



# **The Corporation of the Town of Ingersoll and The County of Oxford**

## **Contract 1-2024 – Raglan Street Reconstruction**

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**1) SCOPE OF WORK**

The Town of Ingersoll and Oxford County require the following scope of work to be completed.

Raglan Street – from Thames Street North to George Street:

- a. Full replacement of the existing 150mm Ø cast iron watermain with new 150mm Ø DR18 PVC pipe, complete with new 25mm Ø pex services from the new watermain to property line. Replacement of existing water valves and hydrants are also required.
- b. Full replacement of the existing 200mm Ø concrete sanitary main with new 200mm DR35 PVC pipe, complete with new 100mm Ø DR28 PVC laterals to approx. 1.0m behind property line.
- c. Full replacement of the existing 300mm Ø concrete storm main with new 300mm Ø DR35 PVC pipe. Also included is the replacement of existing precast catchbasins to proposed locations, complete with PVC leads and gutter drains.
- d. Complete reconstruction of Raglan Street including all granulars for road base, HL8 asphalt base course, HL3 asphalt driveways, concrete curb-and-gutters, concrete sidewalk, and topsoil and sod restoration where required.

The scope of work includes any works contingent to the completion of the project deliverables specified in the scope including but not limited to necessary dewatering, excavation, backfilling, pumping, drainage, sheathing, shoring, bracing, fencing, disposal of excess materials, saw cutting, cold mill planning. All such works and other related works required to complete the Contract as specified and shown on the drawings shall be supplied by the Contractor and shall form a part of the scope of work identified in this tender document.

**2) FORM OF TENDER, DELIVERY AND OPENING OF TENDERS**

All entries in the Form of Tender shall be made in ink.

The bidder must sign and submit the AC Index Acknowledgement Form with their Tender Submission. This form is located in the Contract in Section B - Form of Tender.

The bidder must include the Acknowledgement of Addendum in the tender submission. The acknowledgement will be forwarded only on the issuance of an addendum or addenda.

Sealed Tenders retrieved from **bids&tenders®** and in envelopes clearly marked as to contents, will be received by Matt Sweetland, Director of Infrastructure and Development, Town of Ingersoll, 130 Oxford Street, 2<sup>nd</sup> Floor, Ingersoll, Ontario N5C 2V5:

until 11:00 a.m. March 28<sup>th</sup>, 2024

3) **TENDER DEPOSIT**

Every Tender shall be accompanied by either a Certified Cheque, or Bid Bond payable to The Town of Ingersoll, or a cash deposit of **10% of the Tendered Bid Amount**. The deposit of the two (2) lowest Bidders will be retained until the formal contract has been signed by the successful bidder and a guaranteed bond has been furnished to the satisfaction of the Owner. If the deposit is provided in the form of a Bid-Bond, such a bond must have a validity of at least 60 working days from the date of closing of the tender.

***The Tender Deposit shall be returned to the bidders as below:***

- ***All bidders, except the lowest two bidders within 10 working days of the date of closing of the tender.***
- ***The unsuccessful bidder out of the two lowest bidders within 10 working days of the date of signing a formal contract by the successful bidder and the successful bidder furnishing and providing the required contract securities.***
- ***The successful bidder, within 10 working days after formal signing of a contract and receipt of the contract security as required under this contract. Should the successful bidder fail to enter into a contract the said cheque, bid bond or cash submitted as tender deposit shall be forfeited.***

4) **AGREEMENT TO BOND (SURETY'S CONSENT)**

Every Tender shall be accompanied by an Agreement to Bond (Surety's Consent), signed and sealed by the Bonding Company, stating that the Bonding Company is willing and able to bind the Contractor for the due completion of the work described in this contract. Also to be issued is a performance bond and labour and materials bond as described herein.

5) **AMOUNT OF SURETY AND BOND**

The successful Bidder will supply a Performance Bond and a Labour & Material Payment Bond for the due completion of the work in compliance with the terms and conditions of the Contract, each of which Bonds shall be for one hundred percent (100%) of the estimated total value of this Contract.

6) **DISQUALIFICATION / REJECTION OF TENDERS**

Tenders that are not received prior to the advertised closing time shall be rejected, shall not be opened and shall be returned without any further consideration.

A tender submitted by a bidder shall be rejected as non-compliant and will be returned unopened without any further consideration, if the bidder has any current ongoing litigation, or any litigation concluded in the previous 3 years against the Town relating to previous tenders or performance of previous contracts awarded to them by the Town. For the purpose of this section, bidder includes a company, partnership, sole proprietor, a related company by shareholding or sole proprietorship and the officers, directors or principals of any company, partnership, and sole proprietorship.

The Town reserves the right to refuse bids from prospective bidders based on their past performance in previous contracts awarded by the Town. A bid by a bidder who has been in default on any previous construction contracts with the Municipality shall be rejected without any consideration if the tender is received within 12 months of the date of default on a previous contract.

The Town reserves the right to reject any or all tenders, or to accept any tender not the lowest tender, should it be deemed to be in the best interest of the Town to do so. The Town will not find the bid or tender satisfactory if the bid or tender fails to comply with the following:

- ☐ Is not conditional in any part;
- ☐ Contains the "Agreement to Bond" documentation;
- ☐ Contains a Bid-Bond or a certified cheque in lieu attached or enclosed;
- ☐ Signed and sealed;
- ☐ Acknowledges all addenda issued in the acknowledgement form attached with the Form of Tender;
- ☐ Includes the AC Index Acknowledgement Form;
- ☐ Documents have been formally purchased prior to tender closing date and time;
- ☐ Is not incomplete, conditional or obscure;
- ☐ Does not contain additions not called for;
- ☐ Does not contain erasures, alterations or irregularities of any kind.

## 7) **BLANK FORM OF TENDER**

All Tenders must be completed upon the blank Form of Tender annexed hereto and shall give the price for each item of work proposed and shall include the proper completion of all Schedules and Statements, and shall be signed by the Bidder with their business address.

All index and reference numbers either in the Tender Form, Plans, Drawings, Specifications or Schedule are given for the convenience of the Bidder, and such must be taken only as a general guide to the items referred to. It must not be assumed that such numbering is the only reference to each item, but the **Plans and Specifications as a whole must be fully read in detail for each item.**



**8) EXECUTION OF THE CONTRACT**

The party to whom this Contract is awarded will be required to enter into a formal Contract with the **Town of Ingersoll** and forming this Contract will be this Tender Document, including Information for Bidders, Form of Tender, Special Provisions, General Conditions, Agreement and the Contract Plans and Specifications.

The bidder to whom the Contract is awarded will execute the Contract and furnish the Bonds, within ten (10) working days, from the date of delivery of the notice from the Town and County to the Bidder, at the address given by the bidder.

Once work has commenced the Contractor shall remain on site and work continuously until the work is complete in accordance with the 'Special Provisions - Order of Work' or unless given written authorization by the Town Engineer.

**9) MAINTENANCE GUARANTEE**

The Contractor shall provide a maintenance guarantee valid for **Twenty-Four (24) months** from the date of issuance of the Certificate of Substantial Completion by the Town in accordance with the General Conditions forming a part of this contract.

The Town and County shall conduct a maintenance inspection twenty-four (24) months after acceptance of the substantially completed work and issuance of the Certificate of Substantial Completion. Any deficiencies found during this inspection, or at any time during the 24-month guarantee period, shall be made good by the Contractor at his expense within thirty days of notification from the Town and County.

Should the Contractor fail to repair any deficiency within the prescribed time or should the Town and/or County deem a deficiency to need emergency repair during the guarantee period, the Town and/or County may pay for the repair by drawing on the Letter of Credit, after giving the Contractor 24-hour notice.

**10) EXAMINATION OF SITE**

Each Bidder must satisfy himself by personal examination as to the local conditions to be met with during the construction and conduct of the work. The Bidder shall make his own estimate of the facilities and difficulties to be encountered including the nature of the sub-surface materials and conditions.

The Contractor shall **not** claim any extras on account of any misunderstanding or perception of misunderstanding of terms and conditions of the tender or the site conditions at the site of work.

*Pre-construction excavation or test holes shall not be permitted. Refer to Geotechnical Report.*

**11) OMISSIONS AND DISCREPANCIES**

Should a Bidder find discrepancies in, or omissions from, the Drawings, Specifications, or other tender documents, or should he be in doubt as to their meaning, the Bidder should notify the Town Engineer who may send a written instruction/clarification to all Bidders.

**12) ABILITY AND EXPERIENCE OF THE CONTRACTOR**

It is not the purpose of the Owner to award this Contract to any Bidder who does not furnish satisfactory evidence that they have:

- a) The ability and experience in this class of work;
- b) Sufficient capital and plant to enable them to prosecute and complete the work successfully and within the identified time frame;
- c) Proper equipment and experienced operators for this class of work;
- d) Sufficient equipment to safely enable them to carry out the works described in the tender;
- e) Bidders shall make available all equipment for inspection by the Town prior to execution of the contract.

The Town reserves the right at its sole discretion to reject any bid submission or not enter into an agreement with any bidder if it is felt that any of the above conditions is not met or if, in its sole discretion, the Town determines that the contractor has been unable to furnish sufficient and satisfactory evidence of experience, available capital & plant or adequate & appropriate machinery.

Included at the back of the Contract is a sample Contractor Rating Form (Appendix A) which will be completed by the Town of Ingersoll Engineering Department upon substantial completion of the contract.

This form will be used to assess the Contractor and it's Sub-contractor(s) on various criteria, including but not limited to supervision, workmanship, equipment, public relations and co-operation.

The rating may be used by the Town for a future reference regarding the awarding of contracts. The Town reserves the right to provide these ratings to their member municipalities for their use.

**13) INFORMAL TENDERS**

Informalities or irregularities noted during the tender opening, or during the review of tenders, will be forwarded to the Town Engineer, or designate for a ruling on whether the informality compromises the tendering process. This ruling may not necessarily happen at the time of tender opening.

The Town Engineer, in its sole discretion, will decide whether to accept or reject any tender for such informalities after completion of the tender openings.

**14) UNBALANCED TENDERS**

Each item in the Form of Tender shall be a reasonable price for such item. The Town reserves the right to reject any tender that is unbalanced. The Town through its Town Engineer shall be the sole judges of such matters.

**15) LIQUIDATED DAMAGES**

The liquidated damages referred to in the General Conditions under this Contract will be **\$ 1000.00** per day beyond the target date of substantial completion. It shall be noted that these charges are not a penalty to the contractor, but a lump sum amount payable by the contractor for costs related to administration, supervision, etc., beyond the target substantial completion date.

**16) INSURANCE**

The insurance coverage must be written by an insurance company licensed to conduct business in the Province of Ontario and must have a minimum AM Best Financial Rating of A-.

**Commercial General Liability**

- a) The Commercial General Liability Insurance shall be maintained until the works have been completed and accepted by the Town and/or County and a Certificate of Completion has been issued.
- b) The Liability Insurance shall:
  - (i) include the **Town of Ingersoll** and **County of Oxford** as additional insured only with respect to liability arising out of work performed by the Contractor in connection with this contract:

**Contract 1 – 2024**

- (ii) have a limit of liability of not less than **\$5,000,000** per occurrence, and an aggregate limit of not less than **\$10,000,000**, within any policy year with respect to completed operations.
- (iii) be **Commercial General Liability Insurance** covering all operations and liabilities assumed under the Contract with the Town and County. The deductible level shall not exceed **\$10,000**.
- (iv) The policy shall include an extension for a standard provincial and territorial form of non-owned automobile liability policy.

This policy shall include but not be limited to:

- (a) Name the Owner as an additional insured
- (b) Cross-liability and severability of interest
- (c) Blanket Contractual
- (d) Products and Completed Operations
- (e) Premises and Operations Liability

- (f) Personal Injury Liability
  - (g) Contingent Employers Liability
  - (h) Owners and Contractors Protective
  - (i) Broad Form Property Damage
  - (j) Firefighting Expenses
  - (k) Attached Machinery
  - (l) 30 days' Notice of Cancellation
- c) If the construction project is near old or heritage buildings or structures, the coverage shall include damage (both structural and cosmetic) to those buildings and/or structures.

The following may also apply:

- d) If applicable to the construction project described in the Agreement, coverage shall include shoring, blasting, excavation, underpinning, demolition, pile driving, caisson work and work below ground surface including tunneling and grading.
- e) If the work involves asbestos removal, the policy shall either provide coverage for this exposure or coverage shall be provided through a Professional Liability Policy.
- f) To achieve the desired limits, umbrella or excess liability insurance may be used.
- g) The Owner reserves the right to request in addition to the Commercial General Liability Insurance Coverage Wrap-up Liability. The Wrap-up shall be in the names of the Owner, Contractor, all Sub-contractors, Architects, Engineers, Consultants, Planners and Project Managers. Limits and coverages shall be in compliance with the provisions outlined above.

### **Installation Floater**

The Contractor shall, throughout the term of the contract, obtain and maintain an Installation Floater written on an "All Risk" perils basis of an amount not less than **\$1,000,000**. Coverage applies while property is in transit to the installation site, while stored at a temporary location, awaiting installation at the work site, during loading and unloading as well as the course of installation until completed.

### **Contractor's Pollution Liability**

The Contractor shall carry a Contractor's Pollution Liability Policy, underwritten by an insurer licensed to conduct business in the Province of Ontario for a limit of not less than **\$5,000,000**. Coverage shall include bodily injury, property damage, clean-up and remediation costs. The Contractor shall purchase at minimum a 3 Year Extended Reporting Endorsement.

**Contractor's Equipment Floater**

The contractor shall provide and maintain coverage for equipment used during the term of this Agreement. Coverage will be provided, on a broad form basis, for construction machinery, equipment, tools and stock that will be used by the Contractor in the performance of the work. The coverage will also include rental expense. Coverage is to be carried from the date of commencement of the work until **24 months** after the date of Substantial Performance of the Work.

**Automobile Insurance**

Standard Form Automobile Liability Insurance that complies with all requirements of the current legislation of the Province of Ontario, having an inclusive limit of not less than **\$5,000,000** per occurrence for Third Party Liability, in respect of the use or operation of vehicles owned, operated or leased by the Contractor.

**Crane Operators/Hook Liability**

If booms or cranes are involved in moving any materials or installing equipment the contractor will require Hook or Crane Operators Liability. The limit for this coverage shall equal the cost of the most expensive piece to be moved or installed.

**Primary Coverage**

The proponent's insurance shall be primary coverage and not additional to and shall not seek contribution from any other insurance policies available to the municipality.

**Certificate of Insurance**

The proponent shall provide a Certificate of Insurance evidencing coverage in force at least 10 days prior to contract commencement.

**17) CANADIAN LABOUR AND MATERIALS**

Unless otherwise specifically approved in writing by the Town Engineer, the Contractor shall, to the best of its ability, employ Canadian labour and shall utilize materials, parts and equipment of Canadian manufacture in constructing the works.

**18) OWNER**

Where herein reference is made to "Owner", "Corporation", "County" or "Town", it shall be taken to mean the Town of Ingersoll or the County of Oxford.

**19) FORM OF TENDER**

A copy of the Form of Tender is included with the tender documents. Submit **only pages B-1 to B-14** as the formal tender for this Contract.

**20) PUBLIC INFORMATION CENTRE**

Once the contract has been awarded, a Public Information Centre (PIC - drop in format) may be required and held at the Ingersoll Town Centre Council Chambers.

Should the Town require such a meeting, the Contractor is to be present at this PIC. This requirement will be performed at no cost to the Town.

The Contractor will be required to address their construction staging, number of crews working and other issues that may be encountered during the construction with the property owners.

PREVIEW ONLY

**Contract:** 1 - 2024

**Project Description:** Raglan Street Reconstruction

**BIDDER INFORMATION****CONTRACTOR'S**

**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**E-mail Address:** \_\_\_\_\_

**Signing Authority for Tenderer:** \_\_\_\_\_  
(Please Print)

**Position of Signing Authority:** \_\_\_\_\_

**Contractor's HST Number:** \_\_\_\_\_



TO: THE COUNCIL OF THE TOWN of INGERSOLL

RE: 1 - 2024

Project Description: Raglan Street Reconstruction

Mayor and Members of Council:

The Bidder has carefully examined the Provisions, Plans, Specifications and Conditions, referred to in the Schedule of Tender Items attached here as part of this Tender, and has carefully examined the site and location of the work to be done under this Contract. The Bidder also understands and accepts the said Provisions, Plans, Specifications and Conditions, and for the prices set forth in this Tender, hereby offers to: furnish all machinery, tools, apparatus and other means of construction; furnish all materials, except as otherwise specified in the Contract; and to complete the work in strict accordance with the Provisions, Plans, Specifications and Conditions referred to in the said Schedule.

The Bidder understands and accepts that the quantities shown are approximate only, and are subject to increase, decrease, or deletion entirely if found not to be required.

Attached to this Tender is an Agreement to Bond (Surety's Consent) from the Bonding Company, stating that the Bonding Company is willing and able to bond with the Bidder for the due completion of the work described in this contract. Also attached to this Tender is a Bid Bond or Certified Cheque for the sum of **10% of the Tendered Bid Amount** made payable to **Town of Ingersoll** or a cash deposit. This bond or cheque shall constitute a deposit which shall be forfeited to the Town if the successful Bidder fails to file with the Town a 100% Performance Bond and a 100% Labour and Material Payment Bond in a form satisfactory to the Town within ten (10) working days from the date of Notice of Acceptance of the Tender.

Notification of Acceptance may be given and delivery of the Form of Agreement may be by prepaid post, addressed to the Bidder at the address contained in this Tender.

**THE TOTAL AMOUNT OF TENDER \$** \_\_\_\_\_

The aforesaid sum is made as follows: The prices quoted herein shall include compensation for the supply and installation of all works as mentioned in paragraph 1) Scope of Work, in Section A – Information for Bidders and as directed and shown on the contract drawings.

The prices shall also include all procedures, materials, equipment, labour, etc. and all protection, support, clearing, excavation, backfilling, compacting, and the supply and erection of forms, barricades and protection of new construction and existing structures, all as specified and shown on the Contract Drawings and/or as directed by the Town Engineer.

Item No.	Description	Unit	Est. Qty.	Unit Price	Total
<b>PART "A"- GENERAL</b>					
A101	Construction Layout	l.s.	1	_____	_____
A102	Supply and Place Calcium Chloride	tonne	6	_____	_____
A103	Street Sweeping	each	15	_____	_____
A104	Bonding	l.s.	1	_____	_____
A105	Insurance	l.s.	1	_____	_____
A106	Supply and Place all Temporary Work Zone Signage and Channelization Devices (including Detour)	l.s.	1	_____	_____
<b>TOTAL PART "A" - GENERAL</b>					_____

Item No.	Description	Unit	Est. Qty.	Unit Price	Total
<b>PART "B"- SANITARY SEWERS</b>					
B101	Supply and Place a Temporary Sewage Passage System	l.s.	1	_____	_____
B102	Supply and Place Granular 'B' Trench Backfill	tonne	5000	_____	_____
B103	Supply and Place 200mm dia. PVC Sanitary Sewer – 1201 to 1202	l.m.	55.4	_____	_____
B104	Supply and Place 200mm dia. PVC Sanitary Sewer – 1202 to 1203	l.m.	95.6	_____	_____
B105	Supply and Place 200mm dia. PVC Sanitary Sewer – 1203 to 1204	l.m.	81.3	_____	_____
B106	Supply and Place 200mm dia. PVC Sanitary Sewer – 1204 to Ex. SAN MH	l.m.	13.0	_____	_____
B107	Supply and Place 1200mm dia. Sanitary Maintenance Hole(s) c/w New Frame and Lid Series 1200 (4 Total)	v.m.	9.3	_____	_____
B108	Supply and Place 100mm dia. PVC Sanitary Laterals c/w Cleanout – Quantity (20)	l.m.	200	_____	_____

Item No.	Description	Unit	Est. Qty.	Unit Price	Total
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**PART "B" - SANITARY SEWERS (cont'd)**

B109	Remove Sanitary Maintenance Holes – Series 100	each	3		
B110	Utility Pole Support	each	1		

**TOTAL PART "B" - SANITARY SEWERS**

Item No.	Description	Unit	Est. Qty.	Unit Price	Total
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**PART "C" - WATERWORKS**

C101	Supply and Place 50mm dia. Temporary Watermain	l.m.	450		
C102	Supply and Place Granular 'B' Trench Backfill	tonne	1900		
C103	Supply and Place 150mm dia. DR18 Watermain (or Approved Equivalent)	l.m.	280		
C104	Supply and Place 150mm dia. Watervalue Series WV	each	1		
C105	Supply and Place 25mm dia. PEX Waterservice – Open Cut (Approx. 175 l.m.)	each	20		
C106	Supply and Place Fire Hydrant Set Series FH	each	3		
C107	Tie into Existing 150mm PVC Watermain	each	2		
C108	Adjust Existing Watervalue	each	1		
C109	Remove Watervalue Series 500	each	1		
C110	Remove Fire Hydrant Set – Series FD	each	2		
C111	Cut and Cap Existing Watermain c/w Blow-off	each	2		
C112	Watermain Testing and Commissioning	each	2		

**TOTAL PART "C" - WATERWORKS**

Item No.	Description	Unit	Est. Qty.	Unit Price	Total
<b>PART "D" - STORM SEWERS</b>					
D101	Supply and Place Granular 'B' Trench Backfill	tonne	2900		
D102	Supply and Place 1200mm dia. Storm Maintenance Hole c/w New Frame and Lid Series 2200	v.m.	7.8		
D103	Supply and Place 300mm dia. PVC Storm Sewer – 2201 to 2202	l.m.	93.2		
D104	Supply and Place 300mm dia. PVC Storm Sewer – 2202 to 2203	l.m.	60.7		
D105	Supply and Place 300mm dia. PVC Storm Sewer – 2203 to 2204	l.m.	79.1		
D106	Supply and Place 300mm dia. PVC Storm Sewer – 2204 to Ex. STM MH	l.m.	19.1		
D107	Supply and Place Precast Catch Basin c/w OPSD 400.110 Frame and Grate (1.68m Height) – Series 600	each	8		
D108	Supply and Place Twin Inlet Catch Basin c/w OPSD 400.110 Frame and Grate (1.68m Height) – Series 700	each	2		
D109	Supply and Place 250mm Catch Basin Leads	l.m.	31.2		
D110	Supply and Place 300mm Catch Basin Lead	l.m.	13.3		
D111	Supply and Place Gutter Drains at Catch Basins	each	12		
D112	Remove Storm Maintenance Hole – Series 200	each	4		
D113	Remove Precast Catch Basin – Series 300	each	6		
D114	Remove Twin Inlet Catch Basin – Series 400	each	2		
D115	Connect to Ex. Private Catch Basin Lead	each	1		
<b>TOTAL PART "D" - STORM SEWERS</b>					

Item No.	Description	Unit	Est. Qty.	Unit Price	Total
<b>PART "E" - ROADWORK</b>					
E101	Excavation	c.m.	1975		
E102	Supply and Place Granular 'A'	tonne	1000		
E103	Supply and Place Road Granular 'B'	tonne	2650		
E104	Supply and Place HL8 Binder Coat Asphalt (Min. 60mm Thick)	tonne	440		
E105	Supply and Place HL3 Driveways and Ramping - Hand Laid (Min. 50mm Thick)	tonne	80		
E106	Supply and Place Concrete Curb and Gutter as per OPSD 600.040	l.m.	570		
E107	Supply and Place Public Concrete Sidewalk	s.m.	525		
E108	Supply and Place Concrete Driveway	s.m.	85		
E109	Supply and Place Concrete Driveway with Stamped Border	s.m.	40		
E110	Supply and Place Pedestrian Detectable Warning Plates (Set)	each	4		
E111	Cold Mill Planning at Intersection(s) (Minimum 50mm depth)	s.m.	40		
E112	Adjust Existing Watervale Jacket(s) (Series 7000)	each	1		
E113	Supply and Place 125mm Topsoil and Sod as per OPSS.MUNI 802 and 803	s.m.	1350		
E114	Remove Concrete Driveway	s.m.	125		
E115	Remove Concrete Curb and/or Curb and Gutter (Public and Private)	l.m.	570		
E116	Remove and Reset Existing Wood/RR Tie Curbing	l.m.	4		
E117	Remove and Reset Precast Stone Wall	s.m.	10		
E118	Remove and Replant Existing Private Garden(s)	s.m.	20		
E119	Tree Trimming	each	5		
E120	Clearing and Grubbing	l.s.	1		
E121	Remove and Relocate Street and/or Regulatory Signs	each	6		
<b>TOTAL PART "E" - ROADWORK</b>					

Item No.	Description	Unit	Est. Qty.	Unit Price	Total
<b>PART "F" - INSPECTION</b>					
F101	Residential Inspection	each	20	_____	_____
<b>TOTAL PART "F" – INSPECTION</b>					
<b>TOTAL PART "A" - GENERAL</b>					
<b>TOTAL PART "B" - SANITARY SEWERS</b>					
<b>TOTAL PART "C" - WATERWORKS</b>					
<b>TOTAL PART "D" - STORM SEWERS</b>					
<b>TOTAL PART "E" - ROADWORK</b>					
<b>TOTAL PART "F" - INSPECTION</b>					
<b>SUB TOTAL CONTRACT ITEMS</b>					
<b>APPLICABLE TAXES</b>					
<b>TOTAL VALUE of CONSTRUCTION</b>					

The Bidder agrees that, if this Tender is accepted by the Town and County,

- (1) the Bidder will carry out any additional or extra work (including the supplying of any additional materials or equipment pertaining thereto) or will delete any work as may be required by the Town Engineer in accordance with the Contract.
- (2) the carrying out of any work referred to in paragraph (1) above or the issuance by the Town Engineer 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 or impair any of the terms of the Contract or of any Contract Change Order previously issued by the Town Engineer or any of the rights of the Town, or of the Town Engineer under the Contract.
- (3) the Bidder will pay to the Town (in addition to amounts payable by the Town in respect of site supervision of the work) the sum specified in the Contract as liquidated damages of each calendar day that the work under the Contract, as expressly modified by all Contract Change Orders issued by the Town Engineer, remains uncompleted after the expiry of the Time of Completion specified in the Contract or the extended time for completion allowed in writing by the Town Engineer.

- (4) the prices applicable to work referred to in paragraph (1) above shall be determined as follows:
- (a) the Schedule of Items and Prices shall apply where applicable;
  - (b) if the Schedule of Items and Prices is inapplicable the Schedule of Additional Unit Prices set out below shall apply where applicable.

**SCHEDULE OF ADDITIONAL UNIT PRICES**

**All Equipment Prices are c/w Operator.**

**The Contractor may supply operated equipment rental rates or supply a list of your equipment rental rates. Where your list does not have items above the Schedule is to be completed.**

ITEM No.	DESCRIPTION	UNIT	UNIT PRICE
1)	Sawcut asphalt	l.m.	_____
2)	Sawcut concrete	l.m.	_____
3)	20 MPa (with air) concrete and placed where directed by the Town Engineer	c.m.	_____
4)	15 MPa concrete supplied and placed where directed by the Town Engineer	c.m.	_____
5)	Supply and place 20mm crushed stone (clear)	tonne	_____
6)	Supply and place 50 mm crushed stone (clear)	tonne	_____
7)	Supply and place pit run	tonne	_____
8)	Disposal of Contaminated Material(s) and Supply and Place Granular 'B' Trench Backfill	tonne	_____
9)	Supply and place "non-shrink" backfill	c.m.	_____
10)	Supply and place screened topsoil only	s.m.	_____
11)	Supply and Place Drain Connection		
	a) 150mm	l.m.	_____
	b) 200mm	l.m.	_____
	c) 250mm	l.m.	_____
12)	Place ductwork supplied by utility agencies	l.m.	_____
13)	Supply and Place ductwork	l.m.	_____
14)	Supply and Place "Grande" Retaining Wall	s.m.	_____
15)	Adjust Existing Utility Ductwork in Conflict with Construction	l.m.	_____



**SCHEDULE OF ADDITIONAL UNIT PRICES** (cont'd)

ITEM No.	DESCRIPTION	UNIT	UNIT PRICE
16)	Supply and Place 100mm dia. PVC Sanitary Lateral c/w Settlement Joint	l.m.	_____
17)	Adjust Existing Fire Hydrant		
	a) 150mm	each	_____
	b) 300mm	each	_____
18)	Supply and Place Deciduous Tree	each	_____
19)	Labour		
	1) Foreman	hour	_____
	2) Skilled	hour	_____
	3) Common	hour	_____
20)	Front-end Loader	hour	_____
21)	Tractor-backhoe	hour	_____
22)	Tractor-backhoe c/w Hoe Pac	hour	_____
23)	Crawler-mounted hydraulic backhoe _____ c.m.	hour	_____
24)	Crawler-mounted hydraulic backhoe _____ c.m.	hour	_____
25)	Tandem dump truck _____ G.V.W.	hour	_____
26)	Tri-axle dump truck _____ G.V.W.	hour	_____
27)	Dump trailer _____ G.V.W.	hour	_____
28)	Float with tractor 30,000 G.V.W.	hour	_____
29)	Float with tractor 45,000 G.V.W.	hour	_____
30)	Pick-up truck	hour	_____
31)	Plate tamper	hour	_____
32)	Vibratory drum packer (Bomag)	hour	_____
33)	Jumping Jack packer	hour	_____
34)	Grader	hour	_____
35)	Concrete Saw c/w Blades	hour	_____
36)	Self-propelled vibratory smooth-drum packer	hour	_____
37)	Self-propelled vibratory sheeps-foot packer	hour	_____
38)	Bulldozer (JD450C or equal), list your machine	hour	_____

**SCHEDULE OF ADDITIONAL UNIT PRICES** (cont'd)

ITEM No.	DESCRIPTION	UNIT	UNIT PRICE
39)	Skid Steer Loader – Rubber Tire or Tracked	hour	_____
40)	Hydro-Vac Excavation	hour	_____
41)	Water Truck and/or Tank	c.m.	_____
42)	Mini Excavator	hour	_____

- (5) The Bidder also agrees that this offer shall continue to remain open to acceptance for a period of sixty (60) days from the closing date of Tenders and that the Town and/or County may, without notice, accept this Tender whether any Tender has previously been accepted or not.
- (6) And the Bidder hereby agrees that, if this Tender is withdrawn before the Town and/or County shall have considered the Tenders and awarded the Contract, the amount of the deposit on this Tender shall be forfeited to the Town.
- (7) If this Tender is accepted, the undersigned Bidder agrees to furnish an approved surety for the proper fulfillment of the Contract as required under the terms of the General Conditions, and to execute the Agreement, in triplicate within ten (10) days after being notified to do so by the Town Engineer. In the event of default or failure to do so, the Town shall be at liberty to retain the money deposited to the use of the Town and to accept the next lowest or any tender, or to advertise for new tenders, or to carry out the work in any other way they may deem best.
- (8) The Bidder proposes \_\_\_\_\_

\_\_\_\_\_  
(Name of Bonding Company)

which is willing to become bound with the undersigned for the due performance and fulfillment of the Contract for which this is a Tender. As proof of willingness to bond, a certificate of *Agreement to Bond* issued by the Bonding Company is attached with this bid.

Bidder's Signature \_\_\_\_\_

Witness' Signature \_\_\_\_\_

Dated at \_\_\_\_\_

This \_\_\_\_\_ day of \_\_\_\_\_, 2024.

[illegible]

<u>Name</u>	<u>Appointment</u>	<u>Qualifications &amp; Experience</u>

Type	Make and/or Model, Year

STATEMENT "D"  
SOURCE OF MATERIAL

## Granular

## Asphalt

## Ready Mix

Sod

Topsoil

## Sewer Pipe

## Watermain Pipe

## Maintenance Holes

## Castings

STATEMENT "E"  
SUB-CONTRACTORS

[illegible]

## CONSTRUCTION SCHEDULE FOR CONTRACT 1 – 2024

Raglan Street Reconstruction									REMARKS
WATERWORKS									
SANITARY SEWER WORK									
STORM SEWER WORK									
CONCRETE WORK									
ASPHALT WORK									
TOPSOIL & SOD									
CLEANUP									

PLEASE FILL IN PROPOSED CONSTRUCTION SCHEDULE INCLUDING DATES.



**The Corporation of the Town of Ingersoll  
and  
The County of Oxford**

**Contract 1 – 2024**

**Raglan Street Reconstruction**

**AC INDEX ACKNOWLEDGEMENT FORM**

The Town of Ingersoll has set an AC Index price located in the Special Provisions under the Supply and Place of all asphalt mix items.

The Town of Ingersoll requires that all bidders acknowledge this AC Index price (for bidding purposes only), by certifying this attached document in the Form of Tender.

I/We hereby acknowledge and certify that all asphalt tender items have been bid using the Town of Ingersoll price index number set out for the above noted contract.

\_\_\_\_\_  
Signature of Bidder or Contractor

\_\_\_\_\_  
Office of Person

Dated: \_\_\_\_\_, 2024.

**1) GENERAL**

The Contractor shall provide all materials, equipment and labour necessary to complete the work in accordance with the terms of this Contract and the requirements of the Town Engineer there under; all fencing, lighting and watching; maintenance and protection of existing structures of all kinds; repairs to all damage done to structures; provision for all means of maintaining travel on streets, roads, walkways, and access to all premises; dust control; supplying and setting all pipes and appurtenances; backfilling and compacting all excavations; clearing away all rubbish and surplus material; and doing all other things necessary to build and put in complete working order the works of this Contract.

Work under this Contract will require the Contractor to supply all material and fencing, unless otherwise specified, equipment and labour necessary in the construction of new sanitary and storm sewer, watermain placement and road reconstruction as specified herein and shown on the Contract Drawings.

**2) DETOURS**

***Contractors are to place advance road closure notice signs one (1) week prior to commencement of construction. These signs are to be reviewed and approved by the Town Engineer before placement.***

All necessary detouring will be set up by, and maintained by, the Contractor. Detour signs, "Road Closed" signs, barricades, etc. at the limits of construction and/or the construction front in accordance with Book 7 (Temporary Conditions) of the Ontario Traffic Manual, shall be erected, and maintained throughout the course of the work, all at the expense of the Contractor and to the satisfaction of the Town Engineer. It shall be the responsibility of the Contractor to supply the town with their "**Traffic Control Plan**", if awarded the contract.

Any other improper use of any of the above will result in an order from the Town Engineer to stop work. The use of Flags is PROHIBITED!

**3) PLANS AND SPECIFICATIONS**

The sewers, watermain, appurtenances and road is to be constructed in the locations, and of the materials and sizes, dimensions, grades, depths as called for in the Specifications and as shown on the Contract Drawings or as directed by the Town Engineer.

All Water and Sanitary Sewer Construction, Materials and Testing shall be as per County of Oxford Design Guidelines and Supplemental Specifications. These specifications and guidelines can be viewed at:

[www.oxfordcounty.ca/Services-for-You/Water-Wastewater/Design-guidelines](http://www.oxfordcounty.ca/Services-for-You/Water-Wastewater/Design-guidelines)

All Storm Sewer and Roadwork Construction, Materials and Testing shall be as per the Town of Ingersoll Design Guidelines and Specifications for Municipal Works.

<https://www.ingersoll.ca/download/engineering-design-guidelines-and-specifications>



The following are specifically referenced in these Special Provisions:

- General Conditions Pages GC-1 to GC-19
- Book – 7 (Temporary Conditions (Ontario Traffic Manual)
- Construction Safety Association of Ontario – Construction Traffic Controller's Handbook
- Town of Ingersoll – Health and Safety Policies and Procedure Documents are available upon request.
- Ontario Occupational Health and Safety Regulations.

