install with sufficient room to remove basket.

3.11 GREASE INTERCEPTORS

- .1 Install with sufficient space, as indicated, for ease of maintenance.

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 19 of 22

3.12 WATER METERS

- .1 Install water meter provided by local water authority.
- .2 Install water meter as indicated.

3.13 WATER MAKE-UP ASSEMBLY

- .1 Install on valved bypass.
- .2 Pipe discharge from relief valve to nearest floor drain.

3.14 CHEMICAL DILUTION TANK

- .1 Install with sufficient space, as indicated, for ease of maintenance.

3.15 CHEMICAL DILUTION TANK SEDIMENT INTERCEPTOR

- .1 Install with sufficient space, as indicated, for ease of maintenance.

3.16 START-UP AND COMMISSIONING

- .1 General:
 - .1 In accordance with Section 01 91 13 - General Commissioning (Cx) Requirements: supplemented as specified herein.
- .2 Timing: Start-up only after:
 - .1 Pressure tests have been completed.
 - .2 Disinfection procedures have been completed.
 - .3 Water treatment systems operational.
- .3 Provide continuous supervision during start-up.

3.17 TESTING AND ADJUSTING

- .1 General:
 - .1 In accordance with Section 01 91 13 - General Commissioning (Cx) Requirements: supplemented as specified herein.
- .2 Timing:
 - .1 After start-up deficiencies rectified.
 - .2 After certificate of completion has been issued by authority having jurisdiction.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 20 of 22

- .3 Application tolerances:
 - .1 Pressure at fixtures: +/- 70 kPa.
 - .2 Flow rate at fixtures: +/- 20%.
- .4 Adjustments:
 - .1 Verify that flow rate and pressure meet design criteria.
 - .2 Make adjustments while flow rate or withdrawal is (1) maximum and (2) 25% of maximum and while pressure is (1) maximum and (2) minimum.
- .5 Floor drains:
 - .1 Verify operation of trap seal primer.
 - .2 Prime, using trap primer. Adjust flow rate to suit site conditions.
 - .3 Check operations of flushing features.
 - .4 Check security, accessibility, removeability of strainer.
 - .5 Clean out baskets.
- .6 Vacuum breakers, backflow preventers, backwater valves:
 - .1 Test tightness, accessibility for O&M of cover and of valve.
 - .2 Simulate reverse flow and back-pressure conditions to test operation of vacuum breakers, backflow preventers.
 - .3 Verify visibility of discharge from open ports.
- .7 Roof drains:
 - .1 Check location at low points in roof.
 - .2 Check security, removeability of dome.
 - .3 Adjust weirs to suit actual roof slopes, meet requirements of design.
 - .4 Clean out sumps.
 - .5 Verify provisions for movement of roof systems.
- .8 Access doors:
 - .1 Verify size and location relative to items to be accessed.
- .9 Cleanouts:
 - .1 Verify covers are gas-tight, secure, yet readily removable.
- .10 Water hammer arrestors:
 - .1 Verify proper installation of correct type of water hammer arrester.
- .11 Wall, Ground hydrants:

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 21 of 22

- .1 Verify complete drainage, freeze protection.
- .2 Verify operation of vacuum breakers.
- .12 Pressure regulators, PRV assemblies:
 - .1 Adjust settings to suit locations, flow rates, pressure conditions.
- .13 Strainers:
 - .1 Clean out repeatedly until clear.
 - .2 Verify accessibility of cleanout plug and basket.
 - .3 Verify that cleanout plug does not leak.
- .14 Grease interceptors:
 - .1 Activate, using manufacturer's recommended procedures and materials.
- .15 Hose bibbs, sediment faucets:
 - .1 Verify operation and at all low points.
- .16 Hydronic system water Make-up Assembly:
 - .1 Verify operation.
- .17 Water meters:
 - .1 Verify calibration certificate.
- .18 Dilution Tank:
 - .1 Install as per manufacturer's instructions.
 - .2 Fill with limestone chips.
- .19 Tempered water assemblies:
 - .1 Verify operation of Hi/Lo tempered water assemblies at both high and low flow conditions.
 - .2 Verify proper discharge temperature setpoint for all tempered water assemblies including those serving emergency fixtures.
- .20 Commissioning Reports:
 - .1 In accordance with Section 01 91 13 - General Commissioning (Cx) Requirements: supplemented as specified herein.
- .21 Training:
 - .1 In accordance with Section 01 91 13 - General Commissioning (Cx) Requirements: supplemented as specified herein.

Ver. 10/22

**YMCA Roof Replacement
Grand Falls-Windsor, NL**

Section 22 05 15 – Plumbing Specialties
and Accessories

Re-Issued 2021/05/31

Page 22 of 22

.2 Demonstrate full compliance with Design Criteria.

END OF SECTION