

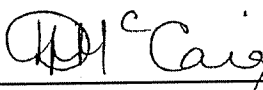
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PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Halifax Regional Council
June 19, 2007

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY: 

For Cathie O'Toole, CGA, A/Director - Finance

DATE: May 10, 2007

SUBJECT: Standard Tender Package

INFORMATION REPORT

ORIGIN

Halifax Regional Council, Item 10.1.6 - New Paving of Subdivision Streets, April 17, 2007.
Council Meade requested an Information Report showing a standard tender package.

BACKGROUND/DISCUSSION

HRM uses a standard tender package for all municipal service projects. The tender package is modified to reflect the specific details of each project. If the details of the project change or clarification of the project is required during the bidding phase of the procurement process prior to the closing of the tender, an addenda is issued. These addenda become an integral part of the contractual relationship between HRM and the bidder. Most addenda change or clarify the specifications of the project or extend the closing date of the tender.

Following the closing, the tenders are reviewed for the statutory requirements. Those bids not meeting these requirements are rejected as non-compliant. Bids meeting these requirements are sent to the relevant business unit for final documentation. If acceptable, a report is prepared for approval by the CAO or Regional Council. Once approved, the contract is executed and the contractor provides the required documentation (bonds, insurance, safety plans, etc). Staff then conducts a preconstruction meeting to discuss the scope of the work, procedures for payment, schedules, etc. After the preconstruction meeting has been held, the work can proceed.

BUDGET IMPLICATIONS

None

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

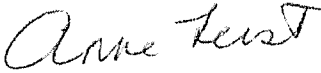
None

ATTACHMENTS

Standard Tender Package - Municipal Services

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Anne Feist, Operations Manager, Procurement at 490-4200
David Hubley, P.Eng, Manager, Design and Construction Services at 490-4845

Report Approved by: 
Anne Feist, Operations Manager, Procurement at 490-4200

Halifax Regional Municipality

TENDER NO. []

[PROJECT NAME]

[PROJECT LOCATION]

Standard Specifications

for

Municipal Services

TENDER SUBMITTED BY: _____

Please note the following changes to Tender 07-240 shall form part of the "Tender Documents".

This Addendum must be signed by the Tenderer in the appropriate space and must be incorporated into the tender document and returned at the time of tendering. Tenders that do not include this Addendum signed as required may be rejected.

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

1. SECTION 00330 - FORM OF TENDER (Section 4, Schedule of Quantities and Unit Prices)

Remove existing page 4 and page 5 and replace with the attached page 4 and page 5 marked as Addendum #1.

Please note: the following items have been made provisional:

Item 36. Culverts

Item 38. Remove Existing Structure

Item 39.1 Culvert Headwall

2. The closing date has been changed to read: 2:00 pm local time, Tuesday, May 1, 2006

SIGNATURE OF BIDDER

NAME OF BIDDER/COMPANY

ADDRESS

DATE

ISSUED BY: _____

DATE: _____

Please take note of the following changes to the specifications:

SECTION 00330 - FORM OF TENDER and SECTION 00530 FORM OF AGREEMENT

Liquidated damages increased from the minimum sum of \$200.00, or actual costs incurred to \$500.00, or actual costs incurred by HRM with supporting documentation, per working day.

SECTION 00810 - SUPPLEMENTARY GENERAL CONDITIONS

GC 19 WORKERS COMPENSATION INSURANCE clause has been modified

GC 25 WARRANTY clause has been modified (warranty increased from one year to two years).

SECTION 00900 - SUPPLEMENTARY SPECIFICATIONS

Section 01001 - GENERAL REQUIREMENTS, addition of clause 18.1 Site Cleanup

Section 01002 - ENVIRONMENTAL PROTECTION, subsection 4.1 replaced (protection of trees).

Section 02630 - WALKS, CURBS AND GUTTERS, subsection 2.1.1 replaced (air entrainment changed to 5 - 8%).

Section 02645 - TOPSOILING AND FINISH GRADING, subsection 2.2.2 replaced (topsoil rating changed to A from B).

Section 03300 - CONCRETE, addition of clause 3.10.2 Defective Work (addresses criteria for evaluating concrete slabs).

SECTION 01150 - MEASUREMENT AND PAYMENT

Pay item descriptions for the following have been modified.

3. Mass Excavation and Embankment - Common
13. Direct Buried Valves
41. Placement Materials - 41.1 Reinstatement Tape
42. Asphaltic Concrete - 42.10 to 42.14 Hand Patch, Cut and Patch, Planer Patch, Profile Correction and Spreader (Mechanical Paver) patch
49. Driveway Reinstatement
65. Pavement Markings
80. Direct Buried Conduit
91. Guiderails

HALIFAX REGIONAL MUNICIPALITY
[PROJECT NAME]
[TENDER NO.]

SUMMARY SHEET

MARCH 2007

We have examined the plans and specifications and the site of the Work and hereby agree to supply all labour, materials, equipment, tools and incidentals to complete the project for the prices quoted.

TOTAL TENDER PRICE \$

Time for completion of the Work to Total Performance is [] weeks from the start date as indicated on the Order to Start Work.

*Addenda No. _____ to _____ inclusive were carefully examined.

Name of Company _____

Name and Title of Tenderer _____
(Please Print)

Signature of Tenderer _____

Address of Company _____

Telephone # _____ Fax # _____

Company's Tax Registration No. _____

- * The tenderer shall list and initial all addenda received during the tendering period and taken into account in preparing the tender.

ALL DOCUMENTATION REQUIRED FOR TENDER SUBMISSION IS TO BE ATTACHED TO THIS SUMMARY.

****End Summary****

PROJECT: [Tender Number]
[Name of Project]
[Location]

OWNER: Halifax Regional Municipality
% Procurement Department
3RD Floor Duke Tower
Scotia Square
P.O. Box 1749
Halifax, Nova Scotia, B3J 3A5

ENGINEER: Director, Transportation and Public Works
Halifax Regional Municipality
P.O. Box 1749
Halifax, Nova Scotia, B3J 3A5

1. Tender Submission .1 Tenderers shall submit completed Tender Documents, including all specifications, all clauses and all Project Documents (as defined in Section 00330.12.3), excluding project drawings, for above project in a sealed envelope CLEARLY MARKED as follows:

Tender No. _____

Description (Title) of Tender _____
Closing at 2:00 p.m., local time _____, 200__

Halifax Regional Municipality
% Procurement Manager
3RD Floor, Duke Tower, Scotia Square
Halifax, Nova Scotia, B3J 3A5

2. Post-Bid Submissions .1 Provide after close of bid period but before award of Contract a copy of the following documents:

Current and valid letter of Good Standing issued by an audit firm endorsed by Workers' Compensation Board (WCB) of Nova Scotia to audit for the type of work covered by this tender. The letter must indicate that the tenderers current standing falls into one of the following categories:

- .1 Certificate of Recognition
- .2 Audit Pending
- .3 In the Process

- | | | | |
|----|--|----|--|
| | | .2 | Where the Proponent has not yet obtained a Certificate of Recognition, the Proponent must submit a letter from the WCB endorsed audit firm indicating the Proponent is "in the process" (maximum six (6) months) of obtaining the Certificate of Recognition. "In the process" has been defined as the completion of the four mandatory courses (Safety Basics, Safety Orientation, Safety Audit and Leadership) and Safety Act (such as, but not limited to WHMIS, TDG, TCP, Confined Space and First Aid) and for a period no greater than six (6) months. |
| | | .3 | Submit post bid submission documents within 48 hours after tender closing to be eligible to receive award of Contract. |
| 3. | <u>Tender Opening</u> | .1 | Tenders will be opened immediately after time of tender closing. Opening will be public and held at designated Conference Room 3rd Floor, Duke Tower, Scotia Square. |
| 4. | <u>Return of Project Documents and Deposit</u> | .1 | Tenderers shall return the complete Project Documents excluding the Project Drawings with their Tender. A bid will not be considered complete unless the Project Documents are returned. Deposit for Project Documents is non-refundable. |
| 5. | <u>Accuracy of Referencing</u> | .1 | Indexing and cross-referencing are for convenience only. |
| 6. | <u>Conditions of Tendering</u> | .1 | Tenderers are requested to become fully aware of the content of all Contract Documents in preparation of Tender. Refer to Section 00330 - Form of Tender, Subsection 3.12 for a complete list of Contract Documents. |
| | | .2 | Project Documents are non-transferable. Tenders will not be accepted from Contractors that have not obtained the Documents from HRM Procurement, or its designate. |
| 7. | <u>Tenderers to Investigate</u> | .1 | Tenderers will be deemed to have familiarized themselves with existing site and working conditions and all other conditions which may affect performance of the contract. No plea of ignorance of such conditions as a result of failure to make all necessary examinations will be accepted as a basis for any claims for extra compensation or an extension of time. |

8. Clarification and Addenda
- .1 Notify Engineer not less than 3 working days before Tender Closing of omissions, errors or ambiguities found in Contract Documents. If Engineer considers that correction, explanation or interpretation is necessary, a written addendum will be issued. All Addenda will form part of Contract Documents.
- .2 Confirm that all addenda have been received by acknowledgement in 2.4 of the Form of Tender and enclose a signed copy of each addendum with the tender.
- .3 The Engineer's representative during the tendering of this project shall be [], telephone 490 - [].
9. Preparation of Tender
- .1 The tender must be legible and written in ink or typewriter. All blank spaces are to be filled in and all items must be bid, unless the tender specifically permits otherwise. Tenders must not contain any qualifying statements added to the tender form or alterations to the tender form unless specifically authorized in the Tender Documents or the tender will be rejected. Any corrections must be initialled by the person signing the tender.
10. Taxes
- .1 Include all taxes except the Harmonized Sales Tax (HST) in tender unit prices. Add HST in the amount of 14% in the applicable location in the Schedule of Quantities and Unit Prices.
- .2 The Contractor will indicate on each application for payment, as a separate amount, the appropriate Harmonized Sales Tax the Owner is legally obliged to pay. This amount will be paid to the Contractor in addition to the amount certified for payment under the Contract.
11. Tender Security
- .1 For bids over \$50,000 provide Tender Security in amount of 10% of the total Tender Price with Tender in the form of a Certified Cheque or Money Order payable to the Owner, or a Bid bond on CCDC Form 220.
12. Contract Security
- .1 Refer to Section 00720 - General Conditions, subsection GC24-SECURITY for form and amount of Contract Security.

INFORMATION TO TENDERERS

-
- | | | | |
|-----|---|----|---|
| 13. | <u>Insurance</u> | .1 | Refer to Section 00720 - General Conditions, subsection GC21-INSURANCE, for insurance required. |
| 14. | <u>Form of Agreement</u> | .1 | Form of Agreement is attached for information purposes only. |
| 15. | <u>Return of Tender Security</u> | .1 | Tender Security will be returned to:

.1 all except the three lowest acceptable Tenderers within 7 days of Tender Opening.

.2 remaining Tenderers Security will be returned within 14 days of date of Award following receipt by Owner of executed Agreement, specified Contract Security, and Insurance documents. |
| 16. | <u>Amendment or Withdrawal of Tender</u> | .1 | Tenders may be amended or withdrawn by letter, telegram or facsimile (490-4206.) Amendment or withdrawal by telegram or facsimile must be certified by registered letter postmarked prior to date and time of closing. |
| | | .2 | Amendment of individual unit prices is the only acceptable price amendment. Amendments shall not disclose either original or revised total tender price. |
| | | .3 | Head amendment or withdrawal as follows:
“[Amendment]/[Withdrawal] of Tender for []; Tender # []”. Sign and seal as required for Tender, and submit at the address given for receipt of Tenders prior to time of Tender Closing. |
| 17. | <u>Right to Accept or Reject any Tender</u> | .1 | The Owner specifically reserves the right to reject all tenders if none is considered to be satisfactory and, in that event, at its option, to call for additional tenders.

Without limiting the generality of any other provision hereof, the Owner reserves the right to reject any tender:

(a) that contains any irregularity or informality;

(b) that is not accompanied by the security documents required;

(c) that is not properly signed by or on behalf of the tenderer; |

- (d) that contains an alteration in the quoted price that is not initialled by or on behalf of the tenderer;
- (e) that is incomplete or ambiguous; or
- (f) that does not strictly comply with the requirements contained in these instructions.

Notwithstanding the foregoing, the Owner shall be entitled, in its sole discretion, to waive any irregularity, informality, or non-conformance with these instructions in any tender received by the Owner.

In the event that a number of Tenderers submit bids in substantially the same amount, the Owner may, at its discretion, call upon those Tenderers to submit further bids.

No term or condition shall be implied, based upon any industry or trade practice or custom, any practice or policy of the Owner or otherwise, which is inconsistent or conflicts with the provisions contained in these conditions.

- | | | | |
|-----|-------------------------------|----|--|
| 18. | <u>Cancellation of Tender</u> | .1 | The Owner reserves the right to cancel any request for tender at any time without recourse by the contractor. The Owner has the right to not award this work for any reason including choosing to complete the work with the Owners' own forces. |
| 19. | <u>Site Investigation</u> | .1 | With permission of the Owner, Tenderers may visit and examine the Site and subsurface conditions to satisfy themselves of the conditions which may be encountered. |
| | | .2 | Owner may arrange a published site meeting to review the requirements of the Contract with Tenderers. Failure of the Owner to grant permission to a contractor who failed to visit the site during a published site meeting will <u>not</u> negate Section 00100, clause 7 - Tenderers to Investigate. |
| 20. | <u>Contingency Allowance</u> | .1 | A contingency allowance may be included in the Form of Tender for the use and convenience of the Owner. Tenderers shall not construe that the inclusion of the allowance implies that any part or all of the allowance shown will be expended or paid to the Tenderer to whom a contract is awarded. Expenditures from the |

contingency allowance will be made only upon the issuance to the Contractor of approved change orders in the amount of change order.

21. Responsible Bidder .1 HRM intends to only contract with responsible bidders who are in the business of providing the goods and/or services bid upon and can provide proof that they can furnish satisfactory performance based on past work experience with HRM, other companies, or government agencies, and have the financial, managerial, and resource capabilities for the size of project bid upon. Satisfactory performance includes meeting all of the requirements of the various federal and provincial regulations and agencies for completion of work and making payments to subcontractors in a timely basis. The evaluation process may include reference checks, third party credit checks, site visits, and/or your firm may be asked to allow HRM to complete personal credit and/or criminal record checks if company information is not available or adequate. Bidders found unacceptable during the evaluation process will not be given further consideration.

**** End 00100 ****

1. SALUTATION:

.1 To: Halifax Regional Municipality,
% Procurement Department
3rd Floor, Duke Tower, Scotia Square,
P.O. Box 1749, Halifax, NS, B3J 3A5

.2 For: Tender #, Project Name/Location

.3 From: _____

2. TENDERER DECLARES:

- .1 That this tender was made without collusion or fraud.
- .2 That the proposed Work was carefully examined.
- .3 That the Tenderer has visited the project site and is familiar with local conditions.
- .4 That Contract Documents and Addenda No. _____ to _____ inclusive were carefully examined, signed where indicated and have been enclosed with this tender submission.
- .5 That all the above were taken into consideration in preparation of this Tender.

3. TENDERER AGREES:

- .1 To enter into a contract to supply all labour, material and equipment and to do all work necessary to construct the Work as described and specified herein for the unit prices stated in the Schedule of Quantities and Unit Prices.
- .2 That the Total Tender Price shall be the sum of the products of the tendered unit prices times the estimated quantities in the Schedule of Quantities and Unit Prices plus the Harmonized Sales Tax.
- .3 That the unit prices shall be the basis for the Total Tender Price, and if the amount tendered for an item does not agree with the extension of the estimated quantity and the unit price for that item, then the amount tendered for that item and the Total Tender Price shall be corrected accordingly.

- .4 That the Owner reserves the right to make any changes, additions or deletions to the quantities.
- .5 That this Tender is valid for acceptance for 60 days from the time of Tender Closing.
- .6 That measurement and payment for items listed in the Schedule of Quantities and Unit Prices shall be in accordance with corresponding items in Section 01150 - Measurement and Payment and Section 00900 - Supplementary Specifications.
- .7 To provide evidence of ability and experience within 7 days of request, including: experience in similar work, work currently under contract, senior supervisory staff available for the project, equipment available for use on project, and financial resources.
- .8 To execute in duplicate the Form of Agreement and forward same together with the specified contract security and insurance documents to the Owner within 14 days of written notice of award.
- .9 That failure to enter into a formal contract and give specified insurance documents and contract security within time required will constitute grounds for forfeiture of certified cheque or enforcement of bid bond.
- .10 That if Tender Security is forfeited, Owner will retain difference in money between Total Tender Price and amount for which Owner legally contracts with another party to perform the Work and will refund balance, if any, to Tenderer.
- .11 To pay the Halifax Regional Municipality as liquidated damages the minimum sum of **\$500.00**, or actual costs incurred by HRM with supporting documentation, per working day during the period of delay of the contract in accordance with General Conditions, GC 34 - Liquidated Damages.
- .12 That the Contract Documents include:
 - .1 STANDARD SPECIFICATIONS FOR MUNICIPAL SERVICES listed in Table of Contents, latest revision at the date of tender closing.
 - .2 The latest revision, at the date of tender closing, of the Halifax Regional Water Commission's Design and Construction Specifications.
 - .3 Project Documents
 - .1 Form of Tender (Section 00330)
 - .2 Form of Agreement (Section 00530)
 - .3 Supplementary Specifications (Section 00900)
 - .4 All Addenda as issued and as confirmed in Section 00330.2.4 of this document
 - .5 Drawings
[Drawing No., Title, Date, Revision]

- .13 .1 To complete the Total Performance of the Work within [] weeks from the start date indicated on the Order to Start Work.
- .2 It is the intention that construction work be carried out in such a manner that the requirements of the specifications are strictly adhered to. The onus is on the contractor not to begin construction if it is likely that weather conditions may prevent the work from being completed on time or from meeting the specifications. The recommended cut off for concrete sidewalk construction is October 15, and for concrete curb and asphalt pavement is October 31. If construction does continue into cold weather and requires cold weather protection measures, such measures shall be at the contractors expense. In the event that construction work begins and cannot be completed to the specifications, the Contractor shall provide and maintain temporary measures to ensure a safe construction site, which may include temporary street, driveway and sidewalk paving; erosion and sedimentation control; snow and ice control; and other measures required by the Engineer, all at no additional cost to HRM. HRM shall not entertain any request from the contractor for additional costs incurred to complete the contract work after the cut off dates listed above.