Ontario Provincial Standard Specifications - Municipal and Ontario Provincial Standard Drawings, shall be used to govern this contract. If there is no municipal standard, the common standard shall be used. Specifications can be viewed at the following website:

<http://www.raqsa.mto.gov.on.ca/techpubs/ops.nsf/OPSHomepage>

Contract drawings forming a part of this contract are:

- Raglan Street – C-490, C-491, C-492, TYP-1

Geotechnical Reports are located in back of this contract book.

**4) PRECEDENCE OF SPECIFICATIONS**

If the Special Provisions differ or conflict in any way with any other specifications in the document, the Special Provisions shall take precedence. Any item not covered in the special conditions and/or listed specifications above shall be referred to Ontario Provincial Standards first for interpretation and if not available, the Town Engineer shall be the sole judge.

**5) SURVEY MARKERS**

The Contractor shall endeavor to protect and preserve all survey markers, both property limits and bench marks. Any legal markers that are removed or disturbed because of carelessness on the part of the Contractor shall be replaced by an Ontario Land Surveyor at the Contractor's expense in accordance with OPSS 491.

**6) TIMING AND SCHEDULING**

The awarding of this Contract shall be carried out continuously starting:

**May 27<sup>th</sup>, 2024**

To completion on or before:

**September 13<sup>th</sup>, 2024**

**7) DISPOSAL OF MATERIALS**

The Contractor shall dispose of unsuitable and excess materials of any nature at their own risk and expense. Should the Contractor find a suitable landfill site(s) closer to the work than the County of Oxford Landfill at Salford they may dispose of the materials at that site. However, prior to utilization of this site, the Contractor shall obtain from the landowner(s) of the site(s) a written agreement, as per OPSS 180.

The said agreement shall set out the locations for disposal, and the terms, conditions, and ultimate responsibility for the materials to be disposed of. This agreement shall be submitted to the municipality at least forty-eight (48) hours in advance of the use of the site.

Prior to the start of construction, the Town may hire an independent soil consultant to test the proposed areas of backfill for contamination.

Should these tests show that the material is deemed unsuitable for backfill due to contamination then the Town shall be responsible for the cost of the removal.

The Contractor shall deliver any concrete removed on this project to the stockpile at the Public Works Department yard at 80 Pemberton Street, unless otherwise directed. They will also be responsible for assuring that the stockpile is pushed off and maintained to the standards of the Public Works Manager.

**8) U.T.R.C.A. APPROVALS**

The Contractor is reminded that under Ontario Regulation 180/80, "Fill, Construction and Alteration to Waterways Regulation" the Upper Thames River Conservation Authority (U.T.R.C.A.) oversees filling in flood plain, wetland and along steep slopes. As much of the land in Ingersoll is within flood plain control, the Contractor must obtain approval of the disposal site from the U.T.R.C.A. prior to disposing of excess material in flood plain areas.

**9) ORDER OF WORK**

The Town/County does require the successful Contractor to follow certain guidelines in the completion of the works. The Contractor shall schedule their operations to meet the following objectives:

- 1) adhere to the schedule attached on page B-13 and remain on site until completion of contract.
- 2) cause the least possible disruption and inconvenience to vehicular traffic, pedestrian traffic and adjacent residences and/or businesses.
- 3) allow adequate time and working room for Utility Companies and/or Town forces to complete their required work.
- 4) co-operate with and co-ordinate their activities to facilitate adjacent Contractors, if applicable.
- 5) co-operate with and co-ordinate their activities to facilitate ongoing water tower operations, as completed by Oxford County's Contractor.

**10) COMPACTION TESTS**

At any time during the performance of this contract the Town Engineer may order compaction tests to be carried out. If the test results indicate that the compaction meets the requirements outlined in the standard specifications for trench backfill, grading, granular base course and placing of asphalt the Owner shall bear the cost of the tests.

If the test results indicate that the compaction does not meet the requirements outlined in the standard specifications for placement of material, the Contractor shall re-compact the deficient courses, and have the area re-tested for compaction, (until compaction complies with the specification).

***The costs of the second test, and any subsequent tests, shall be borne by the Contractor.***

All compaction tests shall be carried out by an independent soil consultant, using acceptable testing methods.

**11) PROTECTION OF THE GENERAL PUBLIC**

The Contractor shall take all necessary precautions to protect the general public, as well as those engaged in the work, from injury during construction operations. Such precautions shall include the erection of fences, barricades, lights, warning signs and the employment of necessary watch persons, flag persons, etc., which shall be subject to the approval of the Town Engineer.

The cost of all necessary precautions to protect the general public and personnel on the site shall be included in the price schedule for the various forms in the Tender.

**12) RIGHT OF ACCESS OF ADJACENT PROPERTY OWNERS**

Where the construction will cross entrances that provide access to adjacent properties, it will be the Contractor's responsibility to give each owner or tenant reasonable notice of the time of construction and methods to be used across each entrance. If, in the opinion of the Town Engineer, the Contractor has not restored normal access within a reasonable time, the Town Engineer may order the Contractor to provide alternative means of access and the Contractor shall forthwith provide such access at their own expense.

**13) MAINTENANCE OF TRAFFIC**

The Contractor shall make every effort to provide adequate access to the residences, schools and businesses in the area, and also to provide local traffic and emergency vehicles with that access.

The Contractor shall avoid the blocking of vehicular and pedestrian traffic for a longer period than is necessary for the proper construction of the work. Access must be provided as soon as possible to owners residing on the street on which the work is being done. The maintenance of traffic and the protection thereof shall constitute part of the cost of this construction and shall be the entire responsibility of the Contractor during the work.

The Contractor shall provide, at their expense, trained flag persons for the direction of traffic. The flag persons shall be on duty continuously when construction is being carried out adjacent to the traffic, unless directed otherwise by the Town Engineer. Where necessary, or when directed by the Town Engineer, or as shown on the Drawings, the Contractor shall provide an adequate detour lane within the road allowance, and shall strengthen, repair, and maintain such a detour lane, to accommodate traffic as specified above.

The Contractor shall ensure that flag persons are properly trained, wear proper safety vests, arm bands and hard hats. The Contractor shall maintain traffic signs in their original position where practical and ensure that the signs are not obscured.

The Contractor shall maintain vehicular and pedestrian access to adjacent private property at all times unless authorized in writing by the Town Engineer.

**14) WORKING AREA**

The Contractor shall confine his operations to the construction allowances as laid out by the Town Engineer. The Contractor shall use particular care and caution during construction within this right-of-way, to avoid damage to lands outside of the construction allowance and street right-of-way, both during and following construction. All damage to such lands shall be rectified at the Contractor's expense to a condition as good as or better than that existing prior to the construction.

Before entering on any private property with personnel, equipment or materials, the Contractor shall obtain the written permission of the owner.

**15) GARBAGE COLLECTION**

It shall be the Contractor's responsibility to work in conjunction with the County of Oxford's garbage collection contractor to ensure that all garbage and blue boxes from the residences affected are removed on their collection day. The Contractor shall pick up all the garbage and blue boxes and deposit it at a location which is convenient for the **County's garbage collection contractor** or into the collection vehicle if necessary.

The Town shall co-ordinate with the Waste Collection Contractor's the location of the pickup. This shall be carried out by 7:00 a.m. on the day of collection.

**Collection Day is every MONDAY**

The Contractor shall be responsible for returning waste containers and blue boxes to the appropriate residence at no additional cost to the Town.

**16) DUST CONTROL**

The Contractor shall be responsible for dust control on all streets within the contract and all access streets to the construction area, once construction has commenced. Dust control shall be to the satisfaction of the Town Engineer and shall commence when the Contractor starts work and shall continue until all work is completed, the final inspection made, and the work approved for use.

**17) CLEANLINESS OF WORK**

The Contractor shall keep all their work and the areas occupied by them in a neat, clean and orderly condition at all times.

Scrap metal, waste materials, debris, etc. must be removed by the end of each week.

**18) WATER, SNOW AND ICE**

The Contractor shall assume full responsibility for all damage done to the works through the influence of water, snow and ice. They shall immediately make good any damage so caused without extra cost to the Town or County.

The cost of all such special precautions during freezing weather shall be borne by the Contractor.

**19) CONDITION OF STREETS, SIDEWALKS AND BRIDGES**

The Contractor shall be responsible for removing all materials, earth or debris which falls out of dump trucks or from the wheels of their own vehicles, their subcontractor's vehicles, and suppliers' vehicles onto Town streets, sidewalks and bridges used as a route between the site and source of material and/or the dump site(s).

The contractor shall employ a street sweeper or equivalent machinery to keep such streets, sidewalks, and bridges in a clean condition, free from materials, earth or debris. **See item A103.**

Should lack of prompt and/or adequate cleanup by the Contractor make it necessary for the Town's Public Works Department to clean dust or other construction debris from roadways used by the Contractor, the Contractor shall be responsible for the expenses incurred plus all Administration costs by the Town.

The Contractor shall be notified by the Town of such charges taking place as soon as possible after the cleanup is completed.

**20) CO-ORDINATION MEETINGS**

The Contractor shall attend such meetings with Municipal and Utility Company authorities as may be required by the Town Engineer to co-ordinate services affected by the Contract.

**21) PERMISSION OF COUNTY OF OXFORD – WATER AND WASTE WATER DEPARTMENT**

The Contractor must obtain a key fob and set-up a prepaid account in order to obtain bulk water. The bulk water station in Ingersoll is located at: Canterbury Street Water Treatment Facility – 280 Harris Street.

The Contractor must contact the County of Oxford and have the proper County staff on site for shutting or opening any watervalue or hydrant. This clause applies to subcontractors and suppliers as well.

**22) SIGNS**

The Contractor is responsible for the preservation and safeguarding of all street signs, traffic control signs and other Town/County or Ministry of Transportation markers within the Contract Limits.

Should lack of adequate protection or safeguarding by the Contractor make it necessary for the Town's Public Works Department to replace or repair any signage damaged by the Contractor, the Contractor shall be responsible for the expenses incurred plus all Administration costs by the Town. The Contractor shall be notified by the Town of such charges taking place as soon as possible.

**23) ROAD AND FAIR WAGE SCHEDULE**

Contractors must abide by the Employment Standards – Payment of Wages in accordance with the Ontario Ministry of Labour guidelines.

**24) REFUELING AREAS**

The Contractor shall undertake a detailed review of their proposed route of construction to plan access routes and refueling areas. Refueling and maintenance of equipment shall not be undertaken in or adjacent to a watercourse or protected lands. Suitable fuelling and maintenance areas shall be established away from the waterway or designated land and all maintenance and fuelling conducted in these areas. The location of such areas is subject to review by the Town Engineer. Procedures for the interception and rapid cleanup and disposal of spillages that do occur shall be submitted to the Town Engineer for review prior to start of work. All materials required for cleanup of fuel spillages shall be maintained readily accessible on site.

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

Any spills apt to cause impairment to the natural environment must be immediately reported by the Contractor to the Town Engineer and to the Ministry.

**25) TENDER ITEMS – GENERAL**

The unit prices quoted for each item shall be compensation in full for supplying all labour, equipment, and materials required to complete the work, and under the conditions listed on the following pages.

When performing each Tender Item, the Contractor shall take care to eliminate damage to existing and adjacent buildings, structures, pavements, utility appurtenances, vegetation, etc. The cost of repairing the careless damage shall be the Contractor's responsibility and shall be included in the quoted unit prices.

The Town Engineer shall be the sole judge in these matters.



The Contractor is also reminded that some utility poles adjacent to the installation of new sewer and water may require support during trench excavation. It will be the Contractor's responsibility to arrange with **ERTH Corp/J- MAR** for support of poles at least two (2) days prior to the actual excavation of the utilities adjacent to the said poles. The cost of any materials, equipment, labour, etc. required by **ERTH Corp/J- MAR** to support the said poles shall be included in the quoted unit price for Utility Pole Support.

The unit prices quoted for the supply and placement of new sanitary and storm maintenance holes frame and lids shall be compensation in full for the supply and placement of a minimum of 150 mm of maintenance hole adjustment units, supply and placement of steps or rungs as required, and supply and placement of frames and covers. During the installation, the contractor must use a jumping jack packer to compact the granular "A" around them in maximum lifts of 150 mm thickness. Should compaction not be performed as specified, the quoted unit prices for these Tender Items may be reduced accordingly.

The unit prices quoted for the placement of new watermain, watervalves, fire hydrants, and curb stops shall be compensation in full for the bedding, installation, tracer wire, anodes, making good the pipe connections, and adjustment to finished grade. The Contractor is advised that all valves, bends, etc. shall be supported by the use of grip rings.

**All mechanical joints including bolts, nuts & grip rings shall have Denso Paste and Tape or equivalent corrosion protection placed at time of installation.**

During the installation of all new watervalves and curb stops, the contractor must use a jumping jack packer to compact the Granular 'A' around them in maximum lifts of 150 mm thickness, or a "HoePac" with maximum lifts of 300 mm thickness. Should compaction not be performed as specified, the quoted unit prices for these Tender Items may be reduced accordingly.

Upon completion of the installation of the sanitary and storm sewers, the contractor shall inspect the sewers by drawing a mandrel or pig (size as specified in the manufacturer's specifications) through the pipe. The mandrel is only necessary if the sewer pipe material is PVC (any type) or Polyethylene. Should inspection with a mandrel be necessary, then the mandrel shall be drawn through the pipe, followed immediately by the video camera. The inspection(s) shall be performed in the presence of a Town representative and shall be completely logged.

Copies of the video inspection, the mandrel's log and the inspection log shall be filed with the Town and County for their records. At or near the end of the **twenty four (24)** month warranty period the Contractor will then have the sewers videoed and re-inspected and a mandrel will again be drawn through the sewers to see if there are any problems. The cost of both the video inspections and loggings shall be that of the Contractor. Should the second inspection show problem areas, then the Contractor shall be responsible for the repairs to the sewer(s) and shall also bear all costs related to the rectify the issue.



OPSS Granular 'B' material as trench backfill shall be used for all sewer and watermain trenches. Granular 'B' backfill is to be used unless the native material is determined to be suitable by the Town Engineer.

**Notwithstanding OPSS.MUNI 1010 the Town requires that Granular "B" backfill shall have a maximum size of 100mm.**

The Granular and/or Native backfill is to be placed in 150mm thick lifts and compacted to a minimum of 95% of the material's SPMDD.

Granular "A" and "B" shall be in accordance with OPSS.MUNI 1010; however, notwithstanding the requirements of OPSS.MUNI 1010 the contractor shall supply a laboratory sieve analysis of the aggregates proposed for use on the project and shall be submitted within five (5) days of signing of the Contract. No granular materials shall be placed until such time as the analysis has been delivered to the Town Engineer. Should placement take place prior to the reports being supplied, there will be no payment for the quantity placed. Samples for analysis shall be taken in the presence of a Town representative.

If the initial reports do not meet the requirements of OPSS.MUNI 1010, new sources or methods of production must be found to produce the required quality and gradation. No work shall take place until such time as all granular materials have been approved.

The provisions of OPSS.MUNI 102.07.03 regarding daily truck tares must be observed. Notwithstanding the requirements of OPSS.MUNI 102, the Contractor shall ensure that each truck tare is submitted prior to morning and afternoon loading. This procedure shall be followed every day before material of any type is placed. The Town shall be supplied with a record of each day's tare.

Notwithstanding the requirements of OPSS.MUNI 102, the Town may provide a weigh person who shall either monitor the weighing of each load of material and initial the weigh ticket or weigh each load themselves.

The Town of Ingersoll will allow for the placement of asphalt pavement prior to any adjustments, with the understanding that the Contractor must saw cut and/or mill said pavement for any adjustments.

***Catchbasins and Maintenance holes are to be pumped and cleaned of excess concrete, asphalt and/or debris prior to final acceptance. The cost of cleaning shall be borne by the Contractor and included in the unit price.***

**26) TENDER ITEMS – SPECIFIC**

The following provisions refer specifically to items contained in this tender document:

**Item A101 - Construction Layout**

Reference: No reference specifications for this item.

Description:

This item sets out the requirements for the Contractor to supply and undertake all facets of the construction layout from underground work, surface work and road reinstatement.

The Contractor shall use qualified personnel to do the layout work. They shall be thoroughly experienced in surveying and have extensive previous experience in construction layout.

The Town of Ingersoll shall provide background information, including without limitation, baseline, and benchmark information, to facilitate the general location, alignment, elevation, and layout of the work in both digital and hardcopy format.

The Contractor will be responsible for the true and proper setting out of the work and for the correctness of the position, levels, dimensions, and alignment of all parts of the work, and for the provision of all necessary instruments and labour for the construction layout.

If, at any time during the progress of the work, any error shall appear or arise in the positions, levels, dimensions, or alignment of any part of the work, the Contractor shall, at his own expense, rectify such error to the satisfaction of the Town, unless such error is based on incorrect data supplied in writing by the Town.

The checking of the setting out of any line or level by the Town shall not in any way relieve the Contractor of his responsibility for the correctness of the work.

The Contractor shall supply the Town with a copy of all necessary information to enable them to use the Contractor's field layout. All information, both on work sheets and stakes, shall be neat and legible.

Measurement/Payment:

Payment for this item shall be full compensation for all labour, equipment, and materials necessary to complete all facets of construction work.

Payment shall Lump Sum and be made on each payment certificate based on the Town's estimate of the amount of layout that has been completed.

The layout required due to alterations in contract items shall be considered incidental to the work of the item, therefore no change will be made to the Lump Sum bid for this item.

**Item A102 - Supply and Place Calcium Chloride (Solid)**

Reference: OPSS.MUNI 506 and 2501

Description:

Under this item, the Contractor is directed to supply and place a solid calcium chloride product, as required per OPSS and as directed by the Town Engineer.

Measurement/Payment:

Payment for this item shall be by the Tonne.

**Item A103 – Street Sweeping**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor shall arrange to have the surrounding streets affected by construction traffic swept of debris.

Sweeping will occur once (1) a week during trenching operations, every Friday after work is completed, or as directed by the Engineer.

Should work within the construction limits continue once pavement is placed, the once a week item shall continue, unless otherwise directed by the Engineer.

Measurement/Payment:

Measurement for payment shall be per Each occurrence to the job site. Payment at the tendered unit price shall be compensation in full for all related work.

**Item A104 - Bonding**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to provide bonding for the project as specified under the Information for Bidders.

Measurement/Payment:

Full payment at the Lump Sum quoted unit price for this item shall be made under the first progress payment.

**Item A105 - Insurance**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to provide insurance for the project as specified under the Information for Bidders.

The additional insured parties are to be identified in the Information for Bidders.

Measurement/Payment:

Full payment at the Lump Sum quoted unit price for this item shall be made under the first progress payment.

**Item A106 - Supply and Place All Temporary Traffic Control and Detours**

Reference: OPSS.MUNI 706

Description:

Under this item, the Contractor is directed to supply, locate all required detour(s), other traffic control adjacent to and on the job site, as per OPSS and outlined in Section 2 of Special Provision. The number and location of the signs must conform to the Contractor's traffic control plan.

**Also Included in the item price, the Contractor will be responsible to erect and maintain two (2) project sign boards for the duration of the project or as directed by the Town Engineer. These sign boards are to be a minimum of 1.2m x 1.2m.**

**Sign boards are to be placed one (1) week prior to beginning of construction.** The sign board is to display the contractor's company name, project location and limits of construction, and dates of construction posted in hi-intensity tape or paint.

The contractor shall be responsible for supplying the Town with a copy of their traffic control plan. No work shall begin until the Traffic Control Plan has been reviewed and approved by the Town Engineer and any detours that are required are in place.

Traffic Control Devices and detours must be maintained throughout the duration of the construction. This will include proper heights and visibility (cleanliness). Should the Town Engineer see fit to request new, more or replacement of signs, the Contractor must stop work until these are in place.

The Town will not be responsible for the supplying of any type of traffic control measure unless they determine it to be necessary.

Measurement/Payment:

Payment of this item shall be Lump Sum and proportionate to the length of the project.

**Item B101 - Supply and Place Temporary Sanitary Passage System**

Reference: OPSS.MUNI 517, OPSS.MUNI 518

Description:

Under this item, the contractor is directed to supply and place a temporary sanitary sewage passage system as to allow for the installation of new sanitary sewers and maintenance holes by open cut method.

Included in this price is the complete setup of all pumps, hoses and screens as per OPSS.MUNI specification as directed by the Town Engineer.

The inclusion of a second emergency pump should be included in the item price and be on site for the duration of the required work.

The required pumps should have a peak flow capacity of pumping 160 gallons per minute or 10 litres per second.

The Town and County must approve of the designed passage system before installation can begin.

Measurement/Payment:

Payment for this item shall include all labour, material and equipment to do the work and be paid in full on a Lump Sum basis.

**Items B102, C102, D101 - Supply and Place Granular B Trench Backfill**

Reference: OPSS.MUNI 401/1001/1010

Description:

Under these items, the Contractor is directed to supply, place and compact OPSS.MUNI Granular 'B' material in all trenches under the roadway and driveway surfaces, in the event that the native material proves to be unsuitable for use as trench backfill material.

Also included in the quoted unit price shall be the cost of the excavation, transportation and disposal of the material away from the construction site.

Backfilling and compaction of the Granular 'B' shall be according to OPSS.MUNI 401.

The Granular 'B' backfill will be placed to the elevation specified by the Town.

Measurement/Payment:

The unit price for these items shall be paid by the Tonne, upon receipt of the weigh ticket by the Town.

**Items B102 to B106 - Supply and Place Polyvinyl Chloride (PVC) Sanitary Sewer – Open Cut**

Reference: OPSS.MUNI 401/404/410/517 and 1010, OPSD 802  
Oxford County Guidelines – Section 4

Description:

Under these items, the Contractor is directed to supply and place polyvinyl chloride (PVC) sanitary sewers by open cut method at the depths, locations and grades shown on the Contract Drawings and at the unit price(s) quoted, all in conformance with OPSS.MUNI 410.

Also included in the unit price shall be all bedding as specified by the County of Oxford guidelines. Uniformly graded clear stone (25mm+/-) bedding will be accepted from bottom of trench to spring line of pipe and shall be included in the unit price.

The Contractor is also directed to ensure the opening in the existing sanitary maintenance hole 1205 is cleaned and free from debris prior to the installation of the new PVC sanitary pipe.

Pipe material must be pre-approved by the County of Oxford.

Measurement/Payment:

Payment for these items shall be per Lineal Metre of sewer placed.

**Item B107 - Supply and Place Precast Sanitary Maintenance Hole**

Reference: OPSS 407, OPSD 701/704.01, OPSD 401.010 Type 'A'

Description:

Under this item, the Contractor is directed to supply and place pre-cast concrete sanitary maintenance holes at the depths, locations and grades shown on the contract drawings and the unit price(s) quoted, all in conformance with OPSS 407.

The maintenance hole will be supplied with either flat or conical top sections depending on depth. A minimum of 150mm of adjustment units is required. It shall be the responsibility of the contractor to make allowances for the proper amount of adjustment units. The adjustments shall be in accordance with OPSD 704.01 and be affected by the use of precast concrete adjustment units.

The precast maintenance holes are to be 1200mm diameter. All sanitary maintenance holes shall be the pre-benched, so as to speed construction. Maintenance hole frame and cover shall conform to OPSD 401.010 Type "A".

Measurement/Payment:

Payment for sanitary maintenance holes shall be the vertical measurement from the lowest invert to the finished top of casting.

**Item B108 - Supply and Place 100mm dia. PVC Sanitary Laterals c/w Lateral Cleanout**

Reference: OPSS.MUNI 410, OPSD 1006.010  
Oxford County Guidelines – Section 4 - Part 4.2

Description:

Under this item, the Contractor is directed to supply and place polyvinyl chloride (PVC) sanitary service at the depths, locations and grades shown on the Contract Drawings and at the unit price(s) quoted, all in conformance with OPSS.MUNI 410.

The sanitary laterals shall be installed using factory manufactured tee as per Oxford Design Guidelines - Section 4 – Part 1.11.2.

Pipe material shall be SDR-28 for laterals, **which are to be green in colour**. The manufacturer shall be pre-approved by the County of Oxford.

Pipe diameter shall be identified in the Form of Tender.

Included in the unit price shall be the cost of all tees, bends and/or adaptors required to complete a proper connection from the mainline to the private connection, approximately 1 lineal metre behind the road limit.

The cleanout assembly shall also include a manufactured wye, PVC pipe and screw on cap, and surface box. See D 1863-1-2023.

Should a proper connection not be obtained within the 1 lineal meter and additional excavation is required, the work shall continue to be paid under this item price.

Also included in the unit price shall be all bedding as specified by the County of Oxford guidelines and/or specified in the geotechnical report.

Measurement/Payment:

Payment for this item shall be per Lineal Metre of sewer placed including the cleanout installation.

**Item B109 - Remove Existing Poured in Place or Precast Sanitary Maintenance Hole(s)**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to remove and dispose of an existing sanitary maintenance hole shown as Series 100.

The maintenance hole shall be demolished and delivered to the Public Works yard on Pemberton Street, as well as any frames and covers and the cost for this shall also be included in the quoted unit price(s).

The costs of blocking up all inlet and outlet pipes after removals of the maintenance holes shall also be included in the quoted unit price(s), if required.

Measurement/Payment:

Payment for this item shall be per Each maintenance hole removed and disposed of.

**Item B110 - Utility Pole Support**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is required to hold either a hydro or utility pole adjacent to the installation of watermain or water service(s) during trench excavation.

It shall be the Contractor's responsibility to arrange with **ERTH Corp/J-MAR** for support of the pole at least two (2) days prior to the actual excavation of said pole.

The cost of any materials, equipment, labour, etc. required by **ERTH Corp/J-MAR** to support the said pole shall be included in the quoted unit price for pole support.

Should **ERTH Corp/J-MAR** choose to leave a pole supported more than the allowable time and/or over the duration of an evening, the Town and/or County will not be charged any additional amount for said time.

Measurement/Payment:

Payment for this item shall be per Each pole held.

**Item C101 – Supply and Place 50mm dia. Temporary Watermain**

Reference: OPSS.MUNI 493

Oxford County Guidelines – Section 3 – Part 1.11

Description:

Under this item, the Contractor is directed to supply and place 50mm PVC temporary watermain to supply residents on both sides of the street during construction.

The main and all of its components are to be supplied and placed by the contractor, including placing temporary connections.

The contractor shall have the option to direct bury temporary connections or make good exterior connections directly to an outside hose bib or equivalent, to supply the residences during construction. Should an outside connection be placed, then the contractor is responsible for placing a wye valve at the bib, so that the residents will have outside access to water.



The temporary main is to have certified backflow preventers. This is to be done by an outside testing source and the results are to be turned into the County and the Town before any water is transferred from the existing main.

Should temporary main be placed on both sides of the road, then each side of the road is to have its own shut-off valve in order to isolate any problems that may occur.

The blow-off is to be a minimum of 50mm in diameter.

The temporary main is to be covered and protected where a crossing or driveway exists and/or where there is vehicular use. The use of jersey barriers or equivalent is required to protect any mainline connections and backflows.

**Included in this price shall be all testing as per the County of Oxford Guidelines and Specifications.**

Measurement/Payment:

Payment for this item shall include all labour, material, and equipment to do the work and shall be paid per Lineal metre.

**Item C103 – Supply and Place Polyvinyl Chloride (PVC) DR18 Watermain – Open Cut**

Reference: OPSS.MUNI 401/404/410/441/517 and 1010, OPSD 802  
Oxford County Guidelines – Section 3

Description:

Under this item, the Contractor is directed to supply and place polyvinyl chloride (PVC) DR18 watermain pipe by open cut method at the depths, locations and grades shown on the contract drawings and at the unit price(s) quoted, all in conformance with OPSS.MUNI 410.

Pipe material must be pre-approved by the County of Oxford.

All bends, tees, etc. shall be fastened by use of grip rings and/or approved equivalent.

The County of Oxford requires that all mechanical joints including bolts, nuts & grip rings have Denso Paste and Tape or equivalent corrosion protection placed at time of installation.

As per County of Oxford guidelines, blue tracer must installed and inspected as per 3.13.7 and included in the unit price.

Cathodic Protection will be required and must be installed as per the County of Oxford Guidelines and Specifications. Payment for Cathodic Protection must be included in the per lineal meter price.

The Town will perform the inspection of the installation of the main. The County of Oxford Water and Wastewater Department will be responsible for looking after the observation of pressure testing, and the testing of the water after chlorination has taken place.

The contractor will be responsible for the delivery of the water samples to the lab assigned by the County of Oxford.

All testing shall be to the County of Oxford Guidelines and Specifications prior to the transfer of the new main and in accordance with OPSS.MUNI 441.

In both cases **48 Hour Notice** must be given to allow for the proper personnel to be on site **for inspection. Test results must be presented to the Town of Ingersoll and the County of Oxford Water and Wastewater Department before any transfer of watermain can be started.**

Also included in the unit price shall be all bedding as specified by the County of Oxford guidelines and/or specified in the geotechnical report.

Measurement/Payment:

Payment for these items shall be per Lineal Metre of main placed.

**Item C104 - Supply and Place Watervalue**

Reference: D-1846-1-2009 (OXFORD)

Description:

The unit price quoted for this item shall be compensation in full for the supply and placement of a watervalue to the depth, location and grade shown on the contract drawings and at the unit price(s) quoted, all as set out by the Town Engineer.

The size of the valve shall be identified in the Form of Tender item.

The Town of Ingersoll and County of Oxford requires that all new valves are gate valve type, epoxy coated and open counterclockwise.

All valve jackets are to be screw on style and are to be included in the unit price.

The item shall be shown on the contract drawings as WV.

Measurement/Payment:

Payment for these items shall be per Each valve placed.

**Item C105 - Supply and Place PEX Waterservice - Open Cut**

Reference: OPSS.MUNI 401/404/410/441/517 and 1010, OPSD 802, D-1838-1-2007 and D-1839-1-2007 (OXFORD)

Description:

Under this item, the Contractor is directed to supply and place a PEX waterservice in open cut excavation, to the depths, locations and grades shown on the Contract Drawings and at the unit price quoted, all as set out by the Town Engineer and in accordance with the County of Oxford Guidelines and Specifications.

The pipe material and diameter shall be identified in the Form of Tender item.

Cross-linked polyethylene (PEX) service material may be used from minimum 25 mm diameter up to and including 50 mm diameter nominal size. Material shall be pressure rated to a minimum of 1103 kPa (160 psi). Pipe shall be manufactured using the high-pressure peroxide (Engel) method of cross linking in accordance with AWWA C 904, ASTM D3350 and a minimum degree of cross-linking of 80% in accordance with ASTM D 2765, Method B.

Pipe to have a co-extruded UV Shield made from UV resistant high-density polyethylene, colour blue.

Pipe to be certified to standards ASTM F 876, F 877, F 2023, CSA B137.5, NSF 14, and 61.

Pipe connecting to AWWA C 800 compression joint valves and fittings shall be installed using stainless steel support liners inside pipe at each joint according to manufacturer's specifications.

The Contractor shall be required to connect the service(s) as per Section 3 - Part 4 of the County of Oxford Guideline and Specification.

All main stop, curb stop, couplings, anodes and jackets will be supplied by the contractor.

Both main cock and curb stop shall have a thawing nut connection for tracer wire.

The County requires solid #12 AWG, 21% conductivity, high strength, copper clad hard drawn high carbon steel tracer wire, 30 mil. HDPE insulation jacket complying with ASTM-D-1248, minimum break load 452 lbs, 30-volt rating and blue in colour.

A solid concrete slab or block only, supplied and placed as part of the Contractor's quoted unit price, will be placed under each curb stop for support. **The County will not accept wood as a curb stop support.**

For Cathodic Protection of Waterservices, see Section 3 – Part 3.18 of the County of Oxford Guideline and Specification, and will be included in the unit price.

**Please note that the County of Oxford Water and Wastewater Department must be notified 48 Hrs prior to and on site during the installation of any water services. The contractor must also blow-off each service in the presence of a certified County inspector.**

Included in the unit price is the cost of all components to set or extend the water jacket to final grade.

Measurement/Payment:

Payment for this item shall be per Each waterservice placed and connected.

**Item C106 – Supply and Place Fire Hydrant Set**

Reference: OPSD 1005.010, D-1828-1-1993 (OXFORD)

Description:

The unit price quoted for this item shall be compensation for the supply and placement of a fire hydrant set, to the depth, location and grade as directed by the Town Engineer and in accordance with The County of Oxford Guidelines and Specifications.

The fire hydrant set shall consist of PVC pipe, restraints, tee, valve and jacket and the hydrant component.

The fire hydrant shall conform to the County of Oxford Guideline – Section 3 – Part 2.13 and be installed as per D-1828-1-1993.

All labour, equipment, clear stone, filter cloth, anodes and Denso materials required to complete the work shall be included in the price.

This item is show on the contract drawings as Series FH.

Measurement/Payment:

Payment for this item shall be per Each hydrant set.

**Item C107 – Tie into Existing 150mm PVC Watermain**

Reference: OPSS.MUNI 401/404/410/441/517/1010, OPSD 802

Description:

Under this item, the Contractor is directed to reconnect the existing PVC watermain pipe to the newly placed watermain.

The contractor must supply and place the same type of pipe material or approved equivalent to complete the connection.

All pipe material must be approved by the County of Oxford.

The following connections are pre-approved:

- Ductile Solid Sleeve c/w restraints or equivalent

The watermain size is specified in the Form of Tender.

Also included in the unit price shall be all bedding as specified by the County of Oxford guidelines and/or specified in the geotechnical report.

Measurement/Payment:

Payment shall be per Each pipe re-connection.

**Item C108 - Adjust Existing Watervale Jacket**

Reference: D-1846-1-2009 (OXFORD)

Description:

The unit price quoted for this item shall be compensation in full for the excavation and adjustment of an existing watervale jacket to finish grade as directed by the Town Engineer.

All components including extensions required to adjust the valve jacket to finish grade shall be included in the unit price.

All valve jackets and components are to be screw on style.

The adjustment item shall be shown on the contract drawings as Series 7000.

Measurement/Payment:

Payment for this item shall be per Each valve jacket adjusted.

**Item C109 – Remove Existing Watervale**

Reference: No reference specifications for this item.

Description:

The unit price quoted for this item shall be compensation in full for the excavation, removal and disposal of an existing watervale as shown on the contract drawings or as directed by the Town Engineer.

The removal item shall be shown on the contract drawings as Series 500.

Measurement/Payment:

Payment for this item shall be per Each valve removed.

**Item C110 – Remove Existing Fire Hydrant**

Reference: No reference specifications for this item.

Description:

The unit price quoted for this item shall be compensation in full for the excavation, removal and disposal of an existing fire hydrant as shown on the contract drawings or as directed by the Town Engineer.

The removal item shall be shown on the contract drawings as Series FD.

Included in the unit price for disposal, shall be the transportation of existing hydrant to the County of Oxford Shop on 59 George Johnson Boulevard for rehabilitation.

Measurement/Payment:

Payment for this item shall be per Each hydrant removed and transported.

**Item C111 – Cut and Cap Existing Watermain c/w Blow-off**

Reference: OPSD 1104.03

Description:

The unit price quoted for this item shall be compensation in full to excavate and expose the existing watermain, cut and cap and restrain such main until future watermain is to be connected.

