

<p>NCC Tender File #</p>	<p>AL1445</p>
<p>Project Description</p>	<p>Colonel By Masonry Wall Rehabilitation</p>
<p>Site Visit</p>	<p>A NON MANDATORY site visit will be held on Wednesday, July 31, 2013 at 11am Ottawa time. The exact meeting place is the intersection of Echo Drive & Mount Pleasant Avenue, Ottawa, ON. All costs incurred by the Bidder to attend the site visit will be at their expense. The NCC will not reimburse any Bidder for expenses related to the site visit. Please contact Marie-Andrée Bureau at 613-239-5678 ext. 5268 to confirm your attendance at this NON MANDATORY site visit and to gain access to the grounds</p>
<p>Closing date and time</p>	<p>Wednesday, August 7, 2013 at 3pm Ottawa time</p>

RETURN TENDERS TO: National Capital Commission 40 Elgin Street, 3rd Floor, Service Centre Ottawa, ON K1P 1C7 TENDER CLOSING DATE AND TIME: Wednesday, August 7, 2013 at 3pm Ottawa time	NCC Tender File # AL1445
	NCC Contract Number

DESCRIPTION OF WORK: Colonel By Masonry Wall Rehabilitation

1. BUSINESS NAME AND ADDRESS OF BIDDER

Name: _____
Address: _____

Telephone number: _____ **Fax number:** _____

2. THE OFFER

The Bidder offers to the National Capital Commission (NCC) to perform and complete the work for the above mentioned project in accordance with the tender documents for the total tender amount (to be expressed in numbers only) of:

Sub Total \$ _____
 OHST – 13% \$ _____
TOTAL \$ _____

3. TENDER VALIDITY PERIOD

The tender shall not be withdrawn for a period of 60 days following the date and time of tender closing.

4. CONTRACT DOCUMENTS

1. The following are the contract documents:
 - (a) Invitation to Tender & Acceptance Form when signed by the NCC;
 - (b) Duly completed Invitation to Tender & Acceptance Form and any Appendices attached thereto;
 - (c) Drawings and Specifications;
 - (d) General Conditions (GC1 to GC10);
 - (e) Supplementary Conditions, if any;
 - (f) Insurance Terms;
 - (g) Fair Wages and Hours of Labour – Labour Conditions;
 - (h) Occupational Health and Safety Requirements;
 - (i) Addenda
 - (j) Schedules of Wage Rates for Federal Construction Contracts;
 - (k) Any amendments issued or any allowable tender revision received before the date and time set for tender closing;
 - (l) Any amendment incorporated by mutual agreement between the NCC and the Contractor before acceptance of the tender; and
 - (m) Any amendment or variation of the contract documents that is made in accordance with the General Conditions;
 - (n) Security Requirements.
2. Schedules of Wage Rates for Federal Construction contracts are included by reference and may be accessed from the Website: <http://www.hrsdc.gc.ca/asp/gateway.asp?hr=en/lp/lo/lswf/fw/schedule.shtml&hs=cgp>.
3. The language of the contract documents shall be the language of the Invitation to Tender & Acceptance Form submitted.

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NCC Contract Number

5. APPENDICES

The tender includes Appendix(ces) Nos 1 and 11 to the Invitation to Tender & Acceptance Form.

6. ACCEPTANCE AND CONTRACT

Upon acceptance of the Contractor's offer by the NCC, a binding Contract shall be formed between the NCC and the Contractor. The documents forming the Contract shall be the contract documents referred to in 4 – CONTRACT DOCUMENTS.

7. CONSTRUCTION TIME

The Contractor shall perform and complete the Work no later than October 30, 2013.

8. UNIT PRICE TABLE

The Bidder agrees that

- (a) the Unit Price Table designates that part of the Work to which a Unit Price Arrangement applies.
- (b) the Price per Unit and the Estimated Total Price must be entered for each item listed;
- (c) the Price per Unit as tender governs in calculating the Total Estimated Amount, and any errors in the extension of the Price per Unit and in the addition of the Estimated Total Prices shall be corrected by the NCC in order to obtain the Total Estimated Amount; and
- (d) the following table is the Unit Price Table for the purposes of the tender and the Contract:

UNIT PRICE TABLE

Note: Transmit the estimated total of the unit price table, under item 2, The Offer of this Invitation to Tender & Acceptance Form.

ITEM#	DESCRIPTION	UOM	QTY	UNIT PRICE	LS price or total for item
	Part A - Site Works				
A1	1. Mobilization/Demobilization	L.S.	1		
A2	2. Traffic Control	L.S.	1		
A3	3. Site Preparation	L.S.	1		
	Part B - Concrete				
B1	Concrete	L.S.	1		
	Part C - Masonry				
C1	1. Masonry Repointing and Repair – Type I wall	SQ.M.	340		
C2	2. Masonry Repointing and Repair – Type II wall	SQ.M.	260		
C3	3. Dismantle and Rebuild Masonry	CUBIC M.	5.0		
C4	4. Supply New Stone	CUBIC M.	1.0		
C5	5. Wall Reconstruction (refer to detail 1 on drawing S03)	L.S.	1		
	Part D - Electrical				
D1	1. Remove, Salvage and Reinstall Luminaires	L.S.	1		
				SUB-TOTAL EXCL TAXES	

9. The basis of award is low total cost to the Commission including all taxes.
10. I/We acknowledge receipt of the following addenda and have included for the requirement of it/them in my/our tendered price: _____ (Bidder to enter number of addenda issued, if any).

11. TENDER SECURITY

1. The Bidders shall enclose tender security with its tender in accordance with GI08 TENDER SECURITY REQUIREMENTS.
2. If the security furnished does not comply fully with the requirements referred to in paragraph 1) herein, the tender shall be disqualified.
3. If a security deposit is furnished as tender security, it shall be forfeited in the event that the tender is accepted by the NCC and the Contractor fails to provide Contract Security in accordance with GC9 CONTRACT SECURITY, provided that the NCC may, if it is in the public interest, waive the forfeiture of the security deposit.

12. REVISIONS

Item 1c) of GC10.3.2.1 (refer under GC10 Insurance, section 10.3.2 Commercial General Liability, sub-section 10.3.2.1 Scope of Policy) is deleted.

13. INVOICING

Send the original invoice and 1 copy to:

Accounts Payable
 National Capital Commission
 202-40 Elgin Street
 Ottawa, ON K1P 1C7

Or by email at the following address: payables@ncc-ccn.ca

To ensure prompt payment, please prepare your invoice in accordance with the prices quoted. Errors in invoicing can cause delay of payment. Submit your invoice to the address shown above and clearly indicate the Contract number.

We hereby offer to supply to the NCC in accordance with the terms and conditions set out herein, the construction work listed above and on any attached sheets at the submitted price(s).

Name and title of person authorized to sign on behalf of Bidder (please print or type)	Signature	Date
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Your tender is accepted to supply to the NCC, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the construction services listed herein and on any attached sheets at the price(s) set out therefore.

Name and title of the person authorized to sign on behalf of the NCC (please print or type)	Signature	Date
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INVITATION TO TENDER & ACCEPTANCE FORM	APPENDIX 1
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- 1) The Bidder will subcontract the parts of the work listed below to the subcontractor named for each part. The Bidder agrees not to make changes in the list of subcontractors without the written consent of the NCC Representative. The Bidder understands that for each part of the work identified as Mandatory, if more than one subcontractor is named or no subcontractor is named, or, the Bidder fails to state that the work will be done by its own forces where applicable, the tender will be disqualified.
- 2) The Bidder certifies that tenders for the part(s) of the Work listed below were received from the following subcontractors:

NON-MANDATORY REQUIREMENT:

- (a) Any other work not listed below

Type of Work: _____	Sub-contractor: _____
Type of Work: _____	Sub-contractor: _____
Type of Work: _____	Sub-contractor: _____
Type of Work: _____	Sub-contractor: _____
Type of Work: _____	Sub-contractor: _____
Type of Work: _____	Sub-contractor: _____

~~**MANDATORY REQUIREMENT:** The subcontractors performing the work listed below must be identified. Failure to disclose the name of the sub-contractor for any work identified will result in the disqualification of your tender.~~

- ~~(a) **n/a**~~

~~Sub contractor: _____~~

~~Address: _____~~

- ~~(b) **n/a**~~

~~Sub contractor: _____~~

~~Address: _____~~

- ~~(c) **n/a**~~

~~Sub contractor: _____~~

~~Address: _____~~

- ~~(d) **n/a**~~

~~Sub contractor: _____~~

~~Address: _____~~

SUPPLIER – DIRECT PAYMENT AND TAX INFORMATION FORM
FOURNISSEUR – FORMULAIRE DE PAIEMENT DIRECT ET RENSEIGNEMENTS POUR FINS D'IMPÔT

PART 'A' – IDENTIFICATION / PARTIE 'A' - IDENTIFICATION

Legal name of entity or individual / Nom légal de l'entité ou du particulier	Operating name of entity or individual (if different from Legal Name) / Nom commercial de l'entité ou du particulier (s'il diffère du nom légal)		
Former Public Servant in receipt of a PSSA Pension / Ancien fonctionnaire qui reçoit une pension en vertu de la LPFP			
			<input type="checkbox"/> Yes / Oui <input type="checkbox"/> No / Non
An entity, incorporated or sole proprietorship, which was created by a Former Public Servant in receipt of a PSSA pension or a partnership made of former public servants in receipt of PSSA pension or where the affected individual has a controlling or major interest in the entity. / Une entité, constituée en société ou à propriétaire unique, créée par un ancien fonctionnaire touchant une pension en vertu de la LPFP, ou un partenariat formé d'anciens fonctionnaires touchant une pension en vertu de la LPFP, ou les entités dans lesquelles ils détiennent le contrôle ou un intérêt majoritaire.			
			<input type="checkbox"/> Yes / Oui <input type="checkbox"/> No / Non
Address / Adresse	Telephone no. / No. de ☐elephone :	Fax no. / No. De télécopieur :	
Postal code / Code postal	()	()	

PART 'B' – STATUS OF SUPPLIER / PARTIE 'B' – STATUT DU FOURNISSEUR

(1) Sole proprietor / Propriétaire unique <input type="checkbox"/>	If sole proprietor, provide / Si propriétaire unique, indiquez :	Last Name / Nom de famille	First name / Prénom	Initial / Initiale
(2) Partnership / Société de personnes <input type="checkbox"/>	SIN – mandatory for (1) & (2) / NAS – obligatoire pour (1) & (2)	Corporation / Société <input type="checkbox"/>	Business No. (BN) / No de l'entreprise (NE)	
GST/HST / TPS et de TVH		QST / TVQ (Québec)		
Number / Numéro : _____		Number / Numéro : _____		
Not registered / non inscrit <input type="checkbox"/>		Not registered / non inscrit <input type="checkbox"/>		
Type of contract / Genre de contrat				
Contract for services only / Contrat de services seulement <input type="checkbox"/>	Contract for mixed goods & services / Contrat de biens et services <input type="checkbox"/>	Contract for goods only / Contrat de biens seulement <input type="checkbox"/>		
Type of goods and/or services offered / Genre de biens et/ou services rendus :				

PART 'C' – FINANCIAL INSTITUTION / PARTIE 'C' – RENSEIGNEMENTS SUR L'INSTITUTION FINANCIÈRE

Please send a void cheque with this form / Veuillez, s.v.p., envoyer un spécimen de chèque avec ce formulaire

Branch number / No de la succursale	Institution no. / No de l'institution :	Account no. / No de compte :
Institution name / Nom de l'institution :	Address / Adresse :	
Postal Code / Code postal :		

PART 'D' – PAYMENT NOTIFICATION / PARTIE 'D' – AVIS DE PAIEMENT

E-mail address / Adresse courriel :

PART 'E' – CERTIFICATION / PARTIE 'E' – CERTIFICATION

I certify that I have examined the information provided above and it is correct and complete, and fully discloses the identification of this supplier.	Je déclare avoir examiné les renseignements susmentionnés et j'atteste qu'ils sont exacts et constituent une description complète, claire et véridique de l'identité de ce fournisseur.		
Where the supplier identified on this form completes part C, he hereby requests and authorizes the National Capital Commission to directly deposit into the bank account identified in part C, all amounts payable to the supplier.	Lorsque le fournisseur indiqué sur ce formulaire remplit la partie C, par la présente il demande et autorise la Commission de la capitale nationale à déposer directement dans le compte bancaire indiqué à la partie C, tous les montants qui lui sont dus.		
_____	_____	_____	_____
Name of authorized person / Nom de la personne autorisée	Title / Titre	Signature	Date
Telephone number of contact person / Numéro de téléphone de la personne ressource : ()			

IMPORTANT

Please fill in and return to the National Capital Commission with one of your business cheque unsigned and marked « VOID » (for verification purposes).	Veillez remplir ce formulaire et le retourner à la Commission de la capitale nationale avec un spécimen de chèque de votre entreprise non signé et portant la mention « ANNULÉ » (à des fins de vérification).
Mail or fax to : Procurement Assistant, Procurement Services National Capital Commission 202-40 Elgin Street Ottawa, ON K1P 1C7 Fax : (613) 239-5007	Poster ou télécopier à : Assistant à l'approvisionnement Services de l'approvisionnement Commission de la capitale nationale 40, rue Elgin, pièce 202 Ottawa (Ontario) K1P 1C7 Télécopieur : (613) 239-5007

**SUPPLIER – DIRECT PAYMENT AND TAX
INFORMATION FORM**

**FOURNISSEUR – FORMULAIRE DE PAIEMENT DIRECT
ET RENSEIGNEMENTS AUX FINS D'IMPÔT**

Supplier Tax Information

Pursuant to paragraph 221(1) (d) of the Income Tax Act, NCC must declare form T-1204, contractual payments of government for services, all payments made to suppliers during the calendar year in accordance to related service contracts (including contracts for mixed goods and services).

The paragraph 237(1) of the Income Tax Act and the article 235 of the Income Tax Regulations require the supplier to provide all necessary information below to the organization who prepares the fiscal information forms.

Questions : Marcel Sanscartier, Manager, Accounts Payable and Receivable – (613) 239-5241.

Direct payment information

All amounts payable by NCC to the supplier will be deposited directly into the account you identified in part C. A NCC payment advice notice will also be sent to you by e-mail detailing the particularities of the payment.

Until we process your completed form, we will still pay you by check.

You must notify the NCC of any changes to your financial institution, branch or account number. You will then have to complete a new form.

The account you identified has to hold Canadian funds at a financial institution in Canada.

The advantages of direct payment

Direct payment is a convenient, dependable and timesaving way to receive your invoice payment. Direct payment is completely confidential.

There is less risk of direct payment being lost, stolen, or damaged as may happen with cheques.

Funds made by direct payment will be available in your bank account on the same day that we would have mailed your cheque.

Renseignements sur les fournisseurs aux fins d'impôt

En vertu de l'alinéa 221(1) (d) de la Loi de l'impôt sur le revenu, la CCN est tenu de déclarer, à l'aide du formulaire T-1204, Paiements contractuels de services du gouvernement, tous paiements versés aux fournisseurs pendant une année civile en vertu de marchés de services pertinents (y compris les marchés composés à la fois de biens et de services).

Le paragraphe 237 (1) de la Loi de l'impôt sur le revenu et l'article 235 du Règlement de l'impôt sur le revenu obligent les fournisseurs à fournir toutes les informations demandées ci-dessous à l'organisme qui prépare les formulaires de renseignements fiscaux.

Questions : Marcel Sanscartier, Gestionnaire, comptes fournisseurs et comptes clients – (613) 239-5241.

Renseignements sur le paiement direct

Tous les montants versés par la CCN au fournisseur seront déposés directement dans le compte identifié à la partie C. Un avis de paiement de la CCN détaillant les particularités du paiement vous sera envoyé par courriel.

Nous continuerons à vous payer par chèque jusqu'à ce que nous ayons traité votre formulaire.

Vous devez aviser la CCN de tout changement d'institution financière, de succursale ou de numéro de compte. Vous devrez donc remplir un nouveau formulaire.

Le compte que vous désignez doit être un compte en monnaie canadienne, détenu dans une institution financière au Canada.

Avantages du paiement direct

Le paiement direct est une méthode pratique, fiable, qui permet de gagner du temps dans la réception de vos paiements de factures. Le paiement direct est entièrement confidentiel.

Avec les paiements direct, il y a moins de risques de perte, de vol ou de dommage, comme cela peut se produire dans le cas des chèques.

Les paiements effectués par paiement direct sont versés dans votre compte le jour même où nous aurions posté votre chèque.

- SI01 Tender Documents
- SI02 Enquiries during the Solicitation Period
- SI03 [\[Non Mandatory\] Site Visit](#)
- SI04 Revision of Tender
- SI05 Tender Results
- SI06 Negotiations
- SI07 Tender Validity Period
- SI08 Construction Documents
- SI09 Public Tender Opening

SI01 TENDER DOCUMENTS

- 1) The following are the tender documents:
 - (a) Invitation to Tender & Acceptance Form and any Appendices attached thereto;
 - (b) Special Instructions to Bidders; and
 - (c) General Instructions to Bidders.

Submission of a tender constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

SI02 ENQUIRIES DURING THE SOLICITATION PERIOD

- 1) Enquiries regarding this tender must be submitted in writing to the following: Sr. Contract Officer, Allan Lapensée, telephone number - 613-239-5678 ext. 5051, facsimile number - 613-239-5007 or e-mail address - allan.lapensee@ncc-ccn.ca as early as possible within the solicitation period. Except for the approval of alternative materials as described in GI15 of the General Instructions to Bidders, enquiries should be received no later than five (5) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may result in an answer not being provided.
- 2) To ensure consistency and quality of the information provided to Bidders, the Sr. Contract Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.
- 3) All enquiries and other communications related to this tender sent throughout the solicitation period are to be directed ONLY to the Sr. Contract Officer named above. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a tender.

SI03 [\[NON MANDATORY\] SITE VISIT](#)

- 1) A NON MANDATORY site visit will be held on Wednesday, July 31, 2013 at 11am Ottawa time. The exact meeting place is the intersection of Echo Drive & Mount Pleasant Avenue, Ottawa, ON. All costs incurred by the Bidder to attend the site visit will be at their expense. The NCC will not reimburse any Bidder for expenses related to the site visit. Please contact Marie-Andrée Bureau at 613-239-5678 ext. 5268 to confirm your attendance at this NON MANDATORY site visit and to gain access to the grounds.

SI04 REVISION OF TENDER

- 1) A tender may be revised by letter or facsimile in accordance with GI10 of the General Instructions to Bidders. The facsimile number for receipt of revisions is 613-239-5012.

SI05 TENDER RESULTS

- 1) Following solicitation closing, tender results may be obtained by calling the Sr. Contract Officer, Allan Lapensée, telephone number 613-239-5678 ext. 5051, facsimile number 613-239-5007 or e-mail address allan.lapensee@ncc-ccn.ca.

SI06 NEGOTIATIONS

- 1) In the event that the lowest compliant tender exceeds the amount of funding the NCC has allocated for the construction phase of the work:
 - (a) by 15% or less, the NCC, at its sole discretion, shall either:
 - (i) cancel the invitation to tender; or
 - (ii) obtain additional funding and, subject to the provisions of GI11 and GI09 of the General Instructions to Bidders, award the Contract to the Bidder submitting the lowest compliant tender; or
 - (iii) revise the scope of the work accordingly and negotiate, with the Bidder submitting the lowest compliant tender, a corresponding reduction in its tender price.
 - (b) by more than 15%, the NCC, at its sole discretion, shall either:
 - (i) cancel the invitation to tender; or
 - (ii) obtain additional funding and, subject to the provisions of GI11 and GI09 of the General Instructions to Bidders, award the Contract to the Bidder submitting the lowest compliant tender; or
 - (iii) revise the scope of the work accordingly and invite those who submitted compliant tenders at the original invitation to tender to re-tender the work.
- 2) If negotiations or a re-tender are undertaken as is contemplated in subparagraphs 1)(a)(iii) or 1)(b)(iii) above, Bidders shall retain the same subcontractors and suppliers as they carried in their original tenders.
- 3) If the NCC elects to negotiate a reduction in the tender price as is contemplated in subparagraph 1)(a)(iii) herein and the negotiations fail to reach an agreement, the NCC shall then exercise either of the options referred to subparagraphs 1)(a)(i) or 1)(a)(ii).

SI07 TENDER VALIDITY PERIOD

- 1) The NCC reserves the right to seek an extension to the tender validity period prescribed in 3 of the Invitation to Tender & Acceptance Form. Upon notification in writing from the NCC, Bidders shall have the option to either accept or reject the proposed extension.

- 2) If the extension referred to in paragraph 1) of SI07 is accepted, in writing, by all those who submitted tenders, then the NCC shall continue immediately with the evaluation of the tenders and its approvals processes.
- 3) If the extension referred to in paragraph 1) of SI07 is not accepted in writing by all those who submitted tenders then the NCC shall, at its sole discretion, either:
 - (a) continue to evaluate the tenders of those who have accepted the proposed extension and seek the necessary approvals; or
 - (b) cancel the invitation to tender.
- 4) The provisions expressed herein do not in any manner limit the NCC's rights in law or under GI11 of the General Instructions to Bidders.

SI08 CONSTRUCTION DOCUMENTS

- 1) The successful contractor will be provided with one paper copy of the sealed and signed plans, the specifications and the amendments upon acceptance of the offer. Additional copies, may be available free of charge upon request by the contractor. If not, obtaining more copies shall be the responsibility of the contractor including costs.

SI09 PUBLIC TENDER OPENING

- 1) **A public tender opening will be held on August 7, 2013 shortly after 3pm Ottawa time at 40 Elgin Street, Ottawa, Ontario in room 306.**

- GI01 Completion of Tender
- GI02 Identity or Legal Capacity of the Bidder
- GI03 Goods and Services Tax / Harmonized Sales Tax
- GI04 Québec Sales Tax
- GI05 Capital Development and Redevelopment Charges
- GI06 Registry and Pre-qualification of Floating Plant
- GI07 Listing of Subcontractors and Suppliers
- GI08 Tender Security Requirements
- GI09 Submission of Tender
- GI10 Revision of Tender
- GI11 Acceptance of Tender
- GI12 Procurement Business Number
- GI13 Bid Depository
- GI14 Compliance with Applicable Laws
- GI15 Approval of Alternative Materials
- GI16 Performance Evaluation

GI01 Completion of Tender

- 1) The tender shall be:
 - (a) submitted on the Invitation to Tender and Acceptance Form provided through the Government Electronic Tendering Service (GETS) or on a clear and legible reproduced copy of such Invitation to Tender and Acceptance Form that must be identical in content and format to the Invitation to Tender and Acceptance Form provided through GETS;
 - (b) based on the Tender Documents listed in the Special Instructions to Bidders;
 - (c) correctly completed in all respects;
 - (d) signed by a duly authorized representative of the Bidder; and
 - (e) accompanied by
 - (i) tender security as specified in GI08; and
 - (ii) any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the tender.
- 2) Subject to paragraph 6) of GI11, any alteration to the pre-printed or pre-typed sections of the Invitation to Tender and Acceptance Form, or any condition or qualification placed upon the tender shall be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the Invitation to Tender and Acceptance Form by the Bidder shall be initialled by the person or persons signing the tender. Initials shall be original(s). Alterations, corrections, changes or erasures that are not initialled shall be deemed void and without effect.
- 3) Unless otherwise noted elsewhere in the Tender Documents, facsimile copies of tenders are not acceptable.

GI02 Identity or Legal Capacity of the Bidder

- 1) In order to confirm the authority of the person or persons signing the tender or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by the NCC prior to award of contract, provide satisfactory proof of:

- (a) such signing authority; and
- (b) the legal capacity under which it carries on business.

Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this tender on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership.

GI03 Goods and Services Tax / Harmonized Sales Tax

- 1) The National Capital Commission (NCC) is a Crown Corporation subject to the Goods and Services Tax (GST), the Ontario Provincial Sales Tax (OST) and the Quebec Sales Tax (QST). The rates quoted are exclusive of the GST and the OST/QST. The successful firm will be required to indicate separately, on all invoices or requests for payments, the amount of Goods and Services Sales Tax (GST), the amount of Ontario Sales Tax (OST) and the amount of Quebec Sales Tax (QST), to the extent applicable, that the Commission must pay. These amounts will be paid to the successful Bidder who is required to make the appropriate remittances to Revenue Canada and the respective provincial governments.

Pursuant to paragraph 221 (1)(d) of the Income Tax Act, payments made by Crown Corporations under applicable service contracts (including contracts involving a mix of goods and services) must be reported on a "T1204" slip. To comply with this requirement, the Bidder is required to provide the following information on the "Supplier – Direct Payment and Tax Information Form" (see Appendix 11).

By signing this form, the Bidder/Proponent certifies that he/she has examined the information provided on the form and that it is correct, complete, and fully discloses the identification of the Contractor.

This "Supplier – Direct Payment and Tax Information Form" must be completed and returned to the Commission prior to any contract being awarded to your firm (see Appendix 11).

GI04 Quebec Sales Tax

- 1) See GI03.

GI05 Capital Development and Redevelopment Charges

- 1) For the purposes of GC1.8 LAWS, PERMITS AND TAXES in the General Conditions of the Contract, only fees or charges directly related to the processing and issuing of building permits shall be included. The Bidder shall not include any monies in the tender amount for special municipal development, redevelopment or other fees or charges which a municipal authority may seek as a prerequisite to the issuance of building permits.

GI06 Registry and Pre-qualification of Floating Plant

- 1) Dredges or other floating plant to be used in the performance of the Work must be on Canadian registry. For dredges or other floating plant that are not of Canadian make or manufacture, the Bidder must obtain a certificate of qualification from Industry Canada, if applicable, and this certificate must accompany the tender. Plant so qualified by Industry Canada may be accepted on this project.

GI07 Listing of Subcontractors and Suppliers

- 1) Notwithstanding any list of Subcontractors that the Bidder shall be required to submit as part of the tender, the Bidder submitting the lowest acceptable tender shall, within 24 hours of receipt of a notice to do so, submit all information requested in the said notice including the names of Subcontractors and Suppliers for the part or parts of the Work listed. Failure to do so may result in the disqualification of its tender.

GI08 Tender Security Requirements

- 1) The Bidder shall submit tender security with the tender in the form of a bid bond or a security deposit in an amount that is equal to not less than 10% of the tender amount including all applicable taxes.

The maximum amount of tender security required with any tender is \$2,000,000.00.

- 2) A bid bond shall be in an approved form, properly completed, with original signature(s) and issued by an approved company whose bonds are acceptable to the NCC either at the time of solicitation closing or as identified on the list displayed at the following Website:

<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12027>

The approved form for the bid bond is enclosed at the end of this section.

- 3) A security deposit shall be an original, properly completed, signed where required and be either:
 - (a) a bill of exchange, bank draft or money order payable to the NCC;
 - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada; or
- 4) A bill of exchange, bank draft or money order referred to in subparagraph 3)(a) of GI08 shall be certified by or drawn on:
 - (a) a corporation or institution that is a member of the Canadian Payments Association;
 - (b) a corporation that accepts public deposits and repayment of the deposits is unconditionally guaranteed by Her Majesty in right of a province;
 - (c) 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;
 - (d) a corporation, association or federation incorporated or organized as a credit union or cooperative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137 (6)(b) of the *Income Tax Act*; or
 - (e) Canada Post Corporation.
- 5) If a bill of exchange, bank draft or money order is drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in paragraph 4) of GI08, either by letter or by a stamped certification on the bill of exchange, bank draft, or money order.
- 6) For the purposes of this section, a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable time, a certain sum of money to, or to the order of, the NCC.

- 7) Bonds referred to in subparagraph 3)(b) of GI08 shall be provided on the basis of their market value current at the date of solicitation closing, and shall be:
 - (a) payable to bearer;
 - (b) accompanied by a duly executed instrument of transfer of the bonds to the NCC in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - (c) registered as to principal or as to principal and interest in the name of the NCC pursuant to the Domestic Bonds of Canada Regulations.
- 8) As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to the NCC and the amount shall be determined in the same manner as a security deposit referred to above.
- 9) An irrevocable standby letter of credit referred to in paragraph 8) of GI08 shall:
 - (a) be an arrangement, however named or described, whereby a financial institution (the “Issuer”) acting at the request and on the instructions of a customer (the “Applicant) or on its own behalf:
 - (i) is to make a payment to, or to the order of, the NCC as the beneficiary;
 - (ii) is to accept and pay bills of exchange drawn by the NCC;
 - (iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
 - (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with.
 - (b) state the face amount which may be drawn against it;
 - (c) state its expiry date;
 - (d) provide for sight payment to the NCC by way of the financial institution’s draft against presentation of a written demand for payment signed by the NCC Contract Administrator identified in the letter of credit by his/her office;
 - (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
 - (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600;
 - (g) clearly specify that it is irrevocable or deemed to be irrevocable pursuant to article 6 c) of the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600; and
 - (h) be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.
- 10) Tender security shall lapse or be returned as soon as practical following:
 - (a) the solicitation closing date, for those Bidders submitting non-compliant tenders; and

- (b) the administrative tender review, for those Bidders submitting compliant tenders ranked fourth to last on the schedule of tenders; and
 - (c) the award of contract, for those Bidders submitting the second and third ranked tenders; and
 - (d) the receipt of contract security for the successful Bidder; or
 - (e) the cancellation of the solicitation, for all Bidders.
- 11) Notwithstanding the provisions of paragraph 10) of GI08 and provided more than three (3) compliant tenders have been received, if one or more of the tenders ranked third to first is withdrawn or rejected for whatever reason, then the NCC reserves the right to hold the security of the next highest ranked compliant tender in order to retain the tender security of at least three (3) valid and compliant tenders.

GI09 Submission of Tender

- 1) The Invitation to Tender and Acceptance Form, duly completed with the bid security, shall be enclosed and sealed in an envelope provided by the Bidder, and shall be addressed and submitted to the office designated on the front page of the Invitation to Tender and Acceptance Form for the receipt of tenders.
- 2) Unless otherwise specified in the Special Instructions to Bidders:
 - (a) the tender shall be in Canadian currency;
 - (b) exchange rate fluctuation protection is not offered; and
 - (c) any request for exchange rate fluctuation protection shall not be considered.
- 3) Prior to submitting the tender, the Bidder shall ensure that the following information is clearly printed or typed on the face of the tender envelope:
 - (a) Solicitation Number;
 - (b) Name of Bidder.
- 5) Timely and correct delivery of the tender is the sole responsibility of the Bidder. The tender must be received on or before the date and time set for solicitation closing. Late tenders shall be disqualified.

GI10 Revision of Tender

- 1) A tender submitted in accordance with these instructions may be revised by letter or facsimile (fax number only 613-239-5012 provided the revision is received at the office designated for the receipt of tenders, on or before the date and time set for the closing of the solicitation. The letter or facsimile shall:
 - (a) be on the Bidder's letterhead or bear a signature that identifies the Bidder;
 - (b) for the Total Bid Amount, clearly identify the amount of the current revision. The total aggregate sum of all revisions submitted, including the current revision, shall be shown separately; and
 - (c) for the Price per unit portion of a tender, clearly identify the current revision(s) to the Price(s) per unit and the specific item(s) to which each revision applies. If a revision is to be applied to a specific Item that was previously amended then, in addition to the amount of the current

revision, the total aggregate sum of all revisions submitted, including the current revision, for that Item shall be shown separately.

- 2) A letter or facsimile submitted to confirm an earlier revision shall be clearly identified as "CONFIRMATION ONLY", for each contemplated change.
- 3) Failure to comply with any of the above provisions shall result in the rejection of the non-compliant revision(s) only. The tender shall be evaluated based on the original tender submitted and all other compliant revision(s).

GI11 Acceptance of Tender

- 1) The NCC may accept any tender, whether it is the lowest or not, or may reject any or all tenders.
- 2) Without limiting the generality of paragraph 1) of GI11, the NCC may reject a tender if any of the following circumstances are present:
 - (a) the Bidder, or any employee or subcontractor included as part of the tender, have been convicted under section 121 ("Frauds on the government" & "Contractor subscribing to election fund"), 124 ("Selling or purchasing office"), 380 (Fraud committed against Her Majesty) or 418 ("Selling defective stores to Her Majesty") of the Criminal Code of Canada, or under paragraph 80(1)(d) (False entry, certificate or return), subsection 80(2) (Fraud against her Majesty) or Section 154.01 (Fraud against her Majesty) of the Financial Administration Act;
 - (b) the Bidder's bidding privileges are suspended or are in the process of being suspended;
 - (c) the bidding privileges of any employee or subcontractor included as part of the tender are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to tender on the Work, or the portion of the Work the employee or subcontractor is to perform;
 - (d) with respect to current or prior transactions with the NCC
 - (i) the Bidder is bankrupt or if, for whatever reason, its activities are rendered inoperable for an extended period;
 - (ii) evidence, satisfactory to the NCC, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its tender;
 - (iii) the NCC has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its tender; or
 - (iv) the NCC determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being tendered on.
- 3). In assessing the Bidder's performance on other contracts pursuant to subparagraph 2)(d)(iv) of GI11, the NCC may consider, but not be limited to, such matters as:
 - (a) the quality of workmanship in performing the Work;
 - (b) the timeliness of completion of the Work;

- (c) the overall management of the Work and its effect on the level of effort demanded of the NCC and its representative; and
 - (d) the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
- 4) Without limiting the generality of paragraphs 1), 2) and 3) of GI11, the NCC may reject any based on an unfavourable assessment of the:
- (a) adequacy of the tender price to permit the work to be carried out and, in the case of a tender providing prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that price applies;
 - (b) Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
 - (c) Bidder's performance on other contracts.
- 5) If the NCC intends to reject a tender pursuant to a provision of paragraphs 1), 2), 3) or 4) of GI11, other than subparagraph 2)(b) of GI11, the NCC shall so inform the Bidder and provide the Bidder ten (10) days within which to make representation, prior to making a final decision on the tender rejection.
- 6) The NCC may waive informalities and minor irregularities in tenders received, if the NCC determines that the variation of the tender from the exact requirements set out in the Tender Documents can be corrected or waived without being prejudicial to other Bidders.

GI12 Procurement Business Number

- 1) Not applicable.

GI13 Bid Depository

- 1) If the solicitation advertisement states that a Bid Depository shall be used, the Bidder shall obtain bids in accordance with local Bid Depository rules and procedures.

GI14 Compliance with Applicable Laws

- 1) By submission of a tender, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the tender and entry into any ensuing contract for the performance of the work.
- 2) For the purpose of validating the certification in paragraph 1) of GI14, a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the said request.
- 3) Failure to comply with the requirements of paragraph 2) of GI14 shall result in the disqualification of the tender.

GI15 Approval of Alternative Materials

- 1) When materials are specified by trade names or trademarks, or by manufacturers' or suppliers' names, the tender shall be based on use of the named materials. During the solicitation period,

alternative materials may be considered provided full technical data is received in writing by the Contracting Officer at least seven (7) calendar days, unless otherwise noted in the Tender documents, prior to the solicitation closing date. If the alternative materials are approved for the purposes of the tender, an addendum to the tender documents shall be issued.

GI16 Performance Evaluation

- 1) Bidders shall take note that the performance of the Contractor during and upon completion of the work shall be evaluated by the NCC. The evaluation shall be based on the quality of workmanship, timeliness of completion of the work, project management, contract management and management of health and safety. Should the Contractor's performance be considered unsatisfactory, the Contractor's bidding privileges on future work may be suspended indefinitely. Contractor Evaluation Report Form is enclosed at the end of this section.

BID BOND

Bond Number _____

Amount \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____ as Principal, hereinafter called the Principal, and _____ as Surety, hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as Obligee, hereinafter called the NCC, In the amount of _____ dollars (\$ _____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____, _____. WHEREAS, the Principal has submitted a written tender to the NCC, dated the _____ day of _____, _____, for: _____.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if:

- (a) The Principal, should his tender be accepted within the period be specified by the NCC, or, if no period be specified, within sixty (60) days after closing date of the tender:
 - 1. does execute within a period specified by the NCC, or, if no period be specified therein, within fourteen (14) days after the prescribed forms are presented to him for signature, execute such further contractual documents, if any, as may be required by the terms of the tender as accepted; and does
 - 2. furnish a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the Contract price and satisfactory to the NCC, or other security acceptable to the NCC; or
- (b) the Principal does pay to the NCC the difference between the amount of the Principal's tender and the amount of the Contract entered into by the NCC for the work, supplies and services which were specified in the said tender, if the latter amount be in excess of the former,

then, this obligation shall be void; otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that the Surety and the Principal shall not be liable to the NCC for an amount greater than the amount specified in the bond.

PROVIDED FURTHER that the Surety shall not be subject to any suit or action unless such suit or action is instituted and process therefore served upon the Surety at its Head Office in Canada, within twelve (12) months from the date of this bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and first above written.

SIGNED, SEALED AND DELIVERED in the presence of:

Principal _____

Witness _____

Surety _____

Note: Affix Corporate seal if applicable.

