



SPECIFICATIONS

SOLICITATION #: 15-22055

BUILDING: STJ
Memorial University Campus, Arctic Avenue
St-John's, NL

PROJECT: STJ – Window Replacement & Siding Installation

PROJECT #: STJ-5080

Date: July 2015



SPECIFICATION

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National Research Council Conseil national de recherches
Canada Canada

Administrative Services Direction des services
& Property management administratif et gestion
Branch (ASPM) de l'immobilier (SAGI)

Construction Tender Form

Project Identification **STJ – Window Replacement & Siding Installation**

Tender No.: **15-22055**

1.2 Business Name and Address of Tenderer

Name _____

Address _____

Contact Person(Print Name) _____

Telephone (_____) _____ **Fax:** (_____) _____

1.3 Offer

I/We the Tenderer, hereby offer to Her Majesty the Queen in Right of Canada (hereinafter referred to as “Her Majesty”) represented by the National Research Council Canada to perform and complete the work for the above named project in accordance with the Plans and Specifications and other Tender Documents, at the place and in the manner set out therein for the Total Tender Amount (to be expressed in numbers only) of: \$_____. _____ **in lawful money of Canada (excluding GST/HST)**

The above amount is inclusive of all applicable (*) Federal, Provincial and Municipal taxes except that in the event of a change in any tax imposed under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act, the Customs Tariff or any provincial sales tax legislation imposing a retail sales tax on the purchase of tangible personal property incorporated into Real Property, that occurs

- .1 after the date this tender was mailed or delivered, or
- .2 if this tender is revised, after the date of the last revision

the amount of this offer shall be decreased or decreased in the manner provided for in GC22 of the General Conditions of the Contract Documents.

National Research Council Canada	Conseil national de recherches Canada
Administrative Services & Property management Branch (ASPM)	Direction des services administratif et gestion de l'immobilier (SAGI)

1.3.1 Offer (continued)

(*) For the purpose of this tender, the Goods and Services Tax (GST) is not to be considered as an applicable tax.

In the province of Quebec, the Quebec Sales Tax is not to be included in the tender amount because the Federal Government is exempt from this tax. Tenderers shall make arrangements directly with the provincial Revenue Department to recover any tax they may pay on good and services acquired in the performance of this contract. However, tenderers should include in their tender amount Quebec Sales Tax for which an Input Tax Refund is not available.

1.4 Acceptance and Entry into Contract

I/We undertake, within fourteen (14) days of notification of acceptance of my/our offer, to sign a contract for the performance of the work provided I/we are notified, by the Department, of the acceptance of my/our offer within 30 days of the tender closing date.

1.5 Construction Time

I/We Agree to complete the work within the time stipulated in the specification from the date of notification of acceptance of my/our offer.

1.6 Bid Security

I/We herewith enclose tender security in accordance with Article 5 of the General Instruction to Tenderers.

I/We understand that if a security deposit is furnished as tender security and if I/we refuse to enter into a contract when called upon to do so, my/our security deposit shall be forfeited but the Minister may, if it is in the public interest, waive the right of Her Majesty to forfeit the security deposit.

I/We understand that if the security furnished is not in the approved form as described in Article 5 of the General Instructions to Tenderers, my/our tender is subject to disqualification.

National Research Council Conseil national de recherches
Canada Canada

Administrative Services Direction des services
& Property management administratif et gestion
Branch (ASPM) de l'immobilier (SAGI)

1.7 Contract Security

Within fourteen (14) days after receipt of written notification of the acceptance of my/our offer, I/we will furnish contract security in accordance with the Contract Conditions "F" of the Contract Documents.

I/We understand that the contract security referred to herein, if provided in the form of a bill of exchange, will be deposited into the Consolidated Revenue Fund of Canada.

1.8 Appendices

This Tender Form includes Appendix No. ____N/A_____.

1.9 Addenda

The Total Tender Amount provides for the Work described in the following Addenda:

NUMBER	DATE	NUMBER	DATE

(Tenderers shall enter numbers and dates of addenda)

National Research Council Canada	Conseil national de recherches Canada
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Administrative Services & Property management Branch (ASPM)	Direction des services administratif et gestion de l'immobilier (SAGI)
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1.10 Execution of Tender

The Tenderer shall refer to Article 2 of the General Instructions to Tenderers.

**SIGNED, ATTESTED TO AND DELIVERED on the _____ day of
_____ on behalf of**

(Type or print the business name of the Tenderer)

AUTHORIZED SIGNATORY (IES)

(Signature of Signatory)

(Print name & Title of Signatory)

(Signature of Signatory)

(Print name & Title of Signatory)

SEAL

BUYANDSELL NOTICE

STJ – Window Installation & Siding Installation

The National Research Council Canada, Memorial University Campus, Arctic Avenue, St-John's, NL has a requirement for a project that includes:

STJ Window replacement & Siding installation : The project scope consists of the removal of the existing exterior brick face of two sides of the building and installing new metal composite panels and window units in the same location. There will be minor removal and re-installation of existing elements such as: cameras, light fixtures, mechanical louvres and signage. The work is to be performed in two phases, with one face of the building composing a single phase to be completed prior to the commencement of the next phase.

The building is currently occupied, and some minor interior work will be required to facilitate the exterior replacement. Minor reinstatement of existing concrete walkways will also be required due to the nature of the work.

1. GENERAL:

Questions regarding any aspect of the project are to be addressed to and answered only by the Departmental Representative (or his designate) or the Contracting Authority.

Any information received other than from the Departmental Representative (or his designate) or the Contracting Authority will be disregarded when awarding the contract and during construction.

Firms intending to submit tenders on this project should obtain tender documents through the Buyandsell.gc.ca TMA services provider. Addenda, when issued, will be available from the Buyandsell.gc.ca TMA service provider. Firms that elect to base their bids on tender documents obtained from other sources do so at their own risk and will be solely responsible to inform the tender calling authority of their intention to bid. Tender packages are not available for distribution on the actual day of tender closing.

2. MANDATORY SITE VISIT:

It is mandatory that the bidder attends one of the site visits at the designated date and time. At least one representative from proponents that intend to bid must attend.

The site visits will be held on July 30th and August 4th, 2015 at **10:00**. Meet Rodney Griffiths at STJ Building, Memorial University Campus, Arctic Avenue, St-John's, NL. Bidders who, for any reason, cannot attend at the specified date and time will not be given an alternative appointment to view the site and their tenders, therefore, will be considered as non-responsive. **NO EXCEPTIONS WILL BE MADE.**

As proof of attendance, at the site visit, the Contracting Authority will have an Attendance Form which **MUST** be signed by the bidder's representative. It is the responsibility of all bidders to ensure they have signed the Mandatory Site Visit Attendance form prior to leaving the site. Proposals submitted by bidders who have not attended the site visit or failed to sign the Attendance Form will be deemed non-responsive.

3. TENDER CLOSING DATE:

Tender closing date is August 19th, 2015 at 14:00.

4. TENDER RESULTS

Following the Tender closing, the tender results will be sent by facsimile to all Contractors who submitted a tender.

5. SECURITY REQUIREMENT FOR CANADIAN CONTRACTORS

5.1 MANDATORY SECURITY REQUIREMENT:

.1 All personnel that will be involved with the project must be security screened to **RELIABILITY** status level as defined in the security policy of Canada.

6.0 WHSCC (WORKPLACE HEALTH SAFETY AND COMPENSATION COMMISSION)

.1 All Bidders must provide a valid WHSCC certificate with their Tender or prior to contract award.

7.0 OFFICE OF THE PROCUREMENT OMBUDSMAN

.1 Dispute Resolution Services

The parties understand that the Procurement Ombudsman appointed pursuant to Subsection 22.1(1) of the *Department of Public Works and Government Services Act* will, on request or consent of the parties to participate in an alternative dispute resolution process to resolve any dispute between the parties respecting the interpretation or application of a term and condition of this contract and their consent to bear the cost of such process, provide to the parties a proposal for an alternative dispute resolution process to resolve their dispute. The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa-opo.gc.ca.

.2 Contract Administration

The parties understand that the Procurement Ombudsman appointed pursuant to Subsection 22.1(1) of the *Department of Public Works and Government Services Act* will review a complaint filed by [*the supplier or the contractor or the name of the entity awarded this contract*] respecting administration of this contract if the requirements of Subsection 22.2(1) of the *Department of Public Works and Government Services Act* and Sections 15 and 16 of the *Procurement Ombudsman Regulations* have been met, and the interpretation and application of the terms and conditions and the scope of the work of this contract are not in dispute. The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa-opo.gc.ca.

.3 The Office of the Procurement Ombudsman (OPO) was established by the Government of Canada to provide an independent avenue for suppliers to raise complaints regarding the award of contracts under \$25,000 for goods and under \$100,000 for services. You have the option of raising issues or concerns regarding the solicitation, or the award resulting from it, with the OPO by contacting them by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa-opo.gc.ca. You can also obtain more information on the OPO services available to you at their website at www.opo-boa.gc.ca.

The Departmental Representative or his designate for this project is: **Rodney Griffiths**
Telephone: **709 772-7987**

Contracting Authority for this project is: **Marc Bédard** marc.bedard@nrc-cnrc.gc.ca
Telephone: **613 993-2274**

INSTRUCTIONS TO BIDDERS

Article 1 – Receipt of Tender

- 1a) Tenders must be received not later than the specified tender closing time. Tenders received after this time are invalid and shall not be considered, regardless of any reason for their late arrival.
- 1b) A letter of printed telecommunication from a bidder quoting a price shall not be considered as a valid tender unless a formal tender has been received on the prescribed Tender Form.
- 1c) Bidders may amend their tenders by letter or printed telecommunication provided that such amendments are received not later than the specified tender closing time.
- 1d) Any amendments to the tender which are transmitted by telefax must be signed and must clearly identify the tenderer.

All such amendments are to be addressed to:
National Research Council of Canada
Marc Bedard, Senior Contracting Officer
Building M-22
Montreal Road, Ottawa, Ontario
K1A 0R6

Fax: (613) 991-3297

Article 2 – Tender Form & Qualifications

- 1) All tenders must be submitted on the Construction Tender Form and the tender must be signed in compliance with the following requirements:
 - a) Limited Company: The full names of the Company and the name(s) and status of the authorized signing officer(s) must be printed in the space provided for that purpose. The signature(s) of the authorized officer(s) and the corporate seal must be affixed.
 - b) Partnership: The firm name and the name(s) of the person(s) signing must be printed in the space provided. One or more of the partners must sign in the presence of a witness who must also sign. An adhesive coloured seal must be affixed beside each signature.
 - c) Sole Proprietorship : The business name and the name of the sole proprietor must be printed in the space provided. The sole proprietor must sign in the presence of a witness who must also sign. An adhesive coloured seal must be affixed beside each signature.
- 2) Any alterations in the printed part of the Construction Tender Form or failure to provide the information requested therein, may render the tender invalid.
- 3) All space in the Construction Tender Form must be completed and any handwritten or typewritten corrections to the parts so completed must be initialed immediately to the side of the corrections by the person or persons executing the tender on behalf of the the tenderer.
- 4) Tenders must be based on the plans, specifications and tender documents provided.

Article 3 - Contract

- 1) The Contractor will be required to sign a contract similar to the Standard Contract Form for Fixed Price Construction Contracts, a blank specimen of which is enclosed in the package for reference purposes.

Article 4 – Tender Destination

- 1a) Tenders are to be submitted in sealed envelopes to:
National Research Council Canada
Administrative Services and Property Management Branch
STJ Building
Memorial University, Arctic Avenue
St-John's, NL
A1B 3T5

Endorsed "Tender for (insert title of work as it appears in the drawings and specifications)" and must bear the name and address of the tenderer.

- 1b) Unless otherwise specified, the only documents required to be submitted with the tender are the Tender form and the Bid Security.

Article 5 - Security

- 1a) Bid Security is required and must be submitted in one of the following forms:
 - i) a certified cheque payable to the Receiver General for Canada and drawn on a member of the Canadian Payments Association or a local cooperative credit society that is a member of a central cooperative credit society having membership in the Canadian Payments Association; **OR**
 - ii) bonds of the Government of Canada, or bonds unconditionally guaranteed as to principal and interest by the Government of Canada; **OR**
 - iii) a bid bond.
- 1b) Regardless of the Bid Security submitted, it should never be more than \$250,000 maximum, calculated at 10% of the first \$250,000 of the tendered price, plus 5% of any amount in excess of \$250,000.
- 2a) Bid Security shall accompany each tender or, if forwarded separately from the tender, shall be provided not later than the specified tender closing time. Bid Security must be in the **ORIGINAL** form. Fax or photocopies and **NOT** acceptable. **FAILURE TO PROVIDE THE REQUIRED BID SECURITY SHALL INVALIDATE THE TENDER.**
- 2b) If the tender is not accepted, the Bid Security submitted pursuant to Article 8 shall be returned to the tenderer.
- 3a) The successful tenderer is required to provide security within 14 days of receiving notice of tender acceptance. The tenderer must furnish **EITHER**:
 - i) a Security Deposit as described in 1(b) above together with a Labour and Material Payment Bond in the amount of at least 50% of the amount payable under the contract, **OR**

- ii) a Performance Bond and a Labour and Material Payment Bond – each in the amount of 50% of the amount payable under the contract.
- 3b) Should it not be possible to obtain a Labour Material Payment Bond as required under 3(a) above, on making application thereof to at least two acceptable Bonding Companies, an additional Security Deposit of a straight 10% of the amount payable under the contract must be furnished.
- 3c) Where a tender has been accompanied by a Security Deposit, as described in 1(b) above, the amount of the Security Deposit required under 3(a) above may be reduced by the amount of the Security Deposit which accompanied the tender.
- 3d) Bonds must be in an approved form and from the companies whose

bonds are acceptable to the Government of Canada. Samples of the approved form of Bid Bond, Performance Bond and Labour and Material Payment Bond and a list of acceptable Bonding Companies may be obtained from the Contracting Officer, National Research Council, Building M-22, Montreal Road, Ottawa, Ontario, K1A 0R6.

Article 6 – Interest On Security Deposits

- 1) Tenderers are notified that they must make their own arrangements with their bankers as to the interest, if any, on the amount of the certified cheque accompanying their tender. The Council will not pay interest on said cheque pending the awarding of the contract nor be responsible for the payments of interest under any arrangement made by the tenderers.

Article 7 – Sales Tax

- 1) The amount of the tender shall include all taxes as levied under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act or the Customs Tariff, in force or applicable at the time.
- 2) In Quebec, the Provincial Sales Tax should not be included in the Tender Price as the Federal Government is exempt. Tenderers should contact the Provincial Revenue Minister to recover all taxes paid for goods and services rendered under this contract.

Tenderers must include in their Tender Price the amount of Provincial Sales Tax for which the exemption does not apply.

Article 8 – Examination of Site

- 1) All parties tendering shall examine the sites of the proposed work before sending in their tender and make themselves thoroughly acquainted with the same and obtain for themselves any and all information that may be necessary for the proper carrying out of the Contract. No after claim will be allowed or entertained for any work or material that may be requisite and necessary for the proper execution and completion of this Contract with the exception of that provided for under GC 35 in the General Conditions of the General Specification.

Article 9 – Discrepancies, Omissions, Etc.

- 1a) Bidders finding discrepancies in, or omissions from, drawings, specifications or other documents, or having any doubt as to the meaning or intent of any part thereof, should at once notify the Engineer who will send written instructions or explanation to all bidders.
- 1b) Neither the Engineer nor the Council will be responsible for oral instructions.
- 1c) Addenda or corrections issued during the time of the bidding shall be covered in the proposal. However, the contract supersedes all communications, negotiations and agreements, either written or oral, relating to the work and made prior to the date of the contract.

Article 10 – No additional Payments for Increased Costs

- 1) The only other adjustments in the contract price allowed are those specified in the General Conditions of the General Specification. The contract price will not be amended for change in freight rates, exchange rates, wage rates or cost of materials, plant or services.

Article 11 – Awards

- 1a) The Council reserves the power and right to reject tenders received from parties who cannot show a reasonable acquaintance with and preparation for the proper performance of the class of work herein specified and shown on plans. Evidence of such competence must be furnished by the tenderers if required to do so.
- 1b) A tenderer may be required to furnish to the Contracting Office, National Research Council of Canada, Building M-22, 1200 Montreal Road, Ottawa, Ontario, K1A 0R6, Canada, unsigned copies of the insurance requirements as covered by the Insurance Conditions of the General Specification.
- 1c) The Council does not bind itself to accept the lowest or any tender.

Article 12 – Harmonized Sales Tax

- 1) The Harmonized Sales Tax (HST) which is now in effect shall be considered an applicable tax for the purpose of this tender. However, the bidder shall NOT include any amount in the bid price for said HST. The successful contractor will indicate on each application for payment as a separate amount the appropriate HST the Owner is legally obliged to pay. This amount will be paid to the Contractor in addition to the amount certified for payment under the Contract in addition to the amount certified for payment under the Contract and will therefore not affect the Contract Price. The Contractor agrees to remit any HST collected or due to Revenue Canada.

Acceptable Bonding Companies

Published September 2010

The following is a list of insurance companies whose bonds may be accepted as security by the government.

1. Canadian Companies

- ACE INA Insurance
- Allstate Insurance Company of Canada
- Ascentus Insurance Ltd. (Surety only)
- Aviva Insurance Company of Canada
- AXA Insurance (Canada)
- AXA Pacific Insurance Company
- Canadian Northern Shield Insurance Company
- Certas Direct Insurance Company (Surety only)
- Chartis Insurance Company of Canada (formerly AIG Commercial Insurance Company of Canada)
- Chubb Insurance Company of Canada
- Commonwealth Insurance Company
- Co-operators General Insurance Company
- CUMIS General Insurance Company
- The Dominion of Canada General Insurance Company
- Echelon General Insurance Company (Surety only)
- Economical Mutual Insurance Company
- Elite Insurance Company
- Everest Insurance Company of Canada
- Federated Insurance Company of Canada
- Federation Insurance Company of Canada
- Gore Mutual Insurance Company
- Grain Insurance and Guarantee Company
- The Guarantee Company of North America
- Industrial Alliance Pacific General Insurance Corporation
- Intact Insurance Company
- Jevco Insurance Company (Surety only)
- Lombard General Insurance Company of Canada
- Lombard Insurance Company
- Markel Insurance Company of Canada
- The Missisquoi Insurance Company
- The Nordic Insurance Company of Canada
- The North Waterloo Farmers Mutual Insurance Company (Fidelity only)
- Novex Insurance Company (Fidelity only)
- The Personal Insurance Company
- Pilot Insurance Company
- Quebec Assurance Company
- Royal & Sun Alliance Insurance Company of Canada
- Saskatchewan Mutual Insurance Company
- Scottish & York Insurance Co. Limited
- The Sovereign General Insurance Company
- TD General Insurance Company
- Temple Insurance Company

- Traders General Insurance Company
- Travelers Guarantee Company of Canada
- Trisura Guarantee Insurance Company
- The Wawanesa Mutual Insurance Company
- Waterloo Insurance Company
- Western Assurance Company
- Western Surety Company

2. Provincial Companies

Surety bonds issued by the following companies may be accepted provided that the contract of suretyship was executed in a province in which the company is licensed to do business as indicated in brackets.

- AXA Boreal Insurance Company (P.E.I., N.B., Que., Ont., Man., B.C.)
- AXA Boreal Insurance Company (P.E.I., N.B., Que., Ont., Man., B.C.)
- ALPHA, Compagnie d'Assurances Inc. (Que.)
- Canada West Insurance Company (Ont., Man., Sask, Alta., B.C., N.W.T.) (Surety only)
- The Canadian Union Assurance Company (Que.)
- La Capitale General Insurance Inc. (Nfld. & Lab., N.S., P.E.I., Que.(Surety only), Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
- Coachman Insurance Company (Ont.)
- Continental Casualty Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
- GCAN Insurance Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
- The Insurance Company of Prince Edward Island (N.S., P.E.I., N.B.)
- Kingsway General Insurance Company (N.S., N.B., Que., Ont., Man., Sask., Alta., and B.C.)
- Liberty Mutual Insurance Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
- Manitoba Public Insurance Corporation (Man.)
- Norgroupe Assurance Générales Inc.
- Orleans General Insurance Company (N.B., Que., Ont.)
- Saskatchewan Government Insurance Office (Sask.)
- SGI CANADA Insurance Services Ltd. (Ont., Man., Sask., Alta.)
- L'Unique General Insurance Inc. (Nfld. & Lab., N.S., P.E.I., N.B., Que.(Surety only), Ont.(Surety only), Man., Sask., Alta., B.C.(Surety only), Nun., N.W.T., Yuk.)

3. Foreign Companies

- Aspen Insurance UK Limited
- Compagnie Française d'Assurance pour le Commerce Extérieur (Fidelity only)
- Eagle Star Insurance Company Limited
- Ecclesiastical Insurance Office Public Limited Company (Fidelity only)
- Lloyd's Underwriters
- Mitsui Sumitomo Insurance Company, Limited
- NIPPONKOA Insurance Company, Limited
- Sompo Japan Insurance Inc.
- Tokio Marine & Nichido Fire Insurance Co., Ltd.
- XL Insurance Company Limited (Surety only)
- Zurich Insurance Company Ltd

Articles of Agreement

Standard Construction Contract – Articles of Agreement
(23/01/2002)

- A1 Contract Documents
- A2 Date of Completion of Work and Description of Work
- A3 Contract Amount
- A4 Contractor's Address
- A5 Unit Price Table

Articles of Agreement

These Articles of Agreement made in duplicate this day of .

Between

Her Majesty the Queen, in right of Canada (referred to in the contract documents as “ Her Majesty”) represented by the National Research Council Canada (referred to in the contract documents as the “Council”)

and

(referred to in the contract documents as the “Contractor”)

Witness that in consideration for the mutual promises and obligations contained in the contract, Her Majesty and the Contractor covenant and agree as follows:

A1 Contract Documents

(23/01/2002)

1.1 Subject to A1.4 and A1.5, the documents forming the contract between Her Majesty and the Contractor, referred to herein as the contract documents, are

1.1.1 these Articles of Agreement,

1.1.2 the document attached hereto, marked “A” and entitled “Plans and Specifications”, referred to herein as the Plans and Specifications,

1.1.3 the document attached hereto, marked “B” and entitled “Terms of Payment”, referred to herein as the Terms of Payment,

1.1.4 the document attached hereto, marked “C” and entitled “General Conditions”, referred to herein as the General Conditions,

1.1.5 the document attached hereto, marked “D” and entitled “Labour Conditions”, referred to herein as the Labour Conditions,

1.1.6 the document attached hereto, marked “E” and entitled “Insurance Conditions”, referred to herein as the Insurance Conditions,

1.1.7 the document attached hereto, marked “F” and entitled “Contract Security Conditions”, referred to herein as the Contract Security Conditions, and

1.1.8 any amendment or variation of the contract documents that is made in accordance with the General Conditions.

1.1.9 the document entitled Fair Wage Schedules for Federal Construction Contracts referred to herein as Fair Wage Schedules

1.1.10

Articles of Agreement

The Council hereby designates _____ of _____ of the Government of Canada as the Engineer for the purposes of the contract, and for all purposes of or incidental to the contract, the Engineer's address shall be deemed to be:

1.2 In the contract

1.3.1 "Fixed Price Arrangement" means that part of the contract that prescribes a lump sum as payment for performance of the work to which it relates; and

1.3.2 "Unit Price Arrangement" means that part of the contract that prescribes the product of a price multiplied by a number of units of measurement of a class as payment for performance of the work to which it relates.

1.3 Any of the provisions of the contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the work to which a Fixed Price Arrangement is applicable.

1.4 Any of the provisions of the contract that are expressly stipulated to be applicable only to a Fixed Price Arrangement are not applicable to any part of the work to which a Unit Price Arrangement is applicable.

A2 Date of Completion of Work and Description of Work

(23/01/2002)

2.1 The contractor shall, between the date of these Articles of Agreement and the _____, _____, in the careful and workmanlike manner, diligently perform and complete the following work:

which work is more particularly described in the Plans and Specifications.

Articles of Agreement

A3 Contract Amount

(23/01/2002)

- 3.1 Subject to any increase, decrease, deduction, reduction or set-off that may be made under the Contract, Her Majesty shall pay the Contractor at the times and in the manner that is set out or referred to in the Terms of Payment
- 3.1.1 the sum of _____ (GST/HST extra), in consideration for the performance of the work or the part thereof that is subject to Fixed Price Arrangement, and
- 3.1.2 a sum that is equal to the aggregate of the products of the number of units of Measurement of each class of labour, plant and material that is set out in a Final Certificate of Measurement referred to in GC44.8 multiplied in each case by the appropriate unit price that is set out in the Unit Price Table in consideration for the performance of the work or the part thereof that is subject to a Unit Price Arrangement.
- 3.2 For the information and guidance of the Contractor and the persons administering the contract on behalf of Her Majesty, but not so as to constitute a warranty , representation or undertaking of any nature by either party, it is estimated that the total amount payable by Her Majesty to the Contractor for the part of the work to which a Unit Price Arrangement is applicable will be approximately \$N/A
- 3.3 A3.1.1 is applicable only to a Fixed Price Arrangement.
- 3.4 A3.1.2 and A3.2 applicable only to a Unit Price Arrangement.

A4 Contractor's Address

(23/01/2002)

- 4.1 For all purposes of or incidental to the contract, the Contractor's address shall be deemed to be:

Articles of Agreement

A5 Unit Price Table

(23/01/2002)

5.1 Her Majesty and the Contractor agree that the following table is the Unit Price Table for the purposes of the contract.

Column 1 Item	Column 2 Class of Labour Plant Or Material	Column 3 Unit of Measurement	Column 4 Estimated Total Quantity	Column 5 Price per Unit	Column 6 Estimated Total Price
		N/A			

5.2 The Unit Price Table that is set out in A5.1 designates the part of the work to which a Unit Price Arrangement is applicable.

5.3 The part of the work that is not designated in the Unit Price Table referred to in A5.2 is the part of the work to which a Fixed Price Arrangement is applicable.

Articles of Agreement

Signed on behalf of Her Majesty by

as Senior Contracting Officer

and _____

as _____

of the **National Research Council Canada**

on the _____

day of _____

Signed, sealed and delivered by

as _____ and
Position

by _____

as _____ and
Position

of

on the _____

day of _____

Seal

NRC
WINDOWS & SIDING REPLACEMENT
ST. JOHN'S, NL
SPECIFICATIONS

“ISSUED FOR TENDER”

July 17, 2015

CONSULTANTS:

Prime Consultant & Architects

Gibbons Snow Architects Inc.

NRC Project No. 5080
GSA Project No. 14-6201-02

DIVISION 0

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NRC

WINDOWS & SIDING REPLACEMENT

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ARCHITECTURAL

5080-A01	FLOOR PLAN LEVEL 1 DEMOLITION & NEW CONDITIONS
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5080-A05	SECTIONS DETAILS DEMOLITIONS NEW CONDITIONS
5080-A06	SECTIONS DETAILS DEMOLITIONS NEW CONDITIONS

1.1 SCOPE OF WORK

- .1 Work under this contract covers the replacement of windows and siding as indicated on the drawings at the National Research Council building on Arctic Avenue in St. John's, NL.

1.2 DRAWINGS

- .1 The following drawings illustrate the work and form part of the contract documents:
 - 5080-A01 Floor Plan Level 1 Demolition & New Conditions
 - 5080-A02 Floor Plan Level 2 Demolition & New Conditions
 - 5080-A03 Elevations Demolition New Conditions
 - 5080-A04 Elevations Demolition New Conditions
 - 5080-A05 Sections Details Demolitions New Conditions
 - 5080-A06 Sections Details Demolitions New Conditions

1.3 COMPLETION

- .1 Complete all work within 16 week(s) after receipt of notification of acceptance of tender.

1.4 GENERAL

- .1 The word "provide" in this Specification means to supply and install.
- .2 Provide items mentioned in either the drawings or the specification.

1.5 SPECIFIED ACCEPTABLE & ALTERNATIVE EQUIPMENT & MATERIALS

- .1 Materials and equipment scheduled and/or specified on the drawings or in the specifications have been selected to establish a performance and quality standard. In most cases, acceptable manufacturers are stated for any material or equipment specified by manufacturer's name and model number. Contractors may base their tender price on materials and equipment supplied by any of the manufacturers' names as acceptable for the particular material or equipment.
- .2 In addition to the manufacturers specified or named as acceptable, you may propose alternative manufacturers of materials or equipment to the NRC Departmental Representative for acceptance. For a product to be considered as an alternative product substitute, make a written application to the NRC Departmental Representative during the tender period, not later than ten (10) working days before tender closing.

- .3 Certify in writing that the alternative meets all requirements of the specified material or equipment. In addition, it shall be understood that all costs required by or as a result of acceptance or proposed alternatives, will be borne by the contractor.
- .4 Approval of alternatives will be signified by issue of an Addendum to the Tender Documents.
- .5 Any alternative manufacturers or materials submitted which are incomplete and cannot be evaluated, or are later than ten (10) working days before tender closing date or after the tender period, will not be considered.

1.6 MINIMUM STANDARDS

- .1 Conform to or exceed minimum acceptable standards of the various applicable federal, provincial and municipal codes such as The National Building Code, The National Fire Code, Canadian Plumbing Code, Canadian Electrical Code, Canadian Code for Construction Safety and the Provincial Construction Safety Act.
- .2 Work to conform to referenced standards and codes as reaffirmed or revised to date of specification.

1.7 WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS)

- .1 The general contractor shall comply with Federal and Provincial legislation regarding the WHMIS. The contractor's responsibilities include, but are not limited to the following:
 - .1 To ensure that any controlled product brought on site by the contractor or sub-contractor is labeled;
 - .2 To make available to the workers and the NRC Departmental Representative, Material Safety Data Sheets (MSDS) for these controlled products;
 - .3 To train own workers about WHMIS, and about the controlled products that they use on site;
 - .4 To inform other contractors, sub-contractors, the NRC Departmental Representative, authorized visitors and outside inspection agency personnel about the presence and use of such products on the site.
 - .5 The site foreman or superintendent must be able to demonstrate, to the satisfaction of the NRC Departmental Representative, that he/she has had WHMIS training and is

knowledgeable in its requirements. The NRC Departmental Representative can require replacement of this person if this condition or implementation of WHMIS is not satisfactory.

1.8 REQUIREMENTS OF NEWFOUNDLAND & LABRADOR OH&S, SECTION 65(O.C. 96-478)

Under the requirements of the Newfoundland & Labrador Occupational Health & Safety Act, the following designated substances may be encountered while performing the work described in these contract documents: Acrylonitrile, Isocyanates, Arsenic, Lead, Asbestos, Mercury, Benzene, Silica, Coke Oven Emissions, Vinyl Chloride, and Ethylene Oxide

- .1 It is the responsibility of the general contractor to ensure that each prospective subcontractor for this project has received a copy of the above list.
- .2 The general contractor is advised to take the following precautions when dealing with the above substances:

1.9 COST BREAKDOWN

- .1 Submit, for approval by the NRC Departmental Representative, a cost breakdown of tender 72 hours after the contract is awarded.
- .2 Use the approved cost breakdown as the basis for submitting all claims.
- .3 Request NRC Departmental Representative's verbal approval to amount of claim prior to preparing and submitting the claim in its final form.