The pipe size for the cap shall be identified in the Form of Tender.

Should a blow-off stack be identified in the Form of Tender, it shall be included in this unit price.

The blow-off stack is to be a 50mm blow-off which is to extend above finish grade to allow for flushing. The blow-off must be operable without the need of excavation.

Measurement/Payment:

Payment shall be per Each cut and cap completed.

**Item C112 – Watermain Testing and Commissioning**

Reference: OPSS 411

Oxford Guidelines – Section 3 – Part 6.7 (OXFORD)

Description:

Under this item, the contractor is to commission the newly installed watermain as per the County of Oxford Guidelines and under the supervision of the County of Oxford Water and Wastewater Department.

Contractors must provide in writing, a method of dewatering in order to protect the final connection from contamination of the new or existing watermain with foreign material or groundwater. Should contamination occur, the entire cost of disinfecting the mains will be at the contractor's expense.

All new piping and appurtenances placed in the connection of the new main and existing waterworks system must be disinfected with a 1-% solution of sodium hypochlorite or equivalent method.

When all the initial tests including the bacteriological samples are satisfactory, approval from the County of Oxford Water and Wastewater Department must be obtained prior to connecting the main to the existing water system.

Contractors shall give the County of Oxford Water and Wastewater Department a minimum of 48-hour notice prior to connecting.

A licensed operator from the County of Oxford Water and Wastewater Department must be present on site during the removal of the temporary connection and until the connection to the existing waterworks has been completed.

Measurement/Payment:

Payment for this item shall be paid for each commissioning.

**Item D102 - Supply and Place Precast Sanitary Maintenance Hole**

Reference: OPSS 407, OPSD 701/704.01, OPSD 401.010 Type 'A'

Description:

Under this item, the Contractor is directed to supply and place pre-cast concrete storm maintenance holes at the depths, locations and grades shown on the contract drawings and the unit price(s) quoted, all in conformance with OPSS 407.

The maintenance hole will be supplied with either flat or conical top sections depending on depth. A minimum of 150mm of adjustment units is required. It shall be the responsibility of the contractor to make allowances for the proper amount of adjustment units. The adjustments shall be in accordance with OPSD 704.01 and be affected using precast concrete adjustment units.

The precast maintenance holes are to be 1200mm diameter. All storm maintenance holes shall be pre-benched, so as to speed construction. Maintenance hole frame and cover shall conform to OPSD 401.010 Type "A".

Measurement/Payment:

Payment for storm maintenance holes shall be the vertical measurement from the lowest invert to the finished top of casting.

**Items D103 to D106 - Supply and Place Polyvinyl Chloride (PVC) Storm Sewer – Open Cut**

Reference: OPSS.MUNI 401/404/410/517 and 1010, OPSD 802  
Oxford County Guidelines – Section 5

Description:

Under these items, the Contractor is directed to supply and place polyvinyl chloride (PVC) storm sewers by open cut method at the depths, locations and grades shown on the Contract Drawings and at the unit price(s) quoted, all in conformance with OPSS.MUNI 410.



Also included in the unit price shall be all bedding as specified in the contract and/or geotechnical report.

The Contractor is also directed to ensure the opening in the existing storm maintenance hole 2205 is cleaned and free from debris prior to the installation of the new PVC storm pipe.

Pipe material must be pre-approved by the Town Engineer.

Measurement/Payment:

Payment for these items shall be per Lineal Metre of sewer placed.

**Item D107 - Supply and Place Precast Catchbasin c/w Frame and Grate**

Reference: OPSD 705.01, OPSD 704.01, OPSD 400.11

Description:

Under this item the Contractor is directed to supply and place a 600 x 600 precast catchbasin unit in accordance with OPSD 705.010, to the depths, locations and grades shown on the Contract Drawings (or as set out by the Town Engineer), at the unit price(s) quoted.

The basin height shall be identified in the Form of Tender item. The height shall mean the exterior height of the structure.

All basin unless otherwise specified shall have 0.6m of sump.

Frame and grate for all catch basins will conform to OPSD 400.110, and their costs will also be included in the quoted unit price(s) of the catchbasin.

These items are shown on the Contract Drawings as Series 600.

Measurement/Payment:

Payment for these items shall be per Each structure placed.

**Item D108 - Supply and Place Precast Twin Catchbasin c/w Frames and Grates**

Reference: OPSD 705.02, OPSD 704.01, OPSD 400.11

Description:

Under this item, the Contractor is directed to supply and place a 600 x 1450 precast twin catchbasin unit in accordance with OPSD 705.02, to the depths, locations and grades shown on the Contract Drawings (or as set out by the Town Engineer), at the unit price(s) quoted.

The basin height shall be identified in the Form of Tender item. The height shall mean the exterior height of the structure.



All basin unless otherwise specified shall have 0.6m of sump.

Frame and grate for all catch basins will conform to OPSD 400.110, and their costs will also be included in the quoted unit price(s) of the catchbasin.

Measurement/Payment:

Payment for this item shall be per Each structure placed.

**Items D109, D110, D115 - Supply and Place PVC Catchbasin Lead – Open Cut**

Reference: OPSS.MUNI 401/404/410/517 and 1010, OPSD 802

Description:

Under these items, the Contractor is directed to supply and place polyvinyl chloride (PVC) catchbasin leads by open cut method at the depths, locations and grades shown on the Contract Drawings and at the unit price(s) quoted, all in conformance with OPSS.MUNI 410.

The catchbasin lead size shall be identified within the Form of Tender.

Also included in the unit price shall be all bedding as specified in the contract and/or geotechnical report.

Pipe material must be pre-approved by the Town Engineer.

Measurement/Payment:

Payment for this item shall be per Lineal Metre of sewer placed.

**Item D111 - Supply and Place Gutter Drains**

Reference: Town – Typical Detail – S-31

Description:

Under this item, the Contractor is directed to supply and place 100mm dia. DR28 PVC gutter drains as shown on Typical Detail S-31 and at the unit price(s) quoted, including make good the pipe connections.

The drain shall be placed flush with the base course asphalt.

The gutter drains may be placed in two (2) sections, the first section being placed before the installation of curb and gutter, and the second section being placed after the placement of the curb and gutter and prior to the placing of the asphalt.

**Placement of the drainpipe within the adjustment units will not be accepted.**

Included in the unit price shall be all equipment, material and labour used to create the opening in the catchbasin for the pipe installation.

Measurement/Payment:

Payment for this item shall be per Each drain placed.

**Items D112 to D114 - Remove Existing Poured in Place or Precast Storm Maintenance Hole(s) or Catchbasin(s)**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to remove and dispose of the following existing structures:

- Storm maintenance hole(s) shown as Series 200
- Single inlet catchbasin shown as Series 300
- Twin inlet catchbasin shown as Series 400

The structures shall be demolished and delivered to the Public Works yard on Pemberton Street, as well as any frames and covers and the cost for this shall also be included in the quoted unit price(s).

The costs of blocking up all inlet and outlet pipes after removals of the maintenance holes shall also be included in the quoted unit price(s), if required.

Measurement/Payment:

Payment for this item shall be per Each structure removed and disposed of.

**Item E101 - Excavation**

Reference: OPSS.MUNI 206 and 402

Description:

The price shown for this item shall be compensation in full for excavation of all natures, compaction of subgrade, and disposal of surplus or unsuitable material.

For on-site and excess soil management, see General Conditions – Section 6.

**Asphalt road(s) and driveways** are included in the excavation item and shall be disposed of separate from the other excavated material.

All excavation shall be to the lines and grades established and set out by the Town's Engineering Department.

Where extra excavation is required by the Town Engineer, the quantity shall be adjusted to indicate the measured extra excavation. The extra excavation shall be measured during construction and shall be paid under the unit price for excavation.

Design sections may be seen at the Engineering Office, Town of Ingersoll. The allowable tolerance in subgrade elevation is plus or minus 25mm.

Measurement/Payment:

The unit price for this item shall be paid by the Cubic Metre. Measurement and Payment for excavation shall be based on design quantities.

**Item E102 - Supply and Place Granular A**

Reference: OPSS.MUNI 1001/1010

Description:

Under this item, the Contractor is directed to supply and place Granular 'A' material, including grading and compaction, to the depths, locations and grades shown on the contract drawings and at the unit prices quoted, all as set out by the Town Engineer.

The depth of the granular material is shown on Typical Sections.

Granular 'A' shall be applied in accordance with OPSS.MUNI 1010; however, notwithstanding the requirements of OPSS.MUNI 1010, the Contractor shall supply a laboratory sieve analysis of the aggregates proposed for use on the project.

No granular materials shall be placed until such time as the analysis has been delivered to the Town Engineer.

The analyses shall be submitted two (2) weeks prior to start of the project. Samples for analysis shall be taken in the presence of a Town representative. If the initial reports do not meet the requirements of OPSS.MUNI 1010, new sources or methods of production must be found to produce the required quality and gradation.

Measurement/Payment:

The unit price for this item shall be paid by the Tonne, upon receipt of the weigh ticket by the Town.

**Item E103 - Supply and Place Road Granular B**

Reference: OPSS.MUNI 1001/1010

Description:

Under this item, the Contractor is directed to supply and place Granular 'B' **Type II** material, including grading and compaction, to the depths, locations and grades shown on the contract drawings and at the unit prices quoted, all as set out by the Town Engineer.

The depth of the granular material is shown on Typical Sections.

Granular 'B' shall be applied in accordance with OPSS.MUNI 1010; however, notwithstanding the requirements of OPSS.MUNI 1010 the Contractor shall supply a laboratory sieve analysis of the aggregates proposed for use on the project.

No granular materials shall be placed until such time as the analysis has been delivered to the Town Engineer.

The analyses shall be submitted two (2) weeks prior to start of the project.

Samples for analysis shall be taken in the presence of a Town representative. If the initial reports do not meet the requirements of OPSS.MUNI 1010, new sources or methods or production must be found to produce the required quality and gradation.

Measurement/Payment:

The unit price for this item shall be paid by the Tonne, upon receipt of the weigh ticket by the Town.

**Item E104 - Supply and Place HL8 Binder Coat Asphalt**

Reference: OPSS.MUNI 310, 1101 and 1150

Description:

Under this item, the Contractor is directed to supply and place HL8 binder coat asphalt to the depths and locations specified and at the unit price(s) quoted, all as set out by the Town Engineer.

Asphalt shall conform to OPSS.MUNI 310/1101 and 1150 and all referenced specifications.

Should the Contractor choose to use recycled asphalt (**maximum 15%**) in their base coat design, the materials used in the production of the HMA shall be according to OPSS.MUNI 1150 for Marshall Mix.

Design proposals must include details of the composition of the asphaltic concrete mix and the penetration grade of the new asphalt cement.

The design mix and JMF are to be submitted to the Town Engineer for approval ten (10) business days prior to the start of paving operations.

Mix design shall not include any shingles as a modifier, as they do not conform to the physical quality of the aggregates.

No asphaltic materials shall be placed until such time as the design mix has been delivered to the Town Engineer. Should placement take place prior to the mixes being supplied, there will be no payment for the quantity placed.

The Contractor is advised that the Town of Ingersoll will adjust the payment made to the Contractor for Hot Mixed Asphalt in this contract based on the increase or decrease in the Liquid Asphalt Price Index as follows:

1. The price index will be based on the price, excluding taxes, FOB the depots in the Toronto area, of asphalt cement grade PG 58-28 or equivalent. One index will be used to establish and calculate the payment adjustments for all grades.
2. A payment adjustment per tonne of new asphalt cement will be established for each month in which paving occurs and where the price index for that month increases or decreases by more than \$15.00 per tonne of liquid AC. The payment adjustment will be made for the volume of liquid AC incorporated into the hot mix laid each month and based on the percentage of new liquid AC in the mix. The initial \$15.00 increase or decrease in liquid AC price will not be adjusted for the contract.
3. The Town of Ingersoll has indicated below the Liquid Asphalt Price on which this bid is to be based.

**\$ 1200.00 per tonne**

**Notes:**

**The bidder is to sign and submit the AC Index Acknowledgement Form with their Tender Submission. This form is located in the Contract in Section B - Form of Tender.**

The Town has set the AC price so that all Contractor bids are without any monthly price discrepancies and is only a tool for qualifying hot mix prices and not intended as a standard AC price.

The payment adjustment calculated using this formula is full compensation for any and all PGAC grades specified.

**Measurement/Payment:**

The unit price for this item shall be paid by the Tonne, upon receipt of the weigh ticket by the Town.

**Item E105 - Supply and Place HL3 Driveway and Ramping- Hand Laid**

**Reference:** OPSS.MUNI 311, 1101 and 1150

**Description:**

Under this item, the Contractor is directed to supply and place HL3 driveway mix asphalt, at all driveways and boulevards identified on the contract drawings or as directed by the Town Engineer.

The unit price shall include a minimum of 50mm to a maximum of 75mm of asphalt placed.

Asphalt shall conform to OPSS.MUNI 310/1101 and 1150 and all referenced specifications outlined in Items C104, F104.

Measurement/Payment:

The unit price for this item shall be paid by the Tonne, upon receipt of the weigh ticket by the Town.

**Item E106 - Supply and Place Concrete Curb and Gutter**

Reference: OPSS.MUNI 353/1350, OPSS 1315  
OPSD 351.01, 600.01, 600.03, 600.04, 600.06, 600.10 and 600.11

Description:

Under this item, the Contractor is directed to supply and place concrete curb as specified in the Form of Tender item and in accordance with OPSD 600 and OPSS.MUNI 1350.

Curb ramps shall be a minimum 1.5 metres in length where sidewalks are adjacent to the curb. The ramps shall be a minimum of 1.0 metre in length where there is no sidewalk within 2.0 metres of the curb.

Where curbs are to be placed on private property, the concrete curbs shall be placed in accordance with OPSD 600.11.

Where curbs are to be placed against proposed sidewalk, a key or extra depth concrete is to be placed.

The curing compound shall be applied to ALL surfaces of the curbs (both sides and the top) as specified in OPSS 1315.

Should curing compound not be applied to all surfaces, the quoted unit price for this item may be reduced accordingly.

Measurement/Payment:

Payment for curbing will be based on the unit price(s) of per Lineal Metre and the measurements will be taken along the gutter line.

**Item E107 - Supply and Place Concrete Sidewalk (Public and/or Private)**

Reference: OPSS.MUNI 351/1350, OPSS 1315  
OPSD 310.01 - 310.05, 351.01

Description:

Under this item, the Contractor is directed to supply and place all forms, granular bases, concrete, sawcutting, expansion joints, barricades, lights, temporary access to premises, curing compounds, etc. required to pour concrete sidewalks.

The Contractor is reminded that the costs of the granular bases for the sidewalks will be included in their quoted unit prices.

Concrete sidewalks shall be constructed in accordance with OPSD 310.010, 310.020, 310.030, 310.040, 310.050, and 351.010, and shall be minimum 125 mm thick except at driveways, where the thickness shall be minimum 150 mm.

Granular sidewalk base shall be minimum 100 mm deep except at driveways, where the depth shall be minimum 150 mm. The Contractor is reminded that in accordance with OPSS.MUNI 351.07.11 contraction and expansion joints shall be placed so each extends completely through the concrete and does not protrude above the concrete.

Where hand-laid sidewalk is being placed against new curbing and no key is placed, extra depth concrete is to be placed.

The Contractor shall provide one test area for every 500 square metres of sidewalk placed.

The curing compound shall be applied to ALL surfaces of the sidewalk (both sides and the top) and as specified in OPSS 1315 and applied at the rate of application not be less than 1 litre/5 square metres.

The OPSS standard further requires that all curing methods be implemented within 2 to 4 metres of the finishing operation.

Should curing compound not be applied to all surfaces, the quoted unit price for this item may be reduced accordingly.

Measurement/Payment:

Measurement and payment for sidewalk(s) shall be based on the unit price(s) of per Square Metre and shall include the extra thickness of concrete at driveway entrances.

**Item E108 - Supply and Place Concrete Driveway**

Reference: OPSS.MUNI 351/1350, OPSS 1315  
OPSD 310.05

Description:

Under this item, the Contractor is directed to supply and place all forms, granular bases, concrete, sawcutting, expansion joints, barricades, lights, temporary access to premises, curing compounds, etc. required to pour concrete driveways.

The costs of the granular bases for driveways and boulevards shall be paid under the Supply and Place Granular 'A' item.

Concrete driveways shall be constructed in accordance with OPSD 310.05, and 351.010, and shall have a minimum 150 mm depth of granular A and 150 mm depth of concrete, except at existing driveways, where the thickness may be greater.

Included in the price for driveway placement is all drilling/dowelling and placement of wire mesh.

Where driveway(s) are being placed against existing curbing, extra depth concrete is to be placed.



The curing compound shall be applied to ALL surfaces of the driveway (both sides and the top) and as specified in OPSS 1315 and applied at the rate of application is not less than 1 litre/5 square metres.

The OPSS standard further requires that all curing methods be implemented within 2 to 4 metres of the finishing operation.

Should curing compound not be applied to all surfaces, the quoted unit price for this item may be reduced accordingly.

Measurement/Payment:

Measurement and payment for driveway(s) shall be based on the unit price(s) of per Square Metre.

**Item E109 - Supply and Place Concrete Driveway c/w Stamped Border**

Reference: OPSS.MUNI 351/1350, OPSS 1315  
OPSD 310.05

Description:

Under this item, the Contractor is directed to supply and place all forms, granular bases, concrete, sawcutting, expansion joints, barricades, lights, temporary access to premises, curing compounds, etc. required to pour concrete driveways.

**The contractor is also required to pour and match the existing stamped and coloured concrete border.**

The costs of the granular bases for driveways and boulevards shall be paid under the Supply and Place Granular 'A' item.

Concrete driveways shall be constructed in accordance with OPSD 310.05, and 351.010, and shall have a minimum 150 mm depth of granular A and 150 mm depth of concrete, except at existing driveways, where the thickness may be greater.

Included in the price for driveway placement is all drilling/dowelling and placement of wire mesh.

Where driveway(s) are being placed against existing curbing, extra depth concrete is to be placed.

The curing compound shall be applied to ALL surfaces of the driveway (both sides and the top) and as specified in OPSS 1315 and applied at the rate of application is not less than 1 litre/5 square metres.

The OPSS standard further requires that all curing methods be implemented within 2 to 4 metres of the finishing operation.

Should curing compound not be applied to all surfaces, the quoted unit price for this item may be reduced accordingly.



Measurement/Payment:

Measurement and payment for driveway(s) shall be based on the unit price(s) of per Square Metre.

**Item E110 - Supply and Place Pedestrian Detectable Warning Plates (Set)**

Reference: OPSS.MUNI 351  
OPSD 310.033/310.039

Description:

Under this item the Contractor is directed to supply and place a set of cast iron tactile walking surface indicator plates as per OPSS.MUNI 351, OPSD 310.033 and 310.039.

A set shall consist of **two (2) 0.6m x 0.6m or One (1) 1.2m x 0.6m** Duralast tactile walking surface indicator plates or approved equivalent.

The plates shall have a **red** finish and must be installed (c/w bolt package) concurrently with any intersection sidewalk pour. **Plates are not to have the plastic and stainless-steel anchors.**

Measurement/Payment:

Payment for this item shall be made for each set of indicator plates installed.

**Item E111 - Cold Mill Planning at Intersection(s)**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to mill end cuts, driveway ramps and catchbasin ramping or other areas as directed by the Town Engineer and dispose of the existing asphalt to a location identified by the contractor.

The use of a (minimum) 0.5m wide planing machine is required.

The cost of saw cutting and/or other techniques so as to affect a clean joint to the entire depth of the asphalt shall be included in the unit price quoted.

Milling depth shall verify from 50mm to 75mm.

Measurement/Payment:

The unit price for this item shall be paid by the Square Metre.

**Item E112 - Adjust Existing Watervale Jacket**

Reference: D-1846-1-2009 (OXFORD)

Description:

The unit price quoted for this item shall be compensation in full for the excavation and adjustment of an existing watervale jacket to finish grade as directed by the Town Engineer.

All components, including extensions required to adjust the valve jacket to finish grade, shall be included in the unit price.

All valve jackets and components are to be screw on style.

The adjustment item shall be shown on the contract drawings as Series 7000.

Measurement/Payment:

Payment for this item shall be per Each valve jacket adjusted.

**Item E113 - Supply and Place 125mm Thick Topsoil and Sod**

Reference: OPSS.MUNI 802 and 803

Description:

Under this item, the Contractor is directed to supply and place a minimum depth of 125 mm of screened topsoil free of lumps, stones/gravel, and other debris and for the supply and placement of nursery sod (in accordance with OPSS.MUNI 802 & 803 as directed by the Town Engineer.

All sod shall be cut in along the edge of existing grassed areas. Voids shall not be left between the soil portion of the sod and the underlying ground surface. Sod shall be securely placed lengthwise across the face of slopes and parallel to the centreline of ditches. End joints of adjacent sod pieces shall be staggered. The edges of adjacent sod pieces shall be placed tightly against one another without overlapping. Sod shall be countersunk to existing grade level at all edges. Joints shall be tamped to a uniform surface. Sod shall be placed up to the subgrade elevation on the roadway front slope.

When deemed necessary by the Town Engineer, to have the sod staked due to slope conditions as per OPSS.MUNI 803.05.02, the cost shall be included in the sod placement cost.

Sod shall be maintained for 30 Days following completion of placement. During this period, the placed sod shall be kept healthy, actively growing, and green in leaf colour. Town staff will monitor the placed sod for an additional 30 days, post warranty. Should they deem the sod requires additional maintenance, the Town will require the contractor to continue maintenance at the Town's expense.

Prior to any placement of topsoil, the Town Engineer may request to have the topsoil tested and notification of where such material came from. The contractor shall bear the cost of such testing.

The cost of all material, equipment, and labour and/or other techniques required to complete the sod installation shall be included in the unit price.

Measurement/Payment:

The unit price for this item shall be paid per Square Metre.

**Item E114 - Remove Concrete Driveway**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to remove existing material as identified on the contract specified in the Form of Tender.

The cost of saw cutting and/or other techniques required to affect a clean removal joint shall be included in the unit prices quoted where new work will join old.

The concrete removed shall be transported to the Town of Ingersoll Public Works yard on Pemberton St. and placed as directed and shall be included in the unit price.

The contractor will also be responsible for assuring that the stockpile is pushed off and maintained to the standards of the Public Works Manager.

All removals shall be to the lines and grades established and set out by the Town's Engineering Department.

Measurement/Payment:

The unit price for this item shall be paid by the Square Metre.

**Item E115 - Remove Concrete Curb and/or Curb and Gutter (Public or Private)**

Reference: No reference specifications for this item.

Description:

Under this item the Contractor is directed to remove existing concrete curb and/or curb and gutter as directed by the Town Engineer.

The cost of saw cutting and/or other techniques required to affect a clean removal joint shall be included in the unit price quoted where new work will join old.

The concrete removed shall be transported to the Town of Ingersoll Public Works yard on Pemberton St. and placed as directed and shall be included in the unit price.

The contractor will also be responsible for assuring that the stockpile is pushed off and maintained to the standards of the Public Works Manager.

All removals shall be to the lines and grades established and set out by the Town's Engineering Department.

Measurement/Payment:

The unit price for this item shall be paid by the Lineal Metre.

**Item E116 - Remove and Reset Existing Wood/Railway Tie Curbing**

Reference: No reference specifications for this item.

Description:

Under this item the Contractor is directed to remove, stockpile, and reset an existing wood wall to the location, grades and elevations as directed by the Town Engineer.

Any excess material shall become the property of the homeowner.

The cost of all material, equipment, and labour and/or other techniques required to remove and reset the wall shall be included in the unit price.

Measurement/Payment:

The unit price for this item shall be paid by the Lineal Metre.

**Item 117 - Remove and Reset Precast Stone Retaining Wall**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to remove, stockpile, and reset an existing precast stone wall to the location, grades and elevations as directed by the Town Engineer.

Any excess material shall become the property of the homeowner.

The cost of all material, equipment, and labour and/or other techniques required to remove and reset the wall shall be included in the unit price.

Measurement/Payment:

The unit price for this item shall be paid by the Face Square Metre.

Measurement for removal shall be height x length.

**Item E118 - Remove and Replant Existing Garden (Private)**

Reference: No reference specifications for this item.

Description:

Under this item the Contractor is directed to remove an existing garden in conflict with construction and replant upon completion of the underground work, as directed by the Town Engineer.

The property owner must be contacted prior to removal, so that they may salvage the plantings of their choosing.

The Contractor is directed to use a method of removal that is not detrimental to the root base of shrubs, bushes and/or plants that conflict with the work. The plantings are to be placed in a safe location for future planting.

Upon completion of the construction in the garden area, the contractor is to excavate and place 150mm deep Triple Mix topsoil prior to placement of plantings.

The planting method shall be non-detrimental to the root base of shrubs, bushes and/or plants in said garden.

Replaced plantings shall be maintained for 30 Days following completion of placement. During this period, the planted area shall be kept healthy and actively growing.

The cost of all material, equipment, and labour and/or other techniques required to complete the removal and replanting shall be included in the unit price.

Measurement/Payment:

The unit price for this item shall be paid per Square Metre of garden built.

**Item E119 – Tree Trimming**

Reference: No reference specifications for this item.

Description:

Under this item the Contractor is directed to trim trees as required to complete the works shown on the Contract Drawings and at the direction of the Town Engineer.

It will be the responsibility of the Contractor to dispose of the debris.

Payment:

The unit price for this item shall be paid per Each tree trimmed.

**Item E120 – Clearing and Grubbing**

Reference: OPSS.MUNI 201

Description:

Under this item the Contractor is directed to cut and remove of all trees, shrubs, bushes and to remove all roots and stumps (in accordance with OPSS.MUNI 201) as required to complete the works shown on the Contract Drawings and at the direction of the Town Engineer.

It will be the responsibility of the Contractor to dispose of same.

The contractor shall check with the property owner to see if they wish to keep the wood from trees, or the shrubs slated for removal and grubbing. If the homeowner does not wish to retain the wood, then it is to be removed from the site at the Contractor's expense.

Existing stumps and remaining stumps from all trees shall be ground down and/or removed as per the direction of the Town Engineer.

Where the ground level around a tree is noticeably higher than the surrounding grade, the trunk will be reduced to a point 300 mm. (12") below the proposed grade in the area of the tree so that when seeded, sodded or covered, the smooth flowing contour gives no evidence of the work done.

Depressions remaining after grubbing shall be backfilled by the Contractor with suitable earth material and compacted to avoid settlement.

Measurement/Payment:

The unit price for this item shall be paid Lump Sum.

**Item E121 - Remove and Relocate Street and/or Regulatory Signs**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to remove and relocate existing street or regulatory signs as directed by the Town Engineer.

The relocation shall consist of the removal and backfill at existing location. The proper storage of the sign and post until the new location has been established. All excavating for the new post and placement of said post and sign.

The cost of all material, equipment, and labour and/or other techniques required to remove and relocate the sign(s) shall be included in the unit price.

Measurement/Payment:

The unit price for this item shall be paid per Each sign relocated.

**Item F101 - Residential and Commercial Inspection**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor must obtain the services of a Professional Inspection Agency to do a preliminary residential inspection. These homes or buildings will be adjacent to the streets affected by the construction.

The Town of Ingersoll will designate the units to be inspected.

The inspection will require the approval of the homeowner or building owner to allow the inspection company access onto the property as well as entrance to the residence or building. Written notice must be given to the owners in advance. This notice is to be reviewed and approved by the Town Engineer before distribution.

The report shall include inspection of the exterior of the building(s) including all landscaping, driveways, and sidewalks.

This is to be followed by an inspection of the interior which involves all exposed foundations, walls, windows, doors etc.

This will be obtained by both digital pictures and the use of a digital recorder.

The awarded Contractor will be given fifteen (15) working days from time of Acceptance to obtain this information.

The Town of Ingersoll requires that the Report be filed with the Town Engineer upon completion.

Measurement/Payment:

Payment will be per Unit, based on the following:

- Exterior Inspection 50% payment
- Interior Inspection 50% payment

The contractor may not make a full payment claim from their inspection company unless both interior and exterior has been completed.

**Should the homeowner refuse inspection, no claim for payment may be submitted.**

**SCHEDULE OF ADDITIONAL UNIT PRICES**

**Items 1 and 2 - Sawcut (Asphalt/Concrete)**

Reference: No reference specifications for this item.

Description:

Under these items the Contractor is directed to supply additional sawcutting of asphalt or concrete that is not included in the quoted unit price(s) for the main tender items.

Measurement/Payment:

The unit price for these items shall be paid per Lineal Metre.

**Items 3 and 4 - Supply and Place 20 MPa or 15 MPa concrete**

Reference: OSS.MUNI 1350

Description:

Under these items the Contractor is directed to supply and place either 20 MPa or 15 MPa at locations specified by the Town Engineer.

Measurement/Payment:

The unit price for these items shall be paid per Cubic Metre.

**Items 5 to 7 - Supply and Place additional granular material where directed by the Town Engineer**

Reference: OPSS.MUNI 401/1001/1004/1010

Description:

Under these items the Contractor is directed to supply, place and compact the stated granular materials at locations not covered in the main Tender Items, as directed by the Town Engineer.

Measurement/Payment:

The unit price for these items shall be paid by the Tonne, upon receipt of the weigh ticket by the Town.

**Item 8 - Disposal of contaminated material(s) and Supply and Place granular 'B' trench backfill**

Reference: OPSS.MUNI 401/1001/1004/1010, Ontario Regulation 406/19

Description:

Under this item the Contractor is directed to supply, place, and compact imported Granular 'B' material in all sanitary sewer and watermain trenches under road, sidewalks and driveway surfaces, in the event that the native material proves to be contaminated for use as trench backfill material.

This shall be determined by an independent soils' consultant. See Item Special Provision 7.

Also included in the quoted unit price shall be the cost of the transportation and disposal of the unsuitable material away from the construction site to a specified location where contaminated material can be safely placed. Backfilling and compaction of the Granular 'B' shall be according to OPSS.MUNI 401.

The Granular 'B' backfill will be placed to the elevation of the sub-grade.

Measurement/Payment:

The unit price for this item shall be paid by the Tonne, upon receipt of the weigh ticket by the Town.

**Item 9 - Supply and Place "non-shrink" backfill**

Reference: OPSS.MUNI 1359

Description:

Under this item, the Contractor is directed to supply and place 0.4 MPa concrete "non-shrink" backfill in accordance with OPSS.MUNI 1359. "Non-shrink" backfill will completely encompass any pipe where directed. "Non-shrink" backfill will be placed so that its elevation is no higher than the bottom of any granular base material.

Measurement/Payment:

The unit price for this item shall be paid per Cubic Metre.

**Item 10 - Supply and Place screened topsoil only**

Reference: OPSS.MUNI 802

Description:

Under this item the Contractor is directed to supply and place a **minimum depth of 125 mm of screened topsoil free of lumps, stones, and other debris** (in accordance with OPSS.MUNI 802) as directed by the Town Engineer.



Prior to any placement of topsoil, the Town Engineer may request to have the topsoil tested and notification of where such material came from. The contractor shall bear the cost of such testing.

Measurement/Payment:

Payment for this item shall be by the Square Metre.

**Item 11 - Supply and Place drain connection**

Reference: OPSS.MUNI 410

Description:

The unit price quoted for this item shall be compensation for the supply and placement of a storm drain connection to the new or existing storm sewer at the depth, lines and grades shown on the Contract Drawings and at the unit price(s) quoted, all in conformance with OPSS.MUNI 410.

All connections shall be installed using factory manufactured tees and/or Fernco connectors and must be included in the unit price.

Pipe materials must be pre-approved by the Town Engineer.

Measurement/Payment:

Payment for this item shall be per lineal metre.

**Item 12 - Place ductwork supplied by utility companies**

Reference: OPSS.MUNI 603  
OPSD 2101 and 2103  
S-17 (TOWN)

Description:

Under this item, the Contractor is directed to excavate for, and to place, ductwork, supplied by the utility companies, in accordance with OPSS.MUNI 603 and at the depths, locations and grades shown on the Contract Drawings or as directed by the Town Engineer.

Depths will range from 0.75 m to 1.20 m from finished grade to the bottom of the bedding material. The diameter size shall be identified in the Form of Tender item.

The costs of all bedding and native backfill shall be included in the unit price quote.

Should the cost of any granular backfill, concrete, or non-shrink backfill required for installation, it will be paid for under the appropriate Tender Price or Schedule of Additional Unit Price item.

Included in the unit price shall be all materials, labour and equipment required to complete the installation.

Measurement/Payment:

The unit price for this item shall be paid per Lineal Metre of trench dug.

**Item 13 - Supply and Place ductwork**

Reference: OPSS.MUNI 603  
OPSD 2101 and 2103  
S-17 (TOWN)

Description:

Under this item, the Contractor is directed to excavate for, and to supply and place, ductwork, in accordance with OPSS.MUNI 603 and at the depths, locations and grades shown on the Contract Drawings or as directed by the Town Engineer.

Depth will be a minimum 0.90m from finished grade to the bottom of the bedding material.

The diameter size shall be identified in the Form of Tender item.

The costs of all bedding and native backfill shall be included in the unit price quote.

Should the cost of any granular backfill, concrete, or non-shrink backfill required for installation, it will be paid for under the appropriate Tender Price or Schedule of Additional Unit Price item.

Included in the unit price shall be all materials, labour and equipment required to complete the installation.

Measurement/Payment:

The unit price for this item shall be paid per Lineal Metre of trench dug.

**Item 14 – Supply and Place “Grande” Retaining Wall**

Reference: No reference specifications for this item.

Description:

Under this item, the Contractor is directed to excavate and place precast ‘grande’ retaining wall blocks (or similar) where required and as directed by the Town Engineer.

The cost of the granular base and disposal of any material shall be paid under this item.

Measurement/Payment:

Payment shall be by the Face Square Metre (Length x Height).

**Item 15 - Adjust existing utility ductwork in conflict with construction**

Reference: OPSS.MUNI 603

Description:

Under this item, the Contractor is directed to excavate for, and to re-align utility ductwork, in accordance with OPSS.MUNI 603. Depths will range from 0.75 m to 1.20 m from finished grade to the bottom of the bedding material. Duct size will not exceed 150 mm in diameter.

Included in the unit price is all bends, pipe, gaskets, sleeves, and all other materials necessary to complete the work.

Minimum clearance between the pipes and the waterservices shall be 0.3m.

Measurement/Payment:

Payment for this item shall be per Lineal Metre of adjusted pipe placed.

**Item 16 – Supply and Place 100mm dia. PVC Sanitary Lateral c/w Settlement Joint**

Reference: OPSS.MUNI 410, OPSD 1006.010  
Oxford Guidelines – Section 4 - Part 4.2

Description:

Under this item, the Contractor is directed to supply and place polyvinyl chloride (PVC) sanitary service complete with manufactured settlement joints at the depths, locations and grades shown on the Contract Drawings and at the unit price(s) quoted, all in conformance with OPSS.MUNI 410.

The sanitary laterals shall be installed using factory manufactured tee and settlement joint pipe as per Oxford Design Guidelines - Section 4 – Part 1.11.2.

All by-pass pumping of existing sewage is to be included in the unit price.

Pipe material shall be SDR-28 for laterals, **which are to be green in colour**. The manufacturer shall be pre-approved by the County of Oxford.

