

Bid Documents for

Municipality of Brockton

Russell Municipal Drain

Contract No. 300038962.0000

January 2020

Prepared by:

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Russell Municipal Drain Municipality of Brockton

<u>Tender Summary</u>		
Issue	Project Particulars	Document Reference
Contract No.	300038962.0000	
Owner	Fiona Hamilton, Clerk The Municipality of Brockton	A.1.1 and A.7.5
Contract Administrator	Ed DeLay, M.Eng., P.Eng. R.J. Burnside & Associates Limited	A.1.2, A.1.3
Tender Closing Date	Tuesday, February 11, 2020	A.7.5
Tender Closing Time	12 p.m. (12:00 hrs.)	A.7.5
Estimated Tender Value	\$60,970	(See Engineer's Report)
Certified Cheque Required	Yes	A.10.1
Amount of Certified Cheque	\$6,100.00	A.10.1
Bid Bonding	10 % of bid price	A.10.2; A.16.1
Required Insurance Amount	\$5,000,000.00 (CGL and Auto)	A.11.1 and D.1.2
Parties to be named as Co-insureds	Municipality of Brockton	A.11.1 and D.1.2
	R.J. Burnside & Associates Limited	
Traffic Plan Required	Yes	D.1.7
Traffic Plan Submission Deadline (Owner and Contract Administrator)	7 days prior to work commencement. Approval required prior to work commencing.	E.2.4.5
Reference Documents	MVCA	A.4.2; E.2.1.12; Attached Documentation/Special Provisions
	DFO	
	MNRF	
Restricted Timing Windows	DFO – March 15 to July 15 (inclusive, no work)	Reference Documents//Special Provisions
	MNRF pre-construction nest survey (April 1 to August 31 (inclusive)	
Required Work Period Completion Date	December 1 (All Work)	D.1.1
General Conditions of Contract	OPSS.MUNI.100 (November 2019)	C.2.1
Warranty Holdback	Larger of 2% of Contract Price or \$2,500.00	Document G, Article III
Notice of Final Inspection	2 days prior to meeting	E.2.1.13
Warranty Period Required	1 (one) year from Declaration of Substantial Completion	

Municipality of Brockton

Russell Municipal Drain

Contract No.: 300038962.0000

Index to Bid Documents

Document

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BURNSIDE

Document A

Instructions to Bidders

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1 THE WORK

- 1.1 The work (“Work”) is the construction of a new closed Main Drain including approximately 30 m of channel construction and deepening and 313 m of pipe installation including 1 road crossing located in Lots 56 and 57, Concessions 2 and 3, located in the Municipality of Brockton (Geographic Township of Brant), County of Bruce (“Place of the Work”) for Municipality of Brockton (“Owner”), as is more particularly described in the Bid Documents (as defined in Section 3.1 of these Instructions to Bidders) and Contract (as defined in Section 3.2 of these Instructions to Bidders).
- 1.2 The firm of R.J. Burnside & Associates Limited is the “Contract Administrator” who will be administering this request for Bids and administering the Contract that may be awarded as a result of this request for Bids.
- 1.3 All inquiries regarding this Work, or this request for Bids, are only to be directed in writing to the Contract Administrator’s representative as follows:

Name: Ed DeLay, M.Eng., P.Eng.
Address: 449 Josephine St., P.O. Box 10, Wingham ON N0G 2W0
Telephone: 519-340-2014
Facsimile: 519-357-3624
Email: ed.delay@rjburnside.com

2 WORK AND BIDDERS

- 2.1 The scope of Work is more particularly described in the Bid Documents.
- 2.2 The Owner is requesting Bids (as defined in Section 7.2 of these Instructions to Bidders) in connection with the Work from qualified contractors (in the case of an advertised tender), or from the pre-qualified or invited contractors listed below (if applicable). Each contractor who responds to this request for Bids is defined as a Bidder (collectively, the “Bidders”).

3 BID DOCUMENTS AND CONTRACT

3.1 Bid Documents

- .1 The Bid Documents consist of:
- (i) Document A – Instructions to Bidders;
 - (ii) Document B – Bid;
 - (iii) the drawings and specifications listed in Document E (collectively, the “Drawings and Specifications”)

- (iv) the Contract;
 - (v) all Addenda (as defined in Section 6.4 of these Instructions to Bidders) that were issued in writing by the Owner or Contract Administrator prior to the Bid Closing Time (as defined in Section 7.5 of these Instructions to Bidders).
 - .2 The Owner's Purchasing By-law and procurement policies and - procedures (if applicable) are incorporated into the Bid Documents by reference and shall take priority over the other provisions in these Instructions to Bidders with respect to procurement policies and procedures to be followed by the Owner during the Owner's consideration and selection process. Copies of the Owner's Purchasing By-law and procurement policies and procedures (if applicable) are available for review by the Bidders at the offices of the Owner.
- 3.2 The Contract for this request for Bids ("Contract") consists of:
- .1 Agreement between Owner and Contractor listed in Document G;
 - .2 Documents describing clarifications, if any are requested and accepted by the Owner following the Bid Closing Time;
 - .3 General Conditions of Contract, (OPSS.MUNI 100, November 2019), as modified by the Supplemental General Conditions;
 - .4 Supplemental General Conditions listed in Document C;
 - .5 the Drawings and Specifications (Document E), and the General Requirements (Document D);
 - .6 Addenda that were issued in writing by the Owner or Contract Administrator prior to the Bid Closing Time;
 - .7 Instructions to Bidders (Document A) and Bid (Document B); and
 - .8 Special Provisions listed in Document F.
- 3.3 One copy of the Bid Documents for bidding purposes will be issued to each Bidder by the Contract Administrator (or the Owner, if applicable) at the address set out in Section 1.3 provided that the Bidder has provided the Contract Administrator with its full name, address, telephone and facsimile numbers, e-mail address and contact person.
- 3.4 In accordance with Section 3.3, Bid Documents must be obtained from the Contract Administrator (or the Owner if applicable), and Bidders shall provide the required fee (if applicable) and information to the Contract Administrator. Bidders not meeting these criteria are subject to disqualification at the Owner's sole and absolute discretion.
- 3.5 Additional sets of the Bid Documents may be obtained by Bidders, at a cost, and subject to available printing time, by contacting the office which issued the original set of Bid Documents.

- 3.6 The Contract Administrator may issue notices to each Bidder at the applicable address they have provided pursuant to Section 3.3.

4 EXAMINATION OF THE PLACE OF THE WORK

- 4.1 The Bidder is fully responsible for obtaining all information required for the preparation of this Bid and, prior to submitting a Bid, the Bidder shall have visited and carefully examined the Place of the Work and the surrounding area in a reasonable and prudent manner and satisfied itself as to the scope and character of the Work and all conditions and information affecting the Work and how the Work is to be completed, including, without limitation, the nature and location of the Work, working areas, storage areas, local features including private property and utilities, access to and at the Place of the Work, weather conditions and any other factors which may influence the performance of the Work and/or the pricing of the Work.
- 4.2 In addition to the Bid Documents, the following reference documents (collectively, the “Reference Documents”) shall also be issued to each Bidder by the Contract Administrator (or the Owner, if applicable) at the address set out in Section 1.3, provided that the Bidder has provided the Contract Administrator with the fee and information required by Section 3.3:
- **Letter of Advice – Department of Fisheries and Oceans Canada – dated February 1, 2018.**
 - **SVCA Permit Outline (E-mail from Paul Elston, Regulations Officer) – dated October 3, 2018.**

The Reference Documents are provided for reference and information only and do not form part of the Bid Documents or Contract. The Owner and the Contract Administrator make no representation or warranty with respect to the accuracy or completeness of the Reference Documents and the Bidder is responsible for obtaining its own independent legal and technical advice with respect to the Reference Documents. Any comments in the Reference Documents on potential construction problems and possible methods are intended only for the guidance of the design engineer and are not to be relied upon by the Bidder. Therefore, the Bidders should make their own interpretations, and draw their own conclusions, on the information presented in the Reference Documents. Without limiting the generality of the foregoing, the Bidders will make their own assessments as to how the subsurface conditions may affect the Work, their proposed operations and pricing. The number of boreholes and/or test pits on which the Reference Documents are based may not be sufficient to determine all the factors that may affect construction methods, costs and performance of the Work. No claim for extras relating to work required to deal with conditions anticipated in the soils report will be entertained. The Bidder may, at its costs, excavate test pits or undertake other investigations to explore the existing conditions, provided that the excavation of test pits must be pre-approved by the Owner in writing.

5 PRE-BID MEETING

5.1 Not Applicable.

6 DISCREPANCIES, OMISSIONS, AMBIGUITIES, COMMENTS, AND ADDENDA

- 6.1 The Bidder shall review information furnished to it by or on behalf of the Owner (including, without limitation, the Bid Documents) in a reasonable and prudent manner and satisfy itself that they (including, without limitation, the scope of the Work) are complete and clear.
- 6.2 Bidders finding discrepancies, omissions, errors, departures from good practice and ambiguities, or having other questions or comments in respect of the Bid Documents or any other information furnished to it by or on behalf of the Owner or having any doubt as the meaning of the Bid Documents or any other information furnished to it by or on behalf of the Owner (including, without limitation, any uncertainty as to the proper manner of completing the Bid) shall notify the Contract Administrator immediately in writing (but not later than four (4) days before the Bid Closing Time), by fax or email only using the contact information of the Contract Administrator set out in Section 1.3 of these Instructions to Bidders.
- 6.3 The Owner reserves the right to distribute copies of any or all notices which it receives from the Bidders and the Owner's responses to such notices to all Bidders.
- 6.4 Prior to the Bid Closing Time, the Owner may change or add to any provision or part of the Bid Documents at any time or times (including, without limitation, appendices, supplemental information and other documents). Any changes or additions to the Bid Documents will be issued in writing by the Contract Administrator as a formal Addendum (collectively, the "Addenda" and individually, the "Addendum") to those Bidders who have provided the Owner with the information required by Section 3.3. In the Addendum, the Owner may, having regard to the circumstances, extend the Bid Closing Time. The Owner and Contract Administrator will not be responsible for oral explanations or instructions; any such oral explanations or instructions do not alter the Bid requirements or Bid Documents and should not be relied upon by the Bidders.
- 6.5 Bidders are responsible for ensuring that they have received all Addenda issued prior to the Bid Closing Time through contacting the bid issuing office for confirmation, or through other means.

7 SUBMISSION OF BIDS

7.1 In accordance with Section 7.5 of these Instructions to Bidders, Bidders shall deliver one (1) original of the Bid in a large sealed opaque envelope that should be clearly marked as **Russell Municipal Drain, Contract No. 300038962.0000** and with the name and address of the Bidder.

7.2 The bid for the Work (the “Bid”) shall be comprised of the following:

- .1 Bid Form;
- .2 the Security (if applicable, and as defined in Section 10.1 of these Instructions to Bidders);
- .3 Appendix “A” – List of Bid Documents;
- .4 Appendix “B” – Subcontractors;
- .5 Appendix “C” – Schedule;
- .6 Appendix “D” – Residency;
- .7 Appendix “E” – Proposed Alternatives to the Work;
- .8 Appendix “F” – List of Experience; and
- .9 Appendix “G” – Schedule of Unit Prices

the forms of all of which are set out in Document B – Bid. In addition, Appendices “A” to “G”, inclusive, are also described in Section 20 of these Instructions to Bidders.

7.3 Bidder initiated alternatives:

- .1 Beyond the mandatory requirement to submit a price for the Work as specified, the Bidders have the option of submitting proposed alternatives to the Work (“Proposed Alternatives to the Work”) which:
 - (i) present economical, environmental or technical benefits;
 - (ii) are consistent with the requirements set out in the Bid Documents (including, without limitation, the Drawings and Specifications); and
 - (iii) still produce the desired end result.
- .2 Bidders shall submit Proposed Alternatives to the Work as Appendix “E” – Proposed Alternatives to the Work. Without limiting the generality of the foregoing, the Proposed Alternatives to the Work shall include, without limitation, the following:
 - (i) a complete description with drawings, specifications and other information;
 - (ii) the reason for proposed substitution;

- (iii) the differences between the specified work and the Proposed Alternatives to the Work and the necessary revisions to other work to accommodate the Proposed Alternatives to the Work;
- (iv) the amount by which the Bid Price will be increased or decreased; and
- (v) such other necessary information to permit an accurate analysis of the Proposed Alternatives to the Work.

.3 The Bidders understand that:

- (i) the Owner may accept any of the Proposed Alternatives to the Work and corresponding alternative prices in any order or combination, including all or none;
- (ii) the price adjustments due to the Proposed Alternatives to the Work will not be taken into account during the Bid evaluation process;
- (iii) Proposed Alternatives to the Work and the related price adjustments are open for acceptance by the Owner for the same period of time as the Bid;
- (iv) the Work and the contract price in the Contract shall reflect the Proposed Alternatives to the Work and related price adjustment, if any, accepted by the Owner at the time of Acceptance (as defined in Section 13.2 of these Instructions to Bidders);
- (v) acceptance of any Proposed Alternatives to the Work will not affect the date for Substantial Performance of the Work as set out in Document D; and
- (vi) acceptance of any Proposed Alternatives to the Work will not affect the list of Subcontractors set out in Appendix "B" – Subcontractors unless the Bidder specifically indicates a change to the list in the Proposed Alternatives to the Work and this change is accepted by the Owner.

7.4 All Bids must be legible, in paper form and filled out in ink or typewritten. No telephoned, facsimile or email transmissions of the Bid will be accepted. Bidders shall be solely responsible for the delivery of their Bids in the manner and time prescribed in these Instructions to Bidders.

- 7.5 Bids must be delivered to the following location:

Municipality of Brockton

100 Scott Street, Box 68
Walkerton, ON N0G 2V0

Attention: **Fiona Hamilton, Clerk**

before **Noon** local time as displayed by the clock at such location on **February 11, 2020** (the date and time shall be the “Bid Closing Time”). The Owner may, in its sole and absolute discretion, extend the Bid Closing Time by issuing an Addendum.

- 7.6 Each Bid will be marked by the Owner with the time and date it was received. A Bid received after the Bid Closing Time will be disqualified and returned unopened.
- 7.7 The Bid is irrevocable by the Bidder submitting same and shall remain in effect and open for acceptance by the Owner for a period of sixty (60) days after the Bid Closing Time. Without limiting the generality of any other provision in the Bid Documents, the Acceptance of the Bid may take place at any time during such period of irrevocability. Except as expressly set out in these Instructions to Bidders, once submitted, a Bid may not be amended but if the Bid was submitted prior to the Bid Closing Time, such Bid may be withdrawn, and a new complete Bid submitted prior to the Bid Closing Time. Where more than one (1) Bid is submitted by a Bidder prior to the Bid Closing Time, the last Bid to be received shall be deemed to have revoked and superseded any prior Bid by the applicable Bidder. Any new Bids must be submitted in accordance with the requirements of these Instructions to Bidders.
- 7.8 All costs and expenses incurred by the Bidders in connection with the Bids (including, without limitation, costs and expenses arising from involvement in any pre-qualification process conducted by the Owner, the preparation and submittal of the Bids, any clarifications requested by the Owner and visits to the Place of the Work) shall be borne by the Bidders and the Owner is not liable to pay for such costs and expenses or to otherwise reimburse or compensate the Bidders in connection with the Bids, provided that in the event the Owner breaches its obligations under this request for Bids, if any, or the Owner breaches its duty of care arising from this request for Bids, if any, the Owner may be responsible for the reasonable costs incurred by the Bidder in preparing its Bid, subject in any event to the limits in Section 17.2.

8 BID FORM AND BID PRICE

- 8.1 Bidders shall submit their Bids using the Bid Form and appendices (“Appendices”) described in Section 7.2 of these Instructions to Bidders. All

sections of the Bid Form, including all applicable Appendices which are required by these Instructions to Bidders to be submitted by the Bidders, should be completed. Without limiting the generality of the foregoing, all blanks must be filled in and all entries for unit prices, lump sums, extensions and totals should be filled in, as appropriate (unless a 48 hour deferred item breakdown submission, or variation thereof, is allowed per Appendix G of Document B). Bids not completed in full may, in the sole and absolute discretion of the Owner, be disqualified. Apart from the completion of any blanks, a Bidder may not make amendments to the pre-printed wording of the forms comprising the Bid. Any such amendments made, whether on the face of such forms or contained elsewhere in the Bid may, in the sole and absolute discretion of the Owner, result in disqualification of the Bid.

- 8.2 The Bid Price shall include all applicable federal and provincial sales taxes, excise taxes, and other taxes, including the HST (referred to separately in Appendix “G”), customs and duties. The Bid Price shall be set out in the Bid Form.
- 8.3 The receipt of any and all Addenda modifying the Bid Documents must be acknowledged by the Bidder when completing Section 1.1 of the Bid Form.

9 BID SIGNING

- 9.1 The Bids shall be signed in accordance with the requirements of this Article 9. Note that the use of seals, while encouraged when available, is not mandatory.
- .1 Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words “Sole Proprietor” under the signature.
- .2 Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word “Partner” under each signature. Affix seal to each signature.
- .3 Limited Company: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer’s capacity in which the signing officer acts, under each signature. Affix the corporate seal.
- .4 Joint Venture: Each and every party of the joint venture shall sign under their respective seals in a manner appropriate to such party as described above.

10 BID DEPOSIT AND CONTRACT SECURITY

- 10.1 All Bidders shall include with each Bid:

A certified cheque in an amount equal to **\$6,100** made payable to the Owner

as a Bid Deposit. This cheque shall be held by the Owner as Contract Security for the successful Bidder.

The bid deposits of all but the lowest two Bidders will be returned within thirty (30) days after the Bid closing date. The bid deposit of the lowest Bidder will be retained by the Owner as Contract Security until the Contract has achieved Substantial Performance. The other bid deposit will be returned once a Bid has been accepted and a Contract has been executed by the Owner and successful Bidder.

10.2 As an alternative to the requirements of Section 10.1 above, Bidders may choose to provide the following:

- .1 An executed Bid Bond issued by a surety authorized to transact the business of suretyship in Ontario, in the latest form approved by the CCDC which is valid for a period of sixty (60) days after the Bid Closing Time, representing not less than ten percent (10%) of the amount of the Bid Price (the "Security"); and
- .2 An executed Agreement to Bond issued by a surety authorized to transact the business of suretyship in Ontario, in the form attached as Attachment "A", or similar standard industry form generally in keeping with Attachment "A", which is valid for a period of sixty (60) days after the Bid Closing Time indicating that the Bidder is able to obtain from such surety a Performance Bond and a Labour and Material Payment Bond each for 100% of the Total Bid Price as required and in the form specified by the Contract. The cost of such Performance Bond and Labour and Material Payment Bond shall be included in the Bid Price.

10.3 Without prejudice to any other remedy or right which may be available to the Owner, the Security shall be forfeited if the Bidder refuses or fails to sign the Contract within five (5) days of being presented by the Contract Administrator with the Contract for execution.

11 INSURANCE

11.1 In addition to the other obligations elsewhere in the Contract, the successful Bidder shall be required to comply with the insurance requirements set out in Document D.

12 OWNERSHIP

12.1 All material and information delivered to the Owner by the Bidders in connection with or in relation to the Bids, including, without limitation, the Bids (collectively, the "Bid Materials") shall be the sole and absolute property of the Owner.

13 BID OPENING

- 13.1 Bids will be opened by the Owner in public at the **Municipality of Brockton** at a date and time to be advised by the Owner. Public release of bid information will be strictly limited to Bidders' names and, only if required by the Owner's Purchasing By-law and procurement policies and procedures (if applicable), total bid prices.
- 13.2 The acceptance ("Acceptance") of the Bid from the successful Bidder shall be made by the Owner only in writing. The Contract Administrator may, on behalf of the Owner, issue a written notice to the successful Bidder notifying them that Acceptance has occurred and their Bid has been accepted by the Owner.
- 13.3 The selected Bidder will be required to execute and return three (3) copies of the Contract within five (5) days of being presented by the Contract Administrator with the Contract for execution, while recognizing that upon Acceptance, the Contract will be formed and binding on the Owner and the Bidder. The Contract between the selected Bidder and the Owner shall be composed of the documents referred to in Section 3.2 of these Instructions to Bidders, as amended from time to time. Upon execution by Contractor and Owner copies will be distributed to all parties.

14 CLARIFICATION OF BIDS

- 14.1 The Owner reserves the right, at any time or times, following the Bid Closing Time, to request that any one or more Bidders clarify its Bid and such Bidders shall submit responses to such request within two (2) days following the date of the receipt of such request, or within such other time as the Owner may require. Without limiting the generality of the foregoing, the Owner may request clarification where any one or more Bidder's intent is unclear (including, without limitation, where there is an irregularity or omission in the information or documents provided by the Bidder in their Bid). The Owner may, in its sole and absolute discretion, choose to meet with one, some or all of the Bidders to clarify aspects of their Bids. The Owner may require Bidders to submit supplementary documents clarifying any matters contained in their Bids or the Owner may prepare a written interpretation of any aspect of a Bid (including, without limitation, meeting minutes) and seek the respective Bidder's acknowledgement of that interpretation.
- 14.2 The supplementary documents submitted by the Bidders which have been accepted by the Owner and the written interpretations prepared by the Owner which have been acknowledged by the relevant Bidders shall be considered to form part of the applicable Bids of those Bidders.

- 14.3 After the Bid Closing Time, only the supplementary documents submitted by the Bidders based on specific requests by the Owner for purposes of clarification which have been accepted by the Owner and written interpretations prepared by the Owner which have been acknowledged by the relevant Bidder shall be considered as additions to the Bid of the applicable Bidder, subject to the right of the Owner to correct or recalculate contained in Section 15.2 or the exercise of any other right or remedy available to the Owner.
- 14.4 The Owner is not obliged to seek clarification of any aspect of a Bid or to have discussions or other communication regarding clarifications with any Bidder.

15 SELECTION PROCESS AND RESERVED RIGHTS

- 15.1 The Owner's consideration and selection process will be based on which Bidder has provided a Bid which the Owner determines in its sole and absolute discretion to be the most beneficial to, and in the best interests of, the Owner. While price is an important factor in the consideration and selection process, the Owner may, in its sole and absolute discretion, consider many other factors during this process including, without limitation, the following, which are not listed in any particular order of importance or priority:
- .1 The contents of the Bid Form and Appendices "A" through "G"; and
 - .2 The Owner's Purchasing By-law and/or procurement policies and procedures, if any; and
 - .3 Any other factor which the Owner determines in its sole and absolute discretion to be in the Owner's best interests.
- 15.2 The following shall apply with respect to this request for Bids and the selection of a successful Bidder for the Contract:
- .1 The Owner reserves the right to, as the interests of the Owner may require, reject or retain for consideration and acceptance any or all Bids or part or parts thereof and waive informalities or irregularities without liability on the part of the Owner or the Contract Administrator;
 - .2 The lowest Bid Price or any Bid will not be necessarily accepted; the acceptance of any Bid is conditional upon approval by the Council of the Municipality of Brockton;
 - .3 The Owner may defer or cancel the project or this request for Bids for any reason (including, without limitation, the costs exceed the Owner's budget or approvals or permissions required from external agencies or authorities are not obtained or may not be obtained in accordance with the Owner's scheduling requirements);

- .4 In the event that a Bid contains an arithmetical error or inconsistency, the Owner reserves the right, in its sole and absolute discretion, to correct or recalculate the error, and to accept the Bid with the adjusted price. Without limiting the generality of the foregoing, any unit prices submitted by the Bidder will be deemed to represent the Bidder's intention and any amount calculated by multiplying estimated quantities by unit prices will be corrected accordingly; and
 - .5 Bids that, without limitation, are improperly prepared, not in compliance with all of the requirements of the Bid Documents, incomplete, unsigned, improperly signed, conditional, qualified, illegible, obscure or contain reservations, additions not called for, arithmetical errors, omissions, erasures, alterations, or irregularities of any kind may, in the Owner's sole and absolute discretion, be considered informal or irregular and may be rejected or disqualified or be retained by the Owner for consideration and acceptance.
- 15.3 In addition to any other right or remedy the Owner may have in connection with the Bid Documents, if one or more of the Bid Prices is in excess of the Owner's budget, the Owner may, in its sole and absolute discretion:
- .1 Enter into negotiations or discussions with one or more of the Bidders (even if such Bidder's Bid Price is not in excess of the Owner's budget) in connection with the Bid Documents (including, without limitation, the scope of Work, the amount of the Bid Price, the schedule to complete the Work and the Contract provisions) or clarify any outstanding issues and attempt to finalize the terms of the Contract. The negotiations and discussions may take place contemporaneously or consecutively and the Owner will have no obligation to enter into negotiations or have discussions on similar or other terms or offer any modified terms to any Bidder. If the negotiations or discussions are successful, the Owner and the selected Bidder will enter into the finalized form of Contract; or
 - .2 If at any time the Owner forms the opinion that a mutually acceptable Contract is not likely to be reached within a reasonable time, give the Bidder(s) written notice to terminate the negotiations and discussions, in which even the Owner may then open discussions with another Bidder(s), terminate the Request for Bids or otherwise act pursuant to its rights and remedies in connection with the Bid Documents.
- Notwithstanding any negotiations or discussions between the Owner and the Bidders pursuant to this provision, the Bids shall remain irrevocable in accordance with the Bid Documents.
- 15.4 The Owner may exercise any one or more of its rights and remedies in relation to this request for Bids (including, without limitation, the rejection of Bids) without explanation to the Bidders.

16 BONDS

- 16.1 If the bonding alternative is selected, the successful Contractor will be required to provide a Performance and a Labour and Material Payment Bond, each in the amount indicated in Section 10.2 of this document, to the Owner with the executed Contract.

17 ACCEPTANCE OF CONDITIONS

- 17.1 By submitting a Bid to the Owner, Bidders acknowledge that they have read and agree to be bound by the Bid Documents.
- 17.2 The Bidder shall have no claim against, or entitlement to damages against, the Owner, the Contract Administrator or its advisors in connection with this request for Bids or otherwise in connection with this process (including, without limitation, claims or damages arising from (i) rejection of its Bid, (ii) cancellation of the Project, (iii) a breach, fundamental or otherwise, of the obligations under this request for Bids, if any, or (iv) breach of a duty of care arising from this request for Bids, if any) for an amount in excess of the reasonable costs incurred by the Bidder in preparing its Bid, and, in any event, the Bidder, by submitting a Bid, waives any claim for loss of profits if no Contract is entered into with the Bidder for any reason or under any circumstance whatsoever.

18 OWNER'S MATERIALS AND DISCLOSURE OF INFORMATION

- 18.1 All materials, drawings, specifications, information and documents obtained by, given to or made available to, the Bidder in connection with this request for Bids (including, without limitation, the Reference Documents and Bid Documents) (collectively, the "Owner's Materials") are not the property of the Bidders. The Owner's Materials shall not be used for any purpose other than replying to this request for Bids and the fulfillment of any subsequent Contract. The issue of the Owner's Materials does not confer a license or grant for any other purpose.
- 18.2 Upon request of the Owner, all of the Owner's Materials, in any form or media, shall be immediately returned to the Owner. The Owner and the Contract Administrator make no representation or warranty with respect to, and the Owner and the Contract Administrator accept no responsibility for, the accuracy or completeness of the Owner's Materials and the Bidder is responsible for obtaining its own independent legal and technical advice with respect to the Owner's Materials and making its own independent research and inquiries regarding all information contained in the Owner's Materials.

- 18.3 Bidders shall not discuss, disclose or communicate, directly or indirectly, any details pertaining to or in connection with their Bid to anyone not specifically involved in their Bid (including, without limitation, any other Bidder) without the prior written approval of the Owner. Without limiting the generality of the foregoing, each Bid shall be submitted without any connection, knowledge, comparison of figures or arrangement with any other Bidder and each Bidder will be responsible to ensure that its participation in this process is conducted fairly and without collusion or fraud.
- 18.4 Each Bidder and each shareholder, partner or joint venture member of the Bidder will not have any interest whatsoever in the Bid of any other Bidder, either directly or indirectly, nor will it enter into any arrangement, agreement or understanding before the Bid Closing Time that would have such a result nor will it have any other conflict of interest.
- 18.5 Bidders must not disclose any details pertaining to their Bid and the selection process, or the outcome thereof, in whole or in part to anyone not specifically involved in their Bid, without the prior written approval of the Owner. Without limiting the generality of the foregoing, Bidders shall not issue a news release or other public announcement or otherwise disclose any information pertaining to any details of their Bid, or the outcome thereof, or the selection process, in whole or in part, without the prior written approval of the Owner.

19 GOVERNING LAW

- 19.1 The Bid Documents shall be governed by the laws of Ontario and the federal laws of Canada applicable therein.

20 APPENDICES TO THE BID FORM

20.1 Appendix “A” to the Bid Form – List of Bid Documents

- 20.1.1 Appendix “A” to the Bid Form lists the Bid Documents.

20.2 Appendix “B” to Bid Form – Subcontractors

- 20.2.1 The Bidder shall complete Appendix “B” to the Bid Form indicating the subcontractors (“Subcontractors”) it intends to employ to carry out each portion of the Work indicated therein. Subcontractors are subject to approval by the Owner. Once the Contract is signed by the Owner, no substitution of the Subcontractors approved by the Owner will be permitted unless approved by the Owner.

20.3 Appendix “C” to the Bid Form – Schedule

- 20.3.1 The Work shall be carried out in accordance with the schedule contained in Document D for the Bid Price.

20.3.2 The Bidders have the option of providing on Appendix “C” to the Bid Form which is an alternative schedule for the Work and the applicable amount by which the Bid Price will be adjusted. The Owner may, in its sole and absolute discretion, accept such alternative schedule for the Work and, in such event, the Bidder’s obligation to carry out the Work in accordance with the schedule contained in Document D and the Bid Price shall be both amended accordingly.

20.4 Appendix “D” to the Bid Form – Residency

20.4.1 The Bidders shall indicate in Appendix “D” to the Bid Form their applicable residency.

20.5 Appendix “E” to the Bid Form – Proposed Alternatives to the Work (if any)

20.5.1 The Bidder’s Proposed Alternatives to the Work, if any, shall be attached as Appendix “E” to the Bid Form.

20.6 Appendix “F” to the Bid Form – List of Experience

20.6.1 The Bidders shall indicate in Appendix “F” to the Bid Form their list of experience on projects of a similar nature completed within the last five years.

20.7 Appendix “G” to the Bid Form – Schedule of Unit Prices

20.7.1 The Bidders shall complete Appendix “G” - Schedule of Unit Prices as per the requirements listed in the Appendix “G” - “General Notes”.

ATTACHMENT “A” FORM OF AGREEMENT TO BOND

AGREEMENT TO BOND

TO: **Municipality of Brockton (“OWNER”)**

NAME OF BIDDER: _____

RE: **300038962.0000 Russell Municipal Drain**

We, the undersigned, hereby agree to become bound as surety for the above-named Bidder, in a Performance Bond and a Labour and Material Payment Bond, each in the amount of **100%** of the Bid Price and in a form conforming to the Bid Documents for the full and due performance of the Work shown and described therein, if the Bid attached hereto is accepted by the Owner.

IN WITNESS WHEREOF we have hereunto set out our corporate seal testified by the hands of our proper officers in that behalf.

Dated this _____ day of _____ 20__.

Name of Surety	
Surety's Address	

Witness: _____ Signed by: _____

Signature: _____ Signature: _____

Address: _____ Title: _____

Signed by: _____

Signature: _____

Title: _____



BURNSIDE

Document B

Bid

BID FORM

TO: **Municipality of Brockton**
100 Scott Street, P.O. Box 68
Walkerton, ON N0G 2V0

Attention: **Fiona Hamilton, Clerk**

DATE: _____, 2020

SUBMITTED BY: _____
" [Insert Bidder's Legal Name] "

ADDRESS: _____
" [Insert Bidder's Business Address] "

PROJECT NAME: **Russell Municipal Drain**

CONTRACT NUMBER: **300038962.0000**

- 1.1 The undersigned (the "Bidder"), hereby declares that it has received and carefully examined all of the Bid Documents as set out in Section 3.1 of the Instructions to Bidders and has visited the Place of the Work and familiarized itself with all of the conditions affecting the Work as described in the Bid Documents with respect to Work and with all of the provisions of the Bid Documents including, without limitation, the form of the Contract. Without limiting the foregoing, the undersigned also acknowledges having received and carefully examined all of the following Addenda and having included all aspects thereof in their bid:

Addendum No.	Date	Included in Bid (✓)

(Notes: If no Addenda are issued then this table shall be left blank. It is not necessary to submit copies of each Addendum with the Bid.)

- 1.2 In accordance with, and subject to, the Contract (including, without limitation, GC 8.01.02), the Bidder hereby offers to perform and complete the Work (including, without limitation, furnishing all products, materials, construction machinery, tools, equipment, plant, labour, and supervision necessary for the proper completion of the Work and the contract security, permits, insurance and transportation) to attain Substantial Performance of the Work in accordance with the schedule contained in Document D of the Bid Documents, for the price bid ("Bid Price") of: the total of the amounts calculated by multiplying the actual measured and approved quantities by the applicable unit prices combined with the completed lump sum price components of the Work, all as set out in Appendix "G", as adjusted pursuant to the Contract.

The Bid Price includes, without limitation, all applicable federal and provincial sales taxes, excise taxes and other taxes, including the HST, customs and duties.

In addition, the Bidder shall confirm that the Bid Price/Estimated Contract Price is set out in Appendix "G".

- 1.3 The Bidder agrees that time is of the essence and, if this Bid is accepted by the Owner, the Bidder agrees that it shall immediately commence the Work, including all mobilization work and submit initial shop drawings.
- 1.4 The Bidder declares that it has visited and carefully examined the Place of the Work and the surrounding area in a reasonable and prudent manner and satisfied itself as to the scope and character of the Work and all conditions and information affecting the Work and how the Work is to be completed, including, without limitation, the nature and location of the Work, working areas, storage areas, local features including private property and utilities, access to and at the Place of the Work, weather conditions and any other factors which may influence the performance of the Work and/or the pricing of the Work.
- 1.5 The Bidder is responsible for each Subcontractor's solvency, the contents of each Subcontractor's bid and for each Subcontractor's obligations as contemplated pursuant to the Bid Documents.
- 1.6 The Bidder represents and warrants that each of the Subcontractors set out in Appendix "B" is reliable and competent to carry out the Work in accordance with the Bid Documents, that the Bidder has consulted with each of the listed Subcontractors and has ascertained to the Bidder's complete satisfaction that they are fully acquainted with the extent and nature of the work involved, and of the requirements of the construction schedule, and that all such Subcontractors shall execute the Work to conform to the requirements of the Bid Documents and the construction schedule. If awarded the Contract, the Bidder shall only employ the Subcontractors set out in Appendix "B", as approved by the Owner, for the Work.

- 1.7 This Bid shall remain firm and irrevocable and open for acceptance by the Owner at any time for sixty (60) days after the Bid Closing Time, whether or not, any other Bid has been previously accepted by the Owner. This Bid shall expire upon written notice of rejection to the Bidder by the Owner or sixty (60) days after the Bid Closing Time, whichever first occurs.
- 1.8 We enclose herewith the Security, on the understanding that, without prejudice to any other right or remedy which may be available to the Owner, the Security may be used to compensate the Owner for any damages, costs or expenses that the Owner may incur as a result of the Bidder's failure to comply with, or breach of, the Bid or Bid process described in these Instructions to Bidders (including, without limitation, in the event that the Bidder attempts to withdraw its Bid prior to the expiry of sixty (60) days from the Bid Closing Time, or in the event that the Owner accepts the Bidder's Bid and the Bidder refuses or fails to sign the Contract or otherwise honour the Bid).
- 1.9 It is understood that all prices quoted in this Bid are in Canadian funds.
- 1.10 If notified in writing by the Owner (or Owner's agent) of acceptance of this Bid within sixty (60) days of the Bid Closing Time, we will execute the Contract within five (5) days of being presented by the Contract Administrator with the Contract for execution, while recognizing that upon the Acceptance the Contract will be formed and binding on the Owner and the Bidder, and furnish the Contract Security as specified in Section 10 of the Instructions to Bidders.

Without prejudice to any other right or remedy which may be available to the Owner, in the event that we do not execute the Contract within five (5) days of being presented by the Contract Administrator with the Contract for execution, the Owner may, in its discretion, accept any other Bid, request new bids or carry out the Work in any other way the Owner deems best, and the Security may be used to compensate the Owner for any damages, costs or expenses that the Owner may incur as a result of taking such action.

- 1.11 The following documentation comprising the Bid is enclosed:
- .1 This Bid Form;
 - .2 The Security (as defined in Section 10 of the Instructions to Bidders);
 - .3 Appendix "A" – List of Bid Documents;
 - .4 Appendix "B" – Subcontractors;
 - .5 Appendix "C" – Schedule;
 - .6 Appendix "D" – Residency;
 - .7 Appendix "E" – Proposed Alternatives to the Work;

- .8 Appendix “F” – List of Experience; and
- .9 Appendix “G” – Schedule of Unit Prices.
- 1.12 If this Bid is made by more than one person then each of the persons making this Bid agrees to be bound by it jointly and severally.
- 1.13 All capitalized terms used but not defined herein will have the definitions given to them in Document A – Instructions to Bidders.
- 1.14 The Bidder represents, warrants and covenants to the Owner that:
 - .1 All instructions and directions in the Bid Documents for the preparation and submission of this Bid have been complied with;
 - .2 This Bid is made without any connection, knowledge, comparison of figures or arrangement with any other person, corporation or other entity making another Bid for the Work and is, in all respects, fair and without collusion or fraud;
 - .3 No member of the municipal council of the Owner (as applicable) and no officer or employee of the Owner is, or will become interested directly or indirectly as a contracting party, partner, shareholder, security or otherwise, in the performance of the Contract, or in the supply of materials or services, work or business to which it relates, or in any portion of the profits thereof, or in any of the monies to be derived therefrom; and
 - .4 The Bidder agrees to be bound by the Bid Documents.

SIGNED BY THE BIDDER AS OF THE DATE FIRST WRITTEN ABOVE.

FULL LEGAL COMPANY NAME

ADDRESS OF COMPANY

NAME/TITLE OF OFFICER

SIGNATURE OF OFFICER
AND COMPANY SEAL

TELEPHONE NUMBER

FAX NUMBER

EMAIL ADDRESS

APPENDIX “A”

LIST OF BID DOCUMENTS

The Bid Documents consist of:

- (a) Document A – Instructions to Bidders;
- (b) Document B – Bid (see Section 1.11 of Bid Form);
- (c) Document D – General Requirements;
- (d) the drawings and specifications listed in Document E (collectively, the “Drawings and Specifications”);
- (e) the Contract; and
- (f) all Addenda that were issued in writing by the Owner, or Contract Administrator, prior to the Bid Closing Time.

APPENDIX “B”

SUBCONTRACTORS

The following is a listing of Subcontractors who we propose to use.

[illegible]

APPENDIX “C”

SCHEDULE

- .1 In accordance with, and subject to, the Contract, the Bidder shall carry out the Work in accordance with the Completion Date contained in Document D, Subsection D.1.1 for the unit prices and lump sum prices set out in Appendix “G”.
- .2 The Bidder submits the following alternative schedule for the Work and the applicable amount by which the unit prices and lump sum prices set out in Appendix “G” will be adjusted, for the Owner’s consideration. If the Owner, in its sole and absolute discretion, accepts such alternative schedule for the Work, the Bidder’s obligation to carry out the Work in accordance with the schedule contained in Document D and the unit prices and lump sum prices set out in Appendix “G” shall be both amended accordingly.
 - (a) Alternative Schedule for the Work
 - (b) Adjustment in the unit prices and lump sum prices set out in Appendix “G” (inclusive of all amounts including, without limitation, HST)

(Note: If the Bidder is not submitting an alternative schedule for the Work, then paragraphs (a) and (b) may be left blank.)

APPENDIX “D”

RESIDENCY

The Bidder **__is or __is not** a resident of Canada within the meaning of the Income Tax Act (Canada). Please check applicable description.

APPENDIX “E”

PROPOSED ALTERNATIVES TO THE WORK (IF ANY)

[See Section 7.3 of the Instructions to Bidders.]

