

NRC-CNRC

Real Property Planning and Management

SPECIFICATIONS

SOLICITATION #: 22-58157

BUILDING: U-88,

2320 Lester Rd,

Gloucester, ON K1V 1S2

PROJECT: U88 Fall Arrest

PROJECT #: 5564

Date: April 2023





SPECIFICATION

Contract Security Conditions

Security Requirement Check List

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National Research Council Conseil national de recherches
Canada Canada

Finance and Procurement Services Branch Direction des services financiers
et d'approvisionnement

Construction Tender Form

Project Identification U-88 Fall Arrest

Tender No.:	22-58157			
Business Name	and Address of Tendo	<u>erer</u>		
Name				
Address				
Contact Person	(Print Name)			
Telephone ()	_ Fax: (_)	

1.3 Offer

I/We the Tenderer, hereby offer to His Majesty the King in Right of Canada (hereinafter referred to as "His 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	Conseil national de recherches
Canada	Canada
Finance and Procurement	Direction des services financiers
Services Branch	et d'approvisionnement

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 servives 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 His Majesty to forfeit the security deposit.

I/We understand that if the security furnished is not in the approved from 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
Finance and Procurement Services Branch	Direction des services financiers et d'approvisionnement

1.7 <u>Contract Security</u>

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	<u>Appendices</u>	
	This Tender Form includes Appendix NoN/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	Conseil national de recherches
Canada	Canada
Finance and Procurement Services Branch	Direction des services financiers et d'approvisionnement

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 on behalf of	day 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

BUY AND SELL NOTICE

U-88 Fall Arrest

The National Research Council Canada, 2320 Lester Road Ottawa, has a requirement for a project that includes:

Work under this contract covers the installation of a fall arrest system supporting a structural frame and mezzanine structural modifications in the Climatic Chamber of Building U88, located on the Lester Road Campus of the National Research Council of Canada.

MANDATORY CRITERIA

EVALUATION PROCEDURES

The construction tender form (bid) will be evaluated and scored in accordance with specific evaluation criteria as detailed herein. It is imperative that these criteria be addressed in sufficient depth in the tender form to fully describe the Proponent's response.

You are invited to submit one electronic <u>Technical Proposal</u> and one electronic <u>Financial Proposal</u> in two separate attachments to fulfil the following requirement forming part of this Request for Proposal. One attachment must be clearly marked 'Technical Proposal' and the other attachment must be marked 'Financial Proposal'. All financial information must be fully contained in the Financial Proposal, and only in the Financial Proposal. Proponents who provide financial information in the technical proposal will be disqualified.

MANDATORY CRITERIA:

The Construction Tender Form (bid) will be evaluated to determine if all mandatory requirements detailed in this Table "Mandatory Criteria" have been met.

Any Tender Form which fails to meet any of the mandatory requirements will be considered non-compliant and will not be given further consideration.

In the table below include the page number(s) of your bid form that demonstrates you meet that specific requirement.

MANDATORY CRITERIA

	Mandatory Criteria	Bid Form Page # (s) (Proponent to Insert)
1	The Proponent must have a minimum of ten (10) years' experience in the execution of road building and sewer projects, and as a contractor providing construction services comparable to this tender. Provide two project examples, including approximate value of work and a client reference. Provide a company profile and relevant history. A total of four pages (letter size) maximum for this criteria.	

2	The Proponent must supply the CV for the proposed company construction site supervisor. The proposed construction site supervisor must possess a minimum of 7 years' experience in contract/construction administration, as a site supervisor or similar position. The 7 years' minimum experience must be related to the project's field of work. Two pages (letter size) maximum for this criteria.	
3	The Proponent must supply the CV for the proposed company project manager. The proposed project manager must possess a minimum of 7 years' experience in contract/construction administration, as a site supervisor or similar position. The 7 years' minimum experience must be related to the project's field of work. Two pages (letter size) maximum for this criteria.	

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 CanadaBuys.canada.ca TMA services provider. Addenda, when issued, will be available from the CanadaBuys.canada.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 April 25th and April 26th, 2023 at 9:00am. Meet Allan Mackenzie at Building U-88, Main Entrance, 2023 Lester Road Ottawa, ON. Bidders who, for any reason, cannot attend one of the specified dates 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.**

- At the site visit, to limit contact and risks:
 - The proponents will sanitize their hands at the hand sanitizing station.
 - The proponents will be asked to sign the Attendance Form. It is the responsibility of all proponents to verify information on the Attendance Form.
 - The site visits could take longer than usual, therefore anticipate a longer meeting duration
 - Physical distancing: keeping a distance of at least 2 arms-length (approximately 2 meters) from others may not be possible at all times, therefore the use of NRC issued disposable face coverings to reduce the risk of transmission of COVID-19 is mandatory.
 - The proponents shall not impede safe access to and from the facility.
- Proposals submitted by bidders who have not attended the site visit or failed to submit their identification and contact information at the site visit will be deemed non-responsive.

3. INQUIRIES

If you require clarification regarding any aspect of this RFP, address all queries to the Contracting Authority, identified below, at least 10 working days before the closing date. All queries must be in writing and queries received less than 10 working days prior to the closing date cannot be guaranteed a response. Information received verbally will not be binding upon the NRC.

Tania Backes
Contracting Authority, Procurement Services
National Research Council Canada
Tania.Backes@nrc-cnrc.gc.ca

4. CLOSING DATE

Closing date is May 16, 2023 at 2pm EDT

5. TENDER RESULTS

Following the evaluation of bids, the tender results will be sent by email to all Contractors who submitted a tender.

6. SECURITY REQUIREMENT FOR CANADIAN CONTRACTORS

6.1 MANDATORY SECURITY REQUIREMENT:

This procurement contains a mandatory security requirement as follows:

- 1. The Contractor must, at all times during the performance of the Contract, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Director (CISD), Public Works Government Services Canada.
- 2. The Contractor personnel requiring access to sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.
- 3. The Contractor must comply with the provisions of the:
 - a. Security Requirements Checklist attached at Appendix "D"
 - b. Industrial Security Manual (Latest Edition) available at: https://www.tpsgc-pwgsc.gc.ca/esc-src/msi-ism/index-eng.html

7. VERIFICATION OF SECURITY CLEARANCE AT BID CLOSING

- 1. The Bidder must hold a valid Designated Organization Screening (DOS) issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC), TO BE INCLUDED WITH THEIR TENDER OR PROVIDED WITHIN 48 HOURS FROM THE DATE AND TIME OF TENDER CLOSING. Verifications will be made through CISD to confirm the security clearance status of the Bidder. Failure to comply with this requirement will render the bid non-compliant and no further consideration will be given to the bid.
- Within 72 hours of tender closing, the General Contractor must name all of his subcontractors, each of whom must hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC, or any other Federal Department or Agency along with the names and birthdates or security clearance certificate numbers of all personnel who will be assigned to the project.

- 3. It is to be noted that any subcontractor required to perform any part of the work during the performance of the subsequent contract must also adhere to the mandatory security requirement of the contract. As well, no personnel without the required level of security will be allowed on site. It will be the responsibility of the successful bidder to ensure that the security requirement is met throughout the performance of the contract. The Crown will not be held liable or accountable for any delays or additional costs associated with the contractor's non-compliance to the mandatory security requirement. Failure to comply with the mandatory security requirement will be grounds for being declared in default of contract.
- 4. For any enquiries concerning the project security requirement during the bidding period, the Bidder/Tenderer must contact the Security Officer @ 613-993-8956.

8. WSIB (WORKPLACE SAFETY AND INSURANCE BOARD)

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

9. OFFICE OF THE PROCUREMENT OMBUDSMAN

1. Clause for solicitation documents and regret letters for unsuccessful bidders

The Office of the Procurement Ombudsman (OPO) was established by the Government of Canada to provide an independent venue for Canadian bidders to raise complaints regarding the award of federal contracts under \$25,300 for goods and under \$101,100 for services. Should you have any issues or concerns regarding the award of a federal contract below these dollar amounts, contact OPO by e-mail at boa.opo@boa-opo.gc.ca, by telephone at 1-866-734-5169, or by web at www.opo-boa.gc.ca. For more information about OPO, including the available services, please visit the OPO website.

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 complainant respecting the administration of the 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.

To file a complaint, the Office of the Procurement Ombudsmai1 may be contacted by e-mail at boa.opo@boa-opo.gc.ca, by telephone at 1-866-734-5169, or by web at www.opo-boa.gc.ca.

3. Dispute Resolution

The Parties agree to make every reasonable eff01i, in good faith, to settle amicably all disputes or claims relating to or arising from the Contract, through negotiations between the Parties' representatives authorized to settle. If the Parties do not reach a settlement within 10 working days, each party hereby consents to fully participate in ai1d bear the cost of mediation led by the Procurement Ombudsman pt1rsuai1t to Subsection 22.1(3)(d) of the Department of Public Work and Government Services Act and Section 23 of the Procurement Ombudsman Regulations.

The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169, by e-mail at boa.opo@boa-opo.gc.ca, or by web at www.opo-boa.gc.ca.

The Departmental Representative or his designate for this project is: Allan Mackenzie Allan.Mackenzie@nrc-cnrc.gc.ca

Telephone: 613-229-1095

Contracting Authority for this project is: Tania Backes Tania.Backes@nrc-cnrc.gc.ca

INSTRUCTIONS TO BIDDERS

Article 1 - Receipt of Tender

- Tender must be received <u>by email only</u> not later than the specified tender closing time. Electronic bids <u>received</u> after the indicated closing time <u>NRC servers received time</u> will be irrevocably rejected. Bidders are urged to send their proposal sufficient time in advance of the closing time to prevent any technical issues. NRC will not be held responsible for bids sent before closing time but received by the NRC servers after the closing time. <u>Tenders received after this time are invalid</u> 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 **email only** provided that such <u>amendments are received not</u> later than the specified tender closing time.
- 1d) Any amendments to the tender which are transmitted by **email only** must be signed and must clearly identify the tenderer.

All such amendments are to be addressed to: National Research Council of Canada Tania Backes, Senior Contracting Officer

Tania.Backes@nrc-cnrc.gc.ca

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 colored 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 tenderer.
- 4) Tenders must be based on the plans, specifications and tender documents provided.

- 5) A proposal submitted by a bidder who's Board of Directors or proprietor (s) are in majority the same as a former vendor who has declared bankruptcy while performing work for NRC over the last 7-years from the date of issuance of this RFP may be rejected and not eligible for award at NRC's sole discretion. In such case, NRC will advise the ineligible proponent(s).
- 6) A proposal submitted by a bidder who has had a previous contracts cancelled by NRC due to lack of performance within 3 years from the issuance date of this RFP may be rejected and not eligible for award at NRC's sole discretion. In such case, NRC will advise the ineligible proponent (s).
- 7) If there is discrepancy between the English version and the French version of this document and any of the attachments and amendments, the English version will takes precedence.

Article 3 - Contract

 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 by email only: National Research Council Canada

Tania.Backes@nrc-cnrc.gc.ca

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) bonds of the Government of Canada, or bonds unconditionally guaranteed as to principal and interest by the Government of Canada; <u>OR</u>
 - ii) 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.
- 1c) 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 bond or E-bond Security must be in the <u>ORIGINAL</u> form. PDF via email is acceptable. <u>FAILURE TO PROVIDE THE REQUIRED BID SECURITY SHALL INVALIDATE THE TENDER.</u>
- 1d) The successful tenderer is required to provide security within 14 days of receiving notice of tender acceptance. The tenderer must furnish <u>EITHER</u>:

- 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 amout 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.
- 1e) 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-58, Montreal Road, Ottawa, Ontario, K1A 0R6.

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.
- 1) 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

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.
- 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

 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-58, 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

The Harmonized Sales Tax (HST) which in now in effect shall be considered an applicable tax for the purpose of this tender. However, the bidder shall <u>NOT</u> 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.

Non-resident contractors

RST guide 804 Published August 2006

ISBN: 1-4249-2007-8 (Print), 1-4249-2009-4 (PDF), 1-4249-2008-6 (HTML)

Publication Archived

Notice to the reader: For Retail Sales Tax (RST) – On July 1, 2010 the 13 per cent Harmonized Sales Tax (HST) took effect in Ontario replacing the existing provincial Retail Sales Tax (RST) and combining it with the federal Goods and Services Tax (GST). As a result, RST provisions described on this page and in other publications ended on June 30, 2010.

Effective July 1, 2010 this publication was archived for RST purposes **only**. Use caution when you refer to it, since it reflects the law in force for RST at the time it was released and may no longer apply.

• The information in this Guide explains the Retail Sales Tax (RST) responsibilities of a non-resident contractor who is awarded a construction contract to perform work in Ontario and their Ontario customers. Please note that this Guide replaces the previous version dated March 2001.

Non-Resident Contractor Defined

A non-resident contractor is a contractor located outside Ontario who has been awarded a construction contract to perform work in Ontario, and who has not maintained a permanent place of business in Ontario continuously for twelve months immediately prior to signing the contract, or which is not a company incorporated under the laws of Ontario. A construction contract is a contract for the erection, remodelling or repair of a building or other structure on land.

A contractor is a person who is in the business of constructing, altering, repairing or improving real property and includes, but is not limited to,

- 1. a general contractor and subcontractor,
- 2. a carpenter, bricklayer, stonemason, electrician, plasterer, plumber, painter, decorator, paver, and bridge builder,
- 3. a sheet metal, tile and terrazzo, heating, air conditioning, insulation, ventilating, papering, road, roofing and cement contractor, who installs or incorporates items into real property. (See RST <u>Guide 206 Real Property and Fixtures</u>).

Registration and Guarantee Deposit

Non-resident contractors who are awarded a construction contract in Ontario are required to register with the Ministry of Finance (ministry), Centralized Programs Unit and post a guarantee equal to 4 per cent of the total of each Ontario contract. The guarantee can be paid in cash, by certified cheque (payable to the Minister of Finance), letter of credit or by a guarantee bond.

To register with the ministry and to obtain further information on posting a guarantee, contractors should contact the ministry's Centralized Programs Unit, 33 King Street West, PO Box 623, Oshawa, Ontario, L1H 8H7, toll-free 1 866 ONT-TAXS (1 866 668-8297) or fax to 905 435-3617.

Non-resident contractors who sell taxable goods on a supply only basis to Ontario customers, or provide taxable services in Ontario, may obtain a regular Vendor Permit to collect and remit RST on their sales. Non-resident contractors who have been issued a regular Vendor Permit must still register separately with the ministry and post a guarantee if they are awarded a construction contract in Ontario.

Letter of Compliance

After receiving the guarantee, the ministry mails out two copies of a "letter of compliance" to the contractor certifying the Retail Sales Tax (RST) requirements have been met. Contractors must give a copy of the letter to their customers.

If a copy of the compliance letter is not provided, the customer must withhold 4 per cent of all amounts payable to the non resident contractor and pay the withheld amounts to the Minister of Finance (minister). Details relating to the contract should be sent along with the payments to the Centralized Programs Unit. Customers may give the minister a guarantee bond equal to 4 per cent of the total contract price instead of making the 4 per cent payments.

Note: Customers who do not follow these requirements may be held liable for 4 per cent of all amounts payable to the non resident contractor or any other amount that the Ministry deems to be the RST payable resulting from the performance of the contract.

Calculation of RST

Fair Value

RST is payable on the "fair value" of materials, purchased or brought into Ontario, to be used for work performed in Ontario. "Fair value" includes:

- the purchase price in Canadian funds;
- all charges by the supplier for handling and delivery, and
- any federal customs duties and excise taxes paid (but not the federal Goods and Services Tax (GST)).

Contractors are also required to pay RST to Ontario suppliers on the purchase, rental or lease of taxable services, materials, machinery, or equipment.

Machinery and Equipment - Leased

If machinery or equipment is leased from a supplier outside Ontario and brought into the province, RST is payable on the lease payments for the period the machinery or equipment is in Ontario.

Machinery and Equipment - Owned by Contractor

If machinery or equipment is owned by the contractor, RST may be calculated in one of the following ways:

a. If a contractor brings machinery and equipment into Ontario for less than 12 months' use, RST is to be calculated using the following formula:

1/36 x net book value at date of import x number of months in Ontario x tax rate

For the purpose of this formula, RST is payable for each month or part of a month that the goods are in Ontario. A month is considered 31 consecutive days and a part month is considered more than 12 days. The RST payable is based on the number of days the machinery and equipment are located in Ontario and not the number of days the items are actually used.

Example: Equipment is brought into Ontario on March 28 and taken out on May 8. The items were in the province for 41 days. RST is payable on the first 31 days' temporary stay in Ontario vs. use of the equipment. Since the remainder (10 days) is not considered part of a month, no RST is payable on this portion.

b. If, at the time the goods are brought into Ontario, it is expected that the machinery or equipment will be in Ontario for more than twelve months, contractors must pay Retail Sales Tax (RST) on the following basis:

net book value at date of import x tax rate

If, at the time of import, the length of time is not known, vendors may use the formula under (a). If they later find it necessary to keep the machinery and equipment in Ontario for more than 12 months, the RST paid under (a) may be deducted from the RST payable under (b).

Using formula (a) or (b) above, contractors will calculate and remit the RST payable on the return that is filed when the contract is finished.

(See Completion of Contract section)

Manufacturing for Own Use

Contractors may need to manufacture items, such as doors and windows, for their construction contracts. Manufacturing is work done in a factory away from a construction site, or in a mobile unit or workshop that is on or near the construction site. Manufacturing occurs when raw materials are changed into manufactured goods for use in real property contracts.

Contractors are considered to be manufacturing contractors if they produce goods:

- 1. for their own use in real property contracts, and
- 2. the manufactured cost of the goods is more than \$50,000 a year.

