

The Town of Plympton-Wyoming
546 Niagara Street
Wyoming, ON
N0N 1T0

April 29, 2024

Your Worship and Councillors:

Re: Maple Street Drain

In accordance with your instructions, M. Gerrits Consulting Inc. has undertaken an examination of the Rae Drain, with respect to extending a drain along Maple Street to the Gander lands. The work is located in Part of Lot 14, Fronting Lake Huron, in the Town of Plympton-Wyoming.

Authorization Under the Drainage Act

This Engineer's Report has been prepared, under Section 4 (1b) of the Drainage Act, as per the request of an affected landowner.

Existing Reports

Two known reports were authored on the Rae Drain. The following is a brief summary of the reports:

J. A. Monteith, P.Eng. prepared a drain report, dated May 1963, for the Rae Drain. The report included constructing a Queen Street outlet to Errol Creek.

J. A. Monteith, P.Eng. prepared a drain report, dated December 1984 for the Rae Drain. The report included a plan and a profile for the drain. The drain extended from Errol Creek, approximately 971m, east along the south limit of the Queen Street Road allowance. The report included the lands on Maple Street, Spruce Street and Maitland Street, which were not part of the 1963 report.

The Rae Drain was extended approximately 60m east to residential lot that fronts onto Queen Street and Flemming Road; however, the extension was not completed under a drain report.

Existing Conditions and Investigation

Maple Street is not currently serviced by a storm sewer or a Municipal Drain. Lands within the proposed Maple Street Drain watershed do not have an outlet for water. Water currently sheet flows to the Rae Drain.

Drain Classification

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), Agricultural mapping, and the 2004 St. Clair Regional Conservation Authority (SCRCA) classification mapping, have not rated the Rae Drain.

On Site Meeting

A site meeting was held on October 6, 2023 at 6908 Maple Street. The following attended the meeting:

Elizabeth Cummings – Town of Plympton-Wyoming

Councillor Van Klavern – Town of Plympton-Wyoming

M. Gerrits – M. Gerrits Consulting Inc.

W. Bartlett – Landowner

G. Jamieson – Landowner

G. Gander – Landowner

R. Nauta – Landowner

M. Chmielewski – Landowner

The following is a brief summary of the meeting.

- M. Gerrits completed a brief overview of the Drainage Act.
- M. Gerrits informed all that the Gander lands at 6905 and 6908 Maple Street have requested drain improvements within the road allowance, to better control surface water. Adjacent landowners have been invited to this meeting to determine if there are drainage problems, or connections that need to be addressed as part of this report.
- M. Gerrits informed landowners a Meeting to Consider the Report will be held, and Landowners can formally ask questions at this meeting, with respect to the design.
- M. Gerrits informed landowners a Court of Revision will be held, where Landowners can appeal their assessment costs.
- G. Jamieson confirmed that both the Jamieson lands (3438 Queen Street) and the Markslag lands (6902 Maple Street), had direct connections the Rae Drain.
- R. Nauta voiced that he was not interested in extending the drain to his lands.
- M. Theberge did not attend the meeting (M. Gerrits contacted her separately after the meeting, to discuss extending the drain to the Theberge property line).
- M. Chmielewski inquired about improvements to the Maitland Street drainage system. M. Gerrits informed landowners that the current request addresses drainage on Maple Street, and if landowners on Maitland Street wanted improvements to the Maitland Street drainage system, they would need to petition for a drain.

M. Gerrits contacted M. Theberge and confirmed that M. Theberge did not want to extend the drain to her property line under this report. M. Theberge was informed that the drain would not be sized to accommodate the Theberge lands, and in the future, if the lands required drainage under the Drainage Act, a new report would be required.

Recommendations

M. Gerrits Consulting Inc. recommends that a new drain report be prepared for a drainage works to be known as the Maple Street Drain. The report includes the following:

- Extend a 200mm Dia. High Density Polyethylene drain 46m north along Maple Street complete with a connection to the Rae Drain, a catch basin at Station 0+042 and storm services to 6905 and 6908 Maple Street.
- Provide future maintenance specifications for the drain.

Design

The drainage works between Station 0-003.5 and Station 0+042 will be located within the Queen Street and Maple Street, road allowances. The proposed tile drain size shall be designed to allow for maintenance. The proposed Maple Street Drain can accommodate flows generated under a 2-year design storm, however; the drain's outlet is restricted by the capacity of the downstream receiver (Rae Drain). The Rae Drain does not appear to have the capacity to convey the 2-year design storm and as such, the Maple Street Drain flows will be restricted, until improvements to the Rae Drain are completed.