1.10 SUB-TRADES

- .1 Submit no later than 72 hours after tender closing, a complete list of sub trades for the NRC Departmental Representative's review.

1.11 PERSONNEL SECURITY AND IDENTIFICATION

- .1 All persons employed by the contractor, or by any subcontractor and present on the site must be security cleared in accordance with the requirements of the Section entitled Special Instructions to Tenderers.

- .2 All such persons must wear and keep visible identification badges as issued by the Security Office of NRC.

1.12 WORKING HOURS AND SECURITY

- .1 Normal working hours on the NRC property are from 8:00 a.m. until 4:30 p.m., Monday to Friday inclusive, except statutory holidays.
- .2 At all other times, special written passes are required for access to the building site.
- .3 Before scheduling any work outside normal working hours, obtain permission from the NRC Departmental Representative to perform the specific tasks.
- .4 An escort may be required whenever working outside normal hours. Contractor to bear the associated costs.

1.13 SCHEDULE

- .1 The contractor shall prepare a detailed schedule, fixing the date for commencement and completion of the various parts of the work and update the said schedule. Such schedule shall be made available to the NRC Departmental Representative not later than two weeks after the award of the contract and prior to commencement of any work on site.
- .2 Notify NRC Departmental Representative in writing of any changes in the schedule.

1.14 PROJECT MEETINGS

- .1 Hold regular project meetings at times and locations approved by the NRC Departmental Representative.
- .2 Notify all parties concerned of meetings to ensure proper coordination of work.
- .3 NRC Departmental Representative will set times for project meetings and assume responsibility for recording and distributing minutes.

1.15 SHOP DRAWINGS

- .1 Submit to NRC Departmental Representative for review, shop drawings, product data and samples specified within 2 week(s) after contract award.
- .2 Submit to NRC Departmental Representative for review a complete list of all shop drawings, product data and samples specified and written confirmation of corresponding delivery dates within one (1) week after shop drawings, product data and samples approval date. This list shall be updated on a 4 week basis and any changes to the list shall be immediately notified in writing to the NRC Departmental Representative.
- .3 Review shop drawings, data sheets and samples prior to submission.
- .4 Submit electronic copy of all shop drawings and product data and samples for review, unless otherwise specified.
- .5 Review of shop drawings and product data by the NRC Departmental Representative does not relieve the contractor of the responsibility for errors and omissions and for the conformity with contract documents.

1.16 SAMPLES AND MOCK-UPS

- .1 Submit samples in sizes and quantities as specified.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.
- .3 Construct field samples and mock-ups at locations acceptable to NRC Departmental Representative.
- .4 Reviewed samples or mock-ups will become standards of workmanship and material against which installed work will be checked on the project.

1.17 MATERIALS AND WORKMANSHIP

- .1 Install only new materials on this project unless specifically noted otherwise.

- .2 Only first class workmanship will be accepted, not only with regard to safety, efficiency, durability, but also with regard to neatness of detail and performance.

1.18 WORK & MATERIALS SUPPLIED BY OWNER

- .1 Work and materials not included in this contract are described on drawings and in this specification.
- .2 Deliver to a storage place, as directed by the NRC Departmental Representative, all materials returned to the Owner.
- .3 Unless otherwise specified, accept owner-supplied materials at their storage location and provide all transportation as required.
- .4 General Contractor's duties:
 - .1 Unload at site.
 - .2 Promptly inspect products and report damaged or defective items.
 - .3 Give written notification to the NRC Departmental Representative for items accepted in good order.
 - .4 Handle at site, including uncrating and storage.
 - .5 Repair or replace items damaged on site.
 - .6 Install, connect finished products as specified.

1.19 SITE ACCESS

- .1 Make prior arrangements with the NRC Departmental Representative before starting work or moving materials and equipment on site.
- .2 Obtain approval of NRC Departmental Representative for regular means of access during the construction period.
- .3 Obtain approval of NRC Departmental Representative before temporarily suspending operations on site; before returning to the site and before leaving the site at the end of the job.
- .4 Provide and maintain access to site.
- .5 Build and maintain temporary roads and provide snow removal during period of work.

- .6 Make good any damage and clean up dirt, debris, etc., resulting from contractor's use of existing roads.

1.20 USE OF SITE

- .1 Restrict operations on the site to the areas approved by the NRC Departmental Representative
- .2 Locate all temporary structures, equipment, storage, etc., to the designated areas.
- .3 Restrict parking to the designated areas.

1.21 ACCEPTANCE OF SITE

- .1 Inspect the site before commencing work, review any unexpected conditions with the NRC Departmental Representative.
- .2 Commencement of work will imply acceptance of existing conditions.

1.22 SITE OFFICE & TELEPHONE

- .1 Contractor to erect a temporary site office at his own expense.
- .2 Install and maintain a telephone, if necessary.
- .3 Use of NRC phones is not permitted unless in the case of an emergency.

1.23 SANITARY FACILITIES

- .1 Obtain permission from the NRC Departmental Representative to use the existing washroom facilities in the building [OR] Provide sanitary facilities, and bear all associated costs.

1.24 TEMPORARY SERVICES

- .1 A source of temporary power will be made available in the area. Bear all costs to make connections to the power source and perform distribution on site.
- .2 Provide all load centres, breakers, conduit, wiring, disconnects, extension cords, transformers, as required from the source of power.

- .3 Power is to be used only for power tools, lighting, controls, motors, and not for space heating.
- .4 A source of temporary water will be made available if required.
- .5 Bear all costs associated with distributing the water to the required locations.
- .6 Comply with NRC requirements when connecting to existing systems in accordance with the articles entitled "Co-operation" and "Service Interruptions" of this section.

1.25 DOCUMENTS REQUIRED AT WORK SITE

- .1 The contractor shall keep on the site, one (1) up-to-date copy of all contract documents, including specifications, drawings, addenda, shop drawings, change notices, schedule and any reports or bulletins pertaining to the work, in good order, available to the NRC Departmental Representative and to his / her representatives at all times.
- .2 At least one (1) copy of specifications and drawings shall be marked by the contractor to show all work "As Built" and shall be provided to the NRC Departmental Representative with the Application for Payment and for the Final Certificate of Completion.

1.26 CO-OPERATION

- .1 Co-operate with NRC staff in order to keep disruption of normal research work to an absolute minimum.
- .2 Work out in advance, a schedule for all work which might disrupt normal work in the building.
- .3 Have schedule approved by the NRC Departmental Representative.
- .4 Notify the NRC Departmental Representative in writing, 72 hours prior to any intended interruption of facilities, areas, corridors, mechanical or electrical services and obtain requisite permission.

1.27 PROTECTION AND WARNING NOTICES

- .1 Provide all materials required to protect existing equipment.

- .2 Erect dust barriers to prevent dust and debris from spreading through the building.
- .3 Place dust protection in the form of cover sheets over equipment and furniture and tape these sheets to floors, to ensure no dust infiltration.
- .4 Repair or replace any and all damage to Owner's property caused during construction, at no cost to the Owner and to the satisfaction of the NRC Departmental Representative.
- .5 Protect the buildings, roads, lawns, services, etc. from damage which might occur as a result of this work.
- .6 Plan and co-ordinate the work to protect the buildings from the leakage of water, dust, etc.
- .7 Ensure that all doors, windows, etc., that could allow transfer of dust, noise, fumes, etc., to other areas of the building are kept closed.
- .8 Be responsible for security of all areas affected by the work under the Contract until acceptance by NRC. Take all necessary precautions to prevent entry to the work area by unauthorized persons and guard against theft, fire and damage by any cause. Secure working area at the end of each day's work and be responsible for same.
- .9 Provide and maintain adequate safety barricades around the work sites to protect NRC personnel and the public from injury during the construction.
- .10 Post warnings, in all instances where possible injury could occur such as Work Overhead, Hard Hat Areas, etc. or as required by the NRC Departmental Representative.
- .11 Provide temporary protective enclosures over building entrances and exits to protect pedestrians. All enclosures to be structurally sound against weather and falling debris.

1.28 BILINGUALISM

- .1 Ensure that all signs, notices, etc. are posted in both official languages.

- .2 Ensure that all identification of services called for by under this contract are bilingual.

1.29 LAYOUT OF WORK

- .1 Location of equipment, fixtures, outlets and openings indicated on drawings 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 the manufacturer's recommendations for safety, access and maintenance.
- .3 Employ competent person to lay out work in accordance with the contract documents.

1.30 DISCREPANCIES & INTERFERENCES

- .1 Prior to the start of the work, examine drawings and specifications. Report at once to the NRC Departmental Representative, any defects, discrepancies, omissions or interferences affecting the work.
- .2 Contractor to immediately inform the NRC Departmental Representative in writing, of any discrepancies between the plans and the physical conditions so the NRC Departmental Representative may promptly verify same.
- .3 Any work done after such a discovery, until authorized, is at the contractor's risk.
- .4 Where minor interferences as determined by the NRC Departmental Representative are encountered on the job and they have not been pointed out on the original tender or on the plans and specifications, provide offsets, bends or reroute the services to suit job conditions at no extra cost.
- .5 Arrange all work so as not to interfere in any way with other work being carried out.

1.31 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.

- .2 Notify the NRC Departmental Representative in writing of any conflict between these specifications and manufacturer's instruction. NRC Departmental Representative will designate which document is to be followed.

1.32 TEMPORARY HEATING AND VENTILATING

- .1 Bear the costs of temporary heat and ventilation during construction including costs of installation, fuel, operation, maintenance, and removal of equipment.
- .2 Use of direct-fired heaters discharging waste products into the work areas will not be permitted unless prior approval is given by the NRC Departmental Representative.
- .3 Furnish and install temporary heat and ventilation in enclosed areas as required to:
 - .1 Facilitate progress of work.
 - .2 Protect work and products against dampness and cold.
 - .3 Reduce moisture condensation on surfaces to an acceptable level.
 - .4 Provide ambient temperature and humidity levels for storage, installation and curing of materials.
 - .5 Provide adequate ventilation to meet health regulations for a safe working environment.
- .4 Maintain minimum temperature of 10 °C (50 °F) or higher where specified as soon as finishing work is commenced and maintain until acceptance by the NRC Departmental Representative. Maintain ambient temperature and humidity levels as required for comfort of NRC personnel.
- .5 Prevent hazardous or unhealthy accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction including also, storage areas and sanitary facilities.
 - .1 Dispose of exhaust materials in a manner that will not result in a harmful or unhealthy exposure to persons.
- .6 Maintain strict supervision of operation of temporary heating and ventilating equipment.
 - .1 Enforce conformance with applicable codes and standards.

- .2 Comply with instructions of the NRC Departmental Representative including provision of full-time watchman services when directed.
- .3 Enforce safe practices.
- .4 Vent direct-fired combustion units to outside.
- .7 Submit tenders assuming existing or new equipment and systems will not be used for temporary heating and ventilating.
- .8 After award of contract, NRC Departmental Representative may permit use of the permanent system providing agreement can be reached on:
 - .1 Conditions of use, special equipment, protection, maintenance, and replacement of filters.
 - .2 Methods of ensuring that heating medium will not be wasted and in the case of steam, agreement on what is to be done with the condensate.
 - .3 Saving on contract price.
 - .4 Provisions relating to guarantees on equipment.

1.33 CONNECTIONS TO AND INTERRUPTIONS TO EXISTING SERVICES

- .1 Where work involves breaking into or connecting to existing services, carry out work at times and in the manner agreed to by the NRC Departmental Representative and by authorities having jurisdiction, with minimum disruption to NRC Personnel and vehicular traffic and minimum service interruption. Do not operate any NRC equipment or plant.
- .2 Before commencing work, establish location and extent of service lines in area of work and notify NRC Departmental Representative of findings.
- .3 Submit a schedule to and obtain approval from the NRC Departmental Representative for any shut-down or closure of active service or facility; allow minimum 72 hours notice. Adhere to approved schedule and provide notice to the NRC Departmental Representative.
- .4 Where unknown services are encountered, immediately advise NRC Departmental Representative and confirm findings in writing.

- .5 Provide detours, bridges, alternate feeds, etc., as required to minimize disruptions.
- .6 Protect existing services as required and immediately make repairs if damage occurs.
- .7 Remove any abandoned service lines as indicated on the contract documents and as approved by the NRC Departmental Representative; cap or otherwise seal lines at cut-off points. Record and provide a copy to the NRC Departmental Representative of locations of maintained, re-routed and abandoned service lines.

1.34 CUTTING AND PATCHING

- .1 Cut existing surfaces as required to accommodate new work.
- .2 Remove all items as shown or specified.
- .3 Patch and make good with identical materials, the surfaces that have been disturbed, cut or damaged, to the satisfaction of the NRC Departmental Representative.
- .4 Where new pipes pass through existing construction, core drill an opening. Size openings to leave 12mm (1/2") clearance around the pipes or pipe insulation. Do not drill or cut any surface without the approval of the NRC Departmental Representative.
- .5 Obtain written approval of the NRC Departmental Representative before cutting openings through existing or new structural members.
- .6 Seal all openings where cables, conduits or pipes pass through walls with an acoustic sealant conforming to CAN/CGSB-19.21-M87.
- .7 Where cables, conduits and pipes pass through fire rated walls and floors, pack space between with compressed glass fibres and seal with fire stop caulking in accordance with CAN/CGSB-19.13-M87 AND NBC 3.1.7.

1.35 FASTENING DEVICES

- .1 Do not use explosive actuated tools, without first obtaining permission from the NRC Departmental Representative.

- .2 Comply with the requirements of CSA A-166 (Safety Code for Explosive Actuated Tools).
- .3 Do not use any kind of impact or percussion tool without first obtaining permission from the NRC Departmental Representative.

1.36 OVERLOADING

- .1 Ensure that no part of the building or work is subjected to a load which will endanger safety or cause permanent deformation or structural damage.

1.37 DRAINAGE

- .1 Provide temporary drainage and pumping as required to keep excavations and site free of water.

1.38 ENCLOSURE OF STRUCTURES

- .1 Construct and maintain all temporary enclosures as required to protect foundations, sub-soil, concrete, masonry, etc., from frost penetration or damage.
- .2 Maintain in place until all chances of damage are over and proper curing has taken place.
- .3 Provide temporary weather tight enclosures for exterior openings until permanent sash and glazing and exterior doors are installed.
- .4 Provide lockable enclosures as required to maintain the security of NRC facilities and be responsible for the same.
- .5 Provide keys to NRC security personnel when required.
- .6 Lay out the work carefully and accurately and verify all dimensions and be responsible for them. Locate and preserve general reference points.
- .7 Throughout the course of construction, keep continuously acquainted with field conditions, and the work being developed by all trades involved in the project. Maintain an awareness of responsibility to avoid space conflict with other trades.
- .8 Conceal all services, piping, wiring, ductwork, etc., in floors, walls or ceilings except where indicated otherwise.

1.39 STORAGE

- .1 Provide storage as required to protect all tools, materials, etc., from damage or theft and be responsible for the same.
- .2 Do not store flammable or explosive materials on site without the authorization of the NRC Departmental Representative.

1.40 GENERAL REVIEW

- .1 Periodic review of the contractor's work by the NRC Departmental Representative does not relieve the contractor of the responsibility of making the work in accordance with contract documents. Contractor shall carry out his own quality control to ensure that the construction work is in accordance with contract documents.
- .2 Inform the NRC Departmental Representative of any impediments to the installation and obtain his / her approval for actual location.

1.41 INSPECTION OF BURIED OR CONCEALED SERVICES

- .1 Prior to concealing any services that are installed, ensure that all inspection bodies concerned, including NRC, have inspected the work and have witnessed all tests. Failure to do so may result in exposing the services again at the contractor's expense.

1.42 TESTING

- .1 On completion, or as required by local authority inspectors and/or NRC Departmental Representative during progress of work and before any services are covered up and flushing is complete, test all installations in the presence of the NRC Departmental Representative.
- .2 Obtain and hand to the NRC Departmental Representative all acceptance certificates or test reports from authority having jurisdiction. The project will be considered incomplete without the same.

1.43 PARTIAL OCCUPANCY

- .1 NRC may request partial occupancy of the facility if the contract extends beyond the expected completion date.

.2 Do not restrict access to the building, routes, and services.

.3 Do not encumber the site with materials or equipment.

1.44 DISPOSAL OF WASTES

.1 Dispose of waste materials including volatiles, safely off NRC property. Refer to the section entitled "General and Fire Safety Requirements" included as part of this specification.

1.45 CLEAN-UP DURING CONSTRUCTION

.1 On a daily basis, maintain project site and adjacent area of campus including roofs, free from debris and waste materials.

.2 Provide on-site dump containers for collection of waste materials and rubbish.

1.46 FINAL CLEAN-UP

.1 Upon completion do a final clean-up to the satisfaction of the NRC Departmental Representative.

.2 Clean all new surfaces, lights, existing surfaces affected by this work, replace filters, etc.

.3 Clean all resilient flooring and prepare to receive protective finish. Protective finish applied by NRC

1.47 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

.1 Refer to General Conditions "C", section GC32.

.2 Ensure that all manufacturers' guarantees and warranties are issued in the name of the General Contractor and the National Research Council.

1.48 MAINTENANCE MANUALS

.1 Provide three (3) bilingual copies of maintenance manuals or two English and two French maintenance manuals immediately upon completion of the work and prior to release of holdbacks.

.2 Manuals to be neatly bound in hard cover loose leaf binders.

- .3 Manuals to include operating and maintenance instructions, all guarantees and warranties, shop drawings, technical data, etc., for the material and apparatus supplied under this contract.

END OF SECTION

1.1 SUBMITTALS

- .1 Upon award of contract and prior to commencement of work, submit to NRC Departmental Representative the following work management documents:
 - .1 Work Schedule as specified herein.
 - .2 Shop Drawing Submittal Schedule specified in Section 01 33 00.
 - .3 Health and Safety Plan specified in Section 01 35 28.
 - .4 List of workers requiring security clearance and those to be placed on Site Security Control list as specified in Section 01 35 54.

1.2 WORK SCHEDULE

- .1 Upon notification of tender acceptance, submit work schedule within 14 calendar days of contract award.
- .2 Schedule to indicate all calendar dates from commencement to completion of all work within the time stated in the accepted tender.
- .3 Provide sufficient details in schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
- .4 Work schedule content to include as a minimum the following:
 - .1 Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .5 Work schedule must take into consideration and reflect the operational restrictions as specified below and indicated on drawings.
- .6 Completed schedule shall be to the NRC Departmental Representative's approval. When schedule has been approved by NRC Departmental Representative, take necessary measures to complete work within scheduled time. Do not change schedule without NRC Departmental Representative's approval.
- .7 It is the Contractor's responsibility to ensure all subtrades and subcontractors are made aware of the work restraints and operational restrictions specified.
- .8 Schedule Updates:
 - .1 Submit on a monthly basis.

- .2 Provide information and pertinent details explaining reasons for necessary changes to implementation plan.
- .3 Identify problem areas, anticipated delays, impact on schedule and proposed corrective measures to be taken.
- .9 NRC Departmental Representative will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by NRC Departmental Representative. Address and take corrective measures on items of work as identified by reviews and as directed by NRC Departmental Representative. Update schedule accordingly.
- .10 In every instance, change or deviation from work scheduling, no matter how minimal the risk or impact on safety or inconvenience to tenant or public might appear, will be subject to prior review and approval by the NRC Departmental Representative.

1.3 OPERATIONAL
RESTRICTIONS

- .1 The Contractor must recognize that building occupants will be affected by implementation of this contract. The Contractor must perform the work with utmost regard to the safety and convenience of building occupants and users. All work activities must be planned and scheduled with this in mind. The Contractor will not be permitted to disturb any portion of the building without providing temporary facilities as necessary to ensure safe and direct passage through disturbed or otherwise affected areas.
- .2 The Contractor is to coordinate with the owner with respect to scheduling of work and arranging for relocation of affected office spaces as to minimize the effect of the work on occupants.
- .3 Contractor to meet with the NRC Departmental Representative on a weekly basis to identify intended work areas, activities and scheduling for the coming week.
- .4 Phasing of the work to be approved by the NRC Departmental Representative
- .5 See section 01 35 54 in regards to:
 - .1 Special security requirements which must be observed in the course of work.
 - .2 The owner will provide security personnel as part of the Work.

- .6 Facility circulation maintained:
 - .1 Ensure that entrances, corridors, stairwells, exits and other circulation routes are maintained free and clear providing safe and uninterrupted passage for facility users and public at all times for duration of work.
 - .2 Maintain those areas clean and free of construction materials and equipment during operational hours of Facility.
 - .3 Maintain fire escape routes accessible and fire fighting access open all times for the duration of the project. Do not under any circumstances block fire exit doors and do not leave construction materials or debris in corridors, stairwells and in building entrances and exits.

- .7 Safety Signage:
 - .1 Provide on site, and erect as required during progress of work, proper bilingual signage, mounted on self-supporting stands, warning the public and building occupants of construction activities in progress and alerting need to exercise caution in proceeding through disturbed areas of the facility, and directing building occupants through any detours which may be required.
 - .2 Signage to be professionally printed and mounted on wooden backing, coloured and to express messages as directed by the NRC Departmental Representative.
 - .3 Generally maximum size of sign should be in the order of 1.0 square meters. Number of signs required will be dependent on number of areas in facility under renovation at any one time.
 - .4 Include costs for the supply and installation of these signs in the tender price.

- .8 Dust and Dirt Control:
 - .1 See Section 01 74 11 Cleaning for dust control and cleaning requirements.
 - .2 Effectively plan and implement dust control measures and cleaning activities as an integral part of all construction activities. Review all measures with the NRC Departmental Representative before undertaking work, especially for major dust generating activities.
 - .3 Do not allow demolition debris and construction waste to accumulate and contribute to the propagation of dust.
 - .4 As work progresses, maintain construction areas in a tidy condition at all times. Remove dust accumulations by cleaning following the completion of any major dust generating activity.

- .5 Immediately remove all debris and dust from construction area.
- .6 Avoid situations and practices which results in dust and dirt being brought from the construction areas or from the exterior and tracked inside the building into occupied areas used by tenants or public.
- .7 Stop workers with soiled footwear from entering building. This includes roofing mechanics and heavy civil workers.
- .8 Inform workers and make them sensitive to the need for dust and dirt control. Stringently enforce rules and regulations, immediately address non-compliance.
- .9 . Use only designated doors for entry or egress.

.9 Work in Occupied Areas:

- .1 Ensure that all dust, dirt, debris, construction waste, materials, tools and equipment are completely removed at the end of each workshift. Clean and reinstate area ready for daytime use by tenant.

1.4 PROJECT MEETINGS

- .1 NRC Departmental Representative will arrange project meetings and assume responsibility for setting times and recording minutes.

1.5 WORK
COORDINATION

- .1 The General Contractor is responsible for coordinating the work of the various trades and predetermining where the work of such trades interfaces with each other.
 - .1 Designate one person from own employ having overall responsibility to review contract documents and shop drawings, plan and manage such coordination.
- .2 The General Contractor shall convene meetings between trades whose work interfaces and ensure that they are fully aware of the areas and the extent of where interfacing is required.
 - .1 Provide each trade with the plans and specs of the interfacing trade, as required, to assist them in planning and carrying out their respective work.
 - .2 Develop coordination drawings when deemed required illustrating potential interference between work of various trades and distribute to all affected parties including structural trade.
 - .1 Pay particularly close attention to overhead work within or near to building structural elements.
 - .2 Coordination drawings to identify all building elements, services lines, rough-in points and indicate from where various services are coming.

- .3 Submission of shop drawings and ordering of prefabricated equipment or prebuilt components shall only occur once coordination meeting for such items has taken place between trades and all conditions affecting the work of the interfacing trades has been made known and accounted for.
- .4 Work Cooperation:
 - .1 Ensure cooperation between trades in order to facilitate the general progress of the work and avoid situations of spatial interference.
 - .2 Ensure that each trade provides all other trades reasonable opportunity for the completion of the work and in such a way as to prevent unnecessary delays, cutting, patching and the need to remove and replace completed work.
- .5 National Research Council will not be responsible for or held accountable for any extra costs incurred as a result of the failure to carry out coordination work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work shall be the sole responsibility of the General Contractor and shall be resolved by him at no extra cost to the Contract.

END OF SECTION

1.1 SECTION

INCLUDES

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

1.2 SUBMITTAL

GENERAL REQUIREMENTS

- .1 Submit to NRC Departmental Representative for review requested submittals specified in various sections of the specifications including shop drawings, samples, permits, compliance certificates, test reports, work management plans and other data required as part of the work.
- .2 Submit with reasonable promptness and in orderly sequence so as to allow for NRC Departmental Representative's review and not cause delay in Work. Failure to submit in ample time will not be considered sufficient reason for an extension of Contract time and no claim for extension by reason of such default will be allowed.
- .3 Do not proceed with work until relevant submissions are reviewed by NRC Departmental Representative
- .4 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .5 Where items or information is not produced in SI Metric units, provide soft converted values.
- .6 Review submittals prior to submission to NRC Departmental Representative. Ensure during review that necessary requirements have been determined and verified, required field measurements or data have been taken, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents.
 - .1 Submittals not stamped, signed, dated and identified as to specific project will be returned unexamined by NRC Departmental Representative and considered rejected.
- .7 Notify NRC Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .8 Verify field measurements and affected adjacent Work are coordinated.
- .9 Contractor's responsibility for errors, omissions or deviations in submission from requirements of Contract Documents is not relieved by NRC Departmental Representative's review.

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .10 Submittal format: Electronic submissions via email are acceptable.
 - .11 Make changes or revision to submissions which NRC Departmental Representative may require, consistent with Contract Documents and resubmit as directed by NRC Departmental Representative. When resubmitting, notify NRC Departmental Representative in writing of any revisions other than those requested.
 - .12 Keep one reviewed copy of each submittal document on site for duration of Work.
- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, product data, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
 - .2 Number of Shop Drawings: submit sufficient copies of shop drawings which are required by the General Contractor and sub-contractors plus 3 copies which will be retained by NRC Departmental Representative. Ensure sufficient numbers are submitted to enable one complete set to be included in each of the maintenance manuals specified in 01 78 00.
 - .3 Shop Drawing Submittal Schedule:
 - .1 Submit, within 10 working days of contract award, in format acceptable to NRC Departmental Representative, a submittal schedule listing all shop drawings to be submitted for project as specified in various sections of the Specifications.
 - .2 Schedule to indicate proposed submission date of each shop drawing, status of review status and anticipated product delivery date to site. Track all submissions for entire project.
 - .3 As work progresses, revise schedule identifying those items which have been reviewed and finalized and indicating list of outstanding shop drawings.
 - .4 Submit schedule updates at stipulated dates or project time intervals as predetermined and agreed upon between Contractor and NRC Departmental Representative at commencement of Work.
 - .4 Shop Drawings Content and Format:
 - .1 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where items or equipment attach or

connect to other items or equipment, confirm that all interrelated work have been coordinated, regardless of section or trade from which the adjacent work is being supplied and installed.

.2 Shop Drawings Format:

.1 Opaque white prints or photocopies of original drawings or standard drawings modified to clearly illustrate work specific to project requirements.

Maximum sheet size to be 1000 x 707 mm.

.2 Product Data from manufacturer's standard catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products, to be original full colour brochures, clearly marked indicating applicable data and deleting information not applicable to project.

.3 Non or poorly legible drawings, photocopies or facsimiles will not be accepted and returned not reviewed.

.3 Supplement manufacturer's standard drawings and literature with additional information to provide details applicable to project.

.4 Delete information not applicable to project on all submittals.

.5 Allow 5 calendar days for NRC Departmental Representative's review of each submission.

.6 Adjustments or corrections made on shop drawings by NRC Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, advise NRC Departmental Representative in writing prior to proceeding with Work.

.7 If upon review by NRC Departmental Representative, no errors or omissions are discovered or if only minor corrections and comments are made, fabrication and installation may proceed upon receipt of shop drawings. If shop drawings are rejected and noted to be Resubmitted, do not proceed with that portion of work until resubmission and review of corrected shop drawings, through same submission procedures indicated above.

.8 Accompany each submissions with transmittal letter, in duplicate, containing:

.1 Date.

.2 Project title and project number.

.3 Contractor's name and address.

.4 Identification and quantity of each shop drawing,

- product data and sample.
- .5 Other pertinent data.
- .9 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and project 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 Cross references to particular details of contract drawings and specifications section number for which shop drawing submission addresses.
 - .6 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.
- .10 After NRC Departmental Representative's review, distribute copies.
- .11 The review of shop drawings by the NRC or its authorized NRC Departmental Representative is for sole purpose of ascertaining conformance with general concept. This review shall not mean that the NRC approves the detail design inherent in the shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting all requirements of the construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of

all sub-trades.

1.4 SAMPLES

- .1 Submit for review samples as specified in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples to the NRC's office or to other address as directed by NRC Departmental Representative. Do not drop off samples at construction site except for special circumstances previously approved by NRC Departmental Representative.
- .3 Notify NRC Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by NRC Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to NRC Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which NRC Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.5 SCHEDULES,
PERMITS AND
CERTIFICATES

- .1 Upon award of contract, submit to NRC Departmental Representative copy of Work Schedule and various other schedules, permits, certification documents and project management plans as specified in other sections of the Specifications.
- .2 Submit copy of permits, notices, compliance Certificates received by Regulatory Agencies having jurisdiction and as applicable to the Work.
- .3 Submission of above documents to be in accordance with Submittal-General Requirements procedures specified in this section.

END OF SECTION

- | | | | |
|------------------------------------|----|--|------------------|
| <u>1.1 RELATED WORK</u> | .1 | Special Procedures on Fire Safety Requirements | Section 01 35 24 |
| | .2 | Schedule and Management of Work | Section 01 14 10 |
| <u>1.2 SUBMITTALS</u> | .1 | Submit to NRC Departmental Representative copies of the following documents, including updates: | |
| | .1 | Site Specific Health and Safety Plan. | |
| | .2 | Building Permit, compliance certificates and other permits obtained | |
| | .3 | Reports or directions issued by Federal and Provincial Inspectors and other Authorities having jurisdiction. | |
| | .4 | Accident or Incident Reports | |
| | .5 | MSDS data sheets. | |
| | .6 | Name of Contractor's representative designated to perform health and safety supervision on site. | |
| | .2 | Medical Surveillance: Obtain and maintain worker medical surveillance documentation for work posing a potential health hazard to workers as stipulated in Federal or Provincial Occupational Safety and Health Regulations. Upon request, submit copy of documentation to NRC Departmental Representative. | |
| | .3 | Upon request by NRC Departmental Representative, submit reports and other documentation as stipulated to be produced and maintained by Federal and Provincial Occupational Health and Safety Regulations and as specified herein. | |
| | .4 | Submit above documents in accordance with the submittal procedures specified in Section 01 33 00. | |
| <u>1.3 COMPLIANCE REQUIREMENTS</u> | .1 | Comply with the Occupational Health and Safety Act for the Province of Newfoundland and Labrador, and the Occupational Health & Safety Regulations made pursuant to the Act. | |
| | .2 | Comply with Canada Labour Code Part II, and the Canada Occupational Safety and Health Regulations made under Part II of the Canada Labour Code. | |
| | .3 | Observe and enforce construction safety measures required by: | |
| | .1 | 2005 National Building Code of Canada, Part 8; | |
| | .2 | Provincial Worker's Compensation Board; | |
| | .3 | Municipal statutes and ordinances. | |
| | .4 | In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, NRC Departmental Representative will advise on the course of action to be followed. | |

- .5 A copy of the Canada Labour Code Part II may be obtained by contacting:
- Canadian Government Publishing
Public Works & Government Services Canada
Ottawa, Ontario, K1A 0S9
Tel: (819) 956-4800 (1-800-635-7943)
Publication No. L31-85/2000 E or F)
- .6 Maintain Workers Compensation Coverage for duration of Contract. Submit Letter of Good Standing to NRC Departmental Representative upon request.
- .7 All Contractors and Subcontractors shall be required to submit a “Letter of Good Standing” from the NLCSA “Newfoundland and Labrador Construction Safety Association” as proof of possession of COR “Certificate of Recognition”. COR shall be provided for all Subcontractors used by the Contractor in the execution of the Contract. Contractors and their Subcontractors can have one of three (3) possible designations from NLCSA: “COR”, “Audit Pending” or “In the Process”.