Pipe diameter shall be identified in the Form of Tender.

Included in the unit price shall be the cost of all tees, bends and/or adaptors required to complete a proper connection from the mainline to the private connection, approximately 1 lineal metre behind the road limit.

Should a proper connection not be obtained within the 1 lineal meter and additional excavation is required, the work shall continue to be paid under this item price.

Also included in the unit price shall be all bedding as specified by the County of Oxford guidelines and/or specified in the geotechnical report.

Measurement/Payment:

Payment for this item shall be per Lineal Metre of sewer placed.

**Item 17 - Adjust existing fire hydrant**

Reference: No reference specifications for this item.

Description:

The unit price quoted for this item shall be compensation for the supply and placement of a fire hydrant extension as directed by the Town Engineer.

The adjustment height shall be identified in the Form of Tender item.

Adjustment to a fire hydrant must be completed under the supervision of the County of Oxford Water and Wastewater Department.

All labour, equipment, and materials required to complete the work shall be included in the price.

Measurement/Payment:

Payment for this item shall be per Each adjustment placed.

**Item 18 - Supply and Place Deciduous Tree**

Reference: S-3 and S-4 (TOWN)

Description:

Under this item Contractor is directed to supply, place and stake a Town approved deciduous tree as directed by the Town Engineer.

Newly planted trees are to be placed and staked on private property unless otherwise directed by the Town Engineer.

Trees are to be planted in accordance with the Town of Ingersoll Design Guidelines and Specifications with Section 15 - Typical drawing S-3 and S-4.

The location of the tree is to be mutually agreed upon by the property owner and the Town Engineer.

The Town of Ingersoll has supplied a list of pre-approved trees in Section 12 – Appendix A in the Town of Ingersoll Design Guidelines and Specifications. The Town does allow for the property owner to choose their species of tree, with the Town Engineer having final approval.

Trees shall have a minimum 75mm diameter truck and minimum height of 4.5m.

Newly planted trees shall be maintained for 30 Days following completion of placement. During this period, the tree shall be kept healthy and actively growing.

All new trees shall have a twenty-four (24) month warrantee from substantial completion date.

The cost of all material, equipment, and labour and/or other techniques required to complete the installation shall be included in the unit price.

Measurement/Payment:

The unit price for this item shall be paid per each tree planted.

**Items 19 to 42 - Labour and Equipment**

Reference: OPSS.PROV 127

Description:

This specification covers equipment rental rate compensation for work on a Time and Material Basis. The calculated rate represents the cost of owning and operating the equipment and is made up of direct and indirect costs such as fuel, oil, lubrication, field repairs, overhaul, depreciation, financing, storage, insurance, overhead, and profit.

The rental rates in this schedule are hourly, unless otherwise stated.

**All equipment rates are to include the cost complete with operator.**

Measurement/Payment:

The unit prices quoted for these items shall be compensation in full for the hourly costs of all labour and equipment as noted.

**(1) DEFINITIONS**

- (a) "Town", "Corporation", "Council" and "County" mean the County of Oxford and the Council of The Corporation of the Town of Ingersoll which is, for the duration of this Contract, the "Owner" of the works to be constructed mentioned in this contract document.
- (b) "Contractor" means the person, persons, co-partnership or corporation or their assigns who have agreed to perform the work under this Contract.
- (c) "Town Engineer" means the Town Engineer of the Corporation of the Town of Ingersoll and/or the Director of Public Works of the County of Oxford.
- (d) "Inspector" means the duly authorized representative of the Town Engineer for the purpose of performing the duties and functions of inspection of the work, and with authority as outlined herein.
- (e) Words "directed", "required", "authorized", "considered necessary", or any other word of like import are used, it shall be understood to be the "direction", "requirements", authorization, etc., of the Town Engineer, and similarly the words "approval", "satisfactory", or words of like import shall be "approved by", "acceptable", or "satisfactory" to the Town Engineer.
- (f) "Plans" or "Drawings" mean all plans, drawings, profiles, sections and elevations, sketches, or copies thereof, exhibited, used or prepared for, or in connection with, the work mentioned under this Contract.
- (g) "Work" or "Works" mean the whole of the work, materials, matters and things required to be done, furnished and performed including all extra or additional work or materials, matters or things which may be ordered by the Town Engineer as herein provided.
- (h) "Specifications", "General Conditions", and "Agreement" mean respectively the Specifications and General Conditions and the Agreement forming part of this Contract.
- (i) "Contract" includes the Agreement to do the work entered into with the Corporation, the Bond or Security, the Specifications, the General Conditions, the Supplementary General Conditions, the Drawings, the Special Provisions, the Information for Bidders, the Tender and all other documents referred to or connected with the said Agreements.

**(2) GENERAL REQUIREMENTS**

Persons or firms submitting tenders shall be actively engaged in the type of work required by the specifications and shall be able to refer to work of a similar character and nature satisfactorily performed in the past.

**(3) PLANT, LABOUR AND MATERIALS**

The Contractor shall provide all necessary storage ground and furnish all required skilled and unskilled labour, and materials, fuel, machinery, tools and all other plant, so that the all the works under this contract can and will be carried on continuously

and expeditiously to completion, in all respects to the satisfaction of the Town Engineer.

All materials necessary for the purpose of this Contract shall be, wherever possible, of Canadian origin and manufacture. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality acceptable to the Town Engineer. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials used on the project. It is understood that approval of any materials shall not subject the Corporation to pay for the same, nor prevent the rejection afterwards of any portion thereof which may turn out to be unsound or unfit to be used, in the judgement of the Town Engineer, nor shall such approval be considered as a waiver of objection to the work of any subsequent period, on account of the unsoundness or imperfection of the materials used, or on any other account.

The Contractor shall be governed by the direction of the Town Engineer in all matters concerning the storage of machinery, materials and supplies along the line or on the site of the work, and shall at his own cost and expense shift or remove such machinery, materials and supplies immediately upon notice to do so from the Town Engineer. In case the Contractor shall neglect or refuse to so shift or remove any machinery, materials and supplies within ten (10) working hours after receipt of such notice, the Town Engineer may shift or remove such machinery, materials or supplies and the cost of so doing shall be charged to and paid by the Contractor, or such cost may be deducted or collected by the Corporation as laid out in the section hereof, entitled "Moneys Due to the Corporation".

**(4) SAMPLES**

Before any material of any kind is used on the work, the Contractor must submit samples thereof for the approval of the Town Engineer and no material shall be used which is in any way inferior to the approved sample; but it is understood that the approval of any material shall not subject the Corporation to pay for the same, nor prevent the rejection afterwards of any portion thereof which may turn out to be unsound or unfit to be used, in the judgement of the Town Engineer; nor shall such approval be considered as any waiver of objection to the work at any subsequent period, on account of the unsoundness or imperfection of the materials used, or on any other account.

**(5) MATERIALS SUPPLIED BY CORPORATION OR COUNTY**

All materials shall be supplied by the Contractor with the exception of such materials or equipment as is specifically stated to be supplied by the Corporation or County. In all cases where materials are supplied by the Corporation or County, every effort will be made to have a sufficient supply of such material tested, examined and approved and ready for use at such time as they may be required, but in case the Corporation or County finds it impossible to furnish a sufficient supply at all times, the Contractor will not be entitled to any recompense for such delay, other than an extension of the time of completion, the amount of which shall be determined by the Town Engineer and which shall be as nearly as possible equivalent to the time delayed.



Unless otherwise specified, all materials supplied by the Corporation or County shall be transported to the work by the Contractor from the point designated for their supply, at his own expense.

Once material has been supplied to the Contractor by the Corporation or County, its storage prior to use is his responsibility. Any loss, theft, or damage occurring after the material is in the Contractor's custody shall be at his expense.

**(6) MANAGEMENT OF EXCESS SOILS – O.Reg 409/19**

All excess material shall be managed in accordance with O.Reg. 406/19 – On-Site and Excess Soil Management, OPSS.MUNI 180 and all other documents applicable to the Regulation including, but not limited to, the Rules for Soil Management and Excess Soil Quality Standards (the “Soil Rules”).

For this Contract the Town of Ingersoll shall be the designated Project Leader.

Chemical analysis of the existing site soils was completed as part of the Phase II ESA for the site during the design by a Canadian Association of Laboratory Accreditation (CALA) accredited laboratory. The Phase II ESA report is included in the reference documents for review.

The Owner does not have a designated excess material receiving site for this project. The Contractor shall be responsible for selecting the receiving sites.

**Soil sampling and chemical analysis in the form of preconstruction boreholes was completed by the Town of Ingersoll. The boreholes and corresponding reports are for geotechnical and preliminary design and estimation purposes only and shall not be used for excess material sampling. The Contractor shall be responsible for sampling and testing all excess material.**

Sampling shall be completed in accordance with Rules for Soil Management and Excess Soil Quality Standards, Section 15 – In Situ Sampling.

The following additional rules apply to samples collected using an in-situ sampling approach (in relation to the area identified where sampling is required):

1. a minimum of three soil samples shall be analysed if less than 600 cubic metres of soil will be excavated,
2. if more than 600 cubic metres of soil will be excavated, at least one soil sample shall be analysed for each 200 cubic metres of soil for the first 10,000 cubic metres of soil to be excavated,
3. at least one soil sample shall be analysed for each additional 450 cubic metres after the first 10,000 cubic metres of soil to be excavated, and
4. at least one soil sample shall be analysed for each additional 2,000 cubic metres after the first 40,000 cubic metres of soil to be excavated.

**Submission Requirements**

At least 30 days prior to mobilizing to site, the Contractor shall provide the Contract Administrator with the information as set out in Schedule 1 of O.Reg 406/19 for the purposes of filing a notice in the Registry.



The Contractor shall provide an Excess Soil Management Plan, as noted in OPSS.MUNI 180.04.01.08, a minimum of 30 days prior to commencing removal of excess material from site. The plan shall include at a minimum the following information:

- Municipal address, including lot and concession, latitude and longitude of disposal sites.
- The property use of the re-use site and any characteristics associated with the re-use site or nearby properties that may affect the excess soil quality standards applicable to the re-use site.
- The applicable excess soil quality standards for the re-use site completed by a Qualified Person.
- A description of the undertaking or the identified beneficial purpose for which the excess soil is to be re-used.
- The estimated quantities of excess soil to be re-used at each site.
- Documentation showing the appropriate landowner consultation and disclosure has taken place, and confirmation of the site owner's written consent to accept the excess soil.
- Identification and description of the record keeping/tracking system to be employed to track excess earth movements during the transportation and placement at the re-use site.
- Monthly updates of the Excess Earth Quantity Report, on form OPSF 180-6, identifying all fill removed from site.
- Upon completion of the work, the Contractor shall provide a summary report documenting that all excess soil has been placed at the correct re-use site(s) for the quantity and beneficial purposes noted in the plan. Any amendments to the plan shall be clearly identified in the summary report.

The Contractor shall provide a site-specific excess quality standard for the reuse site completed by a Qualified Person using the Beneficial Reuse Assessment Tool (BRAT).

Where the excess material has been identified as suitable for re-use, management as disposable fill, or non-hazardous solid industrial or commercial waste, the following forms shall be completed:

- A copy of the completed form OPSF 180-1, Site Selection Notification for Stockpiling Materials Managed Through Re-Use, or OPSF 180-2, Site Selection Notification for Material Managed as Disposable Fill or both shall be submitted to the Contract Administrator and the property owner at least 2 weeks prior to the use of the property.
- At the completion of the work, a completed copy of the form OPSF 180-3, Property Owner's Release, shall be provided to the Contract Administrator.

Where excess material has been designated as subject waste, the following additional documentation shall be provided:

- A regulation 347 manifest with Part B completed by the carrier for each truckload of subject waste, shall be submitted to the Contract Administrator for Part A completion. Copies #1 and #2 of the manifest with Part A and B completed shall be retained by the Contract Administrator, and the remaining copies #3 to #6 returned to the carrier. Copy #6 shall be sent to the Contract Administrator within 4 weeks of shipment of the subject waste from the Working Area.
- A copy of the weigh ticket or receipt provided by the disposal site operator shall be submitted to the Contract Administrator on a weekly basis. When such documentation is not available, written confirmation that the waste has been received shall be obtained from the operator of the disposal site and provided to the Contract Administrator within 2 weeks after disposal activities are complete.
- Within 3 weeks of the completion of all disposal activities associated with the work, a completed copy of the OPSF 180-5, Waste Quantity Report, shall be provided to the Contract Administrator and shall account for all excess material managed by disposal as solid non-hazardous industrial or commercial waste.

Where excess material containing asbestos has been identified in the Contract drawings or documents, or where unexpected asbestos containing materials have been encountered, the Contractor shall remove the asbestos in accordance with O.Reg 278/05, and transport and dispose of the materials in accordance with O.Reg 347.

#### Trucking

All operators transporting excess material offsite will need to have the following information:

- Location at which excess soil was loaded for transportation
- Date and time the excess soil was loaded
- Quantity of excess soil
- Name of Contractor who can be contacted regarding the soil quality
- Name of Corporation/Owner of vehicle transporting the excess soil including all applicable licensing
- Location at which excess soil is to be deposited.

#### Construction

All excess soil shall be managed as per Table 1 and Table 2 from OPSS.MUNI 180, or as noted elsewhere in the Contract Documents. Where an excess material is a mixture of materials, it shall be managed in compliance with the most stringent conditions associated with any of the constituent excess material.

No open burning will be permitted on this project site.

#### Re-Use

Excess material noted for re-use including materials that are being reprocessed or

recycled into construction material, or other useful products shall be managed and stored in accordance with Table 1 in OPSS.MUNI 180.

Typical excess materials designated for reuse include but are not limited to the following: suitable roadway embankment fill, rock fill, asphalt, concrete, recyclable metal, cardboard and clean recyclable plastics.

#### Disposable Fill

Excess material noted for disposable fill is non-contaminated fill that is used to construct a berm, mound or used as fill. The Contractor shall consult Table 1 in OPSS.MUNI 180 to determine if the Table 2 minimum distance separation limits apply for disposable fill sites utilized.

Typical excess materials designated as disposable fill include excess soil/rock generated from road, structure or pipe excavations, unsuitable subgrade materials, swamp excavation and natural wood.

#### Stockpiling of Excess Materials

The location of stockpiling of excess materials shall be in accordance with Tables 1 and 2 in OPSS.MUNI 180. Where stockpiles are located within the project limits, or on a property that shares a border with the right of way within the project limits, the Table 2 separation distances shall not apply for stockpiles in place for less than 120 days.

#### Non-Hazardous Solid Industrial or Commercial Waste

Non-hazardous solid industrial or commercial wastes are as identified in O.Reg 347. Typical non-hazardous industrial or commercial wastes include but are not limited to the following: Unused construction materials that are non-hazardous, including packaging.

#### Subject Waste

Typical excess materials designated as subject waste as identified in O.Reg 347 include but are not limited to the following: contaminated soils exceeding the limits of the Excess Soil Quality Standards tables, waste oils lubricants or other machinery hydrocarbons including their containers.

Where an excess material is identified as a dangerous good waste, or a subject waste, management of the excess soil shall be as follows:

- Subject waste shipments shall be manifested and transported directly to a certified waste disposal site.
- When the subject waste is also a dangerous good as described in the Transportation of Dangerous Goods Act (TDGA), the carrier shall provide all necessary TDGA labels and placards.

**(7) OMISSIONS**

Anything, whatever, which may be imperfectly specified or imperfectly shown on the Drawings, or shown on the Drawings and not specified, or which may be specified and not shown, must be taken, considered and done as if it were both shown on the Drawings and specified.

**(8) VERBAL ARRANGEMENTS**

In all cases of misunderstandings and disputes, verbal arrangements will not be considered, but the Contractor must produce written authority in support of his contentions and shall advance no claim in the absence of such written authority, or use, or attempt to use, any conversion with any parties against the Corporation, or in prosecuting any claim against the Corporation.

**(9) TOWN ENGINEER SOLE JUDGE**

Should any discrepancies appear, or differences of opinion or misunderstanding arise as to the meaning of the Contract or of the General Conditions, Specifications or Drawings as to any omissions there from or mis-statements therein in any respect, or as to the quality or dimensions, or sufficiency of the materials, plant or work, or any part thereof, or as to the measurement or quantity or valuation of any works executed, or to be executed under this Contract, or as to extras thereupon, or deductions there from, or as to any other questions or matters arising out of the Contract, the same shall be determined by the Town Engineer.

**(10) INSPECTOR**

All work to be done under the Contract shall be done to the satisfaction of the Town Engineer, or of the agent or inspector authorized to act for them and the materials or process of preparation and manufacture shall at all times be subject to their or his examination and inspection and rejection in any stage or the preparation and manufacture. The Contractor shall notify the Town Engineer, in writing, at least seven (7) days previous to the commencement of the time and place when the work is to commence in order that an Inspector may be present.

**(11) PUBLIC CONVENIENCE, SAFETY AND PUBLIC RELATIONS**

During the performance of the work, the convenience of the public must always be paramount and be especially considered and provided for by the Contractor. No street, thoroughfare or foot walk must be obstructed for any time longer or to any greater extent than is absolutely necessary in the opinion of the Town Engineer to carry out the work and shall in no case tear up or open more of any street, roadway or place than is ordered or sanctioned by the Town Engineer. The Contractor is to provide safe, ample and convenient means of approach and entrance to adjoining lanes, driveways, buildings and property, both for vehicles and pedestrians wherever necessary, and for crossing the same where it is practicable to do so, both during the prosecution of the work as well as at other times. For this purpose, the Contractor shall construct and maintain, in good and serviceable condition, suitable and convenient platforms, approaches, structures, bridges, crossings or other works, and shall save harmless the Corporation from any claims arising therefrom.

Satisfactory relations must always be maintained to the best of the Contractor's ability, between the Contractor and the public during the performance of this Contract. It will be the responsibility of the Contractor to ensure that all signs, notices, barricades, etc., are properly posted and that advance notifications of any shutoff, or interference with, any service affecting the public is properly given. The Contractor shall in all other respects conduct his operations in such a manner as to facilitate and promote good relations with the public.

Unless and otherwise expressly permitted by the Town Engineer in writing, use of any explosives is prohibited in the Corporation of the Town of Ingersoll.

**(12) CONDITIONS ON SITE**

The Contractor during the progress of the work shall keep the site and work in as tidy a condition as practicable. He shall not deposit any material on any portion of street, sidewalk, boulevard, grass plot, or other Corporation or public property without permission of the Town Engineer, and shall remove same without delay when and as directed by the Town Engineer. Upon completion of the work he shall remove all false work, plant or surplus materials, as well as any rubbish accumulated on account of his operations; and shall leave the site in a condition satisfactory to the Town Engineer.

**(13) BARRIERS AND LIGHTS**

The Contractor must, at his own expense, and without further or other orders, provide, erect and maintain all requisite lights, barriers, fences or other proper protection, in order to ensure safety to the public as well as to those engaged about the premises or works. All lights, barriers, fencing or other types of protection including the requirements for flagging operations shall be in conformance with the latest version of the Manual of Uniform Traffic Control Devices, as issued by the Ministry of Transportation and Communications. Any deviations from the manual shall be approved by the Town Engineer prior to their use. Flagging operations shall also follow the guidelines of the Construction Safety Association of Ontario's Construction Traffic Controllers' Handbook. Should the Contractor neglect to carry out the above requirement the Town Engineer is hereby authorized to place such lights, barriers, etc., as are required, and charge the cost to the Contractor, without relieving the Contractor of any claims for damages or accident. The Contractor must place "Detour" signage for the project where needed and shall be responsible for all lights, barriers, etc. on the project and for the maintenance, at all times (including weekends) of all signs, etc. Where it is practicable in the opinion of the Town Engineer, the Contractor must provide access to local residents and emergency vehicles and personnel.

**(14) CONTRACTOR'S LIABILITY**

The Contractor shall assume the liability of and indemnify and save harmless the Corporation and its officers and agents from all claims relating to labour and materials furnished for the work, and to inventions, copyright, trademarks, or patents and rights thereto used in doing the work and in subsequent use and operation of the work or any part thereof upon completion.

In carrying out the works from the inception, and until the final acceptance of the same, the Contractor must be careful to cause as little injury or damage as possible to any adjacent property, public or private, or to any sidewalks, roadways, curbs, gutters, hydrants, manholes, frames, covers, or street gullies, boulevards, grass plots sodding, trees, shrubs or any other structures, works or things on or near the line, or in the vicinity of the works or elsewhere and, except as in the contract, is otherwise provided, if injury or damage is done, he must make good the same, at his own expense, in the manner directed by, and to the satisfaction of the Town Engineer.

The Contractor shall be responsible for any and all damages, or claims for damages, injuries or accidents done or caused by him or his employees, or resulting from the prosecution of the works, or any of his operations, or caused by reason of the existence or location or conditions of the works, or any materials, plant or machinery used thereon or therein, or which may happen by reason of, or arising from any failure, neglect or omission on his part or on the part of his employees to do or perform any or all these conditions and covenants, and agrees to hold the Corporation harmless and indemnified for all such damages and claims for damage; and in case of the Contractor's failure, neglect or omission to observe and perform faithfully and strictly, all the provisions of these conditions, the Town Engineer may, either with or without notice (except where in these conditions notice is specially provided for, and then upon giving the notice therein provided for), take such steps, procure such material, plant and trucks and men, and do such work or things as they may deem advisable toward carrying out and enforcing the same and any such work deemed necessary and all expenses so incurred may be deducted or collected by the Corporation under the provisions of the Section hereof, entitled "Moneys Due to the Corporation", and any such action by the Town Engineer as they are herein empowered to take, shall not in any way relieve the Contractor or his surety from any liability under the Contract.

The Contractor shall at all times pay or cause to be paid, any assessment or compensation required to be paid pursuant to the Workers' Compensation Act, and upon failure so to do, the Corporation may pay such assessment or compensation to the Workers' Compensation Board and deduct or collect such expenses under the provisions of the Section hereof, entitled "Moneys Due to the Corporation". The Contractor shall, at the time of entering into any Contract with the Corporation, make a statutory declaration that all assessments or compensations payable to the Workers' Compensation Board have been paid, and the Corporation, may at any time during the performance or upon the completion of such Contract, require a further declaration from the contractor that such assessments or compensations have been paid.

**The Contractor shall at all times be subject to and will be required to observe all rules and regulations which are or may from time to time be imposed by law, as related to all branches of the work under contract.**

**(15) HEALTH AND SAFETY**

The Contractor shall at all times conduct his operations in a manner consistent with the regulations set out under the Occupational Health and Safety Act, R.S.O. 2017 as amended and as set out in the Town of Ingersoll Occupational Health and Safety



Policies, a copy of which may be obtained from the Town office.

**(16) NIGHT, SUNDAY AND HOLIDAY WORK**

As per **Town of Ingersoll By-Law 19-5060**, no work shall be undertaken at night (between 8:00 p.m. and 7:00 a.m.) without the consent, in writing, of the Town Engineer. However, whenever, in the judgement of the Town Engineer, it may be necessary or expedient, in order to preserve and maintain traffic over or on any street or road, to do work at night or after or before the regular time of ending or beginning labour, such night or overtime work shall be performed by the Contractor without additional or extra cost to the Corporation beyond the price bid for the work.

No Sunday work will be permitted, except in the case of an emergency and then only with the written permission of the Town Engineer and to such extent as they may judge to be necessary.

The Contractor shall, as far as possible, refrain from work on days which are statutory holidays in the Province of Ontario. In case he desires to work on any such holiday, he shall notify the Town Engineer in writing at least four working (4) days in advance of such statutory holiday, stating the sites where work during statutory holidays is proposed to be carried out and the reasons for carrying out the work on those holidays. If the Contractor fails to provide such notice in advance of any holiday, it shall be considered that work requiring the presence of the Town Engineer or Inspector is not to be done by the Contractor on such a statutory holiday.

**(17) COMMENCEMENT AND COMPLETION**

The work shall not be commenced, nor shall any material be procured until the Contractor has signed the Contract, and obtained or received a written order to commence the works signed by the Town Engineer, and it shall thereupon be at once begun and continuously carried on to completion (subject as herein provided), and shall be completed, and full possession thereof given to the Corporation, within the time-frame stated in the tender, starting from the date of the order to commence, unless a longer period shall be allowed in writing by the Town Engineer, in which case it shall be carried on to completion and possession given to the Corporation within the respective additional period so allowed.

In case the Contractor shall fail to complete the works as described in the tender document, in accordance with the Contract and to the satisfaction of the Town Engineer within the time specified, the Contractor shall pay to the Corporation the sum stipulated in the specifications for each and every day that the work shall remain unfinished after the respective time specified; which said sum, in view of the difficulty of ascertaining the actual losses which the Corporation will suffer by reason of delay in the performance of said works, are hereby agreed upon, fixed and determined by the parties hereto as the liquidated damages that the Corporation will suffer by reason of said delay and default and not as a penalty; and the Corporation may deduct and retain the amounts of such liquidated damages out of the moneys which may be due or become due to the Contractor under the Contract, as provided in the Section hereof, entitled "Moneys Due to the Corporation".

In the event of delay caused by strikes or combinations on the part of the workmen employed, or by an act of the Dominion or Provincial Governments, or of the Corporation, or from such other cause, as in the opinion of the Town Engineer, the Contract or cannot reasonably be held responsible for, or in the event of extra or additional work being ordered by the Town Engineer, the Town Engineer will allow such additional time for completion as they deem fair and reasonable, providing the Contractor applies in writing for an extension of time at the time such delay occurs, or such extra or additional work is ordered, and satisfies the Engineer that he is justly entitled to a further time allowance. No progress or interim estimate or certificate shall release the Contractor or his surety from any responsibility, or be taken as evidence of any such release or as an acceptance of any work or material, or as a waiver of any conditions herein.

The whole work and every portion and detail thereof shall, during construction, be protected by the Contractor from damage from any cause whatsoever. The term of guaranteed maintenance shall be computed from and commence on the date of completion as shown on the Completion Certificate for payment.

In case of the Contractor's failure to finish the works or work properly and fully, and as required, or in the case of the work, or any part thereof, being taken out of his hands, as provided in these conditions, the Town Engineer may proceed to finish the work for him, as his agent in this respect, and at his expense, or proceed, as provided in the Section hereof, entitled "Forfeiture of Contract".

**(18) ALTERATIONS, EXTRAS, DEDUCTIONS AND CLAIMS**

The Town Engineer shall have the right to make or order any alterations and changes such as may deem advisable at any time before or during the execution of the works in any line, grade, drawing or detail, to suspend or omit any portion of the work or works, to increase or decrease the dimensions of any part of the work or works, to vary in any other way the work herein contracted for, or to order any additional or extra work to be done, or additional or extra materials to be furnished, and the Contractor shall, in pursuance of written orders of the Town Engineer, proceed with, carry out and execute the works as directed, and shall supply such additional materials, and do such additional or extra work, in pursuance of such orders, without being entitled to any extension of time for completion, or any additional payment on account thereof, except only as herein provided.

In each and every case where additional or extra work or material of any kind is ordered to be done and supplied, and where the Contractor does or supplies, or contemplates doing or supplying any work or material which he considers extra or beyond the requirements of the Contract, or upon which he intends claiming any extra or additional payment, he is required, before commencing any such work or procuring any such material, to obtain a written order from the Town Engineer stating that the same is an extra and will be paid for as such, and also clearly defining the nature of such extra work or material, and the amount the Contractor is to receive therefor, or the terms under which the same is to be paid for and the extension of time, if any to be allowed; and the Contractor shall also, before beginning any such extra work or commencing to deliver any such additional material, notify the Town Engineer in writing, of his intention to commence work thereon or delivery thereof, so that a proper account or record of the same may be



kept by the Town Engineer.

In case of the Contractor's neglect or failure to observe fully and faithfully the above conditions, he shall forfeit all right to payment which he otherwise might have had, and shall not make any claim in respect thereof, and if made, the Corporation may reject the same as invalid, and he shall not have any right of recovery in respect thereof, at law or otherwise, unless he shall have obtained the consent of the Town Engineer in writing to his making such claim.

Any extra work ordered by the Town Engineer which is to be carried out by the contractor on a "cost plus" basis shall be done by the Contractor, who shall be paid (subject in all respects to the above conditions and provisions) only the actual cost of carrying out the work as determined by the estimation of the Engineer and as substantiated by documented evidence provided by the contractor, **plus 20 percent** thereon for use of plant, tools, etc., and to cover Contractor's profits, and the Contractor must furnish the Town Engineer with satisfactory vouchers for all labour and material expended on the work. No such mark-up will be allowed for rental equipment and rental charges such as trucks etc. When extra work is required, and such extra work is performed by a subcontractor, the percentage paid by the Corporation for overhead, profit, etc., shall be no greater than the sum that would have been paid had the Contractor himself performed the work.

Nothing herein contained is to preclude the Corporation or the Town Engineer from having any extra or additional or other work done by the Corporation workmen or other parties, in the event of satisfactory arrangements not having been concluded between the Town Engineer and the Contractor, or for any other sufficient reason, in the opinion of the Town Engineer. In the event of any circumstances arising at any time which, in the Contractor's opinion, would entitle him to additional compensation, and which are not fully provided for herein, he shall at once, on the discovery of such circumstances, notify the Town Engineer, in writing, and shall state in his notification clearly and fully what the circumstance is, and the additional sum or compensation he intends to demand therefore, or otherwise he shall have no claim in respect thereof.

#### **(19) SUSPENSION OF WORK**

The Town Engineer may, by an order in writing, at any time stop or suspend any part of the work, or direct any portion to be commenced or completed in priority to any other part or portion, or may cancel the order to proceed with the work, or with any part thereof, and the Contractor shall not thereby be entitled to any additional payment or to any claim for loss or profit, or anticipated profit, or for damages or otherwise, how-so-ever, by reason of such order. When, in the opinion of the Town Engineer, for any reason it is deemed advisable to discontinue the work, or any part thereof, for the winter, the Contractor must, on notice from the Town Engineer, forthwith place the work in proper and satisfactory condition for the accommodation of the public, and for its effectual protection against damage from rain, snow, frost, ice or other causes, and must so maintain it for the duration that the work is discontinued.

**(20) SUB-LETTING**

The Contractor shall keep the work under his personal control. Every Contractor who proposes to sub-let any portion of the work must forward with his Tender a complete list of the names of the persons, firms, or corporations to whom he proposes to sub-let, and the portion of the work which he proposes to sub-let to each such person or entity. After award of the Contract, the Contractor will not be permitted to sub-let any portion of the work to any subcontractor not initially identified in the original tender submission. The fact that the Contractor is permitted to sub-let any portion of the work shall not, however, relieve him of any responsibility for the proper commencement, execution, and completion of the work according to the terms of the Contract, and the Contractor shall be fully responsible for the subcontractor and his work and acts, and shall, either in person or through an accredited agent, receive all notices, communications, orders, instructions, or legal service as if he were performing the work with his own plant and his own men.

**(21) USE OF HYDRANTS AND WATER**

The Contractor shall comply with the regulations of the County supplying the water, regarding the use and care of hydrants. Any damage to hydrants caused by the Contractor's operations shall be his responsibility. In the event the Contractor fails to make good such damage the Town Engineer will have the necessary repairs made and will retain the cost from moneys due the Contractor.

The Contractor shall at all times keep all hydrants, water-valves, stopcocks, street gutters and manholes, free and accessible to the Fire Department or other authorized persons.

**(22) OTHER'S RIGHTS**

The Contractor must afford all necessary and reasonable facilities to the Corporation or any of their employees or workmen as well as to any company corporation or party owning or operating any railway, tramway, wires, pipes, conduits or other works or property, on, along, or near the line of the works, or in their vicinity. He shall notify all such parties before interfering with any of their property, rights, or privileges and must work in harmony with them as far as he possibly can; otherwise, he shall notify the Town Engineer, in writing, of his failure so to do, or of any difficulty that may at any time arise which he may be unable to overcome, in which case the Town Engineer shall deal with the matter as in their judgement may seem right and proper, and the Contractor shall abide by the decision and direction of the said Town Engineer.

The Corporation and its Engineering agents and employees, may at any time and for any purpose enter upon the work and the premises used by the Contractor, and the Contractor shall provide proper and safe facilities thereof. Other Contractors may also, when so authorized in writing by the Town Engineer, enter upon the work and the premises used by the Contractor for all lawful purposes as may be required by their contracts. Any differences or conflicts which may arise between the Contractor and other contractors in regard to their work shall be determined and adjusted by the Town Engineer.

The Contractor shall furnish proper facilities by means of ladders or otherwise to secure convenient access to all parts of the works as may be required by the Town Engineer.

**(23) PAYMENTS**

The Contractor shall be entitled to receive partial payment at monthly intervals or at intervals agreed upon by the Contractor and the Town Engineer.

These partial payments shall be in the form of a Progress Payment Certificate and shall be issued for ninety (90) percent (%) of the estimated value of the performed Work and Materials supplied. Also included in this payment shall be any extras etc., as the Town Engineer may deem necessary. Upon receipt of the payment, the Contractor shall promptly pay to every sub-contractor employed by him any amount due to such subcontractor on account of work covered by such certificate(s).

A Substantial Performance or Substantial Completion Certificate will be issued by the Town Engineer when the work or works covered under the contract are substantially complete. The work is substantially performed or substantially completed when:

- a) the work to be performed under the Contract or a significant part thereof is ready for use or is already being used for the purpose intended; and
- b) the work to be performed under the Contract is capable of completion or, where there is a known defect or deficiency and the cost of correction of such deficiency or defect, is not more than
  - i) 3% of the first \$1,000,000 of the Contract price
  - ii) 2% of the next \$1,000,000 of the Contract price
  - iii) 1% of the balance of the contract price

For the purpose 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 Town 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 or Substantial Completion.

**Sixty (60) days** after the Substantial Performance or Substantial Completion of the Work or as soon thereafter as practicable, a certificate marked "Completion Certificate for Payment" will be issued by the Corporation and payments at the rate of ninety-eight percent (98%) of the whole amount due under the Contract, including extras (less forfeitures, deductions and payments already made), will be released or issued and the amount therein certified for payment shall be paid to the Contractor, where the Contractor has provided a bond and/or bonds of a satisfactory guarantee company as security for the due performance of the contract including maintenance of the work for the period of guaranteed maintenance.

After the provisions of the Contract including maintenance and guaranteed maintenance have been fully complied with, a "Final Certificate of Completion" shall be issued to the contractor and any or all of the balance due (if any) shall be issued and paid to the Contractor. No interest will be allowed to the Contractor on the said balance. The Corporation requires the Contractor to provide a "Letter of Credit" from a registered Canadian Financial Institution and upon receipt of that letter the Corporation shall pay to the Contractor the whole amount certified in the Final Certificate. The "Letter of Credit" shall be for the entire period of guaranteed maintenance and shall be for an amount equal to two (2) percent (%) of the whole amount certified in the Final Certificate. This final payment may take place **Sixty (60)** days after the completion of the work, or as soon thereafter as practicable.

Before the amount certified in such Final Contract is paid, the Contractor shall deposit with the Town Engineer a Statutory Declaration that all the material and/or labour incorporated in the work have been fully paid for, and such declaration shall be attached to such Final Certificate.

The Corporation, County shall not be liable for, or be held to pay, any money to the Contractor, except as provided above, and, on making the completion payment aforesaid, the Corporation, County shall be released from all claim or liability to the Contractor for anything done or furnished for, or relating to, the work, or for any act or neglect of the Corporation, County relating to or affecting the work, except the claim against the Corporation, County for the remainder, if any there be, of the amounts kept or retained as provided above.