Date	Contract no. / No du contrat		
Description of work / Description des travaux			
Contractor's business name / Nom de l'entreprise de l'entrepreneur		Contractor's site superintendent / Contremaître de l'entrepreneur	
Contractor's business address / Adresse de l'entreprise de l'entrepreneur			
NCC representative / Représentant de la CCN			
Name / Nom	Telephone no. / N°. de téléphone	E-mail address / Adresse électronique	
Contract information / Information sur le contrat			
Contract award amount / Montant du marché adjugé		Contract award date / Date de l'adjudication du marché	
Final amount / Montant final		Actual contract completion date / Date réelle d'achèvement du contrat	
Number of change orders / Nombre d'ordres de changement		Final certificate date / Date du certificat final	
Quality of workmanship / Qualité des travaux exécutés			
<p>This is the rating of the quality of the workmanship. At final completion the quality of the materials and equipment incorporated in the work must meet the requirements set out in the plans and specifications.</p> <p>Il s'agit de l'évaluation de la qualité des travaux exécutés. À l'achèvement des travaux, la qualité des matériaux et de l'équipement doit satisfaire les exigences établies dans les plans et devis.</p>	Unacceptable / Inacceptable	0 – 5	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Supérieur	17 – 20	
Time / Délai d'exécution			
<p>This is the rating of the timeliness of completion considering the actual completion date compared with the original (or amended) contract completion date and allowing for conditions beyond the control of the contractor.</p> <p>Il s'agit de l'évaluation du délai d'exécution des travaux en prenant en considération la date actuelle d'achèvement des travaux par rapport à la date originale (ou modifiée) et en tenant compte des conditions indépendantes de la volonté de l'entrepreneur.</p>	Unacceptable / Inacceptable	0 – 5	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	Late / En retard	6 – 10	
	On time / À temps	11 – 16	
	Ahead of schedule / En avance sur le calendrier	17 – 20	
Project management / Gestion de projet			
<p>This is the rating of how the project, as described in the drawings and specifications, was managed including co-ordination, quality control, effective schedule development and implementation.</p> <p>Voici l'évaluation de la façon dont le projet décrit dans les documents contractuels a été géré, y compris la coordination, le contrôle de la qualité, l'élaboration d'un calendrier efficace et la mise en œuvre.</p>	Unacceptable / Inacceptable	0 – 5	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Supérieur	17 – 20	
	Criteria not applicable / Critère non-applicable		
Contract management / Gestion de contrat			
<p>This is the rating of how the contract was administered in accordance with the provisions expressed in the "front end" portion of the documents.</p> <p>Voici l'évaluation de la façon dont le contrat a été administré conformément aux dispositions comprises dans la partie « prioritaire » des documents.</p>	Unacceptable / Inacceptable	0 – 5	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Satisfaisant	17 – 20	
	Criteria not applicable / Critère non-applicable		
Health and safety / Santé et sécurité			
<p>This is the rating of the effectiveness of how the occupational health and safety provisions (whether identified in the contract or those of provincial legislation or those otherwise applicable) were managed and administered.</p> <p>Voici l'évaluation de l'efficacité avec laquelle les dispositions relatives à la santé et à la sécurité au travail (dans le contrat, dans les règlements provinciaux ou dans tout autre document) ont été gérées et administrées.</p>	Unacceptable / Inacceptable	0 – 5	<div style="border: 1px solid black; width: 80px; height: 80px; margin: auto;"></div>
	Not satisfactory / Non-satisfaisant	6 – 10	
	Satisfactory / Satisfaisant	11 – 16	
	Superior / Satisfaisant	17 – 20	
Total points / Pointage total			/100
Comments / Commentaires			
Name / Nom	Title / Titre	Signature	Date

INSTRUCTIONS AND ADDITIONAL INFORMATION (Contractor Performance Evaluation Report)
INSTRUCTIONS ET RENSEIGNEMENTS SUPPLÉMENTAIRES (Rapport d'évaluation du rendement de l'entrepreneur)

QUALITY OF WORKMANSHIP – QUALITÉ DES TRAVAUX EXÉCUTÉS

The NCC representative is to consider how the workmanship compares with:

- the norms in the area in which the work was carried out
- the contractor's compliance with any quality provisions outlined in the drawings and specification
- the quality of workmanship provided by other contractors on similar projects in the same facility/facilities

Le représentant de la CCN doit évaluer la qualité de l'exécution en fonction de ce qui suit :

- le respect des normes s'appliquant aux travaux réalisés
- la conformité de l'entrepreneur aux exigences de qualité comprises dans les dessins et dans les devis
- la qualité de l'exécution des travaux accomplis par d'autres entrepreneurs dans le cadre de projets similaires réalisés dans la même installation ou dans des installations semblables.

TIME / DÉLAIS D'EXÉCUTION

For the purpose of evaluation the contractor's time performance, consideration must be given to conditions beyond the contractor's control including NCC / Consultant / Client performance.

Afin d'évaluer le rendement de l'entrepreneur en matière de délai d'exécution, on doit prendre en considération les conditions indépendantes de la volonté de l'entrepreneur, y compris le rendement de la CCN, de l'expert-conseil et du client.

Consider conditions beyond the contractor's control, e.g.,

Prendre en considération les conditions indépendantes de la volonté de l'entrepreneur, par exemple :

- availability of, and access to the site
- changes in soil or site conditions
- weather extremes
- strikes
- material / equipment supply problems originating from manufacturers/suppliers
- quality of plans and specifications
- major change(s) in scope
- cumulative effect of changes
- was the NCC able to meet its obligations?
- timely decisions, clarifications, approvals, payments in due time
- delays caused by other contractors in the same facility

- disponibilité du chantier et accès au chantier
- modifications des conditions du sol ou du chantier
- température
- grèves
- problèmes d'approvisionnement en matériel et en équipement provenant des manufacturiers/fournisseurs
- qualité des plan et devis
- modifications importantes à l'étendue des travaux
- effets cumulatifs des modifications
- la CCN a-t-elle été capable de remplir ses obligations?
- décisions, clarifications, approbations, paiements en temps opportun
- les retards occasionnés par d'autres entrepreneurs travaillant dans la même installation.

The NCC representative's estimate of a reasonable maximum time allowance resulting from conditions beyond the contractor's control is
 L'estimation, par le représentant de la CCN, du temps maximum alloué pour les conditions indépendantes de la volonté de l'entrepreneur est



The period of delay attributable to the contractor is
 La période de retard attribuable à l'entrepreneur est



Did the contractor make an effective effort / Est-ce que l'entrepreneur s'est efforcé :

- to meet the schedule / de respecter l'échéancier des travaux
- to clean up deficiencies in a reasonable time / de corriger les vices dans un délai raisonnable

▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non
▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non

Have you recommended assessments and damages for late completion under the contract?
 Avez-vous recommandé des dédommagements pour retard d'exécution aux termes du marché?

▶	<input type="checkbox"/>	Yes Oui	<input type="checkbox"/>	No Non
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PROJECT MANAGEMENT / GESTION DU PROJET

The extent to which the contractor takes charge of and effectively manages the work has a direct effect on the inputs required of the NCC.

La mesure dans laquelle l'entrepreneur assume efficacement la gestion des travaux a une incidence directe sur les services qu'on attend de la CCN.

Consideration should be given to: Did the contractor

Il faut examiner si l'entrepreneur a :

- employ a knowledgeable site superintendent
- required additional input from the NCC staff above that which is normal for a project of similar size and nature
- promptly commence the work
- provide realistic schedules and updates in accordance with the terms of the contract
- provide a comprehensive work plan and adhere to its milestones
- order material promptly and in such a way as to expedite the progress of the work
- provide shop drawings promptly and were they of sufficient detail

- fait appel aux services d'un surintendant de chantier expérimenté
- demandé au personnel de la CCN une plus grande contribution que ce qui est normal pour un projet de cette importance et de cette nature
- commencé les travaux dans les plus brefs délais
- fourni un calendrier réaliste et des mises à jour conformément aux modalités du contrat
- présenté un plan de travail complet et a respecté les échéances
- commandé le matériel rapidement et de façon à accélérer l'avancement des travaux.
- fourni rapidement des dessins d'atelier comprenant suffisamment de détails

PROJECT MANAGEMENT (cont'd) / GESTION DU PROJET (suite)

- effectively manage and complete all Division 1 work site activities
 - promptly provide reasonable quotations for changes to the original scope of work
 - cooperate when issued directions by the NCC representative
 - interpret the contract documents accurately
 - establish effective quality control procedures
 - effectively coordinate and manage the work of its subcontractors
 - promptly correct defective work as the project progressed
 - promptly clean-up all deficiencies and incomplete work after issuance of the Interim Certificate of Completion
 - satisfactorily clean the work site periodically and at the completion of the project
- g r  et achev  efficacement toutes les activit s sur le chantier de la Division 1
 - propos  rapidement des prix raisonnables pour les modifications   l' nonc  des travaux initial
 - accept  les directives du repr sentant de la CCN
 - interpr t  les documents contractuels avec exactitude
 - mis en place des proc dures de contr le de la qualit  efficaces
 - coordonn  et g r  efficacement les travaux confi s   des sous-traitants
 - corrig  promptement le travail d fectueux en cours de projet
 - corrig  rapidement les travaux non acceptables et termin  les travaux incomplets apr s r ception du certificat provisoire d'ach vement
 - nettoy  de fa on satisfaisante le chantier p riodiquement ainsi qu'  la fin du projet.

CONTRACT MANAGEMENT / GESTION DU CONTRAT

The effectiveness of the contractor to administer the contract in accordance with the provisions expressed in the "front end" portion of the contract documents.

Consideration should be given to: Did the contractor

- in the time frame specified, provide its contract security, Insurance Certificate fully executed and WSIB form where applicable
- submit progress claims in the correct format, accurately representing the work successfully completed and material delivered to the site but not yet installed for each payment period
- submit a Statutory Declaration correctly completed with each progress claim
- submit an updated Schedule if so specified
- pay subcontractors and suppliers in a timely fashion in accordance with the terms and conditions of its subcontracts
- promptly appoint a competent site superintendent
- notify the NCC representative of all its subcontracting activities
- apply for, obtain and pay for all necessary permits, licenses and certificates
- cooperate with other contractors sent onto the site of the work
- remove a superintendent or unsuitable worker when requested by the NCC representative to do so
- effectively protect the work and the contract documents provided by the NCC
- comply with all warranty provisions up to the date of the Contractor Performance Evaluation Report Form (CPERF)
- effectively manage the site during a suspension or termination of the work to mitigate any additional costs to the NCC
- deal promptly with any claims from creditors
- maintain complete records of the project
- provide information promptly when requested to do so
- expedite and co-operate in the settlement of all disputes

Efficacit  avec laquelle l'entrepreneur a administr  le contrat conform ment aux dispositions continues dans la partie « prioritaire » des documents contractuels.

Il faut examiner si l'entrepreneur a :

- fourni, dans le d lai prescrit, une garantie contractuelle, un certificat d'assurance d ment sign s et le formulaire de la CSST, le cas  ch ant
- pr sent  des r clamations p riodiques dans le bon format, en d crivant avec pr cision les travaux ex cut s et le mat riel livr  sur le chantier mais non encore install , pour chaque p riode de paiement
- pr sent  une d claration solennelle correctement remplie avec chaque r clamation p riodique
- fourni un calendrier   jour, sur demande
- pay  rapidement les sous-traitants et les fournisseurs conform ment aux conditions des contrats de sous-traitance
- d sign  dans les plus brefs d lais un surintendant de chantier qualifi 
- tenu au courant le repr sentant de la CCN de toutes les activit s de sous-traitance
- demand , obtenu et pay  tous les permis, licences et certificats n cessaires
- collabor  avec les autres entrepreneurs envoy s sur le lieu des travaux
- remplac  un surintendant ou un travailleur inapte   la demande du repr sentant de la CCN
- prot g  efficacement les travaux et les documents relativement aux travaux et au contrat fournis par la CCN
- respect  toutes les dispositions de garantie jusqu'  la date du Formulaire Rapport d' valuation du rendement de l'entrepreneur (FRERE)
- g r  efficacement le chantier pendant une suspension des travaux ou lors de leur ach vement, afin de limiter tout c t  suppl mentaire pour la CCN
- trait  dans les plus brefs d lais les demandes de paiement des cr anciers
- tenu des dossiers complets sur le projet
- fourni promptement les renseignements demand s
- acc l re et coop re dans le r glement des diff rends

HEALTH AND SAFETY / SANTÉ ET SÉCURITÉ

The effectiveness to which the contractor managed and administered the occupational health and safety provisions as stipulated in the contract documents and those required by provincial legislation or those that would otherwise be applicable to the site of the work.

Consideration should be given to: Did the contractor

- provide the NCC with a copy of its health and safety program prior to award of contract
- provide the NCC with a copy of its site specific hazardous assessment prior to award of contract
- apply for and obtain the provincial Notice of Project prior to commencement of the work
- apply for and obtain the Building Permit prior to commencement of the work
- provide a competent superintendent who
 - is qualified in health and safety matters because of her/his knowledge, training and experience
 - is familiar with the OH&S Act and its Regulations that apply to the site of the work
 - remedies any potential or actual danger of health and safety to those employed at the work site
- respond in a timely manner to any non-compliance safety issues noted by the NCC or a representative of the authority having jurisdiction
- implement its safety program in a proactive manner

Efficacité avec laquelle l'entrepreneur a géré et administré les dispositions relatives à la santé et à la sécurité au travail telles que stipulées dans les documents contractuels et dans les règlements provinciaux ou ceux s'appliquant normalement au lieu des travaux.

Il faut examiner si l'entrepreneur a :

- fourni à la CCN une copie de son programme en matière de santé et de sécurité avant l'octroi du contrat
- fourni à la CCN une copie de son évaluation des dangers pouvant survenir sur les lieux avant l'octroi du contrat
- demandé et obtenu l'avis de projet provincial avant le début des travaux
- demandé et obtenu le permis de construction avant le début des travaux
- engagé un surintendant qui :
 - est qualifié en matière de santé et de sécurité de par ses connaissances, sa formation et son expérience
 - connaît bien les dispositions de la Loi sur la santé et la sécurité au travail et de son règlement qui s'applique sur le lieu des travaux
 - remédie à tout danger possible ou réel en matière de santé et de sécurité pouvant toucher toutes les personnes travaillant sur le lieu des travaux
- traité rapidement tous les problèmes de non-conformité à la sécurité relevés par la CCN ou par un représentant de l'autorité qui a juridiction
- mis en œuvre son programme de sécurité de façon proactive

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GC1.1 INTERPRETATION

GC1.1.1 Headings and References

- 1) The headings in the contract documents, other than those in the drawings and specifications, form no part of the Contract but are inserted for convenience of reference only.
- 2) A reference made to a part of the Contract by means of numbers preceded by letters is 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.
- 3) A reference to a paragraph or subparagraph followed by an identifying number, letter or combination thereof is, unless specifically stated otherwise, a reference to the paragraph or subparagraph that forms part of the clause within which the reference is made.

GC1.1.2 Terminology

- 1) In the Contract

"Contract" means the contract documents referred to as such therein and every other document specified or referred to in any of them as forming part of the Contract, all as amended by agreement of the parties;

"Contract Amount" means the amount set out in the Contract to be payable to the Contractor for the Work, subject to the terms and conditions of the Contract;

"Contract Security" means any security given by the Contractor to the NCC in accordance with the Contract;

"Contractor" means the person contracting with the NCC to provide or furnish all labour, Material and Plant for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to the NCC;

"Certificate of Completion" means a certificate issued by the NCC when the Work reaches Completion;

"Certificate of Measurement" means a certificate issued by the NCC certifying the correctness of the final quantities, prices per unit and values of labour, Plant and Material performed, used and supplied by the Contractor for the construction of the part of the Work to which a Unit Price Arrangement applies;

"Certificate of Substantial Performance" means a certificate issued by the NCC when the Work reaches Substantial Performance;

"NCC Representative" means the person designated in the Contract, or by written notice to the Contractor, to act as the NCC Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the NCC Representative to the Contractor;

"herein", "hereby", "hereof", "hereunder" and similar expressions refer to the Contract as a whole and not to any particular section or part thereof;

"Lump Sum Arrangement" means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates;

"Material" includes all commodities, articles, machinery, equipment, fixtures and things required to be furnished in accordance with the Contract for incorporation into the Work;

"NCC" means the National Capital Commission;

"Person" also includes, unless there is an express stipulation in the Contract to the contrary, any partnership, proprietorship, firm, joint venture, consortium or corporation;

"Plant" includes all tools, implements, machinery, vehicles, structures, equipment, articles and things that are necessary for the performance of the Contract, other than Material and those tools customarily provided by a tradesperson in practicing a trade;

"Security screening" is a generic term that applies to all types and levels of personnel security screening including Reliability Status, Site Access, and CONFIDENTIAL, SECRET and TOP SECRET security clearances conducted by the NCC;

"Sensitive Information and Assets" means information or assets that have been identified by the NCC as TOP SECRET, SECRET, CONFIDENTIAL or protected;

"Subcontractor" means a person having a direct contract with the Contractor, subject to GC3.6 SUBCONTRACTING, to perform a part or parts of the Work, or to supply Material customized for the Work;

"Superintendent" means the employee or representative of the Contractor designated by the Contractor to act pursuant to GC2.6 SUPERINTENDENT;

"Supplementary Conditions" means the part of the Contract that amends or supplements the General Conditions;

"Supplier" means a person having a direct contract with the Contractor to supply Plant or Material not customized for the Work;

"Unit Price Arrangement" means that part of the Contract that prescribes the product of a price per unit of measurement multiplied by a number of units of measurement for performance of the Work to which it relates;

"Unit Price Table" means the table of prices per unit set out in the Contract;

"Work" means, 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 in accordance with the contract documents; and

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

GC1.1.3 Application of Certain Provisions

- 1) Any 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 Lump Sum Arrangement applies.
- 2) Any provisions of the Contract that are expressly stipulated to be applicable only to a Lump Sum Arrangement are not applicable to any part of the Work to which a Unit Price Arrangement applies.

GC1.1.4 Substantial Performance

- 1) The Work shall be considered to have reached Substantial Performance when:
 - (a) the Work or a substantial part thereof has passed inspection and testing and is, in the opinion of the NCC, ready for use by the NCC or is being used for the intended purposes; and
 - (b) the Work is, in the opinion of the NCC, capable of completion or correction at a cost of not more than
 - (i) 3% of the first \$500,000;
 - (ii) 2% of the next \$500,000; and
 - (iii) 1% of the balanceof the Contract Amount at the time this cost is calculated.
- 2) Where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and:
 - (a) the remainder of the Work or a part thereof cannot be completed by the time specified in the Contract, or as amended in accordance with GC6.5 DELAYS AND EXTENSION OF TIME, for reasons beyond the control of the Contractor; or
 - (b) the NCC and the Contractor agree not to complete a part of the Work within the specified time;

the cost of that part of the Work that was either beyond the control of the Contractor to complete or the NCC and the Contractor have agreed not to complete by the time specified, shall be deducted from the value of the Contract referred to in subparagraph 1)(b) of GC1.1.4, and the said cost shall not form part of the cost of the Work remaining to be done in determining Substantial Performance.

GC1.1.5 Completion

- 1) The Work shall be deemed to have reached Completion when all labour, Plant and Material required have been performed, used or supplied, and the Contractor has complied with the Contract and all orders and directions made pursuant thereto, all to the satisfaction of the NCC.

GC1.2 CONTRACT DOCUMENTS**GC1.2.1 General**

- 1) The contract documents are complementary, and what is required by any one shall be as binding as if required by all.
- 2) References in the contract documents to the singular shall be considered to include the plural as the context requires.
- 3) Nothing contained in the contract documents shall create a contractual relationship between the NCC and any Subcontractor or Supplier, their subcontractors or suppliers, or their agents or employees.

GC1.2.2 Order of Precedence

- 1) In the event of any discrepancy or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:
 - (a) any amendment or variation of the contract documents that is made in accordance with the General Conditions;
 - (b) any amendment issued prior to tender closing;
 - (c) Supplementary Conditions;
 - (d) General Conditions;
 - (e) the duly completed Invitation to Tender and Acceptance Form when accepted;
 - (f) drawings and specifications.

later dates shall govern within each of the above categories of documents.

- 2) In the event of any discrepancy or conflict in the information contained in the drawings and specifications, the following rules shall apply:
 - (a) specifications shall govern over drawings;
 - (b) dimensions shown in figures on a drawings shall govern where they differ from dimensions scaled from the same drawing; and
 - (c) drawings of larger scale govern over those of smaller scale.

GC1.2.3 Security and Protection of Documents and Work

- 1) The Contractor shall guard and protect all sensitive contract information (TOP SECRET, SECRET, CONFIDENTIAL and PROTECTED) including printed and digital documents, drawings, information, models, copies thereof and processing systems, whether supplied by the NCC or the Contractor, against loss or compromise and damage from any cause.
- 2) The Contractor shall limit access to sensitive NCC information only to those with a “need-to-know” and who have been successfully security screened to at least the level of sensitivity of the information.
- 3) The Contractor shall ensure all contract information indicated in paragraph 1) is guarded and protected by any subcontractors, agents or suppliers and access limited only to those with a “need-to-know” and who have been successfully security screened to at least the level of sensitivity of the information.
- 4) The Contractor shall keep confidential all information provided to the Contractor by or on behalf of the NCC in connection with the Work, and all information developed by the Contractor as part of the Work, and shall not disclose any such information to any person without the written permission of the NCC, except that the Contractor may disclose to a subcontractor, authorized in accordance with the Contract, information necessary to the performance of a subcontract. This section does not apply to any information that:
 - (a) is publicly available from a source other than the Contractor; or
 - (b) is or becomes known to the Contractor from a source other than the NCC, except any source that is known to the Contractor to be under an obligation to the NCC not to disclose the information.
- 5) When the Contract, the Work, or any information referred to in paragraph 4) is identified as TOP SECRET, SECRET, CONFIDENTIAL or PROTECTED by the NCC, the Contractor shall, at all times, take all measures reasonably necessary for the safeguarding of the material so identified, including such measures as may be further specified elsewhere in the Contract or provided, in writing, from time to time by the NCC.
- 6) Without limiting the generality of paragraphs 4) and 5) of GC1.2.3, when the Contract, the Work, or any information referred to in paragraph 4) is identified as TOP SECRET, SECRET, CONFIDENTIAL or PROTECTED by the NCC, the NCC shall be entitled to inspect the Contractor's premises and the premises of its subcontractors or suppliers and any other person at any tier, for security purposes at any time during the term of the Contract, and the Contractor shall comply with, and ensure that any such subcontractors or suppliers comply with all written instructions issued by the NCC dealing with the material so identified, including any requirement that employees of the Contractor and its subcontractors and suppliers and any other person at any tier execute and deliver declarations relating to reliability status, site access security clearances and other procedures.
- 7) The Contractor shall report any suspected or actual security incidents immediately to the NCC involving loss, compromise or damage of NCC information or assets.
- 8) The Contractor shall safeguard the Work and the Contract, the specifications, drawings and any other information provided by the NCC to the Contractor, and shall be liable to the NCC for any loss or damage from any causes.

GC1.3 STATUS OF THE CONTRACTOR

- 1) The Contractor is engaged under the Contract as an independent contractor.
- 2) The Contractor, its subcontractors and suppliers and any other person at any tier and their employees are not engaged by the Contract as employees, servants or agents of the NCC.
- 3) For the purposes of the contract 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, Employment Insurance, Worker's Compensation, provincial health or insurance plans, and Income Tax.

GC1.4 RIGHTS AND REMEDIES

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

GC1.5 TIME OF THE ESSENCE

- 1) Time is of the essence of the Contract.

GC1.6 INDEMNIFICATION BY CONTRACTOR

- 1) The Contractor shall pay all royalties and patent fees required for the performance of the Contract and, at the Contractor's expense, shall defend all claims, actions or proceedings against the NCC charging or claiming that the Work or any part thereof provided or furnished by the Contractor to the NCC infringes any patent, industrial design, copyright trademark, trade secret or other proprietary right enforceable in Canada.
- 2) The Contractor shall indemnify and save the NCC harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by any third party, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by, or attributable to the activities of the Contractor, its subcontractors and suppliers and any other person at any tier, in performing the Work.
- 3) For the purposes of paragraph 2) of GC1.6, "activities" means any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

GC1.7 INDEMNIFICATION BY THE NCC

- 1) Subject to the Crown Liability and Proceedings Act, the Patent Act, and any other law that affects the NCC's rights, powers, privileges or obligations, the NCC shall indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of the Contractor's activities under the Contract that are directly attributable to:
 - (a) a lack of or a defect in the NCC's title to the Work site if owned by the NCC, whether real or alleged; or
 - (b) 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 the NCC to the Contractor.

GC1.8 LAWS, PERMITS AND TAXES

- 1) The Contractor shall comply with all federal, provincial and municipal laws and regulations applicable to the performance of the Work or any part thereof including, without limitation, all laws concerning health and labour conditions and the protection of the environment, and shall require compliance therewith by all of its subcontractors and suppliers at any tier as if the Work were being performed for an owner other than the NCC. The Contractor shall furnish evidence of compliance with such laws and regulations to the NCC at such times as the NCC may reasonably request.
- 2) Unless stipulated otherwise in the Contract, the Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work.
- 3) Prior to the commencement of the Work at the site, the Contractor shall 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 an owner other than the NCC.
- 4) Within 10 days of making a tender pursuant to paragraph 3) of GC1.8, the Contractor shall notify the NCC of the amount properly tendered and whether or not the municipal authority has accepted that amount.
- 5) If the municipal authority has not accepted the amount tendered, the Contractor shall pay that amount to the NCC within 6 days after the time stipulated in paragraph 4) of GC1.8.
- 6) For the purposes of this clause, "municipal authority" means any authority that would have jurisdiction respecting permission to perform the Work if the owner were not the NCC.
- 7) 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.
- 8) In accordance with the Statutory Declaration referred to in paragraph 4) of GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK, a Contractor who has neither residence nor place of business in the province or territory in which work under the Contract is being performed shall provide the NCC with proof of registration with the provincial sales tax authorities in the said province.
- 9) 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, and notwithstanding the provision that all Material, Plant and interest of the Contractor in all real property, licences, powers and privileges, become the property of the NCC after the time of purchase in accordance with GC3.10 MATERIAL PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC, the Contractor shall 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.

GC1.9 WORKERS' COMPENSATION

- 1) Prior to award of contract, at the time of submitting its first progress claim, at the time of Substantial Performance of the Work, and prior to issuance of the Certificate of Completion, the Contractor shall provide evidence of compliance with workers' compensation legislation applicable to the place of the Work, including payments due thereunder.

- 2) At any time during the term of the Contract, when requested by the NCC, the Contractor shall provide such evidence of compliance by the Contractor, its subcontractors and any other person at any tier and any other person performing part of the Work who is required to comply with such legislation.

GC1.10 NATIONAL SECURITY

- 1) If the NCC determines that the Work is of a class or kind that involves national security, the NCC may order the Contractor to:
 - (a) provide the NCC with any information concerning persons employed or to be employed by the Contractor for purposes of the Contract; and
 - (b) remove any person from the site of the Work if, in the opinion of the NCC, that person may be a risk to the national security;and the Contractor shall comply with the order.
- 2) In all contracts with persons who are to be employed in the performance of the Contract, the Contractor shall make provision for the performance of any obligation that may be imposed upon the Contractor under paragraph 1) of GC1.10.

GC1.11 UNSUITABLE WORKERS

- 1) The NCC shall instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Contract who, in the opinion of the NCC, is incompetent or is guilty of improper conduct, and the Contractor shall not permit a person who has been removed to return to the site of the Work.

GC1.12 PUBLIC CEREMONIES AND SIGNS

- 1) The Contractor shall not permit any public ceremony in connection with the Work without the prior consent of the NCC.
- 2) The Contractor shall not erect nor permit the erection of any sign or advertising on the Work or its site without the prior consent of the NCC.

GC1.13 CONFLICT OF INTEREST

- 1) It is a term of the Contract that no individual, for whom the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders or the Values and Ethics Code for the Public Service apply, shall derive a direct benefit from the Contract unless that individual is in compliance with the applicable post-employment provisions.

GC1.14 AGREEMENTS AND AMENDMENTS

- 1) The Contract constitutes the entire and sole agreement between the parties with respect to the subject matter of the Contract and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in the Contract. There are no terms, covenants, representations, statements or conditions binding on the parties other than those contained in the Contract.
- 2) The failure of either party at any time to require performance by the other party of any provision hereof shall not affect the right thereafter to enforce such provision. Nor shall the waiver by either

party of any breach of any covenant, term or condition hereof be taken to be held to be a waiver of any further breach of the same covenant, term or condition.

- 3) The Contract may be amended only as provided for in the Contract.

GC1.15 SUCCESSION

- 1) The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and, subject to GC1.16 ASSIGNMENT, permitted assigns.

GC1.16 ASSIGNMENT

- 1) The Contractor shall not make any assignment of the Contract, either in whole or in part, without the written consent of the NCC.

GC1.17 NO BRIBE

- 1) The Contractor represents and covenants that no bribe, gift, benefit, nor other inducement has been nor shall be paid, given, promised or offered directly or indirectly to any official or employee of the NCC or to a member of the family of such a person, with a view to influencing the entry into the Contract or the administration of the Contract.

GC1.18 CERTIFICATION - CONTINGENCY FEES

- 1) In this clause:
 - (a) "contingency fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government contract or negotiating the whole or any part of its terms;
 - (b) "employee" means a person with whom the Contractor has an employer/employee relationship; and
 - (c) "person" includes an individual or a group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the Lobbyists Registration Act R.S.C. 1985 c.44 (4th Supplement) as the same may be amended from time to time.
- 2) The Contractor certifies that it has not directly or indirectly paid nor agreed to pay and covenants that it shall not directly or indirectly pay nor agree to pay a contingency fee for the solicitation, negotiation or obtaining of the Contract to any person other than an employee acting in the normal course of the employee's duties.
- 3) All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiation of the Contract shall be subject to the accounts and audit provisions of the Contract.
- 4) If the Contractor certifies falsely under this section or is in default of the obligations contained therein, the NCC may either take the Work out of the Contractor's hands in accordance with the provisions of the Contract or recover from the Contractor by way of reduction to the Contract Amount or otherwise, the full amount of the contingency fee.

GC1.19 INTERNATIONAL SANCTIONS

- 1) Persons and companies in Canada, and Canadians outside of Canada are bound by economic sanctions imposed by the Government of Canada. As a result, the the NCC cannot accept delivery of goods or services that originate, either directly or indirectly, from the countries or persons subject to economic sanctions.
Details on existing sanctions can be found at:
<http://www.dfait-maeci.gc.ca/trade/sanctions-en.asp>.
- 2) It is a condition of the Contract that the Contractor not supply to the NCC any goods or services which are subject to economic sanctions.
- 3) By law, the Contractor must comply with changes to the regulations imposed during the life of the Contract. During the performance of the Contract should the imposition of sanctions against a country or person or the addition of a good or service to the list of sanctioned goods or services cause an impossibility of performance for the Contractor, the Contractor may request that the Contract be terminated in accordance with GC7.3 TERMINATION OF CONTRACT.

- GC2.1 NCC REPRESENTATIVE'S AUTHORITY
- GC2.2 INTERPRETATION OF CONTRACT
- GC2.3 NOTICES
- GC2.4 SITE MEETINGS
- GC2.5 REVIEW AND INSPECTION OF WORK
- GC2.6 SUPERINTENDENT
- GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR
- GC2.8 ACCOUNTS AND AUDITS

GC2.1 NCC REPRESENTATIVE'S AUTHORITY

- 1) The NCC shall designate an NCC Representative and shall notify the Contractor of the name, address and telephone number of the NCC Representative.
- 2) The NCC Representative shall perform the NCC's duties and functions under the contract.
- 3) The NCC Representative shall be authorized to issue notices, instructions and directions to the Contractor and to accept on behalf of the NCC any notice, order or other communication from the contractor relating to the Work.
- 4) The NCC Representative shall, within a reasonable time, review and respond to submissions made by the Contractor in accordance with the requirements of the Contract.

GC2.2 INTERPRETATION OF CONTRACT

- 1) If, at any time before the NCC has issued a Certificate of Completion, 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:
 - (a) the meaning of anything in the drawings and specifications;
 - (b) the meaning to be given to the drawings and specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their wording or intention;
 - (c) 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;
 - (d) whether or not the labour, Plant or Material performed, used and supplied by the Contractor for performing the Work and carrying out the Contract are adequate to ensure that the Work shall be performed in accordance with the Contract and that the Contract shall be carried out in accordance with its terms;
 - (e) what quantity of any of the Work has been completed by the Contractor; or
 - (f) the timing and scheduling of the various phases of the performance of the Work as specified in the Contract;

the question shall be decided, subject to the provisions of GC8 DISPUTE RESOLUTION, by the NCC.

- 2) The Contractor shall perform the Work in accordance with any decisions of the NCC that are made under paragraph 1) of GC2.2 and in accordance with any consequential directions given by the NCC.

- 3) If the Contractor fails to comply with any instruction or direction issued by the NCC pursuant to the Contract, the NCC may employ such methods as the NCC deems advisable to do what the Contractor failed to do, and the Contractor shall, on demand, pay the NCC an amount that is equal to the aggregate of all costs, expenses and damages incurred or sustained by the NCC by reason of the Contractor's failure to comply with such instruction or direction, including the cost of any methods employed by the NCC in doing what the Contractor failed to do.

GC2.3 NOTICES

- 1) Subject to paragraph 3) of GC2.3, any notice, order or other communication may be given in any manner, and if required to be in writing, shall be addressed to the party to whom it is intended at the address in the Contract or at the last address of which the sender has received written notice in accordance with this section.
- 2) Any notice, order or other communication given in writing in accordance with paragraph 1) of GC2.3 shall be deemed to have been received by either party:
 - (a) if delivered personally, on the day that it was delivered;
 - (b) if forwarded by mail, on the earlier of the day it was received or the sixth day after it was mailed; and
 - (c) if forwarded by facsimile or electronic mail, 24 hours after it was transmitted.
- 3) A notice given under GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS, GC7.2 SUSPENSION OF WORK, and GC7.3 TERMINATION OF CONTRACT shall be given in writing and, if delivered personally, shall be delivered, if the Contractor is a sole proprietor, to the Contractor or, if the Contractor is a partnership or corporation, to an officer thereof.

GC2.4 SITE MEETINGS

- 1) In consultation with the NCC, the Contractor shall arrange site meetings at regular intervals, with all involved parties who are to attend, in order to ensure, among other things, the proper co-ordination of the Work.

GC2.5 REVIEW AND INSPECTION OF WORK

- 1) The NCC shall review the Work to determine if it is proceeding in conformity with the Contract and to record the necessary data to make an assessment of the value of Work completed. The NCC shall measure and record the quantities of labour, Plant and Material performed, used or supplied by the Contractor in performing the Work or any part thereof that is subject to a Unit Price Arrangement and, on request, shall inform the Contractor of those measurements, and permit the Contractor to inspect any records pertaining thereto.
- 2) The NCC shall reject Work or Material which in the NCC's opinion does not conform to the requirements of the Contract, and shall require inspection or testing of Work, whether or not such Work is fabricated, installed, or completed. If such Work is not in accordance with the requirements of the Contract, the Contractor shall correct the Work and shall pay the NCC, on demand, all reasonable costs and expenses that were incurred by the NCC in having the examination performed.
- 3) The Contractor shall provide the NCC with access to the Work and its site at all times, and at all times shall provide sufficient, safe, and proper facilities for the review and inspection of the Work by persons authorized by the NCC and any representatives of those authorities having jurisdiction. If parts of the Work are in preparation at locations other than the site of the Work, the NCC shall be given access to such Work whenever it is in progress.

- 4) The Contractor shall furnish the NCC with such information respecting the performance of the Contract as the NCC may require, and render every possible assistance to enable the NCC to verify that the Work is performed in accordance with the Contract, carry out any other duties and exercise any powers in accordance with the Contract.
- 5) If Work is designated for tests, inspections, or approvals in the Contract or by the NCC's instructions, or by laws or ordinances of the place of the Work, the Contractor shall give the NCC reasonable notice of when such Work shall be ready for review and inspection. The Contractor shall arrange for and shall give the NCC reasonable notice of the date and time of inspections, tests or approvals.
- 6) If the Contractor covers, or permits to be covered, Work that has been designated for tests, inspections or approvals before such tests, inspections or approvals are made, completed or given, the Contractor shall, if so directed by the NCC, uncover such Work, have the inspections, tests or approvals satisfactorily made, completed or given and make good the covering of the Work at the Contractor's expense.

GC2.6 SUPERINTENDENT

- 1) Prior to commencing the Work, the Contractor shall designate a Superintendent and shall notify the NCC of the name, address and telephone number of the Superintendent. The Contractor shall keep the Superintendent at the Work site during working hours until the Work has reached completion.
- 2) The Superintendent shall be in full charge of the operations of the Contractor during the performance of the Work and shall be authorized to accept on behalf of the Contractor any notice, order or other communication given to the Superintendent or the Contractor relating to the Work.
- 3) Upon request of the NCC, the Contractor shall remove any Superintendent who, in the opinion of the NCC, is incompetent or has been guilty of improper conduct, and shall forthwith designate another Superintendent who is acceptable to the NCC.
- 4) The Contractor shall not substitute a Superintendent without the written consent of the NCC. If a Superintendent is substituted without such consent, the NCC shall be entitled to refuse to issue any documentation or certification relating to progress payments, Substantial Performance or Completion of the Work until the Superintendent has returned to the Work site or another Superintendent who is acceptable to the NCC has been substituted.

GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR

- 1) For the purposes of this clause, "persons" include the Contractor, its subcontractors and suppliers at any tier and their respective employees, agents, licensees or invitees and any other individual involved in the performance of the Work or granted access to the Work site. A "person" includes any partnership, proprietorship, firm, joint venture, consortium and corporation.
- 2) Without restricting the provisions of paragraph 3) of GC2.6, SUPERINTENDENT, the Contractor shall not refuse to employ and shall not discriminate in any manner against any person because:
 - (a) of that person's race, national origin, colour, religion, age, sex or marital status;
 - (b) of the race, national origin, colour, religion, age, sex, or marital status of any person having any relationship or association with that person; or
 - (c) a complaint has been made or information has been given by or in respect of that person relating to an alleged failure by the Contractor to comply with subparagraphs 2)(a) and 2)(b) of GC2.7.

- 3) Within two Working Days immediately following receipt of a written complaint pursuant to paragraph 2) of GC2.7, the Contractor shall:
 - (a) cause to have issued a written direction to the person or persons named by the complainant to cease all actions that form the basis of the complaint;
 - (b) forward a copy of the complaint to the NCC by registered mail or courier service; and
 - (c) when the Labour Conditions are applicable under the circumstances of the complaint, forward a copy of the complaint to HRSDC - Labour to the attention of the appropriate Director as described in the Labour Conditions ("HRSDC - Labour" means the labour component of the federal Department of Human Resources and Skills Development).
- 4) Within twenty four (24) hours immediately following receipt of a direction from the NCC to do so, the Contractor shall cause to have removed from the site of the Work and from the performance of Work under the Contract, any person or persons whom the NCC believes to be in breach of the provisions of paragraph 2) of GC2.7.
- 5) No later than thirty (30) days after receipt of the direction referred to in paragraph 4) of GC2.7, the Contractor shall cause the necessary action to be commenced to remedy the breach described in the direction.
- 6) If a direction is issued pursuant to paragraph 4) of GC2.7, the NCC may withhold from monies that are due and payable to the Contractor or setoff pursuant to GC5.9 RIGHT OF SETOFF, whichever is applicable, an amount representing the sum of the costs and payment referred to in paragraph 8) of GC2.7.
- 7) If the Contractor fails to proceed in accordance with paragraph 5) of GC2.7, the NCC shall take the necessary action to have the breach remedied, and shall determine all supplementary costs incurred by the NCC as a result.
- 8) The NCC may make a payment directly to the complainant from monies that are due and payable to the Contractor upon receipt from the complainant of:
 - (a) a written award issued pursuant to the federal Commercial Arbitration Act, R.S.C. 1985, c. 17 (2nd Supp.);
 - (b) a written award issued pursuant to the Canadian Human Rights Act, R.S.C. 1985, c. H-6;
 - (c) a written award issued pursuant to provincial or territorial human rights legislation; or
 - (d) a judgement issued by a court of competent jurisdiction.
- 9) If the NCC is of the opinion that the Contractor has breached any of the provisions of this clause, the NCC may take the Work out of the Contractor's hands pursuant to GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS.
- 10) Subject to paragraph 7) of GC3.6 SUBCONTRACTING, the Contractor shall ensure that the provisions of this clause are included in all agreements and contracts entered into as a consequence of the Work.