1.4 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, of property and for protection of persons and public circulating adjacent to work operations to extent that they may be affected by conduct of the Work.
- .2 Enforce compliance by all workers, sub-contractors and other persons granted access to work site with safety requirements of Contract Documents, applicable Federal, Provincial, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.5 SITE CONTROL AND ACCESS

- .1 Control work site and entry points to construction areas.
- .1 Delineate and isolate construction areas from other areas of site by use of appropriate means.
- .2 Post notices and signage at entry points and at other strategic locations identifying entrance onto site to be restricted to authorized persons only.
- .3 Signage must be professionally made, bilingual in both official languages or display internationally understood graphic symbols.
- .2 Approve and grant access to site only to workers and authorized persons.

- .1 Immediately stop non-authorized persons from circulating in construction areas and remove from site.
 - .2 Provide site safety orientation to all persons before granting access. Advise of site conditions, hazards and mandatory safety rules to be observed on site.
 - .3 Secure site at night time to extent required to protect against unauthorized entry. Owner will provide security guard where protection cannot be achieved by other means.
 - .4 Ensure persons granted access to site, wear appropriate personal protective equipment (PPE) suitable to work and site conditions.
 - .1 Provide such PPE to authorized persons who require access to perform inspections or other approved purposes.
- 1.6 PROTECTION
- .1 Carry out work placing emphasis on health and safety of the Public, Facility personnel, construction workers and protection of the environment.
 - .2 Provide secure work area to protect pedestrians as indicated in Section 01 14 10 – Scheduling and Management of Work.
 - .3 Should unforeseen or peculiar safety related hazard or condition become evident during performance of work, immediately take measures to rectify the situation and prevent damage or harm. Advise NRC Departmental Representative verbally and in writing.
- 1.7 PERMITS
- .1 Obtain building permit, licenses, compliance certificates and other permits as specified in section 01 10 10 before and during progress of work. Post on site.
 - .2 Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify NRC Departmental Representative in writing and obtain NRC Departmental Representative's approval to proceed prior to carrying out that portion of work.
- 1.8 HEALTH AND SAFETY MEETINGS
- .1 Attend pre-construction health and safety meeting conducted by NRC Departmental Representative. Have following persons in attendance:
 - .1 Site Superintendent
 - .2 Contractor's designated Health and Safety Site Supervisor
 - .3 NRC Departmental Representative will advise of date, time and location.
 - .2 Conduct health and safety meetings and tool box briefings on site.

1.9 HEALTH AND
SAFETY PLAN

Hold on a regular and pre-scheduled basis during entire work in accordance with requirements and frequency as stipulated in provincial occupational health and safety regulations.

- .1 Keep workers informed of potential hazards and provide safe work practices and procedures to be followed.
- .2 Take written minutes and post on site.
- .3 Conduct formal meetings on a minimum monthly basis.

- .1 Develop written site-specific Project Health and Safety Plan, based on hazard assessments, prior to commencement of work.
 - .1 Submit copy to NRC Departmental Representative within 14 calendar days of Contract Award.
 - .2 Submit updates as work progresses.
- .2 Health and Safety Plan shall contain three (3) parts with following information:
 - .1 Part 1 - Hazards: List of individual health risks and safety hazards identified by hazard assessment process.
 - .2 Part 2 - Safety Measures: Consulting controls, personal protective equipment and safe work practices used to mitigate hazards and risks listed in Part 1 of Plan.
 - .3 Part 3a: Emergency Response: standard operating procedures, evacuation measures and emergency response in the occurrence of an accident, incident or emergency.
 - .1 Include response to all hazards listed in Part 1 of Plan.
 - .2 Evacuation measures to complement the Facility's existing Emergency Response and Evacuation Plan. Obtain pertinent information from NRC Departmental Representative.
 - .3 List names and telephone numbers of officials to contact including:
 - .1 General Contractor and all Subcontractors.
 - .2 Federal and Provincial Departments as stipulated by laws and regulations of authorities having jurisdiction and local emergency resource organizations, as needed base on nature of emergency.
 - .3 Officials from PWGSC and site Facility management. NRC Departmental Representative will provide list.
 - .4 Part 3b - Site Communications:
 - .1 Procedures used on site to share work related safety issues between workers, subcontractors, and General Contractor.
 - .2 List of critical tasks and work activities, to be

communicated with the Facility Manager, which has risk of affecting tenant operations, or endangering health and safety of Facility personnel and the general public. Develop list in consultation with the NRC Departmental Representative.

- .3 Prepare Health and Safety Plan in a three column format, addressing the three parts specified above, as follows:

Column 1	Column 2	Column 3
Part 1	Part 2	Part 3a/3b
Identified Hazards	Safety Measures	Emergency Response & Site Communications

- .4 Develop Plan in collaboration with subcontractors. Address work activities of all trades. Revise and update Plan as Sub-contractors arrive on site.
- .5 Implement and enforce compliance with requirements of Plan for full duration of work to final completion and demobilization from site.
- .6 As work progresses, review and update Plan. Address additional health risks and safety hazards identified by on-going hazard assessments.
- .7 Post copy of Plan, and updates, on site.
- .8 Submission of the Health and Safety Plan, and updates, to the NRC Departmental Representative is for review and information purposes only. NRC Departmental Representative's receipt, review and any comments made of the Plan shall not be construed to imply approval in part or in whole of such Plan by NRC Departmental Representative and shall not be interpreted as a warranty of being complete and accurate or as a confirmation that all health and safety requirements of the Work have been addressed and that it is legislative compliant. Furthermore, NRC Departmental Representative's review of the Plan shall not relieve the Contractor of any of his legal obligations for Occupational Health and Safety provisions specified as part of the Work and those required by provincial legislation or those which would otherwise be applicable to the site of the work.

SUPERVISION AND
INSPECTIONS

- .1 Designate one person to be present on site at all times, responsible for supervising health and safety of the Work.
 - .1 Person to be competent in Occupational Health and Construction Safety as defined in the Provincial Occupational Health And Safety Act.
- .2 Assign responsibility, obligation and authority to such designated person to stop work as deemed necessary for reasons of health and safety.
- .3 Conduct regularly scheduled informal safety inspections of work site on a minimum bi-weekly basis.
 - .1 Note deficiencies and remedial action taken in a log book or diary.
- .4 Conduct Formal Inspections on a minimum monthly basis.
 - .1 Use standardized safety checklist forms.
 - .2 Prepare written report of each inspection. Document deficiencies, remedial action needed and assign responsibility for rectification to appropriate subcontractor or worker.
 - .3 Distribute monthly reports to subcontractors for their pursuance.
 - .4 Follow-up and ensure appropriate action and corrective measures are taken.
- .5 Cooperate with Facility's Health and Safety Site Coordinator responsible for the entire site, should one be designated by NRC Departmental Representative.
- .6 Keep inspection reports on site.

1.11 TRAINING

- .1 Ensure that all workers and other persons granted access to site are competently trained and knowledgeable on:
 - .1 Safe use of tools and equipment.
 - .2 How to wear and use personal protective equipment (PPE).
 - .3 Safe work practices and procedures to be followed in carrying out work.
 - .4 Site conditions and minimum safety rules to be observed on site, as given at site orientation session.
- .2 Maintain evidence and records of worker training.

1.12 MINIMUM
SITE SAFETY RULES

- .1 Notwithstanding the requirement to abide by federal and provincial health and safety regulations, the following safety rules shall be considered minimum requirements to be obeyed

by all persons granted site access:

- .1 Wear personnel protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat, safety footwear and eye protection.
 - .2 Immediately report unsafe activity or condition at site, near-miss accident, injury and damage.
 - .3 Maintain site in tidy condition.
 - .4 Obey warning signs and safety tags.
- .2 Brief workers on site safety rules and on disciplinary measures to be taken by NRC Departmental Representative for violation or non compliance of such rules. Post rules on site.
 - .3 The following actions or conduct by Contractor, workers and sub-contractors will be considered as non conformance with the health and safety requirements of the contract for which a Non-Compliance Notification will be issued to the General Contractor by the NRC Departmental Representative:
 - .1 Failure to follow the minimum site safety rules specified above.
 - .2 Negligence resulting in serious injury or major property damage.
 - .3 Deliberate non-compliance with Federal and Provincial Acts and Regulations.
 - .4 Falsification of information in Workers Compensation Reports, safety reports and other health and safety related documents submitted to NRC Departmental Representative or to Authority having jurisdiction.
 - .5 Possession of firearms on site.
 - .6 Possession of non-prescriptive illegal drugs or alcohol.
 - .7 Action, or lack thereof, resulting in the issuance of Warnings, Fines or Stop Work Orders from a Provincial Authority having jurisdiction.
 - .8 Violation of other specified health and safety rules and requirements as determined by NRC Departmental Representative.
 - .4 See elsewhere in this section for details on Non-Compliance Notifications and resulting disciplinary measures.
- .1 Investigate and report the following incidents and accidents:
 - .1 Those as required by Provincial Occupational Safety and Health Act and Regulations.
 - .2 Those which require notification to WHSCC or other regulatory agencies as stipulated by applicable law or regulations.

1.13 ACCIDENT
REPORTING

- .2 Send written report to NRC Departmental Representative for all above cases.
- 1.14 TOOLS AND EQUIPMENT SAFETY
- .1 Routinely check and maintain tools, equipment and machinery for safe operation.
- .2 Conduct checks as part of site safety inspections. When requested, submit proof that checks and maintenance have been carried out.
- .3 Tag and immediately remove from site items found faulty or defective.
- 1.15 POWDER ACTUATED DEVICES
- .1 Use powder actuated fastening devices only after receipt of written permission from NRC Departmental Representative.
- 1.16 POSTING OF DOCUMENTS
- .1 Post on site safety documentation as stipulated by Authorities having jurisdiction and as specified herein. Place in a common visible location.
- 1.17 SITE RECORDS
- .1 Maintain on site a copy of all health and safety documentation and reports specified to be produced as part of the work and received from authorities having jurisdiction.
- .2 Upon request, make available to NRC Departmental Representative, or authorized safety representative, for review. Provide copy when directed by NRC Departmental Representative.
- 1.18 NON COMPLIANCE AND DISCIPLINARY MEASURES
- .1 Immediately address and correct health and safety violations and non-compliance issues.
- .2 Negligence or failure to follow occupational health and safety provisions specified in the Contract Documents and of those of applicable laws and regulations could result in disciplinary measures taken by the NRC Departmental Representative against the General Contractor.
- .3 NRC Departmental Representative will make final decision as to what constitutes a violation and when to issue a Non-Compliance Notification.
- .4 Non-compliance Notifications issued by NRC Departmental Representative shall not be construed as to overrule or disregard warnings, orders and fines levied against Contractor by a

regulatory agency having jurisdiction.

- .5 Details of the Non-Compliance Notification and Disciplinary Measures system will be provided by NRC Departmental Representative upon contract award and prior to commencement of work.

END OF SECTION

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.
.3 Disposal to be in accordance with owner's documented procedures.
- 1.3 DRAINAGE .1 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
.2 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.
- 1.4 POLLUTION CONTROL .1 Maintain temporary erosion and pollution control features.
.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.
.5 Seal off work areas from other areas of the building to prevent dust, gas, fumes, dirt from escaping the work areas.

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

- 3.1 NOT USED .1 Not Used.

END OF SECTION

- 1.1 GENERAL
- .1 Be aware that security regulations pertaining to control of construction personnel are in force at the site. It is the Contractor's responsibility to become familiar with and abide by such regulations.
 - .2 As well, the Contractor is responsible to brief his own workforce and sub-contractors in respect to the security regulations and to ensure that they abide by all rules and regulations.
 - .3 An infraction of NRC security regulations on the part of the Contractor, members of his work force or any sub-contractor in his employ may result, at the discretion of the National Research Council, the removal of the offending party from the construction site.
- 1.2 SECURITY PERSONNEL
- .1 Site security is mandatory when working in restricted areas on NRC property. All areas within the facility are considered restricted areas.
 - .2 All persons from Contractor's or subcontractor's workforce must be escorted and may be under surveillance when located in the NRC facilities.
 - .3 Provide approved safety hard hat, safety footwear and other personnel protective equipment to be worn by contractor / subcontractors personnel in accordance with applicable construction safety regulations.
- 1.3 SECURITY PASSES
- .1 Beyond the requirement to have surveillance during the work, all personnel employed by contractor on the site will require a Temporary Restricted Area Pass specifically applicable to that restricted area of the site under construction. The Contractor remains responsible for all passes issued to his employees in addition to any passes issued to sub-contractors and their employees on his behalf.
 - .2 The Contractor is responsible to obtain all passes before work commences including those required by his sub-contractors from the NRC Commissionaire.
 - .3 All workers must visibly wear the temporary passes when in restricted areas for the duration of the project. Anyone not in possession of a Temporary or Permanent Restricted Area Pass will not be allowed access to restricted areas.

- .4 Where barricades are erected to establish a controlled area within the restricted area, ensure that all personnel fully understand the areas within which they must remain confined. Temporary passes must still be worn within the controlled areas.
- .5 At end of project, the Contractor shall return all passes issued to him, his workers and sub-contractors to the NRC Commissionaire. The NRC Departmental Representative will deduct from final contract payment, \$100.00 for each pass not returned irregardless of the reason the pass is not returned.
- .6 The Contractor must immediately report any lost, stolen or destroyed passes to the NRC Commissionaire.

1.4 KEYS

- .1 Keys and/or Key cards necessary for access to restricted areas will be issued only to specifically designated security personnel and who must also be in possession of a Permanent Restricted Area Pass.
- .2 Under no circumstances must copies of keys or key cards be made by Contractor.
- .3 Security personnel shall personally return keys or card keys issued to him to the NRC Commissionaire. Loss keys must be reported immediately.

1.5 SITE SECURITY

- .1 Access to the work site will be through pre-determined routes.
- 2 Control of worker access and egress into restricted areas through doors or gates must be done by the NRC Commissionaire. This individual must record all temporary and visitor passes issued in a daily log and collect all passes returned at the end of each working day.
- .3 NRC Departmental Representative may establish a controlled area within the restricted area to assist in delineating the work site and limit worker movement within the restricted area. Erect barricades provided in locations as directed by NRC Departmental Representative and maintain in place until advised to remove by NRC Departmental Representative. Place barricades in such a manner that the extent of the controlled area is evident to all personnel.

1.6 VEHICLE ACCESS TO RESTRICTED AREAS

- .1 All contractor's vehicles, including delivery vehicles, requiring access to restricted areas must back in area designated by the NRC Departmental Representative.

- 1.7 MATERIAL DELIVERIES .1 Material and equipment delivery vehicles must be made at locations approved by the NRC Departmental Representative.
- 1.8 WORK AFTER NORMAL WORKING HOURS .1 When work is to be done within restricted areas after normal working hours, notify the NRC Departmental Representative in advance, of areas and times in order to arrange for security escort and surveillance functions.

END OF SECTION

1.1 INSPECTION

- .1 Give timely notice requesting inspection of Work designated for special tests, inspections or approvals by NRC Departmental Representative or by inspection authorities having jurisdiction.
- .2 In accordance with the General Conditions, NRC Departmental Representative may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents.
- .3 If Contractor covers or permits to be covered Work designated for special tests, inspections or approvals before such is made, uncover Work until particular inspections or tests have been fully and satisfactorily completed and until such time as NRC Departmental Representative gives permission to proceed.
- .4 Pay costs to uncover and make good work disturbed by inspections and tests.

1.2 TESTING

- .1 Tests on materials, equipment and building systems as specified in various sections of the Specifications is the responsibility of the Contractor except where stipulated otherwise.
 - .1 Provide all necessary instruments, equipment and qualified personnel to perform tests.
- .2 At completion of tests, turn over 2 sets of fully documented tests reports to the NRC Departmental Representative. Submit in accordance with Section 01 33 00.
 - .1 Obtain additional copies for inclusion of a complete set in each of the maintenance manuals specified in Section 01 78 00.
- .3 Unspecified tests may also be made by NRC Departmental Representative, at the discretion of the NRC Departmental Representative. The costs of these tests will be paid for by the NRC Departmental Representative.
- .4 Where tests or inspections reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests and inspections incurred by NRC Departmental Representative as required to verify acceptability of corrected work.

1.3 INDEPENDENT
INSPECTION AGENCIES

- .1 NRC Departmental Representative will engage and pay for service of Independent Inspection and Testing Agencies for purpose of inspecting and testing portions of Work except for the following which remain part of Contractor's responsibilities:
 - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.

- .2 Inspection and testing performed exclusively for Contractor's convenience.
 - .3 Tests as specified within various sections designated to be carried out by Contractor under the supervision of NRC Departmental Representative.
 - .4 Additional tests as specified in Clause 1.3.4 above.
- .2 Provide sufficient advance notice to NRC Departmental Representative of time when the Work will be ready for testing by designated Testing Agency in order for NRC Departmental Representative to make attendance arrangements with such Agency. When directed by NRC Departmental Representative, notify the Agency directly.
 - .3 When specified or directed, submit representative samples of materials, in required quantities, to Testing Agency for testing purposes. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.
 - .4 Provide labour and facilities to obtain, handle and deliver samples.
 - .5 Provide sufficient space on site for Testing Agency's exclusive use to store equipment and cure test samples.
 - .6 Employment of Independent Inspection and Testing Agencies by NRC Departmental Representative does not relax responsibility to perform Work in accordance with Contract Documents.
- 1.3 ACCESS TO WORK
- .1 Facilitate NRC Departmental Representative's access to Work. If part of Work is being fabricated at locations other than construction site, make preparations to allow access to such Work whenever it is in progress.
 - .2 Furnish labour and facility to provide access to the work being inspected and tested.
 - .3 Co-operate to facilitate such inspections and tests.
- 1.5 REJECTED WORK
- .1 Remove and replace defective Work, whether result of poor workmanship, use of defective or damaged products and whether incorporated in Work or not, which has been identified by NRC Departmental Representative as failing to conform to Contract Documents.
 - .2 Make good damages to new and existing substrades and finishes resulting from removal or replacement of defective

work.

END OF SECTION

- 1.1 SITE ACCESS AND PARKING .1 The Consultant will designate Contractor's access to project site as well as parking facilities for equipment and workers.
- 1.2 BUILDING ACCESS .1 Use only access doors, and circulation routes within building as designated by Consultant to access interior work.
- 1.3 CONTRACTOR'S SITE OFFICE .1 Be responsible for and provide own site office, if required, including electricity, heat, lights and telephone. Locate site office as directed by Consultant.
- 1.4 MATERIAL STORAGE .1 Locate site storage trailers where directed by Consultant. Place in location of least interference with existing Facility operations.
- .2 Material storage space on site is limited. Coordinate delivery to minimize storage period on site before being needed for incorporation into work.
- 1.5 SANITARY FACILITIES .1 Consultant will advise location of facilities to be used. Do not use facilities made available for traveling public.
- 1.6 POWER .1 Power supply is available and will be provided for construction usage at no cost.
- .1 Make arrangements for the use of such services through the Consultant.
- .2 Consultant will designate and approve each location of existing power source to which connections can be made to obtain temporary power service.
- .3 Connect to existing power supply in accordance with Canadian Electrical Code.
- 1.7 WATER SUPPLY .1 Water supply is available in existing building and will be provided for construction usage at no cost. Make arrangements for the use and transportation of such services to work area through the Consultant.
- 1.8 SCAFFOLDING .1 Design, construct and maintain scaffolding in rigid, secure and safe manner in accordance with CAN/CSA-S269.2-M87(R1998).
- .2 Erect scaffolding independent of walls. Remove when no longer required.
- 1.9 REMOVAL OF TEMPORARY FACILITIES .1 Remove temporary facilities from site when directed by Consultant.

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB 1.189-00, Exterior Alkyd Primer for Wood.
 - .2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA-0121-M1978(R2003), Douglas Fir Plywood.
 - .3 CAN/CSA-S269.2-[M1987(R2003)], Access Scaffolding for Construction Purposes.
 - .4 CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.

1.2 SUBMITTALS

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

1.3 INSTALLATION AND REMOVAL

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

1.4 SCAFFOLDING

- .1 Scaffolding in accordance with CAN/CSA-S269.2.
- .2 Provide and maintain scaffolding ladders platforms.

1.5 HOISTING

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

1.6 SITE
STORAGE/LOADING

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

1.7 CONSTRUCTION
PARKING

- .1 Project Manager will provide parking for contractors.
- .2 Provide and maintain adequate access to project site.

1.8 EQUIPMENT,
TOOL AND MATERIALS
STORAGE

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

1.9 SANITARY
FACILITIES

- .1 Owner to 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.

1.10 CLEAN-UP

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

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION .1 Not Used

END OF SECTION

1.1 GENERAL

- .1 Use new material and equipment unless otherwise specified.
- .2 Within 7 days of written request by NRC Departmental Representative, submit following information for any materials and products proposed for supply:
 - .1 Name and address of manufacturer.
 - .2 Trade name, model and catalogue number.
 - .3 Performance, descriptive and test data.
 - .4 Compliance to specified standards.
 - .5 Manufacturer's installation or application instructions.
 - .6 Evidence of arrangements to procure.
 - .7 Evidence of manufacturer delivery problems or unforeseen delays.
- .3 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available.
- .4 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified.
- .5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.2 PRODUCT QUALITY

- .1 Contractor shall be solely responsible for submitting relevant technical data and independent test reports to confirm whether a product or system proposed for use meets contract requirements and specified standards.
- .2 Final decision as to whether a product or system meets contract requirements rest solely with the NRC Departmental Representative in accordance with the General Conditions, Document "C".

1.3 ACCEPTABLE MATERIALS AND ALTERNATIVES

- .1 Acceptable Materials: When materials specified include trade names or trade marks or manufacturer's or supplier's name as part of the material description, select and only use one of the names listed for incorporation into the Work.
- .2 Alternative Materials: Submission of alternative materials to trade names or manufacturer's names specified must be done during the tendering period following procedures indicated in the Instructions to Tenderers.

- .3 Substitutions: After contract award, substitution to a specified material will be dealt with as a change to the Work in accordance with the General Conditions Document "C".

1.4 MANUFACTURERS INSTRUCTIONS

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods to be used. Do not rely on labels or enclosure provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify NRC Departmental Representative in writing of any conflict between these specifications and manufacturers instructions, so that NRC Departmental Representative will designate which document is to be followed.

1.5 AVAILABILITY

- .1 Immediately notify NRC Departmental Representative in writing of unforeseen or unanticipated material delivery problems by manufacturer. Provide support documentation as per clause 1.1.2 above.

1.6 WORKMANSHIP

- .1 Ensure quality of work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed.
- .2 Remove unsuitable or incompetent workers from site as stipulated in General Conditions, document "C".
- .3 Ensure cooperation of workers in laying out work. Maintain efficient and continuous supervision on site at all times.
- .4 Coordinate work between trades and subcontractors. See section 01 14 10 in this regard.
- .5 Coordinate placement of openings, sleeves and accessories.

1.7 FASTENINGS - GENERAL

- .1 Provide metal fastenings and accessories in same texture, colour and finish as base metal in which they occur. Prevent electrolytic action between dissimilar metals. Use non-corrosive fasteners, anchors and spacers for securing exterior work and in humid areas.
- .2 Space anchors within limits of load bearing or shear capacity and ensure that they provide positive permanent anchorage. Wood or organic material plugs not acceptable.
- .3 Keep exposed fastenings to minimum, space evenly and lay out

neatly.

- .4 Fastenings which cause spalling or cracking of material to which anchorage is made, are not acceptable.
- .5 Do not use explosive actuated fastening devices unless approved by NRC Departmental Representative. See section 01 35 28 - Health and Safety Requirements in this regard.

1.8 FASTENINGS - EQUIPMENT

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur and, use resilient washers with stainless steel.

1.9 STORAGE, HANDLING AND PROTECTION

- .1 Deliver, handle and store materials in manner to prevent deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled materials in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work. Provide additional cover where manufacturer's packaging is insufficient to provide adequate protection.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store sheet materials and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .5 Immediately remove damaged or rejected materials from site.
- .6 Touch-up damaged factory finished surfaces to NRC Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

END OF SECTION

PART 1 - GENERAL

1.1 SUBMITTALS

- .1 Submit written request in advance of cutting or alteration which affects:
 - .1 Structural integrity of elements of project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of operational elements.
 - .4 Visual qualities of sight-exposed elements.
- .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 Date and time work will be executed.

1.2 MATERIALS

- .1 Required for original installation.

1.3 PREPARATION

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting 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.
- .5 Provide protection from elements for areas which are to be exposed by uncovering work.

1.4 EXECUTION

- .1 Execute cutting, fitting, and patching 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 airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .11 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.
- .12 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not Used.

END OF SECTION

PART 1 - GENERAL

1.1 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 from site at daily regularly scheduled times or dispose of as directed by NRC Departmental Representative. 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 Dispose of waste materials and debris at designated dumping areas.
- .7 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .8 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .9 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .12 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.2 FINAL CLEANING

- .1 Remove waste products and debris off site.
- .2 Remove waste materials from site at regularly scheduled times
- .3 Remove dirt and other disfiguration from exterior surfaces.

- .4 Clean and sweep roofs, gutters, areaways, and sunken wells.
- .5 Sweep and wash clean paved areas.
- .6 Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.
- .7 Clean roofs, downspouts, and drainage systems.
- .8 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .9 Remove snow and ice from access to building.

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

- 3.1 NOT USED .1 Not Used.

END OF SECTION

- 1.1 SECTION INCLUDES .1 Administrative procedures proceeding inspection and acceptance of Work by NRC Departmental Representative.
- 1.2 INSPECTION AND DECLARATION .1 Contractor's Inspection: Coordinate and perform, in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
- .1 Notify NRC Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for NRC Departmental Representative's Inspection and Acceptance.
- .2 Consultant's Inspection: Accompany NRC Departmental Representative during all interim and final inspections of Work. Address defects, faults and outstanding items of work identified by such inspections.
- .3 Correct all discrepancies before final inspection and acceptance of Work.

END OF SECTION

1.1 SECTION
INCLUDES

- .1 Project Record Documents as follows:
 - .1 As-built drawings;
 - .2 As-built specifications;
 - .3 Reviewed shop drawings.

- .2 Operations and Maintenance data as follows:
 - .1 Operations and Maintenance Manual;
 - .2 Maintenance Materials;
 - .3 Spare Parts;
 - .4 Special Tools.

1.2 PROJECT RECORD
DOCUMENTS

- .1 NRC Departmental Representative will provide two white print sets of contract drawings and two copies of Specifications Manual specifically for "as-built" purposes.

- .2 Maintain at site one set of the contract drawings [and specifications] to record actual as-built site conditions.

- .3 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the NRC Departmental Representative at any time during construction.

- .4 As-Built Drawings:
 - .1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of project and prior to interim inspection, neatly transfer notations to second set (also by use of red ink). Submit both sets to NRC Departmental Representative. All drawings of both sets shall be stamped "As-Built Drawings" and be signed and dated by Contractor.
 - .2 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.

 - .3 Record following information:
 - .1 Field changes of dimension and detail;
 - .2 All design elevations, sections, floor plans and details dimensioned and marked-up to consistently report finished installation conditions;
 - .3 Any details produced in the course of the contract by the NRC Departmental Representative to supplement or to change existing design drawings must also be marked-up and dimensioned to reflect final as-built conditions and appended to the as-built drawing document;

.4 All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.

.5 As-built Specifications: legibly mark in red each item to record actual construction, including:

.1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly items substituted from that specified.

.2 Changes made by Addenda and Change Orders.

.3 Mark up both copies of specifications; stamp "as-built", sign and date similarly to drawings as per above clause.

.6 Maintain As-built documents current as the contract progresses. NRC Departmental Representative will conduct reviews and inspections of the documents on a regular basis. Frequency of reviews will be subject to NRC Departmental Representative's discretion. Failure to maintain as-builts current and complete to satisfaction of the NRC Departmental Representative shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.

1.3 REVIEWED
SHOP DRAWINGS

.1 Compile full set of shop drawings and product data reviewed on project and turn over to Airport Maintenance Personnel.

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCES

- .1 Canadian Standards Association (CSA International).
 - .1 CSA S350-M1980(R1998), Code of Practice for Safety in Demolition of Structures.
- .2 Department of Justice Canada (Jus).
 - .1 Canadian Environmental Assessment Act (CEAA), 1992, c. 37.
 - .2 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
 - .1 SOR/2003-2, On-Road Vehicle and Engine Emission Regulations.
- .3 Electrical:
 - .1 CSA-C22.1 Latest Edition
 - .2 CSA C22.3 No.1 Latest Edition
 - .3 CSA/CAN S.524 Latest Edition

1.2 QUALITY ASSURANCE

- .1 Regulatory Requirements: Ensure Work is performed in compliance with CEPA, and applicable Provincial/Territorial and Municipal regulations.
- .2 Meetings:
 - .1 Prior to start of Work arrange for site visit with NRC Departmental Representative to examine existing site conditions adjacent to demolition work.
 - .2 Hold meetings weekly with NRC Departmental Representative.
 - .3 Ensure key personnel attend.
 - .4 NRC Departmental Representative will provide written notification of change to meeting schedule established upon contract award 2 days prior to scheduled meeting.

1.3 ENVIRONMENTAL PROTECTION

- .1 Ensure Work is done in accordance with Section 01 35 43 - Environmental Procedures.
- .2 Ensure that demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- .3 Fires and burning of waste or materials is not permitted on site.
- .4 Do not bury rubbish waste materials.
- .5 Do not dispose of waste or volatile materials including but not

limited to: mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers.

.1 Ensure proper disposal procedures are maintained throughout project.

.6 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.

.7 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.

1.4 EXISTING CONDITIONS

.1 Should material resembling spray or trowel applied asbestos or other substance be encountered in course of demolition, stop work, take preventative measures, and notify NRC Departmental Representative immediately. Do not proceed until written instructions have been received.

.1 Remove, protect and store salvaged items as directed by NRC Departmental Representative.

.2 Electrical:

.1 Contractor to disconnect and reconnect as required to carry out the work of this contract.

.2 The contractor is to engage certified electrical tradesmen/subcontractor as required to meet the requirements of the governing authority.

1.5 SCHEDULING

.1 Employ necessary means to meet project time lines without compromising specified minimum rates of material diversion.

.1 In event of unforeseen delay, notify NRC Departmental Representative.

PART 2 - PRODUCTS

.1 Not used

PART 3 - EXECUTION

3.1 PROTECTION

.1 Prevent movement, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, adjacent grades parts of existing building to remain.

.1 Provide bracing and shoring as required.