(See RST Guide 401 - Manufacturing Contractors)

Contracts with the Federal Government

Where a non-resident contractor enters into a construction contract with the federal government, for the construction of a building and/or the installation of equipment, the nature of the equipment will determine whether the contract should be let on a tax-included or tax excluded basis.

Contracts for the construction of a building and the installation of equipment that directly services that building (i.e., elevators, escalators, light fixtures, central heating and air conditioning, etc.) should be tendered on a tax -included basis. Contractors are the consumers of the materials used in fulfilling these contracts and must pay or account for RST on the materials used to complete the contracts. There is NO exemption just because the contract is with the federal government.

Contracts for the installation of equipment that becomes a fixture and does not directly service a building (i.e., material handling equipment, production machinery, communication equipment, training equipment) may be tendered on a tax-excluded basis. Contractors engaged in contracts of this nature are permitted to make tax exempt purchases of such equipment by issuing a valid Purchase Exemption Certificate (PEC) to their supplier. Only non-resident contractors who have registered with the ministry and posted a guarantee may issue a PEC.

Exemptions

Contractors may supply and install equipment or materials for certain customers that may be entitled to an exemption from RST (e.g., manufacturers, Indian band councils, farmers and diplomatic organizations). The equipment or materials, when installed, becomes real property if it is permanently attached to land, or a fixture if it is permanently attached to a building or real property structure. Since

contractors are liable for RST, they should contact the ministry to find out if the customer qualifies for exemption before tendering the contract on a tax-excluded basis.

Status Indians, Indian Bands and Band Councils

Non-resident contractors may purchase building materials exempt from Retail Sales Tax (RST) for certain buildings and structures situated on reserves. The cost of such projects must be paid by the band council, and the buildings must provide a community service for the reserve. Contracts for the construction of an exempt community building project should be made on an RST-excluded basis. Non-resident contractors may purchase the materials exempt from RST by providing suppliers with a valid Purchase Exemption Certificate (PEC). As noted previously, only non-resident contractors who have registered with the ministry and posted a guarantee may issue a PEC. (See RST Guide 204 - Purchase Exemption Certificates).

Non-resident contractors must pay RST on items purchased for incorporation into a building or structure built for individual status Indians on a reserve. (See RST <u>Guide 808 - Status Indians, Indian Bands and Band Councils</u>).

Completion of Contract

When a contract is completed, non-resident contractors who were required to post a guarantee must complete a Non-Resident Contractor Retail Sales Tax Return [PDF - 92 KB] that is provided by the ministry.

If a contractor's guarantee was given in cash or by certified cheque, the amount of the deposit can be deducted from the RST liability owed by the contractor. If the liability is greater than the deposit, the amount remaining must be paid by the contractor. If the deposit is more than the liability, the contractor will receive a refund.

If a guarantee bond was posted instead of cash, the bond will be discharged once the RST liability is paid in full.

All returns are subject to audit.

Legislative References

- Retail Sales Tax Act, Subsections 19(2) and 39(3)(4) and (5)
- Regulation 1012 under the Act, Subsections 15.3(1)(2)(5)(6) and (7)
- Regulation 1013 under the Act, Sections 1 and 3

For More Information

The information contained in this publication is only a guideline. For more information, please contact the Ontario Ministry of Finance at 1 866 ONT-TAXS (1 866 668-8297) or visit our website at ontario.ca/finance.

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

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

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

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.

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:

A5 Unit Price Table

(23/01/2002)

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	Column 3 Unit of Measurement	Column 4 Estimated Total Quantity	Column 5 Price per Unit	Column 6 Estimated
	Labour Plant				Total Price
	Or Material				
					T
		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.

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		
asPosition	and	
by		
asPosition		Seal
of		
on the		
day of		

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1. SCOPE OF WORK

.1 Work under this contract covers the installation of fall arrest structure and structural modifications of the Mezzanine Level in the Council's Building U88 of the National Research Council.

2. DRAWINGS

- .1 The following drawings illustrate the work and form part of the contract documents:
 - .1 Structural:
 - .1 General Notes S01,
 - .2 Part Plan and Details S02.
 - .3 Part Plan and Details S03.

3. COMPLETION

.1 Complete all work within 8 week(s) after receipt of notification of acceptance of tender.

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.

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 Departmental Representative for acceptance. For a product to be considered as an alternative product substitute, make a written application to the 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.

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.

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 subcontractor is labeled;
 - .2 To make available to the workers and the 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 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 Departmental Representative, that he/she has had WHMIS training and is knowledgeable in its requirements. The Departmental Representative can require replacement of this person if this condition or implementation of WHMIS is not satisfactory

8. REQUIREMENTS OF BILL 208, SECTION 18(a)

Under the requirements of Bill 208 of the Ontario Ministry of Labour Occupational Health & Safety Act, the following designated substances may be encountered while performing the work described in these contract documents:

- .1 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 sub-contractor for this project has received a copy of the above list.

9. COST BREAKDOWN

- .1 Submit, for approval by the 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 Departmental Representative's verbal approval to amount of claim prior to preparing and submitting the claim in its final form.

.4 Contractor costs associated with compliance with occupational health and safety requirements (Canada Labour Code) related to the Coronavirus/COVID-19 pandemic must be included in the initial bid price. These costs may include, but are not limited to, the provision of additional personal protective equipment (PPE) and social distancing requirements as required to complete the project. Contractor must review and incorporate into initial bid pricing compliance with any Coronavirus/COVID-19 related health and safety guidance issued by the local Medical Officer of Health (applicable in the jurisdiction of the project), the Public Health Agency of Canada, Health Canada and/or the provincial Ministry of Health, as applicable.

10. SUB-TRADES

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

11. PERSONNEL SECURITY AND IDENTIFICATION

- .1 All persons employed by the Contractor, or by any sub-contractor 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.

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 Departmental Representative to perform the specific tasks.
- .4 An escort may be required whenever working outside normal hours. Contractor to bear the associated costs.

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 Departmental Representative not later than two weeks after the award of the contract and prior to commencement of any work on site.
- .2 Notify Departmental Representative in writing of any changes in the schedule.
- .3 10 day(s) before the scheduled completion date, arrange to do an interim inspection with the Departmental Representative.

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14. PROJECT MEETINGS

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

15. SHOP DRAWINGS

- .1 Submit to Departmental Representative for review, shop drawings, product data and samples specified within 2 week(s) after contract award.
- .2 Submit to 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 bi- week basis and any changes to the list shall be immediately notified in writing to the Departmental Representative.
- .3 Review shop drawings, data sheets and samples prior to submission.
- .4 Submit one (1) 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 Departmental Representative does not relieve the Contractor of the responsibility for errors and omissions and for the conformity with contract documents.

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 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.

17. MATERIALS AND WORKMANSHIP

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

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18. WORK & MATERIALS SUPPLIED BY OWNER

- .1 Work and materials not included in this contract are described on this specification. drawings and in
- Deliver to a storage place, as directed by the 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 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.

19. SITE ACCESS

- .1 Make prior arrangements with the Departmental Representative before starting work or moving materials and equipment on site.
- .2 Obtain approval of Departmental Representative for regular means of access during the construction period.
- .3 Obtain approval of 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 Provide snow clearing and removal as required during the contract period.
- .7 Make good any damage and clean up dirt, debris, etc., resulting from Contractor's use of existing roads.

20. USE OF SITE

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

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21. ACCEPTANCE OF SITE

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

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.

23. SANITARY FACILITIES

.1 Obtain permission from the Departmental Representative to use the existing washroom facilities in the building.

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.

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 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 Departmental Representative with the Application for Payment and for the Final Certificate of Completion.

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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 Departmental Representative.
- .4 Notify the Departmental Representative in writing, 72 hours prior to any intended interruption of facilities, areas, corridors, mechanical or electrical services and obtain requisite permission.

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 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 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.

28. BILINGUALISM

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

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

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.

30. DISCREPANCIES & INTERFERENCES

- .1 Prior to the start of the work, examine drawings and specifications. Report at once to the Departmental Representative, any defects, discrepancies, omissions or interferences affecting the work.
- .2 Contractor to immediately inform the Departmental Representative in writing, of any discrepancies between the plans and the physical conditions so the 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 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.

31. MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .2 Notify the Departmental Representative in writing of any conflict between these specifications and manufacturer's instruction. Departmental Representative will designate which document is to be followed.

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 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 Departmental Representative.
 - .1 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 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, 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.

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 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 Departmental Representative of findings.

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- .3 Submit a schedule to and obtain approval from the 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 Departmental Representative.
- .4 Where unknown services are encountered, immediately advise 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 Departmental Representative; cap or otherwise seal lines at cut-off points. Record and provide a copy to the Departmental Representative of locations of maintained, re-routed and abandoned service lines.

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 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 Departmental Representative.
- .5 Obtain written approval of the 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.

35. FASTENING DEVICES

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

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.

37. DRAINAGE

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

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.

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 Departmental Representative.

40. GENERAL REVIEW

.1 Periodic review of the Contractor's work by the 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.

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.2 Inform the Departmental Representative of any impediments to the installation and obtain his / her approval for actual location.

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.

42. TESTING

- .1 On completion, or as required by local authority inspectors and/or 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 Departmental Representative.
- .2 Obtain and hand to the Departmental Representative all acceptance certificates or test reports from authority having jurisdiction. The project will be considered incomplete without the same.

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.

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.

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.

46. FINAL CLEAN-UP

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

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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.

48. MAINTENANCE MANUALS

- .1 Provide two (2) bilingual copies of maintenance manuals or two (2) English and two (2) French maintenance manuals and one (1) electronic copy of same 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. GENERAL CONSTRUCTION SAFETY REQUIREMENTS

- .1 The Contractor shall take all necessary steps to protect personnel (workers, visitors, general public, etc.) and property from any harm during the course of the contract.
- .2 The Contractor shall be solely responsible for the construction safety of both its employees and those of its sub-contractors at the work site, and for initiating, maintaining and supervising safety precautions, programs and procedures in connection with the performance of the work.
- .3 The Contractor shall comply with all Federal, Provincial and Municipal safety codes and regulations and the Occupational Health and Safety Act and the Workplace Safety and Insurance Board. In the event of any conflict between any provisions in legislation or codes, the most stringent provisions shall apply.
- .4 Periodic review of the Contractor's work by the Departmental Representative, using the criteria of the contract documents, does not relieve the Contractor of his safety responsibilities in carrying out the work in accordance with the contract documents. The Contractor shall consult with the Departmental Representative to ensure that this responsibility is carried out.
- .5 The Contractor shall ensure that only competent personnel are permitted to work on site. Throughout the term of the contract, any person will be removed from the site who is not observing or complying with the safety requirements.
- .6 All equipment shall be in safe operating condition and appropriate to the task.
- .7 Following a project and site hazard assessment, the Contractor shall develop a Site Specific Safety Plan based on the following minimum requirements. Site Specific Safety Plans must also be robust enough to address any abnormal occurrences, such as, but not limited to: pandemics (COVID-19 or a similar), fire, flooding, inclimate weather or other environmental anomalies.
 - .1 Provide a safety board mounted in a visible location on the project site, with the following information included thereon:
 - .1 Notice of Project.
 - .2 Site specific Safety Policy.
 - .3 Copy of Ontario Health and Safety Act.
 - .4 Building Schematic showing emergency exits.
 - .5 Building emergency procedures.
 - .6 Contact list for NRC, Contractor and all involved sub-contractors.
 - .7 Any related MSDS sheets.
 - .8 NRC Emergency phone number.
- .8 The Contractor shall provide competent personnel to implement its safety program and those of any Health and Safety Act legislation applicable at this project location, and to ensure they are being complied with.

- .9 The Contractor shall provide safety orientation to all its employees as well as those of any sub-contractors under its jurisdiction.
- .10 The Departmental Representative will monitor to ensure that safety requirements are met and that safety records are properly kept and maintained. Continued disregard for safety standards can cause the contract to be cancelled and the Contractor or sub-contractors removed from the site.
- .11 The Contractor will report to the Departmental Representative and jurisdictional authorities, any accident or incident involving Contractor or NRC personnel or the public and/or property arising from the Contractor's execution of the work.
- .12 If entry to a laboratory is required as part of the work of the Contractor, a safety orientation shall be provided to all his employees as well as those of any sub-contractors regarding lab safety requirements and procedures, as provided by the Researcher or the Departmental Representative.

2. FIRE SAFETY REQUIREMENTS

.1 Authorities

- 1. The Fire Commissioner of Canada (FC) is the authority for fire safety at NRC.
- 2. For the purpose of this document, "Departmental Representative" will be deemed as the NRC person in charge of the project and who will enforce these Fire Safety Requirements.
- 3. Comply with the following standards as published by the Office of the Fire Commissioner of Canada:
 - a. Standard No. 301 June 1982 "Standard for Construction Operations";
 - b. Standard No. 302 June 1982 "Standard for Welding and Cutting".

.2 Smoking

- .1 Smoking is prohibited inside all NRC buildings, as well as roof areas.
- .2 Obey all "NO SMOKING" signs on NRC premises.

.3 Hot Work

- .1 Prior to commencement of any "Hot Work" involving welding, soldering, burning, heating, use of torches or salamanders or any open flame, obtain a Hot Work Permit from the Departmental Representative.
- .2 Prior to commencement of "Hot Work", review the area of hot work with the Departmental Representative to determine the level of fire safety precautions to be taken.

.4 Reporting Fires

.1 Know the exact location of the nearest Fire Alarm Pull Station and telephone, including the emergency phone number.

- .2 REPORT immediately, all fire incidents as follows:
 - 1. Activate nearest fire alarm pull station; and
 - 2. Telephone the following emergency phone number as appropriate:

FROM AN NRC PHONE 333 FROM ANY OTHER PHONE (613) 993-2411

- 3. When reporting a fire by phone, give the location of fire, building number and be prepared to verify location.
- 4. The person activating fire alarm pull station must remain at a safe distance from the scene of the fire but readily available to provide information and direction to the Fire Department personnel.

.5 Interior and Exterior Fire protection & Alarm Systems

- .1 DO NOT OBSTRUCT OR SHUT OFF FIRE PROTECTION EQUIPMENT OR SYSTEMS, INCLUDING BUT NOT LIMITED TO FIRE ALARM SYSTEMS, SMOKE/HEAT DETECTORS, SPRINKLER SYSTEM, PULL STATIONS, EMERGENCY CALL BUTTONS AND PA SYSTEMS, WITHOUT AUTHORIZATION FROM THE DEPARTMENTAL REPRESENTATIVE.
- .2 WHEN ANY FIRE PROTECTION EQUIPMENT IS TEMPORARILY SHUT DOWN, ALTERNATIVE MEASURES AS PRESCRIBED BY THE DEPARTMENTAL REPRESENTATIVE SHALL BE TAKEN TO ENSURE THAT FIRE PROTECTION IS MAINTAINED.
- .3 DO NOT LEAVE FIRE PROTECTION OR ALARM SYSTEMS INACTIVE AT THE END OF A WORKING DAY WITHOUT NOTIFICATION AND AUTHORISATION FROM THE DEPARTMENTAL REPRESENTATIVE. THE DEPARTMENTAL REPRESENTATIVE WILL ADVISE THE (FPO) OF THE DETAILS OF ANY SUCH EVENT.
- .4 DO NOT USE FIRE HYDRANTS, STANDPIPES AND HOSE SYSTEMS FOR OTHER THAN FIRE FIGHTING PURPOSES UNLESS AUTHORISED BY DEPARTMENTAL REPRESENTATIVE.

.6 Fire Extinguishers

- .1 Provide a minimum of 1-20 lb. ABC Dry Chemical Fire Extinguisher at each hot work or open flame location.
- .2 Provide fire extinguishers for hot asphalt and roofing operations as follows:
 - 1. Kettle area 1-20 lb. ABC Dry Chemical; and
 - 2. Roof 1-20 lb. ABC Dry Chemical at each open flame location.
- .3 Provide fire extinguishers equipped as below:
 - 1. Pinned and sealed;
 - 2. With a pressure gauge; and
 - 3. With an extinguisher tag signed by a fire extinguisher servicing company.

.4 Carbon Dioxide (CO2) extinguishers will not be considered as substitutes for the above.

.7 Roofing Operations

- .1 Kettles:
 - .1 Arrange for the location of asphalt kettles and material storage with the Departmental Representative before moving on site. Do not locate kettles on any roof or structure and keep them at least 10m (30 feet) away from a building.
 - .2 Equip kettles with two (2) thermometers or gauges in good working order; a hand held and a kettle-mounted model.
 - .3 Do not operate kettles at temperatures in excess of 232°C (450°F).
 - .4 Maintain continuous supervision while kettles are in operation and provide metal covers for the kettles to smother any flames in case of fire. Provide fire extinguishers as required in article 2.6.
 - .5 Demonstrate container capacities to Departmental Representative prior to start of work.
 - .6 Store materials a minimum of 6m (20 feet) from the kettle.

.2 Mops:

- .1 Use only glass fibre roofing mops.
- .2 Remove used mops from the roof site at the end of each working day.

.3 Torch Applied Systems:

- .1 DO NOT USE TORCHES NEXT TO WALLS.
- .2 DO NOT TORCH MEMBRANES TO EXPOSED WOOD OR CAVITY.
- .3 Provide a Fire Watch as required by article 2.9 of this section.
- .4 Fire and Smoke Hazard Management:
 - .1 Contractor shall identify "Designated Roofing Marshall" for duration of construction activities. "Designated Roofing Marshall" shall be responsible for the following:
 - .1 Perform NRC Daily Fire and Smoke Risk Hazard Assessment each day prior to commencement of roofing activities.
 - .2 Provide completed NRC Daily Fire and Smoke Risk Hazard Assessment to Departmental Representative every morning by email prior to commencement of roofing activities.
 - .3 Follow behind any torch activities with a thermal scanner periodically to identify any hot spots and rectify immediately. Interval for periodic thermal scanning to be approved on site with Departmental Representative.
 - .2 Any proposed changes to "Designated Roofing Marshall" must be reviewed and approved by Departmental Representative.