Estimate of Cost

It is recommended that the work be carried out in accordance with the accompanying specification of work and profile, that form a part of this report. An Estimate of Cost has been prepared in the amount of \$44,883, which includes engineering fees and an estimated allowance for inspection.

A plan has been prepared, which shows the location of the work and the approximate drainage area. A profile has been prepared, which show the depths and grades of the proposed work.

Assessment

As per Section 21 of the Drainage Act, a Schedule of Assessment for the lands and roads affected by the Maple Street Drain has been prepared.

Lands, roads, buildings, utilities, or other structures that are increased in value or are more easily maintained as a result of the construction, improvement, maintenance, or repair of a drainage works, may be assessed for benefit (Section 22).

Lands and roads that use the drainage works as an outlet, for which the drainage works are constructed or improved, an improved outlet is provided either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek, or watercourse, may be assessed for outlet. The assessment for outlet shall be based on the volume and the rate of flow of the water artificially caused to flow into the drainage works, from the lands and roads liable for such assessments. If, from any land or road, water is

artificially caused by any means to flow upon and injure any other land or road, the land or road from which the water is caused to flow, may be assessed for injuring liability with respect to a drainage works to relieve the injury so caused to such other land or road (Section 23).

The Engineer may assess for special benefit, any lands for which special benefits have been provided by the drainage works (Section 24).

A Schedule of Assessment for the lands and roads affected by the Maple Street Drain has been prepared as per the Drainage Act. assessments may be made against any Public Utility or Road Authority, as per Section 26 of the Drainage Act, for any increased cost for locating, special backfill or construction, or for the removal or relocation of any of its facilities or plants that may be necessary for the construction or maintenance of the drainage works. Items to be assessed under Section 26 shall be tendered separately, and the Utility or Road Authority shall be assessed the actual construction costs, plus the associated overhead, miscellaneous costs, inspection costs, and engineering costs (20% of the construction costs).

Table 1 - Public Utility/Road Authority Assessments under Section 26

Description	Item	Quantity	Unit	Fixed Price (\$)	Estimated Price (\$/m)	Special Benefit Price (\$/m)	Total	Engineering, & Overhead (20%) (\$)	Net H.S.T. (\$)	Total Special Benefit (\$)
<u>Station 0-3.5 to Station 0+16.5 (Queen Street Road Allowance)</u>										
Town of Plympton-Wyoming	Traffic Control	1	1	LS		1200	1200	240	25	1465
Town of Plympton-Wyoming	Remove and Dispose of Asphalt	3	54	sq.m.		5	270	54	6	330
Town of Plympton-Wyoming	Remove and Dispose of Unsuitable Material	4	80	cu.m.		7	560	112	12	684
Town of Plympton-Wyoming	Granular 'B' (Type II)	5	145	t		40	5800	1160	122	7082
Granular 'A' (Dolomite)	Granular 'A' (Dolomite)	6	25	t		40	1000	200	21	1221
Asphalt	Asphalt	7	13	t		350	4550	910	96	5556
Town of Plympton-Wyoming	Locate and Work Around Waterline	9	1	LS		500	500	100	11	611
Town of Plympton-Wyoming	Locate and Work Around Sanitary Sewer	10	1	LS		350	350	70	7	427
Town of Plympton-Wyoming	Locate and Work Around Sanitary Forcemain	11	1	LS		500	500	100	11	611
Hydro One Networks	Work Around Overhead Hydro Utility	12	1	LS		100	100	20	2	122
										\$ 18,109
<u>Station 16.5 to Station 0+12 (Maple Street Road Allowance)</u>										
Town of Plympton-Wyoming	Traffic Control	14	1	LS		250	250	50	5	305
Town of Plympton-Wyoming	Granular 'B'	20	40	t		30	1200	240	25	1465
Town of Plympton-Wyoming	Granular 'A'	21	20	t		45	900	180	19	1099
Town of Plympton-Wyoming	Work Around Water Service	23	1	LS		100	100	20	2	122
Town of Plympton-Wyoming	Work Around Sanitary Sewer	24	1	LS		350	350	70	7	427
Bell Telephone	Work Around Telephone Utility	24	1	LS		350	350	70	7	427
Cogeco Cable	Work Around Cable Utility	25	1	LS		350	350	70	7	427
Enbridge Gas	Work Around Gas Utility	26	1	LS		250	250	50	5	305
Hydro One Networks	Work Around Overhead Hydro Utility	27	1	LS		100	100	20	2	122
										\$ 4,699

