

| | |
|------------------------------|--|
| NCC Tender File # | AL1779 |
| Project Description | Rideau River Eastern Pathway Flood Damage |
| Site Visit | <p>A NON MANDATORY site visit will be held on Thursday, October 4, 2018 at 10:30am Ottawa Time. The meeting place will be the NCC Vincent Massey Park parking lot off of Heron Rd, Ottawa, ON. Refer to Google maps link: https://goo.gl/maps/GtkWJ3NscmB2 . 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. The bidder assumes all responsibility for obtaining sufficient information and hereby certifies that he/she has visited the above site and is fully content and satisfied that he/she has obtained full knowledge of all matters affecting the proper execution and completion of the work described in the specifications and drawings relating to the tender</p> |
| Closing date and time | Tuesday, October 16, 2018 at 3pm Ottawa time |

| | |
|--|--|
| RETURN TENDERS TO: National Capital Commission 40 Elgin Street, Security Office on the 2 nd floor Ottawa, ON K1P 1C7 | NCC Tender Number AL1779 |
| | NCC Contract Number |
| TENDER CLOSING DATE AND TIME: | Tuesday, October 16, 2018 at 3:00 p.m., Ottawa time |

| |
|---|
| DESCRIPTION OF WORK: Rideau River Eastern Pathway Flood Damage |
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1. BUSINESS NAME AND ADDRESS OF BIDDER

Name: _____

Address: _____

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

E-mail address: _____

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 \$ _____

HST – 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The tender shall not be withdrawn for a period of 60 days following the date and time of tender closing.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) Occupational Health and Safety Requirements;
 - (h) Addenda
 - (i) Any amendments issued or any allowable tender revision received before the date and time set for tender closing;
 - (j) Any amendment incorporated by mutual agreement between the NCC and the Contractor before acceptance of the tender; and
 - (k) Any amendment or variation of the contract documents that is made in accordance with the General Conditions;
 - (l) Security Requirements.

2. The language of the contract documents shall be the language of the Invitation to Tender & Acceptance Form submitted.

5. APPENDICES

The tender includes Appendix(ces) Nos I and II 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 December 31, 2018.

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 (excluding taxes) and the Estimated Total Price (excluding taxes) must be entered for each item listed;
- (c) the Price per Unit (excluding taxes) as tender governs in calculating the Total Estimated Amount, and any errors in the extension of the Price per Unit (excluding taxes) 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: Transfer the Total Estimated Amount from the Unit Price Table to item 2 – THE OFFER of this Invitation to Tender & Acceptance Form

| Item | Description | Units | A | B | C = A x B |
|------|--|---------------|-----|------------------------|----------------|
| | | | Qty | Unit prices excl taxes | Extended total |
| 1 | Mobilization | lump sum | 1 | | |
| 2 | Supply & Installation of Silt Curtain | linear metres | 15 | | |
| 3 | Clearing & Grubbing of Existing Vegetation | sq.m | 460 | | |
| 4 | Pathway Cleaning, Debris Removal, Safety Pruning | lump sum | 1 | | |
| 5 | Relocation of Existing Boulders | linear metres | 18 | | |

| | | | | | |
|----|--|---------------|-----|--|--|
| 6 | Earth Excavation and Hauling Off Site | cu.m | 75 | | |
| 7 | Removal of Existing Asphalt Surface | sq.m | 130 | | |
| 8 | Excavation of Granular Subbase (Armour Stone Wall & Asphalt) | cu.m | 55 | | |
| 9 | Supply, Mix and Installation of Angular Rip Rap | cu. m. | 5.5 | | |
| 10 | Supply and Installation of Armour Stone Wall including Reuse of Stones (15%) | linear metres | 142 | | |
| 11 | Supply and Installation of Granular 'A' | cu. m. | 65 | | |
| 12 | Supply and Installation of two (2) Solid 150 mm Diameter PVC Drains, Grated Caps | each | 2 | | |
| 13 | Supply and Installation of HL3 Asphalt Pathway | sq.m | 130 | | |
| 14 | Centre Line Painting | linear metres | 115 | | |
| 15 | Supply and Installation of Topsoil and Finish Grading | cu. m. | 82 | | |
| 16 | Supply and Installation of 75mm of Compost including Tilling | cu. m. | 16 | | |
| 17 | Supply and Installation of Coir Erosion Control Mat | sq.m | 215 | | |
| 18 | Supply and Installation of Shrubs | each | 35 | | |

| | | | | | |
|----|--|----------|-----|----------|--|
| 19 | Supply and Installation of Perennials | each | 33 | | |
| 20 | Supply and Installation of Grasses | each | 85 | | |
| 21 | Supply and Installation of 'Indigo Graminis' Seed Mix | sq.m | 200 | | |
| 22 | Supply and Installation of 75mm Natural Shredded Cedar Mulch | cu. m. | 16 | | |
| 23 | Painting of Steel Handrail Including Preparatory Work | lump sum | 1 | | |
| 24 | 2 year plant material warranty and maintenance (10% of sum of the totals for items 18 to 21) | lump sum | 1 | | |
| | | | | Subtotal | |

9. The basis of award is low total cost to the NCC including all taxes.

10. I/We acknowledge receipt of the following addenda: _____ (Bidder to enter number of addenda issued, if any) and have included for the requirement of it/them in my/our tendered price.

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.

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

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

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: pavables@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 Purchase Order number.

| | |
|---|-------------------|
| INVITATION TO TENDER & ACCEPTANCE FORM | APPENDIX 1 |
|---|-------------------|

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 sub-contractors:

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) **XXXX**

Sub-contractor: _____

Address: _____

(b) **XXXX**

Sub-contractor: _____

Address: _____

(c) **XXXX**

Sub-contractor: _____

Address: _____

(d) **XXXX**

Sub-contractor: _____

Address: _____

NON-MANDATORY REQUIREMENT:

(a) Any other work not listed above

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: _____

Supplier No. / N° du fournisseur

New supplier / Nouveau fournisseur Update / Mise à jour

**SUPPLIER-DIRECT DEPOSIT PAYMENT AND TAX INFORMATION FORM
FOURNISSEUR-FORMULAIRE DE PAIEMENT PAR DÉPÔT DIRECT ET RENSEIGNEMENTS AUX FINS DE L'IMPÔT**

For NCC use only / À l'usage de la CCN seulement

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 LPPF | <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 LPPF, ou un partenariat formé d'anciens fonctionnaires touchant une pension en vertu de la LPPF, où 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. / N° de téléphone : | Fax No. / N° de télécopieur : |
| Postal code / Code postal | () | () |

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

IMPORTANT : CHOOSE ONLY ONE OF THE FOLLOWING/CHOISIR SEULEMENT UNE DES OPTIONS SUIVANTES:

| | | | | |
|--|---|----------------------------|---------------------|--------------------|
| (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"/> | (3) Corporation / Société <input type="checkbox"/> | | | |

| | | |
|---|----------------|-------------|
| Business No. (BN) / N° de l'entreprise (NE) - | OR / OU | SIN / NAS - |
|---|----------------|-------------|

| | |
|--|--|
| GST/HST / TPS et TVH | QST / TVQ (Québec) |
| Number / Numéro : Not registered / non inscrit <input type="checkbox"/> | Number / Numéro : 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 / N° de la succursale | Institution No. / N° de l'institution : | Account No. / N° de compte : |
| Institution name / Nom de l'institution : | Address / Adresse : | Postal Code / Code postal : |

PART 'D' - DIRECT DEPOSIT PAYMENT NOTIFICATION / PARTIE 'D' - AVIS DE PAIEMENT PAR DÉPÔT DIRECT

E-mail address / Adresse courriel :

PART 'E' - EMAIL ADDRESS TO SEND CONTRACTS / PARTIE 'E' - ADRESSE COURRIEL POUR ENVOYER LES CONTRATS

E-mail address / Adresse courriel :

PART 'F' - CERTIFICATION / PARTIE 'F' - 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 Services National Capital Commission 202-40 Elgin Street Ottawa, ON K1P 1C7 Fax: (613) 239-5007 | Poster ou télécopier à : Services de l'approvisionnement Commission de la capitale nationale 40, rue Elgin, pièce 202 Ottawa (Ontario) K1P 1C7 Télécopieur : (613) 239-5007 |

SUPPLIER – DIRECT DEPOSIT PAYMENT AND TAX INFORMATION FORM

FOURNISSEUR – FORMULAIRE DE PAIEMENT PAR DÉPÔT DIRECT ET RENSEIGNEMENTS AUX FINS DE L'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: Sylvie Monette, Accounts Payable Supervisor
(613) 239-5678 ext. 5156 or sylvie.monette@ncc-ccn.ca

Direct deposit 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 to the address identified in part D.

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 deposit payment

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

There are fewer risks of direct deposit payment being lost, stolen, or damaged as may happen with cheques.

Funds made by direct deposit 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 de l'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 : Sylvie Monette, Superviseure aux comptes payable
(613) 239-5678 poste 5156 ou sylvie.monette@ncc-ccn.ca

Renseignements sur le paiement par dépôt 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 par dépôt direct vous sera envoyé par courriel à l'adresse courriel identifiée à la partie D.

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 par dépôt direct

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

Avec les paiements par dépôt 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 par dépôt 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 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) business 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 Thursday, October 4, 2018 at 10:30am Ottawa Time. The meeting place will be the NCC Vincent Massey Park parking lot off of Heron Rd, Ottawa, ON. Refer to Google maps link: <https://goo.gl/maps/GtkWJ3NscmB2> . 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. The bidder assumes all responsibility for obtaining sufficient information and hereby certifies that he/she has visited the above site and is fully content and satisfied that he/she has obtained full knowledge of all matters affecting the proper execution and completion of the work described in the specifications and drawings relating to the tender.

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 emailing the Sr. Contract Officer, Sr. Contract Officer, Allan Lapensee 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.

**SPECIAL INSTRUCTIONS TO
BIDDERS**

- 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 [October 16, 2018 at 3:00pm](#) Ottawa time at 40 Elgin Street, Ottawa, ON beside the security office on the 2nd floor.

- 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 ^o . 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: 40px; 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: 40px; 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: 40px; margin: auto;"></div> |
| | Not satisfactory / Non-satisfaisant | 6 – 10 | |
| | Satisfactory / Satisfaisant | 11 – 16 | |
| | Superior / Supérieur | 17 – 20 | |
| Criteria not applicable / Critère non-applicable | | | <input type="checkbox"/> N/A / S/O |
| 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: 40px; margin: auto;"></div> |
| | Not satisfactory / Non-satisfaisant | 6 – 10 | |
| | Satisfactory / Satisfaisant | 11 – 16 | |
| | Superior / Satisfaisant | 17 – 20 | |
| Criteria not applicable / Critère non-applicable | | | <input type="checkbox"/> N/A / S/O |
| 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: 40px; 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 |
|---|--------------------------|------------|--------------------------|-----------|

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

- GC1.1 INTERPRETATION
 - GC1.1.1 Headings and References
 - GC1.1.2 Terminology
 - GC1.1.3 Application of Certain Provisions
 - GC1.1.4 Substantial Performance
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- GC1.14 AGREEMENTS AND AMENDMENTS
- GC1.15 SUCCESSION
- GC1.16 ASSIGNMENT
- GC1.17 NO BRIBE
- GC1.18 CERTIFICATION - CONTINGENCY FEES
- GC1.19 INTERNATIONAL SANCTIONS

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
- 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

- 1) 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;
 - (ii) 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 | | | | |
| 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. | | | | |
| 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 | | | | |
| 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) | | | | |
| 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. | | 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. | | |
| Name of Insurer's Office or Authorized Employee / Nom du cadre ou de la personne autorisée | | Telephone number / Numéro de téléphone | | |
| Signature | | Date | | |

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

SECURITY REQUIREMENTS

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.

**NATIONAL CAPITAL COMMISSION
CAPITAL PLANNING AND REAL ASSET MANAGEMENT BRANCH**

Rideau River Eastern Pathway Flood Damage

Reference Number: DC 5255-2

Date: August, 2018

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END OF SECTION

1.1 TIME OF COMPLETION

- .1 Commencement of preliminary work (detour signage, staging, etc) will be permitted immediately upon notification of acceptance of your offer. Substantial completion of work is expected before December 31, 2018
- .2 On-site works shall be limited from Monday to Friday, weekends will be considered in relation to work schedule challenges and can only proceed if approved by the NCC Representative.
- .3 The Contractor is advised that the work site is located along the Rideau River Shoreline on the eastern shore in Ottawa Ontario. The project site is approximately 140m in length and is between the Dunbar and Heron Road Workers Memeorial bridges; under the O-Train Bridge.
- .4 The Security clearance status of 'Site access' is required for all employees working on site and is a prerequisite to this contract.
- .5 Exact start date for works below the High water mark will be determined by seasonal water levels. This date will be confirmed in writing by the NCC
- .6 All vegetation clearing as per the contract documents and MMF
- .7 Appropriate mitigation measures relating to the environment must be implemented per the Environmental Effects Evaluation, for the NCC Canadian Environmental Assessment Act 2012 decision.

1.2 SCOPE OF WORK

- .1 Works under this contract covers selective shoreline rehabilitation. This contract includes shoreline work, erosion control methods, reparations to existing armour stone retaining walls (and the addition of new walls), removals of invasive plant material and grading.

To mitigate negative environmental effects on the terrestrial environment, equipment used at site for project construction should be limited to those with rubber tires (not tracks). Sedentary wildlife remaining at the site during construction should be humanely trapped and relocated; this may require permits.

The work of this Contract includes, but is not limited to, the following:

1. Mobilization
2. Supply and installation silt curtain
3. Clearing and grubbing of existing vegetation
4. Pathway cleaning, debris removal, safety pruning
5. Relocation of existing boulders
6. Earth excavation and hauling off site
7. Removal of existing asphalt surface
8. Excavation of granular subbase (armour stone wall & asphalt)
9. Supply, mix and installation of angular rip rap
10. Supply and installation of armour stone wall including re-use of stones
11. Supply and installation of Granular 'A'
12. Supply and installation of two solid 150mm diameter PVC drains and grated caps
13. Supply and installation of HL3 Asphalt Pathway
14. Centre line painting
15. Supply and installation of topsoil and finish grading
16. Supply and installation of 75mm compost including tilling
17. Supply and installation of coir erosion control mat
18. Supply and installation of shrubs

19. Supply and installation of perennials
20. Supply and installation of grasses
21. Supply and installation of 'Indigo Graminis' seed mix
22. Supply and installation of 75mm natural shredded cedar mulch
23. Painting of steel handrail including preparatory work
24. Two year plant material and maintenance warranty

1.3 PRE-CONTRACT AWARD CONDITIONS

- .1 Prior to award of the Contract, the Contractor must submit the following acceptable plans to the NCC Representative no later than 5 business days of receipt of the letter of notification;
 - .1 A Detailed Sediment and Erosion Control Plan (see Sections 01 35 43 – Environmental Protection & 35 01 40.92 – Preservation of Watercourses and Wetlands) this plan should identify the exact location of the silt curtain for the project (each end of the silt curtain, around stockpiled topsoil, etc)
 - .2 A work Methodology Plan shall at a minimum identify the Contractors plans for site access and stockpiling, type and size of equipment, and other site preservation or protection methods.
 - .3 If acceptable Plans are not received within 5 business days, the NCC reserves the right to proceed on to the next lowest compliant bidder.
 - .4 The Contractor may be considered in default of the Contract if execution of the accepted Sediment and Erosion Control Plan and/or a Work Methodology Plan is not being executed as approved and/or the work methods being used are determined by the NCC Representative to be causing unnecessary damage to the project site.

1.4 SPECIAL CONSTRUCTION REQUIREMENTS

- .1 The Contractor will be responsible to protect the subgrade at all times during construction and in particular following moderate to heavy rainfall. Construction traffic on exposed subgrade should be prohibited or limited to equipment which will not damage subgrade.
- .2 The Contractor will be responsible to ensure that the equipment utilized for site preparation, excavation, removals including stripping of topsoil does not cause any damage or disturbance to the subgrade.
- .3 Any damaged subgrade areas caused as a result of construction traffic or construction techniques must be repaired by the Contractor as part of this contract and at no additional cost to the National Capital Commission.
- .4 The reinstatement of the pathway to preconstruction conditions on all areas being used for access, including the removal of any granular material, repairs to recreational asphalt

pathway will be the responsibility of the Contractor and must be included in the tender price.

- .5 The Contractor shall be responsible as part of the tender price for the stripping and reuse of topsoil and approved fill material, or the removal from the site of all excavated non reusable or excess material as well as the supply and placement of all required imported fill material required to execute the work of this contract.
- .6 The Contractor will not be compensated for any additional stripping and/or additional earth or granular backfill materials required as a result of over-excavations not approved and authorized by the NCC Representative prior to undertaking work.
- .7 The contractor will be responsible for supplying 4 large coloured coroplast signs and posts prior to start of construction to inform the general public of proposed work. NCC to supply graphic file upon request.

1.5 CODES, PERMITS AND STANDARDS

- .1 Standards referred to in this Specification (CGSB, CSA, ASTM, OPSD, CHBDC etc.) may be examined at the following location:
 - Public Works and Government Services Canada
 - Standards and Specifications Branch
 - Place du Portage - Phase 3, 11 Laurier Street
 - Hull, Quebec
 - K1A OS5
- .2 Perform work in accordance with the National Building Code of Canada 1995 and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- .3 Perform work in accordance with contract documents and any other codes and legislation of Federal, Provincial or Local applications provided that in cases of conflict or discrepancy, the more stringent requirements shall apply.
- .4 Obtain and pay for permits, inspector approvals, and other licenses required for this project and also pay any charges incidental to such permits. Provide copy of permits to the NCC Representative.
- .5 **Contractor is to obtain an access permit from the National Capital Commission, NCC Urban Lands and Transport, Contact Stéphane Wojciechowski 613.239.5678 (ext.6028)**

1.6 DEFINITIONS

- .1 Wherever the term "NCC Representative" appears throughout this specification, it shall be construed to mean an Inspector representing the National Capital Commission and including a duly named consultant on their behalf.
- .2 Wherever the terms "or equal", "or approved equal" appear after specific types of materials and items throughout this specification, they shall be construed to mean as being equal in the opinion of NCC Representative, in material content, workmanship and quality to that designated as being the minimum acceptable standard, and that the NCC Representative's written approval must be obtained prior to submitting an alternative, 3 days before close of tender.

1.7 TAXES

- .1 Include in the tender amount, all sales and other taxes levied by the Federal, Provincial and Municipal government or other authority. There will be no refunds made by the National Capital Commission to the Contractor for taxes paid by the Contractor.

1.8 PROTECTION

- .1 Provide and maintain guardrails, fences, barricades, lights and other devices required for protection of workmen and residents in accordance with the requirements of Provincial and Local by-laws and the Canadian Construction Safety Code.
- .2 Protect existing structures against damage until completion of work.
- .3 Take all precautions to protect vegetated areas and specimen trees from any damage.

1.9 DAMAGES

- .1 Damages caused to existing plant material, landscaping, lawns, roadways, pathways, structures, finishes and public utilities due to work of this contract, will be restored to their original condition, replaced or adequate compensation made to affected parties by the Contractor.
- .2 It is understood that restored or replaced work includes, labour, equipment and material costs.
- .3 The restored or replaced work shall be completed within (7) seven days of notification by the NCC Representative.

1.10 CUTTING, FITTING AND PATCHING

- .1 Execute cutting, fitting and patching of work that may be a requirement to make work fit properly together, to receive or be received by other work.
- .2 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.
- .3 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.

1.11 SITE VISIT

- .1 Parties intending to submit tenders on the work must visit the site and obtain for themselves all information pertaining to existing conditions affecting the proper execution and completion of the work. The submission of a tender shall be deemed as proof that the tenderer and his sub-trades have complied with this requirement. After claims for additional compensation will not be entertained for any items of labour, equipment or materials required to complete the work that could have been reasonably ascertained by a site examination.

1.12 WORKMANSHIP

- .1 It is a requirement of this contract that qualified tradesmen execute each type of work specified.
- .2 Example: Landscape contractor for landscape work, mason for stonework, carpenter for carpentry work, etc.
- .3 Work unsatisfactorily completed by unqualified tradesmen will be redone and paid for by the Contractor.

1.13 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each of following:
 - .1 Contract drawings.
 - .2 Specifications.
 - .3 Addenda.

- .4 Change orders.
- .5 Other modifications to Contract.
- .6 Field test reports.
- .7 The CofA from the MDDELCC and the CofA from the MFFP.
- .8 The NCC Environmental Effects Evaluation document.
- .9 Manufacturer's installation and application instructions.
- .10 Copy of current and approved work schedule.

1.14 WORK SCHEDULE

- .1 Provide within 5 working days after Contract award, in form acceptable to NCC Representative, detailed schedule showing anticipated progress stages and final completion of work within time period specified in Contract documents.
- .2 Interim reviews of work progress based on work schedule will be conducted as decided by NCC Representative and schedule updated by Contractor in conjunction with and to approval of NCC Representative.

1.15 DOCUMENTS AND SAMPLES TO BE SUBMITTED

- .1 Within a reasonable timeframe, and according to a predetermined order so as not to delay the work, present the documents and necessary samples for approval by the NCC Site Administrator for revision. A delay in this respect does not constitute a sufficient reason to obtain a work extension, and no demand of this regard will be considered.
- .2 Work for which documents and samples are required should not be undertaken before these required elements have been checked and approved.
- .3 Submit 2 printed copies of the drawings prescribed in the technical sections of the estimate, and any others as reasonably required by the NCC Site Administrator.
- .4 If no drawing is required because the manufacturer's standard is used, submit 2 copies of the charts or documentation of the manufacturer as prescribed in the technical sections of the estimate and required by the NCC Site Administrator.
- .5 Submit the following documents and samples:
 - .1 Samples of angular rip rap (Class IV) as per specification.
 - .2 Technical specifications of topsoil and compost mixture.

1.16 CONTRACTOR'S USE OF SITE

- .1 Limited to area immediately surrounding work and areas designated by the NCC Representative NCC Representative for material stockpiling and work equipment parking.
- .2 Do not unreasonably encumber site with materials or equipment during construction.
- .3 Move stored products or equipment interfering with operations of N.C.C., other contractors or agencies and the general public.
- .4 Obtain and pay for use of additional storage or work areas needed for operations.
- .5 Where security is reduced by work, provide temporary means to maintain security of area at all times.

1.17 SETTING-OUT OF WORK

- .1 The Commission shall furnish the Contractor with the reference co-ordinates necessary for laying out the work of this contract to the successful bidder. **The Contractor shall employ survey personnel with experience in the use of co-ordinates to physically layout work utilizing a total station survey system.**
- .2 Contractor shall assume full responsibility for and execute complete layout of work to locations, lines and elevations indicated.

- .3 Provide devices needed to lay out and construct work. Supply such devices as required to facilitate NCC Representative 's inspection of work.
- .4 Supply stakes and other survey markers required for laying out work.
- .5 **Contractor must obtain NCC Contract Administrator's approval of shoreline layout prior to commencing work.**

1.18 PROJECT MEETINGS

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

1.19 EXISTING SERVICES

- .1 Before commencing work, establish location and extent of **service lines and culverts** in area of work and notify NCC Representative of findings. The Contractor will be responsible for the protection of underground services in the construction zone. Under the supervision of the NCC representative, underground cables to be specified must be manually exposed prior to the commencement work.
- .2 Where unknown services are encountered, immediately advise NCC Representative and confirm findings in writing.
- .3 Where work involves adjusting of existing services, carry out work as directed by the NCC Representative .
- .4 Make good and pay for damage to existing utility lines resulting from work.

1.20 TRAFFIC CONTROL

- .1 Do not infringe on adjacent roads, sidewalks, ramps, loading zones or interfere with normal traffic flow in carrying out the work. If it is necessary to disrupt traffic or occupy thoroughfares for purposes of unloading materials, etc., obtain permission from the NCC Representative and abide by his instructions regarding the manner, time and delays necessary to carry out these operations. Incidental costs (e.g. for permits, signage, public notification of lane closures, etc.) conforming to these requirements will be paid by Contractor.
- .2 Provide a suitable system of protective barricades, lane markings, signs, lights and other such devices to warn and channel traffic and wherever necessary, the services of a flagman to direct and control traffic. Carry out protection in accordance with the requirements of the Provincial and Local by-laws having jurisdiction over this type of work.
- .3 Where appropriate, provide pathway closed signage.
- .4 Printed signage must be provided in both English and French
- .5 The proposed methods and systems of traffic control and maintenance provisions together with supporting sketches must be submitted to the NCC Representative upon request following tender closing.

1.21 ADDENDA

- .1 Answers to questions directed to the NCC Representative , and any amendments to the drawings and specifications during the tender period will be communicated in the form of addenda to all general contractors tendering; such addenda to be considered as and read as part of the specifications and thereby included in the contract documents.

1.22 ADDITIONAL DRAWINGS

- .1 The Commission may furnish additional drawings to the Contractor to assist in the proper execution of the work. These additional drawings will be issued for clarification purposes only. Such drawings shall have the same meaning and intent as if they were included with

the plans referred to in Contract Documents.

1.23 CONTRACT DOCUMENTS

- .1 Drawings and specifications are complementary. Items shown or mentioned in one and not in the other are deemed to be included in the contract work.
- .2 If the drawings and specifications differ, the NCC Representative shall give preference to the Contract document thereof, which best insures the attainment of this contract's objectives.

1.24 PAYMENT

- .1 This is a unit price contract. Any minor or miscellaneous items indicated on the drawings as being part of the work of this contract must be included by the Contractor in his overhead and indirect charges and incorporated into the unit price bid.
- .2 No separate payment will be made for work performed in respect to any of the special provisions where there is no specific pay item on the schedule of prices. The cost of these works must be appropriated among, and included in, the lump sum bid price.

1.25 ADVERTISING

- .1 No advertising will be permitted on this project.