GC2.8 ACCOUNTS AND AUDITS

- 1) The Contractor shall, in addition to the requirements expressed in paragraph 6) of GC3.4 EXECUTION OF THE WORK, maintain full records of the Contractor's estimated and actual cost of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, and shall make them available on request to audit and inspection by the NCC or by persons designated to act on behalf of the NCC.
- 2) The Contractor shall allow any of the persons referred to in paragraph 1) of GC2.8 to make copies of and take extracts from any of the records and material, and shall furnish such persons or entities with any information those persons or entities may require from time to time in connection with such records and material.
- 3) The Contractor shall maintain and keep the records intact until the expiration of two years after the date that a Certificate of Completion has been issued or until the expiration of such other period of time as the NCC may direct.
- 4) The Contractor shall cause all subcontractors at any tier 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 the requirements of this clause as if they were the Contractor.

- GC3.1 PROGRESS SCHEDULE
- GC3.2 ERRORS AND OMISSIONS
- GC3.3 CONSTRUCTION SAFETY
- GC3.4 EXECUTION OF THE WORK
- GC3.5 MATERIAL
- GC3.6 SUBCONTRACTING
- GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS
- GC3.8 LABOUR AND FAIR WAGES
- GC3.9 TRUCK HAULAGE RATES **(CANCELLED)**
- GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC
- GC3.11 DEFECTIVE WORK
- GC3.12 CLEANUP OF SITE
- GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

GC3.1 PROGRESS SCHEDULE

- 1) The Contractor shall:
 - (a) prepare and submit to the NCC, prior to the submission of the Contractor's first progress claim, a progress schedule in accordance with the requirements set out in the Contract;
 - (b) monitor the progress of the Work relative to the schedule and update the schedule as stipulated by the contract documents;
 - (c) advise the NCC of any revisions to the schedule required as the result of any extension of time for completion of the Contract that was approved by the NCC; and
 - (d) prepare and submit to the NCC, at the time of issuance of an Certificate of Substantial Performance, an update of any schedule clearly showing a detailed timetable that is acceptable to the NCC for the completion of any unfinished Work and the correction of all listed defects.

GC3.2 ERRORS AND OMISSIONS

- 1) The Contractor shall report promptly to the NCC any errors, discrepancies, or omissions the Contractor may discover when reviewing the contract documents. In making a review, the Contractor does not assume any responsibility to the NCC for the accuracy of the review. The Contractor shall not be liable for damage or costs resulting from such errors, discrepancies, or omissions in the contract documents prepared by or on behalf of the NCC that the Contractor did not discover.

GC3.3 CONSTRUCTION SAFETY

- 1) Subject to GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS, the Contractor shall be solely responsible for construction safety at the place of the Work and for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. In any emergency, the Contractor shall either, stop the Work, make changes or order extra work to ensure the safety of life and the protection of the Work and neighbouring property.
- 2) Prior to commencing the Work, the Contractor shall notify the authorities having jurisdiction for construction safety at the site of the Work with respect to the intended commencement of the Work, and shall provide such authority with whatever additional information may be required by that authority.

GC3.4 EXECUTION OF THE WORK

- 1) The Contractor shall perform, use or supply and pay for, all labour, Plant, Material, tools, construction machinery and equipment, water, heat, light, power, transportation and other facilities and services necessary for the performance of the Work in accordance with the Contract.
- 2) The Contractor shall, at all times, perform the Work in a proper, diligent and expeditious manner as is consistent with construction industry standards and in accordance with the progress schedule prepared pursuant to GC3.1 PROGRESS SCHEDULE and shall provide sufficient personnel to fulfil the Contractor's obligations in accordance with that schedule.
- 3) Subject to paragraph 4) of GC3.4, the Contractor shall have complete care, custody and control of the Work and shall direct and supervise the Work so as to ensure compliance with the Contract. The Contractor shall be responsible for construction means, methods, techniques, sequences and procedures and for co-ordinating the various parts of the Work.
- 4) When requested in writing by the NCC, the Contractor shall make appropriate alterations in the method, Plant or workforce at any time the NCC considers the Contractor's actions to be unsafe or damaging to either the Work, existing facilities, persons at the site of the Work or the environment.
- 5) The Contractor shall have sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and for the construction methods used in their erection, operation, maintenance and removal. The Contractor shall engage and pay for registered professional engineering personnel, skilled in the appropriate discipline to perform these functions if required by law or by the Contract, and in all cases when such temporary facilities and their methods of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 6) The Contractor shall keep at least one copy of current contract documents, submittals, reports, and records of meetings at the site of the Work, in good order and available to the NCC.
- 7) Except for any part of the Work that is necessarily performed away from or off the site of the Work, the Contractor shall confine Plant, storage of Material, and operations of employees to limits indicated by laws, ordinances, permits or the contract documents.

GC3.5 MATERIAL

- 1) Unless otherwise specified in the Contract, all Material incorporated in the Work shall be new.
- 2) Subject to paragraph 3) of GC3.5, if a specified reused, refurbished, or recycled item of Material is not available, the Contractor shall apply to the NCC to substitute a similar item for the one specified.
- 3) If the NCC agrees that the Contractor's application for substitution of a reused, refurbished or recycled item is warranted, and that the substitute item is of acceptable quality and value to that specified and is suitable for the intended purpose, the NCC may approve the substitution, subject to the following:
 - (a) the request for substitution shall be made in writing to the NCC and shall be substantiated by information in the form of the manufacturer's literature, samples and other data that may be required by the NCC;
 - (b) the Contractor shall make the request for substitution in a manner that shall not negatively affect the progress schedule of the Contract and well in advance of the time the item of Material must be ordered;

- (c) substitution of Material shall be permitted only with the prior written approval of the NCC, and any substituted items that are supplied or installed without such approval shall be removed from the site of the Work at the expense of the Contractor, and specified items installed at no additional cost to the NCC; and
- (d) the Contractor shall be responsible for all additional expenses incurred by the NCC, the Contractor, its subcontractors and suppliers at any tier due to the Contractor's use of the substitute.

GC3.6 SUBCONTRACTING

- 1) Subject to the provisions of this clause, the Contractor may subcontract any part of the Work but not the whole of the Work.
- 2) The Contractor shall notify the NCC in writing of the Contractor's intention to subcontract.
- 3) A notification referred to in paragraph 2) of GC3.6 shall identify the part of the Work and the Subcontractor with whom the Contractor intends to subcontract.
- 4) The NCC may for reasonable cause, object to the intended subcontracting by notifying the Contractor in writing within six (6) days of receipt by the NCC of a notification referred to in paragraph 2) of GC3.6.
- 5) If the NCC objects to a subcontracting, the Contractor shall not enter into the intended subcontract.
- 6) The Contractor shall not change, nor permit to be changed, a Subcontractor engaged by the Contractor, in accordance with this clause, without the written consent of the NCC.
- 7) The Contractor shall ensure that all the terms and conditions of the Contract that are of general application shall be incorporated in every other contract issued as a consequence of the Contract, at whatever tier, except those contracts issued solely to suppliers at any tier for the supply of Plant or Material.
- 8) Neither a subcontracting nor the NCC's consent to a subcontracting shall be construed to relieve the Contractor from any obligation under the Contract or to impose any liability upon the NCC.

GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS

- 1) The NCC reserves the right to send other contractors or workers, with or without Plant and Material, onto the site of the Work.
- 2) When other contractors or workers are sent on to the site of the Work, the NCC shall:
 - (a) enter into separate contracts, to the extent it is possible, with the other contractors under conditions of contract that are compatible with the conditions of the Contract;
 - (b) ensure that the insurance coverage provided by the other contractors is co-ordinated with the insurance coverage of the Contractor as it affects the Work; and
 - (c) take all reasonable precautions to avoid labour disputes or other disputes arising from the work of the other contractors or workers.
- 3) When other contractors or workers are sent on to the site of the Work, the Contractor shall:
 - (a) co-operate with them in the carrying out of their duties and obligations;

- (b) co-ordinate and schedule the Work with the work of the other contractors and workers;
 - (c) participate with other contractors and workers in reviewing their construction schedules when directed to do so;
 - (d) where part of the Work is affected by or depends upon the work of other contractors or workers for its proper execution, promptly report to the NCC in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work. Failure by the Contractor to so report shall invalidate any claims against the NCC by reason of the deficiencies in the work of other contractors or workers except those deficiencies that are not then reasonably discoverable; and
 - (e) when designated as being responsible for construction safety at the place for work, in accordance with the applicable provincial or territorial laws, carry out its duties in that role and in accordance with those laws.
- 4) If, when entering into the Contract, the Contractor could not have reasonably foreseen nor anticipated the sending of other contractors or workers on to the site of the Work and provided the Contractor:
- (a) incurs extra expense in complying with the requirements of paragraph 3) of GC3.7; and
 - (b) gives the NCC written notice of a claim for that extra expense within thirty (30) days of the date that the other contractors or workers were sent onto the Work or its site,

the NCC shall pay the Contractor the cost of the extra labour, Plant and Material that was necessarily incurred, calculated in accordance with GC6.4 DETERMINATION OF PRICE.

GC3.8 LABOUR AND FAIR WAGES

- 1) The Labour Conditions and the Schedules of Wage Rates form part of these General Conditions.
- 2) To the extent to which they are available, consistent with proper economy and the expeditious carrying out of the Work, the Contractor shall, in the performance of the Work, employ a reasonable number of persons who have been on active service with the Armed Forces of the Canada and have been honourably discharged therefrom.
- 3) The Contractor shall maintain good order and discipline among the Contractor's employees and workers engaged in the Work shall not employ, on the site of the Work, anyone not skilled in the tasks assigned.

GC3.9 TRUCK HAULAGE RATES

CANCELLED

GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF THE NCC

- 1) Subject to paragraph 9) of GC1.8 LAWS PERMITS AND TAXES, all Material and Plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Work shall, immediately after the time of their purchase, use or consumption be the property of the NCC for the purposes of the Work and they shall continue to be the property of the NCC:
 - (a) in the case of Material, until the NCC indicates that the Materials shall not be required for the Work; and

- (b) in the case of Plant, real property, licences, powers and privileges, until the NCC indicates that the interest vested in the NCC therein is no longer required for the purposes of the Work.
- 2) Material or Plant, that is the property of the NCC by virtue of paragraph 1) of GC3.10, shall not be taken away from the site of the Work nor used nor disposed of except for the purposes of the Work without the written consent of the NCC.
- 3) The NCC is not liable for loss of nor damage from any cause to the Material or Plant referred to in paragraph 1) of GC3.10, and the Contractor is liable for such loss or damage notwithstanding that the Material or Plant is the property of the NCC.

GC3.11 DEFECTIVE WORK

- 1) The Contractor shall promptly remove from the site of the Work and replace or re-execute defective Work whether or not the defective Work has been incorporated in the Work and whether or not the defect is the result of poor workmanship, use of defective Material, or damage through carelessness or other act or omission of the Contractor.
- 2) The Contractor, at the Contractor's expense, shall promptly make good other work destroyed or damaged by such removals or replacements.
- 3) If, in the opinion of the NCC, it is not expedient to correct defective Work or Work not performed as provided for in the Contract documents, the NCC may deduct from the amount otherwise due to the Contractor the difference in value between the Work as performed and that called for by the Contract documents.
- 4) The failure of the NCC to reject any defective Work or Material shall not constitute acceptance of the defective Work or Material.

GC3.12 CLEANUP OF SITE

- 1) The Contractor shall maintain the Work and its site in a tidy condition and free from an accumulation of waste material and debris.
- 2) Before the issue of a Certificate of Substantial Performance, the Contractor shall remove waste material and debris, and all Plant and Material not required for the performance of the remaining Work and, unless otherwise stipulated in the Contract Documents, shall cause the Work and its site to be clean and suitable for occupancy by the NCC.
- 3) Before the issue of a Certificate of Completion, the Contractor shall remove all surplus Plant and Materials and any waste products and debris from the site of the Work.
- 4) The Contractor's obligations described in paragraphs 1) to 3) of GC3.12 do not extend to waste products and other debris caused by the NCC's servants, or by other contractors and workers referred to in GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS.

GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

- 1) Without restricting any warranty or guarantee implied or imposed by law or contained in the Contract, the Contractor shall, at the Contractor's expense:
 - (a) rectify and make good any defect or fault that appears in the Work or comes to the attention of the NCC with respect to those parts of the Work accepted in connection with the Certificate of Substantial Performance within 12 months from the date of Substantial Performance; and

- (b) rectify and make good any defect or fault that appears in or comes to the attention of the NCC in connection with those parts of the Work described in the Certificate of Substantial Performance within 12 months from the date of the Certificate of Completion;
 - (c) transfer and assign, to the NCC, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the Contract covering periods beyond the 12 months stipulated above. Extended warranties or guarantees referred to herein shall not extend the 12-month period whereby the Contractor, except as may be provided elsewhere in the Contract, must rectify and make good any defect or fault that appears in the Work or comes to the attention of the NCC;
 - (d) provide, to the NCC prior to the issuance of the Certificate of Completion, a list of all extended warranties and guarantees referred to in paragraph (c) above.
- 2) The NCC may direct the Contractor to rectify and make good any defect or fault referred to in paragraph 1) of GC3.13 or covered by any other expressed or implied warranty or guarantee and the Contractor shall rectify and make good such defect within the time stipulated in the direction.
 - 3) A direction referred to in paragraph 2) GC3.13 shall be in writing and shall be given to the Contractor in accordance with GC2.3 NOTICES.

- GC4.1 PROTECTION OF WORK AND PROPERTY
- GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS
- GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY THE NCC
- GC4.4 CONTAMINATED SITE CONDITIONS

GC4.1 PROTECTION OF WORK AND PROPERTY

- 1) The Contractor shall protect the Work and its site against loss or damage from any cause and shall similarly protect all Material, Plant and real property under the Contractor's care, custody and control whether or not such Material, Plant and real property are supplied by the NCC to the Contractor.
- 2) The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by the NCC to inspect or to take security measures in respect of the Work and its site.
- 3) The NCC may direct the Contractor to do such things and to perform such work as the NCC considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraphs 1) or 2) of GC4.1, and the Contractor, shall comply with such direction.

GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

- 1) The Contractor shall do whatever is necessary to ensure that:
 - (a) no person, property, right, easement nor privilege is injured, damaged or infringed upon by reasons of the Contractor's activities in performing the Work;
 - (b) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted nor endangered by the performance or existence of the Work, Material or Plant;
 - (c) fire hazards in or about the site of the Work are eliminated and any fire is promptly extinguished;
 - (d) the health and safety of all persons employed in the performance of the Work is not endangered by the methods nor means of their performance;
 - (e) adequate medical services are available to all persons employed on the Work or its site at all times during the performance of the Work;
 - (f) adequate sanitation measures are taken in respect of the Work and its site; and
 - (g) all stakes, buoys and marks placed on the Work or its site by the NCC are protected and are not removed, defaced, altered nor destroyed.
- 2) The NCC may direct the Contractor to do such things and to perform such work as the NCC considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraph 1) of GC4.2, and the Contractor shall comply with the direction of the NCC.

GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY THE NCC

- 1) Subject to paragraph 2) of GC4.3, the Contractor is liable to the NCC 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 the NCC for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.

- 2) The Contractor is not liable to the NCC for any loss or damage to Material, Plant or real property referred to in paragraph 1) of GC4.3 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 3) The Contractor shall not use any Material, Plant or real property supplied by the NCC except for the purpose of performing the Contract.
- 4) When the Contractor fails to make good any loss or damage for which the Contractor is liable under paragraph 1) within a reasonable time, the NCC may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to the NCC for the cost thereof and shall, on demand, pay to the NCC an amount equal to that cost.
- 5) The Contractor shall keep records of all Material, Plant and real property supplied by the NCC as the NCC requires and shall satisfy the NCC, when requested, that such Material, Plant and real property are at the place and in the condition in which they ought to be.

GC4.4 CONTAMINATED SITE CONDITIONS

- 1) For the purposes of GC4.4, a contaminated site condition exists when a solid, liquid, gaseous, thermal or radioactive irritant or contaminant, or other hazardous or toxic substance or material, including moulds and other forms of fungi, is present at the site of the Work to an extent that constitutes a hazard, or potential hazard, to the environment, property, or the health or safety of any person.
- 2) If the Contractor encounters a contaminated site condition of which the Contractor is not aware or about which the Contractor has not been advised, or if the Contractor has reasonable grounds to believe that such a site condition exists at the site of the Work, the Contractor shall:
 - (a) take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;
 - (b) immediately notify the NCC of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification from the Contractor, the NCC shall promptly determine whether a contaminated site condition exists, and shall notify the Contractor in writing of any action to be taken, or work to be performed, by the Contractor as a result of the NCC's determination.
- 4) If the Contractor's services are required by the NCC, the Contractor shall follow the direction of the NCC with regard to any excavation, treatment, removal and disposal of any polluting substance or material.
- 5) The NCC, at the NCC's sole discretion, may enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of contaminated site conditions, and the Contractor shall allow them access and co-operate with them in the carrying out of their duties and obligations.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE shall apply to any additional work made necessary because of a contaminated site condition.

- GC5.1 INTERPRETATION
- GC5.2 AMOUNT PAYABLE
- GC5.3 INCREASED OR DECREASED COSTS
- GC5.4 PROGRESS PAYMENT
- GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK
- GC5.6 FINAL COMPLETION
- GC5.7 PAYMENT NOT BINDING ON THE NCC
- GC5.8 CLAIMS AND OBLIGATIONS
- GC5.9 RIGHT OF SETOFF
- GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION
- GC5.11 DELAY IN MAKING PAYMENT
- GC5.12 INTEREST ON SETTLED CLAIMS
- GC5.13 RETURN OF SECURITY DEPOSIT

GC5.1 INTERPRETATION

In these Terms of Payment

- 1) The "payment period" means a period of 30 consecutive days or such other longer period as may be agreed between the Contractor and the NCC.
- 2) An amount is "due and payable" when it is due and payable by the NCC to the Contractor according to GC5.4 PROGRESS PAYMENT, GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK or GC5.6 FINAL COMPLETION.
- 3) An amount is overdue when it remains unpaid on the first day following the day upon which it is due and payable.
- 4) The "date of payment" means the date of the negotiable instrument of an amount due and payable by the NCC.
- 5) The "Bank Rate" means the rate of interest established by the Bank of Canada as the minimum rate at which it makes short term advances to members of the Canadian Payments Association.
- 6) The "Average Bank Rate" means the simple arithmetic mean of the Bank Rate in effect at 4:00 p.m. Ottawa Time each day during the calendar month which immediately precedes the calendar month in which payment is made.

GC5.2 AMOUNT PAYABLE

- 1) Subject to any other provisions of the Contract, the NCC shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which the amounts payable by the NCC to the Contractor in accordance with the Contract exceed the amounts payable by the Contractor to the NCC, and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by the Contractor in respect of the Work to which the payment relates.
- 2) When making any payment to the Contractor, the failure of the NCC to deduct an amount payable to the NCC by the Contractor shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.
- 3) No payment other than a payment that is expressly stipulated in the Contract, shall be made by the NCC to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.

GC5.3 INCREASED OR DECREASED COSTS

- 1) The Contract Amount shall not be increased nor 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, Material or any wage adjustment arising pursuant to the Labour Conditions.
- 2) Notwithstanding paragraph 1) of GC5.3, if any change, including a new imposition or repeal, of any tax, customs or other duty, charge, or any similar imposition that is imposed under sales, customs or excise tax legislation of the Government of Canada or any Provincial or Territorial legislation, affects the cost of the Work to the Contractor, and occurs:
 - (a) after the date of submission by the Contractor of its tender; or
 - (b) after the date of submission of the last revision, if the Contractor's tender was revised,the Contract Amount shall be adjusted in the manner provided in paragraph 3) of GC5.3.
- 3) If a change referred to in paragraph 2) of GC5.3 occurs, the Contract Amount shall be increased or decreased by an amount established by an examination by the NCC of the relevant records of the Contractor referred to in GC2.8 ACCOUNTS AND AUDITS to be the increase or decrease in the cost incurred by the Contractor that is directly attributable to that change.
- 4) For the purpose of paragraph 2) of GC5.3, if a tax is changed after the tender closing, but public notice of the change has been given by the Minister of Finance or the corresponding Provincial or Territorial authority before that closing, the change shall be deemed to have occurred before the solicitation closing.
- 5) Notwithstanding paragraphs 2) to 4) of GC5.3, no adjustment to the Contract Amount in respect of the Work or a part thereof shall be made for a change in any imposition referred to in this section that occurs after the date required by the Contract for completion of the Work or that part of the Work.

GC5.4 PROGRESS PAYMENT

- 1) On the expiration of a payment period, the Contractor shall deliver to the NCC:
 - (a) a written progress claim in a form acceptable to the NCC 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: and
 - (b) a completed and signed statutory declaration containing a declaration that, up to the date of the progress claim, the Contractor has complied with all lawful obligations with respect to the Labour Conditions and that, in respect of the Work, all lawful obligations of the Contractor to its Subcontractors and Suppliers, referred to collectively in the declaration as "subcontractors and suppliers", have been fully discharged.
- 2) Within 10 days of receipt of a progress claim and statutory declaration from the Contractor, the NCC shall inspect, or cause to have inspected, the part of the Work and the Material described in the progress claim, and shall issue a progress report 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 NCC:
 - (a) is in accordance with the Contract; and
 - (b) was not included in any other progress report relating to the Contract.

- 3) Subject to GC5.2 AMOUNT PAYABLE, and paragraph 5) of GC5.4, the NCC shall pay the Contractor an amount that is equal to:
 - (a) 95% of the value that is indicated in the NCC's progress report if a labour and material payment bond has been furnished by the Contractor; or
 - (b) 90% of the value that is indicated in the NCC's progress report if a labour and material payment bond has not been furnished by the Contractor.
- 4) Subject to GC5.2, "Amount Payable", and paragraph 5) of GC5.4, the NCC shall pay the Contractor an amount that is equal to 90% of the value that is indicated in the NCC's progress report
- 5) In the case of the Contractor's first progress claim, it is a condition precedent to the NCC's obligation under paragraph 3) of GC5.4 that the Contractor has provided all necessary documentation required by the Contract for the first progress claim and has provided evidence of compliance with workers' compensation legislation applicable to the place of the Work in accordance with GC1.9 WORKERS' COMPENSATION.

GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK

- 1) If, at any time before the issuance of a Certificate of Completion, the NCC determines that the Work has reached Substantial Performance as described in subparagraph 1) (b) of GC1.1.4 SUBSTANTIAL PERFORMANCE, the NCC shall issue a Certificate of Substantial Performance to the Contractor. The Certificate of Substantial Performance shall state or describe:
 - (a) the date of Substantial Performance;
 - (b) the parts of the Work not completed to the satisfaction of the NCC; and
 - (c) all things that must be done by the Contractor before a Certificate of Completion is issued and before the 12-month warranty period referred to in GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK commences for the said parts and all the said things.
- 2) The issuance of a Certificate of Substantial Performance does not relieve the Contractor from the Contractor's obligations under GC3.11 DEFECTIVE WORK.
- 3) Subject to GC5.2 AMOUNT PAYABLE and paragraph 4) of GC5.5, the NCC shall pay the Contractor the amount referred to in paragraph 1) of GC5.2 AMOUNT PAYABLE, less the aggregate of:
 - (a) the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT;
 - (b) an amount that is equal to the NCC's estimate of the cost to the NCC of rectifying defects described in the Certificate of Substantial Performance; and
 - (c) an amount that is equal to the NCC's estimate of the cost to the NCC of completing the parts of the Work described in the Certificate of Substantial Performance other than defects listed therein.
- 4) The NCC shall pay the amount referred to in paragraph 3) of GC5.5 not later than:
 - (a) 30 days after the date of issue of a Certificate of Substantial Performance, or
 - (b) 15 days after the Contractor has delivered to the NCC:

- (i) a statutory declaration containing a declaration by the Contractor that up to the date of the Certificate of Substantial Performance, the Contractor has complied with all lawful obligations with respect to the Labour Conditions, discharged all its lawful obligations to its Subcontractors and Suppliers in respect of the work under the Contract, and discharged its lawful obligations referred to in GC1.8 LAWS, PERMITS AND TAXES;
- (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION; and
- (iii) an update of the progress schedule in accordance with the requirements of GC3.1 PROGRESS SCHEDULE;

whichever is later.

GC5.6 FINAL COMPLETION

- 1) When the NCC is of the opinion that the Contractor has complied with the Contract and all orders and directions made pursuant thereto, and that the Work has been completed as described in GC1.1.5 COMPLETION, the NCC shall issue a Certificate of Completion to the Contractor and, if the Work or a portion of the Work is subject to a Unit Price Arrangement, the NCC shall issue a Certificate of Measurement that shall, subject to GC8, be binding upon and conclusive between the NCC and the Contractor as to the quantities referred to therein.
- 2) Subject to GC5.2 AMOUNT PAYABLE and paragraph 3) of GC5.6, the NCC shall pay the Contractor the amount referred to in GC5.2 AMOUNT PAYABLE, less the aggregate of the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT and GC5.5 SUBSTANTIAL PERFORMANCE OF WORK.
- 3) The NCC shall pay the amount referred to in paragraph 2) of GC5.6 not later than:
 - (a) 60 days after the date of issue of a Certificate of Completion; or
 - (b) 15 days after the Contractor has delivered to the NCC:
 - (i) a statutory declaration which contains a declaration 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; and
 - (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION;

whichever is later.

GC5.7 PAYMENT NOT BINDING ON NCC

- 1) Neither acceptance of a progress claim or progress report, nor any payment made by the NCC under the Contract, nor partial or entire use or occupancy of the Work by the NCC shall constitute an acceptance by the NCC of any portion of the Work or Material that is not in accordance with the requirements of the Contract.

GC5.8 CLAIMS AND OBLIGATIONS

- 1) The Contractor shall discharge all the Contractor's lawful obligations and shall satisfy all lawful claims against the Contractor arising out of the performance of the Work at least as often as the Contract requires the NCC to pay the Contractor.

- 2) Whenever requested to do so by the NCC, the Contractor shall make a statutory declaration declaring to the existence and condition of any obligations and claims against the Contractor arising out of the performance of the Work.
- 3) In order to discharge lawful obligations of and satisfy lawful claims against the Contractor or its Subcontractors arising out of the performance of the Contract, the NCC may pay an amount that is due and payable to the Contractor directly to the claimant. Such payment is, to the extent of the payment, a discharge of the NCC's liability to the Contractor under the Contract and may be deducted from any amount payable to the Contractor under the Contract.
- 4) For the purposes of paragraph 3) of GC5.8, and subject to paragraph 6) of GC5.8, a claim or obligation shall be considered lawful when it is so determined by:
 - (a) a court of legal jurisdiction;
 - (b) an arbitrator duly appointed to arbitrate the claim; or
 - (c) the written consent of the Contractor authorizing payment of the claim or obligation.
- 5) If a claim or obligation would have been subject to the provisions of Provincial or Territorial lien legislation or, in the Province of Quebec, the law relating to legal hypothecs had the Contractor been performing the Work for an entity other than the NCC:
 - (a) such amount as may be paid by the NCC pursuant to paragraphs 3) and 4) of GC5.8 shall not exceed the amount that the Contractor would have been obliged to pay had the provisions of such legislation or law been applicable to the Work;
 - (b) a 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 the claimant might have had; and
 - (c) for the purposes of determining the entitlement of a claimant, the notice required by paragraph 8) of GC5.8 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 such legislation.
- 6) The Contractor shall, at the request of any claimant, submit to binding arbitration those questions that need to be answered to establish the entitlement of the claimant to payment. The arbitration shall have as parties to it any Subcontractor or Supplier to whom the claimant supplied Material, performed work or rented equipment should such Subcontractor or Supplier wish to be adjoined, and the NCC shall not be a party to such arbitration. Subject to any agreement between the Contractor and the claimant, the arbitration shall be conducted in accordance with the governing Provincial or Territorial legislation applicable to the site of the Work.
- 7) Paragraph 3) of GC5.8 shall apply only to claims and obligations:
 - (a) the notification of which has set forth the amount claimed to be owing and the person who by contract is primarily liable and has been received by the NCC in writing before final payment is made to the Contractor pursuant to GC5.6 FINAL COMPLETION, and within 120 days of the date on which the claimant:

- (i) should have been paid in full under the claimant's contract with the Contractor, its Subcontractor or Supplier if the claim is for money that was lawfully required to be held back from the claimant; or
 - (ii) 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 its Subcontractor or Supplier where the claim is for money not lawfully required to be held back from the claimant; and
- (b) the proceedings to determine the right to payment of which, pursuant to paragraph 5) of GC5.8, shall have commenced within one year from the date that the notification required by subparagraph 7)(a) of GC5.8 was received by the NCC.
- 8) Upon receipt of a notice of claim, the NCC may 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.
- 9) The NCC shall notify the Contractor in writing in a timely manner of receipt of any claim and of the intention of the NCC to withhold funds. At any time thereafter and until payment is made to the claimant, the Contractor may be entitled to post, with the NCC, security in a form acceptable to the NCC in an amount equal to the value of the claim, and upon receipt of such security the NCC shall release to the Contractor any funds that would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of this clause in respect of the claim of any claimant for whom the security stands.

GC5.9 RIGHT OF SETOFF

- 1) Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, the NCC may set off any amount payable to the NCC by the Contractor under the Contract, or under any current contract, against any amount payable to the Contractor under the Contract.
- 2) For the purposes of paragraph 1) of GC5.9, "current contract" means a contract between the NCC and the Contractor:
- (a) under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or
 - (b) in respect of which the NCC has, since the date of the Contract, exercised any right to take the work that is the subject of that contract out of the Contractor's hands.

GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION

- 1) For the purposes of this clause:
- (a) the Work shall be deemed to be completed on the date of the Certificate of Completion; and
 - (b) the "period of delay" means the number of days commencing on the day fixed 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 GC6.5 DELAYS AND EXTENSION OF TIME and any other day on which, in the opinion of the NCC, completion of the Work was delayed for reasons beyond the control of the Contractor.
- 2) If the Contractor does not complete the Work by the day fixed for its completion but completes it thereafter, the Contractor shall pay the NCC an amount equal to the aggregate of:
- (a) all salaries, wages and travelling expenses incurred by the NCC in respect of persons overseeing the performance of the Work during the period of delay;

- (b) the cost incurred by the NCC as a result of the inability to use the completed Work for the period of delay; and
 - (c) all other expenses and damages incurred or sustained by the NCC during the period of delay as a result of the Work not being completed by the day fixed for its completion.
- 3) The NCC may waive the right of the NCC to the whole or any part of the amount payable by the Contractor pursuant to paragraph 2) of GC5.10 if, in the opinion of the NCC, it is in the public interest to do so.

GC5.11 DELAY IN MAKING PAYMENT

- 1) Notwithstanding GC1.5 TIME OF THE ESSENCE, any delay by the NCC in making any payment when it is due pursuant to GC5 TERMS OF PAYMENT, shall not be a breach of the Contract by the NCC.
- 2) Subject to paragraph 3) of GC5.11, the NCC shall pay to the Contractor simple interest at the Average Bank Rate plus 3 percent per annum on any amount that is overdue pursuant to paragraph 3) of GC5.1 INTERPRETATION, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment.
- 3) Interest shall be paid, on demand by the Contractor, except that:
- (a) in respect of amounts that are less than 15 days overdue, no interest shall be paid in respect of payment made within such 15 days; and
 - (b) interest shall not be payable or paid on overdue advance payments, if any.

GC5.12 INTEREST ON SETTLED CLAIMS

- 1) For the purposes of this clause, a claim means a disputed amount subject to negotiation between the NCC and the Contractor under the Contract.
- 2) A claim is deemed to have been settled when an agreement in writing is signed by the NCC and the Contractor setting out the amount of the claim to be paid by the NCC and the items of work for which the said amount is to be paid.
- 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.
- 4) The NCC shall pay to the Contractor simple interest on the amount of a settled claim at the Average Bank Rate plus 3 per cent per annum from the date the settled claim was deemed to be outstanding until the day prior to the date of payment.

GC5.13 RETURN OF SECURITY DEPOSIT

- 1) After a Certificate of Substantial Performance has been issued, and if the Contractor is not in breach of nor in default under the Contract, the NCC shall return to the Contractor all or any part of a Security Deposit that, in the opinion of the NCC, is not required for the purposes of the Contract.
- 2) After a Certificate of Completion has been issued, the NCC shall return to the Contractor the remainder of any security deposit unless the Contract stipulates otherwise.
- 3) If the security deposit was paid to the NCC, the NCC shall pay interest thereon to the Contractor at a rate established pursuant to section 21(2) of the Financial Administration Act.

- GC6.1 CHANGES IN THE WORK
- GC6.2 CHANGES IN SUBSURFACE CONDITIONS
- GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST
- GC6.4 DETERMINATION OF PRICE
 - GC6.4.1 Price Determination Prior to Undertaking Changes
 - GC6.4.2 Price Determination Following Completion of Changes
 - GC6.4.3 Price Determination - Variations in Tendered Quantities
- GC6.5 DELAYS AND EXTENSION OF TIME
- GC6.6 ALLOWABLE COSTS FOR CONTRACT CHANGES UNDER GC6.4.1
 - GC6.6.1 General
 - GC6.6.2 Hourly Labour Rates
 - GC6.6.3 Material, Plant and Equipment Costs
 - GC6.6.4 Allowance to the Contractor or Subcontractor

GC6.1 CHANGES IN THE WORK

- 1) At any time before issuance of a Certificate of Completion, Canada may issue orders for additions, deletions or other changes to the Work, or changes in the location or position of the whole or any part of the Work, if the addition, deletion, change or other revision is deemed by Canada to be consistent with the general intent of the Contract.
- 2) An order referred to in paragraph 1) of GC6.1 shall be in writing and given to the Contractor in accordance with GC2.3 NOTICES.
- 3) Upon receipt of an order, the Contractor shall promptly perform the work in accordance with the order as if the order had appeared in and been part of the original Contract.
- 4) If anything done or omitted by the Contractor pursuant to an order increases or decreases the cost of the Work to the Contractor, payment for the work shall be made in accordance with GC6.4 DETERMINATION OF PRICE.

GC6.2 CHANGES IN SUBSURFACE CONDITIONS

- 1) If, during the performance of the Work, the Contractor encounters subsurface conditions that are substantially different from the subsurface conditions described in the tender documents supplied to the Contractor, or a reasonable assumption of fact based thereon, the Contractor shall give notice to Canada immediately upon becoming aware of the situation.
- 2) If the Contractor is of the opinion that the Contractor may incur or sustain any extra expense or any loss or damage that is directly attributable to the changed subsurface conditions, the Contractor shall within 10 days of the date the changed subsurface conditions were encountered, give Canada written notice of intention to claim for that extra expense, loss or damage.
- 3) If the Contractor has given a notice referred to in paragraph 2) of GC6.2, the Contractor shall give Canada a written claim for extra expense, loss or damage no later than 30 days after the date that a Certificate of Substantial Performance is issued.
- 4) A written claim referred to in paragraph 3) of GC6.2 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified, and the Contractor shall supply such further and other information for that purpose as Canada requires.

- 5) If Canada determines that a claim referred to in paragraph 3) of GC6.2 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 6) If, in the opinion of Canada, the Contractor effects a saving of expenditure that is directly attributable to a substantial difference between the information relating to subsurface conditions at the site of the Work that is contained in the tender documents, or a reasonable assumption of fact based thereon, and the actual subsurface conditions encountered by the Contractor, the Contract Amount shall be reduced by the amount of the saving of expenditure determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 7) If the Contractor fails to give a notice referred to in paragraph 2) of GC6.2 and a claim referred to in paragraph 3) of GC6.2 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.
- 8) Canada does not warrant the content expressed in any subsurface report available for the perusal of the Contractor that does not form part of the tender and contract documents.

GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST

- 1) For the purposes of this clause
 - (a) "human remains" means the whole or any part of a deceased human being, irrespective of the time of death;
 - (b) "archaeological remains" are items, artefacts or things made, modified or used by human beings in antiquity and may include, but not be limited to, stone, wood or iron structures or monuments, dump deposits, bone artefacts, weapons, tools, coins, and pottery; and
 - (c) "items of historical or scientific interest" are naturally occurring or manufactured objects or things of any age that are not archaeological remains but may be of interest to society because of their historical or scientific significance, value, rarity, natural beauty, or other quality.
- 2) If, during the course of the Work, the Contractor encounters any object, item or thing which is described in paragraph 1) of GC6.3 or which resembles any object, item or thing described in paragraph 1) of GC6.3, the Contractor shall
 - (a) take all reasonable steps, including stopping work in the affected area, to protect and preserve the object, item or thing;
 - (b) immediately notify Canada of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification in accordance with subparagraph 2)(b) of GC6.3, Canada shall promptly determine whether the object, item or thing is one described in, or contemplated by paragraph 1) of GC6.3, and shall notify the Contractor in writing of any action to be performed, or work to be carried out, by the Contractor as a result of Canada's determination.
- 4) Canada may, at any time, enlist the services of experts to assist in the investigation, examination, taking of measurements or other such recordings, placing of permanent protection around or removing of the object, item or thing encountered by the Contractor, and the Contractor shall, to the satisfaction

of Canada, allow them access and co-operate with them in the carrying out of their duties and obligations.