The estimated cost of the drainage works has been assessed in the following manner:

- A benefit assessment of \$2,596 has been assessed to all private properties and the road authority.
- The remainder of the drain has generally been assessed as an outlet assessment to upstream properties, based on equivalent hectares.
- The additional cost to work within the road allowance has been assessed as a Section 26 assessment to the affected road authority.
- The cost to work around utilities, has been assessed as a Section 26 assessment to the affected utility.

Allowances

Under Section 29 of the Drainage Act, the Engineer in his report shall estimate and allow in money to the Owner of any land, that it is necessary to use for the construction or improvement of a drainage works, or for the disposal of material removed from drainage works. This shall be considered an allowance for right-of-way. Section 29 allowances will not be provided under this report, since the work includes constructing a drain within existing road allowances.

Under Section 30 of the Drainage Act, the Engineer shall determine the amount to be paid to persons entitled for damage, if any, to ornamental trees, lawns, fences, land and crops occasioned by the disposal of material removed from a drainage works. This shall be considered an allowance for damages. Section 30 allowances will not be provided under this report, since the work includes constructing a drain within existing road allowances.

Access and Working Area

Access to the drain shall be gained from the Queen Street and Maple Street, road allowances.

The working area shall be extended 2m onto private properties at the service locations, to allow the Contractor to extend the services to the property lines.

Restrictions

Following construction, no trees or shrubs shall be planted within the working area, without prior written permission of Council, unless otherwise specified in this report.

Attention is also drawn to Sections 80 and 82 of the Drainage Act, which refers to a landowner's responsibility regarding obstruction of a drainage works, the removal of obstructions in a drain, and the damage caused to a drain by an obstruction.

Maintenance

Upon completion of the work, the drainage works shall be repaired and maintained by the Town of Plympton-Wyoming, under the provisions of the Drainage Act, at the expense of the lands and roads assessed in the Schedule of Assessment, and in the same relative proportion, less any Special Benefit enclosed, until said assessment is varied in accordance with the provisions of the Drainage Act.

Yours truly,



Michael Gerrits, P. Eng.
M. Gerrits Consulting Inc.

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ESTIMATE OF COST

Item Description	Quantity	Unit	Unit Rate	Total
<u>Station 0-3.5 to Station 0+16.5 (Queen Street Road Allowance)</u>				
1 Traffic Control	1	LS	1,200	1,200
2 Remove Topsoil From Road Allowance and Stockpile for Restoration	15	sq.m.	3	45
3 Remove and Dispose of Asphalt	54	sq.m.	5	270
4 Located and Connect to the Rae Drain	1	LS	1,200	1,200
5 Supply and Install 200mm HDPE DR35 Storm Sewer c/w Bedding	20	m	200	4,000
4 Remove and Dispose of Unsuitable Material	80	cu.m.	7	560
5 Granular 'B' (Type II)	145	t	40	5,800
6 Granular 'A' (Dolomite)	25	t	40	1,000
7 Asphalt	13	t	350	4,550
8 Road Allowance Restoration	15	sq.m.	3	45
9 Locate and Work Around Waterline	1	LS	500	500
10 Locate and Work Around Sanitary Sewer	1	LS	350	350
11 Locate and Work Around Sanitary Forcemain	1	LS	500	500
12 Work Around Overhead Hydro Utility	1	LS	100	100
13 Silt Fence (Station 0-003.5)	3	m	150	450
<u>Station 16.5 to Station 0+12 (Maple Street Road Allowance)</u>				
14 Traffic Control	1	LS	250	250
15 Remove Topsoil From Road Allowance and Stockpile for Restoration	78	sq.m.	3	234
16 Supply and Install 200mm HDPE DR35 Storm Sewer c/w Bedding	26	m	200	5,200
17 Supply and Install 200mm HDPE DR35 Storm Sewer Service c/w Bedding	10	m	200	2,000
18 Supply and Install Storm Service Cleanout C/W a Wye	1	ea	560	560
19 Supply and Install CB1 (600mmX 600mm)	1	ea	2,750	2,750
20 Granular 'B'	40	t	30	1,200
21 Granular 'A'	20	t	45	900
22 Road Allowance Restoration	78	sq.m.	5	390
23 Work Around Water Service	1	LS	100	100
24 Work Around Sanitary Sewer	1	LS	350	350
24 Work Around Telephone Utility	1	LS	350	350
25 Work Around Cable Utility	1	LS	350	350
26 Work Around Gas Utility	1	LS	250	250
27 Work Around Overhead Hydro Utility	1	LS	100	100
			Sub Total	\$ 34,354
			Miscellaneous	\$ 750
			Engineering	\$ 6,865
			Certification and Final Assessment Table	\$ 100
			Inspection (Allowance)	\$ 2,100
			Net HST	\$ 714
			Total Estimate	\$ 44,883