For safety reasons salt may have to be placed on streets and sidewalks over the winter months. The contractor shall be responsible for any damage to newly installed curb and sidewalk which is caused by the placement of salt.

4. SCHEDULE OF QUANTITIES AND UNIT PRICES

.1 [Project Name]

No.	Item	Unit	Est. Qty.	Unit Price	Amount
-----	------	------	-----------	------------	--------

SUB-TOTAL \$

PLUS HST (14%) \$

TOTAL PRICE \$

.2 [Project Name]

No.	Item	Unit	Est. Qty.	Unit Price	Amount
-----	------	------	-----------	------------	--------

SUB-TOTAL \$ _____

PLUS HST (14%) \$ _____

TOTAL PRICE \$ _____

.3 Summary of Schedule of Quantities and Unit Prices

[PROJECT #1] \$ []

[PROJECT #2] \$ []

TOTAL TENDER PRICE \$

5. SIGNATURE*

Dated this _____ Day of _____, 20 ____ .

(Seal)

Name of Firm Tendering

Witness

Signature of Signing Officer

Name and Title (Printed)

Witness

Signature of Signing Officer

Name and Title (Printed)

Company Address

Telephone Number

Fax Number

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

6. SUMMARY

Tenderer shall complete the Summary Sheet located at the front of this tender document.

THIS AGREEMENT made this _____ day of _____ 20____

BETWEEN

(hereinafter called the "Contractor")

OF THE FIRST PART

- and -

HALIFAX REGIONAL MUNICIPALITY
(hereinafter called the "Owner")

OF THE SECOND PART

WITNESSETH AS FOLLOWS:

1. The Owner intends that the Work comprised in this Contract be constructed and has accepted a Tender by the Contractor for the construction, completion, testing and maintenance of the Work.
2. In consideration of the covenants and agreements hereinafter contained and to be performed by the Owner, the Contractor HEREBY AGREES with the Owner to do the following work viz:
 - (a) To find and supply all the plant, material, labour and workmanship necessary to fulfill the work specified in this agreement, on the terms and conditions herein contained, and to do the same at the rates herein specified.
 - (b) To commence and actively proceed with the Work of the Contract on the start date as stipulated within the order to start work and to complete all work under this Agreement to total performance within the time frame as stipulated in the Form of Tender.
3. The Contractor agrees that time shall be construed as being of the essence of the Contract.
4. In this Form of Agreement, words and expressions shall have the same meaning as are respectively assigned to them in the General Conditions of the Unit Price Contract hereinafter referred to.
5. The following documents prepared by the Owner for the construction of the Work shall be deemed to form and be read and construed as part of this Form of Agreement viz:
 - (a) The said Tender
 - (b) The General Conditions of the Unit Price Contract
 - (c) The Specifications of Work
 - (d) The Drawings
 - (e) Addendum/Addenda No. (s) _____

- (f) The "Order to Start Work" letter dated not later than seven (7) days after a meeting between representatives of the Owner, representatives of the Contractor, representatives of any utility (i.e. power, telephone, cable, water) having services likely to be affected by the proposed Work.
6. It is agreed that the Contractor has personal knowledge of the location of the proposed Work and is informed as to the actual conditions and requirements thereof including labour conditions and labour rules, and shall not claim at any time after the execution of the Contract that there was a misunderstanding in regard to such conditions and requirements.
7. In consideration of the payments to be made by the Owner to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Owner to construct, complete, test and maintain the works in conformity in all respects with the provision of the Contract.
8. The Owner hereby covenants to pay to the Contractor in consideration of the construction, completion, testing and maintenance of the work in good and lawful money of Canada for a Total Tender Price of:
- _____ \$ _____
- or such other sum as may be ascertained in accordance with the Contract at the times and in the manner prescribed in the Contract.
- The above includes the Harmonized Sales Tax
in the amount of: \$ _____
9. The Contractor agrees that the Owner may apply all payments for work completed or goods supplied, or services provided, to amounts owing to the Municipality by the Contractor, including related administration of late payment charges related to the amounts owing.
10. It is agreed that the quantities shown in the Form of Tender, Schedule of Quantities and Unit Prices are estimated quantities of the Work only and they are not to be taken as the final and correct quantities of the Work to be executed by the Contract and that payment will be made on the basis of the unit prices and lump sums tendered applied to the measured quantities of work finally carried out and further that these unit prices cover all the Contractor's obligations and liabilities under the Contract.
11. The Contractor shall give to the Owner liquidated damages in the amount of the minimum sum of **\$500.00** or actual costs incurred by HRM, with supporting documentation, per working day during the period of delay of the contract in accordance with General Conditions GC 34 - Liquidated Damages.
12. All grants, covenants, provisos, and claims, rights, powers, privileges and liabilities contained in this Form of Agreement imposed upon respective parties hereto and their respective heirs, executors, administrators, successors and assigns, in the same manner as if the words "heirs, executors, administrators, successors and assigns" had been inscribed in all proper and necessary places, and in the event of more than one person being the Contractor the said grants, provisos, and claims, rights, powers, privileges and liabilities shall be construed and held to be several as well as joint.

13. Whenever the singular and masculine is used throughout this Form of Agreement and other Contract Documents, the same shall be construed as meaning the plural or feminine or body corporate, as the context or the parties hereto require.

IN WITNESS WHEREOF the parties hereunto have caused these presents to be executed, the day and year first above written.

SIGNED, SEALED AND DELIVERED BY)		
)		
witnessed in the presence of:)		
)		
_____)	_____	_____
)	(Contractor)	(Date)
)		
)		
)		
)		
)		
SIGNED, SEALED AND DELIVERED BY)		
)		
witnessed in the presence of:)		
)		
_____)	_____	_____
)	(Owner)	(Date)
)		
)		
)		
)		
SIGNED, SEALED AND DELIVERED BY)		
)		
witnessed in the presence of:)		
)		
_____)	_____	_____
)	(Owner)	(Date)

Delete Section 00705 of the Standard Specifications for Municipal Services, as developed and published by the Nova Scotia Road Builders Association and Nova Scotia Consulting Engineers Association Joint Committee on Contract Documents, in its entirety and replace with the following:

The following Definitions shall apply to all Contract Documents:

1. **The Contract**

The Contract means the undertaking by the parties to perform their respective duties, responsibilities and obligations as prescribed in the Contract Documents and represents the entire agreement between the parties. The Contract supersedes all prior negotiations, representations or agreements, either written or oral, including the bidding documents. The Contract may be amended only as provided in the General Conditions of the Contract.

2. **Contract Documents**

Contract Documents means the executed Agreement between the Owner and contractor, the General conditions of the Contract, Supplementary Conditions, Definitions, specifications, drawings and such other documents as are listed in the Agreement including amendments thereto incorporated before the execution of the Contract and subsequent amendments thereto made pursuant to the provisions of the Contract and agreed upon between the parties.

3. **Owner**

The Owner means the Halifax Regional Municipality. The term Owner means the Owner or authorized agent or representative as designated to the Contractor in writing but does not include the Engineer.

4. **Engineer**

The Engineer means the Director of Transportation and Public Works for the Halifax Regional Municipality or his authorized representative.

5. **Engineer's Representative**

Engineer's Representative means a person, firm or corporation appointed from time to time by the Engineer under GC3-ENGINEER.

6. **Contractor**

The Contractor means the person, firm or corporation identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term Contractor means the Contractor or authorized representative as designated to the Owner in writing.

7. **Subcontractor**

A Subcontractor means a person, firm or corporation having a direct contract with the Contractor to perform a part or parts of the work, or to supply products worked to a special design according to the Contract Documents, but does not include one who merely supplies products not so worked. The term Subcontractor is referred to throughout the Contract Documents as if singular in number.

8. **The Project**

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

9. **Work**

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

10. **Products**

Products means material, machinery, equipment and fixtures forming the Work but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work and normally referred to as construction machinery and equipment.

11. **Other Contractor**

Other Contractor means a person, firm or corporation employed by or having a separate contract directly or indirectly with the Owner for work other than that required by the Contract Documents.

12. **Place of the Work**

The Place of the Work means the designated site or location of the Project of which the Work may be the whole or a part.

13. **Completion Time**

- (a) The Completion Time is the time stipulated in the Contract Documents for Total Performance of the Work.
- (b) The date of Total Performance of the Work is the date certified as such by the Engineer.
- (c) Day means the calendar day.
- (d) Working day means days other than Saturdays, Sundays and Holidays which are observed by the construction industry in the area of the Place of the Work.

DEFINITIONS

14. **Substantial Performance of the Work**

Substantial Performance of the Work is as defined in the lien legislation applicable to the Place of the Work. If such legislation is not in force or does not contain such definition, Substantial Performance of the work shall have been reached when the Work is ready for use or is being used for the purpose intended and is so certified by the Engineer.

15. **Total Performance of the Work**

Total Performance of the Work means the entire Work, except those items arising from the provisions of Section 00720, subsection 25 - WARRANTY, has been performed to the requirements of the Contract Documents and is so certified by the Engineer.

16. **Changes In The Work**

Changes in the Work means the deletion, extension, increase, decrease or alteration of lines, grades, dimensions, methods, drawings or materials of the Work or part thereof, within the scope of the Work contemplated by the Contract Documents.

17. **Extra Work**

Extra Work means any work or service, the performance of which is beyond the scope of the Work contemplated by the Contract Documents.

**** End 00705 ****

Delete Section 00720 of the Standard Specifications for Municipal Services, as developed and published by the Nova Scotia Road Builders Association and Nova Scotia Consulting Engineers Association Joint Committee on Contract Documents, in its entirety and replace with the following:

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GC 1	Documents
GC 2	Additional Instructions
GC 3	Engineer
GC 4	Delays
GC 5	Suspension of Work
GC 6	Owners Right to Terminate Contract and Perform Work
GC 7	Contractors Right to Stop Work or Terminate the Contract
GC 8	Disputes
GC 9	Assignment
GC 10	Other Contractors
GC 11	Subcontractors
GC 12	Changes in the Work and Extra Work
GC 13	Valuation and Certification of Changes in the Work
GC 14	Applications for Payment
GC 15	Certificates and Payments
GC 16	Taxes and Duties
GC 17	Laws, Notices, Permits and Fees
GC 18	Patent Rights and Royalties
GC 19	Workers Compensation Insurance
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GC 23	Damages and Mutual Responsibility
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GC 26	Contractor's Responsibility and Control of Work
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GC 35	Hours and Days of Work
GC 36	Land
GC 37	Order to Start Work
GC 38	Setting Out the Work
GC 39	Local Office and Telephone Numbers
GC 40	Time for Completion

GC 1 DOCUMENTS

- 1.1 The Contract Documents shall be signed in duplicate by the Owner and the Contractor.
- 1.2 The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all.
- 1.3 The intent of the Contract Documents is to include the labour, products and services necessary for the performance of the Work in accordance with these documents. It is not intended, however, that the Contractor shall supply products or perform Work not consistent with, covered by or properly inferable from the Contract Documents.
- 1.4 Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.
- 1.5 References to the singular shall be considered to include the plural as the context requires.
- 1.6 In the event of conflicts between Contract Documents the following shall apply:
- (a) figured dimensions shown on a drawing shall govern even though they may differ from dimensions scaled on the same drawing.
 - (b) drawings of larger scale shall govern over those of smaller scale of the same date,
 - (c) project documents shall govern over standard specifications,
 - (d) the General Conditions shall govern over specifications,
 - (e) Supplementary Conditions shall govern over the General Conditions, and
 - (f) the executed Agreement between the Owner and the Contractor shall govern over all documents.

Notwithstanding the foregoing, documents of a later date shall always govern.

- 1.7 The Contractor will be provided without charge, two (2) copies of the Contract Documents or parts thereof as are necessary for the performance of the Work.
- 1.8 The Contractor shall keep one copy of the current Contract Documents and shop drawings at the Place of the Work, in good order and available to the Engineer and the Engineer's representatives. This requirement shall not be considered to include the executed set of Contract Documents.

1.9 Drawings, specifications, models and copies thereof furnished by the Engineer are and shall remain the property of the Engineer with the exception of the signed contract sets belonging to each party to this Contract. Such documents and models are to be used only with respect to the Work and are not to be used on other work. Such documents and models are not to be copied or revised in any manner without the written authorization of the Engineer.

1.10 Models furnished by the Contractor at the Owner's expense are the property of the Owner.

GC 2 ADDITIONAL INSTRUCTIONS

2.1 During the progress of the Work the Engineer will furnish to the Contractor such additional instructions to supplement the Contract Documents as may be necessary for the performance of the Work. Such instructions shall be consistent with the intent of the Contract Documents.

2.2 Additional instructions may be in the form of specifications, drawings, samples, models or other written instructions.

2.3 Additional instructions will be issued by the Engineer with reasonable promptness and in accordance with a schedule agreed upon for such instructions.

GC 3 ENGINEER

3.1 The Engineer will provide administration of this Contract as described in the Contract Documents.

3.2 The Engineer will be the Owner's representative during construction and until completion of any correction of defects under the provisions of GC 25 - WARRANTY, Subsection 25.2 or until all required Work is performed completely, whichever is later. The Owner's instructions to the Contractor shall be forwarded through the Engineer. The Engineer will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

3.3 The Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences (unless otherwise directed by the Engineer) or procedures. The Engineer will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractors, or their agents, employees or other persons performing any of the Work.

3.4 The Engineer will visit the site at intervals appropriate to the progress of construction to become familiar with the progress and quality of the Work and to record the data necessary to establish the pay quantities under the Schedule of Quantities and Unit Prices.

- 3.5 Based on the Engineer's observations and evaluation of the Contractor's applications for payment, the Engineer will determine the amounts owing to the Contractor under the Contract and will issue certificates for payment in such amounts, as provided in the AGREEMENT and GC 15 - CERTIFICATES AND PAYMENTS.
- 3.6 The Engineer will be, in the first instance, the interpreter of the requirements of the Contract Documents and the judge of the performance thereunder by both parties to the Contract. Interpretations and decisions of the Engineer shall be consistent with the intent of the Contract Documents.
- 3.7 Claims, disputes and other matters in question relating to the performance of the Work or the interpretation of the Contract Documents shall be referred initially to the Engineer in writing for decision which will be given in writing within a reasonable time.
- 3.8 The Engineer will have authority to reject Work which does not conform to the requirements of the Contract Documents. Whenever it is necessary or advisable the Engineer will have authority to require special inspection or testing of Work whether or not such Work be then fabricated, installed or completed. However, neither the Engineer's authority to act nor any decision either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Engineer to the Contractor, Subcontractors, or their agents, employees or other persons performing any of the Work.
- 3.9 The Engineer will review and take appropriate action upon the Contractor's submittals, such as shop drawings, product data and samples, in accordance with the requirements of the Contract Documents.
- 3.10 The Engineer will prepare change orders in accordance with the requirements of GC 12 - CHANGES IN THE WORK AND EXTRA WORK.
- 3.11 The Engineer will conduct inspections to determine the date of Substantial Performance of the Work and the date when all required Work is performed completely in accordance with the requirements of GC 15 - CERTIFICATES AND PAYMENT and will receive equipment, system or material warranties and related documents required by the Contract and provided by the Contractor.
- 3.12 The Engineer may provide at the site one or more representatives. The Engineer's Representative shall be responsible to the Engineer and shall carry out such duties and exercise such authority as may be delegated by the Engineer under 3.13.
- 3.13 The Engineer may from time to time delegate to the Engineer's Representative any of the duties and authorities vested in the Engineer and may at any time revoke such delegation. Any such delegation or revocation shall be in writing and shall not take effect until a copy thereof has been delivered to the Owner and the Contractor.