- .5 Store all combustible roofing materials at least 3m (10 feet) away from any structure.
- .6 Keep compressed gas cylinders a minimum of 6m (20 feet) away from the kettle, protected from mechanical damage and secured in an upright position.

.8 Welding / Grinding Operations

.1 Contractor to provide fire blankets, portable fume extraction devices, screens or similar equipment to prevent exposure to welding flash, or sparks from grinding.

.9 Fire Watch

- .1 Provide a fire watch for a minimum of one hour after the termination of any hot work operation.
- .2 For temporary heating, refer to General Instructions Section 00 010 00.
- .3 Equip fire watch personnel with fire extinguishers as required by article 2.6.

.10 Obstruction of access/egress routes-roadways, halls, doors, or elevators

- .1 Advise the Departmental Representative in advance of any work that would impede the response of Fire Department personnel and their apparatus. This includes violation of minimum overhead clearance, erection of barricades and the digging of trenches.
- .2 Building exit routes must not be obstructed in any way without special permission from the Departmental Representative, who will ensure that adequate alternative routes are maintained.
- .3 The Departmental Representative will advise the FPO of any obstruction that may warrant advanced planning and communication to ensure the safety of building occupants and the effectiveness of the Fire Department.

.11 Rubbish and Waste Materials

- .1 Keep rubbish and waste materials to a minimum and a minimum distance of 6m (20 feet) from any kettle or torches.
- .2 Do not burn rubbish on site.

.3 Rubbish Containers:

- .1 Consult with the Departmental Representative to determine an acceptable safe location for any containers and the arrangement of chutes etc. prior to bringing the containers on site.
- .2 Do not overfill the containers and keep area around the perimeter free and clear of any debris.

.4 Storage:

- .1 Exercise extreme care when storing combustible waste materials in work areas. Ensure maximum possible cleanliness, ventilation and that all safety standards are adhered to when storing any combustible materials.
- .2 Deposit greasy or oily rags or materials subject to spontaneous combustion in CSA or ULC approved receptacles and remove at the end of the work day or shift, or as directed.

.12 Flammable Liquids

- .1 The handling, storage and use of flammable liquids is governed by the current National Fire Code of Canada.
- .2 Flammable Liquids such as gasoline, kerosene and naphtha may be kept for ready use in quantities not exceeding 45 litres (10 imp gal), provided they are stored in approved safety cans bearing the ULC seal of approval and kept away from buildings, stockpiled combustible materials etc. Storage of quantities of flammable liquids exceeding 45 litres (10 imp gal) for work purposes, require the permission of the Departmental Representative.
- .3 Flammable liquids are not to be left on any roof areas after normal working hours.
- .4 Transfer of flammable liquids is prohibited within buildings.
- .5 Do not transfer flammable liquids in the vicinity of open flames or any type of heat producing device.
- Do not use flammable liquids having a flash point below 38°C (100°F) such as naphtha or gasoline as solvents or cleaning agents.
- .7 Store flammable waste liquids for disposal in approved container located in a safe, ventilated area. Waste flammable liquids are to be removed from the site on a regular basis.
- .8 Where flammable liquids, such as lacquers or urethane are used, ensure proper ventilation and eliminate all sources of ignition. Inform the Departmental Representative prior to, and at the cessation of such work.

3. **QUESTINONS OR CLARIFICATIONS**

.1 Direct any questions or clarification on Fire or General Safety, in addition to the above requirements, to the Departmental Representative.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 10 00 - General Instructions Ontario

1.2 ADMINISTRATIVE

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

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in Province of Ontario, Canada.

- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow 5 week days for Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .8 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.

- .9 After Departmental Representative's review, distribute copies.
- .10 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .11 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within [3] years of date of contract award for project.
- .13 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
- .14 Submit electronic copies of manufacturer's instructions for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .16 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .17 Delete information not applicable to project.
- .18 Supplement standard information to provide details applicable to project.
- .19 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .20 The review of shop drawings by National Research Council Canada (NRC) is for sole purpose of ascertaining conformance with general concept.

- .1 This review shall not mean that NRC approves detail design inherent in 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 requirements of construction and Contract Documents.
- .2 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 sub-trades.

1.4 SAMPLES

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's business address.
- .3 Notify Departmental Representative Engineer Consultant in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which 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 MOCK-UPS

- .1 Construct field mock-ups at locations acceptable to Departmental Representative.
- .2 Reviewed mock-ups will become standards of workmanship and material against which installed work will be checked on the project.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

Part 1 General

1.1 SUMMARY

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

1.2 RELATED REQUIREMENTS

- .1 Section 02 07 00 SITE WORK & DEMOLITION
- .2 Section 02 07 50 INTERIOR PROTECTION

1.3 REFERENCE STANDARDS

- .1 ASTM International (ASTM)
 - .1 ASTM E1609 01, Standard Guide for Development and Implementation of a Pollution Prevention Program
- .2 Canada Green Building Council (CaGBC)
 - .1 LEED Reference Guide for Building Design and Construction, Version 4

- .3 Recycling Certification Institute (RCI):
 - .1 RCI Certification Construction and Demolition Materials Recycling

1.4 **DEFINITIONS**

- .1 Clean Waste: Untreated and unpainted; not contaminated with oils, solvents, sealants or similar materials.
- .2 Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, re-modeling, repair and demolition operations.
- .3 Hazardous: Exhibiting the characteristics of hazardous substances including properties such as ignitability, corrosiveness, toxicity or reactivity.
- .4 Non-hazardous: Exhibiting none of the characteristics of hazardous substances, including properties such as ignitability, corrosiveness, toxicity, or reactivity.
- .5 Non-toxic: Not poisonous to humans either immediately or after a long period of exposure.
- Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- .7 Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- .8 Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form; recycling does not include burning, incinerating, or thermally destroying waste.
- .9 Return: To give back reusable items or unused products to vendors for credit.
- .10 Reuse: To reuse a construction waste material in some manner on the project site.
- .11 Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
- .12 Sediment: Soil and other debris that has been eroded and transported by storm or well production run off water.
- .13 Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- .14 Toxic: Poisonous to humans either immediately or after a long period of exposure.
- .15 Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

- .16 Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products over time through outgassing:
 - .1 Solvents in paints and other coatings;
 - .2 Wood preservatives; strippers and household cleaners;
 - .3 Adhesives in particleboard, fiberboard, and some plywood; and foam insulation.
 - .4 When released, VOC's can contribute to the formation of smog and can cause respiratory tract problems, headaches, eye irritations, nausea, damage to the liver, kidneys, and central nervous system, and possibly cancer.
- .17 Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.
- .18 Construction Waste Management Plan: A project related plan for the collection, transportation, and disposal of the waste generated at the construction site; the purpose of the plan is to ultimately reduce the amount of material being landfilled.

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination: Coordinate waste management requirements with all Divisions of the Work for the project, and ensure that requirements of the Construction Waste Management Plan are followed.
- .2 Preconstruction Meeting: Arrange a pre-construction meeting in accordance with Section 01 10 00 General Instructions before starting any Work of the Contract attended by the Owner, Contractor, affected Subcontractor's and Departmental Representative to discuss the Contractor's Construction Waste Management Plan and to develop mutual understanding of the requirements for a consistent policy towards waste reduction and recycling.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide required information in accordance with Section 01 10 00 General Instructions.
- .2 Action Submittals: Provide the following submittals before starting any work of this Section:
 - Draft Construction Waste Management Plan (Draft CWM Plan): Submit to
 Departmental Representative a preliminary analysis of anticipated site generated waste
 by listing a minimum of five (5) construction or demolition waste streams that have
 potential to generate the most volume of material indicating methods that will be used
 to divert construction waste from landfill and source reduction strategies; Departmental
 Representative will provide commentary before development of Contractor's
 Construction Waste Management Plan.
 - .2 Construction Waste Management Plan (CWM Plan): Submit a CWM Plan for this project prior to any waste removal from site and that includes the following information:
 - .1 Material Streams: Analysis of the proposed jobsite waste being generated, including material types and quantities forming a part of identified material streams in the Draft CWM Plan; materials removed from site destined for

- alternative daily cover at landfill sites and land clearing debris cannot be considered as contributing to waste diversion and will be included as a component of the total waste generated for the site.
- .2 Recycling Haulers and Markets: Investigate local haulers and markets for recyclable materials, and incorporate into CWM Plan.
- .3 Alternative Waste Disposal: Prepare a listing of each material proposed to be salvaged, reused, recycled or composted during the course of the project, and the proposed local market for each material.
- .4 Landfill Materials: Identify materials that cannot be recycled, reused or composted and provide explanation or justification; energy will be considered as a viable alternative diversion strategy for these materials where facilities exist and are operated in accordance with LEED Construction and Demolition Waste Management requirements.
- .5 Landfill Options: The name of the landfill where trash will be disposed of; landfill materials will form a part of the total waste generated by the project.
- .6 Materials Handling Procedures: A description of the means by which any recycled waste materials will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.
- .7 Transportation: A description of the means of transportation of the recyclable materials, whether materials will be site separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site, and destination of materials.

1.7 PROJECT CLOSEOUT SUBMISSIONS

- .1 Record Documentation: Submit as constructed information in accordance with Section 01 10 00 General Instructions as follows:
 - .1 Construction Waste Management Report (CWM Report): Submit a CWM Report for this project in a format that includes the following information:
 - .1 Accounting: Submit information indicating total waste produced by the project.
 - .2 Composition: Submit information indicating types of waste material and quantity of each material.
 - .3 Diversion Rate: Submit information indicating total waste diverted from landfill as a percentage of the total waste produced by the project.
 - .4 Transportation Documentation and Diversion Documentation: Submit copies of transportation documents or shipping manifests indicating weights of materials, and other evidence of disposal indicating final location of waste diverted from landfill and waste sent to landfill.
 - .5 Multiple Waste Hauling: Compile all information into a single CWM Report where multiple waste hauling and diversion strategies were used for the project.

1.8 QUALITY ASSURANCE

- .1 Resources for Development of Construction Waste Management Report (CWM Report): The following sources may be useful in developing the Draft Construction Waste Management Plan:
 - .1 Recycling Haulers and Markets: Investigate local haulers and markets for recyclable materials, and incorporate into CWM Plan.
 - .2 Waste-to-Energy Systems: Investigate local waste-to-energy incentives where systems for diverting materials from landfill for reuse or recycling are not available.
 - .3 Municipal Garbage & Recycling Waste Websites:
 - .1 Ontario
 - .1 National Capital Region (City of Ottawa)
 https://app06.ottawa.ca/cgi-bin/search/recycle/q.pl?q=&lang=en

1.9 DELIVERY, STORAGE AND HANDLING

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 OBJECTIVE

.1 The Federal Sustainable Development Strategy (FSDS) presents the Government of Canada's sustainable development goals and targets, as required by the *Federal Sustainable Development Act*. In keeping with the purpose of this Act – to provide the legal framework for developing and implementing a Federal Sustainable Development Strategy that will make environmental decision-making more transparent and accountable to Parliament – National Research Council (NRC) supports the goals laid out in the FSDS through the activities described in our

Departmental Sustainable Development Strategy (DSDS). NRC's DSDS waste management target is as follows:

- .1 Divert at least 90% (by weight) of all construction and demolition waste from landfills (striving to achieve 100% by 2030).
- .2 Project Waste Diversion Target: 75%.

3.2 (CWM PLAN) IMPLEMENTATION

- .1 Manager: Contractor is responsible for designating an on-site party or parties responsible for instructing workers and overseeing and documenting results of the CWM Plan for the project.
- .2 Distribution: Distribute copies of the CWM Plan to the job site foreman, each Subcontractor, the Owner, the Departmental Representative and other site personnel as required to maintain CWM Plan.
- .3 Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, composting and return methods being used for the project to Subcontractor's at appropriate stages of the project.
- .4 Separation Facilities: Lay out and label a specific area to facilitate separation of materials for potential recycling, salvage, reuse, composting and return:
 - .1 Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.
 - .2 Hazardous wastes shall be separated, stored, and disposed of in accordance with local regulations.
- .5 Progressive Documentation: Submit a monthly summary of waste generated by the project to ensure that waste diversion goals are on track with project requirements:
 - .1 Submission of waste summary can coincide with application for progress payment, or similar milestone event as agreed upon between the Contractor and Departmental Representative.
 - .2 Monthly waste summary shall contain the following information:
 - .1 The amount in tonnes or m3 and location of material landfilled;
 - .2 The amount in tonnes or m3 and location of materials diverted from landfill; and
 - .3 Indication of progress based on total waste generated by the project with materials diverted from landfill as a percentage.

3.3 SUBCONTRACTOR'S RESPONSIBILITY

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

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3.4 CONSTRUCTION WASTE MANAGEMENT FORMS

- .1 Departmental Representative will provide Contractor will NRC Waste Management and Disposal Tracking Forms (sample provided below) for recording management of construction waste.
- .2 Contractor shall utilize these forms for all waste management and disposal tracking for the duration of the project, and is responsible for maintaining current up to date records at all times during construction.
- .3 Contractor is responsible to ensure all waste management tracking forms, weigh-bills, donation receipts, and summary information are incorporated into Operational and Maintenance Manuals upon construction completion in accordance with 01 10 00 General Instructions.

[INSERT WASTE MANAGEMENT FORMS]

END OF SECTION

WASTE AUDIT worksheet for NRC Construction, Renovation and Demolition Projects

Worksheet for:	Total Inventory	Specific Stage	Individual Floor	
Create one worksheet for the entire project or multiple worksheets for each stage of the project, or per floor (where needed). Mark each worksheet accordinalv	V			
Project Name				
Project Type (Construction, Renovation or Demolition)				
Area (sq. m)				
Site Address				
Contact Person & Telephone				
Date				

For Project Planning Purposes (i.e. number of bins required)

* Add or delete materials as p	proje	ct requ	uires
--------------------------------	-------	---------	-------

* Add or delete materials as project requires								bins required)
WASTE CATEGORY AND MATERIAL TYPE	Units	Total Units	Weight (kg) per unit of measurement	Estimated Weight (Metric Tonnes)	Potential Reuse (Metric Tonnes)	Potential Recycle (Metric Tonnes)	Potential Landfill (Metric Tonnes)	Volume (cubic yards)
Masonry and Pavement								
Asphalt (cu. m.)	cu. m.		2400.00	0.00				
Concrete (walls, floors, stairs)	cu. m.		2400.00	0.00				
Brick, block, etc.	cu. m.		1840.00	0.00				
Stone (foundation)	cu. m.		1473.80	0.00				
Glass masonry	cu. m.			0.00				
Marble	cu. m.		2563.00	0.00				
Granite	cu. m.		2750.00	0.00				
Clay tile	cu. m.			0.00				
Other	cu. m.			0.00				
			TOTAL	0.00	0.00	0.00	0.00	0
Walls and Ceilings								
Drywall (12.5 mm)	sq. m.		9.74	0.00				
Drywall (19 mm)	sq. m.		12.25	0.00				
Cellulose insulation	sq. m.		6.41	0.00				
Fiberglass insulation	sq. m.		6.41	0.00				
Solid SM insulation	sq. m.		11.54	0.00				
Ceiling tile (19 mm standard)	sq. m.		6.82	0.00				
Glass (5 - 6 mm)	sq. m.			0.00				
Acoustic composite (ceilings, walls)	sq. m.		0.30	0.00				
Other	sq. m.			0.00				
			TOTAL	0.00	0.00	0.00	0.00	0
Metal								
Steel (structural, stairs, fabrications, joists, deck, siding)	weight		600.00	0.00				
Aluminum (structural, siding)			2700.00	0.00				
Light Metal				0.00				
Studs	lm. of wall			0.00				
Ceiling grid	sq. m.		1.41	0.00				
Steel mesh				0.00				
Miscellaneous				0.00				
Other				0.00				
			TOTAL	0.00	0.00	0.00	0.00	0
Mechanical								
HVAC								
Solid ducts	weight		26238.00	0.00				
Flex ducts	weight		5180.00	0.00				
Metal diffuser (600 X600)	each			0.00				
Light diffuser (boot only)	each			0.00				
Plastic grilles (600 X 600)	each			0.00				
VAV boxes	weight			0.00				
Heat coils	weight			0.00				
A/C units	weight		90.00	0.00				
			TOTAL	0.00	0.00	0.00	0.00	0
Plumbing								
Copper piping (12.5 to 19mm)	lin. m.		1833.30	0.00				
Steel piping (38 to 50mm)	lin. m.		220.00	0.00				
Plastic piping (38 to 50mm)	lin. m.			0.00				-
			TOTAL	0.00	0.00	0.00	0.00	0
Fixtures								
						·		