- 5) Human remains, archaeological remains and items of historical or scientific interest encountered at the site of the Work shall be deemed to be the property of Canada.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE and GC6.5 DELAYS AND EXTENSION OF TIME shall apply.

GC6.4 DETERMINATION OF PRICE

GC6.4.1 Price Determination Prior to Undertaking Changes

- 1) If a Lump Sum Arrangement applies to the Contract or a part thereof, the price of any change shall be the aggregate estimated cost of labour, Plant and Material that is required for the change as agreed upon in writing by the Contractor and Canada plus an allowance for supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount, which allowance shall be equal to
 - (a) 20% of the aggregate costs referred to herein for that portion of the Work done by the Contractor's own forces, if the aggregate cost of the Work does not exceed \$50,000;
 - (b) 15% of the aggregate costs referred to herein for that portion of the Work that is done by subcontract, if the aggregate cost of the Work does not exceed \$50,000; or
 - (c) a negotiated percentage of the aggregate costs referred to herein or a negotiated amount
 - (i) if the aggregate cost of the Work exceeds \$50,000; or
 - (ii) if the Contractor and Canada agree in writing.
- 2) If a Unit Price Arrangement applies to the Contract or a part thereof, the Contractor and Canada may, by agreement in writing, add items, units of measurement, estimated quantities and prices per unit to the Unit Price Table.
- 3) A price per unit referred to in paragraph 2) of GC6.4.1 shall be determined on the basis of the aggregate estimated cost of labour, Plant and Material that is required for the additional item as agreed upon by the Contractor and Canada, plus an allowance determined in accordance with paragraph 1) of GC6.4.1.
- 4) To facilitate approval of the price of the change or the additional price per unit as applicable, the Contractor shall submit a cost estimate breakdown identifying, as a minimum, the estimated cost of labour, Plant, Material, each subcontract amount, and the amount of the allowance.
- 5) If no agreement is reached as contemplated in paragraph 1) of GC6.4.1, the price shall be determined in accordance with GC6.4.2.
- 6) If no agreement is reached, as contemplated in paragraphs 2) and 3) of GC6.4.1, Canada shall determine the class and the unit of measurement of the item of labour, Plant or Material and the price per unit shall be determined in accordance with GC6.4.2.

GC6.4.2 Price Determination Following Completion of Changes

- 1) If it is not possible to predetermine, or if there is failure to agree upon the price of a change in the Work, the price of the change shall be equal to the aggregate of

- (a) all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, Plant and Material that fall within one of the classes of expenditure described in paragraph 2) of GC6.4.2, that are directly attributable to the performance of the Contract;
 - (b) an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is equal to 10% of the sum of the expenses referred to in subparagraph 1)(a) of GC6.4.2; and
 - (c) interest on the amounts determined under subparagraphs 1)(a) and 1)(b) of GC6.4.2 calculated in accordance with GC5.12 INTEREST ON SETTLED CLAIMS;
- 2) The cost of labour, Plant and Material referred to in subparagraph 1)(a) of GC6.4.2 shall be limited to the following categories of expenditure:
- (a) payments to Subcontractors and Suppliers;
 - (b) wages, salaries, bonuses and, if applicable, travel and lodging expenses of employees of the Contractor located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor provided they are actually and properly engaged on the Work under the Contract;
 - (c) assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and GST / HST collection costs;
 - (d) rent that is paid for Plant, or an amount equivalent to 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 or the equivalent amount is reasonable and use of that Plant has been approved by Canada;
 - (e) payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of Canada, are necessary for 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;
 - (f) 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;
 - (g) 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
 - (h) any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

GC6.4.3 Price Determination - Variations in Tendered Quantities

- 1) Except as provided in paragraphs 2), 3), 4) and 5) of GC6.4.3, if it appears that the final quantity of labour, Plant and Material under a price per unit item shall exceed or be less than the estimated tendered quantity, the Contractor shall perform the Work or supply the Plant and Material required to complete the item and payment shall be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.
- 2) If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15%, either party to the Contract may make a written request to the other party to negotiate an

amended price per unit for that portion of the item which exceeds 115% of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor shall, on request, provide Canada with

- (a) detailed records of the actual cost to the Contractor of performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and
 - (b) the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115% of the tendered quantity.
- 3) If agreement is not reached as contemplated in paragraph 2) of GC6.4.3, the price per unit shall be determined in accordance with GC6.4.2.
- 4) If it appears that the final quantity of labour, Plant and Material under a price per unit item shall be less than 85% of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if
- (a) there is a demonstrable difference between the unit cost to the Contractor of performing or supplying the estimated tendered quantity and the unit cost to the Contractor for performing or supplying the final quantity; and
 - (b) the difference in unit cost is due solely to the decrease in quantity and not to any other cause.
- 5) For the purposes of the negotiation referred to in paragraph 4) of GC6.4.3
- (a) the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and
 - (b) in no event shall the total price for an item that has been amended as a result of a reduction in quantity pursuant to paragraph 4) of GC6.4.3 exceed the amount that would have been payable to the Contractor had 85% of the tendered quantity actually been performed or supplied.

GC6.5 DELAYS AND EXTENSION OF TIME

- 1) Upon application of the Contractor made before the date first fixed for completion of the Work or before any other date previously fixed under this clause, Canada may extend the time for completion of the Work by fixing a new date if Canada determines that causes beyond the control of the Contractor have delayed its completion.
- 2) The Contractor's application shall be accompanied by the written consent of the bonding company whose bond forms part of the Contract Security.
- 3) Subject to paragraph 4) of GC6.5, no payment, other than a payment that is expressly stipulated in the Contract, shall be made by Canada to the Contractor for any extra expense, loss or damage incurred or sustained by the Contractor due to delay, whether or not the delay is caused by circumstances beyond the control of the Contractor.
- 4) If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to any neglect or delay that occurs after the date of the Contract on the part of Canada in providing any information or in doing any act that the Contract either expressly requires Canada to do or that would ordinarily be done by an owner in accordance with the practice of the trade, the Contractor shall give Canada written notice of intention to claim for that extra expense or loss or damage within ten working days of the date the neglect or delay first occurred.

- 5) When the Contractor has given a notice referred to in paragraph 4) of GC6.5, the Contractor shall give Canada a written claim for the extra expense, loss or damage no later than 30 days after the date that a Certificate of Completion is issued and not afterwards.
- 6) A written claim referred to in paragraph 5) of GC6.5 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as Canada may require.
- 7) If Canada determines that a claim referred to in paragraph 5) of GC6.5 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 8) If the Contractor fails to give a notice referred to in paragraph 4) and a claim referred to in paragraph 5) of GC6.5 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.

GC6.6 ALLOWABLE COSTS FOR CONTRACT CHANGES UNDER GC6.4.1

GC6.6.1 General

- 1) The Contractor shall submit a cost estimate breakdown for each contemplated change, in accordance with paragraph 4) of GC6.4.1 PRICE DETERMINATION PRIOR TO UNDERTAKING CHANGES. The breakdown shall itemize all labour, material, plant and equipment costs estimated by the Contractor and subcontractors, and the amount of each allowance.
- 2) It is the responsibility of the Contractor to ensure that all prices included in the Contractor's breakdown to the NCC, including those of subcontractors, are fair and reasonable in view of the terms expressed herein.
- 3) The labour hours required for the contemplated change shall be based on the estimated number of hours to perform the work.
- 4) Time spent by a working foreman may be included in the number of labour hours, at a rate agreed to in writing by the Contractor and the NCC.
- 5) Time attributable to material handling, productivity factors and approved rest periods is to be included in the number of hours required by the contemplated change and will not be paid as a separate item under hourly rates.
- 6) Allowances referred to in section 04 below are not to be included in the hourly labour rates.
- 7) Credit for work deleted will only be for the work directly associated with the change.
- 8) When a change deletes work which has not yet been performed, the NCC is entitled to an adjustment in the Contract Amount equal to the cost the Contractor would have incurred had the work not been deleted.
- 9) Allowances referred to in Section 04 below shall not be applied to any credit amounts for deleted work.
- 10) In those cases where the change involves additions and deletions to the work, the allowances referred to in section 04 below shall apply only when the cost of the additions minus the cost of the deletions would result in an increase in the Contract Amount. The percentage allowance shall only be applied to that portion of the costs of the additions that is in excess of the cost of the deletions.

- 11) If the contemplated change in the work necessitates a change in the contract completion date, or has an impact on the work, the Contractor shall identify and include the resulting cost in the breakdown.

GC6.6.2 Hourly Labour Rates

- 1) The hourly labour rates listed in the Contractor's breakdown shall be determined in accordance with the collective agreements that are applicable at the site of the work and shall include:
- (a) the base rate of pay;
 - (b) vacation pay;
 - (c) benefits which includes:
 - (i) welfare contributions;
 - (ii) pension contributions;
 - (iii) union dues;
 - (iv) training and industry funds contributions; and
 - (v) other applicable benefits, if any, that can be substantiated by the Contractor.
 - (d) statutory and legislated requirements, assessed and payable under statutory authority, which includes:
 - (i) Employment Insurance contributions;
 - (ii) Canada Pension Plan or Québec Pension Plan contributions;
 - (iii) Worker's Compensation Board or Commission de la santé et de la sécurité du travail premiums;
 - (iv) Public Liability and Property Damage insurance premiums; and
 - (v) health tax premiums.
- 2) In the case of nonunion labour, all rates claimed shall be in accordance with the terms of the Labour Conditions forming part of this contract and the Contractor must provide satisfactory proof of the rates actually paid.

GC6.6.3 Material, Plant and Equipment Costs

- 1) The costs of all purchases and rentals must be based on the actual amount paid to the suppliers by the Contractor or subcontractor and said costs are to include all applicable discounts.

GC6.6.4 Allowance to the Contractor or Subcontractor

- 1) The allowances determined in accordance with paragraph 1) of GC6.4.1 PRICE DETERMINATION PRIOR TO UNDERTAKING CHANGES shall be considered as full compensation for:
- (a) supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount; and

- (b) miscellaneous additional costs related to:
 - (i) the purchase or rental of material, plant and equipment;
 - (ii) the purchase of small tools and supplies;
 - (iii) safety and protection measures; and
 - (iv) permits, bonds, insurance, engineering, as built drawings, commissioning and site office.

- GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS
- GC7.2 SUSPENSION OF WORK
- GC7.3 TERMINATION OF CONTRACT
- GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS

- 1) By giving notice in writing to the Contractor in accordance with GC2.3 NOTICES, the NCC, without any other authorization, may take all or any part of the Work out of the Contractor's hands, and may employ such means as the NCC sees fit to have the Work completed if the Contractor:
 - (a) fails to remedy any delay in the commencement or default in the diligent performance of the Work to the satisfaction of the NCC within six days of the NCC giving notice to the Contractor in writing in accordance with GC2.3 NOTICES;
 - (b) defaults in the completion of any part of the Work within the time fixed for its completion by the Contract;
 - (c) becomes insolvent, or has committed an act of bankruptcy, and has neither made a proposal to its creditors nor filed a notice of intention to make such a proposal, pursuant to the Bankruptcy and Insolvency Act;
 - (d) abandons the work;
 - (e) makes an assignment of the Contract without the consent required by GC1.16 ASSIGNMENT;
or
 - (f) otherwise fails to observe or perform any of the provisions of the Contract.
- 2) If the whole or any part of the Work is taken out of the Contractor's hands, the Contractor's right to any further payment that is due or accruing due under the Contract is, subject only to paragraph 3) of GC7.1, extinguished, and the Contractor is liable to pay the NCC, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by the NCC in respect of the Contractor's failure to complete the Work.
- 3) If the whole or any part of the Work that is taken out of the Contractor's hands is completed by the NCC, the NCC may pay the Contractor the amount, if any, of the holdback or a progress claim as determined by the NCC 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 the NCC for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 4) The taking of the Work or any part thereof out of the Contractor's hands does not relieve the Contractor from any obligation under the Contract or imposed by law except the obligation to complete the performance of that part of the Work that was taken out of the Contractor's hands.
- 5) If the Work or any part thereof is taken out of the Contractor's hands, all Plant and Material and the interest of the Contractor, or its suppliers or subcontractors at any tier, in all real property, licences, powers and privileges acquired, used or provided by the Contractor, or its suppliers or subcontractors at any tier, under the Contract shall continue to be the property of the NCC without compensation.
- 6) When the NCC certifies that any Plant, Material, or any interest of the Contractor is no longer required for the purposes of the Work, or that it is not in the interests of the NCC to retain that Plant, Material, or interest, it shall revert to the Contractor.

- 7) If the Contractor has become insolvent or has committed an act of bankruptcy, and has either made a proposal to its creditors or filed a notice of intention to make such a proposal, pursuant to the Bankruptcy and Insolvency Act, the Contractor shall immediately forward a copy of the proposal or the notice of intention to the NCC.

GC7.2 SUSPENSION OF WORK

- 1) When, in the NCC's opinion, it is in the public interest to do so, the NCC may require the Contractor to suspend performance of the Work either for a specified or an unspecified period, by giving a notice of suspension in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) When a notice of suspension is received by the Contractor, the Contractor shall suspend all operations in respect of the Work except those that the NCC determines are necessary for the care and preservation of the Work, Plant and Material.
- 3) During a period of suspension, the Contractor shall not remove any part of the Work, Plant or Material from its site without the consent of the NCC.
- 4) If a period of suspension is 60 days or less, the Contractor shall resume the performance of the Work on the expiration of that period, and the Contractor is entitled to be paid the extra costs necessarily incurred by the Contractor as a result of the suspension, determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 5) If a period of suspension is more than 60 days, the NCC and the Contractor may agree that the performance of the Work shall be continued by the Contractor, and the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by the NCC and the Contractor. If the NCC and the Contractor do not agree that performance of the Work shall be continued by the Contractor, or upon the terms and conditions under which the Contractor shall continue the Work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC7.3 TERMINATION OF CONTRACT.

GC7.3 TERMINATION OF CONTRACT

- 1) The NCC may terminate the Contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) If the Contractor receives a notice of termination, the Contractor shall forthwith cease all operations in performance of the Contract, subject to any conditions stipulated in the notice.
- 3) Subject to paragraph 4) of GC7.3, if the Contract is terminated, the NCC shall pay the Contractor an amount determined to be due to the Contractor pursuant to GC6.4 DETERMINATION OF PRICE less the aggregate of all amounts that were paid to the Contractor by the NCC and all amounts that are due to the NCC from the Contractor pursuant to the Contract.
- 4) In no event shall the total amount payable by the NCC to the Contractor exceed the amount, calculated in accordance with GC5 TERMS OF PAYMENT, that would have been payable to the Contractor had the Contractor completed the Work.
- 5) Payment to the Contractor, if any, shall be made as soon as practicable under the circumstances.

GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

- 1) If the Work is taken out of the Contractor's hands, or the Contractor is in breach of, or in default under, the Contract, the NCC may convert a security deposit to the NCC's own use.

- 2) If the NCC converts a security deposit, the amount realized shall be deemed to be an amount due from the NCC to the Contractor under the Contract.
- 3) Any balance of the amount realized that remains after payment of all losses, damage and claims of the NCC and others shall be paid by the NCC to the Contractor if, in the opinion of the NCC, it is not required for the purposes of the Contract.

- 1) The Contractor may, within 10 days after the communication to the Contractor of any decision or direction referred to in GC6.1 CHANGES IN THE WORK and GC2.2 INTERPRETATION OF CONTRACT, protest that decision or direction.
- 2) A protest referred to in paragraph 1) of GC8 shall be in writing, contain full reasons for the protest, be signed by the Contractor and be given to the NCC.
- 3) If the Contractor gives a protest pursuant to paragraph 2) of GC8, 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 the Contractor considers appropriate in the circumstances.
- 4) The giving of a protest by the Contractor pursuant to paragraph 2) of GC8 shall not relieve the Contractor from complying with the decision or direction that is the subject of the protest.
- 5) Subject to paragraph 6) of GC8, the Contractor shall take any action referred to in paragraph 3) of GC8 within 3 months after the date of the Certificate of Completion referred to in GC5.6 FINAL COMPLETION and not afterwards, except where it is otherwise provided by law.
- 6) The Contractor shall take any action referred to in paragraph 3) of GC8 resulting from a direction under GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK, within 3 months after the expiry of a warranty or guarantee period and not afterwards, except where it is otherwise provided by law.
- 7) Subject to paragraph 8) of GC8, if the NCC determines that the Contractor's protest is justified, the NCC 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.
- 8) Costs referred to in paragraph 7) of GC8 shall be calculated in accordance with GC6.4 DETERMINATION OF PRICE.

- GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY
- GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY
- GC9.3 IRREVOCABLE STANDBY LETTER OF CREDIT

GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

- 1) The Contractor shall, at the Contractor's expense and within 7 days after the date that the Contractor receives notice that the Contractor's bid was accepted by the NCC, obtain and deliver Contract Security to the NCC in one or more of the forms prescribed in GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY.
- 2) If the whole or a part of the Contract Security provided is in the form of a security deposit, it shall be held and disposed of in accordance with GC5.13 RETURN OF SECURITY DEPOSIT and GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN.
- 3) If a part of the Contract Security provided is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond at the site of the Work.
- 4) It is a condition precedent to the release of the first progress payment that the Contractor has provided the Contract Security as specified herein.
- 5) In addition to the limitation imposed in paragraph 4) of GC9.1, the Contractor further acknowledges and agrees that it will not be entitled to have access to the site, nor to commence work pursuant to this contract until it has delivered the Contract Security as specified herein.

GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY

- 1) The Contractor shall deliver to the NCC (a), (b) or (c):
 - (a) 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 including taxes
 - (b) A labour and material payment bond in an amount that is equal to not less than 50% of the Contract Amount including taxes, and a security deposit in an amount that is equal to not less than 10% of the Contract Amount including taxes.
 - (c) A security deposit in an amount prescribed by subparagraph 1)(b) of GC9.2, plus an additional amount that is equal to 10% of the Contract Amount including taxes.
- 2) The amount of a security deposit referred to in subparagraph 1)(b) of GC9.2 shall not exceed \$2,000,000 regardless of the Contract Amount including taxes.
- 3) A performance bond and a labour and material payment bond referred to in paragraph 1) of GC9.2 shall be in a form and be issued by a bonding or surety company that is approved by the NCC.
 - (a) The approved form for the performance bond is enclosed at the end of GC9.
 - (b) The approved form for the labour and material payment bond is enclosed at the end of GC9
 - (c) The list of approved bonding or surety companies is displayed at the following Website:
<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12027> .
- 4) A security deposit referred to in subparagraphs 1)(b) and 1)(c) of GC9.2 shall be in the form of:

- (a) a bill of exchange, bank draft or money order made payable to the NCC and certified by an approved financial institution or drawn by an approved financial institution on itself; or
 - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.
- 5) For the purposes of subparagraph 4)(a) of GC9.2:
- (a) 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 certain sum of money to, or to the order of, the NCC;
 - (b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 5)(c) of GC9.2, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
 - (c) An approved financial institution is:
 - (i) a corporation or institution that is a member of the Canadian Payments Association as defined in the Canadian Payments Act;
 - (ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the Régie de l'assurance-dépôts du Québec;
 - (iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
 - (iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the Income Tax Act; or
 - (v) Canada Post Corporation.
- 6) Bonds referred to in subparagraph 4)(b) of GC9.2 shall be provided on the basis of their market value current at the date of the Contract, and shall be:
- (a) made payable to bearer; or
 - (b) accompanied by a duly executed instrument of transfer of the bonds to the NCC in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - (c) registered as to principal, or as to principal and interest, in the name of the NCC pursuant to the Domestic Bonds of Canada Regulations.

GC9.3 IRREVOCABLE STANDBY LETTER OF CREDIT

- 1) As an alternative to a security deposit, an irrevocable standby letter of credit is acceptable to the NCC, the amount of which shall be determined in the same manner as a security deposit referred to in GC9.2
TYPES AND AMOUNTS OF CONTRACT SECURITY.
- 2) An irrevocable standby letter of credit shall:
 - (a) be an arrangement, however named or described, whereby a financial institution (the “Issuer”) acting at the request and on the instructions of a customer (the “Applicant”) or on its own behalf:

- (i) is to make a payment to, or to the order of, the NCC as the beneficiary;
- (ii) is to accept and pay bills of exchange drawn by the NCC;
- (ii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
- (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
- (b) state the face amount that may be drawn against it;
- (c) state its expiry date;
- (d) provide for sight payment to the NCC by way of the financial institution's draft against presentation of a written demand for payment signed by the NCC;
- (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
- (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600;
- (g) clearly specify that it is irrevocable or deemed to be irrevocable pursuant to article 6 c) of the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 2007 Revision, ICC Publication No. 600; and
- (h) be issued or confirmed, in either official language in a format left to the discretion of the issuer or confirmer, by an approved financial institution on its letterhead.

PERFORMANCE BOND

Bond Number _____

Amount \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____ as Principal,
hereinafter called the Principal, and _____ as Surety, hereinafter

called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as

Obligee, hereinafter called the NCC, In the amount of _____ dollars

(\$ _____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the

Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____, _____. WHEREAS, the Principal has

entered into a Contract with the NCC, dated the _____ day of _____, _____,

for: _____.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if the Principal shall well and faithfully observe and perform all the obligations on the part of the Principal to be observed and performed in connection with the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. Whenever the Principal shall be, and declared by the NCC to be, in default under the Contract, the Surety shall
 - (a) if the work is not taken out of the Principal's hands, remedy the default of the Principal,
 - (b) if the work is taken out of the Principal's hands and the NCC directs the Surety to undertake the completion of the work, complete the work in accordance with the Contract provided that if a contract is entered into for the completion of the work,
 - (i) it shall be between the Surety and the completing contractor, and
 - (ii) the selection of such completing contractor shall be subject to the approval of the NCC,
 - (c) if the work is taken out of the Principal's hands and the NCC, after reasonable notice to the Surety, does not direct the Surety to undertake the completion of the work, assume the financial responsibility for the cost of completion in excess of the moneys available to the NCC under the Contract,
 - (d) be liable for and pay all the excess costs of completion of the Contract, and
 - (e) not be entitled to any Contract moneys earned by the Principal, up to the date of his default on the Contract and any holdbacks relating to such earned Contract moneys held by the NCC, and the liability of the Surety under this Bond shall remain unchanged provided, however, and without restricting the generality of the foregoing, upon the completion of the Contract to the satisfaction of the NCC, any Contract moneys earned by the Principal or holdbacks related thereto held by the NCC may be paid to the Surety by the NCC.
2. The Surety shall not be liable for a greater sum than the amount specified in this Bond.
3. No suit or action shall be instituted by the NCC herein against the Surety pursuant to these presents after the expiration of two (2) years from the date on which final payment under the Contract is payable.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.

SIGNED, SEALED AND DELIVERED in the presence of:

Principal _____

Witness _____

Surety _____

Note: Affix Corporate seal if applicable.

LABOUR AND MATERIAL PAYMENT BOND

Bond Number _____

Amount \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____ as Principal,
hereinafter called the Principal, and _____ as Surety, hereinafter

called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto the National Capital Commission as Oblige, hereinafter called the NCC, In the amount of _____ dollars

(\$ _____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____, _____ . WHEREAS, the Principal has entered into a Contract with the NCC, dated the _____ day of _____, _____, for: _____

_____ which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that, if payment is promptly made to all Claimants who have performed labour or services or supplied material in connection with the Contract and any and all duly authorized modifications and extensions of the Contract that may hereafter be made, notice of which modifications and extensions to the Surety being hereby waived, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. For the purpose of this bond, a Claimant is defined as one having a direct contract with the Principal or any Sub-Contractor of the Principal for labour, material or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone services or rental of equipment (but excluding rental of equipment where the rent pursuant to an agreement is to be applied towards the purchase price thereof) directly applicable to the Contract.
2. For the purpose of this Bond, no payment is required to be made in respect of a claim for payment for labour or services performed or material supplied in connection with the Contract that represents a capital expenditure, overhead or general administration costs incurred by the Principal during the currency or in respect of the Contract.
3. The Principal and the Surety hereby jointly and severally agree with the NCC that if any Claimant has not been paid as provided for under the terms of his contract with the Principal or a Sub-Contractor of the Principal before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's labour or service was done or performed or materials were supplied by such Claimant, the NCC may sue on this bond, have the right to prosecute the suit to final judgment for such sum or sums as may be due and have execution thereon; and such right of the NCC is assigned by virtue of Part VIII of the Financial Administration Act to such Claimant.
4. For the purpose of this bond the liability of the Surety and the Principal to make payment to any claimant not having a contract directly with the Principal shall be limited to that amount which the Principal would have been obliged to pay to such claimant had the provisions of the applicable provincial or territorial legislation on lien or privileges been applicable to the work. A claimant need not comply with provisions of such legislation setting out steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had. Any such claimant shall be entitled to pursue a claim and to recover judgment hereunder subject to the terms and notification provisions of the Bond.
5. Any material change in the Contract between the Principal and the NCC shall not prejudice the rights or interest of any Claimant under this Bond who is not instrumental in bringing about or has not caused such change.
6. No suit or action shall be commenced hereunder by any Claimant:
 - (a) Unless such Claimant shall have given written notice within the time limits hereinafter set forth to the Principal and the Surety above named, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal and the Surety at any place where an office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the Contract is located. Such notice shall be given
 - (i) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal or by the Sub-Contractor of the Principal under either the terms of the Claimant's Contract with the Principal or the Claimant's Contract with the Sub-Contractor of the Principal within one hundred and twenty (120) days after such Claimant should have been paid in full under this Contract;

.../2

- (ii) in respect of any claim other than for the holdback or portion thereof referred to above within one hundred and twenty (120) days after the date upon which such Claimant did or performed the last of the service, work or labour or furnished the last of the materials for which such claim is made under the Claimant's Contract with the Principal or a Sub-Contractor of the Principal
 - (b) After the expiration of one (1) year following the date on which the Principal ceased work on the said Contract, including work performed under the guarantees provided in the Contract;
 - (c) Other than in a court of competent jurisdiction in the province or district of Canada in which the subject matter of the Contract or any part thereof is situated and not elsewhere, and the parties hereto hereby agree to submit to the jurisdiction of such court.
7. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.
 8. The Surety shall not be entitled to claim any moneys relating to the Contract and the liability of the Surety under this Bond shall remain unchanged and, without restricting the generality of the foregoing, the Surety shall pay all valid claims of Claimants under this Bond before any moneys relating to the Contract held by the NCC are paid to the Surety by the NCC.
 9. The Surety shall not be liable for a greater sum than the amount specified in this bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.

SIGNED, SEALED AND DELIVERED in the presence of:

Principal _____

Witness _____

Surety _____

Note: Affix Corporate seal if applicable.

- GC10.1 INSURANCE CONTRACTS
- GC10.2 INSURANCE PROCEEDS
- GC10.3 INSURANCE TERMS
 - GC10.3.1 General
 - GC10.3.1.1 Proof of Insurance
 - GC10.3.1.2 Payment of Deductible
 - GC10.3.2 Commercial General Liability
 - GC10.3.2.1 Scope of Policy
 - GC10.3.2.2 Insured
 - GC10.3.2.3 Period of Insurance
 - GC10.3.3 Builder's Risk / Installation Floater
 - GC10.3.3.1 Scope of Policy
 - GC10.3.3.2 Amount of Insurance
 - GC10.3.3.3 Insurance Proceeds

GC10.1 INSURANCE CONTRACTS

- 1) The Contractor shall, at the Contractor's expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to the NCC in accordance with the requirements of GC10.
- 2) The insurance contracts referred to in paragraph 1) of GC10.1 shall:
 - (a) be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in GC10; and
 - (b) provide for the payment of claims under such insurance contracts in accordance with GC10.2 INSURANCE PROCEEDS.

GC10.2 INSURANCE PROCEEDS

- 1) In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the Contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid directly to the NCC, and:
 - (a) the monies so paid shall be held by the NCC for the purposes of the contract; or
 - (b) if the NCC elects, shall be retained by the NCC, in which event they vest in the NCC absolutely.
- 2) In the case of a claim payable under a General Liability insurance contract maintained by the Contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid by the insurer directly to the claimant.
- 3) If an election is made pursuant to paragraph 1) of GC10.2, the NCC may cause an audit to be made of the accounts of the Contractor and of the NCC in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between:
 - (a) the aggregate of the amount of the loss or damage suffered or sustained by the NCC, including any costs incurred in respect of the clearing of the work and its site and any other amount that is payable by the Contractor to the NCC under the contract, minus any monies retained pursuant to subparagraph 1)(b) of GC10.2; and
 - (b) the aggregate of the amounts payable by the NCC to the Contractor pursuant to the contract up to the date of the loss or damage.

- 4) A difference that is established pursuant to paragraph 3) of GC10.2 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the creditor.
- 5) When payment of a deficiency has been made pursuant to paragraph 4) of GC10.2, all rights and obligations of the NCC 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 paragraph 3) of GC10.2, be deemed to have been expended and discharged.
- 6) If an election is not made pursuant to subparagraph 1)(b) of GC10.2, the Contractor shall, subject to paragraph 7) of GC10.2, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at the Contractor's expense as if that part of the work had not yet been performed.
- 7) When the Contractor clears and cleans the work and its site and restores and replaces the work referred to in paragraph 6) of GC10.2, the NCC shall pay the Contractor out of the monies referred to in paragraph 1) of GC10.2 so far as they will thereunto extend.
- 8) Subject to paragraph 7) of GC10.2, payment by the NCC pursuant to paragraph 7) of GC10.2 shall be made in accordance with the contract but the amount of each payment shall be 100% of the amount claimed notwithstanding subparagraphs 3)(a) and 3)(b) of GC5.4 PROGRESS PAYMENT.

GC10.3 INSURANCE TERMS

GC10.3.1 General

GC10.3.1.1 Proof of Insurance

- 1) Before commencement of the Work, and prior to contract award, the Contractor shall deposit with the NCC a Certificate of Insurance (approved Insurance form is enclosed at the end of this section).
- 2) Upon request by the NCC, the Contractor shall provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the provisions contained herein.
- 3) The insurance policies shall be endorsed to provide the NCC with no less than 30 days notice in writing in advance of a cancellation of insurance or any reduction in coverage.

GC10.3.1.2 Payment of Deductible

- 1) Any moneys paid or payable in respect of a deductible amount shall be borne exclusively by the Contractor.

GC10.3.2 Commercial General Liability

GC10.3.2.1 Scope of Policy

- 1) The insurance coverage provided shall not be less than that provided by IBC Form 2100, as amended from time to time, and shall have:
 - (a) an Each Occurrence Limit of not less than \$5,000,000;
 - (b) a Products/Completed Operations Aggregate Limit of not less than \$5,000,000; and
 - (c) a General Aggregate Limit of not be less than \$10,000,000 per policy year, if the policy is subject to such a limit.

- 2) The policy shall either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:
 - (a) Blasting;
 - (b) Pile driving and caisson work;
 - (c) Underpinning;
 - (d) Removal or weakening of support of any building or land whether such support be natural or otherwise if the work is performed by the insured Contractor.

GC10.3.2.2 Insured

- 1) The policy shall insure the Contractor and shall include the NCC as an additional Insured, with respect to liability arising out of the operations of the Contractor with regard to the work.

GC10.3.2.3 Period of Insurance

- 1) Unless otherwise directed in writing by the NCC, or, otherwise stipulated elsewhere herein, the policy required herein shall be in force and be maintained from the date of contract award until the day of issue of the Certificate of Completion except that the coverage for Completed Operations Liability shall, in any event, be maintained for a period of at least six (6) years beyond the date of the Certificate of Substantial Performance.

GC10.3.3 Builder's Risk / Installation Floater

GC10.3.3.1 Scope of Policy

- 1) The insurance coverage provided by a Builder's Risk policy or an Installation Floater policy shall not be less than that provided by IBC Forms 4042 and 4047, as amended from time to time.
- 2) The policy shall permit use and occupancy of the project, or any part thereof, where such use and occupancy is for the purposes for which the project is intended upon completion.
- 3) The policy may exclude or be endorsed to exclude coverage for loss or damage caused by any of the following:
 - (a) Asbestos;
 - (b) Fungi or spores;
 - (c) Cyber;
 - (d) Terrorism.

GC10.3.3.2 Amount of Insurance

- 1) 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 the NCC at the site of the project to be incorporated into and form part of the finished Work. If the value of the Work is changed, the policy shall be changed to reflect the revised contract value.

GC10.3.3.3 Insurance Proceeds

- 1) The policy shall provide that the proceeds thereof are payable to the NCC may direct in accordance with GC10.2, "Insurance Proceeds".
- 2) The Contractor shall, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.

• To be completed by the insurer / À être rempli par l'assureur

CONTRACT / MARCHÉ					
Description and location of work / Description et endroit des travaux				Contract no. / N° de contrat	
INSURER / ASSUREUR					
Name / Nom					
Address / Adresse		No., Street / N°, rue			
		City / Ville	Province	Postal code / Code postal	
BROKER / COURTIER					
Name / Nom					
Address / Adresse		No., Street / N°, rue			
		City / Ville	Province	Postal code / Code postal	
INSURED / ASSURÉ					
Name of contractor / Nom de l'entrepreneur					
Address / Adresse		No., Street / N°, rue			
		City / Ville	Province	Postal code / Code postal	
ADDITIONAL INSURED / ASSURÉ ADDITIONNEL					
The National Capital Commission / La Commission de la capitale nationale					
<p>This insurer certifies that the following policies of insurance are at present in force covering all operations of the Insured, in connection with the contract made between the named insured and the National Capital Commission.</p> <p>L'assureur atteste que les polices d'assurances suivantes sont présentement en vigueur et couvrent toutes les activités de l'assuré en fonction du marché conclu entre l'Assuré dénommé la Commission de la capitale nationale</p>					
POLICY / POLICE					
Type Genre	Number Numéro	Inception Date Date d'effet	Expiry Date Date d'expiration	Limit of Liability Limites de garantie	
Commercial General Liability Responsabilité civile des entreprises					
Builder's Risk "All Risks" Assurance des chantiers « tous risques »					
Installation Floater "All Risks" Risques d'installation « tous risques »					
Other (list) / Autre (énumérer)					
<p>Each of these policies includes the coverages and provisions as specified in Insurance Terms and each policy has been endorsed to cover the National Capital Commission as an Additional Insured. The Insurer agrees to notify the National Capital Commission in writing thirty (30) days prior to any material change in, or cancellation of any policy or coverage.</p>			<p>Chacune des présentes polices renferment des garanties et dispositions spécifiées aux Conditions d'assurance, et chaque police a été amendée pour couvrir la Commission de la capitale nationale en tant qu'assuré additionnel. L'assureur convient de donner un préavis de trente (30) jours à la Commission de la capitale nationale en cas de changement visant la garantie d'assurance ou les conditions ou de l'annulation de n'importe quelle police ou garantie.</p>		
<p>_____ Name of Insurer's Office or Authorized Employee / Nom du cadre ou de la personne autorisée</p>			<p>_____ Telephone number / Numéro de téléphone</p>		
<p>_____ Signature</p>			<p>_____ Date</p>		

- 01 Interpretation
- 02 General Fair Wage Clause
- 03 Hours of Work
- 04 Labour Conditions to be Posted
- 05 The Contractor to Keep Records which are to be Kept Open for Inspection
- 06 NCC Requirements before Payment made to Contractor
- 07 Authority to pay Wages in the Event of Default by the Contractor
- 08 Conditions of Subcontracting
- 09 Non-discrimination in Hiring and Employment of Labour

01 Interpretation

1. In these Conditions

"Act" means the Fair Wages and Hours of Labour Act;

"Regulations" means the Fair Wages and Hours of Labour Regulations made pursuant to the Act;

"Contract" means the contract of which these Labour Conditions are part;

"the NCC" means the National Capital Commission;

"Contractor" means the person who has entered into the contract with the NCC ;

"Regional Director" means the director of a regional office of the Department of Human Resources and Skills Development or the director's designated representative;

"Inspector" has the meaning assigned to the term by Part III of the Canada Labour Code;

"Minister" means the Minister of Labour of Canada;

"persons" means those workers employed by the contractor, subcontractor or any other person doing or contracting to do the whole or any part of the work contemplated by the contract;

02 General Fair Wage Clause

- 1. All persons in the employ of the Contractor, subcontractor, or any other person doing or contracting to do the whole or any part of the work contemplated by the Contract, shall during the continuance of the work:
 - (a) be paid fair wages that is, such wages as are generally accepted as current for competent workers in the district in which the work is being performed for the character or class of work in which such workers are respectively engaged; and
 - (b) in all cases, be paid no less than the minimum hourly rate of pay established by the Labour Program of the Department of Human Resources and Social Development in the Schedules of Wage Rates which form a part of this Contract and these labour conditions; and
 - (c) for contracts covering work performed in the province of Quebec, be paid at least the wage rates established by that province for the purposes of the Quebec "Construction Decree".
- 2. Where there is no wage rate in the schedules referred to in paragraph 1 for a particular character or class of work, the Contractor shall pay wages for that character or class of work at a rate not less than the rate for an equivalent character or class of work.

3. Where during the term of the Contract, the Contractor receives notice from the NCC of any change in wage rates, the Contractor shall pay not less than the changed wage rate beginning on the first day after receipt, by the Contractor, of the notice of the change in wage rates.

03 Hours of Work

1. The hours of work in a day and in a week of persons employed in the execution of the Contract, including the hours of work in excess of which a person shall be paid overtime at a rate at least equal to one and one half times the fair wage, are the hours of work for the province in which the work is being performed as set out from time to time in an Act of that province.
2. The daily or weekly hours of work referred to in paragraph 1 may be exceeded in accordance with the applicable provincial law.

04 Labour Conditions to be Posted

1. For the information and the protection of all persons, the Contractor agrees to post and keep posted, in a conspicuous place on the premises where work contemplated by the Contract is being carried out or on premises occupied or used by persons engaged in carrying out such work, a copy of these Labour Conditions, and a copy of the applicable Schedules of Wage Rates along with any subsequent changes.

05 The Contractor to Keep Records which are to be Kept Open for Inspection

1. The Contractor agrees to keep books and records showing the names, addresses, classifications of employment and work of all workers employed under the Contract, the rate of wages to be paid, the wages paid and the daily hours worked by the workers.
2. The Contractor also agrees that the Contractor's books, records and premises will be open at all reasonable times for inspection by an Inspector.
3. The Contractor also agrees to furnish the Inspector and the NCC, on request, with such further information as is required to ascertain that the requirements of the Act, the Regulations and the Contract with respect to wages, hours of work and other labour conditions have been complied with.

