

TOWNSHIP OF BONNECHERE VALLEY

**CONTRACT FOR
John Street Sewer and Watermain Construction**

BV-2026-03

June 2026

JLR No. 21981-47

TOWNSHIP OF BONNECHERE VALLEY
CONTRACT FOR
JOHN STREET SEWER AND WATERMAIN CONSTRUCTION

- CONTENTS -

		<u>PAGES</u>
A.	Information for Tenderers.....	IT-1 to IT-20
B.	Form of Tender	FT-1 to FT-3
C.	Form of Agreement.....	1 to 4
D.	Standard Specifications, Drawings and Contract Specific Special Provisions	
E.	OPS General Conditions of Contract	
F.	GEMTEC Consulting Engineers and Scientists Limited:	
	1. Geotechnical and Hydrogeological Investigation –Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.	
	2. Soil Characterization Report – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.	
	3. Assessment of Past Uses – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.	
	4. Sampling and Analysis Plan – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.	
	5. Excess Soil Destination Assessment Report – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.	
G.	JLR Drawings (full size set provided separately):	

<u>DWG</u>	<u>TITLE</u>	<u>ISSUED FOR</u>	<u>ISSUE DATE</u>
01	Legend and Notes	Issued for Tender	06/26/2026
02-03	Alignment, Geometry and General Layout	Issued for Tender	06/26/2026
04-05	Removals	Issued for Tender	06/26/2026
06-09	Plan and Profile	Issued for Tender	06/26/2026
10-11	Reinstatement	Issued for Tender	06/26/2026
12	Pavement Markings and Signage	Issued for Tender	06/26/2026
13	Details	Issued for Tender	06/26/2026
14	Typical Cross Sections	Issued for Tender	06/26/2026

15

Watermain Details

Issued for Tender

06/16/2026

PAGE IT-3

SECTION A
INFORMATION FOR TENDERERS

<u>Page</u>	<u>Title</u>	
	SECTION A.....	4
	Title Page.....	5
1.	SCOPE OF WORK	7
2.	CONSTRUCTION SCHEDULE.....	7
3.	DELIVERY OF TENDERS	7
4.	DISQUALIFICATION OF TENDERS	8
5.	WITHDRAWAL OR QUALIFYING OF TENDERS	8
6.	INFORMAL OR UNBALANCED TENDERS	8
7.	BONDS AND AGREEMENT TO BOND	8
8.	TENDER DEPOSIT	9
9.	EXAMINATION OF SITE	9
10.	TENDER.....	9
11.	OMISSIONS AND DISCREPANCIES.....	9
12.	INTERPRETATIONS AND ADDENDA	10
13.	BASIS OF AWARD	10
14.	ACCEPTANCE OR REJECTION OF TENDERS	10
15.	IRREVOCABILITY OF OFFER	11
16.	PERMITS	11
17.	CURRENT STANDARDS	11
18.	WORKPLACE SAFETY AND INSURANCE BOARD	11
19.	TAXES.....	11
20.	INSURANCE	12
-	Commercial General Liability Insurance	12
-	Automobile Liability Insurance	12
21.	PRIVATE LANDS.....	13
22.	CONNECTIONS TO EXISTING WATERMAINS	13
23.	SETTING OUT	13
24.	SCHEDULE OF WORK	14
25.	PROTECTION OF WATER PIPES.....	15
26.	GUARANTEED MAINTENANCE PERIOD	15
27.	INVESTIGATION REPORTS.....	15
28.	MISCELLANEOUS ITEMS.....	16
29.	PARKING	16
30.	LIMITS OF SITE.....	16
31.	TESTS.....	16
32.	RELEASE OF HOLDBACK.....	17
33.	DEWATERING	17

	PAGE IT-6
34. EROSION AND SEDIMENT CONTROL.....	17
35. PROVISIONAL ITEMS.....	17
36. WATERMAIN REQUIREMENTS	17
37. ASPHALT CEMENT INDEX.....	18
38. CARE AND CLEANING OF SITE	19
39. SITE FIELD OFFICE.....	19
40. SERVICE CONNECTION LOCATION CONFIRMATION.....	19
41. STAGING AREA	20

1. SCOPE OF WORK

The project comprises the construction of sanitary sewers, and watermain along John Street in Eganville, Ontario. Work also includes construction of storm sewers along John Street up to the existing easement and road reconstruction and landscaping reinstatement.

J.L. Richards & Associates Limited will administer the construction contract, with construction review being carried out by J.L. Richards & Associates Limited and the Township of Bonnechere Valley.

All works to be in accordance with Drawings prepared by J.L. Richards & Associates Limited and approved by the Township of Bonnechere Valley (Township). The Contractor shall review the Drawings prior to the commencement of the works to estimate the quantities required for the proposed works. The Drawings are only for the sole purpose of indicating to the Contractor the general magnitude of the work. It is the Contractor's responsibility to verify all quantities.

The reduction and/or deletion of any item by the Owner shall not affect unit prices of the balance of the work.

2. CONSTRUCTION SCHEDULE

Time will be deemed of the essence of the Contract. The works are to start immediately following the award of project. Sewer work, sewer laterals and trench reinstatement shall be completed in 2026. The watermain, water services, concrete work, full road reconstruction, reinstatement and landscaping shall be completed in 2027. Before the end of the 2026 construction season, the contractor shall temporarily reinstate any trenches within the roadway with a hard asphalt surface prior to the seasonal shutdown.

The works shall be Substantially Performed (per GC8.02.04.04) by August 30, 2027. Completion (per GC8.02.04.06) shall be by September 30, 2027.

The Contractor shall not make any claims for costs or expenses associated with any additional mobilization and/or demobilization due to delays in the commencement of work, wet weather conditions, seasonal load restrictions, and/or winter (cold weather) conditions.

3. DELIVERY OF TENDERS

ELECTRONIC BID SUBMISSIONS ONLY, shall be received by the Township. Hardcopy submissions not permitted.

Bidders are to deliver proposals by email to danab@eganville.com. Proposals to be sent as .zip file format.

Tender documents will be available for downloading at the Township website: www.bonnecherevalleytwp.com/Tenders-and-Tax-Sales. Plan takers are to email danab@eganville.com to be included on distribution of any addenda.

4. DISQUALIFICATION OF TENDERS

Under no circumstance will Tenders be considered which are received after 2:00:00 p.m. on the advertised closing date of July 21, 2026

5. WITHDRAWAL OR QUALIFYING OF TENDERS

A Tenderer who has already submitted a Tender may submit a further Tender at any time up to the official closing time. The last Tender received shall supersede and invalidate all Tenders previously submitted by that Tenderer for this Contract.

6. INFORMAL OR UNBALANCED TENDERS

Tenders which are incomplete, conditional, illegible or obscure, or that contain additions not called for, reservations, erasures, alterations, or irregularities of any kind, may be rejected as informal.

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

Wherever in a Tender the amount tendered for an item does not agree with the extension of the estimated quantity and the Tendered Unit Price, the Unit Price shall govern, and the amount shall be corrected accordingly.

The Owners reserve the right to waive informalities at their discretion.

Tenderers who have submitted Tenders which have been rejected by the Owners because of informalities will be notified of the reason for the rejection within ten (10) business days after the closing date for Tenders.

7. BONDS AND AGREEMENT TO BOND

The Tenderer agrees that, if they have been notified that their Tender has been accepted by the Owner, they will execute the Contract Agreement in triplicate and that they will be required to furnish a Performance Bond in the amount of 50% of the Total Tender Price and a Labour and Material Payment Bond in the amount of 50% of the Total Tender Price.

Bonds shall be issued by a duly licensed surety company authorized to transact a business of suretyship in the Province of Ontario.

At the time of tendering, the Tenderer shall submit, with its Tender, an Agreement to Bond, completed, signed and sealed by the Tenderer's surety. The agreement to Bond must be an original. Failure to submit the Agreement to Bond will result in the Tender being disqualified.

8. TENDER DEPOSIT

At the time of tendering, the Tenderer shall submit, with its Tender, a deposit in the form of a certified cheque or a bid bond signed and sealed by the Tenderer's surety in favour of the Municipality. The Tender deposit must be an original and shall equal ten percent (10%) of the Total Tender price. The Owner shall not pay interest on Tender deposits.

The Owner shall retain the Tender deposit of the successful Tenderer until the successful Tenderer has executed the Form of Agreement and has provided all bonding, insurance certificates and the WSIB Clearance Certificate. The Owner shall return the deposits of the unsuccessful Tenderers at a time determined by the Owner.

9. EXAMINATION OF SITE

Each Tenderer must visit the site of the work before submitting his Tender and must satisfy himself by personal examination as to the local conditions to be met with during the construction and conduct of the work.

The Tenderer shall make his own estimate of the facilities and difficulties to be encountered, including the nature of the subsurface materials and conditions. The tenderer is not to claim at any time that there was any misunderstanding of the terms and conditions of the Contract relating to site conditions.

10. TENDER

Each Tender shall be in accordance with the General Conditions and shall include a completed Form of Tender, as bound herein. The Form of Tender must not be separated nor removed from the other documents therewith. The Tenderer shall give the total Tender Price in figures and shall fill in all blank spaces for unit prices, item prices and lump sums in the Form of Tender.

11. OMISSIONS AND DISCREPANCIES

Should a Tenderer find discrepancies in, or omissions from, the Contract Document, or should they be in doubt as to its meaning, they should notify danab@eganville.com, who may send a written instruction to all Tenderers.

12. INTERPRETATIONS AND ADDENDA

Every request for an interpretation shall be made in writing, addressed and forwarded to the Consulting Engineers.

Questions can be asked via email to danab@eganville.com online up to 11:59 pm (EST) July 14, 2026.

13. BASIS OF AWARD

The Township intends to award a Contract to the lowest responsive Bidder by Total Tender Price (HST excluded) in accordance with specifications and drawings, whom upon formal notification of award thereafter shall be known as the Contractor.

The Township reserves the right to disqualify any tender that is incomplete or is otherwise not submitted in strict accordance with the terms and conditions set forth in this Request for Tender. The Township reserves the right to accept or reject any of all tenders received, should it be deemed in the best interest of the Township. Should only one Tender be received, the Township reserves the right to reject it.

14. ACCEPTANCE OR REJECTION OF TENDERS

Subject to the General Conditions, neither the Consulting Engineers nor an officer or employee or the Owner has authority to make or accept an offer or to enter into a Contract on behalf of the Owner or to create any right against or to impose any obligations on the Owner.

Recommendation of a Tender to the Owner for acceptance does not constitute acceptance of the Tender by the Owner.

A Tender is accepted by the Owner and a Contract is made thereby between the Owner and a Tenderer only when an Agreement is executed by the Owner and by the Tenderer, and the acceptance of a Tender and the execution of an Agreement by the Owner is subject to the express condition that the Owner receive a Performance Bond and a Labour and Material Payment Bond, as required herein and in a form satisfactory to the Solicitor for the Owner, within seven (7) days after notification of the execution of the Agreement by the Owner has been mailed to the Tenderer whose Tender has been accepted as aforesaid.

The Owner shall not be responsible for any liabilities, costs, expenses, loss or damage incurred, sustained or suffered by any Tenderer prior or subsequent to or by reason of the acceptance or the non-acceptance by the Owner of any Tender or by reason of any delay in the acceptance of a Tender save as provided in the Contract. Tenders are subject to a formal Contract being prepared and executed. The Owner reserves the right to reject any or all Tenders and to waive informalities as

the interests of the Owner may require without stating reasons therefore and the lowest or any Tender will not necessarily be accepted.

15. IRREVOCABILITY OF OFFER

The Tenderer shall not revoke its offer until after the expiration of sixty (60) days after the opening of Tenders by the Owner. If the Tenderer revokes its offer prior to the expiration of the sixty (60) days after Tender opening, The Tenderer shall forfeit its Tender deposit, but this shall not prohibit the Owner from pursuing any other legal remedy which it may have.

16. PERMITS

The Contractor will pay for all necessary permits and will obtain all necessary permits before any work proceeds in accordance with the General Conditions. The costs of these permits is incidental to the applicable contract item for the work and no additional payment will be considered. Copies of all permits and copies of Receipts for Payment of Fees are to be submitted to the Contract Administrator for record.

17. CURRENT STANDARDS

Where any By-laws, Codes or Official Standards are noted, it shall mean the latest edition including all revisions or amendments at the time of Tender closing.

Where not otherwise specified or shown, the work shall conform to the latest rules and regulations of the local Building Codes and By-laws, the National Building Code, the Material Specifications and Standard Detail Drawings of the City of Ottawa and the Ontario Provincial Standard Specifications (OPSS) and Standard Drawings (OPSD) for sewers, watermains and appurtenances, including all revisions and bulletins issued up to the time of Tender closing.

18. WORKPLACE SAFETY AND INSURANCE BOARD

The Contractor shall, at the time of entering into any contract with the Owners make a statutory declaration or furnish a satisfactory clearance letter from the Workplace Safety and Insurance Board stating that all assessments or compensation payable to the Workplace Safety and Insurance Board have been paid.

19. TAXES

Tenderers shall not include any amounts for the Harmonized Sales Tax (HST) in the preparation of their tender prices. Tenderers shall include all other applicable taxes and duties in their tender prices.

The Owners shall pay all applicable amounts for the Harmonized Sales Tax as an additional payment which shall be supplementary to the Contract Price. The Contractor shall, in turn, be responsible for paying all applicable amounts for the Harmonized Sales Tax (HST) to its Subcontractors, suppliers and all other parties which provide either goods or services to the Contractor.

Note: Add your Company's HST Registration Number to the Form of Tender in the space provided.

20. INSURANCE

Insurance shall be in accordance with Section GC 6.0 of the General Conditions except, but not limited to, the following conditions:

- Commercial General Liability Insurance
Commercial General Liability Insurance issued on an occurrence basis for an amount of not less than \$5,000,000 per occurrence / \$5,000,000 annual aggregate for any negligent acts or omissions by the supplier while carrying out the work associated with the tender. Such insurance shall include, but is not limited to bodily injury and property damage including loss of use; personal injury; contractual liability; premises, property & operations; non-owned automobile; broad form property damage; broad form completed operations; owners & contractors protective; occurrence property damage; products; employees as Additional Insured(s); contingent employers liability; tenants legal liability; cross liability and severability of interest clause.
- Automobile Liability Insurance
Automobile liability insurance with respect to owned or leased vehicles used directly or indirectly in the performance of the services covering liability for bodily injury, death and damage to property with a limit of not less than \$5,000,000. inclusive for each and every loss.

Such insurance shall add the Corporation of the Township of Bonnechere Valley as Additional Insured with respect to the operations of the contractor. This insurance shall be non-contributing with and apply as primary and not as excess of any insurance available to the Counties. The Contractor shall indemnify and hold The Corporation of the Township of Bonnechere Valley harmless from and against any liability, loss, claims, demands, costs and expenses, including reasonable legal fees, occasioned wholly or in part by any negligence or acts or omissions whether willful or otherwise by the contractor, their officers, employees or other persons for whom they are legally responsible.

The above noted policies shall not be cancelled, altered or lapsed unless the Insurer notifies the below parties in writing at least thirty (30) days prior to the effective date of the change or cancellation.

The following shall be named as additional insured:

Township of Bonnechere Valley;
J.L. Richards & Associates Limited; and
GEMTEC Consulting Engineers and Scientists Ltd.

21. PRIVATE LANDS

The Contractor shall not enter upon or occupy, with workers, tools, or materials of any nature, any lands outside of the public streets, roadways and the right-of-way shown on the plans, except after written consent has been received by them from the owner and a formal copy of the consent is provided to the Contract Administrator.

All property line information shown on the drawings has been provided for information purposes only from registry parcels (does not constitute a legal plan of survey). The Corporation of the Township of Bonnechere Valley and the Engineer neither offer nor imply any warranty as to completeness or accuracy of the property line information. Any assessments or interpretations placed on the property limit information shown are entirely the responsibility of the Tenderer.

The Contractor will be responsible to obtain a consent to enter for all properties that are to have a water service lateral, sanitary service lateral and/or hydrant installed at its frontage.

When work has to proceed on private property and authorization has been provided by the Owner, the Contractor will take every precaution to minimize the damage to lawns, gardens, driveways, hedges, paths and to minimize inconvenience to property owners. His or her unit prices will be deemed to cover any restoration work necessary and all remedial work will be done to the satisfaction of the Contract Administrator, the Municipality, and the property Owners.

22. CONNECTIONS TO EXISTING WATERMAINS

The physical connection of any newly constructed watermain to the existing mains shall not be made until all approvals have been received and the new system is commissioned, tested, cleaned and accepted by the Contract Administrator. This requirement is essential in order to protect the existing mains from dirt, debris and flushing water. All work on the municipality's live watermain system, including watermain reconnections, will be coordinated and supervised by Township Forces

23. SETTING OUT

The Contractor will be responsible for ALL layout from information supplied on the Civil Drawings and bars in the field. The project benchmark information (Horizontal and Vertical Datums) are provided in the Civil Drawings.

The Contractor is responsible for ensuring that the contract work is installed at the correct location and grade specified on the drawings. Any work that does not meet this shall be removed and reinstalled at not additional cost. Prior to mobilizing to site, the Contractor shall submit to the Contract Administrator a "Layout and Surveying Plan" indicating:

- Their layout and surveying approach for the project to ensure that the project work is installed at the correct location (horizontal and vertical).
- The personnel and associated experience that will be responsible for layout/surveying on site.
- A breakout of the type of work (ie. sewer, watermain, road, concrete, etc.) along with the contract tolerance specified for each (horizontal and vertical).
- The type of surveying/layout equipment that will be used for each of the above/noted items and the tolerance it is capable of achieving (provide manufacturer data to support).
- The Contractor's QC procedure to verify that the work is at the correct horizontal/vertical location once installed, and how this will be conveyed to the Contract Administrator.
- If GPS will be used, additional details on how the unit will be calibrated against the site benchmarks (at least two), the mode it will be used in, and any special operation considerations to help maintain accuracy (clear weather, not near obstructions like trees/houses, etc.). For the purposes of this project, GPS shall not be used where detailed vertical elevations are required.

It is emphasized that the Contractor must exercise care in setting top of watermain grades and sanitary sewer elevations as per the Civil Drawings and applicable specifications. The Contractor shall verify the elevation of the existing inverts at all tie in points including storm sewers, sanitary sewers at the easement, sanitary treatment plant maintenance hole, and existing forcemain connections to SANMH1, and provide the information to the Contract Administrator prior to mobilizing in the field.

24. SCHEDULE OF WORK

Within one week of tender award, the successful Tenderer shall submit a bar graph of all major items indicating the proposed Schedule of Procedure of Work for completion of works. The schedule shall show clearly show the critical path. The schedule, when approved, will form part of the Contract and shall be binding on the Contractor.

During the operation of this Contract, if any external changes arise which, in the opinion of the Contractor, delays their critical path work per GC 3.07 beyond a Contract deadline, they shall immediately notify the Contract Administrator in writing for an extension of the deadline. The Contract Administrator will review per GC 3.06 and confirm any extensions to the Contract deadlines.

The Contractor's schedule shall take into account seasonal weather conditions, such as rain events, as well as any associated restrictions (i.e. not being able to carry out work on the storm sewer during wet weather conditions) as well as seasonal temperatures for dependent work in the fall (i.e. paving,

concrete, water services, etc.) to avoid complications with that work. No extensions to the Contract deadlines will be considered for seasonal weather events as these do not constitute "abnormal weather" per GC 3.07.

25. PROTECTION OF WATER PIPES

The Contractor shall protect, at their own expense, all water and service pipes from freezing. Any soil/backfill material within 1m of the existing watermain and services shall be removed by hand or hydro-excavation to avoid damage to the pipe or service. This is particularly important for water services, which are to be positively located in the field with locates prior to excavation, uncovered via hand digging/hydro-excavation and removed from the existing watermain. No additional compensation will be allowed by the Contractor for this work.

Leaks or damage to water pipes must be reported immediately to the Contract Administrator and the Township. The costs of insulating pipes, repairing damaged pipes, and the thawing of frozen water and service pipes shall be borne entirely by the Contractor.

All work pertaining to the Water Works system must be performed to the entire satisfaction of the Contract Administrator and Township whose word shall be final and binding in all matters relating to the necessity and cost of such work.

26. GUARANTEED MAINTENANCE PERIOD

The Guaranteed Maintenance Period for the Contract works shall be for a period of one (1) year following issuance of Substantial Performance by the Contract Administrator. During this period, the Contractor shall maintain all work and carry out such repairs as directed by the Contract Administrator. Repairs, as requested by the Contract Administrator, shall be undertaken within forty-eight (48) hours of notice being given; otherwise, the Owners shall have such repairs carried out by others and charged against the Contractor.

27. INVESTIGATION REPORTS

The following investigations were prepared by GEMTEC Consulting Engineers and Scientists Limited:

1. Geotechnical and Hydrogeological Investigation –Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.
2. Soil Characterization Report – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.
3. Assessment of Past Uses – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.
4. Sampling and Analysis Plan – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.

5. Excess Soil Destination Assessment Report – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.

The above documents are available at www.bonnecherevalleytwp.com/Tenders-and-Tax-Sales and form part of this Tender Document.

The Corporation of the Township of Bonnechere Valley and the Consulting Engineer neither offer nor imply any warranty as to completeness of the soils information. Any assessments or interpretations placed on the soils information are entirely the responsibility of the Tenderer.

The Contractor shall not make any claims for additional costs or expenses incurred due to any aspect related to the soil conditions.

28. MISCELLANEOUS ITEMS

Tenderers shall note that although the main items of work are listed in the Schedule of Items and Prices in the Form of Tender, it shall be required that the Contractor complete all the work required by the Plans or the Specifications even though every item may not be specifically listed in the Form of Tender. The cost of such miscellaneous items shall be deemed to be included in the unit prices for the main items of work listed in the Form of Tender. Miscellaneous work shall include such items as the cost of insurance, permits, bonds, clean-up, and all other things necessary for the proper carrying out and completion of the work.

29. PARKING

The Contractor shall provide (at their own cost) suitable parking areas adequate for their vehicles and for the cars of their employees and those of their subcontractors and visitors. The location of parking areas shall meet the approval of the Contract Administrator and shall be reinstated by the Contractor once no longer required.

30. LIMITS OF SITE

The Contractor is to contain their operation to the street right-of-way and municipal lands. Any other locations that the Contractor obtains private approval, such as trailer locations, parking areas and stockpile sites, etc., must be agreed upon by the Contract Administrator. Any disruption to properties outside of the project limits shall be reinstated by the Contractor at their own expense.

31. TESTS

- (a) Costs for tests on concrete, concrete materials, asphalt materials, sieve analyses or compaction tests ordered by the Contract Administrator will be paid by the Owner.
- (b) Costs for soil testing and QP services, as is necessary to comply with O.Reg 406/19, will be at the Contractors own expense.

- (c) Notwithstanding the above, all other testing programs, tests of failed specimens, or excessive amounts of testing which in the Engineer's opinion results from inefficiency or lack of normal care and workmanship, will be at the Contractor's expense.

32. RELEASE OF HOLDBACK

Pursuant to the Construction Act, the Owner will release the holdback following the 60-day lien period from the date of publication of the Certificate of Substantial Performance in a Regional construction trade newspaper and upon receipt of the following:

1. Statutory Declaration Re: Payment of Accounts;
2. Workplace Safety and Insurance Board Certificate;
3. Copy of the publication of the Substantial Performance Certificate.
4. A letter releasing the Owner from all further claims other than those already qualified.

33. DEWATERING

The Contractor shall be responsible for dewatering during construction. The cost for dewatering shall be included in the unit prices for the watermains, sanitary and storm sewers. The Contractor shall be aware of and shall conform to requirements of OWRA S.34, Ontario Regulation 63/16 and all other applicable legislation governing dewatering for temporary construction conditions.

34. EROSION AND SEDIMENT CONTROL

The Contractor shall be responsible for erosion and sediment controls during all phases of site preparation, servicing and construction in accordance all applicable legislation. Erosion and sediment control features shall be installed, maintained and removed in accordance with OPSS.MUNI.805, City of Ottawa Special Provision F-1008 and SP805.

35. PROVISIONAL ITEMS

Provisional Items are items of work that may or may not be required during construction and for which the actual quantity may vary substantially from the estimated quantity presented in the Form of Tender.

The Contractor shall price these items accordingly and not claim any anticipated loss of profit, or increased overhead, if any or all of these items are deleted altogether.

36. WATERMAIN REQUIREMENTS

Watermain construction under this Contract shall conform to the latest Ontario Provincial Standard.

Any temporary water disruptions to residences, such as during watermain isolation and service transfers, as required to complete the contract work, shall not occur without written confirmation from the Contract Administrator confirming that the owner is aware of the disruption to service. Temporary watermain to be installed and maintained during the duration of construction. Contractor to provide temporary service connections to residents along John Street. Contractor to follow Special Provision SP-493 and OPSS 493 when implementing temporary watermain supply.

Watermain commissioning and any work on in-service watermains (including the operation of valves) will be co-ordinated and supervised by Municipal Staff.

37. ASPHALT CEMENT INDEX

The price of asphalt cement will be adjusted based on changes to the Ministry of Transportation of Ontario's performance graded asphalt cement price index. The price index will be used to calculate the amount of the payment adjustment per tonne of new asphalt cement accepted into the Work.

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 adjustment for all grades, as well as emulsions produced using PGAC. Asphalt cement price will apply based on the July 2026 Asphalt Index.

A payment adjustment per tonne of new asphalt cement will be established for each month in which paving occurs when the price index for the month differs by more than \$15.00/tonne from the price index for the month of the tender closing date. When the price index differential is less than \$15.00 tonne, there will be no payment adjustment for that month. Payment adjustments due to changes in the price index are independent of any other payment adjustments made to the hot or recycled mix tender items.

The payment adjustment per tonne will apply to the quantity of new asphalt cement in the hot or recycled mix accepted into the Work during the month of which is established. The payment adjustment for the month will be calculated by the following means:

- .1 When AC Prices are Rising more than a \$15.00/tonne difference: the payment adjustment to be paid to the Contractor is the result of subtracting the price index in effect in July 2026 from the price index in effect when paving took place, minus the \$15.00 float, multiplied by the number of tonnes of PGAC incorporated in the mix(s) as determined by the job mix formula.
- .2 When AC Prices are Falling by more than \$15.00/tonne difference: the payment adjustment made in favour of the Owner is the result of subtracting the price index in effect when paving took place, plus \$15.00 from the price index in effect in July 2026, multiplied by the number of tonnes of PGAC incorporated in the mix(s) as determined by the job mix formula.

The quantity of new asphalt cement includes all grades of asphalt cement supplied by the Contractor with or without polymer modifiers. For each month in which a payment adjustment has been established, the quantity will be calculated using the hot mix quantity accepted into the Work and its corresponding asphalt cement content as required by the job mix formula except for mixes which contain reclaimed asphalt pavement.

Weigh tickets to be supplied to the Contract Administrator by the Contractor. The payment to be based on the price index and no additional compensation will be provided for taxes.

