



**REPLACEMENT PINE STREET CULVERTS  
AT AGIMAK RIVER**

**TOWNSHIP OF IGNACE  
IGNACE, ONTARIO**





## REPLACEMENT OF PINE STREET CULVERTS AT AGIMAK RIVER

Electronic tender submission for the 2023 Pine Street Culvert Replacement project will be received by JML Engineering via email to [james@jmleng.com](mailto:james@jmleng.com) with cc. to [george@jmleng.com](mailto:george@jmleng.com), up to but not later than:

3:00 p.m. EST  
Tuesday, August 22, 2023

The scope of work, in general terms, involves replacing the existing 2.44 m dia. twin corrugated steel pipe (CSP) culverts on Pine Street at the Agimak River with new owner supplied 3.0 m dia. CSP Culverts. Scope also includes structural backfill, new asphalt pavement, concrete curb, sidewalks and guide rail.

Tenders shall be accompanied by a BID BOND in the amount of 10% of the Total Tender Price and an AGREEMENT TO BOND form. The successful Tenderer will be required to post a one hundred percent (100%) PERFORMANCE BOND and a fifty percent (50%) LABOUR AND MATERIALS BOND.

Tender documents are available from the Consultant at 105 Villa Street - 2nd Floor on Tuesday, August 8, 2023, upon receipt of a non-refundable deposit cheque in the amount of \$50.00 payable to JML Engineering LTD. Contract documents will be emailed in PDF form with hard copies available upon request. Contract Documents are also available through the Construction Association of Thunder Bay (CATB). **Prime Bidders must register and obtain tender documents from JML Engineering.**

The lowest or any tender will not necessarily be accepted.

All enquiries shall be made to:

JML Engineering Ltd.  
105 Villa Street - 2<sup>nd</sup> Floor  
Thunder Bay, ON P7A 7W5  
Phone: (807) 345-1131  
Email: [james@jmleng.com](mailto:james@jmleng.com)



Attention: Mr. James Huber, P.Eng., Project Engineer



**TOWNSHIP OF IGNACE  
TENDERER'S CHECK LIST**

Before submitting your tender, check the following points:

1. Has your tender been signed, sealed and witnessed? ( )
2. Have you enclosed the Tender Deposit, i.e. certified check or bid bond? ( )
3. Have you enclosed the Agreement to Bond, signed and sealed by your proposed Surety? ( )
4. Have you completed all schedules and prices in the Tender Form? ( )
5. Have you indicated and included the Contingency Allowance in the Form of Tender? ( )
6. Have you indicated the number of addenda included in the tender price? ( )
7. Have you completed the Undertaking to Comply with the Township of Ignace Policy on Contractor Safety? ( )
8. Have you signed the "Accessibility for Ontarians with Disabilities Act form? ( )
9. Have you listed your Sub-Contractors and major suppliers? (if applicable) ( )
10. Have you listed your Experience in Similar Work? ( )
11. Have you listed your Senior Staff? ( )
12. Have you listed the Tenderer's Plant? (if applicable) ( )
13. Have you completed Tendering Statements "A" to "F"? (if applicable) ( )
14. Are the documents complete? ( )

Design Engineer



James Huber, P.Eng.  
Project Engineer / Contract Administrator  
JML Engineering Ltd.

Design Checking Engineer



George McKay P. Eng.  
Senior Project Engineer  
JML Engineering Ltd.

END OF SECTION

## LIST OF CONTRACT DOCUMENTS

Section	Title
00010	Notice of Tender
00100	Information to Tenderers
00300	Tender Form
Form A:	Subcontractors and Suppliers
Form B:	Alternatives
Form C:	Undertaking to Comply
Form D:	Bid Bond and Agreement to Bond
Form E:	Indemnification Agreement
Form F:	Tenderer's Senior Supervisory Staff
Form G:	Tenderer's Experience in Similar Work
00310	Agreement
00800	Supplementary General Conditions
01000	General Requirements
01561	Environmental Protection
02510	Roads, Sidewalks & Appurtenances
02520	Excavation and Grading
02570	Excavation and Backfill of Trenches
	Special Provisions
	Geotechnical Report
	Standard Drawings

### Drawings:

Description	Drawing No.
General Arrangement New Construction Plan and Sections	C-1
Demolition – Plan and Elevation	C-2
Scope of Work, General and Material Notes	C-3
Sediment and Control Plan	C-4

### Ontario Provincial Standard Drawings

Description	Drawing No.
Hot Mix, Concrete, and Composite Pavement on Granular Base – Urban Selection	216.020
Light-Duty Silt Fence Barrier	219.110
Heavy- Duty Silt Fence Barrier	219.130
Straw Bale Flow Check Dam	219.180
Temporary Rock Flow Check Dam – V Ditch	219.210
Temporary Rock Flow Check Dam - Flat Bottom Ditch	219.211
Barrier for Tree Protection	220.010

Concrete Sidewalk	310.010
Concrete Sidewalk - Driveway Entrance Details	310.050
Cast Iron, Square Frame with Square Flat Grate for Catchbasins, Perforated Openings	400.100
Concrete Barrier Curb with Standard Gutter	600.040
Concrete Catch Basin Apron Barrier Curb with Standard Gutter	705.002
Precast Concrete Catch Basin 600x600 mm	705.010
Guide Rail System, Steel Beam Rail Component	912.101
Guide Rail System, Steel Beam Plastic Offset Blocks Component	912.103
Guide Rail System, Steel Beam Type M20 Steel Post With Offset Block and Base Plate Component	912.109
Guide Rail System, Steel Beam Rail Component M20 Steel Post with Offset Block Component	912.127
Guide Rail System, Steel Beam Steel Post with offset Block Assembly Installation - Single Rail	912.130
Guide Rail System, Steel Beam Leaving End Treatment Installation	912.235

Current editions of Ontario Provincial Standard Specifications, and MOE, AWWA, CSA, ASTM Standards referenced in the Project Specifications.

### General Special Provisions

Special No.	Issue Date	Special No.	Issue Date	Special No.	Date
100S55	Jan 2023	101F21	Nov 2014	199S18	June 1992
199S55	May 2004	199F57	May 2023	199S66	Aug 2019
741S03	Jan 2023				

**The following notes refer to Standard Special Provision (SSP) numbers for the General Special Provisions and Item Specific Special Provisions listed above.**

1. Special Provisions with an “S” identifier are available for viewing and download from the Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx> under the applicable tabs.

Special Provisions with an “S” identifier, that do not coincide with the most recent version published by MTO can be found in the archives section of the above noted locations by selecting the “Go to Archives” tab.

2. Special Provisions with an “F” identifier signifies that additional fill-in information has been added to the standard published version of the Special Provision. The entire text of fill-in Special Provisions shall be obtained directly from the Special Provisions section of the Contract Documents.

3. Special Provisions with an “M” identifier signifies that the standard published version of the Special Provision has been modified. The entire text of modified Special Provisions shall be obtained directly from the Special Provisions section of the Contract Documents.

### Standard Specifications

No.	Type	Date	No.	Type	Date	No.	Type	Date
0100	Muni	Nov 2019	0102	Muni	Nov 2018	0180	Muni	Nov 2021
0182	Muni	Nov 2021	0201	Muni	Apr 2019	0206	Muni	Apr 2019
0310	Muni	Nov 2017	0313	Prov	Apr 2021	0314	Muni	Nov 2019
0351	Muni	Nov 2021	0353	Muni	Nov 2021	0401	Muni	Nov 2021
0405	Muni	Nov 2017	0407	Muni	Nov 2021	0410	Muni	Nov 2018
0501	Muni	Nov 2017	0510	Muni	Nov 2018	0511	Muni	Nov 2019
0517	Muni	Nov 2021	0706	Muni	Apr 2018	0710	Muni	Nov 2021
0721	Muni	Nov 2018	0804	Muni	Nov 2014	0805	Muni	Nov 2021
0823	Muni	Apr 2017	0902	Muni	Nov 2021	0904	Muni	Nov 2012
0905	Muni	Nov 2017	0919	Muni	Nov 2021	0928	Muni	Apr 2019
1010	Muni	Nov 2013	1150	Muni	Nov 2020	1150	Muni	Nov 2020
1350	Muni	Nov 2019	1860	Muni	Nov 2018			

### Invoked Standard Specification Appendices

No.	Date	No.	Date
902-B	Nov 2021	919-B	Nov 2021

The following notes refer to Ontario Provincial Standard Specification (OPSS) numbers in for the Standard Specifications and Referenced Standard Specifications listed above.

1. OPSSs are available for viewing and download from the Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx> under the applicable tabs.

OPSSs that do not coincide with the most recent version published by OPS can be found in the archives section by selecting the “Archived” tab within the within the “Ontario Provincial Standards” tab.

### General Conditions

OPSS.Muni 100, MTO General Conditions of Contract, November 2019

This document is available for viewing and download from the Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx> under the “Ontario Provincial Standards” tab.

## NOTICE OF TENDER

PROJECT: Replacement Pine Street Culverts Agimak River

OWNER: Township of Ignace

CONSULTANT: JML Engineering Ltd.

GENERAL CONTRACTORS: Open Tenders

SUB-CONTRACTORS: Close with General Contractors

CLOSING DATE: 3:00 PM Eastern Standard Time on **Tuesday, August 22, 2023**, at the office of the JML Engineering, 105 Villa Street – 2<sup>nd</sup> Floor, Thunder Bay, ON P7A 7W5.

Address Tenders to the Attention of:

James Huber, P.Eng.  
Project Engineer / Contract  
Administrator  
Email: [james@jmleng.com](mailto:james@jmleng.com) and cc. [george@jmleng.com](mailto:george@jmleng.com).  
Subject line should read: 2023 Replacement Pine  
Street Culverts

BRIEF DESCRIPTION: The scope of work, in general terms, involves replacement of 2.44 m dia. twin culverts on Pine Street at the Agimak River with owner supplied, 3.0 m dia. twin culverts. Scope also includes structural backfill, new asphalt pavement, concrete curb, sidewalks and guide rail.

1.0 PROJECT TITLE

1.01 2023 Replacement Pine Street Culvert Replacement at Agimak River.

2.0 SCOPE OF WORK

2.01 The scope of work, in general terms, involves replacement of twin culverts on Pine Street at the Agimak River with owner supplied 3.0 m dia. twin culverts. Scope also includes structural backfill, new asphalt pavement, concrete curb, sidewalks and guide rail.

3.0 TYPE OF CONTRACT

3.01 Unit Price Contract

4.0 TENDER PACKAGE

4.01 Complete Tender packages may be picked up at the office of the Consultant.

5.0 PROJECT ORGANIZATION

5.01 The Owner is the Township of Ignace.

5.02 The Consultant is JML Engineering Ltd.

6.0 TIME, DATE, LOCATION AND REQUIREMENTS FOR FINAL RECEIPT OF BIDS

6.01 Time and Date set for final receipt of bids:

6.01.01 TIME: 3:00 P.M EASTERN STANDARD TIME

6.01.02 DATE: **Tuesday, August 22, 2023**

6.02 Tender submissions will be received by email to [james@jmleng.com](mailto:james@jmleng.com) and cc. [george@jmleng.com](mailto:george@jmleng.com) at the office of the Consultant located at:

JML Engineering  
105 Villa Street – 2<sup>nd</sup> Floor  
Thunder Bay, ON P7A 7W5

Attention: James Huber, P.Eng.  
Project Engineer / Contract Administrator

RE: 2023 Replacement Pine Street Culverts

- 6.03 The Tender envelope shall indicate the Contractor's name, return address and phone number.

7.0 GENERAL INQUIRIES

- 7.01 General Inquiries may be directed to:

7.01.01 JML Engineering Ltd.  
105 Villa Street, 2<sup>nd</sup> Floor  
Thunder Bay, ON P7A 7W5  
Attention: James Huber, P.Eng.  
Project Engineer / Contract Administrator

Phone: 807-345-1131  
Fax: 807-345-1229  
E-mail: [james@jmleng.com](mailto:james@jmleng.com)

8.0 SITE INVESTIGATION

- 8.01 Investigate local conditions by examining sites and related work.
- 8.02 Compare Tender Documents with work in place.
- 8.03 Compensation will not be made for failure to make proper site investigations or to fully understand the nature of the work.
- 8.04 A Mandatory Virtual Contractor Site meeting has been scheduled via Microsoft Teams for Tuesday August 15, 2023, at 10:00 am EST. A Microsoft Teams invite will be forwarded to all proponents that register as plan takers prior to the registration deadline of Monday, August 14, 2023, at 5:00 pm EST.

9.0 TENDER SUBMISSION

- 9.01 Electronic tender submission to [james@jmleng.com](mailto:james@jmleng.com) and cc. [george@jmleng.com](mailto:george@jmleng.com).
- 9.02 A complete Tender submission shall consist of the following:
- 9.02.01 Tender Form
  - 9.02.02 Breakdown of Total Tender Price
  - 9.02.03 Supplement to Tender Forms



Form A: List of Sub-Contractors and Suppliers  
Form B: Alternatives  
Form C: Undertaking to Comply  
Form D: Bid Bond and Agreement to Bond  
Form E: Identification Agreement  
Form F: Name of Supervisor  
Form G: List of Similar Project

## 10.0 OPENING OF TENDERS

10.01 The Owner will publicly open Tenders.

10.02 All tenders received will become the property of the Corporation of the Township of Ignace and as such are subject to the Freedom of Information and Protection of Privacy Act. Tenders will be analysed by the Consultant after which a Contract may or may not be awarded, subject to the Consultant's report. The lowest Tender or any Tender is not necessarily accepted. The Township reserves the right to reject any or all bids, to waive irregularities and information therein, and to award the contract in the best interest of the Township in its sole, unfettered discretion.

## 11.0 BID DEPOSIT

11.01 Each Tender shall be accompanied with a bid deposit in the form of:

11.01.01 A bid bond issued by a Surety Company acceptable to the Owner, in an amount of not less than 10% of the Total Tender Price. The bid bond must be signed and sealed both by the Surety Company and the Tenderer.

11.02 The bid deposit of the three lowest Bidders may be retained until either:

11.02.01 The Contract, including any required bonds or other documents, has been executed.

11.02.02 The Tenders have lapsed.

## 12.0 CONSENT OF SURETY

12.01 The Bidder shall include with his Tender a "Consent of Surety" submitted on a form supplied by the Surety Company and acceptable to the Owner and executed under the Surety Company's corporate seal. The Surety Company providing

documentation must be the company from which the Bidder proposes to obtain any performance, labour and material payment bonds as required by the Owner.

### 13.0 HEALTH & SAFETY MEETING MINUTES

- 13.01 During construction, health and safety meetings shall be conducted as required by the Occupational Health and Safety Act.

### 14.0 PERFORMANCE BOND

- 14.01 Prior to executing the Contract the Owner will require the successful Bidder to provide a performance bond in the amount of 100% of the bid amount. The bond shall be in the same form as CCDC Document 221, 1979 and shall be issued by a Surety Company acceptable by the Owner.

### 15.0 LABOUR AND MATERIAL PAYMENT BOND

- 15.01 Prior to executing the Contract the Owner will require the successful Bidder to provide and maintain in good standing until the fulfillment of the Contract, a Labour and Material Bond for 50 % of the value of the bid amount. The bond shall be issued by a Surety Company acceptable to the Owner.

### 16.0 VALIDITY OF TENDER

- 16.01 The Bidder agrees that his Tender submission and prices quoted in the Tender Forms are valid and open for acceptance by the Owner and shall be irrevocable for a period of sixty calendar days from the date set for opening Tenders.
- 16.02 The Bidder agrees that this Tender is subject to a formal Contract being prepared and executed.
- 16.03 The acceptance by the Owner of any Tender shall not release any of the three lowest Bidders from their Tender until either:
- 16.03.01 The Contract, including any required bonds and other documents, have been executed.
  - 16.03.02 The Tenders have lapsed.

### 17.0 WITHDRAWAL OR QUALIFYING TENDERS

- 17.01 A Bidder who has already submitted a Tender may submit a further Tender at any

time up to the official closing time. The last Tender received shall supersede and invalidate all Tenders previously submitted by that Bidder for this Contract.

- 17.02 A Bidder may withdraw or qualify his Tender by letter, provided the notice is received on or before the official closing time. No telephone calls, telex messages, telegrams, emails or fax messages will be considered.

## 18.0 INFORMAL OR UNBALANCED TENDERS

- 18.01 Tenders which are incomplete, conditional, illegible or otherwise obscure or that contain additions not called for, reservations, erasures, alterations, (unless properly identified and clearly made and initialed by the Tender signing officer), or irregularities of any kind may be rejected as informal.
- 18.02 All entries in the Tender shall be made in ink or by typewriter and the company seal affixed wherever signatures are required. Entries or changes made in pencil may be considered invalid or informal.
- 18.03 Tenders that contain prices that appear unbalanced as likely to adversely affect the interests of the Owner may be rejected.
- 18.04 The Owner reserves the right to waive informalities at his discretion.
- 18.05 The Owner reserves the right to reject any or all Tenders. The lowest Tender may not necessarily be accepted.

## 19.0 DISQUALIFICATION OF TENDERS

- 19.01 No Tender shall be considered that:
- 19.01.01 Is received after the official closing time set for receipt of Tenders.
  - 19.01.02 Is not accompanied by the required bid deposit.
  - 19.01.03 Is received by facsimile transmission.
  - 19.01.04 Is not sealed in opaque envelope and labeled as per Section 6 of the Bidding Instructions.

## 20.0 OMISSIONS, DISCREPANCIES AND INTERPRETATIONS

- 20.01 Should a Bidder find omissions or discrepancies in any of the Tender Documents, or should he be in doubt as to the meaning of any part of these documents, he

should notify the Consultant in writing not later than 5 working days before closing date for the Tender. If the Consultant considers that a correction is necessary or desirable, he will issue an Addendum. No oral interpretations shall modify any provisions of the Tender Documents.

## 21.0 APPROVAL OF EQUALS

- 21.01 Whenever in the specifications a material is specified by trade names, manufacturer's name or by catalogue reference, use only such items unless written approval is obtained from the Consultant prior to the closing date for the Tender.
- 21.02 Submit to the Consultant two sets of complete descriptive literature and performance data with all required scaled physical arrangement drawings, manufacturer's data and specifications and other information relating to the construction and performance of the apparatus.
- 21.03 The Consultant will not process any application for "approved equal", status received less than 5 working days before the closing date set for Tenders.

## 22.0 PROPOSED ALTERNATIVES

- 22.01 A Bidder may submit with his Tender a proposed alternative item of equipment or material that has not been approved equal, but that the Bidder wishes the Owner to consider because of superior quality or other potential cost savings. In this event the Bidder shall include with his Tender, full descriptive literature and performance data and list in Form C: Alternatives, of the Tender Documents, the addition to or deduction from his Total Tender Price if authorized by the Owner. The price quoted shall include the cost of all revisions required to incorporate the alternative item in the original design.
- 22.02 Indicate "N/A", in the Alternatives Form if no alternatives are submitted at time of tendering.

## 23.0 CONTINGENCY ALLOWANCE

- 23.01 A Contingency Allowance has been included in the Tender Forms.

## 24.0 PRICES

- 24.01 Each Bidder shall state a price in Canadian funds for each item of Work identified on the Breakdown of Total Tender Price.
- 24.02 Goods and Services Tax and Company registration numbers should be clearly

identified on all invoices and/or requests for payment. The amount of the goods and services tax shall be clearly identified.

## 25.0 MATERIAL TESTING

25.01 The cost of all material testing will be paid direct by the Township of Ignace.

## 26.0 ADDRESS OF BIDDER

26.01 Each Bidder shall insert in the Tender Form an address to which communications can be mailed.

## 27.0 CORRECTIONS TO INCORRECT TENDER PRICING CLAUSE

27.01 Tenders that contain prices which appear to be so unbalanced as likely to adversely affect the interest of the owner may be rejected.

27.02 Whenever the amount tendered for an item does not agree with the extension of the tender quantity and the tendered unit price, the unit price shall govern and the amount and the Total Tender Price shall be corrected accordingly.

27.03 Mathematical discrepancies will be corrected by the Owner by appropriate means to arrive at the correct Total Tender Price. Where an error has been made in transferring an amount from one part of the tender to another, the amount shown before transfer shall, subject to any corrections as provided for above, be taken to be correct and the amount shown after transfer and the Total Tender Price shall be corrected accordingly.

**SECTION 00300 - TENDER FORM**

1. TENDER FOR THE CONSTRUCTION OF

**REPLACEMENT PINE STREET CULVERTS AT AGIMAK RIVER**

1.1 SUBMISSION

The following Tender is hereby submitted to:

The Corporation of the Township of Ignace  
34 Main Street (Hwy 17)  
PO Box 248  
Ignace, ON P0T 1T0

Hereinafter called the “Owner”

On behalf of:

---

Contractor

---

Address

---

Email Address

---

Phone Number

hereinafter called the “Tenderer”

- 1.1.1 (We), the undersigned, having fully examined the locality and Place of the Work, having fully investigated the conditions of the Work, having read and understood the Contract Documents (comprised of the tendering information, supplementary general conditions, general conditions, specifications and drawings, including all supplements, addenda and revisions to same to the date of this tender) and having secured all of the information necessary to enable the submission of this tender, hereby agree and offer to perform the totality of the Work described in the

Contract Documents, in accordance with the Contract Documents, for the Total Tender Price (including H.S.T. and contingencies) of:

\_\_\_\_\_ (\$\_\_\_\_\_)

## 1.2 CONTINGENCIES AND ALLOWANCES

We agree that the Tender Price includes the contingency sum of \$ 100,000.00, and that no part of these sums shall be expended without the written direction of the Contract Administrator, and any part not so expended shall be deducted from the Contract Price.

## 1.3 QUANTITIES

The Tender Price is compiled from the Schedule of Prices included hereinafter. The quantities in the schedule being approximate, we agree that the final valuation will be made on the basis of actual quantities measured during and on completion of the Work at the unit prices in the schedule.

## 1.4 ADDITIONS AND DEDUCTIONS

1.4.1 The Tenderer agrees that, if this tender is accepted by the Owner:

- (i) it will carry out any additional or extra work (including the supplying of any additional Products pertaining thereto) or will delete any work as may be required by the Contract Administrator in accordance with the Contract; and,
- (ii) the carrying out of any work referred to in paragraph (i) above or the issuance by the Contract Administrator of a Contract Change Order relating to such work or the acceptance by the Tenderer of such Contract Change Order shall not, except as expressly stated in such Contract Change Order, waive, affect or vary any of the terms of the Contract or of an Contract Change Order previously issued by the Contract Administrator or any of the rights of the Owner or of the Contract Administrator under the Contract.

1.4.2 The Tenderer agrees that, if this tender is accepted by the Owner the prices applicable to work referred to in paragraph 1.4.1 above shall be determined as follows:

- (i) The Schedule of Tender Prices shall apply where applicable;
- (ii) If the above Schedule is inapplicable the prices shall be determined in accordance with the General Conditions as amended by the Supplementary General Conditions.

### 1.5 ADDENDA

We agree that we have received Addenda \_\_\_\_\_ to \_\_\_\_\_ inclusive, and the tender price includes for the provisions set out in such Addenda.

### 1.6 CONTRACT TIME

We agree to commence the Work as specified, to proceed continuously to the completion of the Work described by **October 31, 2023**.

### 1.7 BREAKDOWN OF TOTAL TENDER PRICE

The Tenderer hereby offers to complete the works specified in the Contract Documents for the following prices:

Item No.	Spec.	Description	Unit	Approx Qty.	Unit Price	Total Amount
001	SP	MOB/DEMOB/INSURANCE	lump sum	1		
002	182 SP	ENVIRONMENTAL PROTECTION	lump sum	1		
003	510	REMOVE ASPHALT	m <sup>2</sup>	310		
004	510	REMOVALS (CURB/GUTTER, SIDEWALK, GUIDE RAIL)	lump sum	1		
005	201 SP	CLOSE CUT CLEARING AND GRUBBING	lump sum	1		
006	902 SP	EXCAVATION	m <sup>3</sup>	1860		
007	410	REMOVE CATCH BASIN AND LEADS	lump sum	1		
008	407 SP 410 SP	NEW CATCH BASINS AND LEADS	lump sum	1		
009	517	TEMPORARY FLOW PASSAGE SYSTEM	lump sum	1		
010	902 SP	DEWATERING SYSTEM	lump sum	1		
011	510 SP	DEMOLISH PIPES	each	2		



Item No.	Spec.	Description	Unit	Approx Qty.	Unit Price	Total Amount
012		SUPPLY NEW BARRELS (OWNER SUPPLIED)			Owner Supplied	Owner Supplied
013	410 SP	INSTALL NEW BARRELS	lump sum	1		
014	823 SP	STREAMBED MATERIAL	lump sum	1		
015	902 SP	GRANULAR A ROAD BASE	tonnes	110		
016	902 SP	GRANULAR B1 ROAD BASE	tonnes	380		
017	902 SP	GRANULAR B2 STRUCTURAL BACKFILL	tonnes	2250		
018	353	CURB AND GUTTER	li. m	80		
019	351	SIDEWALK	m <sup>2</sup>	60		
020	310 SP	ASPHALT	tonnes	65		
021	721 SP	GUIDE RAIL	li. m	50		
022	511 SP	ROCK PROTECTION C/W GEOTEXTILE	m <sup>2</sup>	150		
023	804 SP	HYDRAULIC SEED AND MULCH	lump sum	1		
024	1860	GEOTEXTILE	lump sum	1		
CONTINGENCY						\$ 100,000.00
SUBTOTAL						
H.S.T.						
TOTAL TENDER PRICE						

## 1.8 ADDITIONS/DELETIONS

The following items shall be considered for additions/deletions to the Contract:

Item	Description	Unit	Addition	Deletion
A	Granular B Type II for Engineered Granular Fill For Structure	Tonnes	_____	_____
B	Granular B Type I	Tonnes	_____	_____
C	Granular A	Tonnes	_____	_____

## 1.9 DECLARATIONS OF TENDERER

- (i) The Tenderer declares that no person, firm, or corporation other than the Tenderer has any interest in this tender or in the proposed Contract for which this tender is made.
- (ii) The Tenderer declares that this tender is made without any connection, comparison of figures or arrangement with, or knowledge of, any other corporation, firm or person making a tender for the same Work and is in all respects fair and without collusion or fraud.
- (iii) The Tenderer declares that any omissions in Tendering Statements A to F will be submitted within two working days after the opening of tenders.

## 1.10 CONDITIONS OF TENDER

This tender is irrevocable from the official closing time and is unconditionally open for acceptance for 60 days after the official closing time, whether any other tender has been previously accepted or not.

## 1.11 DISCLAIMER

The Tenderer agrees and acknowledges there is no representation, warranty, collateral agreement, or condition, whether direct or collateral, or expressed or implied, which induced the Tenderer to submit this tender, or on which reliance is placed by the Tenderer, or which affects this tender.

## 1.12 SIGNATURES

Offered by the Tenderer \_\_\_\_\_ this  
\_\_\_\_\_ day of \_\_\_\_\_ 2023.

\_\_\_\_\_  
Signature of Tenderer, Title

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Signature of Tenderer, Title

\_\_\_\_\_  
Signature of Witness

**NOTE: In the case of a tender submitted by a Corporation, the signatory or signatories warrant as follows:**

**“I/We have authority to bind the Corporation.”**

**If the tender is submitted by an individual or partnership, it is deemed to be given under seal.”**

**1.0 FORM A: Subcontractors and Suppliers**

Quote the name and address of each proposed subcontractor or supplier. After the Tender has been accepted by the Owner, substitutions of subcontractors and suppliers named will not be allowed without written approval of the Consultant. Use a separate sheet if the space below is not sufficient. The list is also intended for manufacturers and fabricators.

<b>Subtrade Section or Equipment</b>	<b>Name and Address of Subcontractor</b>

NOTE: Failure of the bidder to complete FORM "A" may be grounds for rejecting the Tender.

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Signature of Tenderer (Seal)

Signature of Tenderer (Seal)

### **3.0 FORM C: Undertaking to Comply**

Name of Contractor \_\_\_\_\_

Description of Contract \_\_\_\_\_

Name of Authorized  
Representative  
of the Contractor \_\_\_\_\_

1. I / We hereby undertake:

- (a) to comply with all applicable health and safety and environmental legislation in the performance of this contract;
- (b) to maintain a safe and healthy work environment during the performance of this contract.
- (c) that a Joint Health & Safety Committee or the appointment of a Health & Safety Representative is undertaken as applies to the Occupational Health & Safety Act.

2. I / We hereby agree:

- (a) that compliance with all health & safety and environmental legislation is a condition of the contract and that noncompliance with same may, at the Corporation of the Township of Ignace (hereinafter the Corporation or the Township) discretion, lead to the termination of this Contract;
- (b) to permit the Corporation to audit my/our health and safety and environmental records during the term of the contract and upon its conclusion and to co-operate fully with any such audit(s).

3. I / We understand that contractor safety deficiencies will be addressed by the Corporation in the following progressive steps:

- (a) The infraction(s) will be identified to the Contractor (site supervisor) verbally and documented as such.
- (b) The Contractor's Head Office will be contacted about the infraction(s), orally and in writing.
- (c) if the infraction(s) remain, a written notice will be presented to the Contractor's Head office and a fine of a minimum of \$100.00 up to a maximum of \$1,000.00 per infraction will be deducted from the payment due to the Contractor.
- (d) if required by law to immediately report the infraction(s), the Corporation shall report the infraction to the appropriate Ministry(ies).
- (e) If not required by law to report the infraction(s), the Corporation may report the infraction to appropriate Ministry(ies)
- (f) The Corporation may, in the Corporation's discretion, suspend or terminate the contract and/or withhold payment by the Corporation.

4. I / We acknowledge and agree:

- (a) depending upon the nature and/or seriousness of the deficiency, the Corporation reserves the right to bypass any or all of the steps described in section 3 sections (a) through (f).

5. I / We hereby acknowledge:

- (a) receipt of a copy of the Corporation's Contractor Safety Policy and that I/we understand and undertake to adhere to the terms of this Policy and to co-operate with the Corporation in its efforts to ensure compliance thereunder.

I / We have the authority to bind the Contractor,

\_\_\_\_\_ (DATE)

SIGNED, SEALED AND DELIVERED

in the presence of

Per:

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
NAME OF CONTRACTOR

\_\_\_\_\_  
SIGNATURE

Name of Administrator of Contractors Health & Safety Program:

\_\_\_\_\_

NOTE: Failure of the bidder to complete FORM "C" may be grounds for rejecting the Tender.

**4.0 FORM D: Bid Bond and Agreement to Bond (Page 1 of 2)**

KNOW ALL MEN BY THESE PRESENTS THAT

\_\_\_\_\_  
(hereinafter called the "Principal") and

\_\_\_\_\_  
(hereinafter called the "Surety"), are held and firmly bound unto The Township of Ignace (hereinafter called the "Obligee") in the sum of ten percent (10%) of the Total Bid Price set out in the Tender Submission hereinafter described, for the payment of which sum the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has submitted a Bid to the Obligee dated the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_ for

TOWNSHIP OF RED IGNACE  
2023 PINE STREET CULVERT REPLACEMENT

as more fully set out in the Tender Package.

NOW THEREFORE the condition of this obligation is such that if the Bid of the Principal is not accepted, or if said Bid is accepted and the Principal, in accordance with the terms of the Bid, enters into a Contract with the said Obligee and furnishes the required performance security for guaranteeing the faithful performance of the Contract, this obligation shall be void, but otherwise shall remain in full force and effect.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_ .

SIGNED AND SEALED  
in the presence of:

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)



**4.0 FORM D: Bid Bond and Agreement to Bond (Page 2 of 2)**

**AGREEMENT TO BOND**

(to be attached to and to form part of Bid Bond)

The Surety on the attached Bid Bond hereby undertakes and agrees with THE TOWNSHIP OF IGNACE to become bound as Surety for the Principal,

\_\_\_\_\_ of  
(Name of Bidder)

\_\_\_\_\_  
(Place)

the Bidder to you on \_\_\_\_\_, 20  
for

TOWNSHIP OF IGNACE  
2023 PINE STREET CULVERT REPLACEMENT

in an amount equal to one hundred percent (100%) of the Contract Price for the due and proper performance of the Work shown and described in the Tender Package, if our Principal's Bid is accepted by you, such Performance and Labour and Material Bonds to be maintained and continue in full force and effect until the expiration of the warranty period. The Performance Bond and Labour and Material Bonds shall be in the form specified in the Tender Package.

It is a condition that this Agreement to Bond shall become null and void if the Performance Bond Labour and Material Bonds mentioned above are not required from our Principal within sixty (60) Calendar Days following the Submission Deadline.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_, 20

.

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Attorney-in-Fact)

Note: Failure of the bidder to complete Form D may be grounds for rejecting the Tender.

**5.0 FORM E: Indemnification Agreement**

**CORPORATION OF THE TOWNSHIP OF IGNACE INDEMNIFICATION AGREEMENT**

**In consideration of the Corporation of the Township of Ignace (the Town) agreeing to contract with the undersigned \_\_\_\_\_  
(name of contractor)**

hereby agrees and covenants that it/he/she shall indemnify and save harmless the Town and all persons for whom it is in law responsible, from any and all claims, action suits, damages or costs arising or alleged to arise from the action, default or negligence of the undersigned, its agents or servants in its/his/her performing work or supplying materials on Town property, or elsewhere at the Town's request.

This indemnity shall include all administrative costs, adjusting costs and legal costs on a substantial indemnity basis.

This indemnity shall be limited in respect to work performed or services supplied between \_\_\_\_\_ and \_\_\_\_\_.

Dated \_\_\_\_\_ 2023.

\_\_\_\_\_  
(name of contractor)

Per: \_\_\_\_\_  
(signature)



**SECTION 00310 - AGREEMENT**

The Corporation of the Township of Ignace

Replacement Pine Street Culverts at  
Agimak River

**AGREEMENT**

This Agreement made in triplicate this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, between  
\_\_\_\_\_ hereinafter called "The Contractor"

AND

\_\_\_\_\_ hereinafter called "The Owner"

WITNESSETH that The Contractor agrees with The Owner to perform all the work in accordance with the Contract Documents referred to in the tender of The Contractor dated the \_\_\_\_ day of \_\_\_\_\_ (which shall be deemed to form part of this Contract) to the satisfaction of the Engineer for the total contract price of \$\_\_\_\_\_ which Contract Documents are attached hereto and which are hereby expressly made part of this Contract.

The Owner hereby agrees with The Contractor that, in consideration of the work being performed by The Contractor as specified, The Owner shall pay The Contractor for said work in accordance with the provisions set out in the attached Contract Documents.

Time shall be deemed the essence of this Contract.

IN WITNESSED WHEREOF the parties hereto have executed this Agreement under their respective corporate seals and by the hands of their proper officers thereunto duly authorized.

SIGNED, SEALED AND DELIVERED  
In the presence of:

OWNER

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Name and Title

CONTRACTOR

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Name and Title

**Note: In the case of a tender submitted by a Corporation, the signatory or signatories warrant as follows:**

**“I/We have the authority to bind the Corporation”**

**If the tender is submitted by an individual or partnership, it is deemed to be given under seal.**

The Ontario Provincial Standards [OPS] General Conditions of Contract, November 2006, are modified as follows:

## SECTION GC1 - INTERPRETATION

### GC1.04      Definitions

The definitions of “Addendum”, “Controlling Operation”, and “Subcontractor” in Subsection GC1.04 are deleted and replaced by the following:

“Addendum” means an addition to or a change in the Contract Documents that is issued by the Contract Administrator prior to the tender closing.

“Controlling Operation” means any component of the Work, as determined by the Contract Administrator, which, if delayed, will delay the completion of the Work.

“Subcontractor” means a person, firm or corporation undertaking the execution of a part of the Work by virtue of an agreement with the Contractor which has been approved by the Owner.

Subsection GC1.04 is amended by the addition of the following definitions:

“Corporation” means the same as the “Owner”.

“Engineer” means the Contract Administrator solely in charge of this Contract.

“Ministry” means the Ministry of Transportation of Ontario. Any reference to the Ministry or the Ministry of Transportation and Communications found in this Contract shall mean the “Owner”.

“Project Specifications” means Ontario Provincial Standard Specifications, and Special Provisions. The OPS specification in effect when the call for tenders for this contract were advertised shall apply for the duration of the contract.

“Provide” means supply all labour, materials, equipment, handling and cartage required to complete installation of the item concerned.

### GC1.05      Substantial Performance

Paragraph 01)(a) of Subsection GC1.05, is deleted and replaced by the following:

- a) when the Work or a substantial part thereof has passed inspection and testing and is ready for use or is being used for the intended purposes; and is ready for use.

GC1.07 Final Acceptance

Subsection GC1.07 is amended by the addition of the following paragraph:

- 02) In addition to all other prior requirements Final Acceptance will not occur until the Work has passed all inspections and testing requirements.

SECTION GC2 – CONTRACT DOCUMENTS

GC2.01 Reliance on Contract Documents

Paragraph 01)(a) of Clause 2.01 is deleted and replaced by the following:

- 01)(a) The Contractor shall assume full responsibility for obtaining the exact locations of underground utilities. The Contract Administrator does not warrant the correctness or completeness of the Plans with respect to existing public utilities and services whether underground or on the surface. The Contractor shall have no claim for additional compensation, if, in uncovering and carrying out the work, it should find that the actual location of existing utilities does not correspond with the locations shown on the Plans.