Payments to the Contractor will be made out of the funds under the control of the Corporation or County in their public capacity and no member of the Corporation or the County or officer of the Corporation or County is, is to be or can be held personally liable or responsible to the Contractor under any circumstances.

**(24) INTEREST**

The Contractor shall not be entitled to any interest upon any bill for extra work or on account of delay in its approval by the Town Engineer.

**(25) MONEYS DUE TO THE CORPORATION OR COUNTY**

All moneys payable to the Corporation or County by the Contractor under any stipulation herein or to the Workers' Compensation Board, as provided in the Section hereof entitled "Contractor's Liability", may be retained out of any moneys then due, or which may become due, from the said Corporation or County to the Contractor under this or any other contract with the Corporation or County, or otherwise howsoever, or may be recovered from the Contractor or his surety, in any Court of competent jurisdiction, as a debt due to the Corporation or County and the Town Engineer, shall have full power to withhold any estimate or certificate, if circumstances arise which may indicate to them the advisability of so doing, though the sum to be retained may be unascertained.

**(26) WORKER'S RIGHTS**

The Contractor agrees to pay the rates of wages prevailing in the Town / County during the lifetime of this Contract.

**(27) LIENS**

The Contractor, his surety, their respective heirs, executors, administrators, successors and assigns, and any of them and all other parties in any way concerned, shall fully indemnify the Corporation and all its officers, servants and employees from any and all liability or expenses by way of legal costs or otherwise in respect to any claim which may be made for a lien or charge at law or in equity or to any claim or liability under the Construction Lien Act of Ontario or to any attachment for debt, garnishee process or otherwise.

**(28) DOMICILE OF OWNERS OF TRUCKS**

In the event that it is necessary to hire motor trucks in the execution of this Contract, the Contractor shall, where possible, engage where necessary only motor trucks owned by residents or of firms located in the Town of Ingersoll or County of Oxford.

**(29) DOMICILE OF EMPLOYEES**

The Contractor shall, in the execution or performance of this Contract to be, employ wherever feasible and possible, workmen who are bona fide residents of the Town of Ingersoll or County of Oxford.

**(30) CONDUCT AND CALIBRE OF WORKER'S**

The Contractor shall at all times enforce strict discipline and good order among his employees, and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him.

**(31) DISCHARGE OF EMPLOYEES**

Should an overseer, mechanic or workmen employed on or about the work or in conjunction therewith, give any just cause for complaint (of which the Town Engineer shall be the sole judge), the Town Engineer may dismiss such person forthwith, and he shall not again be employed by the Contractor on any Corporation work without the consent, in writing, of the Town Engineer.

**(32) NO SPIRITUOUS LIQUORS or NARCOTIC SUBSTANCES**

The Contractor shall neither permit nor suffer the introduction or use of spirituous liquors, vaping, marijuana or other narcotic substances, on or about the work assigned to him.

**(33) FORFEITURE OF CONTRACT**

- (a) If the Contractor shall neglect or refuse to sign the contract documents before commencing work or neglect or fail to commence work within ten (10) days after the date of the Town Engineer order to commence;
- (b) or if he becomes bankrupt or insolvent or compound with his creditors, commits any act of insolvency, transfers assigns or sub-lets, or attempts to transfer, assign or sub-let this contract or any part thereof without the consent of the Town Engineer;

- (c) or if at any time the work or any part thereof is, in the judgement of the Town Engineer, not executed or not being executed in a sound and workmanlike manner, to the satisfaction of the Town Engineer and in all respects in strict conformity with the Contract;
- (d) or if the work, or any part thereof, is not progressing continuously and in such a manner as to ensure its entire completion, in the judgement of the Town Engineer, within the time stipulated;
- (e) or if the Contractor shall refuse to or neglect forthwith, when so ordered, to conduct the work so as to ensure its completion, in the opinion of the Town Engineer, within the time stipulated or if the said time has expired and the work be not complete;
- (f) or if the Contractor shall refuse or neglect to take down, rebuild, repair, alter or amend any defective or unsatisfactory work, or to remove any condemned material or workmanship, and to replace the same with proper material or workmanship, or to comply with any reasonable order he may receive from the Town Engineer;
- (g) or if the Contractor shall persist in any course in violation of any of the provisions of this Contract;

then, in each and any such case, after 24 hours written notice from the Town Engineer, to the Contractor, the Town Engineer shall have the full right and power, at their discretion, without process or action at law, to take the whole work, or any part or parts thereof specified in the said notice, out of the hands of the Contractor.

The Contractor, upon receiving notice to that effect, shall vacate possession and give up said work, or the part or parts thereof specified in the said notice, peaceably to the Town Engineer, who may either re-let the same to any other person or persons, with or without its being previously advertised, or may employ workmen and provide material, tools, transportation and all other necessary things at the expense of the Contractor, or may take such other steps as they, the Town Engineer, may consider necessary or advisable, in order to secure the completion of the said work to their satisfaction.

The Contractor and his surety in every case shall be liable for all damages, expenditure and extra expenditure, and for all additional cost of the work, which may be incurred by reason thereof, together with the amount of liquidated damages from the date fixed for the completion of the work, and the same may be deducted or collected by the Corporation as provided in the Section hereof entitled "Moneys Due to the Corporation ". All the powers of the Town Engineer with respect to the determination of any doubts, disputes and differences, and the determination of the sum or sums, or balance of money to be paid or received from the Contractor, and otherwise in respect of the Contract, shall nevertheless continue in force. The fulfilment by the Contractor of any stipulation in this Contract may be enforced by legal proceedings and judgement, or order of court, without prejudice to any other remedy herein contained.

In case the work, or any part thereof, is taken out of the hands of the Contractor, as herein provided, it shall in no way effect the relative obligations of the Corporation



and the Contractor, or his surety, in respect of their obligations, or in respect of the remainder of the work (if any) as the Town Engineer may deem reasonable. If any balance of the Contract price, or other money payable by the Corporation upon the expiration of the period of guaranteed maintenance, the same shall be payable to the Contractor or the personnel legally representing him, but neither the Corporation nor any officer thereof shall be liable or accountable to the Contractor in any way for the manner in which, or the price at which, the said work, or any portion thereof, may have been or may be done or completed by the Town Engineer.

Neither an extension of time for any reason beyond the date fixed herein for the completion of the Contract nor the construction of and payment for any portion of the work called for by the Contract, shall be deemed to be a waiver by the Town Engineer of the right to abrogate the Contract for abandonment, delay or any other reason consistent with the Specifications and General Conditions.

**(34) NOTICE TO CONTRACTOR**

Any notice or communication to the Contractor shall be deemed to be well and sufficiently given and served if handed to the Contractor or any of his clerks, or agents, or if posted or sent to the address given in his Tender for the work, attached hereto, and any papers so left, sent or addressed shall be considered to be, and to have been legally serviced upon the Contractor.

**(35) BRIBERY**

Should the Contractor or any of his agents give or offer any gratuity to, or attempt to bribe, any member of the Corporation, County or Council, officer or servant of the Corporation, County or Council, the Corporation or County shall be at liberty to cancel the Contract forthwith, or to direct the Town Engineer to take the whole or any part of the work out of the hands of the Contractor, under the same provisions as those specified in the section hereof entitled "Forfeiture of Contract".

**(36) ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA)**

The Accessibility of Ontarians with Disabilities Act, 2005 (AODA), is a law passed by the Ontario legislature that allows the government to develop specific standards of accessibility and to enforce them. The standards are made into laws called regulations, and they provide the details to help meet the goal of the AODA, which is a fully accessible Ontario by 2025. The AODA is the foundation on which the subsequent accessibility standards are built. These standards include the Accessible Customer Service Standard, Ontario Regulation 429/07; the Integrated Accessibility Standards (encompassing Information and Communications, Employment and Transportation), Ontario Regulation 191/11; and finally, the Built Environment Standard, which is not yet law.

In 2007, the Ontario Government adopted the first AODA Standard, Ontario Regulation 429/07, respecting Accessibility Standards for Customer Service. All public sector organizations in Ontario, including the Town of Ingersoll, must comply with this regulation by January 1, 2010. The Accessibility Standard for Customer Service also applies to third parties that provide goods and services to members of the public on behalf of a public sector organization.

It is the successful Proponent's responsibility to ensure that it is fully aware of, and meets all requirements under the AODA and associated regulations. Further information on compliance can be found at the Ministry of Community and Social Services website:

<http://www.mcscs.gov.on.ca/mcss/english/pillars/accessibilityOntario/accesson/compliance>.

Accessible formats or communication supports are available upon request.

Email [engineering@ingersoll.ca](mailto:engineering@ingersoll.ca) or call 519-485-0120.

PREVIEW ONLY



**AGREEMENT**

This is the form of Agreement, referred to in the annexed Tender, Specifications, General Clauses and in the Plans and Profiles therein referred to, and, with such Documents and Plans, forms the Contract in this matter.

THIS INDENTURE made (in triplicate) the \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and Twenty-Four.

BETWEEN

Town of Ingersoll

hereinafter called the Corporation, of the First Part,

and

\_\_\_\_\_

hereinafter called the Contractor, of the Second Part.

WHEREAS the said Corporation has awarded to the Contractor the Contract for

**Contract 1 – 2024  
Raglan Street Reconstruction**

according to the Specifications, General Clauses and Drawings herein referred to, the said Contractor having put in a Tender therefore, a copy of which is hereto annexed and which said Tender was accepted by the said Corporation on the \_\_\_\_\_ day of \_\_\_\_\_ 2024.

NOW THESE PRESENT WITNESS that the said Contractor does hereby covenant and agree with the said Corporation that in consideration of the covenants and payments to be made as herein provided as follows:

- (1) To do and perform the whole of the work set out in the plans and tender, in the most substantial and workmanlike manner, tools, and labour of every kind required to construct and complete the work, and to maintain the same;
- (2) To indemnify and save harmless the said Corporation and each of its officers, servants and agents from and against any action, claims and demands which may be brought or made by any other party in consequence of the performance of the said work or of the non-execution or imperfect performance of such work.

(3) To pay to the said Corporation, on demand, all loss costs, damages or expenses which may be paid, sustained, or incurred by the said Corporation or any of its officers, servants or agents in consequence of any such action, suit, claim, lien, execution or demand as hereinbefore stated in Clause 2 above, and that in default of such payment all such loss, costs, damages and expenses may be deducted from any monies of the said Contractor then remaining in the possession of the said Corporation on account of this contract, or may be recovered from the said Contractor or the Surety named in the Bond hereto attached in any court or competent jurisdiction as money payable for such default.

(4) And the said Contractor further agrees that in the event of any action as hereinbefore stated in Clause 2 above, to authorize and empower the said Corporation or its Solicitor to defend, settle, or compromise any such actions, suits, claims, execution or demands as the said Corporation or its said solicitor may deem expedient, and hereby agrees to ratify and confirm all the costs and expenses of such action provided, however, that the said Contractor may, at his own expense, take charge of and conduct the defence in the name of the said Corporation for any such action, claim or suit.

The said Corporation covenants with the said Contractor that if the said work, including all extras in connection therewith, shall be duly and properly executed according to the terms and provisions of this contract, the said Corporation will pay the said contractor the contract price stated in the said Tender (including all approved extras as provided in the Schedule of Prices forming part of this contract) in the manner specified as to holdbacks and only upon estimates or certificates signed by the Engineers. It is hereby expressly provided that the granting of any estimate or certificate, or the payment of any monies there under, shall not be construed as an acceptance of any bad or defective work or material, to which the same relates, or as an admission of liability to pay any money in respect thereof, and shall not in any manner lessen the liability of the Contractor to replace such work or material, although the conditions of the same may not have been known to or discovered by the said Engineer at the time such estimate or certificate was granted, or money paid thereon.

And it is understood and agreed between the parties hereto as follows:

That this Agreement and the covenants and conditions herein, and in the said General Clauses contained shall extend to and be binding upon the heirs, executors, administrators, successors, and assigns of the said Contractor and the said Corporation respectively. In this Agreement, and in the Contract of which this Agreement forms part, the words, "persons", "plans", "shall", "may", "herein", "work", "Works", "Contract", "Contractor", "Inspector", "Town Engineer", "Drawings", "Council", "Solicitor", "Treasurer", and words used in the singular number of the masculine gender, shall have the meaning and effect given to them in the General Clauses hereto annexed, or in the Interpretation Act of the Revised Statutes of Ontario.

IN WITNESS WHEREOF the said Corporation has hereunto affixed its Corporate Seal and the hand of **Brian Petrie, Mayor**, and countersigned by **Danielle Richard, Clerk**, of the said Corporation and the said Contractor has hereunto affixed Corporate Seal and the name of \_\_\_\_\_, proper officer in that behalf.

(Name, Title)

**N.B. Contractors will please read the foregoing before execution.**

SIGNED, SEALED AND DELIVERED IN  
THE PRESENCE OF:

**Contractor**

\_\_\_\_\_  
**Proper Officer:**  
**Title:**

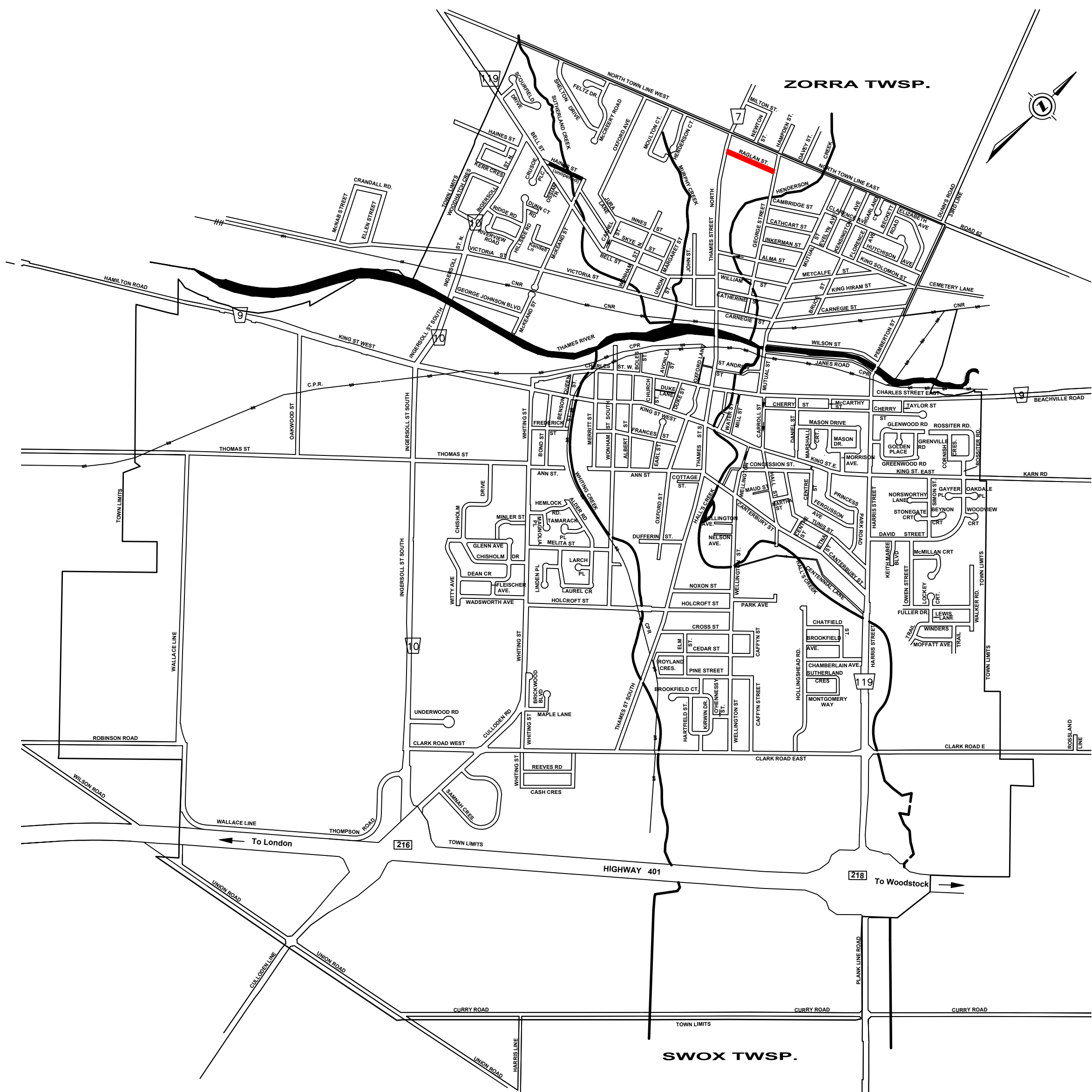
**TOWN OF INGERSOLL:**

\_\_\_\_\_  
**Brian Petrie (Mayor)**

\_\_\_\_\_  
**Danielle Richard (Clerk)**



**CONTRACT # 1 - 2024**  
**RAGLAN STREET RECONSTRUCTION**



KEY PLAN  
SCALE: NTS

PREVIEW ONLY

LIST OF DRAWINGS	
#	TITLE
	COVERSHEET
C-490	Thames St. North easterly to #10 Raglan
C-491	#10 Raglan easterly to #36 Raglan
C-492	#30 Raglan easterly to George St. intersection
TYP-1	Standard Details and Notes

**THE CORPORATION OF THE TOWN OF INGERSOLL  
AND OXFORD COUNTY**



- 100 REMOVE EXISTING SANITARY MAINTENANCE HOLE
- 1200 PROPOSED SANITARY MAINTENANCE HOLE
- BRXX BREAK INTO EX. SANITARY MAINTENANCE HOLE
- 200 REMOVE EXISTING STORM MAINTENANCE HOLE
- 300 REMOVE CATCHBASIN
- 400 REMOVE TWIN INLET CATCHBASIN
- 600 PROPOSED CATCHBASIN
- 700 PROPOSED TWIN INLET CATCHBASIN
- 2200 PROPOSED STORM MAINTENANCE HOLE
- BRXX BREAK INTO EX. STORM MAINTENANCE HOLE
- 500 REMOVE EXISTING WATERVALVE
- WV PROPOSED WATERVALVE
- FD REMOVE EXISTING FIRE HYDRANT
- FH PROPOSED FIRE HYDRANT

- LEGEND:
- ASPHALT
  - CONCRETE
  - GRANULAR 'A'
  - GAS MAIN
  - BELL/CABLE
  - O.P.S.D. 600.04 C&G
  - CLEAR AND GRUBBING
  - REMOVAL
  - FIBRE
  - STREET SIGN

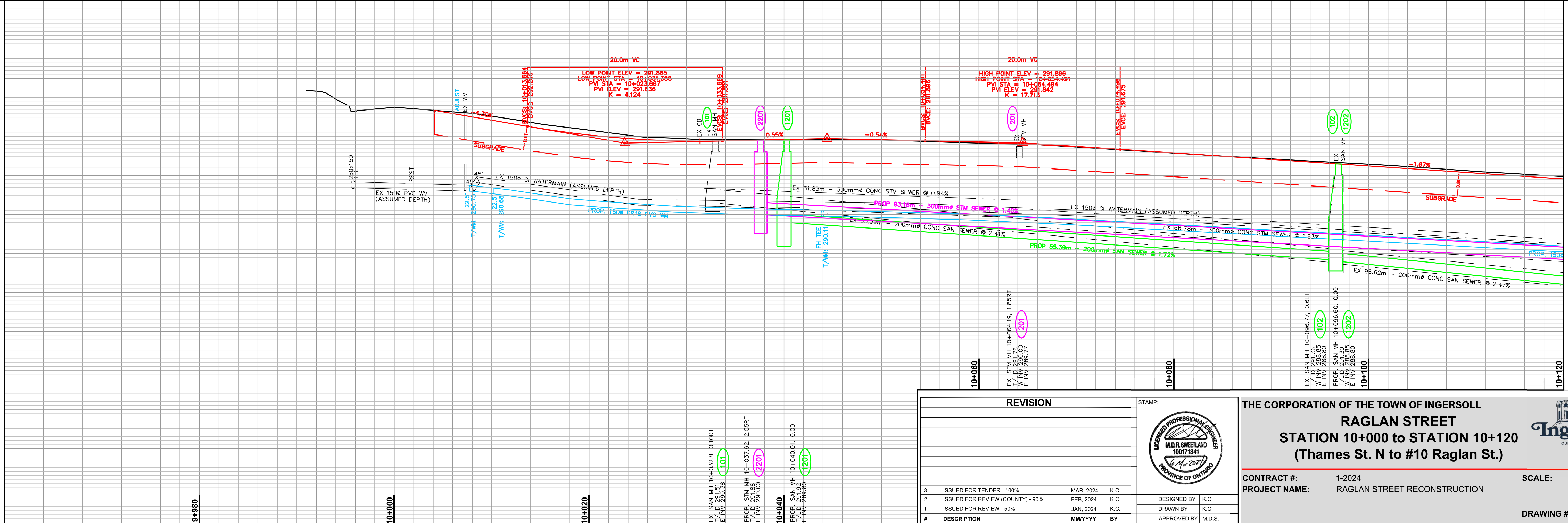
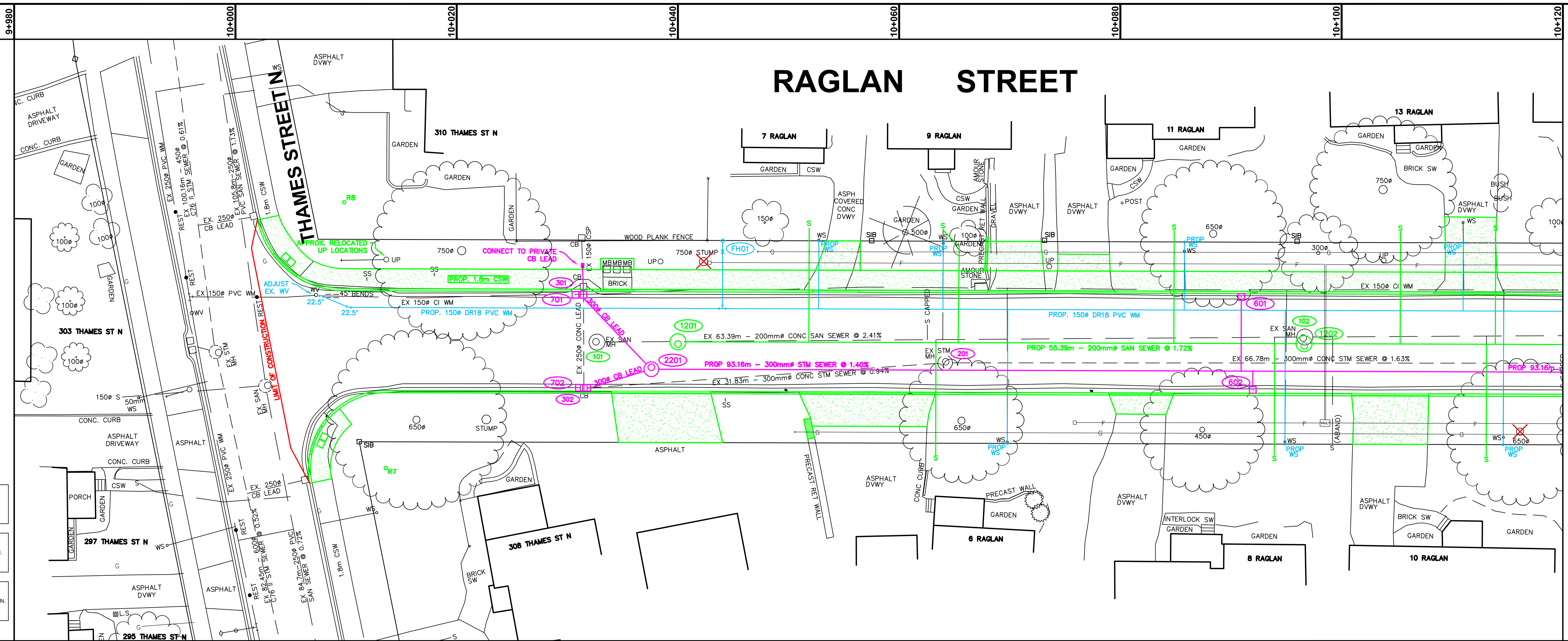
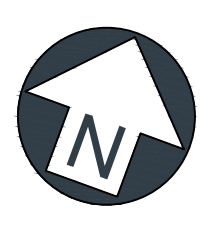


LOCATE NOTES:  
THE LOCATION AND EXTENT OF EXISTING UTILITIES IS APPROXIMATE ONLY. THE CONTRACTOR SHALL CONTACT ONTARIO ONE CALL AND RECEIVE PROJECT LOCATES PRIOR TO ANY EXCAVATION.

NOTE:  
ENBRIDGE GAS TO INSTALL NEW GAS MAINS PRIOR TO CONSTRUCTION. LOCATION AND DEPTHS TO BE VERIFIED BY CONTRACTOR. GAS MAINS DISPLAYED ON DRAWING ARE PROPOSED RUNNING LINES ONLY.

NOTE:  
UTILITY POLES TO BE RELOCATED/REPLACED PRIOR TO CONSTRUCTION. UTILITY POLE LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE, AND ACTUAL LOCATIONS MAY VARY.

# RAGLAN STREET



REVISION			STAMP:	
3	ISSUED FOR TENDER - 100%	MAR. 2024	K.C.	
2	ISSUED FOR REVIEW (COUNTY) - 90%	FEB. 2024	K.C.	DESIGNED BY
1	ISSUED FOR REVIEW - 50%	JAN. 2024	K.C.	DRAWN BY
#	DESCRIPTION	MM/YYYY	BY	APPROVED BY

THE CORPORATION OF THE TOWN OF INGERSOLL

**RAGLAN STREET**

**STATION 10+000 to STATION 10+120**

**(Thames St. N to #10 Raglan St.)**

CONTRACT #: 1-2024

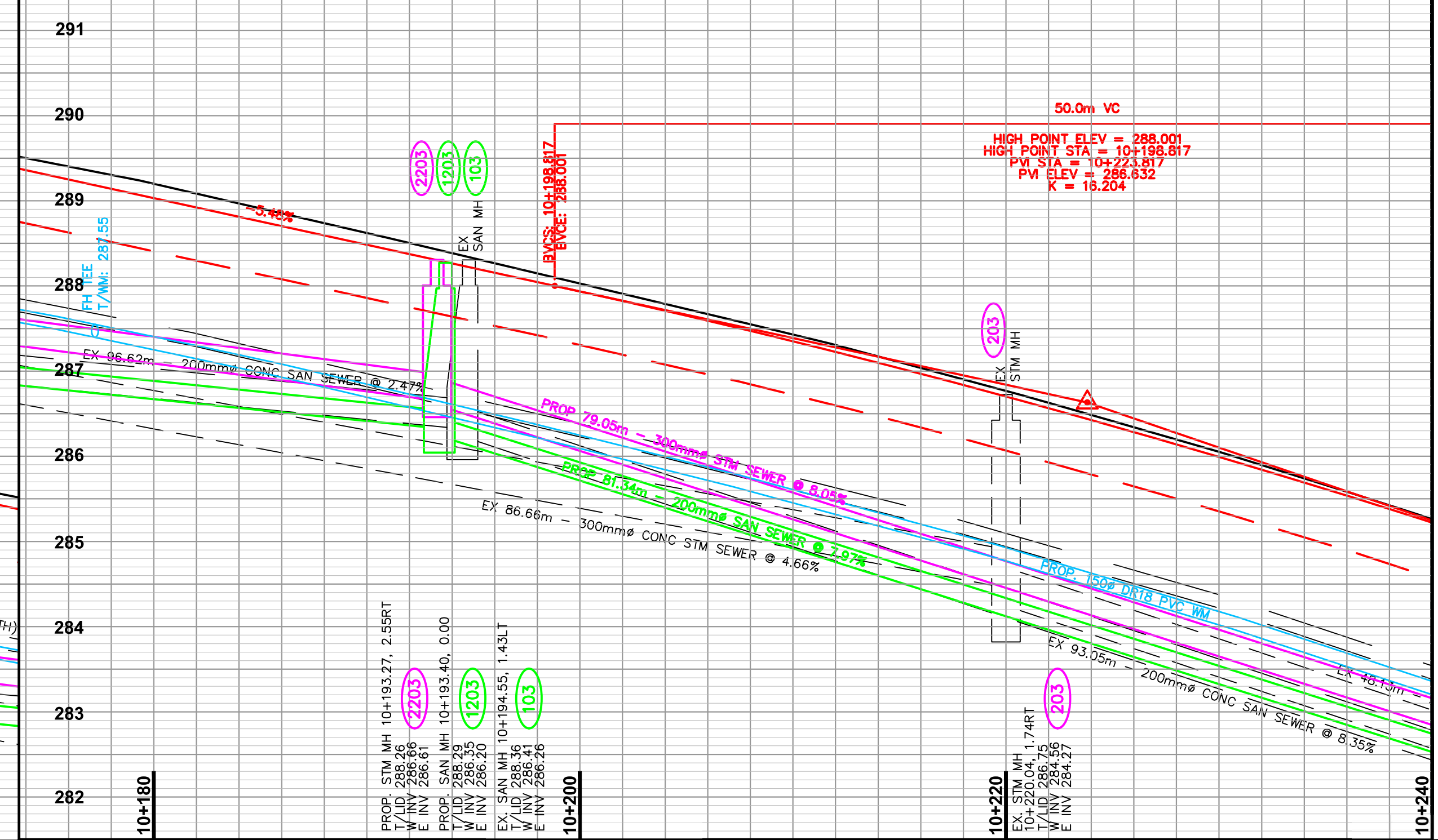
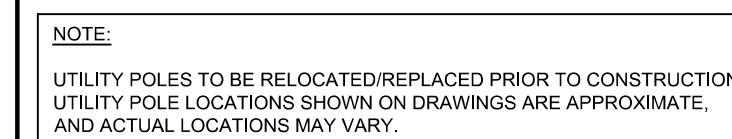
PROJECT NAME: RAGLAN STREET RECONSTRUCTION


SCALE: HOR. 1:200

VER. 1:50

DRAWING #: C-490





REVISION				STAMP:
				
3	ISSUED FOR TENDER - 100%	MAR, 2024	K.C.	
2	ISSUED FOR REVIEW (COUNTY) - 90%	FEB, 2024	K.C.	DESIGNED BY K.C.
1	ISSUED FOR REVIEW - 50%	JAN, 2024	K.C.	DRAWN BY K.C.
#	DESCRIPTION	MM/YYYY	BY	APPROVED BY M.D.S.

THE CORPORATION OF THE TOWN OF INGERSOLL

**RAGLAN STREET**

**STATION 10+100 to STATION 10+240**

**(#10 Raglan St. easterly to #36 Raglan St.)**

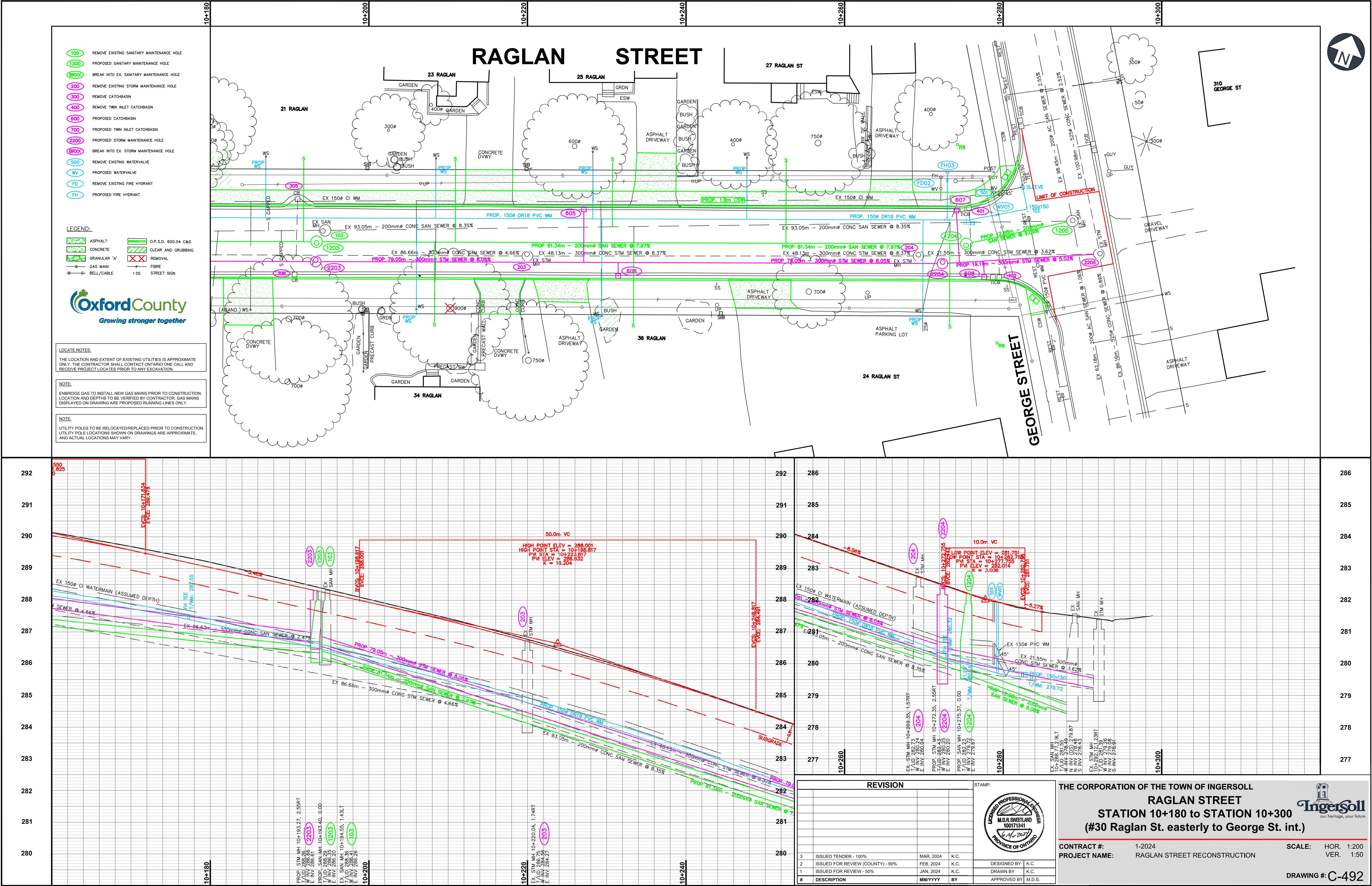
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**CONTRACT #:** 1-2024 **SCALE:** HOR. 1:200

**PROJECT NAME:** RAGLAN STREET RECONSTRUCTION **VER.** 1:50

**DRAWING #:** C-491







GENERAL NOTES:

- THESE DRAWINGS ARE NOT FOR CONSTRUCTION UNTIL APPROVED BY THE TOWN ENGINEER OR ITS DESIGNATE.
- IN THE EVENT OF A CONFLICT BETWEEN THE CONTRACT DOCUMENT AND THESE NOTES, SPECIFICATIONS IN THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.
- NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE MUNICIPALITY AND/OR COUNTY.
- ALL DIMENSIONS ARE IN METERS, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETERS, UNLESS SPECIFIED OTHERWISE.
- THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE TO EXISTING WORKS. THE CONTRACTOR IS RESPONSIBLE FOR THE RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT OF WAY TO TOWN OF INGERSOLL STANDARDS. TRACKING OF CLEATED EQUIPMENT IS NOT PERMITTED ON PAVED SURFACES THAT ARE TO REMAIN. CARELESS DAMAGE TO PAVED AREAS SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE TOWN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD. ALL SAFETY MEASURES SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO TRAFFIC MANUAL BOOK 7 - TEMPORARY CONDITIONS FIELD EDITION. TRAFFIC CONTROL AND DETOURS MUST BE SUBMITTED FOR TOWN REVIEW PRIOR TO WORK TAKING PLACE.
- ACCESS TO ALL BUSINESSES AND RESIDENTS IS TO BE MAINTAINED AT ALL TIMES, UNLESS OTHERWISE DIRECTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A STAGING/LAY-DOWN LOCATION SUBJECT TO THE APPROVAL OF THE MUNICIPALITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL SITES FOR ALL MATERIALS SUBJECT TO THE APPROVAL OF THE TOWN ENGINEER AND REGULATORY AUTHORITIES.
- THE LOCATION OF UTILITIES SHOWN ON THE CONTRACT DRAWINGS, ARE FOR REFERENCE PURPOSE ONLY. THE CONTRACTOR SHALL CONTACT ONTARIO ONE CALL AND RECEIVE LOCATES PRIOR TO ANY EXCAVATION. ANY UTILITY VARIANCE IS TO BE IMMEDIATELY REPORTED TO THE TOWN ENGINEER. LOST TIME DUE TO FAILURE OF THE CONTRACTOR TO CONFIRM UTILITY LOCATIONS AND NOTIFY THE TOWN OF CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT THE CONTRACTORS EXPENSE.
- EXISTING UTILITIES IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED BY OTHERS.
- ALL EXCAVATION SHALL MEET REQUIREMENTS OF OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- REFER TO THE GEOTECHNICAL INVESTIGATION REPORT SUPPLIED BY THE TOWN FOR REQUIREMENTS OF COMPACTION, BACKFILL MATERIAL, BEDDING MATERIAL, GROUNDWATER, EXCAVATION ETC. GEOTECHNICAL REPORT IS LOCATED IN THE CONTRACT DOCUMENT.
- IF SURFACE COURSE ASPHALT IS NOT PLACED THIS CONTRACT, THE CONTRACTOR SHALL RAMP ALL DRIVEWAYS, SIDEWALK CROSSINGS AND CATCHBASINS WITH A MINIMUM OF 0.3m RAMPING.
- SOD AND/OR SEED MUST BE MAINTAINED AND WATERED BY THE CONTRACTOR FOR 30 DAYS FROM PLACEMENT.