LIST OF EXPERIENCE

[illegible]

APPENDIX “G”
SCHEDULE OF UNIT PRICES

General Notes

- i) Where alternative materials are listed, Bidders shall indicate a Unit Price for each alternative, but shall extend only the lowest Unit Price.

ii) **UNITS**

ea.	denotes	Each
ha	denotes	Hectare (10,000 m ² = 2.471 Acres)
hrs	denotes	Hours
kPa	denotes	Kilopascal (1 kPa = 1,000 N/m ²)
LS	denotes	Lump sum
mm	denotes	Linear millimetre
m	denotes	Linear metre
m ²	denotes	Square metre
m ³	denotes	Cubic metre (compacted or in situ)
t	denotes	Tonne (1,000 kg = 2,204.6 lbs.)

ABBREVIATIONS

BSWI	denotes	buried surface water inlet
CB	denotes	catchbasin (flat top inlet)
CDT	denotes	concrete drain tile
CSP	denotes	corrugated steel pipe
c/w	denotes	complete with
D. Berm	denotes	directional berm
dia.	denotes	diameter
DICB	denotes	ditch Inlet catchbasin (sloped top inlet)
E. Berm	denotes	engineered berm
HDPE	denotes	high density polyethylene (320 kPa dual-wall pipe)
PDT	denotes	plastic drainage tile (single-wall tubing)
OB	denotes	observation box (flat top, inspection only)
OPSD	denotes	Ontario Provincial Standard Drawing
OPSS	denotes	Ontario Provincial Standard Specification
ROW	denotes	right of way
S & I	denotes	supply and install
SP	denotes	special provision
Sta.	denotes	Station (chainage)
SWI	denotes	surface water inlet
SWWSP	denotes	smooth wall welded steel pipe

- iii) [All sections of the Schedule of Unit Prices must be completed **in full** and submitted as part of the Bid].

SCHEDULE OF UNIT PRICES

R. J. Burnside & Associates Limited

Project No. 300038962

Page No. 1

Contractor: ***

Address: ***

Contract Title: Russell Municipal Drain

SCHEDULE A - MAIN DRAIN

ITEM NO.	DESCRIPTION	CONTRACT QUANTITY	UNIT	UNIT PRICE	CONTRACT TOTAL
A1	Contractor Mobilization.	1.00	LS		
	<u>Main Drain (Open Work)</u>				
A2 a)	Construction of approx. 20 m of channel. (Sta. -0+030 to Sta. -0+010)(SP A2)	1.00	LS		
b)	Construction of one bio-filter sediment control structure at the downstream end of the channel construction (see accompanying details). (Sta. -0+030)(SP A2)	1.00	LS		
c)	Construction of one sediment basin at the downstream end of the channel construction (see accompanying details). (Sta. -0+030 to Sta. -0+025)(SP A2)	1.00	LS		
d)	Construction of one (1) stilling basin c/w approximately 10 m ² river stone and 40 m ² rip-rap c/w non-woven geotextile (see accompanying details). (Sta. -0+010 to Sta. 0+000)(SP A2)	1.00	LS		
	<u>Main Drain (Closed Work)</u>				
A3	Supply and install 450 mm dia. solid bell and spigot dual-wall HDPE pipe (320 kPa) pipe c/w rodent grate (Approx. 6 m). (Sta. 0+000 to Sta. 0+006)(SP A3)	1.00	LS		
A4	Supply and install 375 mm dia. Solid PDT installed by drainage plow (Approx. 79 m). (Sta. 0+006 to Sta. 0+085)(SP A4)	1.00	LS		
A5	Supply and install 375 mm dia. solid PDT installed by drianage plow (Approx. 202 m). (Sta. 0+105 to Sta. 0+307)(SP A4)	1.00	LS		
				SUBTOTAL:	

SCHEDULE OF UNIT PRICES

R. J. Burnside & Associates Limited

Project No. 300038962

Page No. 2

Contractor: ***

Address: ***

Contract Title: Russell Municipal Drain

SCHEDULE A - MAIN DRAIN (continued)

ITEM NO.	DESCRIPTION	CONTRACT QUANTITY	UNIT	UNIT PRICE	CONTRACT TOTAL
	<u>Main Drain</u> <u>(Concession 2 South Durham Road ROW)</u> <u>(Sta. 0+085 to Sta. 0+105)</u>				
A6	Supply and install one (1) 600 mm x 600 mm offset concrete DICB c/w directional berm and 6 m - 250 mm dia. perforated dual-wall HDPE (320 kPa) pipe lead, complete with non-woven geotextile filter sock, connection to the OB, and 19 mm crushed stone envelope (per the accompanying details)(SP A6) (o/s 6 m east of Sta. 0+085)	1.00	LS		
A7	Supply and install on (1) 600 mm x 600 mm inline concrete OB. (Sta. 0+085)(SP A7)	1.00	LS		
A8	Supply and install 400 mm min. dia. SWWSP (9.53 mm wall thickness) by the boring (Jack and Bore) method (Approx. 20 m). (Sta. 0+085 to Sta. 0+105)(SP A8)	1.00	LS		
A9	Supply and install one (1) 600 mm x 600 mm inline concrete DICB c/w directional berm. (Sta. 0+105)(SP A7)	1.00	LS		
	<u>Main Drain</u> <u>(Sideroad 25 South ROW) (Sta. 0+307)</u>				
A10 a)	Supply and install one (1) 600 mm x 600 mm inline concrete DICB c/w directional berm. (Sta. 0+307)(SP A10)	1.00	LS		
b)	Supply and install one (1) BSWI c/w approx. 40 m of 200 mm dia. perforated HDPE (320 kPa) c/w non-woven geo-textile and approx. 16 m OPSS 19 mm clear crushed stone and pea gravel cells (per the accompanying details). (Sta. 0+307)(SP A10)	1.00	LS		
				SUBTOTAL:	

SCHEDULE OF UNIT PRICES

R. J. Burnside & Associates Limited

Project No. 300038962

Page No. 3

Contractor: ***

Address: ***

Contract Title: Russell Municipal Drain

SCHEDULE B - CONTINGENCIES

ITEM NO.	DESCRIPTION	CONTRACT QUANTITY	UNIT	UNIT PRICE	CONTRACT TOTAL
B1	Existing tile reconnections and tile connections to the drain (as approved by the Engineer)(SP B1)				
a)	100 mm diameter pipe - Reconnection	2.00	ea		
b)	150 mm diameter pipe - Reconnection	2.00	ea		
c)	100 mm diameter pipe - Connection	2.00	ea		
d)	150 mm diameter pipe - Connection	2.00	ea		
B2	Install a 450 mm thickness of OPSS R-50 quarry stone rip-rap with geotextile underlay. (SP B2)	25.00	m ²		
B3	OPSS 19 mm (3/4") crushed clear stone delivered on-site.(SP B3)	45.00	t		
B4	OPSS Granular 'B' material delivered on-site. (SP B4)	45.00	t		
B5	Supply and install 375 mm dia. Solid HDPE (320 kPa) dual -wall pipe on OPSS 19 mm dia. crushed clear stone bedding In areas of soil instability, as directed by the Engineer. (per the accompanying details) This cost for installation with excavator would replace the bid price for installation with the drainage plow.				
a)	150 mm depth bedding and backfill to pipe springline. (SP B5)	25.00	m		
				SUBTOTAL:	

SCHEDULE OF UNIT PRICES/SUMMARY

SCHEDULE

A - Main Drain	\$
A - Main Drain (Continued)	\$
B - Contingencies	\$
SUB-TOTAL Bid Price/Estimated Contract Price	\$
HST (@ 13%)	\$
TOTAL Bid Price/Estimated Contract Price	\$

All amounts in this Appendix “G” are in Canadian dollars.

The estimated quantities set out in this Appendix “G” are only approximate and the actual measured and approved quantities may vary from such estimated quantities.

The lump sum amounts and unit prices set out in this Appendix “G” shall apply to the Contract and are inclusive of all costs and expenses required to perform and complete the Work including, without limitation, all applicable federal and provincial sales taxes, excise taxes and other taxes, insurance, permits, customs, duties and transportation, except for the HST (referred to separately in this Appendix “G”).

Per the DFO Letter of Advice, the in-water Work under this Contract MUST be completed outside of the March 15 to July 15 timing window (inclusive) and scheduled to avoid wet period which may increase erosion and sedimentation.

If the Contractor chooses to work in poor conditions, payment for additional costs resulting from this work will be at the discretion of the Owner and the Contract Administrator.

The Contractor must adhere to their proposed start and completion dates (in accordance with section D.1.4), and failure to do so may be subject to liquidated damages at the discretion of the Contract Administrator.

Any proposed construction outside the proposed start and completion dates and/or is subject to approval by the Contract Administrator.

Preference will be given to Bids scheduled for 2020 construction; however, bids indicating construction in 2021 will also be considered.

The Work under this Contract shall be substantially performed by December 1 of the year construction is commenced (2020/2021).

PROPOSED START DATE: _____

PROPOSED COMPLETION DATE: _____



BURNSIDE

Document C

General Conditions of Contract

Index to Document C – General Conditions of Contract

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OPSS MUNI GENERAL CONDITIONS OF CONTRACT

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SECTION GC 1.0 - INTERPRETATION

GC 1.01 Captions

- .01 The captions appearing in these General Conditions have been inserted as a matter of convenience and for ease of reference only and in no way define, limit, or enlarge the scope or meaning of the General Conditions or any provision hereof.

GC 1.02 Abbreviations

- .01 The abbreviations on the left below are commonly found in the Contract Documents and represent the organizations and phrases listed on the right:

"AASHTO"	-	American Association of State Highway Transportation Officials
"ACI"	-	American Concrete Institute
"ANSI"	-	American National Standards Institute
"ASTM"	-	ASTM International
"AWG"	-	American Wire Gauge
"AWWA"	-	American Water Works Association
"CCIL"	-	Canadian Council of Independent Laboratories
"CGSB"	-	Canadian General Standards Board
"CSA"	-	CSA Group - formerly Canadian Standards Association
"CWB"	-	Canadian Welding Bureau
"GC"	-	General Conditions
"ISO"	-	International Organization for Standardization
"MECP"	-	Ontario Ministry of the Environment, Conservation and Parks
"MTO"	-	Ontario Ministry of Transportation
"MUTCD"	-	Manual of Uniform Traffic Control Devices, published by MTO
"OHSA"	-	Ontario Occupational Health and Safety Act
"OLS"	-	Ontario Land Surveyor
"OPS"	-	Ontario Provincial Standard
"OPSD"	-	Ontario Provincial Standard Drawing
"OPSS"	-	Ontario Provincial Standard Specification
"OTM"	-	Ontario Traffic Manual
"PEO"	-	Professional Engineers Ontario
"SAE"	-	SAE International
"SCC"	-	Standards Council of Canada
"SSPC"	-	The Society for Protective Coatings
"UL"	-	Underwriters Laboratories
"ULC"	-	Underwriters Laboratories Canada
"WHMIS"	-	Workplace Hazardous Materials Information System
"WSIB"	-	Workplace Safety & Insurance Board

GC 1.03 Gender and Singular References

- .01 References to the masculine or singular throughout the Contract Documents shall be considered to include the feminine and the plural and vice versa, as the context requires.

GC 1.04

Definitions

.01 For the purposes of the Contract Documents the following definitions shall apply:

Abnormal Weather means an extreme climatic condition characterized by wind speed, air temperature, precipitation, or snow fall depth, that is less than or greater than 1-1/2 standard deviations from the mean determined from the weather records of the 25-year period immediately preceding the tender opening date.

Actual Measurement means the field measurement of that quantity within the approved limits of the Work.

Addenda means any additions or change in the Tender documents issued by the Owner prior to Tender closing.

Additional Work means work not provided for in the Contract Documents and not considered by the Contract Administrator to be essential to the satisfactory completion of the Contract within its intended scope.

Agreement means the agreement between the Owner and the Contractor for the performance of the Work that is included in the Contract Documents.

Base means a layer of Material of specified type and thickness placed immediately below the pavement, driving surface, finished grade, curb and gutter, or sidewalk.

Business Day means any Day except Saturdays, Sundays, and statutory holidays.

Certificate of Subcontract Completion means the certificate issued by the Contract Administrator in accordance with clause GC 8.02.04.02, Certification of Subcontract Completion.

Certificate of Substantial Performance means the certificate issued by the Contract Administrator at Substantial Performance.

Change Directive means any written instruction signed by the Owner, or by the Contract Administrator where so authorized, directing that a Change in the Work or Extra Work be performed.

Change in the Work means the deletion, extension, increase, decrease, or alteration of lines; grades; dimensions; quantities; methods; drawings; substantial changes in geotechnical, subsurface, surface, or other conditions; changes in the character of the Work to be done; or Materials of the Work or part thereof, within the intended scope of the Contract.

Change Order means a written amendment to the Contract signed by the Contractor and the Owner, or the Contract Administrator where so authorized, covering contingencies, a Change in the Work, Extra Work, Additional Work; and establishing the basis for payment and the time allowed for the adjustment of the Contract Time.

Completion means contract completion as set out in the Construction Act.

Completion Certificate means the certificate issued by the Contract Administrator at Completion.

Completion Payment means the payment described more particularly in clause GC 8.02.04.07.

Construction Act means as set out in the Construction Act, R.S.O. 1990, c. C.30, as amended.

Constructor means, for the purposes of, and within the meaning of the Occupational Health and Safety Act, R.S.O. 1990, c.O.1, as amended and amendments thereto, the Contractor who executes the Contract.

Contract means the undertaking by the Owner and the Contractor to perform their respective duties, responsibilities, and obligations as prescribed in the Contract Documents.

Contract Administrator means the person, partnership, or corporation designated by the Owner to be the Owner's representative for the purposes of the Contract.

Contract Documents mean the executed Agreement between the Owner and the Contractor, Tender, General Conditions of Contract, Supplemental General Conditions of Contract, Standard Specifications, Special Provisions, Contract Drawings, Addenda incorporated in a Contract Document before the execution of the Agreement, such other documents as may be listed in the Agreement, and subsequent amendments to the Contract Documents made pursuant to the provisions of the Agreement.

Contract Drawings or **Contract Plans** mean drawings or plans, any Geotechnical Report, any Subsurface Report, and any other reports and information provided by the Owner for the Work, and without limiting the generality thereof, may include soil profiles, foundation investigation reports, reinforcing steel schedules, aggregate sources list, Quantity Sheets, and cross-sections.

Contract Time means the time stipulated in the Contract Documents for Substantial Performance or Completion of the Work, including any extension of time made pursuant to the Contract Documents.

Contractor means the person, partnership, or corporation undertaking the Work as identified in the Agreement.

Control Monument means any horizontal or vertical (benchmark) monument that is used to lay out the Work.

Controlling Operation means any component of the Work that, if delayed, may delay the completion of the Work.

Cut-Off Date means the date up to which payment shall be made for Work performed.

Daily Work Records mean daily Records detailing the number and categories of workers and hours worked or on standby, types and quantities of Equipment and number of hours in use or on standby, and description and quantities of Material utilized.

Day means a calendar day.

Drawings or **Plans** mean any Contract Drawings or Contract Plans, or any Working Drawings or Working Plans, or any reproductions of drawings or plans pertaining to the Work.

End Result Specification means specifications that require the Contractor to be responsible for supplying a product or part of the Work. The Owner accepts or rejects the final product or applies a price adjustment that is commensurate with the degree of compliance with the specification.

Engineer means a professional engineer licenced by the Professional Engineers of Ontario to practice in the Province of Ontario.

Equipment means all machinery and equipment used for preparing, fabricating, conveying or erecting the Work and normally referred to as construction machinery and equipment.

Estimate means a calculation of the quantity or cost of the Work or part of it depending on the context.

Extra Work means work not provided for in the Contract as awarded but considered by the Contract Administrator to be essential to the satisfactory completion of the Contract within its intended scope, including unanticipated Work required to comply with legislation and regulations that affect the Work.

Final Acceptance means the date on which the Contract Administrator determines that the Work has passed all inspection and testing requirements and the Contract Administrator is satisfied that the Contractor has rectified all imperfect Work and has discharged all of the Contractor's obligations under the Contract Documents.

Final Acceptance Certificate means the certificate issued by the Contract Administrator at Final Acceptance of the Work.

Final Detailed Statement means a complete evaluation prepared by the Contract Administrator showing the quantities, unit prices, and final dollar amounts of all items of Work completed under the Contract, including variations in tender items and Extra Work, all as set out in the same general form as the monthly Estimates.

Geotechnical Report means a report or other information identifying soil, rock, and ground water conditions in the area of any proposed Work.

Grade means the required elevation of that part of the Work.

Hand Tools means tools that are commonly called tools or implements of the trade and include small power tools.

Highway means a common and public highway any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.

Inclement Weather means weather conditions or conditions resulting directly from weather conditions that prevent the Contractor from proceeding with a Controlling Operation.

Lot means a specific quantity of Material or a specific amount of construction normally from a single source and produced by the same process.

Lump Sum Item means a tender item indicating a portion of the Work for which payment will be made at a single tendered price. Payment is not based on a measured quantity, although a quantity may be given in the Contract Documents.

Major Item means any tender item that has a value, calculated based on its actual or estimated tender quantity, whichever is the larger, multiplied by its tender unit price, which is equal to or greater than the lesser of,

- a) \$100,000, or
- b) 5% of the total tender value calculated based on the total of all the estimated tender quantities and the tender unit prices.

Material means Material, machinery, equipment and fixtures forming part of the Work.

Monument means either a Property Monument or a Control Monument.

Owner means the party to the Contract for whom the Work is being performed, as identified in the Agreement, and includes, with the same meaning and import, "Authority."

Pavement means a wearing course or courses placed on the Roadway and consisting of asphaltic concrete, hydraulic cement concrete, Portland cement concrete, or plant or road mixed mulch.

Performance Bond means the type of security furnished to the Owner to guarantee completion of the Work in accordance with the Contract and to the extent provided in the bond.

Plan Quantity means that quantity as computed from within the boundary lines of the Work as shown in the Contract Documents.

Project means the construction of the Work as contemplated by this Contract.

Proper Invoice has the meaning as set out in the Construction Act.

Property Monument means any property bar, concrete pillar, rock post, cut cross or other object that marks the boundary between real property ownership.

Quality Assurance (QA) means a system or series of activities carried out by the Owner to ensure that Work meets the specified requirements.

Quality Control (QC) means a system or series of activities carried out by the Contractor, Subcontractor, supplier, and manufacturer to ensure that Work meets the specified requirements.

Quantity Sheet means a list of the quantities of Work to be done.

Quarried Rock means Material removed from an open excavation made in a solid mass of rock that, prior to removal, was integral with the parent mass.

Quarry means a place where aggregate has been or is being removed from an open excavation made in a solid mass of igneous, sedimentary, or metamorphic rock or any combination of these that, prior to removal, was integral with the parent areas.

Rate of Interest means the prejudgment interest rate determined under subsection 127(2) of the *Courts of Justice Act* or, if the contract or subcontract specifies a different interest rate for the purpose, the greater of the prejudgment interest rate and the interest rate specified in the contract or subcontract.

Records mean any books, payrolls, accounts, or other information that relate to the Work or any Change in the Work, Extra Work, Additional Work or claims arising therefrom.

Roadway means that part of the Highway designed or intended for use by vehicular traffic and includes the Shoulders.

Shoulder means that portion of the Roadway between the edge of the travelled portion of the wearing surface and the top inside edge of the ditch or fill slope.

Special Provisions mean directions containing requirements specific to the Work.

Standard Drawing or Standard Specification means a standard practice required and stipulated by the Owner for performance of the Work.

Statutory Holdback means the holdbacks required under the Construction Act.

Subbase means a layer of Material of specified type and thickness between the Subgrade and the Base.

Subcontractor means a person, partnership or corporation undertaking the execution of a part of the Work by virtue of an agreement with the Contractor.

Subgrade means the earth or rock surface, whether in cut or fill, as prepared to support the pavement structure, consisting of Base, Subbase, and Pavement.

Substantial Performance has the meaning as set out in the Construction Act, R.S.O. 1990, c. C.30, as amended.

Subsurface Report means a report or other information identifying the location of Utilities, concealed and adjacent structures, and physical obstructions that fall within the influence of the Work.

Superintendent means the Contractor's authorized representative in charge of the Work and who shall be a "competent person" within the meaning of the definition contained in the Occupational Health and Safety Act, R.S.O. 1990, c. 0.1, as amended.

Surety means the person, partnership or corporation, other than the Contractor, licensed in Ontario to transact business under the Insurance Act, R.S.O. 1990, c.1.8, as amended, executing a bond provided by the Contractor.

Tender means an offer in writing from the Contractor, submitted in the format prescribed by the Owner, to complete the Work.

Time and Material means costs calculated according to clause GC 8.02.05, Payment on a Time and Material Basis.

Utility means an aboveground or underground facility maintained by a municipality, public utility authority or regulated authority and includes services such as sanitary sewer, storm sewer, water, electric, gas, oil, steam, data transmission, telephone, and cable television.

Warranty Period means the applicable time period according to clause GC 7.16.02, Warranty.

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

Working Area means all the lands and easements owned or acquired by the Owner for the construction of the Work.

Working Day means any Day,

- a) except Saturdays, Sundays and statutory holidays;
- b) except a Day as determined by the Contract Administrator, on which the Contractor is prevented by inclement weather or conditions resulting immediately therefrom, from proceeding with a Controlling Operation. For the purposes of this definition, this shall be a Day during which the Contractor cannot proceed with at least 60% of the normal labour and Equipment force effectively engaged on the Controlling Operation for at least 5 hours;
- c) except a Day on which the Contractor is prevented from proceeding with a Controlling Operation, as determined by the Contract Administrator by reason of,
 - i. any breach of the Contract by the Owner or if such prevention is due to the Owner, another contractor hired by the Owner, or an employee of any one of them, or by anyone else acting on behalf of the Owner.
 - ii. non-delivery of Owner supplied Materials.
 - iii. any cause beyond the reasonable control of the Contractor that can be substantiated by the Contractor to the satisfaction of the Contract Administrator.

Working Drawings or Working Plans means any Drawings or Plans prepared by the Contractor for the execution of the Work and may, without limiting the generality thereof, include formwork, falsework, and shoring plans; Roadway protection plans; shop drawings; shop plans; or erection diagrams.

GC 1.05 Ontario Traffic Manual

- .01 All references in the Contract Documents to the MUTCD, including all Parts and Divisions thereof, or MTO Traffic Control Manual for Roadway Work Operations, or Traffic Control Manual for Roadway Operations Field Edition are hereby deleted and replaced by all currently available books which make up the Ontario Traffic Manual.

GC 1.06 Final Acceptance

- .01 For the purposes of determining whether Final Acceptance has occurred, the Contract Administrator shall not take into account, in determining the discharge of the Contractor's obligations, any warranty obligation of the Contractor to the extent that the warranty extends beyond 12 months after Substantial Performance.

GC 1.07 Interpretation of Certain Words

- .01 The words "acceptable," "approval," "authorized," "considered necessary," "directed," "required," "satisfactory," or words of like import, shall mean approval of, directed, required, considered necessary, or authorized by and acceptable or satisfactory to the Contract Administrator, unless the context clearly indicates otherwise.

SECTION GC 2.0 - CONTRACT DOCUMENTS

GC 2.01 Reliance on Contract Documents

- .01 The Owner warrants that the information furnished in the Contract Documents can be relied upon with the following limitations or exceptions:
- a) Based on available information at the time of the contract, the location of all mainline underground Utilities that may affect the Work shall be shown to a tolerance of:
 - i. 1 m horizontal, and
 - ii. 0.3 m vertical
- .02 The Owner does not warrant or make any representation with respect to:
- a) interpretations of data or opinions expressed in any Subsurface Report available for the perusal of the Contractor, that are not included as part of the Contract Documents, and
 - b) other information specifically excluded from this warranty.

GC 2.02 Order of Precedence

- .01 In the event of any inconsistency or conflict in the contents of the following documents, such documents shall take precedence and govern in the following descending order:
- a) Agreement
 - b) Addenda
 - c) Special Provisions
 - d) Contract Drawings
 - e) Standard Specifications
 - f) Standard Drawings
 - g) Tender
 - h) Supplemental General Conditions
 - i) OPSS.MUNI 100 General Conditions of Contract
 - j) Working Drawings
- Later dates shall govern within each of the above categories of documents.
- .02 In the event of any conflict among or inconsistency in the information shown on Drawings, the following rules shall apply:
- a) Dimensions shown in figures on a Drawing shall govern where they differ from dimensions scaled from the same Drawing;
 - b) Drawings of larger scale shall govern over those of smaller scale;
 - c) Detailed Drawings shall govern over general Drawings; and

- d) Drawings of a later date shall govern over those of an earlier date in the same series.
- .03 In the event of any inconsistency or conflict in the contents of Standard Specifications the following descending order of precedence shall govern:
- a) Owner's Standard Specifications
 - b) Ontario Provincial Standard Specifications
 - c) Other standards referenced in OPSSs and OPSDs (e.g., CSA, CGSB, ASTM, and ANSI).
- .04 The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all.

SECTION GC 3.0 - ADMINISTRATION OF THE CONTRACT

GC 3.01

Contract Administrator's Authority

- .01 The Contract Administrator shall be the Owner's representative during construction and until the issuance of the Completion Certificate or the issuance of the Final Acceptance Certificate, whichever is later. All instructions to the Contractor, including instructions from the Owner, shall be issued by the Contract Administrator. The Contract Administrator shall have the authority to act on behalf of the Owner only to the extent provided in the Contract Documents.
- .02 All claims, disputes and other matters in question relating to the performance and the quality of the Work or the interpretation of the Contract Documents shall be referred to the Contract Administrator in writing by the Contractor.
- .03 The Contract Administrator may inspect the Work for its conformity with the Contract Documents, and to record the necessary data to establish payment quantities under the schedule of tender quantities and unit prices or to assess the value of the Work completed in the case of a lump sum price Contract.
- .04 The Contract Administrator shall provide an estimate of the amounts owing to the Contractor under the Contract as provided for in section GC 8.0, Measurement and Payment.
- .05 The Contract Administrator, to not cause delay in the schedule, shall, with reasonable promptness, review and take appropriate action upon the Contractor's submissions such as shop drawings, product data, and samples in accordance with the Contract Documents .
- .06 The Contract Administrator shall investigate all allegations of a Change in the Work made by the Contractor and issue appropriate instructions.
- .07 The Contract Administrator shall prepare Change Directives and Change Orders for the Owner's approval.
- .08 Upon written application by the Contractor, the Contract Administrator and the Contractor shall jointly conduct an inspection of the Work to establish the date of Substantial Performance of the Work or the date of Completion of the Work or both.
- .09 The Contract Administrator shall be, in the first instance, the interpreter of the Contract Documents and the judge of the performance thereunder by both parties to the Contract. Interpretations and decisions of the Contract Administrator shall be consistent with the intent of the Contract Documents and, in making these decisions, the Contract Administrator shall not show partiality to either party.
- .10 The Contract Administrator shall have the authority to reject any part of the Work or Material that does not conform to the Contract Documents.
- .11 In the event that the Contract Administrator determines that any part of the Work performed by the Contractor is defective, whether the result of poor workmanship the use of defective Material or damage through carelessness or other act or omission of the Contractor and whether or not incorporated in the Work or otherwise fails to conform to the Contract Documents, then the Contractor shall if directed by the Contract Administrator promptly, as directed by the Contract Administrator, remove the Work and replace, make good, or re-execute the Work at no additional cost to the Owner.
- .12 Any part of the Work destroyed or damaged by such removals, replacements, or re-executions shall be made good, promptly, at no additional cost to the Owner.

- .13 If, in the opinion of the Contract Administrator it is not expedient to correct defective Work or Work not performed in accordance with the Contract Documents, the Owner may deduct from monies otherwise due to the Contractor the difference in value between the Work as performed and that called for by the Contract Documents amount that will be determined in the first instance by the Contract Administrator.
- .14 Notwithstanding any inspections made by the Contract Administrator or the issuance of any certificates or the making of any payment by the Owner, the failure of the Contract Administrator to reject any defective Work or Material shall not constitute acceptance of defective Work or Material.
- .15 The Contract Administrator shall have the authority to temporarily suspend the Work for such reasonable time as may be necessary:
- a) to facilitate the checking of any portion of the Contractor's construction layout;
 - b) to facilitate the inspection of any portion of the Work; or
 - c) for the Contractor to remedy its non-compliance with any provisions of the Contract Documents.
- The Contractor shall not be entitled to any compensation for suspension of the Work in these circumstances.
- .16 The Owner has the right to terminate the Contract for wilful or persistent violation by the Contractor or its workers of any applicable laws or bylaws, including but not limited to, the Occupational Health and Safety Act legislation and regulations, Workplace Safety and Insurance Board Act, and Regulation 347 of the Environmental Protection Act.
- .17 If the Contract Administrator determines that any worker employed on the Work is incompetent, as defined by the Occupational Health and Safety Act, or is disorderly, then the Contract Administrator shall provide written notice to the Contractor and the Contractor shall immediately remove the worker from the Working Area. Such worker shall not return to the Working Area without the prior written consent of the Contract Administrator.

GC 3.02 Working Drawings

- .01 The Contractor shall arrange for the preparation of clearly identified and dated Working Drawings as called for by the Contract Documents.
- .02 The Contractor, to not cause delay in the Work, shall submit Working Drawings to the Contract Administrator with reasonable promptness and in orderly sequence. If either the Contractor or the Contract Administrator so requests, they shall jointly prepare a schedule fixing the dates for submission and return of Working Drawings. Working Drawings shall be submitted in printed form. At the time of submission, the Contractor shall notify the Contract Administrator in writing of any deviations from the Contract Documents that exist in the Working Drawings.
- .03 The Contract Administrator shall review and return Working Drawings in accordance with an agreed upon schedule, or otherwise, with reasonable promptness so as not to cause delay.
- .04 The Contract Administrator's review shall be to check for conformity to the design concept and for general arrangement only and such review shall not relieve the Contractor of responsibility for errors or omissions in the Working Drawings or of responsibility for meeting all requirements of the Contract Documents, unless a deviation on the Working Drawings has been approved in writing by the Contract Administrator.

- .05 The Contractor shall make any changes in Working Drawings that the Contract Administrator may require to make the Working Drawings consistent with the Contract Documents and resubmit, unless otherwise directed by the Contract Administrator. When resubmitting, the Contractor shall notify the Contract Administrator in writing of any revisions other than those requested by the Contract Administrator.
- .06 Work related to the Working Drawings shall not proceed until the Working Drawings have been signed and dated by the Contract Administrator.
- .07 The Contractor shall keep one set of the reviewed Working Drawings, marked as above, at the site at all times.

GC 3.03 Right of the Contract Administrator to Modify Methods and Equipment

- .01 The Contractor shall, when requested in writing, make alterations in the method, Equipment, or work force at any time the Contract Administrator considers the Contractor's actions to be unsafe, or damaging to either the Work or existing facilities or the environment.
- .02 The Contractor shall, when requested in writing, alter the sequence of its operations on the Contract so as to avoid interference with work being performed by others.
- .03 Notwithstanding the foregoing, the Contractor shall ensure that all necessary safety precautions and protection are maintained throughout the Work.

GC 3.04 Emergency Situations

- .01 The Contract Administrator has the right to determine the existence of an emergency situation and, when such an emergency situation is deemed to exist, the Contract Administrator may instruct the Contractor to take action to remedy the situation. If the Contractor does not take timely action or, if the Contractor is not available, the Contract Administrator may direct others to remedy the situation.
- .02 If the emergency situation was the fault of the Contractor, the remedial Work shall be done at the Contractor's expense. If the emergency situation was not the fault of the Contractor, the Owner shall pay for the remedial Work.

GC 3.05 Layout Information

- .01 The Contract Administrator shall provide background information, including without limitation, baseline and benchmark information, to facilitate the general location, alignment, elevation and layout of the Work.
- .02 The Contract Administrator shall provide pre and post construction inventories of all Monuments, etc. that are located within the Working Area.
- .03 The Owner shall be responsible only for the correctness of the layout information provided by the Contract Administrator.

GC 3.06 Extension of Contract Time

- .01 An application for an extension of Contract Time shall be made in writing by the Contractor to the Contract Administrator as soon as the need for such extension becomes evident and at least 15 Days prior to the expiration of the Contract Time. The application for an extension of Contract Time shall enumerate the reasons and state the length of extension required.

- .02 Circumstances suitable for consideration of an extension of Contract Time include the following:
- a) Delays, subsection GC 3.07.
 - b) Changes in the Work, clause GC 3.10.01.
 - c) Extra Work, clause GC 3.10.02.
 - d) Additional Work, clause GC 3.10.03.
- .03 The Contract Administrator shall, in reviewing an application for an extension to the Contract Time, consider whether the delays, Changes in the Work, Extra Work, or Additional Work involve a Controlling Operation.
- .04 The Contract Time shall be extended for such additional time as may be recommended by the Contract Administrator and deemed fair and reasonable by the Owner.
- .05 The terms and conditions of the Contract shall continue for such extension of Contract Time.

GC 3.07 Delays

- .01 If the Contractor is delayed in the performance of the Work by,
- a) war, blockades, and civil commotions;
 - b) errors in the Contract Documents;
 - c) an act or omission of the Owner or Contract Administrator, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the Contract Documents;
 - d) a stop work order issued by a court or public authority, provided that such order was not issued as the result of an act or omission of the Contractor or anyone employed or engaged by the Contractor directly or indirectly;
 - e) the Contract Administrator giving notice under section GC 7.0, Suspension of Work;
 - f) Abnormal Weather; or
 - g) archaeological finds, in accordance with subsection GC 3.15, Archaeological Finds,
- then the Contractor shall be reimbursed by the Owner for reasonable costs incurred by the Contractor as the result of such delay, provided that in the case of an application for an extension of Contract Time due to Abnormal Weather, the Contractor shall, with the Contractor's application, submit evidence from Environment Canada in support of such application. Extension of Contract Time may be granted in accordance with subsection GC 3.06, Extension of Contract Time.
- .02 If the Work is delayed by labour disputes, strikes or lock-outs, including lock-outs decreed or recommended to its members by a recognized contractor's association, of which the Contractor is a member or to which the Contractor is otherwise bound, which are beyond the Contractor's control, then the Contract Time shall be extended in accordance with subsection GC 3.06, Extension of Contract Time.
- .03 In no case shall the extension of Contract Time be less than the time lost as the result of the event causing the delay, unless a shorter extension is agreed to by the Contractor. The Contractor shall not be entitled to payment for costs incurred as the result of such delays unless such delays are the result of actions by the Owner.

- .04 The Contractor shall not be entitled to payment for the cost of delays incurred as a result of a dispute between the Contractor and Owner. The Contractor shall execute the Work and may pursue resolution of the dispute in accordance with subsection GC 3.13, Claims, Negotiations, Mediations.

GC 3.08 Assignment of Contract

- .01 The Contractor shall not assign the Contract, either in whole or in part, without the prior written consent of the Owner.

GC 3.09 Subcontracting by the Contractor

- .01 Subject to clause GC 3.09.03, Subcontracting by the Contractor, the Contractor may subcontract any part of the Work, in accordance with the Contract Documents and any limitations specified therein.
- .02 The Contractor shall notify the Contract Administrator in writing in 10 Days prior to the start of construction of the intention to subcontract. Such notification shall identify the part of the Work, and the Subcontractor with whom it is intended.
- .03 The Contract Administrator shall, within 5 Days of receipt of such notification, accept or reject the intended Subcontractor. The rejection shall be in writing and shall include the reasons for the rejection.
- .04 The Contractor shall not, without the written consent of the Owner, change a Subcontractor who has been engaged in accordance with this subsection.
- .05 The Contractor shall preserve and protect the rights of the Owner under the Contract Documents with respect to that part of the Work to be performed under subcontract and shall,
- a) enter into agreements with the intended Subcontractors to require them to perform their Work in accordance with the Contract Documents; and
 - b) be as fully responsible to the Owner for acts and omissions of the Contractor's Subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the Contractor.
- .06 The Owner's consent to subcontracting by the Contractor shall not be construed to relieve the Contractor from any obligation under the Contract and shall not impose any liability upon the Owner. Nothing contained in the Contract Documents shall create a contractual relationship between a Subcontractor and the Owner.

GC 3.10 Changes

GC 3.10.01 Changes in the Work

- .01 The Owner, or the Contract Administrator where so authorized, may, by order in writing, make a Change in the Work without invalidating the Contract. The Contractor shall not be required to proceed with a Change in the Work until in receipt of a Change Order or Change Directive. Upon the receipt of such Change Order or Change Directive the Contractor shall proceed with the Change in the Work.
- .02 The Contractor may apply for an extension of Contract Time according to the terms of clause GC 3.06, Extension of Contract Time.

- .03 If the Change in the Work relates solely to quantities, payment for that part of the Work shall be made according to the conditions specified in clause GC 8.01.02, Variations in Tender Quantities. If the Change in the Work does not solely relate to quantities, then either the Owner or the Contractor may initiate negotiations upwards or downwards for the adjustment of the Contract price in respect of the Change in the Work pursuant to subsection GC 3.13, Claims, Negotiations, Mediation or payment may be made according to the conditions contained in clause GC 8.02.05, Payment on a Time and Material Basis.

GC 3.10.02 Extra Work

- .01 The Owner, or Contract Administrator where so authorized, may instruct the Contractor to perform Extra Work without invalidating the Contract. The Contractor shall not be required to proceed with the Extra Work until in receipt of a Change Order or Change Directive. Upon receipt of such Change Order or Change Directive the Contractor shall proceed with the Extra Work.
- .02 The Contractor may apply for an extension of Contract Time according to the terms of clause GC 3.06, Extension of Contract Time.
- .03 Either the Owner or Contractor may initiate negotiations upwards or downwards for the payment for the Extra Work pursuant to subsection GC 3.13, Claims, Negotiations, Mediation, or payment may be made according to the conditions contained in clause GC 8.02.05, Payment on a Time and Material Basis.

GC 3.10.03 Additional Work

- .01 The Owner, or Contract Administrator where so authorized, may request the Contractor to perform Additional Work without invalidating the Contract. If the Contractor agrees to perform Additional Work, the Contractor shall proceed with such Additional Work upon receipt of a Change Order.
- .02 The Contractor may apply for an extension of Contract Time according to the terms of subsection GC 3.06, Extension of Contract Time.
- .03 Payment for the Additional Work may be negotiated pursuant to subsection GC 3.13, Claims, Negotiations, Mediation, or payment may be made according to the conditions contained in clause GC 8.02.05, Payment on a Time and Material Basis.

GC 3.11 Notices

- .01 Any notice permitted or required to be given to the Contract Administrator or the Superintendent in respect of the Work shall be deemed to have been given to and received by the addressee on the date of delivery if delivered by hand, email, or by facsimile transmission and on the fifth Day after the date of mailing, if sent by mail.
- .02 The Contractor and the Owner shall provide each other with the mail and email addresses; cell phone, and telephone numbers for the Contract Administrator and the Superintendent at the commencement of the Work, and update as necessary.
- .03 In the event of an emergency situation or other urgent matter the Contract Administrator or the Superintendent may give a verbal notice, provided that such notice is confirmed in writing within 2 Days.
- .04 Any notice permitted or required to be given to the Owner or the Contractor shall be given in accordance with the notice provision of the Contract.

GC 3.12 Use and Occupancy of the Work Prior to Substantial Performance

- .01 Where it is not contemplated elsewhere in the Contract Documents, the Owner may use or occupy the Work or any part thereof prior to Substantial Performance, provided that at least 30 Days written notice has been given to the Contractor.
- .02 The use or occupancy of the Work or any part thereof by the Owner prior to Substantial Performance shall not constitute an acceptance of the Work or parts so occupied. In addition, the use or occupancy of the Work shall not relieve the Contractor or the Contractor's Surety from any liability that has arisen, or may arise, from the performance of the Work in accordance with the Contract Documents. The Owner shall be responsible for any damage that occurs because of the Owner's use or occupancy. Such use or occupancy of any part of the Work by the Owner does not waive the Owner's right to charge the Contractor liquidated damages in accordance with the terms of the Contract.

GC 3.13 Claims, Negotiations, Mediation

GC 3.13.01 Continuance of the Work

- .01 Unless the Contract has been terminated or completed, the Contractor shall in every case, after serving or receiving any notification of a claim or dispute, verbal or written, continue to proceed with the Work with due diligence and expedition. It is understood by the parties that such action shall not jeopardize any claim it may have.