					_			
Sinks (ceramic/porcelain)	each		10.00	0.00				
Sinks (metal)	each		10.00	0.00				
Faucets	each			0.00				
Water Closet	each		46.00	0.00				
Urinals (wall hung)	each		29.00	0.00				
			TOTAL	0.00	0.00	0.00	0.00	0
Other								
			TOTAL	0.00	0.00	0.00	0.00	0
			TOTAL	0.00	0.00	0.00	0.00	•
Windows and Doors								
Doors								+
		-	20.00	0.00				
Wood (solid or hollow core)	each	-		0.00				
Metal (hollow metal)	each		30.00	0.00				
Garage	each		135.00	0.00				
Frame (wood)	each		23.33	0.00				
Frame (metal)	each		2.33	0.00				
Windows				0.00				
Wood frame	each		216.36	0.00				
Plastic frame	each		125.10	0.00				
Aluminum frame	each		216.67	0.00	Ī			
Door Hardware		1		0.00	1			
Locksets	each		2.50	0.00	 			
Hinges, plates, stops, etc.	each	1	2.50	0.00	1			
		 	2.50	0.00	1			
Other (closers, operators, etc.)	each	ļ	2.50		\			
Other				0.00				
			TOTAL	0.00	0.00	0.00	0.00	0
Wood								
Rough (crating, timber, etc.)	weight			0.00				
Dimension (3 m studs)	each		2.83	0.00				
Plywood (17mm)	sq. m.		0.08	0.00				
Hardwood (floor)	sq. m.		0.02	0.00				
Other			***-	0.00				
Culci			TOTAL	0.00	0.00	0.00	0.00	0
Millwork and Finish Carpentry			TOTAL	0.00	0.00	0.00	0.00	0
Baseboards and casing (50 mm ht.)	each			0.00				+
		-	44.10					
Lower cabinets (c/w doors)	each		44.10	0.00				
Upper cabinets (c/w doors)	each			0.00				
Counters (9' sections)	each		45.65	0.00				
Other				0.00				
			TOTAL	0.00	0.00	0.00	0.00	0
Flooring								
Carpet (roll)	sq. m.		2.44	0.00				
Carpet tile	sq. m.		2.98	0.00				
Sheet vinyl and linoleum	sq. m.		2.98	0.00				
Rubber cove or carpet base	lin. m.		0.52	0.00				
Terrazzo - 25 mm	sq. m.	 	0.02	0.00	1			
Ceramic Tiles		1	0.02	0.00	1			
	sq. m.	 	V.Z I		1			
Other			TOTAL	0.00	0.00	0.00	0.00	
			TOTAL	0.00	0.00	0.00	0.00	0
Electrical								
Wiring								
Data	weight			0.00				
Electrical (aluminum, copper, iron, etc)	weight			0.00				
Junction and outlet boxes (standard)	each		3800.00	0.00				
Cover plates	each			0.00	1			
Electrical panels	weight	1		0.00	1			
Conduit (25 mm)	lin. m.			0.00	 			
Conduit (50 mm)	lin. m.	 		0.00	1			
Sondak (SO IIIII)	m 1. 111.		TOTAL	0.00	0.00	0.00	0.00	
Linksina			TOTAL	0.00	0.00	0.00	0.00	0
Lighting			0.00	0.22	1			
Fluorescent fixture (600 X 1200)	each		0.82	0.00	ļ			
Fluorescent fixture (300 X 1200)	each		80.0	0.00				
Ballast	each		4432.00	0.00				
Lamps	each			0.00				
Complete fixture (600 X 1200)	each			0.00				
Complete fixture (300 X 1200)	each			0.00	1			
Emergency battery lights	each	İ	6.66	0.00	1			
Exit lights	each		1.00	0.00				†
	54011							

Monitoring (enthine), entition, (c) each 900.00 0.	Fire helle/elerme	anah		0.00	T			I
Color	Fire bells/alarms	each	600.00					
TOTAL 0.00	Wilcella leous (Switches, Serisors, etc.)	eacri			0.00	0.00	0.00	0
Noting	Other		TOTAL	0.00	0.00	0.00	0.00	0
Southing	other		TOTAL	0.00	0.00	0.00	0.00	0
Surples Sept 1972			TOTAL	0.00	0.00	0.00	0.00	0
Storples Seg m. 10.72 0.00	D C							
Trick								
Section Sect								
Waterproof EPPM			616.76		.			
Waterpoor PVC	Copper				.			
Tay and grower Sep. m. 698.85 0.00	Waterproof EDPM		796.67		.			
Other Sq. m. TOTAL 0.00 0.0					.			
TOTAL 0.00			608.85					
Specialized Equipment Seach Seac	Other	sq. m.						
Office Furnishings each			TOTAL	0.00	0.00	0.00	0.00	0
Furnique (vontestations and charin)								
Sheking								
Bullain and white boards Bullaing Furnishings S		each						
Bulding Furnishings		each						
Window Coverings folling shutters, blinds) each	Bulletin and white boards	each						
Signs								
Lockers	Window Coverings (rolling shutters, blinds)	each						
Metal partition (foller)	Signs	each						
Plastic partition (totlet) each	Lockers	each						
Stud-type partition (demountable) each	Metal partition (toilet)	each						
Stud-type partition (demountable) each	Plastic partition (toilet)	each						
Specialized Equipment each								
Food service equipment					1			
Parking control equipment each		each			1			
Waste/cleaning equipment each					†			
Refrigeration equipment					1			
Lifs	Refrigeration equipment				†			
Elevators					†			
Escalators each								
Dumbwaiters								
Communications								
Telecom raceways/cables					+			
Terminals and connectors								
Other each TOTAL 0.00 0.00 0.00 Packaging weight 60.00 0.00								
TOTAL 0.00								
Packaging weight 60.00 0.00	Culti	Cuon	TOTAL	0.00	0.00	0.00	0.00	0
Cardboard Packaging weight 60.00 0.00 <td>Packaging</td> <td></td> <td>101712</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0</td>	Packaging		101712	0.00	0.00	0.00	0.00	0
Plastic packaging weight 0.00 </td <td></td> <td>weight</td> <td>60.00</td> <td>0.00</td> <td>+</td> <td> </td> <td> </td> <td></td>		weight	60.00	0.00	+	 	 	
Other 0.00			00.00		+			
TOTAL 0.00 0.00 0.00 0.00 0.00		Weigitt			+			
Other	Outo		TOTAL		0.00	0.00	0.00	
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	Other		TOTAL	0.00	0.00	0.00	0.00	0
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	Outer	+		0.00	+			
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	·	+			+			
0.00 0.00 TOTAL 0.00 0.00 0.00 0.00		+	+		+			
0.00 TOTAL 0.00 0.00 0.00 0.00	·	+			+			
TOTAL 0.00 0.00 0.00 0.00					+			
			TOTAL		0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0	
	1		TOTAL	0.00	0.00	0.00	0.00	l o

NRC Construction, Renovation and Demolition PRE-WASTE AUDIT SUMMARY

Project Name	0
Project Type (Construction, Renovation or Demolition)	0
Area (sq. m)	0
Site Address	0
Contact Person & Telephone	0
Date	

	Waste Audit Summary						
WASTE CATECORY	Estimated Quantity Generated	Poten	Potential				
WASTE CATEGORY	(Metric Tonnes)	Reuse	Recycle	Landfill	Diversion Rate		
Masonry and Pavement	0.00	0.00	0.00	0.00	#DIV/0!		
Walls and Ceilings	0.00	0.00	0.00	0.00	#DIV/0!		
Metal	0.00	0.00	0.00	0.00	#DIV/0!		
Mechanical:							
HVAC	0.00	0.00	0.00	0.00	#DIV/0!		
Plumbing	0.00	0.00	0.00	0.00	#DIV/0!		
Fixtures	0.00	0.00	0.00	0.00	#DIV/0!		
Other	0.00	0.00	0.00	0.00	#DIV/0!		
Windows and Doors	0.00	0.00	0.00	0.00	#DIV/0!		
Wood	0.00	0.00	0.00	0.00	#DIV/0!		
Millwork and Finish Carpentry	0.00	0.00	0.00	0.00	#DIV/0!		
Flooring	0.00	0.00	0.00	0.00	#DIV/0!		
Electrical:				0.00	#DIV/0!		
Wiring	0.00	0.00	0.00				
Lighting	0.00	0.00	0.00	0.00	#DIV/0!		
Other	0.00	0.00	0.00	0.00	#DIV/0!		
Roofing	0.00	0.00	0.00	0.00	#DIV/0!		
Specialties & Miscellaneous	0.00	0.00	0.00	0.00	#DIV/0!		
Packaging	0.00	0.00	0.00	0.00	#DIV/0!		
Other	0.00	0.00	0.00	0.00	#DIV/0!		
TOTALS	0.00	0.00	0.00	0.00	#DIV/0!		

NRC Construction, Renovation and Demolition WASTE REDUCTION WORK PLAN

Project Name	0
Project Type (Construction, Renovation or Demolition)	0
Area (sq. m)	0
Site Address	0
Contact Person & Telephone	0
Date	

WASTE CATEGORY AND MATERIAL	Estimated Quantity	Proposed Action to Reduce, Reuse or Recycle Material	Projected Quantity (Metric Tonnes)			
WASTE CATEGORT AND MATERIAL	(Metric Tonnes)	(including end-destination)	Reuse	Recycle	Landfill	
Masonry and Pavement						
Asphalt (cu. m.)	0.00				0.00	
Concrete (walls, floors, stairs)	0.00				0.00	
Brick, block, etc.	0.00				0.00	
Stone (foundation)	0.00				0.00	
Glass masonry	0.00				0.00	
Marble	0.00				0.00	
Granite	0.00				0.00	
Clay tile	0.00				0.00	
Other	0.00				0.00	
Walls and Ceilings						
Drywall (12.5 mm)	0.00				0.00	
Drywall (19 mm)	0.00				0.00	
Cellulose insulation	0.00				0.00	
Fiberglass insulation	0.00				0.00	
Solid SM insulation	0.00				0.00	
Ceiling tile (19 mm standard)	0.00				0.00	
Glass (5 - 6 mm)	0.00				0.00	
Acoustic composite (ceilings, walls)	0.00				0.00	
Other	0.00				0.00	
					0.00	
Windows and Doors						
Doors						
Wood (solid or hollow core)	0.00				0.00	
Metal (hollow metal)	0.00				0.00	
Garage	0.00				0.00	
Windows	0.00				0.00	
Wood frame	0.00				0.00	
Plastic frame	0.00				0.00	
Aluminum frame	0.00				0.00	
Door Hardware	0.00				0.00	
Locksets	0.00				0.00	
Hinges, plates, stops, etc.	0.00				0.00	
Other (closers, operators, etc.)	0.00				0.00	
Other	0.00				0.00	
Other	0.00				0.00	
Wood						
Rough (crating, timber, etc.)	0.00		 	†	0.00	
Dimension (3 m studs)	0.00		 	1	0.00	
Plywood (17mm)	0.00		 	†	0.00	
Hardwood (floor)	0.00		 	†	0.00	
Other	0.00		 	1	0.00	
Othor	0.00				0.00	
Millwork and Finish Carpentry						
Baseboards and casing (50 mm ht.)	0.00		 	+	0.00	
Lower cabinets (c/w doors)	0.00		 	+	0.00	
Lower cabinets (c/w doors) Upper cabinets (c/w doors)	0.00			+	0.00	
	0.00		 	1		
Counters			 		0.00	
Other	0.00				0.00	

Carpet (roll) 0.00 0.00 Carpet tile 0.00 0.00 Sheet vinyl and linoleum 0.00 0.00 Rubber cove or carpet base 0.00 0.00 Ferrazzo - 25 mm 0.00 0.00 Ceramic Tiles 0.00 0.00 Other 0.00 0.00	I=	_			
Commercial Commercia	Flooring				
Description					
Number of carpet base 0.00					
Terranza 25 mm					
Centrol Files					
Comparison					
	Ceramic Tiles				
Silver (Structural, Stains, Tablecations, Joeks, deck, skings)	Other	0.00			0.00
Silver (Structural, Stains, Tablecations, Joeks, deck, skings)					
Summar (seroctural, siding)	Metal				
Summar (seroctural, siding)	Steel (structural, stairs, fabrications, joists, deck, siding)	0.00			0.00
1,9th Metal 0.00					
Stude 0.00					
Celling grid					
Mechanical					
Mechanical					
Mechanical					
NAC	Other	0.00			0.00
NAC	Machaniael				
Solid ducts					
Flex outs					0.55
Metal diffuser 0.00					
Light diffuser (boot only)					
Pisatic grilles 0.00 0.0					
VAV boxes 0.00 0.					
Heat coils					
AC units, fan coil units, exhaust fans 0.00 Copper piping (12.5 to 19mm) 0.00 Copper piping (13.6 to 19mm) 0.00 Plastic piping (38 to 50mm) 0.00 Plastic piping (38 to 50mm) 0.00 Sirks (ceramic/porcelain) 0.00 Sirks (ceramic/porcelain) 0.00 Sirks (ceramic/porcelain) 0.00 Water Closel 0.00 Uninals (wail hung) 0.00 Uninals (wail (wail hung) 0.00 Uninals (wail hung) 0.00 Uninals (wail (VAV boxes	0.00			0.00
Plumbing	Heat coils	0.00			0.00
Plumbing	A/C units, fan coil units, exhaust fans	0.00			0.00
Copper piping (12.5 to 19mm) 0.00 0.00 0.00 Plastic piping (38 to 50mm) 0.00 0.00 Plastic piping (38 to 50mm) 0.00 0.00 Sinks (ceramic/porcelain) 0.00 0.00 Sinks (ceramic/porcelain) 0.00 0.00 0.00 Sinks (ceramic/porcelain) 0.00 0.00 0.00 Faucels 0.00 0.00 0.00 0.00 Water Closet 0.00 0.00 0.00 0.00 Urinais (walf hung) 0.00 0.00 0.00 0.00 Urinais (walf hung) 0.00 0.00 0.00 0.00 Urinais (walf hung) 0.00 0.00 0.00 0.00 Slectrical 0.00 0.00 0.00 0.00 0.00 Slectrical 0.00 0.00 0.00 0.00 0.00 Slectrical 0.00 0.00 0.00 0.00 0.00 0.00 Slectrical 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Slectrical 0.00 0.0		0.00			0.00
Steel piping (38 to 50mm) 0.00 0.00 0.00 Plastice piping (38 to 50mm) 0.00 0.00 Plastice piping (38 to 50mm) 0.00 0.00 Sinks (ersamic/porcelain) 0.00 0.00 Sinks (metal) 0.00 0.00 Faucels 0.00 0.00 Water Closet 0.00 0.00 Urinais (wall hung) 0.00 0.00 Electrical (aluminum, copper, iron, etc) 0.00 0.00 Electrical (aluminum, copper, iron, etc) 0.00 0.00 Electrical panels 0.00 0.00 0.00 Covor plates 0.00 0.00 0.00 Conduit (25 mm) 0.00 0.00 Conduit (25 mm) 0.00 0.00 Fluorescent fixture (800 X 1200) 0.00 Fluorescent fixture (800 X 1200) 0.00 Complete fixture (800 X 1200) 0.00 Emergency battery lights 0.00 Fite belis/alarms 0.00 Mining 0.00 0.00 Fite belis/alarms 0.00 Mining 0.00 0.00 Fite belis/alarms 0.00 0.00 Mining 0.00 0.00 Fite belis/alarms 0.00 0.00 Fite					
Plastic piping (38 to 50mm) 0.00 0.00 0.00					
Sinks (ceramic/porcelain)					
Sinks (ceramic(porcelain) 0.00 0.00 0.00 0.00					
Sinks (metal) 0.00					
Faucis 0.00					
Water Closet					
Unitals (wall hung)					
Deter (drinking water fountain, insulation) 0.00 0.00					
Electrical					
Data	Other (drinking water fountain, insulation)	0.00			0.00
Data					
Data 0.00 Electrical (aluminum, copper, iron, etc) 0.00 Junction and outlet boxes (standard) 0.00 Cover plates 0.00 Electrical panels 0.00 Conduit (25 mm) 0.00 Conduit (50 mm) 0.00 Conduit (50 mm) 0.00 ighting 0.00 Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (600 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (600 X 1200) 0.00 Emergency battery lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Electrical (aluminum, copper, iron, etc)		<u> </u>			
Junction and outlet boxes (standard) 0.00 Cover plates 0.00 Electrical panels 0.00 Conduit (25 mm) 0.00 Conduit (50 mm) 0.00 Lighting 0.00 Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
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Electrical panels	Junction and outlet boxes (standard)				
Conduit (25 mm) 0.00 Conduit (50 mm) 0.00 .ighting Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
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Complete fixture (600 X 1200) Complete fixture (600 X 1200) Complete fixture (300 X 1200		0.00		İ	0.00
Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00		0.00			0.00
Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
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Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00			}		
Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00 0.00 0.00				+	
Fire bells/alarms 0.00 0.00 Micellaneous (switches, sensors, etc.) 0.00 0.00					
Micellaneous (switches, sensors, etc.) 0.00 0.00					
Other 0.00 0.00					
	Otner	0.00			0.00

Roofing				
Shingles - asphalt	0.00			0.00
Tin	0.00			0.00
Waterproof EDPM	0.00			0.00
Waterproof PVC	0.00			0.00
Tar and gravel	0.00			0.00
Other	0.00			0.00
Guioi	0.00			0.00
Specialties & Miscellaneous				
Office Furnishings	0.00			0.00
Furniture (workstations and chairs)	0.00			0.00
Shelving & Filing Cabinets	0.00			0.00
Bulletin and white boards	0.00			0.00
Building Furnishings	0.00			0.00
Window Coverings (rolling shutters, blinds)	0.00			0.00
Signs	0.00			0.00
Lockers	0.00			0.00
Metal partition (toilet)	0.00			0.00
Plastic partition (toilet)	0.00			0.00
Stud-type partition (demountable)	0.00			0.00
Specilaized Equipment	0.00			0.00
Food service equipment	0.00			0.00
Parking control equipment	0.00			0.00
Waste/cleaning equipment	0.00			0.00
Refrigeration equipment	0.00			0.00
Lifts	0.00			0.00
Elevators	0.00			0.00
Escalators	0.00			0.00
Dumbwaiters	0.00			0.00
Communications	0.00			0.00
Telecom raceways/cables	0.00			0.00
Terminals and connectors	0.00			0.00
Other	0.00			0.00
Packaging County of Packaging	0.00			0.00
Cardboard Packaging	0.00			0.00
Plastic packaging	0.00			0.00
Other	0.00			0.00
Other				
Other	0.00			0.00
	0.00			0.00
	0.00			0.00
	0.00			0.00
	0.00			0.00
	0.00			0.00
				0.00
Total	0.00	0.00	0.00	0.00