.2 Repair damage caused by demolition as directed by NRC Departmental Representative.

- .2 Support affected structures and, if safety of structure being demolished or adjacent structures or services appears to be endangered, take preventative measures, stop Work and immediately notify NRC Departmental Representative.
- .3 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.

3.2 PREPARATION

- .1 Do Work in accordance with Section 01 35 28 - Health and Safety Requirements.
- .2 Do not disrupt active or energized utilities.

3.3 DEMOLITION

- .1 Remove existing electrical devices/conduit equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
- .2 At end of each day's work, leave Work in safe and stable condition.
 - .1 Protect interiors of parts not to be demolished from exterior elements at all times.
- .3 Demolish to minimize dusting. Keep materials wetted as directed by NRC Departmental Representative.
- .4 Contain fibrous materials (e.g. Insulation) to minimize release of airborne fibres while being transported within facility.
- .5 Use natural lighting to do Work where possible.
 - .1 Shut off lighting except those required for security purposes at end of each day.

END OF SECTION

PART 1 - GENERAL

1.1 References

- .1 Canadian Standards Association (CSA International)
 - .1 CSA B111-1974(R1998), Wire Nails, Spikes and Staples.
 - .2 CAN/CSA-G164-M92(R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA-O141-91(R1999), Softwood Lumber.
- .2 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2000.

1.2 Quality Assurance

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

PART 2 - PRODUCTS

2.1 Lumber Material

- .1 Lumber: unless specified otherwise, softwood, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CAN/CSA-O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Furring, blocking, nailing strips, grounds, rough bucks.
 - .1 Board sizes: "Standard" or better grade.
 - .2 Dimension sizes: "Standard" light framing or better grade.

2.2 Accessories

- .1 Nails, spikes and staples: to CSA B111.
- .2 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
- .3 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.

2.3 Finishes

- .1 Galvanizing: to CAN/CSA-G164, use galvanized fasteners for exterior work pressure- preservative treated lumber.

2.5 Wood

- .1 Surface-applied wood preservative: coloured, or copper naphthenate or 5% pentachlorophenol solution, water repellent

Preservative

preservative.

- .2 Pentachlorophenol use is restricted to building components that are in ground contact and subject to decay or insect attack only. Where used, pentachlorophenol-treated wood must be covered with two coats of an appropriate sealer.
- .3 Structures built with wood treated with pentachlorophenol and inorganic arsenicals must not be used for storing food nor should the wood come in contact with drinking water.

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.
- .4 Treat material as follows:
 - .1 Wood cants, fascia backing, curbs, nailers, sleepers on roof deck.
 - .2 Wood furring for siding on outside surface of exterior masonry and concrete walls.

3.2 Installation

- .1 Comply with requirements of NBC, supplemented by the following paragraphs.
- .2 Install furring and blocking as required to space-out and support facings, fascia, soffit, siding and other work as required.
- .3 Align and plumb faces of furring and blocking to tolerance of 1:600.
- .4 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.
- .5 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized fasteners.

.7 Use caution when working with particle board. Use dust collectors and high quality respirator masks.

3.3 Erection

.1 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.

.2 Countersink bolts where necessary to provide clearance for other work.

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A208.1-1989, Particleboard, Mat formed Wood.
 - .2 ANSI A208.2-1994, Medium Density Fiberboard (MDF).
- .2 Architectural Woodwork Manufacturers Association of Canada (AWMAC)
 - .1 AWMAC Quality Standards for Architectural Woodwork 1991.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-11.3-M87, Hardboard.
- .4 Canadian Standards Association (CSA)
 - .1 CSA B111-1974, Wire Nails, Spikes and Staples.
 - .2 CAN/CSA-G164-M92, Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CSA O121-M1978, Douglas Fir Plywood.
 - .4 CAN/CSA O141-91, Softwood Lumber.
 - .5 CSA O151-M1978, Canadian Softwood Plywood.
 - .6 CSA O153-M1980, Poplar Plywood.
- .5 National Hardwood Lumber Association (NHLA)
 - .1 Rules for the Measurement and Inspection of Hardwood and Cypress January 1986.
- .6 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 1996.

1.2 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 – Common Product Requirements.
- .2 Protect materials against dampness during and after delivery.
- .3 Store materials in ventilated areas, protected from extreme changes of temperature or humidity.

1.3 QUALITY ASSURANCE

- .1 All fabrications shall be in accordance with the quality standard manual of Architectural Woodwork Manufacturers Association of Canada (AWMAC).

PART 2 - PRODUCTS

2.1 LUMBER MATERIAL

- .1 Softwood lumber: unless specified otherwise, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CAN/CSA O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
 - .3 AWMAC premium grade, moisture content as specified, pine species.
- .2 Manufacturing process must adhere to Lifecycle Assessment (LCA) Standards as per CSA Z760-94 LCA Standards.

2.2 PANEL MATERIAL

- .1 Douglas fir plywood (DFP): to CSA O121, standard construction.
 - .1 Canadian softwood plywood (CSP): to CSA O151, standard construction.

2.3 WINDOW SILLS

- .1 Window Sills: acrylic resin based solid surfacing material with fire retardant fillers and proprietary coloring agents.
- .2 Surface: ½” Class 1 and Class A rated to ASTM E 84 test procedures.
- .3 Adhesive: UL GREENGUARD Gold certified for low chemical emissions and SCAQMD Rule 1168 compliant for VOC content.
- .4 Colour: Beige Tempest 1530 TM.
- .5 Installation: Refer to manufacturers specifications.
- .6 Acceptable Manufacturer: Wilsonart® Solid Surface, or approved equal.

2.4 ACCESSORIES

- .1 Nails and staples: to CSA B111; galvanized to CAN/CSA-G164 for exterior work, interior humid areas and for treated lumber; plain steel finish elsewhere.
- .2 Wood screws: to CSA B35.4 plain type and size to suit application.
- .3 Splines: wood
- .4 Adhesive: recommended by manufacturer.
- .5 Use least toxic sealants, adhesives, sealers, and finishes necessary to comply with requirements of this section.

PART 3 - EXECUTION

3.1 INSTALLATION

- .1 Do finish carpentry to Quality Standards of the Architectural Woodwork Manufacturers Association of Canada (AWMAC), except where specified otherwise.
- .2 Scribe and cut as required, fit to abutting walls, and surfaces, fit properly into recesses and to accommodate piping, columns, fixtures, outlets, or other projecting, intersecting or penetrating objects.
- .3 Form joints to conceal shrinkage.

3.2 CONSTRUCTION

- .1 Fastening.
 - .1 Position items of finished carpentry work accurately, level, plumb, true and fasten or anchor securely.

- .2 Design and select fasteners to suit size and nature of components being joined. Use proprietary devices as recommended by manufacturer.
- .3 Set finishing nails to receive filler. Where screws are used to secure members, countersink screw in round cleanly cut hole and plug with wood plug to match material being secured.
- .4 Replace items of finish carpentry with damage to wood surfaces including hammer and other bruises.

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 1. ASTM E 96/E96M-05, Standard Test Methods for Water Vapour Transmission of Materials.
- .2 Canadian General Standards Board (CGSB)
 1. CGSB 71-GP-24M-77(R1983), Adhesive, Flexible, for Bonding Cellular polystyrene Insulation.
- .3 Underwriters Laboratories of Canada (ULC)
 1. CAN/ULC-S701-05, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Coverings.
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 1. Material Safety Data Sheets (MSDS).

1.2 SUBMITTALS

- .1 Product Data:
 1. Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.
 2. Submit two copies of WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures. Indicate VOC's insulation products and adhesives.
- .2 Manufacturer's Instructions:
 1. Submit manufacturer's installation instructions.

1.3 QUALITY ASSURANCE

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with

specified performance characteristics and criteria and physical requirements.

PART 2 - PRODUCTS

2.1 INSULATION

- .1 Extruded polyisocyanurate to CAN/ULC-S701.

1. Type: 4.
2. Thickness: see drawings
3. Size: 600 x 1200 mm.
4. Edges: square.

2.2 ADHESIVE

- .1 Adhesive (for polyisocyanurate): to CGSB 71-GP-24.
 1. Type: as recommended by manufacturer.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 WORKMANSHIP

- .1 Install insulation after building substrate materials are dry.
- .2 Install insulation to maintain continuity of thermal protection to building elements and spaces.
- .3 Fit insulation tight around electrical boxes, plumbing and heating pipes and ducts, around exterior doors and windows and other protrusions.
- .4 Keep insulation minimum 75 mm from heat emitting devices.
- .5 Cut and trim insulation neatly to fit spaces. Butt joints tightly, offset vertical joints. Use only insulation boards free from chipped or broken edges. Use largest possible dimensions to reduce number of joints.
- .6 Offset both vertical and horizontal joints in multiple layer applications.
- .7 Do not enclose insulation until it has been inspected and approved by NRC Departmental Representative.

3.3 EXAMINATION

- .1 Examine substrates and immediately inform Department Representative in writing of defects.
- .2 Prior to commencement of work ensure:
 1. Substrates are firm, straight, smooth, dry, free of snow, ice or frost, and clean of dust and debris.

3.4 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

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 45 00 - Quality Control.
- .2 Section 01 61 00 - Common Product Requirements.
- .3 Section 07 92 10 - Joint Sealants.

1.3 REFERENCES

- .1 Codes and standards referenced in the section refer to the latest edition thereof.
- .2 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.
- .3 National Building Code of Canada (NBCC)
 - .1 NBCC, Part 5 - Environmental Separation
- .4 Sealant and Waterproofer's Institute - Sealant and Caulking Guide Specification.

1.4 SUBMITTALS

- .1 Submit manufacturer's product data sheets.
- .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
- .2 Specification requirements for materials and installation.
- .3 Perform Work in accordance with National Air Barrier Association - Professional Contractor Quality Assurance Program and requirements for materials and 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 45 00 - Quality Control.
- .2 Construct typical panel, 10 m² minimum, incorporating wall openings, insulation, building corner condition, illustrating materials interface and seals.
- .3 Locate where directed.
- .4 Mock-up may remain as part of the Work.
- .5 Allow 48 h for inspection of mock-up by NRC Departmental Representative before proceeding with air/vapour barrier Work.

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 NRC Departmental Representative 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 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.
- .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.

PART 2 PRODUCTS

2.1 SHEET MATERIALS

- .1 Sheet Seal: Self-Adhesive bitumen laminated to high-density polyethylene film, nominal total thickness of 1.0 mm.
 - .1 Membrane Physical Properties

.1	Application	min 5°C
.2	Service Temperature	-40°C to 70°
.3	Elongation	min 200%
.4	Tensile strength	min 2.4 Mpa
.5	Puncture Resistance	min 178 N
	Water vapour transmission	2.8mg/Pa.s.m ² (0.05 perms)
.6	Moisture Absorption	0.1%
.7	Air Leakage at 75 Pa	0.02L/Sm ²
.8	Air Leakage of the 3000 Pa test	No change

2.2 SEALANTS

- .1 Sealants in accordance with Section 07 92 10 - Joint Sealants.
- .2 Primer: recommended by sealant 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 NRC Departmental Representative 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.
- .2 Over the properly prepared substrate surface apply primer 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 NRC Departmental Representative 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 NRC Departmental Representative. Inform NRC Departmental Representative 48 hours prior to required inspection.

3.4 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.

3.5 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 NRC Departmental Representative's inspection to protect from damage by other trades.

3.6 TESTING

- .1 Air leakage testing as directed by NRC Departmental Representative and paid for by the owner will be performed by professional testing agency for the locations selected.
- .2 Testing will be witnessed by NRC Departmental Representative and test reports will be signed by tester, site representative and contractor.
- .3 Inform NRC Departmental Representative 48 hours prior to required testing.

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCES

- .1 The Aluminum Association, Inc. (AA)
 - .1 AA DAF45-97, Designation System for Aluminum Finishes. .
- .2 American Society for Testing and Materials (ASTM International)
 - .1 ASTM A 167-99, Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - .2 ASTM A 240/A240M-02, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - .3 ASTM A 480/A480M-02, Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
 - .4 ASTM D 523-89(R1999), Standard Test Method for Specular Gloss.
 - .5 ASTM D 822-01, Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
- .3 Canadian General Standards Board (CGSB)
 - .1 CGSB 19-GP-14M-76(R1984), Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing.

1.2 DESIGN REQUIREMENTS

- .1 Design metal cladding to provide for thermal movement of component materials caused by ambient temperature range of 80° C without causing buckling, failure of joint seals, undue stress on fasteners or other detrimental effects.
- .2 Maximum deviation from vertical and horizontal alignment of erected panels: 1 to 1000.

1.3 PRODUCT DATA

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit product data sheets for cladding system materials. Include product characteristics, performance criteria, limitations and colours.

- 1.4 SHOP DRAWINGS .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate dimensions and thickness of panels, fastening and anchoring methods, detail and location of joints and gaskets, thermal movement provision, wall openings, head, jamb and sill details, materials and finish, compliance with design criteria and requirements of related work.
- .3 Provide engineering shop drawings sealed by a professional engineer licenced in the province of Newfoundland & Labrador.
- 1.5 SAMPLES .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit duplicate 100 x 100 mm samples of wall system, representative of materials, finishes and colours.
- 1.6 QUALIFICATION .1 Installation of double skin metal cladding by installers certified by manufacturer of system used.
- 1.7 DELIVERY, STORAGE & HANDLING .1 Store and protect material in accordance with panel manufacturer's recommendations.
- .2 Do not expose panels with strippable film to direct sunlight or extreme heat.
- 1.8 WASTE MANAGAEMENT AND DISPOSAL .1 Separate and recycle waste materials in accordance with Section 01 74 19 - Construction/Demolition Waste Management And Disposal.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Place materials defined as hazardous or toxic in designated containers.

- .5 Divert unused metal materials from landfill to metal recycling facility as approved by NRC Departmental Representative.
- .6 Unused sealant material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
- .7 Dispose of unused sealant material at official hazardous material collections site approved by NRC Departmental Representative.
- .8 Fold up metal banding, flatten and place in designated area for recycling.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Wall Panel: aluminum composite material.
 - .1 Thickness: 4 mm.
 - .2 Core: thermoplastic resin core.
 - .3 Colour: #BE-425 (Gloss 30%) Vancouver Copper
 - .4 Acceptable Manufacturer: ALPOLIC-FR, or approved equal.
- .2 Aluminum extrusions: Alloy 6063 Temper T6.
- .3 All aluminum and non-galvanized steel interfaces are to be separated with separation tape.
- .4 Continuous galvanized steel subgirt components to support exterior panels conforming to ASTM A653 Grade 230 zinc coating to Z275 designation.
 - .1 Minimum Core Thickness: 1.52 mm. (16 GA.) U.N.O. fastened to structural support with # 14 AB @ 12" O.C. (U.N.O.)
- .5 All supports utilized for aluminum composite material system to be structurally adequate and appropriately attached to support and transmit loads applied by components.
 - .1 Acceptable Manufacturer: Vicwest, or approved equal.
- .6 Extrusions clips spaced at 400 mm (16" O.C.) U.N.O.

2.2 FABRICATION

- .1 Panel attached to perimeter extrusion:
 - .1 #10-32 x 19mm long Type F Stainless Steel countersunk

screw @ 250mm (max.).

.2 Acceptable Manufacturer: ALPOLIC-FR, or approved equal.

.2 Extrusion attached to subgirt:

.1 #14 Type AB x 32mm long self drilling screw hex. head.

.3 Subgirt attached thru sheathing to structural support:

.1 #14 Type AB x 32mm long self drilling screw hex. head.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Before installation examine alignment of substrate and notify NRC Departmental Representative in writing if substrate does not comply with requirements of panel installer.

3.2 CLEAN UP

.1 Leave work areas clean, free from grease, finger marks and stains.

END OF SECTION

PART 1 - GENERAL

- 1.1 RELATED SECTIONS .1 Rough Carpentry Section 06 10 00
.2 Joint Sealants Section 07 92 10

1.1 REFERENCES

- .1 ASTM A653/A653M-95 Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
.2 ASTM A792/A792M-95 Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
.3 Aluminum Association Aluminum Sheet Metal Work in Building Construction - 1980.
.4 Canadian Roofing Contractors Association (CRCA).

1.2 SAMPLES

- .1 Submit shop drawings in accordance with Section 01340 – Shop Drawings, Product Data and Samples.
.2 Submit duplicate 50 x 50 mm samples of each type of sheet metal material, colour and finish.

PART 2 - PRODUCTS

2.1 SHEET METAL MATERIALS

- .1 Aluminum-zinc alloy coated steel sheet: to ASTM A792/A792M, commercial quality, grade 33 with AZ150 coating, regular spangle surface, .60 mm base metal thickness. Pre-painted to CGSB -GP-71.

2.2 PREFINISHED

- .1 Prefinished sheet with factory applied **Aluminium Sheet** silicone modified polyester.
.1 Class F1S
.2 Color as selected by Engineer from manufacturer' standard range.
.3 Specular gloss: 30 units +/- 5 in accordance with ASTM D523.
.4 Coating thickness: not less than 25 micrometres.
.5 Resistance to accelerated weathering for caulk rating of 8, color fade 5 units or less and erosion rate less than 20% to ASTM D822 as follows:
.1 Outdoor exposure period 1000 hours.
.2 Humidity resistance exposure period 1000 hours.

2.3 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
.2 Plastic cement: to CAN/CGSB 37.5-M89.
.3 Underlay for metal flashing: No. 15 perforated asphalt felt to CSA A123.3.
.4 Sealants: Section 07 92 10 - Joint Sealants.

- .5 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness same as sheet metal being secured.
- .6 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.
- .7 Washers: of same material as sheet metal, 1 mm thick with rubber packings.
- .8 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. Miter 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 .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.
- .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.

END OF SECTION

PART 1- GENERAL

1.1 REFERENCES

- .1 CAN/CGSB-19.2-M87, Glazing Compound, Nonhardening, Modified Oil Type.
- .2 CAN/CGSB-19.13-M87 Sealing Compound, One-component, Elastomeric, Chemical Curing.
- .3 CAN/CGSB-19.21 M87 Sealing and Bedding Compound, Acoustical.
- .4 CAN/CGSB-19.22-M89, Mildew Resistant, Sealing Compound for Tubs and Ties.

1.2 SAMPLES

- .1 Submit samples in accordance with Section 01340 Shop Drawings, Product Data and Samples.
- .2 Submit duplicate samples of each type of material and colour.

13 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance with Section 01600 – Material & Equipment.
- .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.

1.4 ENVIRONMENTAL AND REQUIREMENTS

- .1 Comply with requirements of Workplace Safety Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Labour Canada.
- .2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .3 Ventilate area of work as directed by NRC Departmental Representative by use of approved portable supply and exhaust fans.

1.5 QUALITY ASSURANCE

- .1 Provide Certificate of Quality Compliance of the selection and application of sealant. Provide list of sealants used on the project and where applied.

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 there from, 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 sulfate.
- .3 Sealant and caulking compounds must not contain a total of volatile organic compound (VOC's) in excess of 5% by weight as calculated from records of the amounts of constituents used to make the product.
- .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 Caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant shall not be used in air handling units.
- .6 When low toxicity caulks are not possible, confine usage to areas which off-gas to the exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off-gas time.
- .7 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 .1
DESIGNATIONS

- .1 Urethanes One Part.
 - .1 Non-Sag to CAN/CGSB-19.13, Type 2.
- .2 Acrylics Latex One Part.
 - .1 To CAN/CGSB-19.17
- .3 Acoustical Sealant.
 - .1 To CAN/CGSB-19.21.
- .4 Preformed Compressible and Non-Compressible back-up materials.
 - .1 Polyethylene, Urethane, Neoprene or Vinyl Foam.
 - .1 Extruded open closed cell foam backer rod.
 - .2 Size: oversize 30 to 50%.
 - .2 Neoprene or Butyl Rubber.
 - .1 Round solid rod, Shore A hardness 70.
 - .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.

2.3 SEALANT SELECTION

- .1 Perimeters of exterior openings where frames meet exterior facade of building, Sealant Type CAN/CGSB- 19.13-M87.
- .2 Control and expansion joints in exterior surfaces of unit masonry walls: Sealant Type CAN/CGSB-19.13-M87.
- .3 Seal interior perimeters of exterior openings as detailed on drawings: Sealant type: CAN/CGSB-19.13-M87.
- .4 Control and expansion joints on the interior surfaces of unit masonry walls: Sealant Type CAN/CGSB-19.13-M87.
- .5 Perimeters of interior frames, as detailed and itemized: Sealant type: CAN/CGSB-19.13-M87.
- .6 Interior masonry vertical control joints (block to block, block to concrete, and intersecting masonry walls): Sealant Type CAN/CGSB-19.13-M87.
- .7 Exposed interior control joints in drywall: Sealant type: CAN/CGSB-19.13-M87.
- .8 Acoustical Sealant CAN/CGSB-19.21-M87.

2.4 JOINT CLEANER

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.
- .2 Primer: as recommended by manufacturer.

PART 3 - EXECUTION

3.1 PROTECTION

- .1 Protect installed work of other trades from staining or contamination.

3.2 PREPARATION OF JOINT SURFACES

- .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 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.
- .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.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

- .1 Codes and standards referenced in this section refer to the latest edition thereof.
- .2 Aluminum Association (AA).
 - .1 DAF 45, Designation System for Aluminum Finishes.
- .3 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM E330, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- .4 Canadian General Standards Board (CGSB).
 - .1 CGSB 1.40, Primer, Structural Steel, Oil Alkyd Type.
 - .2 CAN/CGSB-12.1, Tempered or Laminated Safety Glass.
 - .3 CAN/CGSB-12.20, Structural Design of Glass for Buildings.
- .5 Canadian Standards Association (CSA).
 - .1 CAN/CSA-G40.20/G40.21, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CAN/CSA G164, Hot Dip Galvanizing of Irregularly Shaped Articles.

1.2 SYSTEM DESCRIPTION

- .1 Design frames and doors in exterior walls to:
 - .1 Accommodate expansion and contraction within service temperature range of -35° to 35°C.
 - .2 Limit deflection of mullions to maximum 1/175th of clear span when tested to ASTM E330 under wind load of 1.2Kpa.
 - .3 Movement within system.
 - .4 Movement between system and perimeter framing components or substrate.
- .2 Size glass thickness and glass unit dimensions to limits in accordance with CAN/CGSB-12.20.

- .3 Provide continuous air barrier and vapour retarder through door system. Primarily in line with inside pane of glass and heel bead of glazing compound.

1.3 SUBMITTALS

- .1 Submit one 300 x 300 mm corner sample of each type door and frame.
- .2 Submit sample showing glazing detail, reinforcement, finish and location of manufacturer's nameplates.
- .3 Frame sample to show glazing stop, door stop, jointing detail & finish.
- .4 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.
- .5 Indicate materials and profiles and provide full-size, scaled details of components for each type of door and frame. Indicate:
 - .1 Interior trim and exterior junctions with adjacent construction.
 - .2 Junctions between combination units.
 - .3 Elevations of units.
 - .4 Core thicknesses of components.
 - .5 Type and location of exposed finishes, method of anchorage, number of anchors, supports, reinforcement, and accessories.
 - .6 Location of caulking.
 - .7 Each type of door system including location.
 - .8 Arrangement of hardware and required clearances.
- .6 Submit catalogue details for each type of door and frame illustrating profiles, dimensions and methods of assembly.
- .7 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheets.
 - .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets for door materials, adhesives and aluminum cleaner. Indicate VOC's for caulking materials during application and curing.

1.4 CLOSEOUT SUBMITTALS

- .1 Provide maintenance data for cleaning and maintenance of aluminum finishes for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.5 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 workmanship for ten (10) years respectively.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Apply temporary protective coating to finished surfaces. Remove coating after erection. Do not use coatings that will become hard to remove or leave residue.
- .2 Leave protective covering in place until final cleaning of building.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Aluminum extrusions: Aluminum Association alloy AA6063-T5 anodizing quality.
- .2 Steel reinforcement: to CAN/CSA-G40.20/G40.21, grade 300 W.
- .3 Fasteners: stainless steel, finished to match adjacent material.
- .4 Weatherstrip: mohair metal backed wool pile.
- .5 Door bumpers: black neoprene.
- .6 Door bottom seal: adjustable door seal of anodized extruded aluminum frame and vinyl weather seal, surface mounted with drip cap, closed ends (for exterior doors).
- .7 Provide low expanding, single component polyurethane foam sealant installed at head and jamb perimeter of door frame for sealing to building air barrier, vapour retarder and door frame. Foam sealant width to be adequate to provide required air tightness and vapour diffusion control to building air barrier and vapour retarder foam interior.

- .8 Isolation coating: alkali resistant epoxy resin solution.
- .9 Glazing as per Section 08 80 50.
- .10 Joint Sealants, colour as selected by NRC Departmental Representative.

2.2 ALUMINUM DOORS

- .1 Construct doors of porthole extrusions with minimum wall thickness of 3 mm.
- .2 Door stiles: widths as indicated on drawings.
- .3 Top rail: widths as indicated on drawings.
- .4 Bottom rail: widths as indicated on drawings.
- .5 Centre rail: widths as indicated on drawings.
- .6 Reinforce mechanically-joined corners of doors to produce sturdy door unit.
- .7 Glazing stops: interlocking snap-in type for dry glazing.
Exterior stops: tamperproof type.
- .8 Provide thermally broken doors for exterior.
- .9 Acceptable Product: Therma Porte 7700, thermally broken doors, as manufactured by Alumicor Ltd.

2.3 HARDWARE:

- .1 As per Section 08 71 00 – Door Hardware.

2.4 ALUMINUM FRAMES

- .1 Construct frames of aluminum extrusions with minimum wall thickness of 3 mm for interior doors. Exterior frames to be thermally broken.
- .2 Centre rails and base for sidelights: same material as doors, 210mm x door thickness x length required.
- .3 Frame members 114 x 45 mm nominal size, for applied stops.

2.5 ALUMINUM FINISHES

- .1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.
 - .1 All aluminum components
 - .1 Anodized aluminum: Dark bronze
 - .2 Appearance and properties of anodized finishes designated by the Aluminum Association as Architectural Class 1, Architectural Class 2, and Protective and Decorative.

2.6 STEEL FINISHES

- .1 Finish steel clips and reinforcing steel with zinc coating to CSA G164.

2.7 FABRICATION

- .1 Doors and framing to be by same manufacturer.
- .2 Fabricate doors and frames to profiles and maximum face sizes as shown.
- .3 Provide structural steel reinforcement as required.
- .4 Fit joints tightly and secure mechanically.
- .5 Conceal fastenings.
- .6 Mortise, reinforce, drill and tap doors, frames and reinforcements to receive hardware according to Manufacturer's instructions.
- .7 Isolate aluminum from direct contact with dissimilar metals, concrete and masonry.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions and data sheets.

3.2 INSTALLATION

- .1 Set frames plumb, square, level at correct elevation in alignment with adjacent work.
- .2 Anchor securely.
- .3 Install doors and hardware in accordance with hardware templates and manufacturer's instructions.
- .4 Adjust operable parts for correct function.
- .5 Make allowances for deflection of structure to ensure that structural loads are not transmitted to frames.

3.3 GLAZING

- .1 Glaze aluminum doors and frames in accordance with door Manufacturer's recommendations.

3.4 CAULKING

- .1 Seal joints to provide weathertight seal at outside and air, vapour seal at inside.

3.5 CLEANING

- .1 Perform cleaning of aluminum components in accordance with AAMA 609.1 - Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum.
- .2 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.
- .3 Clean aluminum with damp rag and approved non-abrasive cleaner.
- .4 Remove traces of primer, caulking, epoxy and filler materials; clean doors and frames.
- .5 Clean glass and glazing materials with approved non-abrasive cleaner.
- .6 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 06 10 00 – Rough Carpentry.
- .2 Section 07 21 13 – Board Insulation.
- .3 Section 07 27 00.01 – Air Barriers–Descriptive or Proprietary.
- .4 Section 07 62 00 – Sheet Metal Flashing and Trim.
- .5 Section 07 92 10 – Joint Sealants.
- .6 Section 08 80 50 – Glazing.

1.2 REFERENCES

- .1 Aluminum Association Designation System for Aluminum Finishes (AA).
 - .1 DAF 45, Designation System for Aluminum Finishes.
- .2 American Architectural Manufacturers Association (AAMA)
 - .1 AAMA CW-10, Curtain Wall Manual # 10 Care and Handling of Architectural Aluminium from Shop to Site.
 - .2 AAMA CW-11, Curtain Wall Manual - Design Windloads for Buildings and Boundary Layer Wind Tunnel Testing.
 - .3 AAMA 501, Methods of Test for Exterior Walls
- .3 American Society for Testing and Materials (ASTM)
 - .1 ASTM B209, Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - .2 ASTM B221, Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
 - .3 ASTM E283, Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 - .4 ASTM E330, Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.

- .5 ASTM E331, Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
- .6 ASTM 1E1105, Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Curtain Walls, and Doors by Uniform or Cyclic Static Air Pressure Difference.
- .4 Canadian General Standards Board (CGSB)
 - .1 CGSB 1-GP-40M Primer, Structural Steel, Oil Alkyd Type.
- .5 Canadian Standards Association (CSA)
 - .1 CSA G40.20/G40.21, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steels.
 - .2 CSA G164, Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CAN/CSA S157-05/S157.1-05 (R2010), Strength Design in Aluminum/Commentary on CSA S157-05, Strength Design in Aluminum.
 - .4 CAN /CSA A440.2-04/A440.3-04, Energy Performance Evaluation of Windows and Sliding Glass Doors.
- .6 "Glass and Metal Curtain Walls" - Best practice Guide", published by the Canadian Mortgage and Housing Corporation, 2004.

1.3 SYSTEM DESCRIPTION

- .1 Vertical glazed aluminum curtain wall system includes thermally broken, shop fabricated, tubular aluminum back sections with self-supporting framing, factory prefinished, Curtain wall system to include vision glass, related flashings, anchorage and attachment devices.
 - .1 All curtain wall components shall be provided by one system manufacturer.
 - .2 Assembled system to permit re-glazing of individual glass (and infill panel) units without requiring removal of structural mullion sections.
 - .3 Acceptable system manufacturer:
 - .1 ThermaWall 2600 Series, Thermally Broken Curtain Wall Framing System, as manufacturer by Alumicor Limited.

- .2 Ultravent 1400 Top Hung, Project Out Window Vent Units, as manufactured by Alumicor Limited.

1.4 PERFORMANCE REQUIREMENTS

- .1 Design curtain wall to AAMA CW-DG-1.
 - .1 Design glazed aluminum curtain wall following rainscreen principles.
 - .2 Ensure horizontal members are sealed to vertical members to form individual compartments in accordance with rainscreen principles.
 - .3 Ventilate and pressure equalize air space outside exterior surface of insulation to exterior.
- .2 Design aluminum components to CAN/CSA S157.
- .3 Design and size components to withstand dead and live loads caused by pressure and suction of wind, snow and hail for sloped glazing, acting normal to plane of system as calculated in accordance with NBC.
- .4 Deadload prevention: Design curtain wall system with separate, integrated support for insulating glass units.
- .5 Limit deflection of mullions to maximum 1/175th of clear span when tested to ASTM E330 under wind loads for building capacity as ascertained by NBC supplement No. 1 Climatic Information for Building Design in Canada, with full recovery of glazing materials. Reinforce curtain wall system (as required) to limit deflection.
- .6 Provide system to accommodate, without damage to components or deterioration of seals:
 - .1 Movement within system.
 - .2 Movement between system and perimeter framing components.
 - .3 Dynamic loading and release of loads.
 - .4 Deflection of structural support framing.
- .7 Limit air infiltration through assembly to $0.0003 \text{ m}^3/\text{s}/\text{m}^2$ of wall area, measured at a reference differential pressure across assembly of 75 Pa as measured in accordance with AAMA 501.
- .8 Water infiltration: None to AAMA 501 at differential pressure across assembly of 720 Pa (0.104 psi).
- .9 Curtain wall framing and glazing components combined are to provide a minimum overall condensation resistance rating

(Temperature Index) of I60, when tested in accordance with CSA A440.2.