1.26 COMPACTION OF MATERIALS

- .1 The thickness of granular and crushed stone materials shown on the drawings shall be the real thickness after the materials have been compacted as specified.

1.27 RECORD DRAWINGS

- .1 As work progress, maintain, accurate record to show deviations from contract documents.
- .2 Just prior to NCC Representative 's inspection for issuance of final certificate of completion, supply one (1) set of white prints with all major and minor deviations neatly inked in. The NCC Representative will provide two (2) sets of clean white prints for this purpose.

1.28 GUARANTEES AND WARRANTIES

- .1 Before completion of work, collect all manufacturer's guarantees and warranties, and deposit to NCC Representative .

END OF SECTION

Basis of Payments

- .1 Payment at the price per item listed in the Schedule of Price shall be full compensation for all labour, services and equipment as well as the supply, delivery and installation of all materials required for the proper execution of this contract.

GENERAL

ITEM NO. 1 - MOBILIZATION

- .1 This item includes all general requirements to complete the project including general instructions, shop drawings, safety measures, environmental protection, protection of existing vegetation to remain, temporary facilities, traffic control, general removals, cleaning and reinstatement at completion of the project. .
- .2 Included in this lump sum price are all the general requirements identified on the drawings and specifications and all those required to complete the work of this contract not covered under specific items.
- .3 Included in this lump sum price: all damaged grass areas to be lightly topsoil and seeded.
- .4 Included in this lump sum price are the completion of record drawings at the end of the contract for provision to the NCC Representative.
- .5 This item will not be measured but will be paid on a lump sum basis upon the following schedule.
 - .1 70% for substantial completion of this item
 - .2 30% for completion and supply of Contract record drawings

ITEM NO. 2 – SUPPLY AND INSTALLATION OF SILT CURTAIN

- .1 This item consists of the supply and installation of a silt curtain along entire shoreline where work is proposed as per the contract drawings.
- .2 This item also includes general maintenance to ensure good working condition.
- .3 This item will not be measured but will be paid 50% after approved installation and 50% after final removal.

ITEM NO. 3 – CLEARING AND GRUBBING OF EXISTING VEGETATION

- .1 This item consists of pruning and limbing up identified trees as per contract documents
- .2 The item includes the removal of vegetation as indicated on the contract drawings (All removals are less than 10cm DBH)
- .3 This item includes removal of debris off site.
- .4 This item will be measured by square metre of existing vegetation removed.

ITEM NO. 4 – PATHWAY CLEANING, DEBRIS REMOVAL, SAFETY PRUNING

- .1 This item consists of cleaning the entire length of the pathway to achieve a clean final asphalt surface free from, debris, dust, construction, etc.
- .2 This item will not be measured but will be paid on a lump sum basis.

ITEM NO. 5 – RELOCATION OF EXISTING BOULDERS

- .1 This item consists of the removal ,stockpiling, relocation and reinstallation of existing boulders as per the contract drawings.
- .2 This item will be measured by linear metre of wall.

ITEM NO. 6 - EARTH EXCAVATION AND HAULING OFF SITE

- .1 This item consists of excavating the damaged pathway sections, side slopes and adjacent areas as per the contract drawings allowing for finished ground elevations and specified surface treatments.
- .2 This item includes the hauling off site of all material to the proper facilities.
- .3 This item includes the proof rolling of the exposed surface, and the sub-excavation as required of any soft areas encountered during proof rolling.
- .4 This item also includes the removal of all excavated non reusable or surplus material, including surplus topsoil and striped grass from the site.
- .5 This item includes adjusting the existing riprap as per the contract drawings to allow for easier installation of proposed riprap.
- .6 This item will be measured for payment by cubic metres with a conversion rate to metric tonnes using a factor $1\text{m}^3 = 2.2$ metric tonnes.

ITEM NO. 7 – REMOVAL OF EXISTING ASPHALT SURFACE

- .1 This item consists of a clean true saw cut through existing asphalt as approved on site by the NCC representative.
- .2 This item includes the protection of the asphalt cut line; it also includes the cutting of second line if damage occurs during construction.
- .3 this items includes asphalt removal and hauling off site as indicated on the contract documents.
- .4 This item will be measured by square metre of asphalt removed.

ITEM NO. 8 – EXCAVATION OF GRANULAR SUBBASE (ARMOUR STONE WALL & ASPHALT)

- .1 This item consists of the excavation and hauling off-site the existing granular subbase to depths shown on the contract documents.
- .2 This item includes any additional excavation required to achieve stable side slopes during construction.
- .3 This item will be measured by cubic meter of granular(s) removed.

ITEM NO. 9 – SUPPLY, MIX AND INSTALLATION OF ANGULAR RIP RAP

- .1 This item consists of the supply, gentle placement and installation of angular riprap along shoreline and as per contract documents.
- .2 This item will be measured for payment by cubic metres of Rip-Rap installed with a conversion rate to metric tonnes using a factor $1\text{m}^3 = 2.2$ metric tonnes.

ITEM NO. 10 - SUPPLY AND INSTALLATION OF ARMOUR STONE WALL INCLUDING REUSE OF STONES

- .1 This item consists of the supply and installation of the stone wall as per contract drawing.
- .2 This item includes the saw cutting and or chiselling required to ensure each stone fits tightly together.
- .3 This item includes a bedding layer of stone dust to set the bottom wall elevation.

- .4 This item includes the installation of weeping tile and geotextile as per the contract documents
- .4 This item will be measured for payment by linear meters.

ITEM NO. 11– SUPPLY AND INSTALLATION OF GRANULAR ‘A’

- .1 This item consists of the supply, placement and compaction of OPSS Granular ‘A’ required for the construction of the sub base course for the pathway and armour stone wall to the extent indicated and specified in the contract documents.
- .2 This item also includes the supply and application of water for compaction.
- .3 This item will be measured and paid per cubic meter of installed fill.

ITEM NO. 12 – SUPPLY AND INSTALLATION OF TWO SOLID 150mm DIAMETER PVC DRAINS WITH GRATED CAPS

- .1 This item consists of the supply and placement of solid pipes to drain toward the river as indicated and specified in the contract documents.
- .2 This item also includes the supply and assembly of 45 degree elbows and black grated caps for the pipes and PVC cement for their assembly.
- .3 This item will be measured and paid for each drain unit installed.

ITEM NO. 13 – SUPPLY AND INSTALLATION OF HL3 ASPHALT PATHWAY

- .1 This item consists of the supply, placement and compaction of HL3 Asphalt for the reconstruction of the new asphalt pathway as indicated on the drawings and contract documents.
- .2 This item includes tack coat required at all asphalt joints as indicated on the drawings and contract documents.
- .3 This item includes any sampling and testing as required by the NCC Representative.
- .4 This item will be measured for payment by square metre (m²)

ITEM NO. 14 – CENTRE LINE PAINTING

- .1 This item consists of the supply and installation of painted lines along the centre line as indicated in the contract drawings, including any related works.
- .2 Line painting (Yellow) will be required along the entire construction corridor.
- .3 This item includes colour samples and cut sheets for proposed paint.
- .4 This item includes removal of existing line painting along construction corridor.
- .5 This item will be measured by linear metre of paint installed.

ITEM NO. 15 – SUPPLY AND INSTALLATION OF TOPSOIL AND FINISH GRADING

- .1 This item consists of the supply and installation of topsoil between the rip rap (where indicated), the pathway edges, and behind the amour stone walls (existing and proposed) Ensure positive drainage from edge of pathway to new leveled edge of proposed rip rap.
- .2 This item includes the finished grading and proper compaction of topsoil.
- .3 This item will be measured for payment by cubic metres of installed topsoil.

ITEM NO. 16 – SUPPLY AND INSTALLATION OF 75mm OF COMPOST INCLUDING TILLING

- .1 This item consists of the supply and installation of 75mm of compost and tiling into topsoil between the rip rap and the pathway throughout entire planting areas of the project.
- .2 This item includes finish grading and proper compacting.
- .3 This item will be measured for payment by cubic metres of installed compost.

ITEM NO. 17 – SUPPLY AND INSTALLATION OF COIR EROSION CONTROL MAT

- .1 This item consists of the supply and installation of coir erosion control mats to the extent indicated and specified in the Contract Documents.
- .2 Submitted unit price shall also include supply and installation of anchoring stakes.
- .3 This item will be measured for payment in square meters of coir mat installed.

ITEM NO. 18 – SUPPLY AND INSTALLATION OF SHRUBS

- .1 These items consist of the supply and installation of nursery grown shrubs as indicated in the Contract documents
- .2 These items include all works associated with planting.
- .3 These items will be measured for payment by the number of plants supplied and planted.

ITEM NO. 19 – SUPPLY AND INSTALLATION OF PERENNIALS

- .1 These items consist of the supply and installation of nursery grown perennials as indicated in the contract documents
- .2 These items include all works associated with planting.
- .3 These items will be measured for payment by the number of plants supplied and planted.

ITEM NO. 20 – SUPPLY AND INSTALLATION OF GRASSES

- .1 These items consist of the supply and installation of nursery grown grasses as indicated in the Contract documents
- .2 These items include all works associated with planting.
- .3 These items will be measured for payment by the number of plants supplied and planted.

ITEM NO. 21 – SUPPLY AND INSTALLATION OF 'INDIGO GRAMINIS' SEED MIX

- .1 This item consists of the supply and installation of the 'Indigo Graminis' seed mix as per contract drawing. Seeds should be mechanically seeded.
- .2 This item will be measured for payment by square metre (m²).

ITEM NO. 22 – SUPPLY AND INSTALLATION OF 75mm NATURAL SHREDDED CEDAR MULCH

- .1 This item consists of the supply and installation of natural shredded cedar mulch in all planting beds as per contract drawing. Mulch must not be dyed.
- .2 This item will be measured for payment by cubic metres (m³) of installed mulch.

ITEM NO. 23 – PAINTING OF STEEL HANDRAIL INCLUDING PREPARATORY WORK

- .1 This item consists of scraping, sanding, metal primer application and painting of the steel handrail on both sides of O Train Bridge.
- .2 The appropriate paints will be used for application on metal and weather-resistance.
- .3 The finish colour will be gloss black.

- .4 This item will be measured for payment by lump sum.

ITEM NO. 24 – TWO YEAR PLANT MATERIAL AND MAINTENANCE WARRANTY

- .1 This item consists of the maintenance and warranty of all plant material for two (2) years starting after the completion of all plant material indicated in the Contract documents to ensure healthy plant material.
- .2 This item will be measured by 10% of total plants planted as per the following progress schedule:
- .1 50% after completion of first year of maintenance and warranty conditions as determined by the NCC Representative.
 - .2 50% after the completion of the second year of maintenance and warranty conditions as determined by the NCC Representative.

END OF SECTION

PART 1 - GENERAL

1.1 Submit to the NCC Representative for review, shop drawings, product data and samples specified.

1.2 Until submission is reviewed, work involving relevant product may not proceed.

1.3 Shop Drawings

- .1 Drawings to be originals supplied by contractor, subcontractor, supplier or distributor, illustrating appropriate portion of work:
 - .1 Showing fabrication, layout, setting or erection details as specified in appropriate sections.
 - .2 Identify details by reference to sheet or detail number shown on contract documents.
 - .3 Maximum sheet size 610 x 915 mm.
 - .4 Reproductions for submissions opaque diazo prints.

1.4 Product Data

- .1 Manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data may be accepted in lieu of shop drawings.
- .2 Above will only be accepted if they conform to following:
 - .1 Delete information not applicable to project;
 - .2 Supplement standard information to provide additional information applicable to project;
 - .3 Show dimensions and clearances required;
 - .4 Show performances characteristics and capacities.

1.5 Samples and Mock-ups

- .1 Submit samples in sizes and quantities specified.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.
- .3 Reviewed samples will become standards of workmanship and material against which installed work will be checked on project.

1.6 Co-ordination of Submissions

- .1 Review shop drawings, product data and samples prior to submission.
- .2 Verify:
 - .1 Field measurements;
 - .2 Field construction;
 - .3 Catalogue numbers and similar data.
 - .4 Co-ordinate each submission with requirements of work and contract documents. Individual shop drawings will not be reviewed until all related drawings are available.
 - .5 Contractor's responsibility for errors and omissions in submission is not relieved by the NCC Representative's review of submittals.
 - .6 Contractor's responsibility for deviations in submission from requirements of Contract documents is not relieved by Contract Administrator's review of submission, unless the NCC Representative gives written acceptance of specified deviations.
 - .7 Notify the NCC Representative in writing at time of submission, of deviations from requirements of Contract documents.
 - .8 After the NCC Representative's review, distribute copies.

1.7 Submission Requirements

- .1 Schedule submissions at least 10 days before dates reviewed submissions will be needed.
- .2 Submit number of paper or electronic copies of shop drawings and product data Contractor

- requires for distribution, plus 2 copies to be retained by the NCC Representative.
- .3 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date;
 - .2 Project title and number;
 - .3 Contractor's name and address;
 - .4 Number of each shop drawings, product data and sample submitted;
 - .5 Other pertinent data.

1.8 Submissions shall include:

- .1 Date and revisions dates;
- .2 Project title and number;
- .3 Name of:
 - .1 Contractor;
 - .2 Subcontractor;
 - .3 Supplier;
 - .4 Manufacturer;
 - .5 Separate detailer when pertinent.
- .4 Identification of product or material;
- .5 Relation to adjacent structure or materials;
- .6 Field dimensions, clearly identified as such;
- .7 Specification Section number;
- .8 Applicable standards, such as CSA or CGSB numbers;
- .9 Contractor's stamp, initialed or signed, verifying review of sub-mission, verification of field measurements and compliance with Contract documents.

END OF SECTION

PART 1 - GENERAL

1.1 References

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

1.2 Submittals

- .1 Submit site-specific Health and Safety Plan prior to award of contract. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in the scope of work.
- .2 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.
- .3 Submit copies of incident and accident reports.
- .4 Submit Material Safety Data Sheets (MSDS) to the NCC Representative.
- .5 Names of personnel and alternates responsible for site safety and health, hazards present on site, and use of personal protective equipment.

1.3 Safety Assessment

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

1.4 General Requirements

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

1.5 Responsibility

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.6 Compliance Requirements

- .1 Comply with Ontario Health and Safety Act and Regulations for Construction Projects.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.7 Unforeseen Hazards

- .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, and follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province of Ontario having jurisdiction. Advise the NCC Representative verbally and in writing.

1.8 Posting of Documents

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

1.9 Correction of Non-Compliance

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

1.10 Work Stoppage

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

1.11 Personnel Health, Safety, And Hygiene

- .1 Training: Ensure personnel entering site are trained in accordance with specified personnel training requirements.
- .2 Personal Protective Equipment:
 - .1 Workers in direct contact with the existing soil within park shall wear a dust mask and gloves along with the other standard PPE.
 - .2 PPE and protective clothing must be kept clean and well maintained.
 - .3 Dispose of or decontaminate PPE worn on site at end of each workday.

1.12 Excavating

- .1 The Contractor shall ensure no person enters an excavation unless another worker is working above ground close to the excavation or to the means of access to it.
- .2 The Contractor shall arrange the locating and marking of gas, electrical and other services prior to commencing an excavation.
- .3 The Contractor shall obtain approval from Consultant before arranging the shut off and disconnection of a service that may pose a hazard.
- .4 The Contractor shall comply with the requirements of Section 230 to 242, O. Reg. 213/91, OHSAA..

1.13 Chemicals

- .1 The Contractor must provide a list of all chemicals to be used on site and a copy of the Material Safety Data Sheet (MSDS) for each chemical to the Consultant prior to being brought onto the job site.
- .2 The Contractor must ensure each chemical container brought on site is clearly labelled with the identity of the chemical, information for the safe handling of the chemical and the location of the MSDS.
- .3 The Contractor must ensure adequate measures are taken to control the distribution, within the application area or throughout the building, of fumes/vapours before applying flammable, noxious or volatile materials.
- .4 The Contractor may be required to schedule the application of hazardous materials which might affect the well-being of any workers or disrupt work of other Contractors and cannot

be adequately controlled to prevent such occurrences to evening or weekend periods.

- .5 The Contractor must ensure workers wear the required personal protective equipment (respiratory protection, protective clothing, hand protection, eye/face protection, etc.) when working with chemicals.
- .6 The Contractor must ensure the safe use and disposal of all chemicals that they are using. No chemicals and/or chemical waste product shall be disposed of on site without prior approval of Consultant.
- .7 The Contractor may not store chemicals and compressed gas cylinders on site without approval of the Consultant. If approved, the Contractor must ensure incompatible chemicals are stored separately.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used

END OF SECTION

PART 1 - GENERAL

1.1 Definitions

- .1 Pollution and environmental damage: the presence of chemical, physical or biological elements that have a deleterious effect on health or ecology, that alter the ecological balance and that negatively affect, or that degrade the aesthetic character, cultural or historical environment.
- .2 Environmental protection: prevention / control of pollution and habitat disturbance and the environment during construction. The prevention of pollution and damage to the environment covers the protection of soil, water, air, biological and cultural resources; it also includes the visual aesthetics of management, noise, solid waste chemicals, gases and liquids, radiant energy, radioactive substances and other pollutants.

1.2 Fires

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

1.3 Disposal of Wastes

- .1 Burying of rubbish and waste materials on site not permitted.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- .3 Waste will be managed in accordance with Province of Ontario standards

1.4 Drainage

- .1 It is prohibited to pump water containing particles of suspended material in the streams, sewer systems or drainage systems.
- .2 Check the drainage materials containing suspended particles or other harmful substance according to the requirements of local authorities.

1.5 Site Clearing and Plant Protection

- .1 Protect trees and plants on site and adjacent properties where indicated.
- .2 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .3 Minimize stripping of soil.
- .4 Where heavy equipment is used around trees, protect trees with temporary fencing.
- .5 Restrict tree removal to areas indicated or designated by the NCC Representative .

1.6 Watercourse Protection

- .1 The Contractor shall ensure that no contamination, waste or other substances which may be detrimental to marine life or quality of water shall enter the watercourse as either direct or indirect result of construction and the Contractor shall meet all requirements of Government authorities or agencies with respect to environmental protection.
- .2 The Contractor shall be prepared to immediately clean up any spills of contamination, waste or other substances which may be either detrimental to marine life or quality of water. In the event of a spill, the Contractor shall immediately commence a clean-up operation. The Contractor shall be liable for all

damages and/or charges laid which result, either directly or indirectly, from the spill, or contamination of any kind which results from their construction operations.

- .3 The Contractor shall be responsible for the immediate cleaning and disposal of any floating debris that may accumulate in or near waterways, drainage channels or wetland sites.
- .4 The Contractor shall not make any claim for extra compensation for the cost of fulfilling the obligations set out herein.
- .5 **No in-water works shall take place within the spawning and nursery period from March 15th to July 1st.**

1.7 Pollution Control

- .1 Maintain temporary erosion and pollution control features installed under this contract. Control emissions from equipment and obtain from local authority's emission requirements.
- .2 Prevent sandblasting materials and debris and other foreign materials from contaminating air and water outside the application area, using enclosed temporary shelters.
- .3 Sprinkle dry materials and cover garbage to prevent wind from raising dust or debris. Remove dust on temporary paths.
- .4 Keep on the site adequate spill container to satisfy any type of gasoline spill to ensure the removal / disposal of contaminated material to licensed premises.
- .5 Refueling should only be done outside of the site.
- .6 Emergency Response Plan: If there is a contamination of soil and water caused by a spill or leakage of construction equipment, the contractor shall prepare an emergency response plan and comply with provincial and federal regulations, and must notify the department of environmental Services.

1.8 Sediment Erosion and Control Plan

- .1 Contractor shall ensure that all workers, including subcontractors, are aware of the importance of erosion and sedimentation control measurements and the consequences of failure to comply with requirements Of all regulatory agencies.
- .2 Contractor shall exercise due diligence to ensure that runoff sediments do not enter the watercourse. Berms, anti-erosion fences and other best management practices, as determined by the work practices of construction site contractors, shall be constructed at appropriate locations to ensure that turbidity is to be minimized as determined By government authorities and agencies.
- .3 Minimum erosion and sediment control shall be as follows;
 - .1 Limit the extent of exposed soil at a given time.
 - .2 Replant exposed areas as soon as possible
 - .3 A sediment fence shall be installed around the perimeter of all stocks of all soils to be used or removed from the site. Stocks must be located outside the floodplain and in locations approved by the NCC representative.
 - .4 Rainwater diversion from the construction zone may be required. If this is the case, stormwater diversions must be placed at regular intervals and towards the grassy areas which slope downstream and are not subject to construction activities. Sediment control structures may be required at the mouth of each diversion, but it is expected that the grass will filter sediment and deposits, minimizing sediment run-off.
 - .5 Sediment erosion and control measures will be inspected, maintained and repaired weekly and after each rainfall.

1.9 Construction Methods

- .1 Contractor shall use construction methods approved by the NCC Representative and or provincial authorities.
- .2 Contractor's equipment must be in good working order to reduce emissions of pollutants, dust and odors.

1.10 Hazardous Material Spill

The following precautions must be taken by the contractor when using hydrocarbons (fuels, etc.) in order to avoid significant environmental impacts due to accidental spills:

- .1 The Contractor is required to have an Environmental Emergency Plan approved by the the NCC Representative ;
- .2 The storage of hydrocarbons is prohibited within 30 meters of a watercourse or wetlands and refueling of hydrocarbons is prohibited within 60 meters;
- .3 Equipment must be washed before entering the site to prevent oil and grease from entering the work area;
- .4 Inspections should be carried out before work and often afterwards to detect any leaks (oil, fuel, grease, etc.). If a leak is detected, all necessary measures will be taken immediately and any maintenance that needs to be done will be carried out a minimum distance of 60 Meters from a watercourse or wetland;
- .5 An emergency cleaning kit for petroleum products must always be available on site. The kit will include at least 30 meters of absorbent socks, one (1) box of absorbent buffer pads, one (1) vacuum of 45 gallons barrel, rope and solid sorbent (powder or granules). The kit must be stored near the equipment and work area and will be easily accessible at all times for quick response;
- .6 If an oil spill occurs, the Contractor must contain and immediately call the NCC Emergency Hotline at 613-239-5353. Contaminated hydrocarbons and contaminated soils must be disposed of by a company specializing in this field. The company providing the work will be chosen by the NCC.
- .7 The Contractor shall be prepared to immediately clean up any spills of contaminants, waste or other substances which may be either detrimental to marine life or quality of water. In the event of a spill, the Contractor shall immediately commence a clean-up operation. The Contractor shall be liable for all damages and/or charges laid which result, either directly or indirectly, from the spill, or contamination of any kind which results from their construction operations.

END OF SECTION

PART 1 - GENERAL

1.1 Access

- .1 With the NCC Representative present, prepare photographic inventory of the original condition of all locations where temporary facilities are to be built by the Contractor. Submit a bound record copy of the photographic inventory with locations, labels and descriptions of existing features to the NCC Representative prior to commencing any work on the temporary facilities.
- .2 Provide and maintain adequate access to the project site.
- .3 Build and maintain temporary roads and temporary watercourse crossings where required or indicated subject to approval of the NCC Representative . Remove temporary facilities and reinstate site following completion of work.
- .4 If authorized to use existing roads or pathways for access to project site, maintain such roads for duration of contract and make good damages resulting from the Contractor's use of roads or pathways.

1.2 Sanitary Facilities

- .1 Provide sanitary facilities for work force in accordance with governing regulations and by-laws.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.3 Removal of Temporary Facilities

- .1 Remove temporary facilities from site unless directed stated otherwise by the NCC Representative .
- .2 All areas disturbed shall be reinstated by the Contractor to its original condition at the contractor's expense and to the NCC Representative's satisfaction.

1.4 Temporary Fencing

- .1 Temporary fencing shall be modu-loc green fence panels or approved equal. The height should be of 1.8m and fencing should prevent any public access throughout construction and be securely installed

END OF SECTION

PART 1 - GENERAL

1.1 General

- .1 Use new material and equipment unless otherwise specified.
- .2 Within 7 days of written request by the NCC Representative, submit following information for materials and equipment proposed for supply:
 - .1 Name and address of manufacturer.
 - .2 Trade name, model and catalogue number.
 - .3 Performance, descriptive and test data.
 - .4 Manufacturer's installation or application instructions.
 - .5 Evidence of arrangements to procure.
- .3 Use products of one manufacturer for material and equipment of same type or classification unless otherwise specified.

1.2 Manufacturer's Instructions

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

1.3 Delivery and Storage

- .1 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact.
- .2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
- .3 Store material and equipment in accordance with suppliers instructions.
- .4 Touch-up damaged factory finished surfaces to the NCC Representative 's satisfaction. Use primer or enamel to match original. Do not paint over name plates.

1.4 Contractor's Options for Selection of Materials for Tendering

- .1 Materials specified by referenced standard, select any material that meets or exceeds the specified standard.
- .2 Where materials are required to be listed on the "Canadian General Standards Board, Qualified Products List" select any manufacturer so listed.
- .3 Materials specified by "Prescriptive" or "Performance" specification, select any material meeting or exceeding specification.
- .4 Materials specified by naming one or more materials, select any material named. For the purpose of these specifications, the term "Acceptable Material" is deemed to be a complete and working commodity as described by a manufacturer's name, catalogue number, trade name or any combination thereof.
- .5 When materials are specified by a Standard, Prescriptive or Performance specification, upon request of the NCC Representative , obtain from manufacturer an independent testing laboratory report, showing that the material or equipment meets or exceeds the specified requirements.

1.5 Substitution

- .1 No substitutions will be permitted without prior written approval of the NCC Representative .
- .2 Proposals for substitutions to be made in accordance with Instructions to Bidders. Such requests must include statements of respective costs of items originally specified and the proposed substitution.
- .3 Proposals will be considered by the NCC Representative if:
 - .1 Materials selected by tenderer from those specified, are not available.
 - .2 Delivery date of materials selected from those materials specified would unduly delay completion of contract, or;
 - .3 Alternative material to those specified, which are brought to the attention of and considered by the NCC Representative as equivalent to the material specified and will result in a credit to the Contract amount.
- .4 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution.
- .5 Amounts of all credits arising from approval of substitutions will be determined by the NCC Representative and Contract Price will be reduced accordingly.