- 3.14 Any communication given by the Engineer's Representative to the Contractor in accordance with such delegation shall have the same effect as though it had been given by the Engineer, provided that:
- (a) any failure of the Engineer's Representative to disapprove any Work, materials or Plant shall not prejudice the authority of the Engineer to disapprove such Work, materials or Plant and to give instructions for the rectification thereof;
 - (b) if the Contractor questions any communication of the Engineer's Representative, the Contractor may refer the matter to the Engineer who shall confirm, reverse or vary the contents of such communication.
- 3.15 In the event of the termination of the employment of the Engineer, the Owner shall immediately appoint an Engineer whose status under the Contract shall be that of the former Engineer.
- 3.16 Nothing contained in the Contract Documents shall create any contractual relationship between the Engineer and the Contractor, Subcontractors, suppliers, or their agents, employees or other persons performing any of the Work.

GC 4 DELAYS

- 4.1 If the Contractor is delayed in the performance of the Work by an act or omission of the Owner, Engineer, Other Contractor, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the Contract Documents, then the Contract Time shall be extended for such reasonable time as the Engineer may decide in consultation with the Contractor. The Contractor shall not be reimbursed by the Owner for costs incurred as the result of such delay.
- 4.2 If the Contractor is delayed in the performance of the Work by a Stop Work Order issued by a court or other public authority, and providing that such order was not issued as the result of an act or fault of the Contractor or anyone employed or engaged directly or indirectly by the Contractor, then the Contract Time shall be extended for such reasonable time as the Engineer may decide in consultation with the Contractor. The Contractor shall not be reimbursed by the Owner for costs incurred as the result of such delay.
- 4.3 If the Contractor is delayed in the performance of the work by labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized contractors' association, of which the Contractor is a member or to which the Contractor is otherwise bound), fire, unusual delay by common carriers or unavoidable casualties or, without limit to any of the foregoing, by a cause beyond the Contractor's control, then the Contract Time shall be extended for such reasonable time as the Engineer may decide in consultation with the Contractor, but in no case shall the extension of time be less than the time lost as the result of the event causing the delay, unless such shorter extension be agreed to by the Contractor.

The Contractor shall not be entitled to payment for costs incurred as the result of such delays.

4.4 No extension shall be made for delay unless written notice of claim is given to the Engineer not later than seven (7) days after the commencement of delay, providing however, that in the case of a continuing cause of delay only one notice of claim shall be necessary.

4.5 If no additional instruction is made under GC 2 - ADDITIONAL INSTRUCTIONS, no claim by the Contractor for delay shall be allowed because of failure of the Engineer to furnish instructions until fourteen (14) days after a demand for such instructions has been made and not then unless such claim is reasonable.

4.6 The Engineer will not, except by written notice to the Contractor, stop or delay the Work pending instructions or proposed changes in the Work.

GC 5 SUSPENSION OF WORK

5.1 The Engineer may, by a written order, at any time suspend any part of the Work, or direct any portion to be commenced or completed in priority to any other part or portion.

5.2 The Contractor shall not be entitled by reason of the Engineer's suspension order to any additional payment, claim for loss or profit or anticipated profit, or damages.

5.3 When, for any reason, it is necessary to discontinue the Work, or any part thereof, the Contractor must, on notice from the Engineer, forthwith place the Work in proper and satisfactory condition for the accommodation of the public and for its effectual protection against damage from rain, snow, frost, ice, or other causes and must so maintain it.

GC 6 OWNER'S RIGHT TO TERMINATE CONTRACT AND PERFORM WORK

6.1 If the Contractor should be adjudged bankrupt, or makes a general assignment for the benefit of creditors because of insolvency or if a receiver is appointed because of insolvency, the Owner may, without prejudice to any other right or remedy, by giving the Contractor or receiver or trustee in bankruptcy written notice, terminate the Contract.

6.2 If the Contractor should neglect to prosecute the Work properly or otherwise fails to comply with the requirements of the Contract to a substantial degree and if the Engineer has given a written statement to the Owner and Contractor that sufficient cause exists, the Owner may notify the Contractor in writing that the Contractor is in default of contractual obligations and issue instructions to correct the default in the five (5) working days immediately following the receipt of such notice.

- 6.3 If the correction of the default cannot be completed in the five (5) working days specified, the Contractor shall be in compliance with the Owner's instructions if the Contractor:
- (a) commences the correction of the default within the specified time, and
 - (b) provides the Owner with an acceptable schedule for such correction, and
 - (c) completes the correction in accordance with such schedule.
- 6.4 If the Contractor fails to correct the default in the time specified or subsequently agreed upon the Owner, without prejudice to any other right or remedy, may:
- (a) correct such default and deduct the cost thereof from any payment then or thereafter due the Contractor provided the Engineer has certified such cost to the Owner and the Contractor, or
 - (b) terminate the Contractor's right to continue with the Work in whole or in part or terminate the Contract.
- 6.5 If the Owner terminates the Contractor's right to continue with the Work under the conditions set out in this General Condition, the Owner shall:
- (a) be entitled to take possession of the premises and products, and utilize the construction machinery and equipment subject to the rights of third parties, and finish the Work expediently,
 - (b) withhold further payments to the Contractor until the Work is finished, and
 - (c) when all required Work is performed completely, charge the Contractor the amount by which the full cost of finishing the Work as certified by the Engineer, including compensation to the Engineer for additional services, exceeds the unpaid balance of the Contract Price; however, if such cost of finishing the Work is less than the unpaid balance of the Contract Price, the Owner shall pay the Contractor the difference.
- 6.6 If surety bonds have been provided by the Contractor the provisions of this General Condition shall be exercised in accordance with the conditions of such surety bonds.
- 6.7 The Contractor's obligation under the Contract as to quality, correction and warranty of the Work performed up to the time of termination shall continue in force after such termination.

GC7 CONTRACTOR'S RIGHT TO STOP THE WORK OR TERMINATE THE CONTRACT

7.1 If the Owner should be adjudged bankrupt or makes a general assignment for the benefit of creditors because of insolvency or if a receiver is appointed because of insolvency, the Contractor may, without prejudice to any other right or remedy available, by giving the owner or receiver or trustee in bankruptcy written notice, terminate the Contract.

7.2 If the Work should be stopped or otherwise delayed for a period of thirty (30) days or more under an order of a court or other public authority and providing that such order was not issued as the result of an act or fault of the Contractor or of anyone directly or indirectly employed or engaged by the Contractor, the Contractor may, without prejudice to any other right or remedy available, by giving the Owner written notice, terminate the Contract.

7.3 The Contractor may notify the Owner in writing, with a copy to the Engineer, that the Owner is in default of contractual obligations if:

- (a) the Engineer fails to issue a certificate in accordance with the provisions of GC 15 - CERTIFICATES AND PAYMENT, or
- (b) the Owner fails to pay the Contractor when due the amounts certified by the Engineer or awarded by arbitration or court, or
- (c) the owner violates the requirements of the Contract to a substantial degree.

The Contractor's written notice to the Owner shall advise that if the default is not corrected in the five (5) working days immediately following the receipt of the written notice the Contractor may, without prejudice to any other right or remedy, stop the Work or terminate the Contract.

7.4 If the Contractor terminates the Contract under the conditions set out above, the Contractor shall be entitled to be paid for all Work performed in accordance with the Schedule of Quantities and Unit Prices to be mutually agreed to by both parties or where agreement cannot be reached, then the matter shall be settled in accordance with the provisions of GC 8 - DISPUTES.

GC 8 DISPUTES

8.1 Differences between the parties to the Contract as to the interpretation, application or administration of this Contract, or any failure to agree where agreement between the parties is called for, herein collectively called disputes, which are not resolved in the first instance by decision of the Engineer pursuant to the provisions of GC 3 - ENGINEER, subsections 3.6 and 3.7, shall be settled in accordance with the requirements of this General Condition.

- 8.2 The claimant shall give written notice of such dispute to the other party no later than twenty (20) days after the receipt of the Engineer's decision given under GC 3 - ENGINEER, paragraph 3.7. Such notice shall set forth the particulars of the matters in dispute, the probable extent and value of the damage and the relevant provisions of the Contract Documents. The other party shall reply to such notice within twenty-one (21) days after receiving it, setting out in such reply the grounds and other, relevant provisions of the Contract Documents.
- 8.3 If the matter in dispute is not resolved promptly the Engineer will give such instructions as are necessary for the proper performance of the Work and to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by so doing neither party will jeopardize any claim he may have. If it is subsequently determined that such instructions were in error or at variance with the Contract Documents, the Owner shall pay the Contractor extra costs incurred by the Contractor in carrying out such instructions.
- 8.4 It is agreed that no act by either party shall be construed as a renunciation or waiver of any rights for recourse, provided the notices were given in accordance with subsection 8.2 and instructions were carried out as provided in subsection 8.3.
- 8.5 If the parties agree to submit disputes to arbitration, then the dispute shall be submitted to arbitration in accordance with the provisions of the Nova Scotia Arbitration Act.
- 8.6 If no provision or agreement is made for arbitration then either party may submit the dispute to Court of Justice as the circumstances may require.
- 8.7 In recognition of the obligation by the Contractor to perform the disputed Work as provided in paragraph 8.3, it is agreed that settlement of dispute proceedings may be commenced immediately following the dispute in accordance with the foregoing settlement of dispute procedures.

GC 9 ASSIGNMENT

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

GC 10 OTHER CONTRACTORS

- 10.1 The Owner reserves the right to let separate contracts in connection with the Project of which the Work is a part, or do certain Work by own forces.
- 10.2 When separate contracts are awarded for different parts of the Project, or Work is performed by the Owner's own forces, the Owner shall:
- (a) provide for the co-ordination of the Work of own forces and of each separate contract with the Work of this Contract, and

- (b) ensure that insurance coverage is provided to the same requirements as are called for in GC 21 - INSURANCE. Such insurance shall be co-ordinated with the insurance coverage of the Contractor as it affects the work of this Contract.

10.3 The Contractor shall co-ordinate the work of this Contract with the Work of Other Contractors and Owner's forces and connect as specified or shown in the Contract Documents. If there is a change in the scope of the Work required for the planning and performance of this co-ordination and connection, the changes shall be authorized in accordance with GC 12 - CHANGES IN THE WORK AND EXTRA WORK, and the value of the changes shall be determined in accordance with GC 13 - VALUATION AND CERTIFICATION OF CHANGES IN THE WORK AND EXTRA WORK.

10.4 The Contractor shall report to the Engineer any apparent deficiencies in Work of Other Contractors' or Owner's forces which would affect the Work of this Contract immediately as they come to the Contractor's attention and shall confirm such report in writing. Failure by the Contractor to report shall invalidate any claims against the Owner by reason of the deficiencies of Work of Owner's forces or Other Contractors.

10.5 The Owner shall take all reasonable precautions to avoid disputes on the Project arising from the Work of Other Contractors or own forces.

GC 11 SUBCONTRACTORS

11.1 The Contractor agrees to preserve and protect the rights of the parties under the Contract with respect to Work to be performed under subcontract and to:

- (a) enter into contracts or written agreements with Subcontractors to require them to perform their Work in accordance with and subject to the terms and conditions of the Contract Documents, and
- (b) be as fully responsible to the Owner for acts and omissions of Subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the Contractor.

The Contractor therefore agrees to incorporate the terms and conditions of the Contract Documents into all sub-contract agreements entered into with Subcontractors.

11.2 The Contractor agrees to employ those Subcontractors proposed in writing at the time of the bid submission and accepted by the Owner at the signing of the Contract.

11.3 The Owner may, for reasonable cause, object to the use of a proposed Subcontractor and require the Contractor to employ another person or firm as Subcontractor.

- 11.4 In the event that the Owner requires a change from a proposed Subcontractor the Contract Price shall be adjusted by the difference in cost and mark-up occasioned by such required change.
- 11.5 The Contractor shall not be required to employ as a Subcontractor a person or firm to whom the Contractor may reasonably object.
- 11.6 The Engineer may, upon reasonable request, provide to a Subcontractor information as to the percentage of quantity of the Subcontractor's Work which has been certified for payment.
- 11.7 Nothing contained in the Contract Documents shall create a contractual relationship between a Subcontractor and the Owner.

GC 12 CHANGES IN THE WORK AND EXTRA WORK

12.1 Changes In The Work:

Except as provided in GC 13 - VALUATION AND CERTIFICATION OF CHANGES IN THE WORK AND EXTRA WORK paragraph 13.4:

- (a) the Owner, through the Engineer, without invalidating the Contract, may make Changes in the work with the Contract Price and Contract Time being adjusted accordingly by written order, and
- (b) no Changes in the Work shall proceed without a written order signed by the Owner and no claim for a change in the Contract Price or change in the Contract Time shall be valid unless so ordered, and at the same time valued or agreed to be valued as provided in GC 13 - VALUATION AND CERTIFICATION OF CHANGES IN THE WORK AND EXTRA WORK.

12.2 Extra Work:

- (a) The Owner may offer the Contractor Extra Work. If the terms and conditions for the performance of the Extra Work are agreed upon, the Owner, through the Engineer, shall issue a written change order amending the Contract Price and Contract Time as appropriate, or a written order to proceed until a price and change in time are agreed upon by the parties and a change order can be issued.

GC 13 VALUATION AND CERTIFICATION OF CHANGES IN THE WORK AND EXTRA WORK

- 13.1 If the type of work involved in a Change in the Work is included in the items contained in the Schedule of Quantities and Unit Prices, it shall be performed on the same payment basis as the original Work except as described in paragraphs 13.7 and 13.8, and the Contract Time shall be extended for such time as the Engineer may decide in consultation with the Contractor.

- 13.2 If the type of work involved in a Change in the Work is not included in the items contained in the Schedule of Quantities and Unit Prices, or is such as to alter the nature or intent of the Work included in this Schedule the value of such change shall be determined in one or more of the following methods.
- (a) by estimate and acceptance in a lump sum;
 - (b) by unit prices agreed upon;
 - (c) by cost and a fixed or percentage fee;
 - (d) by variation of the Contract Unit Prices.
- 13.3 When a Change in the Work covered by paragraph 13.2 is proposed or required the Contractor shall present to the Engineer for approval the claim for a change in the Contract Price and change in Contract Time with appropriate documentation in a form acceptable to the Engineer. When the Engineer is satisfied as to the correctness of such claim and, when approved by the Owner, a change order shall be issued to the Contractor amending the Contract Price and Contract Time as appropriate. The value of Work performed in the change shall be included for payment with the regular certificates of payment.
- 13.4 In the case of Changes in the Work to be paid for under methods (b) of paragraph 13.2, the form of presentation of methods of measurement shall be agreed to by the Engineer and Contractor before proceeding with the change. The Contractor shall keep accurate records, as agreed upon, of quantities and present an account of the quantities for the Change in the Work.
- 13.5 In the case of changes in the Work to be paid for under method (c) of paragraph 13.2, the prices for any extra or additional Work shall be based on the sum of the following five items:
- (a) direct basic wages paid to labour excluding machine operators and office supervisory staff, required to perform the Work in accordance with direction and when devoting exclusive attention to this Work;
 - (b) twenty-five (25) percent of item 13.5 (a) to cover cost of small tools, payroll burden and employee benefit costs;
 - (c) The cost of material delivered to the site;
 - (d) fifteen (15) percent of the sum of items 13.5 (a), (b), and (c), which shall cover overhead expense, profit, head office and site office overhead, including salaries of time-keeping, clerical, accounting, warehousing and other administrative personnel and all costs associated therewith;

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- (e) rental of Construction Equipment (including operators). The equipment rental rates shall be in accordance with equipment rental rates indicated in the latest edition of Road Builders Equipment Rates. In the absence of Road Builders Equipment Rates, Department of Transportation and Communication rates shall apply.
- (f) Standby time shall be the time when equipment is required on site but not operated to execute the required works. Approved standby time shall be paid for at 65% of the hourly rates.
- 13.6 If the method of valuation, measurement, change in Contract Price and/or change in Contract Time cannot be promptly agreed upon, and the change is required to be proceeded with then the Engineer in the first instance will determine the method of valuation, measurement, change in Contract Price and/or Contract Time subject to final determination in the manner set out in GC 8 - DISPUTES. In this case the Engineer will, with the consent of the Owner, issue a written authorization for the change, setting out the method of valuation and if by lump sum valuation of the change in Contract Price and/or Contract Time.
- 13.7 In the case of a dispute in the valuation of a change authorized in the Work and pending final determination of such value, the Engineer will make an evaluation and certify the value of Work performed and include the amount with the regular certificates for payment. The Contractor shall keep accurate records of quantities and cost of such Work.
- 13.8 Should the actual quantity of an item in the Schedule of Contract Unit Prices, vary by more than 25% of the estimated quantity, either the Owner or the Contractor may request a revision to the Contract Unit Price contained in the Schedule of Quantities and Unit Prices. Such a request for a revision in a Contract Unit Price shall be given as soon as reasonably possible after the party concerned becomes aware of the circumstances.
- 13.9 If a revision to a Contract Unit Price is negotiated, then:
- (a) the revised unit price in the case of a decrease of more than 25% of the estimated quantity will apply to the actual Work performed for that item, and
- (b) the revised unit price in the case of an increase of more than 25% of the estimated quantity will apply to the excess quantity of Work for that item only.
- 13.10 If either party request renegotiations of a Contract Unit Price, both parties shall act promptly in order to arrive at an equitable revision of the Contract Unit Price prior to proceeding with the Work so affected. If agreement of such renegotiation cannot be reached, the Contractor shall proceed with the Work and the matter shall be subject to final determination in the manner set out in GC 8 - DISPUTES. Pending such settlement, payment for the Work performed shall be made on the regular certificates for payment on the basis of the Contract Unit Prices.