- .10 System to provide for expansion and contraction within system components caused by a cycling temperature range of 95°C over a 12 hour period without causing detrimental affect to system components.
- .11 Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to the exterior by a weep drainage network.
- .12 Maintain continuous air barrier and vapour retarder throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound. Position thermal insulation on exterior surface of air and vapour barrier.
- .13 Ensure no vibration harmonics, wind whistles, noises caused by thermal movement, thermal movement transmitted to other building elements, loosening, weakening, or fracturing of attachments or components of system occur.

1.6 SUBMITTALS

- .1 Submit test reports from independent testing agency indicating that curtain wall system/windows exceed the performance requirements of AAMA 501 at the appropriate performance levels to meet climatic requirements, and as specified herein, with respect to air infiltration, window load resistance, water resistance, thermal performance, ease of operation, load tests on screens, blocked operation. Testing must have been performed in last 3 years unless reaffirmed by original independent testing agency.
- .2 Manufacturer's Instructions: Provide to indicate special handling criteria, installation sequence, cleaning procedures and environmental application constraints.
- .3 Product Data: Submit product data including manufacturer's literature for glazed aluminum curtain wall extruded members, panels, components and accessories, indicating compliance with specified requirements and material characteristics.
 - .1 Submit list on curtain wall manufacturer's letterhead of materials, components and accessories to be incorporated into Work.
 - .2 Include product names, types and series numbers.
 - .3 Submit catalogue details for type of curtain wall illustrating profiles, dimensions and methods of assembly.

- .4 Indicate each type of curtain wall extrusion profiles, method of assembly, section and hardware reinforcement, locations of exposed fasteners, finishes and location of manufacturer's nameplates.
- .4 Prior to final payment, submit written certification from the curtain wall system manufacturer certifying that the installation of the curtain wall system is acceptable to the manufacturer.

1.7 SHOP DRAWINGS

- .1 Submit shop drawings for the entire new curtain wall framing system. Shop drawings are to include the following minimum information.
- .2 A detailed material list and product description clearing defining all curtain wall systems, products and materials to be utilized on this project. Type of information required includes, but is not limited to the following:
 - .1 Description of the proposed curtain wall framing, style and finish (reference manufacturer's product data and model numbers), including all related material components and gaskets.
 - .2 Detailed description of insulated glazing unit construction and components (refer to section 08 80 50, "Glazing" for shop drawing submission requirements).
 - .3 Include information on shims and fasteners (size, type and finish), as described below.
 - .4 Interior and Exterior flashing thickness, colour and finish.
 - .5 Description of all other proposed curtain wall installation materials to be utilized on this project, such as; self-adhering (S/A) membrane, mineral wool insulation, low expanding foam and interior/exterior sealants.
- .3 Detailed window schedule, showing all curtain wall types, styles and sizing to be replaced as part of this project. Window schedule must include, but is not limited to the following; reference to curtain wall type, rough opening size, frame sizes, location of all anchoring components and construction of surrounding walls.
- .4 Submit details of curtain wall system in half size scale, including sections, dimensions, elevations, rough opening requirements and tolerances, materials, finishes, methods of joining/anchoring (i.e. location, size and type of anchors), types of sealants, gaskets, insulation, thermal breaks, provision for expansion and contraction, drainage, pressure equalization

- compartments, firestopping and connection to all adjacent construction.
- .5 Curtain wall system and its attachment must be designed by a Professional Engineer licensed in the Province of Newfoundland and Labrador. Shop drawings must include the following information:
- .1 Anchoring requirements (i.e. location, size and spacing of fasteners), a description of the type of anchors, location and size and any steel brackets or angles used to connect the curtain wall system to the existing structure. As part of the structural design and anchorage of the curtain wall system, the professional engineer will be responsible to design and provide connection of the new curtain wall system to the existing building structural components.
 - .2 Design and location of expansion joints (as required).
 - .3 Design loads as specified by the National Building Code, including but not limited to the following:
 - .1 Self weight
 - .2 Dead loads
 - .3 Seismic loads
 - .4 Wind Loads
 - .5 Guard Loads
 - .4 Each drawing submitted shall bear the proof professional stamp and signature of a qualified Professional Engineer registered in the province of Newfoundland and Labrador.

1.8 MOCK-UPS

- .1 Construct a full scale mock-up of one complete curtain wall installation as identified on site by the NRC Departmental Representative. Mock-ups to include complete component assembly of the curtain wall system, including but not limited to, all anchoring components, installation of sealed glazing units, glazing tape, insulation, pressure plates, snap caps and all internal sealants. Mock-ups must also include connection air/moisture barrier connections of new curtain system to adjacent exterior wall assembly (as detailed on the drawings).
- .2 Allow 48 hours for inspection of mock-up by the NRC Departmental Representative before proceeding with the remaining work.
- .3 When accepted, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of finished work.

1.9 MAINTENANCE DATA

- .1 Provide maintenance data for cleaning and maintenance of aluminium finishes for incorporation into maintenance manual.

1.10 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store, handle and protect materials in accordance with in accordance with manufacturer's recommendations and as outlined below.
- .2 Storage and Handling Requirements: Store materials off ground and protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
 - .1 Material storage and handling: To AAMA CW-10.
- .3 Apply temporary protective coating to finished surfaces. Remove coating after erection. Do not use coatings that will become hard to remove or leave residue.
- .4 Leave protective covering in place until final cleaning of building.

1.11 WARRANTY

- .1 Provide a written guarantee in the name of the owner stating that the curtain wall system; including but not limited to frames, glazing, panels, flashings, etc., is guaranteed against material and workmanship for a period for ten (10) years.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Curtain Wall System Components & Related Accessories:
 - .1 Aluminum Extrusions: to ASTM B221, thermosetting quality, 6063 alloy with T5 temper.
 - .2 Sheet Aluminum: to ASTM B209, thermosetting quality.
 - .3 Steel Reinforcement: to CSA-G40.20/G40.21M, grade 300 W.
 - .4 Fasteners, screws and bolts: Tamperproof, cadmium plated stainless steel 300 series to meet curtain wall requirements and as recommended by manufacturer.
 - .5 Anchors: Ensure anchors have three-way adjustment.
 - .6 Thermal Break: Glass fibre reinforced polyamide extrusion.
 - .7 Pocket Filler: Rigid black, PVC pocket filler, sized for use with an exterior flashing and S/A membrane, as recommended by the manufacturer.

- .8 Glass Support: 127mm long mill finish aluminum, that clips into curtainwall framing, and is suitable for use with a double glazed sealed glazing unit.

2.2 ALUMINUM CURTAIN WALL

- .1 Construct thermally broken frames of aluminum extrusions with minimum wall thickness of 3.0 mm. Reinforce as required to meet the requirements of NBCC for location of building.
- .2 Curtain Wall sizes:
 - .1 Horizontal and Vertical Framing mullions: Closed frame, 64mm wide x 100mm deep. Size new curtain wall framing to suit wind load requirements and to fit within the existing wall construction (taking into account fixed components such as the terrazzo floor finishes, steel lintels and existing exterior masonry projection). Size and position new curtain wall framing such that the glass is in line with the building thermal insulation.
 - .2 Exterior cap and pressure plates: 64mm wide x 19mm deep.
 - .3 Glazing: Refer to Section 08 80 50 – Glazing.

2.3 CURTAIN WALL/ ADJACENT CLADDING TRANSITION:

- .1 Exterior Aluminum Closure/Sill Flashing (to be installed around the perimeter of new curtain wall systems to provide transition from curtain wall framing to adjacent cladding, as required): 1.63 mm thick exterior aluminum flashing (present to the required profiles), complete with a factory applied finish as outlined below.
- .2 New mill finished aluminum transition flashing to act as support for tie-in of new S/A membrane into shoulder of curtain wall mullion. Thickness: 0.40mm (0.016"), profile as indicated on the drawings.

2.4 ALUMINUM FINISHES

- .1 Interior/Exterior Aluminum Finish:
 - .1 Interior/Exterior Aluminum Finishes: Dark bronze anodized aluminum to match existing.
- .2 Accessories:
 - .1 Apply two coats of bituminous paint to concealed aluminum surfaces in contact with cementitious or dissimilar materials.

2.5 STEEL FINISHES

- .1 Finish steel clips and reinforcing steel with steel primer to CGSB 1-GP-40M.
- .2 Shop and touch-up primer for steel components: SSPC 25 Paint red oxide.
- .3 Touch-up primer for galvanized steel surfaces: SSPC 20 Paint zinc rich.

2.6 AIR VAPOUR BARRIER

- .1 Self-adhering sheet membrane: as specified in Section 07 27 00.01 – Air Barriers– Descriptive or Proprietary.

2.7 FABRICATION – GENERAL

- .1 Fabricate framing from aluminum extrusions of the specified size and shape in accordance with the approved shop drawings and system manufacturer's instructions.
 - .1 Ensure vertical and horizontal members are tubular extrusions designed for shear block corner construction.
 - .2 Mullion depth sizes as indicated.
 - .3 Cap depth sizes: as indicated.
 - .4 Ensure all joints between caps are fabricated to provide a splice plate inside the cap, fastened to one cap length, but not both, to close the gap between mullions.
- .2 Construct units square, plumb and free from distortion, waves, twists, buckles or other defects detrimental to performance or appearance.
 - .1 Ensure curtain wall is fabricated with separate, integrated support for insulating glass unit.
 - .2 Do glazing in accordance with Section 08 80 50 – Glazing.
 - .3 Site glazing is permitted.
- .3 Reinforce framing members with structural steel reinforcement, as required for external (wind) and internal (guard) imposed loads, as specified by the National Building Code.
- .4 Fabricate system components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
- .5 Fit joints tightly and secure mechanically. Make joints flush, hairline, and weatherproof.
- .6 Prepare components to receive anchor devices. Install anchors.

- .7 Arrange fasteners and attachments to ensure concealment from view.
 - .1 Ensure fasteners do not penetrate thermal break.
 - .2 Where fasteners cannot be concealed, countersunk screws finished to match adjacent material may be used upon receipt of written approval from NRC Departmental Representative.
- .8 Isolate aluminum from direct contact with dissimilar metals, concrete and masonry.
- .9 Visible manufacturer's identification labels not permitted.

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Verify dimensions, tolerances, and method of attachment with other work.
- .2 Verify wall openings and adjoining air barrier and vapour retarder materials are ready to receive work of this section.
- .3 Verify existing structure and back-up wall construction is as assumed by curtain wall designer with respect to installation and anchoring of the assembly. Modify design to suit actual as built conditions (as required). Submit revised drawings showing any modifications to the curtain wall design and anchorage. Revised shop drawings are to be sealed by a Professional Engineer registered in the province of Newfoundland and Labrador.

3.2 INSTALLATION

- .1 Install curtain wall system in accordance with manufacturer's instructions.
- .2 Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- .3 Provide alignment attachments and shims to permanently fasten system to building structure. Clean weld surfaces; apply protective primer to field welds and adjacent surfaces.
- .4 Set frames plumb, square, level at correct elevation in alignment with adjacent work.

- .5 Provide thermal isolation where components penetrate or disrupt building insulation.
- .6 Anchor securely.
- .7 Install sheet metal flashing transitions and self-adhering membrane (as indicated on the drawings or directed by the NRC Departmental Representative on site), to maintain continuity of air barrier to existing exterior wall construction.
- .8 Install all glass in accordance with Section 08800 - Glazing and system manufacturers' installation instructions.
- .9 Install sill flashings.
- .10 Co-ordinate attachment and seal of perimeter air barrier and vapour retarder materials.
- .11 Apply low expanding foam insulation in shim spaces at perimeter of curtain wall assembly to maintain continuity of thermal barrier, as indicated on the drawings. Install mineral wool insulation along the jambs and head to facilitate vertical movement on the curtain wall system.
- .12 Make allowances for deflection of structure to ensure that structural loads are not transmitted to frames.

3.3 INSPECTION AND TESTING

- .1 Field inspection of curtain wall installation is to be carried out by the NRC Departmental Representative.
- .2 Provide NRC Departmental Representative and owner access to all areas of work.
- .3 The above supervision shall be performed at no extra cost to the Owner.
- .4 The NRC Departmental Representative will carry out in-situ field testing of two (2) completed curtain wall systems (including both fixed and operable window systems), to be selected on-site. Field testing will be used to confirm that the completed work meets the specified performance requirements. Specifically, in-situ water leakage resistance testing will be completed in accordance with ASTM E 1105. Contractor will be required to provide access equipment to facilitate the testing,

as well as provide the water supply (of sufficient pressure) and electrical power.

- .7 No failure is permitted. If failure occurs, the contractor/ manufacturer shall make any necessary adjustments to ensure all windows meet the specified performance requirements. For each failure, the adjusted window will be re-testing plus one (1) additional curtain wall system will be tested. Re-testing of adjusted window systems shall be paid for by the Contractor.

3.4 GLAZING

- .1 Glaze curtain wall in accordance with Section 08 80 50 - Glazing.

3.5 CAULKING

- .1 Seal joints to provide weathertight seal at outside and air vapour seal at inside.
- .2 Apply sealant in accordance with Section 07 92 10 - Joint Sealants. Conceal sealant within the aluminum work except where exposed use is permitted by Owner's Representative.

3.6 CLEANING

- .1 Remove protective material from prefinished aluminum surfaces.
- .2 Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
- .3 Wash all windows following completion of work, to remove all dirt, dust and debris from the frames and glass. Carry out cleaning operations in accordance with Glass Association of North America (GANA) Glass Information Bulletin 01-300 "Proper Procedures for Cleaning Architectural Glass Products". Recommended glass cleaning procedures as outlined by GANA is included in Section 088050.
- .4 Perform window cleaning operations in accordance with CAN/CSA-Z91-02 "Safety Code for Window Cleaning Operations".
- .5 Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.

3.7 PROTECTION

- .1 Protect finished Work from damage. Repair and/or replace all damaged components at no additional cost to the owner, as directed by the NRC Departmental Representative.

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES:

1. Furnish, deliver and install all finish hardware necessary for all doors, also hardware as specified herein and as enumerated in Hardware Groups and as indicated and required by actual conditions at the project site.
2. The mechanical hardware shall include the furnishing of all necessary screws, bolts, expansion shields and all other devices necessary for the proper application of the hardware.
3. The electrical hardware shall include the furnishing of all necessary low voltage wiring at the door opening complete with plug connectors and shall include the connections to all electric hardware devices for the proper operation and application of the hardware.

1.2 RELATED SECTIONS

- .1 Section 08 11 16- Aluminum Doors & Frames.

1.3 REFERENCES

- .1 Codes and standards referenced in this section refer to the latest edition thereof.
- .2 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-69.17, Bored and Preassembled Locks and Latches.
 - .2 CAN/CGSB-69.18 /ANSI/BHMA A156.1, Butts and Hinges.
 - .3 CAN/CGSB-69.19/ANSI/BHMA A156.3, Exit Devices.
 - .4 CAN/CGSB-69.20/ANSI/BHMA A156.4, Door Controls (Closers).
 - .5 CAN/CGSB-69.21/ANSI/BHMA A156.5, Auxiliary Locks and Associated Products.
 - .6 CAN/CGSB-69.22/ANSI/BHMA A156.6, Architectural Door Trim.
 - .7 CAN/CGSB-69.31/ANSI/BHMA A156.15, Closer/Holder Release Device.
 - .8 CAN/CGSB-69.32-M90/ANSI/BHMA A156.16-1981, Auxiliary Hardware.
 - .9 CAN/CGSB-69.34/ANSI/BHMA A156.18, Materials and Finishes.

- .10 ANSI/BHMA A156.22-1996 Door Gasketing Systems
- .11 ANSI/BHMA A156.26-2000 Continuous Hinges
- .12 ANSI/BHMA A156.28-2000 Keying Systems
- .13 ANSI/BHMA A156.21-2001.Thresholds
- .14 ANSI/DHI A115.IG Installation Guide for Doors and Hardware.
- .15 DHI Abbreviations & Symbols
- .16 DHI Hdw. Locations Drs. Frames
- .17 National Building Code Canada Latest Edition
- .18 National Fire Code Canada Latest Edition
- .19 NFPA 80 Fire Drs. & Windows Latest Edition
- .20 NFPA 101 Life Safety Code Latest Edition
- .21 NFPA 105 Smoke & Draft B Control Door Assemblies Latest Edition
- .22 NFPA 252 Fire Tests of Door Assemblies Latest Edition
- .23 ANSI/BHMA A156.22-1996 Door Gasketing Systems
- .24 ANSI/BHMA A156.28-2000 Keying Systems
- .25 ANSI/DHI A115.IG Installation Guide for Doors and Hardware.
- .26 DHI Abbreviations & Symbols
- .27 DHI Hdw. Locations Drs. Frames

1.4 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheet.
- .2 Samples:
 - .1 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
 - .2 After approval samples will be returned for incorporation in the Work.
- .3 Hardware List:
 - .1 Submit contract hardware list.
 - .2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.
- .4 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

.5 Closeout Submittals

.1 Provide operation and maintenance data for door closers, locksets, and fire exit hardware for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.5 MAINTENANCE MATERIALS

- .1 Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Supply two sets of wrenches for door closers, locksets and fire exit hardware.

1.6 WARRANTY

- .1 Provide a written manufacturer's warranty for work of this Section for failure due to defective materials for ten (10) years, dated from substantial completion certificate.
- .2 Provide a written Contractor's warranty for work of this Section for failure due to defective installation workmanship for one (1) year, dated from submittal completion certificate.

1.7 QUALITY ASSURANCE

- .1 Regulatory Requirements:
 - .1 Hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.
 - .2 Only products meeting ANSI/BHMA standards are acceptable. Items that are equal in design, function and quality will be accepted upon approval of the Owner's Representative.
 - .3 Only recognized contract hardware distributors will be considered for the work of this section. The distributor shall have on staff a qualified Architectural Hardware NRC Departmental Representative recognized by the Door and Hardware Institute or a person with equivalent qualifications to assist installers and direct detailing, processing and delivery of material, and certify installation acceptance.

1.8 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Store finishing hardware in locked, clean and dry area.
- .3 Package each item of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

PART 2 - PRODUCTS

2.1 HARDWARE ITEMS

- .1 Only door locksets and latches listed on ANSI/BHMA Standards list are acceptable for use on this project.
- .2 Use one manufacturer's products only for similar items.

2.2 DOOR HARDWARE

- .1 Locks and latches:
 - .1 Bored and preassembled locks and latches: to CAN/CGSB-69.17, 4000 bored lock, grade 1, designed for function and keyed as stated in Hardware Groups.
 - .2 Normal strikes: box type, lip projection not beyond jamb.
 - .3 Cylinders: key into keying system as directed.
 - .4 All corresponding cylinders to be removable.
 - .5 Finished as noted in hardware groups..
 - .6 Specified Acceptable Alternates
Dorma Sargent Schlage Best
CL800 10 Line NL 9K
ML9000 8200 L9000R 35H

2.3 FASTENINGS

- .1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.
- .2 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.
- .3 Exposed fastening devices to match finish of hardware.
- .4 Use fasteners compatible with material through which they pass.

2.4 KEYING

- .1 Doors to be master keyed as directed. Prepare detailed keying schedule in conjunction with Owner's Representative and owner.
- .2 Final keying requirements will be determined after award of contract. This supplier is to arrange a meeting with Contractor and Owner to confirm keying, operational details and any special requirements.
- .3 Provide four (4) cut keys for every lock in this Contract.
- .4 Stamp keying code numbers on keys and cylinders.
- .5 Provide master keyed construction cores. Plastic plug type cores not acceptable. Provide all permanent cores and keys to Owner's Representative.

2.5 FINISHES

- .1 Following finishes are indicated in hardware groups.

BHMA	CAN MATERIAL	FINISH
626	C26D Brass/Bronze	Satin Chrome
628	C28 Aluminum	Satin Alum, Anodized
630	C32D Stainless Steel	Satin Stainless Steel
652	C26D Steel	Plated Satin Chrome
689	Al All	Painted Aluminum
	Alum Aluminum	Mill Finish
	TMDFP (to match door and frame finish).	

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
- .2 Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
- .3 Furnish manufacturers' instructions for proper installation of each hardware component.

3.2 INSTALLATION

- .1 No operating hardware shall be installed at a height of more than 1200 mm above the finished floor NBCC 3.4.6.15.5.
- .2 Install hardware to standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.
- .3 Closers shall be installed according to Manufactures templates and installation instructions. Unless required otherwise installation shall be on pull side of door. Outswing doors shall be on push side using top jamb or parallel arm installation.
- .4 Where closer or arm is installed on door sex bolts, finished to match other hardware, will be used.
- .5 Degree of opening to be as shown on the plans and indicated on the reviewed hardware schedule
- .6 Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.
- .7 Remove construction cylinder cores when directed by Owner's Representative; install permanent cores and check operation of locks.

3.3 EXAMINATION

- .1 Visit site prior to start of installation of hardware.
- .2 Visit will include examination of openings, site conditions and materials for conditions that prevent proper application of finish hardware.
- .3 Installation will imply conditions for installation acceptable hardware contractor to accept responsibility.

3.4 ADJUSTING

- .1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.
- .2 Lubricate hardware, operating equipment and other moving parts.
- .3 Adjust door hardware to provide tight fit at contact points with frames.
- .4 Where hardware is found defective, repair or replace or correct as desired by inspection reports.

3.5 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacture's instructions.
- .3 Remove protective material from hardware items where present.
- .4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.6 PROTECTION

- .1 All hardware shall be protected against damage from paint, plaster or other defacing materials. Whenever possible manufacturers protective covering when applied, shall not be removed until final project cleaning takes place. Material not protected by manufacture shall be covered or removed from door during painting or any other adjustments that can cause damage to hardware.

3.7 HARDWARE GROUPS

- .1 Provide hardware as specified in the previous articles in sets according to the following groups (or approved equal):
- .2 Group H1 – (Exit Door only)

1 Continuous Hinge	CFM83SLFHD	628
1 Exit Device	F-99EO TB/SB	630
1 Closer	TJ-8916 SB/MS	689
1 Overhead Stop	HD8000S	630
1 Bottom Sweep	3452CP	628
1 Set Weather Strip	319CS	628
1 Threshold	179AP (or to detail) x width	719

Note:

- Free exiting at all times.
- Door always locked, no exterior trim.
- Doors cannot be manually dogged open for push/pull operation.
- Confirm actual type and size of threshold from drawings and site conditions.

3.8 COMMISSIONING

- .1 Site inspection or visit at Substantial Completion and training follow up and inspection at commissioning as directed by Owner's Representative.
- .2 Provide 10 month warranty service.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 The contractor is to ensure that all related work is coordinated among all specifications sections and that the tender price includes all related work.

1.2 REFERENCES

- .1 ASTM C 542-90, Specification for Lock-Strip Gaskets.
- .2 ASTM D 2240-91, Test Method for Rubber Property - Durometer Hardness.
- .3 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.
- .4 CAN/CGSB-12.8-M90, Insulating Glass Units.
- .5 Flat Glass Manufacturers Association (FGMA), Glazing Manual.
- .6 Laminators Safety Glass Association, Standards Manual.

1.3 SUBMISSIONS GENERAL

- .1 Make submissions of required product data, samples, mockups, maintenance data, maintenance materials, test reports and other similar submissions in accordance with the applicable requirements of Division 1.

1.4 PERFORMANCE REQUIREMENTS

- .1 Provide continuity of building enclosure vapour and air barrier using glass and glazing materials as follow:
- .1 Utilize inner light of multiple light sealed units for continuity of air and vapour seal.
- .2 Size glass to withstand wind loads, dead loads and positive and negative live loads acting normal to plane of glass to a design pressure of 2.0 kPa.
- .3 Limit glass deflection to flexural limit of glass with full recovery of glazing materials.

1.5 SAMPLES

- .1 Submit samples in accordance of Division 1.
- .2 Submit duplicate 200 mm size samples of glazing and insulating units.

1.6 CLOSEOUT SUBMITTALS

- .1 Provide maintenance data including cleaning instructions for incorporation into manual specified in Division 1.

1.7 SHOP DRAWINGS .1 Submit shop drawings in accordance with the requirements of Division 1.

1.8 QUALITY ASSURANCE .1 Perform work in accordance with FGMA Glazing Manual, IGMAC and laminators Safety Glass Association – Standards Manual for glazing installation methods.

PART 2 - PRODUCTS

2.1 MATERIALS: FLAT GLASS .1 All new glazing to match existing glazing in quality and appearance to the satisfaction of the NRC Departmental Representative.

.2 Safety glass: to CAN/CGSB-12.1, transparent, 6 mm thick.

.1 Type 1 – laminated

.2 Class B – float

.3 Category 11

.3 Hermetically sealed Glazed Units:

.1 Typical, unless otherwise noted:

.1 Exterior pane 6 mm thick bronze reflective hardcoat glazing with reflective coating on surface 2, with interior pane 6 mm thick clear float glass with Low-E coating on surface 3, assembled with Edgetech “Super-U” warm edge technology or equivalent, with an overall unit thickness of 25 mm.

.4 Spandrel Panels:

.1 6 mm thick heat strengthened bronze reflective hardcoat glazing with reflective coating on surface 1 and Opaci-coat or equivalent on surface 2

2.2 MATERIALS .1 Joint Sealant: See Section 07 92 10

2.3 ACCESSORIES .1 Setting blocks: Neoprene, 80-90 Shore A durometer hardness to ASTM D2240, to suit glazing method, glass lightweight and area.

.2 Spacer shims: Neoprene, 50-60 Shore A durometer hardness to ASTM D2240, 75 mm long x one half height of glazing stop x thickness to suit application. Self adhesive on one face.

.3 Glazing tape:

- .1 Preformed butyl compound with integral resilient tube spacing device, 10-15 Shore A durometer hardness to ASTM D2240; coiled on release paper; black colour.
- .4 Glazing splines: resistant polyvinyl chloride, extruded shape to suit glazing channel retaining slot, colour as selected.
- .5 Glazing clips: manufacturer's standard type.
- .6 Lock-strip gaskets: to ASTM C542

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verify that openings for glazing are correctly sized and within tolerance.
- .2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

3.2 PREPARATION

- .1 Clean contact surfaces with solvent and wipe dry.
- .2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- .3 Prime surfaces scheduled to receive sealant.

3.3 INSTALLATION: EXTERIOR WET/DRY METHOD (PREFORMED TAPE AND SEALANT)

- .1 Cut glazing tape to length and set against permanent stops, 6 mm below sight line. Seal corners by butting tape and dabbing with sealant.
- .2 Apply heel bead of sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete continuity of air and vapour seal.
- .3 Place setting blocks at ¼ points, with edge block maximum 150 mm from corners,
- .4 Rest glazing on setting blocks and push against tape and heel head of sealant with sufficient pressure to attain full contact at perimeter of light or glass unit.
- .5 Install removable stops with spaces strips inserted between glazing and applied stops 6 mm below sight line.
- .6 Fill gap between glazing and stop with sealant to depth equal to bite of frame on glazing, maximum 9 mm below sight line.

- .7 Apply cap head of sealant along void between stop and glazing to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.4 CLEANING

- .1 Remove glazing materials from finish surfaces.
- .2 Remove labels after work is complete.
- .3 Clean glass.

3.5 PROTECTION OF FINISHED WORK

- .1 After installation, mark light with an "X" by using removable plastic tape or paste.

3.6 SCHEDULE

- .1 For exterior doors and sidelites: Insulating glass units, tinted for doors, reflective for sidelites.
- .2 For aluminum windows and curtain walls, as indicated herein.

END OF SECTION

PART 1 - GENERAL

1.1 SCOPE OF WORK

- .1 Spackle gypsum board and like surfaces.
- .2 Paint interior surfaces exposed to view or semi-exposed view when standing with an eye height between 900 and 1800 mm above finished floor or when traveling up and down stairs, or fixed-in-place ladders, or when viewed from landings, balconies, or other pedestrian platforms, including interiors of cupboards, closets, and other similar enclosures; unfinished exterior surfaces; and those other surfaces specified as having a paint finish.

1.2 RELATED WORK

- .1 General Requirements: Division 1
- .2 Rough Carpentry – Short Form Section 06 10 11

1.3 REFERENCES

- .1 Perform spackling work to CSA A82.31-M1980, except where specified otherwise.
- .2 American Society for Testing and Materials (ASTM)
 - .1 ASTM D 3960- 93, Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
- .3 Perform painting work to CAN/CGSB-85.100-93 Painting, except where specified otherwise.
 - .1 CAN/CGSB-1.36- 97, General Purpose Interior Varnish.
 - .2 CAN/CGSB-1.38- M91, Interior Enamel Undercoater.
 - .3 CGSB 1-GP-48M- 78, Primer, Marine, for Steel.
 - .4 CAN/CGSB-1.57- 96, Alkyd, Interior, Semi gloss, Enamel.
 - .5 CAN/CGSB-1.60- 97, Interior Alkyd Gloss Enamel.
 - .6 CAN/CGSB-1.68- M91, Solvent Type Primer-Sealer for Interior Walls.
 - .7 CAN/CGSB-1.73- 97, Exterior and Interior Enamel for Floors.
 - .8 CAN/CGSB-1.100- 95, Interior Latex Type, Flat Paint.
 - .9 CAN/CGSB-1.119- 95, Primer-Sealer, Wall, Interior Latex Type.
 - .10 CAN/CGSB-1.195- 95, Interior Semi gloss Latex Paint.
 - .11 CGSB 85-GP-1M- 78, Painting (New) Exterior Wooden Surfaces.
 - .12 CGSB 85-GP-10M- 79, Shop Painting Structural Steel.
 - .13 CGSB 85-GP-32M- 79, Painting Concrete Floors.
 - .14 CAN/CGSB-85.100- 93, Painting.
- .4 Canadian Painting Contractors' Association (CPCA).
 - .1 Painting Specifications Manual 1993.
- .5 National Fire Code of Canada 1995.

- .6 Steel Structures Painting Council (SSPC).
 - .1 Systems and Specifications Manual 1989.

1.4 SUBMITTALS

- .1 Submit product data and manufacturer's installation/application instructions for each paint and coating product to be used in accordance with Section 01 33 00 – Shop Drawings and Other Submittal Procedures.
- .2 Submit full records of all products used. List each product in relation to finish formula and include the following:
 - .1 Finish formula designation.
 - .2 Product type and use.
 - .3 CGSB number.
 - .4 Manufacturer's product number.
 - .5 Colour numbers.
 - .6 Manufacturer's Material Safety Data Sheets (MSDS).
 - .7 Maximum VOC classification.
 - .8 Ecologo certification.
 - .9 MPI Environmentally Friendly Classification System Rating.