1.6 Acceptability of Materials

- .1 All and only "acceptable" materials, as defined by Construction Materials Board Form 1 are eligible for use in this project. CMB Form 1 forms part of Contract documents.

END OF SECTION

PART 1 - GENERAL

1.1 Related Work

- .1 Health and Safety

Section 01 35 30

PART 2 - PRODUCTS

- 2.1 Not Used

PART 3 - EXECUTION

- 3.1** Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- 3.2** Disposal of mineral spirits, oil or paint and varnish solvents in storm or sanitary drainage systems is prohibited.
- 3.3** Prevent accumulation of wastes which create hazardous conditions.
- 3.4 Cleaning During Construction**
- .1 Maintain project grounds and public properties free from accumulations of waste materials and rubbish on a daily basis.
- .2 Remove waste materials and rubbish from site and haul to an approved dump site.
- .3 Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not interfere with operation of roads and pathways.
- 3.5 Final Cleaning**
- .1 Remove grease, dirt, dust, stains and other foreign materials from finished surfaces.
- .2 Broom clean paved surfaces; rake clean other surfaces of grounds, to satisfaction of Contract Administrator.
- .3 Clean project site in preparation for substantial completion inspection and final inspection.

END OF SECTION

PART 1 – GENERAL

1.1 Cleaning During Construction

- .1 Maintain project grounds and public properties free from accumulations of waste materials and rubbish on a daily basis.
- .2 Remove waste materials and rubbish from site and haul to an approved dump site.
- .3 Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not interfere with operation of roads and pathways.

1.2 General Conditions

- .1 The requirements of this specification take precedence over the requirements of any other specification for the management and disposal of excess material.

1.3 Related Work

- .1 Excavating and Backfilling Section 31 23 10
- .2 Clearing and Grubbing Section 31 11 00

1.4 Definitions

- .1 Bituminous pavement: any combination of asphaltic material and aggregate, excluding asbestos modified asphaltic material.
- .2 Concrete: concrete mixtures produced with Portland cement, which may include blended hydraulic cement, supplementary cement materials, spent debris and silica sand abrasive blasting media from abrasive cleaning of concrete and reinforcing steel, concrete brick, block and associated mortar. Can include embedded steel, and excludes asbestos modified Portland cement concrete mixtures.
- .3 Disposable fill: excess material, other than that disposed of at a certified disposal site, that is managed in berms and mounds, and as fill, other than in road embankments.
- .4 Earth: all soils except those defined as rock, and excludes stone masonry, concrete and other manufactured materials.
- .5 Excess material: Material removed as a result of Work outlined in the Contract, for which management is not specified. Includes surplus and unsuitable materials.
- .6 Fabricated metal and plastic products: metal and plastic products such as culverts, fence materials, and guide rails. Does not include containers, other packing materials, storage tanks, septic tanks, and ancillary equipment associated with sanitary sewage systems, septic systems, and fuel/lubricant dispensing and storage systems.
- .7 Groundwater: subsurface water and water that occurs beneath the water table in soils and rock formations that are fully saturated.
- .8 Masonry: clay brick, stone and associated mortar.
- .9 Natural wood: stumps, trunks, branches, and debris, from tree and shrub removal, and wood products that are not treated, coated or glued.
- .10 Re-use: utilization, processing, re-processing or recycling of excess material into a construction

- material or other useful product, and management by these means for the Contract and other work.
- .11 Rock: natural beds or massive fragments, of the hard, stable, cemented part of the earth's crust, igneous, metamorphic, or sedimentary in origin, which may or may not be weathered, and includes boulders having a volume of 1 m or greater.
 - .12 Swamp material: materials within the swamp excavation limits, except those defined as rock, and excludes stone masonry, natural wood and manufactured materials.
 - .13 Waste: excess material managed by re-use or as disposable fill.
 - .14 Waterbody: any body of water or watercourse or wetland, or a portion thereof, and excludes ditches other than those functioning as natural watercourses.

PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

3.1 Construction

- .1 Management of excess material shall be as described below:
 - .1 Earth, aggregate, swamp material, rock and natural wood: Manage by re-use or disposal off-site.
 - .2 Bituminous pavement: Manage by disposal off-site.
 - .3 Concrete, masonry, fabricated metal and plastic products: Manage by disposal off site.
 - .4 Where excess materials are suspected of being contaminated or if types of materials are encountered which are not addressed in this specification, direction on management shall be obtained from the NCC Representative.
 - .5 Excess material that is a mixture of materials shall be disposed of according to most stringent conditions associated with any one of individual constituents.
 - .6 Excess materials shall be managed using methods which prevent their entry into waterbodies and other sensitive areas. These may be identified in Contract. Exceptions may be made when materials are re-used in accordance with requirements specified elsewhere in Contract.
 - .7 Notification requirements shall be complied with and approvals, releases, and agreements shall be obtained that are necessary for management of excess material.
- .2 Management of disposable fill, within Commission's property and on other property designated in Contract, shall be as specified.
- .3 Management by open burning is not permitted.

END OF SECTION

PART 1 - GENERAL

1.1 Related Work Specified Elsewhere

- .1 Environmental Protection Section 01 35 43
- .2 Management and Disposal of Excess Material Section 01 74 21
- .3 Clearing and Grubbing Section 31 11 00

1.2 Protect existing items designated to remain and materials designated for salvage and relocation. In event of damage, immediately replace such items or make repairs to approval of Contract Administrator and at no additional cost to the Commission.

1.3 Site Conditions

- .1 Contractor to contact appropriate utilities to verify presence and location of all overhead and underground services and establish location for all such services in the field before commencing work. Report any discrepancies to Contract Administrator.

PART 2 - PRODUCTS - Not applicable

PART 3 - EXECUTION

3.1 Preparation

- .1 Inspect site and verify with Contract Administrator items designated for removal and items to be preserved.
- .2 Locate and protect utility lines. Preserve in operating condition active utilities traversing site.
- .3 Notify utility companies before starting any work involving relocation, dismantling or demolition.

3.2 Removal

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

3.3 Removal of pavements:

- .1 Square up adjacent surfaces to remain in place by saw cutting or other approved method.
- .2 Protect underlying granular materials where shown.

3.4 Salvage and Relocation

- .1 Carefully dismantle items indicated for salvage or relocation. Stockpile salvaged materials at locations as directed by Contract Administrator.
- .2 Items to be salvaged include forest litter.

3.5 Disposal of Material

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

3.6 Restoration

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

END OF SECTION

PART 1 - GENERAL

1.1 Related Works

- | | |
|---|---------------------|
| .1 Management and Disposal of Excess Material | Section 01 74 21 |
| .2 Shrub and Tree Preservation | Section 32 01 91 |
| .3 Preservation of Watercourses and Wetlands | Section 35 01 40.92 |

1.2 General Conditions

- .1 Landscape drawings and specifications are to be read together with all relevant engineering documentation. Comply with all requirements of Division One.
- .2 All work must comply with all pertinent codes and laws established by the municipal, provincial and federal governments and by all other authorities having jurisdiction.

1.3 Scope of Work

- .1 Provide labour, materials, services and equipment necessary to complete the work of this section including the removal of existing vegetation to below finished ground elevations.

1.4 Definitions

- .1 Clearing consists of cutting off trees and shrub growth to not more than a specified height above ground and disposing of felled trees and surface debris.
- .2 Grubbing is the removal of stumps and roots to a depth below the initial ground level of not less than that prescribed and removal from the site.

1.5 Provision for Emerald Ash Borer

- .1 EA means Emerald Ash.
- .2 The Minister of Agriculture and Agri-Food, under subsection 15 (3) of the Plant Protection Act, makes the Emerald Ash Borer Infested Place Order for the City of Gatineau in the province of Quebec and the City of Ottawa in the province of Ontario, April 27, 2009.
- .3 In the context of the Ministerial Order, wood chips consist of fragments of wood and loose bark of trunks or shredded branches. Chips should be less than 2.5 cm in size and less in two directions.
- .4 In the context of the Ministerial Order, firewood consists of unmanufactured wood materials, with or without bark cut to length less than 1.2 m and diameter less than 25 cm and which can be manipulated.
- .5 In the context of the Ministerial Order, the logs consist of a solid non-manufactured material longer than 1.23 m and with a diameter greater than 25 cm.
- .6 The EA vehicle uses a vehicle carrying wood materials that is able to prevent material loss.

1.6 Protection

- .1 Prevent damage to existing trees, natural features, bench marks, existing buildings, existing pavement, utility lines, site appurtenances and furnishings that are to remain. Make good damage.

PART 2 - PRODUCTS

2.1 NA

PART 3 - EXECUTION

3.1 Preparation

- .1 Inspect site with the NCC Representative and identify items to be protected.
- .2 Locate and protect existing services and maintain operation during the work period.
- .3 Notify authorities responsible for services before beginning grubbing operations.

3.2 Clearing and Grubbing

- .1 Clear trees and shrubs designated for removal within the limit of work and as indicated by the NCC Representative.
- .2 Cut off trees and shrubs as indicated.

3.3 Removal and Disposal

- .1 All woody debris that has been cut must be removed from the site unless otherwise indicated.
- .2 Separate waste materials in accordance with Section 01 74 21 – Management and Disposal of Excess Material.
- .3 The ash wood removed from the site must be transported in a closed vehicle and disposed of at the outlet of Trail Road in accordance with the Minister's Order. When this wood is mixed with the wood of other species, all the wood material thus mixed must be treated as ash wood.
- .4 The Contractor must ensure that the ash wood is closely monitored until they are transported outside the site.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections**
- .1 Section 01 35 43 - Environmental Protection
 - .2 Section 31 37 00 – Rip Rap and Armour Stone
 - .3 Section 32 91 21 - Topsoil and Finished Grading.
- 1.2 Definitions**
- .1 Excavation classes: two classes of excavation will be recognized; common excavation and rock excavation.
 - .1 Rock : any solid material which cannot be removed by means of heavy duty mechanical excavating equipment with bucket. Frozen material not classified as rock.
 - .2 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.
 - .2 Topsoil: material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
 - .3 Waste material: excavated material unsuitable for use in Work or surplus to requirements.
- 1.3 Protection of Existing Features**
- .1 Existing buried utilities and structures:
 - .1 Prior to commencing excavation Work, notify applicable Owner or authorities having jurisdiction, establish location and state of use of buried utilities and structures. Owners or authorities having jurisdiction to clearly mark such locations to prevent disturbance during Work.
 - .2 Confirm locations of buried utilities by careful test excavations and hand uncovering in specified areas.
 - .3 Record location of maintained, re-routed and abandoned underground lines.
 - .2 Existing buildings and surface features:
 - .1 Conduct, with Contract Administrator, condition survey of existing buildings, trees and other plants, lawns, fencing, service poles and structures which may be affected by Work.
 - .2 Protect existing buildings and surface features from damage while Work is in progress. In event of damage, immediately make repair to approval of the NCC Representative .
 - .3 Where required for excavation, cut roots or branches as approved by the NCC Representative .

PART 2 - PRODUCTS

- 2.1 Materials**
- .1 Category B fill: selected material from excavation or other sources, approved by the NCC Representative for use intended, unfrozen and

**EXCAVATING BACKFILLING AND
TRENCHING**

free from rocks larger than 50 mm, cinders, ashes, sods, refuse or other deleterious materials.

PART 3 - EXECUTION

- 3.1 Site Preparation** .1 Demarcate shoreline clearly along limits of proposed re alignment and receive approval of NCC the NCC Representative before proceeding.
- 3.2 Stripping of Topsoil** .1 Commence topsoil stripping of areas to be regarded or excavated after area has been cleared of brush, weeds and grasses.
- .2 Strip full depth of topsoil. Do not mix topsoil with subsoil.
- .3 Stockpile in locations as directed by the NCC Representative . Stockpile height not to exceed 2 m.
- .4 Dispose of unused topsoil off site.
- 3.3 Stockpiling** .1 Stockpile fill materials in areas designated by the NCC Representative . Stockpile granular materials in manner to prevent segregation.
- .2 Protect fill materials from contamination.
- 3.4 Dewatering and Heave Prevention** .1 Keep excavations free of water while Work is in progress.
- .2 Protect open excavations against flooding and damage due to surface run-off.
- .3 Dispose of water in accordance with Section 01 35 43 - Environmental Protection and in manner not detrimental to public, or any portion of Work completed or under construction.
- 3.5 Excavation** .1 Excavate to lines, grades, elevations and dimensions as indicated.
- .2 Where solid rock is encountered notify the NCC Representative for direction on appropriate construction methods.
- .3 Remove obstructions encountered during excavation in accordance with Section 02 41 13 – Site Work, Demolition and Removals.
- .4 Keep excavated and stockpiled materials a safe distance away from edge of trench as directed by the NCC Representative .
- .5 Restrict vehicle operations directly adjacent to shoreline.
- .6 Dispose of surplus and unsuitable excavated material off site.
- .7 Do not obstruct flow of surface drainage or natural watercourses.
- .8 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.

**EXCAVATING BACKFILLING AND
TRENCHING**

- .9 Notify the NCC Representative when bottom of excavation is reached.
- .10 Obtain the NCC Representative approval of completed excavation.
- .11 Remove unsuitable material from trench bottom to extent and depth as directed by the NCC Representative .
- .12 Correct unauthorized over-excavation as follows:
 - .1 Fill under bearing surfaces with Granular "B", Type II, and/ or SSM compacted to 95% SPMDD as directed by Contract Administrator;
 - .2 Fill under other areas with approved SSM compacted to 85% density.
- .13 Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil. Clean out rock seams and fill with concrete mortar or grout to approval of the NCC Representative .

3.6 Backfilling

- .1 Do not proceed with backfilling operations until the NCC Representative has inspected and approved installations.
- .2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.
- .3 Do not use backfill material which is frozen or contains ice, snow or debris.
- .4 Place backfill material in uniform layers not exceeding 150 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
- .5 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.

3.7 Restoration

- .1 Upon completion of Work, remove waste materials and debris, trim slopes, and correct defects as directed by the NCC Representative .
- .2 Replace topsoil in accordance with Section 32 91 21 – Topsoil and Finished Grading.
- .3 Clean and reinstate areas affected by Work as directed by the NCC Representative .

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Work**
- .1 Granular Section 32 11 23
 - .2 Excavating and Backfilling Section 31 23 10
 - .3 Rip Rap and Armour Stone Section 31 37 00
- 1.2 References**
- .1 CAN/CGSB-4.2-[M88], Textile Test Methods.
 - .2 CAN/CGSB-148.1, Methods of Testing Geotextiles and Geomembranes.
 - .1 No. 3-85, Thickness of Geotextiles.
 - .2 No. 7.3-92, Grab Tensile Test for Geotextiles.
 - .3 No. 6.1-93, Bursting Strength of Geotextiles
 - .4 No. 10-94, Filtration Opening Size
 - .5 No. 4-94, Normal Water Permeability
- 1.3 Samples**
- .1 Submit product data and samples in accordance with Section 01 33 00 - Shop Drawings.
 - .2 Submit following samples to the NCC Representative at least 1 week prior to commencing work.
 - .1 Minimum length of 2 m of roll width of geotextile.
- 1.4 Mill Certificates**
- .1 Submit to the NCC Representative one copy of mill test data and certificates at least 1 week prior to start of work.
- 1.5 Delivery and Storage**
- .1 During delivery and storage, protect geotextiles from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.

PART 2 - PRODUCTS

- 2.1 Geotextile**
- .1 Non-woven geotextile synthetic fibre fabric, supplied in rolls.
Acceptable Products: 120X as supplied by Geosynthetics or approved equivalent.

PART 3 - EXECUTION

- 3.1 Installation of Geotextile**
- .1 Place geotextile material by unrolling onto graded surface
 - .2 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
 - .3 Overlap each successive strip of geotextile at least 450 mm over previously laid strip.
 - .4 Protect installed geotextile material from displacement, damage or deterioration before and during placement of stones.
 - .5 Cover with granular material within 4 hours of placement.
 - .6 Replace damaged or deteriorated geotextile to approval of the NCC Representative
- 3.2 Protection**
- .1 No vehicles permitted directly on geotextile.

END OF SECTION

PART 1 – GENERAL

1.1 Related Work

- | | | |
|----|----------------------------|---------------------|
| .1 | Excavation and Backfilling | Section 31 23 10 |
| .2 | Topsoil and Finish Grading | Section 32 91 21 |
| .3 | Seeding | Section 32 92 20.01 |
| .4 | Tree and Shrub Planting | Section 32 93 10.01 |

1.2 Approvals and Substitutions

- .1 Submit the sample to the NCC Representative .
- .2 Submit shop drawing showing manufacturers recommended method of application.
- .3 Substitutions will be accepted upon written approval of the NCC Representative before installation of material.

PART 2 – PRODUCTS

2.1 Erosion Control Mat

- .1 ECC-2B Biodegradable double coconut as supplied by East coast erosion control or approved equal.

2.2 Wood Pegs

- .1 19 x 19 x 200mm wooden pegs. **The use of metal or plastic staples is not acceptable.**

PART 3 - EXECUTION

3.1 Preparation of Surface

- .1 Ensure a smooth and even surface prior to placing mat.

3.2 Installation

- .1 Unroll the blanket over the newly graded topsoil areas.
- .2 Bury the mat minimum 300 mm in ground and flush with the edge of rock fill and edge of asphalt pathway.
- .3 Construct 150 x 150 mm keys for mat installation at top of the slope. Follow manufacturer's instructions.
- .4 The joint rolls should overlap minimum 150 mm, and be staked through the mat vertically and full length into the ground. Overlap the mat in a downstream direction.
- .5 Each stake will anchor the fibre mesh. The stakes will be spaced at a minimum of 1500 mm intervals in three rows equally spaced across each roll. Follow manufacturer's instructions.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- | | | |
|----|---|---------------------|
| .1 | Excavation and Backfilling | Section 31 23 10 |
| .2 | Special Sub-drainage piping | Section 33 46 16 |
| .3 | Preservation of Watercourses and Wetlands | Section 35 01 40.92 |

1.2 Source Quality Control

- .1 The size and quality of all stone (filter, round rip rap and monoliths, small cobble) shall be approved by the NCC Representative prior to delivery to the site.

PART 2 - PRODUCTS

2.1 Materials

Stone materials (Angular riprap) are to be free from clay lumps, organic material and other deleterious materials, which do not deteriorate when exposed to air and water and shall withstand cycles of wetting and drying and freezing and thawing. Stones must also match the colour of the existing riprap on site.

- .1 **Angular Riprap (Class IV):** clean, washed, boulders. Stone to be granite or limestone with a Specific Gravity of 2.5 or higher.
The gradation of the rock fill to be within the limits as specified:

| Nominal Diameter | (mm) |
|------------------|------|
| D15 | 275 |
| D50 | 400 |
| D85 | 550 |
| D100 | 775 |

- .2 A representative sample of the rip rap will be inspected at the quarry by the NCC Representative or his representative. Contractor will ensure that the material is separated at the quarry in such a way that will facilitate visual inspection.
- .3 **Armour Stone Wall Boulders:**
- Boulder Type A:** Armour stone with minimal dimensions (width, length and height) 2000x1000x750mm
- .4 Perforated sub-drainage pipe, 150mm diameter to be placed behind armour stone wall as indicated on the contract drawing.

PART 3 - EXECUTION

3.1 Placement of materials:

- .1 Rip Rap shall be installed over existing culverts, **do not sandwich geotextile.**

- .2 Displace existing rip rap to allow for the placement of 1 layer of new rip rap. Contractor must ensure that all newly placed rip rap meets the requirements specified in Section 2.1.1 and the general dimensions on the contract drawings.
- .3 Rip rap shall be installed by hand, stones larger than 400mm may be machine lay. The drop height of rock fill shall be less than 1.0 metre. The materials shall be well distributed as far as practical, so as to fill the voids and form a stable embankment, fill remaining gaps with small cobble (50-250mm) The embankment shall be constructed to the width, depth and thickness as specified in the contract documents.

3.2 Placement of armour stone walls:

- .1 Ensure stone placements match the design intent and the wall layout is approved by the NCC Representative. Remove and stockpile existing stone wall for later reinstatement. Excavate to depth indicated and seek approval prior to installing new stone wall. Gaps between stones to be saw cut and or chiselled to ensure a tight fit. Any saw cuts must be roughed up using a chisel.
- .2 Fill gaps behind wall with specified riprap, topsoil, or seed as indicated on the contract drawings.
- .3 Do not drop stones in place.
- .4 Support and protect existing boulder wall as required during installation of new wall.

3.3 Surplus Material

- .1 Remove excess material off site unless otherwise indicated by the NCC Representative.

END OF SECTION

PART 1 - GENERAL

1.1 Related Work Specified Elsewhere

- .1 Site Work, Demolition and Removals
- .2 Clearing and Grubbing

Section 02 41 13
Section 31 11 00

PART 2 - MATERIALS

- 2.1 Barriers:** barriers to consist of steel T-rail posts 40 x 40 x 5 x 2440 mm., at 1800 mm o.c., with wood slat snow fencing attached to posts with 9 gauge wire, 13 per post.

PART 3 - EXECUTION

3.1 Trees and Shrubs to be Retained

- .1 Unless otherwise indicated on the drawings or instructed on site by the NCC Representative , retain and protect all existing trees and shrubs on site. Do not remove any plant without the express authorization of the NCC Representative .

3.2 Protection of Existing Trees

- .1 Do not disturb or compact grade within the canopy of trees or shrubs to remain. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .2 Minimize stripping of soil or excavation within 3 metres of existing trees.

3.3 Installation of Barriers

- .1 Install barriers around all Butternut trees (a federally designated endangered species) located within 3 metres of the proposed edge of pathway or limit of grade changes. The location of all butternut will be flagged in the field by the NCC Representative.
- .2 Install barrier around existing Iron Wood located near pathway and staging area.
- .2 Install barriers minimum 1 metre from trunk of Butternut trees. Increase distance where space allows.
- .3 Barriers to be installed prior to the start of any other work on the project site.

END OF SECTION

PART 1 – GENERAL

1.1 Related Work

- .1 Excavation and Backfilling Section 31 23 10
- .2 Preservation of Watercourses and Wetlands Section 35 01 40.92

1.2 Description

- .1 This section is the materials specification for the following granular materials:
 - .1 MG -20 (Granular 'A')

1.3 References

- .1 Ontario Provincial Standard Specification (OPSS):
 - .1 OPSS 1010 Material Specification for Aggregates – Granular A, B and Select Subgrade Material

PART 2 – PRODUCTS

**2.1 Materials;
General Requirements**

- .1 Any granular materials specified for the various works, on the drawings or in other sections of the specifications or by direction of the Contract Administrator, shall conform to this material specification for the class of granular material required.
- .2 The materials shall be selected or produced from pits or quarries to conform to the requirements specified herein for each class of granular materials.
- .3 Material retained on the number 4 sieve shall consist of hard durable particles or fragments of stone or gravel.
- .4 Materials that break up when alternatively frozen and thawed or wetted and dried shall not be permitted.
- .5 Fine aggregate passing the Number 4 sieve shall consist of natural or crushed sand, and, material passing the Number 200 sieve shall consist of fine mineral particles.
- .6 The material shall be free from vegetable matter and lumps or balls of clay.
- .7 The material shall be non-plastic and non-frost susceptible.
- .8 Blending to obtain the correct gradation will be permitted when the Contractor demonstrates that he can produce a correct gradation and has a plant capable of producing to the satisfaction of the Contract Administrator.
- .9 The Contractor shall advise the Contract Administrator two weeks in advance of the intent use of any of the specified

materials to allow sufficient time for sampling and testing. The Contractor shall submit samples of granular materials to be used in the works if so requested by the Contract Administrator.

- .10 Approval of a sample does not mean acceptance of the whole source. Each load of material received at the job site shall be subject to all the requirements of that material.
- .11 All gradation requirements are shown as percentage by weight passing U.S. Standards Sieves, A.A.S.H.O. M-92-65.

**2.2 Materials:
Specific Requirements**

- .1 Granular "A":
 - .1 This material shall conform to OPSS 1010.
- .2 Select Subgrade Material (SSM):
 - .1 As per Section 31 23 10.

END OF SECTION

PART 1- GENERAL

- | | | |
|--------------------------|--|--|
| 1.1 Related Works | .1 Excavation and Backfilling .2 Geotextile .3 Granular | Section 31 23 10 Section 31 32 21 Section 32 11 23 |
| 1.2 Protection | .1 Prevent damage to buildings, landscaping, curbs, sidewalks, roads and trees. Make good on any damage. | |

PART 2- PRODUCTS

- | | |
|----------------------|--|
| 2.1 Materials | .1 Granular "A": as per Section 32 11 23 .2 Geotextiles as per Section 31 32 21 |
|----------------------|--|

PART 3- EXECUTION

- | | |
|------------------------------|--|
| 3.1 Layout of Pathway | .1 Notify the NCC Representative after completion of each stage and receive approval of layout prior to proceeding to next stage. Stages: .1 Staking of centerline. .2 Subgrade .3 Sub-base .2 All curves shall be true. No tangents shall be accepted at the beginning or end of curves. Obtain approval of the NCC Representative on site during work. |
| 3.2 Inspection | .1 Check graded subgrade for conformity with elevations and sections before placing granular base materials and obtain approval of the NCC Representative . .2 Proof roll graded subgrade surface with a heavy smooth drum roller (weight and type of roller to be approved by the NCC Representative). .1 Check for unstable areas. .2 Check for areas requiring additional compaction. .3 Notify the NCC Representative of unsatisfactory conditions. |
| 3.3 Sub-base | .1 Refer to Section 31 23 10, Excavation and Backfilling |
| 3.4 Geotextile | .1 Place Geotextiles (where indicated) on compacted sub-grade in accordance with Section 31 32 21 |
| 3.5 Base Course | .1 Place Granular 'A' and Granular 'B' base materials to compacted thickness as indicated. |

- .2 Place in layers not exceeding 150mm compacted thickness. Compact each layer to 100% maximum dry density as determined by Standard Proctor Density.
 - .3 Obtain approval of the NCC Representative prior to laying of asphalt.
- 3.6 Surface Course** .1 Refer to Section 32 12 16, Asphalt
- 3.7 Reinstatement of Edges** .1 Reinstatement edges of pathway with approved earth fill and topsoil as indicated.