38. CARE AND CLEANING OF SITE

The Contractor shall confine their plant, materials and other parts of the work and the operations of his employees to limits indicated by laws, ordinances, permits or lawful authority or by the directions of the Contract Administrator and shall not unreasonably encumber the site with their materials. The Contractor shall at all times keep the site free from accumulations of waste materials or rubbish caused by their employees or work and shall at all times obey the instructions of the Contract Administrator regarding same. Upon completion of the work, the Contractor shall at their own expense remove and dispose of all rubbish and all their plant and surplus materials and shall leave the site absolutely clear thereof and in good order to the entire satisfaction of the Contract Administrator. Cleaning up shall be a condition precedent to final acceptance of the work.

The Contractor will be responsible to keep all roads affected by his operation clean. Daily scraping and weekly flushing and sweeping will be required as part of this Contract.

The costs involved for care and cleaning of the site, including the daily scraping shall be included in the overall cost of the contract. The Contract Administrator may request a sweeper or a flusher on an as needed basis. The sweeper and flusher time will be paid on an hourly basis.

39. SITE FIELD OFFICE

The Contractor shall supply and maintain a field office and its associated items for the sole use of the Contract Administrators field staff.

40. SERVICE CONNECTION LOCATION CONFIRMATION

The contractor shall investigate the existing storm sewer along John Street with CCTV to confirm the locations of existing service laterals. The contractor shall provide a report of this information (showing the location of each service marked on a copy of the Drawings) immediately to the Contract Administrator and advise of any discrepancies.

Watermain service connections are to be connected and confirmed in the field.

41. STAGING AREA

The Contractor shall provide (at their own cost) suitable staging area adequate for temporary storage of materials and equipment. The location for the staging area shall meet the approval of the Contract Administrator. Restoration of the staging area to condition that existed prior to construction or better shall also at its own cost.

END OF SECTION

SECTION B
FORM OF TENDER

TOWNSHIP OF BONNECHERE VALLEY
CONTRACT FOR
JOHN STREET SEWER AND WATERMAIN CONSTRUCTION

FORM OF TENDER

- I N D E X -

	<u>PAGES</u>
Tender Identification	FT-1
Signature of Tenderer	FT-2
Subcontractors	FT-3

Note that the Schedule of Prices and Items is to be submitted via email

TOWNSHIP OF BONNECHERE VALLEY
CONTRACT FOR
JOHN STREET SEWER AND WATERMAIN CONSTRUCTION

FORM OF TENDER

Tender by:

residing at (or place of business)

.....

comprising the firm of

a Company duly incorporated under the laws of.....

and having its Head Office at.....

.....

and having HST Registration Number:.....

hereinafter called the "Tenderer".

TO: The Township of Bonnechere Valley
 P.O. Box 100
 49 Bonnechere Street East
 Eganville, Ontario
 K0J 1T0

We,....., having carefully examined the locality land site of the proposed works and all Contract Documents relating thereto, including the Drawings, Form of Tender, Information for Tenderers, Specifications, Schedule of Items and Prices, General Conditions, Forms and _____★inclusive, hereby Tender and offer, in accordance therewith, to enter into a Contract within the prescribed time to construct the said works in strict accordance with the Contract Documents and such further detail drawings as may be supplied from time to time, and to furnish all materials, labour, tools, plant, matters and things necessary therefor complete and ready for use within the time specified in accordance with the unit prices stated in the Schedule of Items and Prices.

- ★ The Tenderer will insert the number of the Addenda received by them during the Tendering period and taken into account by them in preparing their Tender.

FORM OF TENDER

The Tenderer agrees to complete the works within the time specified.

The Tenderer agrees that this Tender is subject to a formal contract being prepared and executed.

The Tenderer declares that no person, firm or corporation other than the Tenderer has any interest in this Tender or in the proposed Contract for which this Tender is made.

The Tenderer further declares that no officer or employee of The Corporation of the Township of Bonnechere Valley is or will become interested directly or indirectly as a contract party, partner, shareholder, surety or otherwise in or in the performance of the Contract or in the supplies, work or business to which it relates, or in any portion of the profits thereof, or in any of the monies to be derived therefrom.

Dated at this day of, 2026.

.....
Signature of Witness

.....
Signature of Tenderer

NOTE: If the Tender is submitted by or on behalf of a corporation, it must be signed in the name of such corporation by the duly authorized officers and the seal of the corporation must be affixed. If the Tender is submitted by or on behalf of any individual or a partnership, a seal must be affixed opposite the signature of the individual or the partner.

SUBCONTRACTORS

The following is a list of Sub-contractors which I / we propose to employ for this work:

<u>Sub Trade</u>	<u>Name and Address of Sub-contractor</u>	<u>Position of Work</u>	<u>Cost of Work</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

WITNESS:

Signature of Authorized Person
Signing for Contractor

_____ Position

DATED AT _____ this ____ day of _____, 2026.

TENDERER
(initial)

SECTION C
FORM OF AGREEMENT

PROJECT: JOHN STREET SEWER AND WATERMAIN CONSTRUCTION

THIS AGREEMENT, made in quadruple this ____ day of _____, 20__.

BETWEEN:

.....	(hereinafter called the
.....	"Contractor")
.....	of the first part
.....	

AND

THE CORPORATION OF THE TOWNSHIP OF BONNECHERE VALLEY P.O. Box 100 49 Bonnechere Street East EGANVILLE, ONTARIO K0J 1T0	(hereinafter called the "Owner") of the second part
---	---

WITNESSETH: That the Contractor and the Owner, for the consideration hereinafter indicated, undertake and agree as follows:

ARTICLE I

The following documents, which have been signed or initialled in quadruple for identification by both parties, are to be read herewith and form part of this present Agreement for each Contract as fully and completely to all intents and purposes as though all stipulations thereof have been embodied herein:

1. This Agreement
2. Addenda, if any
3. Special Provisions
4. Information for Tenderers
5. General Conditions
6. Specifications
7. Current City of Ottawa Standards and Specifications
8. Current Ontario Provincial Standards and Specifications
9. Contract Drawings
10. Standard Detail Drawings
11. Form of Tender.

In the event of any inconsistency or conflict in the provisions of any of the hereinbefore outlined documents which form part of this Agreement, such conflicting provisions shall take priority in the order as outlined above.

ARTICLE II

The Contractor undertakes and agrees as follows:

- (a) To provide, at their own expense, all and every kind of labour, machinery, plant, structures, roads, ways, materials, appliances, articles and things necessary for the due execution and completion of all the work set out elsewhere in this Contract and shall forthwith, according to the instructions of the Contract Administrator, commence the works and diligently execute the respective portions thereof, and deliver the works complete in every particular to the owner within the time specified in the Contract.
- (b) To grant the Owner the right to use completed portions of all Contract construction prior to completion of the Contract without any additional compensation.

ARTICLE III

The Owner undertakes and agrees as follows:

- (a) To pay the Contractor in lawful money of Canada for the performance of Work of the Contract (subject to additions and deductions as provided in the General Conditions of the Contract) in accordance with the Schedule of Items and Prices.

This Schedule of Unit Prices as described in the Form of Tender annexed to this agreement, shall be used to calculate Progress Payments.

- (b) To make payments on account thereof upon the Certificate of the Contract Administrator (when the Contract Administrator is satisfied that payments due to Sub-contractors have been made), as follows:
 - (i) At a date in each calendar month to be specified by the Contract Administrator, the Contractor shall prepare and deliver to the Contract Administrator for checking, a written estimate of the value, calculated based on a percentage of work completed for the labour and material incorporated in the work of the Contract for review with Contract Administrator. Upon agreement of the payment quantities, the Contractor shall submit a proper invoice to the Owner, as defined in Ontario's Construction Act. Within twenty-eight (28) days after delivery of a proper invoice by the Contractor to the Owner of each Invoice, the Owner shall pay to the Contractor the amount of such Invoice minus a 10% Statutory Holdback.
 - (ii) Payment by the Owner of the ten percent (10%) holdback shall be in accordance with the General Conditions, and

- (c) If, on account of climatic or other conditions reasonably beyond the Contractor's control, there are items of work that cannot be readily completed, the payment in full for the work which has been complete shall not be delayed on account thereof, the Owner or Contract Administrator may withhold a sufficient and reasonable sum as will adequately protect the Owner for work to be completed.

ARTICLE IV

In the event that the Tender provides for and contains Contingency Allowances, it is understood and agreed that such Contingency Allowances are merely for the convenience of the accounting by the Owner, and the Contractor is not entitled to payment thereof except for extra or additional work carried out by them as directed by the Engineer.

ARTICLE V

No implied Contract of any kind whatsoever by or on behalf of the Owner shall arise or be implied from anything in this Contract contained, nor from any position or situation of the parties at any time, it being clearly understood that the express covenants and agreements herein contained made by the owner shall be the only covenants and agreements upon which any rights against the owner may be founded.

ARTICLE VI

- (a) The Contractor declares that in tendering for the works and in entering into this Contract they have either investigated for themselves the character of the work and all local conditions that might affect their Tender or their acceptance of the work or that, not having so investigated, he is willing to assume, and does hereby assume, all risk of conditions arising or developing in the course of the work which might or could make the work or any items thereof more expensive in character or more onerous to fulfil than was contemplated or known when the Tender was made or the Contract signed. The Contractor also declares that they did not and does not rely upon information furnished by any methods whatsoever by the Owner or Engineer, being aware that any information from such sources was and is approximate and speculative only, and was not in any manner warranted or guaranteed by the Owner.
- (b) The Contractor agrees that the Tendered Contract price includes the supply of all material and equipment necessary to complete all works to the satisfaction of the Township of Bonnechere Valley and the Contract Administrator. The Contractor also declares that they would not be entitled to any extra compensation as a result of soil conditions encountered in the proper performance of this Contract.
- (c) The Contractor agrees to maintain all works completed under this Contract until final acceptance or one year following issuance of Substantial Completion, the warranty period is one (1) year. After final approval from the Township of Bonnechere Valley, the Contractor further agrees to accept the obligations of the Owner and to assume all the Owner's responsibilities with respect to the performance of the works under this contract

in accordance with the terms of the Agreement. The Contractor is not responsible for any damage to the works caused by other forces not hired by them.

ARTICLE VII

The Contractor and the Owner for themselves, their successors and assigns, hereby undertake and agree to full performance of the covenants contained herein and the Contract Documents as listed in Article I herein.

ARTICLE VIII

If and whenever either party hereto desires to give notice to the other party under or in connection with this Agreement, such notice will be effectively given if sent by registered mail to the **Contractor** at:

.....

and to the **Owner** at:

49 BONNECHERE ST. E., P.O. BOX 100, EGANVILLE, ONTARIO, K0J 1T0.....

and to the **Engineer** at:

.....343 PRESTON STREET, TOWER II, SUITE 1000, OTTAWA, ONTARIO, K1S 1N4

and will be considered as having been so given at the time of the deposit thereof in the Post Office.

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first above-written.

SIGNED, SEALED AND DELIVERED
in the presence of

Contractor

Mayor

Clerk

THE CORPORATION OF THE TOWNSHIP OF BONNECHERE VALLEY
(Seal) (Owner)

SECTION D

**STANDARD AND
CONTRACT SPECIFIC SPECIAL PROVISIONS**

TOWNSHIP OF BONNECHERE VALLEY

CONTRACT FOR JOHN STREET WATERMAIN AND SEWER RECONSTRUCTION

STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

1.1. The Contractor acknowledges that certain standard detail drawings and standard specifications, which are provisions of this Contract, have not been reproduced for inclusion in the Contract Documents. These standard drawings are listed in subsections 1.4, 1.5 and 1.6. Some of the standard detail drawings may be shown on the Contract Drawings.

1.2. The Contractor acknowledges that the standard drawings referred to in subsections 1.4 are the Ontario Provincial Standard Drawings (OPSD). The Contractor acknowledges that the standard specifications referred to in subsections 1.5 are the Ontario Provincial Standard Specifications (OPSS).

1.3. The Contractor acknowledges that the City of Ottawa standard drawings and specifications which are provisions of this contract. These specifications are listed in subsection 1.6.

Only the municipal and provincial common standards on OPS Volumes 1 to 4 and the municipal-oriented specifications in OPS volumes 7 and 8 apply to this Contract, unless specified otherwise in the Contract Documents.

1.4. The Ontario Provincial Standard Drawings (OPSD) which are provisions of this Contract area:

OPSD	Rev Date	OPSD	Rev Date	OPSD	Rev Date
205.060	Nov. 19	212.030	Nov. 24	216.020	Nov. 24
216.021	Nov. 17	219.110	Nov. 21	219.240	Apr. 24
220.010	Nov. 19	400.001	Nov. 18	350.010	Nov. 25
351.010	Nov. 25	404.020	Nov. 18	400.020	Nov. 18
				400.030	Nov 18
401.010	Nov. 18	406.010	Nov. 18	404.021	Nov. 18
405.010	Nov. 18	701.021	Nov. 14	701.010	Nov. 14
701.011	Nov. 14	701.032	Nov. 14	701.030	Nov. 14
701.031	Nov. 14	701.100	Nov. 24	701.040	Nov. 14
701.041	Nov. 14	705.010	Nov. 19	704.010	Nov. 25
704.011	Nov. 25	708.020	Nov. 16	708.030	Nov. 16
801.010/020	Nov. 24	801.043	Nov. 24	802.010	Nov. 14
802.095	Nov. 21	802.030	Nov. 15	802.031	Nov. 15
806.040	Nov. 18	802.033	Nov. 15	802.034	Nov. 15
807.030	Nov. 18	806.060	Nov. 19	805.010	Nov. 18
1003.010	Nov. 16	809.010	Nov. 18	807.010	Nov. 18
1006.010	Nov. 21	1104.010	Nov. 18	1003.033	Nov. 21
1105.010	Nov. 18	1109.010	Nov. 20	1104.020	Nov. 18
1109.014	Nov. 20	1109.015	Nov. 20	1109.011	Nov. 20
1109.030	Nov. 20	3090.101	Nov. 10	1109.025	Nov. 15
3900.100	Nov. 12				

OPSD	Rev Date	OPSD	Rev Date	OPSD	Rev Date

1.5. The Ontario Provincial Standard Specifications (OPSS) which are provisions of this Contract:

OPSS MUNI	Vol.	Rev Date	Description
102	7	Nov. 18	Weighing of Materials
127	5	Jul. 25	Schedule of Rental Rates for Construction Equipment including Model and Specification Reference
180	7	Apr. 25	Management of Excess Materials
201	7	Apr. 19	Clearing, Close Cut Clearing, Grubbing, and Removal of Surface and Piled Boulders
206	7	Apr. 19	Grading
212	7	Nov. 19	Borrow
310	7	Nov. 17	Hot Mix Asphalt
311	7	Nov. 18	Asphalt Sidewalk, Driveway, Boulevard and for Asphalt Resurfacing
313	5	Apr. 21	Hot Mix Asphalt – End Result
314	7	Nov. 23	Untreated Granular Subbase, Base, Surface, Shoulder and Stockpiling
341	7	Nov. 21	Routing and Sealing Cracks in Hot Mix Asphalt Pavement
351	7	Nov 21	Concrete Sidewalk
353	7	Nov. 21	Concrete Curb and Gutter System
401	7	Nov. 24	Trenching, Backfilling and Compacting
402	7	Nov. 24	Excavating, Backfilling, and compacting for Maintenance Holes, Catch Basins, Ditch Inlets and Valve Chambers
403	7	Nov.23	Rock Excavation for Pipelines, Utilities, and Associated Structures in Open Cut
405	7	Nov. 17	Pipe Subdrains
407	7	Nov. 21	New Maintenance Hole, Catch Basin, Ditch Inlet and Valve Chamber Installation
408	1	Nov. 21	Adjusting or Rebuilding Maintenance Holes, Catch Basins, Ditch Inlets and Valve Chambers
409	7	Apr. 25	Closed-Circuit Television (CCTV) Inspection of Pipelines
410	7	Nov. 18	Pipe Sewer Installation in Open Cut
411	7	Nov. 21	Cleaning and Flushing of Culverts, Wall Drawings, Pipe Sewers, Catch Basins, Maintenance Holes, Ditch Inlets, and Oil/Grit Separators
421	7	Nov. 18	Pipe Culvert installation in Open Cut
430	7	Nov. 25	General Pipe Inspection Requirements
441	7	Nov. 25	Watermain Installation in Open Cut
442	7	Nov. 20	Corrosion Protection of New and Existing Watermains
490	7	Nov. 20	Site Preparation for Pipelines, Utilities, and Associated Structures
492	7	Nov. 20	Site Restoration Following Installation of Pipelines, Utilities, and Associated Structures
493	7	Nov. 19	Temporary Potable Water Supply Services
501	7	Nov. 17	Compacting

OPSS MUNI	Vol.	Rev Date	Description
506	7	Nov. 17	Dust Suppressants
510	7	Nov. 18	Removals
517	7	Nov. 21	Control of Water from Dewatering Operations
578	7	Nov. 24	Placement of Unshrinkable Backfill
706	7	Apr. 18	Temporary Traffic Control Signing
710	7	Nov. 21	Pavement Marking
801	7	Nov. 19	The Protection of Trees
802	7	Nov. 19	Topsoil
803	7	Apr. 18	Sodding
804	7	Nov. 14	Seed and Cover
805	7	Nov. 21	Temporary Erosion and Sediment Control Measures
1001	8	Nov. 21	Aggregates - General
1003	8	Nov. 13	Aggregates – Hot Mix Asphalt
1010	8	Apr. 25	Aggregates – Base, Subbase, Select Subgrade and Backfill Material
1150	8	Nov. 20	Hot Mix Asphalt
1205	8	Apr. 15	Clay Seal
1351	8	Nov. 24	Precast Reinforced Concrete Components for Maintenance Holes, Catch Basins, Ditch Inlets and Valve Chambers
1860	8	Nov. 18	Geotextiles

1.6. The City of Ottawa Standard Detail Drawings and Specifications which are provisions of this Contract:

Drawing No.	Revision Date	Drawing No.	Revision Date
W17	Jan. 26		
W18	Feb. 25	S5	Mar. 08
W19	Mar. 23	S6	Jan. 26
W20	Feb. 25	S7	Mar. 19
W22	Jan. 26	S8	Mar. 06
W24	Mar. 21	S11.1	Jan. 26
W25	Jan. 26	S11.3	Mar. 22
W25.1	May. 26	S13	Mar. 05
W25.2	Jan. 26	S24	Mar. 17
W25.5	May. 26	S24.1	Mar. 17
W25.6	May. 26	S35	Jul. 24
W26	Mar. 21	F7	Jan. 26
W27	Mar. 08	L11	Jan. 26
W28	May. 01	R1	Mar. 09
W33	Mar. 21	R10	Jan. 26
W34	Feb. 25	R23	Mar. 09
W34.1	Mar. 16	R25	Jan. 15
W35	Mar. 21	R27	Mar. 24
W36	Mar. 21	ROW-20.0	Aug. 22
W38	May. 01	ROW-Notes	Sep. 22
W40	Mar. 21	SC3	Jul. 25
W42	Mar. 21	W48	Mar. 21
W45	Mar. 21	W49	Mar. 21

Drawing No.	Revision Date	Drawing No.	Revision Date
W46	Mar. 19	W49.1	Mar. 21
W47	Mar. 21		

Specification	Rev. Date	Description
F-1001	Mar 2024	Field Office for Contract Administrator
F-1002	Mar 2024	Payment Adjustment for Changes in the Fuel Price Index
F-1008	Jan 2026	Erosion and Sediment Control for Sewer Work
F-1011	Mar 2022	Pre-Construction Inspection
F-1013	Feb 2025	Construction Site Pedestrian Control Plan
F-1014	Mar 2006	Steel Interlocking Pedestrian Barriers
F-1015	Mar 2019	Granular A for Temporary Pedestrian Walkway
F-1016	Mar 2017	Asphalt for Temporary Pedestrian Walkway
F-1019	Mar 2017	Supply, maintain and Remove Portable Variable Message Sign
F-3130	Jan 2026	Hot Mix Asphalt – End Result
F-3147	Feb 2025	Granular Material
F-3531	Jan 2026	Concrete Curb and Gutter
F-4031	Mar 2019	Rock Excavation for Sewers and Watermains
F-4050	Mar 2009	Pipe Subdrain
F-4070	Mar 2022	Maintenance Holes, Catch Basins, Ditch Inlets and Chambers
F-4080	Jan 2026	Adjusting or Rebuilding Maintenance Holes, Catch Basins, Curb Inlets, Ditch Inlets, Valve Boxes and Valve Chambers
F-4100	Mar 2021	Pipe Sewers
F-4101	Mar 2019	Connecting into Existing Maintenance Holes, Catch Basins, Ditch Inlets, Culverts and Sewers
F-4104	Mar 2021	Abandonment of Sewer Infrastructure
F-4411	Feb 2025	Watermains Construction by Open Cut
F-4412	Mar 2019	Watermain Pipe
F-4413	Mar 2019	Valves, Valve Boxes, Valve Chambers
F-4414	Jan 2026	Hydrants
F-4415	Feb 2025	Extruded Polystyrene (XPS) Insulation for Watermains
F-4418	Feb 2025	Water Services
F-4491	Feb 2025	Commissioning of Watermains
F-4492	Feb 2025	Thrust Restraint of Watermains and Fittings
F-4493	Mar 2021	Tracing Wire for Watermains
F-4494	Mar 2021	Cathodic Protection of New Watermains
F-5103	Mar 2019	Removal of Asphalt Pavement, Partial Depth
F-8011	Jan 2026	Tree Protection
F-8021	Feb 2025	Topsoil, Imported
F-8025	Aug 2021	Labour
F-8026	Mar 2024	Equipment Rates
F-8028	Mar 2013	Sweeper / Flusher
F-8045	Mar 2013	Miscellaneous Reinstatement of Adjacent Properties

City of Ottawa Standard Detail Drawings and Specifications can be obtained from standardssection@ottawa.ca

TOWNSHIP OF BONNECHERE VALLEY
CONTRACT FOR
JOHN STREET WATERMAIN AND SEWER RECONSTRUCTION

CONTRACT SPECIFIC SPECIAL PROVISIONS

- I N D E X -

		<u>PAGES</u>
SP 001	Traffic Management	3
SP 002	Management of Excavated Soils, Excess and Contaminated Materials	8
SP 003	Utility Support and Temporary Pole Support	2
SP 004	Site Field Office	1
SP 805	Erosion and Sediment Control Plan, and Measures	1
SP 005	Well Abandonment	1
SP 006	Contractor Quality Control Compaction	12
SP 007	Removal of Existing Asbestos Concrete Sewer Pipe	7
SP 008	Pavement Marking	8
SP 009	Test Pits	2
SP-010	Dewatering	5
SP-011	Pre-Construction Investigation of Existing Storm Sewer	1
SP-012	Record Keeping for As-Built Drawings	2
SP-013	Service Lateral Locations	2
SP-014	Earth Excavation, Grading including all Removals	6
SP-015	Trench Size	1
SP-016	Rock Excavation	1
SP-017	Vibration Monitoring	4
SP 018	Contractor Qualifications	2
SP 212	Select Subgrade Material (SSM) for Trench Backfill	1
SP 407	Maintenance Hole, Catch Basin, Ditch Inlet and Valve Chamber Installation	3

SP 409	Pre-Post CCTV of Existing Sewers	2
SP 491	Sewer Flow Management Plan	8
SP 493	Temporary Potable Water Supply	14
SP 802	Construction Specification for Topsoil	1

TRAFFIC MANAGEMENT

1.0 Scope

This Special Provision provides the requirements for the Traffic Management Control that is to be implemented throughout the project. The scope of work shall include preparation and submission of a Traffic Control Plan (TCP).

2.0 References

All reference in this Special Provision to the Ontario Traffic Manual will indicate the most recent version(s) of the OTM including, and not necessarily be limited to, as applicable:

- Book 1 – Introduction of the Ontario Traffic Manual
- Book 5 – Regulatory Signs
- Book 6 – Warning Signs
- Book 7 - Temporary Conditions
- Book 11- Markings and Delineations
- Book 12 – Traffic Signals.

Maintenance of utility cuts and provision of flagmen, detours as necessary, barricades and signs in accordance with the Ontario Traffic Manual, shall be the Contractor's responsibility and at his expense. Restoration of the trenches in the existing roads will be made as soon as possible.

3.0 Construction

3.1 John Street:

Contractor is to apply and receive all necessary Road Cut Permits from the Township of Bonnechere Valley for work completed on John Street.

The Contractor shall always maintain two-way traffic with at least one open lane at all times on John Street for local traffic. Minimum lane width to be 3.0m. No road closures are permitted, and no traffic shall be detoured from this roadway. Control of one lane traffic movement shall be by traffic control person or automatic electronic signalling equipment as detailed in the Traffic Control Plan prepared by the Contractor and in accordance with OTM Book 7. Automatic signalling equipment shall be capable of recognizing and prioritizing Emergency Service (EMS) vehicles and be continuously monitored for operational compliance with 24/7 serviceability if there are any issues.

3.2 Vehicle Access to Entrances and Side Roads:

The Contractor shall maintain through, or around, the working area a satisfactory condition for traffic, shall provide vehicle access for all existing entrances, private approaches, and side streets, and ensure that all driving surfaces are maintained and are operational, all to the satisfaction of the Contract Administrator. Side streets must maintain two-way traffic and can be reduced to one lane during the work day with traffic control persons or automatic electronic signalling. All vehicle access to existing entrances, private approaches, and side streets must be fully operational once the construction for the day is completed, unless the owner of the property has provided consent to allow the access to remain closed. All the costs associated with this work shall be borne by the Contractor.

TRAFFIC MANAGEMENT

Any temporary loss of access/egress necessary to complete the works must be identified in the Contractor's Traffic Control Plan and requires a minimum 24-hour prior notification to the business or resident(s). Such notification regarding the loss of access/egress is the sole responsibility of the Contractor.

3.5 Temporary Barriers adjacent to the Excavation

The contractor shall supply, install, maintain and relocate temporary fencing between the trench excavation and the lane of controlled traffic on John Street. Installation shall conform to OTM Book 7.

3.6 Traffic Control Plan (TCP):

The Contractor shall prepare and submit for approval by the Township a Traffic Control Plan that details the specific traffic control layout(s) necessary for the completion of these works. The Traffic Control Plan shall be in the form of drawing(s) and written description(s) of how the Contractor intends to control traffic through and around the work zone. The TCP shall include, and not necessarily be limited to:

- Monitoring and Repair (24-hour contact number)
- Reference to Applicable OTM Book 7 Typical Layouts
- Traffic Control signs (regulatory, warning and temporary);
- Traffic control delineations;
- Traffic Control Vehicles and devices (TC-12, Crash Trucks, Temporary Lighting, etc)
- Contract-specific operational requirements;
- Nighttime requirements
- Traffic staging and scheduling;
- Construction vehicle access/egress;
- Public access/egress for all existing entrances and side roads;
- Pedestrian safety; barriers and barricades;
- Emergency Vehicle access;
- Locations for removal of existing line painting proposed temporary pavement markings;
- Parking for Contract Administrator;
- Any other traffic control measures.