06 NCC Requirements before Payment made to Contractor

1. The Contractor agrees that the Contractor will not be entitled to payment of any money otherwise payable under the Contract until the Contractor has filed with the NCC in support of a claim for payment a sworn statement:
 - (a) that the Contractor has kept the books and records required by these Regulations;
 - (b) that there are no wages in arrears in respect of work performed under the Contract; and
 - (c) that to the Contractor's knowledge, all the conditions in the Contract required by the Act and the Regulations have been complied with.
2. The Contractor also agrees that, where fair wages have not been paid by the Contractor to persons employed under the Contract, the NCC shall withhold from any money otherwise payable under the Contract to the Contractor the amount necessary to ensure that fair wages are paid to all employees until fair wages are paid.

07 Authority to pay Wages in the Event of Default by the Contractor

1. The Contractor agrees that where the Contractor is in default of payment of fair wages to an employee, the Contractor will pay the NCC the amount the Contractor is in default.
2. The Contractor agrees that where the Contractor fails to comply with paragraph 1, the NCC will pay to the Receiver General, out of any money otherwise payable to the Contractor, the amount for which the Contractor is in default.

08 Conditions of Subcontracting

1. The Contractor and the subcontractor agree that in subcontracting any part of the work contemplated by the Contract, they will place in the subcontract the conditions respecting fair wages, hours of work and other labour conditions set out in the Contract and the requirements set out in Article 4 of the Section. The Contractor further agrees that the Contractor will be responsible for carrying out these conditions in the event the subcontractor fails to carry them out.

09 Non-discrimination in Hiring and Employment of Labour

1. The Contractor agrees that in the hiring and employment of workers to perform any work under the Contract, the Contractor will not refuse to employ and will not discriminate in any manner against any person because:
 - (a) of that person's race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status;
 - (b) of the race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status of any person having a relationship or association with that person, or;
 - (c) a complaint has been made or information has been given in respect of that person relating to an alleged failure by the Contractor to comply with subparagraph (a) or (b).

1. General

- 1.1 In this Contract “OHS” means “occupational health and safety”.
- 1.2 With respect to the work to be performed under the Contract, the Contractor covenants and agrees to perform at, and to enforce conformity with, a standard equivalent to or greater than the best practices prevailing in the construction industry at that time.
- 1.3 The Contractor acknowledges that, to the extent that the following matters may be affected by conduct of the work, it is responsible for the:
- 1.3.1 health and safety of persons on site;
 - 1.3.2 safety of property on site;
 - 1.3.3 protection of persons adjacent to the site; and,
 - 1.3.4 protection of the environment.
- 1.4 Without limiting the generality of section 1.3, the Contractor acknowledges that it is required to, and covenants and agrees to, comply and to enforce compliance with all laws or regulations that may be applicable to the conduct of the work including, without limitation:
- (a) the provisions of the *Occupational Health and Safety Act* of Ontario and all regulations, policies or directives issued thereunder for work performed in Ontario;
 - (b) *La Loi sur la santé et la sécurité du travail* of Québec and all regulations, policies or directives issued thereunder for work performed in Québec;
 - (c) Applicable provisions of the *Canada Labour Code, Part II*;
 - (d) Employment standards legislation in the province(s) in which any part of the work is performed; and
 - (e) Any policies or directives issued by the NCC in respect of the subject matter of the contract.
- The NCC will present any such policies or directives referred to in paragraph (e) to the Contractor in written form by not later than the pre-construction meeting. The Contractor is obliged to ensure that the relevant policies and directives have been communicated to and acknowledged by all its employees and that they will be complied with. The NCC reserves the right to require the Contractor to produce evidence satisfactory to the NCC acting reasonably that the Contractor has discharged the foregoing obligations.
- 1.5 By entering into the Contract with the NCC, the Contractor represents and warrants to the NCC that it has informed itself of and is knowledgeable about the obligations imposed by the legislation referred to in 1.4. above.
- 1.6 For purposes of the relevant provincial OHS legislative regime the Contractor acknowledges and agrees that it is the “Constructor” and covenants to discharge and accept all liability for the performance of the obligations of the “Constructor” in respect of the work provided for in the Contract. Notwithstanding a determination by the relevant authority having jurisdiction that the NCC is the “Constructor” in the event of a dispute between the Contractor and the NCC, the Contractor acknowledges and agrees that the Contractor shall be financially responsible for the implementation of protective measures necessary to fulfill the obligations of the “Constructor”.

- 1.7 As between the NCC and the Contractor, the NCC's decision as to whether the Contractor is discharging its obligations in respect of OHS issues shall be definitive. Without limiting the generality of the foregoing, in the event of any dispute with respect to instructions given by the NCC's designated representative, the Contractor may note such dispute, but must nevertheless forthwith comply with any such instructions.
- 1.8 The Contractor hereby indemnifies and agrees to hold harmless the NCC, its agents and employees, from and against any and all claims, demands, losses, costs (including legal fees on a full indemnity basis), damages, actions, suits or proceedings (hereinafter collectively referred to as "claims") by third parties that arise out of or are attributable to the Contractor's errors or omissions in the performance of the Contract. Without limiting the generality of the foregoing, this indemnification extends to any claims related to any violation of any statute or regulation relating to OHS matters.
- 1.9 The NCC shall provide the contractor:
 - 1.9.1 a written description of every known and foreseeable health and safety hazard to which persons employed in the performance of the work may be exposed because of the nature of the site;
 - 1.9.2 a list of any prescribed materials, equipment, devices and clothing necessary because of the nature of the site;
 - 1.9.3 with written information indicating the prescribed circumstances and manner to use all prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2; and,
 - 1.9.4 with a copy of any NCC policies and procedures that may be applicable in relation to the work site.
- 1.10 Without limiting the generality of 1.9, prior to the commencement of the work by the contractor, the contractor shall, at the contractor's expense:
 - 1.10.1 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are informed of any health and safety hazard described pursuant to 1.9.1;
 - 1.10.2 provide all persons employed in the performance of the work or granted access to the work or its site with prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2;
 - 1.10.3 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are familiar with the prescribed circumstances and manner all prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2; and
 - 1.10.4 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are familiar with policies and procedures referred to in 1.9.4.

2. Qualifications of Personnel

- 2.1 By entering into this agreement the contractor represents and warrants that it has the requisite experience, training, formal certification and equipment to enable it to discharge the obligations enumerated in sections 1.3, 1.4, 1.5 and 1.6 above.
- 2.2 The Contractor represents and warrants that supervisory personnel employed by the Contractor in respect of performance of any part of the work have the requisite experience, authority, training, formal certification and equipment to ensure that the obligations enumerated in sections 1.3, 1.4, 1.5

and 1.6 above are discharged and agrees to deliver such evidence as may be required by the NCC from time to time to verify same.

3. Certification

- 3.1 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver a Worker's Compensation Clearance Certificate. Where the duration of the project is greater than sixty days, the Contractor covenants and agrees to deliver up-dated certificates at least every 60 days. In the event of a failure by the Contractor to deliver up-dated certificates, the NCC shall be entitled to immediately terminate the contract without notice and without incurring any liability to the Contractor.
- 3.2 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver historical information on its injury experience including any pertinent Worker's Compensation Experience Reports. Such historical information shall report data for the previous three years.

4. Plans Policies and Procedures

- 4.1 After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver for the review and approval of the NCC:
- (a) A copy of the contractor's OHS policy;
 - (b) A safety program and plan specific to the work to be performed pursuant to the Contract which plan shall include a risk assessment and analysis, a description of safe working methods, injury and incident reporting protocols, regular periodic reporting on compliance with OHS obligations including any policies, practices and procedures otherwise provided for herein, and a site-specific contingency and emergency response plan; and
 - (c) Health and safety training records of personnel and alternates responsible for OHS issues on site.

The Contractor covenants and agrees to deliver the necessary material safety data sheets for the review and approval of the NCC prior to entering the site to perform work related to the relevant material.

Approval by the NCC does not amend the provisions of the Contract with respect to the allocation of liability for discharging or failing to discharge OHS obligations. Such liability remains with the Contractor notwithstanding the granting of such approval.

- 4.2 The Contractor acknowledges and agrees that prior to commencement of work it must attend a pre-construction briefing at which any special or additional practices and procedures to be followed in completing the work are to be established. Without limiting the provisions of section 1.4(e) above, the representatives of the Contractor attending the briefing will be required to deliver a signed acknowledgement that the practices and procedures set out in the pre-construction briefing have been understood and will be complied with.
- 4.3 At any time and from time to time during the performance of the work, the NCC shall have the right to audit the manner in which the Contractor is discharging its OHS obligations and to determine whether the project specification and/or OHS policies, practices and procedures are being complied with. In the event that the audit discloses any failure by the Contractor to discharge such OHS obligations, the NCC shall be entitled to forthwith rectify at the Contractor's expense any such deficiency and the NCC shall have the further right to immediately terminate the contract without notice and without incurring any liability to the Contractor.

- 4.4 The Contractor covenants and agrees to conform with all requirements of the Workplace Hazardous Materials Information System.
- 4.5 The Contractor acknowledges and agrees that where required by any law or regulation applicable to the performance of the work it must establish and maintain a project health and safety committee. The contractor further acknowledges and agrees that it must enable staff to attend all relevant safety meetings, and that the cost of same, including costs attributable to standing down equipment is included in its bid price and is not independently recoverable.
- 4.6 Where required by the relevant provincial regulatory regime, the Contractor acknowledges and agrees that it is responsible for delivery of notice of the project to the relevant regulatory authority, and for the performance of any other administrative activity required to meet the obligations imposed in the pertinent provincial regulatory regime.
- 4.7 **(Optional depending on hazard or scope of project)**. The contractor covenants and agrees that it shall employ and assign to the work, a competent OHS professional as Health and Safety Coordinator that must:
- (a) have a minimum two (2) years' site-related working experience specific to activities associated with.(identify specific subject matter)
 - (b) have basic working knowledge of specified occupational safety and health regulations,
 - (c) be responsible for completing health and safety training session and ensuring that personnel not successfully completing the required training are not permitted to enter the site to perform the Work,
 - (d) be responsible for implementing, enforcing daily and monitoring the site-specific Health and Safety Plan, and
 - (e) be on site during execution of the Work.

The parties acknowledge that in lieu of employing an OHS professional, the Contractor may provide same by sub-contracting for such services.

- 4.8 Upon completion of the work the Contractor covenants and agrees to participate with the NCC in a post performance interview to evaluate the performance of the Contractor in respect of the OHS obligations under the contract. Without limiting the generality of the foregoing, the interview will identify areas of compliance and non-compliance in terms of:
- (a) actual performance of the work;
 - (b) reporting or procedural requirements;
 - (c) resolution of deficiencies.

The contractor acknowledges and agrees that the results of the post-completion interview may be relied upon by the NCC in evaluating bids subsequently submitted by the Contractor on other NCC projects.

Security Requirements

The NCC complies with Treasury Board's *Policy on Government Security* and consequently, it will require that the Contractor's employees submit to a personal security screening process (Security Clearance Form TBS/SCT 330-60E). The NCC may also perform a credit check when the duties or tasks to be performed require it or in the event of a criminal record containing a charge/offence of a financial nature.

The NCC reserves the right to not award the Contract until such time as the Contractor's core employees have obtained the required level of security screening as identified by the NCC's Corporate Security. In this case the level of security required will be **Reliability/Site Access/Secret**.

The NCC also reserves the right to request that the Contractor submit to a *Designated Organisation Screening* and/or *Facility Security Clearance*— depending on the nature of the information it will be entrusted with. In the event that the Contractor does not meet the requirements to obtain the requested clearance, the Contractor shall take the corrective measures recommended by the Canadian Industrial Security Directorate (of PWGSC) or by the NCC's Corporate Security in order to meet these requirements. If no corrective measures are possible or if the Contractor fails to take the recommended measures, then the Contractor shall be in default of its obligations under this Contract and the NCC shall have the rights and remedies listed in section 2.14, including the right to terminate the Contract without further notice to the Contractor.

Additional information

As part of their personal screening, individuals may be required to provide evidence of their status as a Canadian citizen or permanent resident as well as any other information/documentation requested by the NCC's Corporate Security in order to complete the screening.

The NCC reserves the right to refuse access to personnel who fail to obtain the required level of security screening.

The NCC reserves the right to impose additional security measures with respect to this Contract as the need arises.

Company Security Representative

The Contractor shall appoint one Company Security Representative (CSR) as well as one alternate (for companies who have more than five employees).

Selection criteria for the CSR and the alternate are the following:

- They must be employees of the Contractor;
- They must have a security clearance (the NCC will process the clearances once the individuals have been identified).

Responsibilities of the Company Security Representative

The CSR's responsibilities are the following:

- Act as liaison between the NCC's Corporate Security and the Contractor to ensure coordination;
- In collaboration with the NCC's Corporate Security, identify the Contractor's employees who will require access to NCC information/assets/sites **as well as any recurring subcontractors** (and their employees) who will require similar access and may not be supervised by the Contractor at all times during such access. Ensure that accurate and complete Personnel Security Screening documentation is

submitted to the NCC's Corporate Security for the employees/subcontractors who have been identified;

- Ensure that employees/subcontractors, upon notification of having been granted a reliability status, sign the *Security Screening Certificate and Briefing Form* and return to the NCC's Corporate Security;
- Ensure that only persons who have been security screened to the appropriate level and who are on a "need-to-know basis" will have access to information and assets;
- Maintain a current list of security screened employees/subcontractors;
- Ensure proper safeguard of all information and assets, including any information/assets entrusted to subcontractors;
- If a Security incident or suspected breach of security occurs, prepare and submit to the NCC an occurrence report as soon as possible.

SPECIFICATIONS:

<u>DIVISION</u>	<u>SECTION</u>	<u>NO. OF PAGES</u>
<u>DIVISION 01</u>	01 00 01 - Pay Item Descriptions	3
	01 00 10 - General Instructions	3
	01 31 19 - Project Meetings	2
	01 32 16.06 - Construction Progress Schedule-Bar (GANTT) Chart	2
	01 33 00 - Submittal Procedures	4
	01 35 00.06 - Special Procedures for Traffic Control	3
	01 35 29.06 - Health and Safety Requirements	4
	01 35 43 - Environmental Procedures	3
	01 45 00 - Quality Control	2
	01 52 00 - Construction Facilities	1
	01 54 00 - Access to Work Areas	2
	01 61 00 - Common Product Requirements	2
	01 71 00 - Examination and Preparation	1
<u>DIVISION 02</u>	02 41 13 - Selective Site Demolition	2
	02 81 01 - Hazardous Materials	4
<u>DIVISION 03</u>	03 10 00 - Concrete Forming and Accessories	2
	03 20 00 - Concrete Reinforcing	3
	03 30 00 - Cast-in-Place Concrete	4
<u>DIVISION 04</u>	04 03 07 - Masonry Repointing and Repair	6
	04 03 41 - Repair of Stone	6
	04 05 00 - Common Work Results for Masonry	5
	04 05 12 - Masonry Mortar and Grout	5
<u>DIVISION 26</u>	26 05 00 - Common Work Results - Electrical	4
	26 05 21 - Wires and Cables 0-1000 V	2
	26 05 28 - Grounding - Secondary	2
	26 56 19 - Roadway Lighting	3
<u>DIVISION 31</u>	31 23 33.01 - Excavating, Trenching, and Backfilling	5

NCC STANDARD DRAWINGS

<u>Drawing Title</u>	<u>Sheet No.</u>
Concrete Lamp Post	660.4.2
Aluminum Extension Post	660.5.1, 660.5.2, 660.5.3, 660.5.4, 660.5.5 & 660.5.6

DRAWINGS:

	Cover Sheet
S01	General Arrangement I - Type I Wall
S02	General Arrangement II - Type II Wall
S03	General Arrangement III - Type II Wall
S04	General Arrangement IV - General Notes
S05	Traffic/Staging Plan
S06	Details I
S07	Details II
S08	Details III
S09	Standard Details

PART 1 - GENERAL

1.1 - PROJECT DESCRIPTION

- .1 Work under this project generally includes the rehabilitation of the masonry walls along Colonel By Drive between Clegg Street and Avenue Road, and at the intersection of Colonel By Drive and Bank Street/Echo Drive. Work to consist of, but not be limited to, the following:
 - .1 Chipping and repointing of masonry walls.
 - .2 Localized reconstruction of masonry walls.
 - .3 Resetting of capstones.
 - .4 Removal, salvage, and reinstallation of light standards on new concrete bases between Mount Pleasant Avenue and Avenue Road.

1.2 - EXECUTION OF WORK

- .1 Supply all equipment, labour, materials, and services required for the proper execution of the Work.
- .2 Payment at the Unit Price given in the Form of Tender shall be full compensation for all equipment, labour, materials, and services to complete the Work for all pay items described in this Section and listed in the Form of Tender.
- .3 Unit Price shown in the Form of Tender shall include payment for all incidental work to complete the Work not specifically listed in any tender item.
- .4 The Contractor is hereby notified that in addition to the Sections detailed below, Division 1 Sections are applicable to all sections of the Contract.

1.3 - PART A: SITE WORKS

- .1 Part A includes all contract management and administration, site preparation and reinstatement, traffic control, clearing, excavating, backfilling, demolition, including but not limited to:
 - .1 Mobilization and Demobilization (LS):
 - .1 Development, implementation and maintenance of Environmental, Erosion and Sediment Control, and Health & Safety Plans.
 - .2 General contract administration, including fees, permits, site meetings, site examination, quality control, etc.
 - .3 Reinstatement of topsoil and general site remediation.
 - .2 Traffic Control (LS):
 - .1 Development, implementation, and maintenance of a Traffic Control Plan (TCP).
 - .3 Site Preparation (LS):
 - .1 Clearing of existing vegetation and protection of existing trees and shrubs, and stripping and stockpiling of topsoil.
 - .2 Removal and salvage of masonry, light standards, and

- miscellaneous items.
 - .3 Excavation and backfilling.
 - .4 Removal and disposal of surplus materials.
- .2 Work in Part A: Site Works is primarily described in Divisions 01, 02, and 31.

1.4 - PART B: CONCRETE

- .1 Concrete (LS): includes construction, curing, and stripping of new light standard footings (5), supply and installation of reinforcing steel, drilling and grouting of dowels, and any miscellaneous concrete works required for reinstatement, such as curbs.
- .2 Concrete coping to be re done as existing where delaminated (approx. 150m x 300mm x 75mm at apex)
- .3 Work in Part B: Concrete is primarily described in Division 03.

1.5 - PART C: MASONRY

- .1 Part C includes the repairs and rehabilitation of masonry components, including but not limited to:
 - .1 Masonry Repointing and Repair - Type I wall from 0+100 to 0+380 (m²):
 - .1 Sounding, raking, repointing and tooling of joints.
 - .2 Sounding of the joints to determine the limits of repointing shall be considered incidental to the Work. No separate payment shall be made for this work.
 - .2 Masonry Repointing and Repair - Type II wall from 0+380 to 0+763 and walls near Bank street (m²):
 - .1 Sounding, raking, repointing and tooling of joints.
 - .2 Sounding of the joints to determine the limits of repointing shall be considered incidental to the Work. No separate payment shall be made for this work.
 - .3 Dismantle and Rebuild Masonry (m³). Including at 5 modified luminaires.
 - .4 Supply New Stone (m³):
 - .1 Partial and full stone replacement.
 - .5 Wall Reconstruction (LS):
 - .1 Work includes the complete dismantling and reconstruction of the 33 m long masonry wall south of Echo Drive.
- .2 Work in Part C: Masonry is primarily described in Division 04.

Colonel By Drive	PAY ITEM	Section 01 00 01
Masonry Wall Rehabilitation	DESCRIPTIONS	Page 3
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1.6 - PART D: ELECTRICAL

- .1 Remove, Salvage, and Reinstall Luminaires (5) (LS): includes the supply, installation, wiring, and activation of new light standards, including any wiring, conduits, fitting and other accessories as required.
- .2 Work in Part D: Electrical is primarily described in Division 26 and in the NCC Standard Drawings.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - TAXES

- .1 Pay all taxes properly levied by law (including Federal, Provincial and Municipal).

1.2 - FEES, PERMITS, AND CERTIFICATES

- .1 Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.

1.3 - REGULATORY REQUIREMENTS

- .1 References and Codes
 - .1 Materials to be new and Work to conform to minimum applicable standards of "References" indicated in specification sections, National Building Code of Canada (NBC), and applicable Municipal and Provincial codes. In case of conflict or discrepancy, apply the most stringent requirement.
 - .2 References, Codes, and Amendments: use current version at the time of Tender.
- .2 Do Work in accordance with all applicable Federal, Provincial and Municipal Acts and Regulations for construction projects.
- .3 Ensure compliance of employees with safety requirements of Contract documents, site-specific health and safety plan(s), and all applicable regulatory requirements.

1.4 - FIRE SAFETY REQUIREMENTS

- .1 Comply with the National Fire Code of Canada 2010 for:
 - .1 On-going maintenance and use of fire safety.
 - .2 Establishment of fire safety plans.
 - .3 Fire safety at construction and demolitions sites.

1.5 - TEMPORARY UTILITIES

- .1 Provide temporary utilities and controls in order to execute Work expeditiously. Remove from site all such utilities and controls after use.
- .2 Arrange and pay costs for all temporary utility installation, maintenance, and removal.

1.6 - CLOSEOUT SUBMITTALS

- .1 Records:
 - .1 As work progresses, maintain accurate records to show deviations from contract drawings in red. Prior to Engineer's inspection for issuance of final certificate of

completion, supply Engineer with one (1) set of white prints with deviations neatly inked in. Engineer to provide two sets of clean white prints for this purpose.

- .2 Record the following information:
 - .1 Field changes of dimension and detail on new and existing components affected by Work.
 - .2 Changes made by Change Order or Site Instruction.
 - .3 Horizontal and vertical location of underground utilities and appurtenances exposed or adjusted during Work.

1.7 - CLEANING

- .1 Clean up as work progresses. At end of each work period and more often if required or if directed by Engineer, remove debris from site, stockpile and/or neatly stack material for use, and clean up generally.
- .2 Upon completion remove scaffolding, temporary protection and surplus materials. Make good defects noted at this stage.
- .3 Clean manufactured articles in accordance with manufacturer's written instructions.
- .4 Clean areas under contract to a condition equal to what previously existed and to approval of Engineer.

1.8 - WASTE MANAGEMENT AND DISPOSAL

- .1 Collect and separate for recycling all paper, plastic, cardboard packaging material, wiring and steel and any other recyclable product in appropriate on-site bins.
- .2 Remove and dispose of off-site at appropriate recycling facilities.

1.9 - COST BREAKDOWN

- .1 Before submitting first progress claim, submit breakdown of Contract Amount in detail as directed by Engineer and aggregating the Contract Amount.
- .2 Ensure cost breakdowns reasonably reflect the costs associated with the work and that breakdowns are balanced.
- .3 Submit supporting documentation for all breakdowns that Engineer considers unbalanced.
- .4 If supporting documentation cannot be submitted or breakdown cannot be justified to the satisfaction of Engineer, revise and resubmit the cost breakdowns.
- .5 After approval by Engineer cost breakdown will be used as the basis of progress payments.

1.10 - TIMING OF WORK

- .1 Complete Work between contract award and September 30, 2013.

1.11 - RELICS, ANTIQUITIES, REMAINS

- .1 Protect relics, antiquities, items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during the course of the Work.
- .2 In the event that archaeological resources or human remains are discovered during the course of the Work, stop all work immediately and notify the NCC Project Manager and Ian Badgley, NCC Archaeologist (ian.badgley@ncc-cnn.ca, Tel 613-239-5751). Measures appropriate to the protection and management of these resources or remains will be determined by the NCC and, if necessary, may include recommendations from a professional archaeologist. Do not resume work at the location prior to receipt by the Construction Manager of written confirmation that these measures have been put in place.
- .3 Relics, antiquities, and items of historical or scientific interest remain the NCC's property.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - ADMINISTRATIVE

- .1 Engineer will schedule and administer project meetings throughout the progress of Work.
- .2 Engineer will prepare agenda for meetings and will distribute written notice of each meeting four days in advance of meeting date.
- .3 Engineer will preside at meetings, will record the meeting minutes, and will produce and distribute minutes of the meetings within 5 working days of meeting.
- .4 Engineer will finalize the minutes upon review and comments from all parties.
- .5 Representatives of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.2 - PRECONSTRUCTION MEETING

- .1 Within 15 working days after award of Contract, Engineer will request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Representatives of Owner, relevant stakeholders and regulatory authorities, Engineer, Contractor, and major Subcontractors will be in attendance.
- .3 Engineer will establish time and location of meeting and notify parties concerned a minimum 5 working days before meeting.
- .4 Agenda to include:
 - .1 Appointment of official representative of participants in Work.
 - .2 Schedule of Work: in accordance with Section 01 32 16.06 - Construction Progress Schedule - Bar (GANNT) Chart.
 - .3 Schedule of submission. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .4 Requirements for temporary facilities, site signs, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.
 - .5 Delivery schedule of construction equipment.
 - .6 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
 - .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
 - .8 Owner provided products.
 - .9 Sources of materials.
 - .10 Traffic control in accordance with Section 01 35 00.06 - Special Procedures for Traffic Control.

- .11 Record drawings in accordance with Section 01 00 10 - General Instructions.
- .12 Emergency contacts.
- .13 Monthly progress claims, administrative procedures, photographs, holdback.
- .14 Appointment of inspection and testing agencies or firms.
- .15 Subcontractors and suppliers.
- .16 Quality Control/Quality Assurance.

1.3 - PROGRESS MEETINGS

- .1 During course of Work attend progress meetings every second week. Attend additional scheduled meetings as required.
- .2 Contractor, major Subcontractors involved in Work, Engineer and Owner to be in attendance.
- .3 Agenda to include:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Construction Schedule: review of Work progress since previous meeting, and Work scheduled until next meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Quality Control/Quality Assurance.
 - .8 Status of submittals.
 - .9 Environmental issues.
 - .10 Review proposed changes for effect on construction schedule and on completion date.
 - .11 Other business.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - DEFINITIONS

- .1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.
- .3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
- .4 Construction Work Week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
- .5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.
- .6 Milestone: significant event in project, usually completion of major deliverable.
- .7 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

1.2 - REQUIREMENTS

- .1 Ensure Project Schedule is practical and remain within specified Contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.
- .3 Limit activity durations to maximum of approximately 10 working days, to allow for progress reporting.
- .4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.3 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Engineer within 5 working days of Award of Contract Bar (GANTT) Chart as Project Schedule for planning, monitoring and reporting of project progress.

1.4 - PROJECT MILESTONES

- .1 Project milestones form interim targets for Project Schedule.
 - .1 Contract award.
 - .2 Commencement of Work.
 - .3 Substantial Completion.
 - .4 Final Completion.

1.5 - PROJECT SCHEDULE

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 Engineer will review and return revised schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 5 working days.
- .4 Accepted revised schedule will become baseline schedule and be used as baseline for updates.
- .5 Update Project Schedule every second week reflecting activity changes and completions, as well as activities in progress.
- .6 Include narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - ADMINISTRATIVE

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

1.2 - 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 drawings stamped and signed by Professional Engineer registered or licensed in the Province of Ontario.
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and

other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

- .4 Allow 10 days for Engineer's review of each submission.
- .5 Adjustments made on shop drawings by Engineer are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Engineer prior to proceeding with Work.
- .6 Make changes in shop drawings as Engineer may require, consistent with Contract Documents. When resubmitting, notify Engineer 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 Engineer's review, distribute copies.
- .10 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Engineer may reasonably request.
- .11 Submit electronic copy of product data sheets or brochures for

requirements requested in specification Sections and as requested by Engineer where shop drawings will not be prepared due to standardized manufacture of product.

- .12 Submit electronic copy of test reports for requirements requested in specification Sections and as requested by Engineer.
 - .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 accordance with specified requirements.
- .13 Submit electronic copy of certificates for requirements requested in specifications and as requested by Engineer.
 - .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 copy of manufacturers' instructions for requirements requested in specifications and as requested by Engineer.
 - .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 copy of Manufacturer's Field Reports for requirements requested in specifications and as requested by Engineer.
- .16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .17 Delete information not applicable to project.
- .18 Supplement standard information to provide details applicable to project.
- .19 Where materials are specified by trade name, refer to specifications elsewhere for procedures for applying for approval of alternative products.
- .20 If, upon review by Engineer, no errors or omissions are discovered or if only minor corrections are made, an electronic copy 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.
- .21 The review of shop drawings by the Engineer is for sole purpose of ascertaining conformance with general concept.

- .1 Review does not mean that the Engineer approves detail design inherent in shop drawings, responsibility for which to remain with Contractor submitting same, and such review to 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.

1.3 - SAMPLES

- .1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Engineer's office.
- .3 Notify Engineer 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 Engineer are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Engineer prior to proceeding with Work.
- .6 Make changes in samples which Engineer 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.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - REFERENCES

- .1 Ministry of Transportation Ontario (MTO)
 - .1 Ontario Traffic Manual (OTM) Book 7 - Temporary Conditions.

1.2 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare Traffic Control Plan (TCP) for vehicles, cyclists and pedestrians in accordance with MTO OTM.
- .3 TCP to be signed and sealed by Professional Engineer, registered or licensed in the Province of Ontario.
- .4 Submit TCP 10 days in advance of proposed changes to traffic management.
- .5 Do not commence until Engineer has reviewed the TCP.
- .6 Engineer will accept submission of TCP and review it to identify errors, omissions, or improvements as it relates to maintaining public safety and mobility.
 - .1 Review of TCP by Engineer makes no representation that document is accurate, complete or compliant with applicable legislation. Errors, omissions or deficiencies within TCP remain sole responsibility of Contractor.
 - .2 Address all comments and resubmit TCP.
- .7 Review and modify TCP for errors, omissions, deficiencies, or new hazards and revise and resubmit TCP.
- .8 Detail specific traffic control layout necessary for completion of work including vehicular, pedestrian and cyclist movement, required to allow Contractor to fulfill conditions of Contract taking into account organized, systematic safe conduct of the project and to meet Contract requirements. This includes, as applicable, detours, advanced project signs, staging sequences, work, public and emergency vehicles access and egress, public access and separation from hazardous areas, temporary barriers and fences, removal of existing pavement markings and selection of appropriate typical layouts and devices for traffic control.
- .9 TCP to include, and not necessarily be limited to:
 - .1 Monitoring and repair.
 - .2 Traffic control signs (regulatory, warning and temporary).
 - .3 Traffic control delineation.
 - .4 Traffic control vehicles and devices.
 - .5 Contract specific work restrictions including operational constraints.
 - .6 Lane closures and detours.
 - .7 Night time requirements.

- .8 Traffic staging and scheduling.
- .9 Construction vehicle access and egress.
- .10 Public access and egress.
- .11 Pedestrian, cyclist and vehicular safety including barriers, temporary concrete barriers and barricades.
- .12 Emergency Vehicle Access.
- .13 Removal of existing and provision of temporary pavement markings.
- .14 Any other traffic control measures.

1.3 - PROTECTION OF PUBLIC TRAFFIC

- .1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
- .2 When working on travelled way:
 - .1 Place equipment in position to present minimum of interference and hazard to travelling public.
 - .2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
 - .3 Do not leave equipment on travelled way overnight.
- .3 Keep travelled way graded, free of pot holes and of sufficient width for required number of lanes of traffic.
 - .1 Provide minimum traffic lane widths as indicated.
- .4 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, unless other means of road access exists that meet approval of Engineer.

1.4 - INFORMATIONAL AND WARNING SIGNS

- .1 Supply, install and maintain signs and other devices required to indicate construction activities or temporary and unusual conditions resulting from Work which requires road user response.
- .2 Supply and erect signs, delineators, barricades and miscellaneous warning devices in accordance with TCP.
- .3 Meet with Engineer prior to commencement of Work to prepare list of required signs and other devices. Incorporate requirements into TCP. If the situation on site changes, revise and resubmit TCP to Engineer.
- .4 Continually maintain traffic control devices.
 - .1 Check signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
 - .2 Remove or cover signs which do not apply to conditions existing from day to day.

1.5 - CONTROL OF PUBLIC TRAFFIC

- .1 Provide competent flag persons, trained and properly equipped:

- .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
- .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
- .3 Where temporary protection is required while other traffic control devices are being erected or taken down.
- .4 For emergency protection when other traffic control devices are not readily available.
- .5 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.

1.6 - OPERATIONAL REQUIREMENTS

- .1 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken in accordance with TCP and as reviewed by Engineer to protect and control public traffic.
- .2 Maintain access to commercial, institutional, and private entrances, and all public walkways and stairs.
- .3 Limit access roads, storage, and laydown areas to the existing pavement and roads.
- .4 Do not close lanes at any times.

PART 2 - PRODUCTS

2.1 - SIGNAGE

- .1 Provide signs for traffic control, information, instruction, use of equipment, public safety, etc., in both official languages or by use of commonly-understood graphic symbols.
- .2 Do not erect advertising signage.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - REFERENCES

- .1 Government of Canada
 - .1 National Building Code (NBC), Part 8.
 - .2 Canada Labour Code.
 - .3 Canada Occupational Health and Safety Regulations.
- .2 Province of Ontario
 - .1 Occupational Health and Safety Act for Construction Projects, R.S.O. 1990, c. 01, as amended.
 - .2 Occupational Health and Safety Reg. 213/91, as amended.
- .3 Canadian Standards Association (CSA)
 - .1 CSA S350, Code of Practice for Safety in Demolition of Structures.

1.2 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan within 7 days after date of Notice to Proceed and prior to commencement of Work.
- .3 Submit within 24 hours copies of reports or directions issued by Federal or Provincial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS MSDS - Material Safety Data Sheets in compliance with all Federal and Provincial regulations.
- .6 Submit corporate health and safety plan, including all training requirements concerning first aid, cardiopulmonary resuscitation, and personal protective equipment.
- .7 Engineer will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within seven (7) days after receipt of plan. Revise plan as appropriate and resubmit plan to Engineer within seven (7) days after receipt of comments from Engineer.
- .8 Engineer's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .9 Submit two (2) copies of Contractor health and safety inspection reports at least once every two (2) weeks.
- .10 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations. Supply a 24 hour emergency contact and phone number.

- .11 Immediately following Award of Contract, submit WSIB Certificate of Clearance.
- .12 Certification of medical surveillance for site personnel
 - .1 Where prescribed by legislation, regulation or safety program, submit Certification within seven (7) days after date of Notice to Proceed and prior to site mobilization.
 - .2 Update and submit Certification as personnel are sent to site.

1.3 - FILING OF NOTICE

- .1 File notices with Federal, Provincial, and Municipal authorities (as required).

1.4 - SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.
- .2 Inspect equipment prior to delivery to site. If Engineer suspects a defect or accident risk, Engineer may order immediate shutdown of equipment and require proof of certification.

1.5 - GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan to address:
 - .1 Company health and safety policy.
 - .2 Flowchart of safety and health responsibility.
 - .3 Physical and material layout of the site.
 - .4 First-aid and first-line treatment standards.
 - .5 Identification of site-specific hazards.
 - .6 Risk assessment for tasks to be carried out, including preventative measures and procedures for application.
 - .7 Personnel training requirements including:
 - .1 Training and qualifications of personnel and alternates responsible for site safety and health.
 - .2 Training requirements for hazards present on site.
 - .3 Training for use of personal protective equipment.
 - .4 Copies of all worker Trade Qualifications, Apprentice Certificates and mandatory training certificates for workers on project.
 - .8 Procedures in case of accident/injury.
 - .9 Written commitment from parties to comply with safety program.
 - .10 Site inspection schedule based on preventative measures.
 - .11 Methods and procedures to ensure proper site separation to achieve "time and space" separation throughout project.
 - .12 Names of supervisors and employees.
- .2 Engineer may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of

deficiencies or concerns.

- .4 Ensure work practices and operations minimize risks from hazards.
- .5 Before commencing Work ensure personnel assigned on work site are holding valid Health Certificates when required by Regulations.
- .6 Be responsible to set up and keep up-to-date an emergency plan for Work that includes:
 - .1 Description of major disaster risks (hazardous material spills, work near water, etc.).
 - .2 Evacuation Procedure
 - .3 Identification of resources (police, firefighters, ambulance services, etc.).
 - .4 Identification of persons in charge at the site.
 - .5 Identification of those with first-aid training.
 - .6 Training required for personnel applying the plan.
- .7 Install portable fire extinguishers in buildings and equipment that provide protection according to nature of a hazard as specified in the NFC 2010, and be approved by Underwriters Laboratories of Canada (U.L.C.).

1.6 - HEALTH AND SAFETY COORDINATOR

- .1 Employ and assign to Work a competent and authorized representative as Health and Safety Coordinator. Health and Safety Coordinator must:
 - .1 Have a minimum of two (2) years' site-related working experience specific to activities associated with the Work, in addition to any other regulatory requirements.
 - .2 Have a basic working knowledge of specified occupational health and safety regulations.
 - .3 Be responsible for completing health and safety training session(s) and ensuring that personnel not successfully completing the required training are not permitted to enter the site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Health and Safety Plan.
 - .5 Be on site during execution of Work.

1.7 - RESPONSIBILITY

- .1 For the duration of the project, the Contractor to be deemed "Constructor" as defined in the relevant Acts and Regulations, for all Work in Ontario.
- .2 Ensure health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by Work.
- .3 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

- .4 Give precedence to health and safety of public and site personnel and protection of environment over cost and schedule considerations for Work.
- .5 Assign responsibility and obligation to Health and Safety Coordinator to stop or start Work when, at Health and Safety Coordinator's discretion, it is necessary or advisable for reasons of health or safety. Engineer may also stop Work for health and safety considerations.

1.8 - DESIGNATED SUBSTANCES, VOLATILE COMPOUNDS, UNFORESEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or conditions occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with all applicable Acts and Regulations and advise Engineer immediately verbally and in writing.
- .2 Hazardous Materials: refer to Section 02 81 01 - Hazardous Materials.

1.9 - POSTING OF DOCUMENTS

- .1 Ensure applicable articles, notices and orders are posted in conspicuous location on site in accordance with applicable Acts and Regulations.
- .2 Maintain one copy of each applicable health and safety standard at job site.