END OF SECTION

PART 1 - GENERAL

1.1 Related Works Specified Elsewhere

- .1 Excavation and Backfilling Section 31 23 10
- .2 Granular Section 32 11 23
- .3 Pathway Construction Section 32 11 30

1.2 References

- .1 Ontario Provincial Standard Specification (OPSS):
 - .1 310, 311
- .2 City of Ottawa Special Provisions 2009:
 - .1 F-3104
- .3 City of Ottawa Standard Detailed Drawings 2009:
 - .1 R-10

1.3 Protect existing items designated to remain and materials designated for salvage and relocation. In event of damage, immediately replace such items or make repairs to the satisfaction of the NCC Representative and at no additional cost to the Commission.

1.4 Site Conditions

- .1 Contractor to contact appropriate utilities to verify presence and location of all overhead and underground services and establish location for all such services in the field before commencing work. Report any discrepancies to the NCC Representative

1.5 Basis of Payment

- .1 Basis of payment clauses included in references are deleted in their entirety and will be measured and paid as per Section 01 11 00 – Pay Item Description

PART 2 - PRODUCTS

2.1 Materials

- .1 Performance Graded HL3 Hot Mix Asphalt – as specified in Item List:
 - .1 This material shall conform to OPSS 310 as amended by City of Ottawa Special Provisions F-3104
- .2 Tack Coat
 - .1 This material shall conform to OPSS 310 as amended by City of Ottawa Special Provision F-3107

PART 3 - EXECUTION

3.1 Asphalt Paving

- .1 The Contractor shall notify the NCC Representative five (5) days prior to paving.
- .2 The Contractor must obtain the NCC Representative's approval before placing any asphalt.
- .3 Asphalt is to be placed to thicknesses, grades and lines as shown on plans or as indicated by the NCC Representative
- .4 The Contractor paving shall be conducted as specified in OPSS 310 or as directed by the NCC Representative.
- .5 Step joints shall be used as indicated where new asphalt will connect to existing pavement.

3.2 Quality Control and Assurance

- .1 OPSS 310 sub-sections 310.07.01 and 310.07.05 are deleted in their entirety.
- .2 The Contractor must supply a minimum of one (1) quality assurance sample and one (1) referee sample to the NCC Representative . The samples shall be randomly chosen or as directed by the NCC Representative. The NCC Representative may request additional samples.
- .3 The samples shall be delivered within 4 hours to a location as specified by the NCC Representative .
- .4 Samples shall be accompanied by the City of Ottawa 'Quality Assurance Sample Data Sheet' for Hot Mix Asphalt and completed to the satisfaction of the NCC Representative .

3.3 Compaction

- .1 Compaction requirements shall be as specified in OPSS sub-section 310.08.015.03 and meet the requirements specified in OPSS 310, Table 9, to the satisfaction of the NCC Representative
- .2 The Contractor shall conduct the compaction testing and supply the NCC Representative with the results.

END OF SECTION

PART 1 - GENERAL

- 1.1 References**
- .1 CGSB 1-GP-5M-77, Thinner, Petroleum Spirits, Low Flash (R/84).
 - .2 CGSB 1-GP-12c-68, Standard Paint Colors.
 - .3 CGSB 1-GP-71-83, Method of Testing Paints and Pigments.
 - .4 CGSB 1-GP-74M-79, Paint, Traffic, Alkyd.

PART 2 – PRODUCTS

- 2.1 Materials**
- .1 Paint:
 - .1 To CGSB 1-GP-74M, alkyd traffic paint.
 - .2 Color:
 - .1 to CGSB 1-GP-12C, **YELLOW** 505-308.
 - .3 Upon request, the NCC Representative will supply a qualified product list of paints applicable to work. Qualified paints may be used but the NCC Representative reserves right to perform further tests.
 - .2 Thinner: to CGSB 1-GP-5M.
- 2.2 Equipment Requirements**
- .1 Paint applicator to be an approved pressure type mobile distributor capable of applying paint in single, double and dashed lines. Applicator to be capable of applying marking components uniformly, as rates specified, and to dimensions as indicated, and to have positive shut-off.

PART 3 – EXECUTION

- 3.1 Condition of Surfaces**
- .1 Pavement surface to be dry, free from ponded water, frost, ice, dust, oil, grease and other foreign materials.
- 3.2 Application**
- .1 Lay out pavement markings and obtain approval by the NCC Representative .
 - .2 Unless otherwise approved by the NCC Representative , apply paint only when air temperature is above 10°C, wind speed is less than 60 km/h and no rain is forecast within next 4 h.
 - .3 Apply traffic paint evenly at rate of 3 m²/L.
 - .4 Do not thin paint unless approved by the NCC Representative .
 - .5 Symbols and letters to conform to dimensions indicated.

- .6 Paint lines to be of uniform colour and density with sharp edges.
 - .7 Width of paint lines to be 60 mm.
 - .8 Thoroughly clean distributor tank before refilling with paint.
- 3.3 Tolerance**
- .1 Paint markings to be within plus or minus 12 mm of dimensions indicated.
 - .2 Remove incorrect markings as indicated by the NCC Representative .
- 3.4 Protection of Complete Work**
- .1 Protect pavement markings until dry.

END OF SECTION

PART 1 - GENERAL

1.1 Related Work Specified Elsewhere

- | | |
|-------------------------------|---------------------|
| .1 Environmental Protection | Section 01 35 43 |
| .2 Clearing and Grubbing | Section 31 11 00 |
| .3 Excavation and Backfilling | Section 31 23 10 |
| .4 Seeding | Section 32 92 20.01 |

1.2 Testing

- .1 Obtain the NCC Representative 's initial approval of imported topsoil at source.
- .2 Test existing and imported topsoil for NPK, Mg, soluble salt content, organic matter and pH value prior to delivery to site.
 - 1 Submit 0.5 kg sample of topsoil to testing laboratory and indicate intended use.
 - 2 Determine requirements for amendments to bring pH value of soil to 5.5 to 7.7 level.
 - 3 Submit two copies of soil analysis and recommendations for corrections to the NCC Representative .
- .4 Inspection and testing of topsoil will be carried out by testing laboratory designated by the NCC Representative .
- .5 National Capital Commission will pay cost of testing.

1.3 Scheduling of Work

- .1 Schedule placing of topsoil to permit immediate seeding and planting operations.

PART 2 - PRODUCTS

1.4 Top soil

Top dressing soil as Supplied by Greely or approved equivalent

Mix Ratio:

50% clay topsoil,
25% black peat
25% aged bark fines

- 10%-15% organic matter
- pH: 5.5-7.5
- friable loam, neither heavy clay nor of very light sandy
- Free from subsoil, roots, grass, weeds, toxic materials, stones, foreign objects
- Topsoil containing crabgrass, couch grass or other noxious weeds, not acceptable.

1.5 Live Mulch (compost)

Live™ Mulch as supplied by Gro-Bark 1-888-GRO-BARK or approved equal. Submit sample and name of supplier five (5) days in advance and obtain approval by the NCC Representative prior to shipping to site.

PART 3 - EXECUTION

1.6 Preparation

- .1 Grade subgrade, eliminating uneven areas and low spots, ensuring positive drainage. Remove stones larger than 50 mm diameter and other deleterious materials. Remove subsoil that has been contaminated with oil, gasoline or calcium chloride. Dispose of removed materials as directed.
- .2 Cultivate all planting areas with 75mm of compost within the first 150mm of growing medium. Do not cultivate soils around existing trees and shrubs.

1.7 Reuse of Existing Topsoil

- .1 Unless otherwise indicated existing stockpiled topsoil shall be used for all reinstatement. Imported sources of topsoil shall only be used when all approved sources of existing topsoil have been used.

1.8 Spreading of Topsoil

- .1 Do not spread topsoil until the NCC Representative has inspected and approved subgrade.
- .2 Spread topsoil with adequate moisture in uniform layers during dry weather over approved, dry, unfrozen subgrade, where seeding is indicated.
- .3 Bring topsoil up to finished grade.
- .4 Remove stones, roots, grass, weeds, construction materials, debris and foreign non-organic objects from topsoil.
- .5 Manually spread topsoil around trees, plants, surface utilities and other obstacles.

1.9 Finish Grading

- .1 Fine grade entire top soiled area to contours and elevations as indicated or as directed. Eliminate rough spots and low areas to ensure positive drainage.
- .2 Roll topsoil with 50 kg roller, minimum 900 mm wide, to compact and retain surface.
- .3 Leave surface smooth, uniform, firm against deep foot printing, with fine loose texture.

1.10 Surplus Material

- .1 Dispose of surplus topsoil not required for fine grading/landscaping off site.

END OF SECTION

PART 1 – GENERAL

1.1 Related Works

- .1 Shop Drawings
- .2 Topsoil and Finished Grading

Section 01 33 00
Section 32 91 21

PART 2 – PRODUCTS

2.1 Materials

- .1 Seed:
 - .1 **Indigo–Graminis** as supplied by Indigo Horticulture or approved equal. Contact info: www.horticulture-indigo.com 1- (819) 826-3314
- .2 Packages will be individually labeled in accordance with ‘Seeds Regulations’ and indicate clearly the name of the supplier, species, content, grade and mass.
- .3 Use appropriate mechanical seeder and mulching equipment. The NCC Representative to approve all proposed products and equipment for the work.

2.2 Water

- .1 Free of impurities that would inhibit germination and growth.
- .2 Water must be supplied from a designated source.

2.3 Cellulose-based Mulch (paper mulch)

- .1 Use only cellulose-based mulch if seeds were broadcasted to ensure moisture retention during germination. Do not use a tackifier since wildflower seeds can’t penetrate through.

PART 3 - EXECUTION

3.1 Workmanship

- .1 Do not perform work under adverse field conditions as determined by the NCC Representative.
- .2 Additional care shall be taken when seeding adjacent to watercourses or paved area to ensure that seed does not spread or blown onto those areas.

3.2 Permanent Cover

- .1 Seeding shall not be carried out under adverse conditions, of high wind, frozen ground or ground covered with snow, ice or standing water.
- .2 Sowing shall be done during the following periods:
 - 1. Between May 15 and June 1st;
 - 2. Between September 1st and October 15. (Preferable)
 - 3. Dormant seeding after November 1st when daytime temperatures are consistently below 5oC.

3.3 Hydroseeding (Hydraulic seeding)

- .1 This application method will **NOT** be accepted for any of the seeding within this contract. It does not ensure firm seed to soil contact and prevents seed stratification to happen which will lead the seed to germinate at the wrong time of the year.

3.4 Mechanical Planters

- .1 Use appropriate agriculture broadcast or no till planter seeder. Specific models that can successfully plant native grasses and flowers include the Tye drill, Truax drill, John Deere Rangeland drill, and properly outfitted Brillion seeders.
- .2 Ensure soil cover over all new seeds.
- .3 Roll the seeded area after planting. This step is very important for germination success
- .4 The NCC Representative to approve all proposed products and equipment for the work.
- .5 Sowing rate to be followed and never increased as it will result in a dominant grass meadow rather than flower meadow where indicated.

3.5 Cellulose-based Mulch (paper mulch)

- .1 All bare soil areas shall be stabilized with paper mulch immediately after seeding.
- .2 The NCC Representative to approve all proposed products and equipment for the work.

3.6 Maintenance During Establishment and 2 year warranty Period

Establishment:

- .1 Water seeded areas to maintain optimum soil moisture level for germination and continued growth of grass. Control watering to prevent washouts.
- .2 Gully formations and washouts as a result of rain events greater than 20 mm per day shall be repaired, including regrading and re-seeding.
- .3 Seeded areas shall be accepted by the NCC Representative provided that:
 - .1 seeded areas are properly established;
 - .2 seeded areas are free of weeds and bare or dead spots;
 - .3 no surface soil is visible when grass has been cut to a height of 50 mm; (mown lawn only)
 - .4 seeded areas have been cut minimum 2 times, the second cut within 24 hours prior to acceptance.
- .4 Areas seeded in fall will be accepted the following spring, one month after the beginning of the growing season, provided the acceptance conditions are met.
- .5 The Contractor shall maintain the seeded areas including mowing until acceptance by the NCC Representative. Unacceptable areas shall be reseeded.
- .6 Weed control:
 - .1 Do not pull weeds at any time. Mowing or hand cutting will be accepted.

First year of maintenance:

- .1 Weed control:

- a. Mow weeds when they reach a maximum height of at 200-250mm height on a regular basis to prevent them from self-seeding throughout 1st growing season.
- b. A flail-type mower works best, as it chops up the weeds so they can dry out rapidly. Rotary mowers and sickle bar mowers will not be accepted.
- c. Do not pull weeds at any time due to soil disturbance. Large weeds can be cut by hand if required.
- d. If weeds become thick by mid-summer they should be cut back, along with the nurse crop. If weeds are thin, cut when in bloom, before they set seed.
- e. Do not mow down the year's growth at the end of the season. Leave it to help protect the young plants over the winter. The plant litter and the snow that it catches insulate the soil from rapid changes in soil temperatures, which can cause plant losses due to frost heaving.

Second year of maintenance:

- .1 Weed control:
 - a. Mow the meadow in spring of the second year right to the ground and rake off the cuttings.
 - b. If weeds remain a problem in the second year, mow the meadow in late spring or early summer (before the weeds reach 200-250mm height)
 - c. A flail-type mower works best, as it chops up the weeds so they can dry out rapidly. Rotary mowers and sickle bar mowers will not be accepted.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- .1 32 91 21 – Topsoil and Finished Grading
- .2 32 93 12.01 – Plant Maintenance and Warranty

1.1 Source Quality Control

- .1 The Contractor shall commence sourcing the specified material immediately upon award of the Contract.
- .2 Plant materials shall be conformed to species specified in the contract document. All plant materials shall be identified with their complete name and caliper.
- .3 No substitutions will be considered unless the Contractor can demonstrate to the NCC Representative's satisfaction that a prolonged and widespread search for the specified cultivars has been undertaken. The NCC Representative's written approval of plant substitution is required.
- .4 Obtain approval of source of plant material. Acceptance and selection of plant at its source does not prevent rejection on site prior to or after planting operations.
- .5 After harvesting and prior to shipping any plants from the growing nursery, notify the NCC Representative to allow for an inspection of the plants at the growing nursery to assure that all harvesting requirements have been satisfied.

1.2 Shipment and Pre-Planting Care

- .1 All plants shall be inspected by the Contractor for damage in transit. No defective material shall be delivered to the site. Material subsequently damaged shall be replaced immediately at no additional cost for the NCC.
- .2 Protect plant materials against abrasion, exposure and extreme temperature change during transit.
- .3 Keep roots moist and protected from sun and wind

1.4 Storage and Protection

- .1 Protect plant materials from frost, excessive heat, wind and sun during delivery.
- .2 Immediately store and protect plant material which will not be installed within 1 hour after their arrival on site, in storage locations approved by NCC Representative.
- .3 Protect plant material from damage during transportation
 - .1 When delivery distance is less than 30 km, and vehicle travels at speeds under 80 km/h, tie tarpaulins around plants or over vehicle box.

- .2 When delivery distance exceeds 30 km or vehicle travels at speeds over 80 km/h, use enclosed vehicle where practical.
- .3 Protect foliage and root balls using anti-desiccants and tarpaulins, where use of enclosed vehicle is impractical due to size and weight of plant material.
- .4 Protect stored plant material from frost, wind and sun and as follows:
 - .1 For pots and containers, maintain moisture level in containers.
 - .2 For balled and burlapped, and wire basket root balls, place to protect branches from damage. Maintain moisture level in root zones.

PART 2 - PRODUCTS

2.1 Plant Materials

- .1 Comply with Guide Specification for Nursery Stock, latest edition, of Canadian Nursery Trades Association referring to size and development of plant material and root ball.
- .2 All plant material to come from a commercial nurseries. The plant material shall be grown in zone 4b or 5a, according to the hardiness zones for plants in Canada established by Agriculture Canada.
- .3 Use plants with strong fibrous root systems free of disease, insects, defects or injuries and structurally sound. Plants must have been root pruned regularly, but not later than one growing season prior to arrival on site.
- .4 Substitution to plant material as indicated on planting plan are not permitted unless written approval has been obtained as to type, variety and size.
- .5 Size indicated are the minimum allowable after pruning.

2.2 Water

- .1 Free of impurities that would inhibit plant growth.

2.3 Mycorrhize Inoculants

- .1 Apply mycorrhize inoculants MYKE[®] PRO LANDSCAPE of Premier Tech Biotechnologies, following application instructions, or an equivalent approved by the NCC and registered in Canada;

2.4 Stakes

- .1 Wood Stake (untreated wood-spf), 50mm x 50mm x 2.44m

2.5 Guying Collar

- .1 Flat, woven polypropylene: DeepRoot; *ArborTie*, or approved equivalent. Color: Green.

2.6 Tree Trunk Protection

- .1 'Surtronc' fine mesh trunk wraps as supplied by Dendrotik or approved equal.

2.7 Mulch

- .1 Landscaper's cedar mulch as supplied from Greely sand and gravel or approved equal. Submit sample and name of supplier five (5) days in advance and obtain approval by NCC representative prior to shipping to site.

2.8 Growing Medium

- .1 Growing medium according to section 32 91 21 – Topsoil and Finish Grading

2.9 Anti-Desiccant

- .1 Wax-like emulsion to provide film over plant surfaces reducing evaporation but permeable enough to permit transpiration.

2.10 Bonemeal

- .1 Bonemeal: raw bonemeal, finely ground with a minimum analysis of 4% nitrogen and 20% phosphoric acid.

PART 3 - EXECUTION

3.1 Pre-Planting Preparation

- .1 Delivered plant material to be inspected and approved NCC Representative.
- .2 NCC Representative to approve layout mockup of plant material for all beds until advised differently. Planting bed grades will also need to be approved before planting.

3.2 Planting Time

- .1 Plant materials shall be planted from August 15 to October 1 or from May 15 to June 30, unless otherwise approved by the NCC Representative
- .2 The Contractor shall arrange for all plant species recommended for spring only digging, to be dug and containerized in the spring, immediately upon award of the Contract.
- .3 The foliage of deciduous trees which have broken buds shall be sprayed with anti-desiccant to slow down transpiration prior to transplanting.

3.3 Excavation

- .1 Excavate planting holes to width and depth as indicated on drawings.
- .2 The sides of the planting hole shall be scarified so that water and roots can readily penetrate.
- .3 Place mycorrhize inoculants in the bottom of each plant hole as per manufacturer recommendation.

3.4 Planting

- .1 Planting trees and shrubs vertically in the places indicated, oriented in a manner to produce the best possible visual effect with the surrounding structures such as buildings, roads and sidewalks.
- .2 For burlapped root balls, cut away top one third of wrapping and wire basket without damaging root ball. Do not pull burlap or rope from under root ball.
- .3 For container stocks or root balls in non-degradable wrapping, remove entire container or wrapping without damaging root ball.
- .4 Place plant material at a depth similar to depth in nursery.
- .5 Backfill Growing Medium in 150 mm layers. Tamp each layer to eliminate air pockets. When two thirds of depth of planting pit has been backfilled, fill remaining space with water. After water has penetrated into soil, backfill to finish grade. Form watering saucer as indicated.
- .6 Water plant material thoroughly.
- .7 After soil settlement has occurred, fill with soil to finish grade.
- .8 Spread 100mm of mulch over all areas of bare soil. Mulch heavily contaminated with soil is not acceptable.
- .9 Remove dead and injured branches and branches that rub causing damage to bark.
- .10 Dispose of burlap, wire and container material off site.

3.5 Trunk Protection

- .1 Install rodent guards protection on deciduous trees as indicated.
- .2 Install trunk protection prior to installation of tree supports.

3.6 Tree Supports

- .1 Install tree supports as indicated.
- .2 Use two (2) stakes tree support for deciduous trees less than 3 m,
 - .1 Place stake on prevailing wind side, at a 150 mm distance from trunk.
 - .2 Drive stake minimum 300 mm into undisturbed soil beneath roots. Ensure stake is secure, vertical and not split.

- .3 Install 150 mm long guying collar 1500 mm above grade.

3.7 Protection during Construction

- .1 The Contractor shall protect all work and materials from damage due to planting operations; operations by other Contractors; or trespassers. Maintain protection during installation until acceptance. Treat, repair or replace damaged work immediately.
- .2 Damage done to any of the work by the Contractor, or any of their sub-contractors, shall be replaced by the Contractor at their own expense.

3.8 Maintenance Prior to Final Inspection

- .1 Perform following maintenance operations from time of planting until the project has been approved by the NCC Representative and the interim certificate of Approval has been issued at Substantial Performance.
 - .1 Water to maintain soil moisture conditions, for optimum establishment, growth and health of plant material without causing erosion.
 - .2 If acceptance is delayed due to a drawn out schedule by the Contractor, the Contractor shall be responsible for the scope of maintenance outlined in section 32 93 12.01 until final acceptance of the site. The Contractor shall still be responsible for the full term of the warranty as of the date of approval.

3.9 Final Inspection

- .1 At final inspection, plant material shall be acceptable when it is properly installed, unbroken, shows adequate formation of buds and is free from blight of any description. All planting areas shall be free of weeds, litter and in good order.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- .1 Tree and Shrub Planting Section 32 93 10.01

1.2 Warranty

- .1 All plant material shall be warranted for a period of **two years** from the date of substantial performance.
- .2 The warranty shall cover any defects in materials and workmanship.
- .3 A warranty inspection shall be carried out at the end of the warranty period.
- .4 Extend 2 year warranty on all replacement of plant material.

1.3 Duration

- .1 Plant material maintenance shall begin immediately after each portion of planting has been completed and shall continue throughout the maintenance and warranty period to the satisfaction of the NCC Representative.

PART 2 - PRODUCTS

2.1 Materials

- .1 Water: shall be free from any contaminants which could adversely affect plant growth.
- .2 Pruning Tools: shall be designed specifically for horticultural purposes and shall be clean, sharp and in proper, safe, working order. Pruning equipment shall be capable of producing clean, flush cuts without tearing or fraying the bark.

PART 3 - EXECUTION

3.1 Operational Constraints

- .1 Do each maintenance operation continuously and complete within a reasonable time period.
- .2 No maintenance equipment, materials or other miscellaneous items may be stored on site.
- .3 All debris, waste and other extraneous material resulting from the maintenance operation shall be removed from the site daily upon completion of maintenance.
- .4 The Contractor shall be fully acquainted with all relevant Provincial and Municipal By-laws and Regulatory Codes relating to the work of this contract, and will be required to comply with such by-laws and codes without extra compensation.
- .5 Notify the NCC Representative immediately of damage incurred by pest, disease, mechanical or vandalism.

3.2 Interim Replacement of Plant Material

- .1 Throughout the maintenance and warranty period, units of plant material that are found to be unacceptable will be replaced by the Contractor. Any unacceptable material must be replaced within one month unless otherwise directed by the NCC Representative. Weekly inspections must be reported for the first growing season.
- .2 At the discretion of the NCC Representative, plant material that is identified as dead or in a poor or diseased condition shall be immediately removed from the site.

3.3 Watering

- .1 The Contractor is responsible for interim manual watering of all plant material, from time of planting until the end of the warranty period (24 MONTHS).
- .2 Water all plant material immediately after installation. Thereafter,
 - .1 Water daily for the first week after planting;
 - .2 Water every second day for the next 3 weeks;
- .3 For the first warranty year;
 - .1 The contractor shall submit for approval a watering schedule at the beginning of the warranty period. The watering shall occur at least once a week, on Thursday, Wednesday or Tuesday. Once the day is chosen, the watering shall happen each week at the same day.
 - .2 Provide all water required to keep soil within and around the root and in the soil at optimum moisture content between 10 and 20% as measured using a General Digital Moisture Meter.
 - .3 Proceed to watering with a slow water spray jet oriented toward the growing media.
 - .4 The watering shall be made before 11am or after 2:30pm to avoid full sun period. Watering should also be avoided during peak use period between 7-9am, 12-1pm and 3-5pm.
 - .5 Proceed to the watering even on rainy days unless receiving written notice of the NCC Representative.
 - .6 Hose bibs are available on site, see plans.
- .4 For the remainder of the warranty period, thoroughly water whenever natural precipitation falls below 20 mm per week (Sunday to Saturday) for 2 consecutive weeks. Precipitation data shall be as per Environment Canada from the Macdonald-Cartier Airport weather station.
- .5 Ensure the root zone is thoroughly saturated during each watering operation.
- .6 Repair any damage caused by watering operations.

3.4 Weeding

- .1 All weeds, dead plants, leaves, branches, paper and other refuse within planting beds shall be removed by hand and disposed of off the Contract site.
- .2 Weeds shall not exceed 5 cm in height between weeding's.
- .3 Ensure the entire root system of weeds is removed and not just the above ground growth.
- .4 At a minimum, weeding shall occur:
 - .1 Weekly from June 1 to August 15;
 - .2 Every two weeks from May 1 to May 31, and from August 16 to October 31.
 - .3 A final weeding shall be completed immediately prior to the final warranty inspection.
- .5 The application of herbicides or mechanical weed removers is prohibited.
- .6 Ensure planting beds are weed free prior to the application of mulch material.
- .7 **The scope of work also includes weeding of joints between pavers and between curbs.**

3.5 Pruning

- .1 Prune off dead and injured branches in accordance with accepted arboricultural practices.