SECTION GC3 - ADMINISTRATION OF THE CONTRACT

GC3.07 Delays

Paragraph 01) of Subsection GC3.07 is deleted and replaced by the following:

- 01) If the Contractor is delayed in the performance of the Work by:
  - a) war, blockades, and civil commotions, errors in the Contract Documents, an act or omission of the Owner, Contract Administrator, other contractors, or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the Contract Documents; or
  - b) 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; or

- c) the Contract Administrator giving notice under Subsection GC7.10, Suspension of Work; or
- d) abnormal inclement weather; or
- e) archaeological finds in accordance with Subsection GC3.15

then the Contractor shall **not** be reimbursed by the Owner for any costs incurred by the Contractor as the result of such delay. Any delay in the performance of the work shall be considered for the extension of Contract Time only.

In the case of an application for an extension due to abnormal inclement weather, the Contractor shall, with the Contractor's application, submit evidence from Environment Canada in support to such application. Extension of Contract Time will be granted in accordance with Subsection GC3.06, Extension of Contract Time.

Subsection GC3.07 is amended by the addition of the following paragraph:

- 04) The Contractor shall not have any claims for compensation or damages against the Owner for any stoppage or delay from any cause whatever, whether such stoppage or delay shall be caused by or result from the action or neglect of any other contractor, or shall be caused by or result from the work being out of the hands of the Contractor, or any other contractor, by the Owner under the provisions of this Contract made with such other contractor.

#### GC3.08 Assignment of Contract

Subsection GC3.08 is amended by the addition of the following paragraph:

- 02) No assignment of this contract in whole or in part shall be valid unless it shall contain a provision that the funds to be paid to the assignee under the assignment are subject to the prior lien for services rendered or material supplied for the performance of the work called for in the Contract in favour of persons, firms, or corporations rendering such services or supplying such materials.

#### GC3.10.01 Changes in the Work

Paragraph 03) of Subsection 3.10.01 is deleted and replaced by the following:



- 03) The valuation of additions to, and deductions from, the Contract shall be made as follows:
- a) The prices in the Schedule of Prices or Provisional Items shall apply where appropriate as determined by the Contract Administrator.
  - b) If the prices in Clause (a) are not appropriate, valuation will be made by one of the following methods:
    - i] Contract Administrator may ask the Contractor for a Quotation for the proposed work.
    - ii] If the Quotation referred to in [i] above is not accepted by the Contract Administrator, the actual cost of the work will be determined on a Time and Material Basis in accordance with the OPS General Conditions, Supplementary General Conditions, Project Specifications and Special Provisions.
  - c) Whenever extra work is being performed under Subsection (b) (ii) above, the Contractor shall submit daily reports in writing, to the Contract Administrator, indicating the total chargeable costs incurred, for the day. Valuation of the extra work being so performed will be made by the Contract Administrator on the basis of approved daily reports.

GC3.11 Notices

Paragraph 01) of Section 3.11 is amended by adding the following:

- 01) E-mail notification is also permitted.

Section GC3 is amended by adding a new Subsection GC3.16, as follows;

GC3.16 Township of Ignace Policy on Contractor Safety

- 01) Policy Statement:

All contractors or land developers working on municipal projects are required to work in compliance to The Ontario Occupational Health and Safety Act and Regulations. All contractors working on Township streets and roads will comply with the Ontario Traffic Manual – Book 7.

Failure to comply to will be considered a breach of contract and may result in work stoppage, Ministry of Labour involvement, or in termination of the contract.

- 02) Contractor safety deficiencies will be addressed by the Township in the following progressive steps:
- a. The problem will be identified to the contractor (site supervisor).
  - b. The contractor's head office will be contacted about the problem, orally and later in writing.
  - c. If the problem remains unresolved then the Ministry of Labour will be notified of the violation and if necessary the work will be stopped until the problem is corrected.
  - d. The contract may be terminated by the Township.

#### SECTION GC4 - OWNER'S RESPONSIBILITIES AND RIGHTS

##### GC4.02 Approvals & Permits

Paragraph 02) is deleted and replaced with the following:

- 02) The Contractor shall obtain and pay for all permits, licences and certificates solely required for project approval.

##### GC4.04 Construction Affecting Railway Property

Paragraph 01) of Subsection GC4.03 is deleted and replaced by the following:

- 01) When construction affects railway property, the Owner will pay the costs of all flagging and other traffic control measures required and provided by the railway company within the Working area unless such costs are solely a function of the Contractor's chosen method of completing the work.

##### GC4.06 Contractors Right to Correct Default

Paragraphs 01), 02) and 02)(a) of Subsection GC4.06 are amended as follows:

- 01) change reference from five [5] to three [3] full working days.  
02) change reference from five [5] to three [3] full working days.  
02)(a) change reference from five [5] to three [3] full working days.

Section GC4 is amended by the addition of a new Clause, GC4.14, as follows:

GC4.14 Personnel Employed by Contractor

- 01) The Contractor shall not employ or hire any Township employees who are employed in the Transportation & Works Department.

SECTION GC6 - INSURANCE, PROTECTION AND DAMAGE

GC6.01 Protection of Work, Persons and Property

Subsection 6.01 is amended by the addition of the following paragraph:

- 06) When carrying out excavation work, the Contractor **will** encounter such underground utilities as sewers, gas mains, telephone cables, power cables, and watermain. The Contractor shall be fully responsible for any breakage or damage to such utilities, and the Contractor shall pay the full cost of repairing such damage and making good any losses or damages which are caused as a result of his operation in carrying out this Contract.

GC6.03.02 General Liability Insurance

Paragraph 01) and 02), of Clause GC6.03.02 are deleted and replaced with the following:

- 01) The Contractor shall obtain and maintain Comprehensive General Liability Insurance against Bodily Injury and Property Damage claims with respect to all work to be performed under this contract. Such Insurance shall:
- a) be in the joint names of the Contractor, the Township of Ignace, JML Engineering Ltd., Her Majesty the Queen Right in Ontario and all sub-contractors of either employed directly or indirectly in the work to be performed;
  - b) contain a Cross Liability Clause;
  - c) include coverage for:
    - i] Completed Operations, which coverage shall be maintained continuously in force for a period of not less than 24 months from the date of the Certificate of Total Performance of the Work
    - ii] Blanket Contractual Liability
    - iii] Contingent Employers Liability
    - iv] Non-owned Automobile Liability
    - v] Broad Form Property Liability

- vi] Excavation
- d) where applicable, include coverage for:
  - i] Underpinning, shoring
  - ii] Demolition
  - iii] Building raising or moving
  - iv] Blasting or the Use of Explosives
  - v] Tunnelling
  - vi] Pile driving, caisson work
  - vii] Use of aircraft or watercraft, owned or non-owned
- e) contain a clause stating that such Insurance shall remain in force and not be amended, cancelled or allowed to lapse without 30 days prior written notice being given to each of the named insureds;
- f) be subject to a limit of not less than \$5,000,000.00 inclusive per occurrence for Bodily Injury, Death and Damage to Property, including loss of use thereof;
- 02) Prior to the commencement of any work under this Contract the Contractor shall file with the Township, to the attention of the Township Clerk, Certificates evidencing full compliance with the above clauses, in accordance with the prescribed Certificate which is located after the "Tender Form" in the Documents.

GC6.03.03 Automobile Liability Insurance

Paragraph 01) of Clause 6.03.03 is deleted and replaced by the following:

- 01) The Contractor shall insure and maintain insurance against legal liability for Bodily Injury and Property Damage caused by automobiles owned or leased by the Contractor. Such insurance shall be subject to an inclusive limit of not less than \$5,000,000.00.

GC6.03.06 Contractor's Equipment Insurance

Subsection 6.03.06 is amended by the addition of the following paragraph:

- 02) If this Contract includes the construction of or alterations to a bridge, dam, culvert or building, the Contractor shall provide Property Insurance, to insure the Work against all risks including flood and earthquake.

Section GC6 is amended by the addition of a new Subclause, GC6.03.08, as follows:

GC6.03.08     Insurance Claims

- 01) It shall be the duty of the Contractor to fully comply with the terms and conditions of the Liability Insurance coverage, including, without limiting the generality of the foregoing, the requirement to promptly report claims to the Insurer.
- 02) The Contractor shall also promptly notify the Contract Administrator of all such claims in writing.
- 03) If a claim is settled, the Contractor shall thereupon provide the Contract Administrator with a copy of the Claimant's Release.
- 04) If a claim is rejected, the Contract Administrator shall be notified at the time of rejection.
- 05) The Contract Administrator shall be provided full information as to such claims at all times as the Contract Administrator may require and in any event should 30 days elapse after the claim has been received by the Contractor and the Contractor is not able to report settlement or rejection of the claim, the Contractor will provide a full report to the Contract Administrator as to the status of and steps being taken with respect to the claim.

GC6.04     Bonding

Paragraph 01) and 02) of Subsection GC6.04 are deleted and replaced by the following:

- 01) The Contractor, together with a Surety Company approved by the Owner and authorized by law to carry on business in the Province, shall furnish a 50% Labour and Materials Payment Bond to the Owner using CCA Document(s) 22. The Bond shall remain in effect until 12 months after the date the Contract Administrator accepts the entire work.
- 02) The Contractor, together with a Surety Company, approved by the Owner and authorized by law to carry on business in the Province in which the work is to be performed, shall furnish a Performance Bond to the Owner using CCA Document(s) 21 in the amount of 100% of the contract price. The Bond shall unconditionally guarantee the performance of the contract, shall be at the expense of the Contractor, and shall remain in effect until 12 months after the date of the Certificate of Total Performance of the work.

- 03) In lieu of the Bonds specified in Paragraphs 01) and 02) the Contractor may provide unconditional Irrevocable Letters of Credit, in a form acceptable to the Owner and/or a certified cheque made out to the Owner.

## SECTION GC7 - CONTRACTOR'S RESPONSIBILITIES AND CONTROL OF THE WORK

### GC7.01 General

Paragraph 02) of Subsection 7.01 is deleted and replaced with the following:

- 02) The Contractor shall commence the Work within 7 days after receiving Notice from the Contract Administrator. The Contractor will not commence the work until the contract has been officially accepted by the Corporation, the Insurance Certificates and the Performance Bonds are satisfactory to the Corporation, and the Contractor has received Notice from the Contract Administrator to commence the work.

Paragraph 16) of Subsection 7.01 is deleted and replaced with the following:

- 16) The Contractor shall arrange with the appropriate utility authorities for the stake out of all-underground utilities and service connections, which may be affected by the Work. The Contractor shall be responsible for any damage done to the underground utilities and the service connections by the Contractor's forces during construction. The Contractor shall attend such meetings with the Contract Administrator and the utility authorities for each utility affected by the Contract. The Contractor shall notify the local gas authority at least 48 hours in advance of the commencement of any work, which may affect pipes belonging to the gas utility company.

Subsection GC7.01 is amended by the addition of the following paragraphs:

- 07) The Contractor shall also work in accordance with the Township's Contractor Safety Policy.
- 17) To co-ordinate the work, the Contractor or a person authorized to act for the Contractor will attend regular meetings with the Contract Administrator or his representative during the period over which the work under the contract is carried out, at a time and place to be decided by the Contract Administrator.
- 18) The Contractor shall install at its own expense all sheeting and shoring required to support trenches or to protect existing structures or works. The Contractor is responsible for obtaining the certificates by a Professional Engineer that all shoring will meet Ministry of Labour safety

requirements. Evidence of such certification shall be provided to the Contract Administrator.

- 19) The Contractor shall provide for efficient drainage of all sections of the work during all stages of construction at his own expense. The Contractor will be responsible for all damage which may be caused through his failure to provide proper drainage facilities. The Contractor shall restore any existing drainage works which are disturbed as a result of his construction activities.
- 20) In order to assist the Corporation in inspecting the progress of the work, the Contractor shall prepare a Schedule of Work prior to starting the contract and shall revise the schedule weekly for any changes throughout the contract.

GC7.03 Working Area

Subsection GC7.03 is amended by the addition of the following paragraph:

- 04) The location of all temporary buildings used for construction purposes must be submitted to the Contract Administrator for approval before erection work commences. Temporary buildings must be kept clean and sanitary and must not become a hazard to health or a nuisance to the adjoining properties.

GC7.06 Condition of the Working Area

Subsection GC7.06 is amended by the addition of the following paragraphs:

- 02) The Contractor shall ensure that during night work the site of the Work is adequately floodlit to the Contract Administrator's satisfaction for Work operations, inspections and advance warning to traffic.
- 03) Streets beyond the limits of the work and other construction areas shall be kept clean. Dusty materials shall be transported in covered haulage vehicles. Wet materials shall be transported in suitable watertight haulage vehicles.
- 04) The Contractor shall take such steps as may be required to prevent dust nuisance resulting from its operations either within the limits of the work or elsewhere or by public traffic where it is the Contractor's responsibility to maintain a roadway through the Work.
- 05) Where the Work requires the sawing of asphalt or the sawing or grinding of concrete, blades and grinders of the wet type shall be used together with

sufficient water to prevent the incidence of dust, wherever dust would affect traffic or wherever dust would be a nuisance to residents of the area where the Work is being carried out.

- 06) Permitted dust control measures may include the application of calcium chloride, oil or water. In general, the use of calcium chloride and oil shall be kept to a minimum and is restricted to vehicle rights-of-way - more frequent applications of water in close proximity to watercourses. The Contract Administrator's acceptance shall be obtained before chemicals or oil for dust control are used.

#### GC7.07 Maintaining Roadways and Detours

Paragraph 05) of Subsection GC7.07 is deleted and replaced by the following:

- 05) The Contractor will bear the cost of maintaining, in a satisfactory condition for traffic, a road through the working area. The road through the Work will include any detour constructed in accordance with the Contract Documents or required by the Contract Administrator. Compensation for all labour, equipment and materials to do this work and to maintain the road, shall be considered to be included in the prices bid for the various tender items and no additional payment will be made.

Subsection 7.07 is amended by the addition of the following paragraph:

- 12) In order to satisfy the Township that the Contractor has addressed concerns regarding traffic control and safety it will be required to submit a sketch indicating its proposed method of barricades and/or signage for each of the work sites included in the Contract. This information shall be available for review and approval by the Contract Administrator at the Contract pre-construction meeting.

#### GC7.09 Approvals and Permits

Paragraph 02) of Subsection GC7.09 is deleted and replaced by the following:

- 02) All permits, inspections and the cost required in this connection for proper performance as called for in the Contract shall be at the expense of the Contractor.

Subsection GC7.09 is amended by the addition of the following paragraph:

- 03) The Contractor will notify, obtain inspections and approvals from, and co-operate with other organizations involved or affected by the Work, such as telephone, light and power, gas, railway companies, government agencies.



GC7.10      Suspension of Work

Subsection GC7.10 is amended by the addition of the following paragraphs:

- 02)      The Contract Administrator may stop any portion of the Work, if in his judgement the weather is such as to prevent the Work from being properly done. No compensation of any kind will be made for such stoppage except an extension of time for the completion of the Work as provided in GC3.07.
- 03)      The Contractor shall, upon written notice from the Contract Administrator, discontinue or delay any or all Work of base, foundation, or paving construction on any section of any road or highway, if in the opinion of the Contract Administrator, the foundation is not sufficiently compacted or settled for surfacing of the Work in question, and the Work shall not be resumed until the Contract Administrator shall in writing so direct, and the Contractor shall not be entitled to any compensation for such stoppage or delay to the Work, other than an extension of time.

GC7.12      Notices by the Contractor

Subsection GC7.12 is amended by the addition of the following paragraphs:

- 03)      The Contractor shall notify the local gas authorities at least 48 hours in advance of the commencement of any work which may affect pipes belonging to the gas utility company.
- 04)      Spills or discharge of pollutants or contaminants under the control of the Contractor, and spills or discharges of pollutants or contaminants that are a result of the Contractor's operations that cause or are likely to cause adverse effects shall forthwith be reported to the Contract Administrator.

Such spills or discharges and their adverse effects shall be as defined in the Environmental Protection Act R.S.O. 1990, Chapter E.19. All spills or discharges of liquid, other than accumulated rainwater from luminaires, internally illuminated signs, lamps and liquid type transformers under the control of the Contractor, and all spills or discharges from this equipment that are a result of the Contractor's operations shall, unless otherwise indicated in the Contract, be assumed to contain PCB's and shall forthwith be reported to the Contract Administrator. This reporting will not relieve the Contractor of his legal or contractual responsibilities regarding such spills or discharges.

GC7.14      Limitations of Operations

Subsection GC7.14 is amended by the addition of the following paragraph:

- 03)      The Contractor will co-operate with the employees of the Township or other contractors working on the same or related projects. The Contractor will notify, obtain approvals from, and co-operate with other organizations involved or affected by the work, such as telephone, light and power, gas, railway companies, etc.

GC7.16      Warranty

Subsection GC7.16 is amended by adding the following paragraphs:

- 04)      The Contractor shall be responsible for the maintenance of all trenches for a period of 2 years from the date of Substantial Completion. Any shrinkage or settlement during this period will be made good by the Contractor at his own expense. This shall also include making good any other works affected.
- 05)      The Contractor shall be responsible for a two (2) year warranty on all new trees planted under the Contract. This shall include 2 full growing seasons from the date of substantial completion. Any trees found to be unhealthy over this period will be replaced by the Contractor.

SECTION GC8 - MEASUREMENT AND PAYMENT

GC8.02.02      Advance Payments for Material

Subsection GC8.02.02 is amended by adding the following paragraph:

- 03)      The Township will not make advance payments for material under this Contract.

GC8.02.03.01      Progress Payment Certificates

Paragraph 03) of Clause 8,02.03.01 is deleted and replaced with the following:

Three [3] copies of each progress payment certificate shall be delivered by the Contract Administrator to the Contractor. The Contractor shall present to the Contract Administrator two [2] copies of the estimate certified to be correct. Upon receipt of the progress payment certificate verified as aforesaid and upon its approval by the Contract Administrator, the Owner will process the payment to the Contractor.

Subsection 8.02.03.01 is amended by the addition of the following paragraphs:

- 05) Notwithstanding Paragraph 04) the Owner may withhold any or all payments to the Contractor or portion thereof in circumstances where the Contractor is considered by the Owner or Contract Administrator to be unreasonably in default of specified times for completion of the Work.
- 06) The Contractor shall furnish the Contract Administrator with satisfactory evidence in the form of a WSIB Certificate of Clearance that he has made suitable provision for meeting any liability under The Workman's Compensation Act of Ontario, prior to the release of any monthly progress payment.
- 07) The Contractor shall furnish the Contract Administrator with a Statutory Declaration that all liabilities incurred by the Contractor and its sub-contractors in carrying out the Contract have been discharged and that all liens in respect of the Contract have expired or have been satisfied, discharged or provided for by payment. The Statutory Declaration shall be provided prior to all monthly progress payments except the first one.

GC8.02.03.03     Sub-contract Statutory Holdback Release Certificate and Payment

Sub-section 8.02.03.03 is deleted and replaced with the following:

- 01) If any lien is registered or if the Township receives notice of any claim for lien, then the Township may hold back from the money due to the Contractor hereunder, in addition to the normal statutory lien holdback, sufficient monies to cause a discharge or vacation of the registration of any such lien or any certificate of action relating thereto and to indemnify it completely against such lien or claim for lien or proceedings arising therefrom and from all expenses and costs related thereto, including, but not limited to, legal fees and disbursements on a solicitor and client basis.

GC8.02.03.08     Interest

Subsection 8.02.03.08 is deleted and replaced with the following:

- 01) The Owner is not liable to pay interest on any amount which may at any time become payable to the Contractor under this Contract whether or not the payment is in default and whether or not any action or other proceeding has been commenced in respect thereof.

GC8.02.03.09     Interest for Late Payment

Subsection 8.02.03.09 is deleted.

GC8.02.03.10     Interest for Negotiations and Claims

Subsection 8.02.03.10 is deleted.

GC8.02.04.06.02   Stand-by Time

Subsection 8.02.04.06.02 is deleted and replaced with the following:

- 01)     The Owner is not liable to pay Stand-by Time for any labour or equipment rental under this Contract.

GC8.02.06         Payment of Workers

Subsection 8.02.06 is amended by the addition of the following paragraphs:

- 04)     The labour conditions in this Contract are subject to The Industrial Standards Act and the Regulations made thereunder. The wage rates set out in the Roads and Structures and Sewer and Watermain Fair Wage Schedule have been established to a 1 year period commencing on the first day of April and are subject to change annually on that date. Any increase in costs incurred by a change in the wage rates shall be borne by the Contractor.
- 05)     For the purpose of these Labour Conditions “Work on Roads” includes the preparation, construction, finishing and construction maintenance of roads, streets, highways, and parking lots and includes all work incidental thereto other than work on structures.

or

“Work on Structures” includes the construction, reconstruction, repair, alteration, remodelling, renovation or demolition of any bridge, tunnel or retaining wall and includes the preparation for and the laying of the foundation of any bridge, tunnel or retaining wall and the installation of equipment and appurtenances incidental thereto, provided, however, that the Minister of Labour, Ontario, may at their sole discretion determine whether any particular Work is to be classified as “Works on Roads” or as “Works on Structures” and such decision may be made notwithstanding the definition herein.

06)     Hours of Work and Wages

The regular Work week for a person employed on Work being done under this Contract shall not exceed 55 hours and all time worked by such person in excess of 55 hours a week shall be overtime except that

part of the hours of Work in excess of 55 hours a week which, together with the hours worked in the preceding week, do not exceed 55 hours.

Every person employed by the Contractor or a sub-contractor or other person to do any part of the Work contemplated by this Contract shall be paid while employed on such Work at not less than the wage rates set out in the Roads and Structures Fair Wage Schedule for the appropriate classification of such Work or not less than such other wage rates as, during the continuance of the Work, are fixed by the Minister of Labour, Ontario, for hours of Work that are not overtime and shall be paid not less than 1 1/2 times such wages for all hours of Work that are overtime.

Notwithstanding that a Contractor pays wages in excess of the wage rates set out in the Roads and Structures Fair Wage Schedule hereunder, he shall not, in computing overtime wages payable to an employee, set off against such overtime wages any part of the wages earned by the employee in respect of his/her regular work period.

07) Decision by Minister of Labour

Where there is no appropriate classification set out in the Roads and Structures Fair Wage Schedule for any particular class of Work, the Minister of Labour, Ontario, may designate or establish the appropriate classification and the wage rate.

The Contractor, upon receipt of Notice of any decision of the Minister of Labour, Ontario, made under this Contract, shall immediately adjust the wage rates, hours and classification of Work so as to give effect to such decision.

08) Fair Wage Schedule to be Posted

The Contractor shall post prominently and maintain on the site of the Work legible copies of these Labour Conditions, including the Roads and Structures Fair Wage Schedule and any amendments thereto.

09) Contractor to Keep Records which are to be Open for Inspection

The Contractor shall keep proper books and records showing the names, trades, addresses and hourly wage rates of all employees in his employ and the wages paid to and time worked by such employees both at regular wage rates and at overtime wage rates, and the books or documents containing such records shall be open for inspection by

Officers of the Ministry of Labour, Ontario, at any time it may be expedient to the Minister of Labour to have the same inspected.

10) Departmental Requirements before Payments made to Contractor

The Contractor shall from time to time upon request furnish the Ministry of Labour, Ontario, with such detailed information and evidence as may be required in order to establish that these Labour Conditions have been complied with not only by himself but by any sub-contractor or other person doing any part of the Work contemplated by the Contract.

Information on the various zones, and on the Roads and Structures Fair Wage Schedule may be obtained from the Ministry of Labour.

GC8.02.09 Liquidated Damages

Subsection GC8.02.09 is deleted and replaced by the following:

GC8.02.09 Time for Completion and Liquidated Damages

01) Time

Time shall be the essence of this Contract.

02) Progress of the Work and Time for Completion

The Contractor shall complete this Contract in its entirety by the completion date specified in the Tender Form.

If the time limit specified is not sufficient to permit completion of the Work by the Contractor working a normal number of hours each day or week on a single daylight shift basis, it is expected that additional and/or augmented daylight shifts will be required throughout the life of the Contract to the extent deemed necessary by the Contractor to ensure that the Work will be completed within the time limit specified. Any additional costs occasioned by compliance with these provisions will be considered to be included in the prices bid for the various items of Work and no additional compensation will be allowed therefore.

An Extension of Time may be granted in writing by the Contract Administrator in his or her sole discretion in the event of the Work being delayed beyond the prescribed time for completion. Such extension shall be for such time as the Contract Administrator may prescribe and the Contract Administrator shall fix the terms on which such an extension

may be granted. An application for an Extension of Time shall be made in writing by the Contractor to the Owner at least 15 days prior to the date of completion fixed by the Contract. The date of expiry of all Bonds and other Surety furnished to the Owner by the Contractor shall be extended at the expense of the Contractor.

Any Extension of Time that may be granted to the Contractor shall be so granted and accepted without prejudice to any rights of the Owner whatsoever under this Contract and all of such rights shall continue in full force and effect after the time limited in this Contract for completion of the work and whenever in this Contract, power or authority is given to the Owner or the Contract Administrator or any person to take any action consequent upon the act, default, neglect, delay, breach, non-observance or non-performance by the Contractor in respect of the Work or Contract or any portion thereof, such powers or authorities may be exercised from time to time, and not only in the event of the happening of such contingencies before the time limited in this Contract for the completion of the Work but also in the event of the same happening after the time so limited in the case of the Contractor being permitted to proceed with the execution of the Work under an Extension of Time granted by the Owner. In the event of the Owner granting an Extension of Time, time shall continue to be deemed strictly of the essence of this Contract.

03) Liquidated Damages

It is agreed by the Parties to the Contract that in case all the Work called for under the Contract is not finished by the completion date specified in the Tender Form or as amended by the Contract Administrator, damage will be sustained by the Owner, and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the Owner will sustain in the event of and by reason of such delay and the Parties therefore agree that the Contractor will pay to the Owner the sum of \$1,000.00 for Liquidated Damages for each and every calendar day's delay in completing the Work beyond the date of completion prescribed and it is agreed that amount is an estimate of actual damage to the Owner which will accrue during the period in excess of the prescribed date of completion.

The Owner may deduct any amount under this paragraph from any monies that may be due or payable to the Contractor on any account whatsoever. The Liquidated Damages payable under this paragraph are in addition to and without prejudice to any other remedy, action or other alternatives that may be available to the Owner.

The Contractor shall not be assessed with Liquidated Damages for any delay caused by Acts of God, or of the Public Enemy, Act of the Corporation, the Contract Administrator, or of any Foreign State, Fire, Epidemics, Quarantine Restrictions, Embargoes, or Delays of sub-contractors due to such causes. If the Contractor is delayed by reason of alterations or changes made under Section GC.03.11 of the General Conditions, the time of completion shall be extended as determined by the Contract Administrator in his or her sole discretion.

GENERAL CONDITIONS are amended by the addition of the following Subsection GC8.02.10

GC8.02.10 Maintenance Security Holdback

- 01) In addition to any other holdback required by statute or otherwise agreed by the Parties, the Owner will retain, until expiry of the warranty referred to in GC7.15, money in the amount calculated pursuant to Paragraphs 02) and 03) hereof which money may be applied by the Owner in whole or in part in order to reimburse the Owner for losses, costs incurred or funds expended by the Owner as a result of default by the Contractor respecting the warranty obligations of the Contractor set out in the Contract.
- 02) The said holdback for warranty obligations referred to in the preceding paragraph shall be first retained by the Owner when the Contract Administrator certifies that Work to the value of 70% of the Contract Price has been performed and shall be calculated and shown as an amount to be retained in the monthly applications for payment by the Contractor in succeeding applications, commencing when the Contractor makes his first application for payment on the basis that work to the value of 70% of the Contract Price has been performed.
- 03) A Maintenance Security Holdback will be calculated in accordance with the following Table:

<u>Contract Value</u>	<u>Amount of Maintenance Security Holdback</u>
less than \$ 300,000	2% of contract value
\$300,000 - 800,000	\$10,000
\$800,000 - 1,500,000	\$15,000
greater than \$1,500,000	1% of contract value

- 04) The Maintenance Security Holdback is in addition to any other rights or remedies of the Owner in respect to the correction of the Contractor's default of the Contractor's warranty obligations.



- 04) Some portions of the Work have an extended warranty. A proportionate amount of the Maintenance Security Holdback will be retained until expiry of the extended portions.



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## OPS 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"	-	American Society for Testing and Materials
"AWG"	-	American Wire Gauge
"AWWA"	-	American Water Works Association
"CCIL"	-	Canadian Council of Independent Laboratories
"CESA"	-	Canadian Engineering Standards Association
"CGSB"	-	Canadian General Standards Board
"CSA"	-	Canadian Standards Association
"CWB"	-	Canadian Welding Bureau
"GC"	-	General Conditions
"ISO"	-	International Organization for Standardization
"MOE"	-	Ontario Ministry of the Environment
"MTO"	-	Ontario Ministry of Transportation
"MUTCD"	-	Manual of Uniform Traffic Control Devices (Replaced by OTM)
"OPS"	-	Ontario Provincial Standard
"OPSD"	-	Ontario Provincial Standard Drawing
"OPSS"	-	Ontario Provincial Standard Specification
"OTM"	-	Ontario Traffic Manual
"PEO"	-	Professional Engineers Ontario
"SAE"	-	Society of Automotive Engineers
"SCC"	-	Standards Council of Canada
"SSPC"	-	Structural Steel Painting Council
"UL"	-	Underwriters Laboratories
"ULC"	-	Underwriters Laboratories Canada

### 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 this Contract the following definitions apply:

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

**Addendum** means an addition or change in the tender documents issued by the Owner prior to tender closing.

**Additional Work** means work not provided for in the Contract 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 wearing surface layers, 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 8.02.03.02, 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 changed subsurface conditions; and establishing the basis for payment and the time allowed for the adjustment of the Contract Time.

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

**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 lists, Quantity Sheets, and cross-sections.

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



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

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

**Cost Plus** has the same meaning as "Time and Material."

**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.

**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 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.

**Force Account** has the same meaning as "Time and Material."

**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 that is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.

**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 on the basis of its actual or estimated tender quantity, whichever is the larger, multiplied by its tender unit price, which is equal or greater than the lesser of,

- a) \$100,000, or
- b) 5% of the total tender value calculated on the basis of 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.

**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.

**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 rate of interest as determined under the *Financial Administration Act* by the Minister of Finance of Ontario and issued by, and available from, the Owner.

**Records** mean any books, payrolls, accounts, or other information that relate to the Work or any Change in the 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.

**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.

**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 responsible charge of the Work.

**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 8.02.04, Payment on a Time and Material Basis. Where "Cost Plus" and "Force Account" are used they shall have the same meaning.

**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 period of 12 months from the date of Substantial Performance or such longer period as may be specified in the Contract Documents for certain Materials or some or all of the Work. Where a date of Substantial Performance is not established, the Warranty Period shall commence on the date of Completion.

**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                      Substantial Performance**

- .01 The Work is substantially performed,
- a) when the Work to be performed under the Contract or a substantial part thereof is ready for use or is being used for the purpose intended; and
  - b) when the Work to be performed under the Contract is capable of completion or, where there is a known defect, the cost of correction, is not more than
    - i. 3% of the first \$500,000 of the Contract price,
    - ii. 2% of the next \$500,000 of the Contract price, and
    - iii. 1% of the balance of the Contract price.
- .02 For the purposes of this Contract, where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and the remainder of the Work cannot be completed expeditiously for reasons beyond the control of the Contractor or, where the Owner and the Contractor agree not to complete the Work expeditiously, the price of the services or materials remaining to be supplied and required to complete the Work shall be deducted from the Contract price in determining Substantial Performance.

#### **GC 1.06                      Completion**

- .01 The Work shall be deemed to be completed and services or Materials shall be deemed to be last supplied to the Work when the price of completion, correction of a known defect, or last supply is not more than the lesser of,
- a) 1% of the Contract price; or
  - b) \$1,000.

#### **GC 1.07                      Final Acceptance**

- .01 Final Acceptance shall be deemed to occur when the Contract Administrator is satisfied that, to the best of the Contract Administrator's knowledge at that time, the Contractor has rectified all imperfect work and has discharged all of the Contractor's obligations under the Contract.

#### **GC 1.08                      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) 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, whether or not such report is 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) Instructions to Tenderers
  - h) Tender
  - i) Supplemental General Conditions
  - j) General Conditions
  - k) 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 Standard Specifications, such as those produced by CSA, CGSB, ASTM, and ANSI and referenced in the Ontario Provincial Standard Specifications
- .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 Plans and Standard Specifications, and to record the necessary data to establish payment quantities under the schedule of tender quantities and unit prices or to make an assessment of the value of the work completed in the case of a lump sum price Contract.
- .04 The Contract Administrator shall determine the amounts owing to the Contractor under the Contract and shall issue certificates for payment in such amounts as provided for in Section GC 8.0, Measurement and Payment.
- .05 The Contract Administrator 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 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 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, the 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 non-compliance in the case of such non-compliance with the provisions of the Contract by the Contractor.
- 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 the Occupational Health and Safety Act legislation and regulations, Workplace Safety and Insurance Board Act, and Regulation 309 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 shall submit Working Drawings to the Contract Administrator with reasonable promptness and in orderly sequence so as to not cause delay in the Work. 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 requirements 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 and marked with the words "Reviewed. Permission to construct granted."
- .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**

- .01 The Contract Administrator shall provide baseline and benchmark information for the general location, alignment, and elevation of the Work. The Owner shall be responsible only for the correctness of the 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 considering an application for an extension to the Contract Time, take into account 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, errors in the Contract Documents;
  - b) 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;
  - c) 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;
  - d) the Contract Administrator giving notice under subsection GC 7.10, Suspension of Work;
  - e) abnormal inclement weather; or
  - f) 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 inclement 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, are beyond the Contractor's control, which then the Contract Time shall be extended in accordance with subsection GC 3.06, Extension of Contract Time. 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.
- .03 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 The Contractor may subcontract any part of the Work, subject to these General Conditions and any limitations specified in the Contract Documents.
- .02 The Contractor shall notify the Contract Administrator 10 Days prior to the start of construction, in writing, 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 parties under the Contract 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 subsection 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 8.02.04, 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 subsection 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 8.02.04, 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 8.02.04, 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; pager, cell phone, and telephone numbers; and facsimile terminal 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 in the standard form "Notice of Intent to Claim" 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 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.

In exceptional cases, the 30 Days may be increased to a maximum of 90 Days with approval in writing from the Contract Administrator.

- .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 with regard to 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 paragraph 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 8.02.04, 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.

**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 paragraph 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 paragraph GC 3.13.03.05.
- .05 Each party is responsible for its own costs related to the use of the third party mediator 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 30 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.

**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 paragraph 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 paragraph 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 paragraph 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 Arbitration and Mediation Institute of Ontario Inc., 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 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 7.10, 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 paragraph 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.
- .02 The Geotechnical Report and Subsurface Report that may be provided by the Owner as part of the tender documents shall form part of 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 paragraph GC 4.03.02, or not clearly identified in the Contract Documents according to paragraph 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 regulation.
- .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 Materials 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 Material Safety Data Sheets.

#### **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 full 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 correction of the default cannot be completed within the 5 full 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 full Working Days following receipt of the notice;
  - b) provides the Owner with an acceptable schedule 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) use the Equipment of the Contractor and any Material within the Working Area that is intended to be incorporated into the Work, the whole subject to the right of third parties;
  - c) 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 may, 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 may 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 subsection 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 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, 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 or works 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.
- .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 paragraphs 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 paragraph 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 General Liability Insurance**

- .01 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, with a property damage deductible of not more than \$5,000. The form of this insurance shall be the Insurance Bureau of Canada Form IBC 2100.
- .02 Another form of insurance equal to or better than that required in IBC Form 2100 may be used, provided all the requirements listed in the Contract are included. 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 maintain in force such policies of insurance specified by the Contract Documents at all times from the commencement of the Work until the end of any Warranty Period or as otherwise required by the Contract Documents.
- .04 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 paragraph GC 6.02.01 c), shall not be binding on the Owner.

- .05 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, IBC Form 2100 as required shall include the appropriate endorsements.
- .06 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.
- .07 "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, change, or amendment restricting coverage:
  - 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.

##### **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, with a deductible not exceeding 1% of the amount insured at the site of the Work. This insurance shall be in a form acceptable to the Owner and shall be maintained continuously until 10 Days after the date of Final Acceptance of the Work, as set out in the Final Acceptance Certificate.

#### **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. This insurance shall be maintained continuously from commencement of use or operation of the property insured until 10 Days after the date of Final Acceptance of the Work, as set out in the Final Acceptance Certificate.

#### **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 machinery and 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 Unless specified otherwise, the duration of each insurance policy shall be 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 an officer of the Contractor and either 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 a signature by an officer of the Contractor and, in addition, a signature by an officer of the insurer or the underwriter or the broker.
- .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 30 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 tender 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 fulfilment of the Contract.

**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

- .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.
- .02 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, signed by the Contract Administrator.
- .03 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.
- .04 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.
- .05 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.
- .06 Notwithstanding paragraph GC 7.01.05, 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.
- .07 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 first 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 carry out their duties in a diligent and responsible manner with due consideration for the health and safety of the workers; and

- f) all Subcontractors and their workers are properly protected from injury while they are at the Work Area.
- .08 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.
- .09 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 Materials 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 Material Safety Data Sheets.
- .10 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, pager, 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.
- .11 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, pager, 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.
- .12 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.
- .13 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, 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, so as to complete the Work within the time specified in the Contract Documents.
- .14 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.
- .15 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.