GC 3.13.02 Record Keeping

- .01 Immediately upon commencing Work that may result in a claim, the Contractor shall keep Daily Work Records during the course of the Work, sufficient to substantiate the Contractor's claim, and the Contract Administrator shall keep Daily Work Records to be used in assessing the Contractor's claim, all in accordance with clause GC 8.02.07, Records.
- .02 The Contractor and the Contract Administrator shall attempt to reconcile their respective Daily Work Records on a daily basis, to simplify review of the claim, when submitted. If the Contractor and the Contract Administrator fail to reconcile their respective Daily Work Records, then the Contractor shall submit its Daily Work Records as part of its claim, whereby the resolution of the dispute about the Daily Work Records shall not be resolved until there is a resolution of the claim.
- .03 The keeping of Daily Work Records by the Contract Administrator or the reconciling of such Daily Work Records with those of the Contractor shall not be construed to be acceptance of the claim.

GC 3.13.03 Claims Procedure

- .01 The Contractor shall give verbal notice of any situation that may lead to a claim for additional payment immediately upon becoming aware of the situation.
- .02 The Contractor shall provide written notice within 7 Days of the commencement of any part of the Work that may be affected by the situation.
- .03 The Contractor shall submit detailed claims as soon as reasonably possible and in any event no later than 30 Days or such time as mutually agreed after completion of the Work affected by the situation. The detailed claim shall:
 - a) identify the item or items in respect of which the claim arises;
 - b) state the grounds, contractual or otherwise, upon which the claim is made; and

- c) include the Records maintained by the Contractor supporting such claim.
- .04 Within 30 Days of the receipt of the Contractor's detailed claim, the Contract Administrator may request the Contractor to submit any further and other particulars as the Contract Administrator considers necessary to assess the claim. The Contractor shall submit the requested information within 30 Days of receipt of such request.
- .05 Within 90 Days of receipt of the detailed claim, the Contract Administrator shall advise the Contractor, in writing, of the Contract Administrator's opinion regarding the validity of the claim.

GC 3.13.04 Negotiations

- .01 The parties shall make all reasonable efforts to resolve their dispute by amicable negotiations and agree to provide, without prejudice, open and timely disclosure of relevant facts, information, and documents to facilitate these negotiations.
- .02 Should the Contractor disagree with the opinion given in clause GC 3.13.03.05, with respect to any part of the claim, the Contract Administrator shall enter into negotiations with the Contractor to resolve the matters in dispute. Where a negotiated settlement cannot be reached and it is agreed that payment cannot be made on a Time and Material basis in accordance with clause GC 8.02.05, Payment on a Time and Material Basis, the parties shall proceed in accordance with clause GC 3.13.05, Mediation, or subsection GC 3.14, Arbitration.
- .03 Prior to the expiry of 30 Business Days from the date of receipt of the Contractor's claim, the Contract Administrator shall provide a written response to the Contractor stating the Contract Administrator's final price for the Change Order and an explanation of the rationale and basis of the Contract Administrator's position which shall be deemed to be the initial site response.

GC 3.13.05 Mediation

- .01 If a claim is not resolved satisfactorily through the negotiation stage noted in clause GC 3.13.04, Negotiations, within a period of 30 Days following the opinion given in clause GC 3.13.03.05, and the Contractor wishes to pursue the issue further, the parties may, upon mutual agreement, utilize the services of an independent third-party mediator.
- .02 The mediator shall be mutually agreed upon by the Owner and Contractor.
- .03 The mediator shall be knowledgeable regarding the area of the disputed issue. The mediator shall meet with the parties together or separately, as necessary, to review all aspects of the issue. In a final attempt to assist the parties in resolving the issue themselves prior to proceeding to arbitration the mediator shall provide, without prejudice, a non-binding recommendation for settlement.
- .04 The review by the mediator shall be completed within 90 Days following the opinion given in clause GC 3.13.03.05.
- .05 Each party is responsible for its own costs related to the use of the mediation process. The cost of the third-party mediator shall be equally shared by the Owner and Contractor.

GC 3.13.06 Payment

- .01 Payment of the claim shall be made no later than 28 Days after the date of resolution of the claim or dispute. Such payment shall be made according to the terms of section GC 8.0, Measurement and Payment.

GC 3.13.07 Rights of Both Parties

- .01 It is agreed that no action taken under subsection GC 3.13, Claims, Negotiations, Mediation, by either party shall be construed as a renunciation or waiver of any of the rights or recourse available to the parties, provided that the requirements set out in this subsection are fulfilled.
- .02 It is further agreed that the parties may at any time resort to the adjudication procedure contained in the Construction Act.

GC 3.14 Arbitration

GC 3.14.01 Conditions of Arbitration

- .01 If a claim is not resolved satisfactorily through the negotiation stage noted in clause GC 3.13.04, Negotiations, or the mediation stage noted in clause GC 3.13.05, Mediation, either party may invoke the provisions of subsection GC 3.14, Arbitration, by giving written notice to the other party.
- .02 Notification that arbitration shall be implemented to resolve the issue shall be communicated in writing as soon as possible and no later than 60 Days following the opinion given in clause GC 3.13.03.05. Where the use of a third-party mediator was implemented, notification shall be within 120 Days of the opinion given in clause GC 3.13.03.05.
- .03 The parties shall be bound by the decision of the arbitrator.
- .04 The rules and procedures of the Arbitration Act, 1991, S.O. 1991, c.17, as amended, shall apply to any arbitration conducted hereunder except to the extent that they are modified by the express provisions of subsection GC 3.14, Arbitration.

GC 3.14.02 Arbitration Procedure

- .01 The following provisions are to be included in the agreement to arbitrate and are subject only to such right of appeal as exist where the arbitrator has exceeded his or her jurisdiction or have otherwise disqualified him or herself:
 - a) All existing actions in respect of the matters under arbitration shall be stayed pending arbitration;
 - b) All outstanding claims and matters to be settled are to be set out in a schedule to the agreement. Only such claims and matters as are in the schedule shall be arbitrated; and
 - c) Before proceeding with the arbitration, the Contractor shall confirm that all matters in dispute are set out in the schedule.

GC 3.14.03 Appointment of Arbitrator

- .01 The arbitrator shall be mutually agreed upon by the Owner and Contractor to adjudicate the dispute.
- .02 Where the Owner and Contractor cannot agree on a sole arbitrator within 30 Days of the notification of arbitration noted in clause GC 3.14.01.02, the Owner and the Contractor shall each choose an appointee within 37 Days of the notice of arbitration.
- .03 The appointees shall mutually agree upon an arbitrator to adjudicate the dispute within 15 Days after the last appointee was chosen or they shall refer the matter to the ADR Institute of Ontario (ADRIO), which may select an arbitrator to adjudicate the dispute within 7 Days of being requested to do so.
- .04 The arbitrator shall not be interested financially in the Contract nor in either party's business and shall not be employed by either party.

- .05 The arbitrator may appoint independent experts and any other persons to assist him or her.
- .06 The arbitrator is not bound by the rules of evidence that govern the trial of cases in court but may hear and consider any evidence that the arbitrator considers relevant.
- .07 The hearing shall commence within 90 Days of the appointment of the arbitrator.

GC 3.14.04 Costs

- .01 The arbitrator's fee shall be equally shared by the Owner and the Contractor.
- .02 The fees of any independent experts and any other persons appointed to assist the arbitrator shall be shared equally by the Owner and the Contractor.
- .03 The arbitration hearing shall be held in a place mutually agreed upon by both parties or in the event the parties do not agree, a site shall be chosen by the arbitrator. The cost of obtaining appropriate facilities shall be shared equally by the Owner and the Contractor.
- .04 The arbitrator may, in his or her discretion, award reasonable costs, related to the arbitration.

GC 3.14.05 The Decision

- .01 The reasoned decision shall be made in writing within 90 Days of the conclusion of the hearing. An extension of time to make a decision may be granted with consent of both parties. Payment shall be made in accordance with clause GC 3.13.06, Payment.

GC 3.15 Archaeological Finds

- .01 If the Contractor's operations expose any items that may indicate an archaeological find, such as but not limited to building remains, hardware, accumulations of bones, pottery, or arrowheads, the Contractor shall immediately notify the Contract Administrator and suspend operations within the area identified by the Contract Administrator. Notification may be verbal provided that such notice is confirmed in writing within 2 Days. Work shall remain suspended within that area until otherwise directed by the Contract Administrator in writing, in accordance with subsection GC 7.09, Suspension of Work.
- .02 Any delay in the completion of the Contract that is caused by such a suspension of Work shall be considered to be beyond the Contractor's control in accordance with clause GC 3.07.01.
- .03 Any Work directed or authorized in connection with an archaeological find shall be considered as Extra Work in accordance with clause GC 3.10.02, Extra Work.
- .04 The Contractor shall take all reasonable action to minimize additional costs that may accrue as a result of any work stoppage.

SECTION GC 4.0 - OWNER'S RESPONSIBILITIES AND RIGHTS

GC 4.01 Working Area

- .01 The Owner shall acquire all property rights that are deemed necessary by the Owner for the construction of the Work, including temporary working easements, and shall indicate the full extent of the Working Area on the Contract Drawings.

GC 4.02 Approvals and Permits

- .01 The Owner shall pay for all plumbing and building permits.
- .02 The Owner shall obtain and pay for all permits, licences, and certificates solely required for the design of the Work.

GC 4.03 Management and Disposition of Materials

- .01 The Owner shall identify in the Contract Documents the Materials to be moved within or removed from the Working Area and any characteristics of those Materials that necessitates special Materials management and disposition.
- .02 In accordance with regulations under the Occupational Health and Safety Act, R.S.O. 1990, c.O.1, as amended, the Owner advises that,
 - a) the designated substances silica, lead, and arsenic are generally present throughout the Working Area occurring naturally or as a result of vehicle emissions;
 - b) the designated substance asbestos may be present in cement products, asphalt, and conduits for Utilities;
 - c) the following hazardous materials are ordinarily present in construction activities: limestone, gypsum, marble, mica, and Portland cement; and
 - d) exposure to these substances may occur as a result of activities by the Contractor such as sweeping, grinding, crushing, drilling, blasting, cutting, and abrasive blasting.
- .03 The Owner shall identify in the Contract Documents any designated substances or hazardous materials other than those identified above and their location in the Working Area.
- .04 If the Owner or Contractor discovers or is advised of the presence of designated substances or hazardous Materials that are in addition to those listed in clause GC 4.03.02, or not clearly identified in the Contract Documents according to clause GC 4.03.03, then verbal notice shall be provided to the other party immediately with written confirmation within 2 Days. The Contractor shall stop Work in the area immediately and shall determine the necessary steps required to complete the Work in accordance with applicable legislation and regulations.
- .05 The Owner shall be responsible for any reasonable additional costs of removing, managing and disposing of any Material not identified in the Contract Documents, or where conditions exist that could not have been reasonably foreseen at the time of tendering. All work under this paragraph shall be deemed to be Extra Work.

- .06 Prior to commencement of the Work, the Owner shall provide to the Contractor a list of those products controlled under the Workplace Hazardous Materials Information System (WHMIS), that the Owner may supply or use on the Contract, together with copies of the Safety Data Sheets for these products. All containers used in the application of products controlled under WHMIS shall be labelled. The Owner shall notify the Contractor in writing of changes to the list and provide relevant Safety Data Sheets.
- .07 Unless expressly permitted in the Contract Documents, the Contractor shall not bring onto the Work Area any designated substance or hazardous Material per OHSA without the prior written authorization of the Contract Administrator.
- .08 The Contractor shall use all reasonable care to avoid spilling or disturbing any designated substances or hazardous Material per OHSA.

GC 4.04 Construction Affecting Railway Property

- .01 The Owner shall pay the costs of all flagging and other traffic control measures required and provided by the railway company unless such costs are solely a function of the Contractor's chosen method of completing the Work.
- .02 Every precaution shall be taken by the Contractor to protect all railway property at track crossings; or otherwise, on which construction operations are to take place in accordance with the terms of this Contract.
- .03 The Contractor shall be required to conduct the construction operations in such a manner as to avoid a possibility of damaging any railway property in the vicinity of the Works. Every reasonable precaution shall be taken by the Contractor to ensure the safety of the workers, Subcontractors, and Equipment, as well as railway property throughout the duration of the Contract.

GC 4.05 Default by the Contractor

- .01 If the Contractor fails to commence the Work within 14 Days of a formal order to commence Work signed by the Contract Administrator or, upon commencement of the Work, should neglect to prosecute the Work properly or otherwise fails to comply with the requirements of the Contract and, if the Contract Administrator has given a written statement to the Owner and Contractor that sufficient cause exists to justify such action, the Owner may, without prejudice to any other right or remedy the Owner may have, notify the Contractor in writing that the Contractor is in default of the Contractor's contractual obligations and instruct the Contractor to correct the default in the 5 Working Days immediately following the receipt of such notice.
- .02 If the Contractor is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the Contractor's insolvency or if a receiver is appointed because of the Contractor's insolvency, the Owner may, without prejudice to any other right or remedy the Owner may have, by giving the Contractor or receiver or trustee in bankruptcy notice in writing, terminate the Contract.

GC 4.06 Contractor's Right to Correct a Default

- .01 The Contractor shall have the right within the 5 Working Days following the receipt of a notice of default to correct the default and provide the Owner with satisfactory proof that appropriate corrective measures have been taken.
- .02 If the Owner determines that the correction of the default cannot be completed within the 5 Working Days following receipt of the notice, the Contractor shall not be in default if the Contractor,
 - a) commences the correction of the default within the 5 Working Days following receipt of the notice;

- b) provides the Owner with a schedule acceptable to the Owner for the progress of such correction; and
- c) completes the correction in accordance with such schedule.

GC 4.07 Owner's Right to Correct Default

- .01 If the Contractor fails to correct the default within the time specified in subsection GC 4.06, Contractor's Right to Correct a Default, or subsequently agreed upon, the Owner, without prejudice to any other right or remedy the Owner may have, may correct such default and deduct the cost thereof, as certified by the Contract Administrator, from any payment then or thereafter due to the Contractor.

GC 4.08 Termination of Contractor's Right to Continue the Work

- .01 Where the Contractor fails to correct a default within the time specified in subsection GC 4.06, Contractor's Right to Correct a Default, or subsequently agreed upon, the Owner, without prejudice to any other right or remedy the Owner may have, may terminate the Contractor's right to continue the Work in whole or in part by giving written notice to the Contractor.
- .02 If the Owner terminates the Contractor's right to continue with the Work in whole or in part, the Owner shall be entitled to,
 - a) take possession of the Working Area or that portion of the Working Area devoted to that part of the Work terminated;
 - b) utilize any Material within the Working Area;
 - d) withhold further payments to the Contractor with respect to the Work or the portion of the Work withdrawn from the Contractor until the Work or portion thereof withdrawn is completed;
 - d) charge the Contractor the additional cost over the Contract price of completing the Work or portion thereof withdrawn from the Contractor, as certified by the Contract Administrator and any additional compensation paid to the Contract Administrator for such additional service arising from the correction of the default;
 - e) charge the Contractor a reasonable allowance, as determined by the Contract Administrator, to cover correction to the Work performed by the Contractor that may be required under subsection GC 7.16, Warranty;
 - f) charge the Contractor for any damages the Owner sustained as a result of the default; and
 - g) charge the Contractor the amount by which the cost of corrections to the Work under subsection GC 7.16, Warranty, exceeds the allowance provided for such corrections.

GC 4.09 Final Payment to Contractor

- .01 If the Owner's cost to correct and complete the Work in whole or in part is less than the amount withheld from the Contractor under subsection GC 4.08, Termination of Contractor's Right to Continue the Work, the Owner shall pay the balance to the Contractor as soon as the final accounting for the Contract is complete.

GC 4.10 Termination of the Contract

- .01 Where the Contractor is in default of the Contract the Owner shall, without prejudice to any other right or remedy the Owner may have, terminate the Contract by giving written notice of termination to the Contractor, the Surety, and any trustee or receiver acting on behalf of the Contractor's estate or creditors.
- .02 If the Owner elects to terminate the Contract, the Owner shall provide the Contractor and the trustee or receiver with a complete accounting to the date of termination.

GC 4.11 Continuation of Contractor's Obligations

- .01 The Contractor's obligation under the Contract as to quality, correction, and warranty of the Work performed prior to the time of termination of the Contract or termination of the Contractor's right to continue with the Work in whole or in part shall continue to be in force after such termination.

GC 4.12 Use of Performance Bond

- .01 If the Contractor is in default of the Contract and the Contractor has provided a Performance Bond, the provisions of section GC 4.0, Owner's Responsibilities and Rights, shall be exercised in accordance with the conditions of the Performance Bond.

GC 4.13 Payment Adjustment

- .01 If any situation should occur in the performance of the Work that would result in a Change in the Work, the Owner shall be entitled to an adjustment and those adjustments shall be managed in accordance with clause GC 3.10.01, Changes in the Work.

SECTION GC 5.0 - MATERIAL

GC 5.01 Supply of Material

- .01 All Material necessary for the proper completion of the Work, except that listed as being supplied by the Owner, shall be supplied by the Contractor. The Contract price for the appropriate tender items shall be deemed to include full compensation for the supply and delivery of such Material.

GC 5.02 Quality of Material

- .01 All Material supplied by the Contractor shall be new, unless otherwise specified in the Contract Documents.
- .02 Material supplied by the Contractor shall conform to the requirements of the Contract.
- .03 As specified in the Contract Documents or as requested by the Contract Administrator, the Contractor shall make available, for inspection or testing, a sample of any Material to be supplied by the Contractor.
- .04 The Contractor shall obtain for the Contract Administrator the right to enter onto the premises of the Material manufacturer or supplier to carry out such inspection, sampling, and testing as specified in the Contract Documents or as requested by the Contract Administrator.
- .05 The Contractor shall notify the Contract Administrator of the sources of supply sufficiently in advance of the Material shipping dates to enable the Contract Administrator to perform the required inspection, sampling, and testing.
- .06 The Owner shall not be responsible for any delays to the Contractor's operations where the Contractor fails to give sufficient advance notice to the Contract Administrator to enable the Contract Administrator to carry out the required inspection, sampling, and testing before the scheduled shipping date.
- .07 The Contractor shall not change the source of supply of any Material without the written authorization of the Contract Administrator.
- .08 Material that is not specified shall be of a quality best suited to the purpose required, and the use of such Material shall be subject to the approval of the Contract Administrator.
- .09 All Material inspection, sampling, and testing shall be carried out on random basis in accordance with the standard inspection or testing methods required for the Material. Any approval given by the Contract Administrator for the Materials to be used in the Work based upon the random method shall not relieve the Contractor from the responsibility of incorporating Material that conforms to the Contract Documents into the Work or properly performing the Contract and of any liability arising from the failure to properly perform as specified in the Contract Documents.

GC 5.03 Rejected Material

- .01 Rejected Material shall be removed from the Working Area expeditiously after the notification to that effect from the Contract Administrator. Where the Contractor fails to comply with such notice, the Contract Administrator may cause the rejected Material to be removed from the Working Area and disposed of, in what the Contract Administrator considers to be the most appropriate manner, and the Contractor shall pay the costs of disposal and the appropriate overhead charges.

GC 5.04**Substitutions**

- .01 Where the Contract Documents require the Contractor to supply a Material designated by a trade or other name, the Tender shall be based only upon supply of the Material so designated, that shall be regarded as the standard of quality required by the Contract Documents. After the acceptance of the Tender, the Contractor may apply to the Contract Administrator to substitute another Material identified by a different trade or other name for the Material designated as aforesaid. The application shall be in writing and shall state the price for the proposed substitute Material designated as aforesaid, and such other information as the Contract Administrator may require.
- .02 Rulings on a proposed substitution shall not be made prior to the acceptance of the Tender. Substitutions shall not be made without the prior approval of the Contract Administrator. The approval or rejection of a proposed substitution shall be at the discretion of the Contract Administrator.
- .03 If the proposed substitution is approved by the Contract Administrator, the Contractor shall be entitled to the first \$1,000 of the aggregate saving in cost by reason of such substitution and to 50% of any additional saving in cost in excess of such \$1,000. Each such approval shall be conveyed to the Contractor in writing or by issuance of a Certificate of Equality on the Owner's standard form of "Certification of Equality" and, if any adjustment to the Contract price is made by reason of such substitution, a Change Order shall be issued as well.

GC 5.05**Owner Supplied Material****GC 5.05.01****Ordering of Excess Material**

- .01 Where Material is supplied by the Owner and where this Material is ordered by the Contractor in excess of the amount specified to complete the Work, such excess Material shall become the property of the Contractor on completion of the Work and shall be charged to the Contractor at cost plus applicable overheads.

GC 5.05.02**Care of Material**

- .01 The Contractor shall, in advance of receipt of shipments of Material supplied by the Owner, provide adequate and proper storage facilities acceptable to the Contract Administrator, and on the receipt of such Material shall promptly place it in storage, except where it is to be incorporated forthwith into the Work.
- .02 The Contractor shall be responsible for acceptance of Material supplied by the Owner, at the specified delivery point and for its safe handling and storage. If such Material is damaged while under the control of the Contractor, it shall be replaced or repaired by the Contractor at no expense to the Owner, and to the satisfaction of the Contract Administrator. If such Material is rejected by the Contract Administrator for reasons that are not the fault of the Contractor, it shall remain in the care and at the risk of the Contractor until its disposition has been determined by the Contract Administrator.
- .03 Where Material supplied by the Owner arrives at the delivery point in a damaged condition or where there are discrepancies between the quantities received and the quantities shown on the bills of lading, the Contractor shall immediately report such damage or discrepancies to the Contract Administrator who shall arrange for an immediate inspection of the shipment and provide the Contractor with a written release from responsibility for such damage or deficiencies. Where damage or deficiencies are not so reported, it shall be assumed that the shipment arrived in good condition and order, and any damage or deficiencies reported thereafter shall be made good by the Contractor at no extra cost to the Owner.

- .04 The full amount of Material supplied by the Owner in each shipment shall be accounted for by the Contractor and such Material shall be at the risk of the Contractor after taking delivery. Such Material shall not, except with the written permission of the Contract Administrator, be used by the Contractor for purposes other than the performance of the Work under the Contract.
- .05 Empty reels, crates, containers, and other type of packaging from Material supplied by the Owner shall become the property of the Contractor when they are no longer required for their original purpose and shall be disposed of by the Contractor at the Contractor's expense unless otherwise specified in the Contract Documents.
- .06 Immediately upon receipt of each shipment, the Contractor shall provide the Contract Administrator copies of bills of lading, or such other documentation the Contract Administrator may require to substantiate and reconcile the quantities of Material received.
- .07 Where Material supplied by the Owner is ordered and stockpiled prior to the award of the Contract, the Contractor shall, at no extra cost to the Owner, immediately upon commencement of operations, check the Material, report any damage or deficiencies to the Contract Administrator and take charge of the Material at the stockpile site. Where damage or deficiencies are not so recorded by the Contractor, it shall be assumed that the stockpile was in good condition and order when the Contractor took charge of it, and any damage or deficiencies reported thereafter shall be made good by the Contractor at no extra cost to the Owner.

SECTION GC 6.0 - INSURANCE, PROTECTION AND DAMAGE

GC 6.01 Protection of Work, Persons and Property

- .01 The Contractor, the Contractor's agents, and all workers employed by or under the control of the Contractor, including Subcontractors, shall protect the Work, persons, and property from damage or injury. The Contractor shall be responsible for all losses and damage that may arise as the result of the Contractor's operations under the Contract, unless indicated to the contrary below.
- .02 The Contractor is responsible for the full cost of any necessary temporary protective Work and the restoration of all damage where the Contractor damages the Work or property in the performance of the Contract. If the Contractor is not responsible for the damage that occurs to the Work or property, the Contractor shall restore such damage, and such Work and payment shall be administered according to these General Conditions.
- .03 The Contractor shall immediately inform the Contract Administrator of all damage and injuries that occur during the term of the Contract. The Contractor shall then investigate and report back to the Contract Administrator within 15 Days of occurrence of incident, or as soon as possible. The Contract Administrator may conduct its own investigation and the Contractor shall provide all assistance to the Contract Administrator as may be necessary for that purpose.
- .04 The Contractor shall not be responsible for loss and damage that occurs as a result of,
 - a) war;
 - b) blockades and civil commotions;
 - c) errors in the Contract Documents; or
 - d) acts or omissions of the Owner, the Contract Administrator, their agents and employees, or others not under the control of the Contractor, but within the Working Area with the Owner's permission.
- .05 The Contractor and the Contractor's Surety shall not be released from any term or provision of any responsibility, obligation, or liability under the Contract or waive or impair any of the rights of the Owner, except by a release duly executed by the Owner.

GC 6.02 Indemnification

- .01 The Contractor shall indemnify and hold harmless the Owner and the Contract Administrator, their elected officials, agents, officers, and employees from and against all claims, demands, losses, expenses, costs, damages, actions, suits, or proceedings by third parties, hereinafter called "claims", directly or indirectly arising or alleged to arise out of the performance of or the failure to perform the Work, provided such claims are,
 - a) attributable to bodily injury, sickness, disease, or death or to damage to or destruction of tangible property;
 - b) caused by negligent acts or omissions of the Contractor or anyone for whose acts the Contractor may be liable; and
 - c) made in writing within a period of 6 years from the date of Substantial Performance of the Work as set out in the Certificate of Substantial Performance of the Work or, where so specified in the Contract Documents, from the date of certification of Final Acceptance.

- .02 The Contractor shall indemnify and hold harmless the Owner from all and every claim for damages, royalties or fees for the infringement of any patented invention or copyright occasioned by the Contractor in connection with the Work performed or Material furnished by the Contractor under the Contract.
- .03 The Owner expressly waives the right to indemnity for claims other than those stated in clauses GC 6.02.01 and GC 6.02.02.
- .04 The Owner shall indemnify and hold harmless the Contractor, their elected officials, agents, officers, and employees from and against all claims, demands, losses, expenses, costs, damages, actions, suits, or proceedings arising out of the Contractor's performance of the Contract that are attributable to a lack of or defect in title or an alleged lack of or defect in title to the Working Area.
- .05 The Contractor expressly waives the right to indemnity for claims other than those stated in clause GC 6.02.04.

GC 6.03 Contractor's Insurance

GC 6.03.01 General

- .01 Without restricting the generality of subsection GC 6.02, Indemnification, the Contractor shall provide, maintain, and pay for the insurance coverages listed under clauses GC 6.03.02 and GC 6.03.03. Insurance coverage in clauses GC 6.03.04, GC 6.03.05, and GC 6.03.06 shall only apply when so specified in the Contract Documents.
- .02 The Contractor shall provide the Contract Administrator with an original Certificate of Insurance for each type of insurance coverage that is required by the Contract Documents. The Contractor shall ensure that the Contract Administrator is, at all times in receipt of a valid Certificate of Insurance for each type of insurance coverage, in such amounts as specified in the Contract Documents. The Contractor will not be permitted to commence Work until the Contract Administrator is in receipt of such proof of insurance. The Contract Administrator may withhold payments of monies due to the Contractor until the Contractor has provided the Contract Administrator with original valid Certificates of Insurance as required by the provisions of the Contract Documents.

GC 6.03.02 Commercial General Liability Insurance

- .01 Commercial General Liability Insurance shall be in the name of the Contractor, with the Owner and the Contract Administrator named as additional insureds, with limits of not less than five million dollars inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof. The insurance shall be provided in a form acceptable to the Owner.
- .02 Approval of this insurance shall be conditional upon the Contractor obtaining the services of an insurer licensed to underwrite insurance in the Province of Ontario and obtaining the insurer's certificate of equivalency to the required insurance.
- .03 The Contractor shall submit annually to the Owner, proof of continuation of the completed operations coverage and, if the Contractor fails to do so, the limitation period for claiming indemnity described in clause GC 6.02.01 c), shall not be binding on the Owner.
- .04 Should the Contractor decide not to employ Subcontractors for operations requiring the use of explosives for blasting, pile driving or caisson work, removal or weakening of support of property building or land, the Commercial General Liability Insurance shall include the appropriate endorsements.
- .05 The policies shall be endorsed to provide the Owner with not less than 30 Days written notice in advance of cancellation, termination, or material change.

.06 "Claims Made" insurance policies shall not be permitted.

GC 6.03.03 Automobile Liability Insurance

.01 Automobile liability insurance in respect of licensed vehicles shall have limits of not less than five million dollars inclusive per occurrence for bodily injury, death and damage to property, in the following forms endorsed to provide the Owner with not less than 30 Days written notice in advance of any cancellation, termination, or material change.

- a) standard non-owned automobile policy including standard contractual liability endorsement, and
- b) standard owner's form automobile policy providing third party liability and accident benefits insurance and covering licensed vehicles owned or operated by the Contractor.

GC 6.03.04 Aircraft and Watercraft Liability Insurance

GC 6.03.04.01 Aircraft Liability Insurance

.01 Aircraft liability insurance with respect to owned or non-owned aircraft used directly or indirectly in the performance of the Work, including use of additional premises, shall be subject to limits of not less than five million dollars inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof, and limits of not less than five million dollars for aircraft passenger hazard. Such insurance shall be in a form acceptable to the Owner. The policies shall be endorsed to provide the Owner with not less than 30 Days written notice in advance of cancellation, change, or amendment restricting coverage.

GC 6.03.04.02 Watercraft Liability Insurance

.01 Watercraft liability insurance with respect to owned or non-owned watercraft used directly or indirectly in the performance of the Work, including use of additional premises, shall be subject to limits of not less than five million dollars inclusive per occurrence for bodily injury, death, and damage to property including loss of use thereof. Such insurance shall be in a form acceptable to the Owner. The policies shall be endorsed to provide the Owner with not less than 30 Days written notice in advance of cancellation, change, or amendment restricting coverage.

GC 6.03.05 Property and Boiler Insurance

GC 6.03.05.01 Property Insurance

.01 All risks property insurance shall be in the name of the Contractor, with the Owner and the Contract Administrator named as additional insureds, insuring not less than the sum of the amount of the Contract price and the full value, as may be stated in the Contract Documents, of Material that is specified to be provided by the Owner for incorporation into the Work.

GC 6.03.05.02 Boiler Insurance

.01 Boiler insurance insuring the interests of the Contractor, the Owner and the Contract Administrator for not less than the replacement value of boilers and pressure vessels forming part of the Work, shall be in a form acceptable to the Owner.

GC 6.03.05.03 Use and Occupancy of the Work Prior to Completion

.01 Should the Owner wish to use or occupy part or all of the Work prior to Substantial Performance, the Owner shall give 30 Days written notice to the Contractor of the intended purpose and extent of such use or occupancy. Prior to such use or occupancy, the Contractor shall notify the Owner in writing of

the additional premium cost, if any, to maintain property and boiler insurance, which shall be at the Owner's expense. If because of such use or occupancy the Contractor is unable to provide coverage, the Owner upon written notice from the Contractor and prior to such use or occupancy shall provide, maintain, and pay for property and boiler insurance insuring the full value of the Work, including coverage for such use or occupancy, and shall provide the Contractor with proof of such insurance. The Contractor shall refund to the Owner the unearned premiums applicable to the Contractor's policies upon termination of coverage.

- .02 The policies shall provide that in the event of a loss or damage, payment shall be made to the Owner and the Contractor as their respective interests may appear. The Contractor shall act on behalf of both the Owner and the Contractor for the purpose of adjusting the amount of such loss or damage payment with the insurers. When the extent of the loss or damage is determined, the Contractor shall proceed to restore the Work. Loss or damage shall not affect the rights and obligations of either party under the Contract, except that the Contractor shall be entitled to such reasonable extension of Contract Time relative to the extent of the loss or damage as the Contract Administrator may decide in consultation with the Contractor.

GC 6.03.05.04 Payment for Loss or Damage

- .01 The Contractor shall be entitled to receive from the Owner, in addition to the amount due under the Contract, the amount at which the Owner's interest in restoration of the Work has been appraised, such amount to be paid as the restoration of the Work proceeds, and in accordance with the requirements of section GC 8.0, Measurement and Payment. In addition, the Contractor shall be entitled to receive from the payments made by the insurers the amount of the Contractor's interest in the restoration of the Work.
- .02 The Contractor shall be responsible for deductible amounts under the policies, except where such amounts may be excluded from the Contractor's responsibility by the terms of this Contract.
- .03 In the event of a loss or damage to the Work arising from the action or omission of the Owner or others, the Owner shall pay the Contractor the cost of restoring the Work as the restoration of the Work proceeds and in accordance with the requirements of section GC 8.0, Measurement and Payment.

GC 6.03.06 Contractor's Equipment Insurance

- .01 All risks Contractor's Equipment insurance covering construction equipment used by the Contractor for the performance of the Work, including boiler insurance on temporary boilers and pressure vessels, shall be in a form acceptable to the Owner and shall not allow subrogation claims by the insurer against the Owner. The policies shall be endorsed to provide the Owner with not less than 30 Days written notice in advance of cancellation, change, or amendment restricting coverage. Subject to satisfactory proof of financial capability by the Contractor for self-insurance of the Contractor's Equipment, the Owner agrees to waive the equipment insurance requirement, and for the purpose of this Contract, the Contractor shall be deemed to be insured. This policy shall be amended to provide permission for the Contractor to grant prior releases with respect to damage to the Contractor's Equipment.

GC 6.03.07 Insurance Requirements and Duration

- .01 Each insurance policy as noted in the Contract Documents shall be in effect from the date of commencement of the Work until 10 Days after the date of Final Acceptance of the Work, as set out in the Final Acceptance Certificate.
- .02 The Contractor shall provide the Owner, on a form acceptable to the Owner, proof of insurance prior to commencement of the Work and signed by the underwriter or the broker.

- .03 The Contractor shall, on request, promptly provide the Owner with a certified true copy of each insurance policy exclusive of information pertaining to premium or premium bases used by the insurer to determine the cost of the insurance. The certified true copy shall include the signature of an officer of the insurer.
- .04 Where a policy is renewed, the Contractor shall provide the Owner, on a form acceptable to the Owner, renewed proof of insurance immediately following completion of renewal.
- .05 Unless specified otherwise, the Contractor shall be responsible for the payment of deductible amounts under the policies.
- .06 If the Contractor fails to provide or maintain insurance as required in subsection GC 6.03, Contractor's Insurance, or elsewhere in the Contract Documents, then the Owner shall have the right to provide and maintain such insurance and give evidence thereof to the Contractor. The Owner's cost thereof shall be payable by the Contractor to the Owner on demand.
- .07 If the Contractor fails to pay the cost of the insurance placed by the Owner within 28 Days of the date on which the Owner made a formal demand for reimbursement of such costs, the Owner may deduct the costs thereof from monies which are due or may become due to the Contractor.

GC 6.04 Bonding

- .01 The Contractor shall provide the Owner with the surety bonds in the amount required by the Contract Documents.
- .02 Such bonds shall be issued by a duly licensed surety company authorized to transact a business of suretyship in the Province of Ontario and shall be to the satisfaction of the Owner. The bonds shall be maintained in good standing until the Final Acceptance.

GC 6.05 Workplace Safety and Insurance Board

- .01 The Contractor shall provide the Contract Administrator with a copy of a Certificate of Clearance indicating the Contractor's good standing with the Workplace Safety and Insurance Board, as follows:
 - a) Immediately prior to the Contract Administrator authorizing the Contractor to commence Work.
 - b) Prior to issue of the Certificate of Substantial Performance.
 - c) Prior to expiration of the Warranty Period.
 - d) At any other time when requested by the Contract Administrator.

SECTION GC 7.0 - CONTRACTOR'S RESPONSIBILITIES AND CONTROL OF THE WORK

GC 7.01 General

GC 7.01.01 Site Visit

- .01 The Contractor warrants that the site of the Work has been visited during the preparation of the Tender and the character of the Work and all local conditions that may affect the performance of the Work are known.

GC 7.01.02 Commencement of Work

- .01 The Contractor shall not commence the Work nor deliver anything to the Working Area until the Contractor has received a written order to commence the work from the Contract Administrator.

GC 7.01.03 Control and Responsibility

- .01 The Contractor shall have complete control of the Work and shall effectively direct and supervise the Work so as to ensure conformity with the Contract Documents. The Contractor shall be responsible for construction means, methods, techniques, sequences, and procedures and for coordinating the various parts of the Work.
- .02 The Contractor shall provide adequate labour, Equipment, and Material to ensure the completion of the Contract in accordance with the Contract Documents. The Work shall be performed as vigorously and as continuously as weather conditions or other interferences may permit.
- .03 The Contractor shall have the sole responsibility for the design, erection, operation, maintenance, and removal of temporary structures and other temporary facilities and the design and execution of construction methods required in their use.
- .04 Notwithstanding clause GC 7.01.03, where the Contract Documents include designs for temporary structures and other temporary facilities or specify a method of construction in whole or 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.
- .05 The Contractor shall comply with and conform to all statutes, laws, by-laws, regulations, requirements, ordinances, notices, rulings, orders, directives and policies of the municipal, provincial and federal governments and any other lawful authority and all court orders, judgments and declarations of a court of competent jurisdiction (collectively referred to as the "Laws"), applicable to the Work to be provided by, and the undertakings and obligations of, the Contractor under this Contract.

GC 7.01.04 Compliance with the Occupational Health and Safety Act

- .01 The Contractor shall execute the terms of the Contract in strict compliance with the requirements of the Occupational Health and Safety Act, R.S.O. 1990, c.O.1, as amended, (the "Act") and Ontario Regulation 213/91, as amended, (that regulates Construction Projects) and any other regulations as amended under the Act (the "Regulations") that may affect the performance of the Work, as the "Constructor" or "employer," as defined by the Act, as the case may be. The Contractor shall ensure that:
- a) worker safety is given priority in planning, pricing, and performing the Work;

- b) its officers and supervisory employees have a working knowledge of the duties of a "Constructor" and "employer" as defined by the Act and the provisions of the Regulations applicable to the Work, and a personal commitment to comply with them;
 - c) a copy of the most current version of the Act and the Regulations are available at the Contractor's office within the Working Area, or, in the absence of an office, in the possession of the supervisor responsible for the performance of the Work;
 - d) workers employed to carry out the Work possess the knowledge, skills, and protective devices required by law or recommended for use by a recognized industry association to allow them to work in safety;
 - e) its supervisory employees are "Competent Persons" as defined in the OHSA, and carry out their duties in a diligent and responsible manner with due consideration for the health and safety of the workers;
 - f) all Subcontractors and their workers are properly protected from injury while they are at the Working Area; and
 - g) following execution of the Contract and prior to the issuance of the order to commence by the Owner, upon request the Contractor submits to the Contract Administrator a copy of the Notice of Project issued to the Ministry of Labour.
- .02 The Contractor, when requested, shall provide the Owner with a copy of its health and safety policy and program at the pre-start meeting and shall respond promptly to requests from the Owner for confirmation that its methods and procedures for carrying out the Work comply with the Act and Regulations. The Contractor shall cooperate with representatives of the Owner and the inspectors appointed to enforce the Act and the Regulations in any investigations of worker health and safety in the performance of the Work. The Contractor shall indemnify and save the Owner harmless from any additional expense that the Owner may incur to have the Work performed as a result of the Contractor's failure to comply with the requirements of the Act and the Regulations.
- .03 Prior to commencement of the Work, the Contractor shall provide to the Contract Administrator a list of those products controlled under the Workplace Hazardous Materials Information System or "WHMIS", which the Contractor expects to use on the Contract. Related Safety Data Sheets shall accompany the submission. All containers used in the application of products controlled under "WHMIS" shall be labelled. The Contractor shall notify the Contract Administrator in writing of changes in the products to be used and provide relevant Safety Data Sheets.
- .04 During the course of the Work, the Contractor shall furnish forthwith to the Contract Administrator a copy of all correspondence, reports, orders or charges respecting occupational health and safety, including under the Act, Technical Standards and Safety Act, 2000, S.O. 2000, c.16 as amended, and the Criminal Code, R.S.C., 1985, c. C-46 as amended, which are received by, or which come to the notice of, the Contractor that apply or are relevant to any of the Work or activities conducted under the terms of the Contract.
- .05 Nothing in this Contract shall be construed as requiring the Owner to monitor or approve the workplace health and safety practices of the Contractor.