3.6 Garbage Removal

- .1 Keep planting beds free of garbage and other foreign debris. Remove garbage off-site.

3.7 Pest Management

- .1 Monitor plant material throughout the warranty period for any sign of disease or insect problems. Practice integrated pest management.
- .2 The use of pesticides shall not be permitted.

3.8 Winter Preparation

- .1 In the fall of each warranty year, the Contractor is responsible for completion of the following:
 - .1 Ensure all plant material is watered before freeze-up.

3.9 Spring Preparation

- .1 In late spring of each warranty year, after the soil has thawed and dried up, re-apply mulch over all thin or bare areas to ensure good weed suppression. Mulch thicknesses shall be in accordance with Section 32 93 10.01, Tree and Shrubs Planting. Ensure new growth is not suppressed by the application of mulch material. Ensure mulch is neat and tidy with clean edges.

3.10 Incidental Maintenance

- .1 The Contractor shall, in general, be responsible for any incidental maintenance to ensure healthy plant growth and a satisfactory appearance of plant material.

3.11 Reinstatement

- .1 Any damage to vegetation, hard surfaces, structures or services caused as a result of the Contractor's work methods and practices for plant material maintenance shall be reinstated or repaired to the satisfaction of the NCC Representative. The cost of such reinstatement or repair shall be solely at the Contractor's expense.

3.12 Final Warranty Inspection

- .1 A one-time inspection of all plant material shall be carried out by the NCC Representative upon completion of the maintenance and warranty period.
- .2 Plant material shall be **acceptable** when it is undamaged, shows adequate growth and formation of buds, and is free from blight of any description. All planting beds and tree pits shall be free of weeds, litter and in good order, including the removal of all tree supports.
- .3 Plant material shall be **unacceptable** when it does not meet this quality standard.
- .4 Units of plant material that are found to be unacceptable will be replaced by the Contractor at the earliest opportunity. The NCC Representative reserves the right to extend the Contractor's maintenance and warranty responsibilities for an additional one-year for replacement plant material.
- .5 In the event that this inspection is satisfactory to the NCC Representative, and that there are no outstanding commitments to the contracted works, the Contractor will be given final approval of the maintenance and warranty requirements.
- .6 Where, in the opinion of the NCC Representative, the Contractor has failed to complete obligations as detailed in this Specification; and further, fails to rectify said deficiency within two days of written notification from the NCC Representative, the NCC Representative reserves the right to retain others to complete the work and deduct incurred expenses from monies owing to the Contractor.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- .1 Environmental Protection Section 01 35 43
- .2 Tree and Shrub Planting Section 32 92 10.01

1.2 References

- .1 American National Standard Institute (ANSI)
 - .1 ANSI A300 (Part 1)-[2001], Tree Care Operations - Tree, Shrub and Other Woody Plant Maintenance - Standard Practices (revision and re-designation of ANSI A300-1995) (includes supplements).
 - .2 ANSI A300 (Part 2)-[1998], Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance - Standard Practices - Part 2 - Fertilization.
 - .3 ANSI A300 (Part 3)-[2000], Tree Care Operations - Tree, Shrub and Other Woody Plant Maintenance: Standard Practices - Part 3 - Tree Support Systems (a. Cabling, Bracing, and Guying) (supplement to ANSI A300-1995).
- .2 Canadian Nursery Landscape Association (CNLA)
- .3 International Society of Arboriculture (ISA)
- .4 Ontario Ministry of Agriculture, Food and Rural Affairs
 - .1 Publication 483-[2004], Pruning Ornamentals.

1.3 Definitions

- .1 Crown Cleaning: consists of selective removal of one or more of following items: dead, dying or diseased branches, weak branches and water sprouts.
- .2 Crown Thinning: consists of selective removal of branches to increase light penetration, air movement and reduce weight.
- .3 Crown Raising: consists of removal of lower tree branches to provide clearance.
- .4 Crown Reduction or Crown Shaping: decreases tree height and/or spread.
- .5 Vista Pruning: is selective thinning of framework limbs or specific crown areas to improve views.
- .6 Crown Restoration: improves structure, form and appearance of trees that have been severely headed or vandalized.

1.4 Quality Assurance

- .1 Certification: provide [International Society of Arboriculture] or

[Canadian Nursery Landscape Association] certification.

- .2 Field Samples: do sample pruning in manner to enable the NCC Representative to identify:
 - .1 Knowledge of target areas including branch bark ridge and branch collars.
 - .2 Technique for selection process and pruning used to establish desired form and shape.

1.5 Waste Management and Disposal

- .1 Divert wood materials from landfill to composting facility to be approved by the NCC Representative.

1.6 Tool Maintenance

- .1 Ensure that tools are clean and sharp throughout pruning operation: do not use tools that crush or tear bark.
- .2 Disinfect tools before each tree is pruned.
- .3 On diseased plant material disinfect tools before each cut.

PART 2 - PRODUCTS

2.1 Disinfectant

- .1 20% solution of sodium hypochlorite or 70% solution of ethyl alcohol.

PART 3 - EXECUTION

3.1 Application

- .1 Manufacturer's instructions: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 General

- .1 Prune in accordance with [Pruning Ornamentals] [ANSI A300], and as directed by the NCC Representative. Where discrepancies occur between standard and specifications, specifications govern.
- .2 Notify immediately the NCC Representative conditions detrimental to health of plant material or operations.
- .3 Prune during plant dormant period or after leaves have matured. Avoid pruning during leaf formation, at time of leaf fall, or when seasonal temperature drops below minus 10 degrees C.
- .4 Retain natural form and shape of plant species.
- .5 Do not:
 - .1 Flush cut branches.
 - .2 Crush or tear bark.
 - .3 Cut behind branch bark ridge.
 - .4 Damage branch collars.
 - .5 Damage branches to remain.

3.3 Pruning

- .1 Remove dead, dying, diseased and weak growth from plant material to provide crown raising and vista pruning as designated by the NCC Representative in order to promote healthy growth.
- .2 Remove live branches that:
 - .1 Interfere with healthy development and structural strength including branches crossed or rubbing more important branches.
 - .2 Are of weak structure including narrow crotches.
 - .3 Obstruct development of more important branches.
 - .4 Are broken.
- .3 Remove live branches to re-establish natural species form including:
 - .1 One or more developing leaders.
 - .2 Multiple growth due to previous topping.
 - .3 Branches extending outward from natural form.
 - .4 Undesirable sucker growth.
- .4 Remove loose branches, twigs and other debris lodged in tree.
- .5 Remove vines.
- .6 For branches under 50 mm in diameter:
 - .1 Locate branch bark ridge and make cuts smooth and flush with outer edge of branch collar to ensure retention of branch collar. Cut target area to bottom of branch collar at angle equal to that formed by line opposite to branch bark ridge.
 - .2 Make cuts on dead branches smooth and flush with swollen callus collar. Do not injure or remove callus collar.
 - .3 Do not cut lead branches unless directed by the NCC Representative.
- .7 For branches greater than 50 mm in diameter:
 - .1 Make first cut on lower side of branch 300 mm from trunk, one third diameter of branch.
 - .2 Make second cut on upper side of branch 500 mm from trunk until branch falls off.
 - .3 Make final cut adjacent to and outside branch collar.
- .8 Ensure that trunk bark and branch collar are not damaged or torn during limb removal.
 - .1 Repair areas which are damaged, or remove damaged area back to next branch collar.
- .9 Remove additional growth designated by the NCC Representative.

3.4 Root Girdling

- .1 For girdling roots one-quarter size of trunk diameter or larger, V-cut girdling root one-half way through at point where root is crossing.
- .2 Remove exposed portion of girdling root as directed by the NCC Representative after cleanly cutting root flush with grade on each side of parent root. Do not injure bark or parent root.

- 3.5 Care of Wounds** .1 Shape bark around wound to oblong configuration ensuring minimal increase in wound size. Retain peninsulas of existing live bark.
- 3.6 Clean-up** .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 Collect and compost whenever applicable pruned material daily and remove from site.
- .3 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

PART 1 – GENERAL

1.1 Related Work

- .1 Rip Rap and Armour Stone Section 31 37 00
- .2 Excavation and Backfilling Section 31 23 10
- .3 Preservation of Watercourses and Wetlands
Section 35 01 40.92

1.2 Description of work

- .1 This section is the materials specification for the installation of two solid PVC drainage pipes behind the lower armour stone wall on east side of O-Train. The drainage pipes will serve to capture floodwaters, and are to be installed vertically with 90 degree elbows below grade. The drainage pipes must be fitted tightly between the armour stone and discharge toward the Rideau River as specified in the contract drawings.

1.3 Measurement for Payment

- .1 Payment for this item will be per drainage pipe with respective appurtenances and installed according to contract drawings.
- .2 No measurement or payment will be made for drainage pipe removed and replaced due to improper installation or damaged materials.

PART 2 – PRODUCTS

2.1 Materials available at PVC Industrial Products, Ottawa or similar retailer:

- .1 Solid 152mm diameter PVC drain pipes
- .2 Black grated caps for the pipes
- .3 90 degree elbows for the pipes
- .4 PVC cement to connect all pipes and fittings
- .5 Granular material to be placed underneath all sub-drainage piping.

2.2 Materials: Specific Requirements

- .1 S40 GREY PVC PIPE
- .2 150MM / 6 INCH BLACK ROUND GRATE
- .3 150 MM / 6 INCH S80 90 degree elbows
- .4 #11 PVC GREY COLOUR
- .5 #11 CLEAR PVC PRIMER
- .6 Granular material to be placed underneath all sub-drainage piping.

PART 3 – EXECUTION

3.1 Installation of Drainage Pipes

- .1 Install drainage pipe to line and grade shown on the Drawings or as directed by the NCC Representative .

- .2 Assemble pipe in accordance with manufacturer's instructions so when complete the drainage pipe will have a smooth and uniform invert.
- .3 Install drainage pipe on 100 millimetres of drainage material ensuring uniform support under bell and pipe body throughout full horizontal length.
- .4 Use longest pipe length manufactured where practicable to reduce number of joints on the sub-drain.
- .5 Commence installation of drainage pipe at armour stone wall and proceed upgrade.
- .6 Lay drainage pipe with bell upgrade.
- .7 Install black grated caps on end of sub-drain upgrade and secure to drainage pipe in accordance with manufacturer's recommendations.
- .8 Allowable variance from specified line to be +/- 100 millimetres. .
- .9 Allowable variance from specified grade to be +/- 25 millimetres.
- .10 Correct alignment and grade exceeding the allowable variance as directed by the NCC Representative.

3.2 Connection of Subdrain to Armour Stone Wall

- .1 Connect drainage pipe to new layer of armour stone wall, above existing base as shown on the Drawings or as directed by the NCC Representative.
- .2 Cut neat hole in armour stone wall to a maximum of 25 millimetres larger than the outside diameter of the drainage pipe.
- .3 Ensure drainage pipe does not protrude beyond outside of wall facing the river.
- .4 No bends greater than 90° will be permitted to alter the grade or alignment of the drainage pipe to the armour stone wall.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections** .1 Environnemental Protection Section 01 35 43
- 1.2 Environmental Requirements** .1 Operation of construction equipment in water is prohibited. Ensure a dewatered condition for operation of equipment.
- .2 Dumping excavated fill, waste material, or debris in watercourse is prohibited.

PART 2 - PRODUCTS

- 1 Silt fencing: Terrafence sediment control as supplied by geosynthetic Ottawa (613) 733-9585 or approved equal.

PART 3 - EXECUTION

- 3.1 Navigable Waters Protection** .1 At least 1 week prior to the start of construction, the Contractor shall provide a Public Safety Plan for working within a navigable waterway for review and approval by the .

- 3.2 Existing Flow Conditions** .1 Maintain existing flow pattern in natural watercourse systems.

- 3.3 Site Clearing and Plant Protection** .1 Conduct work to provide minimal disturbance to vegetated buffer zones, including aquatic vegetation.
- .2 Unless otherwise indicated on the drawings or instructed on site by the NCC Representative , retain and protect all existing trees on site.

- 3.4 Preservation and Reinstatement of Shoreline boulders** .1 Preserve and use existing boulders along the shoreline edge as indicated in the contract drawings.

- 3.5 Machinery** .1 Machinery shall arrive on site in a clean, washed condition, free of fluid leaks.
- .2 Install stabilized entrance for machinery as indicated on contract drawings.

- 3.6 Turbidity Curtain Installation** .1 Install turbidity curtain prior to the commencement of any site disturbance that has potential to mobilize silt and sediments.
- .2 Have installation approved by the NCC Representative prior to the start of site disturbance.

- 3.7 Fish, Reptile and Amphibian Recovery** .1 Captured fish shall be placed back in the active river flow.
- .2 Captured turtles, frogs or other wildlife shall be moved to similar habitat outside the work area.
- .3 Contractor Administrator to be present on site for fish, reptile and amphibian recovery.

- 3.8 Drainage** .1 Pumping water containing suspended materials into watercourse is

prohibited.

.2 Method of treatment and discharge of pumped water to be submitted for approval of the NCC Representative as part of Sediment and Erosion Control Plan.

**3.9 Removal of Sediment and
Silt Fencing**

.1 To be removed one week after final NCC completion of work is conducted.

END OF SECTION

Basis of Payments

- .1 Payment at the price per item listed in the Schedule of Price shall be full compensation for all labour, services and equipment as well as the supply, delivery and installation of all materials required for the proper execution of this contract.

GENERAL

ITEM NO. 1 - MOBILIZATION

- .1 This item includes all general requirements to complete the project including general instructions, shop drawings, safety measures, environmental protection, protection of existing vegetation to remain, temporary facilities, traffic control, general removals, cleaning and reinstatement at completion of the project. .
- .2 Included in this lump sum price are all the general requirements identified on the drawings and specifications and all those required to complete the work of this contract not covered under specific items.
- .3 Included in this lump sum price: all damaged grass areas to be lightly topsoil and seeded.
- .4 Included in this lump sum price are the completion of record drawings at the end of the contract for provision to the NCC Representative.
- .5 This item will not be measured but will be paid on a lump sum basis upon the following schedule.
 - .1 70% for substantial completion of this item
 - .2 30% for completion and supply of Contract record drawings

ITEM NO. 2 – SUPPLY AND INSTALLATION OF SILT CURTAIN

- .1 This item consists of the supply and installation of a silt curtain along entire shoreline where work is proposed as per the contract drawings.
- .2 This item also includes general maintenance to ensure good working condition.
- .3 This item will not be measured but will be paid 50% after approved installation and 50% after final removal.

ITEM NO. 3 – CLEARING AND GRUBBING OF EXISTING VEGETATION

- .1 This item consists of pruning and limbing up identified trees as per contract documents
- .2 The item includes the removal of vegetation as indicated on the contract drawings (All removals are less than 10cm DBH)
- .3 This item includes removal of debris off site.
- .4 This item will not be measured but will be paid on a lump sum basis

ITEM NO. 4 – PATHWAY CLEANING, DEBRIS REMOVAL, SAFETY PRUNING

- .1 This item consists of cleaning the entire length of the pathway to achieve a clean final asphalt surface free from, debris, dust, construction, etc.
- .2 This item will not be measured but will be paid on a lump sum basis.

ITEM NO. 5 – RELOCATION OF EXISTING BOULDERS

- .1 This item consists of the removal ,stockpiling, relocation and reinstallation of existing boulders as per the contract drawings.
- .2 This item will be measured by linear metre of wall.

ITEM NO. 6 - EARTH EXCAVATION AND HAULING OFF SITE

- .1 This item consists of excavating the damaged pathway sections, side slopes and adjacent areas as per the contract drawings allowing for finished ground elevations and specified surface treatments.
- .2 This item includes the hauling off site of all material to the proper facilities.
- .3 This item includes the proof rolling of the exposed surface, and the sub-excavation as required of any soft areas encountered during proof rolling.
- .4 This item also includes the removal of all excavated non reusable or surplus material, including surplus topsoil and striped grass from the site.
- .5 This item includes adjusting the existing riprap as per the contract drawings to allow for easier installation of proposed riprap.
- .6 This item will be measured for payment by cubic metres with a conversion rate to metric tonnes using a factor $1\text{m}^3 = 2.2$ metric tonnes.

ITEM NO. 7 – REMOVAL OF EXISTING ASPHALT SURFACE

- .1 This item consists of a clean true saw cut through existing asphalt as approved on site by the NCC representative.
- .2 This item includes the protection of the asphalt cut line; it also includes the cutting of second line if damage occurs during construction.
- .3 this items includes asphalt removal and hauling off site as indicated on the contract documents.
- .4 This item will be measured by square metre of asphalt removed.

ITEM NO. 8 – EXCAVATION OF GRANULAR SUBBASE

- .1 This item consists of the excavation and hauling off-site the existing granular subbase to depths shown on the contract documents.
- .2 This item includes any additional excavation required to achieve stable side slopes during construction.
- .3 This item will be measured by cubic meter of granular(s) removed.

ITEM NO. 9 – SUPPLY, MIX AND INSTALLATION OF ANGULAR RIP RAP

- .1 This item consists of the supply, gentle placement and installation of angular riprap along shoreline and as per contract documents.
- .2 This item will be measured for payment by cubic metres of Rip-Rap installed with a conversion rate to metric tonnes using a factor $1\text{m}^3 = 2.2$ metric tonnes.

ITEM NO. 10 - SUPPLY AND INSTALLATION OF ARMOUR STONE WALL INCLUDING REUSE OF STONES

- .1 This item consists of the supply and installation of the stone wall as per contract drawing.

- .2 This item includes the saw cutting and or chiselling required to ensure each stone fits tightly together.
- .3 This item includes a bedding layer of stone dust to set the bottom wall elevation.
- .4 This item includes the installation of weeping tile and geotextile as per the contract documents
- .4 This item will be measured for payment by linear meters.

ITEM NO. 11 – SUPPLY AND INSTALLATION OF GRANULAR ‘A’

- .1 This item consists of the supply, placement and compaction of OPSS Granular ‘A’ required for the construction of the sub base course for the pathway and armour stone wall to the extent indicated and specified in the contract documents.
- .2 This item also includes the supply and application of water for compaction.
- .3 This item will be measured and paid per cubic meter of installed fill.

ITEM NO. 12 – SUPPLY AND INSTALLATION OF TWO SOLID 150mm DIAMETER PVC DRAINS WITH GRATED CAPS

- .1 This item consists of the supply and placement of solid pipes to drain toward the river as indicated and specified in the contract documents.
- .2 This item also includes the supply and assembly of 45 degree elbows and black grated caps for the pipes and PVC cement for their assembly.
- .3 This item will be measured and paid for each drain unit installed.

ITEM NO. 13 – SUPPLY AND INSTALLATION OF HL3 ASPHALT PATHWAY

- .1 This item consists of the supply, placement and compaction of HL3 Asphalt for the reconstruction of the new asphalt pathway as indicated on the drawings and contract documents.
- .2 This item includes tack coat required at all asphalt joints as indicated on the drawings and contract documents.
- .3 This item includes any sampling and testing as required by the NCC Representative.
- .4 This item will be measured for payment by square metre (m²)

ITEM NO. 14 – CENTRE LINE PAINTING

- .1 This item consists of the supply and installation of painted lines along the centre line as indicated in the contract drawings, including any related works.
- .2 Line painting (Yellow) will be required along the entire construction corridor.
- .3 This item includes colour samples and cut sheets for proposed paint.
- .4 This item includes removal of existing line painting along construction corridor.
- .5 The item will not be measured but paid on a lump sum basis.

ITEM NO. 15 – SUPPLY AND INSTALLATION OF TOPSOIL AND FINISH GRADING

- .1 This item consists of the supply and installation of topsoil between the rip rap (where indicated), the pathway edges, and behind the armour stone walls (existing and proposed) Ensure positive drainage from edge of pathway to new leveled edge of proposed rip rap.
- .2 This item includes the finished grading and proper compaction of topsoil.

- .3 This item will be measured for payment by cubic metres of installed topsoil.

ITEM NO. 16 – SUPPLY AND INSTALLATION OF 75mm OF COMPOST INCLUDING TILLING

- .1 This item consists of the supply and installation of 75mm of compost and tilling into topsoil between the rip rap and the pathway throughout entire planting areas of the project.
- .2 This item includes finish grading and proper compacting.
- .3 This item will be measured for payment by cubic metres of installed compost.

ITEM NO. 17 – SUPPLY AND INSTALLATION OF COIR EROSION CONTROL MAT

- .1 This item consists of the supply and installation of coir erosion control mats to the extent indicated and specified in the Contract Documents.
- .2 Submitted unit price shall also include supply and installation of anchoring stakes.
- .3 This item will be measured for payment in square meters of coir mat installed.

ITEM NO. 18 – SUPPLY AND INSTALLATION OF SHRUBS

- .1 These items consist of the supply and installation of nursery grown shrubs as indicated in the Contract documents
- .2 These items include all works associated with planting.
- .3 These items will be measured for payment by the number of plants supplied and planted.

ITEM NO. 19 – SUPPLY AND INSTALLATION OF PERENNIALS

- .1 These items consist of the supply and installation of nursery grown perennials as indicated in the contract documents
- .2 These items include all works associated with planting.
- .3 These items will be measured for payment by the number of plants supplied and planted.

ITEM NO. 20 – SUPPLY AND INSTALLATION OF GRASSES

- .1 These items consist of the supply and installation of nursery grown grasses as indicated in the Contract documents
- .2 These items include all works associated with planting.
- .3 These items will be measured for payment by the number of plants supplied and planted.

ITEM NO. 21 – SUPPLY AND INSTALLATION OF 'INDIGO GRAMINIS' SEED MIX

- .1 This item consists of the supply and installation of the 'Indigo Graminis' seed mix as per contract drawing. Seeds should be mechanically seeded.
- .2 This item will be measured for payment by square metre (m²).

ITEM NO. 22 – SUPPLY AND INSTALLATION OF 75mm NATURAL SHREDDED CEDAR MULCH

- .1 This item consists of the supply and installation of natural shredded cedar mulch in all planting beds as per contract drawing. Mulch must not be dyed.

- .2 This item will be measured for payment by cubic metres (m³) of installed mulch.

ITEM NO. 23 – PAINTING OF STEEL HANDRAIL INCLUDING PREPARATORY WORK

- .1 This item consists of scraping, sanding, metal primer application and painting of the steel handrail on both sides of O Train Bridge.
.2 The appropriate paints will be used for application on metal and weather-resistance.
.3 The finish colour will be gloss black.
.4 This item will be measured for payment by lump sum.

ITEM NO. 24 – TWO YEAR PLANT MATERIAL AND MAINTENANCE WARRANTY

- .1 This item consists of the maintenance and warranty of all plant material for two (2) years starting after the completion of all plant material indicated in the Contract documents to ensure healthy plant material.
.2 This item will not be measured but will be paid on a lump sum based upon the following progress schedule:
.1 50% after completion of first year of maintenance and warranty conditions as determined by the NCC Representative.
.2 50% after the completion of the second year of maintenance and warranty conditions as determined by the NCC Representative.

END OF SECTION

PART 1 - GENERAL

1.1 Submit to the NCC Representative for review, shop drawings, product data and samples specified.

1.2 Until submission is reviewed, work involving relevant product may not proceed.

1.3 Shop Drawings

- .1 Drawings to be originals supplied by contractor, subcontractor, supplier or distributor, illustrating appropriate portion of work:
 - .1 Showing fabrication, layout, setting or erection details as specified in appropriate sections.
 - .2 Identify details by reference to sheet or detail number shown on contract documents.
 - .3 Maximum sheet size 610 x 915 mm.
 - .4 Reproductions for submissions opaque diazo prints.

1.4 Product Data

- .1 Manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data may be accepted in lieu of shop drawings.
- .2 Above will only be accepted if they conform to following:
 - .1 Delete information not applicable to project;
 - .2 Supplement standard information to provide additional information applicable to project;
 - .3 Show dimensions and clearances required;
 - .4 Show performances characteristics and capacities.

1.5 Samples and Mock-ups

- .1 Submit samples in sizes and quantities specified.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.
- .3 Reviewed samples will become standards of workmanship and material against which installed work will be checked on project.

1.6 Co-ordination of Submissions

- .1 Review shop drawings, product data and samples prior to submission.
- .2 Verify:
 - .1 Field measurements;
 - .2 Field construction;
 - .3 Catalogue numbers and similar data.
 - .4 Co-ordinate each submission with requirements of work and contract documents. Individual shop drawings will not be reviewed until all related drawings are available.
 - .5 Contractor's responsibility for errors and omissions in submission is not relieved by the NCC Representative's review of submittals.
 - .6 Contractor's responsibility for deviations in submission from requirements of Contract documents is not relieved by Contract Administrator's review of submission, unless the NCC Representative gives written acceptance of specified deviations.
 - .7 Notify the NCC Representative in writing at time of submission, of deviations from requirements of Contract documents.
 - .8 After the NCC Representative's review, distribute copies.

1.7 Submission Requirements

- .1 Schedule submissions at least 10 days before dates reviewed submissions will be needed.
- .2 Submit number of paper or electronic copies of shop drawings and product data Contractor

- requires for distribution, plus 2 copies to be retained by the NCC Representative.
- .3 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date;
 - .2 Project title and number;
 - .3 Contractor's name and address;
 - .4 Number of each shop drawings, product data and sample submitted;
 - .5 Other pertinent data.

1.8 Submissions shall include:

- .1 Date and revisions dates;
- .2 Project title and number;
- .3 Name of:
 - .1 Contractor;
 - .2 Subcontractor;
 - .3 Supplier;
 - .4 Manufacturer;
 - .5 Separate detailer when pertinent.
- .4 Identification of product or material;
- .5 Relation to adjacent structure or materials;
- .6 Field dimensions, clearly identified as such;
- .7 Specification Section number;
- .8 Applicable standards, such as CSA or CGSB numbers;
- .9 Contractor's stamp, initialed or signed, verifying review of sub-mission, verification of field measurements and compliance with Contract documents.