- .16 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 in the event that 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 paragraph GC 2.01.01 a).

## **GC 7.02                      Layout**

- .01 Prior to commencement of construction, the Contract Administrator and the Contractor shall locate on site those property bars, baselines, and benchmarks that are necessary to delineate the Working Area and to lay out the Work, all as shown on the Contract Drawings.
- .02 The Contractor shall be responsible for the preservation of all property bars while the Work is in progress, except those property bars that must be removed to facilitate the Work. Any other property bars disturbed, damaged, or removed by the Contractor's operations shall be replaced under the supervision of an Ontario Land Surveyor, at the Contractor's expense.
- .03 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.
- .04 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.
- .05 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.
- .06 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.
- .07 All stakes, marks, and reference points shall be carefully preserved by the Contractor. In the case of their destruction or removal, such stakes, marks, and reference points shall be replaced at the Contractor's expense.
- .08 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's sheds, site offices, toilets, other temporary structures, and storage areas for Material and Equipment shall be grouped in a compact manner and maintained in a neat and orderly condition at all times.
- .02 The Contractor shall confine the construction operations to the Working Area. Should the Contractor require more space than that shown on the Contract Drawings, the Contractor shall obtain such space at no additional cost to the Owner.



- .03 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.

**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                      Condition of the 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.

**GC 7.07                      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 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 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 7.08                      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) adequate pedestrian and vehicular access; and
  - b) continuity of Utility servicesto 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 7.12, Notices by the Contractor, and shall arrange such interruptions so as to create a minimum of interference to those affected.

**GC 7.09                      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 paragraph GC 7.09.01.

**GC 7.10****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 7.11****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 30 Days of the due dates identified in clause GC 8.02.03, Certification and Payment, the amounts certified by the Contract Administrator or within 30 Days of an award by an arbitrator or court; or
  - c) the Owner violates 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 7.11, 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 7.12****Notices by the Contractor**

- .01 Before 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.
- .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 7.13                      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 paragraph 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 Statutory Holidays 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, construction machinery 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, construction machinery, 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 the work is completed after the date of Substantial Performance, 12 months after Completion of the Work,
- c) 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
- d) 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 paragraph 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 once a month, in writing, of the quantity of Work performed. The first Estimate shall be the quantity of Work performed since the Contractor commenced the Contract, and every subsequent Estimate, except the final one, shall be of the quantity of Work performed since the preceding Estimate was made. The Contract Administrator shall provide the copy of each Estimate to the Contractor within 10 Days of the Cut-Off Date.
- .02 Such quantities for progress payments shall be construed and held to approximate. The final quantities for the issuance of the Completion Payment Certificate 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.
  - 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 Certificate.

**GC 8.02                      Payment**

**GC 8.02.01                  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 not specifically detailed as part of any one item and without specified details of payment shall be deemed to be included in the items with which it is associated.

**GC 8.02.02                  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
      - (1) Granular A, B, BI, BII, BIII, M, and O shall be assessed at the rate of 60% of the Contract price.
      - (2) 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 paragraph GC 8.02.02.01, 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 8.02.03                      Certification and Payment**

**GC 8.02.03.01                  Progress Payment Certificate**

- .01 The value of the Work performed and Material supplied shall be calculated once a month by the Contract Administrator in accordance with the Contract Documents and clause GC 8.01.01, Quantities.
- .02 The progress Payment Certificate shall show,
  - a) the quantities of Work performed;
  - b) the value of Work performed;
  - c) any advanced payment for Material;
  - d) the amount of statutory holdback, liens, Owner's set-off;
  - e) the amount of GST, as applicable; and
  - f) the amount due to the Contractor.
- .03 One copy of the progress Payment Certificate shall be sent to the Contractor.
- .04 Payment shall be made within 30 Days of the Cut-Off Date.

**GC 8.02.03.02                  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 satisfactorily, and all required inspection and testing of the works covered by the subcontract have been carried out and the results are satisfactory.
- .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 8.02.03.03                  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 46 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 Paragraph GC 8.02.03.03.01 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 8.02.03.04                      Certification of Substantial Performance**

- .01 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.
- .02 Upon verifying that the Contract has been substantially performed, the Contract Administrator shall issue a certificate of Substantial Performance and 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, the Contract Administrator shall provide a copy to the Contractor.
- .03 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 Lien Act*, R.S.O. 1990, c.C.30, as amended, publish a copy of the certificate in a construction trade newspaper. Such publication shall include placement in the Daily Commercial News.
- .04 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.
- .05 Except as otherwise provided for in Section 31 of the *Construction Lien Act*, the 45 Day lien period prior to the release of holdback as referred to in clause GC 8.02.03.05, 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 8.02.03.05                      Substantial Performance Payment and Substantial Performance Statutory Holdback Release Payment Certificates**

- .01 When the Contract Administrator issues the Certificate of Substantial Performance, the Contract Administrator shall also issue the Substantial Performance Payment Certificate and the Substantial Performance Statutory Holdback Release Payment Certificate or where appropriate, a combined payment certificate.
- .02 The Substantial Performance Payment Certificate shall show,
  - 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;

- d) the amount of maintenance security required; and
  - e) the amount due the Contractor.
- .03 Payment of the amount certified shall be made within 30 Days of the date of issuance of the payment certificate.
- .04 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 46 Days after the date of publication of the Certificate of Substantial Performance but subject to the provisions of the *Construction Lien Act* 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.

**GC 8.02.03.06                      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 8.02.03.07                      Completion Payment and Completion Statutory Holdback Release Payment Certificates**

- .01 When the Contract Administrator issues the Completion Certificate, the Contract Administrator shall also issue the Completion Payment Certificate and the Completion Statutory Holdback Release Payment Certificate or where appropriate, a combined payment certificate.
- .02 The Completion Payment Certificate shall show,
- 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.
- .03 The Completion Statutory Holdback Release Payment Certificate shall be a payment certificate releasing to the Contractor the further statutory holdback. Payment of such statutory holdback shall be due 46 Days after the date of Completion of the Work as established by the Completion Certificate but subject to the provisions of the *Construction Lien Act* 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 where appropriate;
- 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, qualified by stated exceptions where appropriate; and
- c) a satisfactory Certificate of Clearance from the Workplace Safety and Insurance Board.

**GC 8.02.03.08                      Interest**

- .01 Interest due the Contractor is based on simple interest and is calculated using the applicable Rate of Interest.

**GC 8.02.03.09                      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 Certificates: 30 Days after the Cut-Off Date;
  - b) Certificate of Subcontract Completion: 30 Days after the date certified as the date on which the subcontract was completed;
  - c) Subcontract Statutory Holdback Release Payment Certificate: 76 Days after the date on which the subcontract was completed;
  - d) Substantial Performance Payment Certificate: 30 Days after the date of issuance of the certificate;
  - e) Substantial Performance Statutory Holdback Release Payment Certificate: 76 Days after publication of the Payment Certificate of Substantial Performance;
  - f) Completion Payment Certificate: 30 Days after the date certified as the date on which the Contract reached Completion; and
  - g) Completion Statutory Holdback Release Payment Certificate: 76 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 paragraph GC 8.02.03.09.01, interest shall only begin to accrue when the Contractor has completed those requirements.

#### **GC 8.02.03.10 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 does not attempt to resolve the negotiation or the claim in an expeditious manner, interest shall be negotiable.
- .03 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.
- .04 Where a Contractor fails to comply with the 30 Day time limit and the procedures prescribed in paragraph GC 3.13.03.03 for submission of claims, interest shall not be paid for the delay period.

#### **GC 8.02.03.11 Owner's Set-Off**

- .01 Pursuant to Section 12 of the *Construction Lien 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 under paragraph GC 8.01.02.01 a), any assessment due the Workplace Safety and Insurance Board, and any monies to be paid to the workers in accordance with clause GC 8.02.06, Payment of Workers.
- .02 Under these circumstances the Owner will give the Contractor appropriate notice of such action.

#### **GC 8.02.03.12 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 30 Days from the due dates as defined in paragraph GC 8.02.03.09.01.

#### **GC 8.02.04 Payment on a Time and Material Basis**

##### **GC 8.02.04.01 Definitions**

- .01 For the purpose of clause GC 8.02.04 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 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 8.02.04.02      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 8.02.04.03                      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 8.02.04.04                      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 \$3,000, then at 120% of any portion of the Cost of Labour in excess of \$3,000.
- .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 8.02.04.05                      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 \$3,000, then at 115% of any portion of the Cost of Material in excess of \$3,000.

**GC 8.02.04.06                      Payment for Equipment**

**GC 8.02.04.06.01                  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 \$10,000 or less - no adjustment;
  - b) Cost greater than \$10,000 but not exceeding \$20,000 - payment \$10,000 plus 90% of the portion in excess of \$10,000; and
  - c) Cost greater than \$ 20,000 - \$19,000 plus 80% of the portion in excess of \$20,000.
- .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 8.02.04.06.02                  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 period 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 8.02.04.07                      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 8.02.04.08                      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 \$3,000; plus
  - b) 15% of the amount from \$3,000 to \$10,000; plus
  - c) 5% of the amount in excess of \$10,000.
- .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 8.02.04.09                      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 according to the standard form "Summary for Payment of Accounts on a Time and Material Basis." 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 certificate, 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 for Payment of Accounts on a Time and Material Basis" shall be submitted by the Contractor within 60 Days after the completion of the Work on a Time and Material Basis.

**GC 8.02.04.10                      Payment Other Than on a Time and Material Basis**

- .01 Clause GC 8.02.04 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 8.02.04.11                      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 8.02.05                          Final Acceptance Certificate**

- .01 After the acceptance of the Work, the Contract Administrator shall issue the Final Acceptance Certificate, or, where applicable, after the Warranty Period has expired. 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.

**GC 8.02.06                          Payment of Workers**

- .01 The Contractor shall, in addition to any fringe benefits, pay the workers employed on the Work in accordance with the labour conditions set out in the Contract and at intervals of not less than twice a month.
- .02 The Contractor shall require each Subcontractor doing any part of the Work to pay the workers employed by the Subcontractor on the Work in accordance with paragraph GC 8.02.06.01.
- .03 Where any person employed by the Contractor or any Subcontractor or other person on the Work is paid less than the amount required to be paid under the Contract, the Owner may set off monies in accordance with clause GC 8.02.03.11, Owner's Set-Off.

**GC 8.02.07                          Records**

- .01 The Contractor shall maintain and keep accurate Records relating to the Work, Changes in the Work, Extra Work, and claims arising therefrom. Such Records shall be of sufficient detail to support the total cost of the Work, Changes in the Work, and Extra Work. 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, 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, Extra Work, and Changes in the 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 bidding, 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.

**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.

## 1. GENERAL

### 1.1 DESCRIPTION OF WORK

The Work of the Contract includes in general terms, the following:

1. Relocate existing temporary traffic barriers and pedestrian control as shown on dwgs.
2. Establish environmental protection, erosion, and sediment control measures.
3. remove guide rail system. dispose timber guide rail posts and steel beams as directed by township of Ignace (typ. both sides)
4. Remove existing catch basins (cb1 and cb2) and dispose offsite.
5. Remove and dispose concrete sidewalk, curb, gutters, and asphalt to limits shown on dwgs..
6. Excavate to limits shown for new diversion pipe. Provide temporary support for existing watermain. Install temporary flow diversion pipe.
7. Install temporary flow diversion pipe.
8. Construct upstream coffer dam and dewatering system. Dewater site.
9. Excave as required to remove existing twin. 2.44 m dia. CSP culverts, dispose off site.
10. Install new 3.000 m, DIA x 27 m long CSP culverts.
11. Provide engineered backfill granular 'B type 2' material adjacent and on top of twin culverts as specified.
12. Provide new catch basins and leads.
13. Remove temporary supports from watermain.
14. Backfill with select subgrade up to road subbase.
15. Remove upstream coffer dam and diversion pipe.
16. Provide rock protection complete with geotextile at slopes and storm sewer outlet as indicated.
17. Touch up embankment slopes.
18. Construct new roadway base and subbase.
19. Construct new concrete sidewalks, curb and gutters.
20. Construct new steel posts and install new steel beam guide rail system.
21. Construct 80 mm thick, superpave 12.5 asphalt roadway in two 40 mm lifts.
22. Provide hydraulic mulch and seed at all new embankment slopes where rock protection is not provided.
23. Remove temporary traffic and pedestrian control, environmental protection, and sediment control measures.

### 1.2 OWNER SUPPLIED STRUCTURE

- .1 The Contractor shall take delivery of the materials and take responsibility of the materials from the Township of Ignace when they are delivered to the site after Contract Award. The Contractor shall coordinate with the Contract Administrator to arrange delivery of the materials to the site.

- .2 The Contractor shall be responsible for the installation, testing and commissioning of the supplied materials. Provide all labour, equipment, materials necessary for a successful installation in accordance with the manufacturer's plans, specifications, and recommendations.

### 1.3 LIMITS OF CONTRACT

The limits of the Contract are the limits of the property and/or road allowances in which the work is to be performed or as otherwise shown on the Drawings.

### 1.4 FUTURE WORK

- .1 Section not used.

### 1.5 PRECONSTRUCTION MEETING

- (A) Following award of the Contract and the instruction to commence the Work, the Contract Administrator will convene a preconstruction meeting with the Owner's representative, the Consultant, the Contractor, and affected utilities.
- (B) The meeting agenda will include:
  1. the appointment and notification of official representatives of participants in the Work.
  2. requirements for temporary facilities, site signs, offices, storage sheds, utilities, hoarding, site access and use.
  3. Health and Safety issues.
  4. site security.
  5. the Work schedule, including the Products delivery schedule.
  6. a schedule for submission of shop drawings, samples and similar documents.
  7. a schedule for site meetings.
  8. a review of administrative procedures, including change notices, change orders, site instructions, record drawings, maintenance manuals, takeover procedures, progress claims.
  9. the appointment of inspection and testing agencies or firms; and
  10. other items as arise at the meeting.

- (C) The Contract Administrator will arrange space and facilities for the meeting, and document the responsibilities and necessary activities of the participants during construction as discussed, and prepare and distribute minutes of the meeting to each attendee.

## 1.6 SITE MEETINGS

- (A) Provide suitable accommodation in which to hold site meetings.
- (B) Site meetings will be held on a regular schedule agreed to at the preconstruction meeting. The Owner, Consultant and Contractor will be in attendance. The purpose of these meetings is to discuss the progress of the Work and related matters including:
  - 1. review and acceptance of previous meeting minutes;
  - 2. field observations and any problems or conflicts;
  - 3. any problem that may impede Work progress and the construction schedule and corrective measures required;
  - 4. revisions to the construction schedule and the Products delivery schedule; and
  - 5. review of submittal schedules.

## 1.7 SITE PROGRESS RECORDS

- (A) Maintain, at the site, a permanent written record of progress of the Work. Make the record available to the Consultant upon request and provide him with a copy if requested. Include in the record each day:
  - 1. the weather conditions with maximum and minimum temperatures;
  - 2. the conditions encountered during excavation;
  - 3. the commencement and the completion dates of the Work of each trade in each area of the Contract;
  - 4. the erection and removal dates of formwork in each area of the Contract;
  - 5. the dates, the quantities, and the particulars of each concrete pour;
  - 6. the dates, the quantities, and the particulars of the culvert installation;

7. the numbers and classifications of the Contractor's and the Subcontractor's tradesmen working at the site and the numbers and classifications of construction machinery and equipment and the number of hours each is operated;
8. visits to the site by the Owner, the Consultant, the regulatory authorities, the testing companies, the subcontractors and the suppliers.

#### 1.8 WORK ADJACENT TO PUBLIC OR PRIVATE PROPERTY

Obtain written consent from the owner of adjacent property before proceeding with a part of the Work that necessitates entry onto such property for the underpinning of adjacent structures and where overswing of cranes may occur. Such written consent will not limit the Contractor's responsibility for property damage or personal injury.

#### 1.9 TEMPORARY CONSTRUCTION FACILITIES, SERVICES AND CONTROLS

- (A) Provide temporary facilities, services and controls required as construction aids or by regulatory authorities.
- (B) Paint the public side of the site enclosure in selected colours with one prime coat and one coat of exterior paint with colour as directed. Maintain the public side of the enclosure in a clean condition.
- (C) Provide a sturdy, temporary site enclosure around the entire perimeter of the site 1.8 m high. Provide a lockable truck gate. Maintain the fence in good repair.

#### 1.10 ROADS AND TRAFFIC CONTROL

When public thoroughfares are to be closed, or traffic restricted, notify the Road Authority, the Fire Department, the Police Department, the Transit Authority and Ambulance Service, giving at least seven days notice of the closing or restriction.

Close thoroughfares or restrict normal traffic flow only with the consent of the Authorities having jurisdiction, and in accordance with their requirements.

When arterial streets are scheduled to be closed in either direction for a duration exceeding 7 days, provide detour signage as per OTM Book 7. Submit detour plan to the Contract Administrator for review.

#### 1.11 SANITATION FACILITIES

- (A) Provide temporary sanitary facilities in accordance with the Occupational Health and Safety Act.

## 1.12 WATER SUPPLY

- (A) Nearby hydrants may be used as a source of water.

## 1.13 ELECTRICAL POWER

- (A) Provide temporary electric power for all construction needs. Locate receptacles so power is available to any part of the work within reach of a 30 m extension cord. Provide power at temporary storage sheds and field offices. Provide extension cords as required.

## 1.14 PROJECT SIGN

- (A) Provide two (2) project signs within three weeks of signing the Contract and erect them at both approaches where directed.
- (B) Construct the signs a minimum size of 1.8 m x 1.2 m, of wood frame and plywood construction painted with contrasting exhibit lettering on a painted background and produced by a professional sign painter.
- (C) Indicate on the signs the Project title, the name of the Owner, the Consultant (and subconsultants), and the Contractor in a design style selected by the Contract Administrator.
- (D) Maintain the sign in good condition for the duration of Contract. Clean periodically. Remove the sign when the Work is complete.
- (E) Unless otherwise agreed, no other signs or advertisements, other than direction and warning signs, may be erected or displayed on the site.

## 1.15 DUST-TIGHT SCREENS OR PARTITIONS

- (A) Provide dust-tight screens or partitions to contain and to localize dust generating activities, and for the protection of the workers, the finished areas of the Work and the public.
- (B) Maintain protection until such Work is performed.
- (C) Construct screens using 50 mm x 100 mm construction grade lumber framing and heavy-gauge, polyethylene film.
- (D) Provide doors in dust-tight screens or partitions, as required.
- (E) Do not block building exits.

## 1.16 TESTING AND QUALITY CONTROL

- (A) Furnish to the Contract Administrator, when requested and consistent with progress of the Work, test results and mix designs specified in the Contract Documents or required by bylaws, statutes and regulations relating to the Work and the preservation of public health, including the following:
  - 1. inspection and testing performed exclusively for the Contractor's convenience;
  - 2. testing, adjusting and balancing of conveying systems, mechanical and electrical equipment and systems;
  - 3. mill tests and certificates of compliance and;
  - 4. tests for reinforcing steel unidentified by mill test reports.
- (B) Unless otherwise noted, the Contract Administrator will select and the Owner will pay for the services of a testing agency or laboratory for tests that are required but not specified, other than tests required by bylaws, statutes and regulations applicable to the Work.
- (C) Remove and replace Products indicated in inspection and test reports as failing to comply with the Contract Documents.
- (D) Correct improper installation procedures reported in the inspection and test reports.
- (E) Pay the costs for the re-inspection and testing of replaced work.
- (F) It is not the responsibility of the inspection and testing agents to supervise, instruct in current methods, or accept or reject a part of the Work, but only to inspect, test and to report conditions.
- (G) Notify the Contract Administrator and the appropriate inspection and testing agent not less than forty-eight hours prior to the commencement of the part of the Work to be inspected and tested.
- (H) Ensure the presence of the authorized inspection and testing agent at the commencement of the part of the Work specified to be inspected or tested.
- (I) Ensure the inspection and testing reports are issued promptly (normally within forty-eight (48) hours), and that the Contract Administrator is notified forthwith if the report indicates improper conditions or procedures.
- (J) Cooperate with and provide facilities for the inspection and testing agents to perform their duties.

- (K) Provide proper facilities for the storage of concrete specimens at correct temperature, free from vibration or damage in accordance with the instruction of the inspection and testing agent and the governing standard.
- (L) Submit four copies of each laboratory test report, unless specified otherwise, each copy signed by a responsible officer of the inspection and testing laboratory. Each report is to include:
  - 1. date of issue;
  - 2. contract name and number;
  - 3. name and address of inspection and testing company;
  - 4. name and signature of inspector or tester;
  - 5. date of inspection or test;
  - 6. identification of the Product and Specification section covering inspected or tested Work;
  - 7. location of the inspection or the location from which the tested Product was derived;
  - 8. type of the inspection or test;
  - 9. the remarks and observations on compliance with the Contract Documents.
- (M) Correct defective work within the Contract Time; the performing of such work is not a cause for an extension of the Contract Time.

#### 1.17 CODES AND STANDARDS

- (A) In the case of a conflict or discrepancy between the Contract Documents and the governing standards, the more stringent requirements apply.
- (B) Unless the edition number and date are specified, the reference to the manufacturers' and published codes, standards, and specifications are to the latest edition published by the issuing authority, current at the date of tender closing.
- (C) Reference standards and specifications are quoted in this Specification to establish minimum standards. Work in quality exceeding these minimum standards conforms to the Contract.
- (D) Where reference is made to a manufacturer's direction, instruction, or specification it is deemed to include full information on storing, handling, preparing, mixing,



installing, erecting, applying, or other matters concerning the Products pertinent to their use and their relationship to the Products with which they are incorporated.

- (E) Where reference is made to regulatory authorities, it includes all authorities who have, within their constituted powers, the right to enforce the laws of the Place of Work.

#### 1.18 LABOUR, PRODUCTS AND WORKMANSHIP

- (A) Products, named in the Specifications or on the Drawings by manufacturer's name and model number, establish the size, quality and performance standards for the Work. In most cases, alternate manufacturers' Products are listed as acceptable for the named manufacturer's Product. Base the Tender Price on the named manufacturers Product or the Product of an alternate manufacturer. If no alternate manufacturers are listed, base the tender price on the named manufacturer's Product.
- (B) The Work has been designed based on the named manufacturer's Product. If the tender price is based on an alternate, acceptable, manufacturer's Product, ensure the alternate, acceptable manufacturer's Product is equivalent in size, quality and performance to the named manufacturer's Product. Include in the tender price for any modifications to the Work necessary to accommodate the alternate, acceptable manufacturer's Product and submit for the Contract Administrator's review a dimensioned layout of the space into which such Product is to be installed.
- (C) Give preference to the hiring of local workers, provided they are available and physically fit and qualified by training and experience to perform the Work. The foregoing does not apply to Superintendent, Timekeeper, Supervisor and construction equipment and machine operators, or until ten days after the commencement of the Work. Make available at all reasonable times for examination by the Owner, the labour rolls for the determination of the domicile of the workers.

#### 1.19 PRODUCTS SUPPLIED BY TOWNSHIP

- (A) The corrugated steel culverts shall be supplied by the township.
- (B) Coordinate with the Contract Administrator delivery of the Products to the site. The Township will endeavour to have the Products available for use when required, but failure to do so will not entitle the Contractor to compensation for delay other than extension to the Contract Time, which extension will be determined by the Contract Administrator.
- (C) Take delivery of Township supplied Products at the site, unload and assume responsibility for the handling, storage and protection of such Products until they have been placed in the Work and tested satisfactorily.

- (D) Examine the Products supplied by the Township for loss or damage prior to accepting delivery and notify the Township of any such loss or damage. The Township is responsible for Products so identified. Be responsible for repairs to or replacement of Products supplied by the Township found to be damaged after acceptance of delivery.
- (E) Unless otherwise noted, install Township-supplied Products in strict accordance with the manufacturer's instructions.

## 1.20 SUBMITTALS

- (A) Unless otherwise noted, make submittals to the Contract Administrator for review.
- (B) Make submittals with reasonable promptness and in an orderly sequence to avoid any delay in the Work. Failure to submit in ample time is not considered cause for an extension of Contract Time, and no claim for extension by reason of such default will be allowed.
- (C) Do not proceed with Work affected by submittals until review is complete.
- (D) The Contractor's responsibility for errors and omissions, for providing the specified Products and for the construction of the Work in accordance with the Contract Documents is not relieved or diminished in any way by the Contract Administrator's review of submittals.

## 1.21 SCHEDULES

- (A) Within seven (7) days of the written notification of tender acceptance, submit for the Contract Administrator's review, the following schedules:
  - 1. a construction schedule;
  - 2. a submittal schedule for shop drawings and Product data sheets;
  - 3. a submittal schedule for samples;
  - 4. a Product delivery schedule and,
  - 5. a cash flow schedule.
- (B) Prepare each schedule in the form of a horizontal bar chart, with a separate bar for each trade or operation, and a time scale identifying the first work day of each week.

1. The construction time shown on the initial schedule shall not extend beyond the specified Contract completion date. The construction schedule shall include all non-working periods and appropriate allowances for inclement weather.
  2. The Contractor shall select the activities so that the work is identifiable and the progress of each activity can be determined. At a minimum, each trade and operation shall be identified on the schedule. The Township reserves the right to limit or increase the number of activities on the diagram.
  3. Each activity in the initial and updated construction schedules shall include a description of the operation and the number of days allocated or actually used for it. When the duration of an activity is dependent on weather conditions, the number of days allocated shall include an allowance for normal frequency of inclement weather. When the activity has an associated tender item quantity, the approximate quantity shall also be shown.
  4. The construction schedule shall show the sequence and interdependence of all activities required to complete the work under the Contract. All network connections used to create a logical schedule and the corresponding durations shall be shown. The time scale of the construction schedule may be divided into days or weeks.
- (C) Consult with the Contract Administrator during preparation of the schedules; make any corrections agreed to during the review period, and issue final copies to the Contract Administrator.
- (D) Periodically, update each schedule during the course of construction and issue revised copies.
- (E) If the progress of any part of the construction falls behind schedule, immediately notify the Contract Administrator in writing giving the reason for the delay and the action to be taken to regain the construction schedule to complete the Work at the Contract Time.
- (F) The Contractor shall not be permitted to start work until the Contract Administrator receives a construction schedule, in conformance with the Contract.
- (G) If, for any reason, the Contractor cannot produce an acceptable construction schedule within 30 business days of initial submission of the construction schedule, the Contractor shall be in default of the Contract.

## 1.22 INSERT AND SLEEVE LOCATION DRAWING

- (A) Submit insert and sleeve location drawings showing the location and size of sleeves, anchor bolts, openings, and miscellaneous items forming in the Work

### 1.23 SHOP DRAWINGS AND PRODUCT DATA

- (B) Submit the shop drawings and Product data sheets as specified in sections of the Specification.
- (C) Show on the shop drawings the Products, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for proper performance of the Work. Where Products attach or connect to other Products, indicate that such items have been coordinated, regardless of the Section under which the various products have been specified. Identify by cross reference to design drawings and Specifications.
- (D) Product data sheets are defined as manufacturer's catalogue sheets, brochures, literature, technical data, performance charts and diagrams and similar data used to illustrate quality, characteristics, capacity, and performance of the specified, manufactured Products.
- (E) Submit one clear and legible sepia print or AutoCAD disk and one white print of each shop drawing.
- (F) Submit a minimum of six (6) copies of Product data sheets for each item.
- (G) The Contract Administrator will review the shop drawings and Product data sheets and will indicate his review status by stamping shop drawings and product data sheets copies as follows:
  - 1. "Reviewed" or "Reviewed as Noted" – If the Contract Administrator's review of a shop drawing or Product data sheet is final, the Consultant will stamp the shop drawing or Product data sheet "Reviewed" or "Reviewed as Noted" (appropriately marked) and keep his own required number of copies. The sepia or AutoCAD disk and one white print will be returned to the Contractor.
  - 2. "Revise and Resubmit" – If the Contract Administrator's review of a shop drawing or Product data sheet is not final, the Contract Administrator will stamp the shop drawing or Product data sheet "Revise and Resubmit", mark the submission with his comments, keep one copy for his records, and return the sepia and a marked print to the Contractor. Revise the shop drawing or Product data sheet in accordance with the Contract Administrator's notations and resubmit.
- (G) The shop drawings and the Product data sheet reviews do not authorize changes in cost or time. Changes involving cost or time are authorized only by a signed change order.

- (H) It is understood that the following is to be read in conjunction with the wording on the Contract Administrator's shop drawing review stamp applied to each and every data sheet or drawing submitted:

"This review by the Contract Administrator is for the sole purpose of ascertaining general conformance with the Contract design concept. This review does not mean that the Contract Administrator approves the detail design inherent in the shop drawings, responsibility for which remains with the Contractor, and such review does not relieve the Contractor of the responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. Be responsible for confirming and correlating dimensions at the Place of the Work, for information that pertains solely to fabrication processes or to techniques of construction and installation, and for coordination of the work of all subtrades."

#### 1.24 SAMPLES

- (A) Submit, in duplicate unless otherwise noted, samples as specified in Specification sections. Label samples as to origin and intended use in the Work.
- (B) Deliver samples prepared to the Contract Administrator's business address or testing company as directed.
- (C) Notify the Contract Administrator in writing, at the time of submission, of any deviations in samples from requirements of the Contract Documents, and state the reason for such deviations.
- (D) Adjustments made on samples by the Contract Administrator are not intended to change the Contract Price. If adjustments affect the value of the Work, state such in writing to the Contract Administrator prior to proceeding with the Work.
- (E) Make changes in samples, which the Contract Administrator may require, consistent with the Contract Documents.
- (F) Where changes or modifications of the Products for which samples are submitted are required, resubmit samples embodying the required changes or modifications.
- (G) Where colour, pattern or texture is a criterion, submit a full range of samples.
- (H) Reviewed samples will become the standard of workmanship and material against which the performed Work will be verified and accepted.

#### 1.25 RECORD DRAWINGS

- (A) When work begins at the site, obtain from the Contract Administrator a white print set of the Contract Drawings.
- (B) Record on the white prints on a daily basis, work constructed differently than shown on the Contract Documents. Record all changes in the Work caused by site conditions, or originated by the Township, the Contract Administrator, the Contractor, or a Subcontractor and by addenda, supplemental drawings, site instructions, supplementary instructions, change orders, correspondence, and directions of regulatory authorities. Accurately record the location of concealed mechanical services and electrical main feeders, junction boxes and pull boxes. Do not conceal critical Work until its location has been recorded. Do not use these drawings for daily working purposes and make the set available for periodic inspection by the Contract Administrator.
- (C) Make records in a neat and legibly printed manner with a non-smudging medium.
- (D) Dimension the installed locations of concealed service lines on the site or within the structure by reference from the centre line of the service to structure column lines or other main finished faces or other structural points easily identified and located in the finished Work.
- (E) Submit record drawings to the Contract Administrator for review.

#### 1.26 MEASUREMENTS FOR PAYMENT

- (A) Notify the Consultant sufficiently in advance of operations to allow required measurements for payment. Unless otherwise specified, measurements will be taken in the horizontal plane.

#### 1.27 CUTTING AND PATCHING

- (A) Remove and replace defective and non-conforming work.
- (B) Where new work connects with existing work and where existing work is altered, cut, patch and make good to match existing work.

#### 1.28 WARRANTY INSPECTION

- (A) The Contract Administrator will arrange and conduct with the Township and the Contractor a warranty inspection at the site prior to expiration of the one year warranty period.

#### 1.29 SIDEWALK ACCESSIBILITY

- (A) Provide signage and barricades at locations of concrete sidewalk removal (traffic cones not acceptable).

- (B) Signage to advise of sidewalk closure.
- (C) Provide temporary asphalt ramps at locations of curb ramps when top lift paving is deferred more than one week after base.

### 1.30 HOURS OF WORK

- (A) All work shall be scheduled and carried out within sunrise and sunset unless otherwise approved by the Contract Administrator.
- (B) No work shall be carried out on Statutory Holidays unless specifically approved by the Contractor Administrator.

### 1.31 MILESTONE COMPLETION DATES

Progression of the Work shall be completed following Table 1 – Milestone Schedule

**TABLE 1 – Milestone Schedule**

Milestone	Milestone Date
Total Completion of Construction	October 31, 2023

The Contractor may request an Extension of Time to the Milestone Date following the provisions of the General Conditions of the Contract GC 3.07: Delay, Changes in Work, Additional Work. Extensions to the Milestone Dates shall be made in advance of the scheduled assessment date.

Failure to meet the Milestone Dates will result in the General Conditions Default provision of the contract enacted.

### 1.32 CONTRACTOR COMMUNICATION

The successful Contractor must provide Township Administration with a valid email account. It is expected that this email account is checked periodically and a reply will be received before the end of the following business day.

## 1. INTENT

The Section covers the work for environmental protection, including the management and disposal of excess materials, control of water in dewatering, temporary erosion control measures, and the use of explosives.

## 2. EXECUTION

### 2.1 MANAGEMENT AND DISPOSAL OF EXCESS MATERIALS

OPSS 180

### 2.2 ENVIRONMENTAL PROTECTION FOR CONSTRUCTION IN WATERBODIES AND ON WATERBODY BANKS

OPSS 182

### 2.3 DEWATERING OF PIPELINE, UTILITY AND ASSOCIATED STRUCTURE EXCAVATION

OPSS 517

Prior to doing any work on the shoreline or in the water body, the Contractor must first apply for and receive a work permit from the Ministry of Natural Resources.

### 2.4 CONTROL OF WATER FROM DEWATERING OPERATIONS

OPSS 518

### 2.5 TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

OPSS 805, except the following:

- i. The Township reserves the right to require the Contractor to provide a formal temporary erosion and sediment control plan prior to the commencement of construction.
- ii. All temporary erosion and sediment control measures shall be installed prior to the commencement of construction.
- iii. Catch basin sediment control devices to be installed at all catch basins within construction area. Additional catch basin sediment control devices may be required at catch basin locations downstream from construction zone as directed by the Contract Administrator.
- iv. The following OPSD's are referenced as applicable for temporary erosion and sediment control measures: 219.110 (Light Duty Silt Fence Barrier), 219.130 (Heavy Duty Silt Fence Barrier), 219.180 (Straw Bale Flow Check Dam),



219.210 (Rock Flow Check Dam V-Ditch), and 219.211 (Rock Flow Check Dam Flat Bottom Ditch).

- v. Payment for these works, including sediment removal, installation, inspection, maintenance, and removal of these works shall be included in the tendered prices for items in the Contract which require the temporary works.

## 2.6 SITE WORKING AREAS

Confine operations to limits of the site working area shown on Drawings.

Provide access roads to the site working area and on the site in locations shown or otherwise acceptable to the Contract Administrator.

Install fencing, suitable to the Contract Administrator, to clearly define the working limits to the site working area, haul routes, parking areas, access routes and maintenance areas to ensure all activity is confined to these areas.

Provide interim site drainage for street under construction. Take responsibility for erosion that occurs during construction operations.

## 2.7 REFUELING

Carry out all equipment maintenance and refuelling out so as to prevent the entry of petroleum products into the ground or watercourses at all times.

## 2.8 NOISE EMISSIONS

Control noise emission from equipment and plant to local authorities' noise emission requirements.

## 2.9 DUST CONTROL

Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

## 2.10 ARCHAEOLOGY

During the performance of the work, have regard to the requirements of the Ontario Heritage Act, RSO 1980, Chapter 59, and the Cemeteries Act; RSO 1980, Chapter 337.

If any archaeological and historical resources are discovered during the performance of the work, the performance of the work in the area of the discovery is to halt. Notify the Ministry of Citizenship, Culture and Recreation, Archaeology & Heritage Planning Branch, for an assessment of the discovery. Do not resume work in the area of the discovery until cleared to do so by the Ministry.

## 2.11 SITE RESTORATION

In general, restore the site to conditions equal to or, if specified elsewhere, to a condition better than existing conditions.

Restore lands outside of the limits of the Work, which are disturbed by the Work to their original condition.

## 2.12 SPILLS REPORTING

In the event of a spill or other emission of a pollutant into the natural environment, every person responsible for the emission of who causes or permits it must forthwith notify:

- a) the Ministry of Environment (Tel. 1-800-268-6060);
- b) the municipality or the regional municipality within the boundaries of which the spill occurred;
- c) the owner of the pollutant, if known;
- d) the person having control of the pollutant, if known; and
- e) the Contract Administrator of the spill, of the circumstances thereof, and of the action taken or intended to be taken with respect thereto.

## 2.13 CONTINGENCY PLAN

Prior to commencing construction, prepare a contingency plan for the control and clean up of a spill. Submit for the Contract Administrator's review and the review of other responsible Parties a copy of the Contingency Plan and make appropriate changes to it based on review comments received. The plans shall be reviewed at the pre-construction meeting. The contingency plan shall include:

- a) the names and the telephone numbers of the persons in the local municipalities to be notified forthwith of a spill;
- b) the names and the telephone numbers of the representatives of the fire, the police and the health departments of the local municipalities who are responsible to respond to emergency situations;
- c) the names and the telephone numbers of the companies experienced in the control and cleanup of hazardous materials that would be called upon in an emergency involving a spill;
- d) the Contractor's proposal for the immediate containment and control of the spill, the cleanup procedures to be initiated immediately and any other action to be taken to

mitigate the potential environmental damage while awaiting additional assistance;  
and

- e) the name and the office and home telephone number of the Contractor's representative responsible for preparing, implementing, directing, and supervising the contingency plan.