NRC Construction, Renovation and Demolition WASTE REDUCTION WORK PLAN

Project Name	0
Project Type (Construction, Renovation or Demolition)	0
Area (sq. m)	0
Site Address	0
Contact Person & Telephone	0
Date	

WASTE CATEGORY AND MATERIAL	Estimated Quantity	Proposed Action to Reduce, Reuse or Recycle Material	Projected Quantity (Metric Tonnes)			
WASTE CATEGORT AND MATERIAL	(Metric Tonnes)	(including end-destination)	Reuse	Recycle	Landfill	
Masonry and Pavement						
Asphalt (cu. m.)	0.00				0.00	
Concrete (walls, floors, stairs)	0.00				0.00	
Brick, block, etc.	0.00				0.00	
Stone (foundation)	0.00				0.00	
Glass masonry	0.00				0.00	
Marble	0.00				0.00	
Granite	0.00				0.00	
Clay tile	0.00				0.00	
Other	0.00				0.00	
Walls and Ceilings						
Drywall (12.5 mm)	0.00				0.00	
Drywall (19 mm)	0.00				0.00	
Cellulose insulation	0.00				0.00	
Fiberglass insulation	0.00				0.00	
Solid SM insulation	0.00				0.00	
Ceiling tile (19 mm standard)	0.00				0.00	
Glass (5 - 6 mm)	0.00				0.00	
Acoustic composite (ceilings, walls)	0.00				0.00	
Other	0.00				0.00	
					0.00	
Windows and Doors						
Doors						
Wood (solid or hollow core)	0.00				0.00	
Metal (hollow metal)	0.00				0.00	
Garage	0.00				0.00	
Windows	0.00				0.00	
Wood frame	0.00				0.00	
Plastic frame	0.00				0.00	
Aluminum frame	0.00				0.00	
Door Hardware	0.00				0.00	
Locksets	0.00				0.00	
Hinges, plates, stops, etc.	0.00				0.00	
Other (closers, operators, etc.)	0.00				0.00	
Other	0.00				0.00	
Other	0.00				0.00	
Wood						
Rough (crating, timber, etc.)	0.00		 	†	0.00	
Dimension (3 m studs)	0.00		 	1	0.00	
Plywood (17mm)	0.00		 	†	0.00	
Hardwood (floor)	0.00		 	†	0.00	
Other	0.00		 	1	0.00	
Othor	0.00				0.00	
Millwork and Finish Carpentry						
Baseboards and casing (50 mm ht.)	0.00		 	+	0.00	
Lower cabinets (c/w doors)	0.00		 	+	0.00	
Lower cabinets (c/w doors) Upper cabinets (c/w doors)	0.00			+	0.00	
	0.00		 	1		
Counters			 		0.00	
Other	0.00				0.00	

Carpet (roll) 0.00 0.00 Carpet tile 0.00 0.00 Sheet vinyl and linoleum 0.00 0.00 Rubber cove or carpet base 0.00 0.00 Ferrazzo - 25 mm 0.00 0.00 Ceramic Tiles 0.00 0.00 Other 0.00 0.00	I=	_			
Commercial Commercia	Flooring				
Description Description					
Number of carpet base 0.00					
Terranza 25 mm					
Centrol Files					
Comparison					
	Ceramic Tiles				
Silver (Structural, Stains, Tablecations, Joeks, deck, skings)	Other	0.00			0.00
Silver (Structural, Stains, Tablecations, Joeks, deck, skings)					
Summar (seroctural, siding)	Metal				
Summar (seroctural, siding)	Steel (structural, stairs, fabrications, joists, deck, siding)	0.00			0.00
1,9th Metal 0.00					
Stude 0.00					
Celling grid					
Mechanical					
Mechanical					
Mechanical					
NAC	Other	0.00			0.00
NAC	Machaniael				
Solid ducts					
Flex outs					0.55
Metal diffuser 0.00					
Light diffuser (boot only)					
Pisatic grilles 0.00 0.0					
VAV boxes 0.00 0.					
Heat coils					
AC units, fan coil units, exhaust fans 0.00 Copper piping (12.5 to 19mm) 0.00 Copper piping (13.6 to 19mm) 0.00 Plastic piping (38 to 50mm) 0.00 Plastic piping (38 to 50mm) 0.00 Sirks (ceramic/porcelain) 0.00 Sirks (ceramic/porcelain) 0.00 Sirks (ceramic/porcelain) 0.00 Water Closel 0.00 Uninals (wail hung) 0.00 Uninals (wail (wail hung) 0.00 Uninals (wail (wail hung) 0.00 Uninals (wail (wail (wail on hung) 0.00 Uninals (wail (wail (wail on hung) 0.00 Uninals (wail (wail on hung) 0.00 Uninals (wail (wail on hung) 0.00 Uninals (wail (wail on hung) 0.00 Uninals (wail (wail on hung) 0.00 Uninals (wail (wail on hung) 0.00 Uninals (wail (wail on hung) 0.00 Uninals (wail hung) 0.00 Uninals (wail	VAV boxes	0.00			0.00
Plumbing	Heat coils	0.00			0.00
Plumbing	A/C units, fan coil units, exhaust fans	0.00			0.00
Copper piping (12.5 to 19mm) 0.00 0.00 0.00 Plastic piping (38 to 50mm) 0.00 0.00 Plastic piping (38 to 50mm) 0.00 0.00 Sinks (ceramic/porcelain) 0.00 0.00 Sinks (ceramic/porcelain) 0.00 0.00 0.00 Sinks (ceramic/porcelain) 0.00 0.00 0.00 Faucels 0.00 0.00 0.00 0.00 Water Closet 0.00 0.00 0.00 0.00 Urinais (walf hung) 0.00 0.00 0.00 0.00 Urinais (walf hung) 0.00 0.00 0.00 0.00 Urinais (walf hung) 0.00 0.00 0.00 0.00 Slectrical 0.00 0.00 0.00 0.00 0.00 Slectrical 0.00 0.00 0.00 0.00 0.00 Slectrical 0.00 0.00 0.00 0.00 0.00 0.00 Slectrical 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Slectrical 0.00 0.0		0.00			0.00
Steel piping (38 to 50mm) 0.00 0.00 0.00 Plastice piping (38 to 50mm) 0.00 0.00 Plastice piping (38 to 50mm) 0.00 0.00 Sinks (ersamic/porcelain) 0.00 0.00 Sinks (metal) 0.00 0.00 Faucels 0.00 0.00 Water Closet 0.00 0.00 Urinais (wall hung) 0.00 0.00 Electrical (aluminum, copper, iron, etc) 0.00 0.00 Electrical (aluminum, copper, iron, etc) 0.00 0.00 Electrical panels 0.00 0.00 0.00 Covor plates 0.00 0.00 0.00 Conduit (25 mm) 0.00 0.00 Conduit (25 mm) 0.00 0.00 Fluorescent fixture (800 X 1200) 0.00 Fluorescent fixture (800 X 1200) 0.00 Complete fixture (800 X 1200) 0.00 Complete fixture (800 X 1200) 0.00 Complete fixture (800 X 1200) 0.00 Complete fixture (800 X 1200) 0.00 Complete fixture (800 X 1200) 0.00 Complete fixture (800 X 1200) 0.00 Complete fixture (800 X 1200) 0.00 Emergency battery lights 0.00 Fite belis/alarms 0.00 Mining 0.00 0.00 Fite belis/alarms 0.00 Mining 0.00 0.00 Fite belis/alarms 0.00 0.00 Mining 0.00 0.00 Fite belis/alarms 0.00 0.00 Fite					
Plastic piping (38 to 50mm) 0.00 0.00 0.00					
Sinks (ceramic/porcelain)					
Sinks (ceramic(porcelain) 0.00 0.00 0.00 0.00					
Sinks (metal) 0.00					
Faucis 0.00					
Water Closet					
Unitals (wall hung)					
Deter (drinking water fountain, insulation) 0.00 0.00					
Electrical					
Data Data	Other (drinking water fountain, insulation)	0.00			0.00
Data Data					
Data 0.00 Electrical (aluminum, copper, iron, etc) 0.00 Junction and outlet boxes (standard) 0.00 Cover plates 0.00 Electrical panels 0.00 Conduit (25 mm) 0.00 Conduit (50 mm) 0.00 Conduit (50 mm) 0.00 ighting 0.00 Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (600 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (600 X 1200) 0.00 Emergency battery lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Electrical (aluminum, copper, iron, etc)		<u> </u>			
Junction and outlet boxes (standard) 0.00 Cover plates 0.00 Electrical panels 0.00 Conduit (25 mm) 0.00 Conduit (50 mm) 0.00 Lighting 0.00 Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Junction and outlet boxes (standard) 0.00 Cover plates 0.00 Electrical panels 0.00 Conduit (25 mm) 0.00 Conduit (50 mm) 0.00 Lighting 0.00 Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00	Electrical (aluminum, copper, iron, etc)				
Electrical panels	Junction and outlet boxes (standard)				
Conduit (25 mm) 0.00 Conduit (50 mm) 0.00 .ighting Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Conduit (50 mm) 0.00 .ighting 0.00 Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Conduit (50 mm) 0.00 .ighting 0.00 Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Complete fixture (600 X 1200) Complete fixture (600 X 1200) Complete fixture (300 X 1200		0.00		İ	0.00
Fluorescent fixture (600 X 1200) 0.00 Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Fluorescent fixture (300 X 1200) 0.00 Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00		0.00			0.00
Ballast 0.00 Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Lamps 0.00 Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Complete fixture (600 X 1200) 0.00 Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Complete fixture (300 X 1200) 0.00 Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00					
Emergency battery lights 0.00 Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00			}		
Exit lights 0.00 Fire bells/alarms 0.00 Micellaneous (switches, sensors, etc.) 0.00 0.00 0.00				 	
Fire bells/alarms 0.00 0.00 Micellaneous (switches, sensors, etc.) 0.00 0.00					
Micellaneous (switches, sensors, etc.) 0.00 0.00					
Other 0.00 0.00					
	Otner	0.00			0.00

Roofing				
Shingles - asphalt	0.00			0.00
Tin	0.00			0.00
Waterproof EDPM	0.00			0.00
Waterproof PVC	0.00			0.00
Tar and gravel	0.00			0.00
Other	0.00			0.00
Guioi	0.00			0.00
Specialties & Miscellaneous				
Office Furnishings	0.00			0.00
Furniture (workstations and chairs)	0.00			0.00
Shelving & Filing Cabinets	0.00			0.00
Bulletin and white boards	0.00			0.00
Building Furnishings	0.00			0.00
Window Coverings (rolling shutters, blinds)	0.00			0.00
Signs	0.00			0.00
Lockers	0.00			0.00
Metal partition (toilet)	0.00			0.00
Plastic partition (toilet)	0.00			0.00
Stud-type partition (demountable)	0.00			0.00
Specilaized Equipment	0.00			0.00
Food service equipment	0.00			0.00
Parking control equipment	0.00			0.00
Waste/cleaning equipment	0.00			0.00
Refrigeration equipment	0.00			0.00
Lifts	0.00			0.00
Elevators	0.00			0.00
Escalators	0.00			0.00
Dumbwaiters	0.00			0.00
Communications	0.00			0.00
Telecom raceways/cables	0.00			0.00
Terminals and connectors	0.00			0.00
Other	0.00			0.00
Packaging County of Packaging	0.00			0.00
Cardboard Packaging	0.00			0.00
Plastic packaging	0.00			0.00
Other	0.00			0.00
Other				
Other	0.00			0.00
	0.00			0.00
	0.00			0.00
	0.00			0.00
	0.00			0.00
	0.00			0.00
				0.00
Total	0.00	0.00	0.00	0.00

NRC Construction, Renovation and Demolition WASTE REDUCTION WORK PLAN SUMMARY

Project Name	0
Project Type (Construction, Renovation or Demolition)	0
Area (sq. m)	0
Site Address	0
Contact Person & Telephone	0
Date	

	W	aste Management Summary						
WASTE CATEGORY	Estimated Quantity	Proposed Action to Reduce, Reuse or Recycle Material	Proje	cted Quantity (Metric	Potential Diversion			
WASTE CATEGORY	(Metric Tonnes)	(including end-destination)	Reuse	Recycle	Landfill	Rate	Start date	End Date
Masonry and Pavement	0.00		0.00	0.00	0.00	#DIV/0!		
Walls and Ceilings	0.00		0.00	0.00	0.00	#DIV/0!		
Windows and Doors	0.00		0.00	0.00	0.00	#DIV/0!		
Wood	0.00		0.00	0.00	0.00	#DIV/0!		
Millwork and Finish Carpentry	0.00		0.00	0.00	0.00	#DIV/0!		
Flooring	0.00		0.00	0.00	0.00	#DIV/0!		
Metal	0.00		0.00	0.00	0.00	#DIV/0!		
Mechanical:								
HVAC	0.00		0.00	0.00	0.00	#DIV/0!		
Plumbing	0.00		0.00	0.00	0.00	#DIV/0!		
Fixtures	0.00		0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	#DIV/0!		
Electrical:								
Wiring	0.00		0.00	0.00	0.00	#DIV/0!		
Lighting	0.00		0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	#DIV/0!		
Roofing	0.00		0.00	0.00	0.00	#DIV/0!		
Specialties & Miscellaneous	0.00		0.00	0.00	0.00	#DIV/0!		
Packaging	0.00		0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	#DIV/0!		
TOTA	L 0.00		0.00	0.00	0.00	#DIV/0!		

NRC Construction, Renovation and Demolition WASTE REDUCTION WORK PLAN SUMMARY

Project Name	0
Project Type (Construction, Renovation or Demolition)	0
Area (sq. m)	0
Site Address	0
Contact Person & Telephone	0
Date	

	W	aste Management Summary						
WASTE CATEGORY	Estimated Quantity	Proposed Action to Reduce, Reuse or Recycle Material	Proje	cted Quantity (Metric	Potential Diversion			
WASTE CATEGORY	(Metric Tonnes)	(including end-destination)	Reuse	Recycle	Landfill	Rate	Start date	End Date
Masonry and Pavement	0.00		0.00	0.00	0.00	#DIV/0!		
Walls and Ceilings	0.00		0.00	0.00	0.00	#DIV/0!		
Windows and Doors	0.00		0.00	0.00	0.00	#DIV/0!		
Wood	0.00		0.00	0.00	0.00	#DIV/0!		
Millwork and Finish Carpentry	0.00		0.00	0.00	0.00	#DIV/0!		
Flooring	0.00		0.00	0.00	0.00	#DIV/0!		
Metal	0.00		0.00	0.00	0.00	#DIV/0!		
Mechanical:								
HVAC	0.00		0.00	0.00	0.00	#DIV/0!		
Plumbing	0.00		0.00	0.00	0.00	#DIV/0!		
Fixtures	0.00		0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	#DIV/0!		
Electrical:								
Wiring	0.00		0.00	0.00	0.00	#DIV/0!		
Lighting	0.00		0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	#DIV/0!		
Roofing	0.00		0.00	0.00	0.00	#DIV/0!		
Specialties & Miscellaneous	0.00		0.00	0.00	0.00	#DIV/0!		
Packaging	0.00		0.00	0.00	0.00	#DIV/0!		
Other	0.00		0.00	0.00	0.00	#DIV/0!		
TOTA	L 0.00		0.00	0.00	0.00	#DIV/0!		

NRC Construction, Renovation and Demolition WASTE MATERIAL TRACKING FORM (Entries required for every load leaving the site)

Project Name	#VALUE!
Project Type (Construction, Renovation or Demolition)	#VALUE!
Area (sq. m)	#VALUE!
Site Address	#VALUE!
Contact Person & Telephone	#VALUE!
Date	

1.00	Date	Time	Hauler	If Applicable:					Weight (metric Tonnes)				
d#				Bin Size (yd³)	Fill Level	Material Type(s)	Waybill # (if applicable)	Destination	Reuse	Recycling	Unspecified Diversion (Reuse or Recycling)	Landfill	Comments
1	Dec 17/08	3:00pm	Waste Co.	20	3/4	Commingled Recyclates (metals, wood, concrete)	12345	Waste Co.					Waste sent to commingling recycling facility. Total weight and % diversion to be reported by hauler
2	Dec 17/08	4:00pm	Waste Co.	30	Full	Untreated Wood	12346	Waste Co.					Total weight to be reported by hauler
3	Dec 18/08	12:00pm	Waste Co.	20	Over Flowing	Miscellaneous Waste	12347	Landfill					Total weight to be reported by hauler
4	Dec 19/08	12:00pm	Man and His Truck	N/A	N/A	Doors	N/A	Resale					Totals weight estimated by hauler and PM
5													
6													
7													
8													
9													
10													

NRC Construction, Renovation and Demolition FINAL DIVERSION REPORT

Project Name	0
Project Type (Construction, Renovation or Demolition)	0
Area (sq. m)	0
Site Address	0
Contact Person & Telephone	0
Date	

	Actual Weight Div	erted (metric tonnes)	Final Destination and End-Use of	Total Weight Landfilled	TOTAL WEIGHT	
Material Material	Re-used Recycled		Diverted Materials	(metric tonnes)	(metric tonnes)	Diversion Rate
Masonry and Pavement					0	#DIV/0!
Walls and Ceilings					0	#DIV/0!
Metal					0	#DIV/0!
Mechanical:						
HVAC					0	#DIV/0!
Plumbing					0	#DIV/0!
Fixtures					0	#DIV/0!
Other					0	#DIV/0!
Windows and Doors					0	#DIV/0!
Wood					0	#DIV/0!
Millwork and Finish Carpentry					0	#DIV/0!
Flooring					0	#DIV/0!
Electrical:						
Wiring					0	#DIV/0!
Lighting					0	#DIV/0!
Other					0	#DIV/0!
Roofing					0	#DIV/0!
Specialties & Miscellaneous					0	#DIV/0!
Cardboard					0	#DIV/0!
Other Packaging		_			0	#DIV/0!
Mixed Recycling		_			0	#DIV/0!
General Waste					0	#DIV/0!
Other					0	#DIV/0!
TOTAL	0	0		0	0	#DIV/0!