13.11 In all matters referred to above both the Engineer and the Contractor shall act promptly.

GC 14 APPLICATIONS FOR PAYMENT

14.1 Applications for payment on account may be made monthly as the Work progresses.

14.2 Applications for payment shall be dated the last day of the agreed monthly payment period and the amount claimed shall be for the value of Work performed at that date.

14.3 Where, under the Form of Tender, the tenderer agrees to complete the Total Performance of the Work within six (6) weeks from the start date indicated on the Order to Start Work, only one progress payment shall be made, that being on or after the date of Substantial Performance of the Work in the manner set forth in GC 15 - CERTIFICATES AND PAYMENTS.

14.4 Applications for release of holdback monies following Substantial Performance of the Work and the application for final payment shall be made at the time and in the manner set forth in GC 15 - CERTIFICATES AND PAYMENTS.

GC 15 CERTIFICATES AND PAYMENTS

15.1 The Engineer will, no later than ten (10) days after the receipt of an application for payment from the Contractor submitted in accordance with GC 14 - APPLICATION FOR PAYMENT, issue a progress payment certificate in the amount applied for or in such other amount deemed to be properly due. If the Engineer amends the application, the Engineer will promptly notify the Contractor in writing giving reasons for the amendment. Notwithstanding that the Contractor has not made application for payment, the Engineer may measure and value the Work performed during a payment period, prepare and issue a progress payment certificate.

15.2 The Owner shall make payment to the Contractor on account no later than twenty (20) days after the issuance of a certificate for payment by the Engineer.

15.3 The Engineer will, no later than ten (10) days after the receipt of an application from the Contractor for a Certificate of Substantial Performance of the Work, make an inspection and assessment of the Work to verify the validity of the application. The Engineer, in consultation with the Contractor, will make a measurement of the Work completed to the date of the application and no later than seven (7) days after inspection, notify the Contractor of approval or the reasons for disapproval of the application. When the Engineer finds that Substantial Performance of the Work has been reached the Engineer will issue such a certificate. The date of Substantial Performance of the Work shall be as stated in this certificate. Immediately following the issuance of the Certificate of Substantial Performance of the Work, the Engineer, in consultation with the Contractor, will establish a reasonable date for the Work to be performed completely.

- 15.4 Immediately following the issuance of the certificate of Substantial Performance of the Work, the Engineer will issue a progress payment certificate for Work performed up to the date of Substantial Performance and a certificate for payment of holdback monies. Payment of seventy-five percent (75%) of the accumulated holdback monies as authorized by this certificate shall become due and payable 10 days after the following conditions have been satisfied:
- (a) sixty days have elapsed from the date of Substantial Performance of the Work, and
 - (b) the Contractor has submitted to the Engineer, in one complete package, the following:
 - (i) statutory declaration that all accounts for labour, subcontracts, products, construction machinery and equipment have been paid and the Owner is released from any and all further claims relating to the Contract;
 - (ii) a certificate from a barrister stating that there are no Builders' Liens filed relating to the Contract for Work performed up to the date of Substantial Performance;
 - (iii) a clearance certificate from the Workers' Compensation Board;
 - (iv) security for the warranty period in accordance with GC 24 - SECURITY;
 - (v) written release from each property owner whose lands were used by the Contractor in the execution of this Contract stating that such property has been restored; and
 - (vi) written verification that all claims by third parties have been acknowledged and either resolved or under investigation by the Contractor's insurer.
 - (c) the Contractor has agreed to, signed, and returned the Substantial Performance measurement certificate.

If however, the Contractor has failed to sign the measurement certificate within 60 days of Substantial Performance of the Work and provided required documents as listed above, then the Owner shall release seventy-five percent (75%) of the holdback within fourteen (14) days following the date on which the Contractor meets all these requirements.

- 15.5 No later than ten (10) days after the receipt of an application from the Contractor for final payment, the Engineer, in consultation with the Contractor, will complete the final measurement and inspection of the Work and, no later than seven (7) days after measurement and inspection, notify the Contractor of approval or the reasons for disapproval of the application.

15.6 When the Engineer finds the Work acceptable under the Contract Documents and the required Work is performed completely, the Engineer will promptly issue a final measure progress payment certificate. The certificate shall state that to the best of the Engineer's knowledge, information and belief, and on the basis of the Engineer's observations and reviews, the Work has been completed in general accordance with the terms and conditions of the Contract Documents. The certificate shall state the balance due the Contractor and noted in said final measure certificate is due and payable.

15.7 Seventy (70) days after the date of Total Performance of the Work as certified by the Engineer, the Owner will release to the Contractor the balance of monies owing, provided that the following conditions have been satisfied:

- (a) there are no Builders' Liens filed relating to the Work performed between Substantial Performance and the date when the required Work is performed completely;
- (b) the Contractor has submitted to the Engineer a clearance certificate from the Workers' Compensation Board;
- (c) the Contractor has agreed to, signed, and returned to the Engineer a copy of the final measure.

If, however, the Contractor has failed to sign the measurement certificate within 60 days of when the required Work is performed completely and to provide required documents as listed above, then the Owner shall release final payment fourteen (14) days following the date on which the Contractor meets all these requirements.

15.8 No payment made by the Owner under this Contract or partial or entire use or occupancy of the Work by the Owner shall constitute an acceptance of Work or products which are not in accordance with the requirements of the Contract Documents.

15.9 All certificates issued by the Engineer shall be to the best of the Engineer's knowledge, information and belief.

GC 16 TAXES AND DUTIES

16.1 The Contractor shall pay all government sales taxes, customs duties and excise taxes with respect to the Contract.

16.2 Where a recovery of taxes is applicable to the Contract, the amount recovered shall be the property of the Owner.

16.3 The Harmonized Sales Tax is not to be included in unit and lump sum prices but shall be included in the applicable location on the Form of Tender.

16.4 The Contractor shall indicate on each application for payment as a separate amount the Harmonized Sales Tax applicable to the claim. The amount paid to the Contractor will be based on the amount of the application for payment certified by the Engineer.

16.5 Any increase or decrease in costs to the Contractor due to changes in such taxes and duties after the date of the tender shall increase or decrease the Contract Price accordingly.

GC 17 LAWS, NOTICES, PERMITS AND FEES

17.1 The laws of the Place of the work shall govern the Work.

17.2 The Contractor shall obtain the permits, licenses and certificates and pay the fees required for the performance of the Work which are in force at the date of tender closing, but this shall not include the obtaining of permanent easements or rights of servitude. A street excavation permit is required for all projects, although there will be no charge for the HRM permit. For projects on Nova Scotia Department of Transportation and Public Works (NSTPW) roads, pay all fees and deposits required for NSTPW permits.

17.3 The Contractor shall give the required notices and comply with the laws, ordinances, rules, regulations, codes and orders of the authorities having jurisdiction, which are or become in force during the performance of the Work, and which relate to the Work, to public health, to environment, to fisheries, and to construction safety.

17.4 The Contractor shall not be responsible for verifying that the Contract Documents are in compliance with the applicable laws, ordinances, rules, regulations and codes relating to the Work. If the Contract Documents are at a variance therewith, or changes which require modification to the Contract Documents are made to the laws, ordinances, rules, regulations or codes by the authorities having jurisdiction subsequent to the date of the tender closing, the Contractor shall notify the Engineer in writing requesting direction immediately such variance or change becomes known. The Engineer will make the changes required to the Contract Documents in accordance with GC 12 - CHANGES IN THE WORK AND EXTRA WORK, and the value of the changes shall be determined in accordance with GC 13 - VALUATION AND CERTIFICATION OF CHANGES IN THE WORK AND EXTRA WORK.

17.5 If the Contractor fails to notify the Engineer in writing and obtain direction as required in paragraph 17.4 and performs Work knowing it to be contrary to any laws, ordinances, rules, regulations, codes and orders of the authorities having jurisdiction, the Contractor shall be responsible for and shall correct the violations thereof and shall bear the costs, expenses and damages attributable to failure to comply with the provisions of such laws, ordinances, rules, regulations, codes and orders

GC 18 PATENT RIGHTS AND ROYALTIES

18.1 The Contractor shall pay all royalties and patent licence fees required for the performance of the Contract. The Contractor shall hold the Owner harmless from and against claims, demands, losses, costs, damages, actions suits or proceedings arising out of the Contractor's performance of the Contract which are attributable to an infringement or an alleged infringement of a patent of invention by the Contractor or anyone for whose acts the Contractor may be liable.

18.2 The Owner shall hold the Contractor harmless against claims, demands, losses, costs, damages, actions, suits or proceedings arising out of the Contractor's performance of the Contract which are attributable to an infringement or an alleged infringement of a patent of invention in executing anything for the purpose of the Contract, the model, plan or design which was supplied to the Contractor as part of the Contract Documents.

GC 19 WORKERS' COMPENSATION INSURANCE

19.1 Prior to commencing the Work, the Contractor shall provide evidence of compliance with the requirements of the Province of Nova Scotia with respect to Workers' Compensation Insurance including payments due thereunder.

19.2 At any time during the term of the Contract, when requested by the Owner, the Contractor shall provide such evidence of compliance.

GC 20 INDEMNIFICATION

20.1 The Contractor shall indemnify and hold harmless the Halifax Regional Municipality, their agents, representatives and employees from and against all claims, demands, losses, costs, damages, actions, suits or proceedings arising out of or resulting from the performance of the Work (hereinafter called "Claims"), provided that any such claim is caused in whole or in part by the negligent act or omission of the Contractor, any Subcontractor, supplier, licensee, anyone directly or indirectly employed by any one of them or anyone for whose acts any of them is liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

GC 21 INSURANCE

21.1 Without restricting the generality of Indemnification (20.1) the Contractor will provide and maintain insurance in accordance with the following minimum criteria:

(a) General Conditions All Insurance

(1) The policies will be in the joint names of the Contractor (Named Insured), and the Sub-Contractor(s) having a direct contract with the Contractor as unnamed insured or, if any specifically request, as Named Insureds. The Halifax Regional Municipality (HRM) will be added as an additional insured under this agreement.

- (2) The policies will be primary to any other coverage with the same terms and conditions held by the named, additional and unnamed insureds.
 - (3) All insurance shall be maintained continuously while this contract is in force.
 - (4) If any Contractor or Subcontractor fails to furnish HRM a certified copy of each policy required to be obtained hereunder or if after furnishing such certified copy of the policy it lapses, is cancelled, or is materially altered, then in every such case HRM, without the obligation to do so, shall obtain and maintain such insurance in the name of such Contractor or Subcontractor. The cost thereof shall be payable by the Contractor or Subcontractor to HRM on demand, and HRM may at its election deduct the cost thereof from any monies which are due or may become due to such Contractor or Subcontractor. All such policies be furnished under this agreement shall be provided to HRM before commencement of work by the party required to provide same, in a form and with an insurer(s) satisfactory to the Owner. Any review of such insurance by the Owner shall not be an acknowledgment that the terms of this agreement have been fulfilled.
 - (5) The Contractor and Subcontractors, as applicable, shall be responsible for any deductible amounts under any policies purchased with respect to this Contract.
 - (6) Each policy required to be placed by the Contractor or Subcontractor shall state that it cannot be cancelled, lapsed or materially altered without at least 30 days' written notice to the HRM's Risk Manager or designated person.
 - (7) All insurance policies required by this Contract shall be in a form and with an insurer satisfactory to HRM. The review by HRM of any insurance policy required by this contract shall in no way relieve the Contractor or Subcontractor of its obligations to provide the insurance referred to in this Contract, nor shall it imply that HRM agrees that the Contractor or Subcontractor has fulfilled its obligations under this Contract.
- (b) Commercial General Liability Insurance

This insurance will be subject to limits of not less than Two Million Dollars (\$2,000,000) inclusive per occurrence for bodily injury, death and damages to property including loss of use thereof, and including but not limited to coverage for:

- (1) where a guarantee period is required by the Owner under this Contract, the Contractor shall ensure that Completed Operations coverage, as applicable, shall be in force for the duration of the guarantee period or twelve (12) months, whichever is greater;
- (2) premises and operations liability, including all activities arising out of work performed;
- (3) owner's and contractor's contingent liability with respect to the operations of persons, firms or corporations having a contract for the execution of a part or parts of the Work included in the Contract;
- (4) products and completed operations liability;
- (5) blanket contractual liability;
- (6) cross liability;
- (7) elevator and hoist liability;
- (8) contingent employer's liability;
- (9) personal injury liability;
- (10) liability with respect to non-owned licensed vehicles;
- (11) the Contractor or Subcontractor working with the Contractor shall maintain coverage as noted in this paragraph to cover exposures or risks with respect to liability to owned and non-owned water craft;
- (12) if any part of the Work includes blasting, shoring, excavating, underground work, underpinning, demolition, pile driving or caisson work (none of which will be covered by the owner's insurance) it shall be the obligation of the Contractor to ensure that the trade doing such part of the Work has liability insurance similar to that required by this Contract, but including coverage for risks arising out of such part of the Work. It shall also be the duty and responsibility of the respective Contractor or Subcontractor to provide a Certified Copy of the insurance policy required under this subsection prior to the commencing of such Work. The Owner agrees that any additional cost of such insurance shall be considered as an extra under this Contract.
- (13) at the Owner's option, the following insurance coverage may be purchased and, if the Contractor or Subcontractor knows that exposures or risks involving water or air will be involved in the Work, the Contractor or Subcontractor shall be obligated to notify the Owner of such exposures or risks in sufficient time for the Owner to determine whether such insurance coverage should be purchased:

- (i) liability with respect to owned and non-owned watercraft, and non-owned aircraft;
 - (ii) liability with respect to owned aircraft.
- (c) Automobile Liability Insurance

The Contractor and all Subcontractors shall provide automobile liability insurance in respect to owned licensed vehicles subject to limits of not less than Two Million Dollars (\$2,000,000) inclusive.

GC 22 PROTECTION OF WORK AND PROPERTY

- 22.1 The Contractor shall protect the Work and the Owner's property and property adjacent to the place of the Work from damage, and shall be responsible for damage which may arise as the result of operations under the Contract.
- 22.2 Should the Contractor in the performance of this Contract damage the Work, the Owner's property or property adjacent to the Place of the Work, the Contractor shall be responsible for the making good of such damage at the Contractor's expense.

GC 23 DAMAGES AND MUTUAL RESPONSIBILITY

- 23.1 If either party to this Contract should suffer damage in any manner because of any wrongful act or neglect of the other party or of anyone for whom the party is responsible by law, then the party suffering damage shall be reimbursed by the other party for such damage. The party reimbursing the other party shall be subrogated to the rights of the other party in respect of such wrongful act or neglect if it be that of a third party.
- 23.2 Claims under this General Condition shall be made in writing to the party liable within reasonable time after the first observance of such damage and may be adjusted by agreement or in the manner set out in GC 8 - DISPUTES.
- 23.3 If the Contractor has caused damage to an Other Contractor on the Work, the Contractor agrees upon due notice to settle with such Other Contractor by agreement or arbitration, if the Other Contractor will so settle. If such Other Contractor sues the Owner on account of damage alleged to have been so sustained, the Owner shall notify the Contractor and may require the Contractor to defend the action at the Contractor's expense. If a final order or judgement against the Owner arises therefrom, the Contractor shall pay or satisfy it and pay the costs incurred by the Owner.
- 23.4 If the Contractor becomes liable to pay or satisfy a final order, judgement or award against the Owner then the Contractor, upon undertaking to indemnify the Owner against any and all liability for costs, shall have the right to appeal in the name of the Owner such final order or judgement to any and all courts of competent jurisdiction.

GC 24 SECURITY

- 24.1 The Contractor shall provide to the Owner contract security within 14 days of written notice of contract award.
- 24.2 Such security may be in the form of a certified cheque, an irrevocable letter of credit or a bond as outlined in Section 24.3. If security is in the form of a bond, such shall be issued by a duly licensed surety company authorized to transact a business of suretyship in the Province of Nova Scotia and shall be maintained in good standing until the fulfilment of the Contract. The bonds shall be in a form acceptable to the Owner.
- 24.3 For contracts with a value less than \$50,000, bid and contract security is not required. For contracts with a value of \$50,000 to \$100,000, contract security may be in the form of either a bond in the amount of 50% of the total tender price or alternatively, a certified cheque or irrevocable letter of credit in the amount of 15% of the tender price. For contracts with a value greater than \$100,000 but less than \$250,000, contract security may be in the form of a bond in the amount of 50% of the total tender price or alternatively, a certified cheque or letter of credit in the amount of 20% of the tender price. For contracts with a value greater than \$250,000, security will only be accepted in the form of the 50% performance and labour and material bond.
- 24.4 Should it become apparent that the final cost of the project will exceed the total tender price, the Contractor shall arrange to have contract security increased based on the projected Final Contract Price at no additional cost to the Owner.
- 24.5 Upon completion of the work according to these specifications and to the satisfaction of the Engineer, the contract security shall be returned to the tenderer upon deposition of security for the Warranty Period in an amount of 10% of the final contract price for all work under legal guarantee. Such security shall be in a form suitable to the Owner and as specified in Section 24.2 above.