1.10 - CORRECTION OF NON-COMPLIANCE

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

1.11 - BLASTING

- .1 Blasting and power-activated fasteners are not permitted.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - DEFINITIONS

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prior to commencing construction activities or delivery of materials to site, provide Environmental Protection Plan (EPP) for review by Engineer and by NCC Environmental Services Section.
- .3 Ensure EPP includes comprehensive overview of known or potential environmental issues to be addressed during construction.
- .4 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5 Include in Environmental Protection Plan:
 - .1 Name[s] of person[s] responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Name[s] and qualifications of person[s] responsible for manifesting hazardous waste to be removed from site.
 - .3 Name[s] and qualifications of person[s] responsible for training site personnel.
 - .4 Descriptions of environmental protection personnel training program.
 - .5 Erosion and sediment control plan (ESCP) identifying:
 - .1 Type and location of erosion and sediment controls to be provided.
 - .2 Monitoring and reporting requirements to assure that control measures are in compliance with ESCP and all applicable Federal, Provincial, and Municipal laws and regulations.
 - .3 Control or disposal of runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.
 - .6 Drawings showing locations of proposed temporary excavations, material storage areas, sanitary facilities,

- and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
- .7 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Ensure plan includes measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
 - .8 Spill Control Plan including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
 - .9 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
 - .10 Pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
 - .11 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
 - .12 Fire protection plan including emergency response procedures, instructions, and reports to be used in event of fire.

1.3 - FIRES

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

1.4 - SITE CLEARING

- .1 Do site clearing in accordance with Section 31 23 33.01 - Excavating, Trenching, and Backfilling.
- .2 Do not cross or come in close contact with the Rideau Canal. Do not wash machinery and accessory equipment at site.
- .3 Be aware of the presence of avian species and do not disturb them.
 - .1 If active nests are found where Work is being done, stop work immediately and contact NCC Environmental Services Section to discuss next steps.
 - .2 No activities susceptible to disturb or destroy the nest of a migratory bird can occur during the nesting period (activities permitted between August 16 and March 31 only) in accordance with the *Migratory Bird Convention Act*.

1.5 - NOTIFICATION

- .1 Engineer will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's EPP.
- .2 Contractor: after receipt of such notice, inform Engineer of

proposed corrective action and take such action for approval by Engineer.

- .1 Do not take action until after receipt of written approval by Engineer.
- .3 Engineer will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - DEFINITIONS

- .1 Non-Conformance: materials or workmanship which have an attribute, property or characteristic that does not meet requirements of Contract Documents.
- .2 General Conformance: means that, in the opinion of a Professional Engineer, the standard of construction work fulfills essential requirements of Contract Documents, and has been done in accordance with normally accepted industry standards, and will perform its intended function.
- .3 Interim Inspection: an inspection confirming that specified components of Work are in General Conformance with Contract Documents and a written permission issued by the QVE to Contractor to proceed to next stage of Work.

1.2 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Develop and submit a Quality Control (QC) program, and provide the necessary staff and resources. Ensure Interim Inspections are completed and Certificates of Conformance are submitted, where specified, prior to proceeding to the next stage of Work.
- .3 During the course of Work, submit all QC inspection activities and associated records in accordance with quality control requirements of the Contract Documents and that each of the following is in accordance with the Contract Documents:
 - .1 Submission of materials-related documentation, mix designs, mock-ups, etc.
 - .2 Environmental conditions for material placement, including but not limited to, temperature and weather constraints and placement restrictions.
 - .3 Construction methods for material placement and/or removal.
 - .4 Provision of environmental protection of materials and elements of work and/or maintenance of environmental conditions after material placement (for example; curing of concrete, cold weather protection).
 - .5 Any other information and records requested by Engineer.
- .4 Use only personnel/firms identified in the submissions, or in other forms of communication when permitted by Contract Documents, quality control activities. Submit in writing to Engineer revisions to the named personnel at least two weeks prior to the activity for which the substituted personnel will be required.

1.3 - INSPECTION

- .1 Allow Engineer access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work

whenever it is in progress.

- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Engineer instructions, or law of Place of Work.
- .3 If Work has been covered prior to inspection or approval, uncover such Work, have inspections or tests satisfactorily completed and make good such Work. Pay costs for uncovering and making good Work that is covered prior to inspection.
- .4 Employ accredited inspection and testing agencies as required and as specified elsewhere in the Contract documents.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

3.1 - NON-CONFORMANCE

- .1 If components of the Work have aspects not in General Conformance with Contract Documents, propose an amendment to Contract Documents. Provide Engineer an itemized, detailed description of all components that are not in General Conformance, and provide to Engineer recommendations for an amendment to Contract Documents that will deliver the functionality of Contract Documents.
- .2 Engineer shall:
 - .1 Reject proposed amendment, and require Contractor to take remedial measures to achieve original Contract Documents; or
 - .2 Accept proposed amendment, but negotiate a credit from Contractor where Engineer deems that the amendment does not deliver the same quality or performance as Work indicated.
- .3 If, during the execution of the Work, Contractor fails to adequately meet the quality control or workmanship requirements indicated, Engineer will assess the non-conformance of the execution of the Work. Engineer to immediately notify Contractor, in writing, of non-conformance. Correct non-conformance to the satisfaction of Engineer within 24 hours of issue of a report of non-conformance.
- .4 For workmanship, if Contract Documents do not specify a test method or tolerance for a specified property or measurement of a final product and Engineer identifies deficient workmanship in the final product that Contractor did not identify, Engineer to provide Contractor with a description of the deficiency in writing within three business days of its identification. Use Engineer's assessment of compliance of that particular aspect of workmanship for inspection of work already completed and for future work.

END OF SECTION

PART 1 - GENERAL

1.1 - ACTION AND INFORMATIONAL SUBMITTALS

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

1.2 - CONSTRUCTION PARKING

- .1 Parking to be permitted on site provided it does not disrupt performance of Work. Where there is insufficient parking on site, arrange for off-site parking for workers and subcontractors.

1.3 - SECURITY

- .1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

1.4 - ENGINEER'S SITE OFFICE

- .1 Engineer's site office will not be required for this project.

1.5 - CONSTRUCTION SIGNAGE

- .1 NCC will supply, install, and remove NCC standard construction signs.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - DESCRIPTION OF THE WORK

- .1 Supply access for the following:
 - .1 Field measurements and verifications for shop drawing preparation.
 - .2 Work as indicated.
 - .3 Inspection of Work by the Engineer.
- .2 Access to be by means of standard scaffolding, work platforms, lifts, ladders or other means reviewed by Engineer and meeting requirements of relevant authorities and approvals agencies.
- .3 Do not place any Access to Work components in the water.
- .4 Ensure health and safety of personnel and public takes precedence over all other aspects of Work.

1.2 - REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-A23.1, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CAN/CSA-O86 Consolidation (R2006), Engineering Design in Wood along with O86S1-05 Supplement No. 1 to CAN/CSA-O86-01, Engineering Design in Wood.
 - .3 CSA O121-08, Douglas Fir Plywood.
 - .4 CAN/CSA-S269.1, Falsework for Construction Purposes.
 - .5 CAN/CSA-S269.2, Access Scaffolding for Construction Purposes.
 - .6 CAN/CSA-G40.20/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel / Structural Quality Steels.
 - .7 CAN/CSA-S157, Strength Design in Aluminum.
- .2 Definitions
 - .1 Access to Work: any method used for access to carry out the work such as rigid framed scaffolding, mobile access buckets, cranes, ladders, work/suspended platforms, etc.

1.3 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedures.
- .2 Show the location and magnitude of all applied loads on shop drawings.
- .3 Shop drawings to bear the seals and signatures of Professional Engineers registered or licensed in the Province of Ontario.

PART 2 - PRODUCTS

2.1 - MATERIALS

- .1 Ensure scaffolding, work platforms and other access materials are new, or used materials in good condition.
- .2 Design scaffolding in accordance with CAN/CSA-S269.2.

PART 3 - EXECUTION

3.1 - MEANS OF ACCESS TO CARRY OUT THE WORK

- .1 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms, temporary stairs, and access lifting equipment as necessary to carry out Work. Means of access to be in accordance with Occupational Health and Safety Act and Act Respecting Occupational Health and Safety. Field measure to ensure proper fit of all works.
- .2 Prior to commencement of work on Access to Work facilities, Design Engineer to complete an interim site inspection and issue a Certificate of Conformance, as specified elsewhere in the Contract Documents, to be submitted to the Engineer.
- .3 Erect scaffolding over land on mud sills. Mud sills to be of sufficient size to ensure no damage to existing features. Where the scaffolding is suspended from the existing bridge, the methods of suspension to permit the execution of the work and not adversely impact the integrity or historic fabric of structure. Engineer to accept methods of suspension.
- .4 Remove all debris and other contaminants in a safe manner, on a regular basis and, to the satisfaction of the Engineer.
- .5 Do not damage existing coating on steel components. Immediately repair coating damage resulting from the erection, use, or dismantling of scaffolding or work platforms in accordance with the contract documents at the Contractor's expense.

END OF SECTION

PART 1 - GENERAL

1.1 - QUALITY

- .1 Products, materials, equipment and articles incorporated in Work to be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Should disputes arise as to quality or fitness of products, decision rests strictly with Engineer based upon requirements of Contract Documents.
- .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout.

1.2 - STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials, lumber, structural steel and reinforcing steel on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Remove and replace damaged products at own expense and to satisfaction of Engineer.
- .8 Touch-up damaged factory finished surfaces to Engineer's satisfaction. Use touch-up materials to match original.

1.3 - MANUFACTURERS' INSTRUCTIONS

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Engineer in writing, of conflicts between specifications and manufacturer's instructions, so that Engineer will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Engineer to require removal and re-installation at no increase in Contract Price or Contract Time.

1.4 - QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Engineer if required Work is such as to make it impractical to produce required results.

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - GENERAL

- .1 Examine site and conditions likely to affect Work and be familiar and conversant with existing conditions. Notify Engineer a minimum of 10 days prior to bid submission of any discrepancies between existing conditions and contract documents.
- .2 Before commencing work, establish location and extent of service lines in area of Work and notify Engineer of findings.
- .3 Field Verification:
 - .1 All elevations and dimensions shown on the plans are approximate only, and are based on information provided on original and previous rehabilitation drawings. Expect and plan for variations and deviances between supplied information and actual conditions.
 - .2 Actual field conditions may require modifications to construction details. Verify existing dimensions and grades before preparing and submitting shop drawings and before planning and undertaking any Work.
 - .3 Submit copies of field verifications upon request by Engineer.
- .4 Immediately report any discrepancies, in writing, to Engineer.
- .5 Take photographs or video of elements in vicinity of project which could adversely be affected by proposed Work or which are presently damaged or deteriorated. Submit the photographs or video to Engineer prior to the commencement of Work.
 - .1 Photographs or video to be used as proof in case of dispute whether damage was present to a structure prior to the commencement of Work.
 - .2 In case of failure to submit photographs or video prior to the commencement of Work, Engineer will have sole discretion in determining probability of damage being caused by the Work construction operations.

1.2 - ACTION AND INFORMATIONAL SUBMITTALS

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

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

- .1 Not used.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 31 23 33.01 Excavating, Trenching, and Backfilling

1.2 - REFERENCES

- .1 Canadian Standards Association (CSA International).
 - .1 CSA S350, Code of Practice for Safety in Demolition of Structures.
- .2 Department of Justice Canada
 - .1 Canadian Environmental Assessment Act (CEAA).
 - .2 Canadian Environmental Protection Act (CEPA).
 - .3 SOR/2003-2, On-Road Vehicle and Engine Emission Regulations.
 - .4 Transportation of Dangerous Goods Act (TDGA).
- .3 Canadian Council of Ministers of the Environment (CCME).

1.2 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit copies of weigh bills, bills of lading, receipts, etc. from authorized disposal sites and reuse and recycling facilities for material removed from site upon request of Engineer.
- .3 Submit shop drawings, diagrams or details showing sequence of demolition work and supporting structures.
- .4 Do not commence removals until completion of review of submissions by Engineer.

1.3 - SCHEDULING

- .1 Employ necessary means to meet project time lines without compromising specified minimum rates of material diversion. In event of unforeseen delay notify Engineer in writing.

PART 2 - PRODUCTS

2.1 - EQUIPMENT

- .1 Meet Federal and Provincial emission requirements for equipment and heavy machinery.
- .2 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.
- .3 Sawing equipment:
 - .1 Be capable of sawing concrete to lines and depths as specified or as directed by Engineer.

- .4 Pneumatic hammers: 7.0 kg maximum.

PART 3 - EXECUTION

3.1 - PROTECTION

- .1 Prevent movement, settlement or damage of all components to remain.
 - .1 Provide temporary bracing and shoring as required.
 - .2 Do not contaminate surfaces to remain with oil or any other deleterious substance.
- .3 Demolish to minimize production of dust. Keep materials wetted as directed by Engineer.

3.2- PREPARATION

- .1 Do Work in accordance with Section 01 35 29.06 - Health and Safety Requirements.

3.3 - REMOVAL OF HAZARDOUS WASTES

- .1 Remove contaminated or dangerous materials as defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimize danger at site or during disposal, and in accordance with Section 02 81 01 - Hazardous Materials.

3.4 - DEMOLITION

- .1 Remove items as indicated, or to the limits specified by the Engineer.
 - .1 Prior to making sawcuts, accurately delineate limits of cuts.
 - .2 Use chipping hammers only.
 - .3 Sawcut limits of concrete removals to 25 mm or to first layer of reinforcing steel, whichever comes first.
- .2 Do not disturb items designated to remain in place. Repair or replace damaged items not designated for removal to the satisfaction of, and at no additional cost to, Engineer.
- .3 Remove, protect, and store the following items for salvage:
 - .1 Coping stones.
 - .2 Masonry stones.

END OF SECTION

PART 1 - GENERAL

1.1 - DEFINITIONS

- .1 Dangerous Goods: product, substance, or organism specifically listed or meets hazard criteria established in Transportation of Dangerous Goods Regulations.
- .2 Hazardous Material: product, substance, or organism used for its original purpose; and is either dangerous goods or material that will cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .3 Hazardous Waste: hazardous material no longer used for its original purpose and that is intended for recycling, treatment or disposal.
- .2 Reference Standards:
 - .1 Canadian Environmental Protection Act, 1999 (CEPA 1999)
 - .1 Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2005-149).
 - .2 Department of Justice Canada (Jus)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDG Act), (c. 34).
 - .2 Transportation of Dangerous Goods Regulations (T-19.01-SOR/2001-286).
 - .3 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
 - .4 National Research Council Canada Institute for Research in Construction (NRC-IRC)
 - .1 National Fire Code of Canada.

1.2 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for hazardous materials and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit copy of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements and 01 35 43 - Environmental Procedures to Engineer for each hazardous material required prior to bringing hazardous material on site.

1.3 - DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.

- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Transport hazardous materials and wastes in accordance with Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.
- .4 Storage and Handling Requirements:
 - .1 Co-ordinate storage of hazardous materials with Engineer and abide by internal requirements for labelling and storage of materials and wastes.
 - .2 Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.
 - .3 Store and handle flammable and combustible materials in accordance with National Fire Code of Canada requirements.
 - .4 Keep no more than 45 litres of flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use.
 - .1 Store flammable and combustible liquids in approved safety cans bearing the Underwriters' Laboratory of Canada or Factory Mutual seal of approval.
 - .2 Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Engineer.
 - .5 Transfer flammable and combustible liquids away from open flames or heat-producing devices.
 - .6 Solvents or cleaning agents must be non-flammable or have flash point above 38^oC.
 - .7 Store flammable and combustible waste liquids for disposal in approved containers located in safe, ventilated area. Keep quantities to minimum.
 - .8 Observe smoking regulations, smoking is prohibited in areas where hazardous materials are stored, used, or handled.
 - .9 Storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 litres for liquids:
 - .1 Store hazardous materials and wastes in closed and sealed containers.
 - .2 Label containers of hazardous materials and wastes in accordance with WHMIS.
 - .3 Store hazardous materials and wastes in containers compatible with that material or waste.
 - .4 Segregate incompatible materials and wastes.
 - .5 Ensure that different hazardous materials or hazardous wastes are stored in separate containers.
 - .6 Store hazardous materials and wastes in secure storage area with controlled access.
 - .7 Maintain clear egress from storage area.
 - .8 Store hazardous materials and wastes in location that will prevent them from spilling into environment.
 - .9 Have appropriate emergency spill response equipment available near storage area, including personal protective equipment.

- .10 Maintain inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.
- .11 When hazardous waste is generated on site:
 - .1 Co-ordinate transportation and disposal with Engineer.
 - .2 Comply with applicable federal, provincial and municipal laws and regulations for generators of hazardous waste.
 - .3 Use licensed carrier authorized by provincial authorities to accept subject material.
 - .4 Before shipping material obtain written notice from intended hazardous waste treatment or disposal facility it will accept material and it is licensed to accept this material.
 - .5 Label containers with legible safety marks as prescribed by federal and provincial regulations.
 - .6 Only trained personnel handle, offer for transport, or transport dangerous goods.
 - .7 Provide photocopy of shipping documents and waste manifests to Engineer.
 - .8 Track receipt of completed manifest after shipping dangerous goods. Provide photocopy of completed manifest to Engineer.
 - .9 Report discharge, emission, or escape of hazardous materials immediately to Engineer and appropriate provincial authority. Take reasonable measures to control release.
- .12 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements.
- .13 Report spills or accidents immediately to Engineer. Submit a written spill report to Engineer within 24 hours of incident.

PART 2 - PRODUCTS

2.1 - MATERIALS

- .1 Bring on site only quantities hazardous material required to perform Work.
- .2 Maintain MSDS in proximity to where materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

PART 3 - EXECUTION

3.1 - CLEANING

- .1 Waste Management:
 - .1 Dispose of hazardous waste materials in accordance with applicable federal and provincial acts, regulations, and guidelines.

-
- .2 Recycle hazardous wastes for which there is approved, cost effective recycling process available.
 - .3 Send hazardous wastes to authorized hazardous waste disposal or treatment facilities.
 - .4 Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.
 - .5 Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.
 - .6 Dispose of hazardous wastes in timely fashion in accordance with applicable provincial regulations.
 - .7 Minimize generation of hazardous waste to maximum extent practicable. Take necessary precautions to avoid mixing clean and contaminated wastes.
 - .8 Identify and evaluate recycling and reclamation options as alternatives to land disposal.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 03 20 00 Concrete Reinforcing
- .2 Section 03 30 00 Cast-in-Place Concrete

1.2 - REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA-O86S1, Supplement No. 1 to CAN/CSA-O86-01, Engineering Design in Wood.
 - .3 CSA O121, Douglas Fir Plywood.
 - .4 CSA O151, Canadian Softwood Plywood.
 - .5 CSA O153, Poplar Plywood.
 - .6 CAN/CSA-O325.0, Construction Sheathing.
 - .7 CSA O437 Series, Standards for OSB and Waferboard.
 - .8 CSA S269.1, Falsework for Construction Purposes.
 - .9 CAN/CSA-S269.3, Concrete Formwork, National Standard of Canada.

1.3 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit shop drawings for formwork and falsework.
- .3 Indicate method and schedule of construction, shoring, stripping and re-shoring procedures, materials, arrangement of joints, special architectural exposed finishes, ties, liners, and locations of temporary embedded parts.
- .4 Indicate formwork design data: permissible rate of concrete placement, and temperature of concrete, in forms.
- .5 Indicate sequence of erection and removal of formwork/falsework.

PART 2 - PRODUCTS

2.1 - MATERIALS

- .1 Formwork materials: to CSA-A23.1/A23.2.
- .2 Form ties:
 - .1 Use removable or snap-off metal ties, fixed or adjustable length, free of devices leaving holes larger than 25 mm diameter in concrete surface.
- .3 Plywood: to CSA O121.

- .4 Form release agent: non-toxic and biodegradable.

PART 3 - EXECUTION

3.1 - FABRICATION AND ERECTION

- .1 Verify lines, levels and centres before proceeding with formwork/falsework and ensure dimensions agree with drawings.
- .2 Fabricate and erect falsework in accordance with CSA S269.1.
- .3 Provide site drainage to prevent washout of soil supporting mud sills and shores.
- .4 Fabricate and erect formwork in accordance with CAN/CSA-S269.3 to produce finished concrete conforming to shape, dimensions, locations and levels indicated within tolerances required by CSA-A23.1/A23.2.
- .5 Align form joints and make watertight. Keep form joints to a minimum.
- .6 Use 25 mm chamfer strips on all exposed corners unless specified otherwise.
- .7 Form chases, slots, openings, drips, recesses, expansion and control joints as indicated.
- .8 Build in anchors, sleeves, and other inserts required to accommodate Work specified in other sections. Ensure that anchors and inserts do not protrude beyond surfaces designated to receive applied finishes.
- .9 Clean formwork in accordance with CSA-A23.1/A23.2, before placing concrete.

3.2 - REMOVAL AND RESHORING

- .1 Leave formwork in place for 4 days after placing concrete on formed concrete surfaces.
- .2 Remove formwork when concrete has reached 75% of its design strength or minimum period noted above, whichever comes later.
- .3 Re-use formwork and falsework subject to requirements of CSA-A23.1/A23.2.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 03 10 00 Concrete Forming and Accessories.
- .2 Section 03 30 00 Cast-in-Place Concrete.

1.2 - REFERENCES

- .1 American Concrete Institute (ACI)
 - .1 SP-66, ACI Detailing Manual 2004.
 - .1 ACI 315, Details and Detailing of Concrete Reinforcement.
 - .2 ACI 315, Manual of Engineering and Placing Drawings for Reinforced Concrete Structures.
- .2 ASTM International
 - .1 ASTM A 82/A 82M, Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
 - .2 ASTM A 185/A 185M, Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
- .3 CSA International
 - .1 CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.
 - .2 CSA-A23.3, Design of Concrete Structures.
 - .3 CSA-G30.18, Carbon Steel Bars for Concrete Reinforcement.
 - .4 CSA-G40.20/G40.21, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .6 CSA W186, Welding of Reinforcing Bars in Reinforced Concrete Construction.
- .4 Reinforcing Steel Institute of Canada (RSIC)
 - .1 RSIC, Reinforcing Steel Manual of Standard Practice.

1.4 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare reinforcement drawings in accordance with RSIC Manual of Standard Practice and ACI 315.
- .3 Shop Drawings:
 - .1 Submit drawings including placing of reinforcement and indicate:
 - .1 Bar bending details.
 - .2 Bar lists.
 - .3 Quantities of reinforcement.
 - .4 Sizes, spacings, locations of reinforcement and mechanical splices if approved by Engineer, with identifying code marks to permit correct placement without reference to structural drawings.
 - .5 Indicate sizes, spacings and locations of chairs, spacers and hangers.

1.5 - DELIVERY, STORAGE, AND HANDLING

- .1 Ensure reinforcing steel and accessories are kept clean of mud, oil, and other deleterious materials, and store clear of contact with the ground.
- .2 Keep reinforcing steel covered at all times with opaque polyethylene sheeting of minimum thickness of 150 µm.
- .3 Replace defective or damaged materials with new.

PART 2 - PRODUCTS

2.1 - MATERIALS

- .1 Substitute different size bars only if permitted in writing by Engineer.
- .2 Reinforcing steel:
 - .1 Billet steel, Grade 400, deformed bars to CSA-G30.18, unless indicated otherwise.
 - .2 Weldable low alloy steel deformed bars to CSA-G30.18.
- .3 Cold-drawn annealed steel wire ties: to ASTM A 82/A 82M.
- .4 Chairs, bolsters, bar supports, spacers: to CSA-A23.1/A23.2, galvanized or non-metallic.
- .5 Mechanical splices: subject to approval of Engineer.
- .6 When same bar is marked on the drawings as being of different size, larger size to govern.

2.2 - FABRICATION

- .1 Fabricate reinforcing steel in accordance with CSA-A23.1/A23.2, ACI 315, and the Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Canada.
- .2 Ship bundles of bar reinforcement, clearly identified in accordance with bar bending details and lists.
- .3 Engineer may reject any material with defects not meeting ASTM standards. Material to be replaced at no additional cost.

PART 3 - EXECUTION

3.1 - FIELD BENDING

- .1 Do not field bend or field weld reinforcement except where indicated or authorized by Engineer.
- .2 When field bending is authorized, bend without heat, applying slow and steady pressure.

- .3 Replace bars which develop cracks or splits.

3.2 - FIELD CUTTING

- .1 Field cut reinforcing bars and splice bars using mechanical saws and as approved in writing by Engineer.

3.3 - PLACING REINFORCEMENT

- .1 Place reinforcing steel as indicated on placing drawings and in accordance with CSA-A23.1/A23.2.
- .2 Prior to placing concrete, provide Certificates of Conformance for reinforcing steel.
- .3 Ensure cover to reinforcement is maintained during concrete placement.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 03 10 00 Concrete Forming and Accessories
- .2 Section 03 20 00 Concrete Reinforcing

1.2 - REFERENCES

- .1 Reference Standards:
 - .1 ASTM International
 - .1 ASTM C 260, Standard Specification for Air-Entraining Admixtures for Concrete.
 - .2 ASTM C 494/C 494M, Standard Specification for Chemical Admixtures for Concrete.
 - .3 ASTM C 1017/C 1017M, Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
 - .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.34, Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
 - .3 CSA International
 - .1 CSA A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA A283, Qualification Code for Concrete Testing Laboratories.
 - .3 CSA A3000, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).

1.3 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide testing results for review by Engineer. Provide accurate records of placed concrete indicating date and location of concrete placement, quality, air and concrete temperature, slump, and entrained air.

1.4 - QUALITY CONTROL

- .1 Ensure concrete supplier meets performance criteria of concrete as established by Engineer and provide verification of compliance in accordance with Section 01 45 00 - Quality Control.
- .2 Provide Engineer 4 weeks prior to starting concrete work:
 - .1 Certification of concrete plant.
 - .2 Mix design(s) for concrete, including technical data on mix proportions, admixtures, and aggregate sources.
 - .1 28 day compressive strength.
 - .2 Air void parameters of the hardened concrete.
 - .3 Aggregate test results.
 - .4 Admixture test results.

- .5 All supporting documentation to be less than 12 months old at the time of submission of mix design.
- .6 When superplasticizer is used, supporting documentation to be based on mix design with superplasticizer.
- .3 Certification that mix proportions and materials are adjusted to meet alkali-aggregate reactivity requirements of CSA A23.1/A23.2.
- .3 Minimum 4 weeks prior to starting concrete work, provide proposed quality control procedures for review by Engineer for:
 - .1 Formwork erection.
 - .2 Curing.
 - .3 Finishes.
 - .4 Location of construction joints.

1.5 - DELIVERY, STORAGE, AND HANDLING

- .1 Delivery Requirements: per CSA A23.1/A23.2.

PART 2 - PRODUCTS

2.1 - DESIGN CRITERIA

- .1 Performance: to CSA A23.1/A23.2, and as described in this specification.

2.2 - MATERIALS

- .1 Cement: to CSA A3001, Type GU.
- .2 Blended hydraulic cement: Type GUb to CSA A3001.
- .3 Supplementary cementing materials: to CSA A3001.
- .4 Water: to CSA A23.1.
- .5 Aggregates: to CSA A23.1/A23.2. Aggregates to be normal density.
- .6 Admixtures: to CSA A23.1/A23.2.
- .7 Non-metallic shrinkage compensating grout: to material requirements of Section 01 61 00 - Common Product Requirements.
 - .1 Compressive strength: 35 MPa at 28 days.
- .8 Polyethylene film: 0.15 mm thickness to CAN/CGSB-51.34.

2.3 - MIXES

- .1 Performance Method for specifying concrete: to meet performance criteria to CSA A23.1/A23.2.
 - .1 Provide concrete mix to meet following requirements:
 - .1 Durability and class of exposure: C-1.
 - .2 Compressive strength at 28 days, water/cement ratio, chloride ion permeability: to CSA A23.1 for Class of

Exposure C-1.

- .3 Air content category: 1.
- .4 Aggregate size: 13 mm.
- .2 Slump at time and point of discharge: 70 ± 20 mm.
- .2 Mix concrete at batching plant. Do not use mobile mixers.

2.4 - EQUIPMENT

- .1 Consolidating and finishing equipment: to CSA A23.1.

PART 3 - EXECUTION

3.1 - PREPARATION

- .1 Provide 24 hours minimum written notice prior to placing concrete.
- .2 Ensure cold joints do not develop. Ensure concrete delivery and handling facilitates placing with minimum of re-handling, and without damage to existing structure or Work.
- .3 Ensure reinforcement and inserts are not disturbed during concrete placement.
- .4 Protect previous Work from staining.
- .5 Maintain accurate records of placed concrete items indicating date, location, quality, air temperature and test samples taken.
- .6 Do not place load upon new concrete until authorized by Engineer.
- .7 Existing concrete to be saturated surface dry prior to placement of new concrete.

3.2 - INSTALLATION/APPLICATION

- .1 Do cast-in-place concrete work to CSA A23.1/A23.2.
- .2 Sleeves and inserts:
 - .1 Where approved by Engineer, set sleeves, ties, and other inserts and openings as indicated or specified elsewhere.
 - .2 Do not eliminate or displace reinforcement to accommodate hardware. If inserts cannot be located as specified, submit and obtain written approval of modifications from Engineer before placing of concrete.
 - .3 Confirm locations and sizes of sleeves and openings shown on drawings.
- .3 Anchor bolts:
 - .1 Set anchor bolts to templates in co-ordination with appropriate trade prior to placing concrete.
 - .2 Protect anchor bolt holes from water accumulations, snow and ice build-ups.
- .4 Finishing and curing:

- .1 Finish concrete to CSA A23.1/A23.2.
- .2 Formed surfaces:
 - .1 Remainder of formed surfaces to be smooth-form finish.
 - .2 Repair holes due to formties with shrinkage compensating grout.
 - .1 Apply grout to saturated surface dry concrete. Do not use cement paste bonding agent.
 - .2 Mix grout to dry pack consistency.
 - .3 Tamp grout firmly into hole.
 - .3 Reference sample specified in A23.1 is not required.
 - .4 Repairs cavities in formed surfaces to CSA A23.1/A23.2.
- .3 Cure concrete to CSA A23.1/A23.2.
 - .1 Curing regimen: 2 (additional).
 - .2 Keep forms in place for a minimum of four (4) days and until 75% specified strength is achieved.

3.3 - SURFACE TOLERANCE

- .1 Concrete tolerance to CSA A23.1, straightedge method.

3.4 - FIELD QUALITY CONTROL

- .1 Implement and follow a Quality Control Plan for quality control testing of concrete.
- .2 Methods of testing plastic and hardened concrete: to CSA A23.1/A23.2. Testing to include slump, air content, compressive strength at 7 and 28 days, ambient air, formwork, and concrete temperature, and compressive strength for early concrete breaks.
- .3 Inspect and test concrete and concrete materials to CAN/CSA A23.1/A23.2 using an independent testing laboratory.
- .4 Sampling: to CSA A23.2.
- .5 Acceptance: to CSA A23.1/A23.2.
 - .1 For an average compressive strength between 95% and 100% of specified value: concrete portion of the lump sum item, as determined from Contractor's cost breakdown, will be paid at the percentage of compressive strength achieved.
 - .2 For an average compressive strength less than 95%, remove and replace concrete at no additional cost to Engineer.

3.5 - QUALITY ASSURANCE

- .1 Engineer may undertake additional testing at his discretion for QA purposes. Costs for QA testing to be borne by Engineer. QA testing does not relieve the Contractor of his contractual obligations nor replace Contractor's Quality Control.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 04 03 41 - Repair of Stone
- .2 Section 04 05 00 - Common Work Results for Masonry
- .3 Section 04 05 12 - Masonry Mortar and Grout

1.2 - REFERENCES

- .1 Definitions:
 - .1 Raking: removal of loose/deteriorated mortar to a depth suitable for repointing until sound mortar, and/or 4 times the joint thickness and/or a specified mm depth mm is reached.
 - .2 Repointing: filling and finishing of masonry joints from which mortar is missing has been raked out or has been omitted.
 - .3 Tooling: finishing of masonry joints using tool to provide final contour.
 - .4 Low-pressure water cleaning: water soaking of masonry using less than 350 kPa (50 psi) water pressure, measured at nozzle tip of hose.
- .2 Reference Standards:
 - .1 ASTM C207-06, Standard Specification for Hydrated Lime for Masonry Purposes.
 - .2 ASTM C5-03, Standard Specification for Quicklime for Structural Purposes.
 - .3 American Society for Testing and Materials International (ASTM).
- .3 CSA International
 - .1 CSA A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test for Concrete.
 - .2 CSA A179-04(R2009), Mortar and Grout for Unit Masonry.
 - .3 CSA A370-04, Connectors for Masonry.
 - .4 CSA A371-04, Masonry Construction for Buildings.

1.3 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Test and Evaluation Reports:
 - .1 Provide certified test reports showing compliance with specified performance characteristics and physical properties.
 - .2 Provide laboratory test reports certifying compliance of mortar ingredients with specifications requirements.

1.4 - QUALITY ASSURANCE

- .1 Masonry Contractor:
 - .1 Use single Masonry Contractor for masonry work.
 - .2 Masonry Contractor to have 10 years' experience minimum in stone masonry work on projects of similar size and complexity to Work of this Contract.

- .3 Masonry Contractor to have good level of understanding of structural behaviour of masonry walls when masonry work involves replacing or repairing stones which are part of structural masonry work.
- .2 Masons:
 - .1 Mason to have certificate of qualification with 10 years minimum experience in historic stone masonry work.
 - .2 Masons to have proof of license certification for propriety restoration mortars.
- .3 Cement grouting: undertake grouting activities by experienced workers in manipulation and cement grouting methods.
- .4 Obtain approval from Engineer for changes to qualified personnel.
- .5 Mock-ups:
 - .2 Construct mock-up 4.0 square meter (m2) to demonstrate raking and repointing procedures for the retaining wall masonry material specified in locations designated by Engineer on the existing wall.
 - .3 Notify Engineer minimum of 24 hours prior to construction of the mock-up.
 - .4 Perform mock-up of masonry cleaning with low pressure 30 psi clean water and soft natural bristle brush.
 - .5 Construct mock-up under supervision of Engineer to demonstrate a full understanding of specified procedures, techniques and formulations is achieved before work commences.
 - .6 Work not to proceed prior to approval of mock-up. Allow 24 hours for inspection of mock-up by Engineer before proceeding with masonry repointing work.
 - .7 Accepted mock-up will demonstrate minimum standard for this work. The accepted mock-ups are to be used as the standard reference for acceptance or rejection of all repointing work on the job.

1.5 - DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
 - .1 Deliver materials to site in original factory packaging, labelled with manufacturer's name, address.
 - .2 Store cementitious materials and aggregates in accordance with CAN/CSA A23.1.
 - .3 Store lime putty in plastic lined sealed drums.
 - .4 Keep material dry. Protect from weather, freezing and contamination.
 - .5 Ensure that manufacturer's labels and seals are intact upon delivery.
 - .6 Remove rejected or contaminated material from site.

1.6 - AMBIENT CONDITIONS

- .1 When the air temperature is less than 5⁰C, sand and mixing water to be heated to produce mortar at a temperature of not less than 5⁰C or more than 27⁰C.

- .2 Do not place mortar when the temperature is below 0°C or below 4°C and falling. Do not repoint at temperatures above 27°C unless shading and water-misted burlap is provided over new work.
- .3 Prior to placing new masonry, heat area for a minimum 24 hours so that the masonry or base materials to which new masonry is to be placed is completely free of frost and above 5°C. All newly laid masonry/mortar placed during cold weather, shall be protected and heated in a manner that will maintain an air temperature of 5°C for a minimum of 10 days beyond the required curing period by means acceptable to the Engineer.

PART 2 - PRODUCTS

2.1 - MORTAR

- .1 Mortar: in accordance with CSA A179 and Section 04 03 08 - Mortaring.
- .2 Proportion Specification:
 - .1 In accordance with CSA A179 and Section 04 03 08 - Mortaring.
- .3 Property Specification:
 - .1 Retaining walls: Phase I (Type I) and Phase II (Type II).
 - .1 Mortar compressive strength at 28 days: minimum 12 MPa, maximum 15 MPa.
 - .2 Air entrainment: ≤10%.
 - .3 Flexural bond strength: minimum 0.2 MPa.
 - .2 Pointing mortar: Type S.
 - .1 Mortar compressive strength at 28 days: minimum 12 MPa, maximum 15 MPa.
 - .2 Air entrainment: ≤10%.
 - .3 Flexural bond strength: minimum 0.2 MPa.

PART 3 - EXECUTION

3.1 - SITE VERIFICATION OF CONDITIONS

- .1 Report in writing to Engineer areas of deteriorated masonry not previously identified.
- .2 Stop work in that area and report to Engineer immediately evidence of hazardous materials.

3.2 - PROTECTION OF IN-PLACE CONDITIONS

- .1 Protection requirements are specified in Section 04 05 00 - Common Work Results for Masonry.

3.3 - SPECIAL TECHNIQUES

- .1 Examine mortar joints.
 - .1 Examine horizontal and vertical joints to determine which were struck first and whether they are the same style, as well as aspects of workmanship which establish authenticity of original work.
 - .2 Replicate the style selected by Engineer.

- .2 Test mortar joints.
 - .1 Procedure of testing: examine joints visually for obvious signs of deteriorated masonry.
 - .2 Replicate the style selected by Engineer.
 - .1 Test for voids and weakness by using hammers or other approved means.
 - .2 Perform testing in co-operation with Engineer so that unsound joints can be marked and recorded.

3.4 - RAKING JOINTS

- .1 Use manual raking tool to obtain clean masonry surfaces. Rake out to the full height of the joint and to minimum depths as follows:
 - .1 Joints less than 13 mm: rake out a depth of 10 mm in order to reduce the danger of chipping off stone edges.
 - .2 Joints greater than 13 mm and less than 50 mm: rake out to a minimum depth of 2 times the joint width.
 - .3 If loose material is encountered during removal for joints fitting any of the above definitions, removal and replacement of up to a 100 mm depth shall be included in the work of chipping and repointing.
 - .4 Joints greater than 50 mm in width: rake out to a maximum depth of 2 times the joint width or 150 mm. For joints greater than 50 mm, the Engineer to provide direction as to whether or not new stone units are to be installed as part of the repointing operation. Where authorized, supply and install new stone units in accordance with specifications. Proceed as directed by the Engineer.
 - .5 Where loose, powdery or sandy joint material is encountered during raking out operation, notify the Engineer who will provide direction on how to proceed.
 - .1 Medium to low structural importance: repoint the joint to contain the loose, powdery material and seal against water penetration.
 - .2 Joint is voided and/or of primary structural importance: pack the joint to the level of the base of finish pointing or remove and reset the unit in a complete bed of mortar.
- .2 Remove mortar without chipping, altering or damaging masonry units.
- .3 Clean surfaces of joints by compressed air with non-ferrous brush by moderate water wash without damaging texture of exposed joints or masonry units.
- .4 Flush open joints and voids. clean open joints and voids with low pressure water. If not free draining blow clean with compressed air.
- .5 Leave no standing water.