GC 7.01.05 Contractor's Representatives

- .01 The Contractor shall have an authorized representative on the site while any Work is being performed, to supervise the Work and act for or on the Contractor's behalf. Prior to commencement of construction, the Contractor shall notify the Contract Administrator of the names, addresses, positions, and cell phone, and telephone numbers of the Contractor's representatives who can be contacted at any time to deal with matters relating to the Contract, and update as necessary.

- .02 The Contractor shall designate a person to be responsible for traffic control and work zone safety. The designated person shall be a competent worker who is qualified because of knowledge, training, and experience to perform the duties; is familiar with Book 7 of the Ontario Traffic Manual; and has knowledge of all potential or actual danger to workers and motorists. Prior to the commencement of construction, the Contractor shall notify the Contract Administrator of the name; address; position; cell phone, and telephone numbers of the designated person, and update as necessary. The designated person may have other responsibilities, including other construction sites, and need not be present in the Working Area at all times.

GC 7.01.06 Assistance to the Contract Administrator

- .01 The Contractor shall, at no additional cost to the Owner, furnish all reasonable aid, facilities, and assistance required by the Contract Administrator for the proper inspection and examination of the Work or the taking of measurements for the purpose of payment.

GC 7.01.07 Schedule

- .01 The Contractor shall prepare and update, as required, a construction schedule of operations, indicating the proposed methods of construction and sequence of Work and the time the Contractor proposes to complete the various items of Work within the time specified in the Contract Documents. The schedule shall be submitted to the Contract Administrator within 14 Days from the Contract award. If the Contractor's schedule is materially affected by changes in the work, the Contractor shall submit an updated construction schedule, if requested by the Contract Administrator, within 7 Days of the request. This updated schedule shall show how the Contractor proposes to perform the balance of the Work, to complete the Work within the time specified in the Contract Documents.
- .02 For Contracts with a specified number of Working Days, the construction time shown on the initial schedule shall not exceed the specified number of Working Days. The activities on the critical path shall assist the Contract Administrator in determining the Controlling Operation for the purpose of the charging of Working Days. The construction schedule shall include all non-working periods and appropriate allowances for Inclement Weather.
- .03 For Contracts which specify a Contract Time, the construction time shown on the initial construction schedule shall not extend beyond the specified Contract Time. The construction schedule shall include all non-working periods and appropriate allowances for Inclement Weather.

GC 7.01.08 Errors and Inconsistencies Relating to the Contract

- .01 Where the Contractor finds any error, inconsistency, or omission relating to the Contract, the Contractor shall promptly report it to the Contract Administrator and shall not proceed with the activity affected until receiving direction from the Contract Administrator.
- .02 The Contractor shall promptly notify the Contract Administrator in writing if the subsurface conditions observed in the Working Area differ materially from those indicated in the Contract Documents.

GC 7.01.09 Utilities

- .01 The Contractor shall arrange with the appropriate Utility authorities for the stake out of all underground Utilities and service connections that may be affected by the Work. The Contractor shall observe the location of the stake outs prior to commencing the Work and if there is a discrepancy between the location of the stake outs and the locations shown on the Contract Documents, that may affect the Work, the Contractor shall immediately notify the Contract Administrator and the affected Utility companies, in order to resolve the discrepancy. The Contractor shall be responsible for any damage done to the underground Utilities and service connections by

the Contractor's forces during construction if the stake out locations are within the tolerances given in clause GC 2.01.01 a).

- .02 In the case of damage to or interference with any Utilities, pole lines, pipe lines, conduits, farm tiles, or other public or privately-owned works or property, the Contractor shall immediately notify the Owner, Contract Administrator, and the owner of the works of the location and details of such damage or interference.

GC 7.02 Monuments and Layout

- .01 Prior to commencement of construction, the Contract Administrator and the Contractor shall locate on site those Monuments that delineate the Working Area and may be used to lay out the Work, all as shown on the Contract Drawings. Property Monuments shall be inventoried in the report format required by the Owner.
- .02 These Monuments shall be protected by highly visible T-bars or 1.0 metre tall stakes with survey ribbon set within 0.3 metres of the Monument.
- .03 The Contractor shall be responsible for the preservation of all Property Monuments while the Work is in progress, except those Property Monuments that must be removed to facilitate the Work as identified and agreed by the Contractor and Contract Administrator. Monuments removed to facilitate the Work shall be replaced at the Owner's expense, and all others shall be replaced at the Contractor's expense.
- .04 All Monuments disturbed, damaged, or removed by the Contractor's operations shall be documented in the inventory report and replaced under the supervision of an Ontario Land Surveyor.
- .05 The Monument inventory report referred to in clauses GC 7.02.01 and GC 7.02.04 shall include as a minimum:
 - a) Contract number, Contract name, Contract Administrator's name;
 - b) Project/site construction limits;
 - c) Rough location, type, identification number, and condition of each Monument before and after construction;
 - d) The solutions for protection of the Monuments that may be impacted by construction;
 - e) Reference ties;
 - f) A summary of those Monuments affected by the Work and how they were reset or replaced, and by what type of Monument.
- .06 At no extra cost to the Owner, the Contractor shall provide the Contract Administrator with such materials and devices as may be necessary to lay out the baseline and benchmarks, and as may be necessary for the inspection of the Work.
- .07 The Contractor shall provide qualified personnel to lay out and establish all lines and grades necessary for construction. The Contractor shall notify the Contract Administrator of any layout work carried out, so that the same may be checked by the Contract Administrator.
- .08 The Contractor shall install and maintain substantial alignment markers and secondary benchmarks as may be required for the proper execution of the Work. The Contractor shall supply one copy of all alignment and grade sheets to the Contract Administrator.
- .09 The Contractor shall assume full responsibility for alignment, elevations, and dimensions of each and all parts of the Work, regardless of whether the Contractor's layout work has been checked by the Contract Administrator.

- .10 All stakes, marks, and reference points shall be carefully preserved by the Contractor. In the case of their destruction or removal, for any reason, before the end of the Contract Time such stakes, marks, and reference points shall be replaced, unless otherwise mutually agreed between the Contractor and the Contract Administrator, at the Contractor's expense.
- .11 Benchmarks and survey monuments identified in the Contract Documents shall be protected by the Contractor. In the case of their destruction or removal, such benchmarks and survey monuments shall be replaced by the Owner at the Contractor's expense.

GC 7.03 Working Area

- .01 The Contractor shall maintain the Working Area in a tidy condition and free from the accumulation of debris and prevent dust nuisance, mud, and ponding water, other than that caused by the Owner or others.
- .02 The Contractor's sheds, site offices, toilets, other temporary structures, and storage areas for Material and Equipment shall be grouped in a compact manner, maintained in a neat and orderly condition at all times and removed upon completion of the Work.
- .03 The Contractor shall confine the construction operations to the Working Area. Should the Contractor require additional space, the Contractor shall obtain such space at no additional cost to the Owner.
- .04 The Contractor shall not enter upon or occupy any private property for any purpose, unless the Contractor has received prior written permission from the property owner.
- .05 Upon completion of the Contract, the Working Area used by the Contractor shall be restored to its original condition or better unless otherwise specified in the Contract Documents including the removal of all excavated and stockpiled materials at the Contractor's expense.

GC 7.04 Damage by Vehicles or Other Equipment

- .01 If at any time, in the opinion of the Contract Administrator, damage is being done or is likely to be done to any Roadway or any improvement thereon, outside the Working Area, by the Contractor's vehicles or other Equipment, whether licensed or unlicensed Equipment, the Contractor shall, on the direction of the Contract Administrator, and at no extra cost to the Owner, make changes or substitutions for such vehicles or Equipment, and shall alter loadings, or in some other manner, remove the cause of such damage to the satisfaction of the Contract Administrator.

GC 7.05 Excess Loading of Motor Vehicles

- .01 Where a vehicle is hauling Material for use on the Work, in whole or in part; upon a Highway; and where motor vehicle registration is required for such vehicle, the Contractor shall not cause or permit such vehicle to be loaded beyond the legal limit specified in the Highway Traffic Act, R.S.O. 1990, c.H.8, as amended, whether such vehicle is registered in the name of the Contractor or otherwise, except where there are designated areas within the Working Area where overloading is permitted. The Contractor shall bear the onus of weighing disputed loads.

GC 7.06 Maintaining Roads and Detours

- .01 Unless otherwise specified in the Contract Documents, if an existing Roadway is affected by construction, it shall be kept open to both vehicular and pedestrian traffic.
- .02 Subject to the approval of the Contract Administrator, the Contractor shall, at no additional cost to the Owner, be responsible for providing and maintaining for the duration of the Work an alternative route for both pedestrian and vehicular traffic through the Working Area in accordance with the OTM,

whether along the existing Highway under construction or on a detour road beside or adjacent to the Highway under construction.

- .03 Subject to the approval of the Contract Administrator, the Contractor may block traffic for short periods of time to facilitate construction of the Work in accordance with the OTM. Any temporary lane closures shall be kept to a minimum.
- .04 The Contractor shall not be required to maintain a road through the Working Area until such time as the Contractor has commenced operations or during seasonal shut down or on any part of the Contract that has been accepted in accordance with these General Conditions. The Contractor shall not be required to apply de-icing chemicals or abrasives or carry out snowplowing.
- .05 Where only localized and separated sections of the Highway are affected by the Contractor's operations, the Contractor shall not be required to maintain intervening sections of the Highway until such times as these sections are located within the limits of the Highway affected by the Contractor's general operations under the Contract.
- .06 Where the Contract Documents provide for or the Contract Administrator requires detours at specific locations, payment for the construction of the detours and, if required, for the subsequent removal of the detours, shall be made at the Contract prices appropriate to such Work.
- .07 Compensation for all labour, Equipment, and Materials to do this Work shall be at the Contract prices appropriate to the Work and, where there are no such prices, at negotiated prices. Notwithstanding the foregoing, the cost of blading required to maintain the surface of such roads and detours shall be deemed to be included in the prices bid for the various tender items and no additional payment shall be made.
- .08 Where Work under the Contract is discontinued for any extended period, including seasonal shutdown, the Contractor shall, when directed by the Contract Administrator, open and place the Roadway and detours in a passable, safe, and satisfactory condition for public travel.
- .09 Where the Contractor constructs a detour that is not specifically provided for in the Contract Documents or required by the Contract Administrator, the construction of the detour and, if required, the subsequent removal shall be performed at the Contractor's expense. The detour shall be constructed and maintained to structural and geometric standards approved by the Contract Administrator. Removal and site restoration shall be performed as directed by the Contract Administrator.
- .10 Where, with the prior written approval of the Contract Administrator, the Highway is closed and the traffic diverted entirely off the Highway to any other Highway, the Contractor shall, at no extra cost to the Owner, supply, erect, and maintain traffic control devices in accordance with the OTM.
- .11 Compliance with the foregoing provisions shall in no way relieve the Contractor of its obligations under subsection GC 6.01, Protection of Work, Persons, and Property, dealing with the Contractor's responsibility for damage claims, except for claims arising on sections of Highway within the Working Area that are being maintained by others.

GC 7.07 Access to Properties Adjoining the Work and Interruption of Utility Services

- .01 The Contractor shall provide at all times and at no extra cost to the Owner,
 - a) safe and adequate pedestrian and vehicular access;
 - b) continuity of Utility services; and

c) access for emergency response services;

to properties adjoining the Working Area.

- .02 The Contractor shall provide at all times and at no extra cost to the Owner access to fire hydrants, water and gas valves, and all other Utilities located in the Working Area.
- .03 Where any interruptions in the supply of Utility services are required and are authorized by the Contract Administrator, the Contractor shall give the affected property owners notice in accordance with subsection GC 7.11, Notices by the Contractor, and shall arrange such interruptions so as to create a minimum of interference to those affected.

GC 7.08 Approvals and Permits

- .01 Except as specified in subsection GC 4.02, Approval and Permits, the Contractor shall obtain and pay for any permits, licences, and certificates, which at the date of tender closing, are required for the performance of the Work.
- .02 The Contractor shall arrange for all necessary inspections required by the approvals and permits specified in clause GC 7.08.01, Approvals and Permit.

GC 7.09 Suspension of Work

- .01 The Contractor shall, upon written notice from the Contract Administrator, discontinue or delay any or all of the Work and Work shall not be resumed until the Contract Administrator so directs in writing. Delays, in these circumstances, shall be administered according to subsection GC 3.07, Delays.

GC 7.10 Contractor's Right to Stop the Work or Terminate the Contract

- .01 If the Owner is 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 the Contractor may have, by giving the Owner or receiver or trustee in bankruptcy written notice, terminate the Contract.
- .02 If the Work is stopped or otherwise delayed for a period of 30 Days or more under an order of a court or other public authority and provided that such order was not issued as the result of an act or fault of the Contractor or of anyone directly employed or engaged by the Contractor, the Contractor may, without prejudice to any other right or remedy the Contractor may have, by giving the Owner written notice, terminate the Contract.
- .03 The Contractor may notify the Owner in writing, with a copy to the Contract Administrator, that the Owner is in default of contractual obligations if,
 - a) the Contract Administrator fails to issue certificates in accordance with the provisions of section GC 8.0, Measurement and Payment;
 - b) the Owner fails to pay the Contractor, within 28 Days of the due dates identified in clause GC 8.02.04, Certification and Payment, the amounts certified by the Contract Administrator or within 28 Days of an award by an arbitrator or court; or
 - c) the Owner fails to comply with the requirements of the Contract.
- .04 The Contractor's written notice to the Owner shall advise that if the default is not corrected in the 7 Days immediately following receipt of the written notice, the Contractor may, without prejudice to any other right or remedy the Contractor may have, stop the Work or terminate the Contract.

- .05 If the Contractor terminates the Contract under the conditions set out in subsection GC 7.10, Contractor's Right to Stop the Work or Terminate the Contract, the Contractor shall be entitled to be paid for all Work performed according to the Contract Documents and for any losses or damage as the Contractor may sustain as a result of the termination of the Contract.

GC 7.11 Notices by the Contractor

- .01 Before any Work is carried out that may affect the property or operations of any Ministry or agency of government or any person; company; partnership; or corporation, including a municipal corporation or any board or commission thereof, and in addition to such notices of the commencement of specified operations as are prescribed elsewhere in the Contract Documents, the Contractor shall give at least 48 hours advance written notice of the date of commencement of such Work to the person, company, partnership, corporation, board, or commission so affected.

GC 7.12 Environmental Incident Management under Legislation Protecting the Environment and Natural Resources

- .01 The Contractor shall be in strict compliance with the requirements of the following legislation, as amended, regarding environmental incidents under the control of the Contractor or that are a result of the Contractor's operations:
- a) Environmental Protection Act, R.S.O. 1990, c. E.19
 - b) Fisheries Act, R.S.C. 1985, c. F-14
 - c) Technical Standards and Safety Act, 2000, S.O. 2000, c. 16
 - d) Pesticides Act, R.S.O. 1990, c. P.11
 - e) Ontario Water Resources Act, R.S.O. 1990, c. O.40
 - f) Transportation of Dangerous Goods Act, 1992, S.C.1992, c. 34
- .02 The requirements of the legislation listed in clause GC 7.12.01 include but are not restricted to:
- a) Immediate containment of the material, pollutant, contaminant, deleterious substance, or dangerous good;
 - b) Immediate notification of the environmental incident to the proper authority; and
 - c) Clean up and restoration of the environment to preconditions.
- .03 The Contractor shall possess a plan demonstrating that environmental incidents shall be managed to satisfy the requirements of clauses GC 7.12.01 and GC 7.12.02.
- .04 The Contractor shall provide a copy of the environmental incident plan to the Contract Administrator when required and shall inform the Contract Administrator immediately of:
- a) An environmental incident when it occurs; and
 - b) Any actions taken or intended to be taken by the Contractor regarding the environmental incident.

- .05 The Contractor shall indemnify and save the Owner harmless from any additional expense that the Owner may incur to have the Work performed as a result of the Contractor's failure to comply with the requirements of the legislation listed in clause GC 7.12.01.

GC 7.13 Obstructions

- .01 Except as otherwise noted in these General Conditions, the Contractor assumes all the risks and responsibilities arising out of any obstruction encountered in the performance of the Work and any traffic conditions, including traffic conditions on any Highway or road giving access to the Working Area caused by such obstructions, and the Contractor shall not make any claim against the Owner for any loss, damage, or expense occasioned thereby.
- .02 Where the obstruction is an underground Utility or other man-made object, the Contractor shall not be required to assume the risks and responsibilities arising out of such obstruction, unless the location of the obstruction is shown on the Plans or described in the Contract Documents and the location so shown is within the tolerance specified in clause GC 2.01.01 a), or unless the presence and location of the obstruction has otherwise been made known to the Contractor or could have been determined by the visual site investigation made by the Contractor in accordance with these General Conditions.
- .03 During the course of the Contract, it is the Contractor's responsibility to consult with Utility companies or other appropriate authorities for further information in regard to the exact location of these Utilities, to exercise the necessary care in construction operations, and to take such other precautions as are necessary to safeguard the Utilities from damage.

GC 7.14 Limitations of Operations

- .01 Except for such Work as may be required by the Contract Administrator to maintain the Work in a safe and satisfactory condition, the Contractor shall not carry out operations under the Contract on Saturdays, Sundays, and any holidays recognized by the Owner without permission in writing from the Contract Administrator.
- .02 The Contractor shall cooperate and coordinate the Work with other Contractors, Utility companies, and the Owner and they shall be allowed access to their Work or plant at all reasonable times.

GC 7.15 Cleaning Up Before Acceptance

- .01 Upon attaining Substantial Performance of the Work, the Contractor shall remove surplus materials, tools, and Equipment not required for the performance of the remaining Work. The Contractor shall also remove all temporary works and debris other than that caused by the Owner or others and leave the Work and Working Area clean and suitable for occupancy by the Owner, unless otherwise specified.
- .02 The Work shall not be deemed to have reached Completion until the Contractor has removed surplus materials, tools, and Equipment. The Contractor shall also have removed debris, other than that caused by the Owner, or others.

GC 7.16 Warranty

- .01 Unless otherwise specified in the Contract Documents for certain Materials or components of the Work, the Contractor shall be responsible for the proper performance of the Work only to the extent that the design and standards permit such performance.
- .02 Subject to the previous paragraph the Contractor shall correct promptly, at no additional cost to the Owner, defects or deficiencies in the Work that appear,

- a) prior to and during the period of 12 months from the date of Substantial Performance of the Work, as set out in the Certificate of Substantial Performance of the Work,
- b) where there is no Certificate of Substantial Performance, 12 months from the date of Completion of the Work as set out in the Completion Certificate, or
- c) such longer periods as may be specified in the Contract Documents for certain Materials or some of the Work.

The Contract Administrator shall promptly give the Contractor written notice of observed defects or deficiencies.

- .03 The Contractor shall correct or pay for damage resulting from corrections made under the requirements of clause GC 7.16.02.

GC 7.17 Contractor's Workers

- .01 The Contractor shall only employ orderly, competent, and skillful workers to do the Work and whenever the Contract Administrator shall inform the Contractor in writing that any worker or workers involved in the Work are, in the opinion of the Contract Administrator, incompetent, or disorderly such worker or workers shall be removed from the Work and shall not be employed on the Work again without the consent in writing of the Contract Administrator.

GC 7.18 Drainage

- .01 During construction and until the Work is completed, the Contractor shall make all reasonable efforts to keep all portions of the Work properly and efficiently drained, to at least the same degree as that of the existing drainage conditions.

SECTION GC 8.0 - MEASUREMENT AND PAYMENT

GC 8.01 Measurement

GC 8.01.01 Quantities

- .01 The Contract Administrator shall make an Estimate in writing once a month, unless otherwise specified in the Contract Documents, of the quantity of Work performed and provide such Estimate to the Contractor within 10 Days of the Cut-Off Date.
- .02 Quantities for progress payments shall be construed and held to approximate. The final quantities for the issuance of the Completion Payment shall be based on the measurement of Work completed.
- .03 Measurement of the quantities of the Work performed may be either by Actual Measurement or by Plan Quantity principles as indicated in the Contract. Adjustments to Plan Quantity measurements shall normally be made using Plan Quantity principles but may, where appropriate, be made using Actual Measurements. Those items identified on the Tender by the notation (P) in the unit column shall be paid according to the Plan Quantity. Items where the notation (P) does not occur shall be paid according to Actual Measurement or lump sum.

GC 8.01.02 Variations in Tender Quantities

- .01 Where it appears that the quantity of Work to be done or Material to be supplied or both by the Contractor under a unit price tender item may exceed or be less than the tender quantity, the Contractor shall proceed to do the Work or supply the Material or both required to complete the tender item and payment shall be made for the actual amount of Work done or Material supplied or both at the unit prices stated in the Tender except as provided below:
 - a) In the case of a Major Item where the quantity of Work performed or Material supplied or both by the Contractor exceeds the tender quantity by more than 15%, either party to the Contract may make a written request to the other party to negotiate a revised unit price for that portion of the Work performed or Material supplied or both which exceeds 115% of the tender quantity. The negotiation shall be carried out as soon as reasonably possible. Any revision of the unit price shall be based on the actual cost of doing the Work or supplying the Material or both under the tender item plus a reasonable allowance for profit and applicable overhead. Alternatively, where both parties agree, an allowance equal to 10% of the unit price on the amount of the underrun in excess of 15% of the tender quantity shall be paid.
 - b) In the case of a Major Item where the quantity of Work performed or Material supplied or both by the Contractor is less than 85% of the tender quantity, the Contractor may make a written request to negotiate for the portion of the actual overheads and fixed costs applicable to the amount of the underrun in excess of 15% of the tender quantity. For purposes of the negotiation, the overheads and fixed costs applicable to the item are deemed to have been prorated uniformly over 100% of the tender quantity for the item. Overhead costs shall be confirmed by a statement certified by the Contractor's senior financial officer or auditor and may be audited by the Owner. Alternatively, where both parties agree, an allowance equal to 10% of the unit price on the amount of the underrun in excess of 15% of the tender quantity shall be paid.

Written requests for compensation must be received no later than 60 Days after the issuance of the Completion Payment.

GC 8.02 Payment

GC 8.02.01 Non-Resident Contractor

- .01 If the Contractor is not a registered entity in Ontario, the Contractor shall obtain all necessary approvals, consents, permits, licences, certificates, registrations, and other authorizations prior to execution of the Contract.
- .02 The Contractor shall ensure that all Subcontractors the Contractor proposes to use for carrying out any of the Work required by the Contract and who are not a registered entity in Ontario have obtained all necessary approvals, consents, permits, certificates, registrations, and other authorizations prior to execution of the subcontract.

GC 8.02.02 Price for Work

- .01 Prices for the Work shall be full compensation for all labour, Equipment and Material required in its performance. The term "all labour, Equipment, and Material" shall include Hand Tools, supplies, and other incidentals.
- .02 Payment, for Work which is identified in the Contract Documents but not specifically detailed as part of any one item shall be deemed to be included in the items with which it is associated.

GC 8.02.03 Advance Payments for Material

- .01 The Owner shall make advance payments for Material intended for incorporation in the Work upon the written request of the Contractor and according to the following terms and conditions:
 - a) The Contractor shall deliver the Material to a site approved by the Contract Administrator and the Contractor shall, in advance of receipt of the shipment of the Material, arrange for adequate and proper storage facilities.
 - b) The value of aggregates, processed and stockpiled, shall be assessed by the following procedure:
 - i. Sources Other Than Commercial
 - (A) Granular A, B, BI, BII, BIII, M, and O shall be assessed at the rate of 60% of the Contract price.
 - (B) Coarse and fine aggregates for hot mix asphaltic concrete, surface treatment and Portland cement concrete shall be assessed at the rate of 25% of the Contract price for each aggregate stockpiled.
 - ii. Commercial Sources
 - Payment for separated coarse and fine aggregates shall be considered at the above rate when such Materials are stockpiled at a commercial source where further processing is to be carried out before incorporating such Materials into a final product. Advance payments for other Materials located at a commercial source shall not be made.
 - c) Payment for all other Materials, unless otherwise specified elsewhere in the Contract Documents, shall be based on the invoice price, and the Contractor shall submit proof of cost to the Contract Administrator before payment can be made by the Owner.
 - d) The payment for all Materials shall be prorated against the appropriate tender item by paying for sufficient units of the item to cover the value of the Material. Such payment shall not exceed 80% of the Contract price for the item.

- e) All Materials for which the Contractor wishes to receive advance payment shall be placed in the designated storage location immediately upon receipt of the Material and shall thenceforth be held by the Contractor in trust for the Owner as collateral security for any monies advanced by the Owner and for the due completion of the Work. The Contractor shall not exercise any act of ownership inconsistent with such security, or remove any Material from the storage locations, except for inclusion in the Work, without the consent, in writing, of the Contract Administrator.
 - f) Such materials shall remain at the risk of the Contractor who shall be responsible for any loss, damage, theft, improper use, or destruction of the Material however caused.
- .02 Where the Owner makes advance payments subject to the conditions listed in clause GC 8.02.03.01, such payment shall not constitute acceptance of the Material by the Owner. Acceptance shall only be determined when the Material meets the requirements of the appropriate specification.

GC 8.02.04 Certification and Payment

GC 8.02.04.01 Progress Payment

- .01 The Contractor shall submit a Proper Invoice for progress payments monthly or at intervals specified in the Contract Documents after starting the Work on this Contract. The Contractor shall submit the Proper Invoice to the Contract Administrator and to the Owner. This Proper Invoice shall be for work completed at the agreed to Cut-Off Date.
- .02 A Proper Invoice shall include;
- a) the requirements as set out in section 6.1 of the Construction Act;
 - b) the quantities of Work performed;
 - c) the value of Work performed;
 - d) any advanced payment for Material;
 - e) the amount of Statutory Holdback, liens, Owner's set-off;
 - f) the amount of any applicable taxes;
 - g) the amount due to the Contractor; and
 - h) any other information that may be prescribed in the Contract Documents.
- .03 Payment shall be made within 28 Days of the submission of the Proper Invoice unless a notice of non-payment has been issued in accordance with the Construction Act.
- .04 The Owner shall retain the Statutory Holdback in the form and amount as required under the Construction Act.

GC 8.02.04.02 Certification of Subcontract Completion

- .01 Before the Work has reached the stage of Substantial Performance, the Contractor may notify the Contract Administrator, in writing that a subcontract is completed satisfactorily and ask that the Contract Administrator certify the completion of such subcontract.

- .02 The Contract Administrator shall issue a Certificate of Subcontract Completion, if the subcontract has been completed in a form satisfactory to the Contract Administrator, and all required inspection and testing of the works covered by the subcontract have been carried out and the results are satisfactory to the Contract Administrator.
- .03 The Contract Administrator shall set out in the Certificate of Subcontract Completion the date on which the subcontract was completed and, within 7 Days of the date the subcontract is certified complete, the Contract Administrator shall give a copy of the certificate to the Contractor and to the Subcontractor concerned.

GC 8.02.04.03 Subcontract Statutory Holdback Release Certificate and Payment

- .01 Following receipt of the Certificate of Subcontract Completion, the Owner shall release and pay the Contractor the Statutory Holdback retained in respect of the subcontract. Such release shall be made 61 Days after the date the subcontract was certified complete and providing the Contractor submits the following to the Contract Administrator:
 - a) a document satisfactory to the Contract Administrator that shall release the Owner from all further claims relating to the subcontract, qualified by stated exceptions such as holdback monies;
 - b) evidence satisfactory to the Contract Administrator that the Subcontractor has discharged all liabilities incurred in carrying out the subcontract;
 - c) a satisfactory clearance certificate or letter from the Workplace Safety and Insurance Board relating to the subcontract; and
 - d) a copy of the contract between the Contractor and the Subcontractor and a satisfactory statement showing the total amount due the Subcontractor from the Contractor.
- .02 Clause GC 8.02.04.03.01 d), shall only apply to Lump Sum Items and then only when the Contract Administrator specifically requests it.
- .03 Upon receipt of the Statutory Holdback, the Contractor shall forthwith give the Subcontractor the payment due under the subcontract.
- .04 Release of Statutory Holdback by the Owner in respect of a subcontract shall not relieve the Contractor, or the Contractor's Surety, of any of their responsibilities.

GC 8.02.04.04 Substantial Performance of Work

- .01 The Contractor, as part of the application for Substantial Performance, shall submit an itemized list of the outstanding work.
- .02 Upon application by the Contractor and when the Contract Administrator has verified that the Contract has been substantially performed, the Contract Administrator shall issue a Certificate of Substantial Performance.
- .03 The Contract Administrator shall set out in the Certificate of Substantial Performance the date on which the Contract was substantially performed and, within 7 Days after signing the said certificate, and shall provide a copy to the Contractor.
- .04 Upon receipt of a copy of the Certificate of Substantial Performance, the Contractor shall forthwith, as required by Section 32(1) Paragraph 5 of the Construction Act, as amended, publish a copy of the certificate in the manner set out in the regulations.

- .05 Where the Contractor fails to publish a copy of the Certificate of Substantial Performance as required above within 7 Days after receiving a copy of the certificate signed by the Contract Administrator, the Owner may publish a copy of the certificate at the Contractor's expense.
- .06 Except as otherwise provided for in Section 31 of the Construction Act, the 60 Day lien period prior to the release of holdback as referred to in clause GC 8.02.04.05, Substantial Performance Payment and Statutory Holdback Release Payment Certificates, shall commence from the date of publication of the Certificate of Substantial Performance as provided for above.

GC 8.02.04.05 Substantial Performance Payment and Substantial Performance Statutory Holdback Release Payment Certificates

- .01 Prior to the Contract Administrator issuing the Certificate of Substantial Performance, the Contractor shall submit a Proper Invoice for the Work completed. In addition to the requirements specified under section 8.02.04.01.02, the Proper Invoice shall include:
 - a) the value of Work performed to the date of Substantial Performance;
 - b) the value of outstanding or incomplete Work;
 - c) the amount of the Statutory Holdback, allowing for any previous releases of Statutory Holdback to the Contractor in respect of completed subcontracts and deliveries of pre-selected Equipment; and
 - d) the amount due the Contractor.
- .02 Payment shall be made within 28 Days of the date of submission of the Proper Invoice.
- .03 The Substantial Performance Statutory Holdback Release Payment Certificate shall be a payment certificate releasing to the Contractor the Statutory Holdback due in respect of Work performed up to the date of Substantial Performance. Payment of such Statutory Holdback shall be due 61 Days after the date of publication of the Certificate of Substantial Performance but subject to the provisions of the Construction Act and the submission by the Contractor of the following documents:
 - a) a satisfactory Certificate of Clearance from the Workplace Safety and Insurance Board; and
 - b) proof of publication of the Certificate of Substantial Performance.
- .04 Any amount of security retained shall be identified on the Substantial Performance Payment Certificate.

GC 8.02.04.06 Certification of Completion

- .01 Upon application by the Contractor and when the Contract Administrator has verified that the Contract has reached Completion, the Contract Administrator shall issue a Completion Certificate.
- .02 The Contract Administrator shall set out in the Completion Certificate the date on which the Work was completed and, within 7 Days of signing the said certificate, the Contract Administrator shall provide a copy to the Contractor.

GC 8.02.04.07 Completion Payment and Completion Statutory Holdback Release Payment Certificates

- .01 Prior to the Contract Administrator issuing the Completion Certificate, the Contractor shall submit a Proper Invoice for the Work completed. In addition to the requirements noted under section 8.02.04.01.02, the Proper Invoice shall include:
- a) measurement and value of Work at Completion;
 - b) the amount of the further Statutory Holdback based on the value of further Work completed over and above the value of Work completed shown in the Substantial Performance Payment Certificate referred to above; and
 - c) the amount due the Contractor.
- .02 The Completion Statutory Holdback Release Payment Certificate shall be a payment certificate releasing to the Contractor the further Statutory Holdback. Subject to any outstanding liens and permissible set-offs and upon submission of a satisfactory Certificate of Clearance from the Workplace Safety and Insurance Board, the Owner shall pay the remaining holdback on the Work done, within 28 Days after the expiration of the 60-Day lien period.
- .03 Any amount of security retained shall be identified on the Completion Payment Certificate.

GC 8.02.04.08 Interest

- .01 Interest due to the Contractor shall be based on simple interest and calculated using the applicable Rate of Interest. Interest shall begin to accrue on an amount that is not paid when it is due to be paid under Part-I of the Construction Act, at the prejudgment interest rate determined under subsection 127 (2) of the *Courts of Justice Act* or, if the Contract specifies a different interest rate for this purpose, the greater of the prejudgment interest rate and the interest rate specified in the Contract.

GC 8.02.04.09 Interest for Late Payment

- .01 Provided the Contractor has complied with the requirements of the Contract, including all documentation requirements, when payment by the Owner to the Contractor for Work performed, or for release of Statutory Holdback, is delayed by the Owner, then the Contractor shall be entitled to receive interest on the outstanding payment at the Rate of Interest, if payment is not received on the dates set out below:
- a) Progress Payment: 28 Days after submission of Proper Invoice;
 - b) Subcontract Statutory Holdback Release Payment: 89 Days after the date on which the subcontract was completed;
 - c) Substantial Performance Payment: 28 Days after the date of issuance of the certificate;
 - d) Substantial Performance Statutory Holdback Release Payment: 89 Days after publication of the Payment Certificate of Substantial Performance;
 - e) Completion Payment: 28 Days after the date certified as the date on which the Contract reached Completion; and
 - f) Completion Statutory Holdback Release Payment: 89 Days after the date certified as the date that the Work was completed.

- .02 If the Contractor has not complied with the requirements of the Contract, including all documentation requirements, prior to expiration of the time periods described in clause GC 8.02.04.09.01, interest shall only begin to accrue when the Contractor has completed those requirements.

GC 8.02.04.10 Interest for Negotiations and Claims

- .01 Except as hereinafter provided, where a notice of negotiation, notice of intent to claim and the subsequent claims are submitted in accordance with the time limits or procedure or both described by subsection GC 3.13, Claims, Negotiations, Mediation, the Owner shall pay the Contractor the Rate of Interest on the amount of the negotiated price for that part of the Work or on the amount of the settled claim. Such interest shall not commence until 30 Days after the satisfactory completion of that part of the Work.
- .02 Where the Contractor fails to give notice of a claim within the time limit prescribed by subsection GC 3.13, Claims, Negotiations, Mediation, interest shall not be paid.
- .03 Where a Contractor fails to comply with the 30 Day time limit and the procedures prescribed in clause GC 3.13.03.03 for submission of claims, interest shall not be paid for the delay period.

GC 8.02.04.11 Owner's Set-Off

- .01 Pursuant to the Construction Act, the Owner may retain from monies owing to the Contractor under this Contract an amount sufficient to cover any outstanding or disputed liabilities, including the cost to remedy deficiencies, the reduction in value of substandard portions of the Work, claims for damages by third parties that have not been determined in writing by the Contractor's insurer, undetermined claims by the Owner, and any assessment due the Workplace Safety and Insurance Board.
- .02 Under these circumstances the Owner will give the Contractor appropriate notice of such action.

GC 8.02.04.12 Delay in Payment

- .01 The Owner shall not be deemed to be in default of the Contract provided any delay in payment does not exceed the due dates as defined in clause GC 8.02.04.09.01.

GC 8.02.05 Payment on a Time and Material Basis

GC 8.02.05.01 Definitions

- .01 For the purpose of clause GC 8.02.05 the following definitions apply:

Cost of Labour means the amount of wages, salary, travel, travel time, food, lodging, or similar items and Payroll Burden paid or incurred directly by the Contractor to or in respect of labour and supervision actively and necessarily engaged on the Work based on the recorded time and hourly rates of pay for such labour and supervision but shall not include any payment or costs incurred for general supervision, administration, and management time spent on the entire Work or any wages, salary, or Payroll Burden for which the Contractor is compensated by any payment made by the Owner for Equipment.

Cost of Material means the cost of Material purchased or supplied from stock and valued at current market prices for the purpose of carrying out Extra Work by the Contractor or by others, when such arrangements have been made by the Contractor for completing the Work, as shown by itemized invoices.

Operated Rented Equipment means Rented Equipment for which an operator is provided by the supplier of the Equipment and for which the rent or lease includes the cost of the operator.

Payroll Burden means the payments in respect of workplace insurance, vacation pay, employment insurance, public liability and property damage insurance, sickness and accident insurance, pension fund, and such other welfare and benefit payments forming part of the Contractor's normal labour costs.

Rented Equipment means Equipment that is rented or leased for the special purpose of Work on a Time and Material Basis from a person, firm, or corporation that is not an associate of the lessee as the word "associate" is defined by the Securities Act, R.S.O. 1990, c.S.5, as amended, and is approved by the Contract Administrator.

Road Work means the preparation, construction, finishing, and construction maintenance of roads, streets, Highways, and parking lots and includes all work incidentals thereto other than Work on structures.

Sewer and Watermain Work means the preparation, construction, finishing, and construction maintenance of sewer systems and watermain systems, and includes all work incidental thereto other than Work on structures.

Standby Time means any period of time that is not considered Working Time and which together with the Working Time does not exceed 10 hours in any one Working Day and during which time a unit of Equipment cannot practically be used on other Work but must remain on the site in order to continue with its assigned task and during which time the unit is in fully operable condition.

Structure Work means the construction, reconstruction, repair, alteration, remodelling, renovation, or demolition of any bridge, building, tunnel, or retaining wall and includes the preparation for and the laying of the foundation of any bridge, building, tunnel, or retaining wall and the installation of Equipment and appurtenances incidental thereto.

The 127 Rate means the rate for a unit of Equipment as listed in OPSS.PROV 127, Schedule of Rental Rates for Construction Equipment, Including Model and Specification Reference, that is current at the time the work is carried out or for Equipment that is not so listed, the rate that has been calculated by the Owner, using the same principles as used in determining The 127 Rates.

Work on a Time and Material Basis means Changes in the Work, Extra Work, and Additional Work approved by the Contract Administrator for payment on a Time and Material basis. The Work on a Time and Material Basis shall be subject to all the terms, conditions, Standard Specifications and provisions of the Contract.

Working Time means each period of time during which a unit of Equipment is actively and of necessity engaged on a specific operation and the first 2 hours of each immediately following period during which the unit is not so engaged but during which the operation is otherwise proceeding and during which time the unit cannot practically be transferred to other Work but must remain on the site in order to continue with its assigned tasks and during which time the unit is in a fully operable condition.

GC 8.02.05.02 Daily Work Records

- .01 Daily Work Records, prepared as the case may be by either the Contractor's representative or the Contract Administrator reporting the labour and Equipment employed and the Material used on each Time and Material project, should be reconciled and signed each Day by both the Contractor's representative and the Contract Administrator. If it is not possible to reconcile the Daily Work Records, then the Contractor shall submit the un-reconciled Daily Work Records with its claim, whereby the resolution of the dispute about the Daily Work Records shall not be resolved until there is a resolution of the claim.

GC 8.02.05.03 Payment for Work

- .01 Payment as herein provided shall be full compensation for all labour, Equipment, and Material to do the Work on a Time and Material Basis except where there is agreement to the contrary prior to the commencement of the Work on a Time and Material Basis. The payment adjustments on a Time and Material basis shall apply to each individual Change Order authorized by the Contract Administrator.

GC 8.02.05.04 Payment for Labour

- .01 The Owner shall pay the Contractor for labour employed on each Time and Material project at 135% of the Cost of Labour up to \$3,500, then at 120% of any portion of the Cost of Labour in excess of \$3,500.
- .02 The Owner shall make payment in respect of Payroll Burden for Work on a Time and Material Basis at the Contractor's actual cost of Payroll Burden.
- .03 At the Owner's discretion, an audit may be conducted in which case the actual Payroll Burden so determined shall be applied to all Time and Material work on the Contract.

GC 8.02.05.05 Payment for Material

- .01 The Owner shall pay the Contractor for Material used on each Time and Material project at 120% of the Cost of the Material up to \$3,500, then at 115% of any portion of the Cost of Material in excess of \$3,500.