This plan is to be submitted to the Contract Administrator two weeks (2) prior to the planned start of construction.

The supply, placement, monitoring and disassembly of all traffic control devices shall be performed under the direction of the contractor in accordance with the Ontario Traffic Manual latest edition.

The Contractor shall be responsible for construction means, methods, techniques, sequences and procedures and for coordinating the various parts of the traffic control.

Subsequent revisions require one week for review. The Contractor must review, and address comments provided by the Contract Administrator, the Municipality, to the satisfaction of the Contract Administrator, the Municipality.

TRAFFIC MANAGEMENT

Notwithstanding the foregoing, the Contractor shall, at their own expense, remove any equipment or material, which in the Contract Administrator's opinion, constitute a hazard to traffic or pedestrians, or an obstruction the Municipality and maintenance operations.

One lane traffic movement around the construction area shall be controlled at all times on John Street for the duration of the contract.

The following are the requirements for roads or lanes that are open for this Contract:

1. Bridge Street (HWY 41) shall maintain two-way traffic at all times. No lane closures are permitted. No closure, interruption or blockage of open lanes of traffic is permitted
2. No interruption or blockage of open lanes of traffic is permitted.
3. No loading or unloading is allowed in or from open lanes.
4. Flagging of traffic within an open lane is not permitted to facilitate the movement of construction equipment or materials.
5. All open lanes are to have a riding surface that is consistent with pre-construction materials and shall provide for the safe and continuous mobility of vehicles and cyclists.
6. Deviations of the riding surface, or abrupt transitions in level, resulting from removals, trenching, grinding operations, etc. are not permitted in open lanes for longer than 7 days. Those deviations shall be reinstated with adequate Hot Mix Asphalt ramping to accommodate the posted speed to the satisfaction of the Contract Administrator.

3.7 Measurement and Basis of Payment

Payment at the contract price for the lump sum items "**Traffic Control Plan**" shall be full compensation for the preparation and submission of the Traffic Control Plan, and shall include all labour, equipment and materials to prepare, submit, implement and operate the Traffic Control Plan.

Payment shall be based upon the following schedule:

- a) 10% upon satisfactory submission of the TCP;
- b) 80% prorated over the duration of construction;
- c) 10% for removal of traffic control measures from the work zone.

MANAGEMENT OF EXCAVATED SOILS, EXCESS MATERIAL AND CONTAMINATED SOIL

OPSS.MUNI 180 and all contract provisions for the management of soil are extended and amended herein.

General

This Special Provision covers the requirements for the management and deposition of all excess soil generated from the Contract. Where the item specifications for work generating excess soils does not include OPSS.MUNI 180, OPSS 180.MUNI and this specification shall be deemed to apply and are in addition to any requirements provided in the item specific special provisions.

The Contractor is advised to comply with Ontario Regulation (O. Reg.) 406/19 On-Site and Excess Soil Management, as amended, the Waste Regulation (O.Reg. 347/90), associated regulations and all other documents applicable to O. Reg. 406/19 including, but not limited to, the Soil Rules and Excess Soil Standards. Any reference throughout the document to O. Reg. 406/19 also refers to the Soil Rules and Excess Soil Standards, as applicable.

The Municipality is the Project Leader for this project. A Section 8 Project Area Notice will be filed by the Municipality on the Registry for this project, as this project is not anticipated to be exempt under O. Reg 406/19.

The Contractor is the Operator of the Project Area and shall be responsible for the management of all soil, aggregates and excavated rock associated with this Project, including but not limited to excavation, handling, storage, sampling and analysis, transportation, placement and disposal, whether it is reused on-site, removed off-site or imported to the Project Area for use as fill.

Unless otherwise specified in the contract documents, the Contractor shall be responsible for designating Receiver Sites (i.e., soil reuse sites and/or disposal sites) for the management of excess soil generated from the project.

The Contractor shall retain the services of a Qualified Person (QP-C) and fulfill all the requirements of a Qualified Person with respect to on-site soil management and placement of excess soils on Contractor designated Receiver Sites in accordance with O. Reg 406/19 and all applicable laws, including the preparation of planning studies in compliance with the contract requirements as outlined in the applicable Special Provision. The Contractor's QP-C shall be familiar with the MECP's document entitled "Management of Excess Soil – A Guide for Best Management Practices" (BMP), as amended, and the objectives of O. Reg. 406/19 which encourage the beneficial reuse of excess soil in a manner promoting sustainability and the protection of the environment. The QP-C shall be aware of their professional and ethical responsibilities as outlined in the PEO's Environmental Site Assessment, Remediation and Management Guideline and shall meet the following minimum requirements:

1. 10 years or more of demonstrated work-related experience as a Qualified Person (QPESA) for projects of similar size, scope and complexity to the current project.
2. A current license to practice within Ontario such as Professional Engineers of Ontario or Professional Geoscientists of Ontario.
3. Demonstrated knowledge of relevant federal and Ontario environmental policies, procedures and legislations/regulations, including O.Reg. 406/19 and O.Reg. 153/04.
4. Not in a conflict of interest, as defined in O.Reg. 406/19, Section 26.

MANAGEMENT OF EXCAVATED SOILS, EXCESS MATERIAL AND CONTAMINATED SOIL

The Municipality has retained a Qualified Person (QP-PL) to prepare an Assessment of Past Uses Report and Soil Characterization Report and to support the review and approval of applicable Contractor submissions and deliverables by the Contract Administrator.

Management of Excavated Soils

The Contractor shall preferentially re-use soil as backfill and grading fills within the Project Area in a manner that is consistent with Best Management Practices for the Management of Excess Soil, O.Reg. 406/19, and the Ontario Environmental Protection Act.

The Contractor shall not mix or blend materials of differing excess soil quality standards. Specifically, the Contractor shall ensure that soils of lower category are not mixed with soils of higher category.

All asphalt pavement, and concrete shall be disposed of at a licensed pit or quarry for subsequent reuse as engineered materials. Where excavated road granulars or other recyclable aggregates have been identified for recycling at a pit/quarry, at a designated stockpile location or for reuse within the work area, these materials shall not be mixed with other excavated site soils.

The disposal of non-soil materials such as excavated bedrock, removed pipes and other scrap material shall be the sole responsibility of the Contractor.

Management of excavated soils will require scheduling and staging of the work such that excavated soils can be beneficially re-used on-site as backfill, subject to geotechnical and environmental suitability.

The Contractor shall, to the extent practicable, minimize the quantity of excess soil leaving the site by minimizing excavation sizes to no greater than what is required to accomplish the Work and shall re-use suitable excavated site soils to address backfill and grading needs within the project.

Where insufficient quantities of excavated soil remain available from the current work area to meet immediate backfill requirements, the Contractor shall organize the work such that backfill materials can be sourced from other portions of the work or from stockpiles of previously excavated materials. The use of Select Subgrade Materials or other imported fill materials to meet immediate backfill quantity requirements shall be at the sole discretion of the Contract Administrator.

Where excess soils are generated from the project, the Contractor shall preferentially remove from site lower category soils prior to removing higher category excess soils subject to higher disposal costs.

A Soil Management Plan shall be prepared by the Contractor's QP-C in compliance with the contract requirements as outlined in the applicable Special Provision. Implementation of the Soil Management Plan shall be overseen by the Contractor's QP-C.

Project Registration and Additional Soil Testing

Due to the quantity of excess soil anticipated to be generated a Section 8 Notice filed on Registry is assumed to be required for this project, to be confirmed by the Contractor's QP. The Contractor's QP shall assist the Project Leader with registering the project and provide any necessary reports/testing as necessary, that are not already available, to complete the registration. No excess soil shall be removed from the project until the project is successfully registered.

MANAGEMENT OF EXCAVATED SOILS, EXCESS MATERIAL AND CONTAMINATED SOIL

The soil testing and reports carried out to date support registration of a project up to 5,600m³ however, excess soil quantities may exceed that amount and additional soil testing and reporting is anticipated to be required to complete the registration. At the onset of construction, the Contractor and their QP shall undertake the additional soil testing and reports as necessary to accommodate the registration and needs of the receiving sites. This includes any waste classification or leachate testing of excess soil required to meet MECP licensed landfill entry requirements. The testing shall be scheduled so that the final reporting can be provided to the Project Leader with sufficient time in advance of any excess soil needing to be removed from the site, so that they can register the project.

The Contractor's QP-C shall be responsible for preparing the Excess Soil Destination Assessment Report(s) (ESDAR) in accordance with the Soil Rules and O.Reg. 406/19. The ESDAR shall be submitted a minimum of 15 business days prior to the start of excavation.

The Contractor shall notify the Contract Administrator immediately, and provide all required information and documents including, but not limited to, updated Excess Soil Destination Assessment Report(s) prepared by the Contractor's QP within 5 Business Days, if any of the following occurs:

- The Contractor becomes aware that any of the environmental reports included as part of the Contract Documents that provide Soil Quality Information do not accurately reflect the quality of the Excess Soil.
- The Contractor identifies a new area of potential environmental concern.
- The Contractor becomes aware that the notice filed on the Registry, or any information and/or documents provided to the Contract Administrator as a result of O. Reg. 406/19, is no longer complete or accurate.
- The Excess Soil that is intended to be transported to a Receiving Site for final placement is not identified in the Excess Soil Destination Assessment Report.

The costs associated with the additional testing and reports, including lab tests, any equipment and personnel to obtain the soil samples and subsequent reinstatement of the area until construction can commence, are deemed to be included in the pertinent contract item for the work. The Contractor shall schedule the additional testing and reporting to avoid any delays in their schedule.

Excess Soil Quality and Characterization

The Contractor is hereby informed that the following soils information is provided for the Contractor's consideration in determining the excess soil management and disposal requirements for the project including selection of Contractor Designed Receiving sites, where required:

- Assessment of Past Uses Report, prepared by Gemtec
- Soil Characterization Report (SCR), prepared by Gemtec
- Excess Soil Destination Assessment Report (ESDAR), prepared by Gemtec

The Contractor shall review the soil reports presented above for complete understanding of the expected soil quality at the sites

Municipal infrastructure projects are expected to generate excess soil with high salt impacts. The Contractor shall select Receiving Sites which permit the deposition of salt impacted soils in accordance with MECP guidelines.

No hazardous waste has been identified within the project limits.

MANAGEMENT OF EXCAVATED SOILS, EXCESS MATERIAL AND CONTAMINATED SOIL

If the Contractor or their sub-contractor or employees working in the Project Area makes an observation during excavation within the Project Area, including any visual or olfactory observation, that suggests that the material being excavated may be affected by the discharge of a contaminant not identified in the design studies, the Contract Administrator shall be notified immediately and the suspect soil shall be segregated from other excavated soil in the Project Area until the Contractor is otherwise notified by the Contract Administrator.

Receiving and Reuse Sites

The Contractor's QP is ultimately responsible for selecting appropriate Receiving and reuse sites for the excess soil generated from the Project Area. In an effort to reduce the quantity of excess soils hauled to external third-party receiving sites, the Contractor's QP shall first consider the following local municipal sites for selection:

Site	Name	Address	Type of Excess Material
1	Sno Drifters Waste Site	213 Sno Drifters Road, Eganville ON	Soil Exceeding Table 3.1 ICC, non-hazardous waste
2	Ruby Road Site	2213 Ruby Road, Killaloe ON	Soil Meeting Table 1 and 2.1 RPI ESQS with the exception of salt impacts

Only if the above-noted sites do not meet the disposal requirements, if different soil parameters are encountered, or if the municipal sites do not have adequate capacity, may alternate third-party Receiving sites be selected. Prior to hauling excess material to the approved receiving site(s), the Contractor shall provide for each one:

- the municipal address of the Receiving Site;
- the name and contact information of Receiving Site owner and operator;
- the type of instrument under which the Receiving Site is operating, where applicable;
- the name of the QP overseeing the Receiver Site activities;
- the quantity and quality of Excess Soil planned to be deposited at the Receiving Site;
- if the material is being sent for to a Reuse site:
 - the contact information of the person that will be overseeing placement (in accordance with the site's Fill Management Plan) and acknowledging receipt of loads on behalf of the Receiving Site;
 - the beneficial purpose for which the excess soil will be re-used (for sites not governed by an instrument);
 - Reuse Notice ID on Excess Soil Registry (RPRA) for sites importing greater than 10,000 cu.m.

For receiving sites governed by an instrument, the Contractor shall provide the Contract Administrator, for record purposes at least 10 Business Days prior to removing excess soil from the Project Area, with a signed copy of the latest revision of OPSF 180-2 form "SITE SELECTION NOTIFICATION FOR MATERIAL MANAGED AS DISPOSABLE FILL". For receiving sites not governed by an instrument, a signed property owner consent and release acknowledging informed consent and QP signoff for excess soils will be required. The Contractor shall not move Excess Contaminated Soil until authorization has been obtained from the Receiving Site and the Contract Administrator.

MANAGEMENT OF EXCAVATED SOILS, EXCESS MATERIAL AND CONTAMINATED SOIL

The Contractor is responsible for all coordination with the receiving/reuse sites, including communication and scheduling with scale houses and notification of haul vehicles on a daily basis. Any additional requirements that the receiving site has, such as providing equipment, as well as the site's tipping fee, shall be incorporated into the cost of the contract item.

The contract item for haulage and disposal of excess soil at a receiving site is based on third-party receiving sites and is deemed to include their tipping fees. The Contractor shall provide a copy of what each site's the tipping fee is at the onset of construction, for reference. For excess soil hauled to the above-noted municipal sites where there is no tipping fee, the cost of this tipping fee will be deducted from the pertinent contract item for haulage.

Only excess soil that has been properly sorted, meets the disposal criteria of the receiving site, has been taken from within the limits of excavation and cannot be preferentially reused elsewhere will be considered for payment at a receiving site.

Soil Management Plan

The OPSS 180.MUNI Excess Soil Reuse Plan shall be replaced with a Soil Management Plan. The Soil Management Plan shall be prepared by the Contractor's QP-C. Implementation of the Soil Management Plan shall be overseen by the Contractor's QP-C.

The plan shall be submitted a minimum of 15 business days prior to the start of excavation.

The Soil Management Plan shall provide the following information to support on and off-soil management, reuse and disposal in compliance with BMP, O. Reg. 406/19, all applicable laws, and shall include:

- An estimated volume of Excess Soil and proposed methods for minimizing these quantities, including methods to maximize the reuse of excavated material within the Project Area.
- A site plan that identifies all the areas to be excavated, with the estimated volume and soil type and quality of each area, along with a copy of the detailed instructions to on-site contractors identifying the area and depth of soil to be excavated for off-site management.
- Protocols for any further characterization of soil and excavated material quality to determine management, including re-use and/or disposal requirements, as required.
- Outline of how excavated materials will be temporarily staged or stored at the Project Area for re-use or subsequent transfer to disposal in accordance with the requirements of the Soil Rules.
- Identify measures to minimize soil and wind erosion, leaching and runoff when excavating material or stockpiling it prior to offsite disposal or reuse on site.
- Procedures for verifying truck loads and soil volumes deposited at Receiving Sites without weigh-scales, in compliance specific Contract Measurement for Payment clauses.
- Haul Record documentation procedures to be utilized by the Contractor that meet the requirements of Section 18 of O.Reg. 406/19.
- Details of the soil tracking system to be utilized by the Contractor that meet the requirements of Section 16 of O.Reg. 406/19, where required.
- All pertinent information listed in OPSS.MUNI.180 Section 180.04.01.08 (Excess Soil Reuse Plan) for each identified receiving site.
- Identification of source site(s) proposed for imported fill (aggregate and soils) to be used in the Project Area.
- Contingency plans for any excess soil which may be rejected by Contractor-designated Receiving Site(s).
- Risk management measures (RMM) to mitigate potential exposure to contaminants during

MANAGEMENT OF EXCAVATED SOILS, EXCESS MATERIAL AND CONTAMINATED SOIL

construction activities should they be encountered.

- Contingency plan to be followed if hazardous material, as it pertains to O. Reg 347, is encountered on site.

Monthly Soil Management Monitoring Report

The Contractor's QP shall prepare and submit monthly Soil Management Monitoring Reports to the Contract Administrator, a summary from the preceding month that contains:

- A breakdown of the total quantities of soil and excavated material resulting from the work, re-used on site, and transported from the Project Area to a Receiving Site, including a detailed location plan for all amounts re-used on site and transported to each Receiving Site for the month and total to date.
- The date and time the excavated material left the Project Area if being removed and transported to a Receiving Site.
- The name of the corporation, partnership or firm transporting the excavated material including the name of the driver and the licence plate if being removed and transported to a Receiving Site.
- An up to date and complete inventory of all Reuse and Receiving Sites of Excess Soil generated by the project that cannot be reused on-site. This inventory shall include the following details and shall be updated on a monthly basis until such time as the work has been completed:
 - the municipal address of the Receiving Site
 - the name of Receiving Site owner and operator
 - if the material is being sent for re-use, the contact information of the person that acknowledged the receipt of the load on behalf of the Receiving Site
 - the name of the QP overseeing the Receiver Site activities
 - the Governmental Authority having jurisdiction over the Receiving Site.
 - the type of approval under which the Receiving Site is operating.
 - the total volume of excess soil deposited at the receiving site for the reporting period and total to date.
- A copy of any additional Environmental Compliance Approvals for new Receiving Sites, where applicable.
- The total quantity of Soil imported to the Project Area, the provenance of the imported Soil and aggregate, and the analytical results of testing conducted on any imported soil.

Other Documentation

Upon completion of the excess soil movements, the Contractor shall provide the Contract Administrator with written notice of final placement summarizing the total amount of excess soil removed from the Project Area, the amount deposited at each Receiving Site, the date on which the last load of excess soil was removed from the Project Area, and any other pertinent information requested by the Contract Administrator.

The Contractor shall also submit to the Contract Administrator signed copies of the OPSF-180(3) "PROPERTY OWNER'S RELEASE" from each Receiving Site (except for City-owned Receiving Sites) within sixty (60) days after the date of final excess soil placement.

The Contractor shall submit to the Contract Administrator all documents, including hauling records, tracking files and documentation related to excess soil management including bills of lading and other records associated with the Project prior to issuance of Final Completion.

MANAGEMENT OF EXCAVATED SOILS, EXCESS MATERIAL AND CONTAMINATED SOIL

The Contractor shall retain all excess soil related information for a period of two years after substantial performance of the Contract and provide this information to the City upon request at any time during this retention period.

Hauling, Transportation, and Excess Soil Tracking

The Contractor shall ensure that all excess soil and excess soil designated as waste is collected and transported by retained haulers in vehicles satisfying the requirements of O. Reg. 406/19.

The Contractor shall ensure that vehicle operators have available at all times during the transportation of excess soil a complete and accurate written or digital haul record that document excess soil movement for every load leaving the project in accordance with O. Reg. 406/19 Sections 18(1). The Contractor shall further ensure that all haul records are completed with the receiver information and that the receiver site representative signs the declaration on the hauling records in accordance with Section 18(2). Use of proprietary soil tracking software in lieu of haul records is acceptable, provided it meets the requirements of O. Reg 406/19 Sections 18(1) and 18(2). Documentation related to hauling and tracking of excess soils shall be prepared in compliance with the contract requirements as outlined in the applicable Special Provision.

Additionally, the Contractor shall retain all excess soil related information for a period of two years after substantial performance of the Contract and provide this information to the Municipality upon request at any time during this retention period.

MEASUREMENT FOR PAYMENT

- **Soil Management Plan:** Payment shall be on a Lump Sum basis. Payment shall be based upon the following schedule:
 1. 50% upon satisfactory submission and acceptance of the Excess Soil Destination Assessment Report, Soil Management Plan and Property Owner Consent; and,
 2. 25% pro-rated into equal payments over the term of the contract.
 3. 25% upon satisfactory submission of all related hauling records and other documentation.
- **Disposal of Excess Soil to a Receiver Site, Haulage of Excess Soil To A Receiver Site:** Measurement of the following items shall be by mass in tonnes. The Contractor may request an alternative measurement for payment using surveyed cross section or Truck Box Method and converted to tonnes based on an appropriate soil density calculation. The Contract Administrator shall have sole discretion in allowing the use of alternative measurements for payment including determining the appropriate soil density calculation and any calibration requirements such as directing periodic loads to a weight scale for verification. All costs associated with determining payment quantity that does not involve the use of certified weight scales shall be the responsibility of the Contractor.

BASIS OF PAYMENT

- **Soil Management Plan:** Payment at the Contract price for tender item Soil Management Plan shall be full compensation for all Labour, Equipment and Material for the preparation and implementation of the Contractor's Soil Management Plan as well as the preparation, record-keeping and submission of all related plans, reports, and documentation listed herein.

MANAGEMENT OF EXCAVATED SOILS, EXCESS MATERIAL AND CONTAMINATED SOIL

Payment for all plans, reports, documentation, and record-keeping to support excess soils management and disposal shall be under the Soil Management Plan Contract Item.

- **Haulage of Excess Soil To A Receiver Site**
- **Disposal of Excess Soil to a Receiver Site**

Payment at the Contract price for the applicable tender item shall be full compensation for all labour, equipment, materials, on-site management, coordination and tracking required to do the work. The item shall include coordination and tipping fees of receiving sites. Where soil will be hauled to municipal sites instead of third party receiving sites, the cost of tipping fees will be deducted from the unit rate for payment.

All costs associated with management of soils for immediate or subsequent re-use on site shall be deemed to be included in the associated tender item requiring the excavation of soil.

No additional payment will be made for increased handling, scheduling, delays, construction staging or stockpiling of materials required by the receiver site.

All costs associated with management of soils for immediate or subsequent re-use on site of excavated soil shall be deemed to be included in the associated tender item requiring the excavation of soil.

All costs associated with the haulage and disposal of excess soil shall be deemed to be included in the in the tender item for haulage and disposal. The Contractor is advised that the tender items for haulage and disposal of excess material will not be considered Major Items in accordance with the General Conditions.

Where the Contractor is unable to obtain a Receiving Site for beneficial reuse of the excess soil (Table 1, 2.1, and 3.1), the Contractor shall be responsible for managing the soil at alternative sites, including Class 1 SMS or MECP Landfills, at the original stipulated contract price for the excess soil as identified in the contract. Example: If the Contractor needs to dispose of Table 1 soil at a Table 3 site, the Contractor shall not receive additional compensation.

No additional payment will be made for increased handling, scheduling, delays, construction staging or stockpiling of materials for reuse on-site or off-site.

UTILITY SUPPORT AND TEMPORARY POLE SUPPORT

1.0 Scope of Work

The Contractor shall be responsible for provision of physical support for Utilities affected by the construction in accordance with the affected Utility Company's requirements. The Contractor shall also be responsible to design their workflow processes to meet all clearance requirements from overhead and/or buried utilities.

The Contractor shall be responsible for obtaining a copy of each Utility company's requirements for working around and supporting existing Utility plant. Existing Utility plants within the Contract Limits include but are not limited to: Hydro One poles, overhead wires, underground ducts, street lighting overhead wires and buried ducts, Bell overhead wires and buried ducts, and Enbridge gas main infrastructure. The Contractor shall also be responsible for scheduling the presence of Utility company inspectors where so required by the Utility company.

2.0 Construction and Coordination

The Contractor shall provide all labour, equipment and materials required to support existing Utility plant affected by the construction. The Contractor shall be required to provide methodology and approach for supporting the Utility plant and obtain permission from the affected Utility Company prior to implementing any support. If required, the Contractor shall complete the work associated with Utility support using staff and/or Subcontractors approved by the respective Utility Company for work on their plant. It shall be the General Contractor's responsibility to ensure that only Contractors approved to work on the respective Utility plants are permitted to do the work under the Contract.

The Contractor acknowledges that the Owner has been informed that Enbridge Gas will be constructing new gas main within the limits of this Contract along John Street. All work is to be completed in accordance with Enbridge's thirdparty requirements for working in the vicinity of natural gas mains.

The following contacts at Enbridge are provided for use on this project:

- **Germain Cheff**, germain.cheff@enbridge.com, [705-994-3604](tel:705-994-3604)

It is the Contractor's responsibility to ensure that the work of others is coordinated with the Contractor's work operations, and to comply with the requirements of the Occupational Health and Safety Act in conformance with paragraph 01) of Subsection GC7.01.04. The Contractor shall coordinate the timing of the work of others to ensure it is carried out independently and does not overlap the Contractor's work operations in time or location.

Prior to others arriving on site, the Contractor shall complete all preparatory work that will enable other contractors and utility companies to perform their work. During the time work is being carried out by others, the Contractor must vacate an area within 50 m radius of the work by others for the duration of that work. The Contractor shall ensure that these provisions are brought to the attention of all its subcontractors.

In addition to other utilities in the project area, the Contractor is further advised that there is existing buried Enbridge Gas and telecom ducts in proximity to the proposed works. The

UTILITY SUPPORT AND TEMPORARY POLE SUPPORT

Contractor will be responsible for protecting and temporarily supporting these in accordance with third party requirements. The Contractor shall be responsible to reinstate the surround and cover for the existing telecommunication cables per Bell requirements.

The excavation on will be carried out in proximity to Hydro One overhead lines and poles. As per the Occupational Health and Safety Act (OHSA) and the Electrical Utilities Safety Association (EUSA) all equipment must stay at least 3m away from energized conductors. It will be the responsibility of the constructor to take all final measurements and carry out the excavation and pipe installation to ensure that the safe limits of approach are followed at all times.

For excavations near hydro poles, Hydro One will be required to provide pole support and engineered shoring drawings may be required. The Contractor is required to coordinate with Hydro One for this work.

All existing catch basin leads, sewer, culverts and watermains that are not being replaced or abandoned shall be appropriately supported and protected during construction in accordance with City of Ottawa and Ontario Provincial Standards. Low density concrete shall be used to backfill between the new services and the existing sewers and/or water mains. Existing sewers, culverts and/or watermains broken during construction shall be reinstated at no cost to the Municipality.

3.0 Measurement for Payment

Payment for “**Utility Support**” shall be based upon the following schedule:

- 90% pro-rated into equal payments over the duration of the Contract.
- 10% upon successful completion of the construction.

Payment for “**Temporary Pole Support**” shall be Lump Sum based on a time and material basis according to the Contract General Conditions (GC8.02.05). The Contractor shall submit all invoices for labour, materials, and equipment from the appropriate utility company or their designated sub-contractor to the Contract Administrator to substantiate payment.

4.0 Basis of Payment

Payment at the contract price for the item “**Temporary Pole Support**” shall be full compensation for a Hydro One approved subcontractor to provide utility pole support as per their invoices. No additional payment by the Contractor will be considered.

Payment at the Contract price for the item “**Utility Support**” shall be full compensation to supply all materials, labour and equipment necessary to complete the work. No separate payment shall be made to the Contractor to coordinate with the utility companies or to work around existing utility plant. This shall be deemed incidental to the Contract.