END OF SECTION

PART 1 - GENERAL

1.1 References

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

1.2 Submittals

- .1 Submit site-specific Health and Safety Plan prior to award of contract. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in the scope of work.
- .2 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.
- .3 Submit copies of incident and accident reports.
- .4 Submit Material Safety Data Sheets (MSDS) to the NCC Representative.
- .5 Names of personnel and alternates responsible for site safety and health, hazards present on site, and use of personal protective equipment.

1.3 Safety Assessment

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

1.4 General Requirements

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

1.5 Responsibility

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.6 Compliance Requirements

- .1 Comply with Ontario Health and Safety Act and Regulations for Construction Projects.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.7 Unforeseen Hazards

- .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, and follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province of Ontario having jurisdiction. Advise the NCC Representative verbally and in writing.

1.8 Posting of Documents

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

1.9 Correction of Non-Compliance

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

1.10 Work Stoppage

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

1.11 Personnel Health, Safety, And Hygiene

- .1 Training: Ensure personnel entering site are trained in accordance with specified personnel training requirements.
- .2 Personal Protective Equipment:
 - .1 Workers in direct contact with the existing soil within park shall wear a dust mask and gloves along with the other standard PPE.
 - .2 PPE and protective clothing must be kept clean and well maintained.
 - .3 Dispose of or decontaminate PPE worn on site at end of each workday.

1.12 Excavating

- .1 The Contractor shall ensure no person enters an excavation unless another worker is working above ground close to the excavation or to the means of access to it.
- .2 The Contractor shall arrange the locating and marking of gas, electrical and other services prior to commencing an excavation.
- .3 The Contractor shall obtain approval from Consultant before arranging the shut off and disconnection of a service that may pose a hazard.
- .4 The Contractor shall comply with the requirements of Section 230 to 242, O. Reg. 213/91, OHSAA..

1.13 Chemicals

- .1 The Contractor must provide a list of all chemicals to be used on site and a copy of the Material Safety Data Sheet (MSDS) for each chemical to the Consultant prior to being brought onto the job site.
- .2 The Contractor must ensure each chemical container brought on site is clearly labelled with the identity of the chemical, information for the safe handling of the chemical and the location of the MSDS.
- .3 The Contractor must ensure adequate measures are taken to control the distribution, within the application area or throughout the building, of fumes/vapours before applying flammable, noxious or volatile materials.
- .4 The Contractor may be required to schedule the application of hazardous materials which might affect the well-being of any workers or disrupt work of other Contractors and cannot

be adequately controlled to prevent such occurrences to evening or weekend periods.

- .5 The Contractor must ensure workers wear the required personal protective equipment (respiratory protection, protective clothing, hand protection, eye/face protection, etc.) when working with chemicals.
- .6 The Contractor must ensure the safe use and disposal of all chemicals that they are using. No chemicals and/or chemical waste product shall be disposed of on site without prior approval of Consultant.
- .7 The Contractor may not store chemicals and compressed gas cylinders on site without approval of the Consultant. If approved, the Contractor must ensure incompatible chemicals are stored separately.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used

END OF SECTION

PART 1 - GENERAL

1.1 Definitions

- .1 Pollution and environmental damage: the presence of chemical, physical or biological elements that have a deleterious effect on health or ecology, that alter the ecological balance and that negatively affect, or that degrade the aesthetic character, cultural or historical environment.
- .2 Environmental protection: prevention / control of pollution and habitat disturbance and the environment during construction. The prevention of pollution and damage to the environment covers the protection of soil, water, air, biological and cultural resources; it also includes the visual aesthetics of management, noise, solid waste chemicals, gases and liquids, radiant energy, radioactive substances and other pollutants.

1.2 Fires

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

1.3 Disposal of Wastes

- .1 Burying of rubbish and waste materials on site not permitted.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- .3 Waste will be managed in accordance with Province of Ontario standards

1.4 Drainage

- .1 It is prohibited to pump water containing particles of suspended material in the streams, sewer systems or drainage systems.
- .2 Check the drainage materials containing suspended particles or other harmful substance according to the requirements of local authorities.

1.5 Site Clearing and Plant Protection

- .1 Protect trees and plants on site and adjacent properties where indicated.
- .2 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .3 Minimize stripping of soil.
- .4 Where heavy equipment is used around trees, protect trees with temporary fencing.
- .5 Restrict tree removal to areas indicated or designated by the NCC Representative .

1.6 Watercourse Protection

- .1 The Contractor shall ensure that no contamination, waste or other substances which may be detrimental to marine life or quality of water shall enter the watercourse as either direct or indirect result of construction and the Contractor shall meet all requirements of Government authorities or agencies with respect to environmental protection.
- .2 The Contractor shall be prepared to immediately clean up any spills of contamination, waste or other substances which may be either detrimental to marine life or quality of water. In the event of a spill, the Contractor shall immediately commence a clean-up operation. The Contractor shall be liable for all

damages and/or charges laid which result, either directly or indirectly, from the spill, or contamination of any kind which results from their construction operations.

- .3 The Contractor shall be responsible for the immediate cleaning and disposal of any floating debris that may accumulate in or near waterways, drainage channels or wetland sites.
- .4 The Contractor shall not make any claim for extra compensation for the cost of fulfilling the obligations set out herein.
- .5 **No in-water works shall take place within the spawning and nursery period from March 15th to July 1st.**

1.7 Pollution Control

- .1 Maintain temporary erosion and pollution control features installed under this contract. Control emissions from equipment and obtain from local authority's emission requirements.
- .2 Prevent sandblasting materials and debris and other foreign materials from contaminating air and water outside the application area, using enclosed temporary shelters.
- .3 Sprinkle dry materials and cover garbage to prevent wind from raising dust or debris. Remove dust on temporary paths.
- .4 Keep on the site adequate spill container to satisfy any type of gasoline spill to ensure the removal / disposal of contaminated material to licensed premises.
- .5 Refueling should only be done outside of the site.
- .6 Emergency Response Plan: If there is a contamination of soil and water caused by a spill or leakage of construction equipment, the contractor shall prepare an emergency response plan and comply with provincial and federal regulations, and must notify the department of environmental Services.

1.8 Sediment Erosion and Control Plan

- .1 Contractor shall ensure that all workers, including subcontractors, are aware of the importance of erosion and sedimentation control measurements and the consequences of failure to comply with requirements Of all regulatory agencies.
- .2 Contractor shall exercise due diligence to ensure that runoff sediments do not enter the watercourse. Berms, anti-erosion fences and other best management practices, as determined by the work practices of construction site contractors, shall be constructed at appropriate locations to ensure that turbidity is to be minimized as determined By government authorities and agencies.
- .3 Minimum erosion and sediment control shall be as follows;
 - .1 Limit the extent of exposed soil at a given time.
 - .2 Replant exposed areas as soon as possible
 - .3 A sediment fence shall be installed around the perimeter of all stocks of all soils to be used or removed from the site. Stocks must be located outside the floodplain and in locations approved by the NCC representative.
 - .4 Rainwater diversion from the construction zone may be required. If this is the case, stormwater diversions must be placed at regular intervals and towards the grassy areas which slope downstream and are not subject to construction activities. Sediment control structures may be required at the mouth of each diversion, but it is expected that the grass will filter sediment and deposits, minimizing sediment run-off.
 - .5 Sediment erosion and control measures will be inspected, maintained and repaired weekly and after each rainfall.

1.9 Construction Methods

- .1 Contractor shall use construction methods approved by the NCC Representative and or provincial authorities.
- .2 Contractor's equipment must be in good working order to reduce emissions of pollutants, dust and odors.

1.10 Hazardous Material Spill

The following precautions must be taken by the contractor when using hydrocarbons (fuels, etc.) in order to avoid significant environmental impacts due to accidental spills:

- .1 The Contractor is required to have an Environmental Emergency Plan approved by the the NCC Representative ;
- .2 The storage of hydrocarbons is prohibited within 30 meters of a watercourse or wetlands and refueling of hydrocarbons is prohibited within 60 meters;
- .3 Equipment must be washed before entering the site to prevent oil and grease from entering the work area;
- .4 Inspections should be carried out before work and often afterwards to detect any leaks (oil, fuel, grease, etc.). If a leak is detected, all necessary measures will be taken immediately and any maintenance that needs to be done will be carried out a minimum distance of 60 Meters from a watercourse or wetland;
- .5 An emergency cleaning kit for petroleum products must always be available on site. The kit will include at least 30 meters of absorbent socks, one (1) box of absorbent buffer pads, one (1) vacuum of 45 gallons barrel, rope and solid sorbent (powder or granules). The kit must be stored near the equipment and work area and will be easily accessible at all times for quick response;
- .6 If an oil spill occurs, the Contractor must contain and immediately call the NCC Emergency Hotline at 613-239-5353. Contaminated hydrocarbons and contaminated soils must be disposed of by a company specializing in this field. The company providing the work will be chosen by the NCC.
- .7 The Contractor shall be prepared to immediately clean up any spills of contaminants, waste or other substances which may be either detrimental to marine life or quality of water. In the event of a spill, the Contractor shall immediately commence a clean-up operation. The Contractor shall be liable for all damages and/or charges laid which result, either directly or indirectly, from the spill, or contamination of any kind which results from their construction operations.

END OF SECTION

PART 1 - GENERAL

1.1 Access

- .1 With the NCC Representative present, prepare photographic inventory of the original condition of all locations where temporary facilities are to be built by the Contractor. Submit a bound record copy of the photographic inventory with locations, labels and descriptions of existing features to the NCC Representative prior to commencing any work on the temporary facilities.
- .2 Provide and maintain adequate access to the project site.
- .3 Build and maintain temporary roads and temporary watercourse crossings where required or indicated subject to approval of the NCC Representative . Remove temporary facilities and reinstate site following completion of work.
- .4 If authorized to use existing roads or pathways for access to project site, maintain such roads for duration of contract and make good damages resulting from the Contractor's use of roads or pathways.

1.2 Sanitary Facilities

- .1 Provide sanitary facilities for work force in accordance with governing regulations and by-laws.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.3 Removal of Temporary Facilities

- .1 Remove temporary facilities from site unless directed stated otherwise by the NCC Representative .
- .2 All areas disturbed shall be reinstated by the Contractor to its original condition at the contractor's expense and to the NCC Representative's satisfaction.

1.4 Temporary Fencing

- .1 Temporary fencing shall be modu-loc green fence panels or approved equal. The height should be of 1.8m and fencing should prevent any public access throughout construction and be securely installed

END OF SECTION

PART 1 - GENERAL

1.1 General

- .1 Use new material and equipment unless otherwise specified.
- .2 Within 7 days of written request by the NCC Representative, submit following information for materials and equipment proposed for supply:
 - .1 Name and address of manufacturer.
 - .2 Trade name, model and catalogue number.
 - .3 Performance, descriptive and test data.
 - .4 Manufacturer's installation or application instructions.
 - .5 Evidence of arrangements to procure.
- .3 Use products of one manufacturer for material and equipment of same type or classification unless otherwise specified.

1.2 Manufacturer's Instructions

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

1.3 Delivery and Storage

- .1 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact.
- .2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
- .3 Store material and equipment in accordance with suppliers instructions.
- .4 Touch-up damaged factory finished surfaces to the NCC Representative 's satisfaction. Use primer or enamel to match original. Do not paint over name plates.

1.4 Contractor's Options for Selection of Materials for Tendering

- .1 Materials specified by referenced standard, select any material that meets or exceeds the specified standard.
- .2 Where materials are required to be listed on the "Canadian General Standards Board, Qualified Products List" select any manufacturer so listed.
- .3 Materials specified by "Prescriptive" or "Performance" specification, select any material meeting or exceeding specification.
- .4 Materials specified by naming one or more materials, select any material named. For the purpose of these specifications, the term "Acceptable Material" is deemed to be a complete and working commodity as described by a manufacturer's name, catalogue number, trade name or any combination thereof.
- .5 When materials are specified by a Standard, Prescriptive or Performance specification, upon request of the NCC Representative , obtain from manufacturer an independent testing laboratory report, showing that the material or equipment meets or exceeds the specified requirements.

1.5 Substitution

- .1 No substitutions will be permitted without prior written approval of the NCC Representative .
- .2 Proposals for substitutions to be made in accordance with Instructions to Bidders. Such requests must include statements of respective costs of items originally specified and the proposed substitution.
- .3 Proposals will be considered by the NCC Representative if:
 - .1 Materials selected by tenderer from those specified, are not available.
 - .2 Delivery date of materials selected from those materials specified would unduly delay completion of contract, or;
 - .3 Alternative material to those specified, which are brought to the attention of and considered by the NCC Representative as equivalent to the material specified and will result in a credit to the Contract amount.
- .4 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution.
- .5 Amounts of all credits arising from approval of substitutions will be determined by the NCC Representative and Contract Price will be reduced accordingly.

1.6 Acceptability of Materials

- .1 All and only "acceptable" materials, as defined by Construction Materials Board Form 1 are eligible for use in this project. CMB Form 1 forms part of Contract documents.

END OF SECTION

PART 1 - GENERAL

1.1 Related Work

- .1 Health and Safety

Section 01 35 30

PART 2 - PRODUCTS

- 2.1 Not Used

PART 3 - EXECUTION

- 3.1** Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- 3.2** Disposal of mineral spirits, oil or paint and varnish solvents in storm or sanitary drainage systems is prohibited.
- 3.3** Prevent accumulation of wastes which create hazardous conditions.
- 3.4 Cleaning During Construction**
- .1 Maintain project grounds and public properties free from accumulations of waste materials and rubbish on a daily basis.
- .2 Remove waste materials and rubbish from site and haul to an approved dump site.
- .3 Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not interfere with operation of roads and pathways.
- 3.5 Final Cleaning**
- .1 Remove grease, dirt, dust, stains and other foreign materials from finished surfaces.
- .2 Broom clean paved surfaces; rake clean other surfaces of grounds, to satisfaction of Contract Administrator.
- .3 Clean project site in preparation for substantial completion inspection and final inspection.

END OF SECTION

PART 1 – GENERAL

1.1 Cleaning During Construction

- .1 Maintain project grounds and public properties free from accumulations of waste materials and rubbish on a daily basis.
- .2 Remove waste materials and rubbish from site and haul to an approved dump site.
- .3 Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not interfere with operation of roads and pathways.

1.2 General Conditions

- .1 The requirements of this specification take precedence over the requirements of any other specification for the management and disposal of excess material.

1.3 Related Work

- .1 Excavating and Backfilling Section 31 23 10
- .2 Clearing and Grubbing Section 31 11 00

1.4 Definitions

- .1 Bituminous pavement: any combination of asphaltic material and aggregate, excluding asbestos modified asphaltic material.
- .2 Concrete: concrete mixtures produced with Portland cement, which may include blended hydraulic cement, supplementary cement materials, spent debris and silica sand abrasive blasting media from abrasive cleaning of concrete and reinforcing steel, concrete brick, block and associated mortar. Can include embedded steel, and excludes asbestos modified Portland cement concrete mixtures.
- .3 Disposable fill: excess material, other than that disposed of at a certified disposal site, that is managed in berms and mounds, and as fill, other than in road embankments.
- .4 Earth: all soils except those defined as rock, and excludes stone masonry, concrete and other manufactured materials.
- .5 Excess material: Material removed as a result of Work outlined in the Contract, for which management is not specified. Includes surplus and unsuitable materials.
- .6 Fabricated metal and plastic products: metal and plastic products such as culverts, fence materials, and guide rails. Does not include containers, other packing materials, storage tanks, septic tanks, and ancillary equipment associated with sanitary sewage systems, septic systems, and fuel/lubricant dispensing and storage systems.
- .7 Groundwater: subsurface water and water that occurs beneath the water table in soils and rock formations that are fully saturated.
- .8 Masonry: clay brick, stone and associated mortar.
- .9 Natural wood: stumps, trunks, branches, and debris, from tree and shrub removal, and wood products that are not treated, coated or glued.
- .10 Re-use: utilization, processing, re-processing or recycling of excess material into a construction

- material or other useful product, and management by these means for the Contract and other work.
- .11 Rock: natural beds or massive fragments, of the hard, stable, cemented part of the earth's crust, igneous, metamorphic, or sedimentary in origin, which may or may not be weathered, and includes boulders having a volume of 1 m or greater.
 - .12 Swamp material: materials within the swamp excavation limits, except those defined as rock, and excludes stone masonry, natural wood and manufactured materials.
 - .13 Waste: excess material managed by re-use or as disposable fill.
 - .14 Waterbody: any body of water or watercourse or wetland, or a portion thereof, and excludes ditches other than those functioning as natural watercourses.

PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

3.1 Construction

- .1 Management of excess material shall be as described below:
 - .1 Earth, aggregate, swamp material, rock and natural wood: Manage by re-use or disposal off-site.
 - .2 Bituminous pavement: Manage by disposal off-site.
 - .3 Concrete, masonry, fabricated metal and plastic products: Manage by disposal off site.
 - .4 Where excess materials are suspected of being contaminated or if types of materials are encountered which are not addressed in this specification, direction on management shall be obtained from the NCC Representative.
 - .5 Excess material that is a mixture of materials shall be disposed of according to most stringent conditions associated with any one of individual constituents.
 - .6 Excess materials shall be managed using methods which prevent their entry into waterbodies and other sensitive areas. These may be identified in Contract. Exceptions may be made when materials are re-used in accordance with requirements specified elsewhere in Contract.
 - .7 Notification requirements shall be complied with and approvals, releases, and agreements shall be obtained that are necessary for management of excess material.
- .2 Management of disposable fill, within Commission's property and on other property designated in Contract, shall be as specified.
- .3 Management by open burning is not permitted.

END OF SECTION

PART 1 - GENERAL

1.1 Related Work Specified Elsewhere

- .1 Environmental Protection Section 01 35 43
- .2 Management and Disposal of Excess Material Section 01 74 21
- .3 Clearing and Grubbing Section 31 11 00

1.2 Protect existing items designated to remain and materials designated for salvage and relocation. In event of damage, immediately replace such items or make repairs to approval of Contract Administrator and at no additional cost to the Commission.

1.3 Site Conditions

- .1 Contractor to contact appropriate utilities to verify presence and location of all overhead and underground services and establish location for all such services in the field before commencing work. Report any discrepancies to Contract Administrator.

PART 2 - PRODUCTS - Not applicable

PART 3 - EXECUTION

3.1 Preparation

- .1 Inspect site and verify with Contract Administrator items designated for removal and items to be preserved.
- .2 Locate and protect utility lines. Preserve in operating condition active utilities traversing site.
- .3 Notify utility companies before starting any work involving relocation, dismantling or demolition.

3.2 Removal

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

3.3 Removal of pavements:

- .1 Square up adjacent surfaces to remain in place by saw cutting or other approved method.
- .2 Protect underlying granular materials where shown.

3.4 Salvage and Relocation

- .1 Carefully dismantle items indicated for salvage or relocation. Stockpile salvaged materials at locations as directed by Contract Administrator.
- .2 Items to be salvaged include forest litter.

3.5 Disposal of Material

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

3.6 Restoration

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

END OF SECTION

PART 1 - GENERAL

1.1 Related Works

- | | | |
|----|--|---------------------|
| .1 | Management and Disposal of Excess Material | Section 01 74 21 |
| .2 | Shrub and Tree Preservation | Section 32 01 91 |
| .3 | Preservation of Watercourses and Wetlands | Section 35 01 40.92 |

1.2 General Conditions

- .1 Landscape drawings and specifications are to be read together with all relevant engineering documentation. Comply with all requirements of Division One.
- .2 All work must comply with all pertinent codes and laws established by the municipal, provincial and federal governments and by all other authorities having jurisdiction.

1.3 Scope of Work

- .1 Provide labour, materials, services and equipment necessary to complete the work of this section including the removal of existing vegetation to below finished ground elevations.

1.4 Definitions

- .1 Clearing consists of cutting off trees and shrub growth to not more than a specified height above ground and disposing of felled trees and surface debris.
- .2 Grubbing is the removal of stumps and roots to a depth below the initial ground level of not less than that prescribed and removal from the site.

1.5 Provision for Emerald Ash Borer

- .1 EA means Emerald Ash.
- .2 The Minister of Agriculture and Agri-Food, under subsection 15 (3) of the Plant Protection Act, makes the Emerald Ash Borer Infested Place Order for the City of Gatineau in the province of Quebec and the City of Ottawa in the province of Ontario, April 27, 2009.
- .3 In the context of the Ministerial Order, wood chips consist of fragments of wood and loose bark of trunks or shredded branches. Chips should be less than 2.5 cm in size and less in two directions.
- .4 In the context of the Ministerial Order, firewood consists of unmanufactured wood materials, with or without bark cut to length less than 1.2 m and diameter less than 25 cm and which can be manipulated.
- .5 In the context of the Ministerial Order, the logs consist of a solid non-manufactured material longer than 1.23 m and with a diameter greater than 25 cm.
- .6 The EA vehicle uses a vehicle carrying wood materials that is able to prevent material loss.

1.6 Protection

- .1 Prevent damage to existing trees, natural features, bench marks, existing buildings, existing pavement, utility lines, site appurtenances and furnishings that are to remain. Make good damage.

PART 2 - PRODUCTS

- 2.1 NA

PART 3 - EXECUTION

3.1 Preparation

- .1 Inspect site with the NCC Representative and identify items to be protected.
- .2 Locate and protect existing services and maintain operation during the work period.
- .3 Notify authorities responsible for services before beginning grubbing operations.

3.2 Clearing and Grubbing

- .1 Clear trees and shrubs designated for removal within the limit of work and as indicated by the NCC Representative.
- .2 Cut off trees and shrubs as indicated.

3.3 Removal and Disposal

- .1 All woody debris that has been cut must be removed from the site unless otherwise indicated.
- .2 Separate waste materials in accordance with Section 01 74 21 – Management and Disposal of Excess Material.
- .3 The ash wood removed from the site must be transported in a closed vehicle and disposed of at the outlet of Trail Road in accordance with the Minister's Order. When this wood is mixed with the wood of other species, all the wood material thus mixed must be treated as ash wood.
- .4 The Contractor must ensure that the ash wood is closely monitored until they are transported outside the site.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections**
- .1 Section 01 35 43 - Environmental Protection
 - .2 Section 31 37 00 – Rip Rap and Armour Stone
 - .3 Section 32 91 21 - Topsoil and Finished Grading.
- 1.2 Definitions**
- .1 Excavation classes: two classes of excavation will be recognized; common excavation and rock excavation.
 - .1 Rock : any solid material which cannot be removed by means of heavy duty mechanical excavating equipment with bucket. Frozen material not classified as rock.
 - .2 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.
 - .2 Topsoil: material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
 - .3 Waste material: excavated material unsuitable for use in Work or surplus to requirements.
- 1.3 Protection of Existing Features**
- .1 Existing buried utilities and structures:
 - .1 Prior to commencing excavation Work, notify applicable Owner or authorities having jurisdiction, establish location and state of use of buried utilities and structures. Owners or authorities having jurisdiction to clearly mark such locations to prevent disturbance during Work.
 - .2 Confirm locations of buried utilities by careful test excavations and hand uncovering in specified areas.
 - .3 Record location of maintained, re-routed and abandoned underground lines.
 - .2 Existing buildings and surface features:
 - .1 Conduct, with Contract Administrator, condition survey of existing buildings, trees and other plants, lawns, fencing, service poles and structures which may be affected by Work.
 - .2 Protect existing buildings and surface features from damage while Work is in progress. In event of damage, immediately make repair to approval of the NCC Representative .
 - .3 Where required for excavation, cut roots or branches as approved by the NCC Representative .

PART 2 - PRODUCTS

- 2.1 Materials**
- .1 Category B fill: selected material from excavation or other sources, approved by the NCC Representative for use intended, unfrozen and

**EXCAVATING BACKFILLING AND
TRENCHING**

free from rocks larger than 50 mm, cinders, ashes, sods, refuse or other deleterious materials.

PART 3 - EXECUTION

- 3.1 Site Preparation** .1 Demarcate shoreline clearly along limits of proposed re alignment and receive approval of NCC the NCC Representative before proceeding.
- 3.2 Stripping of Topsoil** .1 Commence topsoil stripping of areas to be regarded or excavated after area has been cleared of brush, weeds and grasses.
- .2 Strip full depth of topsoil. Do not mix topsoil with subsoil.
- .3 Stockpile in locations as directed by the NCC Representative . Stockpile height not to exceed 2 m.
- .4 Dispose of unused topsoil off site.
- 3.3 Stockpiling** .1 Stockpile fill materials in areas designated by the NCC Representative . Stockpile granular materials in manner to prevent segregation.
- .2 Protect fill materials from contamination.
- 3.4 Dewatering and Heave Prevention** .1 Keep excavations free of water while Work is in progress.
- .2 Protect open excavations against flooding and damage due to surface run-off.
- .3 Dispose of water in accordance with Section 01 35 43 - Environmental Protection and in manner not detrimental to public, or any portion of Work completed or under construction.
- 3.5 Excavation** .1 Excavate to lines, grades, elevations and dimensions as indicated.
- .2 Where solid rock is encountered notify the NCC Representative for direction on appropriate construction methods.
- .3 Remove obstructions encountered during excavation in accordance with Section 02 41 13 – Site Work, Demolition and Removals.
- .4 Keep excavated and stockpiled materials a safe distance away from edge of trench as directed by the NCC Representative .
- .5 Restrict vehicle operations directly adjacent to shoreline.
- .6 Dispose of surplus and unsuitable excavated material off site.
- .7 Do not obstruct flow of surface drainage or natural watercourses.
- .8 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.