GC 8.02.05.06 Payment for Equipment

GC 8.02.05.06.01 Working Time

- .01 The Owner shall pay the Contractor for the Working Time of all Equipment, other than Rented Equipment and Operated Rented Equipment, used on the Work on a Time and Material basis at The 127 Rates with a cost adjustment as follows:
 - a) Cost \$12,000 or less - no adjustment;
 - b) Cost greater than \$12,000 but not exceeding \$24,000 - payment \$12,000 plus 90% of the portion in excess of \$12,000; and
 - c) Cost greater than \$24,000 - \$22,800 plus 80% of the portion in excess of \$24,000.
- .02 The Owner shall pay the Contractor for the Working Time of Rented Equipment used on the Work on a Time and Material Basis at 110% of the invoice price approved by the Contract Administrator up to a maximum of 110% of the 127 Rate. This constraint shall be waived when the Contract Administrator approves the invoice price prior to the use of the Rented Equipment.
- .03 The Owner shall pay the Contractor for the Working Time of Operated Rented Equipment used on the Work on a Time and Material Basis at 110% of the Operated Rented Equipment invoice price approved by the Contract Administrator prior to the use of the Equipment on the Work on a Time and Material Basis.

GC 8.02.05.06.02 Standby Time

- .01 The Owner shall pay the Contractor for Standby Time of Equipment at 35% of The 127 Rate or 35% of the invoice price whichever is appropriate. The Owner shall pay reasonable costs for Rented Equipment where this is necessarily retained in the Working Area for extended periods agreed to by

the Contract Administrator. This shall include Rented Equipment intended for use on other work, but has been idled due to the circumstances giving rise to the Work on a Time and Material Basis.

- .02 In addition, the Owner shall include the Cost of Labour of operators or associated labourers who cannot be otherwise employed during the Standby Time or during the period of idleness caused by the circumstances giving rise to the Work on a Time and Material Basis.
- .03 The Contract Administrator may require Rented Equipment idled by the circumstances giving rise to the Work on Time and Material Basis to be returned to the lessor until the Work requiring the Equipment can be resumed. The Owner shall pay such costs as a result from such return.
- .04 When Equipment is transported, solely for the purpose of the Work on a Time and Material Basis, to or from the Working Area on a Time and Material basis, payment shall be made by the Owner only in respect of the transporting units. When Equipment is moved under its own power it shall be deemed to be working. The method of moving Equipment and the rates shall be subject to the approval of the Contract Administrator.

GC 8.02.05.07 Payment for Hand Tools

- .01 Notwithstanding any other provision of this Section, no payment shall be made to the Contractor for or in respect of Hand Tools or Equipment that are tools of the trade.

GC 8.02.05.08 Payment for Work by Subcontractors

- .01 Where the Contractor arranges for Work on a Time and Material Basis, or a part of it, to be performed by Subcontractors on a Time and Material basis and has received approval prior to the commencement of such Work, in accordance with the requirements of subsection GC 3.09, Subcontracting by the Contractor, the Owner shall pay the cost of Work on a Time and Material Basis by the Subcontractor calculated as if the Contractor had done the Work on a Time and Material Basis, plus a markup calculated on the following basis:
 - a) 20% of the first \$3,500; plus
 - b) 15% of the amount from \$3,500 to \$12,000; plus
 - c) 5% of the amount in excess of \$12,000.
- .02 No further markup shall be applied regardless of the extent to which the work is assigned or sublet to others. If Work is assigned or sublet to an associate, as defined by the Securities Act, no markup whatsoever shall be applied.

GC 8.02.05.09 Submission of Invoices

- .01 At the start of the Work on a Time and Material Basis, the Contractor shall provide the applicable labour and Equipment rates not already submitted to the Contract Administrator during the course of such Work.
- .02 Separate summaries shall be completed by the Contractor. Each summary shall include the Change Directive or Change Order number and covering dates of the Work and shall itemize separately the labour, Materials, and Equipment. Invoices for Materials, Rented Equipment, and other charges incurred by the Contractor on the Work on a Time and Material Basis shall be included with each summary.

- .03 Each month the Contract Administrator shall include with the monthly progress payment, the costs of the Work on a Time and Material Basis incurred during the preceding month all in accordance with the contract administrative procedures and the Contractor's invoice of the Work on a Time and Material Basis.
- .04 The final summary as per clause 8.02.05.09.02 shall be submitted by the Contractor within 60 Days after the completion of the Work on a Time and Material Basis.

GC 8.02.05.10 Payment Other Than on a Time and Material Basis

- .01 Clause GC 8.02.05 does not preclude the option of the Contract Administrator and the Contractor negotiating a Lump Sum Item or unit price payment for Change in the Work, Extra Work, and Additional Work.

GC 8.02.05.11 Payment Inclusions

- .01 Except where there is agreement in writing to the contrary, the compensation, as herein provided, shall be accepted by the Contractor as compensation in full for profit and all costs and expenses arising out of the Work, including all cost of general supervision, administration, and management time spent on the Work, and no other payment or allowance shall be made in respect of such Work.

GC 8.02.06 Final Acceptance Certificate

- .01 After the acceptance of the Work or, where applicable, after the Warranty Period has expired, the Contract Administrator shall issue the Final Acceptance Certificate. The Final Acceptance Certificate shall not be issued until all known deficiencies have been adjusted or corrected, as the case may be, and the Contractor has discharged all obligations under the Contract.
- .02 Any remaining amount of security shall be released upon Final Acceptance of the Contract.

GC 8.02.07 Records

- .01 The Contractor shall maintain and keep accurate Records relating to the Work, Changes in the Work, Extra Work, Additional Work and claims arising therefrom. Such Records shall be of sufficient detail to support the total cost of the Work, Changes in the Work, Extra Work, Additional Work and claims arising therefrom. The Contractor shall preserve all such original Records until 12 months after the Final Acceptance Certificate is issued or until all claims have been settled, whichever is longer. The Contractor shall require that Subcontractors employed by the Contractor preserve all original Records pertaining to the Work, Changes in the Work, Extra Work, Additional Work and claims arising therefrom for a similar period of time.
- .02 The Owner may inspect and audit the Contractor's Records relating to the Work, Changes in the Work, Extra Work, and Additional Work at any time during the period of the Contract. The Contractor shall supply certified copies of any part of its Records required, whenever requested by the Owner.

GC 8.02.08 Taxes

- .01 Where a change in Canadian Federal or Provincial taxes occurs after the date of tender closing for this Contract, and this change could not have been anticipated at the time of Tender, the Owner shall increase or decrease Contract payments to account for the exact amount of tax change involved.

- .02 Claims for compensation for additional tax cost shall be submitted by the Contractor to the Contract Administrator on forms provided by the Contract Administrator to the Contractor. Such claims for additional tax costs shall be submitted not less than 30 Days after the date of Final Acceptance.
- .03 Where the Contractor benefits from a change in Canadian Federal or Provincial taxes, the Contractor shall submit to the Contract Administrator on forms provided by the Contract Administrator, a statement of such benefits. This statement shall be submitted not later than 30 Days after Final Acceptance.
- .04 Changes in Canadian Federal or Provincial taxes that impact upon commodities, which when left in place form part of the finished Work, or the provision of services, where such services form part of the Work and where the manufacture or supply of such commodities or the provision of such services is carried out by the Contractor or a Subcontractor, are subject to a claim or benefit as detailed above. Services in the latter context means the supply and operation of Equipment, the provision of labour, and the supply of commodities that do not form part of the Work.
- .05 The Contractor shall add the Harmonized Sales Tax (HST) to all invoices.

GC 8.02.09 Liquidated Damages

- .01 When liquidated damages are specified in the Contract and the Contractor fails to complete the Work in accordance with the Contract, the Contractor shall pay such amounts as are specified in the Contract Documents.

C.1 OPSS.MUNI 100 GENERAL CONDITIONS OF CONTRACT

Please note that the November 2019 edition of the Ontario Provincial Standards for Roads and Public Works – General Conditions of Contract (OPSS.MUNI 100 November 2019) are deemed to form part of this document.

A copy can be obtained by contacting the Contract Administrator or by visiting the Ontario Provincial Standards website: www.raqsa.mto.gov.on.ca.

C.2 SUPPLEMENTAL GENERAL CONDITIONS

C.2.1 General Conditions

The words General Conditions in this Contract shall mean the Ontario Provincial Standards for Roads and Public Works - General Conditions of Contract, dated November 2019 (OPSS.MUNI 100). All requirements of these General Conditions shall apply except as amended herein.

If there is any conflict between the General Conditions of Contract and the Supplemental General Conditions, the Supplemental General Conditions shall take precedence.

C.2.2 Designation of Parties

Where the words "Department", "Minister", "Ministry", "Legislature", "Town", "Corporation" or any other words of similar intent are used in the General Conditions, they shall be understood as meaning "Owner".

Where the words "Engineer", "Authority" or "Contract Administrator" are used in this Contract they shall be understood as meaning R.J. Burnside & Associates Limited, or any other delegate designated by the Owner.

C.2.3 Amendments to General Conditions

C.2.3.1 Modify "Major Item" definition in GC 1.04 as follows:

Subsection a), replace "\$100,000" with "\$500,000".

Subsection b), replace "5%" with "15%".

C.2.3.2 GC 2.01.01

a) shall be deleted and replaced with:

a) The Contractor's attention is drawn to the presence of underground utilities, which may affect the work. The locations indicated on the Contract Drawings represent, to the best of the Owner's knowledge, the approximate location of such utilities. The Contractor shall be responsible for obtaining all utility stake outs as per GC 7.01.09 as well as any inspection or test pits required and the inspection of any manholes, catch basins, sewers or vaults necessary to locate any utility.

C.2.3.3 Amend GC 2.01.02 (a) as follows:

Add "Geotechnical or" immediately prior to "Subsurface Report".

C.2.3.4 Replace GC 2.02.01 with:

- .01 In the event of any inconsistency or conflict in the contents of the following documents, such documents shall take precedence and govern in the following descending order from highest to lowest:
- a) Articles of Agreement
 - b) Addenda
 - c) Contract Drawings (except included standard drawings such as OPSDs)
 - d) Bid
 - e) General Requirements
 - f) Special Provisions
 - g) Standard Specifications
 - h) Supplemental General Conditions
 - i) OPSS.MUNI 100 General Conditions of Contract (Nov./2019)
 - j) Standard Drawings (e.g. OPSDs)
 - k) Working Drawings.

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

C.2.3.5 Amend GC 3.01.11 as follows:

The existing paragraph becomes .11 a) and the following is added:

- .11 b) The Contractor shall, at any time so required by the Contract Administrator, during construction or during the warranty period, make such openings to such extent through any part of the Work as the Contract Administrator may direct for inspection or testing purposes. Upon the completion of the inspections the Contractor shall forthwith make the work good again to the satisfaction of the Contract Administrator. Should the work so opened be found, in the opinion of the Contract Administrator, to be not in compliance with the Contract in any respect, the whole of the expense, including the cost of inspection, shall be borne by the Contractor; but if the work so opened up is found to be in compliance with the Contract, the said expense shall be borne by the Owner (unless the Contract Administrator was not properly notified prior to concealment of the work, in which case the cost will be borne solely by the Contractor).
- .11 c) Should the Contractor refuse to make such openings and reinstatements as ordered by the Contract Administrator, then the Contract Administrator may proceed with the work in any manner deemed appropriate in the Contract Administrator's opinion. The cost of such work shall be paid by the Contractor

or deducted by the Owner from any monies due to the Contractor.

C.2.3.6 Replace GC 3.02.06 with:

.06 Work related to the Working Drawings shall not proceed until the Working Drawings have been initialled or signed, and dated, by the Contract Administrator and marked as "Reviewed" or "Reviewed as Noted".

C.2.3.7 Add the following to GC 3.07 Delays:

.05 Extension(s) to Contract Time shall only be considered if, in the sole opinion of the Contract Administrator, the delay impacts the construction schedule's critical path.

C.2.3.8 Add the following to GC 3.0 Administration of the Contract:

GC 3.16 Site Meetings

.01 The Contractor's site superintendent shall attend regular construction progress meetings and special site meetings as required by the Contract Administrator. Minutes of these meetings, prepared and issued by the Contract Administrator, shall be deemed to be accurate records of these meetings in the absence of timely notice to the contrary.

C.2.3.9 Add the following to GC 4.01 Working Area:

.02 The Owner maintains a right of access to the Working Area for the purpose of performing the Owner's own work.

C.2.3.10 Amend GC 5.02.02 to include the following after "Contract":

Where the Contract Administrator requires documentary evidence substantiating that materials supplied by the Contractor comply with the terms of the Contract, such evidence must be provided by the Contractor in the form of a certified copy of a laboratory report from a recognized testing company or equivalent documentation acceptable to the Contract Administrator. The Contractor shall pay for the entire cost of such testing including sampling and shipping of samples, at no additional cost to the Owner.

C.2.3.11 Add the following to GC 7.01.01 Site Visit:

.02 The Owner may arrange for test pit excavations and/or informational site visit(s) during the tender period in order to provide prospective Bidders with an opportunity to gather additional information regarding soil/groundwater conditions

and/or particular issues and concerns impacting upon the staging/completion of the Work. All prospective Bidders are encouraged to avail themselves of this resource. The Contractor warrants that sufficient site information gathering has been undertaken and factored into the Bid, either through attendance at the site visit(s) arranged for by the Owner (if any), or through the Contractor's own investigations undertaken outside of the Owner-organized site visits.

C.2.3.12 Add the following to GC 7.01.07.01:

The Contractor's schedule is subject to review and acceptance by the Owner and the Contract Administrator. The Contractor shall complete the Work in accordance with the accepted schedule and ultimately by the scheduled date for substantial performance as required by the Contract.

C.2.3.13 Add the following to GC 7.01.08.01:

Furthermore, the Contractor is required to carry out a review of the Contract Documents for errors and inconsistencies, applying a standard of care expected of an experienced and prudent contractor, and report the findings of said review to the Contract Administrator.

C.2.3.14 Add the following to GC 7.06.01:

In order to mitigate traffic hazards, materials and/or equipment shall not be stored within 3 m of the travelled portion of any roadway unless proper protection measures are in place. Excavations within 3 m of the travelled roadway shall be either backfilled or protected by proper measures after hours and on non-working days.

C.2.3.15 Add the following to GC 7.06 Maintaining Roads and Detours:

.12 Prior to moving off site before each weekend, Statutory Holiday, or any non-working day(s), the Contractor shall ensure that all required traffic and pedestrian control measures are in place. Roadways/sidewalks accessible to the public shall be graded to a smooth surface with dust control (water/calcium chloride) applied where/when necessary. The Contractor shall appoint a designated representative to regularly check the above measures during the Contractor's absence from the site and to remedy any issues which may arise in a timely manner. No additional payment will be made for this work.

C.2.3.16 Amend GC 7.10.04 as follows:

Change "7 Days" to "15 Days".

C.2.3.17 Replace GC 7.14.01 Limitations of Operations with the following:

- .01 The Contractor shall not carry out operations under the Contract on Saturdays, Sundays, Statutory Holidays, or at night without permission, in writing, from the Contract Administrator, with the exception of urgent Work required to maintain the Working Area in a safe and satisfactory condition. In all cases and at all times, the Contractor is required to monitor and maintain the Working Area in a safe and satisfactory manner and to respond to issues in a timely manner, whether or not direction from the Contract Administrator is given in this regard.

C.2.3.18 Add the following to GC 7.16 Warranty:

- .04 If the Contract Administrator notifies the Contractor in writing of defects or deficiencies prior to expiration of the Warranty Period, the Contractor shall remedy such defects or deficiencies, notwithstanding that the rectification work may commence after or extend beyond the end of the Warranty Period.

C.2.3.19 Add the following to GC 7.0 Contractor's Responsibilities and Control of the Work:

GC 7.19 Standard of Care

- .01 In performing this Contract the Contractor shall exercise a standard of care, skill, judgement and diligence that would normally be exercised by an experienced, skilled and prudent contractor supplying similar services for similar projects. The Contractor acknowledges and agrees that, throughout this Contract, the Contractor's obligations, duties and responsibilities shall be interpreted in accordance with this standard. The Contractor shall exercise the same standard of care, skill, judgement and diligence in respect of any products, subcontractors, suppliers, personnel or procedures which it may recommend to the Owner or employ on the Project.
- .02 The Contractor represents, covenants and warrants to the Owner that:
 - a) The personnel it assigns to the Project are appropriately experienced;
 - b) It has sufficient staff of qualified and competent personnel to replace its designated supervisor and project manager, subject to the Owner's approval, in the event of death, incapacity, removal or resignation; and

- c) There are no pending, threatened or anticipated claims that would have a material effect on the financial ability of the Contractor to perform the Work under the Contract.
- .03 The Contractor shall perform the Work so as to avoid disturbing the occupants of the place of the Work and any adjacent structures or the public in general, and shall respect and comply with local regulations and requirements regarding permitted work hours, noise levels and work conditions. The Contractor, without in any way limiting its responsibilities under this Contract, shall take all reasonable steps to avoid interference with fire exits, site access and egress, continuity of electric power and all other utilities, to suppress dust and noise, to avoid conditions likely to propagate mould or fungus of any kind and shall take all other steps reasonably necessary to promote and maintain the safety and comfort of the occupants of the place of the Work and any adjacent structures and the public in general, and/or to maintain access to and the operation of the same. Without the Owner's prior approval, the Contractor shall not permit any worker or subcontractors to use any existing facilities including, without limitation, elevators, washrooms, entrances and parking areas other than those designed by the Owner.

C.2.3.20 Add the following to GC 8.02.04.05.01 b):

...and the value of any deficiencies, all as estimated solely by the Contract Administrator. The Owner is entitled to retain a special holdback, representing approximately 200% of the estimated value of deficiencies and outstanding or incomplete work (which is not outstanding or incomplete for reasons beyond control of the Contractor). This 200% holdback can be tracked either as a single aggregate special holdback, or through unpaid or partially paid line items in the Schedule of Unit Prices, or some combination of the two as determined by the Contract Administrator. Furthermore, the full 200% aggregate special holdback will be released in two stages, as follows:

1. First release upon completion of at least half of the outstanding/incomplete Work and deficiencies.
2. Second and Final Release upon completion of all outstanding/incomplete Work and deficiencies.

The Contract Administrator may choose to exercise discretion with respect to any potential variance from the process and stages outlined above.

C.2.3.21 Add the following to GC 8.02.04.05.04:

...and the submission by the Contractor of the following documents:

- a) a release by the Contractor in a form satisfactory to the Contract Administrator releasing the Owner from all further claims relating to the Contract, qualified by stated exceptions such as outstanding work or matters arising out of subsection GC 3.13, Claims, Negotiations, Mediation;
- b) a statutory declaration in a form satisfactory to the Contract Administrator that all liabilities incurred by the Contractor and the Contractor's Subcontractors in carrying out the Contract have been discharged except for statutory holdbacks properly retained;
- c) a satisfactory Certificate of Clearance from the Workplace Safety and Insurance Board; and
- d) proof of publication of the Certificate of Substantial Performance.

C.2.3.22 Add the following to GC 8.02.04.05 Substantial Performance Payment and Substantial Performance Statutory Holdback Release Payment Certificates:

- .06 The Owner shall retain ten percent (10%), representing statutory holdback, of all payments due as shown on Substantial Performance Progress Payment in accordance with GC 8.02.04.01.02 e).

This Substantial Performance Statutory Holdback Release Payment Certificate referred to in GC 8.02.04.05.03 shall only relate to eighty percent (80%) of the statutory holdback (i.e., eight percent (8%) of the value of completed work) in respect of Work performed up to the date of Substantial Performance ("Initial Part of the Statutory Holdback") with the remaining twenty percent (20%) of such statutory holdback (i.e. two percent (2%) of the value of completed work) being referred to as the "Remaining Part of the Statutory Holdback". In addition to the other conditions referred to in GC 8.02.03.05.03, prior to payment of the Initial Part of the Statutory Holdback becoming due, the Contractor shall also provide satisfactory proof to the Owner to the effect that there are no liens, garnishees, attachments, charges or monies due in respect of, or relating to, the Work or Contract.

The Remaining Part of the Statutory Holdback shall be retained by the Owner and shall not be due and payable to the Contractor until the expiration of the warranty period and satisfactory rectification of all identified deficiencies and required

completion of incomplete Work. At the Contractor's option, the Remaining Part of the Statutory Holdback may be released earlier if the Contractor provides an irrevocable Letter of Credit, in a form satisfactory to the Owner, equal to the amount of the Remaining Part of the Statutory Holdback, as a substitute for the Remaining Part of the Statutory Holdback, to be retained until the expiration of the warranty period and satisfactory rectification of all identified deficiencies and required completion of incomplete Work.

C.2.3.23 Add the following to GC8.02.05.08 Payment for Work by Subcontractors:

.03 Where the Contractor arranges for additional work to be performed by a Subcontractor based upon a pre-approved lump sum price, the Owner will pay the Contractor the Subcontractor's lump sum price plus a mark-up calculated on the following basis:

- a) ten percent (10%) of the first \$5,000; plus
- b) five percent (5%) of the amount in excess of \$5,000.

C.2.3.24 Replace GC 8.02.09.01 Liquidated Damages with the following:

.01 It is agreed by the parties to the Contract that if all the Work called for under the Contract is not substantially performed within the number of working days or calendar date set forth elsewhere in the Contract, as extended in accordance with GC 3.07 or elsewhere in the Contract, the Owner will sustain a loss or damage. The parties hereto agree that the Contractor will pay to the Owner the sum of **[One Thousand Five Hundred Dollars (\$1,500.00) + HST]** as liquidated damages for each and every calendar day's delay in finishing the work in excess of the number of working days or calendar date prescribed. Liquidated damages are not to be construed as a penalty but as a reasonable genuine pre-estimate of the damages expected to be incurred by the Owner as a result of late completion.

C.2.3.24 Add the following to GC 8.02 Payment:

GC 8.02.10 Deemed Acceptance

.01 No payment by the Owner under the Contract or use or review of the Work by the Owner shall be deemed acceptance of work which is not in accordance with the Contract.

C.2.3.25 Add the following to GC 8.02 Payment:

GC 8.02.11 Liens

.01 If any liens arising from the performance of the Work are

registered against the Working Area or Project, the Contractor shall vacate or discharge such liens within thirty (30) days.



BURNSIDE

Document D

General Requirements

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D.1 GENERAL REQUIREMENTS

D.1.1 Contract Time

Per the DFO Letter of Advice, the in-water Work under this Contract MUST be completed outside of the March 15 to July 15 timing window (inclusive) and scheduled to avoid wet period which may increase erosion and sedimentation.

If the Contractor chooses to work in poor conditions, payment for additional costs resulting from this work will be at the discretion of the Owner and the Contract Administrator.

The Contractor must adhere to their proposed start and completion dates (in accordance with section D.1.4), and failure to do so may be subject to liquidated damages at the discretion of the Contract Administrator.

Any proposed construction outside the proposed start and completion dates and/or is subject to approval by the Contract Administrator.

Preference will be given to Bids scheduled for 2020 construction; however, bids indicating construction in 2021 will also be considered.

The Work under this Contract shall be substantially performed by December 1 of the year construction is commenced (2020/2021). This completion date is contingent upon Acceptance occurring within three (3) weeks of the Bid Closing Time. The completion date will be adjusted accordingly should Acceptance occur beyond the three (3) week period following the Bid Closing Time. Weather conditions will not constitute a basis for extension of the completion date unless, in the sole opinion of the Contract Administrator, conditions have varied substantially from what is reasonably considered normal for the season(s) (i.e., in the event of abnormal inclement weather).

D.1.2 Insurance Requirements

The successful Bidder is required to provide certificates/proof of insurance for all mandatory coverage required by the General Conditions of Contract.

In addition, in accordance with GC 6.03.01 General, the Contractor shall provide all risks property insurance as per GC 6.03.05.01.

The insurance policies shall name the following parties as additionally insured:

- **Municipality of Brockton**
- **R.J. Burnside & Associates Limited**

and shall insure the Contractor and the above named in the same manner and to the same extent as if a separate policy had been issued to each.

In addition to the above requirements, if blasting operations are used in the Contract, the Contractor shall take out and keep in force an insurance policy providing coverage for blasting operations to the same limits as set out in the General Conditions.

Contractors are hereby specifically notified that any loss or damage to the Work caused by the action of the elements including rain storms, wind storms, floods, etc., shall be sustained and borne by the Contractor at his own expense. Any material and additional work required to make good any loss or damage to work previously completed shall be borne at the cost of the Contractor and no claims for extra payment will be considered.

D.1.3 OPSS & OPSD

Relevant Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) in effect at the Official Closing Time, which are related to, or integral to the Work, apply to this Contract unless otherwise noted. OPSS "Municipal Oriented Specifications" will apply unless this project has been specifically designated as an MTO type "Provincial Oriented" project.

D.1.4 Schedule of Work

Upon being awarded the Contract, the Contractor shall forthwith supply to the Contract Administrator for approval a copy of a detailed planned Schedule of Work, showing clearly that the Work will be completed within the stipulated time.

D.1.5 Contract Administrator's Field Office

A separate field office for the Contract Administrator **will not** be required for this Contract.

D.1.6 Winter Work

No additional payment will be considered for the protection of the Work as required by the relevant OPSS for cold weather or winter conditions. The Contractor is encouraged to schedule his work to avoid placing concrete, asphalt or other temperature sensitive materials in cold weather and to avoid freezing of granular material during the operations employing these materials. Where the Contractor's schedule shows work involving temperature sensitive materials during a time frame where cold weather conditions may potentially or can be reasonably expected to occur, the price in the Schedule of Unit Prices shall be deemed to include the necessary cold weather provisions and no additional costs will be considered.

D.1.7 Provision for Traffic

All references in the Contract to the Manual of Uniform Traffic Control Devices (MUTCD), including all Parts and Divisions thereof, or MTO Traffic Control Manual for Roadway Work Operations, or Traffic Control Manual for Roadway Operations Field Editions are hereby deleted and replaced by the following books of the Ontario Traffic Manual (OTM):

- Book 5 – Regulatory Signs
- Book 6 – Warning Signs
- Book 7 – Temporary Conditions (& Temporary Conditions Field Edition)
- Book 11 – Pavement, Hazard and Delineation Markings
- Book 12 – Traffic Signals

Any reference in the Contract to OTM shall be deemed to be the Ontario Traffic Manual (Books 5, 6, 7, 11 and 12).

The Contractor shall comply with the applicable requirements of the above Ontario Traffic Control Manual book(s).

The Contractor shall be responsible for providing signing and traffic control in accordance with the Ontario Traffic Manual (OTM) and the OTM Book 7 Temporary Conditions - Field Edition.

Access shall be maintained at all times to any entrances within the limits of the Contract.

The Contractor is responsible for notifying any affected emergency agencies, transportation agencies, businesses, residents, etc., regarding access/traffic disruptions.

The Contractor shall provide a watchman or other suitable employee to inspect and maintain the signs, barricades and pedestrian ramps on a daily

basis as well as weekends and other times when the Contractor is not working.

The Contractor shall provide an adequate number of traffic control persons to direct traffic at any time during construction as required by the Contract Administrator.

If there is no separate payment item for this work, then the costs are deemed to be included in the Bid Price.

D.1.8 Dust and Mud Control

The Contractor will be responsible for dust control as deemed necessary by the Owner during construction by watering and calcium application as directed by the Contract Administrator. Clean-up of mud tracking off site shall similarly be the Contractor's responsibility.

D.1.9 Disposal of Materials

The Contractor shall dispose of all waste and/or surplus materials in a disposal area selected by the Contractor in accordance with OPSS 180. The site shall be located off the Municipal right-of-way. The Contractor shall be responsible for all work involved in disposing the waste or excess material including trucking, access roads, levelling, and all haulage and/or dumping fees applicable.

The Contractor shall identify the disposal area and provide a release from the disposal area owner upon completion of the work.

Where any materials are designated to be salvaged, the Contractor can consult the appropriate special provisions for direction.

D.1.10 Environmental Requirements

It is intended that the Work proposed be executed in such a manner which, to the fullest possible extent, minimizes any adverse effect on the cultural and natural environment of the project area. The environmental conditions of the Contract stated herein must be complied with in all respects. It is a responsibility of the Contractor that all personnel be sufficiently instructed so that the Work is carried out in a manner consistent with minimizing environmental impact. The Contractor is expected to undertake the Work in such a manner that allows for the local area to be restored. It will also be required that the Contractor employ all reasonable precautions to minimize the impact of construction on the upstream and downstream environments.

Restoration shall not be undertaken as a final project task but shall be initiated as soon as excavation or backfilling/compaction activities have been completed.

Permits and Authorization

The requirements set out in any permits issued for the project shall form part of this Contract and shall be strictly adhered to.

Any deviation from the prescribed requirements and/or methods contained in or implied by the permits as issued and this Contract will result in a work stoppage until such time as the Contractor produces suitably approved or revised permits acknowledging the proposed deviation. All costs associated with revised work permits will be solely the responsibility of the Contractor.

Refueling Areas

The Contractor shall undertake a detailed review of the proposed route of construction to plan access routes and fuelling areas. Refuelling and maintenance of equipment shall not be undertaken in or adjacent to a watercourse. Suitable fuelling and maintenance areas shall be established away from the waterway and all maintenance and fuelling conducted in these areas. The locations of such areas are subject to review by the Contract Administrator. Procedures for the interception and rapid cleanup and disposal of spillages that do occur shall be submitted to the Contract Administrator for review prior to starting work. All materials required for cleanup of fuel spillages shall be maintained readily accessible on site.

The exception of these fuelling locations requirements shall be generators, cranes, backhoes or shovels which may be fuelled at other than the designated fuelling areas. However, no fuelling of backhoes shall be carried out within 30 m of any watercourse.

Any spills apt to cause impairment to the natural environment must be immediately reported by the Contractor to the Contract Administrator and to the local Ministry of the Environment District Office.

Sediment Basins & Settling Ponds

The Contractor shall take all precautions so as not to affect the quality of water as it passes through the area and to prevent eroded material from construction operations from entering streams, watercourses or private property. Appropriate sediment retention measures shall be incorporated in the Work to ensure that sediment discharge to watercourses adjacent to the working area is minimized.

The Contractor shall provide rock check dams and straw bale flow checks and any other sediment or erosion control devices either indicated on the Contract Drawings, detailed in the Special Provisions, as specified by the Permit Issuing Authorities, or as directed by the Contract Administrator.

Sediment traps or similar sediment protection shall be constructed for receiving the discharge from dewatering operations. Temporary sediment traps shall be constructed in advance of any work where eroded materials could enter the watercourse. The overflow rate from settling or sedimentation ponds shall be such that the solids carryover is minimal. The Contractor shall incorporate filter berms or sandbags, as required, to retard and filter run-off prior to discharge to the watercourse.

In general, concentrated run-off from un-stabilized areas shall be intercepted and diverted to stabilized areas under sheet flow conditions. Any water pumped for the purposes of trench or structure excavation or dewatering shall be directed to a settling basin or other device to reduce suspended solids content prior to discharge to a storm sewer, drainage ditch or natural watercourse.

The Contractor shall clean and maintain the sediment traps as required. The traps shall be cleaned when approximately fifty percent (50%) filled with sediment and as directed by the Contract Administrator. The sediment traps shall be maintained until embankment slopes and ditches in the area are reinstated. The traps shall then be removed and the area restored to its original grade or as shown on the Contract Drawings.

The Contractor shall not permit any excavated materials or other material to be deposited in any watercourses except as indicated in the Contract Documents such as rip rap, river stone or clear stone.

The following is a partial list of precautionary measures the Contractor may elect to employ in order to execute the Work within the requirements noted above. NOTE: This listing shall not be taken to represent the full range of precautionary measures available to the Contractor.

1. The use of heavy construction machinery on the streambed and banks shall be avoided unless specifically approved.
2. Where the stream is relocated or diverted temporarily, such relocation or diversion should be done through dry construction. The channel of the new stream (including all slope protection) must be completed before the old stream is diverted into the new channel.

3. The disturbance of low vegetation cover should be avoided as much as possible; the disturbance of soil cover should be minimized and disturbed areas should be vegetated or otherwise protected from erosion as soon as possible.
4. Fill material and excavated materials should be located away from the watercourse and protected from erosion.
5. Any constriction of flow should be compatible with streambed material to prevent erosion or other damage caused by an increased velocity in flow. Stream flow must be maintained throughout the construction period so as not to interfere with fish migration and spawning or other downstream users.
6. Where water quality impairment is unavoidable, measures to protect downstream users must be taken.
7. Upon completion of the project, any temporary fill, culverts, refuse, etc. must be removed from the construction area and deposited in an approved disposal area away from the site.
8. The inlet and the outlet of any culverts should be protected against erosion.
9. All exposed areas should be redeemed or re-vegetated immediately after construction is completed.

Measurement for Payment

No direct measurement of quantities will be made for this work unless specifically noted in the Schedule of Unit Prices. The work will be administered as being part of the related environmental protection items or as part of the overall site work.

NOTE:

Fish Habitat Definition According To The Fisheries Act Of Canada

Fish habitat means "spawning ground and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes".

Dam Definition According To The Lakes And Rivers Improvement Act

Dam is "a dam or any work which forwards, holds back or diverts water".

D.1.11 Existing Conditions

The Contractor shall clean up and restore all disturbed areas to condition equal to or better than existing conditions using materials equal to or better than existing materials. This includes the removal and disposal of all layout materials, string lines, batter boards and other such materials.

The Contractor shall maintain flow in all existing sewers, drains, ditches, watercourses, house and inlet connections, as applicable.

Sanitary sewers shall not be used for the discharge of water from excavations or dewatering operations.

D.1.12 Damage by Vehicles and Other Equipment

If at any time, in the opinion of the Contract Administrator, damage is being or is likely to be done to any highway or any improvement thereon, other than such portions as are part of the Work, by the Contractor's vehicles or other equipment, whether licensed or unlicensed, the Contractor shall, on the direction of the Contract Administrator and at the Contractor's own expense make changes in or substitutions for such vehicles or other equipment or shall alter loading or shall in some manner remove the cause of such damage to the satisfaction of the Contract Administrator.

D.1.13 Measurement and Payment

Unless otherwise noted in the Schedule of Unit Prices, no measurement of quantities will be made for the General Work and no direct payment will be made for any of the General Work. The cost of such work shall be deemed to be reasonably distributed within the overall cost of the Work.

Payment for payable items shall be based upon the lump sum or unit price bid, as listed in the Schedule of Unit Prices, using actual "as-constructed" quantities (or plan quantities) as determined by the Contract Administrator. In the event of conflict between the Schedule of Unit Prices and OPSS, the basis of payment indicated in the Schedule shall take precedence (as modified by "pay lines" or payment clauses indicated elsewhere in these documents, if applicable).

D.1.14 Dewatering

The Contractor shall dewater excavations/trenches, and maintain the groundwater level at least 0.5 m below the excavation bases, thereby

facilitating proper completion of the Work in reasonably dry, stable conditions.

D.1.15 Compaction

Unless otherwise noted, all granular materials shall be compacted to 100 percent (100%) SPMDD and all subsoil to 95 percent (95%) SPMDD.

D.1.16 Utilities

The Contractor's attention is drawn to the possible presence of underground utilities. The locations of such, if indicated on the drawings represent to the best of the Owner and Contract Administrator's knowledge, the approximate location of such utilities. The Contractor shall be responsible for all utility stakeouts as per GC7.01.16 as well as any inspection or test pits required and the inspection of any manholes, catchbasins, sewers or vaults necessary to locate any utility. The Contractor shall be wholly responsible for the accuracy of the information gathered by their own forces.

The work site may also be located directly adjacent to high voltage power transmission and telephone lines. The Contractor shall be aware of such lines at all times and shall utilize equipment and methodologies in the undertaking of the Work that do not constitute a hazard or safety violation under the Occupational Health and Safety Act.



Document E

Drawings and Specifications

Index to Document E – Drawings and Specifications

E.1 CONTRACT DRAWINGS 1

E.2 STANDARD SPECIFICATIONS 2

E.1 CONTRACT DRAWINGS

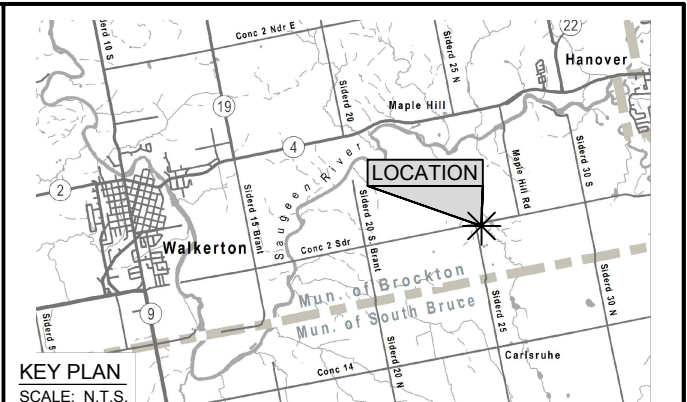
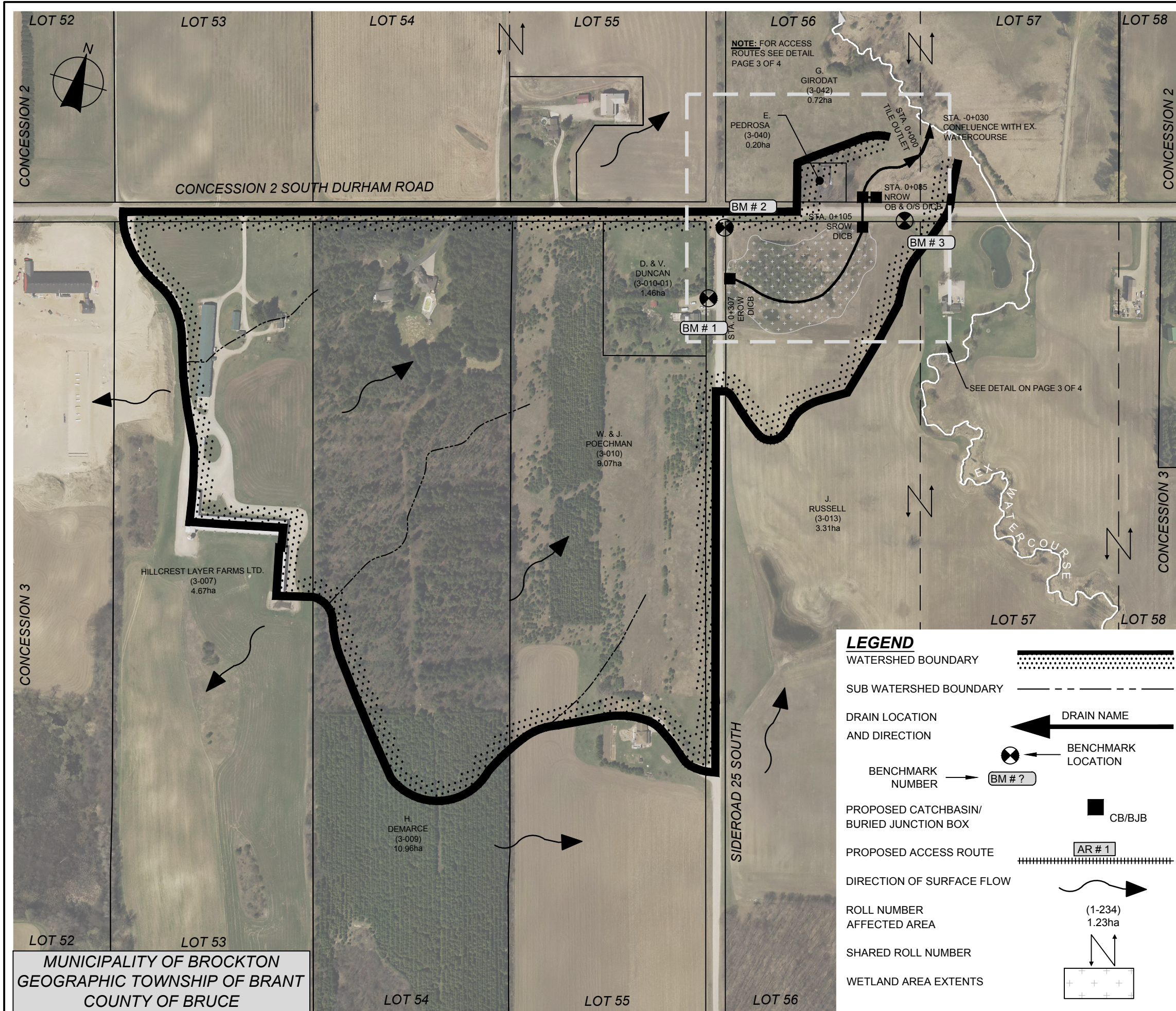
The Work required under this Contract shall be performed in strict accordance with the following drawings:

<u>Drawing No.</u>	<u>Drawing Title</u>
1 of 4	Watershed Plan
2 of 4	Profile
3 of 4	Details
4 of 4	Details (Cont.)
1 of 1	Catchbasin Details
1 of 1	Soil Test Pit Locations

These drawings are the Contract Drawings and form part of this Contract. Additional drawings showing details in accordance with which the Work is to be constructed may be furnished from time to time by the Contract Administrator, if found necessary, to supplement or supersede the drawings hereto attached. Such additional drawings shall thereupon become a part of this Contract. The Contract Drawings are complementary to the Contract Documents; any item or information found in one applies to both.