1.5 SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 – Shop Drawings and Other Submittal Procedures.
- .2 Submit 300 x 200 mm sample panels of each paint type specified.
- .3 Submit full range of available colours where colour availability is restricted.
- .4 Use 3 mm plate steel for finishes over metal surfaces. Use 12.5 mm birch plywood for finishes over wood surfaces. Use 50 mm concrete block for finishes over concrete or concrete masonry surfaces. Use 12.5 mm gypsum board for finishes over gypsum board and other smooth surfaces.
- .5 When approved, sample panels shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site.

1.6 QUALITY ASSURANCE

- .1 Contractor shall have a minimum of five years proven satisfactory experience. When requested, provide a list of last three comparable jobs including: job name and location, specifying authority, and project manager.
- .2 Conform to latest MPI requirements for interior painting work including preparation and priming.
- .3 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with MPI Painting Specification Manual Approved Product Listing and shall be from a single manufacturer of each system used.

- .4 Other paint materials such as linseed oil, shellac, turpentine, etc. shall be the highest quality product of an approved manufacturer listed in MPI Painting Specification Manual and shall be compatible with other coating materials as required.
- .5 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by NRC Departmental Representative.
- .6 Standard of Acceptance:
 - .1 Walls. No defects visible from a distance of 1000 mm at 90 degrees to surface.
 - .2 Ceilings. No defects visible from floor at 45 degrees to surface when viewed using final lighting source.
 - .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

1.7 QUALITY CONTROL

- .1 Provide mock-ups in accordance with Section 01 45 00 – Testing & Quality Control.
- .2 When requested by NRC Departmental Representative, prepare and paint designated surface, area, room or item (in each colour scheme) to requirement specified herein, with specified paint or coating show selected colours, gloss/sheen, textures and workmanship. When approved, surface, area, room and/or items shall become acceptable standard of finish quality and workmanship for similar on site work.

1.8 DELIVERY STORAGE HANDLING

- .1 Deliver, store and handle materials in accordance with Section And 01 61 00 - Common Product Requirements.
- .2 Deliver and store materials in original containers, sealed, with labels intact.
- .3 Indicate on containers or wrappings:
 - .1 Manufacturer's name and address.
 - .2 Type of paint or coating.
 - .3 Compliance with applicable standard.
 - .4 Colour number in accordance with established colour schedule.
- .4 Remove damaged, opened and rejected materials from site.
- .5 Provide and maintain dry, temperature controlled, secure storage.
- .6 Observe manufacturer's recommendations for storage and handling.
- .7 Store materials and supplies away from heat generating devices.
- .8 Store materials and equipment in a well ventilated area with temperature range 7E to 30E C.
- .9 Store temperature sensitive products above minimum temperature as recommended by manufacturer.
- .10 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of NRC Departmental Representative. After

completion of

operations, return areas to clean condition to approval of NRC Departmental Representative.

- .11 Provide minimum one 9 kg Type ABC dry chemical fire extinguisher adjacent to storage area.
- .12 Remove only in quantities required for same day use.
- .13 Fire Safety Requirements
 - .1 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
 - .2 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.
- .14 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials.

1.9 ENVIRONMENTAL REQUIREMENTS

- .1 Environment Choice Program
 - .1 Submit CSA Certification Reports that products proposed for use are certified under the Environmental Choice Program. Water based paints to be certified to ECP-07-89. Solvent based paints to be certified to ECP-12-89.
- .2 Ventilation:
 - .1 Ventilate area of work as directed by NRC Departmental Representative by use of approved portable supply and exhaust fans.
 - .2 Ventilate enclosed spaces.
 - .3 Provide continuous ventilation during and after application of paint. Run ventilation system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of application of paint.
- .3 Apply paint finishes only when temperature at location of installation can be satisfactorily maintained within manufacturers recommendations.
- .4 Substrate and ambient temperature must be within limits prescribed in paint standard and by manufacturer to approval of NRC Departmental Representative.
- .5 Maintain minimum substrate and ambient air temperature of 5E C for Alkyd and 7E C for latex paints. Maximum relative humidity 85%. Maintain supplemental heating until paint has cured sufficiently.
- .6 Provide temporary heating where permanent facilities are not available to maintain minimum recommended temperatures.
- .7 Apply paint finish only in areas where dust is no longer being

generated by related construction operations such that airborne particles will not affect the quality of the finished surface.

- .8 Apply paint only when surface to be painted is dry, properly cured and adequately prepared.
- .9 Provide minimum 270 lx on surfaces to be painted.

1.10 SCHEDULING OF WORK

- .1 Submit work schedule for various stages of painting to NRC Departmental Representative for approval. Submit schedule minimum of 48 hours in advance of proposed operations.
- .2 Obtain written authorization from NRC Departmental Representative for any changes in work schedule.

1.11 EXTRA MATERIALS

- .1 Submit maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Submit one - four litre can of each type and colour of finish coating. Identify colour and paint type in relation to established colour schedule and finish formula.
- .3 Deliver to NRC Departmental Representative and store where directed.
- .4 Provide certificate signed by staff that extra materials have been received in order.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Qualified products: only paint materials listed in the MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Paint materials for each coating formula to be products of a single manufacturer.
- .3 Low odor products. Whenever possible, select products exhibiting low odor characteristics. If two products are otherwise equivalent, select the product with the lowest odor.
- .4 Paints, coatings, adhesives, solvents, cleaners lubricants and other fluids shall:
 - .1 be nonflammable
 - .2 be manufactured without compounds which contribute to ozone depletion in the upper atmosphere.
 - .3 be manufactured without compounds which contribute to smog in the lower atmosphere.
 - .4 do not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.
- .5 Water-borne surface coatings must be manufactured and transported in a manner that steps of process, including disposal of waste products arising there from, will meet requirements of applicable governmental acts, by laws and regulations including, for facilities located in Canada, Fisheries Act and Canadian

Environmental Protection Act. (CEPA).

- .6 Water-borne surface coatings must not be formulated or manufactured with aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium or their components.
- .7 Water-borne surface coatings must have a flash point of 61.0° C or greater.
- .8 Water borne surface coatings must be made by a process that does not release:
 - .1 Matter in undiluted production plant effluent generating a Biochemical Oxygen Demand (BOD) in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
 - .2 Total Suspended Solids (TSS) in undiluted production plant effluent in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.

2.2 COLOURS

- .1 NRC Departmental Representative will provide Colour Schedule after contract award.
- .2 Selection of colours will be from manufacturers full range of colours.
- .3 Where specific products are available in a restricted range of colours, selection will be based on the limited range.
- .4 Second coat in a three coat system to be tinted slightly lighter colour than top coat to show visible difference between coats.

2.3 MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint on site. On site tinting of painting materials is allowed only with NRC Departmental Representatives written permission.
- .2 Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturers written instructions.
- .3 Where thinner is used, addition shall not exceed paint manufacturers recommendations. Do not use kerosene or any such organic solvents to thin water-based paints.
- .4 Thin paint for spraying in strict accordance with paint manufacturers instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide a copy of instructions to NRC Departmental Representative.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4 GLOSS/SHEEN RATINGS

- .1 Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following values:

Gloss Level Category	Units @ 60°	Units @ 85°
G1-matte finish	0 to 5	Max 10
G2-velvet finish	0 to 10	10 to 35
G3-eggshell finish	10 - 25	10 - 35
G4-satin finish	20 - 35	min 35
G5-semi-gloss finish	35 - 70	
G6-gloss finish	70 - 85	
G7-high gloss finish	> 85	

.2 Gloss level ratings of painted surfaces shall be as specified herein.

2.5 INTERIOR PAINT SYSTEMS

- .1 Concrete Vertical Surfaces: including horizontal soffits.
 - .1 INT 3.1A Latex G5 finish (over sealer)
- .2 Plaster and Gypsum Board: gypsum wallboard, drywall, sheet rock type material, etc and textured finishes:
 - .1 INT 9.2A Latex G5 finish (over latex sealer) for walls
 - .2 INT 9.2A Latex G1 finish (over latex sealer) for ceilings.
- .3 Dressed Lumber: including doors, door and window frames casings, mouldings, etc.
 - .1 INT 6.3T Latex G5 finish (over latex primer).
- .4 Concrete Horizontal Surfaces: floors and stairs.
 - .1 INT 3.2B, Alkyd floor enamel, low gloss, finish
- .5 Structural Steel and Metal Fabrications: columns, beams, joists, etc.
 - .1 INT 5.1E Alkyd G5 finish
- .6 Galvanized Metal: doors, frames, railings, misc. steel, pipes, overhead decking, ducts, etc.
 - .1 INT 5.3A Latex G5 finish.
- .7 Copper:
 - .1 INT 5.5A Alkyd G5 finish
- .8 Canvas and Cotton Coverings:
 - .1 INT 10.1B Alkyd G5 finish
- .9 Wood Paneling and casework: partitions, panels, shelving, millwork, etc.
 - .1 INT 6.4 C semi-transparent stain finish.

PART 3 - EXECUTION

3.1 GENERAL

- .1 Perform all painting operations for interior painting in accordance with MPI Painting Specification Manual except where specified otherwise.
- .2 Apply all paint materials in accordance with paint manufacturers written application instructions.
- .3 Tapping and Filing
 - .1 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's instructions.
 - .2 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.
 - .3 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.
 - .4 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
 - .5 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
 - .6 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.
 - .7 All gypsum board surfaces to be taped and filled, including surfaces above ceilings in fire-rated non-fire rated partitions and sound rated partitions with a 48 STC rating or higher.

3.2 PREPARATION

- .1 Remove electrical cover plates, light fixtures, surface hardware on doors, door stops, bath accessories and all other surface mounted fittings and fastenings prior to undertaking any painting operations. Store for re-installation after painting is completed.
- .2 As painting operations progress, place "WET PAINT" signs in occupied areas to approval of NRC Departmental Representative.

3.3 PROTECTION

- .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage. If damaged, clean and restore such surfaces as directed by NRC Departmental Representative.
- .2 Cover or mask floors, windows and other ornamental hardware adjacent to areas being painted to prevent damage and to protect from paint drops and splatters. Use non-staining coverings.
- .3 Protect items that are permanently attached such as Fire Labels on doors and frames.
- .4 Protect factory finished products and equipment.
- .5 Protect passing pedestrians, building occupants and the general

public in and about the building.

3.4 EXISTING CONDITIONS

- .1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to NRC Departmental Representative all damage, defects, unsatisfactory or unfavourable conditions before proceeding with work.
- .2 Investigate moisture content of surfaces to be painted and report findings to NRC Departmental Representative. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
- .3 Maximum moisture content as follows:
 - .1 Plaster and wallboard: 12%.
 - .2 Masonry/Concrete: 12%.
 - .3 Concrete Block/Brick: 12%.
 - .4 Wood: 15%.

3.5 CLEANING AND PREPARATION

- .1 Clean all surfaces to be painted as follows:
 - .1 Remove all dust, dirt, and other surface debris by vacuuming, wiping with dry, clean cloths or compressed air.
 - .2 Wash surfaces with biodegradable detergent and bleach and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.
 - .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
 - .4 Allow surfaces to drain completely and allow to dry thoroughly.
- .2 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.
- .3 Sand existing surfaces with intact, smooth, high gloss coatings to provide adequate adhesion for new finishes.
- .4 Where possible, prime all surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.
 - .1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.
 - .2 Apply wood filler to nail holes and cracks.
 - .3 Tint filler to match stains for stained woodwork.
- .5 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible form a distance up to 1000 mm.
- .6 Clean new metal surfaces to be painted by: removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign

substances in accordance with MPI requirements.

- .7 Remove traces of blast products from surfaces, pockets and corners to be painted by brushing with clean brushes blowing with clean dry compressed air, or vacuum cleaning.
- .8 Touch up shop primer with primer as specified in applicable section. Touch-up to include cleaning and painting of field connections, welds, rivets, nuts, washers, bolts, and damaged or defective paint and rusted areas.
- .9 Do not apply paint until prepared surfaces have been accepted by NRC Departmental Representative.

3.6 APPLICATION

- .1 Method of application to be as approved by NRC Departmental Representative. Apply paint by brush roller air sprayer airless sprayer. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Brush and roller application.
 - .1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.
 - .2 Work paint into cracks, crevices and corners.
 - .3 Brush and/or roll out runs and sags and over-sap marks. Rolled surfaces shall be free of roller tracking and heavy stipple.
 - .4 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.
 - .5 Remove runs, sags and brush marks from finished work and repaint.
- .3 Spray application.
 - .1 Provide and maintain equipment that is suitable for intended purpose, capable of properly atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.
 - .2 Keep paint ingredients properly mixed in containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently as necessary.
 - .3 Apply paint in a uniform layer, with overlapping at edges of spray pattern.
 - .4 Brush out immediately all runs and sags.
 - .5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.
- .4 Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access and only when specifically authorized by NRC Departmental Representative.
- .5 Apply each coat of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .6 Allow surfaces to dry and properly cure after cleaning and between

subsequent coats for minimum time period as recommended by manufacturer.

- .7 Sand and dust between each coat to remove visible defects.
- .8 Finish tops of cupboards, cabinets and projecting ledges, both above and below sight lines as specified for surrounding surfaces.
- .9 Finish closets and alcoves as specified for adjoining rooms.
- .10 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.7 MECHANICAL
ELECTRICAL
EQUIPMENT

- .1 In finished areas: paint exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment. Colour and texture to match adjacent surfaces, except as noted otherwise.
- .2 In boiler room, mechanical and electrical rooms: paint exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment.
- .3 In other unfinished areas: leave exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment in original finish and touch up scratches and marks.
- .4 Touch up scratches and marks on factory painted finishes and equipment with paint as supplied by manufacturer of equipment.
- .5 Do not paint over nameplates.
- .6 Keep sprinkler heads free of paint.
- .7 Paint inside of ductwork where visible behind grilles, registers and diffusers with primer and one coat of matt black paint.
- .8 Paint disconnect switches for fire alarm system and exit light systems in red enamel.
- .9 Paint all fire protection piping Red.
- .10 Paint both sides and edges of backboards for telephone and electrical equipment before installation. Leave equipment in original finish except for touch-up as required, and paint conduits, mounting accessories and other unfinished items.

3.8 FIELD QUALITY
CONTROL

- .1 Field inspection of interior painting operations to be carried out by NRC Departmental Representative.
- .2 Advise NRC Departmental Representative when each applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.
- .3 Co-operate with NRC Departmental Representative and provide access to all areas of the work.

3.9 RESTORATION

- .1 Clean and re-install all hardware items that were removed before undertaken painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.

- .3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.
- .4 Protect freshly completed surfaces from paint droppings and dust to approval of NRC Departmental Representative. Avoid scuffing newly applied paint.
- .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by NRC Departmental Representative.

END OF SECTION



TP1 Amount Payable – General

1.1 Subject to any other provisions of the contract, Her Majesty shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which

1.1.1 the aggregate of the amounts described in TP2 exceeds

1.1.2 the aggregate of the amounts described in TP3

and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by him in respect of the work to which the payment relates.

TP2 Amounts Payable to the Contractor

2.1 The amounts referred to in TP1.1.1 are the aggregate of

2.1.1 the amounts referred to in the Articles of Agreement, and

2.1.2 the amounts, if any, that are payable to the Contractor pursuant to the General Conditions.

TP3 Amounts Payable to Her Majesty

3.1 The amounts referred to in TP1.1.2 are the aggregate of the amounts, in any, that the Contractor is liable to pay Her Majesty pursuant to the contract.

3.2 When making any payments to the Contractor, the failure of Her Majesty to deduct an amount referred to in TP3.1 from an amount referred to in TP2 shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.

TP4 Time of Payment

4.1 In these Terms of Payment

4.1.1 The “payment period” means a period of 30 consecutive days or such other longer period as is agreed between the Contractor and the Departmental Representative.

4.1.2 An amount is “due and payable” when it is due and payable by Her Majesty to the Contractor according to TP4.4, TP4.7 or TP4.10.

4.1.3 An amount is overdue when it is unpaid on the first day following the day upon which it is due and payable.

4.1.4 The “date of payment” means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada and given for payment.

4.1.5 The “Bank Rate” means the discount rate of interest set by the Bank of Canada in effect at the opening of business on the date of payment.



- 4.2 The Contractor shall, on the expiration of a payment period, deliver to the Departmental Representative in respect of that payment period a written progress claim that fully describes any part of the work that has been completed, and any material that was delivered to the work site but not incorporated into the work during that payment period.
- 4.3 The Departmental Representative shall, not later than ten days after receipt by him of a progress claim referred to in TP4.2,
- 4.3.1 inspect the part of the work and the material described in the progress claim; and
- 4.3.2 issue a progress report, a copy of which the Departmental Representative will give to the Contractor, that indicates the value of the part of the work and the material described in the progress claim that, in the opinion of the Departmental Representative,
- 4.3.2.1 is in accordance with the contract, and
- 4.3.2.2 was not included in any other progress report relating to the contract.
- 4.4 Subject to TP1 and TP4.5 Her Majesty shall, not later than 30 days after receipt by the Departmental Representative of a progress claim referred to in TP4.2, pay the Contractor
- 4.4.1 an amount that is equal to 95% of the value that is indicated in the progress report referred to in TP4.3.2 if a labour and material payment bond has been furnished by the Contractor, or
- 4.4.2 an amount that is equal to 90% of the value that is indicated in the progress report referred to in TP4.3.2 if a labour and material payment bond has not been furnished by the Contractor.
- 4.5 It is a condition precedent to Her Majesty's obligation under TP4.4 that the Contractor has made and delivered to the Departmental Representative,
- 4.5.1 a statutory declaration described in TP4.6 in respect of a progress claim referred to in TP4.2,
- 4.5.2 in the case of the Contractor's first progress claim, a construction schedule in accordance with the relevant sections of the Specifications, and
- 4.5.3 if the requirement for a schedule is specified, an update of the said schedule at the times identified in the relevant sections of the Specifications.
- 4.6 A statutory declaration referred to in TP4.5 shall contain a deposition by the Contractor that
- 4.6.1 up to the date of the Contractor's progress claim, the Contractor has complied with all his lawful obligations with respect to the Labour Conditions; and
- 4.6.2 up to the date of the Contractor's immediately preceding progress claim, all lawful obligations of the Contractor to subcontractors and suppliers of material in respect of the



work under the contract have been fully discharged.

- 4.7 Subject to TP1 and TP4.8, Her Majesty shall, not later than 30 days after the date of issue of an Interim Certificate of Completion referred to in GC44.2, pay the Contractor the amount referred to in TP1 less the aggregate of
- 4.7.1 the sum of all payments that were made pursuant to TP4.4;
 - 4.7.2 an amount that is equal to the Departmental Representative's estimate of the cost to Her Majesty or rectifying defects described in the Interim Certificate of Completion; and
 - 4.7.3 an amount that is equal to the Departmental Representative's estimate of the cost to Her Majesty of completing the parts of the work described in the Interim Certificate of Completion other than the defects referred to in TP4.7.2.
- 4.8 It is a condition precedent to Her Majesty's obligation under TP4.7 that the Contractor has made and delivered to the Departmental Representative,
- 4.8.1 a statutory declaration described in TP4.9 in respect of an Interim Certificate of Completion referred to in GC44.2, and
 - 4.8.2 if so specified in the relevant sections of the Specifications, and update of the construction schedule referred to in TP4.5.2 and the updated schedule shall, in addition to the specified requirements, clearly show a detailed timetable that is acceptable to the Departmental Representative for the completion of any unfinished work and the correction of all defects.
- 4.9 A statutory declaration referred to in TP4.8 shall contain a deposition by the contractor that up to the date of the Interim Certificate of Completion the Contractor has
- 4.9.1 complied with all of the Contractor's lawful obligations with respect to the Labour Conditions;
 - 4.9.2 discharged all of the Contractor's lawful obligations to the subcontractors and suppliers of material in respect of the work under the contract; and
 - 4.9.3 discharged the Contractor's lawful obligations referred to in GC14.6.
- 4.10 Subject to TP1 and TP4.11, Her Majesty shall, not later than 60 days after the date of issue of a Final Certificate of Completion referred to in GC44.1, pay the Contractor the amount referred to in TP1 less the aggregate of
- 4.10.1 the sum of all payments that were made pursuant to TP4.4; and
 - 4.10.2 the sum of all payments that were made pursuant to TP4.7.
- 4.11 It is a condition precedent to Her Majesty's obligation under TP4.10 that the Contractor has made and delivered a statutory declaration described in TP4.12 to the Departmental Representative.



- 4.12 A statutory declaration referred to in TP4.11 shall, in addition to the depositions described in TP4.9, contain a deposition by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the contract have been discharged and satisfied.

TP5 Progress Report and Payment Thereunder Not Binding on Her Majesty

- 5.1 Neither a progress report referred to in TP4.3 nor any payment made by Her Majesty pursuant to these Terms of Payment shall be construed as an admission by Her Majesty that the work, material or any part thereof is complete, is satisfactory or is in accordance with the contract.

TP6 Delay in Making Payment

- 6.1 Notwithstanding GC7 any delay by Her Majesty in making any payment when it is due pursuant to these Terms of Payment shall not be a breach of the contract by Her Majesty.

- 6.2 Her Majesty shall pay, without demand from the Contractor, simple interest at the Bank Rate plus 1 -1/4 per centum on any amount which is overdue pursuant to TP4.1.3, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment except that

- 6.2.1 interest shall not be payable or paid unless the amount referred to in TP6.2 has been overdue for more than 15 days following

6.2.1.1 the date the said amount became due and payable, or

6.2.1.2 the receipt by the Departmental Representative of the Statutory Declaration referred to in TP4.5, TP4.8 or TP4.11,

whichever is the later, and

- 6.6.2 interest shall not be payable or paid on overdue advance payments if any.

TP7 Right of Set-off

- 7.1 Without limiting any right of set-off or deduction given or implied by law or elsewhere in the contract, Her Majesty may set off any amount payable to Her Majesty by the Contractor under this contract or under any current contract against any amount payable to the Contractor under this contract.

- 7.2 For the purposes of TP7.1, "current contract" means a contract between Her Majesty and the Contractor

7.2.1 under which the Contractor has an undischarged obligation to perform or supply work, labour or material, or

7.2.2 in respect of which Her Majesty has, since the date of which the Articles of Agreement were made, exercised any right to take the work that is the subject of the contract out of the Contractor's hands.



TP8 Payment in Event of Termination

- 8.1 If the contract is terminated pursuant to GC41, Her Majesty shall pay the Contractor any amount that is lawfully due and payable to the Contractor as soon as is practicable under the circumstances.

TP9 Interest on Settled Claims

- 9.1 Her Majesty shall pay to the Contractor simple interest on the amount of a settled claim at an average Bank Rate plus 1 ¼ per centum from the date the settled claim was outstanding until the day prior to the date of payment.
- 9.2 For the purposes of TP9.1,
- 9.2.1 a claim is deemed to have been settled when an agreement in writing is signed by the Departmental Representative and the Contractor setting out the amount of the claim to be paid by Her Majesty and the items or work for which the said amount is to be paid.
- 9.2.2 an "average Bank Rate" means the discount rate of interest set by the Bank of Canada in effect at the end of each calendar month averaged over the period the settled claim was outstanding.
- 9.2.3 a settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the contract had it not been disputed.
- 9.3 For the purposes of TP9 a claim means a disputed amount subject to negotiation between Her Majesty and the Contractor under the contract.



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GC1 Interpretation

1.1 In the contract

- 1.1.1 where reference is made to a part of the contract by means of numbers preceded by letters, the reference shall be construed to be a reference to the particular part of the contract that is identified by that combination of letters and numbers and to any other part of the contract referred to therein;
- 1.1.2 “contract” means the contract document referred to in the Articles of Agreement;
- 1.1.3 “contract security” means any security given by the Contractor to Her Majesty in accordance with the contract;
- 1.1.4 “Departmental Representative” means the officer or employee of Her Majesty who is designated pursuant to the Articles of Agreement and includes a person specially authorized by him to perform, on his behalf, any of his functions under the contract and is so designated in writing to the Contractor;
- 1.1.5 “material” includes all commodities, articles and things required to be furnished by or for the Contractor under the contract for incorporation into the work;
- 1.1.6 “Minister” includes a person acting for, or if the office is vacant, in place of the Minister and his successors in the office, and his or their lawful deputy and any of his or their representatives appointed for the purposes of the contract;
- 1.1.7 “person” includes, unless the context otherwise requires, a partnership, proprietorship, firm, joint venture, consortium and a corporation;
- 1.1.8 “plant” includes all animals, tools, implements, machinery, vehicles, buildings, structures, equipment and commodities, articles and things other than material, that are necessary for the due performance of the contract;
- 1.1.9 “subcontractor” means a person to whom the Contractor has, subject to GC4, subcontracted the whole or any part of the work;
- 1.1.10 “superintendent” means the employee of the Contractor who is designated by the Contractor to act pursuant to GC19;
- 1.1.11 “work includes, subject only to any express stipulation in the contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the contract.

1.2 The headings in the contract documents, other than in the Plans and Specifications, form no part of the contract but are inserted for convenience of reference only.

1.3 In interpreting the contract, in the event of discrepancies or conflicts between anything in the Plans and Specifications and the General Conditions, the General Conditions govern.



- 1.4 In interpreting the Plans and Specifications, in the event of discrepancies or conflicts between
- 1.4.1 the Plans and Specifications, the Specifications govern;
 - 1.4.2 the Plans, the Plans drawn with the largest scale govern; and
 - 1.4.3 figured dimensions and scaled dimensions, the figured dimensions govern.

GC2 Successors and Assigns

- 2.1 The contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and assigns.

GC3 Assignment of Contract

- 3.1 The contract may not be assigned by the Contractor, either in whole or in part, without the written consent of the Minister.

GC4 Subcontracting by Contractor

- 4.1 Subject to this General Condition, the Contractor may subcontract any part of the work.
- 4.2 The Contractor shall notify the Departmental Representative in writing of his intention to subcontract.
- 4.3 A notification referred to in GC4.2 shall identify the part of the work, and the subcontractor with whom it is intended to subcontract.
- 4.4 The Departmental Representative may object to the intended subcontracting by notifying the Contractor in writing within six days of receipt by the Departmental Representative of a notification referred to in GC4.2.
- 4.5 If the Departmental Representative objects to a subcontracting pursuant to GC4.4, the Contractor shall not enter into the intended subcontract.
- 4.6 The contractor shall not, without the written consent of the Departmental Representative, change a subcontractor who has been engaged by him in accordance with this General Condition.
- 4.7 Every subcontract entered into by the Contractor shall adopt all of the terms and conditions of this contract that are of general application.
- 4.8 Neither a subcontracting nor the Departmental Representative's consent to a subcontracting by the Contractor shall be construed to relieve the Contractor from any obligation under the contract or to impose any liability upon Her Majesty.

GC5 Amendments



- 5.1 No amendment or change in any of the provisions of the contract shall have any force or effect until it is reduced to writing.

GC6 No Implied Obligations

- 6.1 No implied terms or obligations of any kind by or on behalf of Her Majesty shall arise from anything in the contract and the express covenants and agreements therein contained and made by Her Majesty are the only covenants and agreements upon which any rights against Her Majesty are to be founded.
- 6.2 The contract supersedes all communications, negotiations and agreements, either written or oral, relating to the work that were made prior to the date of the contract.

GC7 Time of Essence

- 7.1 Time is of the essence of the contract.

GC8 Indemnification by Contractor

- 8.1 The Contractor shall indemnify and save Her Majesty harmless from and against all claims, demand, losses, costs, damages, actions, suits, or proceedings by whomever made, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by or attributable to the activities of the Contractor, his servants, agents, subcontractors and sub-subcontractors in performing the work including an infringement or an alleged infringement of a patent of invention or any other kind of intellectual property.
- 8.2 For the purpose of GC8.1, "activities" includes any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

GC9 Indemnification by Her Majesty

- 9.1 Her Majesty shall, subject to the Crown Liability Act, the Patent Act, and any other law that affects Her Majesty's rights, powers, privileges or obligations, indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of his activities under the contract that are directly attributable to
- 9.1.1 lack of or a defect in Her Majesty's title to the work site whether real or alleged; or
- 9.1.2 an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the contract employing a model, plan or design or any other thing related to the work that was supplied by Her Majesty to the Contractor.

GC10 Members of House of Commons Not to Benefit



- 10.1 As required by the Parliament of Canada Act, it is an express condition of the contract that no member of the House of Commons shall be admitted to any share of part of the contract or to any benefit arising therefrom.

GC11 Notices

- 11.1 Any notice, consent, order, decision, direction or other communication, other than a notice referred to in GC11.4, that may be given to the Contractor pursuant to the contract may be given in any manner.
- 11.2 Any notice, consent, order, decision, direction or other communication required to be given in writing, to any party pursuant to the contract shall, subject to GC11.4, be deemed to have been effectively given
- 11.2.1 to the Contractor, if delivered personally to the Contractor or the Contractor's superintendent, or forwarded by mail, telex or facsimile to the Contractor at the address set out in A4.1, or
- 11.2.2 to Her Majesty, if delivered personally to the Departmental Representative, or forwarded by mail, telex or facsimile to the Departmental Representative at the address set out in A1.2.1.
- 11.3 Any such notice, consent, order, decision, direction or other communication given in accordance with GC11.2 shall be deemed to have been received by either party
- 11.3.1 if delivered personally, on the day that it was delivered,
- 11.3.2 if forwarded by mail, on the earlier of the day it was received and the sixth day after it was mailed, and
- 11.3.3 if forwarded by telex or facsimile, 24 hours after it was transmitted.
- 11.4 A notice given under GC38.1.1, GC40 and GC41, if delivered personally, shall be delivered to the Contractor if the Contractor is doing business as sole proprietor or, if the Contractor is a partnership or corporation, to an officer thereof.

GC12 Material, Plant and Real Property Supplied by Her Majesty

- 12.1 Subject to GC12.2, the Contractor is liable to Her Majesty for any loss of or damage to material, plant or real property that is supplied or placed in the care, custody and control of the Contractor by Her Majesty for use in connection with the contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 12.2 The Contractor is not liable to Her Majesty for any loss or damage to material, plant or real property referred to in GC12.1 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 12.3 The Contractor shall not use any material, plant or real property referred to in GC12.1 except for



the purpose of performing this contract.

- 12.4 When the Contractor fails to make good any loss or damage for which he is liable under GC12.1 within a reasonable time after being required to do so by the Departmental Representative, the Departmental Representative may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to Her Majesty for the cost thereof and shall, on demand, pay to Her Majesty an amount equal to that cost.
- 12.5 The Contractor shall keep such records of all material, plant and real property referred to in GC12.1 as the Departmental Representative from time to time requires and shall satisfy the Departmental Representative, when requested, that such material, plant and real property are at the place and in the condition which they ought to be.

GC13 Material, Plant and Real Property Become Property of Her Majesty

- 13.1 Subject to GC14.7 all material and plant and the interest of the Contractor in all real property, licenses, powers and privileges purchased, used or consumed by the Contractor for the contract shall, after the time of their purchase, use or consumption be the property of Her Majesty for the purposes of the work and they shall continue to be the property of Her Majesty.
- 13.1.1 in the case of material, until the Departmental Representative indicates that he is satisfied that it will not be required for the work, and
- 13.1.2 in the case of plant, real property, licenses, powers and privileges, until the Departmental Representative indicates that he is satisfied that the interest vested in Her Majesty therein is no longer required for the purposes of the work.
- 13.2 Material or plant that is the property of Her Majesty by virtue of GC13.1 shall not be taken away from the work site or used or disposed of except for the purposes of the work without the written consent of the Departmental Representative.
- 13.3 Her Majesty is not liable for loss of or damage from any cause to the material or plant referred to in GC13.1 and the Contractor is liable for such loss or damage notwithstanding that the material or plant is the property of Her Majesty.

