M. GERRITS
CONSULTING INC.

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

August 15, 2025

Your Worship and Councillors:

Re: Shea-Ferguson Drain

In accordance with your instructions, M. Gerrits Consulting Inc. has undertaken an examination of the Shea-Ferguson Drain, with respect to replacing two access culverts, incorporating an emergency replacement culvert, providing a future maintenance grade line, and updating the Schedule of Maintenance. The work is located in Part of Lots 21, and 22, Concession 5 and Part of Lots 19, 20, and 21, Concession 6, within the Town of Plympton-Wyoming.

Authorization Under the Drainage Act

This Engineer's Report has been prepared, under Section 78 of the Drainage Act, as per the recommendations of the Drainage Superintendent.

Existing Reports

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

J. C. Monteith, C.E., O.L.S., prepared a report, dated August 1948. The report included improving an existing watercourse, complete with farm bridges. It appears at the time of the report, that the Shea-Ferguson Drain parallelled Michigan Line from the centre of Lot 20, Concession 6, to the center of Lot 18, Concession 5, and then bisected part of lots 16, 17 and 18, Concession 7.

J. A. Monteith, P. Eng., prepared a report, dated May 1972. The report included improvements to the open channel portion of the drain, complete with farm bridges between the centre of Lot 15, Concession 7, and the centre of Lot 20, Concession 6, and a drain extension from the centre of the West 1/2 of Lot 19, Concession 6, to the west limit of Lot 22, Concession 5.

On Site Meeting

A site meeting was held on August 9, 2021 at the intersection of Blue Heron Road and Michigan Line. The following attended the meeting:

Elizabeth Cummings – Town of Plympton-Wyoming
Merrick Van Der Vaart – St. Clair Region Conservation Authority
M. Gerrits – M. Gerrits Consulting Inc.
Greg Atkinson − Landowner
Rob Nutma – Landowner

The following is a brief summary of the meeting.

- Michael Gerrits completed a brief overview of the Drainage Act.
- Michael Gerrits informed all present that the drain extends from the Passingham-Ferguson Drain at Michigan Line, to the east side of the South Plympton Road road allowance, just south of Highway 402.
- Michael Gerrits informed all present, that in August of 2023, the culvert servicing the lands ending with the Area Roll Number (ARN) 30-012 (Atkinson lands) failed and was replaced under Section 124 (Emergency Work) of the Drainage Act. During the replacement of the Atkinson culvert, it was determined that the existing report and specifications did not properly address culvert replacements.
- Michael Gerrits informed all present, that the new report would include incorporating the emergency culvert installed in 2023, future culvert specifications, a future grade line, and updated maintenance schedules.
- Rob Nutma request that the Engineer review the watershed to determine if his lands are in the Shea-Ferguson watershed.

Existing Conditions and Investigation

M. Gerrits Consulting Inc. completed a site visit and survey of the drain. The drain has areas of phragmites, and areas of heavy vegetation, and has a failing culvert at Station 0+990. To date, there has not been a request for maintenance on the drain.

As per a landowners request, M. Gerrits Consulting Inc. completed a review of the watershed limits and determined the R Nutma lands were not in the Shea-Ferguson Drain watershed.

Drain Classification

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), Agricultural mapping, and the 2004 St. Clair Region Conservation Authority (SCRCA) classification mapping, have not currently rated the Shea-Ferguson Drain. The downstream Passingham-Ferguson drain is currently rated as a Class C drain.

Recommendations

M. Gerrits Consulting Inc. recommends that a new drain report be prepared for a drainage works to be known as the Shea-Ferguson Drain across Part of Lots 21, and 22, Concession 5, and Part of Lots 19, 20, and 21, Concession 6, within the Town of Plympton-Wyoming. The report includes the following:

- The section of the Shea-Ferguson Drain that parallels Michigan Line will be will be abandoned under this report as the section of drain become part of the Passingham-Ferguson Drain.
- The section of the Shea-Ferguson Drain that is north of Michigan Line, be will be abandoned under this report as the section of drain become part of the Passingham-Ferguson Drain.
- The culvert at Station 0+094 will be removed and not replaced.
- The drain shall be cleaned out from Station 0+000 to Station 0+134.
- The culvert servicing the lands with the Area Roll Number ending with 30-010 will be replaced.
- The culvert servicing the lands with the Area Roll Numbers ending 30-009 will be replaced.
- The culvert servicing the lands with the Area Roll Number ending with 30-012 that was installed as part of an emergency replacement will be incorporated into this report.
- Future maintenance specifications for the drain will be provided.
- Schedules of Maintenance for the drain will be provided.