GC 25 WARRANTY

- 25.1 The Contractor shall correct promptly, at own expense, defects or deficiencies in the Work which appear prior to and during the period of one year from the date of Substantial Performance of the Work, as set out in the Certificate of Substantial Performance of the Work, or such longer period as may be specified for certain products or Work.
- 25.2 During the period provided in GC 3- ENGINEER paragraph 3.2, the Engineer shall promptly give the Contractor written notice of observed defects and deficiencies.
- 25.3 The Contractor agrees to correct or pay for damage resulting from corrections made under the requirements of paragraph 25.2.

GC 26 CONTRACTOR'S RESPONSIBILITY AND CONTROL OF WORK

- 26.1 The Contractor shall have complete control of the Work and shall effectively direct and supervise the Work so as to ensure conformance with the Contract Documents. The Contractor shall be solely responsible for construction means, methods, techniques, sequences and procedures and for co-ordinating the various parts of the Work under the Contract.
- 26.2 The Contractor shall be responsible for construction safety at the Place of the Work and for compliance with the rules, regulations and practices as set out in the Occupational Health and Safety Act of the Province of Nova Scotia. Before being permitted access to the site to commence construction, the contractor shall provide the Owner with a written site safety plan. The site safety plan provided shall be a written course of action that, through a pre-job evaluation, identifies and sets out specific actions to be taken to eliminate or control, hazards associated with the work to be performed and to also deal with concerns or hazards that may develop during the course of the project. This plan shall include but not be limited to identification of safety hazards anticipated during the project, solutions to those hazards, safety procedures, identification of designated safety officers and provisions for safe access to the site for HRM staff and consultants. Receipt and review of the safety plan shall be mandatory prior to commencement of work.
- 26.3 The Contractor shall have the sole responsibility for the design, erection, operation, maintenance and removal of temporary structural and other temporary facilities and the design and execution of construction methods required in their use. The Contractor shall engage and pay for registered professional engineering personnel, skilled in the appropriate disciplines to perform these functions where required by law or by the Contract Documents and in all cases where such temporary facilities and their method of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 26.4 Notwithstanding the provisions of paragraphs 26.1 and 26.3, or provisions to the contrary elsewhere in the Contract Documents, where such Contract Documents include designs for temporary structural and other temporary facilities or specify a method of construction in whole or in part, such facilities and methods shall be considered to be part of the design of the Work and the Contractor shall not be held responsible for that part of the design or the specified method of construction. The Contractor shall, however, be responsible for the execution of such design or specified method of construction in the same manner that the Contractor is responsible for the execution of the Work.
- 26.5 The Contractor shall review the Contract Documents and shall promptly report to the Engineer any error, inconsistency or omission of the Contract Documents. Such review shall be to the best knowledge, information and belief and in making such review the Contractor does not assume any responsibility to the Owner or the Engineer for the accuracy of the review. The Contractor shall not be liable for damage or costs resulting from such errors, inconsistencies or omissions in the Contract Documents which were not discovered. If the Contractor does discover any error, inconsistency or omission in the Contract Documents, Work affected shall not proceed until corrected or missing information is received from the Engineer.

- 26.6 The Contractor shall prepare and update as required a construction schedule indicating the timing of the major activities of the Work. The schedule shall be designed to ensure conformance with the required Contract Time. The schedule shall be submitted to the Engineer for information within a reasonable time from the date of Contract award. The Contractor shall monitor the progress of the Work relative to the schedule and advise the Engineer of any revisions required as the result of delays as provided in GC 4 - DELAYS, indicating the results expected from the resultant change in schedule.

GC 27 SUPERINTENDENCE

- 27.1 The Contractor shall employ a competent supervisor and necessary assistants who shall be in attendance at the Place of the Work while Work is being performed.

- 27.2 The supervisor shall be satisfactory to the Engineer and shall not be changed except for good reason and only then after consultation with the Engineer.

- 27.3 The supervisor shall represent the Contractor at the Place of the Work and be fully empowered to act for and on behalf of and to bind the Contractor in all matters at the site that pertain to the Contract. Instructions given to the supervisor by the Engineer shall be held to have been given to the Contractor.

Important instructions shall be confirmed to the Contractor in writing; other instructions shall be so confirmed if requested.

- 27.4 The supervisor shall, if required by the Engineer, be solely employed upon work directly connected with the Contract.

GC 28 LABOUR AND PRODUCTS

- 28.1 Unless otherwise stipulated elsewhere in the Contract Documents, the Contractor shall provide and pay for labour, products, tools, construction equipment and machinery, water, heat, lights, power, transportation and other facilities and services necessary for the performance of the Work in accordance with the Contract.

- 28.2 Products provided shall be new unless otherwise specified in the Contract Documents. Products which are not specified shall be of a quality best suited to the purpose required and their use subject to the approval of the Engineer.

- 28.3 The Contractor shall maintain good order and discipline among employees engaged on the Work and shall not employ on the Work anyone not skilled in the assigned task.

GC 29 SUBSURFACE CONDITIONS

- 29.1 The Contractor shall promptly notify the Engineer in writing if subsurface conditions at the Place of the Work differ significantly from those indicated in the Contract Documents, or a reasonable assumption of probable conditions based thereon.

29.2 After prompt investigation, should the Engineer determine that conditions do differ significantly, the Engineer will issue appropriate instructions for changes in the Work in accordance with GC 12 - CHANGES IN THE WORK AND EXTRA WORK, and the value of the changes shall be determined in accordance with GC 13 - VALUATION AND CERTIFICATION OF CHANGES IN THE WORK AND EXTRA WORK.

29.3 The location of existing utilities is approximate only and the best known to the Engineer at the time of Tender call. It shall be the responsibility of the Contractor to check the exact location of all utilities from various owners before starting of the Work. The Contractor is deemed to have included all the costs which may be necessary to protect utilities as required by various owners. No additional cost shall be considered by the Owner which the Contractor may have to bear to protect existing utilities. Notwithstanding the provisions of 29.1 and 29.2 the Owner will not consider payment of extra cost which the Contractor may incur to protect existing utilities.

GC 30 USE OF THE WORK

30.1 The Contractor shall confine apparatus, storage of products, and operations of employees to limits indicated by laws, ordinances, permits or the Contract Documents and shall not unreasonably encumber the premises with products.

30.2 The Contractor shall not load or permit to be loaded any part of the Work with a mass or force that will endanger the safety of the Work.

GC 31 INSPECTION OF THE WORK

31.1 The Owner and the Engineer or their authorized agents or representatives shall at all times have access to the Work. If parts of the Work are in preparation at locations other than the Place of the Work, the Owner and the Engineer or their authorized agents or representatives shall be given access to such Work whenever it is in progress.

31.2 If Work is designated for special tests, inspections or approvals in the Contract Documents, or by the Engineer's instructions, or the laws or ordinances of the Place of the Work, the Contractor shall give the Engineer timely notice requesting inspection. Inspection by the Engineer shall be made promptly. The Contractor shall arrange for inspections by other authorities and shall give the Engineer timely notice of the date and time. Minimum 12 hours notice, by fax, shall be provided to HRM's designated materials, testing and inspection contractor. HRM shall also be copied on any such notices.

31.3 If the Contractor covers or permit to be covered any Work that has been designated for special tests, inspections or approvals before such special tests, inspections or approvals are made, given or completed, the Contractor shall, if so directed, uncover such Work, have the inspections or tests satisfactorily completed and make good such Work at own expense.

31.4 The Engineer may order any part or parts of the Work to be specially examined should the Engineer believe that such Work is not in accordance with the requirements of the Contract Documents. If, upon examination, such Work be found not in accordance with the requirements of the Contract documents, the Contractor shall correct such Work and pay the cost of examination and correction. If such Work be found in accordance with the requirements of the Contract documents, the Owner shall pay the cost of examination and replacement.

31.5 The Contractor shall furnish promptly the Engineer two (2) copies of certificates and inspection reports relating to the Work.

GC 32 REJECTED WORK

32.1 Defective work, whether the result of poor workmanship, use of defective products, or damage through carelessness or other act or omission of the Contractor and whether incorporated in the Work or not, which has been rejected by the Engineer as failing to conform to the Contract Documents shall be removed promptly from the Place of the Work by the Contractor and replaced or re-executed promptly in accordance with the Contract Documents at the Contractor's expense.

32.2 Other Contractors' Work destroyed or damaged by such removals or replacements shall be made good promptly at the Contractor's expense.

32.3 If in the opinion of the Engineer it is not expedient to correct defective work or work not performed in accordance with the Contract Documents, the Owner may deduct from the monies otherwise due to the Contractor the difference in value between the work as performed and that called for by the Contract Documents, the amount of which will be determined in the first instance by the Engineer.

GC 33 PRODUCTS SUPPLIED BY OWNER

33.1 If the Contract provides that products are to be supplied by the Owner, the point of delivery shall be as designated by the Engineer.

33.2 The Contractor shall take full responsibility for the care and protection of all products supplied by the Owner from the time of arrival at the designated delivery point until the Work is fully performed.

33.3 As soon as the Contractor has been notified that products supplied by the Owner have arrived at the designated delivery point, the Contractor shall inspect, accept, unload and store the products.

33.4 The Contractor shall note on the freight or delivery slip any defects or shortages noted at the time of delivery and the Owner shall be notified of shortage or defect promptly.

33.5 The Contractor shall, at Substantial Performance of the Work, collect all unused products which were supplied by the Owner and deliver to a place designated by the Engineer. If such products are not collected and returned in good order, their cost shall be deducted from payments otherwise due to the Contractor.

GC 34 LIQUIDATED DAMAGES

- 34.1 Time shall be construed as being of the essence of the Contract.
- 34.2 The date of expiring of the time allowed in accordance with the Contract for Completion Time shall be termed the Date for Total Performance of the Work.
- 34.3 Should the Contractor fail to complete the Works by the date of Total Performance of the Work, the period of time from the Date for Total Performance of the Work to the date when the required Work is performed completely, as determined by the Engineer, shall be termed the Period of Delay.
- 34.4 In the event of there being a Period of Delay, the Contractor shall be liable for and shall pay to the Owner, fees, disbursements and costs incurred by the Owner by reason of there being such Period of Delay. In view of the difficulty of ascertaining the losses which the Owner may suffer by reason of delay in the performance of said Works, it is hereby agreed upon, fixed and determined by the Owner and Contractor that the liquidated damages the Owner will suffer by reason of said delay is the amount included in the Form of Tender and not by way of penalty. The Owner may deduct the amount of such liquidated damages from any monies payable to the Contractor under the Contract or recover from the Contractor. If no sum is specified in the Form of Tender by way of liquidated damages, the general rule as to damages shall apply.

GC 35 HOURS AND DAYS OF WORK

- 35.1 Normal working days shall be all days other than Saturdays, Sundays, and Holidays observed at the place of work. Working hours shall be governed by applicable noise bylaws and regulations. Normal HRM staff working hours shall consist of eight (8) hours between 8:00 a.m. and 5:00 p.m., including a one hour lunch break.
- 35.2 If the Contractor wishes to work outside normal staff working hours and days of work, permission shall be obtained from the Engineer. Further, the Contractor shall be responsible for compensating the Owner for all costs associated with working outside the normal hours and days of work.
- 35.3 The Engineer may require the Contractor to perform Work outside the normal hours and days of work at no additional cost to the Contract.
- 35.4 Notwithstanding the above, all contractors are advised that no work under this contract shall be performed on Remembrance Day, November 11.

GC 36 LAND

- 36.1 The Owner shall provide the lands upon which the Work is to be constructed, rights-of-way for access, easements, and such other lands which are designated for the use of the Contractor.

36.2 If the Contractor deems it advisable to acquire the right or rights to use, enjoy or occupy additional land or lands in order to facilitate the execution of the Works, the Contractor shall obtain such right or rights at own expense and without liability to the Owner

GC 37 ORDER TO START WORK

37.1 No Work shall be started nor materials or equipment moved to the Place of the Work until after receipt by the Contractor of the order to start Work. The Work shall commence within the time indicated on the order to start Work unless otherwise agreed in writing. Failure of the Contractor to start the Work within the time indicated shall give the Owner the right to cancel the Contract.

GC 38 SETTING OUT THE WORK

38.1 Unless otherwise specified, the Contractor is responsible to develop and make all detail surveys required for the laying out of the various work components with the assistance of available information as supplied by the Owner.

38.2 The Contractor shall carefully preserve bench mark reference points and stakes and in case of willful or careless destruction, the Contractor shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

GC 39 LOCAL OFFICE AND TELEPHONE NUMBERS

39.1 For designated projects the successful Bidder shall be required to maintain a site office which shall be staffed during normal working hours.

39.2 The Contractor shall provide the Engineer with the names and telephone numbers of two (2) representatives in the Halifax Metro Area of which at least one (1) will be available after hours, including weekends and holidays. This person shall be responsible to take remedial action identified by the Owner.

GC 40 TIME FOR COMPLETION

40.1 The required Work shall be performed completely within the time stated in the Form of Agreement.

40.2 If the Contractor requests any extensions of time for completion of the Works to do extra Work, strikes, lockouts, fires, insurrection, Acts of God, or delay in delivery of equipment, or by any act of the Owner, or from such other cause for which the Contractor cannot reasonably be held responsible, the Contractor shall give notice in writing to the Engineer within five (5) days after any such delay has first arisen, stating the reason and requesting a stated extension of time, and in such event the Engineer shall determine what extension of time, if any, shall be allowed the Contractor.

40.3

The Contractor will not have, or make, any claim or demand or bring any action, suit or petition, against the Owner for any damage sustained by reason of any delay or delays from whatever cause arising in the progress of the Works. This provision shall in no wise be affected in the event of the Engineer's exercising discretion to allow an extension or extensions of time.

**** End 00720 ****

Delete Section 00810 of the Standard Specifications for Municipal Services, as developed and published by the Nova Scotia Road Builders Association and Nova Scotia Consulting Engineers Association Joint Committee on Contract Documents, in its entirety and replace with the following:

GENERAL CONDITIONS

1. GC 19 WORKERS' COMPENSATION INSURANCE

Delete GC 19.1 and GC 19.2 and replace with the following:

19.1 Prior to commencing the Work, the Contractor shall provide a current clearance letter from the Workmen's Compensation Board and **must** maintain this coverage during the whole term of the contract. **HRM will only enter contracts with firms that provide WCB coverage.**

19.2 WCB Clearance Letters provide clarity as to who is covered and who is not covered for individual firms (e.g. Directors not taking a T4 from the company are excluded from coverage, owners of sole proprietorships and partnerships are excluded from coverage, family members living in the household of a director or partner are excluded from coverage). It will be the responsibility of the Principal Contractor to ensure coverage is in place for their employees and employees of any of their sub-contractors. **Individuals not covered by WCB are not permitted on Halifax Regional Municipality property.**

2. GC 25 WARRANTY

Delete GC 25.1 and replace with the following:

25.1 The Contractor shall correct promptly, at own expense, defects or deficiencies in the Work which appear prior to and during the period of **two** years from the date of Substantial Performance of the Work, as set out in the Certificate of Substantial Performance of the Work, or such longer period as may be specified for certain products or Work.

**** End 00810 ****

INTENT

- .1 The Work of this Contract is to be constructed in accordance with the HRM Specification Document in conjunction with the Standard Specifications for Municipal Services (latest revisions at the date of tender closing) as developed and published by the Nova Scotia Road Builders Association and Nova Scotia Consulting Engineers Association Joint Committee on Contract Documents, except as modified herein.
- .2 These Supplementary Specifications modify the specification sections to which they refer.
- .3 The Supplementary Specifications take precedence over the Specification to which they refer.
- .4 Tenderers are advised that the tender documents may have changed and should be reviewed in its entirety.

SECTION 00100 - INFORMATION TO TENDERERS

Delete in its entirety and replace with new section 00100 in this document.

SECTION 00330 - FORM OF TENDER

Delete in its entirety and replace with section in this document.

SECTION 00530 - FORM OF AGREEMENT

Delete in its entirety and replace with section in this document.

SECTION 00705 - DEFINITIONS

Delete in its entirety and replace with section in this document.

SECTION 00720 - GENERAL CONDITIONS

Delete in its entirety and replace with section in this document.

SECTION 00810 - SUPPLEMENTARY GENERAL CONDITIONS

Delete in its entirety and replace with section in this document.

SECTION 01001 - GENERAL REQUIREMENTS

- (a) 2. Summary of Work Page 1, delete subsection 2.1 and replace with the following:
- “1 This project is located in the community of _____ in the Halifax Regional Municipality on ____ Street from ____ Avenue to ____ Avenue.
- The work generally consists of the construction of _____.”
- (b) 4. Setting Out The Work Page 1, add the following:
- “4 Provide layout for new utility poles and guys and/or relocation of existing utility poles and guys. Coordinate work and layout with utilities.”
- (c) 8. Record Drawings Page 3, add the following:
- “3 Supply survey coordinates and elevations representative of all manholes, catchbasins, structures, pipework and buried portions of the work to the Engineer. Information must be received by the Engineer one month after project completion.”
- (d) 12. Traffic Control Page 5, delete subsection 12.2 and replace with the following:
- “2 In the “core area” of the Halifax Regional Municipality, additional requirements for traffic control are stipulated in the Traffic Control Manual Supplement. (Refer to Appendix ‘A’ in this document.)”
- (e) 18. Site Cleanup Page 7, add the following:
- “1 Construction sites shall be kept neat and tidy and undergo a thorough cleanup at the end of each working day, to the satisfaction of the Engineer. This includes, but not limited to, the following on a daily basis (or more frequent intervals if required); removal of gravel/soils/debris from paved and landscaped areas, removal and disposal of waste materials/garbage, grading (and if required gravelling) of travelled ways to ensure a smooth unimpeded passage of vehicles, application of dust control measures, maintenance of safety and traffic control equipment (signs, barricades, cones, etc.) and the immediate (48 hours) trimming of damaged tree limbs as per the recommended “Working Around Municipal Trees” procedure as per subsection 4.1, Section 01002 - Environmental Protection (refer to Supplementary Specifications). In addition the cleaning of concrete trucks shall not occur in the curb and gutter, catch basins, manholes, paved surfaces and landscaped areas.”