## 2.14 PROTECTION OF TREES

### 2.14.1 Definitions

#### Tree Protection Zone

The Tree Protection Zone shall be the area within the drip zone of any trees within or adjacent to the limits of the Contract, not designated for removal under the Contract.

The minimum Tree Protection Zone will be the area within a 3.0 m radius of the centre of a tree.

### 2.14.2 Protection Required with Tree Protection Zones

- (i) Protect tree zone with snow fence or approved equal as per OPSD 220.010.
- (ii) In designated areas, install snow fence along the limits of the Protection Area.
- (iii) Operate equipment to prevent damage to trees; do not permit heavy equipment to travel over Protection Areas.
- (iv) Do not locate stockpiles, surplus excavated material, or construction materials within Protection Areas.
- (v) Where construction operations must impact Protection Areas, prune the trees in advance. Cut roots with clean severances.
- (vi) Excavations within Protection Areas shall be carried out using low impact methods such as vacuum excavation or directional drilling, unless otherwise specifically authorized by the Contract Administrator.

### 2.14.3 Tree Pruning (includes Root Pruning)

Preconstruction pruning shall be carried out by the Township prior to starting the work. Contractor to provide minimum fourteen (14) days notice of work locations.

Where tree pruning is required and the Contractor is authorized to carry out the pruning, the following specification applies:

Pruning – Comply with ANSI Specification A300

Pruning Guidelines:

- Prune to provide a vertical clearance of 4 m over streets, 2.5 m over sidewalks
- Temporarily tie back branches in lieu of pruning where practical
- Avoid pruning limbs greater than 10 cm in diameter, where practical, except for dead limbs
- Carry out pruning between late winter and early fall except for silver maple and white birch, which shall not be pruned until after the leaves are formed and American elm which shall not be pruned between April 1 and July 31

#### 2.14.4 Damaged Trees

Notify the Contract Administrator of any damage to trees.

Provide remedial action to damaged trees using a qualified tree service

Submit the remedial program recommended by the tree service to the Contract Administrator, for approval, before carrying out the work.

If a tree is damaged beyond repair, replace the tree with two trees. The Contract Administrator will determine the species of the replacement trees.

Deciduous trees shall have a minimum diameter of 40 mm measured at a point 30 cm above the root ball or finished grade and be a minimum of 2 m in height.

Coniferous trees shall be balled or wrapped in burlap and be a minimum of 1.8 m in height measured from the top of the root ball.

Plant and maintain trees in accordance with Section 02530.

#### 2.15 SITE CLEARING AND PLANT PROTECTION

1. Protect trees and plants on site and adjacent properties where indicated.
2. Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping, and storage of materials over root zones.
3. Minimize stripping of topsoil and vegetation.

4. Restrict tree removal to areas indicated or designated by Contract Administrator.

## 1. INTENT

This section covers the work for the construction and /or rehabilitation of hot-mix hot-laid, asphalt pavements, gravel pavements, sidewalks and walkways, curb and gutter, culverts, subdrains and other surface works.

### 1.1 RELATED WORK

Section 02520 – Excavation and Grading  
Section 02545 – Concrete Barriers  
Section 02570 – Excavation and Backfill of Trenches  
Section 02575 – Storm and Sanitary Sewers  
Section 02580 – Watermains  
Section 02585 – Cathodic Protection of Watermains

### 1.2 INSPECTION AND TESTING

#### 1.2.1 Responsibility for Testing

Provide samples of all materials for testing.

The Contract Administrator shall arrange for testing of asphalt, granular materials and concrete. All testing will be carried out by certified testing laboratories. The Owner will pay for the services of the testing laboratory, except in cases where the samples do not meet the specifications and re-sampling and testing is required. The cost of these additional tests shall be recovered from the Contractor.

#### 1.2.2 Mix Designs

Prepare and submit mix designs for asphalt and concrete together with aggregate samples to the Contract Administrator for approval thirty (30) days in advance of commencing placing of these materials.

### 1.3 WEIGHING OF MATERIALS

#### OPSS 102

Provide electronic bar codes on each weigh bill conforming to ANSI MH10.8M-1983 for 3 of 9 bar code (Code 39).

Provide summaries of the weights of each type of material accepted at the site and separate summaries of rejected lands, on a daily basis.

### 1.4 SUBMITTALS

Prior to starting the work, documentation shall be submitted, verifying that the Contractor's representative of the concrete sidewalk and concrete curb and gutter placing crew(s) shall be onsite for the duration of the work and shall have the Ready Mixed Concrete Association of Ontario (RMCAO) Municipal Exterior Flatwork Certification or American Concrete Institute (ACI) Flatwork Certification or an approved equivalent.

## 2. PRODUCTS

### 2.1 AGGREGATES

General – OPSS 1001

Concrete Aggregates – OPSS.MUNI 1002

Asphalt Aggregates – OPSS.MUNI 1003

Miscellaneous – OPSS.MUNI 1004

Granular Base, Subbase, Select Subgrade and Backfill Material – OPSS.MUNI 1010

5/8" Crushed Stone – OPSS.MUNI 1010 with the following gradation:

<u>Sieve Size</u>			<u>Percentage Passing by Weight</u>
	5/8"	(16.0 mm)	100
	1/2"	(13.2 mm)	75 – 95
	3/8"	(9.5 mm)	50 – 80
No.	4	(4.75 mm)	25 – 50
No.	16	(1.18 mm)	10 – 40
No.	50	(300 um)	2 – 20
No.	200	(75 um)	0 - 5

### 2.2 BITUMENS

2.2.1 Performance Graded Asphalt Cement – OPSS.MUNI 1101, PG 52-34

2.2.2 Liquid Asphalt – OPSS 1102

2.2.3 Emulsified Asphalt Primer:

Tack coat – OPSS 1103, SS1

Granular sealant – OPSS 1102, RC-30

2.2.4 Hot Mix Asphalt, HL3, HL4, HL8 - OPSS 1150

Recycled ratio – 20% maximum on base asphalt, 0% on top course

## 2.3 PERMANENT PAVEMENT MARKINGS

Polymer Pavement Markings OPSS 1714, or

Thermo Plastic Markings OPSS 1713, or

Stamark as supplied by 3M Canada or approved equal:

- 100 mm width, 270ES white, 271ES yellow.
- 600 mm width, 270ES white.
- Symbols Series SMS-L420.

## 2.4 HOT POURED RUBBERIZED ASPHALT, JOINT SEALING COMPOUND

OPSS 1212

## 2.5 PORTLAND CEMENT

OPSS 1301, Type 10

## 2.6 CONCRETE JOINT FILLER

OPSS 1308

## 2.7 CONCRETE CURING COMPOUND

OPSS 1315

White Pigmented Compound – Sealtight 1220 by W.R. Meadows, or approved equal.

### 2.7.1 CONCRETE PENETRATING SEALER

OPSS.MUNI 1350

Master Protect H 1000 by BASF Master Builders or approved equal

## 2.8 CONCRETE

OPSS.MUNI 1350

- minimum 32 MPa with 5-8% air entrainment
- exposure class C-2
- no chemical admixtures
- hot water to be used for concrete after October 15



## 2.9 CALCIUM CHLORIDE

OPSS 2501

## 3. EXECUTION

### 3.1 RESTORING UNPAVED SURFACE

OPSS 301

### 3.2 PRIMING GRANULAR BASE

OPSS 302

### 3.4 OPSS 305 ASPHALT SIDEWALK, BOULEVARD OR DRIVEWAY

OPSS 311

### 3.5 HOT-MIX HOT-LAID ASPHALT CONCRETE – OPSS 310

Echelon paving is required on roads with four (4) or more through-lanes for top lift. Only one (1) cold longitudinal joint is permitted on top lift paving of City streets at road/crown center line.

### 3.6 PREPARATION FOR PAVING

OPSS 310

Patch holes and pad depressions, in existing asphalt by hand, grader or spreader prior to paving.

Place a tack coat strip 300 mm wide along all asphalt overlays, and under any feathered layer above existing asphalt where new asphalt thickness is less than 20 mm.

Where directed by the Contract Administrator, in lieu of a tack coat strip, mill a 1.5 metre wide strip (40 mm thickness) for making the joint at the beginning and end of asphalt overlays.

Place tack coat on vertical surfaces where top course asphalt abuts curbs or gutters, or the edge of existing asphalt.

Manholes to be reset 24 hours prior to paving. Maximum 6mm grade tolerance on final paving lift between manhole cover and final surface asphalt.

### 3.7 ASPHALT MILLING

Mill existing asphalt by the method of cold planing to the limits and depths as directed by the Contract Administrator. Asphalt milling to include cross fall correction where required.

Commence cleaning operations including mechanical sweeping and flushing to remove the milled asphalt from the road surface. Thoroughly clean the road surface before opening the road to traffic at the end of the day.

Provide ramping using sand mix asphalt at the locations of manholes, catch basins, water valves, and along the exposed milled edges for traffic movement and safety. Remove ramping prior to paving. No ramping is required if the milling, cleaning and re-paving operations are carried out in a continuous process.

Arrange for disposal sites for the milled asphalt.

Remove any loose asphalt chunks and winter sand that may remain on top of the gutters.

Maintain milled surface, including any break through areas, with hot mix patching if repaving is not continuous.

### 3.8 GRANULAR BASE, SUBBASE, SURFACE AND SHOULDERS

OPSS 314  
OPSS 501

### 3.9 GRANULAR SEALING, TACK COAT

OPSS 310

Tack coat final pavement lifts when carried over from previous years.

### 3.10 SAWCUT ASPHALT JOINTS

Where directed by the Contract Administrator, saw cut the existing asphalt partial depth to provide a butt joint against the new pavement.

### 3.11 PAVING ADJACENT TO MANHOLE AND CATCHBASIN FRAMES AND COVERS, AND VALVE BOXES

Paint all frames, covers and valve boxes with fuel oil prior to paving to prevent asphalt from bonding with metal surfaces.

### 3.12 SETTING MANHOLE AND CATCHBASIN FRAMES AND COVERS, AND VALVE BOXES TO GRADE

Set all manhole and catchbasin frames and covers, and valve boxes to grade prior to placing of the top course of asphalt.

### 3.13 ASPHALT RAMPING OF MANHOLE FRAMES AND COVERS, AND VALVE BOXES

Ramp manholes, valve chambers, and valve boxes, which project above the pavement with asphalt or cold mix to prevent damage to vehicles traveling on the street. If pavements are left low over the winter, set manhole covers and valve boxes to the base asphalt elevation. Adjust to final grade just before the final lift is laid.

### 3.14 CALCIUM CHLORIDE

Apply liquid or flake calcium chloride when directed by the Contract Administrator to reduce dust nuisance or to aid compaction.

Apply liquid calcium chloride solution at a rate of 7.2 tonnes per kilometer based on a 6.0 metre wide spray. The solution shall contain a minimum 35% by mass of pure calcium chloride.

Apply flake calcium chloride as directed.

### 3.15 WATER

Sprinkle the granular material with water during rolling, tamping and blading, when and if, directed by the Contract Administrator to aid compaction. Apply water uniformly immediately ahead of the compacting unit.

Apply water when directed by the Contract Administrator to reduce dust nuisance.

The Owner will supply the Contractor with water, from a designated hydrant nearest the job site, at no cost. Hydrant training and compliance with Water Use Permit will apply.

Apply to the Environment Division prior to the start of construction to designate a hydrant in the area. Provide a 75 mm valve to control the water flow; do not control the flow with the hydrant valve. Install approved backflow preventer valve or provide air gap on truck fill piping.

### 3.16 SHOULDERS

Remove all debris and deleterious material before commencing shoulder operations.

Place granular material for shoulder construction by means of a shoulder spreader. Where obstacles on the shoulder prohibit the efficient use of a spreader, place the shoulder material adjacent to such obstacles by dumping.

Commence shouldering operations after 24 hours have elapsed from the time of completion of the final bituminous pavement course in that section. Complete shoulder operations within the next 24 hours after sections are opened to traffic.

Regardless of method of placing and width of shoulders, place all shoulder material directly onto the shoulder without segregation.

Remove any spillage and material dragged onto the pavement surface without damage to the pavement.

Clear the area so affected with the use of a power broom or other suitable means.

Shape the shoulder to line, grade and cross-section as specified in the Contract drawings.

### 3.17 ROUTING AND CRACK SEALING HOT-MIX PAVEMENTS

OPSS 341

### 3.18 CONCRETE SIDEWALKS

OPSS 351

Provide a firm schedule to the Contract Administrator for approval prior to commencing the work.

Schedule the placement of the concrete in such a manner that it follows very closely behind the excavation and backfilling procedure. Concrete placement shall not be closer than 20m of areas being prepared and compaction equipment used.

Apply curing compound in accordance with the manufacturer's recommendations.

Replace any sections damaged by rain, traffic or other causes, prior to final acceptance of the work.

Trim or support hedges, bushes or other plants, which may be affected by the construction, as directed by the Contract Administrator. Cover any exposed roots with suitable fill immediately following excavation and/or provide root curtain.

Apply concrete penetrating saline sealer to any sidewalk impacted by rain or freezing temperature, cold weather work placement for scaling protection as directed by the Contract Administrator.

### 3.19 CONCRETE CURB AND GUTTER SYSTEMS

#### OPSS 353

When concrete curb and gutter is placed by the extrusion method, form contraction joints by saw cutting the hardened concrete within a sufficient time of placing of the curb and gutter to prevent uncontrolled cracking. Contraction joints may also be formed by the use of a “guillotine” knife in the wet concrete.

The width of the joint shall be 3 mm to 5 mm and the depth 65 mm minimum, at 6.0 metre maximum spacing.

When installing new catchbasin frames and covers in new sections of concrete curb and gutters, set the catchbasin frame in place at the same time the curb and gutter is placed. There will be no additional payment for resetting the catchbasin frame, if such is required.

When stripping exists on asphalt surface, new curb and curb repairs shall be completed prior to stripping asphalt.

Retain a minimum distance of 20m between any grading or compaction operations and the placement of new curb and gutter.

### 3.20 LINE AND GRADE – SIDEWALKS, CURBS AND GUTTERS

The Contract Administrator shall supply line and grade for the sidewalk construction.

### 3.21 PAVEMENT MARKINGS

#### OPSS 710

### 3.22 EXISTING SIGNS (NOT ALL THE EXISTING SIGNS ARE SHOWN ON THE DRAWINGS)

Where existing street signs, stop signs, traffic signs, etc. are to be relocated, remove the signs and, except for stop signs, place the signs on the boulevards out of the way of work so that they will not be damaged. Any stop sign, which has to be removed in order to carry out construction, shall be relocated in an alternate position by the Contractor as directed by the Contract Administrator. Such relocation of stop signs shall be done so as not to confuse or mislead motorists. The Contractor will be back charged for the cost of any missing or damaged signs upon completion of the work.

### 3.23 ADJUST EXISTING MANHOLE FRAMES, CATCHBASIN FRAMES AND CURB AND VALVE BOXES

Adjust existing manhole and catchbasin frames and curb, and valve boxes to suit finished pavement grades.

Use precast concrete rings or modify masonry as necessary to adjust the grade at manhole and catchbasin frames.

If the existing item is replaced with a new frame and cover, or grate or valve box, the township will supply the replacement part at no cost to the Contractor. The Contractor shall pick up this replacement at the City yard.

## 4 MEASUREMENT FOR PAYMENT / BASIS OF PAYMENT

### 4.1 GENERAL

Payment for all items shall be full compensation for all labour, equipment and materials to complete the work.

### 4.2 HOT-IN-PLACE ASPHALT

OPSS 310, except that the Owner will be responsible for sampling and testing. Include the cost of ramping at manhole covers and valve boxes and the cost of coating of frames, covers, grates and valve boxes with diesel fuel in the unit price for this item.

### 4.3 TACK COAT

Include the cost for tack coat in the unit price bid for asphalt.

### 4.4 GRANULAR BASE, SUBBASE, SURFACE AND SHOULDERS

OPSS 314, except that payment for this item shall also include the application of water for compaction.

### 4.5 CONCRETE SIDEWALKS

OPSS 351, except as follows.

The Township reserves the right to reduce progress payments up to 50% of the value of the tendered price for sidewalks dependent on the amount of restoration work that has been carried out on the section involved.

### 4.6 WATER AND CALCIUM CHLORIDE FOR COMPACTION AND DUST CONTROL

All water, required for compaction or dust control, shall be supplied by the Corporation, from a designated hydrant at no cost to the Contractor.

The unit price per tonne for calcium chloride flake shall include all costs to pick up the material from the City yard and to place the materials. There will be no cost charged to the Contractor by the City for the supply of this material.

The unit bid per tonne for liquid calcium chloride shall include all costs to supply, weigh and place liquid calcium chloride.

#### 4.7 CONCRETE CURB AND GUTTER SYSTEMS

OPSS 353

#### 4.8 PAVEMENT MARKINGS

OPSS 710

## 1. INTENT

This section covers excavation, grading, filling and compaction for roads and adjacent areas.

### 1.1 WORK BY CITY FORCES

Tree pruning, if required prior to construction, will be carried out by the Owner.

At locations, where curb or sidewalk excavations will impact boulevard tree roots, the Township will precut the roots prior to curb or sidewalk excavation. A minimum 48 hours notice is required. The Contractor shall obtain the necessary locates and assume liability for the work. There will be no cost to the Contractor for this service.

### 1.2 RELATED WORK SPECIFIED ELSEWHERE

Related work specified elsewhere includes:

Section 02530 – Landscaping

Section 02570 – Excavation and Backfill of Trenches

## 2. PRODUCTS

Borrow Material – OPSS 212

Rip Rap, Rock Protection, Sheeting – OPSS 511

Boulevard fill must be free of stones, boulders, debris, clay or granular material.

## 3. EXECUTION

### 3.1 CLEARING AND GRUBBING

OPSS 201, except that the Contractor shall be responsible for the disposal of trees.

### 3.2 EXCAVATION, FILLING AND GRADING

OPSS 206

### 3.3 BORROW

OPSS 212



### 3.4 EXCAVATION – EXISTING BOULEVARDS

Remove all existing asphalt between the edge of the existing sidewalk and existing curb as indicated.

Removal of asphalt is to be paid for under the unit price tendered for excavation of sidewalks.

When directed by the Contract Administrator, dump and spread suitable excavated material on the boulevards. Remove boulders, stones, debris and other undesirable material. Spread and rake the fill as directed by the Contract Administrator. Spread and rake the fill on the boulevards before the surface course of asphalt is placed.

### 3.5 REMOVAL OF EXISTING CURBS AND GUTTERS, AND SIDEWALKS

Remove the lengths of curb and gutter and sidewalk as indicated on the Drawings. Dispose of all materials removed.

Saw cut the limits of the work prior to commencing the removal.

Root pruning and root curtains as specified.

### 3.6 GRADING BOULEVARDS

Slope boulevards to provide a uniform rising grade, 2% minimum, between the top of the curb and edge of shoulder.

### 3.7 SALVAGE

Deliver old manhole and catch basin frames, covers, and old culvert pipes, where not used in the Township Landfill. Where the existing culverts to be removed are in such a condition as to be reusable, exercise care in removing them.

## 4. MEASUREMENT FOR PAYMENT / BASIS OF PAYMENT

### 4.1 EXCAVATION, FILLING AND GRADING

Measurement for payment shall be by the cubic meter computed by:

- a) the truck box volume measurements for each truck;

The Contract Administrator will calculate the volume of each truck box.

The Contract Administrator will make a field assessment on actual excavation payment volumes based on partial or complete filling of the truck boxes taking into account void spaces left and/or weight overload restrictions.

#### 4.1.1. Water

All water required for compaction or dust control shall be supplied by the Corporation from a designated hydrant. Unless specifically indicated in the Tender Form, the Contractor shall include the cost of using water for compaction or dust control in the unit cost of excavation or granular items.

#### 4.2 REMOVAL OF SIDEWALKS, CURBS AND GUTTERS

The unit price bid for these Items shall apply both to spot removals or removals of lengthy sections, based on those sections designated to be removed by the Contract Administrator.

No additional payment shall be made for the removal of foundation walls, if found beneath existing sidewalks.

## 1. INTENT

This section covers excavation and backfilling of trenches for the installation of underground storm sewer piping. Trenching is required near the outlet of the new storm sewer pipe where it is located outside of the excavation for structure.

### 1.1 RELATED WORK SPECIFIED ELSEWHERE

Section 02510 – Roads, Sidewalks and Appurtenances

### 1.2 WORK BY TOWNSHIP FORCES

The Township may enlist the services of a tree pruning arborist to prune trees in advance of construction. Schedule this requirement in advance with the Contract Administrator. Cost will be borne by the Township for this service.

## 2. PRODUCTS

Bedding - Compactable granular material with no stones larger than 25 mm  
Crushed Stone – 100% passing a 25 mm sieve, 100% retained on a No. 4 sieve  
Granular Materials – Granular A and B, OPSS 1010  
Hot-Mix Asphalt – OPSS 1150  
Concrete – OPSS 1350

## 3. EXECUTION

### 3.1 EXCAVATION AND BACKFILL

OPSS 401

When existing soils, undisturbed by the Contractor, are considered by the Contract Administrator to be unstable, the Contract Administrator may order the unsuitable material to be excavated and backfilled with crushed stone.

### 3.2 EXCAVATION MAY BE STOPPED

The Contract Administrator may stop the excavation and any portion of the work and require the Contractor to complete the pipe laying and backfilling up to such point as he may direct, before excavation proceeds further. The Contractor shall not be entitled to receive any allowance or compensation, other than an extension of the time of completion for as many days as the Contract Administrator may determine.

If work is stopped on the whole, or any part of a trench, and the trench is left open for any unreasonable length of time in advance of the construction of the sewer, the Contractor shall, when directed by the Contract Administrator, refill such trench or part thereof, and temporarily repave over the same, at his own cost and expense, and shall not again open such trench, or part thereof, until he is ready to proceed with the construction of the sewer. If the Contractor refuses to completely refill such trench and temporarily repave over same within 48 hours after the receipt of Notice in writing to do so, the Contract Administrator may refill and temporarily repave such trench, and the cost and expense thereof shall be charged to the Contractor.

### 3.3 MATERIAL TO BE EXCAVATED

Excavation shall include top soil, organic silt, peat, muskeg, clay, shale, hardpan, and all vegetation, debris, junk, brick, gravel, concrete, asphalt pavement, loose or disintegrated rock, stone or boulders 1 cubic metre or less in volume and other material encountered within the excavated limits.

Clear and grub the surface wherever necessary. Remove all excess material of whatever nature or kind. Separate the excavated material so that no broken pavement, curbs, sidewalk, boulders or other objectionable material is present in the material to be as backfill.

### 3.4 DISPOSAL OF EXCAVATED MATERIAL

Excess materials shall be managed following OPSS 180, and Section 01561 – Environmental Specification.

Where possible, do not place excavated material on the traveled portion of streets, access to lots, lawns, walks, driveways, etc. Cast material to one side of the trench only, unless otherwise directed.

The Contract Administrator shall be the sole judge as to the amount of excavated material, which can be stockpiled alongside the trench, and may order any or all of the excavated material removed and stockpiled.

### 3.5 DEWATERING

Comply with OPSS 517.

Provide sufficient pumping equipment. Do not allow water to run through the newly laid pipe.

The Township is not responsible for additional costs incurred by the Contractor due to leakage from existing services or utilities.

### 3.6 MAINTAINING FLOW IN DRAINS

Provide for and maintain the flow, where required, of all sewers, drains, ditches and gutters, house or inlet connections, and all watercourses. Do not allow the contents of any sewer, drain, house or inlet connection or watercourse to flow into the trench or the sewers to be constructed under this Contract, except where permission is given by the Contract Administrator. Remove all offensive matter from proximity of the work, using such precaution in so doing as may be directed by the Contract Administrator.

### 3.7 BEDDING

Bedding types are shown on the drawings.

The type of bedding for concrete pipe shall be Class C. The method of bedding for all other pipes shall be Class B.

### 3.8 EXCAVATION AND BACKFILL FOR STRUCTURES

OPSS 402

### 3.9 GRANULAR BASE COURSES

OPSS 314

### 3.10 HOT-MIX, HOT-LAID ASPHALT

OPSS 310

## 4. BASIS OF PAYMENT / MEASUREMENT FOR PAYMENT

OPSS 401, except that no payment shall be made to haul surplus material from other excavation operations within the Contract, when native material is unsuitable for backfill.

### 4.1 IMPORTED GRANULAR MATERIAL

Additional payment shall be made, at the unit price bid, for imported granular material when authorized by the Contract Administrator.

### 4.2 RESTORATION

No additional payment shall be made for restoration except where specifically noted in the Contract documents.

## 1. INTENT

This section covers the construction of storm and sanitary sewers and appurtenances.

### 1.1 RELATED WORK SPECIFIED ELSEWHERE

Section 02570 – Excavation and Backfill of Trenches

## 2. PRODUCTS

Pipe – OPSS 410, Type, class and diameter as shown on the Drawings

Storm Lateral – 100 mm diameter minimum

Manhole Catchbasins and Appurtenances – OPSS 1351

Manhole and Catchbasin Frames and Covers – OPSS 1850

Connectors to Existing Sewer Laterals – Fernco Couplers

## 3. EXECUTION

### 3.1 STYROFOAM INSULATION

Where, directed by the Contract Administrator or as shown on the drawings, place Styrofoam insulation.

### 3.2 TESTING

Testing with water and deflection testing is not required under this Contract.

### 3.3 MANHOLES CATCHBASINS AND APPURTENANCES

OPSS 407

## 4. BASIS OF PAYMENT/MEASUREMENT FOR PAYMENT

Catchbasins OPSS 407 with payment by lump sum, except that if the installation or resetting of a catchbasin requires the removal and replacement of an existing curb or curb and gutter, the cost of removal and replacement, to a maximum length of 3.0 metres, shall be included in the payment for the catchbasin. This exception shall not apply to any contract, which includes payment items for replacement of existing curbs on the same street.

**REPLACEMENT PINE STREET CULVERTS  
AT AGIMAK RIVER**

**SPECIAL PROVISIONS**

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**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) – General Environmental Protection Requirements**

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**Special Provision**

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The Contractor is responsible for protection of people, property and the natural environment from environmental impacts and damage that may result from this contract.

Environmental protection during construction shall:

- a) comply with commitments and conditions of environmental approvals, permits, exemptions, agreements, reports, and clearances provided by the Owner;
- b) comply with any other formal environmental approvals, permits, exemptions, agreements, reports and clearances that must be procured by the Contractor in order to perform the work; and
- c) be integrated with environmental and other requirements specified in the Contract.

Environmental protection shall include, but not be restricted to the control of materials, equipment and construction operations in order to avoid and minimize:

- a) direct physical damage;
- b) sediment, noise, vibration, dust, chemical, and other emissions; and
- c) interference with local use, access and passage.

Such control shall include but not be restricted to selection and management of:

- a) materials, equipment and method of construction, including the management of excess and contaminated materials;
- b) construction site disturbance limits; construction site access, detours and haul roads; earth aggregate and rock borrow areas; material storage and disposal areas; equipment storage areas; construction yards; and
- c) timing, duration and staging of the work.

All materials used in the construction of temporary physical environmental protection measures shall remain the property of the Contractor.



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**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) – General – Erosion and Sedimentation Control**

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**Special Provision**

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The erosion and sedimentation control items detailed in the Contract address the requirements of regulatory authorities needed to obtain authorizations, permits and/or approvals in order to proceed to construction, and erosion and sedimentation controls not related to Contractor construction methods and operations such as final slopes and final ditches.

The Contractor shall, as part of the Contract price, control erosion and sediment caused by their construction methods and operations including but not limited to incomplete earth slopes, ditches and designated disposal areas, stockpiles, access and service roads, storage and work areas, and non-designated disposal areas so as to meet all legislative requirements, to prevent entry of sediments into watercourses and environmentally sensitive areas and to prevent damage to property inside or outside of the right-of-way.

A plan shall be prepared for the control of erosion and sediment. The plan shall complement the erosion and sediment control measures specified elsewhere in the Contract. The plan shall be comprehensive, and shall provide descriptions and schedules, as well as sketches and/or plans and/or drawings and shall include all required materials. The plan shall be designed to control erosion and sediment for a 5 year Design Storm Event.

Any work to correct ineffective erosion and sediment control measures, that is caused by a storm event, not exceeding that specified in this special provision, shall be at the Contractor's expense.

The Contractor will provide the Contract Administrator with a copy of the plan prior to undertaking any work covered by the plan.

Implementation, inspection, maintenance and removal of erosion and sediment control measures, identified in the plan, shall be in accordance with OPSS 805.

**Materials**

Materials may include, but are not limited to, those specified in OPSS 805, Construction Specification for Temporary Erosion and Sediment Control Measures. Alternative materials or methods are acceptable provided they meet industry standards and protect the environment from the impacts of erosion and sedimentation.

**Payment**

Except for specific environmental tender item(s) the Erosion and Sediment Control Plan, and work necessary to control erosion and sediment under the provisions of the plan, shall be included in the bid price for the Contract.

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**OPERATIONAL CONSTRAINTS (ENVIRONMENTAL) - Migratory Bird Protection – General**

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Special Provision

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The Contractor shall not destroy active nests of protected migratory birds. When these nests are encountered the Contract Administrator must be contacted.

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) - Control Measures During Removal of Concrete, Concrete Repair/Construction, and Concrete Sawcutting**

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Special Provision

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This Special Provision describes the requirements for control measures during removal of concrete, concrete repair/construction, and concrete sawcutting.

The requirements of this special provision are in addition to those specified elsewhere in the Contract.

For materials resulting from concrete removal, and materials resulting from concrete repair/construction, the Contractor shall take the appropriate measures and provide such protection system or systems to ensure that such materials do not.

- (a) fall into or enter the waterbody; or
- (b) cause damage to any portion of the structure not designated for removal.

For concrete sawcutting, the Contractor shall take appropriate measures and provide such protection system or systems to:

- (a) contain any removed material until it is disposed of; and
- (b) minimize the escape of dust such that no visible dust reaches the waterbody, adjacent wetlands, or property outside the right-of-way limits.

The following work shall not commence until the Contract Administrator has given permission to proceed in writing:

- (a) removal of concrete/structure;
- (b) concrete repair/construction; and
- (c) concrete sawcutting.

The Contractor shall give the Contract Administrator written notice a minimum of 14 calendar days prior to the date that permission is required to proceed with any of the above specified work operations. The notice shall include four copies of written descriptions, drawings and schedules that provide the following:

- (a) The sequence and method of control measures during:
  - (i) removal of concrete / structure;
  - (ii) concrete repair/construction; and
  - (iii) concrete sawcutting.

Permission to proceed with the above will be provided if the Contract Administrator determines that the details of the notice meet the requirements of this Special Provision.

Dust from the concrete sawcutting and all other excess materials resulting from concrete removal and concrete repair/construction shall be managed as specified elsewhere in the Contract. All material from concrete sawcutting and all other excess materials resulting from concrete removal and concrete structure repair/construction shall be managed as specified elsewhere in the Contract.

At the conclusion of the work, the control measures shall be removed from the right-of-way.

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) - Management of Effluent from Concrete Cutting/Grinding**

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Special Provision

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**1. SCOPE**

This Special Provision describes the requirements for management of effluent resulting from concrete cutting/grinding, that either:

- (a) runs off the concrete surfaces that are cut/ground, before such runoff can dry/ evaporate on the concrete or immediately adjacent surface;

or

- (b) accumulates/ponds on the concrete that is cut/ground, or on any other location.
- These requirements are in addition to those specified elsewhere in the Contract and do not relieve the Contractor of obligations imposed by the Contractor of Approval for a Waste Management System.

## 2. DEFINITIONS

**Construction Area:** means the road allowance, right-of-way, and property with a boundary common to the road allowance or right-of-way within the Contract limits.

**Effluent:** means liquid, that is a direct result of concrete cutting or grinding. Effluent includes any stormwater, or surface drainage that becomes mixed with this material. Effluent is classified as liquid industrial waste Class 146 (L).

**Manifest:** means a Regulation 347 Form 1 manifest.

**Receiving Site:** means certified waste processing facility, and certified waste disposal site.

## 3. SUBMISSION AND DESIGN REQUIREMENTS

Where the Contractors operations will result in effluent from concrete cutting or grinding, that is as specified in Section 1 of this special provision, written agreement of the operator of the receiving site to accept the effluent, shall be submitted to the Contract Administrator a minimum of two weeks prior to commencement of the work.

At the completion of the work, a copy of a release signed by the same receiving site operator or property owner shall be provided to the Contract Administrator.

A copy of the Contractor's Certificate of Approval for a Waste Management System shall be provided to the Contract Administrator prior to the commencement of the work.

## 4. CONSTRUCTION

### 4.1 General

Effluent from concrete cutting and grinding operations that is as specified in Section 1 of this special provision shall be captured and contained for management in compliance with this special provision.

It is the Contractor's responsibility to obtain any approvals, releases, and agreements, and conditions of same, that are required to implement the Contractor's strategy for the management of effluent.

Effluent resulting from concrete cutting and grinding operations shall be transported to one of the following receiving sites:

- (a) a waste disposal site with a Certificate of Approval for a Waste Disposal Site valid for liquid industrial waste Class 146 (L); or
- (b) a waste processing facility with Certificate of Approval for a Waste Disposal Site (Processing) valid for liquid industrial waste Class 146 (L).

For each shipment of effluent from the construction area to any certified receiving site:

- (a) the carrier shall have a Certificate of Approval for a Waste Management System valid for liquid industrial waste Class 146 (L), and shall comply with Sections 4.2 and 4.3 of this special provision; and
- (b) the shipment shall be manifested as specified in Section 4.4 of this special provision.

#### **4.2 Carrier Certification**

The carrier shall have a Certificate of Approval as specified in Sections 4.1 of this special provision. Responsibilities of certified carriers shall include, but not be limited to, the following:

- (a) transportation of waste materials produced by the work in accordance with the Certificate of Approval; and
- (b) carrier responsibilities for waste materials including, but not restricted to, manifesting of liquid industrial waste.

#### **4.3 Certificate of Approval**

The Contractor's Certificate of Approval for a Waste Management System and the receivers Certificate of Approval for a Waste Disposal Site shall be valid for all of the following:

- (a) the entire period of the work;
- (b) the entire area within the limits of the work and the entire haul route;
- (c) the equipment to be utilized; and
- (d) waste classification 146 (L).

#### **4.4 Manifesting**

Manifesting shall be as specified in Section 4.1 of this special provision. The carrier shall present a Regulation 347 Form 1 manifest for "Part A" completion by the Contract Administrator. The Contract Administrator shall be notified a minimum of two weeks prior to the first shipment requiring manifesting, and a minimum of 24 hours notice prior to each subsequent shipment requiring manifesting.

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### **OPERATIONAL CONSTRAINT – No Night Work**

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#### Special Provision

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No construction, including the operation of construction equipment, shall be conducted between the hours of 11:00 p.m. and 7:00 a.m. the following day, unless the next day is a Sunday or a Statutory Holiday, in which case the prohibition continues until 9:00 a.m.

### **OCCUPATION HEALTH AND SAFETY ACT COMPLIANCE -**

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Special Provision NO. 101F21

November 2014

#### List of Designated Substances

In accordance with the Occupational Health and Safety Act, R.S.O. 1990, c. 0.1, the Contractor is advised of the presence of the following Designated Substance(s):

Substance	Location
Arsenic	None identified
Asbestos on Construction Projects and in Buildings and Repair Operations (O. Reg. 278/05)	None identified
Lead	None identified
Silica	None identified
Benzene	None identified
Vinyl Chloride, Coke Oven Emissions, Ethylene Oxide, Acrylonitrile and Isocyanates	None identified
Mercury	None identified

### **QUALITY CONTROL**

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#### Special Provision

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#### **Inspection**

The Owner and the Engineer shall have access to the Work.

Timely notice shall be given requesting inspection if Work is designated for special tests, inspections or approvals by the Engineer's instructions, or law of Place of the Work.

If the Engineer covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

### **Independent Inspection Agencies**

Independent Inspection/Testing Agencies will be engaged by the Engineer for purpose of inspecting and/or testing portions of the Work. Cost shall be allocated as set out.

Provide equipment required for executing inspection and testing by appointed agencies.

### **GENERAL REQUIREMENTS OF SAMPLES FOR QUALITY ASSURANCE, REFEREE AND OTHER TESTING BY THE OWNER OR THE OWNER'S AGENT**

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Special Provision NO. 199F57

May 2023

#### **Scope**

This Special Provision covers the minimum requirements for the handling, identification, and delivery of samples to a laboratory for quality assurance, referee and other testing by the Owner or the Owner's agent.

#### **Sampling and Identification**

All samples shall be obtained and packaged by the Contractor, in the presence of the Contract Administrator or a designated representative. All samples shall be provided with a unique number by the Contract Administrator for identification purposes.

Sampling, handling, and storage of samples shall be as specified in the Contract Documents. Notwithstanding, the Owner may take samples for its own purposes at any time from any location. The Contractor shall furnish all reasonable assistance to the Owner and shall require its Subcontractors and suppliers to do the same.