SITE FIELD OFFICE

City of Ottawa Special Provision F-1001 is amended and extended with the following:

The field office shall be equipped with an active high-speed internet connection for use by City and Contract Administration staff. The connection shall be stable with a minimum sustained speed of 50 Mbps and unlimited monthly data for download/upload.

The internet connection shall be accessible via a wireless router/hub/access point (Wireless 'N' as a minimum) capable of multiple simultaneous device connections (at any given time) and with an encrypted signal secured with WPA2 or better encryption.

The field office shall also be equipped with a multifunction colour laser printer capable of printing and scanning 8.5"x11" to 11"x17" pages via a USB connection at minimum. The Contractor shall supply consumables (paper, ink/toner, etc.) as required.

Further, the desks supplied with the field office shall come equipped with a rolling swivel office chair (each), and the field office shall also contain sufficient foldable tables and stackable chairs to comfortably seat at least eight (8) individuals during construction meetings.

The field office shall be equipped with a standard microwave capable of a minimum power output of 700 watts.

The field office shall also be equipped with the following: refrigerator (4.4 ft³ min.); first aid kit; Tri-Class (ABC) dry chemical fire extinguisher (5-pound min.); and one broom for sweeping.

Measurement for Payment

There shall be no additional payment for fulfilling the requirements of this special provision; all costs associated with fulfilling the requirements of this special provision are deemed to be included under the applicable Contract items:

“Field Office for Contract Administrator 35-70 m²”

EROSION AND SEDIMENT CONTROL PLAN AND MEASURES

OPSS 805 and City of Ottawa F-1008 shall apply except as may be amended and extended herein.

City of Ottawa Special Provision F-1008 is amended and extended with the following:

1008.01 SCOPE

This specification covers the requirements for erosion and sediment control plans, measures, and inspection for sewer work. This specification is intended to meet the Townships obligations under CLI ECA 171-W601 and 171-S701.

The Contractor acknowledges that surface erosion and sediment runoff resulting from work done within the project site has potential to cause detrimental impacts to downstream watercourses, waterbodies, and sewers, and that all construction operations which have the potential to cause erosion or sedimentation shall be carried out in a manner that strictly meets the requirements of all applicable legislation and regulations.

Accordingly, the Contractor shall be responsible for determining and conforming to the requirements of the Ontario Ministry of the Environment, Conservation, and Parks, the Ontario Ministry of Natural Resources, the Township of Bonnechere Valley, applicable Conservation Authorities, and any other governmental regulatory agencies having jurisdiction in the working area or over any potentially affected watercourses.

WELL ABANDONMENT

1.0 GENERAL REQUIREMENTS

Three (3) wells are located in the Work Area and shall be properly decommissioned during the construction activities. The wells are located at boreholes 26-02, 26-04, and 26-06. The location of those wells are provided in Appendix A titled "Borehole Location Plan" within the Geotechnical and Hydrogeological Investigation prepared by GEMTEC (Project number 101260.004).

The well abandonment method must satisfy the minimum requirements of Ontario Regulation 903. In addition, the Contractor shall provide a copy of the well record (for the abandonment) to the Contract Administrator.

Without superseding the full scope of Ontario Regulation 903, the abandonment of the wells should at least include plugging the wells using an abandonment barrier, starting from the bottom, up to approximately two metres from the ground surface.

All wells not identified for removal/abandonment are to be clearly marked and protected from damage at all times during the Contract. Any damage to these wells shall be repaired by the Contractor and at no additional cost to the Contract and/or Owner.

2.0 BASIS OF PAYMENT

Payment at the Contract price for the tender item "Well Abandonment" shall be on a per well basis, the price of which shall include full compensation for all labour, equipment and materials required to properly abandon each well including reporting and documentation.

No payment shall be made under the item "Well Abandonment" until the associated documentation and reports are completed and satisfy both the Contract Administrator and provincial requirements.

CONTRACTOR QUALITY CONTROL COMPACTION

TABLE OF CONTENTS

01	SCOPE
02	REFERENCES
03	DEFINITIONS
04	MATERIALS
05	EQUIPMENT
06	CONSTRUCTION
07	QUALITY ASSURANCE
08	BASIS OF PAYMENT

Amendments to OPSS 501

The Contractor shall not be entitled to the payment for the associated tender items that have OPSS 501 called up, until all the requirements outlined in this specification have been achieved. OPSS 501 is deleted in its entirety and replaced with the following.

01 SCOPE

This specification covers the Quality Control / Quality Assurance (QC / QA) requirements for compaction of earth and granular materials for all items in the contract and is in addition to requirements specified in OPSS 401, OPSS 206, and OPSS 314.

This Special Provision covers the requirements for all granular materials and earth placed within the road structure, sidewalks, curbs, culverts, structures, watermain trenches, sewer trenches, all other utility trench reinstatements and all service connection trenches.

02 REFERENCES

This specification refers to the following standards, specifications, or publications:

Ontario Provincial Standard Specification, General

OPSS 102 Weighing of Materials

Ontario Provincial Standard Specifications, Construction

OPSS 206 Grading

OPSS 314 Untreated Granular, Subbase, Base, Surface, Shoulder and Stockpiling

OPSS 401 Trenching, Backfilling, and Compacting

OPSS 506 Dust Suppressants

Ontario Provincial Standards Specifications, Materials

OPSS 1001 Aggregates - General

OPSS 1010 Aggregates – Base, Subbase, Select Subgrade and Backfill Material

Others:

CONTRACTOR QUALITY CONTROL COMPACTION

MTO Laboratory Testing Manual

LS-623 One Point Proctor

LS-706 Moisture - Density Relationship of Soils Using 2.5 kg Rammer and a 305 mm Drop

ASTM

D6938-10 Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

03 DEFINITIONS

For the purpose of this specification the following definitions apply:

Backfill Material means as defined in OPSS 401.

Bedding Material means as defined in OPSS 401.

Cover Material means as defined in OPSS 401.

Earth means as defined in OPSS 206.

Embedment Materials means as defined in OPSS 401.

Rut means a sunken track or groove made at the surface by the passage of vehicles.

SPMDD: Standard Proctor Maximum Dry Density

Overlay Construction is defined as construction that does not involve watermain and/or sewer installation/removal and involves rehabilitation/upgrading of existing pavement structure.

New Pavement Construction is defined as construction of pavement structure in an area that previously did not have any pavement structure.

Pavement Structure is defined as the upper portion of the road or parking area and includes all the layers resting on the subgrade.

04 MATERIALS

04.01 Earth

Earth shall be according to OPSS 206.

04.02 Granular Material

Granular material shall be according to OPSS 314.

04.03 Water

CONTRACTOR QUALITY CONTROL COMPACTION

Water shall be according to OPSS 506.

05 EQUIPMENT

05.01 General

The type of equipment used shall be suited to the material to be compacted, the degree of compaction required and space available.

Compaction equipment for control strips shall have a minimum static weight of 9,000 kg.

05.02 Hand Operated Vibratory Equipment

Hand operated vibratory equipment shall have a power output no greater than 10 kilowatts.

05.03 Water

Equipment for applying water shall be capable of uniform distribution with proper flow control.

06 CONSTRUCTION

06.01 General

The method and layer thickness of placing earth or granular material shall be according to the specifications that govern the work. When field tests indicate that the required degree of compaction cannot be obtained with the equipment in use or the procedure being followed, the operations shall be modified so that the equipment and procedures will produce the required results.

06.02 Restricted Zones

Hand operated vibratory type compaction equipment shall be used behind all retaining structures to compact fill material within restricted zones as follows:

- a) Abutments and Retaining Walls: An area within a plane extending from the base of the back face of the wall, where it contacts the footing, upwards at a slope of 1.5 vertical to 1 horizontal, to a maximum distance of 2.5 m from the wall.
- b) Wingwalls: An area within 1.5 m from the back face of the wall.
- c) All areas not accessible to large equipment such as around catch basin, valve boxes and manholes.

06.03 Water for Compaction

Water shall be applied as necessary to achieve the degree of compaction required.

06.04 Quality Control

CONTRACTOR QUALITY CONTROL COMPACTION

06.04.01 General

Quality Control (QC) testing shall be carried out by the Contractor for purposes of ensuring that earth and granular materials used in the work conform to the specified compaction requirements. QC compaction testing will be based on a lot-by-lot basis of material placed and compacted in the work. New QC lots shall be established whenever recompaction is carried out following scarification or placement of additional material onto previously tested and accepted lots.

Field density and field moisture determinations shall be made in accordance with ASTM D 6938.

All QC laboratory testing shall be conducted at a CCIL certified laboratory.

Damage to a previously compacted and accepted QC lot that results in surface yielding, earth waves or ruts more than 50 mm in depth within earth or 15 mm in depth within granulars shall be fully repaired and retested to meet the requirements of this Special Provision prior to placement of any overlying material. Surface distortions that cannot be successfully recompacted shall be removed and replaced with new material. All such repairs, new material and retesting shall be at no additional cost to the Owner.

The Contractor shall designate a Quality Control Administrator for the duration of the project. This individual shall be responsible for compiling test results, maintaining competent records and addressing QC deficiencies.

06.04.02 Target Density

The target density for granular base and sub-base in Overlay Construction and New Pavement Construction involving areas over 2500 m² shall be established by control strip method as detailed in section 06.04.05. Target density for all other construction shall be established by either Control Strip Method or Laboratory Method as detailed in section 06.04.05.

New target density for each material shall be established as per the following schedule:

- At the time of initial use of each source.
- When there is a perceptible change in the appearance, properties or gradation of materials or both.
- Upon completion of each 10 QC lots of materials, whether accepted or rejected, on the basis of one set of target density values.
- At least once per calendar year (carry-over contracts).
- When requested by the Contract Administrator (CA).

06.04.03 Submission Requirements

Failure to provide the required submissions will result in no payment for the associated tender item.

06.04.03.01 QC Control Plan

The Contractor shall, at least ten (10) business days prior to commencing work, provide the CA with a QC Compaction plan that shall include the following information:

CONTRACTOR QUALITY CONTROL COMPACTION

- Contract Number
- Contract Name
- General Contractor Name
- Quality Control Administrator Name
- Subcontractor conducting the compaction, if different than general Contractor
- Name of the person conducting the QC Testing using nuclear gauge
- Make and Model of the Nuclear Density/Moisture Gauge
- Calibration Date of the Nuclear Density/Moisture Gauge
- Name of the lab conducting the QC testing.
- Section/Lot/Sublot Structure including a) the tender item number that the lot corresponds to b) material type and c) method of determining target density.
- Identification of any perceived areas with potential difficulties (i.e. around existing utilities, constrained spaces) and the compaction methodology that will be followed for these areas.

06.04.03.02 Target Density by Control Strip Construction

At least two (2) business days prior to the construction of a control strip, the Contractor shall provide the CA with all QC laboratory results related to Optimum Moisture Content (OMC) determination including the MDD from the laboratory test. The Contractor shall also indicate the proposed date of Control Strip Construction.

The Contractor shall also forward the CA all the field data related to control strip construction including the target density within one (1) business day of establishing the target density.

06.04.03.03 Target Density by Laboratory methods

A) Native backfill material: The Contractor shall provide the results of Target Density Determination and OMC prior to placement/compaction of the respective native backfill material. When requested by the Contractor, the CA may however allow the Contractor to proceed with the compaction without Target Density/OMC of the respective native backfill material, if the CA is satisfied that the compaction effort/processes are adequate to achieve the required compaction. When the Contractor is allowed to proceed with the compaction without Target Density/OMC for native backfill material, the Contractor shall provide the CA with results of Target Density Determination and OMC within three (3) business days of commencing the compaction of native backfill material.

B) Materials other than Native Backfill material: The Contractor shall provide the results of Target Density Determination and OMC at least two (2) business days prior to placement of the respective material.

06.04.03.04 Field Test Results

All field test results, including but not limited to, field dry density, field moisture content, QC Lot Number, QC lot compaction and lift elevation shall be made available to the CA in a format acceptable to the Owner, within 2 business days following completion of QC compaction testing.

CONTRACTOR QUALITY CONTROL COMPACTION

06.04.03.05 QC Compaction Summary Report

The QC Administrator shall provide a QC Summary report along with the payment quantity report at the time of invoicing. The QC summary report, as a minimum, shall include a) all the tender items for which the QC compaction testing was done including the Lot/Sublot information and b) highlight tender items that do not meet compaction requirements.

06.04.04 Test Equipment and Operator Training

06.04.04.01 General

The Contractor shall supply all necessary nuclear moisture/density gauges and ancillary equipment required to conduct field density and field moisture measurements for QC compaction testing of earth and granular materials.

Only qualified operators using properly-calibrated gauges shall conduct QC compaction testing.

06.04.04.02 Gauge Requirements

Each nuclear moisture/density gauge shall have been calibrated within the last 12 months, either by the manufacturer or other qualified agent, against certified density and moisture reference blocks. In addition, the Density Standard Count and the Moisture Standard Count shall be within 2.0 percent and 4.0 percent respectively, of the most recent calibration values. The registered owner of the gauge shall maintain a valid Radioisotope License for each gauge.

The field density and field moisture determinations shall be made following procedure A of ASTM D6938.

06.04.04.03 Operator Requirements

Each operator shall have been trained in the safe operation, transportation and handling of a nuclear moisture/density gauge.

Prior to conducting QC compaction testing, the Owner may inspect all operators for competency. The Contractor shall make all necessary arrangements regarding the schedule, location and materials for the inspection, subject to agreement with the CA. Each operator must successfully demonstrate the correct procedures for determination of lot and subplot sizes, field dry density, field moisture content, percent compaction and lot average of a compacted lot of material. The first two inspections may include up to five operators and five gauges and will be carried out at no charge. Additional inspections will be charged at a rate of \$500.00 each.

Inspections shall be valid for the current calendar year only. Alternatively, certificates from an operator training program, approved by the Owner, shall be accepted for the period for which they are valid. The Owner may review and inspect the competency of gauge at any time throughout the duration of the contract.

06.04.05 Target Density by Control Strip or Laboratory Method

The Contractor shall construct a control strip consisting of a single uniform lift for the determination of a target density. The Owner shall be notified at least two (2) business days prior to conducting control strips and may require that QA personnel be present.

CONTRACTOR QUALITY CONTROL COMPACTION

Prior to construction, the Optimum Moisture Content (OMC) of the control strip materials shall be determined from representative random samples of material to be used in the control strip. For granular materials, the OMC shall be from individual test results from LS-623 or LS-706. For earth, the OMC shall be the test result from LS-706 carried out on a single representative sample.

Each control strip shall consist of a single uniform lift not more than 0.30 m in depth and covering at least 400 m² in area.

During construction of the control strip, the average field moisture content shall be maintained within the range of no less than 2.0% lower than, and no more than 1.0% greater than the OMC of the control strip material.

After initial placement of the material, the compaction equipment for that operation shall make six passes over the entire surface of the control strip. Field densities and field moisture contents shall be determined at three randomly selected locations. The dry density and moisture content shall be calculated for each location and the averages shall be used as initial values for dry density and moisture content.

The compaction equipment shall then make two additional passes over the entire surface of the control strip. Three separate random field density and moisture determinations shall then be made and a new average dry density and moisture content shall be calculated.

If the new average dry density exceeds the previous value by more than 0.030 t/m³ then additional passes of the equipment shall be carried out as described above. If the new average dry density does not exceed the previous value by more than 0.030 t/m³, then compaction of the control strip will be considered satisfactory and complete.

Upon satisfactory completion of the control strip, an additional seven field density and moisture tests shall be taken at random locations and the dry density and moisture content values shall be determined. The final dry density and moisture content of the control strip shall be the average of these seven values and the three most recent values obtained upon completion of the control strip. Provided that the final moisture content lies within the allowable range of the OMC as given above, the final dry density shall be the target density of the control strip.

Target density when determined by laboratory method shall be based on the maximum dry density (MDD) as determined by LS-623 when applied to granular materials and by LS-706 when applied to earth. For granular materials, the individual test result obtained from randomly selected samples from the work shall be used. For earth, the MDD shall be the test result from LS-706 carried out on a single representative sample. QC laboratories conducting the work shall hold CCIL certification for the laboratory procedures performed. When requested by the CA, the Contractor shall, within two (2) business days of request, provide representative samples of the materials adequate to conduct laboratory testing to determine Target Density/OMC by LS-623 (when applied to granular) or LS-706 (when applied to earth).

06.04.06 Section and Lot Size

Compaction control shall be conducted on a lot-by-lot basis. The designation of the limits of the sections and lot shall be the responsibility of the Contractor and shall meet the following minimum requirements:

- The project shall be divided into sections. For pipe installations, the maximum section length will be 200 m. Each material used in each installation shall be tested to the frequency provided in Table 1. Different pipe sizes and types shall be considered different installations.

CONTRACTOR QUALITY CONTROL COMPACTION

- Where multiple pipe installations occur within the same trench, the earth backfill for the combined installations may be considered one backfill installation.
- A construction project that includes new pavement construction shall use Table 1B for defining the section/lot/sublot for pavement structure construction and Table 1A and/or Table 1C for rest of the work as applicable. The Section ID for the Pavement Structure shall be different than the one used for rest of the work.
- The sublots sampled shall be evenly distributed within the lot.

06.04.07 Compaction Testing

All visibly soft or loose areas shall be compacted prior to testing. At least one field density and moisture test will be carried out at a randomly selected location within each subplot. For pipe and watermain backfill (Earth or Granular), the three sublots shall be obtained at bottom third (1/3) of trench, mid third (1/3) of trench and upper third (1/3) of trench below subgrade line. Actual lift thicknesses shall be in accordance with OPSS 401.

The dry density of each subplot shall be determined as a percentage of the target density, calculated to the nearest 0.1%. Consecutive lot numbers shall be used to designate each lot of material and the limits of the lot shall be clearly documented. Field dry density values and moisture contents determined for each subplot shall be recorded.

The Contractor or the individual conducting QC testing on behalf of the Contractor shall allow the Contract Administrator, Contract Administrator's representative on site or Owner's representative on site to witness the QC testing.

Where the compaction does not conform to the acceptance criteria, the Contractor shall immediately notify the CA and complete additional compaction as is necessary to meet the acceptance criteria. Acceptance or rejection of the re-compacted lot shall be made by carrying out four additional random tests.

When the Contractor is unable to conform to the acceptance criteria based on the target density established by laboratory methods and when the CA has been satisfied that this inability to conform to the criteria is not a result of the Contractor's operation or equipment, then the Contractor may request that a new target density be established for that operation.

New target density shall be determined by the Contractor's Geotechnical Consultant. The proposed target density, along with the proposed compaction methodology shall be submitted to the Contract Administrator within 24 hours. Submissions shall be signed and sealed by a Professional Engineer, licensed in the Province of Ontario. The Contractor shall be permitted to proceed with a verbal agreement from the CA prior to submitting the information in writing.

06.04.08 Percent Compaction

The percent compaction requirement for each lot shall be as provided in Appendix 1 - Table 2.

06.04.09 Acceptance

Acceptance or rejection of a QC lot compaction shall be established by calculation of the average field dry densities in conjunction with the lowest field density for the lot. Where the average lot density and individual field density meet

CONTRACTOR QUALITY CONTROL COMPACTION

the criteria presented in Table 2, the lot is considered acceptable, otherwise, the lot is rejectable. Where testing frequency has not been conducted in general conformance with Table 1, the lot is rejectable.

06.04.09.01 Rejected Lots

Where the testing has not been conducted in general conformance to the testing frequencies provided in Table 1, the entire lot or portion of the lot shall be retested to the satisfaction of the CA.

Where QC field densities indicate that the lot does not meet the compaction specified, the lot shall be recompacted, with adjustment to the moisture content as required, until satisfactory compaction is achieved. The recompacted lot shall be retested.

When compaction of a QC lot does not meet the acceptance criteria and when the CA has been satisfied that this is not a result of the Contractor's operation or equipment or scheduling, then a new target density shall be established for that operation.

07 QUALITY ASSURANCE

The CA may conduct random testing and inspection of QC records in order to establish the acceptability of the QC compaction testing and verification of the field moisture content, field dry density, OMC, MDD, target density and average density.

The CA may verify the target density based on MDD and OMC for granular and earth materials determined by LS-623 or LS-706, respectively.

Access to a control strip or to compacted QC lots shall be provided prior to placement of subsequent layers or pavement. Where laboratory methods have been used to calculate target densities, the laboratory report must be accessible to the Owner QA representatives on site. Subsequent layers, including hot mixed asphalt (HMA) may not be placed until QA testing has been conducted or waived by the CA.

07.01 Gauge Verification

Gauge verification QA shall consist of taking three random field density and moisture content measurements of a compacted lot or control strip and the subsequent calculation of the average dry density. Provided that the mean dry density determined by QC test results for the same material is within 139 kg/m³ for granular materials, and 150 kg/m³ for earth when compared with QA mean dry density, the QC test results will be considered valid.

07.02 Compaction

Compaction QA shall consist of taking random field density and moisture measurements of a compacted lot or control strip and the subsequent calculation of the average field density of the lot. Provided that the average field density and minimum field densities determined by QA testing demonstrates acceptable compaction according to the limits provided in Table 1 and Table 2, no further action will be taken.

If the average field densities or individual field densities determined by QA testing is found to be outside the limit allowed or demonstrates errors in QC reporting, the Contractor shall undertake an investigation to determine and

CONTRACTOR QUALITY CONTROL COMPACTION

resolve the discrepancies. The results of the investigation shall be reported to the CA within three (3) business days of notification by the CA. The result of the investigation shall include as a minimum the following:

- The cause of the identified discrepancies.
- A proposal for corrective work.
- For information purposes, a description of preventive measures to be undertaken that will effectively prevent reoccurrence of such event.

Furthermore, the corrective work may include but is not limited to any or all of the following:

- Re-compaction of the lot.
- Retesting of the lot by the Contractor.
- Establishment of a new target density by control strip.
- Re-inspection of the gauge/operator by the Owner.
- Recalibration of the gauges.
- Removal and replacement of unsuitable materials.

07.03 QC Records Inspections

QC records of the lot or control strip selected by the CA shall be inspected for calculation errors, missing test data or improper lot quantities. If errors or omissions are found that identify insufficiently compacted or improperly or untested lots, the Contractor shall make all such lots available and recompact and/or retest these lots so that they comply with the requirements of this Special Provision.

07.04 Charges

The CA will charge the Contractor \$250.00 for each lot identified through QA compaction testing or QC records inspection that requires recompactation and/or retesting. In addition, following discovery of a discrepancy or inadequate compaction, the CA will conduct QA compaction testing on all lots of new material without undue delay. If any of these lots do not meet the QA requirements of this Special Provision, the Contractor will be charged a fee of \$250.00 for each lot tested. QA compaction testing will continue until three consecutive lots have met the requirements of this Special Provision.

08 BASIS OF PAYMENT

Payment at the Contract price of the appropriate tender item requiring compaction of earth and granular materials shall be full compensation for all labour, Equipment, and Materials to do the work of compacting, including the water used for compaction, and shall also include the cost of preparing the QC Compaction plan and all work associated with QC testing.

Any work required to repair or remove and replace damaged QC lots shall be at no extra cost to the Owner.

Replacement of unsuitable equipment to obtain an appropriate target density shall be at no extra cost to the Owner.

Any work required to recompact or retest materials as a result of QA compaction testing or QC records inspection shall be at no extra cost to the Owner.

CONTRACTOR QUALITY CONTROL COMPACTION

Appendix 1 – Compaction Requirements

Table 1A. Compaction Lot Size (except culverts, overlay construction and new pavement construction)

CONSTRUCTION	SECTION SIZE	LOTS AND SUBLOTS
Earth Embankments, Granular Base, Granular Subbase, Granular Shoulders	Max 200 linear metres (note 1)	One lot with minimum 3 sublots for each layer of each material placed. Lot shall not exceed a total area of 2000 m ₂
Pipe Bedding	Max 200 linear metres	One lot per section with a minimum of 3 sublots per lot.
Pipe Cover	Max 200 linear metres	One lot per section with a minimum of 3 sublots per lot.
Pipe Backfill (Earth or Granular)	Max 200 linear metres	One lot per section with a minimum of 3 sublots per lot (note 3)
Service Installations	Project limits	One lot for project. One subplot for every five services installed.
Utility Structures, CB, MH, vaults etc. with max cross sectional area < 5.3m ₂ (2.6 m diameter)	Project limits	One lot for project. One subplot for every five structures installed.
Structure Backfill (Note 3)	Each structure	One lot for each buried structural element or culvert with a minimum of three sublots per lot (note 2).
Notes: 1) The width of the lot shall be the limits established for the current material placement only and shall not include adjacent material to be placed at a future date. 2) The total quantity of material placed within each subplot shall not exceed 100 tonnes. 3) Includes all bridge related works and utility structures with cross sectional area > 5.3m ₂ .		

Table 1B. Compaction Lot Size for Overlay Construction and New Pavement Construction

CONSTRUCTION	SECTION SIZE	LOTS AND SUBLOTS
Granular Base, Granular Subbase, Granular Shoulders	Max 500 linear metres (note 1)	One lot with 4 sublots for each layer of each material placed. Lot shall not exceed a total area of 5000 m ₂ (Note 1)
Notes: 1) The width of the lot shall be the limits established for the current material placement only and shall not include adjacent material to be placed at a future date.		

CONTRACTOR QUALITY CONTROL COMPACTION

Table 1C. Compaction Lot Size for Culverts

CONSTRUCTION	SECTION SIZE	LOTS AND SUBLOTS (Note 1)
Culvert Bedding	Culvert Length	One lot per Section with a minimum of 3 sublots per lot.
Culvert Cover	Culvert Length	Pipe dia < 2.0m 1 Lots per Section with a minimum of 3 sublots per lot (note 3) Pipe dia >= 2.0m 2 Lots per Section with a minimum of 3 sublots per lot (note 3)
Culvert Backfill (Earth or Granular)	Culvert Length	Pipe dia < 2.0m One lot for Section with a minimum of 3 sublots per lot (note 2) Pipe dia >= 2.0m 2 Lots for Section with a minimum of 3 sublots per lot (note 2)
<p>Notes:</p> <p>1) Where the culvert is not circular, the maximum dimension shall be considered the diameter for the purpose of this table.</p> <p>2) The total quantity of material placed within each sublot shall not exceed 100 tonnes.</p> <p>3) One lot shall be conducted between the bedding and springline and one lot conducted above springline.</p>		

Table 2. Compaction Requirements

TYPE OF MATERIAL	SPECIFIED COMPACTION
Granular Materials excluding select subgrade (SSM), bedding materials and cover materials	Average > 99% SPMDD with no individual result below 98% SPMDD
select subgrade (SSM), bedding materials and cover materials	Average > 96% SPMDD with no individual result below 95% SPMDD
Earth Fills and Earth Trench Backfill	Average > 95% SPMDD with no individual result below 94% SPMDD

REMOVAL OF EXISTING ASBESTOS CONCRETE SEWER PIPE

Scope of Work

Based on the available background information, it is believed that the following existing sewers within the Contract Limits have been manufactured with Asbestos Cement (AC):

- All existing sanitary sewers and services to be removed along John Street within the project limits.