The Contractor shall be governed by the figured dimensions, as given on the drawings. The Contractor shall confirm all relevant dimensions and report any discrepancies to the Contract Administrator immediately.

Where required dimensions are not shown in figures, the Contractor shall obtain the said dimensions from the Contract Administrator before proceeding with the construction of the portion of the Work to which they refer. In every case, detailed drawings shall take precedence over general drawings. In no instance shall dimensions be scaled from drawings.



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 4. All property lines are approximate and for information purposes only.
- FOR REPORT**

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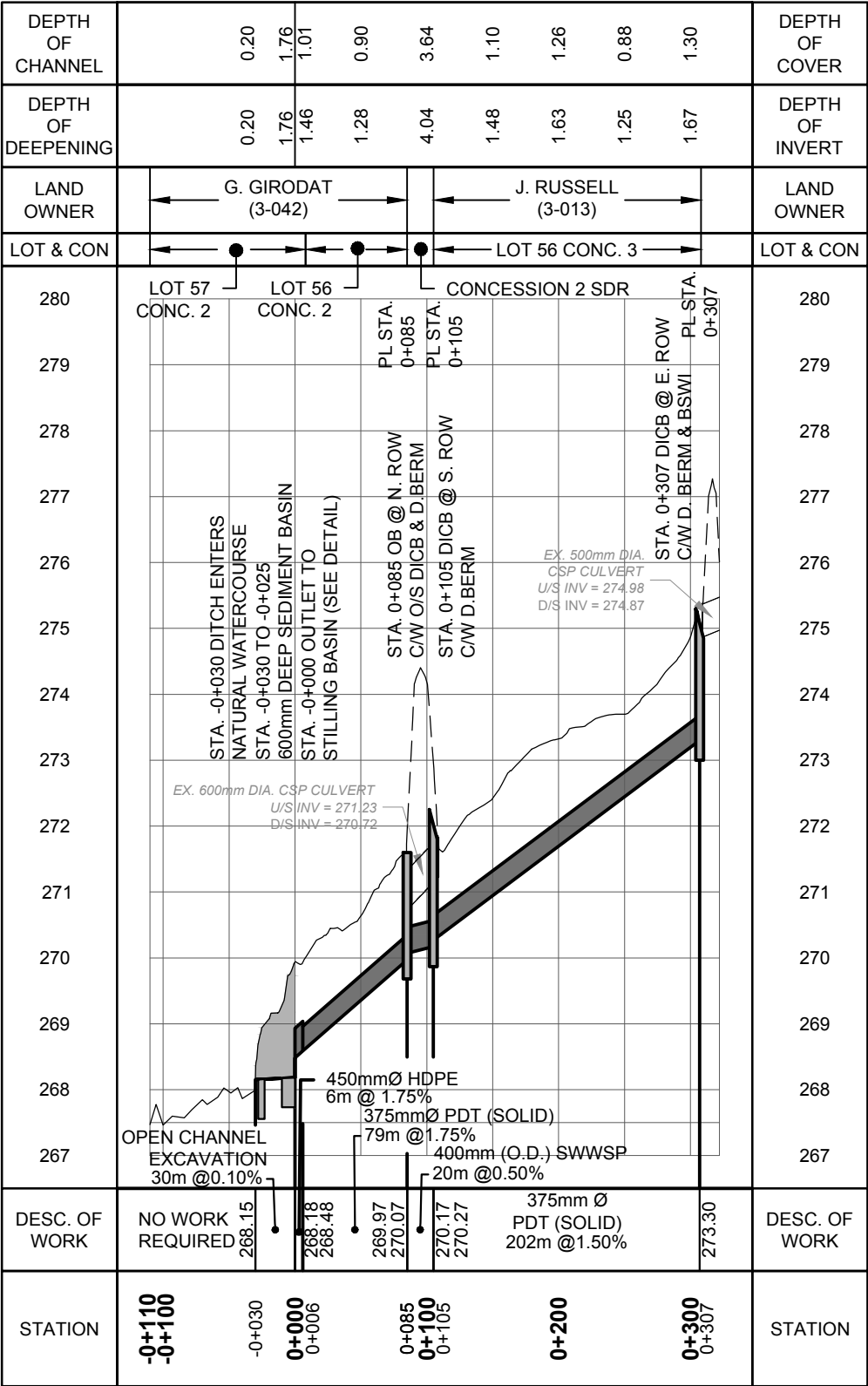
Drawing Title

RUSSELL MUNICIPAL DRAIN 2018

PLAN



Drawn	Checked	Date	Drawing No.
TK	EMD	2016/08/26	1 OF 4
Scale	Project No.		
1:4000	300038962		



PIPE TABLE						
PIPE MATERIAL	JOINING METHOD	DIAMETER (mm)	STATION		LENGTH (m)	NOTES
			FROM	TO		
PDT	SPLIT COUPLER	375	0+105	0+307	202	SINGLE WALL SOLID CORRUGATED HDPE (210 kPa) C/W NON-WOVEN GEOTEXTILE
SWWSP	WELDED	400	0+085	0+105	20	O.D. (6.35mm THICKNESS)
HDPE	SPLIT COUPLER	250	0+085	6m O/S E	6	DUAL-WALL SOLID HDPE (320 kPa)
PDT	SPLIT COUPLER	375	0+006	0+085	79	SINGLE WALL SOLID CORRUGATED HDPE (210 kPa) C/W NON-WOVEN GEOTEXTILE
HDPE	BELL & SPIGOT	450	0+000	0+006	6	DUAL-WALL HDPE (320 kPa)

PIPE NOTES:

- ALL PIPE AND PIPE WORKS SHALL CONFORM TO THE GENERAL SPECIFICATIONS.
- ALL CONCRETE DRAINAGE TILE (CDT) SHALL BE NON-REINFORCED 2000D RATED, OR APPROVED EQUAL.
- ALL HIGH DENSITY POLYETHYLENE (HDPE) PIPE SHALL BE DUAL-WALL, 320 kPa PIPE STIFFNESS, OR APPROVED EQUAL.
- ALL SMOOTH WALLED WELDED STEEL PIPE (SWWSP) USED IN JACK AND BORING INSTALLATIONS SHALL BE MEASURED ON OUTSIDE DIAMETER (O.D.) UNLESS OTHERWISE NOTED.
- ALL CORRUGATED STEEL PIPE (CSP) SHALL BE GALVANIZED AND CONFORM TO THE GENERAL SPECIFICATIONS.
- ALL PLASTIC DRAINAGE TILE (PDT) SHALL CONFORM TO THE GENERAL SPECIFICATIONS.
- ALL OUTLET PIPES SHALL BE CORRUGATED STEEL PIPE (CSP) OR HIGH DENSITY POLYETHYLENE (HDPE).
 - CSP OUTLET PIPES SHALL FIT AROUND THE LAST SECTION OF TILE WITH A MINIMUM OVERLAP LENGTH OF 450mm, COMPLETE WITH A GEO-TEXTILE WRAPPED CONNECTION.
 - HDPE OUTLET PIPES SHALL BE THE SAME DIAMETER AS THE LAST SECTION OF TILE, COMPLETE WITH A BELL CONNECTION TO FIT AROUND THE PIPE. THIS CONNECTION SHALL BE GEOTEXTILE WRAPPED.
 - ALL OUTLET PIPES SHALL HAVE A RODENT GRATE AND HAVE RIP-RAP PROTECTION.

STRUCTURE TABLE					
STATION	TYPE	SIZE (mm)	TOP/ LOW WALL ELEV.	GRATE	NOTES
0+307	DICB	600mm X 600mm	274.85	BIRDCAGE	C/W D. BERM & BSWI
0+105	DICB	600mm X 600mm	271.80	BIRDCAGE	C/W D. BERM
0+085	OB	600mm X 600mm	271.60	BIRDCAGE	C/W O/S DICB
O/S 0+085	DICB	600mm X 600mm	270.70	BIRDCAGE	C/W D.BERM, O/S 6m E

STRUCTURE NOTES:

- ANY VARIATION FROM THE ELEVATIONS AND DIMENSIONS OF THESE STRUCTURES MUST BE APPROVED BY THE ENGINEER.
- STRUCTURES NOT MANUFACTURED AS SPECIFIED MAY BE REJECTED FOR USE AND SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL ABOVE GRADE STRUCTURES SHALL HAVE A MINIMUM SUMP OF 300mm UNLESS OTHERWISE NOTED; BURIED STRUCTURES ARE NOT REQUIRED TO BE BENCHED.
- ALL ABOVE GRADE STRUCTURES SHALL HAVE BIRDCAGE GRATES TO SUIT AND RIP-RAP C/W GEOTEXTILE UNDERLAY FOR ONE METRE AROUND THE STRUCTURE, UNLESS INDICATED OTHERWISE IN THE DETAILED SPECIFICATIONS.
- ALL ABOVE GRADE STRUCTURES ARE TO HAVE POSTS AND MARKERS.
- ALL GRATES AND COVERS SHALL BE FASTENED TO THE STRUCTURE IN AN APPROVED MANNER.
- ALL STRUCTURES MUST HAVE PLUGGED INLETS IN THE SIDES NOT UTILIZED BY THE MUNICIPAL DRAIN TO ACCOMMODATE A 250mm DIAMETER HDPE PIPE SET 0.10m ABOVE THE OUTLET INVERT, UNLESS OTHERWISE NOTED. ALL PLUGGED INLETS MUST HAVE THEIR LOCATION IDENTIFIED ON THE INSIDE OF THE STRUCTURE.
- ALL CONNECTIONS TO STRUCTURES MUST BE MADE USING RIGID PIPE WHICH MUST SPAN FROM THE STRUCTURE TO UNDISTURBED NATIVE SOIL.
- WHERE 900mm X 1200mm STRUCTURES ARE SPECIFIED, THE MUNICIPAL DRAIN INLETS AND OUTLETS SHALL BE INSTALLED IN THE 1200mm WALLS AND THE PLUGGED INLETS SHALL BE IN THE 900mm WALLS, UNLESS NOTED OTHERWISE.
- ALL STRUCTURES SHALL BE CAST WITH A MINIMUM OF A 150mm HIGH RISER SECTION TO ALLOW FOR ADJUSTMENT OF THE TOP ELEVATION TO SUIT FIELD CONDITIONS; ACCORDINGLY NO MONOLITHIC STRUCTURES WILL BE PERMITTED.
- A CATCHBASIN (CB, OR DICB) IS INTENDED TO TAKE ON SURFACE WATER, AN OBSERVATION BOX (OB) IS INTENDED FOR TILE CONNECTIONS AND TO SERVE AS AN OBSERVATION/INSPECTION POINT.
- ALL 600mm X 600mm DICB TO HAVE A 2:1 SLOPE AND ALL 900mm X 1200mm DICB TO HAVE A 3:1 SLOPE WITH CORRESPONDING BIRDCAGE GRATES.

BENCHMARKS:

- BENCHMARK # 1** ELEVATION = 276.59
NAIL IN HYDRO POLE 7.5m W OF SIDEROAD 25S, 20m S OF CULVERT CROSSING SIDEROAD 25 S AT STA. 0+307 OF PROPOSED MUNICIPAL DRAIN
- BENCHMARK # 2** ELEVATION = 275.93
NAIL IN HYDRO POLE 9m S OF CONCESSION 2 SOUTH DURHAM ROAD AND 10m E OF SIDEROAD 25S
- BENCHMARK # 3** ELEVATION = 273.13
NAIL IN HYDRO POLE 8m SOUTH OF CONCESSION 2 SOUTH DURHAM ROAD AND 45m E OF STA. 0+105

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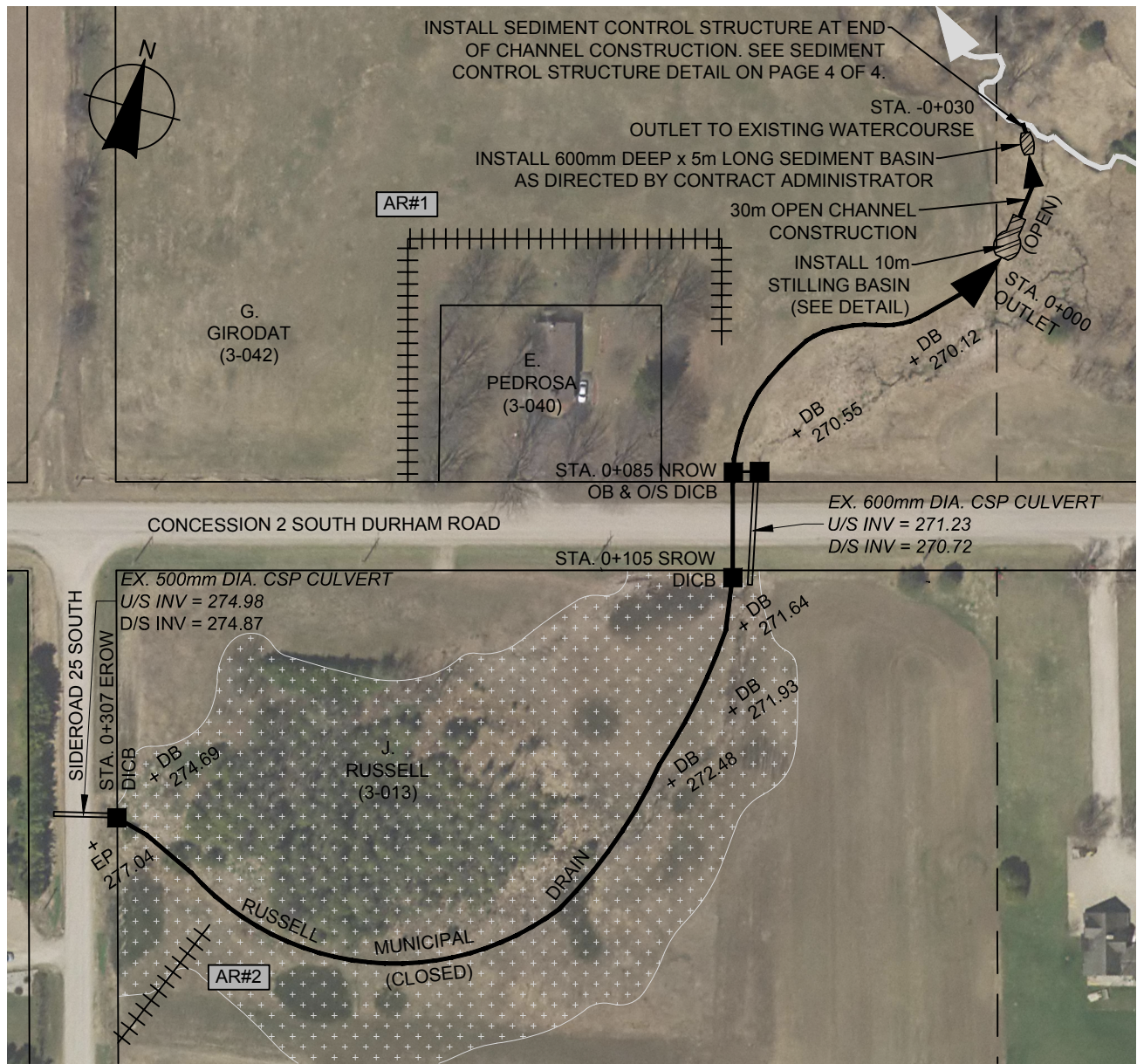
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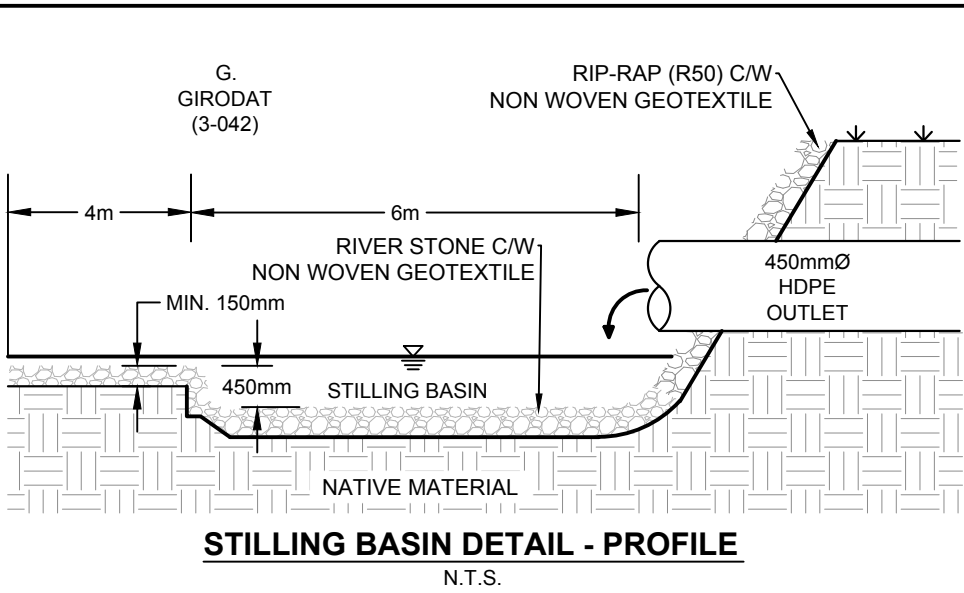
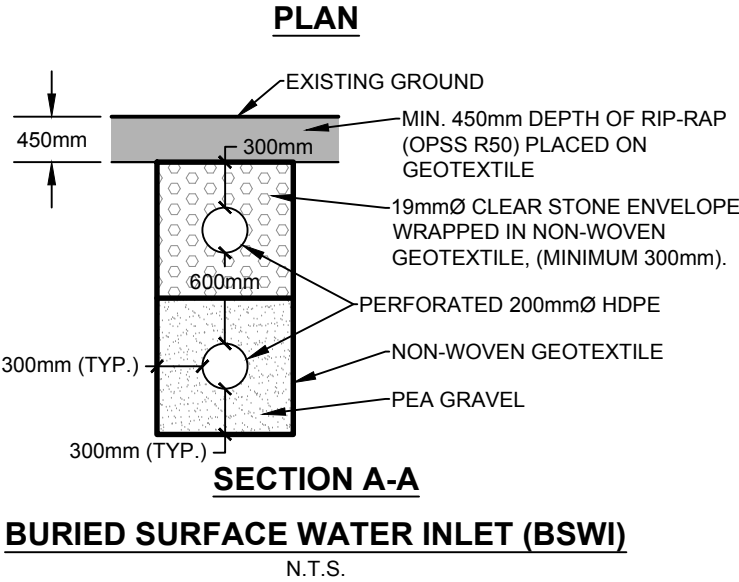
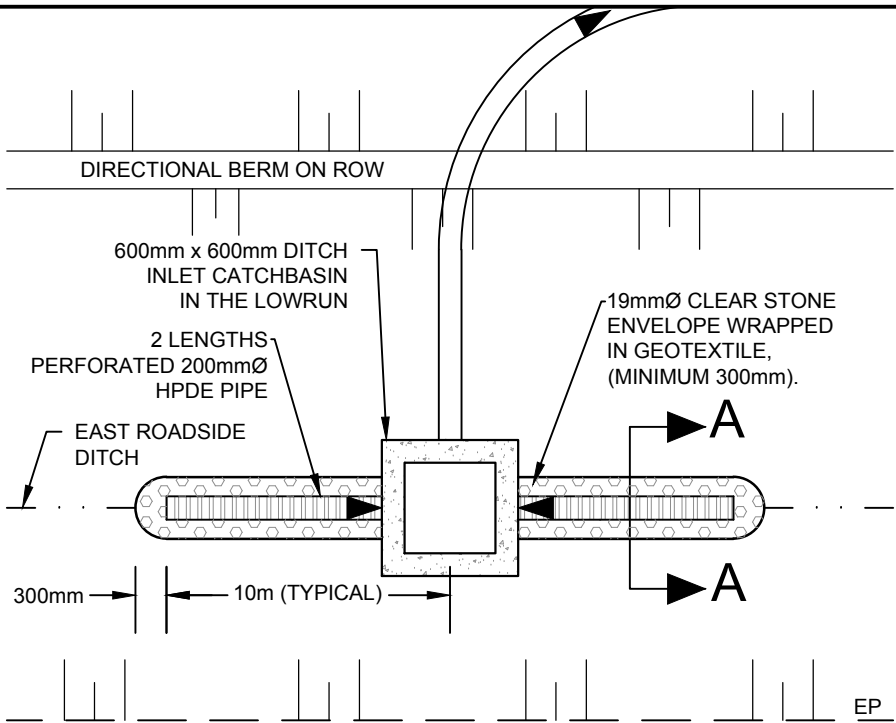
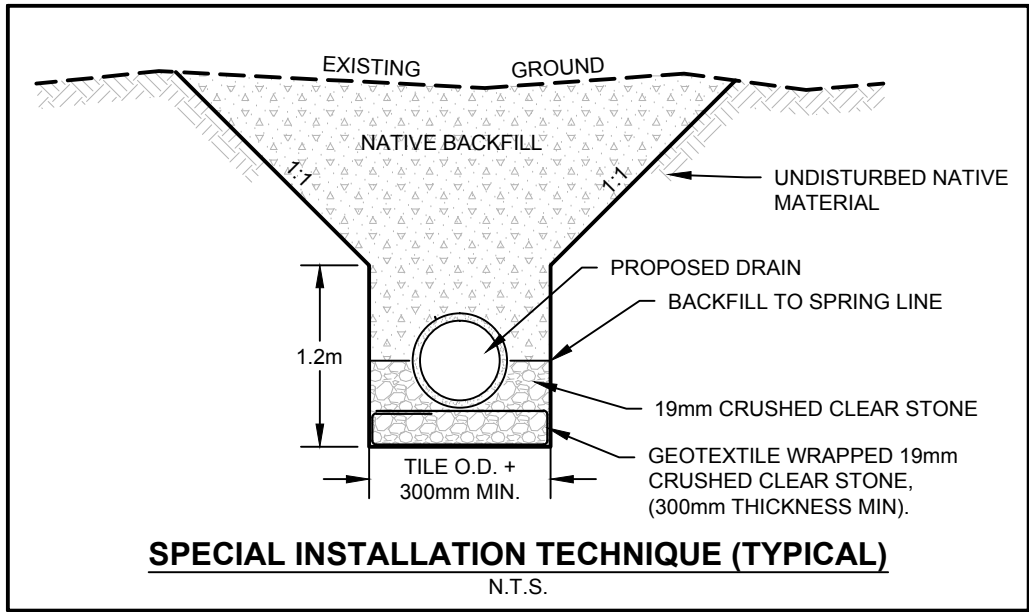
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RUSSELL MUNICIPAL DRAIN 2018

PROFILE

Drawn	Checked	Date	Drawing No.
TK	EMD	2016/08/26	2 OF 4
Scale		Project No.	
H 1:5000 - V 1:500		300038962	



DRAIN OUTLET DETAIL
SCALE - 1:1500



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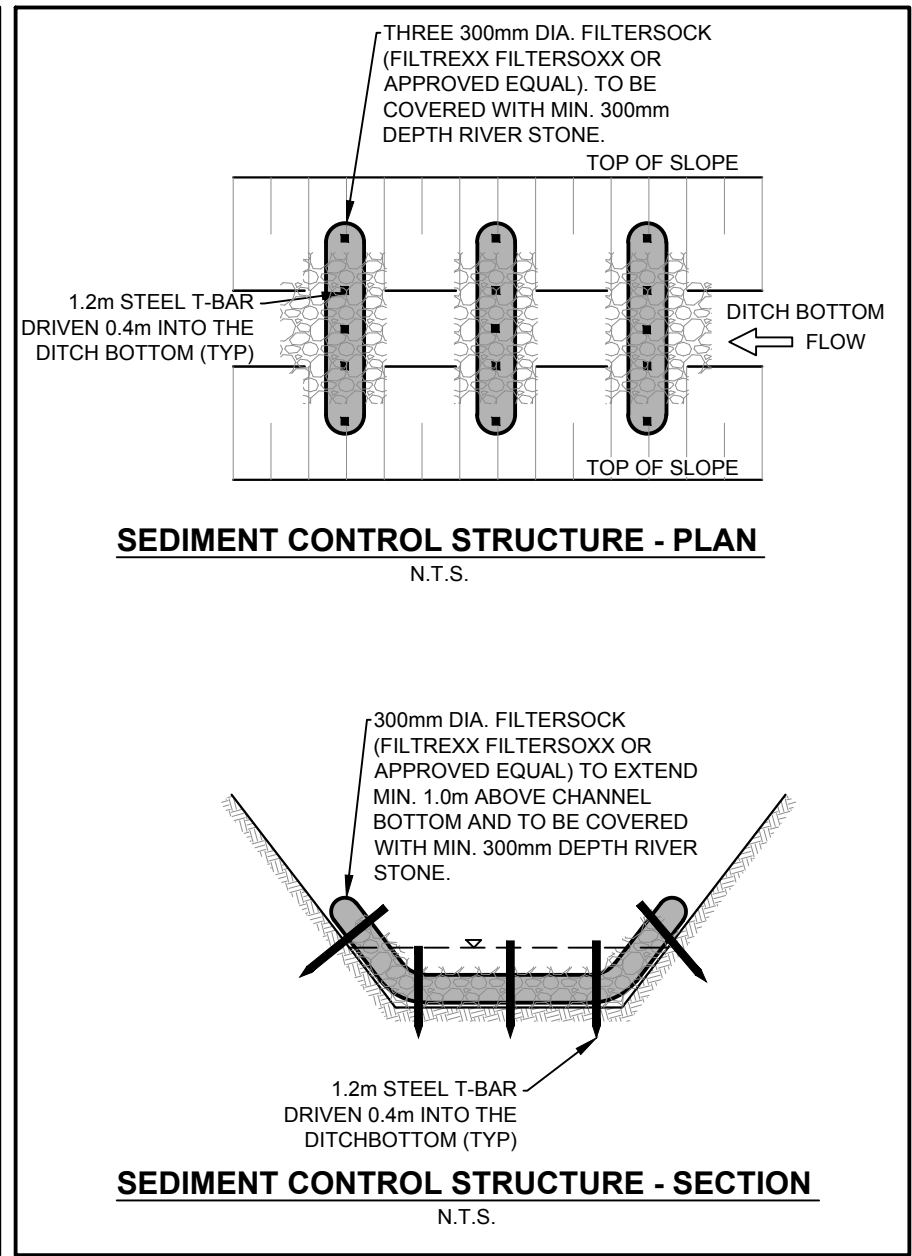
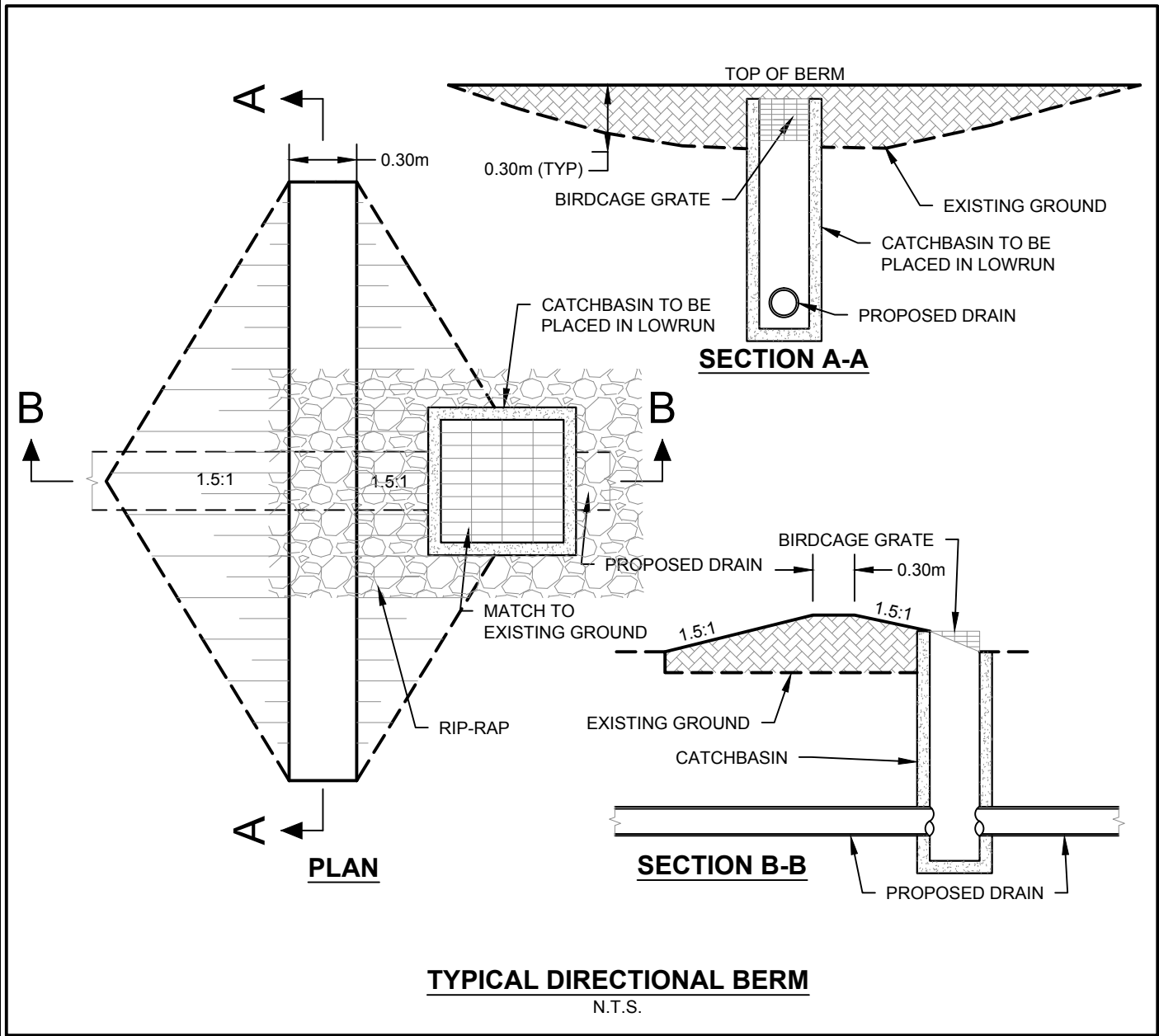
Client
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100 SCOTT STREET
WALKERTON, ONTARIO
N0G 2V0



Drawing Title
RUSSELL MUNICIPAL DRAIN 2018

DETAILS

Drawn	Checked	Date	Drawing No.
TK	EMD	2016/08/26	3 OF 4
Scale	AS NOTED	Project No.	300038962



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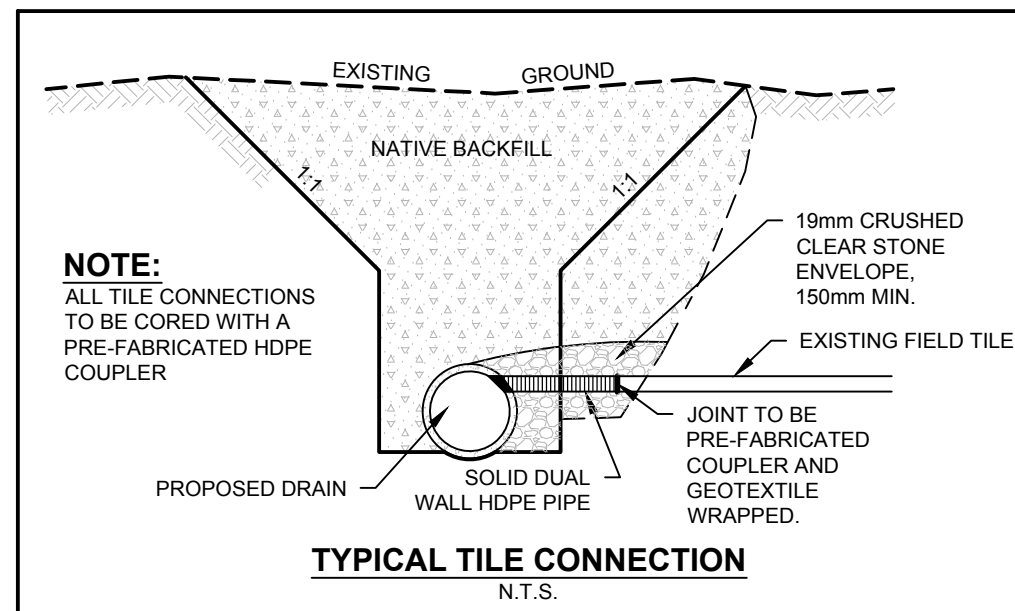
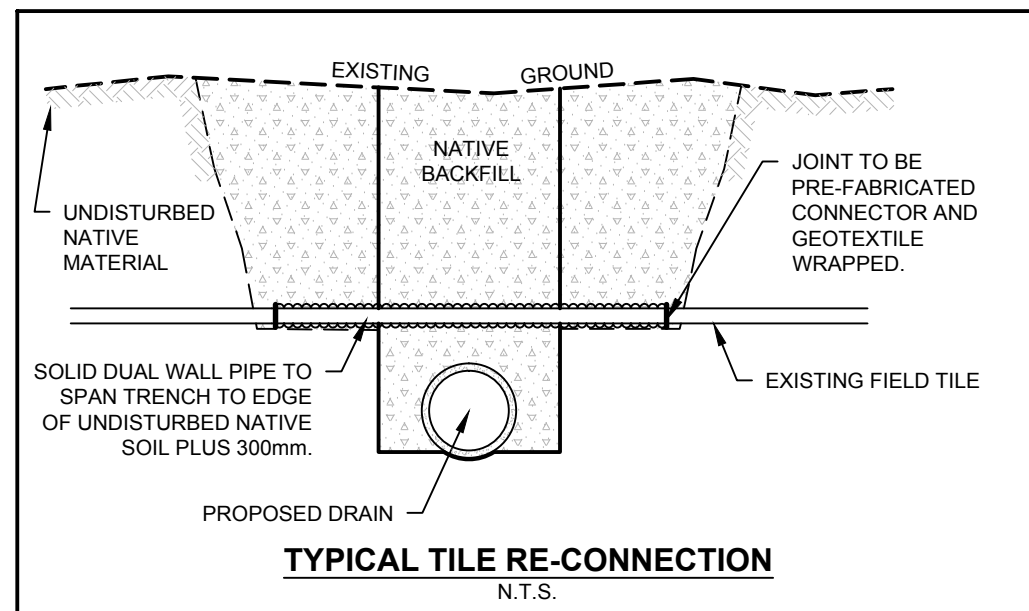
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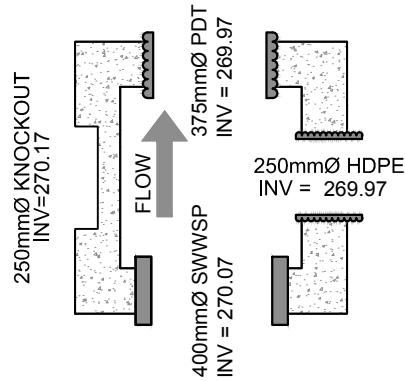
Drawing Title
RUSSELL MUNICIPAL DRAIN 2018

DETAILS (CON.)

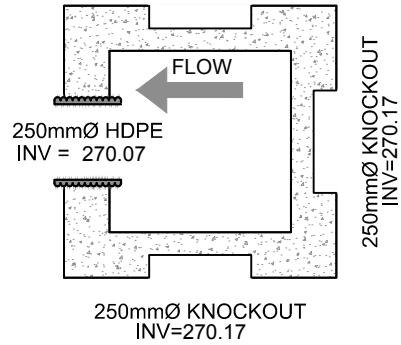
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Scale	Project No.		
AS NOTED	300038962		



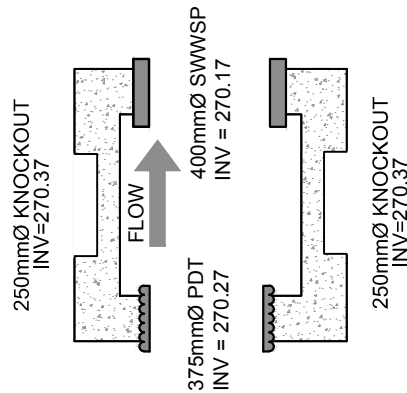
STATION 0+085
OB
600mmX600mm
TOP/LOW WALL ELEV = 271.60
SUMP = 300mm



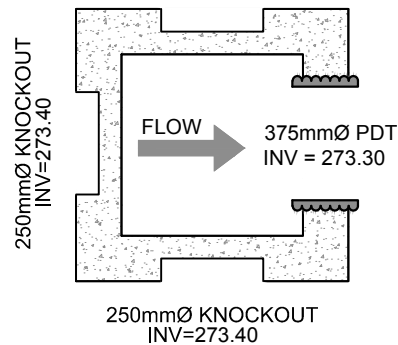
STATION 0+085
O/S DICB
600mmX600mm
TOP/LOW WALL ELEV = 270.70
SUMP = 300mm
250mmØ KNOCKOUT
INV=270.17



STATION 0+105
DICB
600mmX600mm
TOP/LOW WALL ELEV = 271.80
SUMP = 300mm



STATION 0+307
DICB
600mmX600mm
TOP/LOW WALL ELEV = 274.85
SUMP = 300mm
250mmØ KNOCKOUT
INV=273.40



NOTES:

1. CATCH BASIN DETAILS ARE FOR INFORMATION PURPOSES ONLY.
2. THE CONTRACTOR HAS THE RESPONSIBILITY OF ENSURING THAT CONSTRUCTION IS CARRIED OUT ACCORDING TO THE CONTRACT SPECIFICATIONS AND DRAWINGS.
3. ALL KNOCKOUT ARE TO ACCOMMODATE DUAL-WALL HDPE (320kPa) PIPE OF THE SPECIFIED INNER DIAMETER.
4. THE CONCRETE PIPE SHOWN IS BASED ON 2000D PIPE DIMENSIONS.
5. ALL HDPE PIPE SHOWN IS BASED ON DUAL-WALL HDPE (320kPa) PIPE DIMENSIONS.



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CITY, PROVINCE
N0G 2V0



Drawing Title

RUSSELL MUNICIPAL DRAIN 2018

CB DETAILS FOR TENDER

Drawn

KM

Scale

1:25

Checked

EMD

Date

2018/11/23

Project No.

300038962

Drawing No.

1 of 1

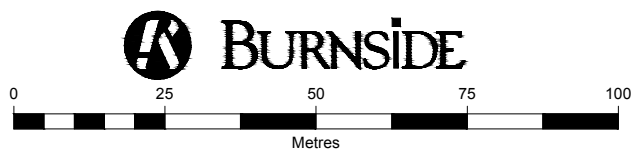


Figure Title

RUSSELL MUNICIPAL DRAIN

SOIL TEST PIT LOCATIONS

Client

MUNICIPALITY OF BROCKTON

Drawn

TK

Checked

EMD

Date

2017/05/11

Scale

1:1250

Project No.

300038962

Figure No.

FIG1

E.2 STANDARD SPECIFICATIONS

- E.2.1 General Drain Specification
- E.2.2 Specification for Open Drains
- E.2.3 Specification for Closed Drains
- E.2.5 Specification for Road Crossing – Boring or Directionally Drilled Method

E.2.1 GENERAL DRAIN SPECIFICATION

E.2.1.1 SCOPE OF SPECIFICATION

This specification covers the general conditions governing the construction of a Municipal Drain under the most recent revision of The Drainage Act and amendments. All work shall be done in accordance with current and applicable Ontario Provincial Standard Specifications and Drawings (OPSS and OPSD).