3.5 - REPOINTING

- .1 Keep masonry damp while pointing is being performed.
- .2 Completely fill joint with mortar.
 - .1 If surface of masonry units has worn rounded edges keep pointing back from surface to keep same width of joint.

- .2 Avoid feather edges.
- .3 Pack mortar solidly into voids and joints.
- .3 Build-up pointing in layers not exceeding 12 mm in depth.
 - .1 Allow each layer to set before applying subsequent layers.
 - .2 Avoid feather edges.
 - .3 Pack mortar solidly into voids and joints.
- .4 Finish joints to match existing profile as shown on drawings.
 - .1 Tool, compact and finish using jointing tool to force mortar into joint.
- .5 Remove excess mortar from masonry face before it sets.

3.6 - PROTECTION DURING CURING PROCESS

- .1 Cover completed and partially completed work not enclosed or sheltered at end of each work day.
 - .1 Extend membranes to 0.5 m over surface area of work and be tightly installed to prevent finished work from drying out too rapidly.
- .2 Cover with waterproof tarps to prevent weather from eroding recently repointed material.
 - .1 Maintain tarps in place for minimum of 2 weeks after repointing.
 - .2 Ensure that bottoms of tarps permit airflow to reach mortar in joints.
- .3 Anchor coverings securely in position.
- .4 Damp cure:
 - .1 Provide damp cure for pointing mortars.
 - .2 Install and maintain wetted burlap protection during the curing process for a minimum of 3 days.
 - .3 Wet mist burlap only - ensure no direct spray reaches surface of curing mortar.
 - .4 Shade areas of work from direct sunlight and maintain constant dampness of burlap.
- .5 Protect from drying winds. Pay particular attention at corners of structure.
- .6 Maintain minimum ambient temperature of 10⁰C after repointing masonry for a minimum of 7 days.

3.7 - CLEANING

- .1 Clean surfaces of mortar droppings, stains and other blemishes resulting from work of this contract as work progresses.
- .2 Remove droppings and splashings using clean sponge and water.
- .3 Do further cleaning using stiff natural bristle brushes after mortar has attained its initial set and has not fully cured.
- .4 Clean masonry with stiff natural bristle brushes and plain water only if mortar has fully cured.

- .5 Clean masonry with low pressure 30 psi clean water and soft natural bristle brush.
- .6 Obtain approval of Engineer prior to using other cleaning methods for persistent stains.

3.8 - PROTECTION OF COMPLETED WORK

- .1 Protect adjacent finished work against damage which may be caused by on-going work.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 04 03 07 - Masonry Repointing and Repair
- .2 Section 04 05 00 - Common Work Results for Masonry
- .3 Section 04 05 12 - Masonry Mortar and Grout

1.2 - ALTERNATIVES

- .1 Obtain Engineer's written approval before changing procedures, manufacturer's brands, sources of supply of materials during entire contract.

1.3 - REFERENCES

- .1 Definitions:
 - .1 Repair of Stone: mechanical or plastic repair, done to restore original appearance and function of partly deteriorated stones.
 - .2 Filling: material used to rebuild broken or deteriorated part of stone.
 - .3 Adhesive: material used to fasten broken/fractured stone elements by direct application at fracture interface and/or by application to added reinforcing elements such as dowels.
 - .4 Mortar: material used to re-bed the stone element being repaired and to repoint adjacent mortar joints.
- .2 Reference Standards:
 - 1. ASTM International
 - .1 ASTM C 144-04, Standard Specification for Aggregate for Masonry Mortar.
 - .2 ASTM A 276-08a, Standard Specification for Stainless Steel Bars and Shapes.
 - .2 CSA International
 - .1 CSA A3000-08, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
 - .2 CSA A179-04 R2009, Mortar and Grout for Unit Masonry.

1.4 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Provide manufacturer's printed product literature and data sheets and include product characteristics, performance criteria, physical size, finish and limitations. Include:
 - .1 Application/installation instructions.
 - .2 Laboratory test reports certifying compliance of products with specification requirements.
 - .3 Manufacturer's material safety data sheets (MSDS) for safe handling of specified materials and products, in accordance

with Workplace Hazardous Materials Information System (WHMIS) requirements.

- .3 Samples:
 - .1 Submit mortar samples for testing.
 - .2 Submit (3) full-size stone units, representative of proposed units for work.
 - .1 New Stone:
 - .1 Engineer reserves the right to request results from tests by an independent testing agency to verify mechanical, physical and aesthetic properties of stone, at no additional cost to Contract.
- .4 Certificates:
 - .1 Submit upon request by Engineer purchase orders, invoices, suppliers test certificates and documents to prove materials used in contract meet requirements of specification. Allow free access to sources where materials were procured.

1.5 - QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Manufacturers:
 - .1 Filling mortar: manufactured by company specializing in production of cementitious restoration materials with a minimum of 10 years' experience in production of filling mortar products and with a record of satisfactory in-service performance.
 - .2 Masonry Contractor:
 - .1 Work of this Section: executed by contractor specializing in historic stone conservation work of this nature, using similar stone repair techniques, and with a minimum 10 year record of successful performance.
 - .3 Foreperson:
 - .1 Provide competent trade foreperson specializing in type of work required.
 - .2 Experience: minimum 10 years' experience in conservation work similar to work of this Section. Must be present on site throughout Work.
 - .4 Installers:
 - .1 Plastic repairs: executed by skilled trades people who have successfully completed a course of instruction provided by filling mortar manufacturer and hold a Training Workshop Certificate from said manufacturer. Maintain proof of credential for each installer at site.
 - .2 Experience: minimum 5 year record of successful masonry repairs.
- .2 Mock-ups:
 - .1 Construct mock-up in accordance with Section 01 45 00 - Quality Control.
 - .2 Construct minimum 4 m² mock-up of a representative sample of each type of repair specified, with specified materials and methods.
 - .3 Do not use existing stonework when constructing job mock-up.

- .4 Construct mock-up where directed by Engineer.
- .5 Select locations of mock-ups in consultation with Engineer.
- .6 Notify Engineer 48 hours before commencing each mock-up.
 - .1 Obtain approval from Engineer before commencing mock-up.
- .7 Allow mock-ups of plastic repairs to cure at least 3 days.
 - .1 Obtain Engineer approval for colour match.
- .8 Allow 72 hours for inspection of mock-up by Engineer before proceeding with stone repair work.
- .9 When accepted, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of finished work.
- .10 Clean mock-up to demonstrate cleaning operations to Engineer before starting cleaning work.

1.6 - DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
 - .1 Deliver materials to site in original factory packaging, labelled with manufacturer's name, address.
 - .1 Identification with grade, batch and production date shown on container or packaging.
 - .2 Store materials in a clean, dry enclosed area and supported free of ground. Maintain a minimum ambient temperature of 10 degrees C in storage area.

1.7 - AMBIENT CONDITIONS

- .1 Maintain a minimum temperature of 10⁰C during and 48 hours after repair, throughout thickness of stone.
- .2 Allow materials to reach minimum temperature of 10⁰C prior to use.
- .3 Hot weather requirement:
 - .1 Shade stones from direct sunlight with temporary cover.

PART 2 - PRODUCTS

2.1 - MATERIALS

- .1 Use materials from same manufacturer throughout the Work.
- .2 Portland cement: to CSA A3000.
- .3 Sand: cleaned and graded in accordance to ASTM C 144.
- .4 Water: clean and free of deleterious materials such as acid, alkali and organic material in accordance to CAN/CSA A179.
- .5 Dowels: 9 mm diameter, threaded stainless steel to ASTM A 276, Type 304, bent and cut to lengths required to achieve minimum embedment. Cut ends of rod, square.

- .1 Diameter: dependent on size and weight of each new stone insert.
- .6 New stone:
 - .1 Similar mechanical, physical and aesthetic properties to existing stone.
 - .2 To approval of Engineer.

2.2 - MORTAR MIXES

- .1 Mortar: in accordance with CSA A179.
- .2 Proportion Specification:
 - .1 In accordance with CSA A179.
- .3 Property Specification:
 - .1 Retaining Walls:
 - .1 Bedding mortar: Type S
 - .1 Mortar compressive strength at 28 days: minimum 12 MPa, maximum 15 MPa.
 - .2 Air entrainment: $\leq 10\%$.
 - .3 Flexural bond strength: minimum 0.2 MPa.
 - .2 Pointing mortar: Type S
 - .1 Mortar compressive strength at 28 days: minimum 12 MPa, maximum 15 MPa.
 - .2 Air entrainment: $\leq 10\%$.
 - .3 Flexural bond strength: minimum 0.2 MPa.

2.3 - FILLING MIXES

- .1 Proprietary premixed stone patching material.
 - .1 Formulated to closely match colour, texture and physical properties of stone to be patched.
 - .1 Ensure formulated material only requires mixing with potable water at site.
 - .2 Mix characteristics: Vapour-permeable, frost and salt resistant, and shrink resistant.
 - .3 Physical compatibility with substrate: porosity, tensile strength and compressive strength.
- .2 Filling mix: Portland cement, lime putty, sand, crushed stone to match surrounding stones in texture, strength, porosity and colour.
- .3 Mix proportions: In accordance with Section 04 05 12 - Masonry Mortar and Grout.

2.4 - ADHESIVE MIXES

- .1 Proprietary stone adhesive:
 - .1 Specially formulated for repair of broken stone units.
 - .2 Mix proportions as recommended by manufacturer to obtain specified results.

PART 3 - EXECUTION

3.1 - SITE VERIFICATION OF CONDITIONS

- .1 Report in writing, to Engineer areas of deteriorated stone not identified in the documents.
- .2 Obtain Engineer approval and instructions for repair and replacement of masonry units before proceeding with repair work.
- .3 Stop work in that area and report to Engineer immediately any evidence of hazardous materials.

3.2 - PREPARATION

- .1 Obtain Engineer's approval for tools to be employed prior to commencing work.
- .2 Obtain Engineer's approval for alternative repair methodology and tools to be employed prior to commencing work.

3.3 - SPECIAL TECHNIQUES

- .1 Temporary Marking and Recording:
 - .1 Mark stone, on face, before removal using marking product which can be completely erased when required without damaging masonry unit:
 - .1 Ball-point pen on diachylon, attached to stone.
 - .2 Waxless chalk directly on stone.
 - .2 Ensure that temporary marking will remain in use: resistant to weather, handling and cleaning until final marking of stones.
 - .3 Remove markings and adhesive without damaging units:
 - .1 Brush with vegetable fibre brush: either dry or with water.
 - .2 Use no solvent, acid or other chemical product.

3.4 - PROTECTION

- .1 Prevent damage to stone surfaces, mortar joints, trees, landscaping, natural features, bench marks, pavement and utility lines which are to remain. Make good damage incurred.
- .2 Protect surrounding components from damage during work.
- .3 Take utmost care not to damage historic fabric. Make good damage incurred.
- .4 Obtain Engineer's approval for repair methodology.

3.5 - REPAIR OF A FRACTURED STONE

- .1 Remove deteriorated portions of stones using low impact removal methods until sound surface is reached.
- .2 Rake out mortar joints of stones which are indicated on Contract Drawings.

- .3 Remove elements which require minor repair. Do not damage existing Work.
- .4 For new stone inserts of undetermined size and weight.
 - .1 Determine diameter and length of dowels based on size and weight of new stone insert.
 - .2 Drill holes of diameter and depth as determined by dowel size.
- .5 Reinstall consolidated element into work and repoint using specified bedding and pointing mortars in accordance with Section 04 03 07 - Masonry Repointing. Joint profiles to match existing.

3.6 - MORTAR JOINT REPAIR

- .1 Do repointing work in accordance with Section 04 03 07 - Masonry Repointing.
- .2 Make good damage incurred to mortar joints.

3.7 - CLEANING

- .1 Obtain Engineer's approval of cleaning operations before starting cleaning work.
- .2 Protect plants, grass, vegetation and adjacent grounds from excessive water accumulation.
- .3 Clean stone work surfaces after repairs have been completed and mortar has set.
- .4 Clean stone surfaces of adhesive or mortar residue resulting from work performed without damage to stone or joints.
- .5 Clear site of debris, surplus material and equipment, leaving work area in clean and safe condition.

3.8 - PROTECTION OF COMPLETED WORK

- .1 Protect finished work from impact damage for period of two weeks.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 04 03 07 - Masonry Repointing and Repair
- .2 Section 04 03 41 - Repair of Stone
- .3 Section 04 05 12 - Masonry Mortar and Grout

1.2 - REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA-A165 Series- 04, Standards on Concrete Masonry Units.
 - .2 CSA A179-04, Mortar and Grout for Unit Masonry.
 - .3 CSA-A371-04, Masonry Construction for Buildings.
- .2 International Masonry Industry All-Weather Council (IMIAC)
 - .1 Recommended Practices and Guide Specification for Hot and Cold Weather Masonry Construction.

1.3 - ADMINISTRATIVE REQUIREMENTS

- .1 Conduct pre-installation meeting one week prior to commencing work of this Section and on-site installations to:
 - .1 Verify project requirements, including mock-up requirements.
 - .2 Verify substrate conditions.
 - .3 Co-ordinate products, installation methods and techniques.
 - .4 Sequence work of related sections.
 - .5 Co-ordinate with other building subtrades.
 - .6 Review manufacturer's installation instructions.
 - .7 Review masonry cutting operations, methods and tools and determine worker safety and protection from dust during cutting operations.
 - .8 Review warranty requirements.

1.4 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Certificates: provide manufacturer's product certificates certifying materials comply with specified requirements.
- .3 Test and Evaluation Reports:
 - .1 Test reports to certify compliance of masonry units and mortar ingredients with specified performance characteristics and physical properties.
 - .2 Provide data for masonry units, in addition to requirements set out in referenced CSA and ASTM Standards, indicating initial rates of absorption.

1.6 - QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Manufacturer: capable of providing field service representation

- during construction and approving application method.
- .2 Installer: experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
 - .3 Masons: company or person specializing in masonry installations with 5 years documented experience with masonry work similar to this project.
- .2 Mock-ups:
- .1 Construct mock-up where directed by Engineer.
 - .2 Allow 24 hours for inspection of mock-up by Engineer before proceeding with work.
 - .3 When accepted by Engineer, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of finished work.
 - .4 Start work only upon receipt of written approval of mock-up by Engineer.

1.- 7 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver materials in accordance with Section 01 61 00 - Common Product Requirements.

1.8 - SITE CONDITIONS

- .1 Assemble and erect components when temperatures are above 4⁰C.
- .2 Weather Requirements: to CSA-A371 - Recommended Practices and Guide Specifications for Hot and Cold Weather Masonry Construction.
- .3 Cold weather requirements:
 - .1 To CSA-A371 with following requirements.
 - .1 Maintain temperature of mortar between 5⁰C and 50⁰C until batch is used or becomes stable.
 - .2 Maintain ambient temperature of masonry work and its constituent materials between 5⁰C and 50⁰C and protect site from windchill.
 - .3 Maintain temperature of masonry above 0⁰C for minimum of 7 days, after mortar is installed.
 - .4 Preheat unheated wall sections in enclosure for minimum 72 hours above 10⁰C, before applying mortar.
 - .2 Hot weather requirements:
 - .1 Protect freshly laid masonry from drying too rapidly, by means of waterproof, non-staining coverings.
 - .2 Keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until masonry work is completed and protected by flashings or other permanent construction.
- .3 Spray mortar surface at intervals and keep moist for maximum of three days after installation.

PART 2 - PRODUCTS

2.1 - MANUFACTURERS

- .1 Ensure manufacturer has minimum 5 years' experience in manufacturing components similar to or exceeding requirements of project.

PART 3 - EXECUTION

3.1 - INSTALLER

- .1 Experienced and qualified masons to carry out erection, assembly and installation of masonry work.

3.2 - MANUFACTURER'S INSTRUCTIONS

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

3.3 - EXAMINATION

- .1 Examine conditions, substrates and work to receive work of this Section.
 - .1 Co-ordinate with Section 01 71 00 - Examination and Preparation.
- .2 Examine openings to receive masonry units. Verify opening size, location, and that opening is square and plumb, and ready to receive work of this Section.
 - .1 Inform Engineer of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation after receipt of written approval from Engineer.
- .3 Verification of Conditions:
 - .1 Verify that:
 - .1 Substrate conditions which have been previously installed under other sections or contracts, are acceptable for product installation in accordance with manufacturer's instructions prior to installation of concrete block.
 - .2 Field conditions are acceptable and are ready to receive work.
 - .3 Built-in items are in proper location, and ready for roughing into masonry work.
 - .2 Commencing installation means acceptance of existing substrates.

3.4 - PREPARATION

- .1 Prepare surface in accordance with manufacturer's written recommendations and co-ordinate with Section 01 71 00 - Examination and Preparation.
- .2 Establish and protect lines, levels, and coursing.
- .3 Protect adjacent materials from damage and disfiguration.

3.5 - INSTALLATION

- .1 Do masonry work in accordance with CSA-A371 except where specified

otherwise.

- .2 Build masonry plumb, level, and true to line, with vertical joints in alignment, respecting construction tolerances permitted by CSA-A371.
- .3 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.

3.6 - CONSTRUCTION

- .1 Exposed masonry:
 - .1 Remove chipped, cracked, and otherwise damaged units, in accordance with CSA A-165, in exposed masonry and replace with undamaged units.
- .2 Jointing:
 - .1 Allow joints to set just enough to remove excess water, then rake joints uniformly to 6 mm depth and compress with square tool to provide smooth, compressed, raked joints of uniform depth where raked joints are indicated.
- .3 Cutting:
 - .1 Cut out for electrical switches, outlet boxes, and other recessed or built-in objects.
 - .2 Make cuts straight, clean, and free from uneven edges.
- .4 Support of loads:
 - .1 Use 30 MPa concrete to Section 03 30 00 - Cast-in-Place Concrete, where concrete fill is used in lieu of solid units.

3.7 - SITE TOLERANCES

- .1 Tolerances in notes to CSA-A371 apply.

3.8 - FIELD QUALITY CONTROL

- .1 Site Tests, Inspection:
 - .1 Perform field inspection and testing in accordance with Section 01 45 00 - Quality Control.
 - .2 Notify inspection agency minimum of 24 hours in advance of requirement for tests.

3.9 - CLEANING

- .1 Progress Cleaning: in accordance with related masonry sections.
- .2 Final Cleaning:
 - .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
 - .2 Upon completion of installation and verification of performance of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.10 - PROTECTION

- .1 Temporary Bracing:
 - .1 Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place.
 - .2 Bracing approved by Engineer.
 - .3 Brace masonry walls as necessary to resist wind pressure and lateral forces during construction.

- .2 Moisture Protection:
 - .1 Keep masonry dry using waterproof, nonstaining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until completed and protected by flashing or other permanent construction.
 - .2 Cover completed and partially completed work not enclosed or sheltered with waterproof covering at end of each work day. Anchor securely in position.
 - .3 Air Temperature Protection: protect completed masonry as recommended in 1.8 SITE CONDITIONS.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 04 03 07 - Masonry Repointing and Repair
- .2 Section 04 03 41 - Repair of Stone
- .3 Section 04 05 00 - Common Work Results for Masonry

1.2 - REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA A179-04, Mortar and Grout for Unit Masonry.
 - .3 CSA A371-04, Masonry Construction for Buildings.
 - .4 CSA-A3000-03, Cementitious Materials Compendium; CSA-A3002-03, Masonry and Mortar Cement.

1.3 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 Product Data:
 - .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Provide two copies of Workplace Hazardous Materials Information System (WHMIS) - Material Safety Data Sheets (MSDS) in accordance with Section 01 35 29.06 - Health and Safety Requirements. Indicate VOC's mortar, grout, colour additives and admixtures expressed as grams per litre (g/L).
- .2 Samples:
 - .1 Provide unit samples in accordance with Section 04 05 00 - Common Work Results for Masonry, supplemented as follows:
 - .1 Provide confirmation of source or product data sheet, prior to mixing or preparation of mortars, to Engineer of:
 - .1 Aggregate: course aggregate and sand.
 - .2 Cement.
 - .3 Lime.
 - .4 Colour pigment samples.

1.4 - QUALITY ASSURANCE

- .1 Test Reports: certified test reports including sand gradation tests in accordance with CSA A179 showing compliance with specified performance characteristics and physical properties, and in accordance with Section 04 05 00 - Common Work Results for Masonry.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Section 01 31 19 -

Project Meetings.

- .4 Mock-ups:
 - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control and requirements of Section 04 05 00 - Common Work Results for Masonry.

1.5 - DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handles masonry mortar and grout materials in accordance with Section 01 61 00 - Common Product Requirements, supplemented as follows:
 - .1 Deliver prepackaged, dry-blended mortar mix to project site in labelled plastic-lined bags each bearing name and address of manufacturer, production codes or batch numbers, and colour or formula numbers.
 - .2 Maintain mortar, grout and packaged materials clean, dry, and protected against dampness, freezing, traffic and contamination by foreign materials.

1.6 - SITE CONDITIONS

- .1 Maintain materials and surrounding air temperature to:
 - .1 Minimum 10⁰C prior to, during, and 48 hours after completion of masonry work.
 - .2 Maximum 32⁰C prior to, during, and 48 hours after completion of masonry work.

PART 2 - PRODUCTS

2.1 - MATERIALS

- .1 Mortar and Grout for Unit Masonry to be in accordance with CSA A179-04 and as augmented by these specifications.
- .2 Cement:
 - .1 Portland Cement: to CSA-A3000, Type GU - General use hydraulic cement (Type 10) gray colour.
 - .1 Acceptable Material: Portland Cement manufactured by Federal Cement Ltd., Ingersoll, Ontario.
- .3 Aggregate: supplied by one supplier.
 - .1 Aggregate to be well-graded sand (concrete sand conforming to CSA A179) matching texture and range of sizes found in existing joints. Colour of sand to match that of the surrounding mortar; a blending of sands may be required to achieve a satisfactory colour match. Mortar colour should ideally be achieved through mixing of colours of sand. Colour match using pigments must only be done after approval is given by Engineer.
 - .2 Course Aggregate for wide joints and mortar: 6 mm (maximum) washed crushed limestone with no fines passing a 1.18 mm sieve. Source coarse aggregate from quarries approved by the Ministry of Transportation of Ontario with respect to alkali aggregate reactivity (AAR) or that can provide documentation showing that the aggregate has been tested within the last three years and meets

the requirements of CSA A23.1/A23.2 with respect to AAR.

- .4 Water: clean and potable.
- .5 Lime:
 - .1 Lime to be preferably slaked quicklime putty made from finely ground crushed quicklime.
 - .2 Acceptable Material:
 - .1 Quicklime for structural purposes: 5 mm - fines, dry-bagged quicklime manufactured by Domtar Chemicals and distributed by Sylvite Agri-Services Ltd.
 - .2 Dolomitic finishing hydrated lime (Type S).
- .6 Pigments:
 - .1 Dry, powdered, inorganic pigments, manufactured by Northern Pigment Ltd., Toronto, Ontario.

2.2 - MIX FORMULA

- .1 Finish Pointing Mortar and Interior Mortar for Stonework:
 - .1 Cement: Lime: Aggregate (1:2.5:6) Air Entrainment: ≤10%. Add air entraining agent as required to achieve this level of air entrainment.
 - .2 Mixing: Mix mortar as dry as possible to minimize shrinkage and cracking.

PART 3 - EXECUTION

3.1 - EXAMINATION

- .1 Request inspection of spaces to be grouted.

3.2 - PREPARATION

- .1 Apply bonding agent to existing concrete surfaces.
- .2 Plug clean-out holes with block masonry units. Brace masonry for wet grout pressure.

3.3 - MANUFACTURER'S INSTRUCTIONS

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

3.4 - CONSTRUCTION

- .1 Do masonry mortar and grout work in accordance with CSA A179 except where specified otherwise.

3.5 - MIXING

- .1 Mix all pointing mortar using a regular paddle mixer. Only electric motor mixers are permissible. Mixing by hand must be pre-approved by the

Engineer.

- .2 Clean all mixing boards and mechanical mixing machine between batches.
- .3 Mortar must be weaker than the units it is binding.
- .4 Appoint one individual to mix mortar, for duration of project. In the event that this individual must be changed, mortar mixing must cease until the new individual is trained, and mortar mix is tested.

3.6 - MORTAR PLACEMENT

- .1 Install mortar to requirements of CAN/CSA A179.
- .2 Remove excess mortar from grout spaces.

3.7 - GROUT PLACEMENT

- .1 Install grout in accordance with manufacturer's instructions.
- .2 Install grout in accordance with CSA A179.
- .3 Work grout into masonry cores and cavities to eliminate voids.
- .4 Do not install grout in lifts greater than 400 mm, without consolidating grout by rodding.
- .5 Do not displace reinforcement while placing grout.

3.8 - FIELD QUALITY CONTROL

- .1 Site Tests, Inspection: in accordance with Section 04 05 00 - Common Work Results for Masonry supplemented as follows:
 - .1 Test and evaluate mortar during construction in accordance with CSA A179.
 - .2 Test and evaluate grout during construction to CSA A179; test in conjunction with masonry unit sections specified.
- .2 Manufacturer's Field Services: in accordance with Section 04 05 00 - Common Work Results for Masonry.

3.9 - CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.
- .2 Remove droppings and splashings using clean sponge and water.
- .3 Clean masonry with low pressure clean water and soft natural bristle brush.

3.10 - PROTECTION OF COMPLETED WORK

- .1 Cover completed and partially completed work not enclosed or sheltered with waterproof covering at end of each work day

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 26 05 00 - Common Work Results for Electrical
- .2 Section 26 05 21 - Wires and Cables (0-1000 V).
- .3 Section 26 05 28 - Grounding - Secondary.
- .4 Section 26 56 19 - Roadway Lighting.

1.2 - REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA C22.1-09, Canadian Electrical Code, Part 1 (21st Edition), Safety Standard for Electrical Installations.
 - .2 Ontario Amendments to CSA 22.1-09, Canadian Electrical Code Part 1.
 - .3 CAN3 C235-83 (R2010) - Preferred Voltage Lever for AC Systems, to 50000V.
- .2 Institute of Electrical and Electronics (IEEE)/National Electrical Safety Code Product Line (NESC)
 - .1 IEEE SP1122-2000, The Authoritative Dictionary of IEEE Standards Terms, 7th Edition.

1.3 - DEFINITIONS

- .1 Electrical and electronic terms: unless otherwise specified or indicated, terms used in these specifications, and on drawings, are those defined by IEEE SP1122.

1.4 - DESIGN REQUIREMENTS

- .1 Operating voltages: to CAN3-C235.
- .2 Electrical devices and equipment to operate satisfactorily at 60 Hz within normal operating limits established by above standard.
 - .1 Equipment to operate in extreme operating conditions established in above standard without damage to equipment.
- .3 Language operating requirements: provide identification nameplates and labels for control items in English and French.

1.5 - ACTION AND INFORMATIONAL SUBMITTALS

- .1 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 Province of Ontario, Canada.
 - .2 Indicate of drawings clearances for operation, maintenance,

- and replacement of operating equipment devices.
- .3 If changes are required, notify Engineer of these changes before they are made.
- .3 Quality Control: in accordance with Section 01 45 00 - Quality Control.
- .1 Provide CSA certified equipment and material.
 - .2 Where CSA certified equipment and materials are not available, submit such equipment and materials to Engineer for approval before delivery to site.
 - .3 Submit test results of installed electrical systems and instrumentation.
 - .4 Permits and fees: in accordance with General Conditions of contract.
 - .5 Submit certificate of acceptance from authority having jurisdiction upon completion of Work to Engineer.
- .4 Manufacturer's Field Reports: submit to Engineer manufacturer's written report, within 3 days of review, verifying compliance of Work and electrical system and instrumentation testing, as described in Part 3 - Field Quality Control.

1.6 - QUALITY ASSURANCE

- .1 Quality Assurance: in accordance with Section 01 45 00 - Quality Control.
- .2 Qualifications: carry out electrical Work using qualified, licensed electricians who hold valid Electrical Contractor license.
 - .1 Employees registered in provincial apprentices program: permitted, under direct supervision of qualified licensed electrician, to perform specific tasks.
 - .2 Permitted activities: determined based on training level attained and demonstration of ability to perform specific duties.

1.7 - DELIVERY, STORAGE, AND HANDLING

- .1 Material Delivery Schedule: provide Engineer with schedule within 2 weeks after award of Contract.

1.8 - SYSTEM STARTUP

- .1 Instruct Engineer and operating personnel in operation, care and maintenance of systems, system equipment and components.

PART 2 - PRODUCTS

2.1 - MATERIALS AND EQUIPMENT

- .1 Provide material and equipment in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Material and equipment to be CSA certified. Where CSA certified material and equipment are not available, obtain special approval

from Engineer before delivery to site and submit such approval as described in Section 01 33 00.

2.2 - WIRING TERMINATIONS

- .1 Ensure lugs, terminals, screws used for termination of wiring are suitable for either copper or aluminum conductors.

2.3 - WIRING IDENTIFICATION

- .1 Identify wiring with permanent indelible identifying markings, numbered, coloured plastic tapes on both ends of phase conductors of feeders and branch circuit wiring.
- .2 Maintain phase sequence and colour coding throughout.
- .3 Colour coding: to CSA C22.1.

PART 3 - EXECUTION

3.1 - INSTALLATION

- .1 Do complete installation in accordance with CSA C22.1 except where specified otherwise.
- .2 Do overhead and underground systems in accordance with CSA C22.3 No.1 except where specified otherwise.

3.2 - NAMEPLATES AND LABELS

- .1 Ensure manufacturer's nameplates, CSA labels and identification nameplates are visible and legible after equipment is installed.

3.3 - EXCAVATION FOR ELECTRICAL WORK

- .1 Obtain locates from all utilities prior to commencing any excavation.

3.4 - CABLE INSTALLATION

- .1 Coordinate work with Engineer.

3.5 - CO-ORDINATION OF PROTECTIVE DEVICES

- .1 Ensure circuit protective devices such as overcurrent trips, relays and fuses are installed to required values and settings.

3.6 - FIELD QUALITY CONTROL

- .1 Load Balance:
 - .1 Measure phase current to panelboards with normal loads (lighting) operating at time of acceptance; adjust branch circuit connections as required to obtain best balance of current between phases and record changes.
 - .2 Measure phase voltages at loads and adjust transformer taps

to within 2% of rated voltage of equipment.

- .2 Conduct following tests in accordance with Section 01 45 00 - Quality Control.
 - .1 Power generation and distribution system including phasing, voltage, grounding and load balancing.
 - .2 Circuits originating from branch distribution panels.
 - .3 Lighting and its control.
 - .4 Insulation resistance testing:
 - .1 Megger circuits, feeders and equipment up to 350 V with a 500 V instrument.
 - .2 Megger 350-600 V circuits, feeders and equipment with a 1000 V instrument.
 - .3 Check resistance to ground before energizing.
- .3 Carry out tests in presence of Engineer.
- .4 Provide instruments, meters, equipment and personnel required to conduct tests during and at conclusion of project.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 26 05 00 Common Work Results - Electrical.

1.2 - REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA C22.2 No. 38-10 Thermoset-Insulated Wires and Cables, (Tri-national Standard, with UL44 and ANCE NMX-J-451.
 - .2 CSA C22.2 No. 03-09 Test Methods for Electrical Wires and Cables.
 - .3 CSA C22.2 No. 65-03 (R2008) - Wire Connectors (Tri-national Standard, with UL 486A-486B and NMX-J-543_ANCE-03).

1.3 - PRODUCT DATA

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

PART 2 - PRODUCTS

2.1 - LOW VOLTAGE CABLES (UP TO 600V)

- .1 Conductors: stranded for 10 AWG and larger. Minimum size: 12 AWG.
- .2 Copper conductors: size as indicated, with 600 V insulation of cross-linked thermosetting polyethylene material rated RWU90 XLPE.

2.2 - CONNECTIONS AND TERMINATIONS

- .1 Copper, short barrel compression connectors to CSA C22.2 No. 65, sized for conductors.

PART 3 - EXECUTION

3.1 - FIELD QUALITY CONTROL

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical.
- .2 Perform tests using method appropriate to site conditions and to approval of local authority having jurisdiction over installation.
- .3 Perform tests before energizing electrical system.

3.2 - GENERAL CABLE INSTALLATION

- .1 Terminate cables in accordance with Section 26 05 20 - Wire and Box Connectors - (0-1000 V).
- .2 Cable Colour Coding: to Section 26 05 00 - Common Work Results for Electrical.

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- .3 Conductor length for parallel feeders to be identical.
 - .4 Lace or clip groups of feeder cables at distribution centres, pull boxes, and termination points.
 - .5 Branch circuit wiring for surge suppression receptacles and permanently wired computer and electronic equipment to be 2-wire circuits only, i.e. common neutrals not permitted.
 - .6 Cable shall be of direct bury type and installed at a minimum of 600 mm below finished grade under non-vehicular areas.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 26 05 00 Common Work Results - Electrical.

1.2 - REFERENCES

- .1 Canadian Standards Association, (CSA International)
 - .1 CSA C22.2 No. 38-10 - Thermoset Insulated Wires and Cables (Tri-national Standard, with UL44 and ANCE, NMX-J-451).

PART 2 - PRODUCTS

2.1 - EQUIPMENT

- .1 Rod electrodes: copper clad steel 19 mm dia by 3 m long
- .2 Grounding conductors: bare stranded copper, soft annealed, size as indicated in contract.
- .3 Insulated grounding conductors: green, type RWU 90 cross link.
- .4 Ground bus: copper, size as indicated, complete with insulated supports, fastenings, connectors.
- .5 Non-corroding accessories necessary for grounding system, type, size, material as indicated, including but not necessarily limited to:
 - .1 Grounding and bonding bushings.
 - .2 Protective type clamps.
 - .3 Bolted type conductor connectors.
 - .4 Thermite welded type conductor connectors.
 - .5 Bonding jumpers, straps.
 - .6 Pressure wire connectors.

PART 3 - EXECUTION

3.1 - INSTALLATION GENERAL

- .1 Install complete permanent, continuous grounding system including, electrodes, conductors, connectors, accessories.
- .2 Install connectors in accordance with manufacturer's instructions.
- .3 Protect exposed grounding conductors from mechanical injury.
- .4 Use mechanical connectors for grounding connections to equipment provided with lugs.
- .5 Do not solder joints.
- .6 Install bonding wire for flexible conduit, connected at both ends to grounding bushing, solderless lug, clamp or cup washer and screw. Neatly cleat bonding wire to exterior of flexible conduit.

- .7 Install flexible ground straps for bus duct enclosure joints, where such bonding is not inherently provided with equipment.
- .8 Install separate ground conductor to outdoor lighting standards.
- .9 Make grounding connections in radial configuration only, with connections terminating at single grounding point. Avoid loop connections.

3.2 - ELECTRODES

- .1 Install rod/plates electrodes and make grounding connections as indicated in the contract.
- .2 Bond separate, multiple electrodes together.
- .3 Use size #6 AWG copper conductors for connections to electrodes.
- .4 Make special provision for installing electrodes that will give acceptable resistance to ground value where rock or sand terrain prevails. Ground as indicated.

3.3 - GROUNDING EQUIPMENT

- .1 Install grounding connections to typical equipment included in, but not necessarily limited to following list: service equipment, transformers, switchgear, duct systems, starters, control panels, generators, distribution panels, outdoor lighting.

3.4 - FIELD QUALITY CONTROL

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results - Electrical.
- .2 Perform ground continuity and resistance tests using method appropriate to site conditions and to approval of local authority having jurisdiction over installation.
- .3 Perform tests before energizing electrical system.
- .4 Disconnect ground fault indicator during tests.

END OF SECTION

PART 1 - GENERAL

1.1 - RELATED REQUIREMENTS

- .1 Section 26 05 00 Common Work Results - Electrical.

1.2 - REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA C22.2 No.206-M1987(R1999), Lighting Poles.

1.3 -ACTION AND INFORMATIONAL SUBMITTALS

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

PART 2 - PRODUCTS

- .1 Not used.

PART 3 - EXECUTION

3.1 - INSTALLATION

- .1 Install poles true and plumb, in accordance with manufacturer's instructions and contract requirements.
- .2 Install new luminaire mounting brackets in accordance with manufacturer's instructions and contract requirements. Clean and relamp salvaged luminaires prior to re-installation.
- .3 Install lamps in new luminaires in accordance with manufacturer's instructions.
- .4 Check orientation, level and tilt for luminaires. Orient luminaires towards and perpendicular to roadway, level with a zero degree tilt unless directed otherwise by Engineer.
- .5 Connect luminaire to lighting circuit including installation of weatherproof fuse kit and fuse.
- .6 Perform tests in accordance with Section 26 05 00 - Common Work Results - Electrical.

END OF SECTION

PART 1 - GENERAL

1.1 - REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C117, Standard Test Method for Material Finer than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
 - .2 ASTM C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .3 ASTM D422, Standard Test Method for Particle-Size Analysis of Soils.
 - .4 ASTM D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (600 kN-m/m³).
 - .5 ASTM D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (2,700 kN-m/m³).
 - .6 ASTM D4318, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-8.1, Sieves, Testing, Woven Wire, Inch Series.
 - .2 CAN/CGSB-8.2M, Sieves, Testing, Woven Wire, Metric.
- .3 Ontario Provincial Standard Specifications (OPSS)
 - .1 OPSS 1010: Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.
- .4 Definitions
 - .1 Rock: solid material in excess of 1.00 m³ and which cannot be removed by means of heavy duty mechanical excavating equipment. Frozen material not classified as rock.
 - .2 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.
 - .3 Topsoil:
 - .1 Material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
 - .2 Material reasonably free from subsoil, clay lumps, brush, objectionable weeds, and other litter, and free from cobbles, stumps, roots, and other objectionable material larger than 25 mm in any dimension.
 - .4 Waste material: excavated material unsuitable for use in Work or surplus to requirements.