SECTION 01002 - ENVIRONMENTAL PROTECTION

- (a) Subsection 4 Tree and Plant Protection Page 2, delete subsection 4.1 and replace with the following:

“1 This section specifies requirements for working around Municipal trees. These requirements are intended to help minimize or eliminate some of the typical negative impacts that may occur during construction around trees including: mechanical injury to roots, trunks or branches, compaction of soil, changes in existing grade, alteration of the water table and sterile soil conditions (stripping of topsoil).

All Municipal trees in the area of construction shall be wrapped with a highly visible snow fence. Additional tree and/or root protection areas may be identified as determined by site specific conditions. Due care shall always be taken while operating construction equipment and machinery in and around trees to avoid soil compaction and to prevent mechanical injury to roots, trunks or branches.

If tree canopy height needs to be raised to allow for reasonable construction clearances, the work shall be performed by qualified persons using proper arboriculture practices. If limbs and or trunks are damaged during construction and correctional pruning is required, the work shall be performed by qualified persons using proper arboriculture practices. Parks Urban Forestry staff shall be contacted in all cases where tree damage is beyond minor.

Root disturbance shall be kept to a minimum during excavation. Removal of soil in the tree lawn areas shall be limited to the minimum required to accommodate framing of new curb/gutter and sidewalk. Minor root removal, when necessary, shall be done according to approved techniques (i.e. removed by making a clean, non-jagged cut using sharp tools). All pruning tools and equipment shall be sterilized when so directed by HRM. Where major roots come into conflict, Parks Urban Forestry staff shall be contacted for input. Alternate construction methods shall be considered where possible to resolve major root conflicts. Roots shall not be torn off with power equipment.

Following completion of the new curb/gutter and sidewalk, a minimal amount of excavation and/or infilling (with approved topsoil) may be permitted to accommodate the restoration of an even, consistent tree lawn area. Where necessary work shall be performed using hand tools and equipment.”

- (b) Subsection 7, add the following:

“4 When required, erosion and sediment control plans to be submitted for approval of Nova Scotia Department of Environment and Labour and Owner prior to start of construction and should be reviewed at the project preconstruction meeting.”

SECTION 01150 - MEASUREMENT AND PAYMENT

Delete in its entirety and replace with new section 01150 in this document.

SECTION 02200 - EARTHWORK

- (a) 1.1 Work Included Page 1, delete Subsection 1.1 and replace with the following:

“1 This section specifies requirements for all earthwork operations. Work includes supply of products and excavating, bedding, backfilling, compacting, shoring, dewatering, disposal of unsuitable and surplus materials, supply and placement of catchment devices and supply and installation of trench cage.”

- (b) 1.4 Definitions Page 2, delete Subsection 1.4.3 and replace with the following:

“3 Common: All excavated soil which is not rock or topsoil.”

- (c) 2.1 Materials Page 3, Subsection 2.1.2, add the following:

“Contractor shall provide geotechnical certification that the proposed borrow material is suitable for the use intended.”

- (d) 2.1 Materials Page 5, delete subsection 2.1.7 and replace with the following:

“2.1.7 Rip-rap: The stone shall be hard, dense (with specific gravity not less than 2.65), non-ore bearing, non-toxic to aquatic life, durable quarry stone, free from seams, cracks or other structural defects, to meet the following size distribution for use intended:

- .1 Class A: at least 70% of the rip-rap shall have a minimum dimension of between 150 mm and 200 mm.
- .2 Class B: at least 70% of the rip-rap shall have a minimum dimension of between 200 mm and 450 mm.
- .3 Class C: at least 70% of the rip-rap shall have a minimum dimension of between 300 mm and 760 mm.
- .4 Class D: at least 70% of the rip-rap shall have a minimum dimension of between 500 mm and 1200 mm.

- (e) 2.1 Materials Page 5, Subsection 2.1, add the following:
- “2.1.10 Conversion of in-place pay volume (pay area times thickness) to unit tonnage for gravel shall be at the rate of 2.2 tonnes per cubic metre.”
- 2.1.11 Conversion of in-place pay volume (pay area times thickness) to unit tonnage for impacted soil shall be at the rate of 2.0 tonnes per cubic metre.”
- (f) 3.1 Excavation Page 6, add the following:
- “.14 When granite curb is excavated it shall remain the property of HRM. The Contractor shall handle the granite curb in such manner as to avoid damage and deliver the material to a site designated by the Engineer.”
- (g) 3.3 Unsuitable Excavation Page 6, add the following:
- “.4 Handling of unsuitable material shall be done in a manner that does not impact other existing suitable materials.”
- (h) 3.7 Bedding and Backfilling Page 7, delete subsection 3.7.2, and replace with the following:
- “.2 Pipe bedding material to be Type I gravel from 150 mm below the pipe or 25% of the nominal diameter of the pipe, whichever is greater, to 300 mm above the top of the pipe to the full width of the excavated trench. Backfill area around manholes, catchbasins and structures to be Type II gravel to a minimum of 300 mm from the structure. Remaining trench backfill from the bedding to the subgrade to be selected material from the site.”
- (i) 3.7 Bedding and Backfilling Page 8, add the following:
- “.12 In areas of excessive ground water the Engineer may approve the substitution of the specified pipe bedding with 28 mm clear stone completely surrounded with geotextile separator to prevent the migration of fines into the clear stone.
- (j) 3.9 Mass Excavation and Embankment Page 9, add the following:
- “.13 When tree roots are encountered from trees which are not identified for removal, roots must be grinded using a trailer or towable stump grinding unit having sufficient capacity to adequately grind the tree roots to accommodate proposed construction. The grinding unit must be in good working condition complete with all recommended shields and guards. The Contractor must provide staff to act as “spotters” to accompany the root grinding operation to direct/guide persons who in any way may be at risk of debris cast from the root grinding operation.”

- .14 Prior to excavation around any manhole within the workplace (existing or newly constructed as part of the tender), the contractor shall supply and install catchment devices in all manholes prior to work commencing on the manhole. Such catchment devices shall be constructed and installed in a manner so as not to impede the flows through the manhole and shall be removed after all work is completed.”

SECTION 02515 - PRECAST MANHOLES, CATCHBASINS AND VALVE CHAMBERS

- (a) 2.4 Metal Castings Page 2, add the following:
- “2 Manholes: frame and cover IMP Type R10, centered on upstream side.”
- “3 Catchbasins: frame and grate IMP Type S 361”
- (b) 2.7 Concrete Page 2, add the following:
- “3 Cast-in-place concrete for adjustment of frame and cover or grating: to Section 03300, min. 35 MPa at 28 days, air entrained, 50 mm slump, water/cement ratio: 0.45 maximum.”
- (c) 3.3 Installation Page 3, delete subsection 3.3.11 and replace with the following:
- “11 Set frame and cover or grating to elevation and slope indicated. Use cast-in-place concrete (min. 150 mm thickness) or cast-in-place concrete with 15 M reinforcing bar in centre (for adjustments between 75 mm and 150 mm) or “Rapid-Set” or “Set-45” epoxy mortar (between 20 mm and 75 mm). Cast-in-place concrete shall not exceed the outside edge of the capping ring.”

SECTION 02518 - WATER MAIN

Delete in its entirety and replace with new section 02518 from the latest revision of the Halifax Regional Water Commission’s Design and Construction Specifications.

SECTION 02519 - PRESSURE SEWERS

PART 2 - PRODUCTS Page 7, add the following:

“2.10 Marking Tape

- .1 The forcemain shall be identified by placing an underground warning tape at the top of the first backfill layer above the pipe. The warning tape shall be 150 mm wide polyethylene tape with green background and black lettering. The message on the warning tape shall be “Caution, Sewer Line Buried”.”

SECTION 02630 - WALKS, CURBS AND GUTTERS

2.1 Materials Page 1, delete subsection 2.1.1 and replace with the following:

“.1 Concrete: to Section 03300, minimum compressive strength of 35 MPa, and maximum water cement ratio of 0.45, air entrainment, 5 - 8%.”

3.6 Backfilling Page 3, add the following:

“.2 The bottom of the granular base and sub-base for curb is to match that of street gravels or 150 mm thick minimum, whichever is greater.”

“.3 Upper 75 mm of curb bedding shall be Type 1 gravel. The remainder is to match type and depth of street gravels.”

“.4 Outside edge of curb bedding to be 150 mm behind curb at surface, and increase 100 mm for each 200 mm below curb.”

SECTION 02640 - ASPHALT CONCRETE PAVING

(a) 2.1 Materials Page 1, Subsection 2.1, add the following:

“.2.1.3 Conversion of in-place pay volume (pay area times thickness) to unit tonnage for asphalt shall be at the rate of 2.4 tonnes per cubic metre.”

(b) 2.2 Asphalt Concrete Page 1, Subsection 2.2, add the following:

“.2.2.2 Type C Special Mix Design:

To improve work ability and durability of asphalt mixes used on residential and low volume roadways, HRM requires that Contractors develop asphalt mix designs (Type C Special) specific for this work.

The mix designs shall meet the most recent requirements of the NSTPW Standard Specification for Mix Type C except for the following:

- The mix shall incorporate at least 25% natural sand. Natural sand is any sand not produced from a quarried rock
- The mix design gradation shall target 60% ± 2% on the 5000µm sieve size
- The mix design air void requirements shall be 2 - 4 percent
- The mix design VFA requirement shall be 76 - 85 percent

The mix design shall be considered to be the Job Mix Formula (JMF) unless the Contractor notifies HRM otherwise. The JMF shall be compared to the HRM quality control results for each project and allowable variations for samples are as follows:

Passing 5000 μm sieve	$\pm 5\%$
Passing 80 μm sieve	$\pm 1\%$
Asphalt Cement	$\pm 0.3\%$

2.2.3 Contractor to supply all asphalt concrete mix to Engineer for approval prior to commencement of work.”

(c) 3.3 Adjusting Tops of Castings Page 1, Subsection 3.3, add the following:

“3.3.2 Upon manhole adjustment, removal of catchment device and all works associated with restoration around the manhole, the contractor shall provide all testing equipment, labour, incidentals, traffic control, etc. required to undertake an inspection of the system to verify its cleanliness. This inspection must be done in the presence of the Engineer.”

(d) 3.6 Paving Page 2, add the following:

“4 When the air temperature is 5°C, or less, or after the 31st of October, the Contractor shall not be permitted to lay any asphalt pavement, unless otherwise directed by the Engineer.”

(e) 3.6 Paving Page 2, add the following:

“5 All joints to be raked.”

SECTION 02645 - TOPSOILING AND FINISH GRADING

PART 2 - PRODUCTS Page 2, delete subsection 2.1.2 and replace with the following:

“2 Topsoil to be rated to Landscape Nova Scotia Standard Topsoil Triangle, 1990, or latest revision, rating A. Manufacture topsoil or topsoil derived from site sources is to be improved as necessary to meet topsoil qualifications above.”

SECTION 03300 - CONCRETE

PART 3 - EXECUTION

3.8 Curing and Protection Page 6, add the following:

“.6 Curing or sealing of concrete to be carried out as directed by the Engineer.”

3.10 Defective Work Page 6, add the following:

“.2 Defective sidewalk slabs (including driveway ramps) shall be evaluated for spalling based on the following criteria:

Condition	Depth of Spalling	Area (%) of Panel
1C	≤3 mm (1/8")	5 to 15%
1R	≤3 mm (1/8")	>15%
2C	>3 mm (1/8") & ≤6 mm (1/4")	2 to 10%
2R	>3 mm (1/8") & ≤6 mm (1/4")	>10%
3C	>6 mm (1/4")	0 to 5%
3R	>6 mm (1/4")	>5%
Legend: C: no payment for the slab/panel R: removal and replacement of the slab/panel		

SECTION 05500 - METAL FABRICATIONS

PART 3 - EXECUTION

3.1 Installation Page 5, delete subsection 3.1.8 and replace with the following:

“.8 Prepare surfaces in accordance with SSPC Surface Preparation Standards and apply two coats of finish paint to items scheduled for painting in Supplementary Specifications.”

ADD THE FOLLOWING SECTIONS

LANDSCAPING

- 50. Topsoil and Sod
- 51. Topsoil and Seed
- 52. Trees, Shrubs and Groundcover
- 53. Hydroseed
- 54. Tree Removal
- 55. Chip Trees in Place
- 56. Bark Mulch
- 57. Handrails and Fences
- 58. Reserved
- 59. Reserved

ADDITIONAL ITEMS

- 60. Trench Excavation - Rock
- 61. Trench Excavation - Unsuitable Material
- 62. Replacement of Unsuitable Material with Type 2 Gravel or Surge Rock
- 63. Topsoil Excavation
- 64. Breaking Trench Rock Without Removal
- 65. Pavement Markings
- 66. Preblast Survey
- 67. Preblast Trenches
- 68. Trench Plugs
- 69. Reserved

ENVIRONMENTAL PROTECTION

- 70. Silt Fence
- 71. Flow Checks
- 72. Ground Cover
- 73. Environmental Mat
- 74. Soaker Bags
- 75. Diversion Ditches
- 76. Flow Diversions
- 77. Turbidity Curtain
- 78. Settlement Pond
- 79. Straw Bales

ELECTRICAL

- 80. Direct Buried Conduit
- 81. Traffic Signal Pole Concrete Base
- 82. Overhead Wiring for Detector Loops
- 83. Reinstate Traffic Signal Detector Loops / Scoot Loops
- 84. Installation of RA-5 Crosswalk Lights
- 85. Traffic Signal Installation
- 86. Reserved
- 87. Reserved
- 88. Reserved
- 89. Reserved

MISCELLANEOUS

- 90. Infrastructure Sign
- 91. Guiderails

MEASUREMENT AND PAYMENT

GENERAL

1. Unit prices are full compensation for the work necessary to complete each item in the Contract and in combination for all work necessary to complete the Work as a whole.
2. For sanitary sewers and storm sewer systems include all of the following as required where individual quantities are not provided in the Form of Tender: clearing and grubbing, common excavation, shoring, dewatering, bedding, backfilling, compaction, disposal of surplus common, mechanical joint restraints or thrust blocks as directed, testing, flushing, marker stakes, all incidentals and reinstatement as specified.
3. All measurement shall be along a horizontal plane unless otherwise indicated.
4. The numbers of the items described below correspond to the numbers of the items in Section 00330, subsection 4 - Schedule of Quantities and Unit Prices.
5. For water systems include all of the following as required where individual quantities are not provided in the Form of Tender: clearing and grubbing, common excavation of trench material, shoring, dewatering, bedding, pipe protection, polyethylene encasement, backfilling, compaction, joint restraints and thrust blocks, testing, flushing and disinfection, marker stakes, all incidentals and reinstatement as specified.
6. For earthwork, street construction and landscaping include all of the following as required where individual quantities are not provided in the Form of Tender: clearing and grubbing, borrow, common excavation, backfilling, compaction, disposal of surplus material, pavement markings, tree removal, all incidentals and reinstatement as specified.
7. The quantities listed in the Schedule of Quantities and Prices are approximate only and are for the purpose of tendering. Payment to the Contractor will be based on actual quantities of work completed in accordance with the drawings and specifications.
8. The requirement for items indicated as Provisional will not be determined until the time of construction. Provisional items shall mean that the unit prices as tendered shall be included in the Tender Price and that the Owner reserves the right to delete or modify the quantities of these items.

EARTHWORK1. Clearing

Unit of Measurement: hectare (ha) or square metre (m²).

This item includes: cutting and disposal of all trees and brush from areas indicated.

2. Grubbing

Unit of Measurement: hectare (ha) or square metre (m²).

This item includes: removal and disposal of all stumps, roots, downed timber, embedded logs, rootmat, humus, and topsoil from areas indicated.

3. Mass Excavation and Embankment - Common

Unit of Measurement: cubic metre (m³)

Method of Measurement: average end area method between cross sections taken after grubbing or topsoil removal and to the finished surface lines and elevations indicated.

This item includes: excavation, placement and compaction to the finished surface lines and elevations indicated, and disposal of surplus or unsuitable material.

4. Mass Excavation and Embankment - Rock

Unit of Measurement: cubic metre (m³).

Method of Measurement: average end area method between cross sections taken after rock is exposed to lines and elevations indicated. Boulders one cubic metre or larger will be classified as rock. Boulders removed from the excavation shall be measured along the three maximum perpendicular axes.

This item includes: excavation, placement and compaction to lines and elevations indicated, and disposal of surplus or unsuitable material.