Maple Street Drain
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SCHEDULE OF ASSESSMENT

Conc.	Lot or Part	Affected Area (Ha.)	Street Address	Roll No.	Owner	Special Benefit (\$)	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Area (Ha.)
<u>Non-Agricultural Lands</u>										
FLH	Pt. Lot 14	0.10	6908 Maple Street	383534002051900	G. Gander	-	2,596	7,020	9,616	0.20
	Pt. Lot 14	0.05	6905 Maple Street	383534002052300	G. Gander	-	2,596	2,568	5,164	0.10
						-	5,192	9,588	14,780	
					Total Special Benefit	-				
					Total Benefit	5,192				
					Total Outlet	9,588				
					Total - Non-Agricultural Lands	14,780				
<u>Public Lands</u>										
	Maple Street	0.06			Town of Plympton-Wyoming	19,207	2,596	4,699	26,502	0.17
	Sanitary Sewer				Town of Plympton-Wyoming	854	-	-	854	
	Sanitary Forcemain				Town of Plympton-Wyoming	611	-	-	611	
	Water Line				Town of Plympton-Wyoming	733	-	-	733	
	Telephone Utility				Bell Telephone	427	-	-	427	
	Cable Utility				Cogeco Cable	427	-	-	427	
	Hydro Utility (Overhead)				Hydro One Networks	244	-	-	244	
	Gas Utility				Enbridge Gas	305	-	-	305	
						22,808	2,596	4,699	30,103	
					Total Special Benefit	22,808				
					Total Benefit	2,596				
					Total Outlet	4,699				
					Total - Public Lands	30,103				
					Total - Non-Agricultural Lands	14,780				
					Total - Public Lands	30,103				
					Total Assessment	44,883				

Maple Street Drain
Town of Plympton-Wyoming
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SPECIFICATION OF WORK

1. Scope of Work

The work to be included in this specification, includes the tile drain located in the Queen Street and Maple Street, road allowances, in Part of Lot 14, Fronting Lake Huron, in the Town of Plympton-Wyoming.

2. Plans and Specifications

These specifications shall apply and be a part of the construction Contract. This Specification of Work shall take precedence over all plans and general conditions pertaining to the Contract. The Contractor shall provide all labour, equipment, and supervision necessary to complete the work as shown in the plans, and described in these specifications. Any work not described in these specifications, shall be completed according to the Ontario Provincial Standard Specifications (OPSS) and Standard Drawings (OPSD).

Any reference to the Owner contained in these Contract Documents, shall refer to the Town of Plympton-Wyoming, or the Engineer authorized by the Town of Plympton-Wyoming, to act on its behalf.

3. Health and Safety

The Contractor, at all times, shall be responsible for health and safety on the worksite, including ensuring that all employees wear suitable personal protective equipment, including safety boots and hard hats.

The Contractor shall be responsible to ensure that all procedures are followed under the Occupational Health and Safety Act, to ensure that work sites are safe, and that accidents are prevented. In the event of a serious or recurring problem, a notice of noncompliance will be issued. The Contractor will be responsible for reacting immediately to any deficiency, and correcting any potential health and safety risk. Continuous disregard for any requirement of the Occupational Health and Safety Act could be cause for a stop work order to be issued, or even termination of the Contract.

The Contractor shall also ensure that only competent workmen are employed onsite, and that appropriate training and certification is supplied to all employees.

4. Traffic Control and Construction Signage

The Contractor shall be responsible for traffic control, as per the Ontario Traffic Manual Book 7 – Temporary Conditions (latest revision), when working on public road allowances. The Contractor will be required to provide the Engineer with a detailed traffic control plan, one week prior to mobilizing to the site. A copy of the traffic control plan shall be kept on site at all times. The Contractor shall maintain suitable barricades, warning lights, and temporary traffic notices, at their expense, in their proper position, to protect the public, both day and night. Flagmen are the responsibility of the Contractor when working on the road allowance, and when entering or exiting a worksite onto a roadway.