E.2.1.2 BENCHMARKS

Benchmarks shall be set at intervals along the course of the work at locations shown on the accompanying plan and/or profile. The Contractor or landowner shall be held liable for the cost of re-establishing benchmarks destroyed. Attention is drawn to Section 13 of The Drainage Act.

E.2.1.3 STAKES/FLAGS/MARKERS

Stakes, flags or markers are typically set at intervals throughout the course of the work, at all fences and property lines. The Contractor or landowner shall be held liable for the cost of replacing any stakes removed or destroyed.

E.2.1.4 PROFILE

The drain is to be excavated or installed to regular gradient lines as shown on the profile(s). These gradients show the bottom of the finished drain (open or closed) and are governed entirely by the benchmarks. In the case of closed drains, the gradient is that of the invert of the tile. The profile(s) shows the approximate depth from the surface of the ground to the invert of the tile or ditch bottom at the point where the stations are set and from the average bottom of the open drain as taken at the time of survey. Open drains shall be brought to an even gradient in the bottom to prevent standing water. For closed drains, a variation of 25 mm (unless specified otherwise) from the gradient may be deemed sufficient reason for the work to be rejected and required to be rebuilt.

E.2.1.5 CLEARING

Clearing means the cutting of all standing trees, brush, bushes and other vegetation to a maximum height of 300 mm above original ground level as well as the removal of felled materials and windfalls. Trees measuring 150 mm or more in diameter shall be felled, delimbed, cut into lengths no longer than 4 m and stacked to the designated side of the working space. The work shall not damage or disturb the area outside the areas specified in the Contract Documents.

The work shall consist of clearing all areas of earth excavation, earth surfaces to be covered by embankments up to and including 1.2 m in height, and any other areas specified in the Contract Documents.

No trees, brush or bushes are to be left inside the slopes of the drain, whether they are located within the limits of the excavation or not. Brush cleared in accordance with the above shall be piled in a location and in a manner satisfactory to the Engineer for burning by the Owner. Unless otherwise specified or directed, these piles shall be a minimum of 100 m apart and shall contain only cleared material. All work shall be done in accordance with OPSS 201.

E.2.1.6 CLOSE CUT CLEARING

Close Cut Clearing means the cutting of all standing trees, stumps, brush, bushes and other vegetation at original ground level and the removal of felled materials and windfalls. Grubbing means the removal of all stumps, roots, embedded logs, debris and secondary growth. Trees measuring 150 mm or more in diameter shall be felled, delimbed, cut into lengths no longer than 4 m and stacked to the designated side of the working space. The work shall not damage or disturb the area outside the areas specified in the Contract Documents.

The work shall consist of close cut clearing all earth surfaces to be covered by embankments greater than 1.2 m in height, and any other areas specified in the Contract Documents.

No trees, stumps, brush or bushes are to be left inside the slopes of the drain whether they are located within the limits of the excavation or not. Brush cleared in accordance with the above shall be piled in a location and in a manner satisfactory to the Engineer for burning by the Owner. Unless otherwise specified or directed, these piles shall be a minimum of 100 m apart and shall contain only cleared material. All work shall be done in accordance with OPSS 201.

E.2.1.7 BRUSHING

Brushing means the grinding or chipping to ground level of vegetation in the working space under 150 mm in diameter by means of a hydraulic brushing

attachment used with an excavator or approved equivalent. This includes grinding or chipping all standing trees, stumps, brush, bushes and other vegetation to original ground level.

Trees measuring 150 mm or more in diameter shall be felled, delimbed, cut into lengths no longer than 4 m and stacked to the designated side of the working space. The work shall not damage or disturb the area outside the areas specified in the Contract Documents. All work shall be done in accordance with OPSS 201.

E.2.1.8 GRUBBING

Grubbing means the removal of all stumps, roots, embedded logs, debris and secondary growth.

The work shall consist of grubbing all areas of earth excavation, earth surfaces to be covered by embankments up to and including 1.2 m in height and any other areas specified in the Contract Documents.

Grubbing is not required in swamps. Mechanical stump cutters are permitted, provided the entire root structure is removed. Depressions remaining after grubbing shall be backfilled with suitable earth material and compacted to avoid settlement. When clearing has been previously completed by others, all secondary growth, brush and debris shall be removed.

Piled boulders and surface boulders that are not specified in the Contract Documents for removal and lie within areas to be grubbed shall be removed. The work shall not damage or disturb the area outside the areas specified in the Contract Documents. All work shall be done in accordance with OPSS 201.

E.2.1.9 REMOVAL OF SURFACE BOULDERS & REMOVAL OF PILED BOULDERS

Piled Boulders means any cobbles, boulders or rock fragments that have been placed in fence rows or piles.

Rock means rock as defined in OPSS 206.

Surface Boulder means any boulder or rock fragment that measures 200 mm or greater in any one dimension, extends a minimum of 200 mm above original ground and can be removed without excavation.

The work shall consist of the removal of surface boulders and removal of piled boulders within the areas specified in the Contract Documents. Depressions remaining after removal shall be backfilled with suitable earth material and

compacted to avoid settlement. The work shall not damage or disturb the area outside the areas specified in the Contract Documents. All work shall be done in accordance with OPSS 201.

E.2.1.10 FENCES

The Contractor will be permitted to remove fences to the extent necessary to allow the construction of the drain and to dispose of any excess material according to specifications. Any such fences shall be carefully handled so as to cause no unnecessary damage. Such fences shall be replaced by the Contractor in as good a condition as found. The Contractor shall supply all material necessary to properly reconstruct any fences. The Contractor shall not leave any fence open when he is not at work in the immediate area and shall replace the fence in a timely manner, all to the satisfaction of the Engineer.

E.2.1.11 STANDING CROPS AND LIVESTOCK

Should a property owner wish to harvest any crop along an access route or within the construction working space as set out in the Engineer's Report, then it shall be the responsibility of the property owner to do so prior to construction. Provisions for the loss of, or damage to, crops along the access route or in the construction area ("Working Space") have been made in the Report and such loss or damage shall not be the liability of the Contractor.

The Contractor shall contain construction operations to the working space and width specified. As long as the construction operations are contained within the specified working space, the Contractor shall not be responsible for damages to crops along the course of the drain.

It shall be the responsibility of the property owners to keep their livestock clear of the construction area upon receiving 24 hours advance notice by the Contractor. After receiving proper notice, the Owner of the property upon which a drain is being constructed shall be liable for any loss or damage to livestock, the drain, drain materials or the Contractor's equipment caused by their livestock.

E.2.1.12 NOTIFICATION OF AGENCIES

The Contractor shall notify the appropriate agency before performing any work affecting the land or property of the MTO, railway, telephone, pipeline or public utility or regulatory agency. The Contractor shall further agree to perform the work affecting such lands or property in accordance with the specifications and approval/permit of the applicable agency.

E.2.1.13 FINAL INSPECTIONS

After substantial completion of the work, but prior to demobilization and final removal of all equipment and materials from the site, the Contractor **MUST** arrange an on-site FINAL Inspection of the work with the engineer to ensure all aspects of the work have been satisfactorily completed and/or that arrangements have been made to expedite the completion of any outstanding “minor” items or deficiencies. All the work included in the contract, at the time of the Final Inspection, must have the full dimensions and cross-sections called for in the plans and specifications. Notification to the Engineer of this Final Inspection shall be provided at least 5 days prior and it shall be completed as soon as possible or as soon thereafter as weather conditions permit.

E.2.2 SPECIFICATION FOR OPEN DRAINS

E.2.2.1 GEOMETRY

The drain shall have the full bottom width, at the gradient, specified or shown on the accompanying plan(s), profile(s) and detail sheet(s).

E.2.2.2 ALIGNMENT

The drain shall run in straight lines throughout each course except at intersections, where it shall run on a minimum curve of 15 m radius unless otherwise specified. If the work consists of the improvement of an existing open drain, then the centre line of the existing drain may be the centre line of the finished work unless otherwise specified.

E.2.2.3 EXCAVATED MATERIAL

A clear buffer of at least 3 m shall be left between the top edge of the open drain and the excavated material. Excavated material shall be placed on the side specified or, if not specified, on the lower side of the drain or on the side opposite trees or fences. No excavated material is to be left in any low runs intended to conduct water into the open drain. It shall be deposited, spread and leveled to a maximum depth of 150 mm, unless specified otherwise and left in a manner such that the lands on which it is spread may be cultivated with adjacent lands by use of ordinary farm machinery. Material excavated in land that is timbered, may be spread to the depth specified or to a maximum depth of 300 mm. In cultivated areas, the Contractor shall remove stones and boulders on the surface greater than 100 mm diameter from the excavated material and dispose of in an approved location. Treatment of excavated material shall be to the satisfaction of the Engineer. After the excavated material has been spread and leveled, it shall be seeded as specified.

E.2.2.4 SURFACE WATER INLETS

Surface water inlets to the drain shall be provided through the leveled spoil on each property at obvious natural low runs or at other locations as specified by the Engineer on site at the time of construction. No excavated material shall be left in, or any damage done to a ditch, furrow, pipe, tile or depression that is intended to conduct water into an open drain. The ditch bank at all such inlets shall be ripped as directed by the Engineer and reimbursed under the appropriate contract item.

E.2.2.5 OUTLETS

During the construction of an open drain, the Contractor shall guard against damaging the outlet of any tributary drain or pipes encountered. The Contractor will be reimbursed for damage to unmarked outlet pipes under the appropriate contract item.

E.2.2.6 ACCESS CULVERTS

All culverts shall be installed with the invert a minimum of 10% of its diameter or as specified below the gradient and the firm bottom of the drain.

All pipes installed under these specifications shall be carefully bedded so as to ensure uniform bearing throughout its entire length.

Except where requiring concrete cradle or encasement, all pipes shall be bedded on granular fill as specified or as shown on the contract drawings. Bedding shall be hand placed, tamped and consolidated throughout. Granular fill and bedding shall be gravel or crushed stone having no particles over 20 mm in size, except where otherwise specified.

Concrete cradle and concrete encasement shall be placed as shown on the drawings, and the concrete shall be minimum 25 MPa.

From the top of the bedding material to a point 150 mm below the existing grade of the laneway, backfill material shall be clean pit run gravel meeting OPSS Granular "B" or approved equivalent. The material shall be placed in lifts not to exceed 300 mm in depth and all granular materials shall be compacted to 100 % SPMDD and all subsoil or previously excavated material to 95 % SPMDD.

The final 150 mm of the excavation shall be filled with clean crushed gravel conforming to OPSS Granular "A" specifications. The material shall be placed in lifts not exceeding 150 mm in depth and shall be thoroughly compacted to 100 % SPMDD.

E.2.2.7 EXCAVATION AT BRIDGE SITES

The excavation at bridge sites shall be to the full depth of the drain and as nearly as possible the full width of the drain as specified for the bridge location. The excavation at a bridge site shall be made in a manner to protect the structural integrity of any permanent bridge. A temporary bridge may be carefully removed to allow excavation. The removal of a bridge is to be done in such a manner so as to cause no damage to the bridge components. Temporary bridges removed to allow excavation shall be replaced in as good a condition as found, so far as material allows. Replacing of such bridges shall be to the satisfaction of the Engineer. The

Contractor shall immediately notify the Engineer if it becomes apparent that excavating to a specified gradient will endanger or underpin any culvert or bridge. The Contractor shall cease excavation at the bridge or culvert site until the Engineer instructs the Contractor to proceed.

E.2.2.8 SEEDING

Unless indicated otherwise in the Special Provisions, the Contractor shall seed all disturbed areas which includes newly excavated ditch banks and leveled spoil (where specified) with the OPSS (MTO) Standard Roadside Seed Mix, consisting of 55% Creeping Red Fescue, 27% Kentucky Bluegrass, 15% Perennial Ryegrass and 3% White Clover, at an application rate of 100 kg/10,000 m², plus a nurse crop of Fall Rye Grain or Winter Wheat Grain at an application rate of 60 kg/10,000 m², at the end of each working day.

E.2.2.9 TEMPORARY SEDIMENT CONTROLS

Unless indicated otherwise in the Special Provisions, the Contractor shall install an approved sediment control measure at the downstream end of the open drain excavation and at any other locations specified. The Contractor shall remove any accumulated sediment at regular intervals or as directed by the Engineer. The Contractor shall then remove these temporary measures, and any accumulated sediment therein, after the new open drain has stabilized and only after authorized by the Engineer or the Drainage Superintendent.

E.2.2.10 PERMANENT SEDIMENT/STILLING BASINS

The Contractor shall construct and maintain sediment control or stilling basins as specified in the Special Provisions.

E.2.2.11 RIP RAP & NON-WOVEN GEOTEXTILE

Rip Rap – The Contractor shall supply and install a 500 mm thickness of 150 mm to 300 mm (R50) diameter quarry stone rip rap with filter cloth underlayment for culvert and pipe outlets. This will include areas of the existing bank where erosion or bank slumping has occurred, as directed on-site by the Engineer. For the area surrounding catchbasins, unless noted otherwise, the contractor shall supply and install a 300 mm thickness of 100 to 150 mm (R10) diameter quarry stone rip rap with filter cloth underlayment.

Non-Woven Geotextile – All geotextile used for tile wrapping under these specifications shall be non-woven Terrafix 200R (or equivalent). All geotextile used under these specifications for heavy duty applications such as under rip-rap surrounding catchbasins, and at tile outlets in channels shall be non-woven Terrafix 270R (or equivalent).

E.2.3 SPECIFICATION FOR CLOSED DRAINS

E.2.3.1 MATERIALS

Tile, tubing and pipe materials supplied by the Contractor shall be approved by the Engineer prior to being incorporated in the work. The Contractor shall be responsible for the unloading and placement of all materials required for the Municipal Drain construction. Such unloading and placement shall be undertaken in a manner acceptable to the Engineer using only the specified and approved access routes and working space.

Concrete Drain Tile (CDT) - All CDT installed under these specifications shall have a circular cross section with a minimum 2000D, meeting the latest revision of CSA A257.1-14 and ASTM C412. The manufacturer shall provide the Engineer with a copy of all available test results for the materials being shipped to the project site. The Engineer shall have the right to order any additional tests he deems necessary to be performed on the tile taken from inventory prior to shipment from the manufacturer's plant. The cost of such additional tests shall be borne by the Contractor.

Plastic Drainage Tubing (PDT) - All PDT installed under these specifications shall be manufactured in accordance with the latest revision of the Drainage Guide for Ontario, as published by the Ministry of Agriculture and Food.

Corrugated Steel Pipe (CSP) - All CSP installed under these specifications shall be galvanized spiral wound corrugated steel pipe. All corrugated steel pipe installed under these specifications shall conform to CSA G401.

- CSP tile outlet pipes shall be up to 1,200 mm in diameter and 2.0 mm in thickness and shall have 68 mm x 13 mm corrugations unless specified otherwise.
- CSP culverts shall up to 1,000 mm in diameter and 2.8 mm in thickness and shall have 68 mm x 13 mm corrugations unless specified otherwise. CSP culverts equal to and larger than 1,200 mm in diameter shall be 3.5 mm in thickness and shall have 125 mm x 25 mm corrugations unless specified otherwise.

High Density Polyethylene(HDPE) Pipe - All corrugated or dual wall smooth walled HDPE pipe (Armtec BOSS 2000 or equivalent) installed under these specifications as culverts or as part of a new closed drain shall be manufactured in accordance with the latest revision of Ontario Provincial Standard Specification 1840 and shall have a pipe stiffness of 320 kPa.

- All perforated dual-wall smoothwalled HDPE pipe joining systems shall be soil-tight split coupler unless specified otherwise, conforming to CSA B182.8.

- As specified, perforated pipe shall include a knitted sock or non-woven geotextile covering (Terrafix 200R or equivalent).
- All solid dual-wall smoothwalled HDPE pipe shall be soil-tight split coupler, unless specified otherwise, conforming to CSA B182.8.
 - All watertight solid dual-wall HDPE pipe joining systems shall be water-tight bell and spigot, complete with gasketed connections unless specified otherwise, conforming to CSA B182.6.

Steel Reinforced Polyethylene (SRPE) Pipe - All smooth walled SRPE pipe (Armtec DuroMaxx or equivalent) installed under these specifications as culverts or as part of a new closed drain shall be manufactured in accordance with the latest revision of Ontario Provincial Standard Specification 1840. All SRPE pipe shall conform to AASHTO M294.

- All solid SRPE pipe shall be soil-tight split coupler, unless specified otherwise, conforming to CSA B182.14.
- All watertight solid SRPE pipe joining systems shall be water-tight bell and spigot, complete with gasketed connections unless specified otherwise, conforming to CSA B182.15.

Polypropylene (PP) Pipe - All triple-wall smooth walled PP pipe (ADS HP Sanitite or equivalent) installed under these specifications as culverts or as part of a new closed drain shall be manufactured in accordance with the latest revision of Ontario Provincial Standard Specification 1843 and shall have a pipe stiffness of 320 kPa.

- All watertight solid triple-wall PP pipe joining systems shall be water-tight bell and spigot, complete with gasketed connections unless specified otherwise, conforming to CSA B182.13.

Non-Woven Geotextile - All geotextile under these specifications shall conform to OPSS 1860. All geotextile used for tile wrapping under these specifications shall be non-woven Terrafix 200R (or equivalent). All geotextile used under these specifications for heavy duty applications such as under rip-rap surrounding catchbasins, and at tile outlets in channels shall be non-woven Terrafix 270R (or equivalent).

E.2.3.2 DRAIN GRADIENT AND VERIFICATION

The proposed gradient shall be established using laser grade control equipment, cross-head boning rods together with horizontal sight-bars at stations above and below the point where the tile is being laid or other method acceptable to the Engineer.

If the Engineer has not checked the tile, inspection points shall be left at intervals of not greater than 50 m for sections with gradients less than 0.5 % and at intervals of not greater than 30 m for sections with gradients above 0.5 %. Inspection points shall also be left at all structures and all changes in gradient. Other inspections points may be required from time to time as requested by the Engineer.

E.2.3.3 TILE LAYING INCLUDING TOPSOIL STRIPPING

In the case of the installation of CDT, and unless specified otherwise in the Special Provisions, the Contractor shall strip the topsoil a full width of the trenching machine plus 0.3 m on each side prior to installing the new tile with the trencher as part of the work under the appropriate item and no extra payment will be made for this stripping. After installation, confirming gradient, blinding, and back filling of the trench, the topsoil shall be replaced throughout the entire length of the Drain. The Contractor shall take into consideration the settlement of the backfill material over the trench prior to replacing the topsoil.

All CDT shall be installed with a wheel-type trencher and each tile shall be laid firmly and carefully in a smooth bottomed trench so that successive tiles align both vertically and horizontally as tightly as possible; the maximum allowable space between successive tiles shall be 6 mm.

ALL joints of the CDT MUST be completely wrapped with geotextile (Terrafix 200R or equivalent) as part of the work under the appropriate item and no extra payment will be made for this wrapping. The wrap on each joint shall be a minimum of:

- 300 mm wide for tile sizes smaller than 450 mm diameter
- 600 mm wide for tile sizes 450 mm diameter and above.

The Contractor is reminded that the widths of the tile trenches are to be kept to a minimum. It is recommended that the minimum trench width be 300 mm greater than the outside diameter of the tile or 150 mm on each side of the tile being installed. It is recommended that the maximum trench width be 600 mm greater than the outside diameter of the tile or 300 mm on each side of the tile being installed.

All PDT shall be installed with a self-propelled drainage plow.

All obstructions, dirt or foreign material shall be removed from the inside of the tile prior to laying.

Tile drains shall be constructed at an offset from, and parallel to, any existing ditch, defined watercourse or low run. The Contractor shall exercise care not to disturb any existing private or municipal tile drains which follow the same course as the new drain.

E.2.3.4 RECONNECTION OF EXISTING PRIVATE TILE

Any subsurface drain encountered by the Contractor when constructing a Municipal Drain under these specifications shall be reconnected to itself and not connected to the new Municipal Drain, unless approved otherwise by the Engineer. The accepted practice for reconnecting existing tile drains will be to compact sub-base material from the new trench bottom to the underside of the existing tile. Rigid pipe, HDPE (320 kPa) or approved equivalent, with a diameter equal or larger than the existing tile with a minimum length of 0.6 m beyond the trench width to the existing tile. This connection shall be made only where the existing tile is operable and in good condition. When completing backfilling of the Municipal Drain trench at such a location, the Contractor shall take sufficient care to ensure that the new connecting pipe is not damaged.

The Contractor shall provide a unit price per connection and the unit price shall include the supply of all material, labour and equipment necessary to make the connection. Further, the Contractor shall keep a written record of all sub-surface drains encountered. All connections completed shall be reviewed with the Engineer on a daily basis and a summary of all subdrains shall be provided to the landowner.

E.2.3.5 CONNECTION OF EXISTING PRIVATE TILES TO MUNICIPAL DRAIN

A subsurface drain encountered during construction can be connected to the Municipal Drain if requested by the landowner and approved by the Engineer prior to commencement of the connection. The drain shall be connected to the Municipal Drain either by core drilling through the CDT or a prefabricated fitting for HDPE. The core shall be drilled on-site and backfilled as per the specified detail included within the drawings. Any tile drains connected to the Municipal Drain shall have the downstream end of the tile plugged to prevent entry of foreign material into the tile.

E.2.3.6 TRENCH BACKFILLING

As the laying of the tile progresses, partial filling or blinding shall be made at the sides of the trench sufficient to hold the tiles securely in place. The Contractor shall place the remainder of the excavated material carefully when backfilling the trench. Any excess backfill material shall be mounded over the trench such that future settlement and compaction around the new tile can occur without creating a depression over the width of the trench. The Contractor shall not operate construction equipment over any backfilled trench, except as specified in Trench Crossings. Care shall be exercised in backfilling the trench to see that no stone or boulder capable of damaging the tile is used in the backfill material adjacent to the tile. In no case shall stones having a diameter greater than 150 mm be used in backfill material within 300 mm of the tile. The Contractor shall backfill any open tile trenches at the end of each working day except for inspection points as specified.

The Contractor shall be entirely responsible for any damage to the new tile throughout the warranty period.

E.2.3.7 TRENCH CROSSINGS

The Contractor shall not cross any backfilled trench with any construction equipment or vehicles, except at only **ONE** designated crossing location on each property which shall be marked in an acceptable manner. The Contractor shall ensure that the bedding and backfill material at this designated crossing location is properly placed and compacted so as to adequately support the equipment and vehicles that may cross the trench. The Contractor may undertake any other approved work to ensure the integrity of the tile at the crossing location. The Contractor shall insure that no equipment or vehicles are allowed to travel along the length of any trench. The Contractor shall be entirely responsible for any damage to the new tile throughout the warranty period.

E.2.3.8 OUTLET PROTECTION

The outlet end of a tile drain shall normally consist of a 6 m length of CSP or HDPE fitted with a rodent proof grating which is hinged at the top to allow the exit of foreign material from the tile. An outlet marker shall be supplied and installed.

Unless otherwise specified, the end of the CSP or HDPE shall be protected with the type of riprap on geotextile as specified by the Engineer from a point 500 mm above the ditch bottom on the opposite side of the ditch, across the ditch bottom, and for the full height of the ditch sideslope where the pipe is located. The minimum width of this riprap shall be equal to the outside diameter of the outlet pipe plus 2 m.

E.2.3.9 PRECAST CONCRETE STRUCTURES

Junction Box (JB) means an acceptable precast concrete structure installed and buried below the surface of the ground to facilitate two or more tiles meet and connect.

Catchbasin (CB) or **Ditch Inlet Catchbasin** (DICB) means an acceptable precast concrete structure installed at or slightly below the surface of the ground where two or more tiles meet and connect and that is intended to accommodate surface water.

Observation Box (OB) means an acceptable precast concrete structure installed above the surface of the ground where two or more tiles meet and connect and that is intended to only inspect the tile connected thereto.

Unless specified otherwise, JB's, CB's, DICB's and OB's shall be supplied by a precast manufacturer meeting the Engineer's approval. An "approximate elevation of top" of each structure has been indicated on the "Structures Table"; however,

each structure shall be placed onsite such that the exact horizontal and vertical location in the field is as directed by the Engineer. All structures shall have a knock out, set at a minimum of 100 mm above the elevation of the outlet or as specified, placed in all sides not used by the municipal drain. Knock outs must be of a size capable of connecting a HDPE pipe with a minimum inside diameter of 250 mm. All structures shall have a minimum 300 mm deep sump, unless specified otherwise.

Non-shrink grouting material, unless specified otherwise, shall be placed around all pipes connected to the structure. In addition, the exterior of all grouted connections shall be completely wrapped with geotextile (similar to a wrapped joint). Geotextile shall also be placed in the joints between all sections of the box and around the full perimeter of the box at these joints. For the area surrounding catchbasins, unless noted otherwise, the contractor shall supply and install a 300 mm thickness of 100 to 150 mm (R10) diameter quarry stone rip rap with filter cloth underlayment.

Hot dipped galvanized, heavy duty, three-sided protruding type bird cage grates, shall be supplied for all CBs, DICBs or OBs, unless specified otherwise. All DICBs shall have a slope of 2H:1V, unless specified otherwise. Grates shall be fastened to the structure using non-corrosive fasteners as recommended by the Ontario Farm Safety Association. JBs shall have no sump and shall have a minimum 150 mm thick solid reinforced concrete tops.

Post and sign type markers shall be supplied and installed at each at or above ground structure.

E.2.3.10 STRIPPING FOR DEEP TILE INSTALLATION

Where the tile installation depth exceeds the digging or plowing depth of the Contractor's equipment, the Contractor shall undertake any stripping that may be necessary in a manner such that when restored, the topsoil returns uncontaminated to the top of the stripped area. This would normally mean that the topsoil would be stripped and piled separately from the subsoil. The Contractor shall have regard for the working space provided for such stripping operations. Unless approved otherwise by the Engineer prior to work being undertaken, stripping shall be done using a hydraulic excavator. The cost of any stripping shall be included in the price provided for the tile installation.

E.2.3.11 STONE REMOVAL

The Contractor shall remove and dispose of any stones larger than 100 mm that remain on the surface of the working space after completion of construction.

E.2.4 SPECIFICATION FOR ROAD CROSSING (BORING OR DIRECTIONALLY DRILLED METHOD)

E.2.4.1 GENERAL

When a drainage works crossing of a Road is to be carried out by the jacking and boring method, the following specifications shall apply as well as OPSS 416. The Contractor shall supply all labour, equipment and material unless specified otherwise in the Special Provisions.

E.2.4.2 PIPE MATERIAL

The pipe or casing used in the crossing shall be smoothwall welded steel pipe (SWWSP) with a minimum wall thickness as specified in the Special Provisions as per OPSS 1802. The pipe shall be of a sufficient length so that during placement no part of any excavation shall be closer to the edge of the gravel shoulder than 2 m and the slope of the excavation from the top to the bottom shall be 1 m vertical to 1 m horizontal (1:1).

E.2.4.3 EXTENSIONS

All extensions of the SWWSP installed via the jacking and boring shall be completed with SWWSP of identical diameter and wall thickness (either from structure to structure or to the limits of the right-of-way). Extensions of any other pipe material will not be acceptable. Pipe shall be placed on undisturbed native material with a minimum of 150 mm drainage stone bedding. Excavated material will not be permitted for use as bedding material.

E.2.4.4 INSTALLATION METHOD

The pipe or casing shall be placed by means of continuous flight augering inside the casing and simultaneous jacking to advance the casing immediately behind the tip of the auger. Complete augering of a tunnel slightly larger than the pipe and placing the entire length by pulling or jacking after completion of the tunnel WILL NOT BE ACCEPTABLE. Once a crossing is completed, the area around the outer annulus and any other openings from the jack and bore shall be grouted at the time of construction.

The Auger pit excavated to accommodate the boring machine shall be constructed such that the edge of the pit shall not be closer than 2 m to the edge of the gravel shoulder. The slope of the pit from the top edge at the shoulder to the bottom of the pit shall not be steeper than 1 m vertical to 1 m horizontal (1:1). Shoring, sheeting, etc. shall be in accordance with all governing regulations and Acts. The pit shall be

left open for an absolute minimum length of time and if at all possible work should be so scheduled so that the excavation, placement of pipe and backfilling takes place in one working day.

During excavation, the existing topsoil shall be stripped and placed in a separate pile for replacement on top upon completion of the backfilling operation; a minimum of 150 mm of topsoil is required and if necessary, the Contractor shall and place imported topsoil. In either case, the topsoil area over the excavation shall be seeded with the specified grass seed mixture to the requirements of the Road Authority. The finished work shall be left in a clean and orderly condition slightly higher than the adjacent ground so that after settlement it will conform to the surrounding ground. Excess material shall NOT be spread on the road allowance or within the right-of-way without the express written consent of the Road Authority but shall be hauled away and disposed of at the expense of the Contractor.

E.2.4.5 PERMITS & TRAFFIC

The Contractor shall be responsible for providing the Road Authority at least 7 days notice in writing before commencing any work on any right-of-way. If the crossing is on a right-of-way that requires a Municipal or Provincial Permit, the Contractor shall ensure that the Permit is obtained before any work commences.

The Contractor shall be responsible for providing, erecting, maintaining and removing all signage and traffic control in accordance with the Ontario Traffic Manual (OTM) and the OTM Book 7 Temporary Conditions - Field Edition, as noted in Document D of the Tender/Contract.



BURNSIDE

Document F
Special Provisions

Appendix F – Special Provisions

Russell Municipal Drain

These **Special Provisions** are specific directions for this project in particular and detail requirements not encompassed by - **Standard Drain Specifications**.

Special Provisions shall take precedence over the **Standard Drain Specifications** where a conflict between them may exist.

All work items do not necessarily have an associated Special Provision (SP); accordingly, for those items of the work that do NOT have a SP, please refer to the appropriate **Standard Drain Specification**.

1.0 Standard Drain Specifications

All work for this project shall also be governed by - **Standard Drain Specifications**. The Contractor is fully responsible for a reasonable and prudent review of these Standards to have a complete and clear understanding of the scope and character of the work.

2.0 Description and Location

The proposed drain is located in the Municipality of Brockton on Lots 56 and 57, Concessions 2 and 3 (Geographic Township of Brant), County of Bruce.

The proposed Russell Municipal Drain includes approximately 307 m of closed drain and 30 m of open drain construction. The location of the work is shown on the enclosed plan.

3.0 Agency Project Requirements

Regulatory agencies have provided best management practices and requirements towards the construction of this project which is summarized below. These best management practices and requirements form part of this report and subsequent contract for construction.

3.1 Saugeen Valley Conservation Authority (SVCA)

3.1.1 Report Investigation

The Saugeen Valley Conservation Authority (SVCA) has been involved throughout the progression of this project. The SVCA established that the treed area in the northern part of Lot 56, Concession 3 is a wetland and indicated their concerns pertaining to this area. The SVCA has provided input regarding the location and depth of the drain as well as material specifications for the pipe in reference to the adjacent wetland.

Erosion and sediment control will be addressed during construction in the channel through the sediment control structure and along the piped system through ponding water on the landscape, utilizing the surface and buried surface water inlets which will also help with flood mitigation.

3.1.2 Construction Direction

Attention is drawn to the ABCA documents located in the Reference Documents. All work is to be in accordance with the terms of these documents and the mitigation practices described above.

3.2 Ministry of Natural Resources and Forestry (MNRF)

3.2.1 Report Investigation

A request for review of this project was submitted to the MNRF on April 11, 2017. Kathy Dodge, a biologist with the MNRF indicated that their primary concern in this area was for Bobolink, Eastern Meadowlark, and Snapping Turtles. She indicated that the MNRF is most concerned in work areas that interfere with hay fields and pasture land, and less concerned with areas that interfere with row crops. She mentioned that it would be ideal for work do be done outside of **breeding season window from May 1st to July 31st**.

Following a discussion and investigation by Hannah Maciver, a Terrestrial Ecologist with Burnside, the following mitigation measures are recommended to avoid potential impacts to Species at Risk (SAR).

- Apply timing windows to avoid direct impacts to birds during the core breeding window (April 1st and August 31st).
- Conduct a nest survey just prior to removing vegetation (i.e., 1-3 days in advance), in the event that a late nesting bird is still present. Should an active nest be found, all works will stop until the young have fledged from the nest.
- All works should be completed prior to the next breeding season (i.e., prior to April 1st).
- Ensure that the area of works is excluded from the surrounding area to prevent species such as turtles from entering the active work area (i.e., exclusion fencing). Should any wildlife be found, all works will stop until the animal has been safely removed from the work area. If a SAR is found, consultation with MNRF may be required.

The proposed works will occur within active agricultural fields. Two different fields will be affected as part of the proposed works. Both fields will remain suitable for an agricultural operation after the installation is completed. If the recommended avoidance widows listed above are applied, the proposed works will not impact breeding birds and potential breeding bird habitat that is temporarily removed will regenerate prior to the next breeding season. Therefore, no temporary or permanent impacts to Species at Risk are anticipated.

3.2.2 Construction Direction

The primary species of concern in the proposed work area are Bobolink, Eastern Meadowlark, and Snapping Turtles. The mitigation process discussed above shall be followed throughout the project direction from the Engineer's Report.

3.3 Fisheries and Oceans Canada (DFO)

3.3.1 Report Investigation

The proposed Russell Municipal Drain outlets into an existing natural watercourse on Lot 57, Concession 2. The proposed work will take place within the bank of the existing watercourse and will not affect the in-water portion of the watercourse; however, a request for review was completed and submitted in order to keep DFO apprised on the proposed work.

A letter of advice dated February 1, 2018 received from Fisheries and Oceans Canada has been included in the Reference Documents (DFO File Number 17-HCAA-00965). No Federal Species at Risk have been identified within this drainage area that would require special consideration under the Species at Risk Act (SARA).

DFO indicated that their main concerns pertained to the timing of the proposed work. In response to the concerns from DFO, the following mitigation measures have been provided:

- No in-water work will be completed during the spring restricted timing window from March 15 to July 15.
- A sediment control structure and sediment basin shall be installed downstream of the construction activities.
- Schedule work to avoid wet, windy, and rainy periods that may increase erosion and sedimentation.

No Federal Species at Risk have been identified within this drainage area that would require special consideration under the Species at Risk Act (SARA).

3.3.2 Construction Direction

Attention is drawn to the DFO letter of advice in the Reference Documents. All work is to be done in accordance with the terms in the letter of advice. Relevant mitigation measures are highlighted above and must be followed throughout the project.

4.0 Instructions and Process

4.1 Pre-Construction Meeting

The Contractor **MUST** arrange an on-site Pre-Construction Meeting with the Engineer, Drainage Superintendent and affected landowners before any equipment or materials are moved onto the site and before any work is commenced on this project.

4.2 Notification of Work

The Contractor shall provide notification of the commencement or re-commencement of construction work to Burnside. Notification shall be a minimum ten (10) working days prior to the initiation of the work or a minimum five (5) working days prior to the re-commencement of the work.

Furthermore, the Contractor shall also provide notification of the commencement of in-water work (if required) to the Saugeen Valley Conservation Authority (SVCA) or any other applicable agency(s) at least ten (10) working days prior to the initiation of the work.

4.3 Working Space

The area being provided to the Contractor to undertake the work is described herein and the maximum widths are specified on the table entitled 'Working Space'.

<u>WORKING SPACE</u>		
Station	Max. Width (m)	Comments
<u>Main Drain</u>		
-0+030 to 0+000	10 m working space	Access to the Main Drain (Open) will be from Concession 2 South Durham Road to AR#1 on the G. Girodat (Roll No. 3-042) property, as shown in the

<u>WORKING SPACE</u>		
		drawing details. The stilling basin and channel construction shall be along the north/west bank. Spoil levelling shall be to a maximum depth of 300 mm. Excess excavation material shall be removed from the site by the Contractor.
0+000 to 0+085	20 m working space	Access to the Main Drain (Closed) will be from Concession 2 South Durham Road to AR#1 on the G. Girodat (Roll No. 3-042) property, as shown in the drawing details.
0+105 to 0+307	20 m working space	Access to the Main Drain (Closed) will be from Sideroad 25 South to AR#2 on the J.Russell (Roll No. 3-013) property, as shown on the plan.
<p>NOTES:</p> <p>(1) The Contractor shall contain their construction operations to as narrow a width as possible, so as to prevent damage to lands, crops, bush, etcetera, and shall not exceed the widths indicated.</p> <p>(2) The Contractor shall be entirely responsible for any damage to lands, crops, etcetera, beyond the widths and locations of both the access routes and the working spaces specified, caused by the Contractor, their Subcontractors or their employees while undertaking the work.</p> <p>(3) The Engineer's approval MUST BE OBTAINED BEFORE exceeding the maximum widths indicated.</p> <p>(4) Access to the working space shall be public roads or as specified. All routes must be approved by the Engineer and Drainage Superintendent prior to construction.</p>		

4.4 Access Routes

The access routes for construction shall be from specified locations on Concession 2 South Durham Road, and Sideroad 25 South to the Drain, as specified in the Table 'Working Space' and on the enclosed Plan. The Contractor shall confirm these access routes with the Engineer, Drainage Superintendent and affected landowners prior to commencing any work.

4.5 Staging of Construction

This project must be staged in the following order of importance to comply with various requirements of the reviewing agencies and the Contract Administrator:

1. **Species at Risk (SAR)** field investigation must be completed prior to any construction if timing windows cannot be avoided for both wooded and field area work (***Restricted from May 1st to July 31st***).
2. **Fisheries & Oceans Canada (DFO)** – No in-water work shall be completed within the spring timing window (***Restricted from March 15 – July 15***).
3. The sediment control structure (Sta. -0+030), sediment basin (Sta. -0+030 to -0+025), and stilling basin (Sta -0+010 to 0+000) shall be installed prior to any other drain construction.
4. Topsoil stripping along the proposed channel excavation.
5. All channel excavation and erosion protection shall be completed prior to any pipe construction at the discretion of the Contract Administrator. The Contractor shall make every effort to stabilize the excavated channel with vegetation and/or erosion protection immediately following construction. Seeding application timing shall be completed to maximize growth potential and minimize erosion.
6. Topsoil stripping shall be completed prior to any excavation or pipe installation.
7. Every effort shall be made by the Contractor to complete the bored road crossing prior to any other pipe construction.
8. Special attention shall be given by the Contractor to the seeding of all disturbed areas within the construction right-of-way. These areas shall have topsoil replaced and seeding provided as soon as possible following construction to encourage vegetation growth and avoid erosion and invasive species.

The Contractor shall stage the construction to ensure that the site is left each day with appropriate controls to avoid erosion. Any excavated spoil areas shall be protected with silt fence or other measures to avoid erosion during construction, as directed by the Contract Administrator. All channel works shall be completed during periods of low or no flow. Additional erosion measures shall be paid for as extra items on an as directed basis and shall be considered deficient if not completed immediately.

4.6 Construction of the Work

Any issues during construction with respect to errors or omissions with the design drawings or documents, the constructability of the system, etc. must be brought to the attention of the Contract Administrator immediately. It is expected that clear communication will exist between the Contractor and the Contract Administrator and that any discrepancies relating to construction of the work will be remedied immediately. Work resulting from failure to seek clarification with the Contract Administrator by the

Contractor will be the responsibility of the Contractor to remedy at no extra charge to the project and must be completed to the satisfaction of the Engineer prior to demobilization.

4.7 Contract Liquidated Damages

Any breach of the Contract terms by the Contractor may be subject to daily liquidated damages of \$500 at the discretion of the Contract Administrator. Pertinent examples may include but are not limited to:

- Work outside of timing windows stated in the Contract.
- Deficient work items that can be corrected immediately.

4.8 Final Inspection

After substantial completion of the work and prior to demobilization and removal of equipment and materials from the site, the Contractor MUST arrange an on-site FINAL inspection of the work with the Engineer. This is to ensure all aspects of the work have been satisfactorily completed and/or that arrangements have been made to expedite the completion of any outstanding minor items or deficiencies. Notification to the Engineer of this Final Inspection shall be provided at least 2 days prior.

4.9 Deficiencies

Deficient items such as catchbasin markers, grate tabs, rodent grates, additional rip-rap, etc. shall be remedied by the Contractor during the warranty period and paid at the Contract price. If the Contractor fails to complete the work within a reasonable timeframe in the opinion of the Engineer and/or the Municipality, the work shall be completed by a Contractor of the Owner's choosing and the cost of the work deducted from the Contract holdback.