The Contractor shall supply sample containers and all relevant Safety Data Sheets. All containers used for samples of materials controlled under the Workplace Hazardous Materials Information System shall be appropriate for the materials and shall be labelled and accompanied with the relevant Safety Data Sheets.

The Contractor shall package all samples to minimize risk of damage or contamination during transport. Once packaging is complete, the Contractor shall inspect all samples and confirm each sample and packaging is acceptable to the Contract Administrator for delivery.

After inspecting and determining that each sample is acceptable for delivery, the Contractor shall enter the sample data information. Upon the Contractor submitting the sample data information, the Contractor accepts responsibility that the information entered is accurate.

The Contractor shall place bags or containers of samples into clear polyethylene security bags supplied by the Owner when instructed by the Contract Administrator. At this point, the Contract Administrator shall take possession of, and assume responsibility for the samples. The Contract Administrator or their representative may apply security seals. The Contractor shall be responsible for all costs associated with obtaining new samples if the original samples did not conform to the sampling requirements (e.g., weight and size) and were deemed unsuitable for testing by the laboratory or the Owner.

#### Sample Delivery by the Contractor

The Contractor shall be responsible for the delivery of concrete cylinders for strength and grout cubes for strength determination, and bridge bearing pads, to the laboratory designated by the Owner. All other samples shall be delivered by the Contract Administrator.

Samples delivered by the Contractor shall be within the time limits and locations specified in the Contract Documents. The Contractor shall normally deliver samples during normal business hours. Normal business hours are deemed to be from 8:00 a.m. to 5:00 p.m., each Business Day. Where a sample has to be delivered outside these hours, the Contractor shall give the laboratory one full Business Day notice.

If the time limits and/or locations for delivering samples are not specified in the Contract Documents, then the sample shall be delivered by the Contractor no later than 1 Business Day from the date of sampling to the regional quality assurance laboratory located within a 300 km radius of the Contract limits.

For all samples delivered by the Contractor, the Contractor shall maintain a record of the date and time of delivery, and the printed name and signature of the authorized individual receiving the sample. The Contractor shall sign the laboratory's records to confirm the date and time of delivery.

The Contractor shall be responsible for all costs associated with obtaining new samples if the original samples delivered by the Contractor are lost or deemed unsuitable for testing by the laboratory or the Owner.

The regional quality assurance laboratory shall be designated by the Owner.



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**MOB/DEMOB/INSURANCE - Item No. 001**

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Special Provision

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Payment at the Contract Price for these tender items shall include all costs required by the Contractor to provide and maintain for the duration of the Contract:

- a) Mobilize equipment, materials, tools, supplies, labour and supervisors.
- b) Insurance and bonds required for the duration of construction.
- c) Supply, erect and maintain contract information signs and illumination for the duration of the work specified in Section 0100 - General Requirements.
- d) Fees, certificates, and work permits.
- e) Temporary construction facilities.
- f) Securing work and storage areas.
- g) Vehicle and pedestrian protection.
- h) Coordination with Synergy North to remove or temporarily support one hydro pole located within the limits of excavation.
- i) Maintain all vehicle and pedestrian protection.
- j) Daily site cleaning, and
- k) Demobilization of aforementioned items upon completion of construction.

Payment at the Contract Price for each of these items shall be lump sum and made in two payments. The first payment shall be made near the commencement of each year of construction. The second payment shall be made at the end of each year of construction.

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**ENVIRONMENTAL PROTECTION - Item No. 002**

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Special Provisions

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Payment at the Contract Price for these tender items shall be lump sum and shall include full compensation for all labour, materials and equipment required to do the following:

- a) Provide and maintain erosion and sediment control for the duration of the Contract as outlined in Section 01561, OPSS 182, and as indicated on the Drawings.

- b) Apply for and receive a License to Collect Fish for Scientific Purposes and a Wildlife Scientific Collectors Authorization from the Ministry of Natural Resources and Forestry.
- c) Collect fish within cofferdams and areas to be dewatered as per the requirements of the above license and authorization.
- d) Protect migratory birds listed as threatened or endangered under the Endangered Species Act, for example barn swallows, shall be protected according to the Act and its Regulations.
  - i) Inspect the existing structure for any active nests prior to commencing any work at the site.
  - ii) If nesting activity, including nests in the process of being constructed, are observed on the structure, notify JML Engineering.

**REMOVE ASPHALT - Item No. 003**

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Special Provision

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Payment at the Contract Price for this tender item shall be based on measured square meter of surface area and shall be full compensation for all labour, materials and equipment required to do the following:

- a) Sawcut the existing asphalt pavement partial depth at the limits of removal by means of suitable mechanical equipment or cold planing equipment capable of producing a straight, clean vertical face.
- b) Remove asphalt full depth within limits of new paving and dispose off site.
- c) Mill asphalt at limits for joint detail.
- d) Remove asphalt at boulevards and dispose off site.

All as indicated on the Drawings.

**REMOVALS (CURB/GUTTER, SIDEWALK, GUIDE RAIL) - Item No. 004**

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Special Provision

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Payment at the Contract Price for this tender item shall be by lump sum shall include full compensation for all labour, materials and equipment required to do the following:

- a) Sawcut the existing sidewalk full depth at the nearest joint at the limits of removal by means of suitable mechanical equipment. Remove sidewalk full depth within limits of work, and dispose off site.
- b) Sawcut the existing curb and gutter at the limits of removal by means of suitable mechanical equipment. Remove curb and gutter full depth within limits of work, and dispose off site.
- c) Disconnect and remove existing steel beam guide rail and hardware.
- d) Remove and dispose off site existing timber guide rail posts and offset timbers.
- e) Remove and dispose off site manholes and catch basin.
- f) Remove and dispose off site catch basin leads.

All as indicated on the Drawings.

**CLOSE CUT CLEARING AND GRUBBING - Item No. 005**

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Special Provision

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**MANAGEMENT OF NON-HARVESTABLE WOOD**

Open burning of non-harvestable wood is not permitted under this Contract.

Non-harvestable natural wood debris from any clearing and/or grubbing operation shall be the property of the Contractor.

The Contractor may shred/chip/mulch such natural wood debris, however, this material shall be disposed off site and in accordance with OPSS 180.

Stockpiles of the shredded, chipped, or mulched material will not be permitted.

**Basis for Payment**

Payment at the Contract Price for the above tender item shall be by lump sum and shall include full compensation for all labour, equipment, and materials required to do the following:

- a) Complete close cut clearing and grubbing at excavation slopes where required to facilitate the work.
- b) Dispose all wood debris off site.

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**EXCAVATION- Item No. 006**

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Special Provision

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Payment at the Contract Price for this tender item shall be by the cubic meter and shall include full compensation for all labour, materials and equipment required to do the following:

- a) Excavate to facilitate removal of the existing culverts. Excavation shall be done to ensure the remaining backfill height at existing culverts is balanced and does not vary by greater than 0.6 m.
- b) Excavate below existing culverts to construct new streambed and low flow channel.
- c) Salvage acceptable material for reuse as Select Subgrade.
- d) Dispose non-salvaged excavated material off site.

Removal of storm sewer and catch basin leads shall be paid for as described elsewhere.

All as indicated on the Drawings.

**NEW CATCH BASINS AND LEADS - Item No. 008**

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Special Provision

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Payment at the Contract Price for this tender item shall be by linear metre shall include full compensation for all labour, materials and equipment required to do the following:

- a) Remove and dispose off site existing storm sewer to limits indicated.
- b) Provide and maintain storm sewer bypass.
- c) Install new 300 mm storm sewer c/w bedding.
- d) All other requirements listed in this Specification.

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**TEMPORARY FLOW PASSAGE SYSTEM - Item No. 009**

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**Special Provision**

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Temporary flow passage as per OPSS Muni 517.

Payment at the Contract Price for this tender item shall be by lump sum and shall include all labour materials and equipment required to do the following:

- a) Design and construct a temporary flow passage system to isolate the work area from the aquatic environment and ensure all work is carried out in the dry.
- b) Maintain creek flow through the work area at all times.
- c) Stage cofferdams and temporary flow passage system while maintaining flow as required to facilitate work.
- d) Design temporary flow passage system for the two-year storm event of 9.5 m<sup>3</sup>/s.

Working Drawings sealed and signed by a design Engineer and design checker Engineer licensed in the Province of Ontario shall be submitted for the Temporary Flow Passage System.

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**DEWATERING SYSTEM- Item No. 010**

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**Special Provision**

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Payment at the Contract Price for this tender item shall be by lump sum and shall include all labour materials and equipment required to do the following:

- a) Design and construct a dewatering system to control water and the flow of water into the excavation, prevent disturbance of the foundation, and permit the placing of concrete in the dry.
- b) Operate the dewatering system continuously for the duration of excavation for footings, construction of concrete footings, and backfilling around footings.
- c) Control the discharge of water in accordance with OPSS 517 and OPSS 805. Install temporary erosion and sediment control as required.
- d) Carry out unwatering as necessary.
- e) Design dewatering systems for the two-year storm event of 9.5 m<sup>3</sup>/s and groundwater.

- f) Provide the following records of the dewatering operations to the Contract Administrator:
- i) The dates and times when the dewatering system is active and ground water or storm water is taken/discharged.
  - ii) For each day when water is taken, the average rate at which water is taken from each dewatered work area in litres per second.
  - iii) The total volume of water taken from each dewatered work area each day in litres.
  - iv) A record of any precipitation at the construction site.
  - v) A record of all inspections and maintenance of the dewatering system including erosion and sediment control measures and the discharge location.
  - vi) A summary of any complaints that are received with respect to the water taking that relate to the natural environment.

A Dewatering Plan sealed and signed by a design Engineer and a design checking Engineer licensed in the Province of Ontario shall be submitted.

### **DEMOLISH PIPES - Item No. 011**

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#### **Special Provision**

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Payment at the Contract Price for this tender item shall be by each culvert removed and shall be full compensation for all labour, materials and equipment required to do the following:

- a) Remove and dispose off site two approx. 2.44 m diameter CSP culverts.
- b) Removal shall be done in stages to facilitate temporary flow passage and other staging requirements.

The Contractor is responsible for maintaining the stability of the existing culverts at all times. The Contractor shall design and provide temporary support systems for the existing culverts, as required, to suit their method of construction. The Drawings illustrate a soil saddle for reference.

All as indicated on the Drawings.

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### **INSTALL NEW BARRELS – Item No.13**

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#### **Special Provision**

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This Special Provision covers the requirements for the installation of two 3000mm diameter, 27000mm long, and minimum 2.8 mm thick, Aluminized Type 2 coating, Corrugated Steel Pipe (CSP) culvert, including Annular Couplers at the Pine Street culvert site.

#### **Cover Material**

The cover material shall be in accordance with OPSS 1010 and satisfy the requirements of the culvert manufacturer.

#### **Bedding Material**

Bedding material shall include 200 mm of uncompacted sand bedding, be in accordance with OPSS 1010 and shall satisfy the requirements of the culvert manufacturer.

#### **Geotextile**

Geotextile at seams in the culvert shall be non-woven conforming to OPSS 1860.

#### **Equipment**

Heavy equipment shall not be operated within 1000mm of the culvert. Fill within 1000mm of the culvert must be placed and compacted using light equipment or by hand.

#### **Construction**

The steel culvert shall be assembled and erected in accordance with the manufacturer's specifications. The total length of the culvert shall be as indicated on the Contract Drawings. Placement of material around the culvert shall be according to the Contract Drawings and manufacturer's specifications. Truck end-dumping or dozer placement against the sides of the culvert shall not be permitted. No material shall be dumped on top of the culvert but placed on either side and spread in layers according to the manufacturer's specifications.

#### **Management of Excess Material**

Management of excess material shall be according to OPSS 180.

#### **Inspection after Installation of the Corrugated Steel Culvert**

A Request to Proceed shall be submitted to the Contract Administrator, upon completion of the erection and submission of Manufacturer Certificate of Conformance, for each stage.

The next operation shall not proceed until a Notice to Proceed has been received from the Contract Administrator.

**STREAMBED MATERIAL - Item No. 014**

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**Special Provision**

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Payment at the Contract Price for this tender item shall be by lump sum. Payment shall be full compensation for all labour, materials and equipment required to do the following:

- a) Construct streambed and low flow channel in accordance with OPSS 823, 1005, and the Contract Drawings.
- b) Streambed material shall be WB350 in accordance with OPSS 1005. Streambed material shall be mixed with Select Subgrade or Granular 'A' prior to placement to fill voids. After placement, Select Subgrade or Granular 'A' shall be washed into the streambed material to eliminate any remaining voids. Contractor to ensure all voids within the thickness of the streambed material are filled.

All as indicated on the Drawings.

**GRANULAR A ROAD BASE - Item No. 015**

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**Special Provision**

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Payment at the Contract Price for this tender item shall be based on tonnes as recorded by tickets received by supply trucks and confirmed by field measurements. Payment shall be full compensation for all labour, materials and equipment required to do the following:

- a) Supply, place and compact Granular 'A' base material for roadway as indicated on the Drawings.
- b) All Granular 'A' material is to be compacted in lifts not to exceed 150 mm in thickness to a minimum of 100% Standard Proctor Maximum Dry Density.

**GRANULAR B1 ROADBASE - Item No. 016**

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**Special Provisions**

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Payment at the Contract Price for this tender item shall be based on tonnes as recorded by tickets received by supply trucks and confirmed by field measurements. Payment shall be full compensation for all labour, materials and equipment required to do for the following:



- a) Supply, place and compact Granular 'B' Type III sub-base material for the roadway, boulevard, shoulder, and new slopes as indicated on the Drawings.
- b) All Granular 'B' material is to be compacted in lifts not to exceed 200 mm in thickness to a minimum of 98 % Standard Proctor Maximum Dry Density.

All as indicated on the Drawings.

**GRANULAR B2 STRUCTURAL BACKFILL- Item No. 017**

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Special Provision

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Payment at the Contract Price for this item shall be based on tonnes as recorded by tickets received by supply trucks and confirmed by field measurements. Payment shall be full compensation for all labour, materials and equipment required to do the following:

- a) Supply, place and compact engineered granular fill (Granular 'B' Type II) around and above culvert in lifts and compaction effort as specified by manufacturer(s).
- b) Engineered granular fill material shall be uniformly placed in compacted lifts on both sides of the box culvert as indicated by the backfill procedures provided by culvert manufacturer.
- c) Engineered granular fill specifications and gradation by culvert manufacturer.
- d) Touch up embankment slopes.

Payment shall not be made for granular material used to fill any area excavated beyond the lines specified in the Contract Documents.

All as indicated on the Drawings.

**ASPHALT - Item No. 020**

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Special Provision

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Payment at the Contract Price for this tender item shall be based on tonnes as recorded by tickets received by supply trucks and verified by field measurements. Payment shall be full compensation for all labour, materials and equipment required to do the following:

- a) Pave the full roadway width, with two - 40 mm lift of hot mix SuperPave 12.5 asphalt concrete, within the limits indicated on the Drawings.

- b) Pave the overlap at the limits of paving.
- c) No separate payment shall be made for tack coat.

All as indicated on the Drawings.

**GUIDE RAIL - Item No. 021**

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**Special Provision**

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Payment at the Contract Price for this tender item shall be in linear metres and shall include full compensation for all labour, materials and equipment to do the following:

- a) Supply and install steel posts and timber blocking.
- b) Install steel beam guide rails and hardware.

All as indicated on the Drawings.

**ROCK PROTECTION C/W GEOTEXTILE - Item No. 022**

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**Special Provision**

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Payment at the Contract Price for this tender item shall be in square meters measured in the field and shall include all labour materials and equipment required to do the following:

- a) Supply and install 600 mm thick layer of rock protection c/w geotextile to limits shown at the inlet and outlet of the new arch-culvert.
- b) Supply and install 600 mm thick layer of rock protection c/w geotextile to limits shown at the outlet of the new storm sewer.

All as indicated on the Drawings.

**HYDRAULIC SEED AND MULCH - Item No. 023**

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**Special Provision**

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Payment at the Contract Price for this tender item shall be based on measured square meter of surface area and shall be full compensation for all labour, materials and equipment required to do the following:

- a) Supply and install hydraulic seed and mulch on all new embankment slopes and area below existing access road after removal.

All as indicated on the Drawings.

**REPLACEMENT PINE STREET CULVERTS  
AT AGIMAK RIVER  
  
GEOTECHNICAL REPORT**



## **GEOTECHNICAL INVESTIGATION**

**JML ENGINEERING LTD.,  
Thunder Bay, Ontario**

**June 9, 2023**

**CSL2023-388**

**Prepared for:**

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## 1 INTRODUCTION

CSL Environmental & Geotechnical Ltd. (CSL) has been retained by JML Engineering Ltd. to conduct a geotechnical investigation and provide geotechnical design recommendations for the proposed Pine Street Culvert Replacement, in the Town of Ignace, Ontario.

The purpose of this investigation was to determine the subsoils, groundwater levels and provide geotechnical recommendations for the proposed culvert replacement foundation.

## 2 SITE DESCRIPTION

The project site is situated on Pine Street within the Town of Ignace, a municipality located along Highway 17 (Latitude 49.414°, Longitude -91.657°). The current culvert configuration comprises twin culverts skewing beneath Pine Street with a diameter and length of 2.44 metres and 26.7 metres each respectively. The location of the project site as well as the condition of the existing twin culverts are shown in Figures 1 and 2 respectively in Appendix C.



Photo 1: Pine Street Culvert.



At the time of the field investigations, the site was closed to traffic access with concrete barricades. Utility locations were also visibly marked. The topography of the site is generally flat but slopes down toward the river at the location of the river nearest to the twin culverts.

### **3 SCOPE OF WORK**

The scope of work for the geotechnical investigation for the building consists of the following tasks:

- Review existing background information,
- Conduct the proposed geotechnical field investigation, and
- Provide foundation recommendations.

#### **3.1 Deviations to Scope of Work**

Flowing sands was encountered while advancing the augers at the approximate depth of 12 m. To reach the proposed drilling depth of 16 m in (BH2), Dynamic Cone Penetration Testing (DCPT) was completed. By completing DCPT, CSL was able to collect data which could be used for geotechnical design.

### **4 FIELD INVESTIGATION**

#### **4.1 Geotechnical Investigation**

Prior to the commencement of the site investigation, a Health and Safety Plan was developed to identify and address potential on site hazards. CSL was provided with the utility locate clearances conducted by the client. Based on the information provided the proposed borehole locations were cleared of underground and overhead utilities prior to drilling.

Field investigation was carried out on May 18<sup>th</sup>, 2023, utilizing a drill rig equipped for geotechnical drilling. The field investigation was supervised on a full-time basis by CSL personnel. A total of two (2) boreholes (BH1 and BH2) were advanced at the proposed location. BH1 was advanced to a maximum depth of 8.2 m at the northwest embankment. BH2 was advanced to a maximum depth of 18.0 m. The borehole locations are shown in Appendix 'C'.

Soil samples were obtained from the auger flights and from the split spoon sampler used for Standard Penetration Test (SPT). The SPT involves driving a 51-mm diameter thick-walled sampler into the soil under the energy of a 63.5 kg weight falling through 760 mm. The number of

blows required to drive the sampler 300 mm is known as the standard penetration blow count (N) which provides an indication of the condition or consistency of the soil. The soil samples collected during drilling were identified in the field, placed in labelled bags, and transported to a CCIL certified laboratory in Thunder Bay for further analyses.

All boreholes were abandoned using a suitable abandonment barrier as described in Ontario Regulation 903 and its amendments. Boreholes were decommissioned by backfilling with bentonite chips.



Photo 2: Completion of Borehole 2 drilling at Pine Street Culvert.

Geodetic borehole elevations and locations were obtained using an RTK GPS and are summarized in Table 4-1.

Table 4-1: Borehole Survey Details

Borehole ID	UTM Northing (m)	UTM Easting (m)	Elevation (m)	Depth (m)
BH1	5474346	597378	452.2	8.2
BH2	5474335	597382	452.1	18.0

A suite of laboratory testing was undertaken on soil samples retrieved during the investigation by CSL to obtain the desired material properties. The laboratory testing program included the following:

- Moisture content tests to confirm soil classifications based on ASTM D2216
- Particle size distribution tests to confirm soil classifications based on ASTM D6913

The laboratory test results are presented on the borehole logs, and on the graphical plots attached in Appendix D (Enclosures).

## 5 DESCRIPTION OF SUBSURFACE CONDITIONS

Details of the subsurface conditions encountered are presented on the Borehole log (Appendix 'D') and summarized in the following sections. Summaries of the subsurface stratigraphy and depths of different horizons are shown in Enclosures and presented in Table 4-1 below.

Table 5-1: Summary of Stratigraphy Encountered in Borehole

Borehole ID	Asphalt Depth (m)	Sand Gravelly Depth (m)	Sand and Gravel Depth (m)	Silt Depth (m)	Sand Depth (m)
BH1	0.0 – 0.07	0.07 – 1.5	1.5 – 4.6	N/A	4.6 – 8.2 (EOH)
BH2	0.0 – 0.07	0.07 – 1.5	1.5 – 3.1	3.1 – 4.6	4.6 - 18.0 (EOH)

EOH – End of Hole

N/A – Not Applicable/Not Encountered

### 5.1 Asphalt

At the surface, a layer of asphalt was encountered in all boreholes. This layer had a thickness of 70 mm.

## 5.2 Gravelly Sand

Gravelly sand with trace silt, brown in colour, and, dry was encountered below the asphalt layer in each borehole. This stratum had a thickness of 1.4 m.

The SPT 'N' value for this layer was 20, indicating compact conditions in general. The moisture content of the gravelly sand layer was 4%. A sieve analysis was completed on this layer as summarized in Table 4-2 below.

Table 5-2: Summary of Laboratory Sieve Analysis Results for Gravelly Sand

Particle Size Distribution (Sieve Analysis)	
Gravel	31 %
Sand	59 %
Fines	10 %

## 5.3 Sand and Gravel

Beneath the gravelly sand layer, a layer of sand and gravel was encountered in all boreholes. This sand and gravel layer is composed of sand and gravel with traces of silt. It was brown and dry. The layer was 1.6 m to 3.1 m in thickness and was encountered in each borehole until terminus of the boreholes.

The SPT 'N' value for this layer ranged from 16 to 61, indicating compact to very dense conditions in general. The moisture content of the layer varied between 3% to 4%. Multiple sieve analyses were completed on this layer as summarized in Table 5-3 below.

Table 5-3: Summary of Laboratory Sieve Analysis Results for Sand and Gravel

Particle Size Distribution (Sieve Analysis)	
Gravel	37 - 49 %
Sand	43 - 53 %
Fines	7 - 10 %

## 5.4 Silt

A silt layer was found beneath the gravel and sand layer in BH2 only. This layer had some sand and organics, was black/grey in colour, moist and very loose.

The SPT 'N' value for this layer was 3, indicating compact to very loose conditions in general.

## 5.5 Groundwater

Groundwater levels in the boreholes where seepage was noted were measured upon completion of borehole drilling and prior to backfilling of the borehole. This information is included on the borehole logs in Appendix 'D'. The interpreted groundwater table at the borehole location have been summarized in Table 5-5 below.

Table 5-4: Measured Groundwater Level

Borehole ID	Measured Date	Groundwater Depth (m)	Groundwater Elev. (m)
BH1	May 18 <sup>th</sup> , 2023	2.7	449.5
BH2	May 18 <sup>th</sup> , 2023	2.7	449.5

It should be noted however that given the permeable nature of the stratigraphy at the site, groundwater levels may vary 1 to 2 m seasonally and in response to local precipitation events.

## 6 GEOTECHNICAL AND FOUNDATION RECOMMENDATIONS

This section presents an interpretation of the geotechnical data presented above and provides general geotechnical design recommendations for foundation design.

The stratigraphy at the proposed location generally consists of sands and gravels. Based on the in-situ test results from this investigation, the following representative soil parameters are suggested for geotechnical design in Table 6-1.

Table 5-5: Suggested Soil Parameters for Geotechnical Design

Soil type	Unit Weight (kN/m <sup>3</sup> )	Angle of Internal Friction, (Degree)	Interface Friction Angle, $\delta$ (deg)**	Hydraulic Conductivity of Subsoils (k) (cm/sec)
Sand & Gravel / Gravelly Sand	19-21	28-32	19-21	$10^{-1} - 10^{-4}$
Sand	18-20	28-30	19-20	$10^{-1} - 10^{-3}$
Engineered Fill	19-21	30-32	20-21	$10^{-1} - 10^{-4}$

\* Recommended geotechnical design parameters have been estimated based on visual evaluations of the soil conditions, results of field tests and laboratory measurements, correlation with published literature (Terzaghi, Peck, and Mesri, Third Edition; Kenney, 1959; Ohsaki et al. 1959; CFEM, 4<sup>th</sup> Edition) and our previous experience with similar materials.

\*\* Interface between soil and concrete

## 6.1 Replacement Structure

It is understood that the existing 2.44 m diameter twin CSP culverts will be replaced with 3.048 m diameter twin CSP culverts.

The design of the replacement structure must be in accordance with the Canadian Highway Bridge Design Code CAN/CSA-S6-06 (CHBDC, 2006) and all relevant Ministry of Transportation specifications and guidelines.

## 6.2 Foundation

It is understood the replacement culvert foundations will be installed to a depth of 5.0 m (Elevation 448.3 m) for the proposed CSP culverts. A 0.5 m thick bedding layer should be placed below the culvert foundation elevation.

All foundation preparation work should be completed in accordance with OPSS.MUNI 421 'Construction Specifications for Pipe Culvert Installation in Open Cut', including any specifications provided in the contract documents and as indicated in Section 6.8 Bedding.

For the values presented below, a resistance factor of 0.5 has been applied for the calculation of factored geotechnical resistance at ULS and the geotechnical reactions at SLS have been computed for settlements of up to 25 mm under foundation loading only.

Table 5-6: Factored Geotechnical Resistance and Reactions

Bearing Layer	Foundation Size (m)	Depth of Footing (m)	Factored Gross Geotechnical Resistance (ULS) kPa	Geotechnical Reaction (SLS) kPa
Sand	3.048 m diameter	5.0	170	170

All foundation preparation should be completed in accordance with OPSS.MUNI 421 'Construction Specifications for Pipe Culvert Installation in Open Cut', any specifications provided in the contract documents, and as indicated in Section 6.5.

### 6.3 Slope Stability Assessment

The stability of the existing slopes was analyzed based on topographical survey and profiles provided to CSL by JML Engineering Ltd. A cross sectional profile was evaluated based on the method of slices and the Morgenstern and Price method using the computer program SLOPE/W developed by GeoStudio International Ltd. Static stability was assessed by calculating the factor of safety (FOS) along possible planes of failure through the native soil.

### 6.4 Stability of Existing Slope

The results of the stability analysis are highly dependent on the assumed groundwater conditions. No information is available on the long-term groundwater levels throughout the year; however, as a conservative approach, we have assumed full hydrostatic saturation within the soil layers.

The slope stability analyses were carried out using soil parameters, groundwater conditions and slope profile that attempt to model the actual conditions currently present at the site. For this investigation, a computed factor of safety less than 1.0 to 1.3 is considered to represent a slope bordering on failure to marginally stable for short term drained analyses. A factor of safety of 1.3 to 1.5 is considered to indicate a slope that is less likely to fail in the long term and provides a degree of confidence against failure.

The results of the analyses are presented in Appendix 'E' of this report and are summarized in Table 6-3 below.

Table 5-7: Slope Stability Analyses Results

Profile	Load Combination	Static Analyses (Drained/Undrained Conditions)	Factor of Safety (FOS)	Recommended Factor of Safety
Excavation Analysis	Surcharge Load (Left to Right)	Drained	1.8	1.5
Excavation Analysis	Surcharge Load (Right to Left)	Drained	2.2	1.5

Based on the results of the analyses, the excavations are considered stable under short-term and long-term stability conditions.

### 6.5 Lateral and Sliding Resistances

The analysis of horizontal and vertical effects of earth loads on the culvert can be performed considering the soil parameters provided in Table 6-4 and as described in Section 6.9.1 in the Canadian Highway Bridge Design Code (CHBDC). Temporary bracing and shoring may be designed using the typical soil coefficients and parameters given in Table 6-1 and Table 6-3, however the designer/contractor should verify the appropriate soil parameters for the design of a specific bracing and shoring system. The design should incorporate the effects of hydrostatic pressure, traffic surcharge and retained sloping earth conditions in the bracing system.

It is recommended that all excavations be either adequately sloped or securely shored and braced to prevent earth caving and to provide a safe and stable work area. The design should incorporate the effects of hydrostatic pressure, traffic surcharge and retained sloping earth conditions in the bracing design.



Table 5-8: Lateral Earth Pressure Coefficients

Soil type	Active Earth Pressure ( $K_a$ )	Passive Earth Pressure ( $K_p$ )	Earth Pressure at Rest ( $K_o$ )
Equation *	$\frac{1 - \sin\phi}{1 + \sin\phi}$	$\frac{1 + \sin\phi}{1 - \sin\phi}$	$1 - \sin\phi$
Sand & Gravel / Gravelly Sand	0.30 - 0.36	2.77 - 3.25	0.47 - 0.53
Sand	0.33 - 0.36	2.77 - 3.00	0.50 - 0.53
Engineered Fill	0.31 - 0.33	3.00 - 3.25	0.47 - 0.50

\*  $\phi$  is the angle of internal friction

\*\* The earth pressure coefficients provided here are for the normally consolidated soil conditions considering fully mobilized conditions

The sliding resistance can be calculated using the following formula:

$$F_r = W (\tan\delta)$$

Where,

$\delta$  = Interface friction angle

W = Total weight of the soil element retained per unit length

## 6.6 Staged Construction

A four-stage construction method is typically considered to complete the culvert replacement.

- Stage 1 – divert traffic to side A and construct temporary road widening on Side B.
- Stage 2 – divert traffic to temporary lane on side B, excavate existing culvert on side A, construct new culvert, backfill, and reinstate road.
- Stage 3 – construct temporary road widening on side A, divert traffic to temporary lane on side A, excavate existing culvert on side B, construct new culvert, backfill and reinstate road.

- Stage 4 – remove all temporary works measures, and road widening fill materials and fully restored shoulders, barriers, and road conditions.

To maintain traffic lanes during construction, an appropriate roadway protection system should be selected and designed by the contractor in accordance with the recommendations in this report and OPSS 539 “Construction Specification for Temporary Protection Systems”.

## **6.7 Excavation**

All excavations for this project should be constructed in accordance with the requirements of the occupational Health and Safety Act of Ontario.

Excavation slopes above the groundwater level should be no steeper than 2H:1V. Excavations carried out below the groundwater level in loose non-cohesive soils are liable to slough and may require flatter slopes. Based on the current groundwater levels at site, excavations for the proposed construction are expected to extend below the current groundwater level. Dewatering will be required to facilitate construction in dry conditions. Dewatering may prove challenging especially within the permeable materials (sand and silts) or where permeable zones are encountered, a conventional sump and pump technique may not be adequate. Consultation with a dewatering expert is recommended. Dewatering to a level below the base of planned excavation (and below the cut slopes) is recommended. This will limit the risk of sloughing excavation slopes, disturbance of the subgrade and potential piping conditions.

Where excavations encroach on existing foundations and services, the excavation should not be permitted to undermine the existing foundation or service. In addition, the excavation, and any associated dewatering (if required) must be planned to avoid any damaging earth movements below or adjacent to the existing foundation or services. Excavations near existing foundations may significantly reduce the bearing capacity of the existing foundation and should be assessed. Excavations within proximity to existing foundations and services may require the use of shoring, bracing and/or underpinning.

No surface surcharges should be placed near the edge of excavation unless the stability of the excavation slope has been assessed.

## **6.8 Bedding**

The foundation soils, sand, and silts in particular, will be very susceptible to disturbance and weakening as a result of traffic, standing water and frost. Any foundation soil that could be disturbed should be protected. The bottom of the excavation on which the culvert or granular pad will rest should not be disturbed. The bedding placement should commence immediately after the final removal of material to the foundation level has been completed, that is, the excavation should not be left open upon reaching the maximum depth. Installation of pipe culverts should follow the recommendations in OPSS.MUNI 421 'Construction Specifications for Pipe Culvert Installation in Open Cut',".

The bedding for the structure should be in accordance with Section 7.6 of the CHBDC and MTOD 803.021 "Bedding and Backfill for Corrugated Steel Pipe Culvert". The bedding should be a minimum of 0.5 m thick and extend to a minimum width (half of the width of culvert) beyond all sides of the culvert. The bedding material should consist of "Granular A or Granular B Type II" as per Soil Group I in accordance with Table 7.4 of the Canadian Highway Bridge Design Code. The "Granular A or Granular B Type II" should be in accordance to OPSS.PROV 1010. The "Granular A or Granular B Type II" should be placed in layers not exceeding 200 mm in thickness, loose measurement, and each layer compacted to 100 % of standard Proctor maximum dry density.

If construction is performed without dewatering, bedding material should consist of 19 mm Type I or II clear stone as defined in OPSS.PROV 1004.05.02. If fine materials are present beneath the clear stone a non-woven geotextile (OPSS 1860.07.05.01 Class II) with the filtration opening size (FOS) less than 135 µm is required for separation. No compaction is required of the clear stone.

## **6.9 Frost Depth and Frost Protection**

Based on OPSD 3090.100 rev#1, Foundation Frost Penetration Depths for Northern Ontario, the frost penetration at this location for Ignace, Ontario is approximately 2.4 m where the ground is kept clear of snow cover. It is understood that all installations will be below the frost depth. Recommended backfill should be non-frost susceptible granular material.

## 7 REFERENCES

ASTM D2216: Test Method for Laboratory Determination Moisture Content of Soil and Rock

ASTM D4318 - 10e1: Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

ASTM D6913 - 04(2009) e1: Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis ASTM D5731-02: Standard Test Methods for Determination of the point load strength index of Rock

AASHTO, 1996, *Standard Specifications for Highway Bridges*, American Association for State Highway and Transportation Officials, Washington, DC.

Bowles, J.E. 1988. *Foundation Analysis and Design*. McGraw Hill Book Co, Singapore.

Building Research Establishment (BRE) Digest 363 (July 1991)

Broch, E. & Franklin, J.A. 1972, 'The Point Load Strength Test', *International Journal of Rock Mechanics and Mining Sciences*, vol. 9, pp. 669-697.

WSDOT Geotechnical Design Manual -M46-03-08, October 2013. Embankments, pp. 9-8 to 9-9  
Technical Bulletin for Geotechnical Design and Factors of Safety "*Lakes and Rivers Improvement Acts (LRIA)*" August 2011, pp.4

Canadian Foundation Engineering Manual. 2006. Fourth Edition, *Canadian Geotechnical Society*.

Canadian Highway Bridge Design Code. 2014, CAN/CSA-S6-14, A National Standard of Canada, *Canadian standards Association*.

Goodman, R.E. 1989, *Introduction to Rock Mechanics*: second edition, John Wiley and Sons, Toronto, ON.

Hoek, E. 2000, 'Rock Engineering - Course Notes', A.A. Balkema Publishers, P.O. Box 1675, 3000 BR Rotterdam, Netherlands

Occupational Health and Safety Act and Regulation, June 2002, Revised Statutes of Ontario, 1990, Chapter O.1, O.Reg. 213/91.

Provincial-Orientated, Volume 6 - Material Specifications, "*Ontario Provincial Standard for Roads & Public Works*" Spec No. *OPSS.PROV* 1004, 1010.

Ministry of Environment, (2011). *Soil, ground water and sediment standards for use under Part XV.1 of the Environmental Protection Act*

Ministry of Natural Resources, (2008). *Crown Land Bridge Management Guidelines*

## 8 LIMITATIONS OF REPORT

A description of limitations which are inherent in carrying out site investigation studies is given in Appendix 'A', and this forms an integral part of this report.

## 9 CLOSURE

We trust the above addresses your project requirements currently. Should you have any questions or comments, please do not hesitate to contact us at your convenience.

For CSL Environmental & Geotechnical Ltd.

Prepared by:



Andrew Todosichuk, P.Eng.  
Geotechnical Engineer

Approved for Issue by:



Selorm Danku., P.Eng.  
Engineering Services Manager

**APPENDIX 'A'**  
**LIMITATIONS OF REPORT**

# **L I M I T A T I O N S   O F   R E P O R T**

## **ENVIRONMENTAL AND GEOTECHNICAL STUDIES**

The data, conclusions and recommendations which are presented in this report, and the quality thereof, are based on a scope of work authorized by the Client. Note that no scope of work, no matter how exhaustive, can identify all conditions below ground. Subsurface and groundwater conditions between and beyond the test holes may differ from those encountered at the specific locations tested, and conditions may become apparent during construction which were not detected and could not be anticipated at the time of the site investigation. Conditions can also change with time. It is recommended practice that CSL Environmental & Geotechnical Ltd. be retained during construction to confirm that the subsurface conditions throughout the site do not deviate materially from those encountered in the test holes. The benchmark and elevations used in this report are primarily to establish relative elevation differences between the test hole locations and should not be used for other purposes, such as grading, excavation, planning, development, etc.

The design recommendations given in this report are applicable only to the project described in the text and only if constructed substantially in accordance with details stated in this report. Since all details of the design may not be known, we recommend that we be retained during the final stage to verify that the design is consistent with our recommendations, and that assumptions made in our analysis are valid.

Unless otherwise noted, the information contained herein in no way reflects on environmental aspects of either the site or the subsurface conditions.