Queen Street cannot be closed to facilitate construction. The Contractor will be required to maintain a single lane of traffic on Queen Street at all times, unless otherwise approved by the Town of Plympton-Wyoming

Pedestrian access should be provided to all properties at all times during construction.

The Contractor shall be responsible for supply, installation, maintenance, and removal of all temporary traffic control signage required on the project.

Following the installation of traffic signage for temporary conditions, the Contractor is responsible to remove, store and reinstate any permanent traffic signage, as required to facilitate the construction process. The Contractor is responsible to reinstate the pre-existing signs and posts, or at the option of the Town of Plympton-Wyoming, reinstall new signs and posts supplied by the Town of Plympton-Wyoming.

5. Workplace Safety and Insurance Board

The Contractor hereby certifies, that all employees and officers working on the project are covered by the Contractor's benefits. The WSIB Clearance Certificate must be furnished prior to the execution of the Contract, and updated every 90 days.

6. Benchmarks

The benchmark locations are identified on the drawing.

The Contractor is required to complete a benchmark loop, prior to construction, to verify the benchmarks. If discrepancies exist, the Contractor must notify the Drainage Superintendent and Engineer, prior to completing any work.

7. Utility Locates

Prior to completing any tile installation, the Contractor shall locate (daylight) all utilities in the working area and adjacent road allowances, and forward the locations and elevations to the Drainage Superintendent, and Engineer for review.

8. Geotechnical Investigation

A geotechnical investigation has not been undertaken within the project limits.

9. Access and Working Area

Access to the drain shall be gained from the Queen Street and Maple Street, road allowances.

The working area shall be extended 2m onto private properties at the service locations, to allow the Contractor to extend the services to the property lines.

10. Locate Existing Drain at Station 0-003.5

The Contractor shall locate the existing Rae Drain at Station 0-003.5, to determine the location and elevation of the existing drain. If the elevation is different from the drawings, the Contractor shall notify the Drainage Superintendent or Engineer, to confirm there will be any changes to the grade of the proposed drain.

11. Removals

Asphalt and unsuitable materials shall be removed and disposed of offsite.

Removals shall be in accordance with OPSS MUNI 510.

12. Strip Existing Channel

Landscaped areas (grassed) within the road allowances that are disturbed as part of construction, shall be stripped of organic matter. Topsoil shall be stockpiled onsite and the material must be used as part of the final restoration.

Stripping shall be in accordance with OPSS 206.

13. Installation of High Density Polyethylene Pipe Drain by Open Cut

The Contractor shall supply, install and backfill the drain. The pipe shall be high density polyethylene (HDPE) smooth wall pipe (320 kPa) with bell and spigot gasketed joints.

It is intended that the proposed tile be located along the edge of the graveled portion of Maple Street. Utility locations and conflicts may require the alignment to be moved by up to 2m to facilitate construction. If the alignment needs to be move more than 2m to facilitate construction, the Contractor must notify the Drainage Superintendent or Engineer, and obtain approval in writing for the realignment.

The bottom of the excavation shall be excavated to the required depth with any over excavation backfilled with granular material or 3/4 inch clear stone. When the pipe has been installed to the proper grade and depth, the excavation shall be backfilled with granular or clear stone from the bottom of the excavation to the springline of the pipe. Care shall be taken to ensure that the backfill on either side of the culvert does not differ by more than 300mm so that the pipe is not displaced. The drain shall be backfilled from the springline to within 100mm of finished grade with excavated material. The top 100mm shall be backfilled with topsoil.

Note that if excavated material is found unsuitable for backfill purposes, then granular material will be required as backfill. Unit prices shall be established in any tender for the disposal of the excavated material and the import of approved granular material at the expense of the drainage works.

All backfill shall be free from deleterious material. All granular bedding material shall be mechanically compacted to 95% standard proctor maximum dry density. All backfill material above the springline shall be mechanically compacted to 95% modified proctor density using appropriate compaction equipment.