STANDARDS:

- THESE NOTES APPLY TO ALL WORK.
- REVIEW ALL CONTRACT DOCUMENTS FOR APPLICABLE STANDARDS.
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE MOST CURRENT VERSIONS OF THE TOWN OF INGERSOLL AND COUNTY OF OXFORD DESIGN GUIDELINES AND SUPPLEMENTARY SPECIFICATIONS FOR MUNICIPAL SERVICES AND OTHER REGULATORY STANDARDS, POLICIES AND GUIDELINES.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEEK CLARIFICATION DURING THE TENDERING OF WORK IF THEY ARE UNCLEAR AS TO THE STANDARD THAT APPLIES TO THE WORK.
- THE MINIMUM ACCEPTABLE STANDARD FOR ALL WORK, WHERE NO STANDARD IS EXPLICITLY STATED IS TO BE THE MOST APPROPRIATE ONTARIO PROVINCIAL STANDARD DRAWING (OPSD) AND/OR ONTARIO PROVINCIAL STANDARD SPECIFICATION (OPSS).
- MUNICIPAL AND/OR COUNTY STANDARDS SUPERCEDE ALL OTHER STANDARDS FOR THE WORK.

EROSION CONTROL:

- THE CONTRACTOR SHALL INSTALL ANY SILT CONTROL MEASURES REQUIRED TO STOP SILT MIGRATION FROM ENTERING STORM SEWERS TO THE SATISFACTION OF THE MINISTRY OF NATURAL RESOURCES, UPPER THAMES REGIONAL CONSERVATION AUTHORITY, MINISTRY OF THE ENVIRONMENT OR ANY OTHER REGULATORY AGENCY OR MINISTRY AND, IN PARTICULAR, TO THE GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES (MNR). THE CONTRACTOR SHALL ASSUME THE DEFENSE OF AND INDEMNIFY AND SAVE HARMLESS TO THE TOWN OR COUNTY FROM ALL FINES, CHARGES AND CLAIMS RELATING TO THE PROJECT FROM ANY REGULATORY AGENCY OR MINISTRY.
- ALL EROSION CONTROL MEASURES INSTALLED, SHALL BE MAINTAINED TO THE SATISFACTION OF THE TOWN ENGINEER AND SHALL REMAIN IN PLACE UNTIL FINAL ASSUMPTION OR AS DIRECTED.
- ALL SEDIMENT CONTROL FENCING MUST BE INSTALLED PRIOR TO EXCAVATION. FENCING TO BE MONITORED WEEKLY, WITH ANY REPAIRS TO BE REPAIRED IMMEDIATELY. THE TOWN ENGINEER MAY PLACE A WORK STOPPAGE UNTIL FENCING IS REPAIRED TO THE THEIR APPROVAL.

BURIED PIPE WORK (OPEN CUT):

- THESE NOTES APPLY TO ALL WORK OF THIS TYPE EITHER SPECIFICALLY IDENTIFIED OR REASONABLY IMPLIED WITHIN THE CONTRACT DOCUMENTS.
- ALL MATERIALS SHALL BE C.S.A. CERTIFIED.
- BACKFILL MATERIAL TO BE APPROVED BY THE TOWN ENGINEER PRIOR TO START OF CONSTRUCTION.
- ALL EMBEDMENT AND BACKFILL AS PER TABLE 1 UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
- ITEMS LISTED IN TABLE 1 APPLY TO THIS WORK.

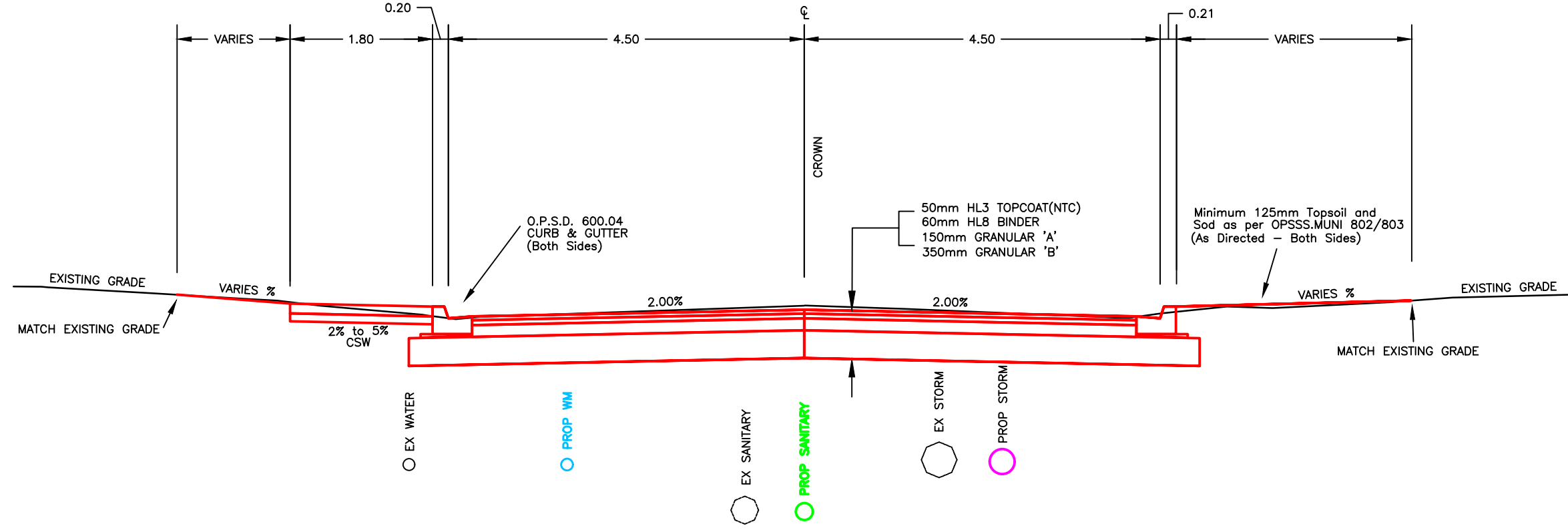
SEWER AND WATERMAIN WORKS:

- ALL STORM SEWER WORKS MUST COMPLY WITH THE TOWN OF INGERSOLL STANDARDS.
- ALL STORM SEWER PIPE MUST BE APPROVED BY THE TOWN ENGINEER PRIOR TO PLACEMENT.
- THE CONTRACTOR SHALL MAINTAIN THE FLOW OF ALL EXISTING DRAINS ENCOUNTERED WHETHER SHOWN ON THE DRAWINGS OR NOT. SHOULD THE CONTRACTOR ENCOUNTER A DRAIN NOT SHOWN, IT IS THE RESPONSIBILITY OF THE TOWN ENGINEER TO DETERMINE IF SAID PIPE MAY BE ABANDONED.
- CEMENT MORTAR FOR SETTING PIPE, BENCHING, ADJUSTMENTS AND SETTING OF FRAMES SHALL CONSIST OF TWO PARTS MASONRY SAND (OR EQUIVALENT) WITH ONLY SUFFICIENT WATER TO MAKE MIXTURE PLASTIC.
- ABANDONED PIPE NOT REMOVED MUST BE SEALED WITH CEMENT MORTAR AND/OR BRICK BULKHEAD, AS DIRECTED BY THE TOWN ENGINEER.
- ALL CATCHBASIN DEPTH MUST HAVE A 1.5m INTERIOR NOMINAL DEPTH, UNLESS OTHERWISE SPECIFIED.
- CATCHBASIN MAINTENANCE HOLES AND CATCHBASINS TO HAVE A MINIMUM 600mm SUMP.
- STORM MANHOLE LIDS TO BE PER OPSD 401.010 - TYPE 'W' AND CATCHBASIN MANHOLE GRATES TO BE PER OPSD 400.110.
- STORM SEWERS TO HAVE A MINIMAL 1.5m COVER TO TOP OF PIPE, WHERE COVER TO TOP IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW PIPE AS PER TOWN STANDARDS AND TYPICAL DRAWING S-24.
- ALL ADJUST RINGS ARE TO BE PARGED ON OUTSIDE, INSIDE JOINTS TO BE POINTED ONLY, NOT PARGED.
- ALL BASINS AND MAINTENANCE HOLES MUST BE INSPECTED AND CLEANED OF DEBRIS PRIOR TO SUBSTANTIAL COMPLETION.
- ALL SANITARY SEWER WORKS MUST COMPLY WITH THE COUNTY OF OXFORD STANDARDS.
- ALL SANITARY SEWER PIPE MUST BE APPROVED BY THE COUNTY ENGINEER PRIOR TO PLACEMENT.
- THE APPROXIMATE LOCATION OF EXISTING SANITARY LATERALS HAVE BEEN DETERMINED BY AS-RECORDED RECORD INFORMATION AND VIDEO INSPECTION AS SHOWN ON THE DRAWINGS AND IS TO BE VERIFIED ON SITE.
- PROPERTIES WITH TWO OR MORE SANITARY LATERALS SHOWN SHALL BE DYE TESTED TO DETERMINE WHICH IS LIVE. SHOULD MORE THAN ONE LATERAL BE DEEMED LIVE, LATERALS ARE TO BE CONNECTED TOGETHER BEHIND EXISTING RIGHT OF WAY.
- THE CONTRACTOR SHALL MAINTAIN THE FLOW OF ALL EXISTING SANITARY SEWERS AND/OR LATERALS ENCOUNTERED WHETHER SHOWN ON THE DRAWINGS OR NOT. SHOULD THE CONTRACTOR ENCOUNTER A SANITARY PIPE NOT SHOWN, IT IS THE RESPONSIBILITY OF THE COUNTY OF OXFORD TO DETERMINE IF SAID PIPE MAY BE ABANDONED.
- ABANDONED SANITARY PIPE NOT REMOVED MUST BE SEALED WITH CEMENT MORTAR OR BRICK BULKHEAD, AS DIRECTED BY APPOINTED COUNTY STAFF.
- SANITARY MAINTENANCE HOLES ARE TO BE PRE-BENCHED, AS PER OPSD 701.021.
- SANITARY MANHOLE LIDS TO BE PER OPSD 401.010 - TYPE 'X'.
- SANITARY SEWERS TO HAVE A MINIMAL 1.5m COVER TO TOP OF PIPE, WHERE COVER TO TOP IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW PIPE AS PER COUNTY STANDARDS AND TYPICAL DRAWING S-24.
- ALL SANITARY AND MAINTENANCE HOLES MUST BE INSPECTED AND CLEANED OF DEBRIS PRIOR TO SUBSTANTIAL COMPLETION.
- ALL WATERWORKS MUST COMPLY WITH THE COUNTY OF OXFORD STANDARDS.
- ALL WATERMAIN PIPE AND APPURTENANCES MUST BE APPROVED BY THE COUNTY ENGINEER PRIOR TO PLACEMENT.
- ABANDONED WATERMAIN PIPE NOT REMOVED MUST BE SEALED WITH CEMENT MORTAR OR BRICK BULKHEAD, AS DIRECTED BY APPOINTED COUNTY STAFF.
- WATERMAIN TO HAVE A MINIMAL 1.8m COVER TO TOP OF PIPE, WHERE COVER TO TOP IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW PIPE AS PER COUNTY STANDARDS AND TYPICAL DRAWING S-24.
- ALL WATERMAIN TESTING SHALL BE PER COUNTY OF OXFORD SPECIFICATIONS PRIOR TO ACCEPTANCE. TOWN OF INGERSOLL SHALL PROVIDE INSPECTION OF ALL INSTALLATION. THE COUNTY OF OXFORD SHALL BE RESPONSIBLE FOR ALL TESTING AND OVER SEEING COMMISSIONING INCLUDING CHLORINATION. THE CONTRACTOR IS RESPONSIBLE FOR THE DELIVERY OF ALL SAMPLES TO THE COUNTY ASSIGNED LAB AT THEIR EXPENSE.
- CONTRACTORS SHALL NOT OPERATE ANY VALVE OR HYDRANT ON THE EXISTING WATER DISTRIBUTION SYSTEM, WITHOUT PROPER COUNTY STAFF ON SITE.
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE TOWN AND COUNTY PRIOR TO ANY ACCEPTANCE OF WATERMAIN SHUTDOWN. THE TOWN AND/OR COUNTY WILL NOTIFY THE PROPER AUTHORITIES, BUSINESSES AND RESIDENTS WITHIN THAT TIMELINE OF THE PROPOSED SHUTDOWN.
- BEFORE COMMENCING ANY WATERMAIN SHUTDOWN, THE CONTRACTOR MUST ENSURE THAT ALL LABOUR, MATERIAL AND EQUIPMENT ARE ON SITE TO COMPLETE THE WORK OUTLINED IN THE SHUTDOWN AND ALLOTTED TIME.

COUNTY of OXFORD STANDARDS SECTION 3 – WATERMAINS	
SECTION NAME	SUB – SECTION
WATERMAINS	1.1
VALVES	1.3
BLOW-OFFS	1.4
WATER SERVICES	1.6
BACKFLOW PREVENTION	1.8
SERVICE VALVES	1.9
HYDRANTS AND HYDRANT TESTING	1.10
TEMPORARY WATERMAIN AND SERVICES	1.11
PIPE MATERIALS	2.1 TO 2.19
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OPEN CUT INSTALLATION – EXCAVATION AND TRENCH PREPARATION	3.3
OPEN CUT INSTALLATION – DEWATERING	3.4
OPEN CUT INSTALLATION – LOWERING AND LAYING	3.5
OPEN CUT INSTALLATION – BEDDING	3.6
OPEN CUT INSTALLATION – BACKFILLING	3.7
OPEN CUT INSTALLATION – COMPACTION TEST	3.8
CONNECTIONS TO EXISTING MAINS	3.14
CONNECTION – JOINTING OF PUSH ON JOINT PIPES	3.15
CONNECTIONS TO VALVE, HYDRANTS & FITTINGS	3.16
CATHODIC PROTECTION FOR PVC WATERMAIN	3.18
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INITIAL FLUSHING AND SWABING	5.2
TEST PRESSURE	5.3
BLOCKING AND BLANKING	5.4
FILLING PIPE	5.6
LEAKAGE TEST	5.7
DISINFECTION – GENERAL	6.1
DISINFECTION – CONTRACTOR TO SUPPLY	6.2
DISINFECTION – POINT OF APPLICATION	6.3
DISINFECTION	6.4
FINAL FLUSHING	6.5
CONNECTION SAMPLES	6.6
COMMISSIONING OF NEW MAIN	6.7
CONTRACTORS LIABILITY	6.8
REMOVAL OF EQUIPMENT	6.9
DEFECTS IN PIPEWORK	6.10
TYPICAL DETAILS	DWG #
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FIRE HYDRANT AND VALVE INSTALLATION	D 1828–1–1993
MECHANICAL JOINT OFFSET INSTALLATION – UNDER	D 1833–1–1993
MECHANICAL JOINT OFFSET INSTALLATION – OVER	D 1833–1–1993
BACK FLOW PREVENTOR – EXISTING TO NEW WATERMAIN	D 1836–1–2006
WATER SERVICE CONNECTION – 25mm DIAMETER	D 1838–1–2007
WATER SERVICE CONNECTION – 32–50mm DIAMETER	D 1839–1–2007
TRACER WIRE VALVE BOX INSTALLATION	D 1846–1–2009
TRACER WIRE CONNECTOR DETAILS	D 1858–1–2016

COUNTY of OXFORD STANDARDS SECTION 4 – SANITARY SEWERS	
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LOCATION AND ALIGNMENT	1.2
PIPE SIZE	1.9
PIPE DEPTH	1.11
MAINTENANCE HOLES	1.12
PIPE MATERIALS	2.1 TO 2.4
OPEN CUT INSTALLATION – LINE AND GRADE	3.1
OPEN CUT INSTALLATION – EXCAVATION AND TRENCH PREPARATION	3.3
OPEN CUT INSTALLATION – DEWATERING	3.4
OPEN CUT INSTALLATION – LOWERING AND LAYING	3.5
OPEN CUT INSTALLATION – BEDDING	3.6
OPEN CUT INSTALLATION – BACKFILLING	3.7
OPEN CUT INSTALLATION – COMPACTION TEST	3.8
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CONNECTION – JOINTING OF PUSH ON JOINT PIPES	3.15
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CLEANING AND FLUSHING SEWERS	5.2
LEAKAGE TEST	5.3
MANDREL DEFLECTION TESTING OF SEWER PIPE	5.4
CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTION	5.5
TYPICAL DETAILS	DWG #
RIGID BOARD INSULATION – SLAB TYPE	D 1812–1–2007
TYPICAL SANITARY CLEANOUT	D 1863–1–2023

TOWN of INGERSOLL STANDARDS SECTION 7 – STORM SEWERS	
SECTION NAME	SUB – SECTION
7.0 LOCATION and DESIGN	
PERMITTED USE	3.0
LOCATION AND ALIGNMENT	7.0
PIPE SIZE	11.0
PIPE DEPTH	13.0
MAINTENANCE HOLES	14.0
7.2 MATERIAL	
PIPE MATERIALS	1.0
APPROVED MATERIAL	2.0
BEDDING MATERIAL	4.0
7.3 INSTALLATION	
OPEN CUT INSTALLATION – LINE AND GRADE	1.0
OPEN CUT INSTALLATION – EXCAVATION AND TRENCH PREPARATION	1.0
OPEN CUT INSTALLATION – DEWATERING	1.0
OPEN CUT INSTALLATION – LOWERING AND LAYING	1.0
OPEN CUT INSTALLATION – BEDDING	1.0
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OPEN CUT INSTALLATION – COMPACTION TEST	1.0
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7.5 CCTV INSPECTION/FLUSHING AND CLEANING	
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STORM SEWER VERTICAL SEPARATION – OVER	S–9
GUTTER DRAIN INSTALLATION	S–31



STANDARD DETAIL – STD-1  
RAGLAN STREET – 10+000 to 10+285



THE CORPORATION OF THE TOWN OF INGERSOLL

RAGLAN STREET  
Typical Sections and General Notes

CONTRACT #: 1-2024

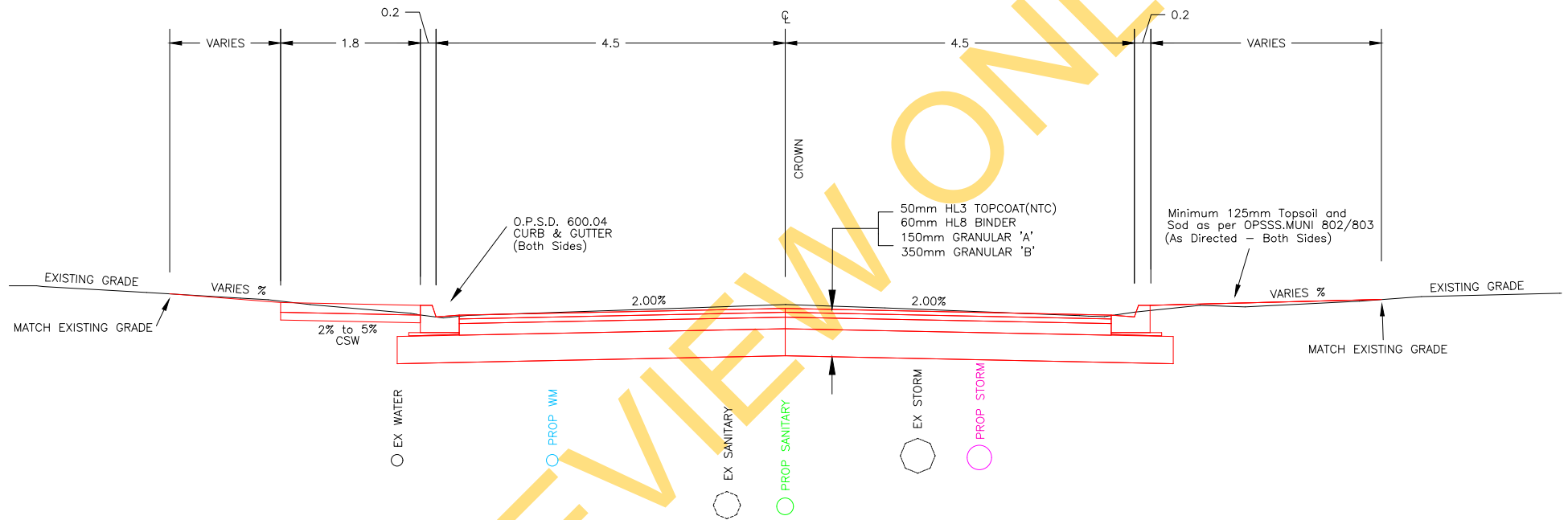
PROJECT NAME: RAGLAN STREET RECONSTRUCTION

SCALE: N.T.S.

DRAWING #: TYP-1

REVISION				STAMP:	
3	ISSUED FOR TENDER - 100%	MAR. 2024	K.C.	DESIGNED BY	K.C.
2	ISSUED FOR REVIEW (COUNTY) - 90%	FEB. 2024	K.C.	DRAWN BY	K.C.
1	ISSUED FOR REVIEW - 50%	JAN. 2024	K.C.	APPROVED BY	M.D.S.
#	DESCRIPTION	DD/MM/YYYY	BY		





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*The Corporation of The Town of Ingersoll*

**WONHAM STREET SOUTH  
TYPICAL SECTION  
10+000 to 10+285**

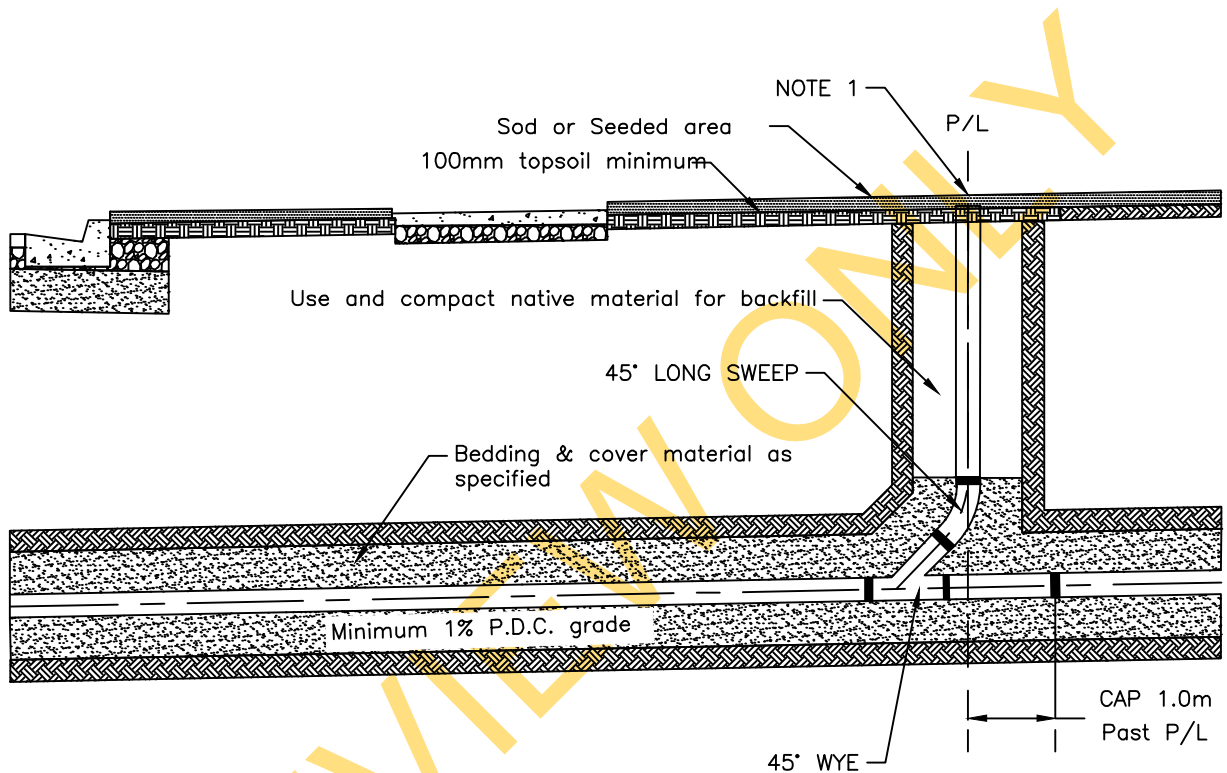
No.	BY	DATE	DESCRIPTION
REVISIONS			

DRAWN BY:  
K.C.

APPROVED BY:

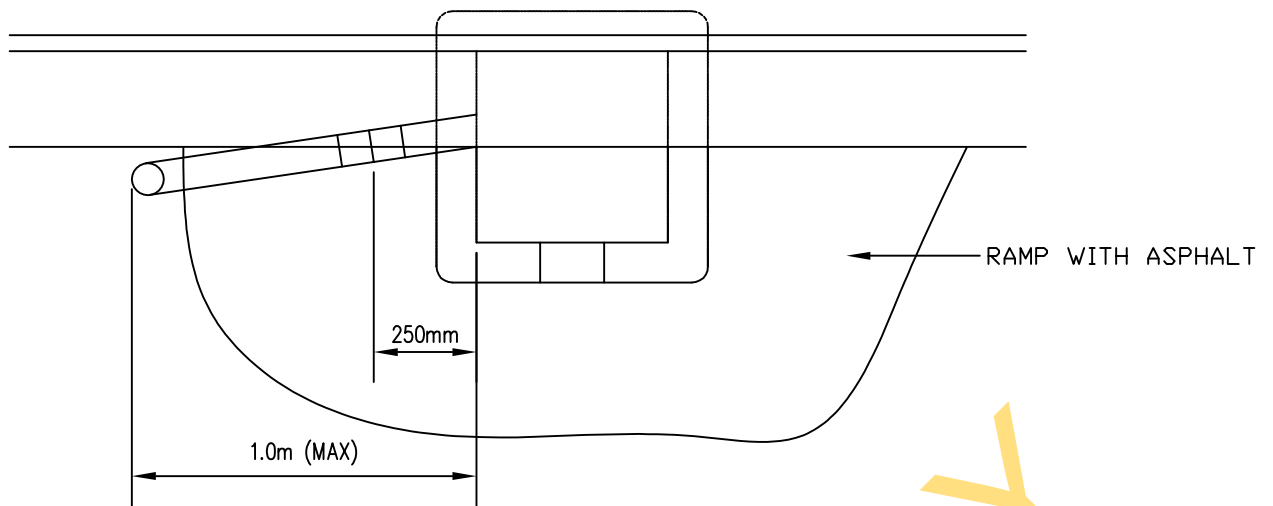
DATE:  
FEB, 2024

STANDARD No.  
STD 1

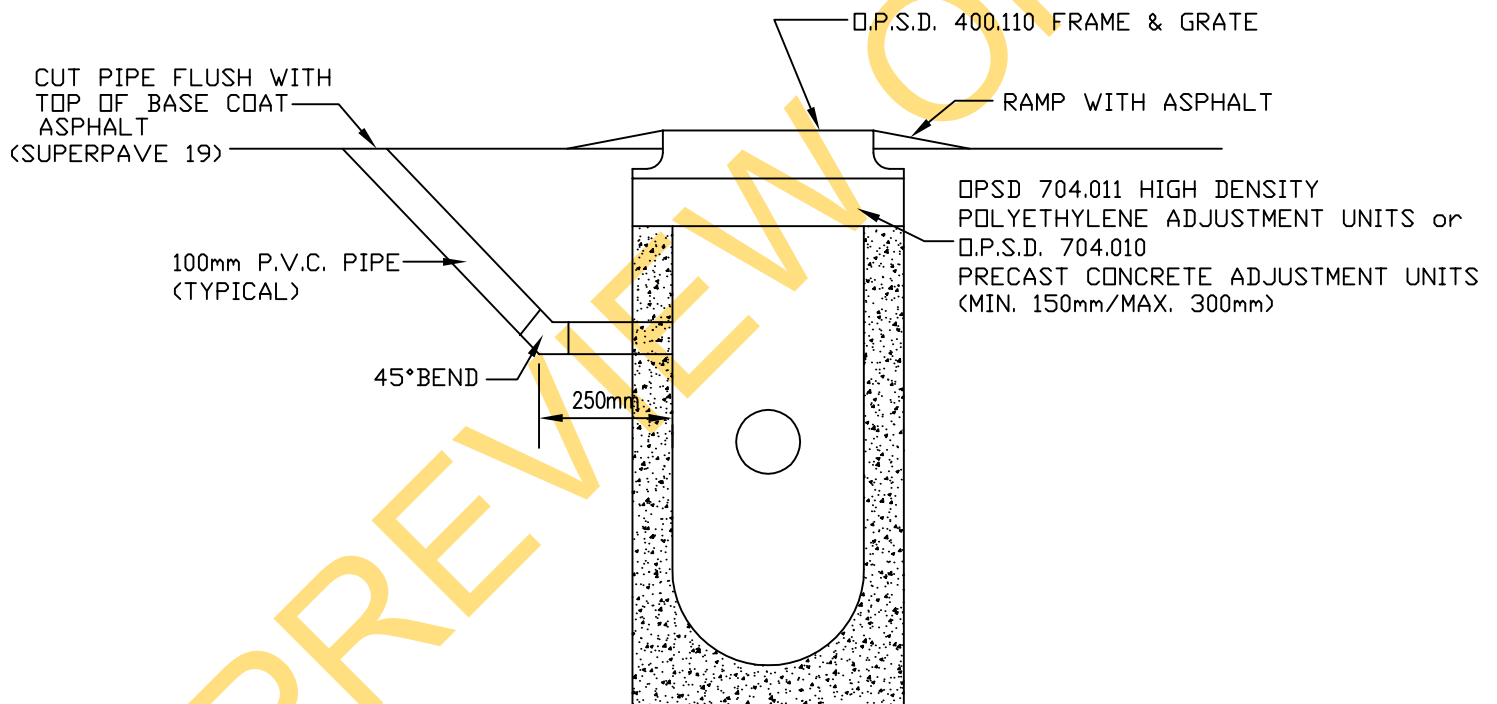


- a) Cleanout Hard (Rigid) Surface Installation: use cast iron cap and install flush with surface  
Cleanout 4" – EJ MC030000401 OR APPROVED EQUIVALENT  
Cleanout 6" – EJ MC030000601 OR APPROVED EQUIVALENT
- b) Cleanout Gravel Surface Installation: Use cast iron cap per a), install 75mm below finished grade
- c) Cleanout Soft Surface (Grass) Installation: Use standard plastic cap, install 75mm below grade
- 4" PVC Female x Threaded Adapter  
4" PVC Threaded PVC Plug  
6" PVC Female x Threaded Adapter  
6" PVC Threaded PVC Plug

	REVISIONS	



PLAN VIEW



D.P.S.D. 705.010 - CATCHBASIN

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				<i>The Corporation of The Town of Ingersoll</i>			
1		May,2012	COUNCIL APPROVED	GUTTER DRAIN INSTALLATION			
No.	BY	DATE	DESCRIPTION				
REVISIONS				DRAWN BY: T.W.E.	APPROVED BY: E.R.M.	DATE: February 27/01	STANDARD No. S - 31

# Geotechnical Engineering Report

Proposed Road Reconstruction  
Raglan Street,  
Ingersoll, Ontario

Town of Ingersoll  
Final Report

February 8, 2024  
04-02308586.000-100-GS-R-0001-00



**ENGLOBE**

# Town of Ingersoll

Prepared by:



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**Behnoush Honarvar Sedighian, M.Sc.**  
Geotechnical Professional

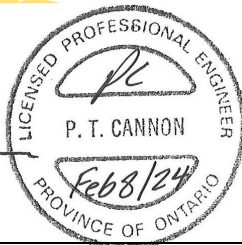
Reviewed by:



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Project Manager

Approved by:



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Project Director / Senior Geotechnical Engineer

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Project Director / Senior Geotechnical Engineer	Patrick Cannon, P. Eng.

## Revisions and publications log

REVISION No.	DATE	DESCRIPTION
00	February 8, 2024	Final Report Issued

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Englobe Corp.'s subcontractors who have carried out on-site or laboratory work are duly assessed according to the purchase procedure of our quality system. For further information, please contact your project manager.”

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**APPENDICES**

Appendix A Drawings

Appendix B Borehole Logs

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# 1 Introduction

Englobe Corp. (Englobe) was retained by the Town of Ingersoll (hereinafter referred to as the “Client”) to carry out a geotechnical investigation in support of the proposed reconstruction of Raglan Street from Thames Street N to George Street. The site location plan is provided on Drawing 1 in Appendix A.

The purpose of the work was to investigate and report on the subsurface soil and groundwater conditions in a series of boreholes drilled at the site. Based on the findings, this engineering report has been prepared to provide geotechnical recommendations for excavations, dewatering, pipe bedding, trench backfilling, and street reconstruction including pavement design.