5. Mass Excavation - Unsuitable Material

Unit of Measurement: cubic metre (m³).

Method of Measurement: average end area method of volume of unsuitable material between cross sections taken before and after excavation.

This item includes: all excavation of unsuitable material and disposal. Written authorization of Engineer required.

6. Replacement of Unsuitable Material with Type 2 Gravel or Surge Rock

Unit of Measurement: cubic metre (m³) or tonne (t).

Method of Measurement: average end area method for volume of unsuitable material or ticket of surge material.

This item includes: placing Type 2 gravel or surge rock in locations where unsuitable material has been excavated as indicated on the plan or as directed by the Engineer. It also includes compaction of the gravel and placement of filter fabric. Written authorization of Engineer required.

7. Borrow

Unit of Measurement: cubic metre (m³) or tonne (t).

Method of Measurement: average end area method between cross sections taken before placement of borrow to lines and elevations indicated.

This item includes: supply, placement and compaction.

8. Breaking Mass Rock Without Removal

Unit of Measurement: cubic metre (m³).

Method of Measurement: average end area method between cross sections taken between surface of rock to lines and elevations indicated, and excluding the volume of mass excavation.

This item includes: breaking of rock to the size indicated, and excavation and backfilling test holes as directed by the Engineer.

9.1 Scarify Existing Road Surface

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure

This item includes: scarifying the existing gravel sub-base to depth indicated to remove any material larger than 50 mm and mix gravels to an even consistency.

9.2 Reserved

WATER SYSTEM10. Pipe and Fittings

Unit of Measurement: Each, metre (m)

Method of Measurement: along centerline of pipe.

This item includes: supply and installation of pipe and fittings .

11. Fire Hydrants.1 Installation of Fire Hydrants

Unit of Measurement: Each

This item includes: supply and installation of hydrant complete with hydrant tee, lead, gate valve and valve box.

.2 Relocation of Fire Hydrants

Unit of Measurement: Each

This item includes: relocation of existing hydrant plus supply and installation of lead, gate valve and valve box.

12. Precast Concrete Chambers

Unit of Measurement: Each

This item includes: chamber as indicated, including all auxiliary piping, valves, drains, insulation, miscellaneous metals and other incidentals.

13. Direct Buried Valves

Unit of Measurement: Each

This item includes: Direct buried valves complete with valve boxes, appurtenances, anodes and finish grade adjustments.

14. Services.1 Service Fittings

Unit of Measurement: Each

This item includes: saddle as required, corporation stop, curb stop, and service box.

.2 Service Pipe

Unit of Measurement: metre (m)

Method of Measurement: centre of main to the termination point indicated.

This item includes: pipe.

.3 Relocation of Services

Unit of Measurement: metre (m)

Method of Measurement: centre of main to the termination point indicated.

This item includes: locating existing service, excavation and backfilling, supply and installation of new pipes and fittings, bedding, and reinstatement of existing surfaces. This item also includes all costs related to the disruption of existing services and for re-testing and disinfection if required by Commission's Representatives.

15. Connections to Existing Main

Unit of Measurement: Each

This item includes: locating existing main and supply and installation of pipe, nipples, valves, fittings, and incidentals.

16. Water Main Protection

.1 Zinc Anodes

Unit of Measurement: Each

This item includes: supply and installation of anode packs, wire and accessories.

.2 Rigid Insulation

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure

This item includes: supply and installation of insulation as specified.

17. Temporary Water Service

Unit of Measurement: Each, metre (m)

This item includes: but is not limited to, the supply of all labour, material and equipment for performing the following operations: connection and maintenance of the temporary 19 mm service lateral, including coordination with homeowners; installing and maintaining the 50 mm dia. temporary main line, complete with 19 mm service lateral laid to the house; and removal of all temporary lines.

18. Filter Fabric

Unit of Measurement: square metre (m²)

This item includes: supply and installation of filter fabric around watermain bedding and fabric dams where indicated or directed by the Commission's Representative.

19. Reserved

SANITARY SEWER

20. Gravity Pipe

Unit of Measurement: metre (m).

Method of Measurement: along centreline of pipe through manholes.

- .1 Gravity Pipe Including Reinstatement
This item includes: excavation, bedding and backfill, supply and placement of pipe complete with all fittings and all reinstatement.
- .2 Gravity Pipe Excluding Reinstatement
This item includes: excavation, bedding and backfill, supply and placement of pipe complete with all fittings. Reinstatement to be paid under street construction units on a theoretical trench basis as per detail 01150-A1.

21. Pressure Pipe

Unit of Measurement: metre (m).

Method of Measurement: along centreline of pipe through fittings.

This item includes: excavation, bedding and backfill, supply and placement of pipe complete with all fittings, corrosion protection and all reinstatement.

22. Manholes

Unit of Measurement: Each.

This item includes: excavation, bedding and backfill, supply and placement of manholes as indicated and in accordance with Standard Details 3.02515.01, 3.02515.03 and 3.02515.04. Also includes adjustment to finished grade.

23. Services

Unit of Measurement: metre (m).

Method of Measurement: along centreline of pipe from centre of main to termination point indicated.

- .1 Service Pipe Including Reinstatement
This item includes: excavation, bedding and backfill, supply and placement of pipe complete with all fittings and all reinstatement.

MEASUREMENT AND PAYMENT

.2 Service Pipe Excluding Reinstatement

This item includes: excavation, bedding and backfill, supply and placement of pipe complete with all fittings. Reinstatement to be paid under street construction units on a theoretical trench basis as per detail 01150-A1.

24. Connections to Existing Main

Unit of Measurement: Each.

This item includes: locating existing line or structure, supply and installation of all fittings or manhole as indicated.

25. Closed Circuit Television Inspection

Unit of Measurement: metre (m) for each inspection.

Method of Measurement: along centreline of pipe through manholes.

This item includes: television inspections, records and reports. Also includes mandril testing of all pipes prior to videoing.

26. Reserved.

27. Reserved.

28. Reserved.

29. Reserved.

STORM SEWER

30. Pipe

Unit of Measurement: metre (m).

Method of Measurement: along centreline of pipe through manholes.

.1 Pipe Including Reinstatement

This item includes: excavation, bedding and backfilling, supply and placement of pipe complete with all fittings and all reinstatement. This item also includes clear stone and geotextile as specified for underdrains.

.2 Pipe Excluding Reinstatement

This item includes: excavation, bedding and backfilling, supply and placement of pipe complete with all fittings. This item also includes clear stone and geotextile as specified for underdrains. Reinstatement to be paid under street construction units on a theoretical trench basis as per detail 01150-A1.

31. Manholes

Unit of Measurement: Each.

This item includes: excavation, bedding and backfilling, supply and placement of manholes as indicated and in accordance with Standard Details 3.02515.01, 3.02515.03 and 3.02515.04. Also includes adjustment to finished grade

32. Catchbasins

.1 Installation of New Catchbasins

Unit of Measurement: Each.

Method of Measurement: number of units installed by type and size.

This item includes: excavation, bedding and backfilling, supply and placement of catchbasins as indicated and in accordance with Standard Detail 5.02515.01. Also includes adjustment to finished grade.

.2 Replacement of Existing Catchbasins

Unit of Measurement: Each.

Method of Measurement: number of units installed by type and size.

This item includes: locating existing structure, removal and disposal, excavation, bedding and backfilling, supply and placement of catchbasins as indicated and in accordance with Standard Detail 5.02515.01. Also includes adjustment to finished grade and re-connection of existing leads.

33. Catchbasin Leads

Unit of Measurement: metre (m).

Method of Measurement: along centreline of pipe from centre of catchbasin to centre of main sewer, centre of manhole, or termination point indicated.

.1 Catchbasin Leads Including Reinstatement

This item includes: excavation, bedding and backfilling, supply and placement of pipe complete with all fittings, connections and all reinstatement.

.2 Catchbasin Leads Excluding Reinstatement

This item includes: excavation, bedding and backfilling, supply and placement of pipe complete with all fittings and connections. Reinstatement to be paid under street construction units on a theoretical trench basis as per detail 01150-A1.

34. Services

Unit of Measurement: metre (m).

Method of Measurement: along centreline of pipe from centre of main to termination point indicated.

.1 Service Pipe Including Reinstatement

This item includes: excavation, bedding and backfill, supply and placement of pipe complete with all fittings and all reinstatement.

.2 Service Pipe Excluding Reinstatement

This item includes: excavation, bedding and backfilling, supply and placement of pipe complete with all fittings. Reinstatement to be paid under street construction units on a theoretical trench basis as per detail 01150-A1.

35. Connections to Existing Main

Unit of Measurement: Each.

This item includes: locating existing line or structure and supply and installation of all fittings, catchbasin, or manhole as indicated.

36. Culverts

Unit of Measurement: metre (m).

Method of Measurement: along centreline of pipe.

This item includes: pipe, excavation and backfilling, pipe bedding and reinstatement.

37. Closed Circuit Television Inspection

Unit of Measurement: metre (m) for each inspection.

Method of Measurement: along centreline of pipe through manholes.

This item includes: television inspections, records and reports. Also includes mandril testing of all pipes prior to videoing.

38. Removal of Existing Structure

Unit of Measurement: Each or metre (m)

Method of Measurement: number of catchbasins or manholes removed or horizontal measurement of pipe.

This item includes: locating existing pipe or structure, excavation, disposal, backfilling, replacement of required volume with select material, compaction, all reinstatement, and all incidentals associated with the removal of existing catchbasin leads, catchbasins, manholes and pipes. This item also includes the capping of all remaining pipes and delivery of removed items as specified.

39.1 Culvert Headwall

Unit of Measurement: Lump Sum (L.S.) or cubic metre (m³)

Method of Measurement: volume of wall and footing constructed

This item includes: common excavation, granular base, supply and installation of headwall as specified, granular backfill, handrail, geosynthetic and all reinstatement..

39.2 Culvert Apron

Unit of Measurement: square metre (m²)

Method of Measurement: horizontal measurement

This item includes: excavation, supply and placement of geotextile and all materials to specified thickness.

39.3 Inlet / Outlet Grate / Structure

.1 ___ mm dia. Inlet Grate

.2 ___ mm dia. Outlet Grate

Unit of Measurement: Each

This item includes: supply and placement of grate as specified.

.3 Inlet / Outlet Structure

Unit of Measurement: Lump Sum (L.S.)

This item includes: all labour and materials necessary to construct and install the inlet and/or outlet structures indicated in the project drawings. This includes, but is not limited to clearing, grubbing, common excavation, bedding, backfilling, rip-rap, geotextile, formwork, concrete reinforcing, railing and grate fabrication and installation, and connection or casting of pipe to structure.

MEASUREMENT AND PAYMENT

STREET
CONSTRUCTION40. Gravels

Unit of Measurement: square metre (m²) or tonnes (t).

Method of Measurement: slope measure of indicated area at mean depth or scale tickets signed by Engineer.

This item includes: mass excavation and embankment - common, supply, placement and compaction of gravel as indicated.

41. Placement Materials.1 Reinstatement Tape

Unit of Measurement: linear metre (m)

Method of Measurement: slope measure

This item includes: the supply and installation of 2 mm x 50 mm reinstatement tape at asphalt joint in street cut by method as specified by supplier.

.2 Bituminous Prime

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure of surface area.

This item includes: supply and application.

.3 Glas Grid

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure

This item includes: supply and placement of glass grid or equivalent, in accordance with manufacturer's recommendations. Separate payment will be made for the leveling course of asphalt if required.

42. Asphaltic Concrete

Unit of Measurement: square metre (m²) or tonnes (t).

Method of Measurement: slope measure of surface area or scale tickets signed by Engineer.

- .1 Type C - 40 mm thick
- .2 Type C - 50 mm thick
- .3 Type C Special - 40 mm thick
- .4 Type C Special - 50 mm thick
- .5 Type B - 50 mm thick
- .6 Type B - 60 mm thick
- .7 Type B - 75 mm thick
- .8 Type B - 100 mm thick
- .9 Type D - 65 mm thick

Items 1 to 9 include: mass excavation and embankment - common, power sweeping (cleaning), supply, placement and compaction as indicated including tack coat and temporary pavement markings.

.10 Hand patch

Unit of Measurement: square metre (m²) or tonnes (t)

Method of Measurement: slope measure of surface area or scale tickets signed by Engineer.

This item includes: power sweeping (cleaning), supply, placement and compaction of asphaltic concrete as indicated including tack coat.

.11 Cut and patch

Unit of Measurement: square metre (m²) or tonnes (t)

Method of Measurement: slope measure of surface area or scale tickets signed by Engineer.

This item includes: mass excavation and embankment - common, power sweeping (cleaning), supply, placement and compaction of asphaltic concrete as indicated including tack coat, saw cutting and 150 mm Type 1 gravel as per HRM Standard Detail 7.02640.01.

-
- .12 Planer patch
- Unit of Measurement: square metre (m²) or tonnes (t)
- Method of Measurement: slope measure of surface area or scale tickets signed by Engineer.
- This item includes: mass excavation and embankment - common by planing, power sweeping (cleaning), supply, placement and compaction of asphaltic concrete as indicated including tack coat.
- .13 Profile Correction
- Unit of Measurement: square metre (m²) or tonnes (t)
- Method of Measurement: slope measure of surface area or scale tickets signed by Engineer.
- This item includes: supply, placement and compaction of asphaltic concrete as indicated including tack coat and temporary pavement markings.
- .14 Spreader (Mechanical Paver) patch
- Unit of Measurement: square metre (m²) or tonnes (t)
- Method of Measurement: slope measure of surface area or scale tickets signed by Engineer.
- This item includes: mass excavation and embankment - common by planing, power sweeping (cleaning), supply, placement and compaction of asphaltic concrete as indicated including tack coat, temporary pavement markings, saw cutting and 150 mm Type 1 gravel as per HRM Standard Detail 7.02640.01.
- .15 Full Depth Reclamation
- Unit of Measurement: square metre (m²)
- Method of Measurement: slope measure of surface area
- This item includes but is not limited to: all labour, equipment and material required to undertake the work which includes excavation and pulverization of in-situ asphalt and gravels to depths indicated, supply and mixing of corrective aggregate (if necessary), grading and placement of reclaimed material. For the complete description of work required for this item see supplementary specifications S-10 Full Depth Reclamation.

.16 In Place Stabilization

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure.

This item includes but is not limited to: all labour, equipment and materials required to undertake the work which includes injection of emulsion, mixing, grading, compaction, tack coat and temporary pavement markings. For the complete description of work required for this item see supplementary specifications S-10 Full Depth Reclamation.

.17 Asphalt Swale

Unit of Measurement: lineal metre (m)

Method of Measurement: slope measure along centreline of swale

This item includes: mass excavation and embankment - common, supply, placement and compaction of asphalt swale as indicated.

.18 Cold Planing

Unit of Measurement: square metre (m²)

This item includes: the supply of all necessary materials, labour and equipment required for the planing / profiling of asphalt concrete to the depth specified, delivery of all milled material to HRM designated sites (Central - Oakmount Drive, East - Turner Drive, West - MacKintosh Street), power broom cleaning of all milled surfaces and all other work as specified to location designated by Engineer. Immediately after the existing asphalt is planed an asphalt ramp must be installed between the planed surface and the existing asphalt. No separate payment will be made for the asphalt required for ramping.

.19 Pulverization

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure

This item includes but is not limited to: all labour, equipment and material required to undertake the work which includes pulverizing, initial grading and compaction.

43. Curb

Unit of Measurement: metre (m).

Method of Measurement: slope measure along face of curb through catchbasins.

This item includes: mass excavation and embankment - common, granular base and sub-base, curb and gutter, and supply and placement of backfill to subgrade for topsoil, sidewalk or driveway as per Standard Details 8.02630.08 and 8.02630.09.

44. Sidewalk

Unit of Measurement: square metre (m²).

Method of Measurement: slope measure.

This item includes: mass excavation and embankment - common, granular base, sidewalk, and supply and placement of backfill as indicated. This item also includes welded wire mesh as required.

45. Retaining Wall

Unit of Measurement: cubic metre (m³) or square metre (m²).

Method of Measurement: volume of wall and footing constructed or area of wall face above footing.

.1 Retaining Wall Including Reinstatement

This item includes: common excavation, granular base, supply and installation of retaining wall as per manufacturer's specifications or as specified on plan, granular backfill, geosynthetic, drains as indicated and all reinstatement.

.2 Retaining Wall Excluding Reinstatement

This item includes: common excavation, granular base, supply and installation of retaining wall as per manufacturer's specifications or as specified on plan, granular backfill, geosynthetic and drains as indicated.

46. Traffic Sign Base

Unit of Measurement: Each.

This item includes: common excavation, backfill, supply and installation of concrete, reinforcing steel, iron pipe sleeve, sign post and water tight cap as per Standard Detail 12.02800.01.

This item does not include the supply and installation of signs.

47.1 Adjust Existing Structures to Grade.1 Shaft Adjustment (Manhole)

Unit of Measurement: Each.

Method of Measurement: number of existing manholes adjusted to grade.

This item includes: excavation and backfill, removal of existing shaft section (800 mm inside diameter or less), reconstruction with precast concrete sections and cast-in-place concrete as specified, setting of frame and cover to finished grade and reinstatement to match existing.