The section of drain within the paved portion of the Queen Street road platform, shall be backfilled with Granular 'B' Type 2 material. The backfill shall be placed from the top of the bedding, to within 290mm of the finished grade. The top 290mm of the road shall be restored with 90mm of HL4 Asphalt and 200mm (min) of Granular 'M' (Dolomite) material. Asphalt depths shall match the existing depths. All granular bedding and backfill material including any required fill below the culvert invert, shall be mechanically compacted to 95% standard proctor maximum dry density. The Granular "B" material, shall be mechanically compacted to 98% standard proctor maximum dry density, and the top 200mm of Granular "A" material shall be mechanically compacted to 100% standard proctor maximum dry density.

Laser control shall be used to ensure proper grades. The grades calculated on the profile are to the invert of the tile, with allowances to be made by the Contractor for the wall thickness of the tile and pipe.

The topsoil should be stripped and stockpiled along one side of the working width, and then the area graded to allow the trenching to be carried out. All excavated material, shall be windrowed on the side opposite the trench that the topsoil is stockpiled. After trenching and backfilling operations are complete, the topsoil shall be spread to its original depth.

All areas disturbed by construction, except the material windrowed over the trench, shall be left in a condition suitable for seed. Final levelling or removal of excess material, shall be the responsibility of the property Owner.

The Contractor shall not operate any trenching or backfill equipment, delivery trucks or equipment, pickup trucks or other vehicles along or over the trench during or after construction. The Contractor shall be responsible for any damage caused by any equipment or vehicles operated over the trench. If the Contractor must cross the trench, he will do so in one area.

In order to protect the tile, landowners should not operate heavy equipment over the length of the trench or along the length of the trench for 1 year after construction.

Tile shall be in accordance with OPSS 410.

14. Catch Basins

Cleanouts shall have a wye with a 100mm diameter riser and cast iron cap. Cast iron cap shall be EMCO #DF44 c/w solvent weld bushing or approved equal. Adaptors to be provided as required.

Each cleanout, for a vacant lot or previously unserviced lot, shall be clearly marked with a minimum of 2.0 m of 50 x 100 wooden post. Each cleanout for an occupied property shall be terminated with the cover flush to the surrounding surface.

15. Catch Basins

The catch basin shall be in accordance with the applicable OPSS and OPSD, and shall be installed to the elevations and locations shown on the drawings as follows:

Structure	Station	Tile Dia. (mm)	Inlet (Grate) Elev. (m)	Inlet Pipe Elev. (m)	Outlet Pipe Elev. (m)
CB#1	0+042	600X600	186.80	184.79 (E) (200mm)	184.74 (S) (200mm)

The catch basin shall be square precast concrete structures as noted above. The catch basins shall have a flat top with a herringbone grate in accordance with OPSD 400.0100.

The structures shall be made with the top sections separate from the base sections, in order to allow riser sections to be installed or removed as necessary (i.e. the base section shall not extend for more than 150mm above the top of the highest opening in the base section). The structures shall have a 600mm sump.

The structures shall be set at the final elevation, as directed by the Drainage Superintendent. The structure shall be set on a layer of clear stone. The clear stone shall be extended up to the springline of the inlet and outlet pipe connections.

16. Restoration

Restoration shall be in accordance with the following:

Working Area

- Disturbed areas within landscaped (grassed) portions of the working area, shall be restored with a minimum of 100mm of native topsoil generated on site and seeded.

Queen Street Road Restoration

- HL4 asphalt to be 90mm in depth. The asphalt shall be placed in two lifts. If the existing asphalt thickness is greater than 90mm, additional asphalt will be placed at the direction of the Drainage Superintendent or Engineer.
- Granular 'M' (Dolomite) to be 200mm in depth.
- Granular 'B' Type 2 to be 300mm in depth.

- Disturbed areas shall be restored with native topsoil and seed. Native topsoil is to match existing depths.

Maple Street Road Restoration

- Granular depths to match the existing depths. Native backfill may be used providing it is suitable, free draining material.
- Granular 'A' to be a minimum of 150mm in depth.
- Granular 'B' Type 1 to be a minimum of 300mm in depth.
- Disturbed areas within landscaped (grassed) portions of the working area, shall be restored with a minimum of 100mm of native topsoil generated on site and seeded.

Once the excavations is completed and the required top soil placed, the disturbed areas shall be hand seeded. Application rates are as follows:

- Primary seed (85 kg/ha.) consisting of 50% red fescue, 40% perennial ryegrass and 5% white clover.
- Nurse crop consisting of Italian (annual) ryegrass at 25% of total weight.
- Fertilizer (300 kg/ha.) consisting of 8-32-16.