Part 1 GENERAL

1.1 Protection

.1 Protect existing items designated to remain and materials designated for salvage. In event of damage, immediately replace such items or make repairs to approval of Departmental Representative and at no additional cost to Departmental Representative.

1.2 Measurement for Payment

.1 N/a

Part 2 PRODUCTS

2.1 N/A

Part 3 EXECUTION

3.1 Preparation

- .1 Inspect site and verify with Departmental Representative items designated for removal and items to be preserved.
- .2 Locate and protect utility lines. Preserve in operating condition active utilities traversing site.

3.2 Removal

- .1 Remove items indicated.
- .2 Do not disturb adjacent items designated to remain in place.

3.3 Salvage

.1 Carefully dismantle items containing materials directed or indicated for salvage. Store salvaged materials at locations directed or indicated.

3.4 Disposal of Material

.1 Dispose of materials not designated for salvage or re-use in work, off-site.

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3.5 Restoration

- .1 Upon completion of work, remove debris, trim surfaces and leave work site clean.
- .2 Reinstate areas and existing works outside areas of demolition to match condition of adjacent, undisturbed areas.

END OF SECTION

Part 1 GENERAL

1.1 Scope of Work

- .1 Provide interior protection prior to demolition work.
- .2 Protection to be constructed in such a fashion so as to afford security, dust and weather resistance.
- .3 Barriers to be constructed continuously on the interior perimeter.

Part 2 PRODUCTS

2.1 Materials

- .1 1/2" x 4'-0" x 8'-0" wood sheathing.
- .2 3-5/8" metal studding.
- .3 3-1/2" spruce wood, construction grade studding.
- .4 6 mil. polyethylene.
- .5 Vinyl reinforced tarps.
- .6 Zipper closure, heavy duty, 75mm, self-adhesive zipper.

2.2 Erection

- .1 Construct a solid barrier in all locations where window, A/C, or roof modifications are to occur.
- .2 Construct barriers full height and line with polyethylene to ensure dust and watertightness.
- .3 Have a mock-up assembly approved by the Departmental Representative prior to proceeding with the erection.

Part 3 SECONDARY PROTECTION

3.1 Dust Walls

.1 As the work progresses and after all structural work and wall framing have been completed, remove the temporary interior protection walls and construct a 6 mill polyethylene dust wall in its place, to allow finish work to proceed.

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- .2 Install wood sheathing in the new window openings temporarily until the new glazing units have been received.
- .3 Inspect walls on a regular basis to ensure integrity of the assembly and to avoid dust and water infiltration to the interior of the building.
- .4 Remove interior protections only when approved by the Departmental Representative.

Part 4 REINSTATEMENTS

4.1 Finishes

.1 Reinstate the interior finishes affected by this work to the satisfaction of the Departmental Representative.

END OF SECTION

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Part 1 General

1.1 **DEFINITIONS**

.1 Application Specialist: An individual who performs surface preparation and application of protective coatings and linings to steel and concrete surfaces of complex industrial structures.

1.2 REFERENCE STANDARDS

- .1 ASTM International (ASTM):
 - .1 ASTM A36/A36M-[19], Standard Specification for Carbon Structural Steel
 - .2 ASTM A193/A193M-[20], Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature or High-Pressure Service and Other Special Purpose Applications
 - .3 ASTM A307-[21], Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength
 - .4 ASTM A325-[07a], Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
 - .5 ASTM A325M-[08], Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength[Metric]
 - .6 ASTM A490M-[04ae], Standard Specification for High-Strength Steel Structural Bolts, Classes 10.9 and 10.9.3, for Structural Steel Joints [Metric]
- .2 Canadian General Standards Board (CGSB):
 - .1 CAN/CGSB-85.10-[99], Protective Coatings for Metals
- .3 Canadian Institute of Steel Construction (CISC)/Canadian Paint Manufacturers Association (CPMA):
 - .1 Handbook of the Canadian Institute of Steel Construction
 - .2 CISC/CPMA Standard 2-75, Quick-Drying Primer for use on Structural Steel
- .4 CSA Group (CSA):
 - .1 CSA G40.20/G40.21-[13], General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel
 - .2 CAN/CSA-G164-[18], Hot Dip Galvanizing of Irregularly Shaped Articles
 - .3 CAN/CSA-S16-[14], Limit States Design of Steel Structures
 - .4 CAN/CSA-S136-[16], North American Specifications for the Design of Cold Formed Steel Structural Members
 - .5 CSA W47.1:[19], Certification of Companies for Fusion Welding of Steel
 - .6 CSA W48-[18], Filler Metals and Allied Materials for Metal Arc Welding
 - .7 CSA W55.3-[08], Resistance Welding Qualification Code for Fabricators of Structural Members Used in Buildings
 - .8 CSA W59-[18], Welded Steel Construction (Metal Arc Welding)

- .5 The Master Painters Institute (MPI):
 - .1 MPI-INT 5.1, Structural Steel and Metal Fabrications
 - .2 MPI-EXT 5.1, Structural Steel and Metal Fabrications
- .6 The Society for Protective Coatings (SSPC) and National Association of Corrosion Engineers (NACE) International:
 - .1 NACE No. 3/SSPC SP-6-[07], Commercial Blast Cleaning

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section [01 33 00 Submittal Procedures].
- .2 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Ontario, Canada.
- .3 Erection drawings:
 - .1 Submit erection drawings indicating details and information necessary for assembly and erection purposes including:
 - .1 Description of methods.
 - .2 Sequence of erection.
 - .3 Type of equipment used in erection.
 - .4 Temporary bracings and shoring.
- .4 Fabrication drawings:
 - .1 Submit fabrication drawings showing designed assemblies, components and connections are stamped and signed by qualified professional engineer licensed in Ontario, Canada.
- .5 Source Quality Control Submittals:
 - .1 Submit mill test reports [4] weeks before fabrication of structural steel.
 - .1 Mill test reports to show chemical and physical properties and other details of steel to be incorporated in project.
 - .2 Provide mill test reports certified by metallurgists qualified to practise in Ontario, Canada.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials in manufacturer's original, undamaged containers with identification labels intact

Part 2 Products

2.1 DESIGN REQUIREMENTS

.1 Design details and connections in accordance with requirements of CAN/CSA-S16to resist forces, moments, shears and allow for movements indicated.

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.2 Shear connections:

- .1 Select framed beam shear connections from an industry accepted publication such as "Handbook of the Canadian Institute of Steel Construction" when connection for shear only (standard connection) is required.
- .2 Select or design connections to support reaction from maximum uniformly distributed load that can be safely supported by beam in bending, provided no point loads act on beam, when shears are not indicated.
- .3 Submit sketches and design calculations stamped and signed by qualified professional engineer licensed Ontario, Canada for non standard connections.

2.2 MATERIALS

- .1 Structural Steel: To CSA-G40.20/G40.21 300W or 350W, refer to drawings.
- .2 Anchor Bolts: To CSA-G40.20/G40.21, Grade 300W
- .3 High strength anchor bolts: to ASTM A193/A193M
- .4 Bolts, nuts and washers: to ASTM A325.
- .5 Welding Materials: To CSA W59 and certified by Canadian Welding Bureau.
- .6 Shop Paint Primer: To CISC/CPMA2-75 solvent reducible alkyd, grey.
- .7 Hot Dip Galvanizing: Galvanize steel, where indicated, to CAN/CSA-G164, minimum zinc coating of [600] g/m².

2.3 FABRICATION

.1 Fabricate structural steel in accordance with CAN/CSA-S16[and in accordance with approved shop drawings.

2.4 SHOP PAINTING

- .1 Clean, prepare surfaces, and shop prime structural steel in accordance with CAN/CSA-S16 MPI INT 5.1.
- .2 Clean members, remove loose mill scale, rust, oil, dirt and foreign matter. Prepare surface according to NACE No.3/SSPC-SP-6.
- .3 Apply one coat of primer in shop to steel surfaces.
- Apply paint under cover, on dry surfaces when surface and air temperatures are above 5 degrees C.
- .5 Maintain dry condition and 5 degrees C minimum temperature until paint is thoroughly dry.
- .6 Strip paint from bolts, nuts, sharp edges and corners before prime coat is dry.

Part 3 Execution

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3.1 GENERAL

- .1 Structural Steel Work: In accordance with CAN/CSA-S16.
- .2 Welding: in accordance with CSA W59.
- .3 Companies to be certified under Division 1 or 2.1 of CSA W47.1 for fusion welding of steel structures and/or CSA W55.3 for resistance welding of structural components.

3.2 CONNECTION TO EXISTING WORK

.1 Verify dimensions and condition of existing work, report discrepancies and potential problem areas to Departmental Representative for direction before commencing fabrication.

3.3 MARKING

- .1 Mark materials in accordance with CSA G40.20/G40.21. Do not use die stamping. When steel is to be left in unpainted condition, place marking at locations not visible from exterior after erection
- .2 Match marking: shop mark bearing assemblies and splices for fit and match.

3.4 ERECTION

- .1 Erect structural steel, as indicated and in accordance with CAN/CSA-S16and in accordance with approved erection drawings.
- .2 Site cutting or altering structural members: to approval of Departmental Representative.
- .3 Clean with mechanical brush and touch up shop primer to bolts, rivets, welds and burned or scratched surfaces at completion of erection.
- .4 Continuously seal members by continuous welds where indicated. Grind smooth.

3.5 SITE QUALITY CONTROL

- .1 Inspection and testing of materials and workmanship will be carried out by testing laboratory designated by Departmental Representative.
- .2 Provide safe access and working areas for testing on site, as required by testing agency and as authorized by Departmental Representative.
- .3 Submit test reports to Departmental Representative within 2 weeks of completion of inspection.

END OF SECTION

STRUCTURAL DRAWING LIST

SHEET NUMBER	SHEET NAME
5564-S01	GENERAL NOTES
5564-S02	PART PLAN AND DETAILS
5564-S03	PART PLAN AND DETAILS

GENERAL

THE GENERAL NOTES AND TYPICAL DETAILS ARE APPLICABLE TO ALL STRUCTURAL CONDITIONS NOT SPECIFICALLY DETAILED OR REFERENCED ON STRUCTURAL DRAWINGS.

THESE DRAWINGS ARE FOR THE USE OF THE CONSULTANT'S CLIENT ONLY. ALL INFORMATION SHOWN APPLIES TO THIS PROJECT ONLY AND REFLECTS THE BEST JUDGEMENT OF THE CONSULTANT IN LIGHT OF THE AVAILABLE INFORMATION AT THE TIME OF PREPARATION. DECISIONS OR ACTIONS MADE BY THIRD PARTIES BASED ON THE DRAWINGS ARE THE SOLE RESPONSIBILITY OF SUCH PARTIES.

THESE DRAWINGS ARE THE PROPERTY OF ADJELEIAN ALLEN RUBELI LTD. AND MAY NOT BE REPRODUCED IN ANY FORM WITHOUT WRITTEN PERMISSION.

LOCATE AND INFORM ENGINEER OF ANY OBSTRUCTIONS RELATED TO NEW STRUCTURAL WORK.

NEW STRUCTURAL SUPPORTS FOR THE HORIZONTAL LIFELINE (HLL) ARE DESIGNED FOR FALL ARREST LOADS IN CONFORMANCE WITH CSA Z259.16-15. EACH ANCHOR POINT IS DESIGNED TO WITHSTAND THE ARREST FORCE OF UP TO TWO WORKERS.

THE STRUCTURAL DESIGN ASSUMES A MAXIMUM ARREST FORCE (MAF) OF 8kN PER WORKER OR 16 kN TOTAL, A SAFETY FACTOR OF 2:1 HAS BEEN INCLUDED IN THE DESIGN OF THE SUPPORTS, STRUCTURAL SUPPORTS HAVE BEEN DESIGNED TO WITHSTAND 32 KN IN ANY DIRECTION WITHOUT SUBSTANTIAL DEFORMATION. HLL TO APPLY AT MOST 16 kN TO A SINGLE ANCHOR POINT.

PERSONAL ENERGY ABSORBERS MUST BE USED.

HLL TO BE IN CONFORMANCE WITH NECESSARY CODES AND STANDARDS AND BE SUITABLE FOR HARSH EXPOSURE CONDITIONS INSIDE THE CHAMBER. CONTRACTOR IS NOT RESPONSIBLE FOR PROVIDING THE NEW

ATTACHMENTS SUCH AS LANYARDS TO THE HLL ARE TO LIMIT THE WORKERS FALL DISTANCE SUCH THAT THE REQUIRED MINIMUM CLEARANCES ARE MET. REQUIRED CLEARANCE CALCULATIONS MUST BE COMPLETED BEFORE USE OF THE FALL ARREST SYSTEM.

A RESCUE PLAN IS TO BE DEVELOPED AND IMPLEMENTED PRIOR TO USE OF THE FALL ARREST SYSTEM. AN ENGINEER HAVING EXPERIENCE IN FALL PROTECTION IS TO BE CONSULTED PRIOR TO MODIFYING THE

CONSTRUCTION IS SCHEDULED TO TAKE PLACE BETWEEN JUNE 26TH, 2023 AND END OF AUGUST 2023, HOWEVER THIS MAY CHANGE BASED OFF CLIENT REQUEST. ASSUME CONSTRUCTION TO BE COMPLETE BY END OF MARCH, 2024. OWNER MAY REQUEST THAT WORK BE DONE IN ONE CHAMBER AT A TIME (EITHER THE SMALL CHAMBER OR LARGE CHAMBER) DEPENDING ON THE CONTRACTORS PROPOSED SCHEDULE. THERE WOULD BE NO ADDITIONAL FEES IF WORK IS COMPLETED ONE CHAMBER AT A TIME.

CODES AND STANDARDS

DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 2015, AND THE TERM "BUILDING CODE" THROUGHOUT THESE DRAWINGS MEANS THAT CODE.

THE FOLLOWING STANDARDS MAY BE REFERRED TO BY SHORT FORM ON THESE DRAWINGS:

STANDARD	TITLE/DESCRIPTION	SHORT FORM		
ASTM A307-12	CARBON STEEL BOLTS AND STUDS, 60000 PSI TENSILE STRENGTH	ASTM A307		
ASTM F3125 / F3125M	HIGH STRENGTH STRUCTURAL BOLTS, STEEL, HEAT TREATED 830 MPa AND 1040 MPa MIN. TENSILE STRENGTH	ASTM F3125		
ASTM A500M-13	COLD-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES	ASTM A500		
ASTM A1085-13	COLD-FORMED WELDED CARBON STEEL HOLLOW STRUCTURAL SECTIONS (HSS)	ASTM A1085		
ASTM F1554-07	ANCHOR BOLTS, STEEL, 36, 55, AND 105-KSI YIELD STRENGTH	ASTM F1554		
CSA S16-14	DESIGN OF STEEL STRUCTURES	CSA S16		
PEFFRENCES ARE TO METRIC VERSIONS OF STANDARDS LINESS CONTEXT DICTATES OTHERWISE SHORT				

REFERENCES ARE TO METRIC VERSIONS OF STANDARDS, UNLESS CONTEXT DICTATES OTHERWISE. SHORT FORM REFERENCES TO CSA STANDARDS MAY SOMETIMES OMIT "CSA"

REFERENCES INCLUDE ALL PUBLISHED ERRATA AND SUPPLEMENTS, UNLESS NOTED OTHERWISE.

ABBREVIATIONS AND SYMBOLS

IN ADDITION TO NORMAL ABBREVIATIONS AND SYMBOLS FOR UNITS OF MEASUREMENT (SI UNITS AND US CUSTOMARY UNITS) OR DEFINED IN THE BUILDING CODE AND VARIABLES DESCRIBED ON THE DRAWINGS, THE FOLLOWING ABBREVIATIONS MAY HAVE BEEN USED ON THESE DRAWINGS, WITH OR WITHOUT PERIODS AND SOMETIMES IN COMBINATION:

c/c	CENTRE TO CENTRE	LLV	LONG LEG VERTICAL
DIM.	DIMENSION	M.A.F.	MAXIMUM ARREST FORCE
DO	DITTO	PL	PLATE
E.E	EACH END	REQ'D	REQUIRED
E.F.	EACH FACE	SEC.	SECTION
E.S.	EACH SIDE	SIM.	SIMILAR
EL.	ELEVATION	T.O.	TOP OF
EXIST.	EXISTING	T.O.S.	TOP OF STEEL
EXP. JT	EXPANSION JOINT	TYP.	TYPICAL
EXT.	EXTERIOR	U/N	UNLESS NOTED
GALV.	GALVANIZED	U/S	UNDERSIDE
HLL.	HORIZONTAL LIFELINE	VERT.	VERTICAL
HOR.	HORIZONTAL		
L	LENGTH; STEEL ANGLE	Ø	DIAMETER
LLH	LONG LEG HORIZONTAL	0	AT (c/c SPACING)

NOTE:
* THIS MEANING IS USUALLY USED IN COMBINATION WITH OTHER ABBREVIATIONS

OTHER ABBREVIATIONS MAY BE USED IN CONTEXT - REQUEST CLARIFICATION IF UNSURE

DIMENSIONS

CHECK DIMENSIONS ON THESE DRAWINGS AGAINST DIMENSIONS ON SITE BEFORE USING THEM FOR FABRICATION OR CONSTRUCTION. REPORT DISCREPANCIES IMMEDIATELY UPON DISCOVERY.