Design

The channel bottom width shall match the existing width, and shall be no less than 1m in width. The channel side slopes shall match the existing side slopes, and shall not be steeper than 1.5H:1V. The drain's length and alignment shall remain unchanged under this report.

The culverts have been designed to maintain or improve the existing level of service. Culvert design criteria includes all local road crossings and shall be designed to accommodate the 1 in 10 year storm event, and all agricultural culverts shall be designed to accommodate the 1 in 2 year (min) storm event. The standard culvert top width for a culvert servicing a single farm shall be 8m and 10m for a culvert servicing two properties. The proposed culverts will be embedded 10% into the native substrate.

Approvals

All construction will be completed in accordance with the Department of Fisheries and Oceans (DFO) regulations, and the applicable Conservation Authority permits.

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 $141,698, which includes engineering fees, an allowance for inspection during construction and an allowance for Contract Administration.

A plan has been prepared, which shows the location of the work and the approximate drainage area. Profiles have 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 Shea-Ferguson 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. Outlet assessments are generally based on equivalent hectares (Eq. Ha) which are determined by the land use. Typical Ha to Eq. ha ratio are listed below:

Agricultural Lands – 1 Ha = 1Eq. Ha
Residential Lands – 1 Ha = 1.5-2.0 Eq. Ha
Gravel Roads – 1 Ha = 3 Eq. Ha
Paved Roads – 1 Ha = 4 -6 Eq. Ha
Subsurface Drainage − 1Ha = 0.5 Eq. Ha
Surface Drainage − 1Ha = 0.5 Eq. Ha

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).

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 and engineering costs (20% of the construction costs).

All final costs included in the cost estimate of this report, except the special benefits as identified above, shall be pro-rated based on the Schedule of Assessment.

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

- The open channel works have generally been assessed with 50% of the estimated cost assessed as a benefit assessment, and the remainder assessed as an outlet assessment to the upstream properties, based on equivalent hectares.
- Culvert 1 - The cost of a standard 8m access culvert with rip rap end protection has been assessed with 50% of the costs applied as a benefit assessment to the lands with the Area Roll Number ending with 30-009, and the remainder assessed as an outlet assessment to upstream lands, based on equivalent hectares. The 2m culvert extension has been assessed as a benefit assessment to the requesting landowner.
- Culvert 2 - The cost of a standard access culvert with an 8m travel (top) width and rip rap end protection, has been assessed with 50% of the estimated cost assessed as a benefit assessment to the lands with the Area Roll Number ending with 30-010, and the remainder assessed as an outlet assessment to the upstream properties, based on equivalent hectares.
- Culvert 3 (Emergency Replacement) – The cost of a standard access culvert with an 8m travel (top) width and concrete block headwalls, has been assessed with 50% of the estimated cost assessed as a benefit assessment to the lands with the Area Roll Number ending with 30-012, and the remainder assessed as an outlet assessment to the upstream properties, based on equivalent hectares.

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 improving an existing drain within an established right-of-way.

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 be provided under this

report. Section 30 allowances for crop loss are based on $3,200.00 per hectare for the first year and $1,600.00 for the second year.

Under Section 31 of the Drainage Act, where an existing drain that was not constructed on requisition or petition under this Act or any predecessor of this Act is incorporated in whole or in part in a drainage works, the engineer in the report shall estimate and allow in money to the owner of such drain or part the value to the drainage works of such drain or part and shall include such sum in the estimate of the cost of the construction, improvement, repair or maintenance of the drainage works. Section 31 allowances will be not be provided for under this report since the costs of the emergency replacement culvert will be assessed as part of this report.