This item also includes the placement of catchment devices in all manholes prior to work commencing on the manhole. Such catchment devices shall be constructed and installed in a manner so as not to impede the flows through the manhole and shall be removed after all work is completed.

.2 Shaft and Intermediate Section Adjustment (Manhole)

Unit of Measurement: Each.

Method of Measurement: number of existing manholes adjusted to grade.

This item includes: excavation and backfill, removal of existing shafting material, eccentric cone sections and intermediate sections, supply and installation of required precast concrete sections, supply and placement of cast-in-place concrete as specified, setting of frame and cover to finished grade and reinstatement to match existing.

This item also includes the placement of catchment devices in all manholes prior to work commencing on the manhole. Such

MEASUREMENT AND PAYMENT

catchment devices shall be constructed and installed in a manner so as not to impede the flows through the manhole and shall be removed after all work is completed.

.3 Shaft Adjustment (Catchbasin)

Unit of Measurement: Each.

Method of Measurement: number of existing catchbasins adjusted to grade

This item includes: excavation and backfill, removal of existing adjusting section on top of capping section, reconstruction with cast-in-place concrete as specified, setting of frame and grate to finished grade and reinstatement to match existing.

.4 Shaft and Intermediate Section Adjustment (Catchbasin)

Unit of Measurement: Each.

Method of Measurement: number of existing manholes adjusted to grade.

This item includes: excavation and backfill, removal of existing shafting material, eccentric cone sections and intermediate sections, supply and installation of required precast concrete sections, supply and placement of cast-in-place concrete as specified, setting of frame and grate to finished grade and reinstatement to match existing.

.5 Type 1 Water Valve Adjustment

Unit of Measurement: Each.

Method of Measurement: number of existing water valves adjusted to grade.

This item includes: excavation and adjustment of upper valve box extension sleeve, setting top to finished grade and reinstatement to match existing.

.6 Type 2 Water Valve Adjustment

Unit of Measurement: Each.

Method of Measurement: number of existing water valves adjusted to grade.

This item includes: the supply and installation of upper valve box and cap (and intermediate section if required); excavation and adjustment of upper valve box extension sleeve; centering over the valve operating stem, setting top to finished grade and reinstatement to match existing.

.7 Type 3 Water Valve Adjustment

Unit of Measurement: Each.

Method of Measurement: number of existing water valves adjusted to grade.

This item includes: the supply and installation of both the upper, intermediate and lower valve box sections and cap, excavation, adjustment and replacement of upper valve box extension sleeve. Item also includes the centering of the new valve box sections over the valve operating nut, the setting of the top to finished grade and reinstatement to match existing.

47.2 Replace Frames and Grates or Covers

Unit of Measurement: Each.

Method of Measurement: Number of sets of frame and grate or cover

This item includes: the supply and installation of new frame and grate or cover as specified. This also includes the removal of existing frame and grate or cover and transfer to HRM Works Depot. Adjustments to be paid under Item 47.1.

48. Type 2 Gravel or Surge Rock Below Subgrade

Unit of Measurement: cubic metre (m³) or tonne (t).

Method of Measurement: average end area method or scale tickets signed by Engineer.

This item includes: excavation of unsuitable material below subgrade and supply, placement and compaction of gravel or surge rock.

MEASUREMENT AND PAYMENT

49. Driveway Reinstatement.1 Gravel

Unit of Measurement: tonne (t)

Method of Measurement: scale tickets signed by Engineer.

This item includes: excavation, supply, placement and compaction of Type 1 gravel.

.2 Asphalt

Unit of Measurement: square metre (m²)

Method of Measurement: Slope measure or scale tickets signed by Engineer.

This item includes: excavation, supply, placement and compaction of Type D asphalt. It also includes 150 mm Type 1 gravel base and reinstatement tape along cut edge of existing asphalt.

.3 Concrete

Unit of Measurement: square metre (m²)

Method of Measurement: Slope measure or scale tickets signed by Engineer.

This item includes: excavation, supply, placement and finishing of concrete including reinforcing. Also includes 150 mm Type 1 gravel base and the supply and installation of 10M dowels into the existing driveway at 600 mm c.c.

.4 Brick Paver

Unit of Measurement: square metre (m²)

Method of Measurement: Slope measure or scale tickets signed by Engineer.

This item includes: excavation, supply and placement of brick pavers to reinstate existing brick work to original condition if disturbed during construction. Placement and compaction of required sand is included.

.5 Exposed Aggregate

Unit of Measurement: square metre (m²)

Method of Measurement: Slope measure or scale tickets signed by Engineer.

This item includes: excavation, supply, placement and finishing of concrete (match existing aggregate size and color) including reinforcing. It also includes 150 mm Type 1 gravel base and the supply and installation of 10M dowels into the existing driveway at 600 mm c.c.

MEASUREMENT AND PAYMENT

LANDSCAPING

50. Topsoil and Sod

Unit of Measurement: square metre (m²).

Method of Measurement: slope measure.

This item includes: excavation, topsoil, lime and fertilizer, sod, required accessories, and maintenance.

51. Topsoil and Seed

Unit of Measurement: square metre (m²).

Method of Measurement: slope measure.

This item includes: excavation, topsoil, lime, fertilizer, mulch, erosion control agent, seed, and maintenance.

52. Trees, Shrubs and Groundcover

Unit of Measurement: Each or square metre (m²)

Method of Measurement: Individual item or slope measure

This item includes: trees, shrubs and groundcover, planting mixture, mulch, lime and fertilizer, tree supports and accessories and maintenance as specified.

53. Hydroseed

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure

This item includes: hydroseed mix, mulch, erosion control agent, water and fertilizer as specified and maintenance.

54. Tree Removal

Unit of Measurement: each

This item includes: removal and disposal of all trees including stumps and roots (to size indicated) as indicated on plan.

MEASUREMENT AND PAYMENT

55. Chip Trees in Place

Unit of Measurement: Each

This item includes: removal of trees, chipping on site and distributing on site as specified by Engineer.

56. Bark Mulch

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure

This item includes: bark mulch in locations as directed by Engineer.

57. Handrails and Fences

Unit of Measurement: metre (m).

Method of Measurement: slope measure along top rail.

This item includes: excavation and backfill, supply and placing concrete footings, installation and finishing of posts, rails, gates, fabric, fittings and accessories, and surface reinstatement as specified.

58. Reserved.

59. Reserved.

MEASUREMENT AND PAYMENT

ADDITIONAL
ITEMS60. Trench Excavation - Rock

Unit of Measurement: cubic metre (m³).

Method of Measurement:

Average end area method between changes in rock cross section. Dimensions used to calculate end areas shall be theoretical trench width as indicated in Section 17000 - Standard Detail 01150- A1, and depth from surface of rock as exposed on sides of trench after excavation to bottom of specified bedding for each pipe in trench.

Boulders larger than one-half cubic metre, any portion of which is within theoretical trench, will be classified as rock. Boulders removed from trench shall be measured along the three maximum perpendicular axes.

This item includes: all incidental work for rock excavation and disposal of surplus material over and above cost of common excavation which is included in price for pipe and related items. Also includes replacement of required volume with select material.

61. Trench Excavation - Unsuitable Material

Unit of Measurement: cubic metre (m³) or tonne (t).

Method of Measurement: average end area method for volume of unsuitable material less theoretical trench volume or ticket of surge material used to backfill.

This item includes: all excavation of unsuitable material beyond limits of the theoretical trench as indicated in Section 17000 - Standard Detail 01150 - A1, and disposal. Written authorization of Engineer required.

62. Replacement of Unsuitable Material with Type 2 Gravel or Surge Rock

Unit of Measurement: cubic metre (m³) or tonne (t).

Method of Measurement: average end area method for volume of unsuitable material less theoretical trench volume or ticket of surge material.

This item includes: placing Type 2 gravel or surge rock in locations where unsuitable material has been excavated from the trench beyond the limits of the theoretical trench as indicated in Section 17000 - Standard Detail 01150 - A1. It also includes compaction of the gravel and placement of filter fabric. Written authorization of Engineer required.

MEASUREMENT AND PAYMENT

63. Topsoil Excavation

Unit of Measurement: cubic metre (m³).

Method of Measurement: average end area method between cross sections taken before and after stripping topsoil.

This item includes: stripping and stockpiling or disposal of topsoil as directed.

64. Breaking Trench Rock Without Removal

Unit of Measurement: cubic metre (m³).

Method of Measurement: average end area method between changes in rock cross section. Dimensions used to calculate end areas to be theoretical trench width as indicated in Section 17000 - Standard Detail 01150 - A1, and depth from surface of rock as encountered during drilling to the lines and elevations indicated.

This item includes: breaking of rock to size indicated and excavation and backfilling test holes.

65. Pavement Markings

- .1 Lines
- .2 Stop Bars

Unit of Measurement: metre (m)

Method of Measurement: slope measurement

This item includes: accurate inventory of existing pavement markings, the supply and application of paint in the colours, sizes, and configurations shown on the drawings and as specified by the Engineer. Also includes layout and pre-marking. Arterials shall have the pre-markings applied immediately after the placement of each lift of asphaltic concrete and permanent markings shall be applied within 48 hours. All other streets shall have the permanent markings applied within one week after the placement of the final lift of asphaltic concrete.

.3 Crosswalks

Unit of Measurement: metre (m)

Method of Measurement: average of the slope measurement of both lines

This item includes: accurate inventory of existing pavement markings, the supply and application of paint in the colours, sizes and configurations shown on the drawings and as specified by the Engineer. Also includes layout and pre-marking. Permanent markings shall be applied within one week after the placement of the final lift of asphaltic concrete.

.4 Hatching

Unit of Measurement: metre (m)

Method of Measurement: plan measurement

This item includes: accurate inventory of existing pavement markings, the supply and application of paint in the colours, sizes and configurations shown on the drawings and as specified by the Engineer. Also includes layout and pre-marking. Arterials shall have the pre-markings applied immediately after the placement of each lift of asphaltic concrete and permanent markings shall be applied within 48 hours. All other streets shall have the permanent markings applied within one week after the placement of the final lift of asphaltic concrete.

.5 Arrows

Unit of Measurement: Each.

Method of Measurement: number of units installed. Where there is more than one arrow per installation (i.e., "Thru-left" symbol) this shall be counted as one unit.

This item includes: accurate inventory of existing arrows and configurations, supply and application of arrows in the colours, sizes and configurations shown on the drawings and as specified by the Engineer. Also includes layout and pre-marking. Arterials shall have the pre-markings applied immediately after the placement of each lift of asphaltic concrete and permanent markings shall be applied within 48 hours. All other streets shall have the permanent markings applied within one week after the placement of the final lift of asphaltic concrete.

MEASUREMENT AND PAYMENT

.6 Bicycle Traffic Symbols

Unit of Measurement: Each.

Method of Measurement: number of units installed.

This item includes: supply and application of bicycle traffic pavement markings in colours, sizes and configurations shown on the drawings and as specified by the Engineer. Also includes layout and pre-marking. Permanent markings shall be applied within one week after the placement of the final lift of asphaltic concrete.

.7 New Intersection Markings

Unit of Measurement: Lump Sum (L.S.)

This item includes: supply and application of paint in the colours, sizes and configuration as indicated on the plan. Arterials shall have the pre-markings applied immediately after the placement of each lift of asphaltic concrete and permanent markings shall be applied within 48 hours. All other streets shall have the permanent markings applied within one week after the placement of the final lift of asphaltic concrete.

.8 Removal of Existing Pavement Markings

Unit of Measurement: square metre (m²), Each (Ea.) or Lump Sum (L.S.)

Method of Measurement: Plan Measurement, per item or as Lump Sum

This item includes: the supply and installation of all materials required to remove the pavement markings in the configuration shown on the drawing and as specified by the Engineer.

.9 Replacement of Existing Markings

Unit of Measurement: Lump Sum (L.S.)

This item includes: accurate inventory of existing pavement markings and the supply and application of paint in the colours, sizes and configuration as necessary to replace the markings which existed prior to construction. Also includes layout and pre-marking.

66. Preblast Survey

Unit of Measurement: lump sum (l.s.)

This item includes: all costs associated with conducting preblast survey by insurers.

MEASUREMENT AND PAYMENT

67. Preblast Trenches

Unit of Measurement: cubic metre (m³)

This item includes for all costs associated with drilling and blasting rock in trenches for future excavation operations. This item also includes all costs for services of the blasting consultant.

68. Trench Plugs

Unit of Measurement: Lump Sum (L.S.) or Each.

This item includes: supply and placement of material for trench plugs as detailed in locations indicated on plan or as directed by Engineer.

69. Reserved

MEASUREMENT AND PAYMENT

ENVIRONMENTAL
PROTECTION

70. Silt Fence

Unit of Measurement: metre (m).

Method of Measurement: slope measure.

This item includes: supply, installation, maintenance and removal including stakes and fabric and reinstatement of area.

71. Flow Checks

Unit of Measurement: Each.

This item includes: supply, installation, maintenance and removal.

72. Ground Covers

Unit of Measurement: square metre (m²).

Method of Measurement: slope measure.

- .1 Straw or Hay Cover
- .2 Gravel Cover

This item includes: supply, installation to thickness specified on drawings and maintenance.

- .3 Rock Rip Rap Protection

This item includes: excavation, supply and placement of geotextile and rip rap as specified, and reinstatement as required.

73. Environmental Mat

Unit of Measurement: square metre (m²)

Method of Measurement: slope measure

This item includes: supply, installation and maintenance as specified.

74. Soaker Bags

Unit of Measurement: Each.

This item includes: supply, installation, maintenance and removal.

MEASUREMENT AND PAYMENT

75. Diversion Ditches

Unit of Measurement: metre (m).

Method of Measurement: slope measure of indicated width.

This item includes: laying out grades and lines, excavation and lining as required, maintenance, removal and reinstatement.

76. Flow Diversion

Unit of Measurement: Each

This item includes: clearing, grubbing, excavation for the supply, installation, maintenance, diversion channels and/or pumping and subsequent removal of barriers. Also includes all reinstatement and all other costs incidental to this item.

77. Turbidity Curtain

Unit of Measurement: Each

This item includes: the supply, installation, maintenance and subsequent removal of the turbidity curtain. Also includes all other costs incidental to this item.

78. Settlement Pond

Unit of Measurement: Each

This item includes: clearing, grubbing, excavation necessary for the installation, maintenance and subsequent removal of all settlement ponds required for project, reinstatement and all other costs incidental to this item. This item also includes fencing, as specified, to surround the pond.

79. Straw Bales

Unit of Measurement: Each

This item includes: supply, placement, maintenance and removal of straw bales in locations as directed by Engineer.

ELECTRICAL80. Direct Buried Conduit

Unit of Measurement: metre (m)

Method of Measurement: lineal metre (m) of direct buried conduit

This item includes: common excavation, backfilling, gravel reinstatement, bedding, compaction, jointing, electrical fluorescent tape, lumber, stub-ups (including the concrete bumper where indicated), pole terminations, conduit, junction boxes, pull pits, provision of temporary service as required, connections to existing, ground wire if required, etc. necessary to complete the work.

This item does not include reinstatement of asphalt concrete, concrete sidewalk, concrete curb and gutter and topsoil and sod, which is to be paid for under separate pay items.

81. Traffic Signal Pole Concrete Base

Unit of Measurement: each

This item includes: common excavation, backfill, reinforcing steel, concrete, formwork, rebar, anchor bolts, internal conduit to 450 mm outside base and connections to conduit runs, etc.

82. Overhead Wiring for Detector Loops

Unit of Measurement: metre (m)

Method of Measurement: lineal metre (m) of overhead wiring between indicated locations

This item includes: the supply of messenger and traffic signal cable, and installation in accordance with Standard Details 11.16100.05 and 11.16100.06.

This item does not include the installation of the detector loops which is paid separately.

83. Reinstate Traffic Signal Detector Loops / Scoot Loops

Unit of Measurement: lump sum (l.s.)

This item includes the reinstatement of detector loops, junction boxes, and the home run to the controller as required.

84. Installation of RA-5 Crosswalk Lights Including All Necessary Appurtenances

Unit of Measurement: lump sum (l.s.)

This item includes: the supply and installation of all RA-5 crosswalk lights, Novax Series II PXO controllers, poles, mast arms and any other necessary appurtenances. This item also includes the pulling of all wires, all connections, grounding, final wiring, testing, demonstration and commissioning.

85. Traffic Signal Installation

Unit of Measurement: lump sum (l.s.)

This item includes: all materials required for the installation of the traffic signals as shown on the drawings where individual quantities are not provided in the Form of Tender. This item also includes the pulling of wires, all connections, grounding, final wiring including overhead, testing, demonstration and commissioning.

86. Reserved.

87. Reserved.

88. Reserved.

89. Reserved.

MISCELLANEOUS

90. Infrastructure Sign

Unit of Measurement: lump sum (l.s.)

This item includes: supply, erection, maintenance and subsequent removal of the infrastructure works sign as indicated.

91. Guiderails

Unit of Measurement: metre (m).

Method of Measurement: slope measure.

This item includes: common excavation and backfill, supply and placing posts, rail, reflectors, accessories, and surface reinstatement. Removal of guiderail also includes the removal and disposal of all posts, rails and accessories if they are not required for reinstallation and the supply of documentation regarding the disposal of creosote posts at an approved construction and demolition waste facility.

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