The comments given in this report on potential construction problems and possible methods are intended only for the guidance of the designer. The number of test holes may not be sufficient to determine all the factors that may affect construction methods and costs, e.g. the thickness of surficial topsoil or fill layers may vary markedly and unpredictably. The contractors bidding on this project or undertaking the construction should, therefore, make their own interpretation of the factual information presented and draw their own conclusion as to how the subsurface conditions may affect their work.

Any results from an analytical laboratory or other subcontractor reported herein have been carried out by others, and CSL Environmental & Geotechnical Ltd. cannot warranty their accuracy. Similarly, CSL cannot warranty the accuracy of information supplied by the client.

# **APPENDIX 'B'**

## **DESCRIPTION OF TERMS**



## EXPLANATION OF TERMS USED IN REPORT

**SPT ‘N’ VALUE:** THE STANDARD PENETRATION TEST (SPT) N VALUE OF THE NUMBER OF BLOWS REQUIRED TO CAUSE A STANDARD 51 mm O.D. SPLIT BARREL SAMPLES TO PENETRATE 0.3 m INTO UNDISTURBED GROUND IN A BOREHOLE WHEN DRIVEN BY A HAMMER WITH A MASS OF 63.5 kg, FALLING FREELY A DISTANCE OF 0.76 m. FOR PENETRATION OF LESS THAN 0.3 m N VALUES ARE INDICATED AS THE NUMBER OF BLOWS FOR THE PENETRATION ACHIEVED. AVERAGE N VALUE IS DENOTED THUS  $\bar{N}$ .

**DYNAMIC CONE PENETRATION TEST (DCPT):** CONTINUOUS PENETRATION OF A CONICAL STEEL POINT (51 mm O.D. 60° CONE ANGLE) DRIVEN BY 475 J IMPACT ENERGY ON ‘A’ SIZE DRILL RODS. THE RESISTANCE TO CONE PENETRATION IS MEASURED AS THE NUMBER OF BLOWS FOR EACH 0.3 m ADVANCE OF THE CONICAL POINT INTO THE UNDISTURBED GROUND.

### ***SOILS ARE DESCRIBED BY THEIR COMPOSITION AND CONSISTENCY OR DENSENESS***

#### **TEXTURAL CLASSIFICATION OF SOILS**

BOULDERS	COBBLES	GRAVEL	SAND	SILT	CLAY
GREATER THAN 200 mm	75 TO 200 mm	4.75 TO 75 mm	0.075 TO 4.75 mm	0.002 TO 0.075 mm	LESS THAN 0.002 mm

#### **COARSE GRAIN SOIL DESCRIPTION (50% GREATER THAN 0.075 mm)**

TERMINOLOGY	TRACE OR OCCASIONAL	SOME	WITH	ADJECTIVE (e.g. SILTY OR SANDY)	AND (e.g. SAND AND SILT)
	LESS THAN 10%	10 TO 20%	20 TO 30%	30 TO 40%	40 TO 60%

#### **CONSISTENCY\*: COHESIVE SOILS ARE DESCRIBED ON THE BASIS OF THEIR UNDRAINED SHEAR STRENGTH ( $C_u$ ) AND SPT ‘N’ VALUES AS FOLLOWS**

$C_u$ (kPa)	0 – 12	12 – 25	25 – 50	50 - 100	100 - 200	> 200
N (BLOWS / 0.3 m)	<2	2 - 4	4 - 8	8 - 15	15 - 30	>30
	VERY SOFT	SOFT	FIRM	STIFF	VERY STIFF	HARD

#### **DENSENESS: COHESIONLESS SOILS ARE DESCRIBED ON THE BASIS ON DENSENESS AS INDICATED BY SPT ‘N’ VALUES AS FOLLOWS**

N (BLOWS / 0.3 m)	0 – 5	5 – 10	10 – 30	30 – 50	> 50
	VERY LOOSE	LOOSE	COMPACT	DENSE	VERY DENSE

### **ROCKS ARE DESCRIBED BY THEIR COMPOSITION AND STRUCTURAL FEATURES AND/OR STRENGTH**


**RECOVERY:** SUM OF ALL RECOVERED ROCK CORE PIECES FROM A CORING RUN EXPRESSED AS A PERCENT OF THE TOTAL LENGTH OF THE CORING RUN

**MODIFIED RECOVERY:** SUM OF THOSE INTACT CORE PIECES, 100 mm+ IN LENGTH EXPRESSED AS A PERCENTAGE OF THE LENGTH OF THE CORING RUN.

THE **ROCK QUALITY DESIGNATION (R.Q.D)** FOR MODIFIED RECOVERY IS:

R.Q.D (%)	0 – 25	25 – 50	50 – 75	75 – 90	90 – 100
	VERY POOR	POOR	FAIR	GOOD	EXCELLENT


#### **LEGEND OF RECORDS FOR BOREHOLES: SYMBOLS AND ABBREVIATIONS FOR SAMPLE TYPE**

SS	SPLIT SPOON SAMPLE	WS	WASH SAMPLE
TW	THIN WALL SHELBY TUBE SAMPLE	AS	AUGER (GRAB) SAMPLE
PH	SAMPLER ADVANCED BY HYDRAULIC PRESSURE	TP	THIN WALL PISTON SAMPLE
WH	SAMPLER ADVANCED BY SELF STATIC WEIGHT	PM	SAMPLER ADVANCED BY MANUAL PRESSURE
SC	SOIL CORE	RC	ROCK CORE
	WATER LEVEL	$SENSITIVITY = \frac{UNDISTURBED\ SHEAR\ STRENGTH}{REMOVED\ SHEAR\ STRENGTH}$	

\*HIERARCHY OF SOIL STRENGTH PREDICTION: **1)** LABORATORY TRIAXIAL TESTING. **2)** FIELD INSITU VANE TESTING. **3)** LABORATORY VANE TESTING. **4)** SPT VALUES. **5)** POCKET PENETROMETER.

**APPENDIX 'C'**  
**BOREHOLE**  
**LOCATION PLAN**

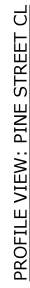


CLIENT:					1411 Mills Street, 3rd Floor Houston, TX 77055 Phone: 713.415.1111 Fax: 713.415.1111 <a href="mailto:info@imleng.com">info@imleng.com</a>			
DATE:	01/11	DATE:	05.29.23	DATE:	05.29.23	DATE:	05.29.23	
PROJECT #:	CSL-2024-188	CC	CC	DATE:	05.29.23	DATE:	05.29.23	
SHEET #:	22 X 34 - D	ENG	AT	DATE:	05.30.23	DATE:	05.30.23	
SCALE:	NTS	NTS	SD	DATE:	05.30.23	DATE:	05.30.23	
PROJECT:				PROJECT:				

PINE STREET  
CULVERT REPLACEMENT  
IGNACE, ONTARIO

SITE LOCATION  
PLAN

DWG #:	FIGURE 1	REV:	A
--------	----------	------	---



DATE	TIME	CC	DATE	TIME
05/29/23		CC	05/29/23	
05/30/23		AT	05/30/23	
05/30/23		SD	05/30/23	

PINE STREET  
CULVERT REPLACEMENT  
IGNACE, ONTARIO

## SITE PLAN

DWG #:	FIGURE 2	REV:	A
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# **APPENDIX 'D'**

## **ENCLOSURES**

# LOG OF BOREHOLE BH1

PROJECT No.: CSL2023-388  
 CLIENT: JML Engineering Ltd.  
 PROJECT: Geotechnical Investigation  
 LOCATION: Pine Street, Ignace  
 SURFACE ELEV.: 452.2 metres

Drilling Data  
 METHOD: HS Auger, 80 mm ID  
 START DATE: 2023-05-18  
 COMPLETION DATE: 2023-05-18  
 COORDINATES: 5474346 m N, 597378 m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE			Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	N' VALUE	VANE (kPa) ✕				REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
			W <sub>p</sub>	W	W <sub>i</sub>						SPT (N) □ DCPT ◆				
			20	40	60						80	Blows/0.3m			
	452						ASPHALT								
1.0							SAND - gravelly trace silt, brown, dry, compact	AS1							-occasional cobbles throughout
	451							SS2	20+						31 59 (10)
2.0							SAND & GRAVEL - trace silt, brown, dry, dense	SS3	31						-SPT rod bending, augered to next sampling depth
	450						- moist, compact	SS4	16						50 43 (7)
3.0							- wet, dense	SS5	38						
	449														
4.0															
	448														
5.0							SAND - trace gravel and silt, brown, wet, compact	SS6	12						4 92 (4)
	447														
6.0							- dense	SS7	43						
	446														
7.0															
	445						- compact	SS8	19						
8.0															
	444						End of Borehole @ 8.2 mbgs								
9.0															
	443														

BOREHOLE (THUNDER BAY) CSL2023-388 PROJECT.GPJ DATA TEMPLATE.GDT 23-5-31



CSL Environmental & Geotechnical Ltd.  
 70 Secord St.  
 Thunder Bay, ON  
 PH: (807) 629-4107  
 Web: www.cslltd.ca

## SAMPLE TYPE LEGEND

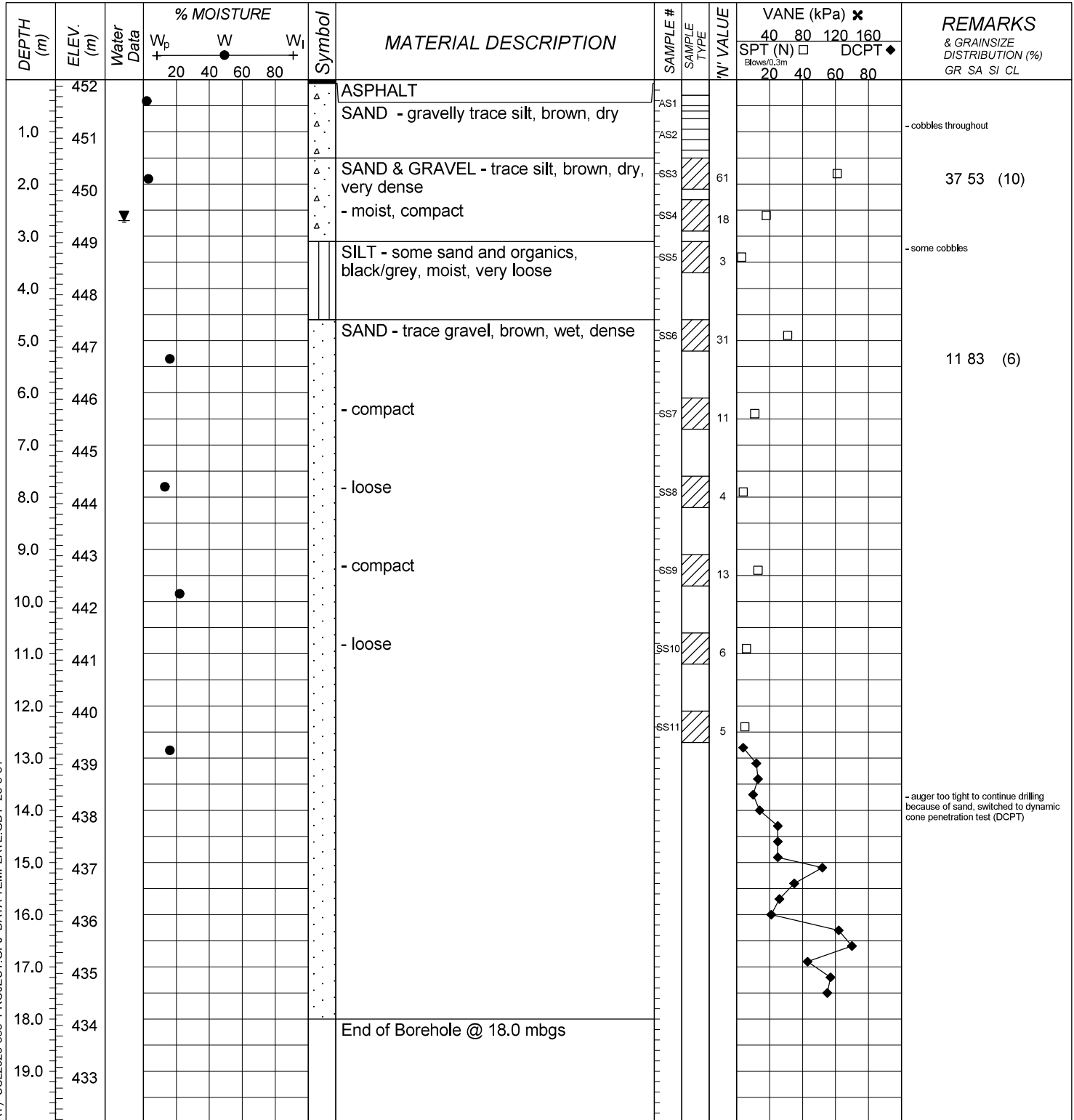
	Auger Sample		Rock Core		Bentonite
	Split Spoon Sample		Core Sample		Sand
	Bulk Sample		Shelby Tube	✕ <sup>3</sup>	Numbers refers to Sensitivity

ENCLOSURE 1

# LOG OF BOREHOLE BH2

PROJECT No.: CSL2023-388  
CLIENT: JML Engineering Ltd.  
PROJECT: Geotechnical Investigation  
LOCATION: Pine Street, Ignace  
SURFACE ELEV.: 452.1 metres

Drilling Data  
METHOD: HS Auger, 80 mm ID  
START DATE: 2023-05-18  
COMPLETION DATE: 2023-05-18  
COORDINATES: 5474335 m N, 597382 m E

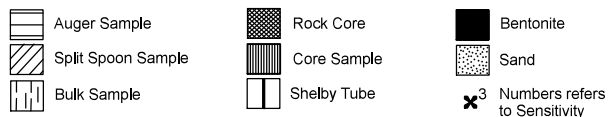


BOREHOLE (THUNDER BAY) CSL2023-388 PROJECT.GPJ DATA TEMPLATE.GDT 23-5-31



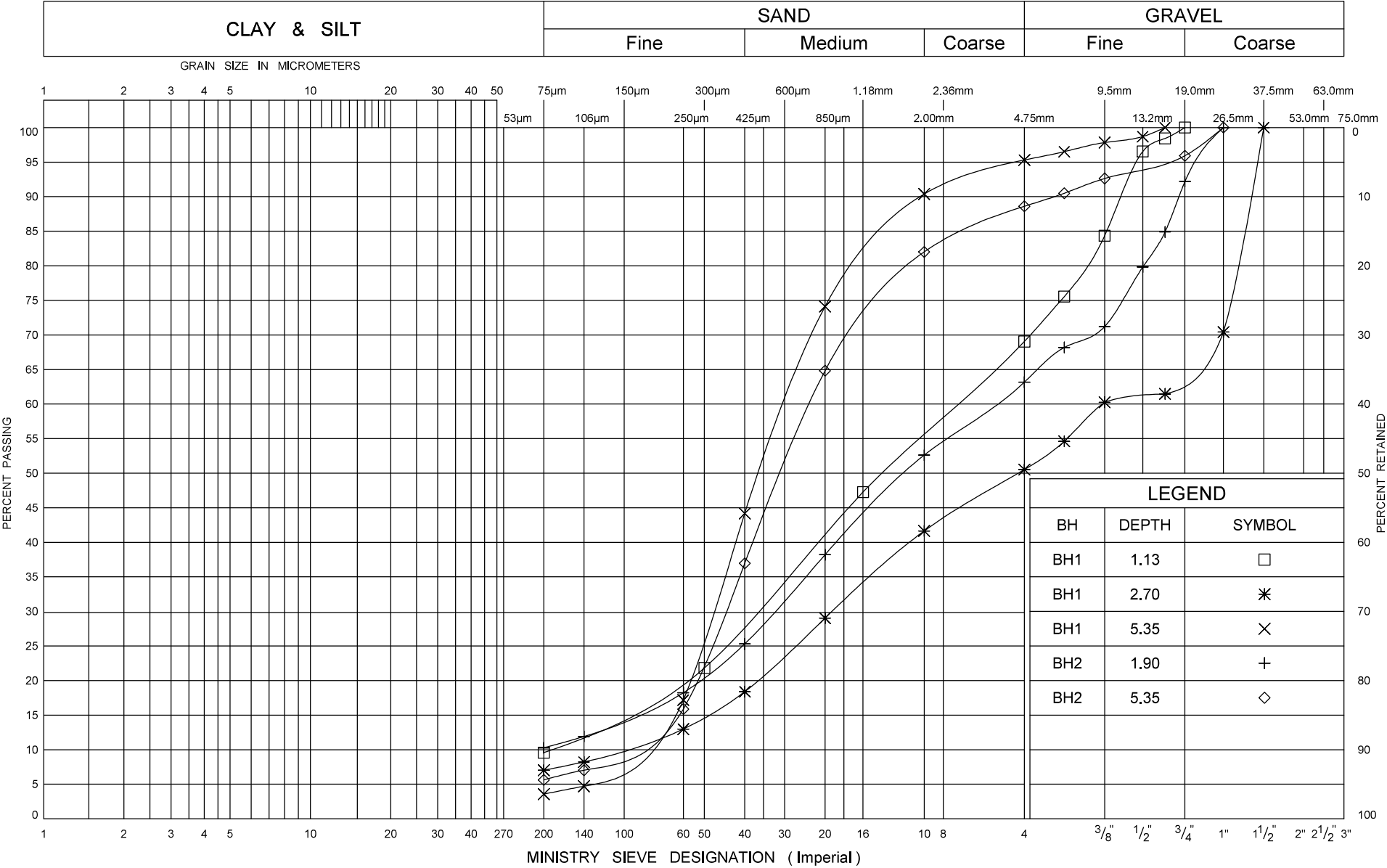
CSL Environmental & Geotechnical Ltd.  
70 Secord St.  
Thunder Bay, ON  
PH: (807) 629-4107  
Web: www.csltd.ca

## SAMPLE TYPE LEGEND



ENCLOSURE 2

UNIFIED SOIL CLASSIFICATION SYSTEM



GRAIN SIZE DISTRIBUTION  
Geotechnical Investigation  
Pine Street

ENCLOSURE 3  
CSL2023-388  
Pine Street, Ignace

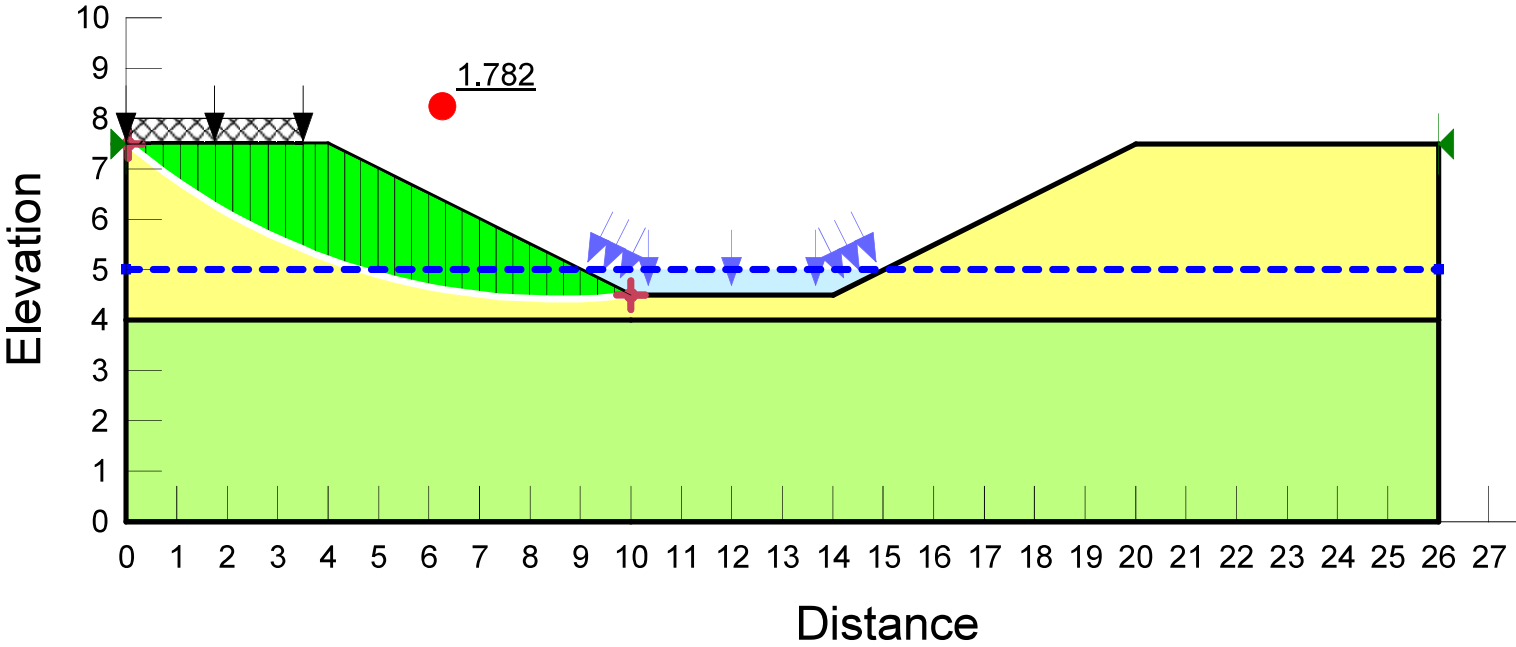


**Appendix 'E'**

**SLOPE STABILITY ANALYSIS**

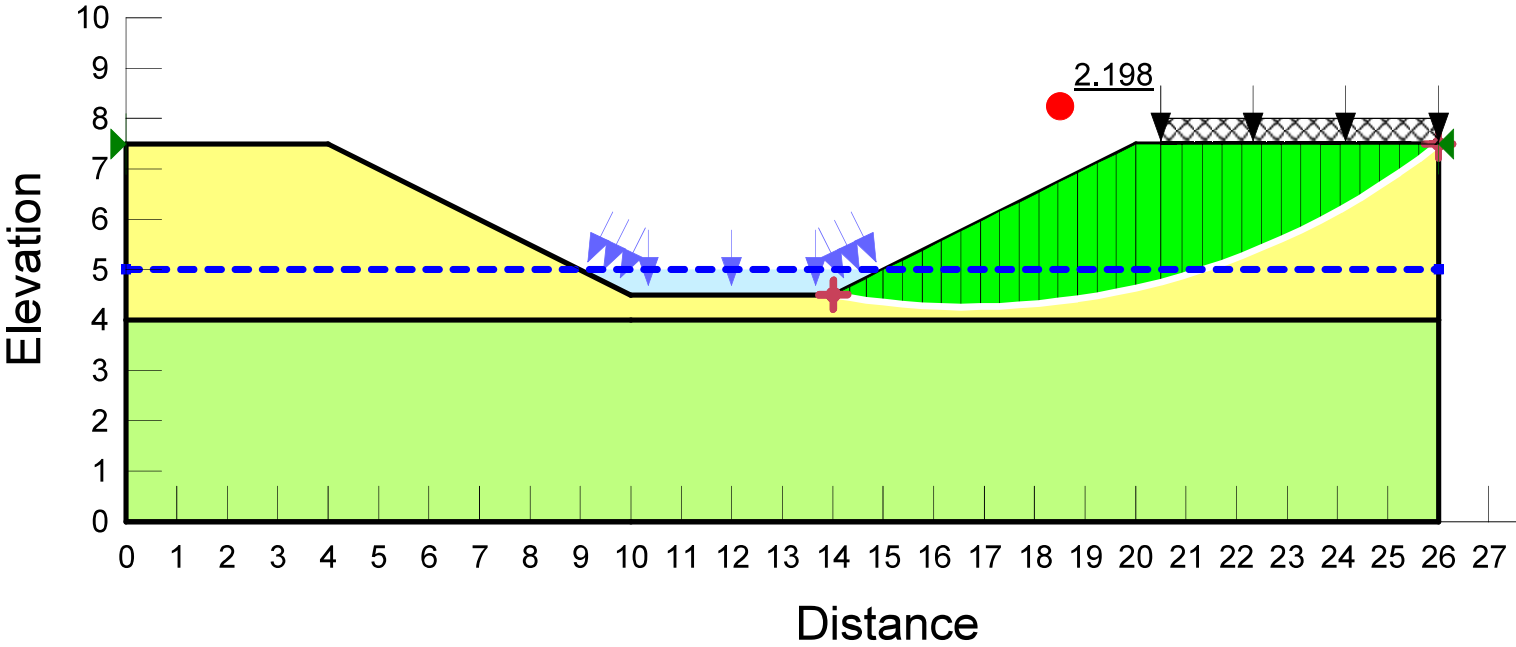
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Method: Morgenstern-Price  
Factor of Safety: 1.782  
Surcharge (Unit Weight): 10Kpa

Color	Name	Model	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)
<span style="color: green;">■</span>	Sand	Mohr-Coulomb	19	0	29
<span style="color: yellow;">■</span>	Sand & Gravel / Gravelly Sand	Mohr-Coulomb	20	0	30



File Name: R to L - 2to1.gsz  
Method: Morgenstern-Price  
Factor of Safety: 2.198  
Surcharge (Unit Weight): 10Kpa

Color	Name	Model	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)
<div></div>	Sand	Mohr-Coulomb	19	0	29
<div></div>	Sand & Gravel / Gravelly Sand	Mohr-Coulomb	20	0	30



**Appendix 'F'**

**SEISMIC SITE CLASSIFICATION**

# 2015 National Building Code Seismic Hazard Calculation

INFORMATION: Eastern Canada English (613) 995-5548 français (613) 995-0600 Facsimile (613) 992-8836  
Western Canada English (250) 363-6500 Facsimile (250) 363-6565

Site: 49.414N 91.657W

User File Reference: Ignace

2023-05-30 19:48 UT

Requested by: CSL Environmental & Geotechnical LTD

Probability of exceedance per annum	0.000404	0.001	0.0021	0.01
Probability of exceedance in 50 years	2 %	5 %	10 %	40 %
Sa (0.05)	0.060	0.029	0.015	0.002
Sa (0.1)	0.081	0.041	0.022	0.004
Sa (0.2)	0.072	0.039	0.022	0.004
Sa (0.3)	0.057	0.031	0.018	0.004
Sa (0.5)	0.040	0.022	0.013	0.003
Sa (1.0)	0.019	0.011	0.006	0.001
Sa (2.0)	0.008	0.004	0.002	0.000
Sa (5.0)	0.002	0.001	0.001	0.000
Sa (10.0)	0.001	0.001	0.000	0.000
PGA (g)	0.043	0.022	0.012	0.002
PGV (m/s)	0.028	0.014	0.008	0.001

**Notes:** Spectral ( $S_a(T)$ , where  $T$  is the period in seconds) and peak ground acceleration (PGA) values are given in units of  $g$  ( $9.81 \text{ m/s}^2$ ). Peak ground velocity is given in  $\text{m/s}$ . Values are for "firm ground" (NBCC2015 Site Class C, average shear wave velocity  $450 \text{ m/s}$ ). NBCC2015 and CSAS6-14 values are highlighted in yellow. Three additional periods are provided - their use is discussed in the NBCC2015 Commentary. Only 2 significant figures are to be used. **These values have been interpolated from a 10-km-spaced grid of points. Depending on the gradient of the nearby points, values at this location calculated directly from the hazard program may vary. More than 95 percent of interpolated values are within 2 percent of the directly calculated values.**

## References

**National Building Code of Canada 2015 NRCC no. 56190;** Appendix C: Table C-3, Seismic Design Data for Selected Locations in Canada

**Structural Commentaries (User's Guide - NBC 2015: Part 4 of Division B)**  
**Commentary J:** Design for Seismic Effects

**Geological Survey of Canada Open File 7893** Fifth Generation Seismic Hazard Model for Canada: Grid values of mean hazard to be used with the 2015 National Building Code of Canada

See the websites [www.EarthquakesCanada.ca](http://www.EarthquakesCanada.ca) and [www.nationalcodes.ca](http://www.nationalcodes.ca) for more information



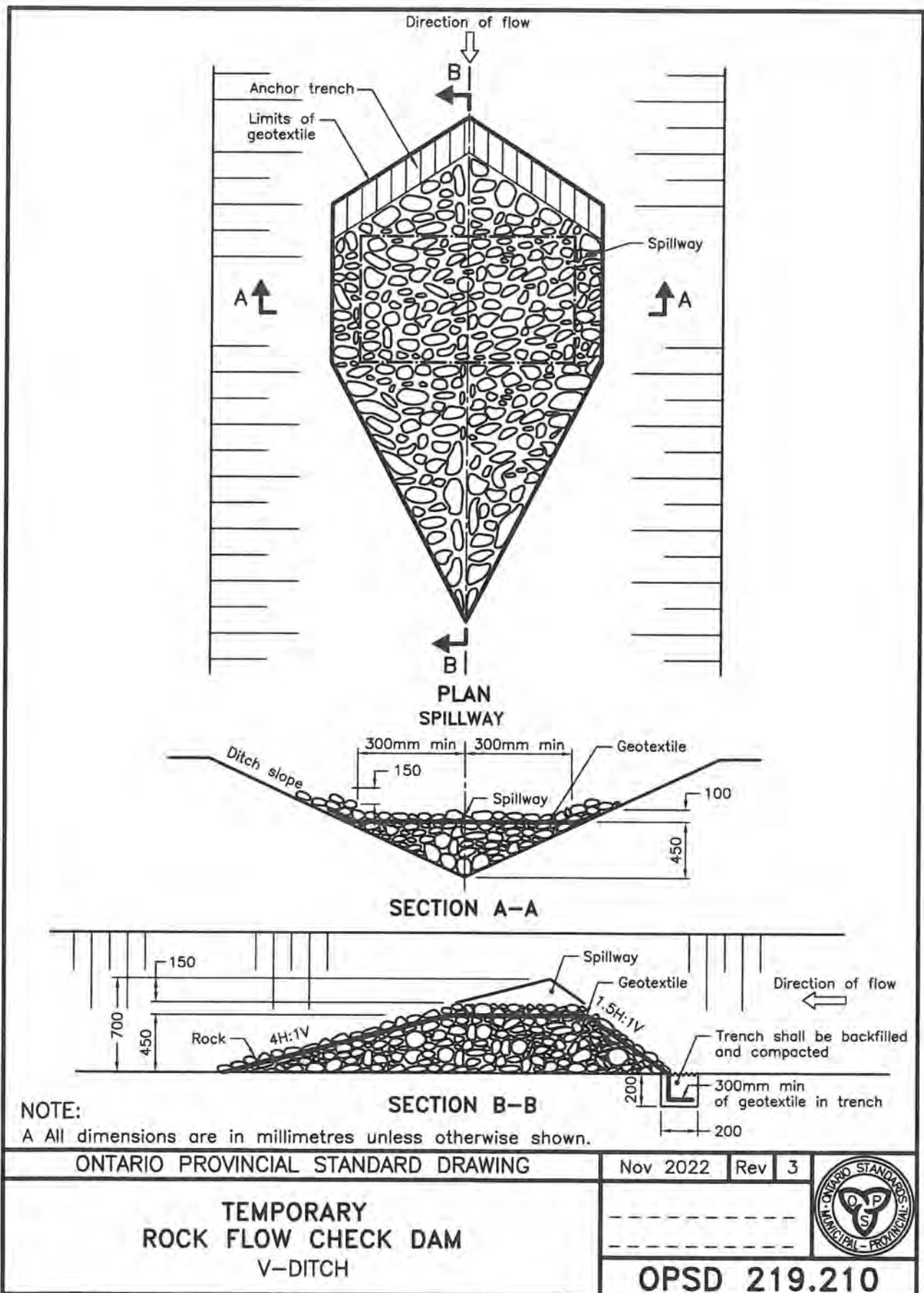
Natural Resources  
Canada

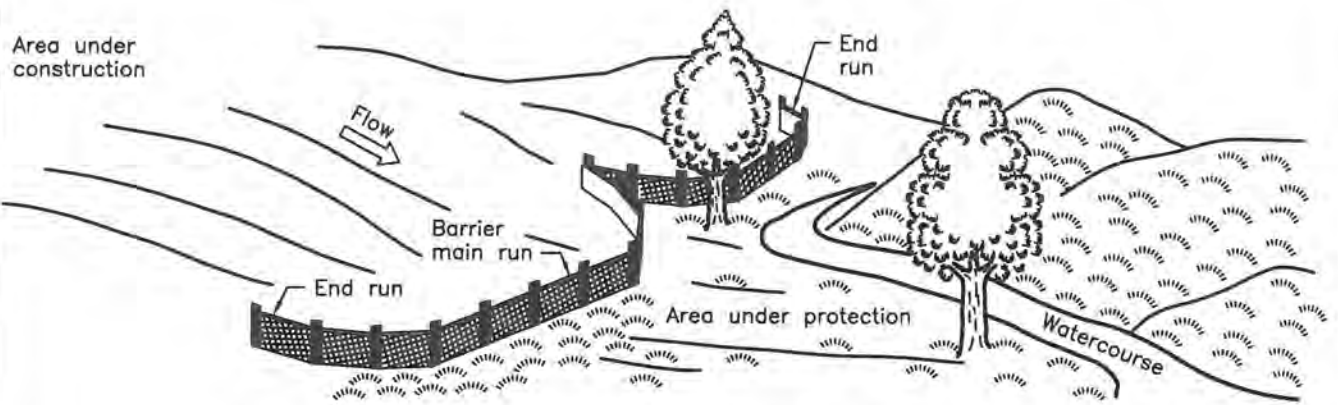
Ressources naturelles  
Canada

Canada

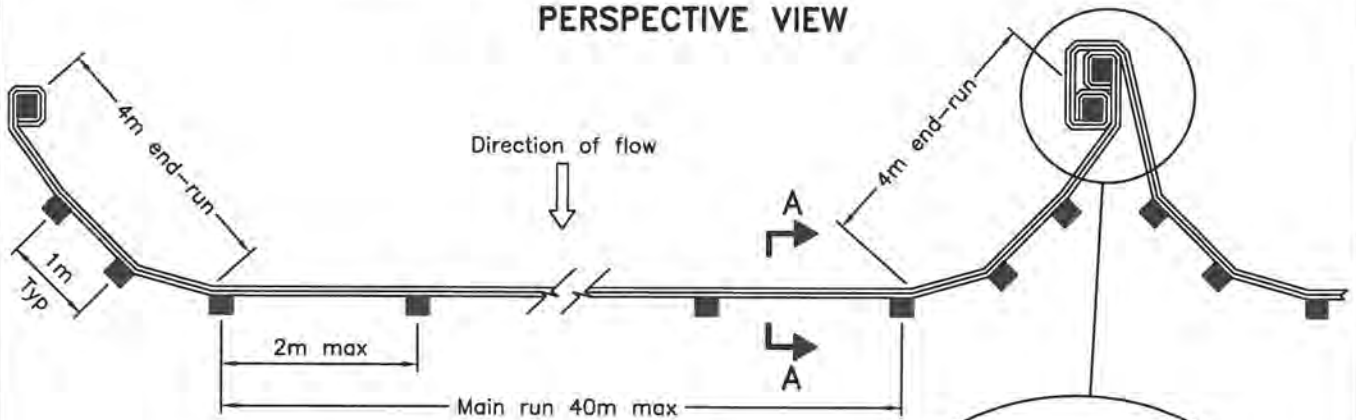
**REPLACEMENT PINE STREET CULVERTS  
AT AGIMAK RIVER**

**STANDARD DRAWINGS**

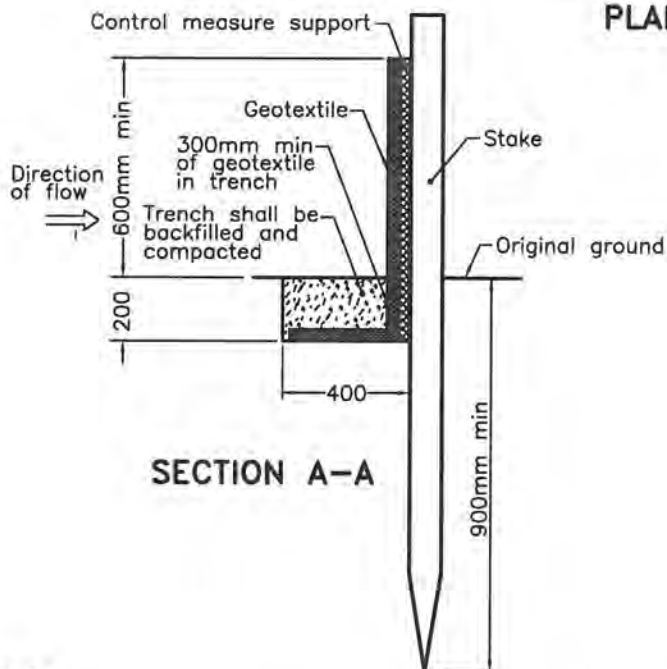




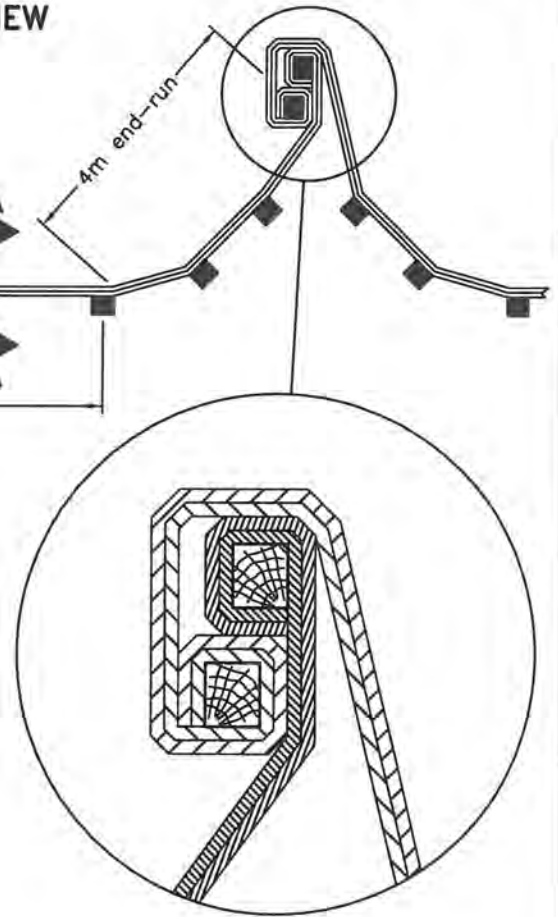
PERSPECTIVE VIEW



PLAN



SECTION A-A



JOINT DETAIL

NOTE:

A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2021

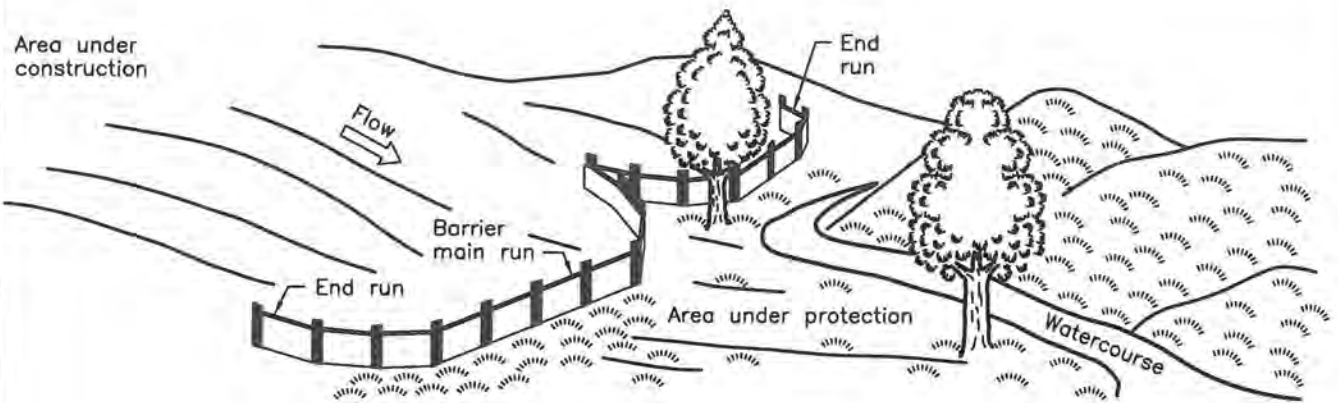
Rev 3

HEAVY-DUTY  
SILT FENCE BARRIER

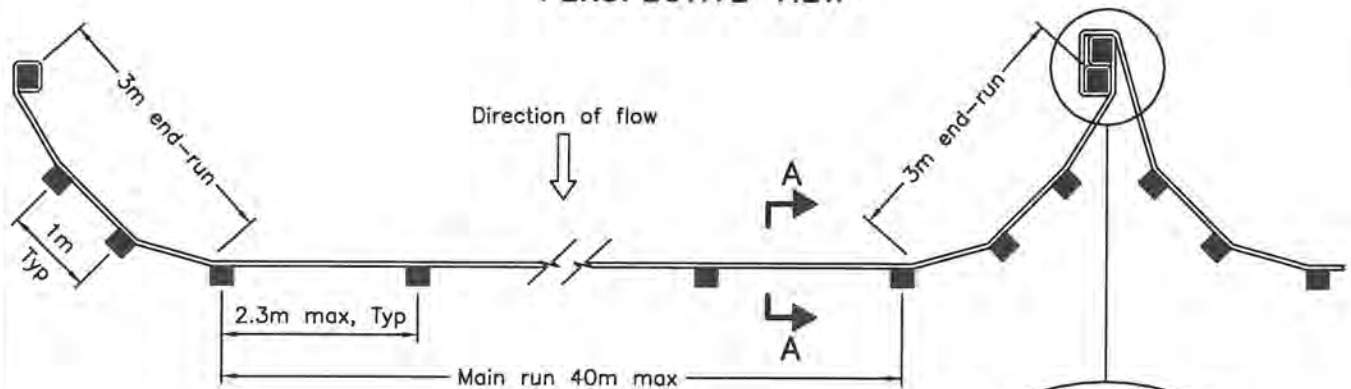


OPSD 219.130

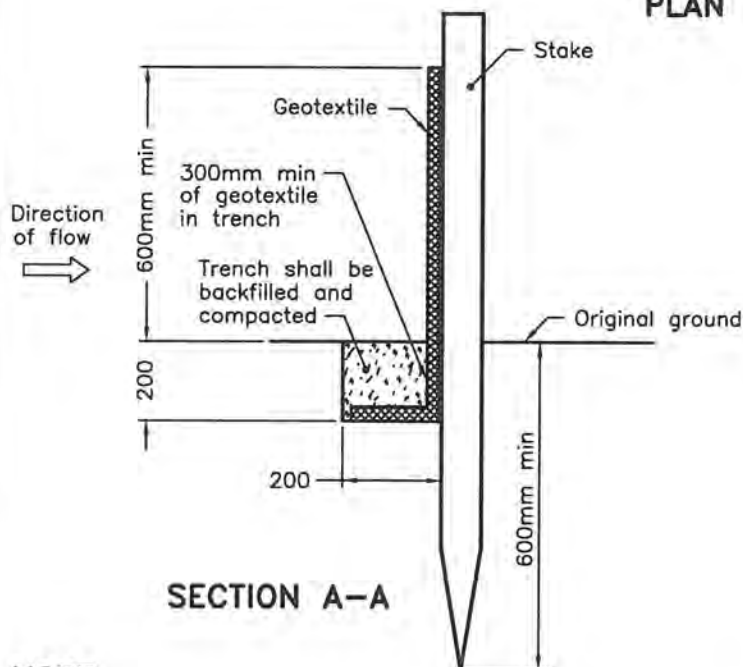




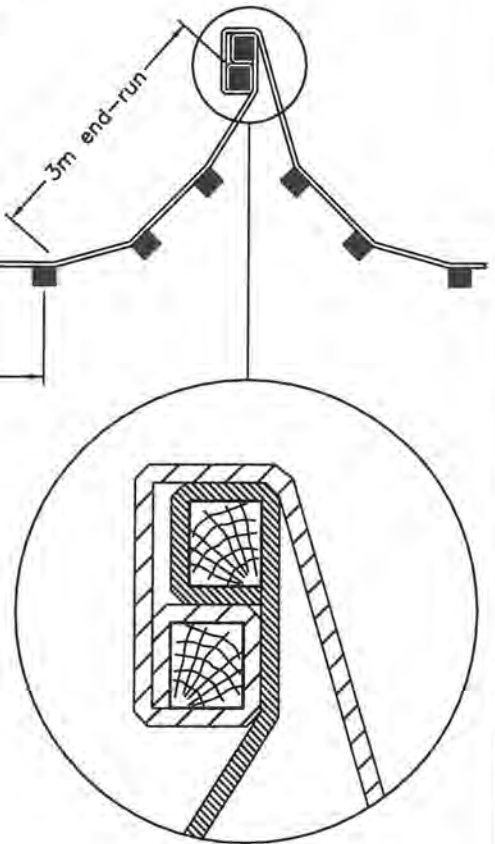
PERSPECTIVE VIEW



PLAN



SECTION A-A



JOINT DETAIL

NOTE:

A All dimensions are in millimetres unless otherwise shown.

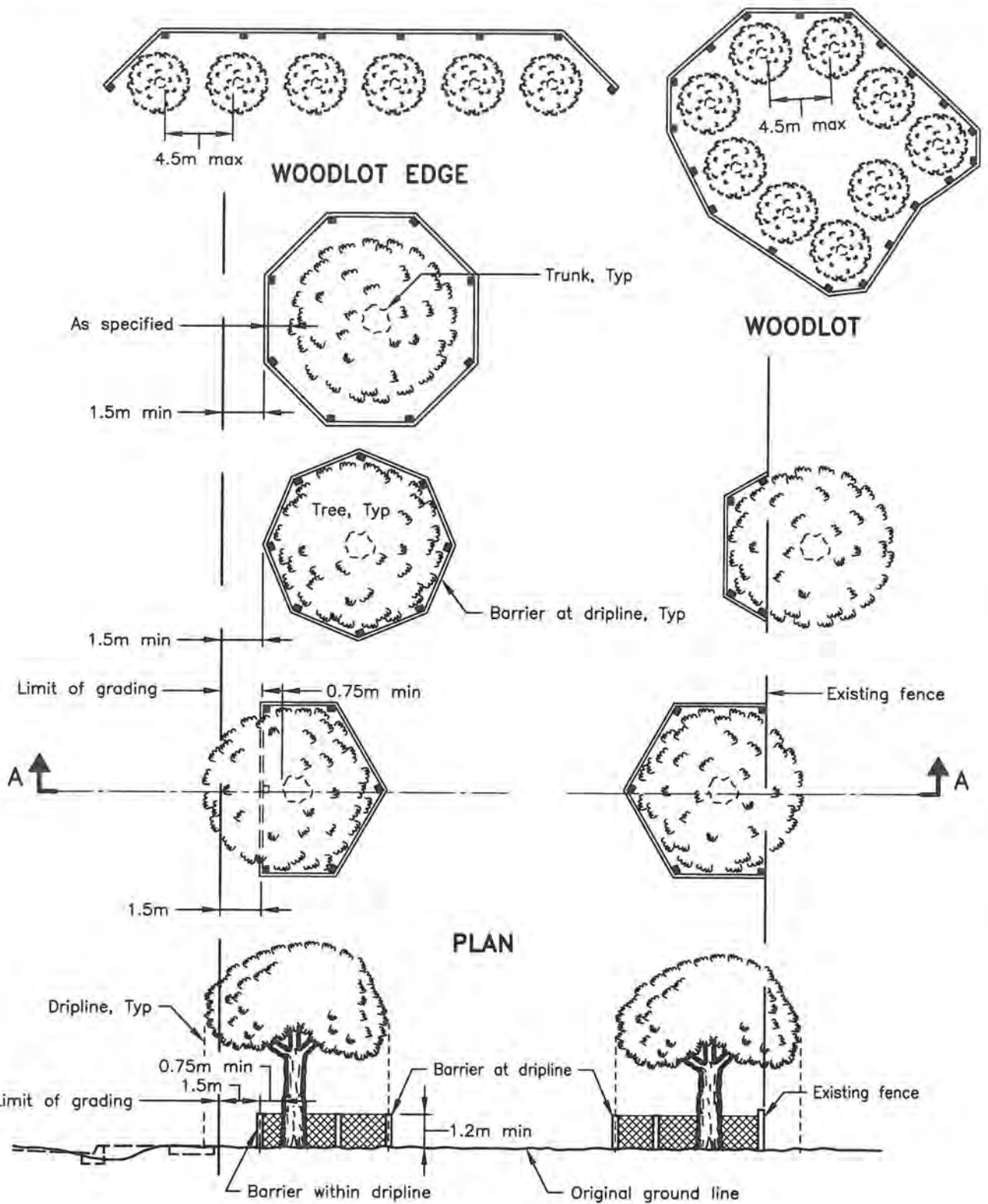
ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2021 Rev 3

LIGHT-DUTY  
SILT FENCE BARRIER



OPSD 219.110



ONTARIO PROVINCIAL STANDARD DRAWING

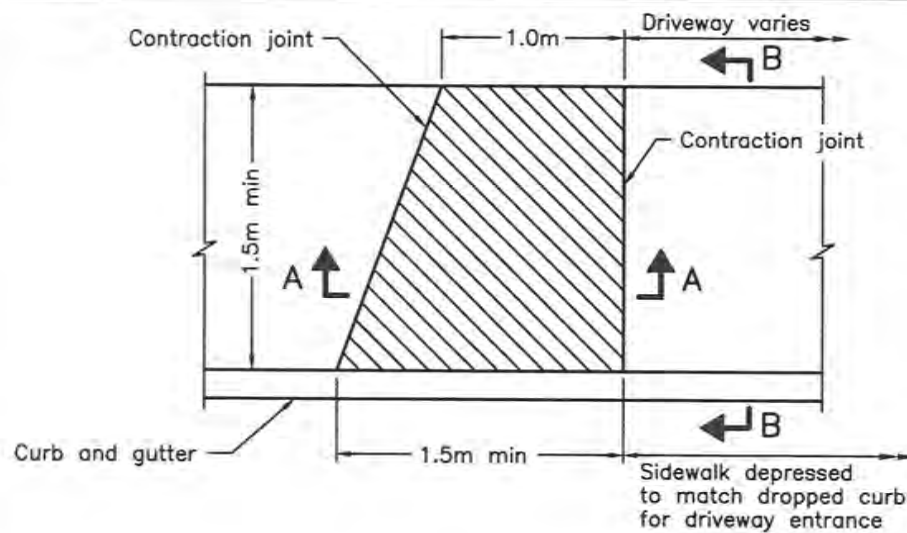
Nov 2019

Rev 1

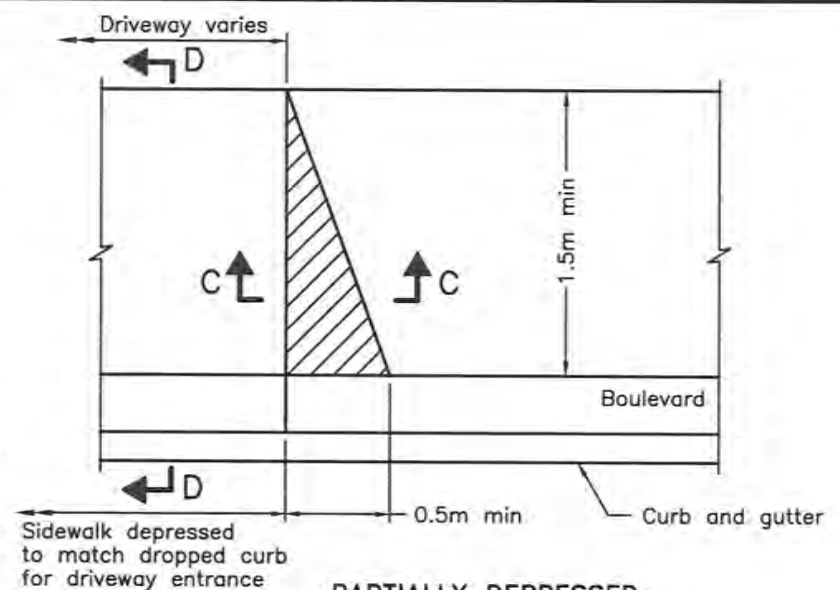
**BARRIER FOR TREE PROTECTION**



**OPSD 220.010**

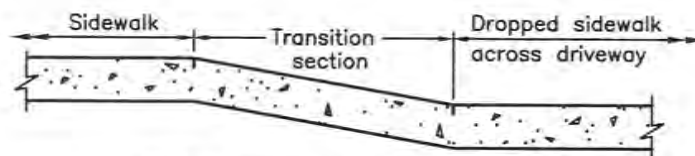


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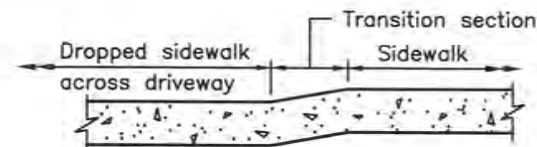


PARTIALLY DEPRESSED

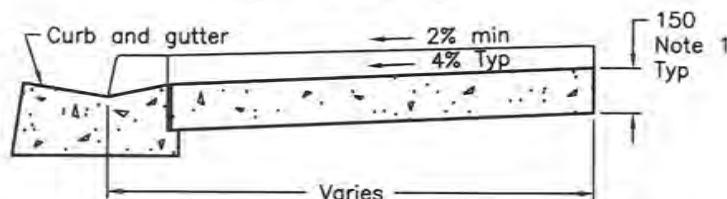
PLAN



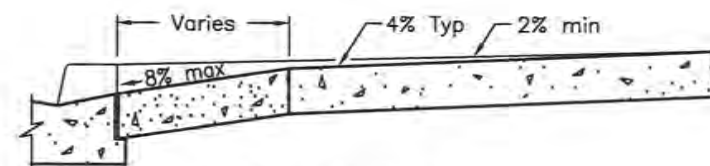
SIDEWALK WITHOUT BOULEVARD  
SECTION A-A



SIDEWALK WITH BOULEVARD  
SECTION C-C



SECTION B-B



SECTION D-D

NOTES:

1 At commercial and industrial driveways, the thickness shall be 200mm.

A For contraction joint detail, see OPSD 310.010.

B All dimensions are in millimetres unless otherwise shown.

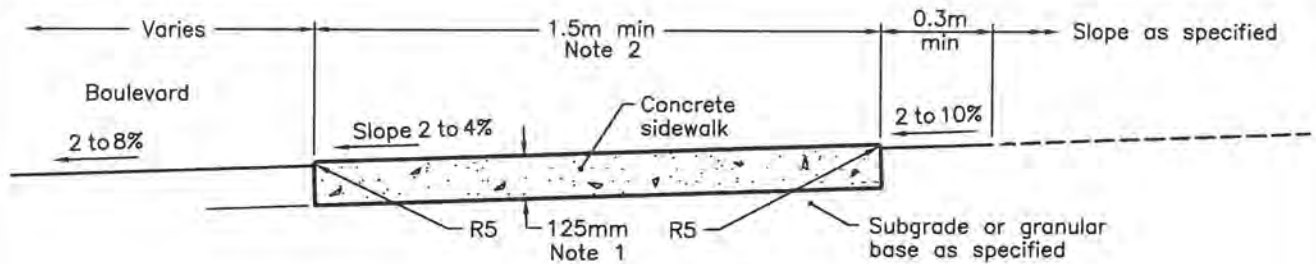
ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2019 Rev 3

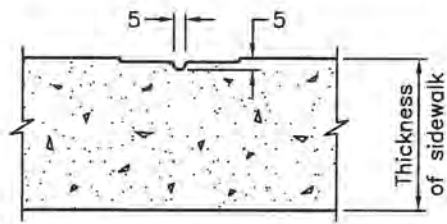
CONCRETE SIDEWALK  
DRIVEWAY ENTRANCE DETAILS



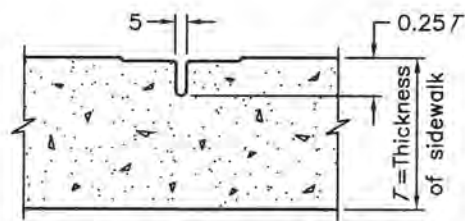
OPSD 310.050



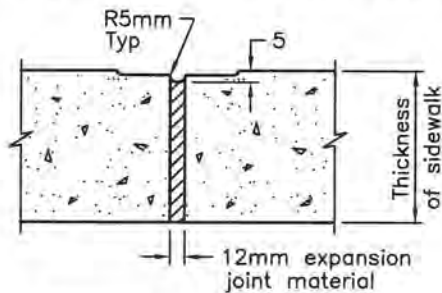
**TYPICAL SECTION**



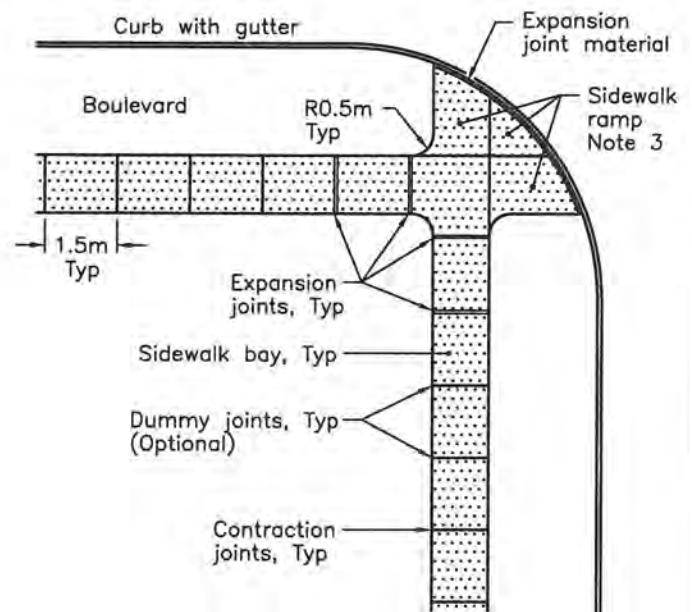
**DUMMY JOINT (OPTIONAL)**



**CONTRACTION JOINT (Note 4)**




**EXPANSION JOINT**

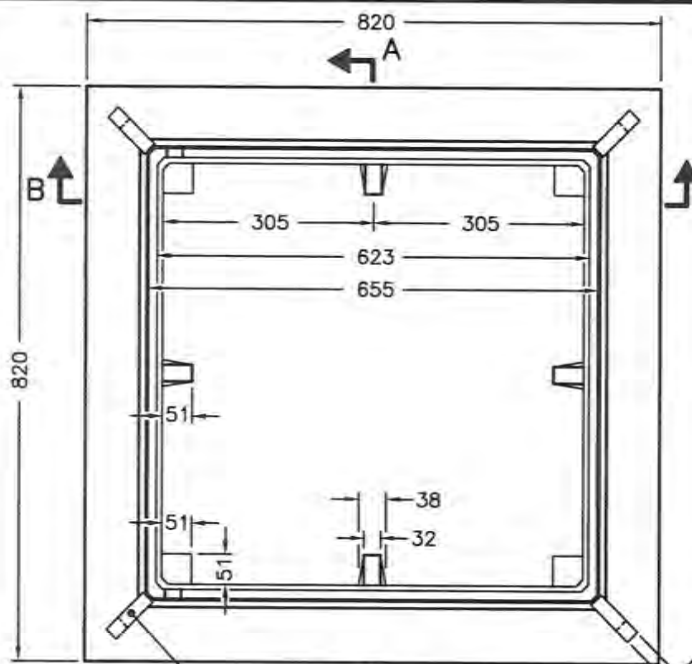


**JOINT LAYOUT**

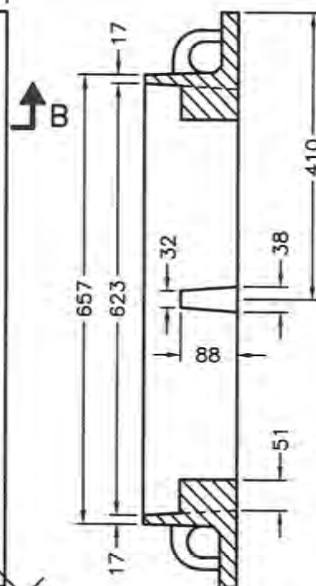
**NOTES:**

- 1 Sidewalk thickness at residential driveways and adjacent to curb shall be 150mm. At commercial and industrial driveways, the thickness shall be 200mm.
- 2 Sidewalk width shall be wider when specified.
- 3 This OPSD shall be read in conjunction with OPSD 310.030, 310.031, 310.033, and 310.039.
- 4 Contraction Joint may be tooled or sawcut.
- A All dimensions are in millimetres unless otherwise shown.

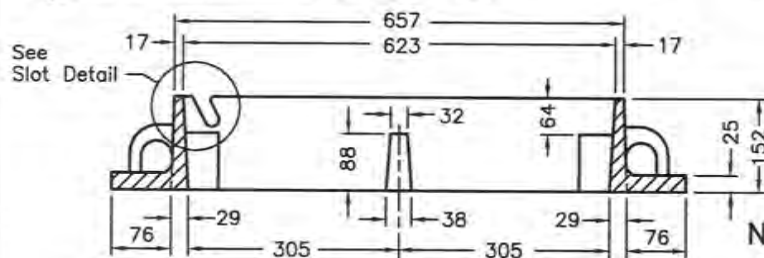
ONTARIO PROVINCIAL STANDARD DRAWING		Nov 2019	Rev 3	
CONCRETE SIDEWALK		-----	-----	
		-----	-----	
OPSD 310.010				



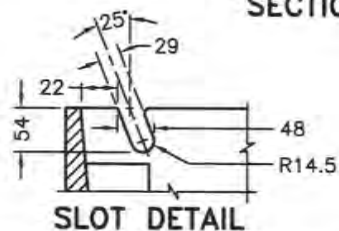
**FRAME PLAN**



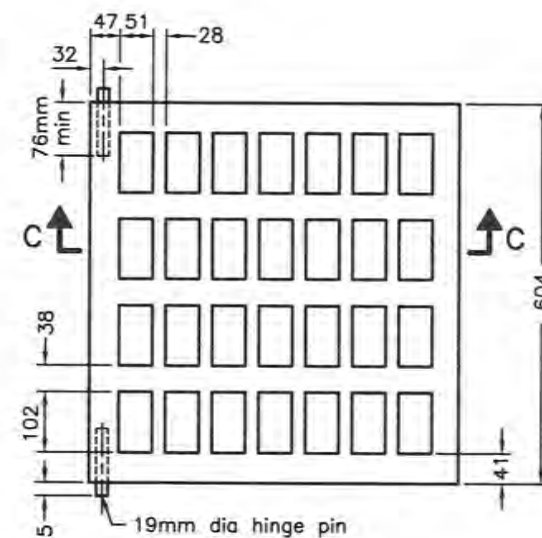
**SECTION A-A**



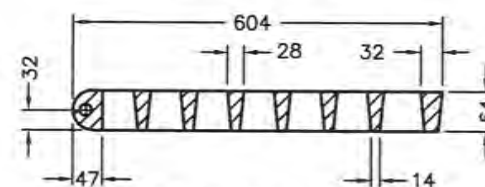
**SECTION B-B**



**SLOT DETAIL**



**GRATE PLAN**



**SECTION C-C**

**NOTE:**

A This OPSP shall be read in conjunction with OPSP 610.010 and 610.020.  
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

**CAST IRON, SQUARE FRAME  
WITH SQUARE FLAT GRATE FOR  
CATCH BASINS, PERFORATED OPENINGS**

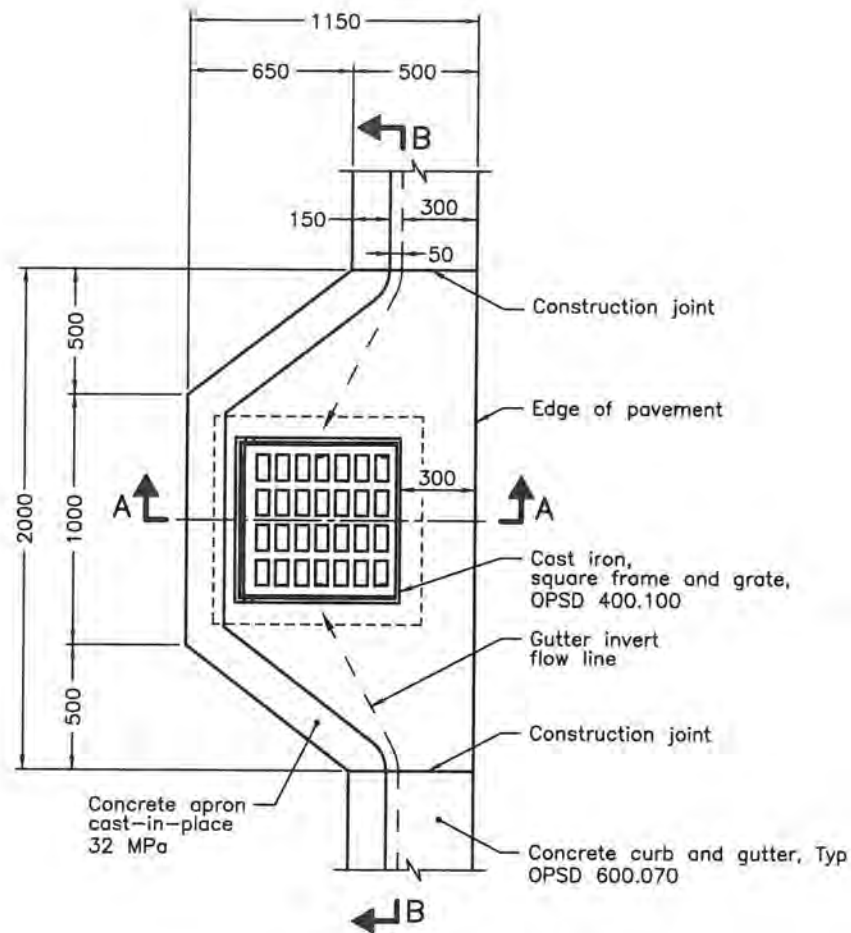
Nov 2018 Rev 3



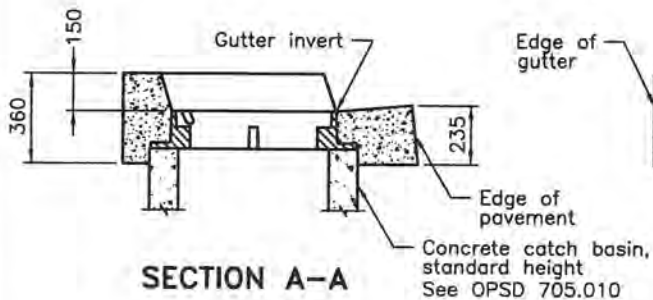
**OPSP 400.100**



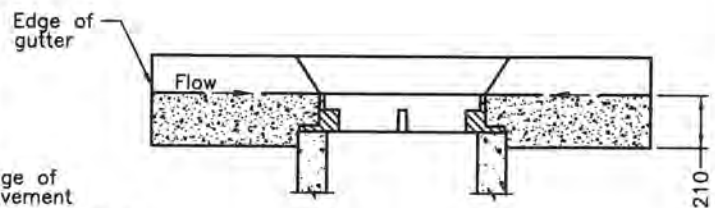




PLAN



SECTION A-A



SECTION B-B

NOTES:

A All construction joints shall be filled with fibre board or hot-poured rubberized asphalt joint sealing compound and joint filler.

B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

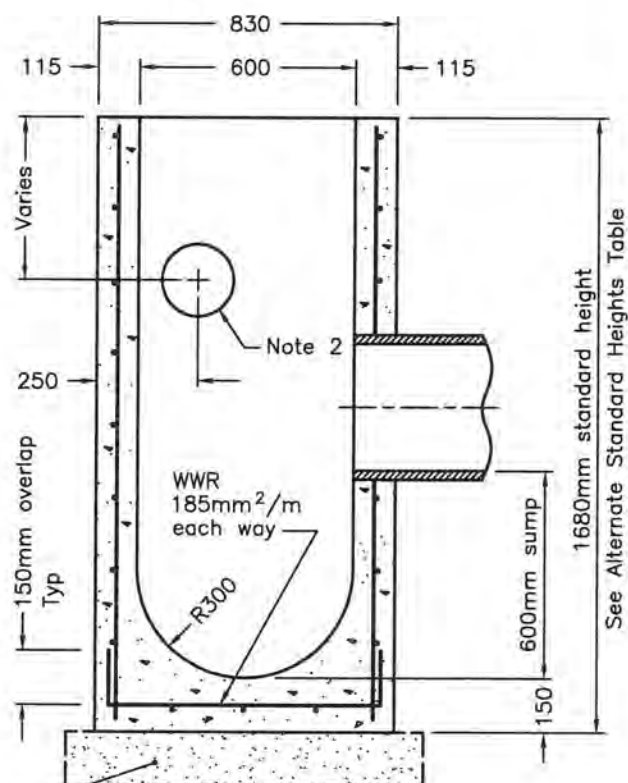
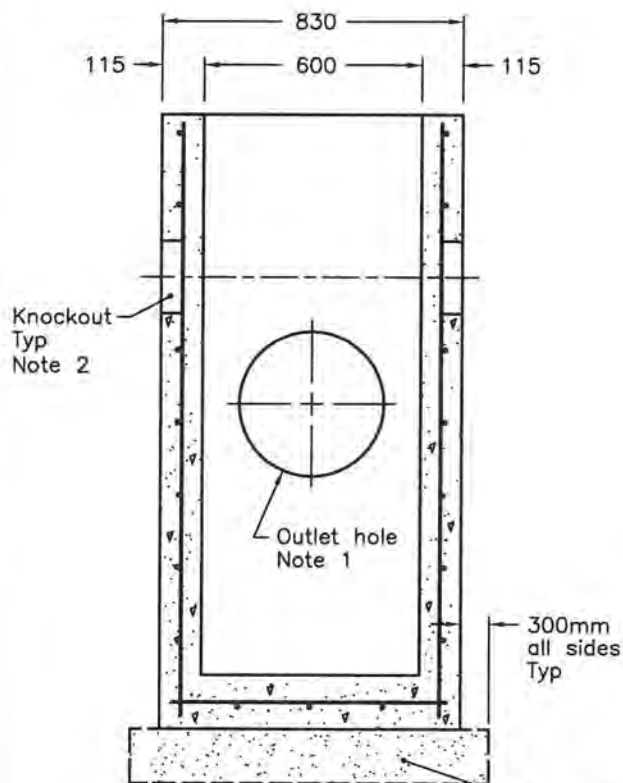
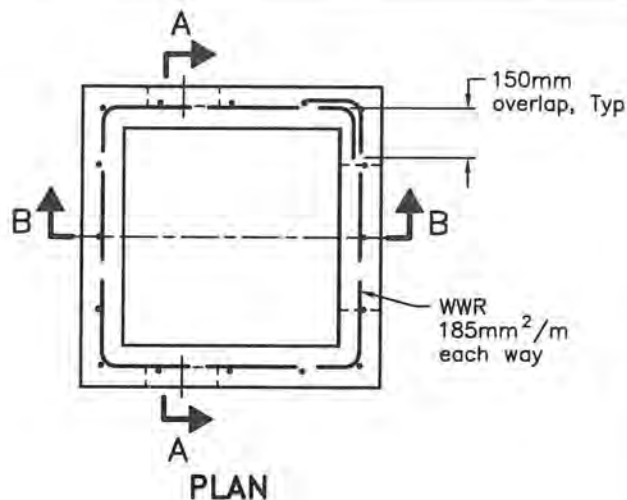
Nov 2018 Rev 1

CONCRETE CATCH BASIN APRON  
BARRIER CURB  
WITH STANDARD GUTTER

OPSD 705.002



ALTERNATE STANDARD HEIGHTS	
ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1520
D	1380



#### NOTES:

- 1 Outlet hole size 525mm diameter maximum, location as required.
- 2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
- A Centre reinforcing in base slab and walls  $\pm 20$ mm.
- B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.