Excavation shall be in accordance with OPSS MUNI 206.

Compaction shall be in accordance with OPSS MUNI 501.

Topsoil shall be in accordance with OPSS MUNI 802.

Seed shall be in accordance with OPSS MUNI 804.

Granular shall be in accordance with OPSS 1010.

Asphalt shall be in accordance with OPSS MUNI 310.

17. Silt Fence

Light duty silt fencing shall be installed immediately upstream of the existing catch basin at Station 0-003.5, for the duration of construction. The silt fence shall consist of filter fabric, or manufactured silt fence supported with posts.

The light duty silt fencing and accumulated sediment shall be removed, once the disturbed area has been revegetated.

Light duty silt fencing shall be in accordance with OPSS MUNI 805 and OPSD 219.110.

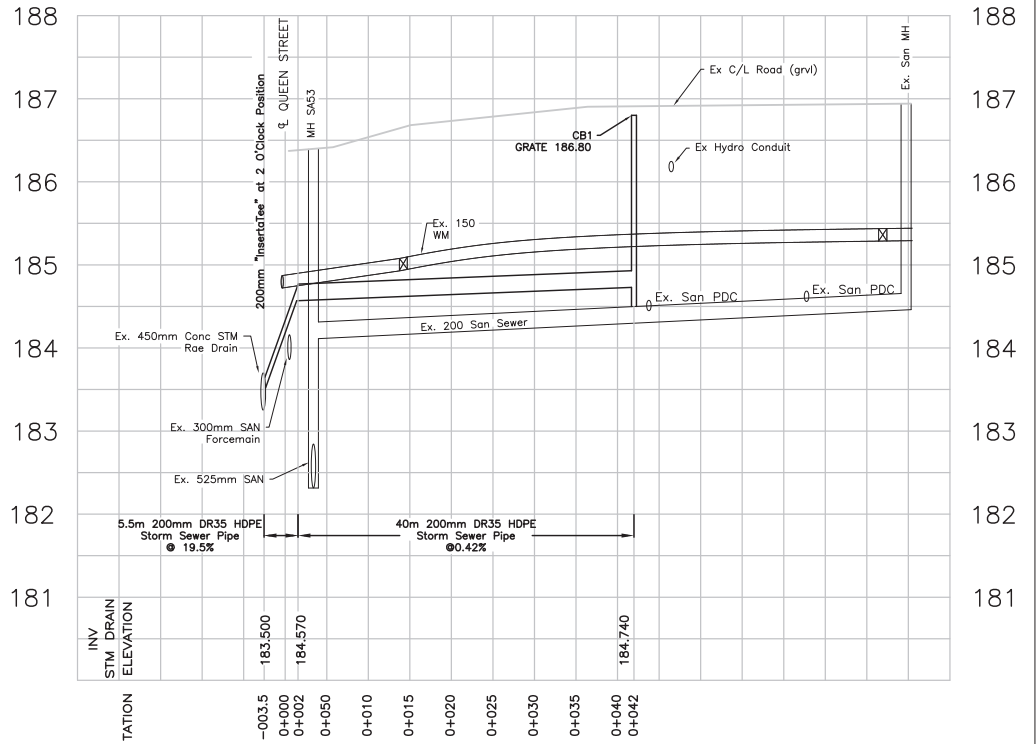
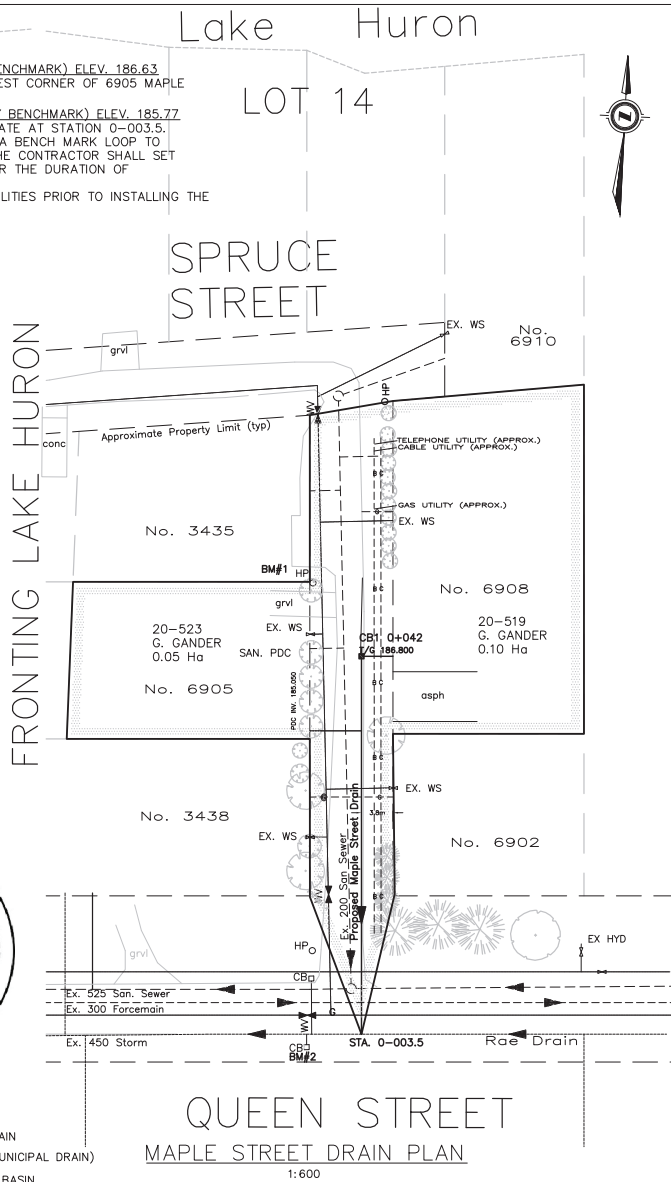
18. Environmental Considerations