GC14 Permits and Taxes Payable

- 14.1 The Contractor shall, within 30 days after the date of the contract, tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the work were being performed for a person other than Her Majesty.
- 14.2 Within 10 days of making a tender pursuant to GC14.1, the Contractor shall notify the Departmental Representative of his action and of the amount tendered and whether or not the municipal authority has accepted that amount.
- 14.3 If the municipal authority does not accept the amount tendered pursuant to GC14.1 the Contractor shall pay that amount to Her Majesty within 6 days after the time stipulated in GC14.2.



- 14.4 For the purposes of GC14.1 to GC14.3 “municipal authority” means any authority that would have jurisdiction respecting permission to perform the work if the owner were not Her Majesty.
- 14.5 Notwithstanding the residency of the Contractor, the Contractor shall pay any applicable tax arising from or related to the performance of the work under the contract.
- 14.6 In accordance with the Statutory Declaration referred to in TP4.9, a Contractor who has neither residence nor place of business in the province in which work under the contract is being performed shall provide Her Majesty with proof of registration with the provincial sales tax authorities in the said province.
- 14.7 For the purpose of the payment of any applicable tax or the furnishing of security for the payment of any applicable tax arising from or related to the performance of the work under the contract, the Contractor shall, notwithstanding the fact that all material, plant and interest of the Contractor in all real property, licenses, powers and privileges, have become the property of Her Majesty after the time of purchase, be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any applicable tax payable, at the time of the use or consumption of that material, plant or interest of the Contractor in accordance with the relevant legislation.

GC15 Performance of Work under Direction of Departmental Representative

- 15.1 The Contractor shall
- 15.1.1 permit the Departmental Representative to have access to the work and its site at all times during the performance of the contract;
 - 15.1.2 furnish the Departmental Representative with such information respecting the performance of the contract as he may require; and
 - 15.1.3 give the Departmental Representative every possible assistance to enable the Departmental Representative to carry out his duty to see that the work is performed in accordance with the contract and to carry out any other duties and exercise any powers specially imposed or conferred on the Departmental Representative under the contract.

CG16 Cooperation with Other Contractors

- 16.1 Where, in the opinion of the Departmental Representative, it is necessary that other contractors or workers with or without plant and material, be sent onto the work or its site, the Contractor shall, to the satisfaction of the Departmental Representative, allow them access and cooperate with them in the carrying out of their duties and obligation.
- 16.2 If
- 16.2.1 the sending onto the work or its site of other contractors or workers pursuant to GC16.1 could not have been reasonably foreseen or anticipated by the Contractor when entering into the contract, and



16.2.2 the Contractor incurs, in the opinion of the Departmental Representative, extra expense in complying with GC16.1, and

16.2.3 The Contractor has given the Departmental Representative written notice of his claim for the extra expense referred to in GC16.2.2 within 30 days of the date that the other contractors or workers were sent onto the work or its site,

Her Majesty shall pay the Contractor the cost, calculated in accordance with GC48 to GC50, of the extra labour, plant and material that was necessarily incurred.

GC17 Examination of Work

17.1 If, at any time after the commencement of the work but prior to the expiry of the warranty or guarantee period, the Departmental Representative has reason to believe that the work or any part thereof has not been performed in accordance with the contract, the Departmental Representative may have that work examined by an expert of his choice.

17.2 If, as a result of an examination of the work referred to in GC17.1, it is established that the work was not performed in accordance with the contract, then, in addition to and without limiting or otherwise affecting any of Her Majesty's rights and remedies under the contract either at law or in equity, the Contractor shall pay Her Majesty, on demand, all reasonable costs and expenses that were incurred by Her Majesty in having that examination performed.

GC18 Clearing of Site

18.1 The Contractor shall maintain the work and its site in a tidy condition and free from the accumulation of waste material and debris, in accordance with any directions of the Departmental Representative.

18.2 Before the issue of an interim certificate referred to in GC44.2, the Contractor shall remove all the plant and material not required for the performance of the remaining work, and all waste material and other debris, and shall cause the work and its site to be clean and suitable for occupancy by Her Majesty's servants, unless otherwise stipulated in the contract.

18.3 Before the issue of a final certificate referred to in GC44.1, the Contractor, shall remove from the work and its site all of the surplus plant and material and any waste material and other debris.

18.4 The Contractor's obligations described in GC18.1 to GC18.3 do not extend to waste material and other debris caused by Her Majesty's servants or contractors and workers referred to in GC16.1.

GC19 Contractor's Superintendent

19.1 The Contractor shall, forthwith upon the award of the contract, designate a superintendent.

19.2 The Contractor shall forthwith notify the Departmental Representative of the name, address and telephone number of a superintendent designate pursuant to GC19.1.



- 19.3 A superintendent designated pursuant to GC19.1 shall be in full charge of the operations of the Contractor in the performance of the work and is authorized to accept any notice, consent, order, direction, decision or other communication on behalf of the Contractor that may be given to the superintendent under the contract.
- 19.4 The Contractor shall, until the work has been completed, keep a competent superintendent at the work site during working hours.
- 19.5 The Contractor shall, upon the request of the Departmental Representative, remove any superintendent who, in the opinion of the Departmental Representative, is incompetent or has been conducting himself improperly and shall forthwith designate another superintendent who is acceptable to the Departmental Representative.
- 19.6 Subject to GC19.5, the Contractor shall not substitute a superintendent without the written consent of the Departmental Representative.
- 19.7 A breach by the Contractor of GC19.6 entitles the Departmental Representative to refuse to issue any certificate referred to in GC44 until the superintendent has returned to the work site or another superintendent who is acceptable to the Departmental Representative has been substituted.

GC20 National Security

- 20.1 If the Minister is of the opinion that the work is of a class or kind that involves the national security, he may order the Contractor
- 20.1.1 to provide him with any information concerning persons employed or to be employed by him for purposes of the contract; and
 - 20.1.2 to remove any person from the work and its site if, in the opinion of the Minister, that person may be a risk to the national security.
- 20.2 The Contractor shall, in all contracts with persons who are to be employed in the performance of the contract, make provision for his performance of any obligation that may be imposed upon him under GC19 to GC21.
- 20.3 The Contractor shall comply with an order of the Minister under GC20.1

GC21 Unsuitable Workers

- 21.1 The Contractor shall, upon the request of the Departmental Representative, remove any person employed by him for purposes of the contract who, in the opinion of the Departmental Representative, is incompetent or has conducted himself improperly, and the Contractor shall not permit a person who has been removed to return to the work site.

GC22 Increased or Decreased Costs



- 22.1 The amount set out in the Articles of Agreement shall not be increased or decreased by reason of any increase or decrease in the cost of the work that is brought about by an increase or decrease in the cost of labour, plant or material or any wage adjustment arising pursuant to the Labour Conditions.
- 22.2 Notwithstanding GC22.1 and GC35, an amount set out in the Articles of Agreement shall be adjusted in the manner provided in GC22.3, if any change in a tax imposed under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act, the Customs Tariff or any provincial sales tax legislation imposing a retail sales tax on the purchase of tangible personal property incorporated into Real Property
- 22.2.1 occurs after the date of the submission by the Contractor of his tender for the contract,
- 22.2.2 applies to material, and
- 22.2.3 affects the cost to the Contractor of that material.
- 22.3 If a change referred to in GC22.2 occurs, the appropriate amount set out in the Articles of Agreement shall be increased or decreased by an amount equal to the amount that is established by an examination of the relevant records of the Contractor referred to in GC51 to be the increase or decrease in the cost incurred that is directly attributable to that change.
- 22.4 For the purpose of GC22.2, where a tax is changed after the date of submission of the tender but public notice of the change has been given by the Minister of Finance before that date, the change shall be deemed to have occurred before the date of submission of the tender.

GC23 Canadian Labour and Material

- 23.1 The Contractor shall use Canadian labour and material in the performance of the work to the full extent to which they are procurable, consistent with proper economy and expeditious carrying out of the work.
- 23.2 Subject to GC23.1, the Contractor shall, in the performance of the work, employ labour from the locality where the work is being performed to the extent to which it is available, and shall use the offices of the Canada Employment Centres for the recruitment of workers wherever practicable.
- 23.3 Subject to GC23.1 and GC23.2, the Contractor shall, in the performance of the work, employ a reasonable proportion of persons who have been on active service with the armed forces of Canada and have been honourably discharged therefrom.

GC24 Protection of Work and Documents

- 24.1 The Contractor shall guard or otherwise protect the work and its site, and protect the contract, specifications, plans, drawings, information, material, plant and real property, whether or not they are supplied by Her Majesty to the Contractor, against loss or damage from any cause, and he shall not use, issue, disclose or dispose of them without the written consent of the Minister, except as may be essential for the performance of the work.



- 24.2 If any document or information given or disclosed to the Contractor is assigned a security rating by the person who gave or disclosed it, the Contractor shall take all measures directed by the Departmental Representative to be taken to ensure the maintenance of the degree of security that is ascribed to that rating.
- 24.3 The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by the Minister to inspect or to take security measures in respect of the work and its site.
- 24.4 The Departmental Representative may direct the Contractor to do such things and to perform such additional work as the Departmental Representative considers reasonable and necessary to ensure compliance with or to remedy a breach of GC24.1 to GC24.3.

GC25 Public Ceremonies and Signs

- 25.1 The Contractor shall not permit any public ceremony in connection with the work without the prior consent of the Minister.
- 25.2 The Contractor shall not erect or permit the erection of any sign or advertising on the work or its site without the prior consent of the Departmental Representative.

GC26 Precautions against Damage, Infringement of Rights, Fire, and Other Hazards

- 26.1 The Contractor shall, at his own expense, do whatever is necessary to ensure that
- 26.1.1 no person, property, right, easement or privilege is injured, damaged or infringed by reasons of the Contractor's activities in performing the contract;
 - 26.1.2 pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted or endangered by the performance or existence of the work or plant;
 - 26.1.3 fire hazards in or about the work or its site are eliminated and, subject to any direction that may be given by the Departmental Representative, any fire is promptly extinguished;
 - 26.1.4 the health and safety of all persons employed in the performance of the work is not endangered by the method or means of its performance;
 - 26.1.5 adequate medical services are available to all persons employed on the work or its site at all times during the performance of the work;
 - 26.1.6 adequate sanitation measures are taken in respect of the work and its site; and
 - 26.1.7 all stakes, buoys and marks placed on the work or its site by or under the authority of the Departmental Representative are protected and are not removed, defaced, altered or destroyed.
- 26.2 The Departmental Representative may direct the Contractor to do such things and to perform such additional work as the Departmental Representative considers reasonable and necessary to ensure



compliance with or to remedy a breach of GC26.1.

- 26.3 The Contractor shall, at his own expense, comply with a direction of the Departmental Representative made under GC26.2.

GC27 Insurance

- 27.1 The Contractor shall, at his own expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to the Departmental Representative in accordance with the requirements of the Insurance Conditions "E".

- 27.2 The insurance contracts referred to in GC27.1 shall

27.2.1 be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in Insurance Conditions "E", and

27.2.2 provide for the payment of claims under such insurance contracts in accordance with GC28.

GC28 Insurance Proceeds

- 28.1 In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the Contractor pursuant to GC27, the proceeds of the claim shall be paid directly to Her Majesty, and

28.1.1 the monies so paid shall be held by Her Majesty for the purposes of the contract, or

28.1.2 if Her Majesty elects, shall be retained by Her Majesty, in which event they vest in Her Majesty absolutely.

- 28.2 In the case of a claim payable under a General Liability insurance contract maintained by the Contractor pursuant to GC27, the proceeds of the claim shall be paid by the insurer directly to the claimant.

- 28.3 If an election is made pursuant to GC28.1, the Minister may cause an audit to be made of the accounts of the Contractor and of Her Majesty in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between

28.3.1 the aggregate of the amount of the loss or damage suffered or sustained by Her Majesty, including any cost incurred in respect of the clearing and cleaning of the work and its site and any other amount that is payable by the Contractor to Her Majesty under the contract, minus any monies retained pursuant to GC28.12, and

28.3.2 the aggregate of the amounts payable by Her Majesty to the Contractor pursuant to the contract up to the date of the loss or damage.

- 28.4 A difference that is established pursuant to GC28.3 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the



creditor.

- 28.5 When payment of a deficiency has been made pursuant to GC28.4, all rights and obligations of Her Majesty and the Contractor under the contract shall, with respect only to the part of the work that was the subject of the audit referred to in GC28.3, be deemed to have been expended and discharged.
- 28.6 If an election is not made pursuant to GC28.1.2 the Contractor shall, subject to GC28.7, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at his own expense as if that part of the work had not yet been performed.
- 28.7 When the Contractor clears and cleans the work and its site and restores and replaces the work referred to in GC 28.6, Her Majesty shall pay him out of the monies referred to in GC28.1 so far as they will thereunto extend.
- 28.8 Subject to GC28.7, payment by Her Majesty pursuant to GC28.7 shall be made in accordance with the contract but the amount of each payment shall be 100% of the amount claimed notwithstanding TP4.4.1 and TP4.4.2.

GC29 Contract Security

- 29.1 The Contractor shall obtain and deliver contract security to the Departmental Representative in accordance with the provisions of the Contract Security Conditions.
- 29.2 If the whole or a part of the contract security referred to in GC29.1 is in the form of a security deposit, it shall be held and disposed of in accordance with GC43 and GC45.
- 29.3 If a part of the contract security referred to in GC29.1 is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond on the work site.

GC30 Changes in the Work

- 30.1 Subject to GC5, the Departmental Representative may, at any time before he issues his Final Certificate of Completion,
- 30.1.1 order work or material in addition to that provided for in the Plans and Specifications;
and
- 30.1.2 delete or change the dimensions, character, quantity, quality, description, location or position of the whole or any part of the work or material provided for in the Plans and Specifications or in any order made pursuant to GC30.1.1,
- if that additional work or material, deletion, or change is, in his opinion, consistent with the general intent of the original contract.
- 30.2 The Contractor shall perform the work in accordance with such orders, deletions and changes that are made by the Departmental Representative pursuant to GC30.1 from time to time as if they had appeared in and been part of the Plans and Specifications.



- 30.3 The Departmental Representative shall determine whether or not anything done or omitted by the Contractor pursuant to an order, deletion or change referred to in GC30.1 increased or decreased the cost of the work to the Contractor.
- 30.4 If the Departmental Representative determines pursuant to GC30.3 that the cost of the work to the Contractor has been increased, Her Majesty shall pay the Contractor the increased cost that the Contractor necessarily incurred for the additional work calculated in accordance with GC49 or GC50.
- 30.5 If the Departmental Representative determines pursuant to GC30.3 that the cost of the work to the Contractor has been decreased, Her Majesty shall reduce the amount payable to the Contractor under the contract by an amount equal to the decrease in the cost caused by the deletion or change referred to in GC30.1.2 and calculated in accordance with GC49.
- 30.6 GC30.3 to GC30.5 are applicable only to a contract or a portion of a contract for which a Fixed Price Arrangement is stipulated in the contract.
- 30.7 An order, deletion or change referred to in GC30.1 shall be in writing, signed by the Departmental Representative and given to the Contractor in accordance with GC11.

GC31 Interpretation of Contract by Departmental Representative

- 31.1 If, at any time before the Departmental Representative has issued a Final Certificate of Completion referred to in GC44.1, any question arises between the parties about whether anything has been done as required by the contract or about what the Contractor is required by the contract to do, and, in particular but without limiting the generality of the foregoing, about
- 31.1.1 the meaning of anything in the Plans and Specification,
 - 31.1.2 the meaning to be given to the Plans and Specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their working or intention,
 - 31.1.3 whether or not the quality or quantity of any material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the contract,
 - 31.1.4 whether or not the labour, plant or material provided by the Contractor for performing the work and carrying out the contract are adequate to ensure that the work will be performed in accordance with the contract and that the contract will be carried out in accordance with its terms,
 - 31.1.5 what quantity of any kind of work has been completed by the Contractor, or
 - 31.1.6 the timing and scheduling of the various phases of the performance of the work,
- the question shall be decided by the Departmental Representative whose decision shall be final and conclusive in respect of the work.
- 31.2 The Contractor shall perform the work in accordance with any decisions of the Departmental



Representative that are made under GC31.1 and in accordance with any consequential directions given by the Departmental Representative.

GC32 Warranty and Rectification of Defects in Work

- 32.1 Without restricting any warranty or guarantee implied or imposed by law or contained in the contract documents, the Contractor shall, at his own expense,
- 32.1.1 rectify and make good any defect or fault that appears in the work or comes to the attention of the Minister with respect to those parts of the work accepted in connection with the Interim Certificate of Completion referred to GC44.2 within 12 months from the date of the Interim Certificate of Completion;
- 32.1.2 rectify and make good any defect or fault that appears in or comes to the attention of the Minister in connection with those parts of the work described in the Interim Certificate of Completion referred to in GC44.2 within 12 months from the date of the Final Certificate of Completion referred to in GC44.1.
- 32.2 The Departmental Representative may direct the Contractor to rectify and make good any defect or fault referred to in GC32.1 or covered by any other expressed or implied warranty or guarantee.
- 32.3 A direction referred to in GC32.2 shall be in writing, may include a stipulation in respect of the time within which a defect or fault is required to be rectified and made good by the Contractor, and shall be given to the Contractor in accordance with GC11.
- 32.4 The Contractor shall rectify and make good any defect or fault described in a direction given pursuant to GC32.2 within the time stipulated therein.

GC33 Non-Compliance by Contractor

- 33.1 If the Contractor fails to comply with any decision or direction given by the Departmental Representative pursuant to GC18, GC24, GC26, GC31 or GC32, the Departmental Representative may employ such methods as he deems advisable to do that which the Contractor failed to do.
- 33.2 The Contractor shall, on demand, pay Her Majesty an amount that is equal to the aggregate of all cost, expenses and damage incurred or sustained by Her Majesty by reason of the Contractor's failure to comply with any decision or direction referred to in GC33.1, including the cost of any methods employed by the Departmental Representative pursuant to GC33.1.

GC34 Protesting Departmental Representative's Decisions

- 34.1 The Contractor may, within ten days after the communication to him of any decision or direction referred to in GC30.3 or GC33.1, protest that decision or direction.
- 34.2 A protest referred to in GC34.1 shall be in writing, contain full reasons for the protest, be signed



by the Contractor and be given to Her Majesty by delivery to the Departmental Representative.

- 34.3 If the Contractor gives a protest pursuant to GC34.2, any compliance by the Contractor with the decision or direction that was protested shall not be construed as an admission by the Contractor of the correctness of that decision or direction, or prevent the Contractor from taking whatever action he considers appropriate in the circumstances.
- 34.4 The giving of a protest by the Contractor pursuant to GC34.2 shall not relieve him from complying with the decision or direction that is the subject of the protest.
- 34.5 Subject to GC34.6, the Contractor shall take any action referred to in GC34.3 within three months after the date that a Final Certificate of Completion is issued under GC44.1 and not afterwards.
- 34.6 The Contractor shall take any action referred to in GC34.3 resulting from a direction under GC32 within three months after the expiry of a warranty or guarantee period and not afterwards.
- 34.7 Subject to GC34.8, if Her Majesty determines that the Contractor's protest is justified, Her Majesty shall pay the Contractor the cost of the additional labour, plant and material necessarily incurred by the Contractor in carrying out the protested decision or direction.
- 34.8 Costs referred to in GC34.7 shall be calculated in accordance with GC48 to GC50.

GC35 Changes in Soil Conditions and Neglect or Delay by Her Majesty

- 35.1 Subject to GC35.2 no payment, other than a payment that is expressly stipulated in the contract, shall be made by Her Majesty to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.
- 35.2 If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to
- 35.2.1 a substantial difference between the information relating to soil conditions at the work site that is contained in the Plans and Specifications or other documents supplied to the Contractor for his use in preparing his tender or a reasonable assumption of fact based thereon made by the Contractor, and the actual soil conditions encountered by the Contractor at the work site during the performance of the contract, or
- 35.2.2 any neglect or delay that occurs after the date of the contract on the part of Her Majesty in providing any information or in doing any act that the contract either expressly requires Her Majesty to do or that would ordinarily be done by an owner in accordance with the usage of the trade,

he shall, within ten days of the date the actual soil conditions described in GC35.2.1 were encountered or the neglect or delay described in GC35.2.2 occurred, give the Departmental Representative written notice of his intention to claim for that extra expense or that loss or damage.

- 35.3 When the Contractor has given a notice referred to in GC35.2, he shall give the Departmental Representative a written claim for extra expense or loss or damage within 30 days of the date that



a Final Certificate of Completion referred to in GC44.1 is issued and not afterwards.

- 35.4 A written claim referred to in GC35.3 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable the Departmental Representative to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as the Departmental Representative requires from time to time.
- 35.5 If the Departmental Representative determines that a claim referred to in GC35.3 is justified, Her Majesty shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC47 to GC50.
- 35.6 If, in the opinion of the Departmental Representative, an occurrence described in GC35.2.1 results in a savings of expenditure by the Contractor in performing the contract, the amount set out in the Articles of Agreement shall, subject to GC35.7, be reduced by an amount that is equal to the saving.
- 35.7 The amount of the saving referred to in GC35.6 shall be determined in accordance with GC47 to GC49.
- 35.8 If the Contractor fails to give a notice referred to in GC35.2 and a claim referred to in GC35.3 within the times stipulated, an extra payment shall not be made to him in respect of the occurrence.

GC36 Extension of Time

- 36.1 Subject to GC36.2, the Departmental Representative may, on the application of the Contractor made before the day fixed by the Articles of Agreement for completion of the work or before any other date previously fixed under this General Condition, extend the time for its completion by fixing a new date if, in the opinion of the Departmental Representative, causes beyond the control of the Contractor have delayed its completion.
- 36.2 An application referred to in GC36.1 shall be accompanied by the written consent of the bonding company whose bond forms part of the contract security.

GC37 Assessments and Damages for Late Completion

- 37.1 For the purposes of this General Condition
- 37.1.1 the work shall be deemed to be completed on the date that an Interim Certificate of Completion referred to in GC44.2 is issued, and
- 37.1.2 "period of delay" means the number of days commencing on the day fixed by the Articles of Agreement for completion of the work and ending on the day immediately preceding the day on which the work is completed but does not include any day within a period of extension granted pursuant to GC36.1, and any other day on which, in the opinion of the Departmental Representative, completion of the work was delayed for reasons beyond the control of the Contractor.



- 37.2 If the Contractor does not complete the work by the day fixed for its completion by the Articles of Agreement but completes it thereafter, the Contractor shall pay Her Majesty an amount equal to the aggregate of
- 37.2.1 all salaries, wages and travelling expenses incurred by Her Majesty in respect of persons overseeing the performance of the work during the period of delay;
 - 37.2.2 the cost incurred by Her Majesty as a result of the inability to use the completed work for the period of delay; and
 - 37.2.3 all other expenses and damages incurred or sustained by Her Majesty during the period of delay as a result of the work not being completed by the day fixed for its completion.
- 37.3 The Minister may waive the right of Her Majesty to the whole or any part of the amount payable by the Contractor pursuant to GC37.2 I, in the opinion of the Minister, it is in the public interest to do so.

GC38 Taking the Work Out of the Contractor's Hands

- 38.1 The Minister may, at his sole discretion, by giving a notice in writing to the Contractor in accordance with GC11, take all or any part of the work out of the Contractor's hands, and may employ such means as he sees fit to have the work completed if the Contractor
- 38.1.1 Has not, within six days of the Minister or the Departmental Representative giving notice to the Contractor in writing in accordance with GC11, remedied any delay in the commencement or any default in the diligent performance of the work to the satisfaction of the Departmental Representative;
 - 38.1.2 has defaulted in the completion of any part of the work within the time fixed for its completion by the contract;
 - 38.1.3 has become insolvent;
 - 38.1.4 has committed an act of bankruptcy;
 - 38.1.5 has abandoned the work;
 - 38.1.6 has made an assignment of the contract without the consent required by GC3.1; or
 - 38.1.7 has otherwise failed to observe or perform any of the provisions of the contract.
- 38.2 If the whole or any part of the work is taken out of the Contractor's hands pursuant to GC38.1,
- 38.2.1 the Contractor's right to any further payment that is due or accruing due under the contract is, subject only to GC38.4, extinguished, and
 - 38.2.2 the Contractor is liable to pay Her Majesty, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by Her Majesty in respect of the



Contractor's failure to complete the work.

- 38.3 If the whole or any part of the work that is taken out of the Contractor's hands pursuant to GC38.1 is completed by Her Majesty, the Departmental Representative shall determine the amount, if any, of the holdback or a progress claim that had accrued and was due prior to the date on which the work was taken out of the Contractor's hands and that is not required for the purposes of having the work performed or of compensating Her Majesty for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 38.4 Her Majesty may pay the Contractor the amount determined not to be required pursuant to GC38.3.

GC39 Effect of Taking the Work Out of the Contractor's Hands

- 39.1 The taking of the work or any part thereof out of the Contractor's hands pursuant to GC38 does not operate so as to relieve or discharge him from any obligation under the contract or imposed upon him by law except the obligation to complete the performance of that part of the work that was taken out of his hands.
- 39.2 If the work or any part thereof is taken out of the Contractor's hands pursuant to GC38, all plant and material and the interest of the Contractor is all real property, licenses, powers and privileges acquired, used or provided by the Contractor under the contract shall continue to be the property of Her Majesty without compensation to the Contractor.
- 39.3 When the Departmental Representative certifies that any plant, material, or any interest of the Contractor referred to in GC39.2 is no longer required for the purposes of the work, or that it is not in the interest of Her Majesty to retain that plant, material or interest, it shall revert to the Contractor.

G40 Suspension of Work by Minister

- 40.1 The Minister may, when in his opinion it is in the public interest to do so, require the Contractor to suspend performance of the work either for a specified or an unspecified period by giving a notice of suspension in writing to the Contractor in accordance with GC11.
- 40.2 When a notice referred to in GC40.1 is received by the Contractor in accordance with GC11, he shall suspend all operations in respect of the work except those that, in the opinion of the Departmental Representative, are necessary for the care and preservation of the work, plant and material.
- 40.3 The Contractor shall not, during a period of suspension, remove any part of the work, plant or material from its site without the consent of the Departmental Representative.
- 40.4 If a period of suspension is 30 days or less, the Contractor shall, upon the expiration of that period, resume the performance of the work and he is entitled to be paid the extra cost, calculated in accordance with GC48 to GC50, of any labour, plant and material necessarily incurred by him as a result of the suspension.



- 40.5 If, upon the expiration of a period of suspension of more than 30 days, the Minister and the Contractor agree that the performance of the work will be continued by the Contractor, the Contractor shall resume performance of the work subject to any terms and conditions agreed upon by the Minister and the Contractor.
- 40.6 If, upon the expiration of a period of suspension of more than 30 days, the Minister and the Contractor do not agree that performance of the work will be continued by the Contractor or upon the terms and conditions under which the Contractor will continue the work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC41.

GC41 Termination of Contract

- 41.1 The Minister may terminate the contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC11.
- 41.2 When a notice referred to in GC41.1 is received by the Contractor in accordance with GC11, he shall, subject to any conditions stipulated in the notice, forthwith cease all operations in performance of the contract.
- 41.3 If the contract is terminated pursuant to GC41.1, Her Majesty shall pay the Contractor, subject to GC41.4, an amount equal to
- 41.3.1 the cost to the contractor of all labour, plant and material supplied by him under the contract up to the date of termination in respect of a contract or part thereof for which a Unit Price Arrangement is stipulated in the contract, or
 - 41.3.2 the lesser of
 - 41.3.2.1 an amount, calculated in accordance with the Terms and Payment, that would have been payable to the Contractor had he completed the work, and
 - 41.3.2.2 an amount that is determined to be due to the Contractor pursuant to GC49 in respect of a contract or part thereof for which a Fixed Price Arrangement is stipulated in the contract
- less the aggregate of all amounts that were paid to the Contractor by Her Majesty and all amounts that are due to Her Majesty from the Contractor pursuant to the contract.
- 41.4 If Her Majesty and the Contractor are unable to agree about an amount referred to in GC41.3 that amount shall be determined by the method referred to in GC50.

GC42 Claims Against and Obligations of the Contractor or Subcontractor

- 42.1 Her Majesty may, in order to discharge lawful obligations of and satisfy claims against the Contractor or a subcontractor arising out of the performance of the contract, pay any amount that is due and payable to the Contractor pursuant to the contract directly to the obligees of and the claimants against the Contractor or the subcontractor but such amount if any, as is paid by Her Majesty, shall not exceed that amount which the Contractor would have been obliged to pay to



such claimant had the provisions of the Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, been applicable to the work. Any such claimant need not comply with the provisions of such legislation setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which claimant might have had;

- 42.2 Her Majesty will not make any payment as described in GC42.1 unless and until that claimant shall have delivered to Her Majesty:
- 42.2.1 a binding and enforceable Judgment or Order of a court of competent jurisdiction setting forth such amount as would have been payable by the Contractor to the claimant pursuant to the provisions of the applicable Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, had such legislation been applicable to the work; or
 - 42.2.2 a final and enforceable award of an arbitrator setting forth such amount as would have been payable by the Contractor to the claimant pursuant to the provisions of the applicable Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, had such legislation been applicable to the work; or
 - 42.2.3 the consent of the Contractor authorizing a payment.
- For the purposes of determining the entitlement of a claimant pursuant to GC42.2.1 and GC42.2.2, the notice required by GC42.8 shall be deemed to replace the registration or provision of notice after the performance of work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by any applicable legislation.
- 42.3 The Contractor shall, by the execution of his contract, be deemed to have consented to submit to binding arbitration at the request of any claimant those questions that need be answered to establish the entitlement of the claimant to payment pursuant to the provisions of GC42.1 and such arbitration shall have as parties to it any subcontractor to whom the claimant supplied material, performed work or rented equipment should such subcontractor wish to be adjoined and the Crown shall not be a party to such arbitration and, subject to any agreement between the Contractor and the claimant to the contrary, the arbitration shall be conducted in accordance with the Provincial or Territorial legislation governing arbitration applicable in the Province or Territory in which the work is located.
- 42.4 A payment made pursuant to GC42.1 is, to the extent of the payment, a discharge of Her Majesty's liability to the Contractor under the contract and may be deducted from any amount payable to the Contractor under the contract.
- 42.5 To the extent that the circumstances of the work being performed for Her Majesty permit, the Contractor shall comply with all laws in force in the Province or Territory where the work is being performed relating to payment period, mandatory holdbacks, and creation and enforcement of mechanics' liens, builders' liens or similar legislation or in the Province of Quebec, the law relating to privileges.
- 42.6 The Contractor shall discharge all his lawful obligations and shall satisfy all lawful claims against him arising out of the performance of the work at least as often as the contract requires Her



Majesty to pay the Contractor.