Table of Allowances

Lot or Part	Affected Hect.	Roll No.	Landowner	Section 29 ($)	Section 30 ($)	Total ($)
Pt 19	4.3	340.030.00700.0000	R. J. & M. Kerrigan	-	1286	1286
Pt 19	12.5	340.030.00900.0000	R. & M. Kerrigan		192	192
Pt 20	6.30	340.030.01000.0000	W. & M. Duffield		192	192
Pt 20	10.15	340.030.01200.0000	G. Atkinson		192	192
			Total Allowances	-	$1,862	$1,862

Access and Working Area

Access to the drain shall be gained from road allowances, when possible, along existing private lanes, fence lines, property lines, and the drain. Access to the working area along the private lanes, property lines and fence lines, shall be restricted to a width of 6m. In addition to the road allowances, the additional access and working areas for future repair and maintenance have been summarized below:

The access and working area for the drain is as follows:

- Station 0+000 to Station 1+157 – 20m on the north and east side of the drain and 2m on the south and west side of the drain.
- Station 1+157 to Station 1+585 – 20m on the south and west side of the drain and 2m on the north and east side of the drain.
- Station 1+585 to Station 2+817 – 20m on the north and east side of the drain and 2m on the south and west side of the drain.

The excavated material shall be placed on the 20m wide working area side of the drain. The working area will be measured from the adjacent finished top of bank.

The working area around culverts shall extend to 12m from the adjacent finished top of bank on each side of the drain, for a distance of 20m upstream and downstream of the culvert.

Restrictions

Following construction, no trees or shrubs shall be planted nor shall permanent structures be erected 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.

Agricultural Grant

Under Section 85 of the Drainage Act, a grant may be available for assessments against privately owned parcels of land which are used for agricultural purposes, and are eligible for the Farm Property Class Tax Rate. Section 88 of the Drainage Act directs the Municipality to make application for this grant upon certification of this drain.

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 or as outlined below.

The cost to repair or maintain farm access culverts will be assessed as follows:

- Culvert 1 - The cost to maintain or replace an access culvert with a 10m travel (top) width and rip rap end protection, has been assessed with 55% of the estimated cost assessed as a benefit assessment to the benefiting landowner, and the remainder assessed as an outlet assessment to the upstream properties, based on equivalent hectares.
- Culvert 2 - The cost to maintain or replace a standard access culvert with an 8m travel (top) width and rip rap end protection, has been assessed with 50% of the estimated cost assessed as a benefit assessment to the benefiting landowner, and the remainder assessed as an outlet assessment to the upstream properties, based on equivalent hectares.
- Culvert 3 – The cost of a standard access culvert with an 8m travel (top) width and concrete block headwalls, has been assessed with 50% of the estimated cost assessed as a benefit assessment to the benefiting landowner, and the remainder assessed as an outlet assessment to the upstream properties, based on equivalent hectares.

- Culverts 4, 5 and 6 – The cost to maintain or replace a standard access culvert with an 8m travel (top) width and rip rap end protection, has been assessed with 50% of the estimated cost assessed as a benefit assessment to the benefiting landowner, and the remainder assessed as an outlet assessment to the upstream properties, based on equivalent hectares.
- Culvert 9, – The cost to maintain or replace a standard access culvert with an 8m travel (top) width and rip rap end protection, has been assessed with 50% of the estimated cost assessed as a benefit assessment to the benefiting landowner, and the remainder assessed as an outlet assessment to the upstream properties, based on equivalent hectares.

The cost to repair or maintain a Municipal road centreline culvert or a Provincial Highway centreline culvert will be assessed as follows:

- Culvert 7 & 8 (Highway 402 Centreline Culverts) – 100% of the design and construction costs applied as a benefit assessment to the requesting (benefiting) road authority. Prior to installation the culvert sizing must be approved in writing by the Drainage Superintendent.
- Culvert 10 (South Plympton Road Centreline Culvert – 100% of the design and construction costs applied as a benefit assessment to the requesting (benefiting) road authority.
- Working around the Gas Lines – The proposed grade lines do not differ significantly from the existing grades at the gas line crossings. In the future, if the owner of the affected gas line (utility) requires increased separation or if the existing lines are in conflict with the proposed grade line, all costs associated with altering the drain or altering the gas line will be assessed to the affected utility.

If a landowner requests a culvert be lengthened to provide a larger top width, the landowner will be assessed the all costs associated with the extra length.