The Contractor shall take care to adhere to the following considerations.

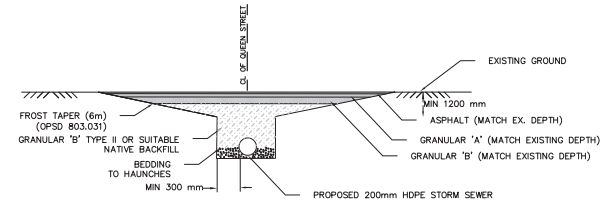
1. All excavated and stockpiled material shall be placed a minimum of 1.5m from closed inlets that enter the drain.
2. All activities, including maintenance procedures, shall be controlled to prevent the entry of petroleum products, debris, rubble, concrete, or other deleterious substances into the water. Vehicle and equipment refuelling and maintenance, shall be conducted away from closed inlets that enter the drain or surface water runs. All waste materials shall be stockpiled well back from surface water runs, and closed inlets that enter the drain.

GENERAL NOTES

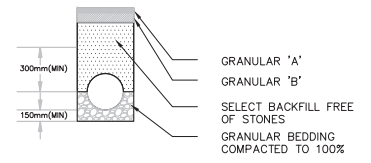
- BENCHMARK #1 (PRIMARY BENCHMARK) ELEV. 186.63 IRON BAR AT THE NORTH WEST CORNER OF 6905 MAPLE STREET (ARN 20-253).
- BENCHMARK #2 (SECONDARY BENCHMARK) ELEV. 185.77 INVERT OF CATCH BASIN GRATE AT STATION 0+003.5. CONTRACTOR TO COMPLETE A BENCH MARK LOOP TO VERIFY THE ELEVATIONS. THE CONTRACTOR SHALL SET THEIR OWN BENCHMARKS FOR THE DURATION OF CONSTRUCTION.
- CONTRACTOR TO LOCATE UTILITIES PRIOR TO INSTALLING THE DRAIN.



MAPLE STREET DRAIN PROFILE
STATION 0-003.5 TO STATION 0+042
1:600



PROPOSED END SECTION
QUEEN STREET
N.T.S.



PIPE BEDDING DETAIL
MAPLE STREET
N.T.S.



- LEGEND**
- DRAINAGE AREA
 - MAPLE STREET DRAIN
 - EX. RAE DRAIN (MUNICIPAL DRAIN)
 - PROPOSED CATCH BASIN



NO	REVISION	DATE	BY
1	FOR REPORT	APRIL 29, 2024	MG

MAPLE STREET DRAIN
TOWN OF PLYMPTON-WYOMING
PLAN, PROFILE & DETAILS

DRAWN	MG
CHECKED	EG
DATE	APRIL 29, 2024
PROJECT NO.	2024-015
SHEET	1 OF 1