- 42.7 The Contractor shall, whenever requested to do so by the Departmental Representative, make a statutory declaration deposing to the existence and condition of any obligations and claims referred to in GC42.6.
- 42.8 GC42.1 shall only apply to claims and obligations
- 42.8.1 the notification of which has been received by the Departmental Representative in writing before payment is made to the Contractor pursuant to TP4.10 and within 120 days of the date on which the claimant
- 42.8.1.1 should have been paid in full under the claimant's contract with the Contractor or subcontractor where the claim is for money that was lawfully required to be held back from the claimant; or
- 42.8.1.2 performed the last of the services, work or labour, or furnished the last of the material pursuant to the claimant's contract with the Contractor or subcontractor where the claim is not for money referred to in GC42.8.1.1, and
- 42.8.2 the proceedings to determine the right to payment of which, pursuant to GC42.2. shall have commenced within one year from the date that the notice referred to in GC42.8.1 was received by the Departmental Representative, and
- the notification required by GC42.8.1 shall set forth the amount claimed to be owing and the person who by contract is primarily liable.
- 42.9 Her Majesty may, upon receipt of a notice of claim under GC42.8.1, withhold from any amount that is due and payable to the Contractor pursuant to the contract the full amount of the claim or any portion thereof.
- 42.10 The Departmental Representative shall notify the Contractor in writing of receipt of any claim referred to in GC42.8.1 and of the intention of Her Majesty to withhold funds pursuant to GC42.9 and the Contractor may, at any time thereafter and until payment is made to the claimant, be entitled to post, with Her Majesty, security in a form acceptable to Her Majesty in an amount equal to the value of the claim, the notice of which is received by the Departmental Representative and upon receipt of such security Her Majesty shall release to the Contractor any funds which would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of GC42.9 in respect of the claim of any claimant for whom the security stands.

GC43 Security Deposit – Forfeiture or Return

- 43.1 If
- 43.1.1 the work is taken out of the Contractor's hands pursuant to GC38,
- 43.1.2 the contract is terminated pursuant to GC41, or
- 43.1.3 the Contractor is in breach of or in default under the contract,



Her Majesty may convert the security deposit, if any, to Her own use.

- 43.2 If Her Majesty converts the contract security pursuant to GC43.1, the amount realized shall be deemed to be an amount due from Her Majesty to the Contractor under the contract.
- 43.3 Any balance of an amount referred to in GC43.2 that remains after payment of all losses, damage and claims of Her Majesty and others shall be paid by Her Majesty to the Contractor if, in the opinion of the Departmental Representative, it is not required for the purposes of the contract.

GC44 Departmental Representative's Certificates

44.1 On the date that

44.1.1 the work has been completed, and

44.1.2 the Contractor has complied with the contract and all orders and directions made pursuant thereto,

both to the satisfaction of the Departmental Representative, the Departmental Representative shall issue a Final Certificate of Completion to the Contractor.

44.2 If the Departmental Representative is satisfied that the work is substantially complete he shall, at any time before he issues a certificate referred to in GC44.1, issue an Interim Certificate of Completion to the Contractor, and

44.2.1 for the purposes of GC44.2 the work will be considered to be substantially complete,

44.2.1.1 when the work under the contract or a substantial part thereof is, in the opinion of the Departmental Representative, ready for use by Her Majesty or is being used for the purpose intended; and

44.2.1.2 when the work remaining to be done under the contract is, in the opinion of the Departmental Representative, capable of completion or correction at accost of not more than

44.2.1.2.1 -3% of the first \$500,000, and

44.2.1.2.2 -2% of the next \$500,000, and

44.2.1.2.3 -1% of the balance

of the value of the contract at the time this cost is calculated.

44.3 For the sole purpose of GC44.2.1.2, where the work or a substantial part thereof is ready for use or is being used for the purposes intended and the remainder of the work or a part thereof cannot be completed by the time specified in A2.1, or as amended pursuant to GC36, for reasons beyond the control of the Contractor or where the Departmental Representative and the Contractor agree not to complete a part of the work within the specified time, the cost of that part of the work



which was either beyond the control of the Contractor to complete or the Departmental Representative and the Contractor have agreed not to complete by the time specified shall be deducted from the value of the contract referred to GC44.2.1.2 and the said cost shall not form part of the cost of the work remaining to be done in determining substantial completion.

44.4 An Interim Certificate of Completion referred to in GC44.2 shall describe the parts of the work not completed to the satisfaction of the Departmental Representative and all things that must be done by the Contractor

44.4.1 before a Final Certificate of Completion referred to in GC44.1 will be issued, and

44.4.2 before the 12-month period referred to in GC32.1.2 shall commence for the said parts and all the said things.

44.5 The Departmental Representative may, in addition to the parts of the work described in an Interim Certificate of Completion referred to in GC44.2, require the Contractor to rectify any other parts of the work not completed to his satisfaction and to do any other things that are necessary for the satisfactory completion of the work.

44.6 If the contract or a part thereof is subject to a Unit Price Arrangement, the Departmental Representative shall measure and record the quantities of labour, plant and material, performed, used and supplied by the Contractor in performing the work and shall, at the request of the Contractor, inform him of those measurements.

44.7 The Contractor shall assist and co-operate with the Departmental Representative in the performance of his duties referred to in GC44.6 and shall be entitled to inspect any record made by the Departmental Representative pursuant to GC44.6.

44.8 After the Departmental Representative has issued a Final Certificate of Completion referred to in GC44.1, he shall, if GC44.6 applies, issue a Final Certificate of Measurement.

44.9 A Final Certificate of Measurement referred to in GC44.8 shall

44.9.1 contain the aggregate of all measurements of quantities referred to in GC44.6, and

44.9.2 be binding upon and conclusive between Her Majesty and the Contractor as to the quantities referred to therein.

GC45 Return of Security Deposit

45.1 After an Interim Certificate of Completion referred to in GC44.2 has been issued, Her Majesty shall, if the Contractor is not in breach of or in default under the contract, return to the Contractor all or any part of the security deposit that, in the opinion of the Departmental Representative, is not required for the purposes of the contract.

45.2 After a Final Certificate of Completion referred to in GC44.1 has been issued, Her Majesty shall return to the Contractor the remainder of any security deposit unless the contract stipulates otherwise.



- 45.3 If the security deposit was paid into the Consolidated Revenue Fund of Canada, Her Majesty shall pay interest thereon to the Contractor at a rate established from time to time pursuant to section 21(2) of the Financial Administration Act.

GC46 Clarification of Terms in GC47 to GC50

- 46.1 For the purposes of GC47 to GC50,
- 46.1.1 "Unit Price Table" means the table set out in the Articles of Agreement, and
- 46.1.2 "plant" does not include tools customarily provided by a tradesman in practicing his trade.

GC47 Additions or Amendments to Unit Price Table

- 47.1 Where a Unit Price Arrangement applies to the contract or a part thereof the Departmental Representative and the Contractor may, by an agreement in writing,
- 47.1.1 add classes of labour or material, and units of measurement, prices per unit and estimated quantities to the Unit Price Table if any labour, plant or material that is to be included in the Final Certificate of Measurement referred to in GC44.8 is not included in any class of labour, plant or material set out in the Unit Price Table; or
- 47.1.2 subject to GC47.2 and GC47.3, amend a price set out in the Unit Price Table for any class of labour, plant or material included therein if the Final Certificate of Measurement referred to in GC44.8 shows or is expected to show that the total quantity of that class of labour, plant or material actually performed, used or supplied by the Contractor in performing the work is
- 47.1.2.1 less than 85% of that estimated total quantity, or
- 47.1.2.2 in excess of 115% of that estimated total quantity.
- 47.2 In no event shall the total cost of an item set out in the Unit Price Table that has been amended pursuant to GC47.1.2.1 exceed the amount that would have been payable to the Contractor had the estimated total quantity actually been performed, used or supplied.
- 47.3 An amendment that is made necessary by GC47.1.2.2 shall apply only to the quantities that are in excess of 115%.
- 47.4 If the Departmental Representative and the Contractor do not agree as contemplated in GC47.1, the Departmental Representative shall determine the class and the unit of measurement of the labour, plant or material and, subject to GC47.2 and GC47.3, the price per unit therefore shall be determined in accordance with GC50.

GC48 Determination of Cost – Unit Price Table



- 48.1 Whenever, for the purposes of the contract, it is necessary to determine the cost of labour, plant or material, it shall be determined by multiplying the quantity of that labour, plant or material expressed in the unit set out in column 3 of the Unit Price Table by the price of that unit set out in column 5 of the Unit Price Table.

GC49 Determination of Cost – Negotiation

- 49.1 If the method described in GC48 cannot be used because the labour, plant or material is of a kind or class that is not set out in the Unit Price Table, the cost of that labour, plant or material for the purposes of the contract shall be the amount agreed upon from time to time by the Contractor and the Departmental Representative.
- 49.2 For the purposes of GC49.1, the Contractor shall submit to the Departmental Representative any necessary cost information requested by the Departmental Representative in respect of the labour, plant and material referred to in GC49.1

GC50 Determination of Cost – Failing Negotiation

- 50.1 If the methods described in GC47, GC48 or GC49 fail for any reason to achieve a determination of the cost of labour, plant and material for the purposes referred to therein, that cost shall be equal to the aggregate of
- 50.1.1 all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, plant and material that falls within one of the classes of expenditure described in GC50.2 that are directly attributable to the performance of the contract,
 - 50.1.2 an allowance for profit and all other expenditures or costs, including overhead, general administration cost, financing and interest charges, and every other cost, charge and expenses, but not including those referred to in GC50.1.1 or GC50.1.3 or a class referred to in GC50.2, in an amount that is equal to 10% of the sum of the expenses referred to in GC50.1.1, and
 - 50.1.3 interest on the cost determined under GC50.1.1 and GC50.1.2, which interest shall be calculated in accordance with TP9,

provide that the total cost of an item set out in the Unit Price Table that is subject to the provisions of GC47.1.2.1 does not exceed the amount that would have been payable to the Contractor had the estimated total quantity of the said item actually be performed, used or supplied.

- 50.2 For purposes of GC50.1.1 the classes of expenditure that may be taken into account in determining the cost of labour, plant and material are,
- 50.2.1 payments to subcontractors;
 - 50.2.2 wages, salaries and travelling expenses of employees of the Contractor while they are actually and properly engaged on the work, other than wages, salaries, bonuses, living



and travelling expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor unless they are engaged at the work site with the approval of the Departmental Representative,

- 50.2.3 assessments payable under any statutory authority relating to workmen's compensation, unemployment insurance, pension plan or holidays with pay;
- 50.2.4 rent that is paid for plant or an amount equivalent of the said rent if the plant is owned by the Contractor that is necessary for and used in the performance of the work, if the rent of the equivalent amount is reasonable and use of that plant has been approved by the Departmental Representative;
- 50.2.5 payments for maintaining and operating plant necessary for and used in the performance of the work, and payments for effecting such repairs thereto as, in the opinion of the Departmental Representative, are necessary to the proper performance of the contract other than payments for any repairs to the plant arising out of defects existing before its allocation to the work;
- 50.2.6 payments for material that is necessary for and incorporated in the work, or that is necessary for and consumed in the performance of the contract;
- 50.2.7 payments for preparation, delivery, handling, erection, installation, inspection protection and removal of the plant and material necessary for and used in the performance of the contract; and
- 50.2.8 any other payments made by the Contractor with the approval of the Departmental Representative that are necessary for the performance of the contract.

GC51 Records to be kept by Contractor

51.1 The Contractor shall

- 51.1.1 maintain full records of his estimated and actual cost of the work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto.
- 51.1.2 make all records and material referred to in GC5.1.1 available to audit and inspection by the Minister and the Deputy Receiver General for Canada or by persons acting on behalf of either of both of them, when requested;
- 51.1.3 allow any of the person referred to in GC51.1.2 to make copies of and to take extracts from any of the records and material referred to in GC51.1.1; and
- 51.1.4 furnish any person referred to in GC51.1.2 with any information he may require from time to time in connection with such records and material.

- 51.2 The records maintained by the Contractor pursuant to GC51.1.1 shall be kept intact by the Contractor until the expiration of two years after the date that a Final Certificate of Completion referred to in GC44.1 was issued or until the expiration of such other period of time as the



Minister may direct.

- 51.3 The Contractor shall cause all subcontractors and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with GC51.1 and GC51.2 as if they were the Contractor.

GC52 Conflict of Interest

- 52.1 It is a term of this contract that no former public office holder who is not in compliance with the Conflict of Interest and Post-Employment Code for Public Office Holders shall derive a direct benefit from this contract.

GC53 Contractor Status

- 53.1 The Contractor shall be engaged under the contract as an independent contractor.
- 53.2 The Contractor and any employee of the said Contractor is not engaged by the contract as an employee, servant or agent of Her Majesty.
- 53.3 For the purposes of GC53.1 and GC53.2 the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for Canada or Quebec Pension Plans, Unemployment Insurance, Worker's Compensation or Income Tax.



GENERAL CONDITONS

- IC 1 Proof of Insurance**
- IC 2 Risk Management**
- IC 3 Payment of Deductible**
- IC 4 Insurance Coverage**

GENERAL INSUANCE COVERAGES

- GCI 1 Insured**
- GIC 2 Period of Insurance**
- GIC 3 Proof of Insurance**
- GIC 4 Notification**

COMMERCIAL GENERAL LIABILITY

- CGL 1 Scope of Policy**
- CGL 2 Coverages/Provisions**
- CGL 3 Additional Exposures**
- CGL 4 Insurance Proceeds**
- CGL 5 Deductible**

BUILDER'S RISK – INSTALLATION FLOATER – ALL RISKS

- BR 1 Scope of Policy**
- BR 2 Property Insured**
- BR 3 Insurance Proceeds**
- BR 4 Amount of Insurance**
- BR 5 Deductible**
- BR 6 Subrogation**
- BR 7 Exclusion Qualifications**

INSURER'S CERTIFICATE OF INSURANCE



General Conditions

IC 1 Proof of Insurance (02/12/03)

Within thirty (30) days after acceptance of the Contractor's tender, the Contractor shall, unless otherwise directed in writing by the Contracting Officer, deposit with the Contracting Officer an Insurer's Certificate of Insurance in the form displayed in this document and, if requested by the Contracting Officer, the originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the Insurance Coverage Requirements shown hereunder.

IC 2 Risk Management (01/10/94)

The provisions of the Insurance Coverage Requirements contained hereunder are not intended to cover all of the Contractor's obligations under GC8 of the General Conditions "C" of the contract. Any additional risk management measures or additional insurance coverages the Contractor may deem necessary to fulfill its obligations under GC8 shall be at its own discretion and expense.

IC 3 Payment of Deductible (01/10/94)

The payment of monies up to the deductible amount made in satisfaction of a claim shall be borne by the Contractor.

IC 4 Insurance Coverage (02/12/03)

The Contractor has represented that it has in place and effect the appropriate and usual liability insurance coverage as required by these Insurance Conditions and the Contractor has warranted that it shall obtain, in a timely manner and prior to commencement of the Work, the appropriate and usual property insurance coverage as required by these Insurance Conditions and, further, that it shall maintain all required insurance policies in place and effect as required by these Insurance Conditions.



INSURANCE COVERAGE REQUIREMENTS

PART I GENERAL INSURANCE COVERAGES (GIC)

GCI 1 Insured (02/12/03)

Each insurance policy shall insure the Contractor, and shall include, as an Additional Named Insured, Her Majesty the Queen in right of Canada, represented by the National Research Council Canada.

GIC 2 Period of Insurance (02/12/03)

Unless otherwise directed in writing by the Contracting Officer or otherwise stipulated elsewhere in these Insurance Conditions, the policies required hereunder shall be in force and be maintained from the date of the contract award until the day of issue of the Departmental Representative's Final Certificate of Completion.

GIC 3 Proof of Insurance (01/10/94)

Within twenty five (25) days after acceptance of the Contractor's tender, the Insurer shall, unless otherwise directed by the Contractor, deposit with the Contractor an Insurer's Certificate of Insurance in the form displayed in the document and, if requested, the originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the requirements of these Insurance Coverages.

GIC 4 Notification (01/10/94)

Each Insurance policy shall contain a provision that (30) days prior written notice shall be given by the Insurer to Her Majesty in the event of any material change in or cancellation of coverage. Any such notice received by the Contractor shall be transmitted forthwith to Her Majesty.

PART II COMMERCIAL GENERAL LIABILITY

CGL 1 Scope of Policy (01/10/94)

The policy shall be written on a form similar to that known and referred to in the insurance industry as IBC 2100 – Commercial General Liability policy (Occurrence form) and shall provide for limit of liability of not less than \$2,000,000 inclusive for Bodily Injury and Property Damage for any one occurrence or series of occurrences arising out of one cause. Legal or defence cost incurred in respect of a claim or claims shall not operate to decrease the limit of liability.

CGL 2 Coverages/Provisions (01/10/94)



The policy shall include but not necessarily be limited to the following coverages/provisions.

- 2.1 Liability arising out of or resulting from the ownership, existence, maintenance or use of premises by the Contractor and operations necessary or incidental to the performance of this contract.
- 2.2 "Broad Form" Property Damage including the loss of use of property.
- 2.3 Removal or weakening of support of any building or land whether such support be natural or otherwise.
- 2.4 Elevator liability (including escalators, hoists and similar devices).
- 2.5 Contractor's Protective Liability
- 2.6 Contractual and Assumed Liabilities un this contact.
- 2.7 Completed Operations Liability – The insurance, including all aspects of this Part II of these Insurance Conditions shall continue for a period of at least one (1) year beyond the date of the Departmental Representative's Final Certificate of Completion for the Completed Operations.
- 2.8 Cross Liability – The Clause shall be written as follows:

Cross Liability – The insurance as is afforded by this policy shall apply in respect to any claim or action brought against any one Insured by any other Insured. The coverage shall apply in the same manner and to the same extent as though a separate policy had been issued to each Insured. The inclusion herein of more than one Insured shall not increase the limit of the Insurer's liability.

- 2.9 Severability of Interests – The Clause shall be written as follows:

Severability of Interests – This policy, subject to the limits of liability stated herein, shall apply separately to each Insured in the same manner and to the same extent as if a separate policy had been issued to each. The inclusion herein of more than one insured shall not increase the limit of the Insurer's liability.

CGL 3 Additional Exposures (02/12/03)

The policy shall either include or be endorsed to include the following exposures of hazards if the Work is subject thereto:

- 3.1 Blasting
- 3.2 Pile driving and calsson work
- 3.3 Underpinning
- 3.4 Risks associated with the activities of the Contractor on an active airport



- 3.5 Radioactive contamination resulting from the use of commercial isotopes
- 3.6 Damage to the portion of an existing building beyond that directly associated with an addition, renovation or installation contract.
- 3.7 Marine risks associated with the contraction of piers, wharves and docks.

**CGL 4 Insurance Proceeds
(01/10/94)**

Insurance Proceeds from this policy are usually payable directly to a Claimant/Third Party.

**CGL 5 Deductible
(02/12/03)**

This policy shall be issued with a deductible amount of not more than \$10,000 per occurrence applying to Property Damage claims only.

**PART III
BUILDER'S RISK - INSTALLATION FLOATER - ALL RISKS**

**BR 1 Scope of Policy
(01/10/94)**

The policy shall be written on an "All Risks" basis granting coverages similar to those provided by the forms known and referred to in the insurance industry as "Builder's Risk Comprehensive Form" or "Installation Floater - All Risks".

**BR 2 Property Insured
(01/10/94)**

The property insured shall include:

- 2.1 The Work and all property, equipment and materials intended to become part of the finished Work at the site of the project while awaiting, during and after installation, erection or construction including testing.
- 2.2 Expenses incurred in the removal from the construction site of debris of the property insured, including demolition of damaged property, de-icing and dewatering, occasioned by loss, destruction or damage to such property and in respect of which insurance is provided by this policy.

**BR 3 Insurance Proceeds
(01/10/94)**

- 3.1 Insurance proceeds from this policy are payable in accordance with GC28 of the General Conditions "C" of the contract.
- 3.2 This policy shall provide that the proceeds thereof are payable to Her Majesty or as the Minister may direct.



- 3.3 The Contractor shall do such things and execute such documents as are necessary to effect payment of the proceeds.

BR 4 Amount of Insurance
(01/10/94)

The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by Her Majesty at the site of the project to be incorporated into and form part of the finished Work.

BR 5 Deductible
(02/12/03)

The Policy shall be issued with a deductible amount of not more than \$10,000.

BR 6 Subrogation
(01/10/94)

The following Clause shall be included in the policy:

"All rights of subrogation or transfer of rights are hereby waived against any corporation, firm, individual or other interest, with respect to which, insurance is provided by this policy".

BR 7 Exclusion Qualifications
(01/10/94)

The policy may be subject to the standard exclusions but the following qualifications shall apply:

- 7.1 Faulty materials, workmanship or design may be excluded only to the extent of the cost of making good thereof and shall not apply to loss or damage resulting therefrom.
- 7.2 Loss or damage caused by contamination by radioactive material may be excluded except for loss or damage resulting from commercial isotopes used for industrial measurements, inspection, quality control radiographic or photographic use.
- 7.3 Use and occupancy of the project or any part of section thereof shall be permitted where such use and occupancy is for the purpose for which the project is intended upon completion.



INSURER'S CERTIFICATE OF INSURANCE

(TO BE COMPLETED BY INSURER (NOT BOKER) AND DELIVERD TO NATIONAL RESEARCH COUNCIL CANADA WITH 30 DAYS FOLLOWING ACCEPTANCE OF TENDER)

CONTRACT

DESCRIPTION OF WORK	CONTRACT NUMBER	AWARD DATE
LOCATION		

INSURER

NAME
ADDRESS

BROKER

NAME
ADDRESS

INSURED

NAME OF CONTRACTOR
ADDRESS

ADDITIONAL INSURED

HER MAJESTY THE QUEEN IN RIGHT OF CANADA AS REPRESENTED BY THE NATIONAL RESEARCH COUNCIL CANADA

THIS DOCUENT CERTIFIES THAT THE FOLLOWING POLICES OF INSURANCE ARE AT PRESENT IN FORCE COVERING ALL OPERATIONS OF THE INSURE IN CONNECTION WITH THE CONTRACT MADE BETWEEN THE NAMED INSURED AND THE NATIONAL RESEARCH COUNCIL CANADA AND IN ACCORDANCE WITH THE INSURANCE CONDITIONS "E"

POLICY					
TYPE	NUMBER	INCEPTION DATE	EXPIRY DATE	LIMITS OF LIABILITY	DEDUCTIBLE
COMMERCIAL GENERAL LIABILITY					
BUILDERS RISK "AL RISKS"					
INSTALLATION FLOATER "ALL RISKS"					

THE INSURER AGREES TO NOTIFY THE NATIONAL RESEARCH COUNCIL CANADA IN WRITING 30 DAYS PRIOR TO ANY MATERIAL CHANGE IN OR CANCELLATION OF ANY POLICY OR COVERAGE SPECIFICALLY RELATED TO THE CONTRACT

NAME OF INSURER'S OFFICER OR AUTHORIZED EMPLOYEE	SIGNATURE	DATE:
		TELEPHONE NUMBER:

ISSUANCE OF THIS CERTIFIATE SHALL NOT LIMIT OR RESTRICT THE RIGHT OF THE NATIONAL RESEARCH COUNCIL CANADA TO REQUEST AT ANY TIME DUPLICATE COPIES OF SAID INSURANCE POLICIES



CS1 Obligation to provide Contract Security

- 1.1 The Contractor shall, at the Contractor's own expense, provide one or more of the forms of contract security prescribed in CS2.
- 1.2 The Contractor shall deliver to the Departmental Representative the contract security referred to in CS1.1 within 14 days after the date that the Contractor receives notice that the Contractor's tender or offer was accepted by Her Majesty.

CS2 Prescribed Types and Amounts of Contract Security

- 2.1 The Contractor shall deliver to the Departmental Representative pursuant to CS1
 - 2.1.1 a performance bond and a labour and material payment bond each in an amount that is equal to not less than 50% of the contract amount referred to in the Articles of Agreement, or
 - 2.1.2 a labour and material payment bond in an amount that is equal to not less than 50% of the contract amount referred to in the Articles of Agreement, and a security deposit in an amount that is equal to
 - 2.1.2.1 not less than 10% of the contract amount referred to in the Articles of Agreement where that amount does not exceed \$250,000, or
 - 2.1.2.2 \$25,000 plus 5% of the part of the contract amount referred to in the Articles of Agreement that exceeds \$250,000, or
 - 2.1.3 a security deposit in an amount prescribed by CS2.1.2 plus an additional amount that is equal to 10% of the contract amount referred to in the Articles of Agreement.
- 2.2 A performance bond and a labour and material payment bond referred to in CS2.1 shall be in a form and be issued by a bonding or surety company that is approved by Her Majesty.
- 2.3 The amount of a security deposit referred to in CS2.1.2 shall not exceed \$250,000 regardless of the contract amount referred to in the Articles of Agreement.
- 2.4 A security deposit referred to in CS2.1.2 and CS2.1.3 shall be in the form of
 - 2.4.1 a bill of exchange made payable to the Receiver General of Canada and certified by an approved financial institution or drawn by an approved financial institution on itself, or
 - 2.4.2 bonds of or unconditionally guaranteed as to principal and interest by the Government of Canada.
- 2.5 For the purposes of CS2.4
 - 2.5.1 a bill of exchange is an unconditional order in writing signed by the Contractor and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order



of, the Receiver General for Canada, and

- 2.5.2 If a bill of exchange is certified by a financial institution other than a chartered bank then it must be accompanied by a letter or stamped certification confirming that the financial institution is in at least one of the categories referred to in CS2.5.3
- 2.5.3 an approved financial institution is
 - 2.5.3.1 any corporation or institution that is a member of the Canadian Payments Association,
 - 2.5.3.2 a corporation that accepts deposits that are insured by the Canada Deposit Insurance Corporation or the Régie de l'assurance-dépôts du Québec to the maximum permitted by law,
 - 2.5.3.3 a credit union as defined in paragraph 137(6)(b) of the *Income Tax Act*,
 - 2.5.3.4 a corporation that accepts deposits from the public, if repayment of the deposit is guaranteed by Her Majesty in right of a province, or
 - 2.5.3.5 The Canada Post Corporation.
- 2.5.4 the bonds referred to in CS2.4.2 shall be
 - 2.5.4.1 made payable to bearer, or
 - 2.5.4.2 accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations, or
 - 2.5.4.3 registered, as to principal or as to principal and interest in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations, and
 - 2.5.4.4 provided on the basis of their market value current at the date of the contract.



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

**SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)**

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine National Research Council	2. Branch or Directorate / Direction générale ou Direction ASPM - St.John's
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3. a) Subcontract Number / Numéro du contrat de sous-traitance	3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant
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4. Brief Description of Work / Brève description du travail
Supply all equipment and materials to replace and install windows and siding at the NRC building in St.John's.

5. a) Will the supplier require access to Controlled Goods? / Le fournisseur aura-t-il accès à des marchandises contrôlées?
 No / Non Yes / Oui

5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? / Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?
 No / Non Yes / Oui

6. Indicate the type of access required / Indiquer le type d'accès requis

6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? / Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS?
(Specify the level of access using the chart in Question 7. c) / Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)
 No / Non Yes / Oui

6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? / Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.
 No / Non Yes / Oui

6. c) Is this a commercial courier or delivery requirement with no overnight storage? / S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?
 No / Non Yes / Oui

7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès

Canada <input checked="" type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
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7. b) Release restrictions / Restrictions relatives à la diffusion

No release restrictions / Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>	All NATO countries / Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions / Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable / À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>	Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>	Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>

7. c) Level of information / Niveau d'information

PROTECTED A / PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A / PROTÉGÉ A <input type="checkbox"/>
PROTECTED B / PROTÉGÉ B <input type="checkbox"/>	NATO RESTRICTED / NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B / PROTÉGÉ B <input type="checkbox"/>
PROTECTED C / PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL / NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C / PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>	NATO SECRET / NATO SECRET <input type="checkbox"/>	CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>
SECRET / SECRET <input type="checkbox"/>	COSMIC TOP SECRET / COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET / SECRET <input type="checkbox"/>
TOP SECRET / TRÈS SECRET <input type="checkbox"/>		TOP SECRET / TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>

Security Classification / Classification de sécurité
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Contract Number / Numéro du contrat
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PART A (Continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
 Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui
 If Yes, indicate the level of sensitivity:
 Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?
 Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? No / Non Yes / Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
 Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

- | | | | |
|---|---|---|--|
| <input checked="" type="checkbox"/> RELIABILITY STATUS
COTE DE FIABILITÉ | <input type="checkbox"/> CONFIDENTIAL
CONFIDENTIEL | <input type="checkbox"/> SECRET
SECRET | <input type="checkbox"/> TOP SECRET
TRÈS SECRET |
| <input type="checkbox"/> TOP SECRET - SIGINT
TRÈS SECRET - SIGINT | <input type="checkbox"/> NATO CONFIDENTIAL
NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET
NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET
COSMIC TRÈS SECRET |
| <input type="checkbox"/> SITE ACCESS
ACCÈS AUX EMPLACEMENTS | | | |

Special comments:
 Commentaires spéciaux :

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
 REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?
 Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? No / Non Yes / Oui
 If Yes, will unscreened personnel be escorted?
 Dans l'affirmative, le personnel en question sera-t-il escorté? No / Non Yes / Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?
 Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?
 Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC? No / Non Yes / Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?
 Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? No / Non Yes / Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?
 Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?
 Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale? No / Non Yes / Oui



Contract Number / Numéro du contrat
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PART C - (continued) / PARTIE C - (suite)

For users completing the form manually use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
 Les utilisateurs qui remplissent le formulaire manuellement doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form online (via the Internet), the summary chart is automatically populated by your responses to previous questions.
 Dans le cas des utilisateurs qui remplissent le formulaire en ligne (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL / NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ			CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET
											A	B	C			
Information / Assets / Renseignements / Biens / Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Media / Support TI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Link / Lien électronique	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
 La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
 Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée "Classification de sécurité" au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
 La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
 Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée "Classification de sécurité" au haut et au bas du formulaire et indiquez qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

PART D: AUTHORIZATION / PARTIE D: AUTORISATION:

13. Organization Project Authority / Chargé de projet de l'organisme			
Name (print) - Nom (en lettres moulées) Rod Griffiths		Title - Titre Manager - Building /Maintenance Services	Signature
Telephone No. - N° de téléphone 709-772-7987	Facsimile No. - N° de télécopieur 709-772-2462	E-mail address - Adresse courriel Rod.Griffiths@nrc-cnrc.gc.ca	Date July 14, 2015
14. Organization Security Authority / Responsable de la sécurité de l'organisme			
Name (print) - Nom (en lettres moulées) Charlotte Carrier		Title - Titre Controlled Goods and Contracts Security Coordinator	Signature
Telephone No. - N° de téléphone 613-993-8956	Facsimile No. - N° de télécopieur 613-990-0946	E-mail address - Adresse courriel Charlotte.Carrier@nrc-cnrc.gc.ca	Date 16/5/2015
15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached? Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?			<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
16. Procurement Officer / Agent d'approvisionnement			
Name (print) - Nom (en lettres moulées) Marc Bedard		Title - Titre Senior Contracting Officer	Signature
Telephone No. - N° de téléphone 613-993-2274	Facsimile No. - N° de télécopieur 613-998-5701	E-mail address - Adresse courriel marc.bedard@nrc-cnrc.gc.ca	Date 16/7/15
17. Contracting Security Authority / Autorité contractante en matière de sécurité			
Name (print) - Nom (en lettres moulées)		Title - Titre	Signature
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date