The Contractor is hereby informed of the potential for other underground services (i.e. other sanitary sewers, watermains, storm sewers, sanitary and storm service laterals) within the Contract Limits to be made of asbestos cement. The above noted locations are based on the best available information and the actual pipe material is to be confirmed in the field before proceeding with the removal of all existing pipe.

The Contractor shall comply with requirements outlined in this Special Provision when breaking, cutting, drilling, abrading, grinding, sanding, non-friable asbestos-containing products. Upon encountering asbestos-containing transit pipe, stop work, and follow procedures outlined in this specification. Notify the Contract Administrator of any suspected asbestos-containing pipe during work and not apparent from drawings, or specifications. Do not disturb such material pending instructions from the Contract Administrator.

Regulations

1. Ontario Occupational Health & Safety Act R.S.O. 1990 (as amended).
2. Ministry of Labour - Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations (O.Reg. 278/05).
3. Ministry of Labour - R.R.O. 1990, Reg. 837, as amended to).Reg 490/09: Designated Substances – Asbestos.
4. Ministry of Environment - General Waste Management Regulation (O. Reg. 347/90) as amended to O. Reg. 461/05.
5. Ministry of Transportation - Transportation of Dangerous Goods Act R.R.O. 1990 Regulation 261 as amended to O.Reg. 252/02, made under the Transportation of Dangerous Goods Act.
6. CSA Standard Z94.4-18: Selection Care and Use of Respirators.

REMOVAL OF EXISTING ASBESTOS CONCRETE SEWER PIPE

Definitions

HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.

Amended Water: water with non-ionic surfactant wetting agent added to reduce water tension to allow thorough wetting of fibres.

Asbestos-Containing Materials (ACMs): materials found to contain asbestos in concentration at or above 0.5% by weight.

Asbestos Work Area: area where work takes place which will, or may, disturb ACMs.

Authorized Visitors: Contract Administrator or designated representative, and representative of regulatory agencies.

Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.

Occupied Area: any area of the building or work site that is outside Asbestos Work Area.

Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.

Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for work.

QP as used herein, means (Contractor's) Qualified Person as defined in Ontario Regulation 153/04, Records of Site Condition — Part XV.1 of the *EPA*, Section 5

Regulatory Requirements

Comply with Federal, Provincial, and local requirements pertaining to asbestos, provided in case of conflict among these requirements or with these specifications the more stringent requirement applies. Comply with regulations in effect at time work is performed.

REMOVAL OF EXISTING ASBESTOS CONCRETE SEWER PIPE

Submittals

Submit proof satisfactory to Contract Administrator that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.

Submit to Contract Administrator necessary permits for transportation and disposal of asbestos-containing waste and upon completion of work proof that asbestos-containing waste has been received and properly disposed.

Submit proof of Contractor's Asbestos Liability Insurance.

Submit proof satisfactory to the Contract Administrator that all employees have been qualitatively fit tested with respirators fit for the work to be performed in accordance with the requirements of CSA Z94.4-02 Selection, Use, and Care of Respirators.

Instructions and Training

Before beginning Work, provide the Contract Administrator satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.

Instruction and training related to respirators includes, following minimum requirements:

1. Fitting of equipment.
2. Inspection and maintenance of equipment.
3. Disinfecting of equipment.
4. Limitations of equipment.

Instruction and training must be provided by a QP.

Worker Protection

Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:

1. Non-powered reusable air-purifying half-mask respirator equipped with P-100 HEPA filter cartridges, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. Use of respirator is optional to worker as per O. Reg 278/05.

REMOVAL OF EXISTING ASBESTOS CONCRETE SEWER PIPE

2. Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres, consisting of full-body covering including head covering with snug-fitting cuffs at wrists, ankles, and neck.

Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.

Before leaving Asbestos Work Area, dispose of protective clothing as contaminated waste as specified.

Ensure workers wash hands and face when leaving Asbestos Work Area. If listed facilities do not have water available, a washcloth, water basin and soap should be made available directly outside the asbestos work area.

Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.

Material

Drop Sheets:

1. Polyethylene: 0.15 mm thick.
2. FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.

Wetting Agent: 50% polyethylene ester and 50% polyethylene ether mixed with water in a concentration to provide thorough wetting of asbestos-containing material.

Waste Containers: Contain waste in two separate containers. Inner container: 0.15 mm thick sealable polyethylene waste bag. Outer container: sealable metal or fiber type where there are sharp objects included in the waste material; otherwise outer container may be a sealable metal or fiber type or a second 0.15 mm thick sealable polyethylene bag. Labelling requirements: Affix a preprinted cautionary asbestos warning in both official languages that is clearly visible when ready for removal to disposal site.

Waste Management and Disposal

Place materials defined as hazardous or toxic in designated containers.

Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.

REMOVAL OF EXISTING ASBESTOS CONCRETE SEWER PIPE

Disposal of asbestos waste generated by removal activities must comply with Provincial regulations. Dispose of asbestos waste in sealed double thickness 10 ml polyethylene sheeting. Label all waste with appropriate warning labels.

Provide manifests describing and listing waste created. Transport containers by approved means to licenced landfill for burial.

Construction

Before beginning Work, isolate the Asbestos Work Area using cautionary asbestos banner tape isolating an area of 20 feet, at a minimum, in all directions surrounding the transite pipe to be removed.

1. Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
 - .1 Use FR polyethylene drop sheets in Asbestos Work Area where dust and contamination cannot otherwise be safely contained.
 - .2 Do not use compressed air to clean up or remove dust from any surface.
 - .3 Prevent the spread of dust from Asbestos Work Area using measures appropriate to the work to be done.
2. When using non-powered hand tools, wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.
 1. Use garden reservoir type low-velocity fine-mist sprayer.
 2. Perform Work to reduce dust creation to lowest levels practicable.
 3. Work will be subject to visual inspection and air monitoring.
 4. Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
3. When using powered hand tools to cut, ground, abrade, scrape or drill materials containing asbestos, all powered hand tools must be equipped with a HEPA filtered exhaust system and materials must be wetted following procedures in section 3.1.3.
4. When using mechanized equipment to break the transite pipe:
 1. Use garden reservoir type low-velocity fine-mist sprayer to wet down transite pipe prior to removal.
 2. Break pipe at either end and wrap pipe as a whole in polyethylene sheeting to avoid breaking the pipe in more than two spots.
 3. Break pipe in such a way as to create a minimal amount of debris and prevent soil contamination.
 4. Place FR polyethylene sheeting outside Asbestos Work Area where transite pipe can be placed and wrapped following removal from Asbestos Work Area.

REMOVAL OF EXISTING ASBESTOS CONCRETE SEWER PIPE

5. Remove transite pipe from work area using mechanized means, without further breaking the pipe, and place on polyethylene drop sheet.
 6. Double wrap all transite pipe with 0.15 mm polyethylene sheeting and place appropriate labels on wrapping.
 7. Perform Work to reduce dust creation to lowest levels practicable.
 8. Work will be subject to visual inspection and air monitoring.
 9. Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
5. Clean-Up:
1. Frequently during Work and immediately after completion of Work, clean up visibly contaminated soil around the transite pipe breakage.
 2. Place dust and asbestos-containing debris in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, then place in plastic bags.
 3. Clean exterior of each waste-filled bag and polyethylene wrapped transite pipe using damp cloths or HEPA vacuum and place in second clean waste bag or layer of polyethylene wrap immediately prior to removal from Asbestos Work Area.
 4. Seal waste bags and polyethylene wrapped transite pipe and remove from site. Asbestos waste must be stored in a bin appropriate for handling this waste and with appropriate labels identifying the nature of its contents.
 5. In the event that a disposal bin can not be immediately used, an area must be sectioned off using cautionary asbestos banner tape and polyethylene drop sheets. This area will be used to store the polyethylene wrapped asbestos waste until an appropriate disposal bin arrives on site.
 6. Dispose asbestos waste in accordance with requirements of Provincial Authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of hazardous nature of material to be dumped and that guidelines and regulations for asbestos disposal are followed.

Perform final thorough clean-up of Work areas and adjacent areas affected by Work using HEPA vacuum.

Inspection

At the completion of Work and cleaning operations, Contract Administrator may perform site inspection for final cleanliness and completion as well as to monitor Contractor compliance with specification and governing authority requirements. Deviation from these requirements that have not been approved in writing by Contract Administrator may result in Work stoppage, at no cost to Owner.

REMOVAL OF EXISTING ASBESTOS CONCRETE SEWER PIPE

No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.

Measurement for Payment

Measurement for payment of the Contract item "Removal of Existing Asbestos Concrete Sewer Pipe" shall be per linear metre based on the removal of any asbestos sewer pipe or laterals encountered during the course of the work. The Contractor is advised that this item will not be considered a Major Item in accordance with GC1.04 and so the provisions of GC8.01.02.01) a) and b) will not apply to this item.

Basis of Payment

Payment at the Contract price for these items shall be full compensation for all labour, equipment, materials and incidentals required for a complete removal of the AC pipes and clean-up of the site.

The Contractor shall be responsible for all costs associated with the management of AC pipe including but not limited to testing of the pipe material, trucking and disposal of the material at a licensed disposal facility (including tipping fees), reduction in production rates due to the presence of AC pipe, penalties and clean-up costs in the event of infractions by the Contractor.

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work, including registration for transporting vehicles carrying the AC pipe.

PAVEMENT MARKING

Scope

This specification covers the requirements for the application of pavement markings onto bituminous or concrete pavement.

1.0 References

Ontario Provincial Standard Specifications

OPSS 710 Construction Specification for Pavement Marking

OPSS 1712 Organic Solvent Based Traffic Paint

OPSS 1716 Water-Borne Traffic Paint

OPSS 1715 Preformed Plastic Pavement Marking Tape

OPSS 1750 Material Specification for Traffic Paint Reflectorizing Glass Beads

Ontario Ministry of Transportation

Ontario Traffic Manual (OTM) Book 11

Ontario Traffic Manual (OTM) Book 7

Ministry of Transportation Designated Sources for Materials (MTO DSM)

Government of Canada

Transportation of Dangerous Goods Act, 1992 (S.C. 1992, c.34) and the latest amendment

Volatile Organic Compound (VOC) Concentration Limits for Architectural Coatings Regulations (SOR/2009-264)

United States Environmental Protection Association (EPA)

EPA Method 24 – *Determination of Volatile matter Content, Water Content, Density, Volume Solids and Weight Solids of Surface Coatings*

2.0 Definitions

For this specification, the following definitions shall apply:

Organic Solvent Based Traffic Paint: refers to a traffic paint whose components are carried in an organic solvent system and will form a solid paint film on evaporation of the solvent after application.

Pavement Markings: refer to markings on pavements, used to delineate vehicle operating limits on highways and streets, conforming to the size and shape, as specified in OTM Book 11.

Permanent Pavement Markings: refer to pavement markings placed other than Temporary Pavement Markings.

Premarking: refers to the indicating marks, required to identify the position of pavement markings.

PAVEMENT MARKING

Reflectorization: refers to a material, treatment or process to enable incident light to be returned in high proportions in the general direction of the light source.

Temporary Pavement Markings: refer to pavement markings placed on temporary roadway surfaces or alignments.

Temporary Preformed Plastic Pavement Marking Tape: refers to preformed plastic pavement marking tape with a limited service life and a minimum service period of three months when placed in conformance with the manufacturer's recommended procedures on pavement surfaces.

Traffic Paint: refers to a paint specifically formulated for use as a pavement marking.

Water-Borne Traffic Paint: refers to a traffic paint whose components are carried in water either as an emulsion or a dispersion and will form a solid paint film on deposition and evaporation of water and volatiles after application.

3.0 Design and Submission Requirements

4.1 General

Pre-qualified suppliers of beads and paint are listed on the Ministry of Transportation Designated Sources for Materials (MTO DSM).

Prior to the commencement of work, the Contractor shall supply documentation from each of the suppliers of paint, plastic and beads, stating that said materials meet Ministry of Transportation specifications. This documentation is known as Material Safety Data Sheets and is required by law.

The Contractor shall submit certification by the manufacturer that the paint supplied conforms with the volatile organic compounds (VOC) ratings as detailed in Section 5.2 of The United States Environmental Protection Association EPA Method 24 – *Determination of Volatile matter Content, Water Content, Density, Volume Solids and Weight Solids of Surface Coatings*.

4.0 Materials

5.1 Classification

Pavement markings are classified as either permanent or temporary based on performance requirements.

5.2 Volatile Organic Compounds (VOC)

All road marking paints must contain less than 150g/L of volatile organic compounds (VOC). Per federal requirements, the traffic marking coating category is subject to an annual use prohibition during the period of May 1 to October 15. During this period, use of traffic marking coating in which the VOC concentration exceeds 150 g/L is prohibited. For the remainder of the year, traffic marking coatings have a VOC concentration limit of 450 g/L for use, manufacture, import, sale and offer for sale.

5.2 Organic Solvent Based Traffic

Organic solvent-based traffic paint shall conform to OPSS 1712.

PAVEMENT MARKING

5.3 Preformed Plastic Pavement Marking Tape

Preformed plastic pavement marking tape shall conform to OPSS 1715.

5.4 Water-Borne Traffic Paint

Water-borne traffic paint shall conform to OPSS 1716.

5.5 Reflectorizing Glass

The reflectorizing glass beads shall meet or exceed Ontario Provincial Standard Specification 1750 (OPSS.MUNI 1750) dated November 2021. OPSS Specifications 1750.09.05 is not applicable.

Additional Specifications to OPSS 1750

The specifications listed below are in addition to, or shall supersede the OPSS1750 specifications:

Products

Reflectorizing glass beads must be listed on the MTO current DSM list (section 5.85.38).

Moisture-proof Bead Coating

Reflectorizing glass beads shall be coated with dual coating. The coating shall have both a moisture resistant silicone coating and an adhesion promoting silane coating.

Roundness

The provisions from OPSS 1750 Section 1750.07.01 have been deleted and replaced by the following: "*Roundness: requires at least 80% by mass of the glass beads to be true spheres*".

Heavy Metal/Contaminant Content of Glass Beads

The schedule provided below in Table 1 indicates the maximum concentration limits of metals/contaminants in glass beads.

Table 1: Metals/Contaminants Concentration Limits	
Metal /Contaminant	Maximum Concentration Limit
Arsenic	50 ppm
Lead	90 ppm
Antimony	75 ppm

6.0 Equipment

The equipment to be used for application or installation of pavement markings shall be as recommended by the manufacturer of the respective pavement marking material.

6.1 Spray Equipment

Spray equipment shall be used for application of solvent based traffic paint and water-borne traffic paint recommended for spray application.

PAVEMENT MARKING

Spray equipment shall be fabricated from materials that will not contaminate the traffic paint and other pavement marking materials.

The spray equipment shall provide a uniform stripe to the required width and thickness, with sharp edges without excessive splatter or overspray. The equipment shall have the capability to provide pavement markings conforming to the OTM. The equipment shall be provided with glass bead dispenser to apply overlay glass beads at the recommended rate.

All vehicles shall be equipped with proper lighting and signage in accordance with OTM Book 7, Temporary Conditions. All vehicles associated with the painting operation shall be equipped with a wireless radio operator communication system so that all drivers and the paint applicator operator can communicate without stopping the painting operation. All crews must be equipped with at least one cellular phone.

The minimum equipment required for the operation shall include a centre-liner and the required follow-up vehicles as stipulated in OTM Book 7.

7.0 Pavement Marking Plans

All final longitudinal and transverse pavement markings shall be installed in accordance with the approved Pavement Marking and Signage Drawing.

8.0 Construction

8.1 General

The work of pavement marking includes surface preparation, pavement marking obliterating, premarking, and application of temporary and permanent pavement markings.

As part of the work, the Contractor shall supply pavement markings and symbols including turn arrows, crosswalks and sidebars conforming to the applicable shapes and sizes as outlined in OTM Book 11.

The Contractor shall apply the pavement markings and symbols conforming to the contract drawings, OTM Book 11 and the manufacturer's recommendations.

8.2 Surface Preparation

The pavement surface must be clean and dry. Contaminants such as dirt, loose asphalt particles and oily residue shall be removed prior to application of pavement marking.

8.3 Pavement Marking Removal

Durable markings and traffic paint shall be obliterated or removed as follows:

-Eliminate existing pavement markings and symbols on both concrete and asphaltic surfaces in such a manner to retain minimum color and/or texture contrast of the pavement surface.

-Blast by compressed air abrasive blasting or by mobile high-pressure water blasting using an approved product as listed on the MTO DSM Traffic Guidance, Line Removal Systems for Pavement Marking.

PAVEMENT MARKING

-Vacuum residue, including sand, dust, and marking material, concurrently with the removal operation. Perform this work only in the area where the markings are to be applied.

-During removal operation, the Contractor shall prevent any residual material or sand, dust, enter drainage, sewer, conveyance or pose a traffic hazard.

The Contractor shall furnish approved equipment, methods, blast media, and/or as well as traditional blast media as listed in MTO DSM Traffic Guidance, Line Removal Systems for Pavement Marking. The Contractor shall maintain equipment in good working condition and retain well-trained operational staff to perform the removal of pavement markings.

The Contractor shall be responsible to take all necessary measures to comply with Federal and Provincial environmental protection requirements, by-laws, and any other applicable acts and regulations in respect to air, earth and water pollutants.

8.4 Premarking

The Contractor shall use the pavement marking drawings as noted in Section 7.0 to establish the position of all pavement markings. All permanent pavement markings for stop bars and cross walks must be completed as part of premarking.

Premarking shall be done using white road marking paint only. Pre-marking should always have smooth lines and transitions should not look “wavy” or disjointed.

Spacing for premarking shall be achieved through establishing control points at regular intervals (for example, every 25 m) and less space on curvilinear alignments.

Longitudinal markings shall be achieved by a series of uninterrupted, closely spaced spot markings, either squares or circles, to guide the marking truck operator in applying well-aligned longitudinal and transverse pavement markings.

Transverse markings (stop bars/crosswalk lines) shall be achieved through use of a continuous fog line, applied using a string line, to produce a straight line.

8.5 Temporary Pavement Marking

Temporary pavement markings are required when a paved roadway is to be opened to the public prior to the application of permanent pavement markings or for the purpose of construction staging.

As part of the work of pavement marking, the Contractor shall apply temporary pavement markings for the centreline and lane lines.

Temporary pavement markings shall not conflict with permanent pavement markings.

Temporary pavement markings placed on final surface course shall be removed once permanent pavement markings are installed.

PAVEMENT MARKING

8.6 Permanent Pavement Marking

Permanent pavement markings application includes surface preparation, premarking, temporary pavement marking, removal of temporary pavement markings and placement of permanent pavement markings.

When permanent pavement markings cannot be placed prior to the opening to traffic, roadways must have temporary pavement markings. Temporary pavement markings shall not conflict with the placement of permanent pavement markings. The length of time before permanent placement markings are placed is a maximum of 15 working days.

Permanent pavement markings must be in place and maintained prior to any winter shut down.

9.0 Application

9.1 General

All pavement markings shall be accurately spaced and present a clean-cut, uniform appearance during either the day or night.

The application of pavement marking materials shall conform to the following requirements and the manufacturer's recommendations.

9.2 Organic Solvent-Based Traffic Paint

Paint shall be applied when the pavement surface temperature is 0°C and above, unless otherwise approved in writing by the Contract Administrator.

The paint temperature shall be between 40°C and 70°C when applied to the pavement.

Paint shall be applied at a rate which results in a uniform thickness of 230 ± 25 microns dry film. Reflectorizing glass beads, conforming to OPSS 1750 shall be applied uniformly at a rate as shown in Table 2 below, immediately after paint application, to ensure embedment of the glass beads.

Overlay glass beads shall not be applied on to black paint which is used for obliterating existing markings.

Table 2: Rate of Application for Overlay Glass Beads per litre of Traffic Paint	
% Volume Solids of Traffic Paint	Glass Beads Required (kg)
40-56	0.7
57-70	0.8

9.3 Water-Borne Traffic Paint

Paint shall be applied as specified in Section 9.2 except that the pavement surface temperature shall be minimum 10°C.

PAVEMENT MARKING

9.4 Temporary Preformed Plastic Pavement Marking Tape

Temporary removable pavement markings shall be applied conforming to the manufacturer's recommendation and shall be removed as indicated. Removed material shall be disposed outside of the right-of-way.

9.5 Spills

All materials shall be handled and stored in accordance with recommended procedures to prevent contamination of the environment including land, water or air.

In the event of a spill or release of any material including, but not limited to, pavement marking primers and sealers, oxygen/acetylene tanks, and cleaning products to the environment, the person in control of the material at the time of the spill shall ensure that: the spill is contained and cleaned up, the environment is restored to pre-spill condition, spill clean-up materials are properly disposed of and all required notifications including the Ministry of the Environment, Conservation and Parks (MECP) have been promptly made.

10.0 Quality Assurance

10.1 General

All tests shall be conducted with ASTM test methods referenced in OPSS 1712 and OPSS 1750 for organic solvent- based paint and reflectorizing glass beads, respectively.

Random sampling may be carried out by the Contract Administrator during material application to assess line quality.

10.2 Line Quality

Line width, thickness, the nature of the edges and uniformity in appearance will be assessed by the Contract Administrator as part of the final inspection of the markings.

Glass bead distribution will be inspected for evenness in distribution and degree of embedment.

10.3 Measurement of Temperature and Humidity

The testing of ambient and surface temperature will be by thermometer, and surface thermometer, respectively.

10.4 Pavement Marking Inspection

Once permanent markings have been completed, the Contractor shall notify the Contract Administrator to request inspection.

Within five (5) days, the Contract Administrator will inspect and sign-off on the completed work. Sign-off for payment will be completed by the Contract Administrator.

Any workmanship that does not conform to the requirements of OPSS 710 shall be corrected at the Contractor's expense.

PAVEMENT MARKING

It shall be the Contractor's responsibility to correct any severe tracking situation which was created by the Contractor, or because of inadequate traffic control measures or other errors/omissions on the part of the Contractor.

11.0 Measurement and Basis of Payment

Payment at the contract Lump Sum Price for the item "Pavement Markings and Signage" shall be full compensation for surface preparation, pavement marking obliterating, premarking, application of temporary pavement markings, application of permanent pavement markings and installation of temporary and permanent signage. Payment at the contract price for the above item shall be full compensation for all labour, equipment and material required to do the work.

Payment shall be based upon the following schedule:

- a) 100% upon final inspection and sign-off of permanent pavement markings.

This payment schedule may only be modified as agreed upon in writing between the Contractor and the Contract Administrator

TEST PITS

Scope

This Special Provision covers the work associated with the excavation of test pits for the purpose of verifying the location, size, material, alignment, and geodetic elevation of important buried infrastructure within the project limits.

Construction

At the commencement of the project, the Contractor shall excavate test pits to expose the buried infrastructure or other features at locations shown on the Issued Drawings to confirm the location, size, material, alignment, geodetic elevation, etc.

The Contractor is responsible for obtaining all required permits to complete the works included in this Special Provision. The Contractor shall contact the Contract Administrator 48 hours prior to excavation of the test pits.

Utility Test Pits

The location and depth of the pipes/ducts shall be proven by the Contractor and the information provided to the Contract Administrator as soon as the test pits have been completed. The test pits shall be completed in the presence of the Contract Administrator, as well as in the presence of a representative from the respective authority, if deemed necessary by the authority.

The method for completing all test pits shall be at the Contractor's discretion; however, the approach selected shall be suitable to protect existing buried utilities/infrastructure and to gather/measure the information that is necessary. If in the opinion of the Contract Administrator or site representative, the method(s) employed by the Contractor jeopardizes the integrity of existing buried utilities/infrastructure, or will not allow the necessary information to be properly measured/gathered, the Contractor shall be required to change their approach at no additional cost.

In all instances, the test pits shall be of sufficient size and depth to measure, confirm, and record all necessary information. This information shall be measured and recorded by the Contractor and immediately provided to the Contract Administrator. The horizontal and vertical position of exposed utilities shall be measured by the Contractor using Total Station Survey (not GPS).

Test Pit locations include but are not limited to the below:

TEST PITS

- Confirming depth and location of existing forcemain at Station 0+460 and 0+480 0+500 and at the watermain crossing for FH-05.
- Confirming the depth and location of existing Bell Utilities at Station 0+300 for proposed water service to 167 John St
- Confirming the depth and location of existing 203mm diameter watermain north of VB01.

Upon completion, test pits are to be backfilled and reinstated pending final restoration. Where the test pit is performed within an asphalt surface, the Contractor shall reinstate asphalt that is removed or damaged by the excavation work, as directed by the Contract Administrator.

The excavation as a test trench for dewatering purposes or excess soil testing shall not be considered a 'test pit' and will not be considered for payment.

Measurement for Payment

Measurement for payment shall be for each test pit excavated, backfilled, and reinstated, all-inclusive regardless of the depth and size of the test pit. Earth excavation, removals, backfill, dewatering, utility locates, survey and coordination, and root cutting shall be considered incidental to this work and will not be measured for separate payment. Final restoration shall be paid for in accordance with the Contract items for reinstatement.

Basis of Payment

Payment at the Contract unit price shall be full compensation for all labour, equipment and material required to do the work regardless of whether the test pit is completed by conventional excavating equipment, hydro-excavation, or hand digging (or any combination of these). The cost of temporary reinstatement of the test pit area, including temporary asphalt reinstatement where it is deemed to be required by the Contract Administrator, shall be included in the price of the Contract item "Test Pits".

Construction Dewatering

General

This Special Provision – General covers the requirements for construction dewatering and discharge of groundwater to the Eganville sewer system.

The groundwater generated during construction activities must be managed on site by the Contractor by accepted means, such as using trench infiltration pits or by discharging to the existing sewer system under the terms below. The Contractor is wholly responsible for the construction dewatering activities.

For the purpose of this specification, groundwater shall also include external water sources and surface water runoff that has entered the trench.

Groundwater Management Plan

The Contractor shall prepare a Groundwater Management Plan (GWMP) for submission to the Contract Administrator. The GWMP is required to co-ordinate/monitor the discharge for the project and shall clearly reference and acknowledge the discharge restrictions for the project. It shall contain information regarding the procedures to be followed for monitoring each discharge to the sewer, the contact information for the person responsible for the site, how each discharge to the sewer will be monitored, the procedure to be enacted should the daily maximum volume or maximum flow rate be reached, a contingency plan to be followed if actual volumes exceed approved limits, and a contingency should contaminated groundwater be encountered. The plan shall be prepared by a Professional Geotechnical Engineer or Hydrogeologist with experience in managing groundwater. to indicate that all the requirements, conditions and procedures of the GWMP have been read and understood.

Contract Specific Requirements - Dewatering

Based on a review of subsurface conditions “Geotechnical, Hydrogeological and Environmental Services Infrastructure–Upgrades Project, Eganville, Project No. 101260.004., prepared by GEMTEC., it is anticipated that an EASR will be required to perform the work.