DRAWINGS HAVE BEEN MADE REASONABLY TO SCALE BUT CONTRACTOR MUST NOT SCALE THE DRAWINGS.

AS-BUILT DRAWINGS

CONTRACTOR SHALL MAINTAIN TWO SETS OF DRAWINGS, SHOWING AS-BUILT CONDITIONS OF ALL ASPECTS OF THE STRUCTURE, AVAILABLE FOR REVIEW DURING CONSTRUCTION, AND FOR SUBMISSION TO THE CONSULTANT AND THE OWNER UPON PROJECT COMPLETION.

SHOP DRAWINGS, SUBMITTALS AND DESIGN DETAILING **CRITERIA FOR SUPPLIERS:**

REPRODUCTIONS OF THE STRUCTURAL DRAWINGS SHALL NOT BE ACCEPTED AS SHOP DRAWINGS.

"PROFESSIONAL ENGINEER" IN THE FOLLOWING PARAGRAPHS AND THROUGHOUT THESE DRAWINGS MEANS A PROFESSIONAL ENGINEER REGISTERED IN AND LICENSED TO PRACTICE IN THE PROVINCE OF ONTARIO AND THE ENGINEER'S "SEAL" SHALL INCLUDE THEIR STAMP, THEIR SIGNATURE AND THE DATE OF SEALING.

REVIEW OF DRAWINGS APPLIES TO GENERAL ARRANGEMENT ONLY FOR THE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THIS REVIEW DOES NOT IMPLY APPROVAL OF DETAIL DESIGN OR QUANTITIES IN SUBMITTED DRAWINGS, NOR DOES IT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR MAKING THE WORK COMPLETE, ACCURATE AND IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS. ALLOW 15 WORKING DAYS FOR SHOP DRAWING REVIEW.

DO NOT FABRICATE MATERIALS BASED ON REJECTED OR DISAPPROVED SHOP DRAWINGS.

DOCUMENT SUBMISSIONS SHALL INCLUDE FOR EACH DOCUMENT ELECTRONIC FILES IN PDF FORMAT DELIVERED BY EMAIL TO submittals@aar.ca

THE CONTRACTOR SHALL RETAIN AN ENGINEER TO INVESTIGATE THE INSULATED PANELS AND ISSUE DRAWINGS INDICATING:

SEQUENCE OF WORK

 PROPOSED MATERIAL LAYDOWN AREA WITH MAXIMUM STORAGE • TEMPORARY SHORING PLAN AND DETAILS FOR THE PANELS DURING THE WORK

SUBMIT DRAWINGS TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW PRIOR TO UNDERTAKING WORK. STRUCTURAL STEEL:

SUBMIT FOR REVIEW:

 ERECTION DRAWINGS ALL STEEL—TO—STEEL CONNECTIONS

 ALL THERMAL BREAK CONNECTIONS ALL FIELD WORK DETAILS

 GUARDRAIL CLAMPS HANGER DETAILS

STRUCTURAL STEEL CONNECTIONS SHALL BE DESIGNED TO RESIST THE INDICATED FACTORED MEMBER REACTIONS BY A PROFESSIONAL ENGINEER WHO WILL ALSO SEAL AND SIGN THE SHOP DRAWINGS.

WELDING SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CSA S16 AND CSA W59. WORK SHALL BE PERFORMED BY CONTRACTORS CERTIFIED AS PER CSA W47.1 AND MEMBERS OF THE CANADIAN

WHERE DESIGN REACTIONS ARE NOT INDICATED USE THE MAXIMUM REACTION FOR SPAN FROM CISC BEAM LOAD TABLES. FOR COMPOSITE BEAMS INCREASE MAXIMUM REACTION BY 30% (1.3 TIMES).

STEEL STRUCTURES DESIGNED TO RESIST SEISMIC FORCES; STEEL CONNECTIONS SHALL BE DESIGNED TO CSA S16, CLAUSE 27.

SOURCE OF STRUCTURAL STEEL (INCLUDING FASTENERS AND CFS): ALL STEEL TO MEET SPECIFIED STANDARDS AND THE FOLLOWING:

PROVIDE MILL CERTIFICATES FOR ALL STEEL. PROVIDE TRACING REPORT SHOWING CHAIN OF CUSTODY FROM POINT OF ORIGIN TO SITE.

ALL STEEL SHALL HAVE A BORON CONTENT OF NOT MORE THAN 0.0008% BY MASS (8 PARTS IN ONE MILLION BY MASS). STEEL ORIGINATING FROM OUTSIDE OF CANADA, THE UNITED STATES AND THE EUROPEAN UNION SHALL ADDITIONALLY MEET THE FOLLOWING: PROVIDE MATERIAL TESTING TO CONFIRM THE CONFORMANCE TO THE RELEVANT STANDARDS AND THE MAXIMUM BORON CONTENT NOTED ABOVE. THIS TESTING SHALL BE PERFORMED IN CANADA BY AN ISO 17025 ACCREDITED TESTING LABORATORY.

SUBMIT SHOP DRAWINGS DETAILING THE DESIGN OF THE STRUCTURAL THERMAL BREAK SYSTEM, SEALED BY A PROFESSIONAL ENGINEER. THERMAL BREAK SYSTEM TO BE DESIGNED AND MANUFATURED BY SCHOECK CANADA INC. OR APPROVED EQUIVALENT. THERMAL BREAK TO CONSIST OF STAINLESS STEEL STRUCTURAL ELEMENTS WRAPPED IN INSULATION TO ACHIEVE LOW THERMAL CONDUCTIVITY. THERMAL BREAK IS TO BE DESIGNED FOR THE LOADS INDICATED ON THE DRAWINGS. SHOP DRAWINGS SHALL INCLUDE BUT NOT BE LIMITED TO:

• PLAN LAYOUT AND DIMENSIONS. COORDINATED WITH STEEL FABRICATOR. DESIGN LOADS

INSPECTIONS AND TESTING

THE FOLLOWING ITEMS SHALL BE INSPECTED OR TESTED BY INDEPENDENT INSPECTION / TESTING AGENCIES DESIGNATED BY THE CONTRACTOR, MATERIALS AND WORKMANSHIP NOT CONFORMING TO THE SPECIFICATIONS SHALL BE REJECTED BY THE CONTRACTOR. REPORTS AND TEST RESULTS SHALL BE PROMPTLY SUBMITTED TO THE ENGINEER FOR REVIEW. TESTING SHALL INCLUDE BUT NOT BE LIMITED TO:

ALL TESTING AS PER THE REQUIREMENTS OF THE SHORING ENGINEER AND/OR THE SPECIFICATIONS.

STRUCTURAL STEEL & CONNECTIONS: VERIFY THAT MATERIALS, FABRICATION AND ERECTION CONFORM TO THE CONTRACT DOCUMENTS, CSA S16, CSA W59, AND ANY OTHER REFERENCED STANDARDS. THIS INCLUDES BUT IS NOT LIMITED TO: ALIGNMENT, PLUMBNESS, BEARING, TOLERANCES, CONNECTIONS, BOLTS, TORQUE, WELDS, AND FINISH / COATING.

WELDING INSPECTIONS TO BE VISUAL, EXCEPT WHERE NON-DESTRUCTIVE TESTING IS DEEMED NECESSARY BY THE TESTING AGENCY OR ENGINEER. NON-DESTRUCTIVE TESTING TO VERIFY THE QUALITY OF WELDING, WHERE DEEMED QUESTIONABLE BY VISIBLE DEFECTS OR WHERE REQUIRED BY THE ENGINEER.

SURFACE PREPARATION AND PAINT APPLICATION IN BOTH SHOP AND FIELD FOR EXPOSED PAINTED STRUCTURAL STEEL.

SUBMIT INSPECTION REPORTS, OUTLINING PROGRESS OF WORK, AND STATING WHETHER OR NOT IT CONFORMS

STRUCTURAL STEEL

STRUCTURAL STEEL DESIGN AND CONSTRUCTION SHALL COMPLY WITH CSA S16, UNLESS OTHERWISE NOTED.

ITEM	APPLICABLE SPECIFICATION
W-SHAPES	CSA G40.20/G40.21 - 350W
C, MC AND L-SHAPES	CSA G40.20/G40.21 - 300W
HSS (TUBE)	CSA G40.20/G40.21 - 350W CLASS C OR ASTM A1085
PLATE AND BARS	CSA G40.20/G40.21 - 300W
BOLTS, NUTS AND WASHERS	ASTM F3125 GRADE A325 c/w A563 AND F436
STAINLESS STEEL BOLTS AND NUTS	ASTM A193 GRADE B8 C/W A194 NUTS (SS304)
STAINLESS STEEL WASHERS	FABRICATED FROM ASTM A240 (SS304)
THREADED ROD	CSA G40.20/G40.21 - 300W c/w A563 AND F436

- ALL STEEL ABOVE INSULATED CEILING PANELS SHALL BE PRIME PAINTED, AND ALL REMAINING STEEL SHALL BE HOT-DIP GALVANIZED.
- STAINLESS STEEL ELEMENTS SHALL BE INSTALLED CLEAN AND BARE WITHOUT COATING.
- ALL BEAM CONNECTIONS TO BE TWO-SIDED UNLESS NOTED.

DO NOT CUT OR CORE ANY OPENINGS IN ANY STRUCTURAL STEEL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.

WHERE A STRUCTURAL STEEL SHAPE SHOWN ON THE DRAWINGS IS UNAVAILABLE, A SHAPE OF EQUAL OR GREATER SECTION PROPERTIES AND STRUCTURAL CAPACITY SHALL BE SUBSTITUTED, UPON APPROVAL BY OWNER AND CONSULTANT, AT NO EXTRA COST.

WHERE AN ALTERNATIVE MATERIAL IS REQUESTED, THE CONTRACTOR SHALL FORWARD ALL PRODUCT TECHNICAL INFORMATION FOR REVIEW BY THE ENGINEER.

BOLTS AND RODS SHALL BE SUPPLIED TO SITE AS AN ASSEMBLY WITH THEIR ASSOCIATED NUTS AND WASHERS.

THREADED COMPONENTS SHALL MEET ANSI/ASME B18.2.6M HEAVY HEX CLASS 2A. THE APPLICABLE EDITIONS OF ALL ABOVE STANDARDS SHALL BE THOSE REFERENCED BY CSA S16 UNLESS NOTED OTHERWISE.

ALTERNATE AND REMEDIAL DESIGNS

REQUESTS FOR CHANGES TO THE STRUCTURAL DESIGN INDICATED ON THESE DRAWINGS SHALL BE CONSIDERED AN ALTERNATE DESIGN, AND SHALL BE UNDERTAKEN AS AN ADDITIONAL SERVICE IF APPROVED. THIS INCLUDES CHANGES TO COMPONENTS OR CONNECTIONS SPECIFIED ON THESE DRAWINGS UNDERTAKEN AT THE CONTRACTOR'S DISCRETION WITHOUT PRIOR REVIEW BY AAR.

ALTERNATE DESIGNS MAY BE UNDERTAKEN BY THE CONTRACTOR AS PER THE "SHOP DRAWING AND SUBMITTAL" NOTES. IT IS RECOMMENDED THAT A CONCEPT FOR THE ALTERNATE DESIGN BE DISCUSSED WITH AAR, AS WELL AS THE COST TO REVIEW PRIOR TO UNDERTAKING THE DETAIL DESIGN. AAR IS NOT OBLIGATED TO ACCEPT THE ALTERNATE DESIGN, OR TO ASSIST IN ITS COMPLETION IF IT IS NOT CONSIDERED STRUCTURALLY ACCEPTABLE IN OUR OPINION.

REMEDIAL DESIGNS TO CORRECT NON-CONFORMANCES IN THE CONSTRUCTION SHALL BE TREATED AS ALTERNATE DESIGNS.

GENERAL DRAWING NOTES

- . CONTRACTORS TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO DEMOLITION OR CONSTRUCTION AND REPORT ANY ERRORS OR OMISSIONS TO DEPARTMENTAL REPRESENTATIVE.
- . CONTRACTORS MUST VISIT THE SITE & FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK.
- PREVENT THE SPREAD OF DUST & DEBRIS BEYOND THE WORK AREA AND CLEAN ALL SURFACES AT
- RELOCATION OF M&E EQUIPMENT MAY BE REQUIRED TO INSTALL STRUCTURAL STEEL.
- MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK.

EXISTING EQUIPMENT AND LOUVER AS PART OF WORK.

- COORDINATE ALL SHUTDOWNS WITH THE DEPARTMENTAL REPRESENTATIVE. PROVIDE ALL LABOUR AND MATERIAL REQUIRED TO FORM A COMPLETE, FUNCTIONAL SYSTEM AS
- CONTRACTOR IS TO USE THE EXISTING MECHANICAL LOUVER OPENING FOR MATERIAL DELIVER INTO THE SPACE ABOVE THE INSULATED PANELS. MATERIAL DIMENSIONS MAY NEED TO BE LIMITED. COORDINATE

WITH DEPARTMENTAL REPRESENTATIVE. INCLUDE TEMPORARY REMOVAL AND RE-INSTALLATION OF

- INSULATED PANELS THAT FORM THE FLOOR FOR THE CEILING SPACE SHALL HAVE THEIR LOADING LIMITED TO 1.0 kPa (20 psf) OF UNIFORM LOAD OR 1.3 kN (300 lbs) OF CONCENTRATED LOAD.
- PROTECT EXISTING SURFACES DURING WELDING. PROVIDE EXHAUST VENTILATION AND FIRE WATCH DURING WELDING
- CONTRACTOR IS TO FOLLOW ALL CONFINED SPACE REQUIREMENTS PER ONTARIO REGULATIONS.

Administrative Services and Property Management administratifs et gestion de l'immobilier

Council Canada de recherches Canada Division des services



Adjeleian Allen Rubeli Consulting Engineers

4211 Yonge Street, Toronto, Ontario



AAR PROJECT 5564-34

KEY PLAN

2023-02-15 ISSUED FOR TENDER 2023-01-16 ISSUED FOR 99% REVIEW 2022-12-05 ISSUED FOR 66% REVIEW

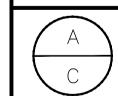
Verify all dimensions and site conditions and be responsible

Date imprim

dessin no.

Date Printed Feb 15 2023 — 2:11pm

Vérifier toutes les dimensions et l'etat des liéux et en assumer la responsabilité



No. du détail B Location drawing no. sur dessin no. C Drawing no.