Yours truly,

AUG 15, 2025
24-01

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

Shea-Ferguson Drain
Town of Plympton-Wyoming
August 15, 2025

ESTIMATE OF COST

Item	Description	Quantity	Unit	Unit Price ($)	Total ($)
1	Benchmark Loop	1	LS	500	500
2	Traffic Control	1	LS	500	500
3	Remove Existing 1600mm Dia CSP Culvert at Station 0+094	1	LS	500	500
4	Ditch Cleanout (Station 0+000 to Station 0+134)	134	m	50	6,700
5	Level Spoils (Station 0+000 to Station 0+134)	134	m	10	1,340
6	Ditch Cleanout (Emergency Measures)	125	m3	13	1,600
7	Clear North Channel Bank (Emergency Measures)	47	m	32	1,500
8	Silt Fence	1	LS	750	750
9	Channel Restoration	134	m	7	938
10	Culvert 1 - Station 0+401				
10.1	Clear and Grub Channel c/w Burning of Brush	1	LS	500	500
10.2	Supply & Install 1600mm dia. CSP Culvert	17	m	1,111	18,880
10.3	Supply & Install Granular Bedding Material	85	t	50	4,250
10.4	Supply & Place Backfill	10	t	50	500
10.5	Supply & Install Rip Rap End Protection	10	m2	100	1,000
10.6	Supply & Install Granular 'A'	45	t	50	2,250
10.7	Restoration	20	m2	5	100
10.8	Silt Fence	1	LS	575	575
11	Culvert 2 - Station 0+990				
11.1	Clear and Grub Channel c/w Burning of Brush	1	LS	440	440
11.2	Supply & Install 1500mm dia. CSP Culvert	14	m	1,077	15,080
11.3	Supply & Install Granular Bedding Material	70	t	50	3,500
11.4	Supply & Place Backfill	5	t	24	120
11.5	Supply & Install Rip Rap End Protection	12	m2	100	1,200
11.6	Supply & Install Granular 'A'	35	t	50	1,750
11.7	Restoration	20	m2	5	100
11.8	Silt Fence	1	LS	575	575

Item	Description	Quantity	Unit	Unit Price ($)	Total ($)
12	Culvert 3 - Station 1+157 (Emergency Replacement Culvert)				
12.1	Remove Culvert	1	LS	500	500
12.2	Install 1500mm dia. CSP Culvert	698	m	18	12,380
12.3	Supply & Install Concrete Block End Walls	40	ea	125	5,000
12.4	Supply & Install Granular Bedding Material	22	t	5	110
12.5	Supply & Place Backfill	107	t	37	3,945
12.6	Supply & Install Channel Rip Rap	8	sq.m.	100	800
12.7	Supply & Install Granular 'A'	44	t	35	1,540
12.8	Restoration of Disturbed Areas	5	sq.m.	50	250
				Subtotal	$ 89,673
				Miscellaneous	$ 4,487
				Allowances	$ 1,862
				Engineering	$ 17,935
				Future Culvert Engineering	$ 8,750
				Schedule of Maintenance Update	$ 3,500
				SCRCA Permit	$ 575
				Inspection, Contract Administration & Tendering (Allowance)	$ 12,500
				Net HST	$ 2,416
				Total Estimate	$ 141,698