5.0 Project Requirements and Existing Conditions

5.1 Topsoil Stripping

Tile Installation: Unless specified otherwise, prior to installation of the new tile, the Contractor shall strip the topsoil from the area of the proposed tile trench for the entire width of the drainage plow. The topsoil shall be stockpiled separately from native subsoil and subsequently replaced over the backfilled tile trench. This shall be included as part of the work under the appropriate item. An extra payment will not be made for this stripping, stockpiling and replacing of topsoil.

Channel Work: Unless specified otherwise, prior to completing work in the channel, the Contractor shall strip the topsoil in the proposed spoil levelling area. The topsoil shall be stockpiled separately from any native subsoil and subsequently replaced over the excavated spoil. This shall be included as part of the work under the appropriate item. An extra payment will not be made for this stripping, stockpiling and replacing of topsoil.

5.2 Subsoil Conditions

Subsoil investigations have been undertaken on this project and summarized in the following sections.

5.2.1 Soils Investigation

A soils investigation was completed both along and adjacent to the proposed drain alignment on November 29, 2016. Various test pits were dug on both the J. Russell property (Roll No. 3-013) and the Gene Girodat property (Roll No. 3-042). The results of the investigation are summarized below, and shown on the accompanying drawing plan.

J. Russell Property (Roll No. 3-013):

Test Pits Nos. 1 & 2

Immediately downstream of the Sideroad 25 South culvert crossing on Lot 56, Concession 3 two test pits (TP1, TP2) were dug to a maximum depth of 1.7 m. A mix of organic soil and topsoil was found from grade to approximately 0.6 m in depth, followed by silty sandy soils to the extent of each test pit. Groundwater was not present in the pit at the time of excavation.

Test Pits Nos. 3, 4, & 5

Three test pits (TP3, TP4, & TP5) were dug to the south of the existing wetland area in the northern portion of Lot 56, Concession 3 to a maximum depth of 0.5 m. A mix of organic soil and topsoil was found from grade to approximately 0.15 m in depth followed by silty sandy soils to the extent of the test pits. Groundwater was not present in the pit at the time of excavation.

Test Pit No. 6

One test pit (TP6) was dug near the north property line of Lot 56, Concession 3 immediately to the west of the existing culvert crossing under Concession 2 South Durham Road. This test pit was dug to a total depth of 2.1 m. A mix of organic soil and topsoil was found from grade to approximately 0.15 m in depth, followed by silty sandy soils from 0.15 m to 1.7 m in depth. A grey clay was found from 1.7 m to the extents of the test pit. Groundwater was not present in the pit at the time of excavation.

G. Girodat Property (Roll No. 3-042):

Test Pit No. 7

A test pit (TP7) was dug approximately 20 m north of the downstream end of the CSP culvert crossing the Concession 2 South Durham Road. This test pit was dug to a total depth of 1.0 m. A mix of organic soil and topsoil was found from grade to approximately 0.2 m in depth, followed by very unstable sandy soil to the extent of the test pit. Groundwater was not present in the pit at the time of excavation.

Test Pits Nos. 8 & 9

A test pit (TP8) was dug in the center of the low run approximately 85 m downstream of the CSP culvert crossing Concession 2 South Durham Road. The test pit was dug to approximately 2.0 m in depth. A very wet silty and clayey soil was found throughout the test pit. Approximately 5 m north of TP8, an additional test pit was dug. This test pit (TP9) was dug to approximately 2.3 m in depth. Dark organic soil was found from grade to approximately 0.4 m in depth, followed by sandy silty soil from approximately 0.4 m to 2.1 m in depth. A grey clay was found from 2.1 m to the extent of the test pit. Groundwater was not present in the pit at the time of excavation but was noted to be seeping into the pit from the excavated banks.

5.2.2 Construction

Channel Excavation. Based on the soil survey report no. 16 for Bruce County (Ontario Agriculture College 1954) and the associated soils map of Huron County (Reproduced in 1983 by Agriculture Canada) the soil present within the Russell Municipal Drain channel corridor is primarily **Waterloo Sandy Loam and Bottomland** where the channel outlets to the existing natural watercourse.

The Contractor shall tender the channel deepening and widening on the basis of using an excavator and excavating the channel bank and bottom width per the drawing set.

Tile Installation. Based on the soil survey report no. 16 for Bruce County (Ontario Agriculture College 1954) and the associated soils map of Huron County (Reproduced in 1983 by Agriculture Canada) the soil present within the closed portion of the Russell Municipal Drain watershed is primarily **Waterloo Sandy Loam**.

The Contractor shall tender the installation of the new pipe on the basis of using a drainage plow; however, as specified in the contingency items, the Contractor shall provide a **replacement** unit price for the installation of HDPE dual-wall (320 kPa) pipe under poor conditions with an excavator as detailed. The Contractor shall specify the **alternative** installation cos for the specified item under the associated contingency item.

5.3 Pipe Installation

5.3.1 Installation Method

Installation of all new pipe shall be by drainage plow unless specified otherwise.

5.3.2 Alternative Installation Method

The alternative installation method may be proposed and bid accordingly by the Contractor at the time of submission.

Closed sections of the drain specified to be installed by drainage plow may alternatively be installed using an excavator and installing 375 mm dia. dual-wall HDPE (320 kPa) pipe on a minimum depth of 150 mm of 19 mm dia. clear crushed stone (or approved equal).

The stone shall be used to achieve pipe gradient and be used as backfill up to the springline of the pipe. Select native material shall be used for the remaining backfill of the pipe trench. No extra payment shall apply per item when the Contractor specifies this method at the time of bidding.

5.4 Stone Removal and Plow Downtime

When large boulders or stony areas force the removal of the plow for cleanout and stone removal prior to recommencing with the plow, the Contractor shall be paid a fixed sum as a contingency for each time this takes place between periods of continuous installation.

The Contractor shall keep a detailed list and time of each instance and review each pullout of the plow with the Contract Administrator daily. The Contractor shall submit a weekly summary of the plow removals via e-mail to the Contractor Administrator. Stones or obstructions causing the plow removal shall be kept to the side of the trench as evidence for the Contract Administrator for the wheel removal.

Pullouts of the plow without sufficient evidence from the Contractor shall not be paid under this item at the discretion of the Contract Administrator.

NOTE: *In cases where the plow is removed to immediately switch to a special installation technique, the contingency for stone removal will not apply. Under this scenario, the additional contingency payment for the applicable alternate installation method will be applicable only.*

All costs associated with the removal of the drainage plow, due to stony and/or poor soil conditions, and installation by excavator shall be included in the additional contingency price. No extra payment will be made for the removal of the drainage plow, crew downtime, or other costs for this transition.

5.5 Special Installation Techniques (Poor Trenching Conditions)

If stony conditions (Option 'A') or high-water table (Option 'B') are encountered during construction where, in the opinion of the Contractor, it is not feasible to use the plow, the Contractor shall immediately inform the Contract Administrator to obtain approval to switch to:

a) Stony Conditions:

Installation on a minimum depth of 150 mm of 19 mm dia. clear crushed stone (or approved equal), backfilled to the pipe springline per the accompanying detail.

The Contractor shall then be paid the line item associated with this section and the additional installation cost specified under the associated contingency item.

The Contractor shall keep a list of stations where these installation techniques were used, to be confirmed with the Contract Administrator on a daily basis and shall submit a weekly summary via e-mail to the Contractor Administrator.

In instances where the installation method specified on-site by the Contract Administrator exceeds the cost of the contingency methods bid, the Contractor shall provide unit pricing for the additional cost to the Contract Administrator within one (1) working day.

The Contractor may only switch to the alternate installation technique when necessary and when approved by the Contract Administrator. When soil conditions are again favourable in the opinion of the Contractor and the Contract Administrator, the plow must again be used for tile installation as soon as possible. Failure to use the plow for installation when soil conditions are favourable in the opinion of the Contract Administrator may result in the extra payment for the given special installation method being deducted from the installation price.

NOTE: All costs associated with the removal of the plow, due to large stones, stony and/or poor soil conditions, as required for continued pipe installation with the plow or as required for pipe installation with an excavator shall be included in the associated bid or contingency items. All costs are to be included in the associated contingency costs as bid and no extra payment will be made for the removal of the plow, crew downtime, or other costs for this transition.

5.6 Private Systematic Drainage Systems

The Contractor is advised that at the time of submission of this Report, that various private drainage systems exist in the area of the installation of the proposed drain.

The location of existing private drainage systems shall be discussed at the Pre-Construction meeting and existing systems affected by the drain shall be located by the Contractor and reviewed with the Engineer and affected landowners prior to construction.

5.7 Utilities Investigation

A utilities investigation was undertaken during the design stage to determine possible elevation conflicts prior to the time of construction.

- A telephone cable was located within the Concession Road 2 South Durham Road right-of-way, to the north of the road surface.
- No other utility conflicts were found during our investigation.

The proposed drain has been designed to ensure that adequate separation exists between the drain and the utilities, however, all public and private utilities shall be

located by the Contractor prior to the construction of the proposed drain and utilities may require staff on-site during construction.

All utility locating and excavation shall be completed through coordination with the utility and in conjunction with all requirements outlined by the utility. Specialized equipment such as soil hydro-vacuum trucks shall be included in the associated item to the utility crossing.

6.0 General Construction

6.1 General

The following general conditions and requirements apply to this project:

- Install, maintain and remove any temporary sediment control measures as specified and/or directed by the Contract Administrator, Drainage Superintendent or the Conservation Authority.
- Spreading and levelling of excavated material, or disposal of all waste material off-site as directed by the Contract Administrator.
- Seeding of all disturbed areas within the right-of-way of the Russell Municipal Drain, Concession 2 South Durham Road, and Sideroad 25 South. All disturbed areas including areas within municipal drain ROW, the Concession 2 South Durham Road, and Sideroad 25 South ROWs, and all berms, shall be seeded with an approved seed mixture or as directed by and to the satisfaction of the Contract Administrator.
- Installation of the new pipe by drainage plow unless specified otherwise by the Engineer.
- Supply and place a minimum of 1.0 m width of rip-rap and geotextile on all sides of all catchbasins.
- Restore and rehabilitate the entire site and each access route to its pre-construction condition(s) or better.
- Post-construction restoration of the working area shall be to the satisfaction of the Contract Administrator.
- Any installed pipe shall be uncovered at minimum 25 m intervals along its length to have the location and elevation confirmed by the Contract Administrator.
- All pipe connection points in and adjacent to the identified wetland shall be watertight. This applies to both pipe to pipe and pipe to structure connections.

6.2 Directional Berms

Directional Berms shall be installed with catchbasins where noted. Typical berm height shall be 500 mm, top width of 300 mm, sideslopes of 1.5H:1V and length of 10 m, to the satisfaction of the Contract Administrator. The catchbasin rip-rap shall extend to form a small spillway over the directional berm (per the accompanying detail).

Directional berms shall be constructed of material containing suitable clay content to allow for direction of overland flow to catchbasins and are intended for minor ponding only.

6.3 Plastic Drainage Tubing (PDT) (Section E.2.3.1)

All PDT installed under these specifications shall be manufactured in accordance with the latest revision of the Drainage Guide for Ontario, as published by the Ministry of Agriculture, Food, and Rural Affairs.

All PDT shall be single wall drainage tubing (Ideal Pipe - HDPE drainage tubing or approved equal) and have a minimum pipe stiffness of 210 kPa and shall be solid pipe.

7.0 Description of Work

The specific items listed here are in addition to those described in the *Estimate of the Cost of Work* (Appendix B) and the *Standard Drain Specifications* (Appendix E). The numbering of each item references the corresponding item in the *Estimate of the Cost of Work*.

SECTION A– Main Drain

A2a. Channel Construction

(Sta. -0+030 to Sta. -0+010)

General. The channel bottom width and side slopes shall be excavated as described in the attached drawing set and to the satisfaction of the Contract Administrator.

A 10 m right-of-way has been provided on the north/west channel bank for access and working space. Spreading and levelling of spoil shall be completed within the working ROW to a maximum depth of 300 mm, however the spoil shall not be spread within 2 m from the top of the ditch bank.

During construction, surplus excavated subsoil material or material deemed unsuitable by the Contract Administrator for spreading in the ROW shall be loaded and trucked off-site by the Contractor for disposal and paid for at an additional cost or contingency as contracted.

Topsoil shall be stripped prior to the spoil being placed and spread back over the leveled spoil. The disturbed area shall then be seeded with an approved grass seed mixture (or approved equivalent). Vegetation growth to the satisfaction of the Contract Administrator must be observed prior to payment of the item.

A2b. Sediment Control Structure**(Sta. -0+030).**

Location: A temporary sediment control structure shall be constructed at the end of the proposed channel work (Sta. -0+030), immediately downstream of the permanent sediment basin and immediately upstream of the confluence of the Russell Municipal Drain and the existing natural watercourse. This shall be completed prior to any other sitework and construction shall be to the satisfaction of the Contract Administrator and the Drainage Superintendent.

Sediment Control Structure: The sediment control structure shall be constructed using three (3) lengths of 300 mm dia. treated woodchip sediment control socks (FILTREXX SILTSOXX or approved equal) and anchored into each side bank and the channel bottom to control channel baseflows. The socks shall be spaced approximately 4 m apart from one another, to allow for accumulated sediment cleanout with an excavator.

Rounded river stone shall be used to create check dams at each sock and to additionally anchor the socks (see accompanying drawing detail). Construction shall be to the satisfaction of the Contract Administrator and the Drainage Superintendent.

- Rounded river stone on the sediment control structure:
 - D_{50} = 300 mm dia.
 - D_{100} = 600 mm dia.
 - Approximately 300 mm minimum depth over the structures.

The sediment control structure shall be left in place for a period of one (1) year following the substantial completion of the drain and after that time, the bio-filters and accumulated sediment shall be removed, and the river stone formed into a shallow riffle structure by the Contractor.

In addition to the warranty holdback, an additional \$1,000 shall be held until the temporary sediment control structure has been removed. If removal does not occur in an acceptable timeframe, as determined by the Engineer, another Contractor shall be retained to complete the work using this holdback.

A2c. Permanent Sediment Basin**(Sta. -0+030 to Sta. -0+025).**

Location. A permanent sediment basin (approximately 5 m in length and 600 mm deep) shall be constructed immediately upstream of the sediment control structure at Sta. -0+030; or where directed by the Contract Administrator. This shall be completed prior to any other sitework and construction shall be to the satisfaction of the Contract Administrator and the Drainage Superintendent.

Maintenance. When necessary, during and at the completion of the project and/or when instructed by the Contract Administrator, the Contractor shall remove and spread any accumulated sediment within the working ROW.

The dug sediment basin shall be left in place permanently following the construction of the drain and thereafter shall be maintained by the Drainage Superintendent.

A2d. Stilling Basin

(Sta. -0+010 to Sta. 0+000).

A permanent stilling basin (Sta. -0+006 to Sta. 0+000) and spillway (Sta. -0+010 to Sta. -0+006) shall be installed immediately downstream of the outlet pipe at Sta. 0+000 as per the accompanying details to the satisfaction of the Contract Administrator.

The basin shall be lined with approximately 20 m² of rounded river stone in the base of the stilling basin and spillway from Sta. -0+010 to Sta. 0+000 per the accompanying detail in the drawing set.

- Rounded river stone in the channel bottom:
 - D₅₀ = 300 mm dia.
 - D₁₀₀ = 600 mm dia.
 - 600 mm depth.

Additionally, approximately 60 m² of R-50 quarry stone rip-rap (OPSS MUNI1004) complete with geotextile underlay shall be installed a minimum of 2 m diagonally on the basin banks from Sta. -0+010 to Sta. 0+000 and to the top of the outlet bank as erosion protection per the accompanying detail in the drawing set.

- R-50 quarry stone rip-rap (OPSS MUNI 1004) on the basin banks:
 - D₅₀ = 210 mm dia.
 - D₁₀₀ = 305 mm dia.
 - 450 mm depth complete with geotextile underlay.

The banks of the stilling basin and spillway shall be sloped at 2H:1V to match existing grade.

A3. Outlet Pipe

(Sta. 0+000 to Sta. 0+006)

One 6 m length of 450 mm dia. bell & spigot solid dual-wall (320 kPa) HDPE outlet pipe shall be connected to the proposed 375 mm dia. PDT. The bell joint connection with the two pipes shall be wrapped in a minimum 0.6 m width of geotextile (Terrafix 200R or equivalent).

A rodent grate shall be installed on the outlet of the pipe. The bank slopes at the outlet pipe shall be excavated 2H:1V and be lined with OPSS R50 rip-rap.

A4. (Items A4, A5) – PDT

(Sta. 0+006 to Sta. 0+085 and Sta. 0+105 to Sta. 0+307))

All PDT shall be manufactured in accordance with the latest revision of the Drainage Guide for Ontario, as published by the Ministry of Agriculture, Food, and Rural Affairs.

All PDT shall be single wall drainage tubing (Ideal Pipe - HDPE drainage tubing or approved equal) and have a minimum pipe stiffness of 210 kPa and shall be solid pipe.

Any installed pipe shall be uncovered at minimum 25 m intervals along its length to have the location and elevation confirmed by the Contract Administrator.

All pipe connection points in and adjacent to the identified wetland shall be watertight. This applies to both pipe to pipe and pipe to structure connections from Sta. 0+105 to Sta. 0+307 and/or as directed by the Contract Administrator.

A6. Concession 2 South Durham - Offset DICB

(Sta. 0+085)

A ditch inlet catchbasin shall be installed directly downstream of the outlet of the existing culvert crossing Concession 2 South Durham Road. The catchbasin shall be installed with a directional berm and rip-rap spillway as per the accompanying details.

The ditch inlet catchbasin shall be connected to the proposed observation box at Sta. 0+085 with approximately 6 m of 250 mm dia. dual-wall HDPE (320 kPa) pipe. The minimum grade of the connection pipe shall be 0.50%.

A7. (Items A7, A9) - Concession 2 South Durham – Inline OB and DICB

(Sta. 0+085 and Sta. 0+105)

The catchbasins at Sta. 0+085 and Sta. 0+105 shall be installed on the existing property line and grading shall be completed to ensure positive drainage of surface water to the catchbasins.

Associated directional berms shall be constructed per the accompanying details.

A8. Concession 2 South Durham – Subsurface Crossing

(Sta. 0+085 to Sta. 0+105)

General. The Concession 2 South Durham Road subsurface crossing shall be completed by the jack and bore method. The road crossing shall be completed within one (1) working day.

The location of the proposed boring pit shall be discussed with the Contractor at the pre-construction meeting regarding the existing utilities present. The location of the bore pit for the road crossing is at the discretion of the Contractor. Utility owners shall be advised of the boring projects and accommodated accordingly.

All utilities shall be located and daylighted prior to the boring commencing.

Traffic Control Plan. A traffic control plan shall be prepared and submitted to the Municipality of Brockton and the Contract Administrator by the Contractor a minimum of 10 days prior to the proposed start of construction of the bored crossing. *The plan must be approved by the Municipality and implemented by the Contractor prior to the beginning of the crossing construction.*

Construction. Topsoil shall be stripped for the entire area of the bore pit, including a 1 m setback and stockpiled. The topsoil shall be redistributed over the backfilled pit following construction.

Any existing tile connections in the bore pit shall be reconnected or connected to the new drain at the discretion of the Contract Administrator and shall be installed on a base of 19 mm (3/4 inch) dia. crushed clear stone on native ground along the entire length of the connection.

Any voids surrounding the pipe shall be filled with grout by the Contractor during pipe installation and shall be included with the cost of this line item.

Note: *Any settlement or impact caused to the road shall be the sole responsibility of the Contractor, per the Standard Drain Specifications. Any voids surrounding the pipe appearing post construction under the warranty period to the Owner shall be included with the cost of this line item.*

The Owner of the road ROW shall be contacted by the Contractor regarding any issues pertaining to the pipe installation on their property, prior to leaving the site. Issues shall be remedied to the satisfaction of the Contract Administrator and the Owner.

A10. Sideroad 25 South – Permeable Inlet Structure

(Sta. 0+307)

Permeable Catchbasin Installation. The top of the permeable catchbasin at 0+307 shall be raised approximately 300 mm above the existing field elevation and equal to the outlet road surface culvert invert, to promote ponding and infiltration during melt and rainfall events. The structure will include the DICB and four (4) buried surface water inlets (offset) per the accompanying detail in the drawing set. The installation of the entire permeable CB structure shall be to the satisfaction of the Contract Administrator.

Buried Surface Water Inlet (BSWI) Installation. Each of the four (4) BSWIs cells shall consist of approximately 10 m of 200 mm dia. perforated HDPE (320 kPa) dual-wall pipe c/w non-woven geo-textile filter pipe sock.

Each of the two (2) upper pipe cells shall be installed with approx. 4 m³ of 19 mm dia. clear stone per cell wrapped in geotextile (Terrafix 200R or approved equivalent), c/w an end cap as per the accompanying details in the drawing set. Similarly, each of the two (2) lower pipe cells shall be installed with approx. 4 m³ of pea gravel stone per cell wrapped in geotextile (Terrafix 200R or approved equivalent), c/w an end cap as per the accompanying details in the drawing set. OPSS R50 rip-rap shall be installed on the surface above the BSWI as per the accompanying details.

The BSWI shall be installed directly in the low area on the east side of the Sideroad 25 South ROW as directed by the Contract Administrator. The BSWI shall be connected to the proposed DICB at the four (4) provided knockouts on the north and south sides of the basin. The slope of each BSWI pipe shall be a minimum of 0.1%.

SECTION B – Contingency Items

This section covers work that may be required for this project. These items shall apply only as and when approved by the Engineer.

B1. Reconnection and/or Connection of Existing Tiles

Please refer to the Standard Drain Specifications (E.2.3.4 and E.2.3.5) for additional information.

General. The unit price bid for these items shall include all labour, equipment, and material required to reconnect/connect existing private tile drains encountered during construction to the drain.

Typically, existing private tiles encountered during construction will be reconnected to themselves per the detail in the accompanying drawings. In circumstances where, in the opinion of the Engineer, reconnection is not possible, private tiles may be connected to the new drain as noted and with the downstream side of the existing tile capped.

Reconnections (Section E.2.3.4). The unit price bid for this item shall include the reconnection of existing private tile drains encountered during construction across the trench to themselves, above the new Municipal Drain tile. Included in this price shall be all labour equipment and material required to support the tile connection above the new drain, consisting of OPSS 19 mm clear crushed stone under the connection to undisturbed native soil, and connection of the tile using solid dual-wall (320 kPa) HDPE pipe (or approved equal) across the trench as per the detail in the accompanying drawings.

Connections (Section E.2.3.5). The unit price bid for this item shall include all labour equipment and material required to connect existing private tile drains

encountered during construction, to the new municipal drain. Installation shall include appropriately sized dual-wall (320 kPa) HDPE pipe, connected to the new pipe using a core drilled hole and manufactured HDPE coupler fitting, including backfill with OPSS 19 mm clear crushed stone under the connection to undisturbed native soil and a minimum of 300 mm over top of the connection as per the detail in the accompanying drawings. Connections directly into the new drain without the use of a coupler will not be permitted.

Structure Connection. Existing tile drains shall be connected primarily to catchbasins through the provided knockouts when possible. Any proposed direct connections to the new municipal drain in the vicinity of catchbasins shall be approved by the Engineer prior to being installed.

Missed Reconnection/Connections. Missed connections and/or reconnections during construction shall be completed by the Contractor during the warranty period and paid at the Contract price. If the Contractor fails to complete the connection and/or reconnection within a reasonable timeframe in the opinion of the Engineer and/or the Municipality, the work shall be completed by a Contractor of the Engineer's choosing and the cost of the work deducted from the Contract holdback.

B2. R-50 Rip-Rap Erosion Protection (OPSS MUNI 1004)

For the unit price bid per square metre, the Contractor shall supply and install a 450 mm thickness of R-50 quarry stone rip-rap with geotextile underlay (OPSS MUNI 1004). These unit prices shall be used for payment for any rip-rap installed in addition to those quantities already specified in other items and for credit for any quantities of rip-rap deleted from other items.

- R-50 quarry stone rip-rap (OPSS MUNI 1004):
 - D_{50} = 210 mm dia.
 - D_{100} = 305 mm dia.
 - 450 mm depth complete with geotextile underlay.

Additionally, this will include areas of existing channel bank where erosion or bank slumping has occurred, as directed on-site by the Contract Administrator.

B3. 19 mm dia. Clear Crushed Stone (OPSS MUNI 1004)

For the unit price bid per tonne, the Contractor shall supply 19 mm (3/4 inch) dia. clear crushed stone. These unit prices shall be used for payment for any 19 mm clear crushed stone installed in addition to those quantities already specified in other items and for credit for any quantities of 19 mm clear crushed stone deleted from other items.

B4. Granular B Material (OPSS MUNI 1010)

For the unit price bid per tonne, the Contractor shall supply Granular B material. These unit prices shall be used for payment for any Granular B material installed

in addition to those quantities already specified in other items and for credit for any quantities of Granular B deleted from other items.

B5. Special Installation Techniques (Poor Soil Conditions)

Dual-Wall (320 kPa) HDPE Pipe

The Contractor shall install watertight bell and spigot 375 mm dia. solid HDPE dual-wall (320 kPa) pipe on a 150 mm depth of 19 mm (3/4 inch) diameter clear crushed stone and backfill to the springline as described in the schedule of unit prices per the detail in the accompanying drawings, with a hydraulic excavator.

The Contractor shall note that this unit price **replaces** the price bid for the applicable pipe items in other sections. This item shall be used only when the soil conditions encountered are such that a drainage plow cannot, in the opinion of the Contract Administrator, be used effectively to install the pipe. The Contractor must receive approval from the Contract Administrator prior to using this technique.

The installation shall be in accordance with the detail provided in the accompanying drawings, unless alternatively directed by the Contract Administrator.



BURNSIDE

Document G

Articles of Agreement

G. ARTICLES OF AGREEMENT

**Russel Municipal Drain
Contract No. 300038962.0000**

THIS AGREEMENT made the day of 20____

BY AND BETWEEN:

.....

(herein and throughout the Contract Documents
called the "Contractor")

- and -

MUNICIPALITY OF BROCKTON

(herein and throughout the Contract Documents
called the "Owner")

WITNESSETH

That the Owner and the Contractor in consideration of the fulfilment of their respective promises and obligations herein set forth covenant and agree with each other as follows:

ARTICLE I

- (a) This Agreement applies to the supply of all labour, material and equipment necessary to complete the Work as set out in this Contract.
- (b) This Agreement, together with the documents listed in clause 3.2 of Document A of the Bid Documents constitute the "Contract" and are to be read herewith and form part of the Contract as fully and completely to all intents and purposes as though all the stipulations thereof had been embodied herein.
- (c) The date from which this Contract is to be in force is the _____ day of _____, 20____.

(d) Interest

- (i) Subject to GC 8.02.04.09, Interest for Late Payment and GC 8.02.04.10, Interest for Negotiations and Claims, should either party fail to make payments as they become due under the terms of the Contract or in an award by arbitration or court, interest at a variable nominal rate per annum equal on each day to the Bank Rate then in effect plus one and one-half percent (1.5%) on the outstanding payment shall also become due and payable until payment.
 - (ii) Subject to GC 8.02.04.09, Interest for Late Payment and GC 8.02.04.10, Interest for Negotiations and Claims, interest shall apply at the rate and in the manner prescribed by the preceding section on the amount of any claim advanced and for which the Contractor is thereafter entitled to payment, either pursuant to GC 3.13, Dispute Resolution of the General Conditions, or otherwise, from the date the amount would have been due and payable under the Contract, had it not been in dispute, until the date it is paid.
- (e) The Contract supersedes all prior negotiations, representations, or agreements, either written or oral, relating in any manner to the Work, including the Bid Documents that are not expressly listed as forming part of the Contract Documents. The Contract may be amended only as provided in the Contract Documents. The Contract Documents shall ensure to the benefit of and be binding upon the parties hereto, their respective successors and permitted assigns.

ARTICLE II

THE CONTRACTOR UNDERTAKES AND AGREES:

- (a) To do all the work and furnish all the labour, equipment, materials, tools, plant, appliances and transportation necessary or proper for the performing and completing of the Work, as set forth in the Contract Documents, and in the manner and within the time specified in the Contract Documents and otherwise do and fulfill everything indicated by the Contract Documents.

The Contract Documents are intended to cover and provide for proper completed work in all respects, and everything necessary to carry out this intent which may reasonably be implied from the Contract Documents must be done by the Contractor, even if not explicitly referred to.

- (b) The Contractor shall guarantee the Work free from any defects in materials and workmanship under normal operating conditions throughout the Warranty Period as defined in the Contract.
- (c) The decision of the Contract Administrator is to be final and binding on the Contractor and the Owner as to the nature and cause of any defects and deficiencies in the Work and as to the remedy required for each and as to which party shall bear the cost of such remedy. Failure to comply with the directions of the Contract Administrator within forty-eight (48) hours after written notice may result in the Contract Administrator having the work performed by others and the cost thereof being deducted from the amount due to the Contractor.
- (d) To furnish the following:
 - i) Tender Deposit and Contract Security.
 - ii) Evidence of all Insurance required by the Contract Documents.
 - iii) Current Clearance Certificate from the Workplace Safety & Insurance Board (WSIB).
- (e) The Contractor hereby acknowledges and agrees that the cost of any item of work reasonably inferred to be necessary for proper completion of the Work, yet not specifically listed in the Schedule of Unit Prices is considered to be incorporated in the prices that are listed in Schedule of Unit Prices. The Contractor further acknowledges and agrees that the prices listed in Schedule of Unit Prices include, without limitation, duties, taxes, royalties, permits, customs, insurance, contract security, handling, transportation, overhead, profit and all other charges and expenses, except only for the Value Added Tax.

- (f) The Contractor also acknowledges and agrees that:
 - (i) The estimated quantities in the Schedule of Unit Prices are only approximate and are not a representation, warranty or guarantee of the number of units of each item that will be a part of the Work and the measured quantities of completed work or materials may vary from such estimated quantities. Such variation will not invalidate the Contract or the prices in Schedule of Unit Prices and the Owner shall have no liability or obligation to the Contractor in regard to such variation including, without limitation, incidental, consequential, direct, loss of profits, loss of opportunity, loss of good will, loss of revenue, special or other damages.
 - (ii) With the exception of the lump sum amounts for completed items set out in Schedule of Unit Prices, payment will only be made for the actual measured quantities of completed work performed or materials furnished as a part of the Work, as determined in accordance with the Contract Documents.
- (g) These amounts may be subject to adjustments as provided in the Contract Documents.
- (h) As such payments become due, the Contractor shall, in accordance with the terms of its agreements with any Subcontractors, pay all of its Subcontractors in full on account of work properly performed or Materials properly supplied, as applicable, less any holdback monies retained in compliance with the *Construction Act* (Ontario).

ARTICLE III

THE OWNER UNDERTAKES AND AGREES:

- (a) The Owner shall pay Contractor, for the performance of the Work, in accordance with the Contract Documents, the following:
 - (i) for the completed lump sum components of the Work, the lump sum amounts set out in Schedule of Unit Prices; and
 - (ii) for the completed unit price components of the Work, the aggregate amount of the actual number of units of measurement of each item multiplied by the appropriate unit price that is set out in the Schedule of Unit Prices.
- (b) Subject to, and in accordance with, the provisions of the Contract Documents, and the *Construction Act* (Ontario), the Owner shall:
 - (i) Make monthly progress payments to the Contractor on account of the Work performed when due in the amount certified by the Contract Administrator together with such Value Added Taxes as may be applicable to such amount certified by the Contract Administrator;
 - (ii) Upon Substantial Performance of the Work, pay to Contractor eighty percent (80%) of the statutory holdback (i.e., eight percent (8%) of the value of completed work) in respect of Work performed up to the date of Substantial Performance when due together with such Value Added Taxes as may be applicable to such payment.
 - (iii) The holdback amount for the warranty period will be \$2,500 or twenty percent (20%) of the statutory holdback, whichever is greater.
 - (iv) Upon the expiry of the Warranty Period, and rectification of all deficiencies and required completion of incomplete Work, pay to Contractor the remaining amount of the statutory holdback (i.e., two percent (2%) of the value of completed work) in respect of the Work performed up to the date of Substantial Performance, which the Owner has retained, when due together with such Value Added Taxes as may be applicable to such payment.

ARTICLE IV

All communications in writing between the parties or between them and the Contract Administrator shall be deemed to have been received by the addressee if sent to:

The Contractor at:

"[Contractor Name]"

"[Attention]"

"[Street No & Name]"

"[City & Province]" "[Postal Code]"

Or by fax "[Fax]"

Or by email "[email address]"

- and to the Owner at:

Municipality of Brockton

Fiona Hamilton, Clerk

100 Scott Street, P.O. Box 68

Walkerton ON N0G 2V0

Or by fax 519-881-2991

Or by email fhamilton@brockton.ca

- and to the Contract Administrator at:

R.J. Burnside & Associates Limited

Ed DeLay, M.Eng., P.Eng.

449 Josephine St., P.O. Box 10

Wingham ON N0G 2W0

Or by fax 519-357-3624

Or by email ed.delay@rjburnside.com

ARTICLE V

This Agreement shall ensure to the benefit of and be binding upon the parties hereto and their respective successors, executors, administrators and assigns. Note that the use of seals, while encouraged when available, is not mandatory.

IN WITNESS WHEREOF the Contractor and the Owner have respectively affixed their corporate seals and the hands of their proper officers on or about the day and year first above written.

Contractor

For the Contractor/Signature & Seal

Date Signed

Witness

MUNICIPALITY OF BROCKTON

Owner

For the Owner/Signature & Seal

Date Signed

Witness



BURNSIDE

Reference Documents

**[Note: Reference Documents do not form
part of the Bid or Contract Documents]**



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Central & Arctic Region
Fisheries Protection Program
867 Lakeshore Road,
Burlington, ON
L7S 1A1

Région centrale et de l'Arctique
Programme de protection des pêches
867 chemin Lakeshore
Burlington, ON
L7S 1A1

February 1, 2018

Your file Votre référence

300038962

Our file Notre référence

17-HCAA-00965

Municipality of Brockton
Attention: Julie Farrel
100 Scott Street, Box 68
Walkerton, Ontario
N0G 2V0

Subject: Pipe Installation, Dredging, Russell Municipal Drain, Municipality of Brockton, Ontario – Implementation of Measures to Avoid and Mitigate Serious Harm to Fish and Prohibited Effects on Listed Aquatic Species at Risk

Dear Ms. Farrel:

The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on July 4, 2017. We understand that you propose to:

- Enclosing a natural watercourse for approximately 307 linear meters from east of Sideroad 25 South to north of Concession 2 South Durham Road.
- Realign approximately 30 m of the existing watercourse from the proposed drain enclosure to the confluence of an Unnamed Tributary of the Saugeen River.

Our review considered the following information:

- DFO Request for Review, dated June 26, 2017
- Russell Municipal Drain Drawings, prepared by R. J. Burnside & Associates Limited, dated May 11, 2017.
- Email correspondence with Trevor Kuepfer (R.J Burnside & Associates) and Megan Lay (DFO) on September 28, 2017.
- Email correspondence with Ed Delay (R.J Burnside & Associates) and Megan Lay (DFO) on October 24, 2017.
- Technical Memorandum, prepared by R. J. Burnside & Associates Limited, dated December 1, 2017.

Your proposal has been reviewed to determine whether it is likely to result in serious harm to fish which is prohibited under subsection 35(1) of the *Fisheries Act* unless

authorized. Your proposal has also been reviewed to determine whether it is likely to affect listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*, unless authorized.

To avoid and mitigate the potential for serious harm to fish, we recommend implementing the measures listed below:

- Work outside of the restricted activity period of March 15 to July 15.
- Install sediment control socks at the drainage outlet.
- Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not result in serious harm to fish or prohibited effects on listed aquatic species at risk. As such, an authorization under the *Fisheries Act* or a permit under the *Species at Risk Act* is not required.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to avoid causing serious harm to fish and avoid prohibited effects on listed aquatic species at risk, any part of their critical habitat or the residences of their individuals.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery. Such notifications should be directed to <http://www.dfo-mpo.gc.ca/pnw-ppe/violation-infraction/index-eng.html>.

Please notify this office at least 10 days before starting your project. A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, provincial and municipal requirements that apply to your proposal.

If you have any questions, please contact Megan Lay at 905-336-6445, or by email at (Megan.Lay@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Rick Kiriluk

A/Senior Fisheries Protection Biologist, Marine and Coastal
Fisheries Protection Program

Copy:

Megan Lay, Fisheries and Oceans Canada

Ed DeLay, R. J. Burnside & Associates Limited

Michelle Gallant, Saugeen Valley Conservation Authority

Ed DeLay

From: Paul Elston <p.elston@SVCA.ON.CA>
Sent: Wednesday, October 03, 2018 9:52 AM
To: fhamilton@brockton.ca
Cc: Ed DeLay; Stephen Cobean; Dan Gieruszak
Subject: Proposed Russell Municipal Drain 2018

Dear Ms. Hamilton,

SVCA has received a copy of the "Notice of Meeting to Consider the Engineer's Report" pursuant to the provisions of the *Drainage Act, R.S.O. 1990. c. D.17, s.42*. A copy of the Engineer's Report dated September 2018 prepared by R.J. Burnside & Associates Limited for the Russell Municipal Drain 2018 accompanied the notice.

SVCA staff have reviewed the report and have the following comments:

- A portion of the route selected for the drain is within the boundary of the wetland area located on the Russell property (Lot 56, Concession 3);
- It has been the position of SVCA staff since the outset of this project that drainage of this wetland area would not be acceptable to SVCA staff. Drainage of the wetland area would be considered by SVCA staff to constitute interference with the wetland area and would be considered to be contrary to Regulation 169/06, as amended, the SVCA's Regulation of *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*;
- The construction of the drain through this wetland area is proposed to be solid plastic tubing installed by drainage plow. In this circumstance and provided the joints between the lengths of tubing are sealed, SVCA staff have no objection to the adoption of the report as submitted;
- However, one of the alternative means of constructing this portion of the drain is using an excavator to install HDPE with a bedding of crushed stone (Section 6.7.3 of the drainage report);
- SVCA staff is concerned that should it be necessary to use the alternative installation technique outlined in Section 6.7.3, interference with the wetland area would occur should groundwater infiltrate the joints between the HDPE pipe sections and/or the groundwater infiltrate the crushed stone bedding and then "pipe" along the bedding to the detriment of the wetland area.
- It is the opinion of SVCA staff that our concerns about the sealing of the joints (both plastic drainage tubing and HDPE pipe) and the placement of the HDPE with a crushed stone bedding as the alternative method of installation can be addressed through our permitting process. As such, Specific Conditions will be included in an SVCA permit that will address our concerns.
- In our opinion, it is not necessary for the Municipality to refer the report back to the engineer to specifically address these measures as they can be included appropriately during the construction of the drain.
- A permit from the SVCA under Regulation 169/06 (the SVCA's *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses* Regulation) will be required to be obtained for the work as described in the report.

R.J. Burnside & Associates Limited has submitted an Application to Alter a Watercourse form on behalf of the Municipality of Brockton. Once the drainage report by-law is given third reading, SVCA staff will consider the Application form to be complete and the SVCA review fee of \$ 775.00 will be due if it has not already been remitted. Please advise SVCA staff when the by-law is given 3rd reading so that the application form can be processed prior to the commencement of construction of the drain.

If you have any questions regarding this correspondence, please contact our office.

Sincerely,



Paul Elston, Regulations Officer
1078 Bruce Rd. 12, Box 150 Formosa ON N0G 1W0
519-367-3040 Ext. 225 Fax 519-367-3041
p.elston@svca.on.ca
www.svca.on.ca



PRIVACY DISCLAIMER: This e-mail (including any attachments) may contain confidential, proprietary, and privileged information and unauthorized disclosure or use is prohibited. If you received this e-mail in error, please notify the sender and delete this e-mail from your system. SAUGEEN VALLEY CONSERVATION AUTHORITY. Thank You!



BURNSIDE

Document B – Bid

**Bidders Shall Submit This
Document with Their Bid**