A Detail no

MONTREAL ROAD CAMPUS

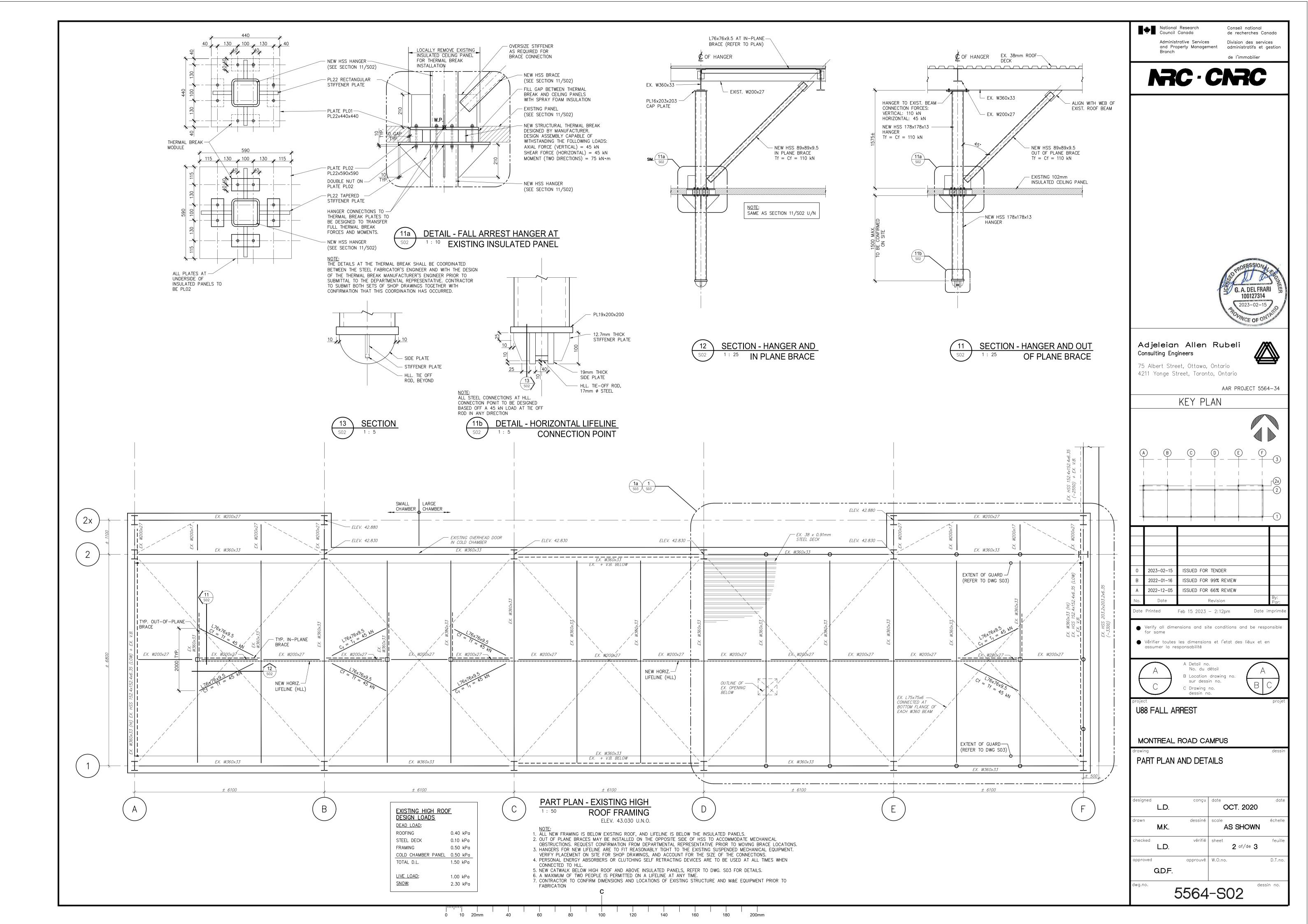
GENERAL NOTES

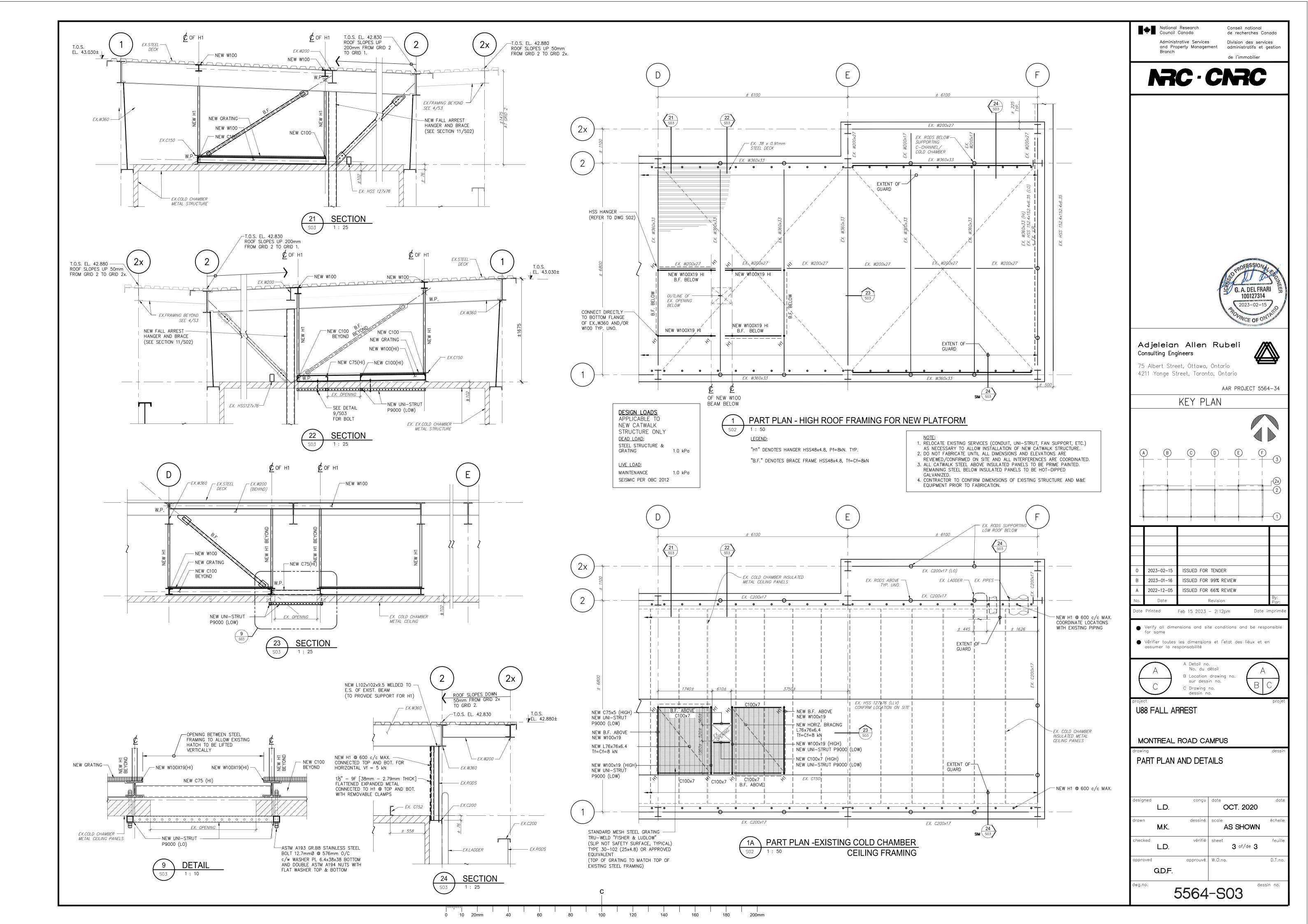
U88 FALL ARREST

OCT. 2020 L.D. M.K. AS SHOWN hecked **1** of/de **3** approuvé | W.O.no.

5564-S01

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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 be 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.

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- 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
 - up to the date of the Contractor's immediately preceding progress claim, all lawful 4.6.2 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

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

- Nothwithstanding 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 that 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 1/4 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 or 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 "superintendant" 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.

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- 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.

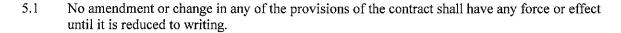
GC3 Assignment of Contract

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 ths 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



GC6 No Implied Obligations

- 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

- 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.
- 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.
- 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.

- 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.



- 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

- 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.

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- 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.
- 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.

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- 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.
- 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

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creditor.

- 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 o 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 proved 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.

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.

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- 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 GC303.3 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.
- 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, ar 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

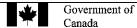
- Without restricting any warranty or guarantee implied or imposed by law or contained in the contract documents, the Contractor shall, at his own expense,
 - 32.1.1 rectify and make good any defect or fault that appears in the work or comes to the attention of the Minister with respect to those parts 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.
- 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.
- 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



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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.

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.

- 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.
- 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

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Contractor's failure to complete the work.

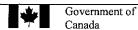
- 38.3 If the whole or any part of the work that is taken out of the Contractor's hands pursuant to GC38.1 is completed by Her Majesty, the Departmental Representative shall determine the amount, if any, of the holdback or a progress claim that had accrued and was due prior to the date on which the work 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.
- 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.
- 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 wiring to the Contractor in accordance with GC11.
- 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.



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- 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.
- 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.
- 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.
- 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.
- 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

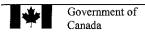
- 44.1 On the date that
 - 44.1.1 the work has been completed, and
 - 44.1.2 the Contractor has complied with the contract and all orders and directions made pursuant thereto,

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 that
 - 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



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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.
- 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.

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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

- 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.
- 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



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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 n 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.

- 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

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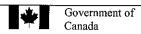
and travelling expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor unless they are engaged at the work site with the approval of the Departmental Representative,

- 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.
- 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



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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.
- The Contractor and any employee of the said Contractor is not engaged by the contract as an employee, servant or agent of Her Majesty.
- 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	•
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- IC 2 Risk Management
- IC 3 Payment of Deductible
- IC 4 Insurance Coverage

GENERAL INSUANCE COVERAGES

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- GIC 2 Period of Insurance
- GIC 3 Proof of Insurance
- GIC 4 Notification

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- CGL 2 Coverages/Provisions
- **CGL 3 Additional Exposures**
- **CGL 4 Insurance Proceeds**
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BUILDER'S RISK - INSTALLATION FLOATER - ALL RISKS

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- **BR3** Insurance Proceeds
- BR 4 Amount of Insurance
- BR 5 Deductible
- BR 6 Subrogation
- **BR 7** Exclusion Qualifications

INSURER'S CERTIFICATE OF INSURANCE

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

General Conditions

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 . Contactor.

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 Conditions - Construction

INSURANCE COVERAGE REQUIREMENTS

PART I GENERAL INSUANCE 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.

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.

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							
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		~~~~					
		W					
THE INSURER AGRE MATERIAL CHANGI	BES TO NOTIFY THE N E IN OR CANCELLATION	ATIONAL RESEARCH ON OF ANY POLICY OI	COUNCIL CANADA I R COVERAGE SPECIF	N WRITING 30 DAYS TICALLY RELATED TO	PRIOR TO ANY O THE CONTRACT		
NAME OF INSURER AUTHORIZED EMPL		SIGNATURE		DATE:			
110 THOMBOO DAN D	- LIL			TELEPHONE NUMB	SER:		

### 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 CS2.12 plus an additional amount that is equal to 10% of the contract amount referred to in the Articles of Agreement.
- 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
  - 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 a t 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.



du Canada

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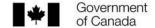
SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION	VERIFICATION DES EX		VES A LA	BECORITE (LVERS)		
Originating Government Department		CONTRACTOLLEL	2. Branch	n or Directorate / Direction géné	rale ou Dir	rection
Ministère ou organisme gouverneme			RPPN			
3. a) Subcontract Number / Numéro du		3. b) Name and Add		ontractor / Nom et adresse du s	ous-traitar	nt
4. Brief Description of Work / Brève de	scription du travail					
5564_ Fall Arrest _ Tender	·					
5. a) Will the supplier require access to Le fournisseur aura-t-il accès à de					V No	l l
5. b) Will the supplier require access to	unclassified military technical d	ata subject to the prov	isions of the	Technical Data Control	NO NO	Yes
Regulations? Le fournisseur aura-t-il accès à de sur le contrôle des données techr	•	non classifiées qui so	nt assujetties	aux dispositions du Règlement		on L Oui
6. Indicate the type of access required						
• • • • • • • • • • • • • • • • • • • •			\ ! <b>f</b> 4!		N	
Will the supplier and its employee     Le fournisseur ainsi que les emplo     (Specify the level of access using	oyés auront-ils accès à des rense the chart in Question 7. c)	eignements ou à des b	piens PROTÉ	or assets? GÉS et/ou CLASSIFIÉS?	✓ No	
(Préciser le niveau d'accès en util				0.11	<del></del> ,	
6. b) Will the supplier and its employee PROTECTED and/or CLASSIFIE			ess to restricte	ed access areas? No access to		on Yes Oui
Le fournisseur et ses employés (p			s à des zone	s d'accès restreintes? L'accès	INC	Jii L Oui
à des renseignements ou à des b	iens PROTÉGÉS et/ou CLASSI	FIÉS n'est pas autorise	é.	2 4 40000 1001 011100 . E 40000		
6. c) Is this a commercial courier or de S'agit-il d'un contrat de messager	livery requirement with <b>no</b> overni	ight storage?			✓ No	
7. a) Indicate the type of information th	at the supplier will be required to	access / Indiquer le ty	ype d'informa	tion auquel le fournisseur devra	avoir acc	ès
Canada 🗸	NA?	TO / OTAN		Foreign / Étranger		
		0701741		Toroign / Enunger		
7. b) Release restrictions / Restrictions	Relatives a la diffusion All NATO counti			No release restrictions		
No release restrictions  Aucune restriction relative	Tous les pays d			No release restrictions  Aucune restriction relative		
à la diffusion	Tous les pays u	e IOIAN		à la diffusion		
Not releasable						
À ne pas diffuser						
Doctricted to: / Limité à .	Doctricted to: / l	imaité à .		Doctricted to 1/1 insité à .		
Restricted to: / Limité à :	Restricted to: / L	limite a :		Restricted to: / Limité à :		
Specify country(ies): / Préciser le(s) p	ays : Specify country(	(ies): / Préciser le(s) pa	ays :	Specify country(ies): / Précis	ser le(s) pa	ays:
7. c) Level of information / Niveau d'inf	ll ormation					
PROTECTED A	NATO UNCLAS	SIFIED [		PROTECTED A		
PROTÉGÉ A	NATO NON CLA			PROTÉGÉ A		
PROTECTED B	NATO RESTRIC		╗	PROTECTED B	一一	
PROTÉGÉ B	NATO DIFFUSI	ON RESTREINTE		PROTÉGÉ B		
PROTECTED C	NATO CONFIDE		╗	PROTECTED C	$\neg \neg$	
PROTÉGÉ C	NATO CONFIDI			PROTÉGÉ C		
CONFIDENTIAL	NATO SECRET			CONFIDENTIAL	$\Box$	
CONFIDENTIEL	NATO SECRET	_		CONFIDENTIEL		
SECRET	COSMIC TOP S	ECRET [		SECRET	$\neg \neg$	
SECRET	COSMIC TRÈS	SECRET L		SECRET		
TOP SECRET			•	TOP SECRET	$\neg \neg$	
TRÈS SECRET				TRÈS SECRET		
TOP SECRET (SIGINT)				TOP SECRET (SIGINT)	$\neg \neg$	
TRÈS SECRET (SIGINT)				TRÈS SECRET (SIGINT)		

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DADT	( ) DARTIE A ( )	
8. Will t	A <i>(continued) / PARTIE A (suite)</i> The supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?	No Yes
	urnisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?	Non Oui
	s, indicate the level of sensitivity: l'affirmative, indiquer le niveau de sensibilité :	
	he supplier require access to extremely sensitive INFOSEC information or assets? urnisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?	No Yes Non Oui
	: Title(s) of material / Titre(s) abrégé(s) du matériel : ment Number / Numéro du document :	
PART E	3 - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)	
10. a) P	ersonnel security screening level required / Niveau de contrôle de la sécurité du personnel requis	
	RELIABILITY STATUS CONFIDENTIAL SECRET TOP SE TRÈS S	
		C TOP SECRET C TRÈS SECRET
	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 êt	tre fourni.
	lay unscreened personnel be used for portions of the work?  The personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?	No Yes Non Oui
	Yes, will unscreened personnel be escorted? lans l'affirmative, le personnel en question sera-t-il escorté?	No Yes Non Oui
PART (	- SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)	
INFO	RMATION / ASSETS / RENSEIGNEMENTS / BIENS	
11 2) )	Vill the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or	No Yes
	remises?	Non Oui
	e fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou LASSIFIÉS?	
	Vill the supplier be required to safeguard COMSEC information or assets? e fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?	No Yes Oui
	UCTION	
PROL	OCTION	
11. c) W	fill the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment	┌┐ No ┌┐Yes
C	ccur at the supplier's site or premises?	Non Oui
	es installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTEGE t/ou CLASSIFIÉ?	
INFO	MATION TEQUNOLOGY (IT) MEDIA. ( CURRORT RELATIC À LA TEQUNOLOGIE RE L'INFORMATION (TI)	
INFOR	RMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)	
11 d) W	fill the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED	No Yes
íir	formation or data?	Non Oui
	e fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des enseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?	
<u>.</u>		N- DV
Í (	fill 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 Ouvernementale?	No Yes Non Oui

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PΑ	ιR	TC-	(continued	) /	/ PARTIE C -	(suite)	
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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 CLASSIFIED PROTÉGÉ CLASSIFIÉ					NATO				COMSEC						
	Α	В	С	CONFIDENTIAL	SECRET	TOP SECRET	NATO RESTRICTED	NATO CONFIDENTIAL	NATO SECRET	COSMIC TOP		OTECT ROTÉG		CONFIDENTIAL	SECRET	TOP SECRET
				CONFIDENTIEL		Très Secret	NATO DIFFUSION RESTREINTE	NATO CONFIDENTIEL		SECRET COSMIC TRÈS SECRET	А	В	С	CONFIDENTIEL		TRES SECRET
Information / Assets Renseignements / Biens																
Production																
IT Media / Support TI																
IT Link / Lien électronique																
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?											Ye					

Renseignements / Biens	;														
Production															
IT Media / Support TI															
IT Link / Lien électronique															
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, classifier 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 docu La documenta														✓ 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, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).															





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PART D - AUTHORIZATION / PART	IE D - AUTORISATIO	N				
13. Organization Project Authority / C	chargé de projet de l'org	ganisme				
Name (print) - Nom (en lettres moulé	es)	Title - Titre		Signature		Digitally signed by Richard, Maurice DN: cn=Richard, Maurice, c=CA,
Maurice Richard		Project Man	ager	1	Mourian	o=GC, ou=NRC-CNRC, email=maurice.richard2@canada.ca Date: 2023.02.23 11:17:17 -05'00'
Telephone No N° de téléphone 613-404-9726	Facsimile No N° de	•	E-mail address - Adresse cour Maurice.Richard@nrc-cnrc.go		Date	
14. Organization Security Authority /	Responsable de la séc	urité de l'orgar	nisme			
Name (print) - Nom (en lettres moulé	es)	Title - Titre		Signature	Rioux,	Digitally signed by Rioux, Marika DN: cn=Rioux, Marika, c=CA, o=GC, ou=NRC-CNRC, email=marika.rioux@cnrc-
Marika Rioux		Analyst, Se	curity in Contracting		Marika	nrc.gc.ca Date: 2023.02.24 12:04:20 -05'00'
Telephone No N° de téléphone 343-542-6839	Facsimile No N° de	télécopieur	E-mail address - Adresse cour marika.rioux@nrc-cnrc.gc.ca	riel	Date	
15. Are there additional instructions ( Des instructions supplémentaires				t-elles jointes	s?	No Yes Oui
16. Procurement Officer / Agent d'ap	provisionnement					
Name (print) - Nom (en lettres moulé	es)	Title - Titre		Signature	Backes	Digitally signed by Backes, Tania DN: cn=Backes, Tania, c=CA, o= GC, ou=NRC-CNRC, email=tania
Tania Backes		Procurement	Officer		Tania	.backes@cnrc-nrc.gc.ca Date: 2023.04.03 11:51:00 -04'00
Telephone No N° de téléphone	Facsimile No N° de	télécopieur	E-mail address - Adresse cou Tania.Backes@nrc-cnrc.gc.ca		Date	
17. Contracting Security Authority / A	utorité contractante en	matière de sé	curité		•	
Name (print) - Nom (en lettres moulé	es)	Title - Titre		Signature		
Telephone No N° de téléphone	Facsimile No N° de	télécopieur	E-mail address - Adresse con	urriel	Date	