The Contractor will be required to employ measures to reduce the volume of groundwater in the trench by limiting the amount of surface water that can enter the trench by closing the trench at the end of each day, and/or by limiting the length of trench that is left open at the time and/or by any other means the Contractor deems necessary to limit groundwater pumping volumes. Although it is recognized that the actual volume of groundwater encountered will be heavily dependent on the construction methods and practices utilized onsite, the Contractor shall be wholly responsible for obtaining additional permits if pumping volumes exceed 400,000 Litres/day.

Construction Dewatering

Groundwater lab results from Gemtec report the following exceedances to Provincial Water Quality Objectives:

- *Total phosphorous (unfiltered) exceeded the limit of 0.01 mg/L, but total phosphorous (filtered) fell below the limit, suggesting the exceedance was attributable to sediments.*
- *Total metals concentrations including aluminum, arsenic, cobalt, copper, iron, lead, silver, tungsten, vanadium, and zinc exceeded their respective limits. The only metals exceedances sustained following filtration of sediments was copper, suggesting the others are associated with sediments.*
- *Toluene exceeded the regulatory limit of 0.8 mg/L, and trace amounts of other volatiles were noted but did not exceed their regulatory limit (where applicable).*

Discharge to Biosolids/Septage Dewatering Facility

The Township will grant “permission” to the Contractor to discharge groundwater from the site to the municipal biosolids/septage dewatering facility located on John st, provided that the groundwater does not contain any petroleum hydrocarbons. The Contractor shall take groundwater samples at the start of the project to confirm the baseline groundwater quality and any exceedances to the Provincial Water Quality Objectives. Discharge will be subject to the quality criteria of the municipality’s sewer use bylaws. Water that does not meet the requirements for discharge to the storm sewer, but meets the requirements for discharge to the biosolids/septage facility, can only be discharged to the biosolids/septage facility. No pumping of groundwater to the sanitary/storm sewer from dewatering activities will be permitted without 48-hour prior notification to the Contract Administrator and Township and prior acceptance of the GWMP. The Contractor will be responsible for complying with the discharge criteria and any other requirements of the Township.

Sampling and Testing

Prior to discharging to the biosolids/septage facility, the Contractor must carry out analytical testing of groundwater to determine results meet the Provincial Water Quality Objectives and will allow discharge to the facility. Constituent levels cannot exceed the Provincial Water Quality Objectives and shall not include petroleum hydrocarbons. The Contractor shall also carryout analytical testing of the groundwater prior to discharging from the Biosolids Facility to the sanitary sewer to confirm no exceedances to the Provincial Water Quality Objectives. Testing shall be carried out at the Townships discretion. If discharging to the Biosolids facility is continuous, then testing shall be carried out at regular intervals. The Contractor shall be aware that sampling / testing frequency is site specific and can vary throughout the project and as such the contractor shall carry out weekly testing of the groundwater encountered on site. The Contractor shall provide the Contract Administrator copies of all test data within 24 hours. The

Construction Dewatering

Contractor shall notify the Contract Administrator immediately when dewatering effluent exceeds allowable discharge limits.

The Contractor shall be solely responsible for management of Total Suspended Solids (TSS) including but not limited to filtering and settling measures. Concentrations of other contaminants will not be evaluated until the Contractor has reduced TSS to below sewer discharge limits. The Contractor is responsible to manage groundwater onsite while awaiting test results from groundwater samples.

The Contractor is advised that the monitoring well(s) associated with BH26-02, BH26-04 and BH26-06 referenced in GEMTEC's Geotechnical Investigation Report are in place and available to the Contractor for pre-sampling of groundwater in order to obtain an initial baseline water quality. The Contractor shall abandon all monitoring wells, in accordance with the Contract, after sampling has been completed.

Should the Contractor's sampling/testing show concentrations of contaminants that would preclude discharge to the Township's sewer system, the Contractor may apply to haul groundwater off site for proper disposal at a licensed facility. Before hauling and disposal is permitted, the Contractor shall first try to manage contaminated groundwater onsite within the trench before offsite disposal is considered.

Dewatering and Discharge of Water

The Contractor shall be responsible for metering the volume of water discharged to the sewer system under the terms of the Sewer Discharge Agreement. This requires a calibrated metering device on all discharge lines to the sewer. Recent calibration certificates for each meter are to be provided to the Contract Administrator prior to use. The Contractor shall be responsible for supplying, protecting and maintaining the metering devices throughout the duration of the Contract to ensure that continuous metering of flow is provided, so that totals of the volume discharged can be determined. The volume of water shall be forwarded to the operator and the Contract Administrator on a monthly basis.

The dewatering to the sewer system shall be subject to sewer capacity constraints. The discharge of construction waters during precipitation events (rain, snow melt, etc.) shall be prohibited unless a sewer monitoring program has been approved and is implemented to ensure no adverse effect from dewatering is realized.

Any siltation/sediment or debris introduced into the sewer as a result of the Contractor's dewatering activities shall be removed at the Contractor's cost.

Construction Dewatering

Treatment and Disposal of Contaminated Groundwater

Should the contractor encounter contaminated groundwater where contaminants exceed the Provincial Water Quality Objectives, petroleum hydrocarbons are present and contaminants cannot be addressed through sediment removal and treatment at the Biosolid/Septage Facility then treatment and disposal off site may be required.

The Contractor shall retain a qualified dewatering and/or water treatment specialist experienced in treating groundwater impacted by petroleum hydrocarbons and/or metals.

The Contractor shall first make reasonable effort to manage contaminated groundwater on site before off-site disposal. Off-site hauling shall only be eligible for payment when authorized in writing by the Contract Administrator.

Where in the opinion of the Contract Administrator, the situation precludes the management of contaminated water on-site, or on-site water treatment, the Contractor shall dispose of groundwater directly from site using an MECP licensed hauler. The Contractor shall notify the Contract Administrator on a daily basis as to the quantity of water hauled off-site.

Discharge Restrictions

In addition to the quality criteria and any other requirements specified in the Sewer Discharge Agreement, the Contractor shall also adhere to the following:

- No discharge to sewers is permitted during wet weather events (rain, snow melt, etc.).
- No surcharging of the downstream sewer is permitted. The Contractor shall continuously monitor the downstream sewer against surcharging and cease discharge immediately if the downstream sewer reaches capacity.

Payment

Measurement and Basis for Payment

“Groundwater Management Plan” – ITEM

Payment shall be based upon the following schedule:

- a) 20% upon satisfactory submission and implementation of the GWMP Plan
- b) 80% pro-rated into equal payments over the term of the contract.

Construction Dewatering

The Contractor shall be responsible for all costs associated with obtaining all permits and approvals for discharge/disposal of groundwater including, but not limited to, initial and weekly sampling, metering/measurement, preparation of the GWMP and reporting. Additionally, the Contractor shall be responsible for all costs associated with managing, pumping and discharging of groundwater during construction.

No claim shall be made by the Contractor for additional costs, scheduling implications and/or delays associated with not having the required permits and approvals in place before dewatering activities are required.

The Contractor shall not make any claim for extra compensation for the cost of fulfilling the obligations set out in this Special Provision – General.

“Off-Site Hauling and Disposal of Contaminated Groundwater (Provisional)” ITEM

Unit of measurement shall be m³ of contaminated groundwater disposed.

Payment at the contract unit price for the above tender item shall be full compensation for all labour, equipment, material, testing and submittals to do the work as described in the contract. This item has been included for work that may be required during construction. The exact extents of the requirements of the work are dependent upon uncertain factors. The Contractor shall obtain written authorization from the Contract Administrator prior to completing these works. The Contractor shall not be entitled to any additional compensation under the Contract should there be no requirement for the use of this item in the Contract.

PRE-CONSTRUCTION INVESTIGATION OF EXISTING STORM SEWER

The Contractor acknowledges that not all sewer service laterals on the Drawings are shown and that the service laterals that are shown are taken from the best available information but are not guaranteed to be accurate. The Contractor, prior to mobilizing to site, shall investigate the existing storm sewer along John Street within the project limits with a CCTV investigation to confirm the service locations. The Contractor shall prove the location of each live service along the storm sewer, and shall provide this information as a markup to the Tender Drawings to the Contract Administrator before construction begins. The Contractor shall retain a copy in the field as a reference to carry out the work.

Measurement for Payment

Payment shall be per linear metre of existing sewer cleaned and televised inspection under the following item:

“Pre-Construction Investigation of Existing Storm Sewer”

Basis of Payment

Pre-Construction Investigation of Existing Storm Sewer – ITEM

Payment at the contract unit price for the above tender item shall be full compensation for all labour, equipment, material, testing and submittals to do the work as described in the contract for all sewers within the contract limits.

RECORD KEEPING FOR AS-BUILT DRAWINGS

Section GC8.02.09, Records, of the modified OPS General Conditions, is amended by the addition of the following:

The Contractor shall assume full responsibility for keeping records for final alignment, elevations, and dimensions for each and all parts of the Work. The Contractor shall maintain and keep accurate construction records related to the final location of the Work. These records shall be sufficient for the Owner to compile As-Built Drawings for the Contract. The Contract Administrator will request additional records information at their discretion.

The Contractor shall provide all final alignment, elevation, and dimension records to the Contract Administrator a maximum of two weeks after the issuance of the Substantial Performance Certificate.

The Contractor is advised that required as-built information includes:

- Any changes from the original tender documents
- The date, location and progress of the major operations such as pipe laying, road excavation, granular backfill and sidewalk construction
- Revised location of catch basins, catch basins leads and service connections installed and/or reconnected
- Revised location of manholes and all pipe inverts
- Elevation and size of any major utility ie. hydro and bell ducts, gas mains, etc.
- Any changes to the road grading from the original tender documents
- All relocation or abandonments shown or not shown on construction drawings
- Notes to detail changes from intended design
- Sewer Manholes - location tied in to points on centre line, iron bars, or house corners
- Sewer Manholes - top of grate elevation, and distance between new manholes
- Sewer Large Manhole Chambers - top of grate elevation, location, detailed dimensions including
- Sewer - Inverts, lengths of pipe, including curved sections
- Sewer - service connections dwelling and buildings
- Catch basin - top of grate elevation, location, and connections
- Watermain - locations, valves, hydrants, tees, and bends
- Watermain - service connections dwelling and buildings
- Utilities – location, poles, elevations, manholes, handholes, etc.
- Changes in geometry from design
- Limit of construction (road, sidewalks or crosswalks)

RECORD KEEPING FOR AS-BUILT DRAWINGS

This as-built information shall be conveyed as mark-ups on the Issued For Construction Drawings, unless alternative formatting is authorized by the Contract Administrator.

The Contractor shall not make any claim for extra compensation for the cost of fulfilling the obligations set out in this Supplemental General Condition.

SERVICE LATERAL LOCATIONS

Service Laterals

The Contractor acknowledges that the location of sewer service laterals and water services as shown on the Drawings is taken from the best available information but is not guaranteed. The Contractor shall investigate all existing service connections found in the field and verify whether these connections are live or abandoned. The Contractor shall prove the location of each live service to ensure that it is connected to the correct sewer. The Contractor shall coordinate with the Contract Administrator for property access for dye test purposes, etc. If the connections are found to be live, the Contractor shall replace the services within the limits of the Township right-of-way. The Contractor shall also investigate the existing sewer/water services for sections of sewer/watermain that are being abandoned. If a live service is found to be connected to such a sewer/watermain, it shall be abandoned and replaced with a new service within the limits of the Township right-of-way and connected to the new sewer/watermain.

The Contractor is also advised that the proposed sanitary sewers on John Street are being installed in a different alignment than the existing sewers. The Contractor may, therefore, not encounter far side services when installing the new sewers. It is the responsibility of the Contractor to ensure all far side services are located and connected to the new sewers.

Coordinating private property access with private property owners shall be the responsibility of the Contractor.

Sewer CCTV Inspection

At the onset of the project, the Contractor shall clean and carry out a CCTV inspection on the existing storm sewer per SP-013

A CCTV inspection was recently performed on the existing sanitary sewers for the Township of Bonnechere Valley. The location of existing service laterals shown on the Drawings are based on this recent CCTV investigation. The CCTV report will be made available to the Contractor at the onset of the project for their review and use in the planning of the work.

Water Services

The Contractor shall locate watermains and water services within the project limits ahead of their operation, which includes, but is not limited to line tracing in the field and coordination with the Township. Once located, the water plant shall be exposed using hydro-excavation in advance of mechanical removals, as incidental to the excavation work. Any concerns regarding the condition of the water plant upon exposure shall be immediately noted to the Township and the Contract Administrator.

SERVICE LATERAL LOCATIONS

Basis of Payment

Sewer service and water service location, excavation and protection: Payment under the pertinent contract items for sewer service installation or water service reconnection is inclusive of all labour, equipment and materials to carry out the work described above.

The Contractor shall not make any claim for extra for fulfilling the requirements of this Contract Special Provision – General.

EARTH EXCAVATION - GRADING INCLUDING ALL REMOVALS

OPSS 206 and OPSS 510 shall apply except as amended and extended by the addition of the following:

Removals

Any information on removals given herein or shown on the drawings is approximate only and the Contractor shall base his bid on the findings of his investigation of the site.

If the existing pipe is removed from the site, it shall be separated from the native material and treated as non-hazardous solid or industrial commercial waste. Alternatively, the pipe can be ruptured or collapsed in place with suitable equipment, with the debris left in the trench in such a manner as to eliminate all voids and so as not to be detrimental to the work. This work is deemed to be included in the Contract price for the item "Earth Excavation – Grading Including all Removals", or incidental to other items in the Contract.

Where existing features or underground utilities, known or unknown, are located within the limits of construction and are not identified to be removed, the Contractor shall undertake all appropriate measures and actions to protect the features or utilities. In scenarios where implementation of these actions is determined not to be feasible, the Contractor may remove and re-instate the feature to existing or better condition, in accordance with all applicable specifications and regulations.

Where existing features or abandoned underground Utilities conflict with the line of construction, the Contractor shall remove these items and dispose of them in waste areas, provided by the Contractor at his own expense outside the Contract limits in accordance with OPSS 180. Where the Contract Administrator determines that the Contractor's methods are responsible for damage to adjacent features and materials not specified for removal, the Contractor shall carry out remedial measures at his own expense to the satisfaction of the Contract Administrator. The Contractor shall correct damage and/or replace materials with a product of equal or better quality and to the satisfaction of the Contract Administrator.

There shall be no extra payment for the work associated with protection, reinstatement or removal of existing features or utilities; this work is deemed to be included in the Contract price for the item "Earth Excavation – Grading Including all Removals", or incidental to other items in the Contract.

The existing Pavement shall be cut full depth to produce neat lines to accommodate asphalt transitions at the limits of full road reconstruction.

No additional payment will be allowed for saw-cutting, as the cost of such work is deemed to be included in the Contract price for the item "Earth Excavation – Grading Including all Removals", or incidental to other items in the Contract.

EARTH EXCAVATION - GRADING INCLUDING ALL REMOVALS

Designated Construction Work Areas

The Contract Drawings indicate the right-of-way limits and designated Work Area limits where required to allow grading and Pavement tie-ins. The Contractor shall strictly confine his operations to within the right-of-way limits or designated construction Work Area limits, as well as to the grading limits and Pavement match lines specified on the Contract Drawings unless otherwise authorized by the Contract Administrator. The Contractor shall clearly identify onsite the edge of designated Work Areas, grading limits and Pavement match lines and ensure all workers are aware of these limits. Unless specified elsewhere in the Contract or directed by the Contract Administrator, any disturbance outside specified construction or grading limits shall be reinstated by the Contractor at his expense to original conditions to the Contract Administrator's satisfaction.

No additional payment will be allowed for this requirement as the cost of such work is deemed to be included in the unit price bid for this item.

Salvaged Materials

Where specified in the Contract, materials designated to be salvaged shall be stored for re-use prior to general removals and grading operations. Any material deemed by the Contract Administrator to be unsuitable for reinstallation and any salvaged material in excess of Contract requirements shall be removed by the Contractor and disposed of in waste areas, provided by the Contractor at his own expense outside the Contract limits in accordance with OPSS 180.

Where the Contract Administrator deems that materials to be salvaged have been damaged by the Contractor's operations, the Contractor shall replace the material with a product of equal or better quality at his expense to the satisfaction of the Contract Administrator.

Removal of Existing Miscellaneous Debris, Refuse, Piles, etc.

Where existing miscellaneous deleterious material such as debris, refuse, piles, fallen trees, branches, etc. is encountered within the Contract limits the Contractor shall dispose of them in waste areas, provided by the Contractor at his own expense outside the Contract limits in accordance with OPSS 180.

Unless otherwise allotted for under a separate Contract item, no additional payment will be allowed for removal of existing miscellaneous debris, refuse, piles, etc, as the cost of such work is deemed to be included in the Contract price for the item "Earth Excavation – Grading Including all Removals".

EARTH EXCAVATION - GRADING INCLUDING ALL REMOVALS

Disposal

No additional payment shall be allowed for disposal of surplus excavated material and unsuitable and waste material by the Contractor OUTSIDE of the contract limits in waste areas, provided by the Contractor at his own expense, in accordance with OPSS 180. Where existing items are designated to be removed, the Contractor shall remove these items and dispose of them in waste areas, provided by the Contractor at his own expense outside the Contract limits in accordance with OPSS 180.

Approved Native Fill / Backfill Requirements

The Contractor shall be solely responsible to stage excavation operations or alternatively stockpile suitable excavated material at an approved location, offsite if necessary, to ensure Contract requirements for approved native materials for fill (for grading) and backfill (for sewer and utility trenches). No additional payment will be allowed for this work as the cost of such work is deemed to be included in the unit price bid for this item.

Underground and Overhead Utilities

Existing underground Utilities are located within the specified grading limits. Overhead wiring and poles are located within the contract limits. The Contractor will be required to work around these Utilities, and when construction operations are liable to damage Utilities, the Contractor will be required to alter his method of construction as directed by the Contract Administrator or Utility Company in order to avoid any damage.

No additional payment will be allowed for this requirement as the cost of such work is deemed to be included in the Contract price for the item "Earth Excavation - Grading including All Removals".

Proof Rolling Subgrade

A large rubber tired smooth drum roller shall be used to proof roll the subgrade prior to placing roadway granulars. The Contract Administrator may authorize use of other proof rolling equipment.

Sufficient passes with the proof rolling equipment shall be made to subject every point on the surface to three separate passes of the full load of the roller.

Where proof rolling reveals areas of defective subgrade, the Contractor shall:

- (a) Remove subgrade material to a depth and extent as directed by the Contract Administrator.
- (b) Backfill excavated subgrade with approved native- material and compact in accordance with this section.

EARTH EXCAVATION - GRADING INCLUDING ALL REMOVALS

No additional payment will be allowed for this requirement as the cost of such work is deemed to be included in the Contract price for the item "Earth Excavation - Grading Including All Removals" unless specified elsewhere in the Contract.

Payment for removal of subgrade material where directed will be included under "Earth Excavation - Grading Including All Removals". However, where the defective subgrade is deemed by the Contract Administrator to be caused by the Contractor's construction methods or due to the Contractor's other construction activities, all measures associated with correction of the defective subgrade including removal and offsite disposal in accordance with applicable regulations shall be at the Contractor's expense.

Measurement for Payment and Basis of Payment

Sub-section 206.09.02 of OPPS 206 is deleted and replace by the following:

Earth Excavation – Grading, Including all Removals – ITEM

Measurement shall be by Plan Quantity, as may be revised by Adjusted Plan Quantity, of the volume in cubic metres computed from field measurements of existing cross sections taken during the pre-design stage and shall be based on the theoretical limits designed in the Contract. If portions of the work that entail earth excavation are not required or installed, the excavation volume associated with the work that has been omitted shall be subtracted from the total estimated quantity in the Contract. If the excavation for portions of the work do not meet the lines and grades specified, the Contract Administrator may subtract the volume associated with the difference in what should have been excavated (based on proposed lines/grades) compared to what was actually excavated (based on actual lines/grades) from the total estimated quantity in the Contract.

Sub-section 206.09.01.02 of OPSS 206 is deleted in its entirety; Section 206.10.02 of OPSS 206 is deleted in its entirety.

Section 510.09, of OPSS 510 is amended in that no separate payment will be made for the removal of items listed and specified herein except where specified elsewhere in the Contract and the costs shall be deemed to be included in the contract price for the item "Earth Excavation - Grading including All Removals", and will be full compensation for all labour, equipment and materials necessary to complete the work herein described and specified in the Contract drawings.

Section 510.09, Measurement for Payment, and Section 510.10, Basis for Payment, of OPSS 510 are amended and extended by the deletion of the following items:

Removal of Curb and Gutter

Removal of Asphalt Curb and Gutter

Removal of Concrete Curb and Gutter

Removal of Maintenance Holes, Catch Basins, Ditch Inlets and Valve Chambers

EARTH EXCAVATION - GRADING INCLUDING ALL REMOVALS

Abandonment of Maintenance Holes, Catch Basins, Ditch Inlets, and Valve Chambers

Partial-Depth

Capping of Maintenance Holes, Catch Basins, Ditch Inlets, and Valve Chambers

Removal of Pipes and Culverts

Abandonment of Pipes and Culverts

Removal of Fence and Noise Barrier

Removal of Delineator Posts

Removal of Cable Guide Rail

Removal of Concrete Barrier

Removal of Steel Beam Guide Rail

Removal of Steel Box Beam Barrier

Removal of Anchor Blocks

Removal of Energy Attenuators

Removal of Ramp Closure Gates

Cutting Existing Pavement

Removal of Asphalt Pavement from Concrete Surfaces

Removal of Concrete Pavement

Removal of Sundry Driveways and Sidewalks

Removal of Asphalt-Treated Base

Removal of Concrete Base

Removal of Asphalt Pavement, Partial-Depth

Removal of Concrete Pavement, Partial-Depth

Removal of Concrete Curb

Removal of Asphalt Pavement from Concrete Surfaces on Structures

Removal of Concrete

Removal of Driveways, Sidewalks, and Sundry Asphalt Pavements

Removal of Interlocking Brick Driveways and Walkways

Removal of Concrete Sidewalk

Removal of Gabions

Removal of Sign Support Structure

Removal of Sign Support Structure Footings

Removal of Flagstone Walkways

Removal of Patio Stones

Removal of Gardens

Removal of Wood curb

Removal of Stone, Concrete and Interlocking Brick Retaining Walls

Removal of Cedar Hedges and Trees

Removal of Fence

Removal of Miscellaneous Landscaping Features

Milling for Asphalt Key-Ins

Removal of Concrete Sidewalks

Removal of Rip Rap

EARTH EXCAVATION - GRADING INCLUDING ALL REMOVALS

Section 510.10, Basis of Payment, of OPSS 510 is amended and extended in that where work of the type listed above is designated to be carried out, no separate payment will be made for this work and the Contract Price for the Tender item "Earth Excavation, Grading (Including Removals)" shall include full compensation for all labour, equipment and material required to do the work.

Trench Size

The Contractor has authority over and responsibility for the means, methods, techniques, sequences and procedures of construction, for security and safety at the Site, for safety precautions and programs incident to Contractor's Work, and for complying with Laws and Regulations applicable to their furnishing and performing the Work. Notwithstanding this, the excavation work shall be planned and executed by the Contractor to minimize the width of the trench and corresponding impacts to adjacent utilities and overlying road surfaces. For the sole purpose of estimating quantities for soil removal, earth and asphalt excavation, contaminated material and reusable material, a trench width of has been assumed as:

- 1.8m for pipes 450mm in diameter and smaller; and,
- 3.0m for combined trench width for sanitary and storm sewer

Rock Excavation

Amendments to OPSS. MUNI 403 and S.P. F-4031

OPSS.MUNI 403 and City of Ottawa S.P. F-4031 shall apply to rock excavation, grading, and rock excavation for sewers and watermains except as they may be amended and extended herein.

Due to the proximity of existing structures to the required bedrock excavation, blasting will not be permitted for this project.

Vibration Monitoring

Scope of Work

Pursuant to Section 5.2 of the Geotechnical Investigation Report for this project, vibration monitoring is required for nearby structures in areas which are sensitive to vibrations during construction activities.

Vibration monitoring outside the areas noted within the Geotechnical Investigation Report may also be required to address resident complaints related to construction induced vibrations.

Vibration Monitoring

Construction activities shall be controlled to limit the peak particle velocities at all adjacent structures and services such that vibration induced damage will be avoided.

The vibrations generated by bedrock removal will need to be carefully controlled to prevent damage to existing structures and buried utilities.

Blasting shall not be permitted anywhere on this project due to the proximity of the existing sewers and structures.

The following table defines the frequency dependent peak vibration limits for **all construction activities**.

Frequency (Hz)	Maximum Peak Particle Velocity PPV (mm/s)
<10	5
10 to 40	5 to 50
>40	50

Vibrations should be monitored at structures/houses while work is taking place on a full-time basis whenever construction activities are occurring within 30m of those structures. Elsewhere, the closest residence/building and/or nearest service pipe to be protected should be monitored for vibrations during construction. The monitoring equipment should be relocated, as required, such that vibrations are being monitored closest to where construction activity is occurring.

During the pre-construction survey, the contractor's Vibration Monitoring Specialist Engineer, shall identify structures that are deemed sensitive to damage by construction induced vibrations.

Vibration Monitoring

The Contractor shall consider including additional vibration monitors for placement at structures with the highest risk or when warranted by resident complaints/concerns. The Contractor's monitoring plan shall clearly identify all monitoring points and vibration monitoring equipment to be used.

The monitoring shall include but not be limited to ground vibration, peak sound pressure level and water over pressure.

All instrumentation shall be calibrated annually and be capable of measuring and recording frequencies in three mutually perpendicular directions. A calibrations certificate shall be included as part of the Monitoring Plan.

Vibration intensive construction activities shall commence at the furthest points from the closest structure or service to assess the ground vibration attenuation characteristics and to confirm the anticipated ground vibration levels based on the Contractor's proposal.

If the vibration monitoring demonstrates that construction activities are resulting in vibrations that exceed the specified vibration limits, the Contractor shall be required to stop and immediately adjust their operation including the use of different equipment until the construction vibrations are below the specified vibration limits.

Vibration Monitoring Plan

At least two weeks in advance of construction, the Contractor shall submit to the Contract Administrator a detailed Vibration Monitoring Plan. The Plan shall be prepared by a licensed Vibration Monitoring Specialist Engineer (P.Eng. licensed to practice in the Province of Ontario) with at least 5 years of relevant experience.

This vibration monitoring plan shall include:

- Qualifications of the Vibration Monitoring Specialist Engineer, including examples of recent project experience in vibration monitoring.
- A detailed pre-construction survey of structures in areas where vibration monitoring is required (refer to F-1011 for details). Any existing interior/exterior structural deficiencies (such as cracks) in the structures shall be identified during this pre-construction survey as well as the methodology for how these will be monitored during construction.
- A description of the scope of the monitoring program and the methodology required to meet the plans objectives.
- Locations of vibration monitoring.
- Vibration monitoring equipment that will be used.