**EXCAVATING BACKFILLING AND
TRENCHING**

- .9 Notify the NCC Representative when bottom of excavation is reached.
 - .10 Obtain the NCC Representative approval of completed excavation.
 - .11 Remove unsuitable material from trench bottom to extent and depth as directed by the NCC Representative .
 - .12 Correct unauthorized over-excavation as follows:
 - .1 Fill under bearing surfaces with Granular "B", Type II, and/ or SSM compacted to 95% SPMDD as directed by Contract Administrator;
 - .2 Fill under other areas with approved SSM compacted to 85% density.
 - .13 Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil. Clean out rock seams and fill with concrete mortar or grout to approval of the NCC Representative .
- 3.6 Backfilling**
- .1 Do not proceed with backfilling operations until the NCC Representative has inspected and approved installations.
 - .2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.
 - .3 Do not use backfill material which is frozen or contains ice, snow or debris.
 - .4 Place backfill material in uniform layers not exceeding 150 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
 - .5 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.
- 3.7 Restoration**
- .1 Upon completion of Work, remove waste materials and debris, trim slopes, and correct defects as directed by the NCC Representative .
 - .2 Replace topsoil in accordance with Section 32 91 21 – Topsoil and Finished Grading.
 - .3 Clean and reinstate areas affected by Work as directed by the NCC Representative .

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Work**
- .1 Granular Section 32 11 23
 - .2 Excavating and Backfilling Section 31 23 10
 - .3 Rip Rap and Armour Stone Section 31 37 00
- 1.2 References**
- .1 CAN/CGSB-4.2-[M88], Textile Test Methods.
 - .2 CAN/CGSB-148.1, Methods of Testing Geotextiles and Geomembranes.
 - .1 No. 3-85, Thickness of Geotextiles.
 - .2 No. 7.3-92, Grab Tensile Test for Geotextiles.
 - .3 No. 6.1-93, Bursting Strength of Geotextiles
 - .4 No. 10-94, Filtration Opening Size
 - .5 No. 4-94, Normal Water Permeability
- 1.3 Samples**
- .1 Submit product data and samples in accordance with Section 01 33 00 - Shop Drawings.
 - .2 Submit following samples to the NCC Representative at least 1 week prior to commencing work.
 - .1 Minimum length of 2 m of roll width of geotextile.
- 1.4 Mill Certificates**
- .1 Submit to the NCC Representative one copy of mill test data and certificates at least 1 week prior to start of work.
- 1.5 Delivery and Storage**
- .1 During delivery and storage, protect geotextiles from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.

PART 2 - PRODUCTS

- 2.1 Geotextile**
- .1 Non-woven geotextile synthetic fibre fabric, supplied in rolls.
Acceptable Products: 120X as supplied by Geosynthetics or approved equivalent.

PART 3 - EXECUTION

- 3.1 Installation of Geotextile**
- .1 Place geotextile material by unrolling onto graded surface
 - .2 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
 - .3 Overlap each successive strip of geotextile at least 450 mm over previously laid strip.
 - .4 Protect installed geotextile material from displacement, damage or deterioration before and during placement of stones.
 - .5 Cover with granular material within 4 hours of placement.
 - .6 Replace damaged or deteriorated geotextile to approval of the NCC Representative
- 3.2 Protection**
- .1 No vehicles permitted directly on geotextile.

END OF SECTION

PART 1 – GENERAL

1.1 Related Work

- | | | |
|----|----------------------------|---------------------|
| .1 | Excavation and Backfilling | Section 31 23 10 |
| .2 | Topsoil and Finish Grading | Section 32 91 21 |
| .3 | Seeding | Section 32 92 20.01 |
| .4 | Tree and Shrub Planting | Section 32 93 10.01 |

1.2 Approvals and Substitutions

- .1 Submit the sample to the NCC Representative .
- .2 Submit shop drawing showing manufacturers recommended method of application.
- .3 Substitutions will be accepted upon written approval of the NCC Representative before installation of material.

PART 2 – PRODUCTS

2.1 Erosion Control Mat

- .1 ECC-2B Biodegradable double coconut as supplied by East coast erosion control or approved equal.

2.2 Wood Pegs

- .1 19 x 19 x 200mm wooden pegs. **The use of metal or plastic staples is not acceptable.**

PART 3 - EXECUTION

3.1 Preparation of Surface

- .1 Ensure a smooth and even surface prior to placing mat.

3.2 Installation

- .1 Unroll the blanket over the newly graded topsoil areas.
- .2 Bury the mat minimum 300 mm in ground and flush with the edge of rock fill and edge of asphalt pathway.
- .3 Construct 150 x 150 mm keys for mat installation at top of the slope. Follow manufacturer's instructions.
- .4 The joint rolls should overlap minimum 150 mm, and be staked through the mat vertically and full length into the ground. Overlap the mat in a downstream direction.
- .5 Each stake will anchor the fibre mesh. The stakes will be spaced at a minimum of 1500 mm intervals in three rows equally spaced across each roll. Follow manufacturer's instructions.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- | | | |
|----|---|---------------------|
| .1 | Excavation and Backfilling | Section 31 23 10 |
| .2 | Special Sub-drainage piping | Section 33 46 16 |
| .3 | Preservation of Watercourses and Wetlands | Section 35 01 40.92 |

1.2 Source Quality Control

- .1 The size and quality of all stone (filter, round rip rap and monoliths, small cobble) shall be approved by the NCC Representative prior to delivery to the site.

PART 2 - PRODUCTS

2.1 Materials

Stone materials (Angular riprap) are to be free from clay lumps, organic material and other deleterious materials, which do not deteriorate when exposed to air and water and shall withstand cycles of wetting and drying and freezing and thawing. Stones must also match the colour of the existing riprap on site.

- .1 **Angular Riprap (Class IV):** clean, washed, boulders. Stone to be granite or limestone with a Specific Gravity of 2.5 or higher.
The gradation of the rock fill to be within the limits as specified:

| Nominal Diameter | (mm) |
|------------------|------|
| D15 | 275 |
| D50 | 400 |
| D85 | 550 |
| D100 | 775 |

- .2 A representative sample of the rip rap will be inspected at the quarry by the NCC Representative or his representative. Contractor will ensure that the material is separated at the quarry in such a way that will facilitate visual inspection.

- .3 **Armour Stone Wall Boulders:**

Boulder Type A: Armour stone with minimal dimensions (width, length and height) 2000x1000x750mm

- .4 Perforated sub-drainage pipe, 150mm diameter to be placed behind armour stone wall as indicated on the contract drawing.

PART 3 - EXECUTION

3.1 Placement of materials:

- .1 Rip Rap shall be installed over existing culverts, **do not sandwich geotextile.**

- .2 Displace existing rip rap to allow for the placement of 1 layer of new rip rap. Contractor must ensure that all newly placed rip rap meets the requirements specified in Section 2.1.1 and the general dimensions on the contract drawings.
- .3 Rip rap shall be installed by hand, stones larger than 400mm may be machine lay. The drop height of rock fill shall be less than 1.0 metre. The materials shall be well distributed as far as practical, so as to fill the voids and form a stable embankment, fill remaining gaps with small cobble (50-250mm) The embankment shall be constructed to the width, depth and thickness as specified in the contract documents.

3.2 Placement of armour stone walls:

- .1 Ensure stone placements match the design intent and the wall layout is approved by the NCC Representative. Remove and stockpile existing stone wall for later reinstatement. Excavate to depth indicated and seek approval prior to installing new stone wall. Gaps between stones to be saw cut and or chiselled to ensure a tight fit. Any saw cuts must be roughed up using a chisel.
- .2 Fill gaps behind wall with specified riprap, topsoil, or seed as indicated on the contract drawings.
- .3 Do not drop stones in place.
- .4 Support and protect existing boulder wall as required during installation of new wall.

3.3 Surplus Material

- .1 Remove excess material off site unless otherwise indicated by the NCC Representative.

END OF SECTION

PART 1 - GENERAL

1.1 Related Work Specified Elsewhere

- .1 Site Work, Demolition and Removals
- .2 Clearing and Grubbing

Section 02 41 13
Section 31 11 00

PART 2 - MATERIALS

- 2.1 Barriers:** barriers to consist of steel T-rail posts 40 x 40 x 5 x 2440 mm., at 1800 mm o.c., with wood slat snow fencing attached to posts with 9 gauge wire, 13 per post.

PART 3 - EXECUTION

3.1 Trees and Shrubs to be Retained

- .1 Unless otherwise indicated on the drawings or instructed on site by the NCC Representative , retain and protect all existing trees and shrubs on site. Do not remove any plant without the express authorization of the NCC Representative .

3.2 Protection of Existing Trees

- .1 Do not disturb or compact grade within the canopy of trees or shrubs to remain. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .2 Minimize stripping of soil or excavation within 3 metres of existing trees.

3.3 Installation of Barriers

- .1 Install barriers around all Butternut trees (a federally designated endangered species) located within 3 metres of the proposed edge of pathway or limit of grade changes. The location of all butternut will be flagged in the field by the NCC Representative.
- .2 Install barrier around existing Iron Wood located near pathway and staging area.
- .2 Install barriers minimum 1 metre from trunk of Butternut trees. Increase distance where space allows.
- .3 Barriers to be installed prior to the start of any other work on the project site.

END OF SECTION

PART 1 – GENERAL

1.1 Related Work

- .1 Excavation and Backfilling Section 31 23 10
- .2 Preservation of Watercourses and Wetlands Section 35 01 40.92

1.2 Description

- .1 This section is the materials specification for the following granular materials:
 - .1 MG -20 (Granular 'A')

1.3 References

- .1 Ontario Provincial Standard Specification (OPSS):
 - .1 OPSS 1010 Material Specification for Aggregates – Granular A, B and Select Subgrade Material

PART 2 – PRODUCTS

**2.1 Materials;
General Requirements**

- .1 Any granular materials specified for the various works, on the drawings or in other sections of the specifications or by direction of the Contract Administrator, shall conform to this material specification for the class of granular material required.
- .2 The materials shall be selected or produced from pits or quarries to conform to the requirements specified herein for each class of granular materials.
- .3 Material retained on the number 4 sieve shall consist of hard durable particles or fragments of stone or gravel.
- .4 Materials that break up when alternatively frozen and thawed or wetted and dried shall not be permitted.
- .5 Fine aggregate passing the Number 4 sieve shall consist of natural or crushed sand, and, material passing the Number 200 sieve shall consist of fine mineral particles.
- .6 The material shall be free from vegetable matter and lumps or balls of clay.
- .7 The material shall be non-plastic and non-frost susceptible.
- .8 Blending to obtain the correct gradation will be permitted when the Contractor demonstrates that he can produce a correct gradation and has a plant capable of producing to the satisfaction of the Contract Administrator.
- .9 The Contractor shall advise the Contract Administrator two weeks in advance of the intent use of any of the specified

materials to allow sufficient time for sampling and testing. The Contractor shall submit samples of granular materials to be used in the works if so requested by the Contract Administrator.

- .10 Approval of a sample does not mean acceptance of the whole source. Each load of material received at the job site shall be subject to all the requirements of that material.
- .11 All gradation requirements are shown as percentage by weight passing U.S. Standards Sieves, A.A.S.H.O. M-92-65.

**2.2 Materials:
Specific Requirements**

- .1 Granular "A":
 - .1 This material shall conform to OPSS 1010.
- .2 Select Subgrade Material (SSM):
 - .1 As per Section 31 23 10.

END OF SECTION

PART 1- GENERAL

- | | | |
|--------------------------|--|--|
| 1.1 Related Works | .1 Excavation and Backfilling .2 Geotextile .3 Granular | Section 31 23 10 Section 31 32 21 Section 32 11 23 |
| 1.2 Protection | .1 Prevent damage to buildings, landscaping, curbs, sidewalks, roads and trees. Make good on any damage. | |

PART 2- PRODUCTS

- | | |
|----------------------|--|
| 2.1 Materials | .1 Granular "A": as per Section 32 11 23 .2 Geotextiles as per Section 31 32 21 |
|----------------------|--|

PART 3- EXECUTION

- | | |
|------------------------------|--|
| 3.1 Layout of Pathway | .1 Notify the NCC Representative after completion of each stage and receive approval of layout prior to proceeding to next stage. Stages: .1 Staking of centerline. .2 Subgrade .3 Sub-base .2 All curves shall be true. No tangents shall be accepted at the beginning or end of curves. Obtain approval of the NCC Representative on site during work. |
| 3.2 Inspection | .1 Check graded subgrade for conformity with elevations and sections before placing granular base materials and obtain approval of the NCC Representative . .2 Proof roll graded subgrade surface with a heavy smooth drum roller (weight and type of roller to be approved by the NCC Representative). .1 Check for unstable areas. .2 Check for areas requiring additional compaction. .3 Notify the NCC Representative of unsatisfactory conditions. |
| 3.3 Sub-base | .1 Refer to Section 31 23 10, Excavation and Backfilling |
| 3.4 Geotextile | .1 Place Geotextiles (where indicated) on compacted sub-grade in accordance with Section 31 32 21 |
| 3.5 Base Course | .1 Place Granular 'A' and Granular 'B' base materials to compacted thickness as indicated. |

- .2 Place in layers not exceeding 150mm compacted thickness. Compact each layer to 100% maximum dry density as determined by Standard Proctor Density.
 - .3 Obtain approval of the NCC Representative prior to laying of asphalt.
- 3.6 Surface Course** .1 Refer to Section 32 12 16, Asphalt
- 3.7 Reinstatement of Edges** .1 Reinstatement edges of pathway with approved earth fill and topsoil as indicated.

END OF SECTION

PART 1 - GENERAL

1.1 Related Works Specified Elsewhere

- .1 Excavation and Backfilling Section 31 23 10
- .2 Granular Section 32 11 23
- .3 Pathway Construction Section 32 11 30

1.2 References

- .1 Ontario Provincial Standard Specification (OPSS):
 - .1 310, 311
- .2 City of Ottawa Special Provisions 2009:
 - .1 F-3104
- .3 City of Ottawa Standard Detailed Drawings 2009:
 - .1 R-10

1.3 Protect existing items designated to remain and materials designated for salvage and relocation. In event of damage, immediately replace such items or make repairs to the satisfaction of the NCC Representative and at no additional cost to the Commission.

1.4 Site Conditions

- .1 Contractor to contact appropriate utilities to verify presence and location of all overhead and underground services and establish location for all such services in the field before commencing work. Report any discrepancies to the NCC Representative

1.5 Basis of Payment

- .1 Basis of payment clauses included in references are deleted in their entirety and will be measured and paid as per Section 01 11 00 – Pay Item Description

PART 2 - PRODUCTS

2.1 Materials

- .1 Performance Graded HL3 Hot Mix Asphalt – as specified in Item List:
 - .1 This material shall conform to OPSS 310 as amended by City of Ottawa Special Provisions F-3104
- .2 Tack Coat
 - .1 This material shall conform to OPSS 310 as amended by City of Ottawa Special Provision F-3107

PART 3 - EXECUTION

3.1 Asphalt Paving

- .1 The Contractor shall notify the NCC Representative five (5) days prior to paving.
- .2 The Contractor must obtain the NCC Representative's approval before placing any asphalt.
- .3 Asphalt is to be placed to thicknesses, grades and lines as shown on plans or as indicated by the NCC Representative
- .4 The Contractor paving shall be conducted as specified in OPSS 310 or as directed by the NCC Representative.
- .5 Step joints shall be used as indicated where new asphalt will connect to existing pavement.

3.2 Quality Control and Assurance

- .1 OPSS 310 sub-sections 310.07.01 and 310.07.05 are deleted in their entirety.
- .2 The Contractor must supply a minimum of one (1) quality assurance sample and one (1) referee sample to the NCC Representative . The samples shall be randomly chosen or as directed by the NCC Representative. The NCC Representative may request additional samples.
- .3 The samples shall be delivered within 4 hours to a location as specified by the NCC Representative .
- .4 Samples shall be accompanied by the City of Ottawa 'Quality Assurance Sample Data Sheet' for Hot Mix Asphalt and completed to the satisfaction of the NCC Representative .

3.3 Compaction

- .1 Compaction requirements shall be as specified in OPSS sub-section 310.08.015.03 and meet the requirements specified in OPSS 310, Table 9, to the satisfaction of the NCC Representative
- .2 The Contractor shall conduct the compaction testing and supply the NCC Representative with the results.

END OF SECTION

PART 1 - GENERAL

- 1.1 References**
- .1 CGSB 1-GP-5M-77, Thinner, Petroleum Spirits, Low Flash (R/84).
 - .2 CGSB 1-GP-12c-68, Standard Paint Colors.
 - .3 CGSB 1-GP-71-83, Method of Testing Paints and Pigments.
 - .4 CGSB 1-GP-74M-79, Paint, Traffic, Alkyd.

PART 2 – PRODUCTS

- 2.1 Materials**
- .1 Paint:
 - .1 To CGSB 1-GP-74M, alkyd traffic paint.
 - .2 Color:
 - .1 to CGSB 1-GP-12C, **YELLOW** 505-308.
 - .3 Upon request, the NCC Representative will supply a qualified product list of paints applicable to work. Qualified paints may be used but the NCC Representative reserves right to perform further tests.
 - .2 Thinner: to CGSB 1-GP-5M.
- 2.2 Equipment Requirements**
- .1 Paint applicator to be an approved pressure type mobile distributor capable of applying paint in single, double and dashed lines. Applicator to be capable of applying marking components uniformly, as rates specified, and to dimensions as indicated, and to have positive shut-off.

PART 3 – EXECUTION

- 3.1 Condition of Surfaces**
- .1 Pavement surface to be dry, free from ponded water, frost, ice, dust, oil, grease and other foreign materials.
- 3.2 Application**
- .1 Lay out pavement markings and obtain approval by the NCC Representative .
 - .2 Unless otherwise approved by the NCC Representative , apply paint only when air temperature is above 10°C, wind speed is less than 60 km/h and no rain is forecast within next 4 h.
 - .3 Apply traffic paint evenly at rate of 3 m²/L.
 - .4 Do not thin paint unless approved by the NCC Representative .
 - .5 Symbols and letters to conform to dimensions indicated.

- .6 Paint lines to be of uniform colour and density with sharp edges.
 - .7 Width of paint lines to be 60 mm.
 - .8 Thoroughly clean distributor tank before refilling with paint.
- 3.3 Tolerance**
- .1 Paint markings to be within plus or minus 12 mm of dimensions indicated.
 - .2 Remove incorrect markings as indicated by the NCC Representative .
- 3.4 Protection of Complete Work**
- .1 Protect pavement markings until dry.

END OF SECTION

PART 1 - GENERAL

1.1 Related Work Specified Elsewhere

- | | |
|-------------------------------|---------------------|
| .1 Environmental Protection | Section 01 35 43 |
| .2 Clearing and Grubbing | Section 31 11 00 |
| .3 Excavation and Backfilling | Section 31 23 10 |
| .4 Seeding | Section 32 92 20.01 |

1.2 Testing

- .1 Obtain the NCC Representative 's initial approval of imported topsoil at source.
- .2 Test existing and imported topsoil for NPK, Mg, soluble salt content, organic matter and pH value prior to delivery to site.
 - 1 Submit 0.5 kg sample of topsoil to testing laboratory and indicate intended use.
 - 2 Determine requirements for amendments to bring pH value of soil to 5.5 to 7.7 level.
 - 3 Submit two copies of soil analysis and recommendations for corrections to the NCC Representative .
- .4 Inspection and testing of topsoil will be carried out by testing laboratory designated by the NCC Representative .
- .5 National Capital Commission will pay cost of testing.

1.3 Scheduling of Work

- .1 Schedule placing of topsoil to permit immediate seeding and planting operations.

PART 2 - PRODUCTS

1.4 Top soil

Top dressing soil as Supplied by Greely or approved equivalent

Mix Ratio:

50% clay topsoil,
25% black peat
25% aged bark fines

- 10%-15% organic matter
- pH: 5.5-7.5
- friable loam, neither heavy clay nor of very light sandy
- Free from subsoil, roots, grass, weeds, toxic materials, stones, foreign objects
- Topsoil containing crabgrass, couch grass or other noxious weeds, not acceptable.

1.5 Live Mulch (compost)

Live™ Mulch as supplied by Gro-Bark 1-888-GRO-BARK or approved equal. Submit sample and name of supplier five (5) days in advance and obtain approval by the NCC Representative prior to shipping to site.

PART 3 - EXECUTION

1.6 Preparation

- .1 Grade subgrade, eliminating uneven areas and low spots, ensuring positive drainage. Remove stones larger than 50 mm diameter and other deleterious materials. Remove subsoil that has been contaminated with oil, gasoline or calcium chloride. Dispose of removed materials as directed.
- .2 Cultivate all planting areas with 75mm of compost within the first 150mm of growing medium. Do not cultivate soils around existing trees and shrubs.

1.7 Reuse of Existing Topsoil

- .1 Unless otherwise indicated existing stockpiled topsoil shall be used for all reinstatement. Imported sources of topsoil shall only be used when all approved sources of existing topsoil have been used.

1.8 Spreading of Topsoil

- .1 Do not spread topsoil until the NCC Representative has inspected and approved subgrade.
- .2 Spread topsoil with adequate moisture in uniform layers during dry weather over approved, dry, unfrozen subgrade, where seeding is indicated.
- .3 Bring topsoil up to finished grade.
- .4 Remove stones, roots, grass, weeds, construction materials, debris and foreign non-organic objects from topsoil.
- .5 Manually spread topsoil around trees, plants, surface utilities and other obstacles.

1.9 Finish Grading

- .1 Fine grade entire top soiled area to contours and elevations as indicated or as directed. Eliminate rough spots and low areas to ensure positive drainage.
- .2 Roll topsoil with 50 kg roller, minimum 900 mm wide, to compact and retain surface.
- .3 Leave surface smooth, uniform, firm against deep foot printing, with fine loose texture.

1.10 Surplus Material

- .1 Dispose of surplus topsoil not required for fine grading/landscaping off site.

END OF SECTION

PART 1 – GENERAL

1.1 Related Works

- .1 Shop Drawings
- .2 Topsoil and Finished Grading

Section 01 33 00
Section 32 91 21

PART 2 – PRODUCTS

2.1 Materials

- .1 Seed:
 - .1 **Indigo–Graminis** as supplied by Indigo Horticulture or approved equal. Contact info: www.horticulture-indigo.com 1- (819) 826-3314
- .2 Packages will be individually labeled in accordance with ‘Seeds Regulations’ and indicate clearly the name of the supplier, species, content, grade and mass.
- .3 Use appropriate mechanical seeder and mulching equipment. The NCC Representative to approve all proposed products and equipment for the work.

2.2 Water

- .1 Free of impurities that would inhibit germination and growth.
- .2 Water must be supplied from a designated source.

2.3 Cellulose-based Mulch (paper mulch)

- .1 Use only cellulose-based mulch if seeds were broadcasted to ensure moisture retention during germination. Do not use a tackifier since wildflower seeds can’t penetrate through.

PART 3 - EXECUTION

3.1 Workmanship

- .1 Do not perform work under adverse field conditions as determined by the NCC Representative.
- .2 Additional care shall be taken when seeding adjacent to watercourses or paved area to ensure that seed does not spread or blown onto those areas.

3.2 Permanent Cover

- .1 Seeding shall not be carried out under adverse conditions, of high wind, frozen ground or ground covered with snow, ice or standing water.
- .2 Sowing shall be done during the following periods:
 - 1. Between May 15 and June 1st;
 - 2. Between September 1st and October 15. (Preferable)
 - 3. Dormant seeding after November 1st when daytime temperatures are consistently below 5oC.

3.3 Hydroseeding (Hydraulic seeding)

- .1 This application method will **NOT** be accepted for any of the seeding within this contract. It does not ensure firm seed to soil contact and prevents seed stratification to happen which will lead the seed to germinate at the wrong time of the year.

3.4 Mechanical Planters

- .1 Use appropriate agriculture broadcast or no till planter seeder. Specific models that can successfully plant native grasses and flowers include the Tye drill, Truax drill, John Deere Rangeland drill, and properly outfitted Brillion seeders.
- .2 Ensure soil cover over all new seeds.
- .3 Roll the seeded area after planting. This step is very important for germination success
- .4 The NCC Representative to approve all proposed products and equipment for the work.
- .5 Sowing rate to be followed and never increased as it will result in a dominant grass meadow rather than flower meadow where indicated.

3.5 Cellulose-based Mulch (paper mulch)

- .1 All bare soil areas shall be stabilized with paper mulch immediately after seeding.
- .2 The NCC Representative to approve all proposed products and equipment for the work.

3.6 Maintenance During Establishment and 2 year warranty Period

Establishment:

- .1 Water seeded areas to maintain optimum soil moisture level for germination and continued growth of grass. Control watering to prevent washouts.
- .2 Gully formations and washouts as a result of rain events greater than 20 mm per day shall be repaired, including regrading and re-seeding.
- .3 Seeded areas shall be accepted by the NCC Representative provided that:
 - .1 seeded areas are properly established;
 - .2 seeded areas are free of weeds and bare or dead spots;
 - .3 no surface soil is visible when grass has been cut to a height of 50 mm; (mown lawn only)
 - .4 seeded areas have been cut minimum 2 times, the second cut within 24 hours prior to acceptance.
- .4 Areas seeded in fall will be accepted the following spring, one month after the beginning of the growing season, provided the acceptance conditions are met.
- .5 The Contractor shall maintain the seeded areas including mowing until acceptance by the NCC Representative. Unacceptable areas shall be reseeded.
- .6 Weed control:
 - .1 Do not pull weeds at any time. Mowing or hand cutting will be accepted.

First year of maintenance:

- .1 Weed control:

- a. Mow weeds when they reach a maximum height of at 200-250mm height on a regular basis to prevent them from self-seeding throughout 1st growing season.
- b. A flail-type mower works best, as it chops up the weeds so they can dry out rapidly. Rotary mowers and sickle bar mowers will not be accepted.
- c. Do not pull weeds at any time due to soil disturbance. Large weeds can be cut by hand if required.
- d. If weeds become thick by mid-summer they should be cut back, along with the nurse crop. If weeds are thin, cut when in bloom, before they set seed.
- e. Do not mow down the year's growth at the end of the season. Leave it to help protect the young plants over the winter. The plant litter and the snow that it catches insulate the soil from rapid changes in soil temperatures, which can cause plant losses due to frost heaving.