- C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
- D Pipe support shall be according to OPSD 708.020.
- E All dimensions are nominal.
- F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

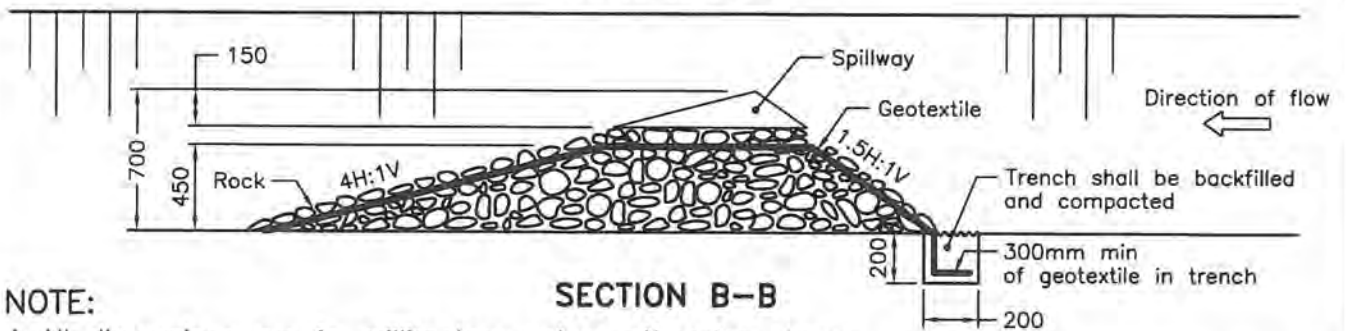
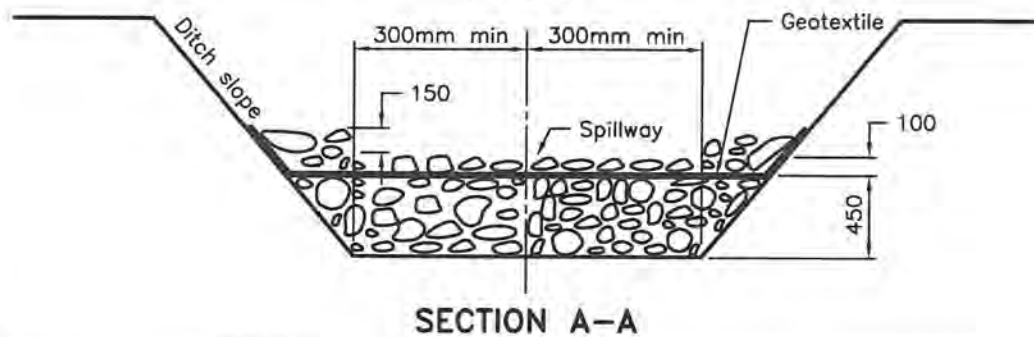
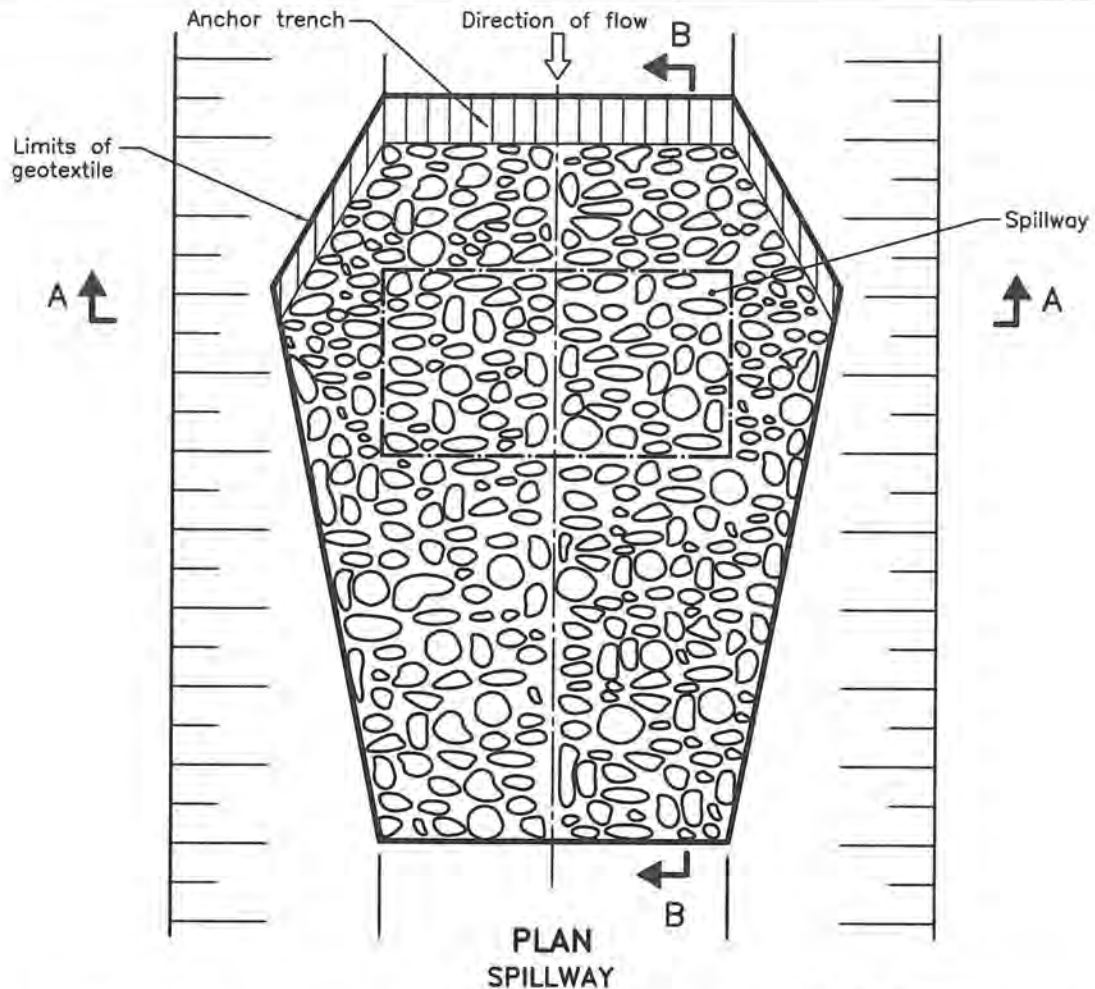
PRECAST CONCRETE CATCH BASIN  
600x600mm

Nov 2019 Rev 4



OPSD 705.010





NOTE:

A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

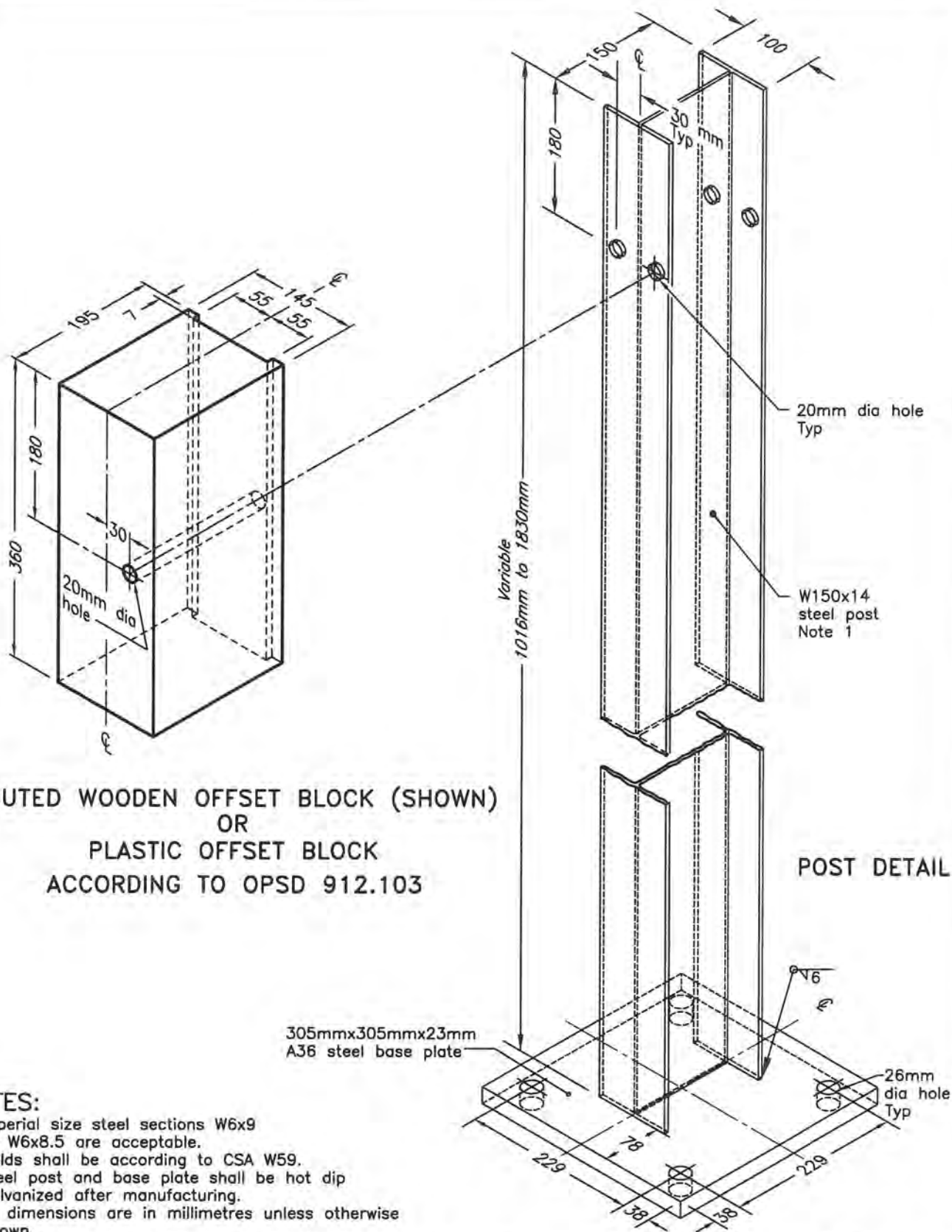
Nov 2021

Rev 3

TEMPORARY  
ROCK FLOW CHECK DAM  
FLAT BOTTOM DITCH



OPSD 219.211

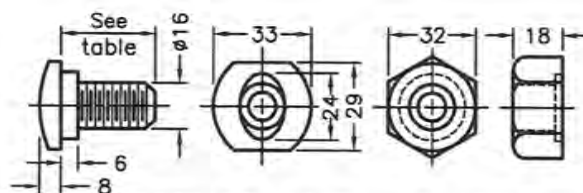
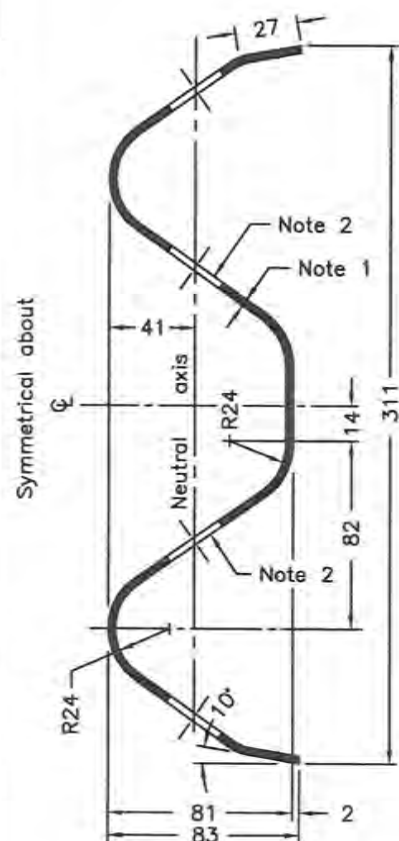
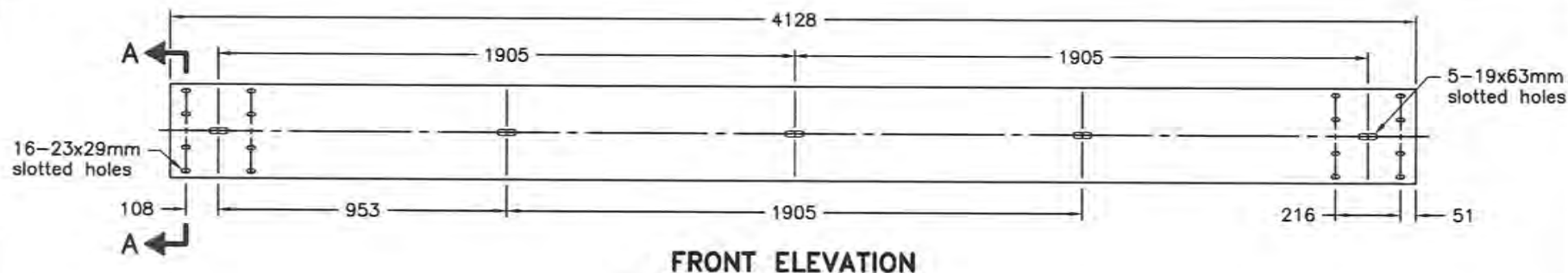


ONTARIO PROVINCIAL STANDARD DRAWING  
GUIDE RAIL SYSTEM, STEEL BEAM  
TYPE M20 STEEL POST  
WITH OFFSET BLOCK AND BASE PLATE  
COMPONENT

Nov 2019 Rev 0



OPSD 912.109



**SPLICE BOLT AND NUT**

SPLICE BOLT LENGTH	
LOCATION	LENGTH
At posts	32
At structure anchor	38

Post bolt and nut with washer as specified on assembly drawings OPSD 912.130, 912.140, and 912.141

**Splice bolt and nut  
Typ**

**ARRANGEMENT AT POST  
WOODEN POST SHOWN**

**NOTES:**

- 1 Base metal thickness of rail shall be 2.67mm nominal and 2.44mm minimum.
- 2 Holes only in rail.
- A All dimensions subject to manufacturing tolerances unless otherwise indicated.
- B All dimensions are in millimetres unless otherwise shown.

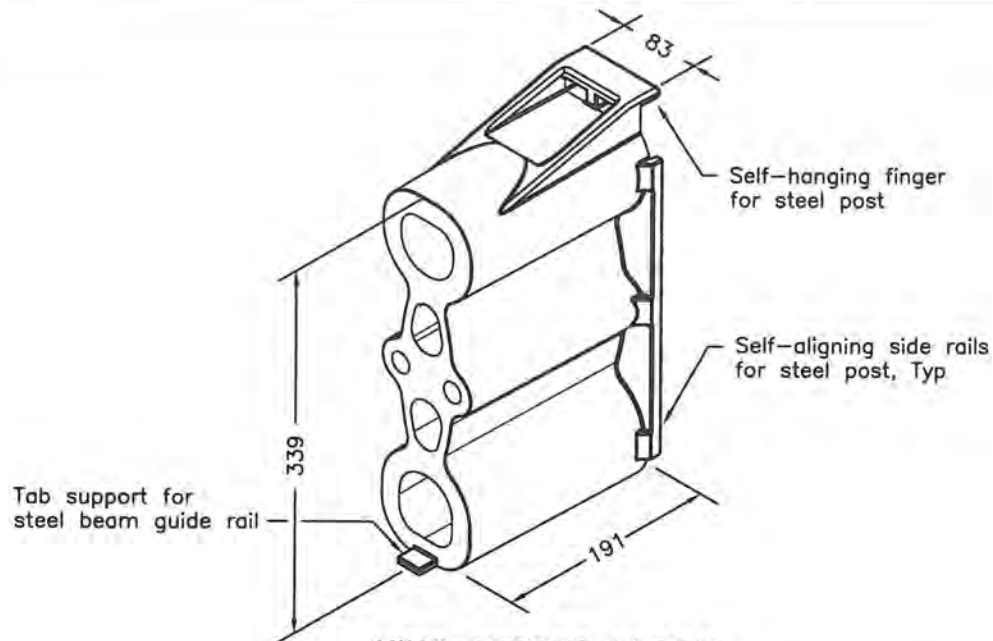
ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2016 Rev 3

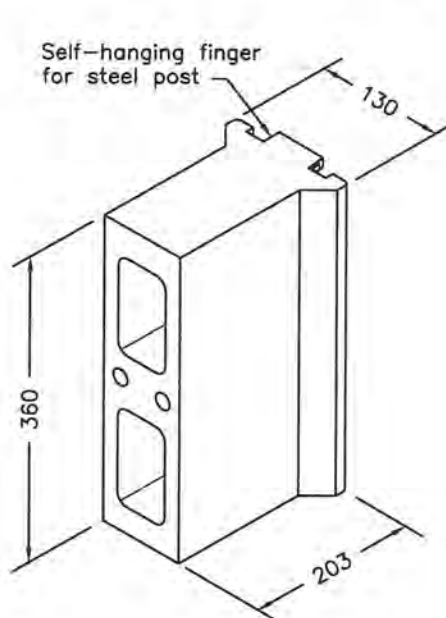
**GUIDE RAIL SYSTEM, STEEL BEAM  
RAIL  
COMPONENT**

**OPSD 912.101**

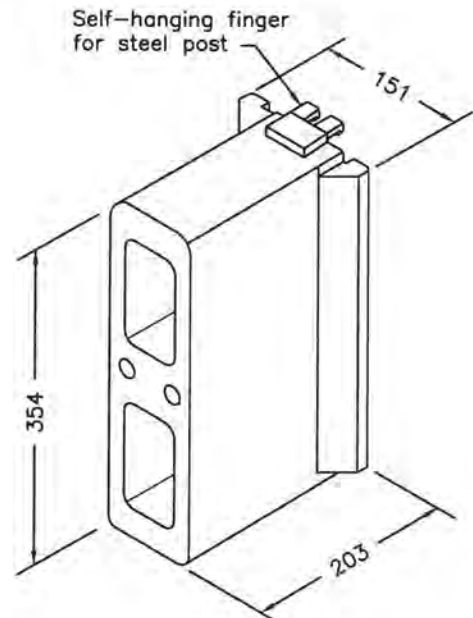




**KING OFFSET BLOCK**  
NOTE 1



**MONDO OFFSET BLOCK**  
NOTE 2



**P-BLOCK**  
NOTE 3

**NOTES:**

- |  |   |
|--|---|
| <p>1 The component depicted is proprietary to Trinity Industries, Inc.</p> <p>2 The component depicted is proprietary to Mondo Polymer Technologies.</p> | <p>3 The component depicted is proprietary to R.G. Steel Corp.</p> <p>A All dimensions are in millimetres unless otherwise shown.</p> |
|--|---|

ONTARIO PROVINCIAL STANDARD DRAWING

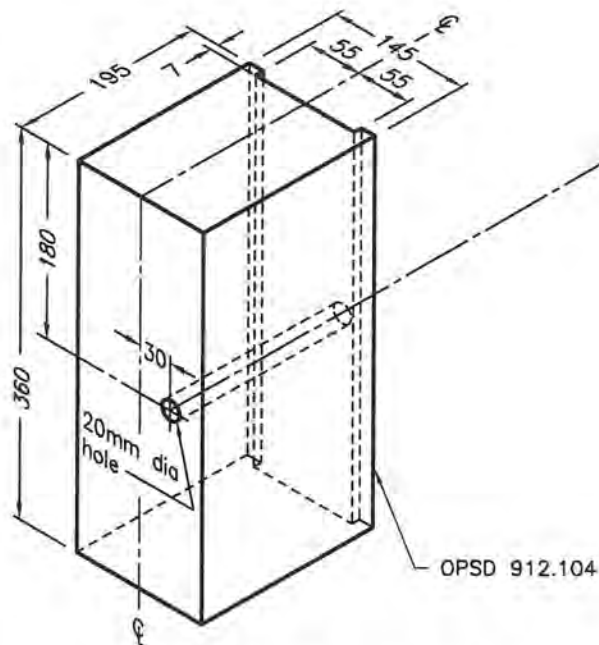
**GUIDE RAIL SYSTEM, STEEL BEAM  
PLASTIC OFFSET BLOCKS  
COMPONENT**

Nov 2021

Rev 4



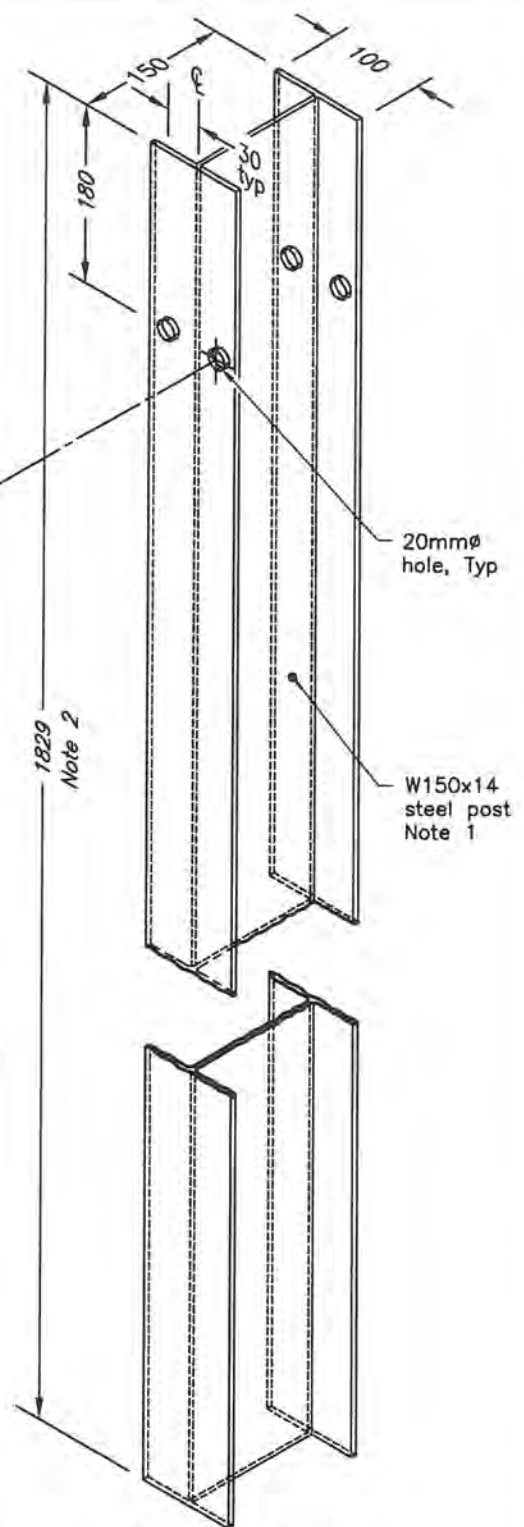
**OPSD 912.103**



ROUTED WOODEN OFFSET BLOCK (SHOWN)  
OR  
PLASTIC OFFSET BLOCK  
ACCORDING TO OPSD 912.103

**NOTES:**

- 1 Imperial size steel sections W6x9 or W6x8.5 are acceptable.
  - 2 Post length shall be 2438mm when specified and when 2438mm long shall be stamped with a 50mm high number "8" in centre of web 50mm below top of post.
- A All dimensions are in millimetres unless otherwise shown.



ONTARIO PROVINCIAL STANDARD DRAWING

GUIDE RAIL SYSTEM, STEEL BEAM

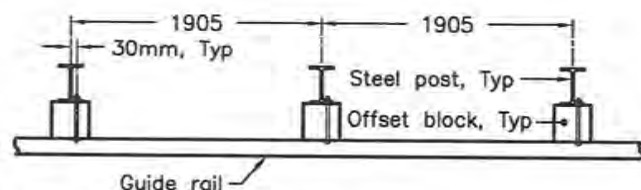
**M20 STEEL POST  
WITH OFFSET BLOCK  
COMPONENT**

Apr 2016

Rev 0

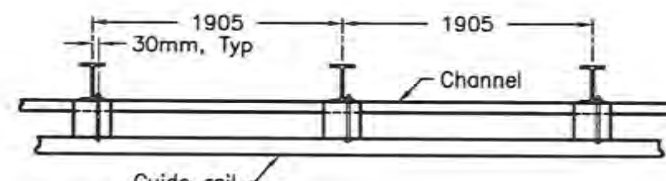


**OPSD 912.127**

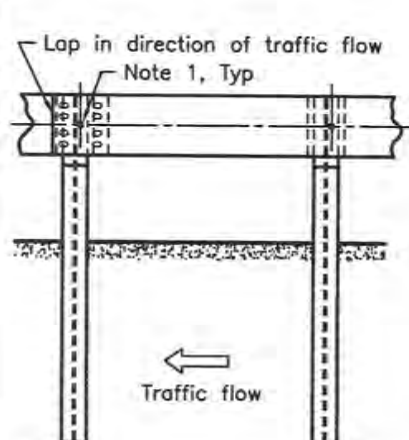


PLAN

POST BOLT		
	Post Bolt Size and Type	Washer & Nut
(A)	16x250 BH	Plate
(B)	16x100 CaB	Plate

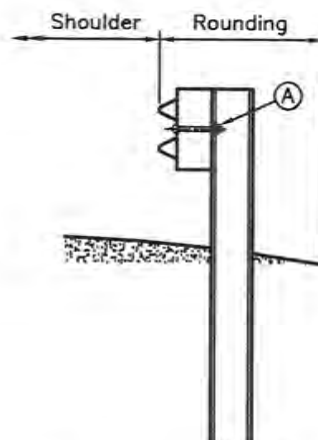


PLAN

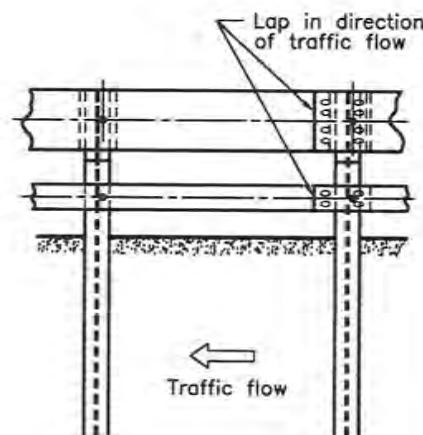


ELEVATION

SINGLE RAIL

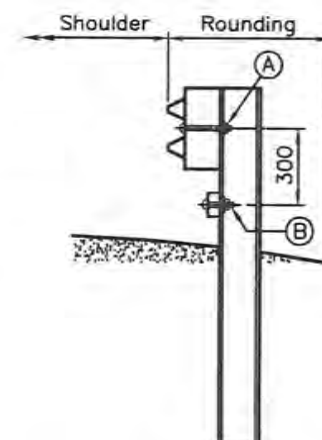


SIDE VIEW



ELEVATION

SINGLE RAIL WITH CHANNEL



SIDE VIEW

# NOTES:

1 Washer shall not be installed at front face of rail. One bolt located at centre of steel beam guide rail.

A This OPSD to be read in conjunction with OPSD 912.101, 912.102, 912.103, and 912.104.

B Steel beam guide rail mounting heights shall be as specified.

C All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

GUIDE RAIL SYSTEM, STEEL BEAM  
STEEL POST WITH OFFSET  
BLOCK ASSEMBLY  
INSTALLATION - SINGLE RAIL

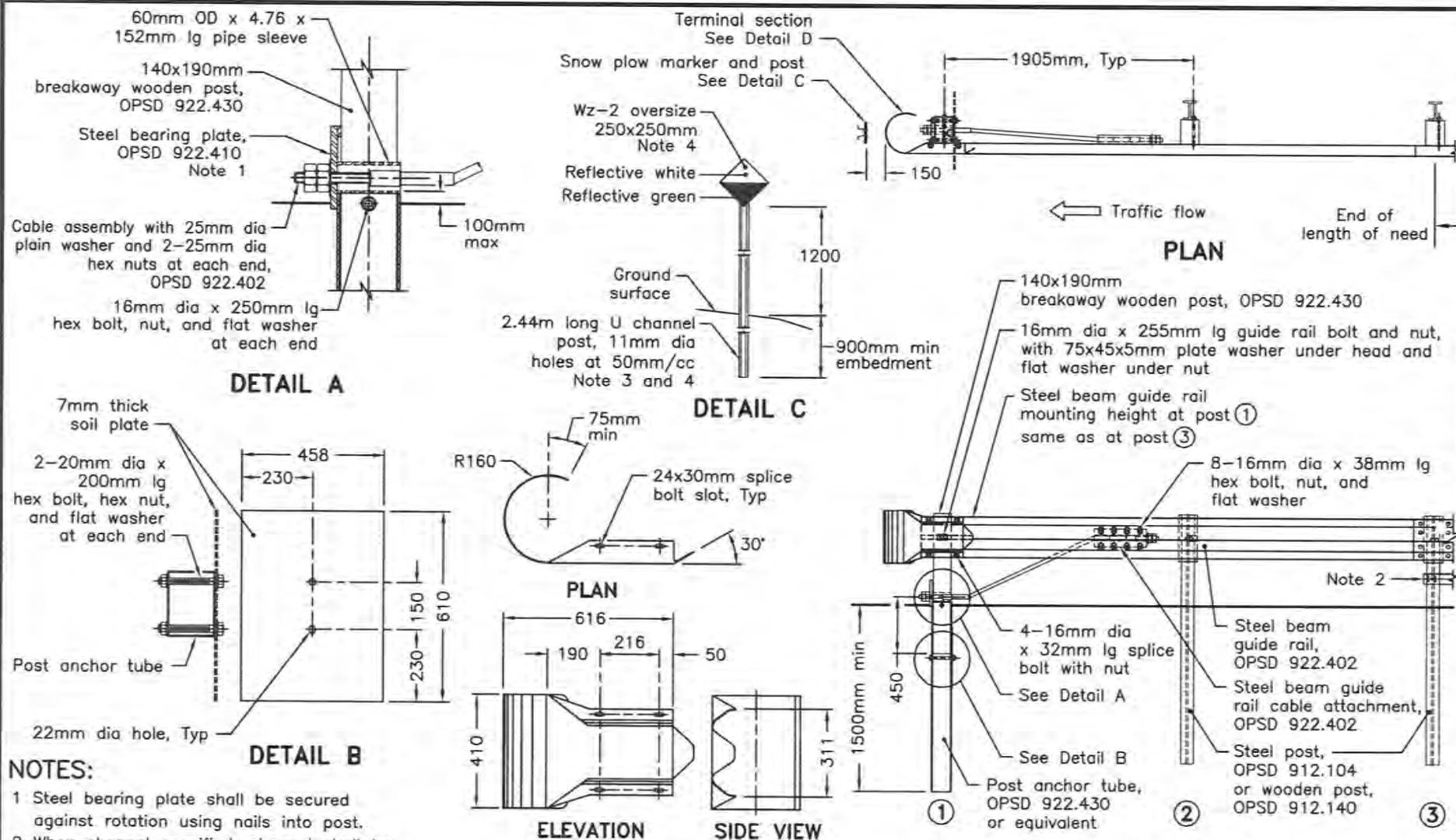
Nov 2016

Rev 3



OPSD 912.130





# NOTES:

- Steel bearing plate shall be secured against rotation using nails into post.
  - When channel specified, channel shall be terminated at post ③.
  - Minimum weight of post shall be 4.46kg/m.
  - Post and mounting hardware shall be hot dip galvanized according to CSA G164.
- A Steel beam guide rail mounting heights shall be as specified.
- B All dimensions are in millimetres unless otherwise shown.

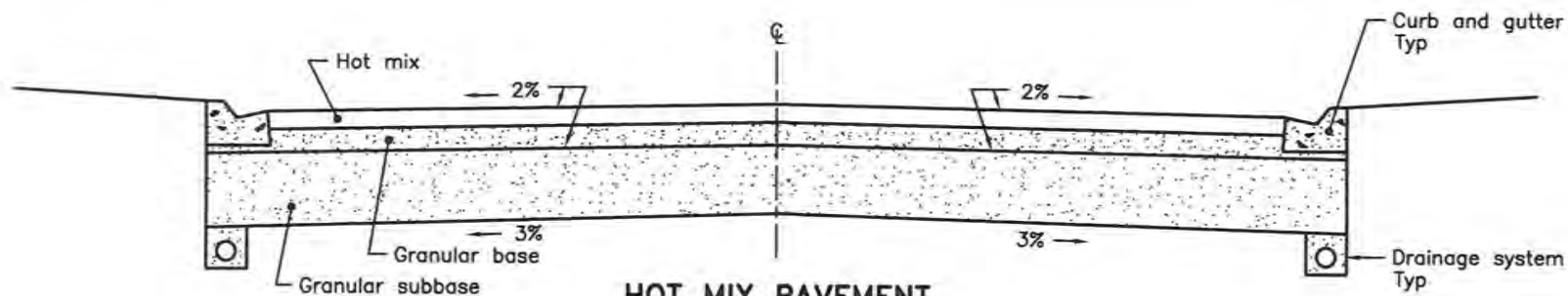
ONTARIO PROVINCIAL STANDARD DRAWING

GUIDE RAIL SYSTEM, STEEL BEAM  
LEAVING END TREATMENT  
INSTALLATION

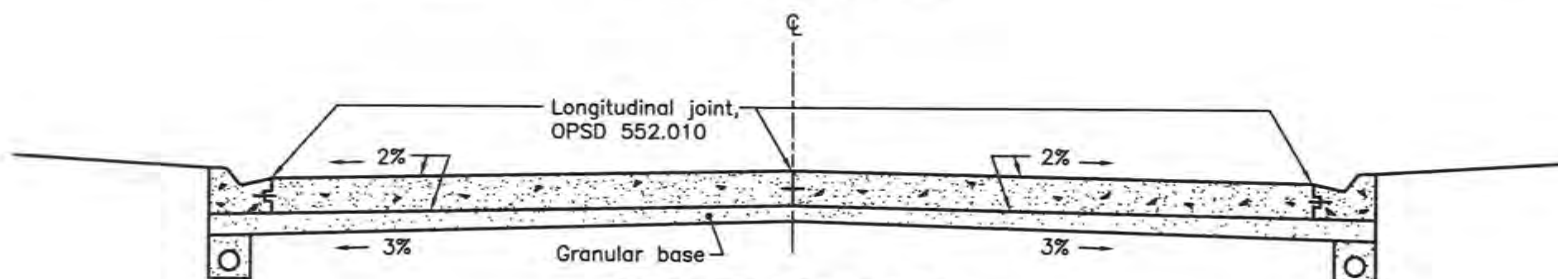
Nov 2010 Rev 1



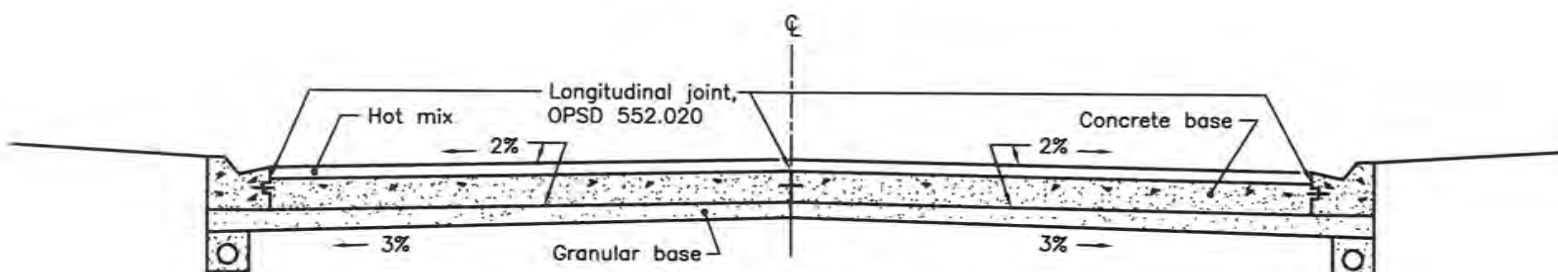
OPSD 912.235



**HOT MIX PAVEMENT**



**CONCRETE PAVEMENT**



**COMPOSITE PAVEMENT**

**NOTES:**

- A Drainage system connection at every catch basin.
- B Tie bars at all longitudinal joints.

ONTARIO PROVINCIAL STANDARD DRAWING

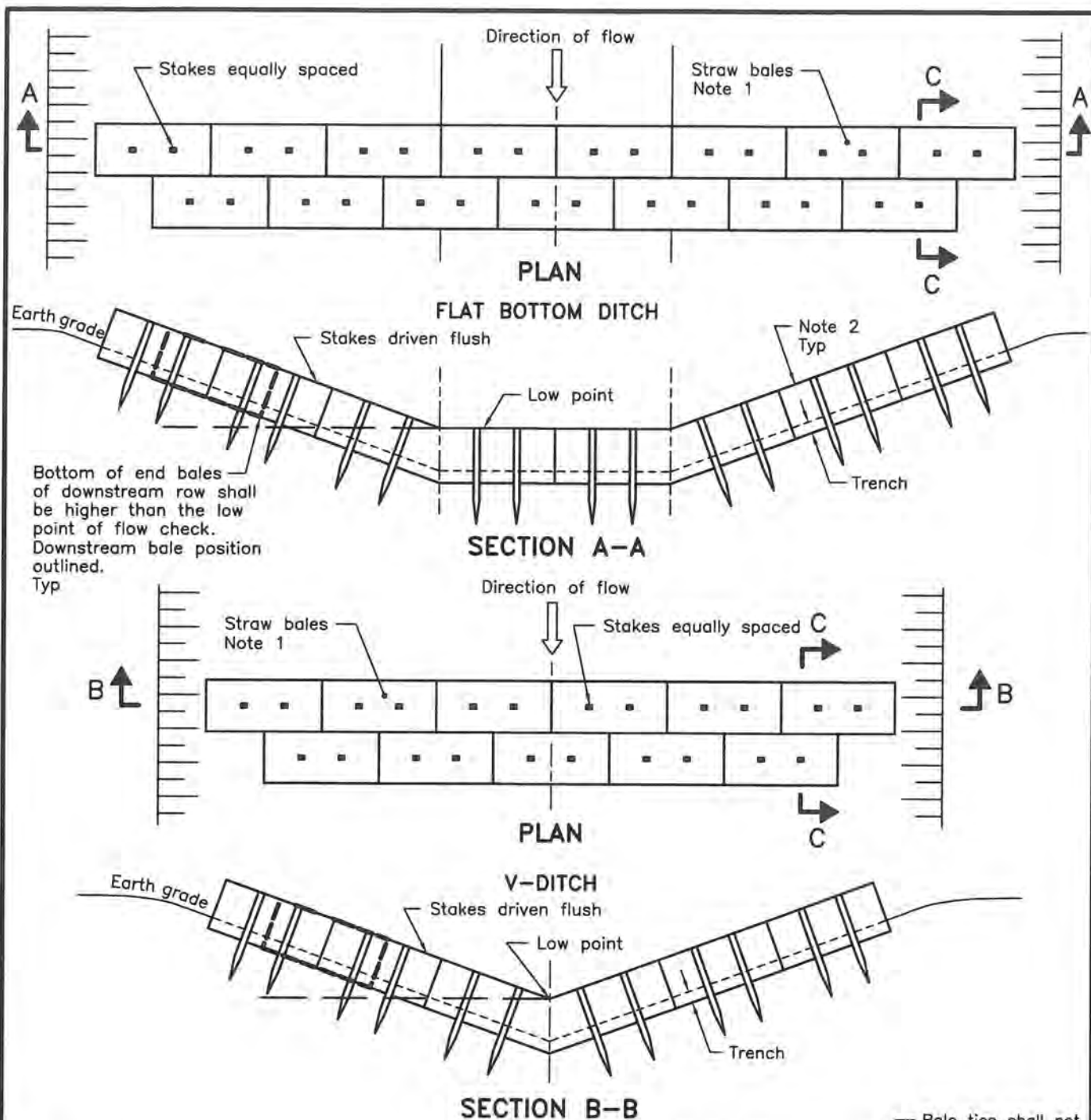
**HOT MIX, CONCRETE, AND  
COMPOSITE PAVEMENT ON GRANULAR BASE  
URBAN SECTION**

Nov 2017 Rev 2



**OPSD 216.020**





#### NOTES:

- 1 Number of bales varies and shall suit ditch.
- 2 Straw bales shall be butted tightly against adjoining bales and shaped to conform to the sides of the ditch to prevent water flow through barrier.
- A Fill and compact gaps with loose straw.
- B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2021 Rev 3

STRAW BALE FLOW CHECK DAM



OPSD 219.180