Vibration Monitoring

- Methodology confirming placement of vibration monitors relative to the construction (i.e. monitors which are relocated to follow current construction activities or the use of more monitors which do not need to be moved as often).
- Frequency of vibration readings.

Included in the Vibration Monitoring Plan shall be the Contractor's Contingency Plan which reacts to potential exceedance of the Vibration Limits specified. The Contingency plan shall include how the Contractor will first address the exceedance (such as immediately stopping all vibration inductive work and increasing monitoring intervals) and then how they will alter their construction methodology to ensure that no further vibrations beyond the limit occurs.

The Contractor is to allow a minimum of one (1) week turnaround for review of the completed Vibration Monitoring Plan. The review period excludes time required for addressing incomplete submittals or revisions as identified by the Contract Administrator at time of submission. The Contractor shall not claim for delays associated with the requirement to potentially revise the Vibration Monitoring Plan based on comments from the Contract Administrator.

Once the plan has been implemented, the Contractor shall provide weekly monitoring Reports to the Contract Administrator detailing vibration readings. Reports shall be provided immediately if limits are exceeded. Information to be required in the Monitoring Reports shall include:

- A written description of the monitoring activities completed that week.
- The date(s) and time(s) of all monitoring activities carried out.
- Changes to vibration monitoring locations to reflect construction progress.
- A statement indicating that the results of the monitoring show that the risks of vibration of adjacent structures are within acceptable tolerances and construction practices as established on site can continue.

Private Property Consent

The Contractor is aware that the structures being monitored are located on private property. As such, the Contractor shall obtain consent from the property owners to enter and perform any vibration monitoring work prior to proceeding. The Contractor is solely responsible for coordinating directly with property owners and ensuring that any necessary legal arrangements and/or insurance are in place prior to carrying out the work. The Contractor shall continue pursuing consent until consent either is or is not granted by the property owner and shall note any owners which refuse consent in their Plan submission.

Vibration Monitoring

Measurement for Payment

Measurement for payment for the 'Vibration Monitoring Plan' shall be as a lump sum, all inclusive, in accordance with the following payment schedule:

- 85% upon submission and acceptance of the Monitoring Plan
- 15% upon establishment of the initial vibration monitoring points and submission of the first Report.

Measurement for payment for 'Vibration Monitoring' shall be per each week during which there is active construction with vibration monitoring, and includes all equipment, material and personnel to perform the monitoring, as well as weekly reports to the Contract Administrator.

The Contractor is responsible for notifying the Contract Administrator when vibration monitoring is ongoing and when vibration monitoring is not occurring. Note that payments for monitoring will be withheld until such time as all Reports have been provided up to the cut-off date for the progress payment.

The Contractor is advised that the tender items "Vibration Monitoring" will not be considered a Major Item in accordance with GC1.04 and so the provisions of GC8.01.02.01) a) and b) will not apply to this item.

7.0 Basis of Payment

Vibration Monitoring Plan – ITEM Vibration Monitoring – ITEM

Payment at the contract price for the above item shall be full compensation for all labour, equipment and material required to do the work.

The Contractor shall not make any claims for additional payment for delays because of exceeding vibration limits.

The Contractor shall not make any claims for additional payment for having to adjust their construction operation or to make changes to equipment used onsite to adhere to the vibration limits in this specification.

Qualifications and Experience – General Contractor

GENERAL

The Township of Bonnechere Valley reserves the right to request the General Contractor to demonstrate satisfactory performance in the construction of works that are similar in magnitude and complexity to this project.

The General Contractor **must** provide the requested qualifications and experience information indicated below with their bid submission. The General Contractor shall satisfactorily prove that the mandatory requirements have been met.

Failure to meet the mandatory requirements listed herein will result in the tender being deemed non-responsive and will not be considered for contract award.

The General contractor shall ensure that all mandatory experience requirements are met throughout the contract. Failure to meet the requirements of this specification may, at the sole discretion of the owner, delay the issuance of the commence work order, suspend work in part or its entirety, result in the issuance of the non-performance, result in the issuance of notice of default or other measures deemed appropriate by the owner.

The Township of Bonnechere Valley reserves the right to request additional information from tenderers and shall be the sole judge to whether a bidder meets the requirements of this Special Provision.

The following is to be completed and submitted with The General Contractors' bid submission.

Experience of the General Contractor

The General Contractor must have successfully completed a minimum of three (3) projects of similar magnitude and complexity involving sanitary sewer, storm sewer, watermain and road re-construction on residential streets within the last five (5) years in the capacity of the General Contractor. Failure to meet the requirements will result in the tender being deemed non-responsive and will not be considered for contract award.

Experience of the Project Manager

The General Contractor shall confirm the name and experience of the Project Manager who will have responsibility of the overall management of the project. The Project Manager must have the authority to enter into binding agreements on matters concerning this tender on behalf of the company. The Project Manager's experience shall demonstrate at least three (3) successful construction projects of similar magnitude and complexity managed involving sanitary sewer, storm sewer, watermain and road re-construction on residential streets. Failure to meet the experience requirements will result in the tender being deemed non-responsive and will not be considered for contract award.

Qualifications and Experience – General Contractor

The General Contractor shall also confirm the listed Project Manager will be available for duration of the project. When the Project Manager becomes unavailable during the course of the project, General Contractor must replace the Project Manager with another individual with matching or exceeding experience required for the project.

Experience of the Project Site Superintendent

The General Contractor shall confirm the name and experience of the Site Superintendent to be supervising all operations and activities on site on a full-time basis. The Superintendent's experience shall demonstrate at least three (3) successful construction projects of similar magnitude and complexity supervised involving sanitary sewer, storm sewer, watermain and road re-construction on residential streets with proven experience in dealing with strict construction schedule and high public scrutiny. Failure to meet the experience requirements will result in the tender being deemed non-responsive and will not be considered for contract award.

The General Contractor shall also confirm the listed Site Superintendent will be available for duration of the project. When the Site Superintendent becomes unavailable during the course of the project, General Contractor must replace the Superintendent with another individual with matching or exceeding experience required for the project.

Sub-contractors and Suppliers

The General Contractor shall confirm the name(s) and experience of the sub-contractors and suppliers to be used on the project. Sub-contractors shall have proven experience in the supervision of the scope of work they are required to complete under this contract.

SELECT SUBGRADE MATERIAL (SSM) FOR TRENCH BACKFILL

Amendments to OPSS PROV 212

OPSS PROV 212 shall apply except as may be amended and extended herein.

Acceptability of Excavated Native Material

If in the opinion of the Engineer, the excavated native material is unacceptable as trench backfill material and no other material is made available by the Owner, select subgrade material shall be imported and used as trench backfill. The unacceptable native material shall be disposed of off-site as Excess Soil per SP-002.

If excavated native material is unacceptable as trench backfill material as a direct result of the contractor's operation or handling of the material, select subgrade material shall be imported and used as trench backfill at the contractor's expense.

Stones or rocks larger than 300 mm in its greater dimension shall be excluded for use as backfill material and disposed of as surplus material. Frozen material shall not be used as backfill.

Materials

Select subgrade material (SSM) shall be non-plastic granular or sandy type soil. SSM shall contain not more than a total of 15 percent by mass of glass and/or ceramic material as determined by MTO Test Number LS-609. The total amount of wood shall not exceed 0.1 percent by mass as determined by MTO Test Number LS-609.

Theoretical Measurement

If the bid unit price is in cubic meters, the amount of select subgrade material to be paid shall be determined using the theoretical trench width as per the dimensions specified in the Contract.

Actual Measurement

If the bid unit price is in tonnes, the actual amount of select subgrade material to be paid shall be determined using the weigh tickets.

Basis of Payment

Payment at the bid price for the above item shall be full compensation for all labour, equipment and material required to do the work.

MAINTENANCE HOLE, CATCH BASIN, DITCH INLET, AND VALVE CHAMBER INSTALLATION

OPSS 407 shall apply except as may be amended and extended herein.

407.07 Construction

407.07.06 Excavation, Backfilling and Compacting

Subsection 407.07.08 of OPSS 407 is amended by the addition of the following:

The excavation surrounding the exterior of the maintenance hole, catch basin and valve chambers shall be backfilled with Granular 'A' conforming to OPSS 1010, to a minimum thickness of 300 mm around all sides of the unit.

407.07.10 Precast Structures

Subsection 407.07.12 of OPSS 407 is amended by deleting the last sentence and replacing it with the following:

Precast maintenance hole joints shall have a rubber gasket or other approved precast concrete waterproof sealant. All proposed maintenance holes within the project limits are to be externally wrapped with a waterproof membrane placed externally around all precast joints, including joints below the maintenance hole frame and cover with a minimum 300mm wide strip. All external joint wrapping shall be installed in accordance with the membrane manufacturer's written instructions and recommendations.

Lift holes shall be filled with non-shrink grout and sealed with an approved waterproofing membrane.

All bottom sections of maintenance holes shall be a monolithic base with inlet and outlet openings to suit.

407.07.13 Installation of Inlet and Outlet Pipes into Concrete Structures

Subsection 407.07.13 is amended by the addition of the following:

Drop pipe connections shall be made to maintenance holes where indicated on the Contract Drawings. OPSD 1003.010 or 1003.020 shall apply as specified on the Contract Drawings for gravity sewer connections. OPSD 1003.033 shall apply as specified on the Contract Drawings for internal drop structure connections.

407.07.14 Benching and Channeling

Subsection 407.07.14 of OPSS 407 is amended by deleting the first paragraph and replacing it with the following:

MAINTENANCE HOLE, CATCH BASIN, DITCH INLET, AND VALVE CHAMBER INSTALLATION

The inside concrete bottom of all sanitary maintenance holes shall be benched and channeled to accommodate the pipes installed into them as per OPSD 701.021.

Benching shall be placed to a height of 80 percent of the pipe diameter above the pipe invert.

The end of the pipeline shall be flushed with the inside of the structure wall. Benching in existing maintenance holes shall be altered to accommodate the flow from the new pipeline.

407.07.15 Installation of Adjustment Units

407.07.15.01 Precast Concrete Adjustment Units

Subsection 407.07.15.01 of OPSS 407 is amended by the addition of the following:

Maintenance hole, catch basin, ditch inlet or valve chamber structures shall be constructed or installed so that the surface on which the adjustment is to be built is a minimum of 150 mm below base course asphalt grade.

407.07.16 Installation of Frames with Grates or Covers

Subsection 407.07.16 of OPSS 407 is amended by the addition of the following:

Filter fabric to be placed under all catch basins and maintenance hole covers for temporary sediment control during construction. Filter fabric to be removed following completion of all sewer installations and prior to pipeline cleaning.

407.07.17 Installation of Aluminum Safety Platforms

Subsection 407.07.18 of OPSS 407 is amended by the addition of the following:

All aluminum work embedded in or in contact with concrete shall have two coats of an approved bituminous paint.

Manufacturer shall supply detailed assembly drawings and instructions.

Metal work shall be erected square, plumb, straight and true, and accurately fitted with tight joints and intersections.

407.07.19 Installation of Ladders and Steps

Subsection 407.07.20 of OPSS 407 is amended by deleting the first paragraph and replacing it with the following:

MAINTENANCE HOLE, CATCH BASIN, DITCH INLET, AND VALVE CHAMBER INSTALLATION

Top ladder rung shall be located not more than 450 mm from the final elevation of the top of maintenance hole or hatch cover.

Bottom ladder rung shall be located not more than 400 mm from top of bottom invert.

407.10 Basis of Payment

Subsection 407.10.01 of OPSS 407 shall apply except as may be amended and extended herein.

Payment at the Contract unit price shall be full compensation for all labour, equipment and material required to do the work, including the supply, installation and removal of filter fabric under all catch basin and maintenance hole covers and waterproofing membranes.

PRE-POST CONSTRUCTION CCTV INVESTIGATION OF EXISTING SEWERS

OPSS 409 shall apply, except as amended or extended herein.

OPSS 409 shall be extended with the addition of the following to aid the contractor in completing the Pre and Post CCTV investigations:

Pre-Post Construction Inspection

Prior to commencing construction and upon completion of reinstating base course asphalt, but before applying the final course of asphalt, a pre-post construction CCTV inspection must be completed on the upstream and downstream sewers identified in Tables 1 & 2 below.

Table 1: Sanitary Sewers

Street	Sewer ID Section	Expected Size (mm)	Length (m) (approx.)
Bridge	SANMH1-STSWSS151	200	20
Easement	SANMH7-EXMH upstream	250	70.4
John	SANMH10-SASEMH10(Sewage Treatment Plant)	400	39.5
	Total Length (m)		129.9
	Total Pre and Post Length (m)		259.9

Table 2: Storm Sewers

Street	Sewer Section	Expected Size (mm)	Length (m) (approx.)
John	STSESS-1775 – STSEMH-1765	300	6.5
John	STSEMH-1775 to STSWMH- 1755	300	10.6
John	STSWMH-1755 to STSWSS- 1745	300	15.5
Bridge	STSWSS-1745 to STSWSS1515	300	13.1
John	CB10-STESS-075	400	25
Easement- John Street	MH-STESS-075	400	38.3
John	CB-CB	400	36
John	CB-CB	400	25.7

PRE-POST CONSTRUCTION CCTV INVESTIGATION OF EXISTING SEWER

John	CB-CB	400	48.4
John	CB-CB	400	13.3
John	CB-CB	400	51.5
John	CB-Outlet	400	30.4
		Total length (m)	314.3
		Total Pre and Post Length (m)	628.6

Measurement of Payment

Measurement for payment shall be by linear metre of existing sewer pipes cleaned and televised under the following Contract Item:

“Pre-Post Construction CCTV of existing sewers”

Basis of Payment

Pre-Post Construction CCTV of existing sewers – ITEM

Payment at the contract unit price for the above tender item shall be full compensation for all labour, equipment, material, testing and submittals to do the work as described in the contract for all sewers within the contract limits and surrounding areas

SEWER FLOW MANAGEMENT PLAN

General

The Contractor is required to maintain the sanitary and storm flows during sewer installation in accordance with OPSS.MUNI 491 except as amended or extended herein:

Scope

The Scope of the work addressed in this specification "Sewer Flow Management Plan" shall include the preparation, submission, implementation and monitoring of Sewer Flow Management Plans as outlined in this specification.

OPSS.MUNI 491.07.03, Scope, is extended to state that flow in all sewers shall be maintained at all times with no interruption in services to properties.

Current Provincial Regulations (such as O.Reg. 129/04) require that certain tasks on wastewater equipment or infrastructure that is owned and operated by a municipality, must be carried out by a Ministry of Environment, Conservation and Parks (MECP) a licensed or certified operator, or under direct supervision of a licensed operator, who is physically present to observe the work being carried out. An operator is defined as "*a person who adjusts, inspects or evaluates a process that controls the effectiveness or efficiency of a facility, and includes a person who adjusts or directs the flow, pressure or quality of wastewater within a wastewater collection facility.*"

The Township of Bonnechere Valley will provide the requirements for certified operators for this contract. The Contractor is required to give advance notice of when the work will commence and for any scheduled delays.

The Contractor shall be responsible for construction means, methods, techniques, sequences, and procedures and for coordinating the various parts of their Sewer Flow Management Plans (SFMP).

The Contractor shall prepare and submit a (SFMP) when construction and/or rehabilitation work will take place on in-service sanitary, storm and/or combined sewers and where sewer flow needs to be bypassed to a downstream reach of the same sewer. Discharges to different sewer branches (parallel or upstream) or different sewer systems is not permitted. The Plan shall be in the form of drawing(s) and written description(s) of how the Contractor intends to manage the sewer flow through and around the work zone. By submitting this SFMP the contractor recognizes he is responsible for the validity of the provided data as submitted and consequently he declares that those same data reflect reality. He declares he used those data, as presented, to establish the pumping requirements for each SFMP as declared. Should any problem arise, the contractor takes full responsibility for all misinterpretation, miscalculation, and consequently inappropriate pumping set-up that would have initiated the problem in question. **By submitting the SFMP, the Contractor**

SEWER FLOW MANAGEMENT PLAN

confirms that he has visited the site and confirmed the size and configuration of all affected MH's.

By submitting the SFMP, the Contractor ensures that the proposed SFMP takes the following into account:

- Ability of MH to physically accept the number of pumps including potential requirement to remove MH frame to access
- by-pass location including potential required tie-in to MH and any implication to traffic (lane reductions/lane closures)
- different locations, site within one project
- opportunities to manage flows, risk and cost through time of day, time of year, weather or other restrictions
- opportunities to manage flows through in-pipe diversions
- concurrent discharges/permmissible maximum discharge rates
- ability to ensure that that the flow in all sewers shall be maintained at all times with no interruption in service to properties
- ability to ensure that the flow through all storm and sanitary sewer service connections is maintained at all times

The SFMP shall include, and not necessarily be limited to:

- Project Description including contract number
- Reason for required flow management
- Description of the flow management setup (*Gravity Downstream By-pass/ Pumped Downstream By-pass/in line works*)
- Structural assessment (*are modifications to the existing infrastructure required to enable by-pass operation?*)
- By-pass routing drawing based on sewer by-pass locations as detailed by the designer
- Capacity assessment (*ex.: are selected pumps adequate considering the dry and wet weather flows*)
- Pump Curves
- Duration of the flow management operation (Dates and times, from and to)
- Equipment monitoring
- Equipment maintenance (*especially for long duration pumping*)
- Freezing protection system
- Public protection system
- Noise mitigation
- Remote monitoring system (*ex: is there a need for monitoring upstream – either visually or with flow monitoring equipment?*)
- Emergency procedures including wet weather contingencies
- Spill response procedures

SEWER FLOW MANAGEMENT PLAN

- Emergency 24 hour contact information and escalation procedures

Submissions, Monitoring, and Repair

Two (2) weeks prior to commencing the sewer bypass, the Contractor shall submit one electronic (.pdf) copy of each Sewer Flow Management Plan (SFMP) to the Contract Administrator. The Contractor acknowledges that revisions to the Plans may be necessary.

The Plans shall show each sewer section where bypass pumping is to occur, including bypass operation start and end dates, labelling of upstream and downhole maintenance holes, the description of pumping operations, pump details including make, model of suction or submersible pump. The plan shall demonstrate measures being taken to prevent sanitary, storm or combined sewage backups. A separate Plan is required for each sewer flow management operation, in order to ensure site specifics are addressed.

The Contractor shall ensure that all workers, including sub-contractors, in the Working Area are aware of the importance of the SFMP measures.

The Contractor shall be required to review and modify the SFMP for errors, omissions, deficiencies, or because of any new conditions that are identified and not previously addressed within the document.

The Contractor shall immediately repair, replace or otherwise make good the practice deemed unsafe or non-compliant when the Contract Administrator or Certified Operator, makes the Contractor aware of any violation of the SFMP (or applicable regulations).

A standby pump is required at all times during the pumping operation. The Contractor is required to have staff onsite at all times during bypass operations, including overnight pumping.

Contractors are required to contact the Township before pumping begins and after pumping ends

It is the responsibility of the Contractor to ensure that all necessary training has been provided prior to commencement of the work.

The Contractor shall inform the Contract Administrator of any schedule delays.

The Contractor shall inform the MOE and the Contract Administrator of any spills that occur during pumping. Spills that occur in an open excavation are considered reportable spills.

At no time shall the contractor be permitted to temporarily divert any sanitary water into the storm system or storm water into the sanitary system.

SEWER FLOW MANAGEMENT PLAN

The Township of Bonnechere Valley through the Contract Administrator will accept the submission of the SFMP, and review it to identify any errors, omissions, or improvements that the Municipality staff is aware of, as it relates to operations, maintaining public safety and mobility.

The acceptance and review of the SFMP by the Contract Administrator will make no representation and/or warranty that the document is accurate, complete, or compliant with all applicable legislation. Any errors, omissions or deficiencies within the SFMP will remain the sole responsibility of the Contractor. The proposed sewer construction activities shall not commence, until the Contract Administrator has reviewed the SFMP, and the Contractor has addressed all comments to the satisfaction of the Contract Administrator. The Contractor is to allow a three (2) week turnaround time for review after the submittal of a properly completed SFMP. The review period excludes time required for addressing incomplete submittals or revisions as identified by the Contract Administrator and/or operator at time of submission.

The Contract Administrator reserves the right to ask for revisions to the SFMP at submission time, or reject it if the Plans do not meet the Contract language. In addition, the Contract Administrator reserves the right to instruct the Contractor to revise the SFMP at any time during the Contractor's execution of the Plans, when the Contract Administrator finds that the Contractor is not providing the commitments shown in the SFMP submission, or the Contractor's SFMP proves to be insufficient to address the field conditions. The Contractor shall not claim for delays associated with the requirement to revise a SFMP.

The Contractor shall be responsible for any back-ups, basement flooding incidents or environmental spills. All clean up and restoration in the event of such occurrences shall be at the Contractors cost

Notification and Inspection

Contractors are required to notify the Contract Administrator who will notify the operator before the pumping begins and after pumping ends.

Pre inspection and post inspection notification requirements are detailed below. A sample inspection checklist, detailing requirements to be met for both pre and post inspections, is included at the end of this specification.

Pre Inspection

The Contractor shall notify the Contract Administrator within 48 hours of set-up being complete (ie all piping, pumps in place) to allow for pre inspection. Pre inspection will be performed by the Township, in reference to the pre inspection portion of the inspection checklist. Bypass pumping shall not commence until inspected to the satisfaction of the Township

SEWER FLOW MANAGEMENT PLAN

Post Inspection

The Contractor shall notify the Contract Administrator within 48 hours of pumping operations having ceased. Post inspection will be performed by the Township, the operator.

Project Constraints

- At the end of each working day when the Contractor will no longer be on site to monitor bypass pumping, the sewer shall be temporarily reinstated with a gravity hard-piped connection with watertight joints.
- No work is permitted on the storm sewer system (including catchbasin leads) during wet weather (rain, snow melt, etc.).

Existing Flows

The following sewer flows are provided for information purposes from existing sanitary sewer design sheet information and existing peak pump capacities and give an indication of how the system behaves during peak flow conditions. The actual flows experienced during construction will depend on other factors, such as the actual weather conditions experienced during construction.

Street	Peak Flow (L/s)
John Street	
200mm dia SAN upstream of SANMH1 including Raglan Street Pumping Station flow	23.1
150mm dia Forcemain upstream of SANMH1	24.0
75mm dia Forcemain upstream of SANMH1	12.0
250mm dia sanitary sewer upstream of SANMH7	17.8

Irrespective of the flows provided, the Contractor is still be required to make their own assessment of actual flow conditions prior to submitting their SFMP, taking into account the theoretical maximum flow of the pipes.

Measurement for Payment

The tender item "Sewer Flow Management Plan" shall be paid as a lump sum item.

Basis of Payment

SEWER FLOW MANAGEMENT PLAN

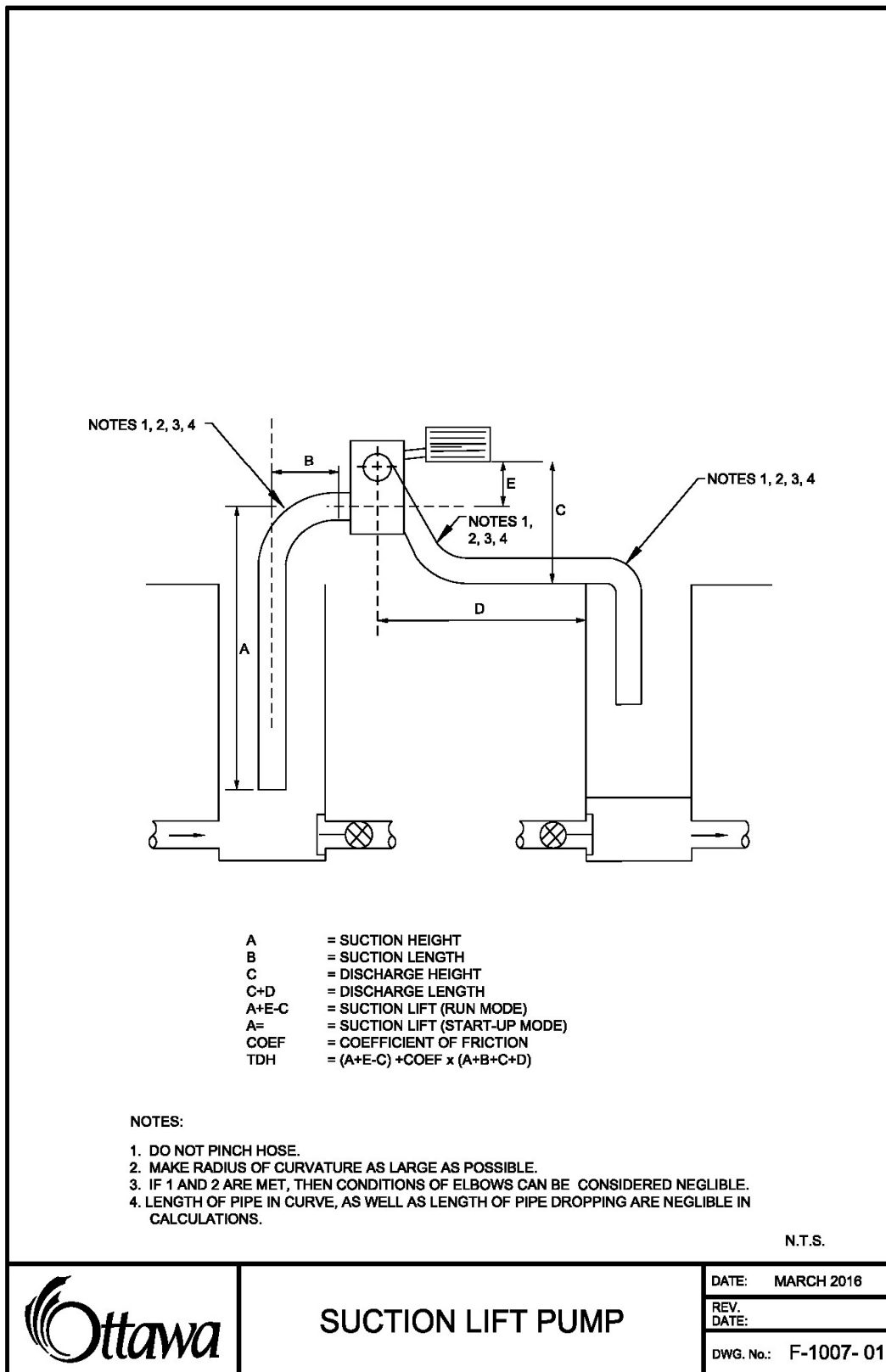
Payment for the contract lump sum price for the item “Sewer Flow Management Plan” shall be full compensation for the plan preparation and implementation of the Sewer Flow Management and bypass and shall include all labour, equipment and materials to supply, construct, monitor and maintain all sewer flow and bypass measures. Payment shall be based upon the following schedule:

- a) 25% upon satisfactory submission of the first Sewer Flow Management Plan.
- b) 75% pro-rated into equal payments over the term of the contract.