Shea-Ferguson Drain
Town of Plympton-Wyoming
August 15, 2025

SCHEDULE OF ASSESSMENT

Conc.	Lot or Part	Affected Hect.	Roll No.	Owner	Special Benefit ($)	Benefit ($)	Outlet ($)	Schedule of Maintenance ($)	Total ($)	Equivalent Ha
Agricultural Lands										
5	Pt 20 & 21	2.2	340.010.51400.0000	G. & J. Verbeek	-	-	494	22	516	1.1
	Pt 21	3.2	340.010.51500.0000	M. Nesdoly & M. McGregor	-	-	962	42	1,004	2.1
	Pt 21	5.2	340.010.51501.0000	T. Kerrigan	-	636	1,306	57	1,999	2.9
	Pt 22	38.2	340.010.51600.0000	Korvemaker Acres Inc.	-	1,750	14,455	683	16,888	34.8
	Pt 19	4.3	340.030.00700.0000	R. J. & M. Kerrigan	-	2,399	321	84	2,804	4.3
	Pt 19	12.5	340.030.00900.0000	R. & M. Kerrigan	-	20,984	932	246	22,162	12.5
	Pt 20	6.3	340.030.01000.0000	W. & M. Duffield	-	18,270	1,216	124	19,610	6.3
6/5	Pt 20	10.2	340.030.01200.0000	G. Atkinson	-	17,728	2,897	181	20,806	9.2
	Pt 20	18.8	340.030.01300.0000	G. & D. Campbell	-	636	7,482	340	8,458	17.3
6	Pt 21	18.3	340.030.01400.0000	G. & L. Campbell	-	636	6,313	283	7,232	14.4
6/5	Pt 21	11.0	340.030.01500.0000	G. & D. Campbell	-	636	4,439	197	5,272	10.0
6	Pt 21	2.1	340.030.01600.0000	B. & E. Campbell	-	-	943	41	984	2.1
	Pt 22	6.8	340.030.01650.0000	G. Campbell	-	-	3,051	134	3,185	6.8
						63,675	44,811	2,434	110,920	
				Total Benefit		63,675				
				Total Outlet		44,811				
				Total Schedule of Maintenance Update		2,434				
				Total - Agricultural Lands		$ 110,920				
Non - Agricultural Lands										
6	Pt 19	0.03	340.030.00802.0000	S. Bergeron	-	22	2	-	24	0.02
						22	2	-	24	
				Total Benefit		22				
				Total Outlet		2				
				Total Schedule of Maintenance Update		-				
				Total - Agricultural Lands		$ 24				

Conc.	Lot or Part	Affected Hect.	Roll No.	Owner	Benefit ($)	Benefit ($)	Outlet ($)	Maintenance ($)	Total ($)	Equivalent Ha
Roads										
South Plympton Road		1.3		Town of Plympton-Wyoming	-	1,272	1,743	75	3,090	3.8
Blue Heron Road		0.6		Town of Plympton-Wyoming	-	-	860	38	898	1.9
Highway 402		10.3		Ministry of Transportation Ontario	-	2,544	23,207	1,015	26,766	51.7
						3,816	25,810	1,128	30,754	

Total Benefit		3,816
Total Outlet		25,810
Total Schedule of Maintenance Update		1,128
Total - Agricultural Lands	$	30,754
Total Assessment	$	141,698

Shea-Ferguson Drain
Town of Plympton-Wyoming
August 15, 2025

SCHEDULE OF MAINTENANCE

Conc.	Lot or Part	Affected Hect.	Roll No.	Owner	Benefit ($)	Outlet ($)	Total ($)	Equivalent Ha
Agricultural Lands								
5	Pt 20 & 21	2.2	340.010.51400.0000	G. & J. Verbeek	-	336	336	1.1
	Pt 21	3.2	340.010.51500.0000	M. Nesdoly & M. McGregor	304	655	959	2.1
	Pt 21	5.2	340.010.51501.0000	T. Kerrigan	1,521	892	2,413	2.9
	Pt 22	38.2	340.010.51600.0000	Korvemaker Acres Inc.	-	11,080	11,080	34.8
	Pt 19	4.3	340.030.00700.0000	R. J. & M. Kerrigan	1,848	83	1,931	4.3
	Pt 19	12.5	340.030.00900.0000	R. & M. Kerrigan	3,750	806	4,556	12.5
	Pt 20	6.3	340.030.01000.0000	W. & M. Duffield	1,913	813	2,726	6.3
6/5	Pt 20	10.2	340.030.01200.0000	G. Atkinson	1,925	1,355	3,280	9.2
	Pt 20	18.8	340.030.01300.0000	G. & D. Campbell	3,750	2,862	6,612	17.3
6	Pt 21	18.3	340.030.01400.0000	G. & L. Campbell	3,750	3,077	6,827	14.4
6/5	Pt 21	11.0	340.030.01500.0000	G. & D. Campbell	2,825	2,807	5,632	10.0
6	Pt 21	2.1	340.030.01600.0000	B. & E. Campbell	-	641	641	2.1
	Pt 22	6.8	340.030.01650.0000	G. Campbell	-	2,084	2,084	6.8
Non - Agricultural Lands								
6	Pt 19	0.03	340.030.00802.0000	S. Bergeron	19	-	19	0.02
Roads								
South Plympton Road		1.3	Town of Plympton-Wyoming		725	1,905	2,630	3.8
Blue Heron Road		0.6	Town of Plympton-Wyoming		-	587	587	1.9
Highway 402		10.3	Ministry of Transportation Ontario		2,400	15,837	18,237	51.7
					24,730	45,820	70,550	

Total Maintenance Assessment $ 70,550

Shea-Ferguson Drain
Town of Plympton-Wyoming
August 15, 2025

SPECIFICATION OF WORK

1. Scope of Work

The work to be included in this specification, includes the open channel drain located on Part of Lots 21, and 22, Concession 5 and Part of Lots 19, 20, and 21, Concession 6, within 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 his 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.