Second year of maintenance:

.1 Weed control:

- a. Mow the meadow in spring of the second year right to the ground and rake off the cuttings.
- b. If weeds remain a problem in the second year, mow the meadow in late spring or early summer (before the weeds reach 200-250mm height)
- c. A flail-type mower works best, as it chops up the weeds so they can dry out rapidly. Rotary mowers and sickle bar mowers will not be accepted.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- .1 32 91 21 – Topsoil and Finished Grading
- .2 32 93 12.01 – Plant Maintenance and Warranty

1.1 Source Quality Control

- .1 The Contractor shall commence sourcing the specified material immediately upon award of the Contract.
- .2 Plant materials shall be conformed to species specified in the contract document. All plant materials shall be identified with their complete name and caliper.
- .3 No substitutions will be considered unless the Contractor can demonstrate to the NCC Representative's satisfaction that a prolonged and widespread search for the specified cultivars has been undertaken. The NCC Representative's written approval of plant substitution is required.
- .4 Obtain approval of source of plant material. Acceptance and selection of plant at its source does not prevent rejection on site prior to or after planting operations.
- .5 After harvesting and prior to shipping any plants from the growing nursery, notify the NCC Representative to allow for an inspection of the plants at the growing nursery to assure that all harvesting requirements have been satisfied.

1.2 Shipment and Pre-Planting Care

- .1 All plants shall be inspected by the Contractor for damage in transit. No defective material shall be delivered to the site. Material subsequently damaged shall be replaced immediately at no additional cost for the NCC.
- .2 Protect plant materials against abrasion, exposure and extreme temperature change during transit.
- .3 Keep roots moist and protected from sun and wind

1.4 Storage and Protection

- .1 Protect plant materials from frost, excessive heat, wind and sun during delivery.
- .2 Immediately store and protect plant material which will not be installed within 1 hour after their arrival on site, in storage locations approved by NCC Representative.
- .3 Protect plant material from damage during transportation
 - .1 When delivery distance is less than 30 km, and vehicle travels at speeds under 80 km/h, tie tarpaulins around plants or over vehicle box.

- .2 When delivery distance exceeds 30 km or vehicle travels at speeds over 80 km/h, use enclosed vehicle where practical.
- .3 Protect foliage and root balls using anti-desiccants and tarpaulins, where use of enclosed vehicle is impractical due to size and weight of plant material.
- .4 Protect stored plant material from frost, wind and sun and as follows:
 - .1 For pots and containers, maintain moisture level in containers.
 - .2 For balled and burlapped, and wire basket root balls, place to protect branches from damage. Maintain moisture level in root zones.

PART 2 - PRODUCTS

2.1 Plant Materials

- .1 Comply with Guide Specification for Nursery Stock, latest edition, of Canadian Nursery Trades Association referring to size and development of plant material and root ball.
- .2 All plant material to come from a commercial nurseries. The plant material shall be grown in zone 4b or 5a, according to the hardiness zones for plants in Canada established by Agriculture Canada.
- .3 Use plants with strong fibrous root systems free of disease, insects, defects or injuries and structurally sound. Plants must have been root pruned regularly, but not later than one growing season prior to arrival on site.
- .4 Substitution to plant material as indicated on planting plan are not permitted unless written approval has been obtained as to type, variety and size.
- .5 Size indicated are the minimum allowable after pruning.

2.2 Water

- .1 Free of impurities that would inhibit plant growth.

2.3 Mycorrhize Inoculants

- .1 Apply mycorrhize inoculants MYKE[®] PRO LANDSCAPE of Premier Tech Biotechnologies, following application instructions, or an equivalent approved by the NCC and registered in Canada;

2.4 Stakes

- .1 Wood Stake (untreated wood-spf), 50mm x 50mm x 2.44m

2.5 Guying Collar

- .1 Flat, woven polypropylene: DeepRoot; *ArborTie*, or approved equivalent. Color: Green.

2.6 Tree Trunk Protection

- .1 'Surtronc' fine mesh trunk wraps as supplied by Dendrotik or approved equal.

2.7 Mulch

- .1 Landscaper's cedar mulch as supplied from Greely sand and gravel or approved equal. Submit sample and name of supplier five (5) days in advance and obtain approval by NCC representative prior to shipping to site.

2.8 Growing Medium

- .1 Growing medium according to section 32 91 21 – Topsoil and Finish Grading

2.9 Anti-Desiccant

- .1 Wax-like emulsion to provide film over plant surfaces reducing evaporation but permeable enough to permit transpiration.

2.10 Bonemeal

- .1 Bonemeal: raw bonemeal, finely ground with a minimum analysis of 4% nitrogen and 20% phosphoric acid.

PART 3 - EXECUTION

3.1 Pre-Planting Preparation

- .1 Delivered plant material to be inspected and approved NCC Representative.
.2 NCC Representative to approve layout mockup of plant material for all beds until advised differently. Planting bed grades will also need to be approved before planting.

3.2 Planting Time

- .1 Plant materials shall be planted from August 15 to October 1 or from May 15 to June 30, unless otherwise approved by the NCC Representative
.2 The Contractor shall arrange for all plant species recommended for spring only digging, to be dug and containerized in the spring, immediately upon award of the Contract.
.3 The foliage of deciduous trees which have broken buds shall be sprayed with anti-desiccant to slow down transpiration prior to transplanting.

3.3 Excavation

- .1 Excavate planting holes to width and depth as indicated on drawings.
- .2 The sides of the planting hole shall be scarified so that water and roots can readily penetrate.
- .3 Place mycorrhize inoculants in the bottom of each plant hole as per manufacturer recommendation.

3.4 Planting

- .1 Planting trees and shrubs vertically in the places indicated, oriented in a manner to produce the best possible visual effect with the surrounding structures such as buildings, roads and sidewalks.
- .2 For burlapped root balls, cut away top one third of wrapping and wire basket without damaging root ball. Do not pull burlap or rope from under root ball.
- .3 For container stocks or root balls in non-degradable wrapping, remove entire container or wrapping without damaging root ball.
- .4 Place plant material at a depth similar to depth in nursery.
- .5 Backfill Growing Medium in 150 mm layers. Tamp each layer to eliminate air pockets. When two thirds of depth of planting pit has been backfilled, fill remaining space with water. After water has penetrated into soil, backfill to finish grade. Form watering saucer as indicated.
- .6 Water plant material thoroughly.
- .7 After soil settlement has occurred, fill with soil to finish grade.
- .8 Spread 100mm of mulch over all areas of bare soil. Mulch heavily contaminated with soil is not acceptable.
- .9 Remove dead and injured branches and branches that rub causing damage to bark.
- .10 Dispose of burlap, wire and container material off site.

3.5 Trunk Protection

- .1 Install rodent guards protection on deciduous trees as indicated.
- .2 Install trunk protection prior to installation of tree supports.

3.6 Tree Supports

- .1 Install tree supports as indicated.
- .2 Use two (2) stakes tree support for deciduous trees less than 3 m,
 - .1 Place stake on prevailing wind side, at a 150 mm distance from trunk.
 - .2 Drive stake minimum 300 mm into undisturbed soil beneath roots. Ensure stake is secure, vertical and not split.

- .3 Install 150 mm long guying collar 1500 mm above grade.

3.7 Protection during Construction

- .1 The Contractor shall protect all work and materials from damage due to planting operations; operations by other Contractors; or trespassers. Maintain protection during installation until acceptance. Treat, repair or replace damaged work immediately.
- .2 Damage done to any of the work by the Contractor, or any of their sub-contractors, shall be replaced by the Contractor at their own expense.

3.8 Maintenance Prior to Final Inspection

- .1 Perform following maintenance operations from time of planting until the project has been approved by the NCC Representative and the interim certificate of Approval has been issued at Substantial Performance.
 - .1 Water to maintain soil moisture conditions, for optimum establishment, growth and health of plant material without causing erosion.
 - .2 If acceptance is delayed due to a drawn out schedule by the Contractor, the Contractor shall be responsible for the scope of maintenance outlined in section 32 93 12.01 until final acceptance of the site. The Contractor shall still be responsible for the full term of the warranty as of the date of approval.

3.9 Final Inspection

- .1 At final inspection, plant material shall be acceptable when it is properly installed, unbroken, shows adequate formation of buds and is free from blight of any description. All planting areas shall be free of weeds, litter and in good order.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- .1 Tree and Shrub Planting Section 32 93 10.01

1.2 Warranty

- .1 All plant material shall be warranted for a period of **two years** from the date of substantial performance.
- .2 The warranty shall cover any defects in materials and workmanship.
- .3 A warranty inspection shall be carried out at the end of the warranty period.
- .4 Extend 2 year warranty on all replacement of plant material.

1.3 Duration

- .1 Plant material maintenance shall begin immediately after each portion of planting has been completed and shall continue throughout the maintenance and warranty period to the satisfaction of the NCC Representative.

PART 2 - PRODUCTS

2.1 Materials

- .1 Water: shall be free from any contaminants which could adversely affect plant growth.
- .2 Pruning Tools: shall be designed specifically for horticultural purposes and shall be clean, sharp and in proper, safe, working order. Pruning equipment shall be capable of producing clean, flush cuts without tearing or fraying the bark.

PART 3 - EXECUTION

3.1 Operational Constraints

- .1 Do each maintenance operation continuously and complete within a reasonable time period.
- .2 No maintenance equipment, materials or other miscellaneous items may be stored on site.
- .3 All debris, waste and other extraneous material resulting from the maintenance operation shall be removed from the site daily upon completion of maintenance.
- .4 The Contractor shall be fully acquainted with all relevant Provincial and Municipal By-laws and Regulatory Codes relating to the work of this contract, and will be required to comply with such by-laws and codes without extra compensation.
- .5 Notify the NCC Representative immediately of damage incurred by pest, disease, mechanical or vandalism.

3.2 Interim Replacement of Plant Material

- .1 Throughout the maintenance and warranty period, units of plant material that are found to be unacceptable will be replaced by the Contractor. Any unacceptable material must be replaced within one month unless otherwise directed by the NCC Representative. Weekly inspections must be reported for the first growing season.
- .2 At the discretion of the NCC Representative, plant material that is identified as dead or in a poor or diseased condition shall be immediately removed from the site.

3.3 Watering

- .1 The Contractor is responsible for interim manual watering of all plant material, from time of planting until the end of the warranty period (24 MONTHS).
- .2 Water all plant material immediately after installation. Thereafter,
 - .1 Water daily for the first week after planting;
 - .2 Water every second day for the next 3 weeks;
- .3 For the first warranty year;
 - .1 The contractor shall submit for approval a watering schedule at the beginning of the warranty period. The watering shall occur at least once a week, on Thursday, Wednesday or Tuesday. Once the day is chosen, the watering shall happen each week at the same day.
 - .2 Provide all water required to keep soil within and around the root and in the soil at optimum moisture content between 10 and 20% as measured using a General Digital Moisture Meter.
 - .3 Proceed to watering with a slow water spray jet oriented toward the growing media.
 - .4 The watering shall be made before 11am or after 2:30pm to avoid full sun period. Watering should also be avoided during peak use period between 7-9am, 12-1pm and 3-5pm.
 - .5 Proceed to the watering even on rainy days unless receiving written notice of the NCC Representative.
 - .6 Hose bibs are available on site, see plans.
- .4 For the remainder of the warranty period, thoroughly water whenever natural precipitation falls below 20 mm per week (Sunday to Saturday) for 2 consecutive weeks. Precipitation data shall be as per Environment Canada from the Macdonald-Cartier Airport weather station.
- .5 Ensure the root zone is thoroughly saturated during each watering operation.
- .6 Repair any damage caused by watering operations.

3.4 Weeding

- .1 All weeds, dead plants, leaves, branches, paper and other refuse within planting beds shall be removed by hand and disposed of off the Contract site.
- .2 Weeds shall not exceed 5 cm in height between weeding's.
- .3 Ensure the entire root system of weeds is removed and not just the above ground growth.
- .4 At a minimum, weeding shall occur:
 - .1 Weekly from June 1 to August 15;
 - .2 Every two weeks from May 1 to May 31, and from August 16 to October 31.
 - .3 A final weeding shall be completed immediately prior to the final warranty inspection.
- .5 The application of herbicides or mechanical weed removers is prohibited.
- .6 Ensure planting beds are weed free prior to the application of mulch material.
- .7 **The scope of work also includes weeding of joints between pavers and between curbs.**

3.5 Pruning

- .1 Prune off dead and injured branches in accordance with accepted arboricultural practices.

3.6 Garbage Removal

- .1 Keep planting beds free of garbage and other foreign debris. Remove garbage off-site.

3.7 Pest Management

- .1 Monitor plant material throughout the warranty period for any sign of disease or insect problems. Practice integrated pest management.
- .2 The use of pesticides shall not be permitted.

3.8 Winter Preparation

- .1 In the fall of each warranty year, the Contractor is responsible for completion of the following:
 - .1 Ensure all plant material is watered before freeze-up.

3.9 Spring Preparation

- .1 In late spring of each warranty year, after the soil has thawed and dried up, re-apply mulch over all thin or bare areas to ensure good weed suppression. Mulch thicknesses shall be in accordance with Section 32 93 10.01, Tree and Shrubs Planting. Ensure new growth is not suppressed by the application of mulch material. Ensure mulch is neat and tidy with clean edges.

3.10 Incidental Maintenance

- .1 The Contractor shall, in general, be responsible for any incidental maintenance to ensure healthy plant growth and a satisfactory appearance of plant material.

3.11 Reinstatement

- .1 Any damage to vegetation, hard surfaces, structures or services caused as a result of the Contractor's work methods and practices for plant material maintenance shall be reinstated or repaired to the satisfaction of the NCC Representative. The cost of such reinstatement or repair shall be solely at the Contractor's expense.

3.12 Final Warranty Inspection

- .1 A one-time inspection of all plant material shall be carried out by the NCC Representative upon completion of the maintenance and warranty period.
- .2 Plant material shall be **acceptable** when it is undamaged, shows adequate growth and formation of buds, and is free from blight of any description. All planting beds and tree pits shall be free of weeds, litter and in good order, including the removal of all tree supports.
- .3 Plant material shall be **unacceptable** when it does not meet this quality standard.
- .4 Units of plant material that are found to be unacceptable will be replaced by the Contractor at the earliest opportunity. The NCC Representative reserves the right to extend the Contractor's maintenance and warranty responsibilities for an additional one-year for replacement plant material.
- .5 In the event that this inspection is satisfactory to the NCC Representative, and that there are no outstanding commitments to the contracted works, the Contractor will be given final approval of the maintenance and warranty requirements.
- .6 Where, in the opinion of the NCC Representative, the Contractor has failed to complete obligations as detailed in this Specification; and further, fails to rectify said deficiency within two days of written notification from the NCC Representative, the NCC Representative reserves the right to retain others to complete the work and deduct incurred expenses from monies owing to the Contractor.

END OF SECTION

PART 1 - GENERAL

1.1 Related Sections

- .1 Environmental Protection Section 01 35 43
- .2 Tree and Shrub Planting Section 32 92 10.01

1.2 References

- .1 American National Standard Institute (ANSI)
 - .1 ANSI A300 (Part 1)-[2001], Tree Care Operations - Tree, Shrub and Other Woody Plant Maintenance - Standard Practices (revision and re-designation of ANSI A300-1995) (includes supplements).
 - .2 ANSI A300 (Part 2)-[1998], Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance - Standard Practices - Part 2 - Fertilization.
 - .3 ANSI A300 (Part 3)-[2000], Tree Care Operations - Tree, Shrub and Other Woody Plant Maintenance: Standard Practices - Part 3 - Tree Support Systems (a. Cabling, Bracing, and Guying) (supplement to ANSI A300-1995).
- .2 Canadian Nursery Landscape Association (CNLA)
- .3 International Society of Arboriculture (ISA)
- .4 Ontario Ministry of Agriculture, Food and Rural Affairs
 - .1 Publication 483-[2004], Pruning Ornamentals.

1.3 Definitions

- .1 Crown Cleaning: consists of selective removal of one or more of following items: dead, dying or diseased branches, weak branches and water sprouts.
- .2 Crown Thinning: consists of selective removal of branches to increase light penetration, air movement and reduce weight.
- .3 Crown Raising: consists of removal of lower tree branches to provide clearance.
- .4 Crown Reduction or Crown Shaping: decreases tree height and/or spread.
- .5 Vista Pruning: is selective thinning of framework limbs or specific crown areas to improve views.
- .6 Crown Restoration: improves structure, form and appearance of trees that have been severely headed or vandalized.

1.4 Quality Assurance

- .1 Certification: provide [International Society of Arboriculture] or

[Canadian Nursery Landscape Association] certification.

- .2 Field Samples: do sample pruning in manner to enable the NCC Representative to identify:
 - .1 Knowledge of target areas including branch bark ridge and branch collars.
 - .2 Technique for selection process and pruning used to establish desired form and shape.

1.5 Waste Management and Disposal

- .1 Divert wood materials from landfill to composting facility to be approved by the NCC Representative.

1.6 Tool Maintenance

- .1 Ensure that tools are clean and sharp throughout pruning operation: do not use tools that crush or tear bark.
- .2 Disinfect tools before each tree is pruned.
- .3 On diseased plant material disinfect tools before each cut.

PART 2 - PRODUCTS

2.1 Disinfectant

- .1 20% solution of sodium hypochlorite or 70% solution of ethyl alcohol.

PART 3 - EXECUTION

3.1 Application

- .1 Manufacturer's instructions: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 General

- .1 Prune in accordance with [Pruning Ornamentals] [ANSI A300], and as directed by the NCC Representative. Where discrepancies occur between standard and specifications, specifications govern.
- .2 Notify immediately the NCC Representative conditions detrimental to health of plant material or operations.
- .3 Prune during plant dormant period or after leaves have matured. Avoid pruning during leaf formation, at time of leaf fall, or when seasonal temperature drops below minus 10 degrees C.
- .4 Retain natural form and shape of plant species.
- .5 Do not:
 - .1 Flush cut branches.
 - .2 Crush or tear bark.
 - .3 Cut behind branch bark ridge.
 - .4 Damage branch collars.
 - .5 Damage branches to remain.

3.3 Pruning

- .1 Remove dead, dying, diseased and weak growth from plant material to provide crown raising and vista pruning as designated by the NCC Representative in order to promote healthy growth.
- .2 Remove live branches that:
 - .1 Interfere with healthy development and structural strength including branches crossed or rubbing more important branches.
 - .2 Are of weak structure including narrow crotches.
 - .3 Obstruct development of more important branches.
 - .4 Are broken.
- .3 Remove live branches to re-establish natural species form including:
 - .1 One or more developing leaders.
 - .2 Multiple growth due to previous topping.
 - .3 Branches extending outward from natural form.
 - .4 Undesirable sucker growth.
- .4 Remove loose branches, twigs and other debris lodged in tree.
- .5 Remove vines.
- .6 For branches under 50 mm in diameter:
 - .1 Locate branch bark ridge and make cuts smooth and flush with outer edge of branch collar to ensure retention of branch collar. Cut target area to bottom of branch collar at angle equal to that formed by line opposite to branch bark ridge.
 - .2 Make cuts on dead branches smooth and flush with swollen callus collar. Do not injure or remove callus collar.
 - .3 Do not cut lead branches unless directed by the NCC Representative.
- .7 For branches greater than 50 mm in diameter:
 - .1 Make first cut on lower side of branch 300 mm from trunk, one third diameter of branch.
 - .2 Make second cut on upper side of branch 500 mm from trunk until branch falls off.
 - .3 Make final cut adjacent to and outside branch collar.
- .8 Ensure that trunk bark and branch collar are not damaged or torn during limb removal.
 - .1 Repair areas which are damaged, or remove damaged area back to next branch collar.
- .9 Remove additional growth designated by the NCC Representative.

3.4 Root Girdling

- .1 For girdling roots one-quarter size of trunk diameter or larger, V-cut girdling root one-half way through at point where root is crossing.
- .2 Remove exposed portion of girdling root as directed by the NCC Representative after cleanly cutting root flush with grade on each side of parent root. Do not injure bark or parent root.

- 3.5 Care of Wounds** .1 Shape bark around wound to oblong configuration ensuring minimal increase in wound size. Retain peninsulas of existing live bark.
- 3.6 Clean-up** .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 Collect and compost whenever applicable pruned material daily and remove from site.
- .3 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

PART 1 – GENERAL

1.1 Related Work

- .1 Rip Rap and Armour Stone Section 31 37 00
- .2 Excavation and Backfilling Section 31 23 10
- .3 Preservation of Watercourses and Wetlands
Section 35 01 40.92

1.2 Description of work

- .1 This section is the materials specification for the installation of two solid PVC drainage pipes behind the lower armour stone wall on east side of O-Train. The drainage pipes will serve to capture floodwaters, and are to be installed vertically with 90 degree elbows below grade. The drainage pipes must be fitted tightly between the armour stone and discharge toward the Rideau River as specified in the contract drawings.

1.3 Measurement for Payment

- .1 Payment for this item will be per drainage pipe with respective appurtenances and installed according to contract drawings.
- .2 No measurement or payment will be made for drainage pipe removed and replaced due to improper installation or damaged materials.

PART 2 – PRODUCTS

2.1 Materials available at PVC Industrial Products, Ottawa or similar retailer:

- .1 Solid 152mm diameter PVC drain pipes
- .2 Black grated caps for the pipes
- .3 90 degree elbows for the pipes
- .4 PVC cement to connect all pipes and fittings
- .5 Granular material to be placed underneath all sub-drainage piping.

2.2 Materials: Specific Requirements

- .1 S40 GREY PVC PIPE
- .2 150MM / 6 INCH BLACK ROUND GRATE
- .3 150 MM / 6 INCH S80 90 degree elbows
- .4 #11 PVC GREY COLOUR
- .5 #11 CLEAR PVC PRIMER
- .6 Granular material to be placed underneath all sub-drainage piping.

PART 3 – EXECUTION

3.1 Installation of Drainage Pipes

- .1 Install drainage pipe to line and grade shown on the Drawings or as directed by the NCC Representative .

- .2 Assemble pipe in accordance with manufacturer's instructions so when complete the drainage pipe will have a smooth and uniform invert.
- .3 Install drainage pipe on 100 millimetres of drainage material ensuring uniform support under bell and pipe body throughout full horizontal length.
- .4 Use longest pipe length manufactured where practicable to reduce number of joints on the sub-drain.
- .5 Commence installation of drainage pipe at armour stone wall and proceed upgrade.
- .6 Lay drainage pipe with bell upgrade.
- .7 Install black grated caps on end of sub-drain upgrade and secure to drainage pipe in accordance with manufacturer's recommendations.
- .8 Allowable variance from specified line to be +/- 100 millimetres. .
- .9 Allowable variance from specified grade to be +/- 25 millimetres.
- .10 Correct alignment and grade exceeding the allowable variance as directed by the NCC Representative.

3.2 Connection of Subdrain to Armour Stone Wall

- .1 Connect drainage pipe to new layer of armour stone wall, above existing base as shown on the Drawings or as directed by the NCC Representative.
- .2 Cut neat hole in armour stone wall to a maximum of 25 millimetres larger than the outside diameter of the drainage pipe.
- .3 Ensure drainage pipe does not protrude beyond outside of wall facing the river.
- .4 No bends greater than 90° will be permitted to alter the grade or alignment of the drainage pipe to the armour stone wall.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections** .1 Environnemental Protection Section 01 35 43
- 1.2 Environmental Requirements** .1 Operation of construction equipment in water is prohibited. Ensure a dewatered condition for operation of equipment.
- .2 Dumping excavated fill, waste material, or debris in watercourse is prohibited.

PART 2 - PRODUCTS

- 1 Silt fencing: Terrafence sediment control as supplied by geosynthetic Ottawa (613) 733-9585 or approved equal.

PART 3 - EXECUTION

- 3.1 Navigable Waters Protection** .1 At least 1 week prior to the start of construction, the Contractor shall provide a Public Safety Plan for working within a navigable waterway for review and approval by the .

- 3.2 Existing Flow Conditions** .1 Maintain existing flow pattern in natural watercourse systems.

- 3.3 Site Clearing and Plant Protection** .1 Conduct work to provide minimal disturbance to vegetated buffer zones, including aquatic vegetation.
- .2 Unless otherwise indicated on the drawings or instructed on site by the NCC Representative , retain and protect all existing trees on site.

- 3.4 Preservation and Reinstatement of Shoreline boulders** .1 Preserve and use existing boulders along the shoreline edge as indicated in the contract drawings.

- 3.5 Machinery** .1 Machinery shall arrive on site in a clean, washed condition, free of fluid leaks.
- .2 Install stabilized entrance for machinery as indicated on contract drawings.

- 3.6 Turbidity Curtain Installation** .1 Install turbidity curtain prior to the commencement of any site disturbance that has potential to mobilize silt and sediments.
- .2 Have installation approved by the NCC Representative prior to the start of site disturbance.

- 3.7 Fish, Reptile and Amphibian Recovery** .1 Captured fish shall be placed back in the active river flow.
- .2 Captured turtles, frogs or other wildlife shall be moved to similar habitat outside the work area.
- .3 Contractor Administrator to be present on site for fish, reptile and amphibian recovery.

- 3.8 Drainage** .1 Pumping water containing suspended materials into watercourse is

prohibited.

.2 Method of treatment and discharge of pumped water to be submitted for approval of the NCC Representative as part of Sediment and Erosion Control Plan.

**3.9 Removal of Sediment and
Silt Fencing**

.1 To be removed one week after final NCC completion of work is conducted.

END OF SECTION