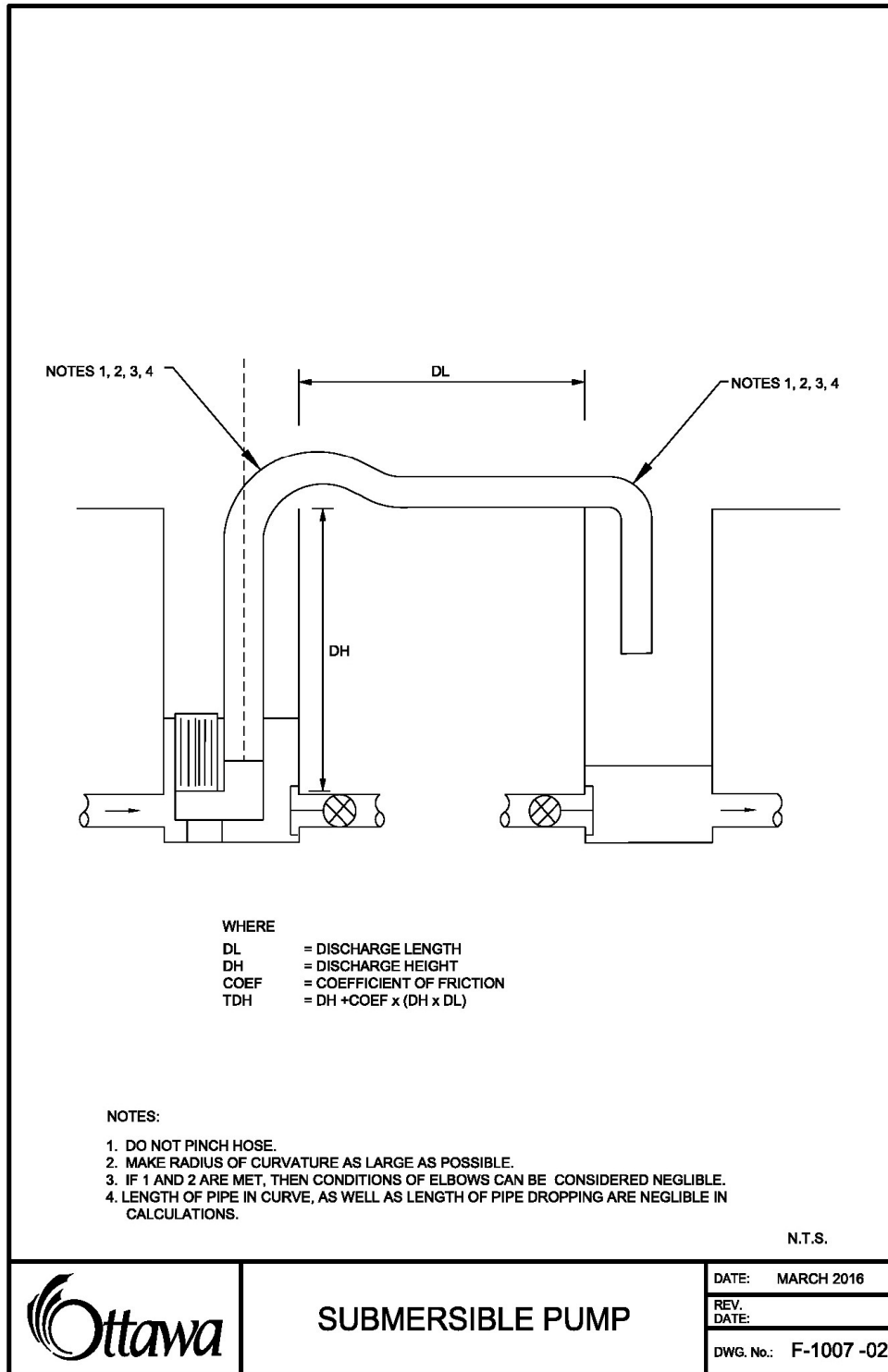
No additional payment will be made for required revisions to the submitted plans as per comments provided by the Contract Administrator.

This payment schedule may only be modified as agreed upon in writing between the Contractor and the Contract Administrator.

SEWER FLOW MANAGEMENT PLAN



SEWER FLOW MANAGEMENT PLAN



TEMPORARY POTABLE WATER SUPPLY SERVICES

OPSS 493 Temporary Potable Water Supply Services is amended with the following special provisions except where specifically noted.

TABLE OF CONTENTS

493.01	SCOPE
493.02	REFERENCES
493.03	DEFINITIONS
493.04	DESIGN AND SUBMISSIONS REQUIREMENTS
493.05	MATERIALS
493.06	EQUIPMENT – Not Used
493.07	CONSTRUCTION
493.08	QUALITY ASSURANCE – Not Used
493.09	MEASUREMENT FOR PAYMENT – Not Used
493.10	BASIS OF PAYMENT

493.01 SCOPE

This specification covers the requirements for the installation of the temporary watermains, service connections, and associated appurtenances to supply potable water prior to disconnecting service of an existing watermain on a temporary basis.

493.02 REFERENCES

This specification refers to the following standards, specifications, or publications:

ONTARIO PROVINCIAL STANDARD SPECIFICATIONS, CONSTRUCTION

OPSS.MUNI 206	Grading
OPSS.MUNI 441	Watermain Installation in Open Cut
OPSS 493	Temporary Potable Water Supply Services

CITY OF OTTAWA

Standard Tender Documents Volume No. 1 Construction Specifications

Standard Tender Documents Volume No. 2 Material Specifications and Standard Detail Drawings

CSA STANDARDS

B64.5-94	Double Check Valve (DCVA) Backflow Preventers [Part of B64 Series-07, Backflow Preventers and Vacuum Breakers Compendium]
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TEMPORARY POTABLE WATER SUPPLY SERVICES

AMERICAN WATER WORKS ASSOCIATION (AWWA)

C510-07 Double Check Valve Backflow Prevention Assembly

C651-14 Disinfecting Water Mains

ASTM INTERNATIONAL

D 1784-11 Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds

D 2241-15 Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)

D 3139-98 (2001) Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals

F 477-14 Elastomeric Seals (Gaskets) for Joining Plastic Pipe

NSF INTERNATIONAL

61-2014a Drinking Water System Components - Health Effects

493.03 DEFINITIONS

For the purpose of this specification, the following definitions apply:

Associated Appurtenance means structures, devices, and appliances, other than pipe and conduit that are used in connection with a water distribution system, such as valves, hydrants, corporation cocks, services, and thrust restraints.

Excavation, Earth and Rock means the excavation classified as earth and rock according to OPSS.MUNI 206 and as amended by City of Ottawa S.P. No. F-4031 Rock Excavation for Sewers and Watermains.

ICI means industrial, commercial or institutional.

Temporary Hydrant means temporary fire hydrant and all associated temporary appurtenances.

Temporary Potable Water Supply Services means temporary watermains, services, hydrants, and all associated appurtenances installed on or just below the ground surface for the purpose of providing potable water to customers while the existing watermain is out of service, including the temporary watermain and the temporary service.

Temporary Services means temporary potable water supply services installed on or just below the ground surface for the purpose of providing potable water to customers

TEMPORARY POTABLE WATER SUPPLY SERVICES

while the existing watermain is out of service. This defines the portion that is from the temporary watermain to the customer’s connection point.

Temporary Watermain means temporary potable water supply hose or pipe installed on or just below the ground surface for the purpose of providing potable water to temporary services and temporary fire hydrants while the existing watermain is out of service.

Temporary Watermain Source means a dedicated stack from a live watermain or an existing live hydrant.

Watermain means an installation designed for the conveyance of water under pressure using circular pipe.

493.04 DESIGN AND SUBMISSION REQUIREMENTS

493.04.01 Contract-Specific Design Basis

The following information is provided to assist the Contractor with developing their Temporary Potable Water Supply Services Plans (TPWSSP):

Design Basis

- a) Plan of area for temporary water

John Street within the project limits per the IFT Drawings

- b) Estimate of the approximate length of temporary watermain to be provided in Contract Documents – actual length will vary depending upon Contractor’s proposed phasing

Street Name	Length of Temporary Watermain
John Street	+/- 405 m on north side (64 mm flexible fire hose) +/- 435 m on south side (64 mm flexible fire hose)
Total	+/- 840 m 64 mm diameter flexible fire hose

- c) Number of dwellings and type

Street Name	Number and Type of Dwellings
John Street	19 residential dwellings 1 Apartment Building 6 Business Buildings

TEMPORARY POTABLE WATER SUPPLY SERVICES

d) Larger Water Services:

160 John Street: 38mm diameter existing water service

177 John Street: 38mm diameter existing water service

e) Connection of temporary water services to homes (existing hose bib, new hose bib, excavation to existing service) – identification of vacuum breaker hose bibs. Connections to existing hose bibs is to be made for all properties as available. Wherever connections to existing hose bibs is not available, a new hose bib shall be installed or an excavation to the existing service shall be made. Excavation for existing services has been estimated and included in the contract items list

f) Source connections and stacks – Location and quantity

John Street

- i. *At the project limits along John Street and Bridge Street, west of the existing valve.*

g) Location of backflow preventers

Backflow preventers to be used at every source connection listed above.

One (1) anticipated location. Actual location will depend on the Contractor's proposed layout.

h) Road and driveway crossings identified

Pipe to be buried at each roadway crossing and ramped at driveway crossings.

i) Temporary watermains

- i. Material – hose or rigid pipe: *64 mm diameter (min) flexible fire hose per the following:*
- *Hose lining must not transfer odour, taste or any substances to the water which result in a condition that would exceed the Ontario Drinking Water Quality Standards.*
 - *Hose to be 64mm in diameter, 15.2m in length and come complete with aluminium couplings with threads meeting CSA standards. Hose to be rated to withstand 1035 kPa .*

TEMPORARY POTABLE WATER SUPPLY SERVICES

- *Fire hose jacket to be abrasion resistant, either double jacket or specially coated and be capable of being driven over by vehicles periodically during the day without short term effects.*

ii. Pipe diameter

See (i) above.

iii. One side of street or both

Both sides of the street

iv. Is there a requirement(s) to bury temporary watermain at locations other than road crossings, sidewalks, driveways and walkways? If so, list additional requirement(s).

No.

j) Is there a requirement(s) for temporary hydrants? If so, list the requirement(s).

No requirements for temporary fire protection on this contract. Out of service hydrants to be clearly identified and marked in the field.

493.04.02 Submission Requirements

The following information shall be submitted by the Contractor to the Contract Administrator, and the areas Fire and Rescue services.

1) Temporary Potable Water Supply Services Plan (TPWSSP) including:

- a) Location of physical separations (cappings) between the live system and the existing watermain.
- b) Connection points to the existing municipal system, including the location and number of nozzles required.
- c) A drawing showing the layout of the temporary potable water supply services and the addresses of affected customers, including a note identifying how each customer's temporary service will be connected. The layout of the temporary watermains shall avoid creating dead-ends unless specified in the Contract Documents.

TEMPORARY POTABLE WATER SUPPLY SERVICES

- d) Location of operating valves that will be used for flushing during the disinfection process.
- e) Location of backflow prevention devices.
- f) Location of the sampling stations (per AWWA C651 – a sampling port every 370m, plus a port at each end of the temporary watermain and at least one from each branch greater than one pipe length).
- g) Location and size of blow-offs.
- h) Locations where the temporary watermain requires protection in accordance with Section 493.07.06 Protection of this special provision.
- i) Locations and list of any fire hydrants that will be placed out-of-service due to the temporary system, including a key plan identifying where the fire hydrants are located. Hydrants used as a source shall be identified as out-of-service.
- j) Proposed schedule and phasing (if any).
- k) Details of all materials to be used as part of the temporary potable water system (see Section 493.05 Materials of this special provision for requirements).
- l) Identify the location of sanitary sewer maintenance holes for the discharge of water.
- m) Swabbing of temporary services plan.

The Contract Administrator will accept the submission of the TPWSSP, and review it to identify any errors, omissions, or improvements related to maintaining potable water supply and Contract-Specific requirements as noted in the Design Basis. The Contract Administrator will also circulate the TPWSSP to the Township for review; the initial TPWSSP requires two (2) weeks for review. The Contractor acknowledges that revisions to the TPWSSP may be necessary, in consultation with the Township; subsequent revisions require one (1) week for review. The TPWSSP shall be resubmitted if changes to the temporary water system are required after the installation of the temporary potable water supply services; subsequent revisions require one (1) week for review.

Any proposed phasing will be subject to additional review and require confirmation by the Contract Administrator.

The Contractor is not permitted to proceed with the installation of the temporary potable water supply services until the TPWSSP is confirmed.

TEMPORARY POTABLE WATER SUPPLY SERVICES

493.05 MATERIALS

493.05.01 General

Fittings shall be suitable for and compatible with the pipe material and class with which they are used.

All materials in contact with potable water shall be NSF/ANSI 61 certified and, if being reused, shall be free of damage and have been used exclusively for potable water services in the past. All materials in contact with potable water shall be stored in clean conditions; the Contract Administrator reserves the right to inspect the Contractor's material storage.

All materials shall be capable of withstanding 860 kPa of pressure and all other conditions of use.

The temporary potable water system is not required to provide fire protection unless specified in the Design Basis.

493.05.02 Temporary Potable Water Supply Services

The pipe, hose, and all other materials used in conjunction with the temporary potable water supply services shall be as follows:

- a) Flexible hose jackets shall be abrasion resistant, either double jacket or specially coated, and be capable of being driven over by vehicles periodically without short term effects.
- b) Hose lining shall be of material that does not impart any taste or odour to the water.
- c) Hose shall come complete with aluminum couplings with threads. Steel couplings will not be permitted.
- d) Rigid pipe shall be made of class 12454-B PVC material according to ASTM D 1784. Material shall have a minimum hydrostatic design stress of 14 MPa.
- e) PVC shall be formulated with impact modifiers, heat stabilizers, and ultraviolet inhibitors.
- f) Pipe extrusion shall meet or exceed all requirements of ASTM D 2241.
- g) Joints and couplings shall be according to ASTM D 3139.
- h) O-rings shall be according to ASTM F 477.

TEMPORARY POTABLE WATER SUPPLY SERVICES

- i) The minimum hose or rigid pipe diameter shall be 50mm for temporary watermains and 19mm for temporary water services unless otherwise specified in the Design Basis.
- j) As of February 1, 2021, as per MECP regulations, only Reduced Pressure Principle Assembly (RP) type backflow preventors are to be used on the temporary water supply system and throughout the watermain commissioning procedure. The use of the previously accepted Double Check Valve Assemblies backflow preventors will no longer be allowed. Reduced pressure type assembly shall be according to CSA B64.4, CSA B64.10.1 and AWWA C511. Backflow preventers shall be installed, maintained, and field-tested in accordance with the latest edition of CAN/CSA-B64.10. The backflow prevention device must be certified by a certified tester and the certification must be submitted to the Contractor Administrator prior to use. If the backflow prevention device is installed on a hydrant, a stand shall be used to support the weight of the backflow unit to limit any potential damage to the hydrant.

493.05.03 Valves

Valves shall be according to OPSS.MUNI 441.

493.05.04 Temporary Hydrants

Temporary hydrants are not required unless specified in the Design Basis.

493.07 CONSTRUCTION

493.07.01 General

Written notices to all affected property owners shall be distributed by the Contractor approximately 24-48 hours prior to any disruption of water service as a result of the temporary by-pass. Contractor to notify Contract Administrator a minimum of 72 hours in advance prior to any disruption of water service.

All labour and materials for the installation and maintenance of the temporary potable water supply service shall be supplied by the Contractor, as required. Connection of the temporary water system to the existing distribution system is to be completed by the contractor under supervision of Township staff.

Temporary water services shall be connected to the temporary watermain for each single residential unit or other building by the Contractor.

Connection to the private plumbing system of a residential unit shall be via a wye at an outside hose bid with valves on two (2) sides of the wye. Connection of single residential

TEMPORARY POTABLE WATER SUPPLY SERVICES

units in series is not permitted. Each temporary water service shall have its own valved connection at the temporary watermain.

The temporary watermain shall have an isolation ball valve installed every fifty (50) meters or less to reduce potential limits of impacts to services in the event of a leak/break.

Connection to ICI buildings shall be as specified in the Design Basis.

An adequate water supply shall be available at all times. In the event of a temporary water service failure, the Contractor shall immediately notify the Contract Administrator so that it can be repaired by the contractor; repair costs will be paid to the Contractor.

Care shall be exercised during the installation of temporary potable water supply services to avoid contamination of the services.

Temporary servicing installations will not be permitted during freezing weather, unless directed by the Contract Administrator. Temporary watermains or temporary water services in operation during freezing weather will be protected from freezing. Temporary service pipes no longer in use shall be removed or drained after existing services are restored, as directed by the Contract Administrator.

493.07.01.01 Coordination

The Contractor shall coordinate through the Contract Administrator at least two (2) business days in advance of commencing any works which require inspection by a Township representative. :

1. The Contractor provides applicable labour, material, and equipment at the scheduled start date and time.
2. Any required changes to the scheduled start date and time must be communicated to the Contract Administrator who will take appropriate action.

493.07.01.02 Installation

The Contractor shall assemble the temporary watermain and the temporary services ensuring sufficient length to the source and the customer's connection point.

The ends of the temporary watermain shall be capped when arriving on site and kept capped until placed in use.

To maintain the quality of the water and prevent stagnate water, the temporary watermain must utilize a low flow bleeder hose after commissioning.

The connection of the temporary water source shall be located in a secure location and be vandal and tamper resistant. The Contractor shall supply and install a backflow preventer at this location. A backflow preventer is required to separate the two systems as long as the temporary system is in service.

TEMPORARY POTABLE WATER SUPPLY SERVICES

The relocation of the temporary water system either in whole or in parts by any means without conducting and passing the chlorine residual and bacteriological requirements shall not be permitted; relocation is defined as depressurizing and moving the pipework in order to service other water users. Any section of the temporary watermain that requires relocation must undergo the complete commissioning process including chlorination and bacteriological sampling.

When excavation is required to provide temporary services, the Contractor shall provide all labour and equipment to assist installation.

The Contractor will perform any repairs to the temporary potable water supply service at their own expense.

493.07.02 Temporary Watermains

The minimum inside pipe diameter shall be 50mm for temporary watermains unless otherwise specified in the Design Basis. The temporary watermain shall be of a size to provide adequate water supply during peak demand of connected users.

At any connection of a temporary watermain to the water supply and distribution system a double check valve backflow preventer, or reduced pressure type assembly, shall be installed. Existing fire hydrants may be used as a source for the temporary water supply system. Source connections shall be as specified in the Design Basis.

493.07.03 Temporary Potable Water Supply Services

Temporary potable water supply services for single residential units shall be a minimum of 19mm inside diameter unless otherwise specified in the Design Basis. Temporary potable water supply services for other users, including flow to maintain fire protection systems, shall be as specified in the Design Basis.

The temporary potable water supply service connections shall be valved near the point of connection to the temporary watermain and also valved near the point of connection to a private plumbing system so that both the temporary watermain and the temporary services may be disinfected.

493.07.04 Hydrants

An "Out of Service" sign shall be placed by the Contractor on every hydrant taken out of service as a result of the temporary system. The "Out of Service" sign shall not be removed until the hydrant is placed back in service.

If specified, temporary hydrant(s) and the necessary valves and fittings shall be installed and maintained according to the Design Basis.

Before permanently shutting down the existing watermain, the temporary hydrants shall be tested to ensure that they are in proper working order.

TEMPORARY POTABLE WATER SUPPLY SERVICES

Once in use, the temporary hydrants shall be maintained until the existing or new hydrants are restored to service.

All temporary hydrants shall have reflective tape on the barrel for increased visibility. The temporary hydrants shall stand in an upright position at all times and clear access to the temporary hydrants shall be maintained at all times.

493.07.05 Valves

Valves shall be installed at each branch of a temporary watermain.

493.07.06 Protection

In general, the temporary potable water supply pipe shall be laid where it causes the least obstruction and is least likely to be damaged.

When temporary watermains and bleeder hoses cross over the roadway, the asphalt pavement shall be saw-cut and removed and the temporary watermain shall be buried using hot mix asphalt or alternatively asphalt grindings where approved by the Contract Administrator. Under no circumstance is a pipe/hose road crossing to remain open and unprotected from vehicular and pedestrian traffic. If a concrete road base exists, it shall not be disturbed and the pipe/hose shall be protected using asphalt padding (or an approved equivalent) over the pipe. A polyethylene sheet (or an approved equivalent) shall be placed as a barrier on the concrete road base.

On full right-of-way reconstruction projects, installed temporary potable water supply service pipe/hose shall be buried at all sidewalks, driveways, and walkways.

On projects where the road surface is not being reconstructed, the temporary watermain and temporary service pipe/hose shall be buried at all road crossings. Where temporary watermains or temporary services cross a driveway or a sidewalk, the pipe/hose shall be protected by using asphalt or granular padding (or an approved equivalent) over the pipe. A polyethylene sheet (or an approved equivalent) shall be placed as a barrier on concrete or interlocking driveways. All work performed and material used shall be to the satisfaction of the Contract Administrator.

The Contractor shall protect the temporary potable water supply services installed at all road, sidewalk, driveway, and walkway crossings for the duration of the construction schedule. The work of protecting the temporary watermain and services shall include saw-cutting, earth excavation, backfill, asphalt reinstatement, and ramping material required and as directed by the Contract Administrator.

The Contractor shall provide adequate signage at locations where hoses are exposed and may present a public safety hazard, such as where blow-off hoses are discharging to catchbasins. Safety flashers and barricades, as may be required, shall be furnished

TEMPORARY POTABLE WATER SUPPLY SERVICES

and maintained. In general, the temporary potable water supply service pipe/hose shall be laid where it causes the least obstruction to the public and is least likely to be damaged.

493.07.07 Leakage Testing

The temporary potable water supply service shall be watertight.

The Contractor shall complete a leakage test of the completed installation of all Temporary watermains and Temporary potable water supply services including all service connections, valves and hydrant installations. The leakage test shall be completed at the expected operating pressure.

Leakage testing shall be conducted in the presence of the Contract Administrator upon completion of the temporary watermain, including services. All leaks shall be repaired by the Contractor prior to covering the pipe/hose. Additional visual leakage inspections shall be required on a weekly basis by the Contractor. If damage, loss of pressure or leaks are found in the temporary water system, the Contractor is to notify the Contract Administrator immediately.

493.07.08 Flushing, Swabbing and Disinfecting Temporary Watermains and Services

The Contractor shall swab the Temporary Watermains prior to disinfection and bacteriological sampling.

The Contractor shall perform the disinfection of the complete temporary potable water supply service per AWWA C-651 under supervision of Township staff, referred further herein as the operator. The temporary watermain and the temporary water services, including any hydrants used for source water supply, will be disinfected at the same time. The temporary potable water supply service system cannot become operational until the operator has confirmed sampling.

Regular sampling and testing for chlorine residual shall be carried out by the contractor,. Should the water quality deteriorate during the operation of the temporary potable water supply service system, the operator shall direct and supervise the Contractor until such point that the water quality has been rectified to the satisfaction of the operator. The Contractor shall be responsible for all costs associated with the rectification work.

493.07.09 Operation and Maintenance of Temporary Potable Water Supply Services

Repairs or replacements of the temporary potable water supply services system are to be completed by the contractor.

The Contractor shall provide a 24 hour contact for repairs to the temporary potable water supply services system, who will facilitate and support any necessary repairs.

TEMPORARY POTABLE WATER SUPPLY SERVICES

493.07.10 Removal of Temporary Potable Water Supply Services

The Contractor shall close the temporary watermain source and remove the temporary water service from the customer's connection point and the temporary watermain source.

Temporary potable water supply services may be utilized from approximately mid-April, subject to favourable weather conditions. The installation of temporary potable water supply services after September 30th will not be permitted. All service transfers from the temporary water supply shall be completed by approximately mid-October to allow for complete removal of the temporary water supply before freezing conditions. The Contractor shall take all necessary measures to protect the temporary potable water supply services from freezing. Any costs associated with frozen temporary potable water supply services will be charged to the Contractor. Any variation from the schedule above must be approved by the Contract Administrator.

493.07.11 Management of Excess Material

Management of excess material shall be according to the Contract Documents.

All chlorinated water used for testing, flushing, or disinfecting watermains shall be directed to an acceptable outlet in a manner that meets the requirements of all applicable regulations. The method of disposal of chlorinated water is subject to the approval of the Contract Administrator. The Contractor shall obtain a sanitary sewer use agreement from the operator before discharging chlorinated water to the sewer system; all costs associated with obtaining the sanitary sewer use agreement shall be borne by the Contractor.

493.10 BASIS OF PAYMENT

493.10.01 Temporary Potable Water Supply Services (All Inclusive) –

Payment at the Contract price for the above tender item shall be full compensation for all labour, equipment, and material to do the work. All costs associated with the temporary potable water supply service system are deemed to be included in the above tender item.

Payment shall be based upon the following schedule:

- a) 20% upon satisfactory submission and approval of the Temporary Potable Water Supply Services Plan;
- b) 30% upon satisfactory supply, installation (of both the temporary watermain and the temporary services, regardless of how the temporary services are connected to the Customer's connection point), flushing, leakage testing, disinfecting, connections and testing of the temporary potable water supply service system;
- c) 40% pro-rated into equal payments over the term of the Contract; and

TEMPORARY POTABLE WATER SUPPLY SERVICES

- d) 10% upon successful completion and removal of the temporary potable water supply services, including reinstatement of all road cuts per the Contract Documents.

This payment schedule may only be modified as agreed upon in writing between the Contractor and the Contract Administrator.

Removal or draining of the temporary potable water supply service system during freezing weather and its subsequent return to service shall be at no additional cost to the Owner.

CONSTRUCTION SPECIFICATION FOR TOPSOIL

Amendments to OPSS 802

OPSS 802 shall apply except as may be amended and extended herein.

802.07 Construction

802.07.03 Placement of Topsoil

Subsection 802.07.03 of OPSS 802 is deleted and replaced by the following:

Native topsoil shall be placed to a uniform depth of 100 mm over any disturbed landscaped areas.

SECTION E
OPS GENERAL CONDITIONS OF CONTRACT



**Ontario Provincial Standards
for
Roads and Public Works**

**OPSS.MUNI 100
November 2024**

OPS MUNI GENERAL CONDITIONS OF CONTRACT

The Contractor acknowledges that the general conditions of this contract are the OPSS General Conditions of Contract (OPSS MUNI 100) dated November 2024. It is the responsibility of the Contractor to ensure that they have the correct document.

SECTION F

GEMTEC CONSULTING ENGINEERS AND SCIENTISTS LIMITED

1. Geotechnical and Hydrogeological Investigation –Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.
2. Soil Characterization Report – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.
3. Assessment of Past Uses – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.
4. Sampling and Analysis Plan – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.
5. Excess Soil Destination Assessment Report – Infrastructure Upgrades Project, Eganville, Ontario, Project No. 101260.004.