## 2 Site and Project Description

### 2.1 Existing Site Conditions

The section of Raglan Street between Thames Street and George Street in Ingersoll, Ontario appears to be a residential area. The road is lined with detached houses featuring lawns and trees, suggesting a suburban setting. The road itself looks to be a standard two-way, local street, typical of residential areas. In general, elevations along Raglan Street are highest in the west portion of the site (i.e., near Thames Street N; Highway 7) and slope down towards the east with ground surface elevations varying from Elevations 291.9 to 283.7 at Borehole BH-01-23 to BH-04-23, respectively.

### 2.2 Site Geology

The site geology of Raglan Street in Ingersoll, Ontario, as detailed in the Soil Survey of Oxford County (Report No. 28 of the Ontario Soil Survey), indicates a landscape formed through repeated glaciations. The bedrock consists of various sedimentary layers, including dolomite, limestone, shale, and gypsum, overlain by glacial deposits such as till, outwash, and lacustrine materials.

The soils, derived from these deposits, are generally calcareous and exhibit varying textures, including loam and silt. The area's relief is shaped by drumlins, sand plains, and morainic ridges, indicative of its glacial history. The Soil Survey of Oxford County indicates that the surface deposits in the area consist of a mixture of broken rock fragments and non-sorted materials ranging from clay to boulders. These glacial till deposits are generally calcareous and particularly so within the till deposits. The soil textures vary, with clay loam textures occurring along the border of Perth County and extensively east and south of Woodstock in East Oxford, and loam or silt loam textures interspersed with water-laid sediments throughout central Oxford, notably in North Oxford and West Oxford Townships. The region also has outwash deposits of sands and gravels, particularly in Blandford, Blenheim, and South Norwich Townships. These descriptions indicate a varied soil composition, with significant areas of clay, loam, and gravelly materials.

## 2.3 Proposed Development

It is understood that the reconstruction will consist of proposed storm and sanitary sewers upgrades, watermain, road widening and road reconstruction and associated works. Based on the proposed construction plan and profile drawings provided by the client, the invert elevation of the proposed services will range from 278.4 to 290.0 m.

# 3 Field and Laboratory Investigation

## 3.1 Field Program

The fieldwork for this investigation was performed on September 28<sup>th</sup>, 2023, and involved drilling four (4) boreholes extended to approximate depths ranging from 3.7 to 4.3 metres below ground surface (mBGS). The location of the borehole is shown on Drawing 2 in Appendix B.

The field investigation was carried out in general conformance with the professional standards set out in the Canadian Foundation Engineering Manual (CFEM 2006, 4th Edition), applicable Ontario Regulations and the ASTM International (ASTM) standards. The following is a summary of field investigation tasks:

- Local utility companies were contacted prior to the start of drilling activities to demarcate underground utilities on the site.
- The boreholes were advanced using a track mounted drill rig equipped with continuous flight hollow stem augers supplied and operated by London Soil Test Inc. under the supervision of an Englobe drilling supervisor. The boreholes were logged by our geotechnical supervisor.
- The boreholes were surveyed for coordinates and geodetic elevation.
- Soil samples were recovered from the boreholes at regular depth intervals using a 50 mm outside diameter split spoon sampler in accordance with ASTM D1586 Standard Penetration Test (SPT). The recorded SPT N-values are provided on the borehole logs (Appendix B).
- Groundwater observations and measurements were carried out in the open borehole and upon completion of drilling.
- Details of the groundwater observations and measurements are provided on the appended borehole logs (and summarized in Groundwater, Section 4.2 below).
- The boreholes were backfilled with bentonite in accordance with Ontario Regulation 903 as amended, under the Ontario Water Resources Act.

## 3.2 Geotechnical Laboratory Testing

All soil samples recovered during this investigation were returned to our laboratory for visual examination and moisture content testing. The moisture content values are shown on the appended borehole logs. Selected soil samples were submitted for Particle Size Analysis and Atterberg limits test. A list of laboratory tests completed are summarized in Table 1.

**Table 1: List of Laboratory Tests Conducted as per ASTM Standards**

Test	Standard	Number of Samples
Natural Moisture Content	ASTM D2216	19
Particle Size Analysis (Sieve Analysis)	ASTM D6913	1
Particle Size Analysis (sieve and Hydrometer)	ASTM D7298	2

Detailed description and the results of the laboratory tests are provided on the appended boreholes log in Appendix C and Section 4 of this report.

It is important to note that as per the standard policy of Englobe, the soil samples will be stored for a period of three months from the date of sampling. These soil samples will be discarded after the three-month period unless prior arrangements have been made for longer storage.

## 4 Subsurface Conditions

The subsurface soil and groundwater conditions encountered in the boreholes are shown on the Record of Borehole Logs in Appendix B. A list of abbreviations and symbols are provided to assist in the interpretation of the borehole logs. It should be noted that the boundaries between the strata have been inferred from drilling observations and non-continuous samples. The boundaries generally represent a transition from one soil type to another and should not be inferred to represent exact planes of geological change. Further, conditions will vary between and beyond the locations investigated.

### 4.1 Soil Conditions

The following discussion has been simplified in terms of the major soil strata for the purposes of geotechnical design. In general, the boreholes drilled at the site penetrated pavement structure followed by fill overlying native deposits of silt till and sandy silt to sandy silt till.

#### 4.1.1 Pavement Structure

The boreholes revealed an existing pavement structure comprising asphalt over granular fill (base and subbase layers) in all the boreholes. Beneath the pavement structures, the fill material and subgrade soils encountered in all the boreholes consist primarily of sand to silty sand, silty clay to silty clay till, and silt to silty sand. A summary of pavement component thicknesses encountered at the borehole locations is provided in Table 2, below.

**Table 2: Summary of Existing Pavement Thicknesses**

Borehole ID	Asphalt (mm)	Granular FILL (Base and Subbase) (mm)	Subgrade
BH-01-23	100	660	Fill: silt some sand, clay and organics
BH-02-23	130	480	Fill: silt some sand, clay, gravel and organics
BH-03-23	120	640	Fill: sand and gravel, traces of silt
BH-04-23	90	520	Fill: clayey silt
<b>Average</b>	<b>110</b>	<b>575</b>	<b>-</b>

Grain size analyses was completed on one (1) composite sample (BH-01-23 to BH-04-23) from the recovered granular base/subbase materials. The result of the grain size analyse are compared with OPSS.MUNI 1010 and Granular B Type I gradation requirements. The gradation test result for granular fill material is summarized in Table 3 and the grain size distribution curve is shown on Figure 1 in Appendix C. Both samples are slightly out of specification due to increased fines passing the 0.075 mm sieve, likely due to auger sampling.

**Table 3: Particle Size Distribution Analyses**

Borehole and Sample Number	Sample Depth (m)	Soil Type	Gravel (%)	Sand (%)	Silt/Clay (%)	Meets Granular B Type 1 Gradation Specification
BH-01-23 to BH-04-23 SS	0 - 0.6	SAND and GRAVEL, trace silt	53.7	38.0	8.3	No

#### 4.1.2 Fill

Fill was found beneath the pavement structure in all boreholes to the depths ranging from about 1.5 m to 3.3 m BGS. The fill was variable in nature but generally consisted of silt, clayey silt, or sand and gravel with some sand, clay, gravel and organics and / or traces of silt. The N-values, as determined in the Standard Penetration testing carried out within the fill, ranged from 2 to 29 blows per 0.3 m, indicating a firm to very stiff consistency or a relatively loose to compact state of packing. The in-situ water content of the sample of fill recovered from the standard penetration testing varying from about 14 to 37 percent. Two (2) gradation analyses were carried out on a sample of this stratum, and the results are summarized in Table 4 and provided in Figure No. 2 and 3 in Appendix C.

**Table 4: Particle Size Distribution Analyses**

Borehole and Sample Numbers	Sample Depth (m)	Soil Type	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH-01-23 split spoon sample 1	0.76 - 1.22	SILT, some Sand and Clay	---	10.8	69.4	19.8
BH-03-23 split spoon sample 1	0.76 - 1.22	SAND and GRAVEL, trace Silt	40.2	50.5	9.3	---

### 4.1.3 Silt Till

Silt till subgrade was encountered beneath the fill at boreholes BH-01-23 and BH-02-23 extending to their termination depths ranging from about 3.7 to 4.3 m BGS. The silt till subgrade primarily comprised of silt with some sand, gravel, and traces of clay. It is noted that an obstruction (possible cobble or boulder) was encountered in borehole BH-02-23 at a depth of 3.7 m BGS. The SPT N-values within the silt till stratum ranged from 14 to 39 blows per 0.3 m penetration indicating a relatively compact to dense state of packing. The natural moisture content of the samples recovered from the deposit ranged from about 20 to 27 percent.

### 4.1.4 Sandy Silt / Sandy Silt Till

A sandy silt and sandy silt till with some gravels were encountered below the fill at boreholes BH-03-23 and BH-04-23, respectively and extended to their termination depths of approximately 4.3 m BGS. SPT N values within the sandy silt and sandy silt till deposit ranged from 22 to 48 blows per 300 mm of penetration indicating a relatively compact to dense state of packing. The natural moisture content of the samples recovered from the deposit ranged from about 22 to 33 percent.

## 4.2 Groundwater Conditions

Upon completion of drilling, groundwater level observations were carried out in the open boreholes. In summary, all boreholes remained dry during and upon completion of drilling. It is important to note that the groundwater conditions described in this report refer only to those observed at the place and time of observation noted in the report. These elevations and conditions may vary locally due to seasonal fluctuations, groundwater regimes encountered at the site or because of construction activities on the site or adjacent sites. It should be noted that there was no provision for long-term groundwater monitoring at the site.

# 5 Geotechnical Design Recommendations

The following discussion is based on our interpretation of the factual data obtained during this investigation and is intended for the use of the design engineer only. Comments made regarding the construction aspects are provided only in as much as they may impact on design considerations. Contractors bidding on or undertaking any work at the site should examine the factual results of the investigation, satisfy themselves as to the adequacy of the information for construction and make their own interpretation of the factual data as it affects their proposed construction techniques, schedule, equipment capabilities, costs, sequencing and the like.

## 5.1 General

The project involves proposed reconstruction of Raglan Street from Thames Street to George Street in Ingersoll, Ontario. The existing roadway is a two-way street, and it is classified as a local road. It is understood that the re-development of the road will consist of proposed storm and sanitary sewer upgrades, road reconstruction and associated works. Based on the information presented in the Raglan Street Drawing C-490 to C-492 provided by the Corporation of the Town of Ingersoll, it is understood that the invert elevation of the new services will be from 278.4 to 290 m.

The following subsections of this report provide geotechnical engineering recommendations for the project including excavations and dewatering, pipe bedding, trench backfilling, pavement design, construction testing and inspection requirements.

## 5.2 Servicing

### 5.2.1 Excavations and Dewatering

Prior to excavating for the underground services, the asphalt and the existing unsuitable organic fill material should be removed and disposed off at an appropriate off-site location. As required, the native silt till and sandy silt to sandy silt till should be selectively excavated and stockpiled for reuse as backfill where possible.

It is understood that the invert elevation of the new services will be approximately from 278.4 to 290 m and the full depth reconstruction of the road base material will be required.

The most common and cost-effective construction method is normally an open-cut excavation based on the borehole information. All boreholes were dry upon completion of drilling, so based on the observed site conditions, groundwater seepage may not be expected within the excavation depths.

The boreholes show that the excavations for the construction are expected to extend through the surface pavement structure, over fill to native silt till, sandy silt till to sandy silt.

As per the O. Reg 213/91, s.226, the soil at this site may be classified as shown in Table 5 below.

**Table 5: Soil Classification for Excavations**

Soil Type	Above Groundwater level	Below Groundwater Level
Fill material	Type 3	Type 4
Native Silt till, Sandy Silt to Sandy Silt till	Type 3	Type 4

Where workmen must enter a trench or excavation, the soil must be suitably sloped and/or braced in accordance with the regulation requirements. The regulation stipulates safe excavation slopes by soil type as Table 6.

**Table 6: Safe Excavation Slope Based on Soil Type (Ontario Regulation 213/91 Occupational Health and Safety Act (OHSA).**

Soil Type	Base of Slope	Steepest Slope Inclination
1	Within 1.2 metres of bottom of trench	1 horizontal to 1 vertical
2	Within 1.2 metres of bottom of trench	1 horizontal to 1 vertical
3	From bottom of trench	1 horizontal to 1 vertical
4	From bottom of trench	3 horizontal to 1 vertical

Where space limitations (from utility poles, existing underground services, or buildings) do not permit overburden cut slopes at inclinations specified above, a steeper cut slope can be employed if a trench liner box is used to protect workers. Trench box liners could also be used to minimize the size of the excavation for installation of the underground services therefore minimizing the excess soil which is removed from the site. Some ground movement adjacent to the trench is to be expected if this option is used.



While in many situations, the use of trench boxes can result in a high rate of productivity in trenching, it is not without some technical drawbacks. These include:

- Increased loss of ground relative to many other shoring methods; and,
- Reduced ability to compact backfill between the trench wall and trench box.

Ground loss, ravelling and/or loosening of soils will occur when using a trench box prior to its installation and while moving the box, particularly in pre-existing fill which is present at this site. It is important that the trench not be over-excavated to ensure a tight fit between the box and the trench walls. Trench boxes need to be installed expediently. When moving the box, the void space between its outer walls and the trench must be backfilled and compacted. This may require raising the box sequentially prior to sliding it laterally. If this is not done, post-construction settlements will occur along the trench walls.

In areas where the proposed utility pipe encroaches existing utility trenches or backfill to structures, unstable trench conditions can occur, particularly where granular backfill, clear stone, or poorly compacted fill of any type are present. In such cases, ravelling of the pre-existing fill and high rates of water infiltration through utility bedding can potentially occur which can, in severe cases, put the stability of adjacent utilities in jeopardy. As such, a higher standard of care in shoring is needed where the pipe trenches are located closer than  $0.75H$  to an adjacent trench, where  $H$  is the depth of the deeper cut. The use of trench boxes is poorly suited in this instance since they do not provide adequate lateral support to the sides of the cut and considerable loss of ground can occur prior to insertion of the box. Closed sheeting or other pre-installed shoring measures are more suitable.

Every prefabricated hydraulic or engineered support system shall be designed by a professional engineer and shall be constructed, installed, used, and maintained in accordance with its design drawings and specifications (O.Reg. 213/91, s. 236).

The trench side slopes should be regularly inspected for evidence of instability following periods of heavy rainfall, following periods of thawing, or when the trench has been left open for an extended period of time. Appropriate remedial action should be taken to ensure the continued stability of the slopes.

It is anticipated that existing utility conduits, municipal services or gas lines will be exposed in the trenches for the new services. To ensure stability, the pipes should be properly supported in the vicinity of the excavation, and in accordance with the specific requirements of the utility provider. Englobe can provide supplementary recommendations for pipe support at specific locations if required. Precautions concerning services should be as per O.Reg. 213/91, s. 228.

It is recommended that Englobe review the final invert elevations during design to check that the recommendations provided are sufficient for the proposed works.

## 5.2.2 Lateral Earth Pressures

Underground shoring systems at this site should be designed to resist lateral earth pressures in an “at rest” condition. This condition assumes a trapezoidal pressure distribution and may be calculated using:

$$P_o = K_o (\gamma H + q)$$

Where:

$P_o$  = Lateral earth pressure “at-rest” condition (kPa)

$K_o$  = Coefficient of earth pressure “at-rest” condition

$\gamma$  = Bulk unit weight of native material (kN/m<sup>3</sup>)

$H$  = Depth below final grade (m)

$q$  = Surcharge pressure at ground level (kPa)

The parameters of shoring design are listed in the **Table 7** below:

**Table 7: Geotechnical Parameters for Shoring Systems**

Geotechnical Parameters	Fill	Native Silt, Sandy Silt to Sandy Silt Till
Bulk Unit Weight (kN/m <sup>3</sup> )	18	19
Angle of Internal Friction ( $\Phi$ )	28	32
Active Earth Pressure ( $K_a$ )	0.36	0.31
At-Rest Earth Pressure ( $K_o$ )	0.53	0.47
Passive Earth Pressure ( $K_p$ )	2.77	3.25

### 5.2.3 Pipe Bedding

The native soils consisting compact to dense silt till, and sandy silt to sandy silt till are suitable to support the sanitary sewer and bedding materials along Raglan Street. Any contacted fill and any loose or soft soil should be inspected by a qualified geotechnical engineer at the time of excavation and if required, trench base subexcavation may be required. Any organic material such as topsoil, peat etc, if encountered must be removed from below the pipe invert. Subexcavated fill or loose / soft native soils should be replaced with OPSS.MUNI 1010 Granular A to ensure adequate support for the pipe. The fill should be placed in maximum 200 mm thick lifts and compacted to a minimum 100 percent of standard Proctor maximum dry density. The compact to dense or hard native mineral soils or well compacted granular fill are generally considered suitable for support of buried pipes.

Conventional bedding and cover may be used; a minimum 150 mm thick bedding layer of OPSS.MUNI 1010 Granular A aggregate should be placed below the pipe and at least 300 mm of OPSS.MUNI 1010 Granular A cover should be provided above the pipe. The bedding and cover aggregate should be placed in lifts with a maximum thickness of 150 mm and be compacted to 100 percent of standard Proctor maximum dry density.

### 5.2.4 Trench Backfill

The trench backfill above the specified pipe bedding should be backfilled with inorganic soils that are not excessively wet. The backfill should be placed in 200 mm thick lifts and each lift compacted to at least 98 percent of standard Proctor maximum dry density. Trench backfill within 1 m of the pavement structure should be compacted to 100 percent of standard Proctor maximum dry density. Based on the results of insitu moisture content tests carried out on the native overburden deposits, the materials excavated will typically be suitable for reuse as trench backfill; however, this will depend on the moisture contents at the time of construction. Material for reuse should be within 2 percent of the optimum moisture content. Any overly wet material may require air drying or may need to be excluded from the backfill material. Organic material (topsoil, peat) and fill containing debris (asphalt, brick, etc.) is not considered suitable for reuse as trench backfill and if encountered, shall be separated.

If there is a shortage of on-site excavated material, then it is recommended that material meeting the specifications of OPSS.MUNI 1010 Select Subgrade Material (SSM) be imported for trench backfill.

To minimize potential problems, backfilling operations should follow closely after excavation so that only a minimal length of trench is exposed. Care should be taken to protect side slopes of excavations by diverting surface run-off away from the excavations.

If construction extends into the winter, then the backfilling operations should be planned so that exposure of the backfill material to freezing conditions is kept to a minimum and to ensure that frozen material is not used as backfill.

Frequent inspection and compaction testing by experienced geotechnical personnel should be carried out to examine and approve backfill material, and to verify that the specified degree of compaction has been achieved.

## 5.3 Pavements

### 5.3.1 Curbs and Sidewalks

If sidewalks are to be constructed, the subgrade should comprise of undisturbed native soil or well compacted fill. A minimum 150 mm thick layer of OPSS.MUNI 1010 Granular A type aggregate compacted to 98 percent of standard Proctor maximum dry density should be placed beneath the sidewalk slabs.

During cold weather, the freshly placed concrete must be covered with insulating blankets to protect against freezing. It is recommended that three cylinders for each day's pour should be taken for compressive strength testing. Air entrainment, temperature, and slump test should be made from the batch of concrete from which test cylinders are made.

### 5.3.2 Asphaltic Concrete Pavement Design

Following installation of services, the roadway will be reconstructed. It is anticipated that the subgrade soils in the sections where pipes were installed will comprise approved backfill materials compacted to at least 98 percent of standard Proctor maximum dry density.

The recommended pavement structures provided below are based on an estimate of the subgrade soil properties determined from the field tests, and visual examination/textural classification of the soil samples. The pavement component thicknesses presented in the following Table 8 are recommended.

**Table 8: Recommended Pavement Structure**

Pavement Layer	Compaction Requirements	Pavement Design
Hot - Mix Asphalt Surface Course (HL3)	92% Maximum Relative Density	40 mm
Hot - Mix Asphalt Binder Course (HL8)	92% Maximum Relative Density	50 mm
Base Course OPSS Granular A	100% SPMDD	150 mm
Subbase Course OPSS Granular B Type II	100% SPMDD	400 mm

Based on the pavement component thicknesses encountered in the borehole, the subgrade type, anticipated traffic volumes, and climatic considerations, it is considered that the above pavement design would be structurally adequate. Some adjustment to the thickness of the granular subbase material may be required depending on the condition of the subgrade at the time of the pavement construction. The need for such adjustments can be best assessed by the geotechnical engineer during construction. Further assessment of the existing granular base material should be made during construction.

While it is not possible to properly assess the quality of the existing granular fill material on the basis of samples recovered from the boreholes, it was considered based on a visual examination, that the existing granular base was generally of marginal quality and reuse of this material for new pavement construction is not recommended. Further assessment of the existing granular base material should be made during construction.

It would be considered desirable to delay construction of the final wearing surface for as long as practicable in order to minimize the effects of post construction settlement and to allow for remedial work to be used as needed. The thicker binder asphalt component will allow for this.

The final subgrade surface beneath all pavements should be shaped and graded to promote drainage. The subgrade should be proof rolled under the direction of a geotechnical engineer to identify any soft or weak zones requiring remedial work. Local sub-excavation may be required due to disturbed, soft, wet or otherwise incompetent subgrade conditions.

### 5.3.3 Drainage

Control of surface water is a significant factor in achieving good pavement life. Grading adjacent to pavement areas must be designed so that water is not allowed to pond adjacent to the outside edges of the pavement or curb. The subgrade must be free of depressions and sloped (preferably at a minimum grade of two percent) to provide effective drainage toward subgrade drains.

Continuous perimeter sub-drains should be provided in paved areas and short perforated sub drains should be provided at all catch basins locations. The sub-drain invert elevations should be maintained at least 0.3 metres below subgrade level.

It should be noted that in addition to a strict adherence to the above pavement design recommendations, a close control on the pavement construction process will be required in order to obtain the desired pavement life. It is therefore recommended that regular inspection and testing should be conducted during the construction to confirm material quality, thickness, drainage, and to ensure adequate compaction.

## 5.4 Construction Inspection and Testing

### 5.4.1 Material Testing and Inspection

The long-term performance of the pavement structure is highly dependent upon the subgrade support conditions. Stringent construction control procedures should be maintained to ensure that uniform subgrade moisture and density conditions are achieved as much as practically possible. The design advice in this report is based on an assessment of the subgrade support capabilities as indicated by the boreholes. These conditions may vary across the site depending on the final design grades and therefore, the preparation of the subgrade and the compaction of all fill should be monitored by the geotechnical engineer at the time of construction to confirm material quality, thickness, and to ensure adequate compaction.

Appropriate laboratory and field testing of the pavement structure components (granulars and hot-mix asphalt) should be conducted, as well as concrete testing for curbs and sidewalks. Compaction testing of the hot-mix asphalt should be carried out at the time of placement. Mix design for the concrete materials and hot-mix asphalt should be reviewed for suitability and specification compliance at least two weeks prior to production and placement.

## 5.4.2 Construction Vibrations

Given the proximity of residences to the project, it is recommended that the contractor conduct a preconstruction condition survey of the properties and buildings along the subject corridor and notify the residents of the likelihood of construction vibrations prior to the start of construction. The contractor should adjust the amplitude and frequency of compaction equipment, as well as keep layer thicknesses to a minimum such that the appropriate compaction can be achieved without excess vibration.

# 6 Statement of Limitations

The geotechnical recommendations provided in this report are applicable only to the project described in the text and then only if constructed substantially in accordance with the details stated in this report. Since all details of the design may not be known at the time of report preparation, we recommend that we be retained during the final design stage to verify that the geotechnical recommendations have been correctly interpreted in the design. Also, if any further clarification and/or elaboration are needed concerning the geotechnical aspects of the project, Englobe should be contacted. We recommend that we be retained during construction to confirm that the subsurface conditions do not deviate materially from those encountered in the test holes and to ensure that our recommendations are properly understood.

The geotechnical recommendations provided in this report are intended for the use of the owner and its retained designer. They are not intended as specifications or instructions to contractors. Any use which a contractor makes of this report, or decisions made based on it, are the responsibility of the contractor. The contractor must also accept the responsibility for means and methods of construction, seek additional information if required, and draw their own conclusions as to how the subsurface conditions may affect their work. Englobe accepts no responsibility and denies any liability whatsoever for any damages arising from improper or unauthorized use of the report or parts thereof.

It is important to note that the geotechnical investigation involves a limited sampling of the site gathered at specific test hole locations and the conclusions in this report are based on this information gathered. The subsurface geotechnical, hydrogeological, environmental and geologic conditions between and beyond the test holes will differ from those encountered at the test holes. Also such conditions are not uniform and can vary over time. Should subsurface conditions be encountered which differ materially from those indicated at the test holes, we request that we be notified in order to assess the additional information and determine whether or not changes should be made as a result of the conditions.

# Appendix A

## Drawings

Drawing 1: Location Plan

Drawing 2: Site Plan



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2-Drawing scale may be distorted due to file conversion and/or copying. Measurements taken from the drawing must be verified in the field.

## Reconstruction of Raglan Street

## Site Location Plan

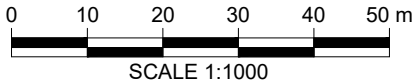
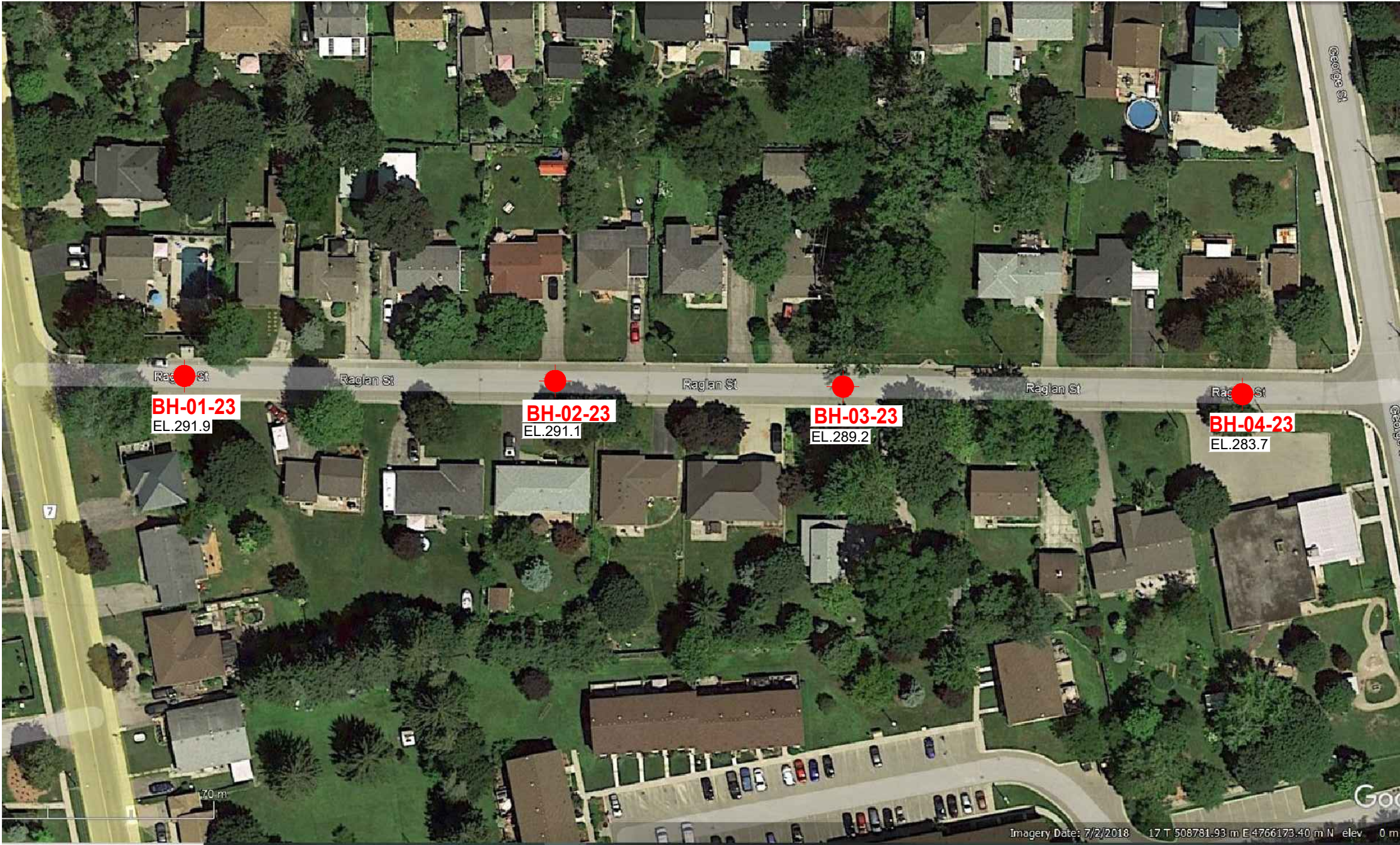



Project manager  
**Z.Babar**  
Sequence no.  
**01 of 02**

M. dept.	Project	Disc.	Dwg no.	Rev.
<b>04</b>	<b>02308586.000</b>	<b>GE</b>	<b>001</b>	<b>00</b>



Y:\SHARED\CA\KITCHENER\DATA\PROJECTS\160\2023 [BRANTFORD-KITCHENER-LONDON]\02308586.000 - RAGLAN STREET RECONSTRUCTION - INGERSOLL\24\_CAD\CAD\02308586.000 FIG 2.DWG



LEGEND :  
 **BH - 01**      BOREHOLE LOCATION

NOTES :  
1-REFERENCES:  
2-Drawing scale may be distorted due to file conversion and/or copying. Measurements taken from the drawing must be verified in the field.

Project  
**Reconstruction of Raglan Street**  
Ingersoll, ON

Title  
**Borehole Location Plan**

   
**Englobe Corp.**  
440 Hardy Road, Suite 3  
Brantford, ON N3T 5L8  
T 519 720-0078  
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Prepared **A.Teka**  
Drawn **A.Teka**  
Checked **Z.Babar**

Discipline **GEOTECHNICAL**  
Scale **1:1000**  
Date **2023-11-15**

Project manager  
**Z.Babar**

Sequence no.  
**02 of 02**

M. dept.	Project	Disc.	Dwg no.	Rev.
<b>04</b>	<b>02308586.000</b>	<b>GE</b>	<b>002</b>	<b>00</b>



# Appendix B

## Borehole Logs

List of Abbreviations

Boreholes BH-01-23 to BH-04-23



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## List of Abbreviations

The abbreviations commonly employed on the borehole logs, on the figures, and in the text of the report, are as follows:

Sample Types		Soil Test and Properties	
AS	Auger Sample	SPT	Standard Penetration Test
CS	Core Sample	UC	Unconfined Compression
RC	Rock Core	FV	Field Vane Test
SS	Split Spoon	$\phi$	Angle of internal friction
TW	Thinwall, Open	$\gamma$	Unit weight
WS	Wash Sample	$w_p$	Plastic Limit
BS	Bulk Sample	w	Water content
GS	Grab Sample	$w_L$	Liquid Limit
WC	Water Content Sample	$I_L$	Liquidity Index
TP	Thinwall, Piston	$I_p$	Plastic Index
		PP	Pocket Penetrometer

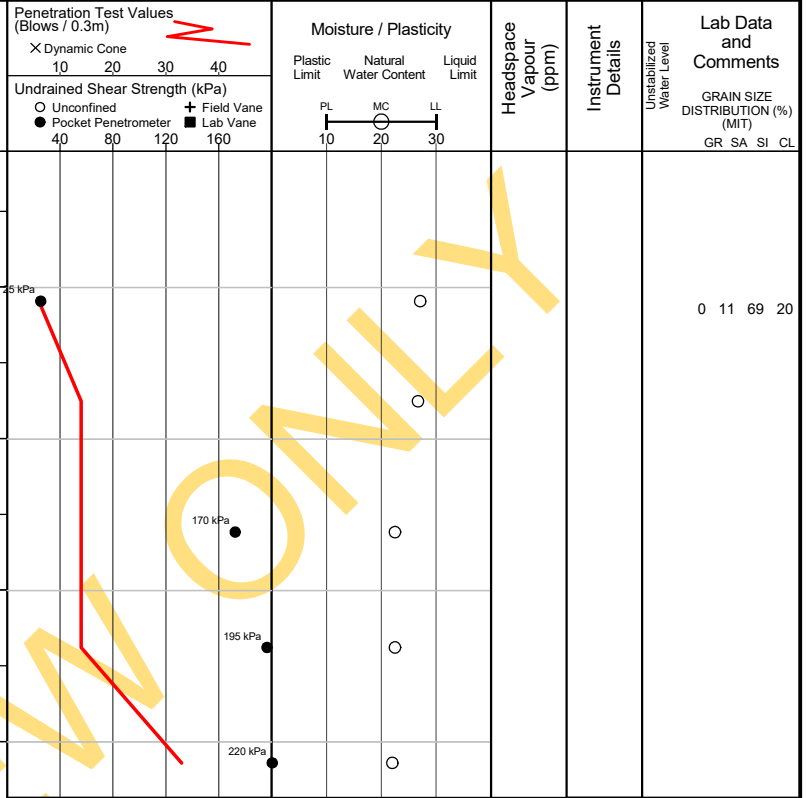
Penetration Resistances	
Dynamic Penetration Resistance	The number of blows by a 63.5 kg (140 lb.) hammer dropped 760 mm (30 in.) required to drive a 50 mm (2 in.) diameter 60° cone a distance 300 mm (12 in.)  The cone is attached to 'A' size drill rods and casing is not used.
Standard Penetration Resistance, N (ASTM D1586)	The number of blows by a 63.5 kg (140 lb.) hammer dropped 760 mm (30 in.) required to drive a standard split spoon sampler 300 mm (12 in.)
WH	Sampler advanced by weight of hammer
PH	Sampler advanced by hydraulic pressure
PM	Sampler advanced by manual pressure

Soil Description		
Cohesionless Soils Compactness Condition	SPT N-Value (blows per 0.3 m)	Relative Density ( $D_r$ ) (%)
Very Loose	0 to 4	0 to 20
Loose	4 to 10	20 to 40
Compact	10 to 30	40 to 60
Dense	30 to 50	60 to 80
Very Dense	Over 50	80 to 100
Cohesive Soils Consistency	Undrained Shear Strength ( $C_u$ )	
	kPa	psf
Very Soft	Less than 12	Less than 250
Soft	12 to 25	250 to 500
Firm	25 to 50	500 to 1000
Stiff	50 to 100	1000 to 2000
Very Stiff	100 to 200	2000 to 4000
Hard	over 200	over 4000
DTPL	Drier than plastic limit	Low Plasticity, $w_L < 30$
APL	About plastic limit	Medium Plasticity, $30 < w_L < 50$
WTPL	Wetter than plastic limit	High Plasticity, $w_L > 50$

Project No. : 02308586.000 Client : Town of Ingersoll Originated by : EV  
 Date started : September 28, 2023 Project : Reconstruction of Raglan Street Compiled by : ZB  
 Sheet No. : 1 of 1 Location : Raglan Street from Thames St N to George St int., Ingersoll, Ontario Checked by : RB

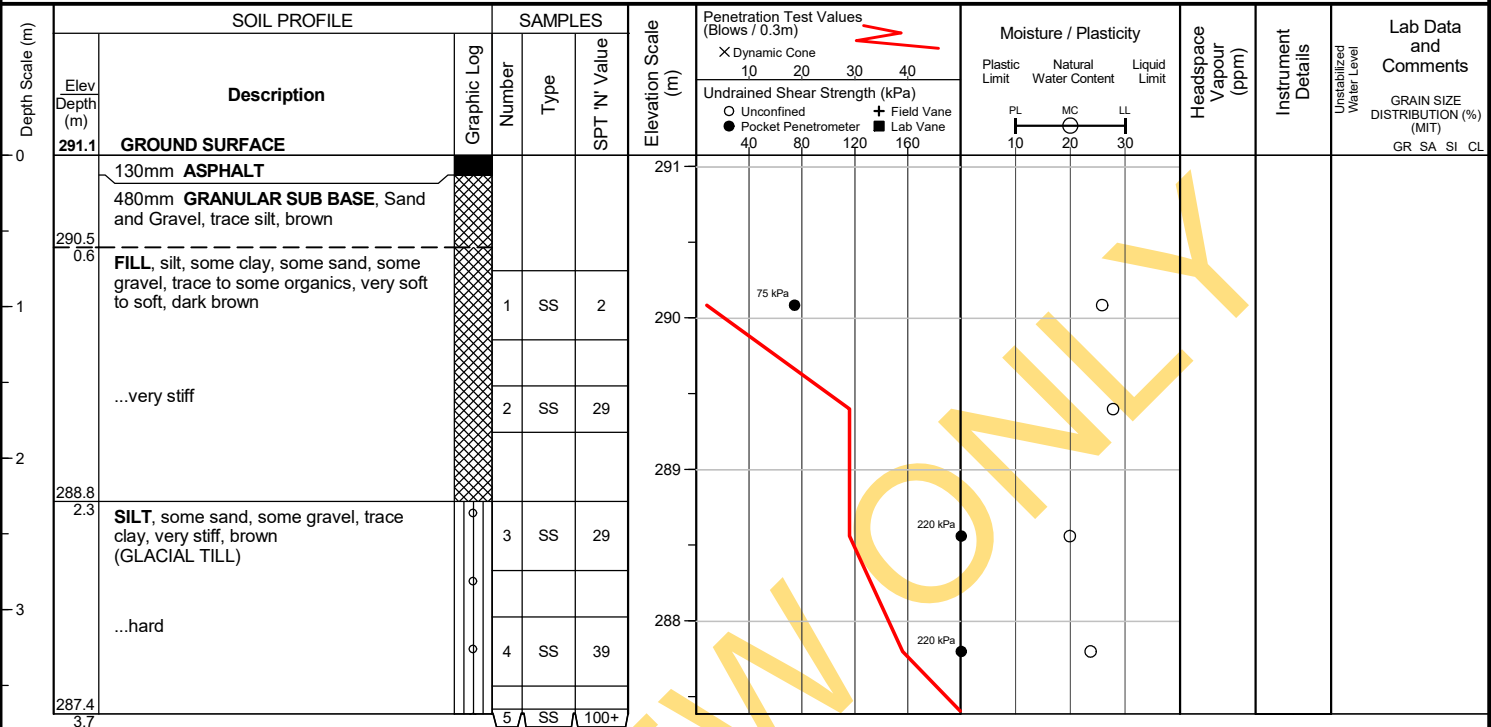
Position : E: 508675, N: 4766137 (UTM 17T)			Elevation Datum : Geodetic		
Rig type : D50, truck-mounted			Drilling Method : Hollow stem augers		
Depth Scale (m)	SOIL PROFILE		SAMPLES		Elevation Scale (m)
	Elev Depth (m)	Description	Graphic Log	Number Type SPT 'N' Value	
0	291.9	<b>GROUND SURFACE</b>			
		100mm <b>ASPHALT</b>			
		660mm <b>GRANULAR SUB BASE</b> , Sand and Gravel, trace silt, brown			
-1	291.1 0.8	<b>FILL</b> , silt, some sand, some clay, trace to some organics, firm, dark grey		1 SS 6	291
-2	290.4 1.5	<b>SILT</b> , some sand, some gravel, trace clay, stiff, brown (GLACIAL TILL)		2 SS 14	290
				3 SS 14	
-3				4 SS 14	289
-4		...some clay, hard		5 SS 33	288
	287.6 4.3	<b>END OF BOREHOLE</b>			

Borehole was dry and open upon completion of drilling.