1.2 - ACTION AND INFORMATIONAL SUBMITTALS

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

1.3 - QUALITY CONTROL

- .1 Engage services of qualified Professional Engineer who is licensed in Provinces of Ontario in which Work is to be carried out to design and inspect shoring, bracing and underpinning required for

Work.

- .2 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.4 - EXISTING CONDITIONS

- .1 Buried services:
 - .1 Before commencing work establish location of buried services on and adjacent to site.
 - .2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work: pay costs of relocating services.
 - .3 Remove obsolete buried services within 2 m of foundations: cap cut-offs.
 - .4 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
 - .5 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered.
 - .6 Record location of maintained, re-routed and abandoned underground lines.
 - .7 Notify Engineer and utility companies of intended interruption of services and obtain required permission.
 - .8 Where Work involves breaking into or connecting to existing services, carry out Work at times as directed by utility companies and relevant authorities with minimum disturbance to pedestrian and vehicular traffic.
 - .9 Where unknown services are encountered, immediately advise Engineer and confirm findings in writing.
 - .10 Repair existing services damaged during construction as directed by the Engineer and relevant utility authority at no additional cost to the Owner.
- .2 Existing surface features:
 - .1 Conduct, with Engineer, condition survey of existing trees and other plants, lawns, fencing, service poles, wires, pavement, survey bench marks and monuments which may be affected by Work.
 - .2 Protect existing surface features from damage while Work is in progress. In event of damage, immediately make repair as directed by Engineer.
 - .3 Where required for excavation, cut roots or branches as directed by Engineer.

PART 2 - PRODUCTS

2.1 - MATERIALS

- .1 Granular material for backfill and grading: meeting the gradation requirements for OPSS 1010 - Granular A.

PART 3 - EXECUTION

3.1 - TEMPORARY EROSION AND SEDIMENT CONTROL

- .1 Provide temporary erosion and sedimentation control measures in accordance with Section 01 35 43 - Environmental Procedures.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 - SITE CLEARING

- .1 Protect existing features and vegetation to remain.
- .2 Remove obstructions from surfaces to be excavated within limits indicated.
- .3 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.
- .4 Keep excavations clean, free of standing water, and loose soil.
- .5 Where soil is subject to significant volume change due to change in moisture content, cover and protect.
- .6 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage. Fence off all trees to remain within the dripline.
- .7 Minimize stripping of topsoil and vegetation.
- .8 Do not cut any trees or shrubs with a diameter at breast height (DBH) of more than 100 mm without authorization from the Engineer.

3.3 - STRIPPING OF TOPSOIL

- .1 Strip and stockpile topsoil as directed by Engineer after area has been cleared of brush, weeds, and grasses and removed from site.
 - .1 Do not mix topsoil with subsoil.
 - .2 Stockpile height not to exceed 2 m. Protect from erosion.
- .3 Dispose of unused topsoil offsite.

3.4 - DEWATERING

- .1 Keep excavations free of water while Work is in progress.
- .2 Provide for Engineer's review details of proposed dewatering methods.
- .3 Protect open excavations against flooding and damage due to surface run-off.

- .4 Dispose of water in accordance with Section 01 35 43 - Environmental Procedures to approved collection area and in a manner not detrimental to public and private property, or portion of Work completed or under construction.
 - .1 Provide and maintain temporary drainage ditches and other diversions outside of excavation limits.

3.5 - EXCAVATION

- .1 Advise Engineer at least 7 days in advance of excavation operations.
- .2 Excavate to lines, grades, elevations and dimensions as indicated.
- .3 Maintain sides and slopes of excavations in safe condition by appropriate methods and in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .4 Excavation must not interfere with bearing capacity of adjacent foundations.
- .5 Do not disturb soil within branch spread of trees or shrubs are to remain. If excavating through roots, excavate by hand and cut roots with sharp axe or saw. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .6 Restrict vehicle operations directly adjacent to open trenches.
- .7 Dispose of surplus and unsuitable excavated material off site.
- .8 Do not obstruct flow of surface drainage or natural watercourses.
- .9 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.
- .10 Notify Engineer when bottom of excavation is reached.
- .11 Remove unsuitable material from trench bottom to extent and depth as directed by Engineer.
- .12 Correct unauthorized over-excavation as follows:
 - .1 Placing and compacting granular material, as defined in this specification, compacted to not less than 95% of corrected Standard Proctor density, or
- .13 Hand trim, make firm and remove loose material and debris from excavations.
 - .1 Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil.

3.6 - BACKFILLING

- .1 Vibratory compaction equipment: hand operated having a power of no greater than 7 kW.

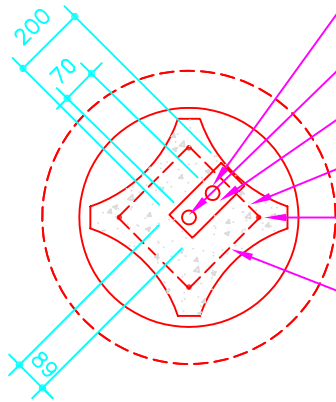
- .2 Do not proceed with backfilling operations until completion of:
 - .1 Engineer has inspected and accepted construction below finish grade.
 - .2 Removal of concrete formwork.
 - .3 Removal of shoring and bracing; backfilling of voids with granular material.
- .3 Areas to be backfilled to be free from debris and water.
- .5 Place backfill material using Granular A in accordance with OPSS 101 in uniform layers to 150 mm thickness.
 - .1 Compact each layer to 95% of corrected Standard Procter density before placing succeeding layer.
- .6 Backfilling around installations:
 - .1 Place bedding and surround material as specified elsewhere.
 - .2 Do not backfill around or over cast-in-place concrete within 24 hours after placing of concrete.
 - .3 Backfill in front of toe wall prior to backfilling behind toe wall.

3.7 - RESTORATION

- .1 Replace topsoil to limits shown in Contract drawings.

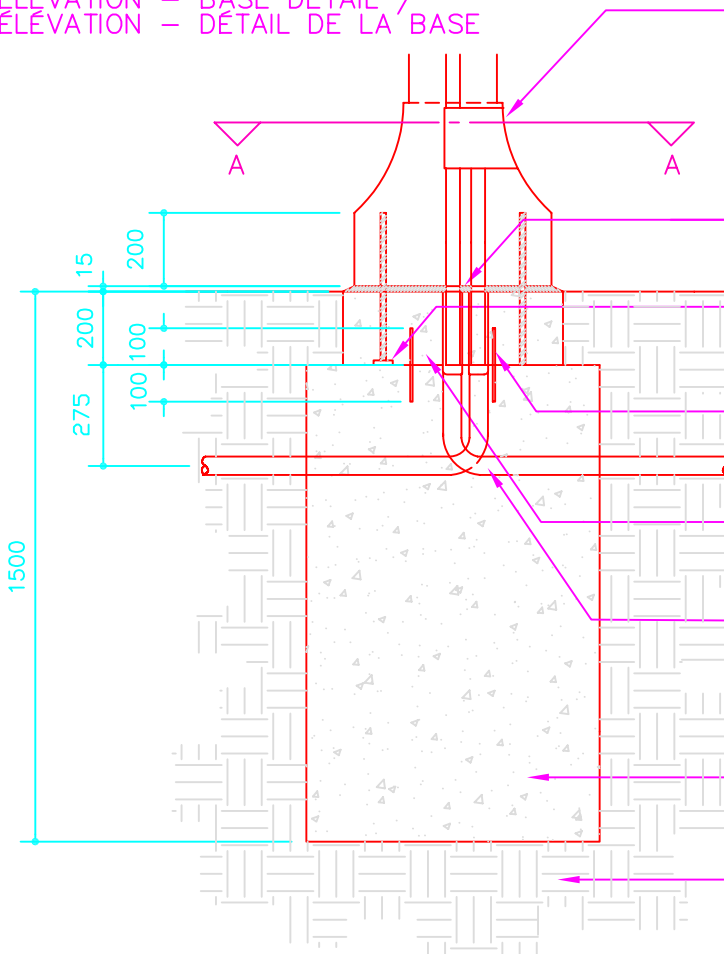
END OF SECTION

SECTION AA /
COUPE AA



- NOTE 8 /
REMARQUE 8
- NOTE 5 /
REMARQUE 5
- NOTE 7 /
REMARQUE 7
- 10M TIES - 375 mm o.c. /
JOINTS 10M - 375 mm c.c
- 4 - 15M BARS. LAP 36 BAR DIAMETER IF
REQUIRED /
4 BARRES D'ARMATURE 10 M. CHEVAUCHER LA
BARRE DE 36 mm DE DIAMÈTRE SI NÉCESSAIRE
- 50 mm COVER TYPICAL /
PLAQUE DE COUVERTURE TYPIQUE DE 50 mm

ELEVATION - BASE DETAIL /
ÉLEVATION - DÉTAIL DE LA BASE



- NOTE 7 /
REMARQUE 7
- PLACE BEAD OF CLEAR SILICON SEAL AROUND
RECESS BEFORE ATTACHING PLATE /
PLACER LE CORDON D'ÉTANCHÉITÉ DE SILICONE
PUR AUTOUR DE L'ENCOCHE AVANT
D'ATTACHER LA PLAQUE
- NON-SHRINKING GROUT /
MORTIER IRRÉTRÉCISSABLE
- STEEL SHIMS TO PLUMB LAMP POST /
CALES D'ACIER POUR FIXER LES POTEUX
D'ÉCLAIRAGE
- 4 - 10M BARS AS DOWELS /
4 BARRES D'ARMATURE DE 10M COMME
GOIJONS
- 600 mm DIAMETER CONCRETE COLLAR - FINAL
CONCRETE POUR /
COLLET EN BÉTON DE 600 mm DE DIAMÈTRE -
COULÉE FINALE DE BÉTON
- 50 mm DIAMETER PVC PIPE. LONG RADIUS
BEND /
TUYAU DE PVC DE 50 mm DE DIAMÈTRE.
LONGS RAYONS PLIÉS
- CONCRETE BASE - 800 mm DIAMETER OR
800 mm x 800 mm /
BASE DE BÉTON - 800 mm DE DIAMÈTRE OU
800 mm x 800 mm
- UNDISTURBED SUBGRADE /
SOUS-SOL NON DÉRANGÉ



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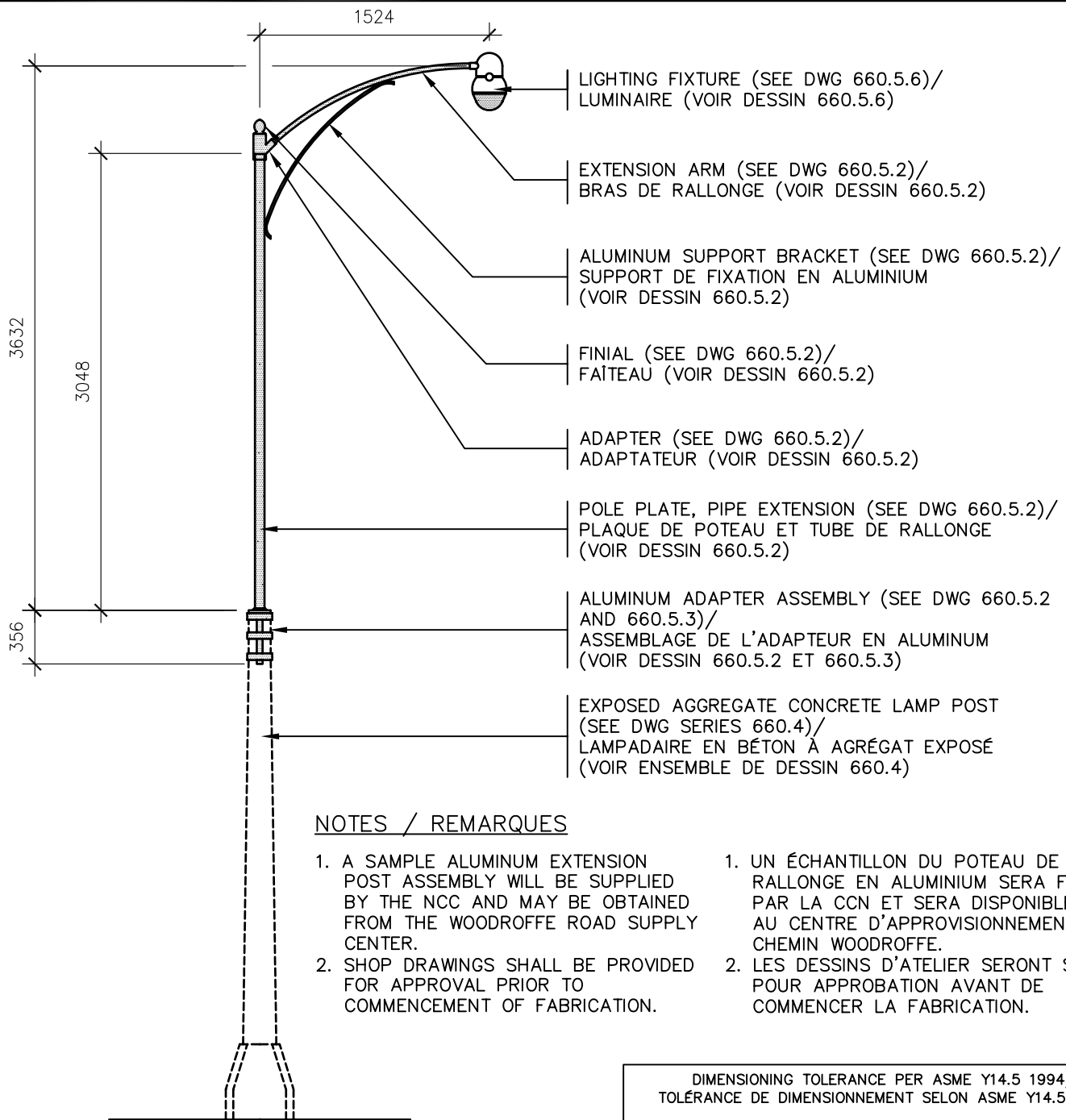
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NOTES / REMARQUES

- | | |
|---|---|
| <p>1. A SAMPLE ALUMINUM EXTENSION POST ASSEMBLY WILL BE SUPPLIED BY THE NCC AND MAY BE OBTAINED FROM THE WOODROFFE ROAD SUPPLY CENTER.</p> <p>2. SHOP DRAWINGS SHALL BE PROVIDED FOR APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION.</p> | <p>1. UN ÉCHANTILLON DU POTEAU DE RALLONGE EN ALUMINIUM SERA FOURNIS PAR LA CCN ET SERA DISPONIBLE AU CENTRE D'APPROVISIONNEMENT DU CHEMIN WOODROFFE.</p> <p>2. LES DESSINS D'ATELIER SERONT SOUMIS POUR APPROBATION AVANT DE COMMENCER LA FABRICATION.</p> |
|---|---|

DIMENSIONING TOLERANCE PER ASME Y14.5 1994/
TOLÉRANCE DE DIMENSIONNEMENT SELON ASME Y14.5 1994

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED/
LES DIMENSIONS SONT EN MILLIMÈTRE À MOINS D'AVIS CONTRAIRE

TOLERANCES ARE AS FOLLOWS UNLESS OTHERWISE SPECIFIED/
LES TOLÉRANCES DEVRONT ÊTRE LES SUIVANTES À MOINS D'AVIS
CONTRAIRE

X = ±1
X.X = ±0.3
X.XX = ±0.05
ANGLE = ±2'

TYPICAL LAMP ASSEMBLY/
ASSEMBLAGE TYPIQUE DE LAMPADAIRE



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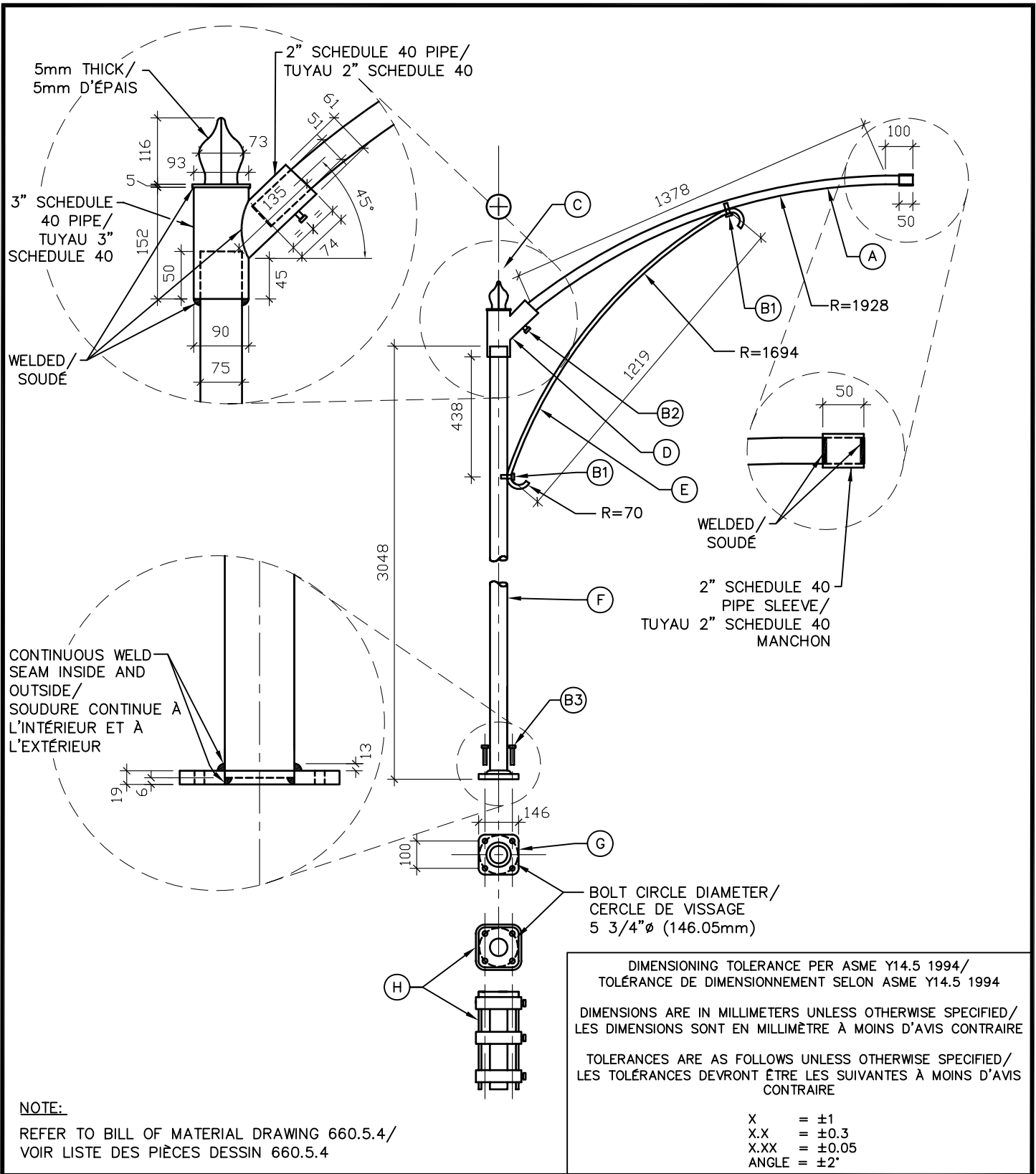
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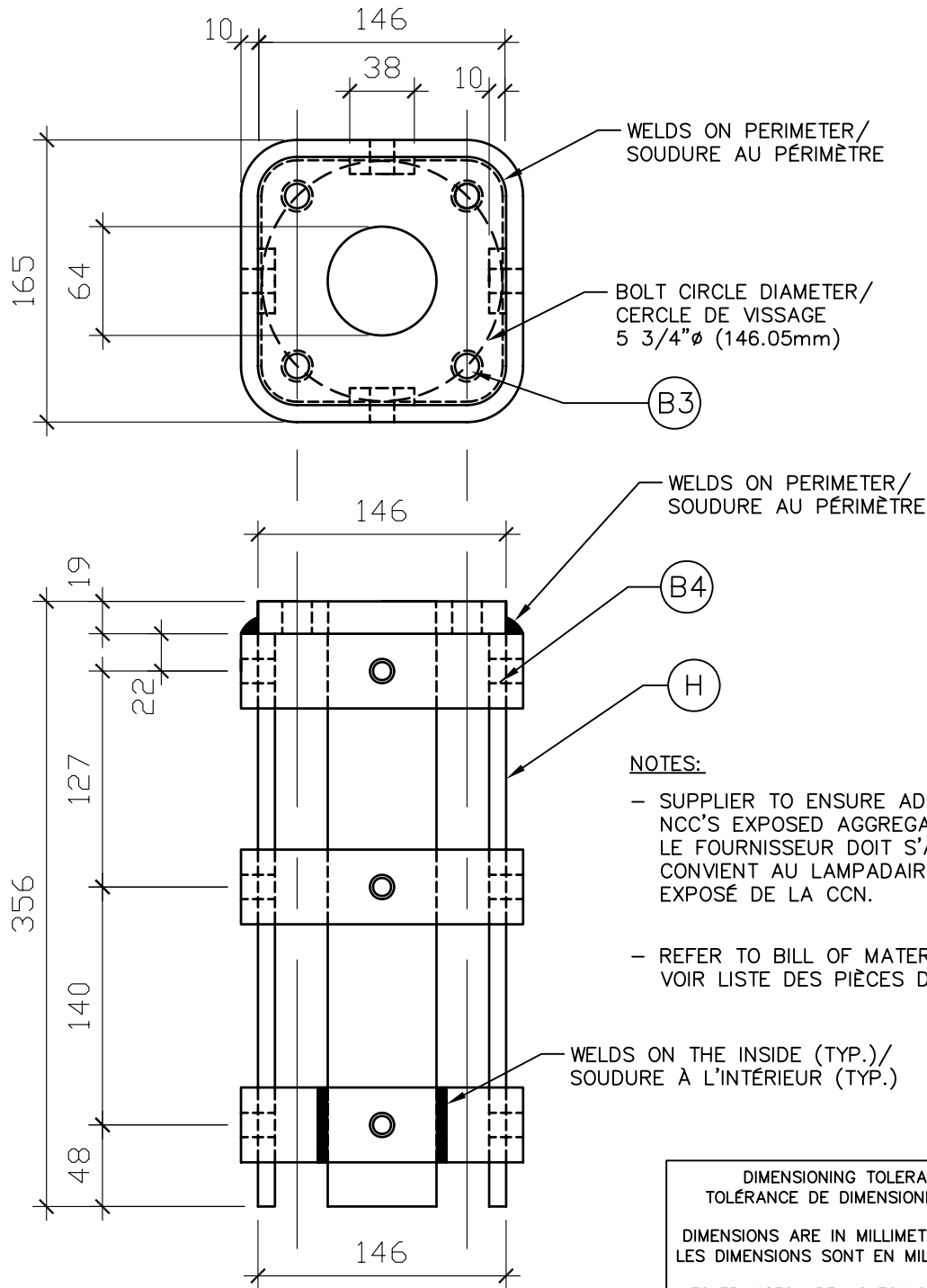
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WELDS ON PERIMETER /
SOUDURE AU PÉRIMÈTRE

BOLT CIRCLE DIAMETER /
CERCLE DE VISSAGE
5 3/4" ϕ (146.05mm)

WELDS ON PERIMETER /
SOUDURE AU PÉRIMÈTRE

NOTES:

- SUPPLIER TO ENSURE ADAPTER CORRECTLY FITS NCC'S EXPOSED AGGREGATE CONCRETE LAMP POST / LE FOURNISSEUR DOIT S'ASSURER QUE L'ADAPTEUR CONVIENT AU LAMPADAIRE DE BÉTON À AGRÉGAT EXPOSÉ DE LA CCN.
- REFER TO BILL OF MATERIAL DRAWING 660.5.4 / VOIR LISTE DES PIÈCES DESSIN 660.5.4

WELDS ON THE INSIDE (TYP.) /
SOUDURE À L'INTÉRIEUR (TYP.)

DIMENSIONING TOLERANCE PER ASME Y14.5 1994 /
TOLÉRANCE DE DIMENSIONNEMENT SELON ASME Y14.5 1994

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED /
LES DIMENSIONS SONT EN MILLIMÈTRE À MOINS D'AVIS CONTRAIRE

TOLERANCES ARE AS FOLLOWS UNLESS OTHERWISE SPECIFIED /
LES TOLÉRANCES DEVRONT ÊTRE LES SUIVANTES À MOINS D'AVIS CONTRAIRE

X = ± 1
X.X = ± 0.3
X.XX = ± 0.05
ANGLE = $\pm 2'$

ALUMINUM ADAPTER ASSEMBLY /
ASSEMBLAGE DE L'ADAPTEUR EN ALUMINIUM



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BILL OF MATERIAL / LISTE DES PIÈCES

PART #/ No DE PIÈCE	DESCRIPTION	MATERIAL/ MATÉRIAU	QUANTITY/ QUANTITÉ
A	EXTENSION ARM/BRAS DE RALLONGE PIPE/TUYAU – 1½" SCHEDULE 40 (38.10mm)	ALUMINUM/ ALUMINIUM	1
B1	½" (12.70mm) X 13 SQUARE NUT WELDED OVER 9/16" (14.28mm) HOLE IN PIPE. ½"Ø X 1½" (12.70mmØX38.10mm) X 13 HEXAGONAL BOLT C/W LOCK WASHER AND FLAT NUT/ ÉCROU CARRÉS ½" (12.70mm) X 13 SOUDÉS SUR UN TROU DE 9/16" (14.28mm) DANS LE TUYAU. BOULONS HEXAGONAUX DE ½"Ø X 1½" (12.70mmØX38.10mm) X 13 AVEC RONDELLE DE BLOCAGE ET ÉCROU PLAT	ALUMINUM/ ALUMINIUM	2
B2	THREADED HOLE : 15/32"Ø (11.91mm) HOLE TAP TO ½" (12.70mm) X 20 SQUARE HEAD SET SCREW C/W LOCK NUT : ½" X 1½" (12.70mmX38.10mm) X 20/ TROUS TARAUDÉ : 15/32"Ø (11.91mm) TROUS À ½" (12.70mm) X 20 VIS DE RÉGLAGE À TÊTE CARRÉ : ½" X 1½" (12.70mmX38.10mm) X 20	ALUMINUM/ ALUMINIUM	1
B3	THREADED HOLE : 9/16"Ø (14.28mm) HOLE TAP TO 5/8" (15.88mm) X 11 CAP SCREW : 5/8"Ø X 1½" (15.88mmX38.10mm) X 11 HEXAGONAL HEAD C/W STAINLESS STEEL LOCKWASHER/ TROUS TARAUDÉ : TROUS DE 9/16"Ø (14.28mm) TARAUDÉ À 5/8" (15.88mm) X 11 VIS À TÊTE CREUSE HEXAGONAL : 5/8"Ø X 1½" (15.88mmX38.10mm) X 11 AVEC RONDELLE DE BLOCAGE EN ACIER INOXYDABLE	STAINLESS STEEL/ ACIER INOXYDABLE 18-8	4
B4	THREADED HOLE : 15/32"Ø (11.91mm) HOLE TAP TO ½" (12.70mm) X 20 HEXAGONAL SCREW : ½" X 2½" (12.70mmX63.50mm) X 20/ TROUS TARAUDÉ : 15/32"Ø (11.91mm) TROUS À ½" (12.70mm) X 20 BOULON À TÊTE HEXAGONALE : ½" X 2½" (12.70mmX 63.50mm) X 20	STAINLESS STEEL/ ACIER INOXYDABLE 18-8	12
C	4 WINGS FINIAL/ FAITEAU À 4 AILETTES	ALUMINUM/ ALUMINIUM	1
D	ARM ADAPTER/ ADAPTATEUR DU BRAS	ALUMINUM/ ALUMINIUM	1
E	1½" X 3/8" (38.10mmX9.52mm) SUPPORT BRACKET WITH SLOTTED HOLES (17/32" X 3/4") AT BOTH ENDS/ SUPPORT DE FIXATION 1½" X 3/8" (38.10mmX9.52mm) AVEC FENTES AUX DEUX EXTREMITÉS (17/32" X 3/4")	ALUMINUM/ ALUMINIUM	1
F	PIPE/TUYAU 2½" SCHEDULE 40 (63.50mmØ)	ALUMINUM/ ALUMINIUM	1
G	POLE PLATE 4 – 11/16" (17.46mm) DIAMETER HOLES ON 5 3/4" (146.05mm) BOLT CIRCLE DIAMETER/ PLAQUE DU POTEAU 4 TROUS DE 11/16" (17.46mm) DE DIAMÈTRE AVEC CERCLE DE VISSAGE DE 5 3/4" (146.05mm)	ALUMINUM/ ALUMINIUM	1
H	BASKET ADAPTER ASSEMBLY (SEE DWG 660.5.3) : – MANUFACTURE BASKET OUT OF 3/8" X 1½" (9.78mmX38.10mm) PLATE. ALL WELDS ON INSIDE OF BASKET/ – MOUNTING PLATE: 3/4" X 5 3/4" X 5 3/4" (19mmX146mmX146mm). PERIMETER WELD TO BASKET ASSEMBLY/ ASEMBLAGE DU PANIER ADAPTATEUR (SEE DWG 660.5.3) : – FABRIQUER LE PANIER À L'AIDE DE PLAQUE DE 3/8" X 1½" (9.78mmX38.10mm). SOUDER DE PAR L'INTÉRIEUR DU PANIER/ – PLAQUE DE MONTAGE : 3/4" X 5 3/4" X 5 3/4" (19mmX146mmX146mm). SOUDER AU PÉRIMÈTRE.	ALUMINUM/ ALUMINIUM	1



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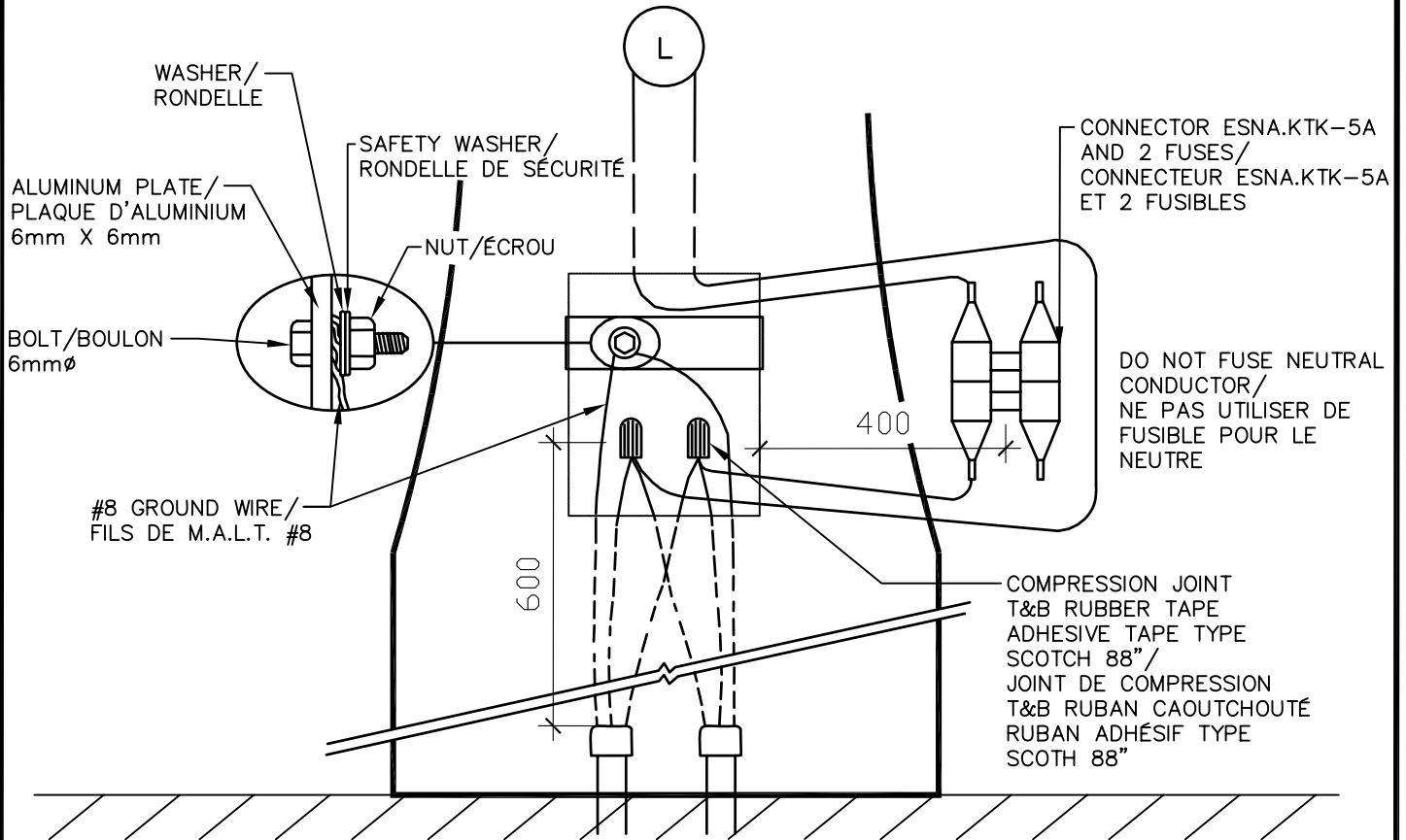
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ÉLECTRICAL / ÉLECTRIQUE



NOTE:

POLE WIRE SIZE – AWG 14 x LINE SOLID,
600 V WIRING – LEAVE 400 mm (16")
FOR CONNECTION TO LIGHTING FIXTURES
AND 200 mm (8") ALLOWANCE AT
BOTTOM OF POLE.

GROSSEUR DES FILS POUR LE POTEAU
AWG 14 x FIL PLEIN. 600 V
CÂBLAGE – LAISSER 400 mm (16") POUR LE
RACCORDEMENT AUX LUMINAIRES ET 200 mm
(8") AU BAS DU POTEAU.



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OPTIONAL NEMA TWISTLOCK PHOTOCONTROL RECEPTACLE / RÉCEPTACLE OPTIONNEL NEMA TWISTLOCK PHOTOCONTROL

DIE-CAST ALUMINUM BASE HOUSING / BOÎTIER EN ALUMINIUM COULÉ

2 BOLT SELF LEVELING SINGLE CLAMP SLIPFITTER FOR 2 3/8" O.D. PIPE BRACKET / FIXATION À 2 BOULONS AUTONIVELAGE DE TYPE SLIPFITTER POUR TUYAU 2 3/8" DIAMÈTRE EXTÉRIEUR

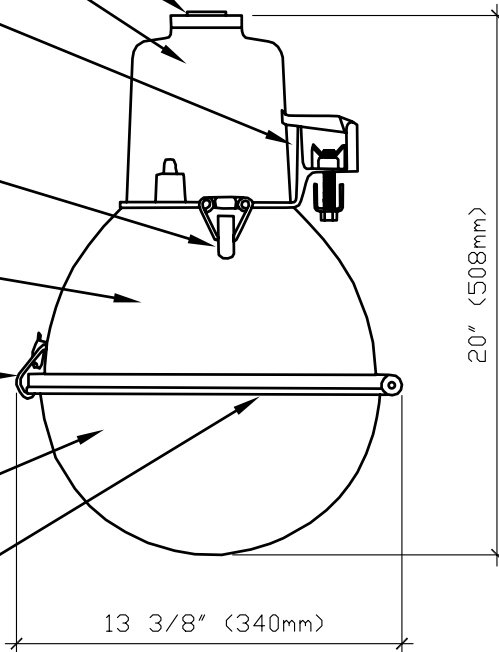
TOGGLE LATCH AND DOOR HINGE COMBINE / ATTACHE ARTICULÉ ET CHARNIÈRE COMBINÉ

SPUN HYDROFORMED SPECULAR ALUMINUM DEFLECTOR / DÉFLECTEUR EN ALUMINIUM REPOUSSÉ PAR HYDROFORMAGE

HINGED AND LATCHED TOOLLESS ENTRY FOR RELAMPING / ATTACHE ET CHARNIÈRE SANS OUTILS POUR LE REMPLACEMENTS DE LA LAMPE

REMOVABLE BOROSILICATE PRISMATIC GLASS REFLECTOR / RÉFLECTEUR EN VITRE AMOVIBLE BOROSILICATÉ PRISMATIQUE

MOGUL-BASE PORCELAIN SOCKET / SOCLE EN PORCELAINE À CULOT GOLIATH



SAMPLE ORDERING INFORMATION / EXEMPLE D'INFORMATION POUR COMMANDER:

URB	70	M	W	2	2W	9
PRODUCT FAMILY URB	LAMP WATTAGE 50=50W 70=70W 10=100W 15=150W	LAMP TYPE S=HPS M=MH	BALLAST TYPE H=REAC./HPF P=HI. REAC./HPF W=CWA	VOLTAGE 2=120V 0=208V 4=240V 7=240V 8=480V 9=347V W=MULTI-TAP WIRED 120 N=MULTI-TAP WIRED 277 V=MULTI-TAP WIRED 240	DISTRIBUTION 2N=TYPE II MSCO (NARROW) 2M=TYPE II MSCO (MEDIUM) 2W=TYPE II MSCO (WIDE) 3E=TYPE III MSCO	OPTIONS (ADD AS SUFFIX) 1=SINGLE FUSED, INTERNALLY MOUNTED (120, 277, OR 347V) 2=DOUBLE FUSED, INTERNALLY MOUNTED (208, 240V) 4=NEMA TWISTLOCK PHOTOCONTROL RECEPTACLE T=TOP PENDANT MOUNT (1.5" NPT) 6=WHITE 7=BLACK 8=BRONZE 9=GREY

NOTE: -STREETWORKS URB VERTICAL LAMP ROADWAY LUMINAIRE OR APPROVED EQUIVALENT / STREETWORKS URB VERTICAL LAMP ROADWAY LUMINAIRE OU ÉQUIVALENT APPROUVÉ

-FINAL ORDERING INFORMATION TO BE APPROVED BY NCC ENGINEER, INFORMATION POUR COMMANDE FINAL DOIT ÊTRE APPROUVÉ PAR L'INGÉNIEUR DE LA CCN



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