Project No. : 02308586.000 Client : Town of Ingersoll Originated by : EV  
 Date started : September 28, 2023 Project : Reconstruction of Raglan Street Compiled by : ZB  
 Sheet No. : 1 of 1 Location : Raglan Street from Thames St N to George St int., Ingersoll, Ontario Checked by : RB

Position : E: 508750, N: 4766172 (UTM 17T) Elevation Datum : Geodetic  
 Rig type : D50, truck-mounted Drilling Method : Hollow stem augers



## END OF BOREHOLE

Auger refusal at 3.7 mBGS

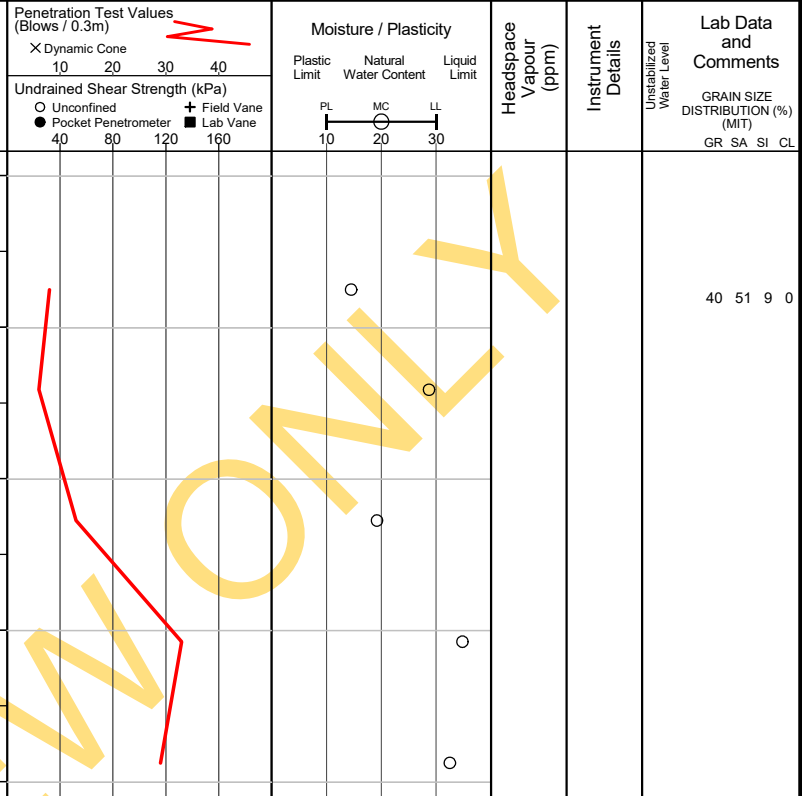
Borehole was dry and open upon completion of drilling.

Project No. : 02308586.000 Client : Town of Ingersoll Originated by : EV  
 Date started : September 28, 2023 Project : Reconstruction of Raglan Street Compiled by : ZB  
 Sheet No. : 1 of 1 Location : Raglan Street from Thames St N to George St int., Ingersoll, Ontario Checked by : RB

Position : E: 508815, N: 4766197 (UTM 17T)			Elevation Datum : Geodetic		
Rig type : D50, truck-mounted			Drilling Method : Hollow stem augers		
Depth Scale (m)	SOIL PROFILE		SAMPLES		Elevation Scale (m)
	Elev Depth (m)	Description	Graphic Log	Number Type SPT 'N' Value	
0	289.2	<b>GROUND SURFACE</b>			
		120mm <b>ASPHALT</b>			289
		640mm <b>GRANULAR SUB BASE</b> , Sand and Gravel, trace silt, brown			
-1	288.4	<b>FILL</b> , sand and gravel, trace silt, loose, brown, moist		1 SS 8	288
	0.8			2 SS 6	
-2		...compact		3 SS 13	287
-3	285.9	<b>SANDY SILT</b> , dense, brown, wet		4 SS 33	286
	3.3	...at 3.8 m, compact		5 SS 29	285
-4	284.9				
	4.3				

**END OF BOREHOLE**

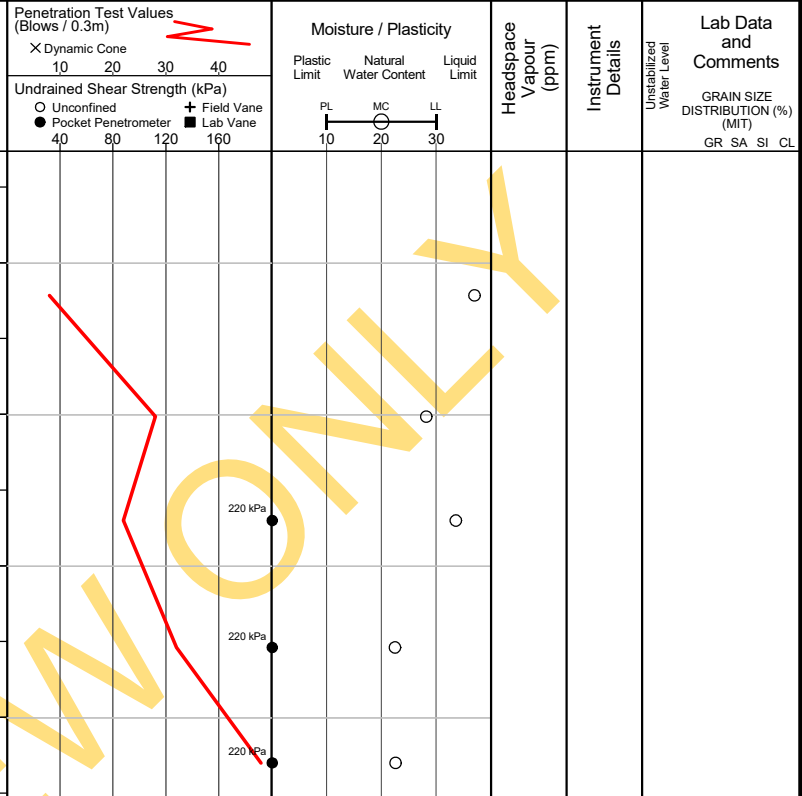
Borehole was dry and open upon completion of drilling.



Project No. : 02308586.000 Client : Town of Ingersoll Originated by : EV  
 Date started : September 28, 2023 Project : Reconstruction of Raglan Street Compiled by : ZB  
 Sheet No. : 1 of 1 Location : Raglan Street from Thames St N to George St int., Ingersoll, Ontario Checked by : RB

Position : E: 508887, N: 4766223 (UTM 17T)			Elevation Datum : Geodetic		
Rig type : D50, truck-mounted			Drilling Method : Hollow stem augers		
Depth Scale (m)	SOIL PROFILE		SAMPLES		Elevation Scale (m)
	Elev Depth (m)	Description	Graphic Log	Number Type SPT 'N' Value	
0	283.7	<b>GROUND SURFACE</b>			
		90mm <b>ASPHALT</b>			
		520mm <b>GRANULAR SUB BASE</b> , Sand and Gravel, trace silt, brown			
-0.6	283.1	<b>FILL</b> , clayey silt, firm to stiff, brown		1 SS 8	283
-1.5	282.2	<b>SANDY SILT</b> , some gravel, very stiff, brown, moist (GLACIAL TILL)		2 SS 28	282
-2				3 SS 22	281
-3		...some sand, trace clay, hard		4 SS 32	280
-4				5 SS 48	
-4.3	279.4	<b>END OF BOREHOLE</b>			

Borehole was dry and open upon completion of drilling.



# Appendix C

## Laboratory Test Results

Figure 1 - Particle Size Distribution Analyses BH-01-23 to BH-04-23

Figure 2 - Particle Size Distribution Analyses BH-01-23 SS-1

Figure 3 - Particle Size Distribution Analyses BH-03-23 SS-1



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## GRAIN SIZE ANALYSIS REPORT LS-602

PROJECT NUMBER: 02308586.000 PROJECT NAME: Reglan Street Reconstruction CLIENT: Town of Ingersoll  
LAB NUMBER: 1753 SAMPLE ID: BH-01-23 to BH-04-23 - Granular SAMPLE DEPTH: -  
SAMPLED BY: Englobe DATE RECEIVED: October 30, 2023 DATE COMPLETED: November 8, 2023

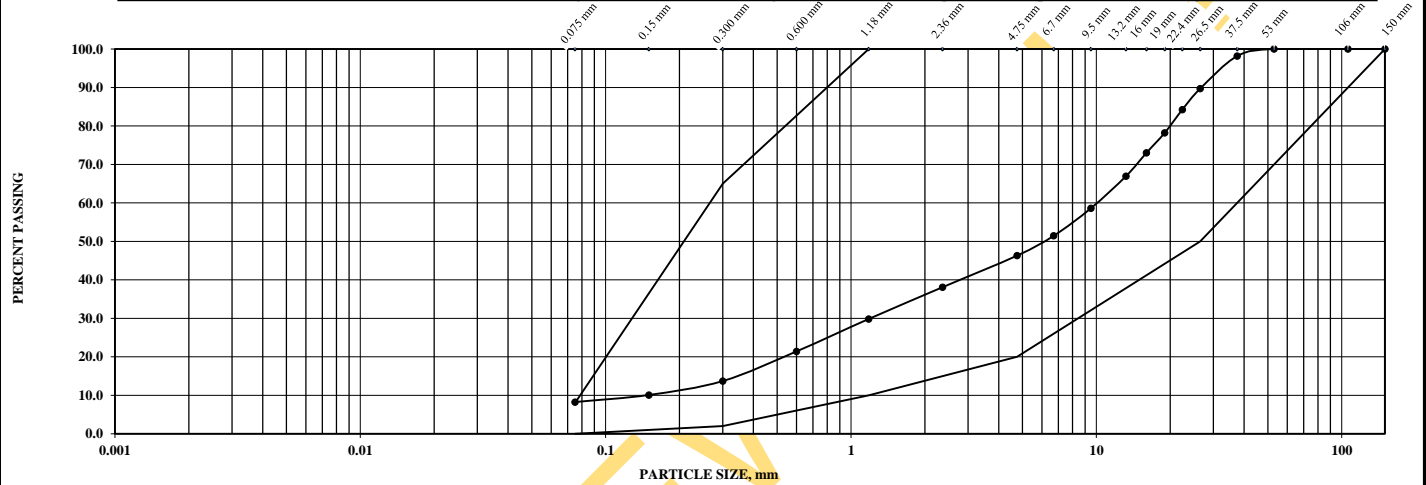
### PARTICLE SIZE DISTRIBUTION, MTO LS-602

U.S. BUREAU OF SOILS CLASSIFICATION (AS USED IN MINISTRY OF TRANSPORTATION OF ONTARIO PAVEMENT DESIGNS)

CLAY	SILT	VERY FINE SAND	FINE SAND	MEDIUM	COARSE	FINE	GRAVEL
------	------	----------------	-----------	--------	--------	------	--------

### UNIFIED SOILS CLASSIFICATION ASTM D 2487

FINES (SILT & CLAY)	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	COARSE GRAVEL
---------------------	-----------	-------------	-------------	-------------	---------------



### GRAIN SIZE ANALYSIS

### GRAIN SIZE PROPORTIONS, %

SIEVE SIZE mm	% PASSING	% GRAVEL ( > 4.75 mm):		53.7
		% SAND ( 75 µm to 4.75 mm):		38.0
150	100.0	% SILT (2 µm to 75 µm):		8.3
106	100.0	% CLAY ( <2 µm):		-
53	100.0	<div>SOIL DESCRIPTION:</div>		
37.5	98.2			
26.5	89.7			
22.4	84.2			
19	78.2			
16	73.0			
13.2	67.0			
9.5	58.6			
6.7	51.5			
4.75	46.3	<div>REMARKS</div>		
2.36	38.1			
1.18	29.8			
0.6	21.4			
0.3	13.7			
0.15	10.1			
0.075	8.3			

Figure: 1

Figure: 1

TESTED BY: Diego Augusto De Arruda  
Laboratory Technician

REVIEWED BY: David McBay, CET.  
Laboratory Supervisor



## GRAIN SIZE AND HYDROMETER ANALYSIS REPORT LS-602, 702 & 703/704

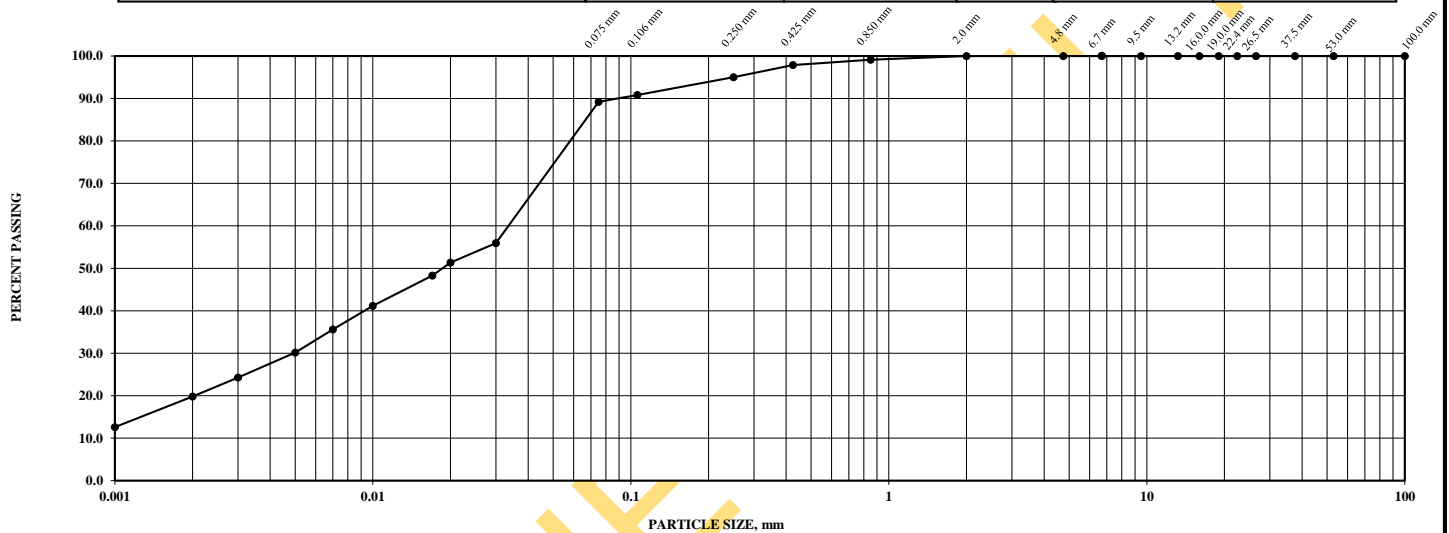
PROJECT NUMBER: 02308586.000 PROJECT NAME: Reglan Street Reconstruction CLIENT: Town of Ingersoll  
LAB NUMBER: 1754 SAMPLE ID: BH-01-23 SAMPLE DEPTH: 0.76 m 1.22 m  
SAMPLED BY: Englobe DATE RECEIVED: October 30, 2023 DATE COMPLETED: November 8, 2023

### PARTICLE SIZE DISTRIBUTION, MTO LS-702

U.S. BUREAU OF SOILS CLASSIFICATION (AS USED IN MINISTRY OF TRANSPORTATION OF ONTARIO PAVEMENT DESIGNS)

CLAY	SILT	VERY FINE SAND	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	GRAVEL
FINES (SILT & CLAY)		FINE SAND			COARSE SAND	FINE GRAVEL	COARSE GRAVEL

UNIFIED SOILS CLASSIFICATION ASTM D 2487



### COEFFICIENTS

D60	0.035	D30	0.005	D10	Cc	Cu
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GRAIN SIZE ANALYSIS		HYDROMETER ANALYSIS	
SIEVE SIZE mm	% PASSING	DIAMETER mm	% PASSING
53	100.0	0.030	56.0
37.5	100.0	0.020	51.4
26.5	100.0	0.017	48.3
22.4	100.0	0.010	41.2
19	100.0	0.007	35.6
16	100.0	0.005	30.2
13.2	100.0	0.002	19.8
9.5	100.0	0.001	12.6
6.7	100.0	ATTERBERG LIMITS	
4.75	100.0		
2.00	100.0		
0.850	99.1		
0.425	97.9		
0.250	95.0		
0.106	90.8		
0.075	89.2		

GRAIN SIZE PROPORTIONS, %	
% GRAVEL ( > 4.75 mm):	
% SAND ( 75 µm to 4.75 mm):	10.8
% SILT ( 2 µm to 75 µm):	69.4
% CLAY ( <2 µm):	19.8
GROUP SYMBOL / SOIL DESCRIPTION:	SILT, some Sand and Clay
REMARKS	

Figure: 2

TESTED BY: Diego Augusto De Arruda  
Laboratory Technician

REVIEWED BY: David McBay, C.E.T.  
Laboratory Supervisor

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request.



## GRAIN SIZE ANALYSIS REPORT LS-602

PROJECT NUMBER: 02308586.000 PROJECT NAME: Reglan Street Reconstruction CLIENT: Town of Ingersoll  
LAB NUMBER: 1755 SAMPLE ID: BH-03-23 SAMPLE DEPTH: 0.76 m - 1.22 m  
SAMPLED BY: Englobe DATE RECEIVED: October 30, 2023 DATE COMPLETED: November 8, 2023

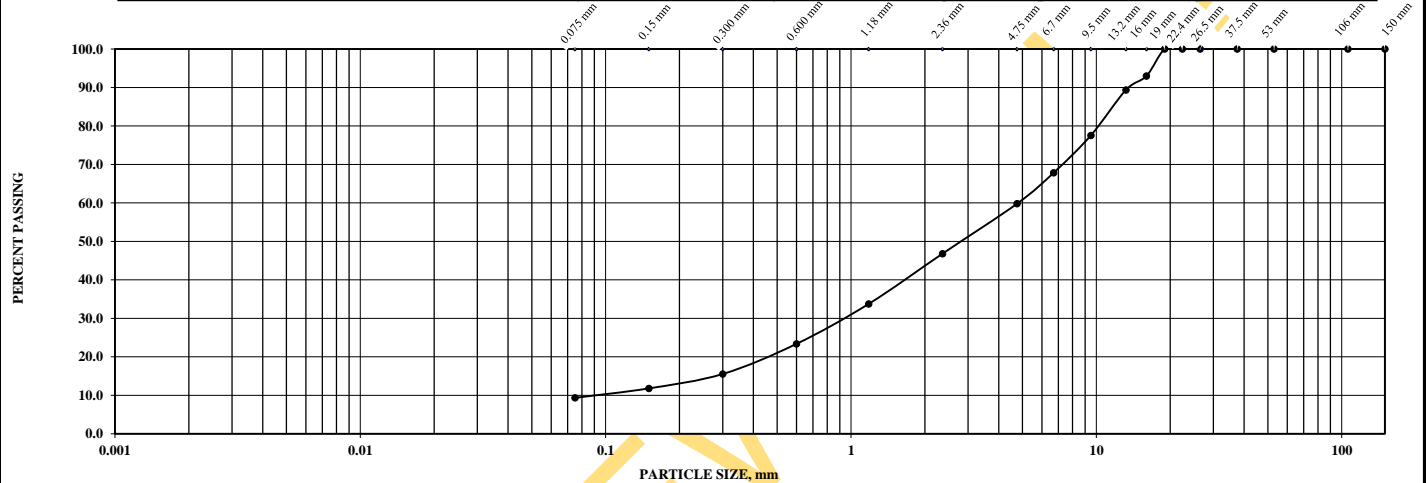
### PARTICLE SIZE DISTRIBUTION, MTO LS-602

U.S. BUREAU OF SOILS CLASSIFICATION (AS USED IN MINISTRY OF TRANSPORTATION OF ONTARIO PAVEMENT DESIGNS)

CLAY	SILT	VERY FINE SAND	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	GRAVEL
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UNIFIED SOILS CLASSIFICATION ASTM D 2487

FINES (SILT & CLAY)	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	COARSE GRAVEL
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### COEFFICIENTS

D60	4.798	D30	0.970	D10	0.095	Cc	2.062	Cu	50.43
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### GRAIN SIZE ANALYSIS

### GRAIN SIZE PROPORTIONS, %

SIEVE SIZE mm	% PASSING	% GRAVEL ( > 4.75 mm):	40.2	
		% SAND ( 75 μm to 4.75 mm):	50.5	
150	100.0	% SILT (2 μm to 75 μm):	9.3	
106	100.0	% CLAY ( <2 μm):	-	
53	100.0	SOIL DESCRIPTION:		
37.5	100.0			
26.5	100.0			
22.4	100.0			
19	100.0			
16	93.0			
13.2	89.4			
9.5	77.6			
6.7	67.8	REMARKS		
4.75	59.8			
2.36	46.8			
1.18	33.8			
0.6	23.4			
0.3	15.5			
0.15	11.8			
0.075	9.3			

Figure: 3

Figure: 3

TESTED BY: Diego Augusto De Arruda  
Laboratory Technician

REVIEWED BY: David McBay, CET.  
Laboratory Supervisor





## FUELS SAFETY DIVISION

May 2005  
GA 05/1

# ADVISORY

## Protection against Vehicular Traffic

The Liquid Fuels Handling Code requires that aboveground tanks, exposed to vehicular traffic, be protected from impact and that the protection be constructed in accordance with good engineering practice.

The following excerpts from the CSA B149.2-00, *Propane Storage and Handling Code*, is considered good engineering practice:

### 6.19.4.1

Posts used for the protection of a *tank* shall

- (a) be spaced not more than 54 in (1350 mm) apart;
- (b) be buried not less than 36 in (900 mm) below grade;
- (c) extend at least 30 in (750 mm) above grade; and
- (d) be one of the following:
  - (i) 4 in (100 mm) capped steel pipe;
  - (ii) 4 in (100 mm) tubing filled with concrete;
  - (iii) 8 in (200 mm) pressure-treated wood, either square or round; or
  - (iv) 6 in (150 mm) minimum dimension reinforced concrete.

### 6.19.4.2

Guardrails used for the protection of a *tank* shall be either

- (a) of the steel deep beam type, 12 × 162 in (300 × 4050 mm), supported by 6 in (150 mm) minimum pressure-treated wooden posts located not more than 75 in (1875 mm) apart, centre to centre, and with the top of the beam not more than 24 in (600 mm) above grade; or
- (b) of the reinforced concrete barrier type, commonly referred to as the New Jersey Turnpike barrier, not less than 30 in (750 mm) in height, and the width of the base not less than the height.

### 6.19.4.3

Posts or guardrails used for the protection of a *tank* shall be located not less than 3.5 ft (1 m) from all sides of the *tank*.

Please note that the above examples may not be adequate in all situations. For example, where there is a potential for impact from heavy construction or logging equipment, a more robust form of vehicle protection may be required.

## CONCRETE FLATWORK SURFACE DEFECTS

This spring has once again seen a significant increase in the number of salt-scaling problems for exterior concrete flatwork used in residential and municipal applications throughout Ontario, Quebec and New York State. This may be related to the less than ideal placing, finishing and curing practices utilized, combined with the harsher weather extremes now being experienced in the summer and winter months. It may also be due in part to recent modifications to de-icing methods, materials and application rates.

These facts only serve to further highlight the critical need for proper concrete placing, finishing and curing. For all municipal concrete projects using OPSS specifications (351, 353 & 904), the use of one of the following curing methods is specified (OPSS 904.07.03.05): • Burlap and water (Burlap to be presoaked for 24 hours prior to use and to be left in place for 96 hours) • Moisture vapour barrier (to be left in place for 96 hours) • White pigmented compound (protection to be fully maintained for 7 days)

The OPSS standard further requires that all curing methods be implemented within 2 to 4 metres of the finishing operation. The current practice of placing an entire day's work of exterior concrete flatwork while leaving the curing/protection operation until the end of the day is in clear violation of the OPSS requirements and has an extremely detrimental effect on the surface of the concrete. The ultimate durability of the concrete surface is being reduced by the non-existent or incomplete application of the selected curing method.

Another very significant factor that the concrete industry is just beginning to investigate, in both the United States and Canada, is the recent change in winter road maintenance procedures - away from solid chemicals and salt/sand mixtures towards liquid de-icing chemicals.

Enclosed for your review is a technical bulletin prepared by Professor Doug Hooton of the University of Toronto. Professor Hooton is one of the three principal researchers currently conducting a 3-year study on the long term effects of de-icing chemicals on pavements and concrete structures. This research is being conducted on behalf of the South Dakota Department of Transportation with additional financial support being provided by the Federal Highway Administration pooled fund study including California, Colorado, Illinois, Iowa, Montana, Texas and Wyoming.

The Ontario Concrete and Cement industries are currently in discussions with Professor Doug Hooton to expand the research that he is conducting for the US DOT's. The primary purpose of this additional research is to better understand how these new de-icing materials and changes to winter maintenance operations and procedures affect concrete.

In the meantime, we ask that both public and private users of de-icing chemicals be aware of the possible effects that these materials and procedures may have on both their own concrete infrastructure and the concrete infrastructure of third parties.

Ready Mixed Concrete Association of Ontario  
365 Brunel Road, Unit 3, Mississauga ON L4Z 1Z5  
905-507-1122 Fax: 905-890-8122  
info@rmcao.org  
[www.rmcao.org](http://www.rmcao.org)



## BULK WATER STATION SERVICES

Bulk water is now available in Oxford County from automatic dispensing stations using a key fob system and prepaid account.

Bulk water key fobs can be purchased for \$25 and customers can also add money to their bulk water account (minimum \$50), paying by cash or cheque, at the Oxford County Administration Building (OCAB) Customer Service, 21 Reeve Street, Woodstock; 519-539-9800.

The current bulk water rate (2019) is \$1.65 per cubic meter (1000 litres)

Bulk water is available at the following locations:

Ingersoll: Canterbury Street Water Treatment Facility – 280 Harris Street

Operating instructions are posted at each station and are also available at OCAB customer service. The discharge pipe at each location is equipped with a 75mm male camlock hose connection.

The County of Oxford will only permit the use of top-filling tanks. Hoses must be clean and dedicated for water use only.

For further information contact the County of Oxford, Water Services at 519-539-9800



## **BULK WATER STATION OPERATING INSTRUCTIONS**

1. Use key provided to unlock cabinet and cap on discharge pipe.
2. Connect own hose to discharge pipe and vehicle. Own hose must be clean and used for water only.

Discharge pipe = 75mm male camlock

3. Open cabinet and ensure that WATER ON/OFF switch is in the WATER OFF position.
4. The display on the THE ATTENDANT will show 'Enter Vehicle Number'. Vehicle number is the same as key fob number and is entered by swiping the key fob on the card reader.
5. After swiping the fob, use the keypad on THE ATTENDANT as follows:

Press: PUMP

Press: 1

Press: OPR

Enter assigned Operator number and press OK

6. When the display on THE ATTENDANT reads BEGIN PUMPING turn the WATER ON/OFF switch to the WATER ON position. Water will begin to flow. If the water is turned off during filling you must re-enter the login information.
7. Water flow will stop if:
  - i) the set quantity is reached
  - ii) the credit limit is reached
  - iii) the WATER ON/OFF switch is turned to the WATER OFF position

Note: the set quantity is pre-programmed for each vehicle.

8. Ensure the WATER ON/OFF switch is turned to the WATER OFF position.
9. Disconnect hose, lock the cap on the discharge pipe, and lock the cabinet.

If you experience any difficulties please call the County of Oxford, Public Works Dept., at 519- 539-9800.



## CONTRACTOR RATING FORM

		Contract No.	
Department: Engineering		Contract Description:	
Contractor:		Final Contract Price:	
		Date Prepared:	
Item	RATING CRITERIA (refer to guide attached)	MAXIMUM POINTS OBTAINABLE	ACTUAL POINTS AWARDED
1.	<b>COMMENCEMENT</b> Any rating below 5 indicates extent of delay by Contractor in commencing work or the amount of Effort required by Staff in order to get the Contractor to commence project on time.	10	
2.	<b>ADEQUATE AND PROPER SUPERVISION</b> The extent to which Staff found it necessary to provide more than normal supervision and guidance due to inadequate supervision by Contractor.	10	
3.	<b>ADEQUATE AND PROPER EQUIPMENT</b> Degree to which Contractor failed to provide adequate equipment to execute work efficiently and expeditiously.	10	
4.	<b>WORKMANSHIP/SERVICE</b> Measure of "polish" a Contractor gives job or Difficulty experienced by Staff in obtaining acceptable work. IE. Normal workmanship/service = 20+/- Difficulties encountered achieving acceptable Workmanship/service = 15 Exceptional workmanship/service = 30	30	
5.	<b>SAFETY PROCEDURES</b> Degree of pressure required to ensure adequate and proper safety procedures.	10	
6.	<b>CO-OPERATION</b> Degree of co-operation with Town officials.	5	
7.	<b>PUBLIC RELATIONS</b> Contractor's consideration of general public, motorists and residents.	5	
8.	<b>EXTRAS</b> Requests for unreasonable extras.	5	
9.	<b>CLEAN-UP</b> Degree of effort by Staff to have project cleaned up in an acceptable manner.	5	
10.	<b>COMPLETION</b> Degree of effort by Contractor to finish on time, or Whether he finished on time.	10	
<b>TOTAL POINTS FOR THIS CONTRACT</b>		<b>100*</b>	
General Comments:			
Rated by:		Approved by:	

\*Excellent 95 - 100   Very Good 90 - 95   Good 85 - 90   Fair 75 - 85   Poor Below 75 points

**CONTRACTOR RATING GUIDELINES**

Staff prepares the Contractor Rating Form after issuance of the Certificate of Substantial Completion, or completion of the required works. The completed form provides a record of the Contractor's performance on the contract. If, from a perusal of the completed form, it is felt advisable to discuss this with the parties concerned, the Contract Administrator will arrange a meeting.

The following breakdown of the form is provided to assist Staff in preparing the form so that uniformity may be provided in the ratings.

<u>Item</u>	<u>Description</u>	<u>Points</u>
1	Deduct one point from maximum obtainable for each day where an unreasonable delay in commencement by Contractor inconvenienced public and/or caused the Town undue expense.	0 - 10
2	Little supervision required	8 - 10
	Moderate supervision required	4 - 7
	Considerable supervision required	0 - 3
3	Adequate equipment	10
	Short of adequate equipment	6 - 9
	Inadequate equipment	0 - 5
4	Average to extraordinary workmanship with little or no Town effort	25 - 30
	Average workmanship with some Town effort	15 - 25
	Average workmanship with considerable Town effort and pressure	0 - 15
5	No pressure to ensure adequate safety	10
	Some pressure to ensure adequate safety	5 - 9
	Considerable pressure to ensure adequate safety	0 - 4
6 & 7	Excellent	5
	Good	4
	Fair	3
	Poor	0 - 2
8	None	5
	Few prices high or few quantities high	4
	Some prices high and few quantities high	3
	Few prices high and few quantities high	2
	Most prices high and many quantities high	0 - 1
9	Excellent clean-up without direction	5
	Clean-up with direction	4
	Clean-up with pressure and direction	3
	Clean-up with considerable delay and pressure	2
	Clean-up with considerable delay, pressure and causing inconvenience to the public	1
	Clean-up completed by the Town and charged to the Contractor	0
10	Concerted effort to expedite work.	10
	Satisfactory effort to expedite work.	5 - 9
	Not overly concerned with time allowance	2 - 4
	No effort to expedite work - very slow	0 - 1