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 profile drawing. When these elevations are on existing structures that are to be replaced, the Contractor shall transfer the benchmark to a new location, prior to the removal of the structure.

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 all utilities in the working area and adjacent road allowances and forward the locations and elevations to the Drainage Superintendent and Engineer for review.

Prior to completing any works, the Contractor shall locate all utilities in the working area and adjacent road allowances and forward the locations and elevations to the Drainage Superintendent and Engineer for review. Any conflicts with utilities such as gas lines, watermains, telephone lines, and fibreoptic lines must be confirmed prior to construction to allow for the relocation of utilities or grade adjustments.

The gas line elevation illustrated on the drawings between Station 1+890 and Station 1+925 has been based on the 1972 drawings. The proposed grade line does not differ significantly at the gas line crossings. If the conflicts are minimal, the grade line can be changed at the direction and approval of the Drainage Superintendent. When works are being completed over the gas lines, the Contractor shall locate the gas lines to ensure there are no conflicts with respect to separation. If the owner of the affected gas line (utility) requires increased separation or if the existing lines are in conflict with the proposed grade line, all costs associated with altering the drain or altering the gas line will be assessed to the affected utility.

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 road allowances, when possible, along existing private lanes, fence lines, property lines, and the drain. Access to the working area along the private lanes, property lines and fence lines, shall be restricted to a width of 6m. In addition to the road allowances, the additional access and working areas for future repair and maintenance have been summarized below:

The access and working area for the drain is as follows:

- Station 0+000 to Station 1+157 – 20m on the north and east side of the drain and 2m on the south and west side of the drain.
- Station 1+157 to Station 1+585 – 20m on the south and west side of the drain and 2m on the north and east side of the drain.
- Station 1+585 to Station 2+817 – 20m on the north and east side of the drain and 2m on the south and west side of the drain.

The excavated material shall be placed on the 20m wide working area side of the drain. The working area will be measured from the adjacent finished top of bank.

The working area around culverts shall extend to 12m from the adjacent finished top of bank on each side of the drain, for a distance of 20m upstream and downstream of the culvert.

10. Removals

The existing culverts and headwalls or rip rap end protection, shall be removed in their entirety. The steel, rip rap, and the concrete rubble, shall be disposed of offsite at the expense of the Contractor. Suitable backfill shall be stockpiled adjacent to the site, for reuse during the installation of the proposed culvert.

Removals shall be in accordance with OPSS MUNI 510.

11. Brushing and Tree Removal

All brush, trees, woody vegetation, etc., required to facilitate construction, shall be removed from the working area and side slopes of the existing channel, as well as within the working area. Larger trees, brush and stumps shall be burned onsite, subject to municipal bylaws, and MOE guidelines. The Contractor shall be responsible for obtaining all necessary burning permits.

Brushing and clearing shall be in accordance with OPSS MUNI 201.

12. Excavation Channel

The open channel shall be excavated and maintained to the depths and grades as per the profile drawings, which are contained in this Engineer's Report. The channel shall be excavated to the proper depth using a laser, or similar approved device, with a labourer on site, to ensure that the grade is correct.

The proposed channel shall have a minimum of 1.5H:1V side slopes. The existing topsoil in the area of the channel excavation and working area, shall be stripped and stockpiled within the working area, and used for restoration of the working area. The centre of the channel shall be in the same location as the existing channel.

Any spoils shall be levelled within the working area. Spoils shall be placed at a minimum of 1.5m back from the top of the bank, on the south side of the channel. The excavated material shall be placed and levelled to a maximum depth of two hundred millimeters (200mm), and shall not impede overland drainage. Low runs will remain to ensure overland flows can drain into the open channel. If the spoils have sub-soil in them, the topsoil shall be windrowed along the edge of the working area, prior to placing the sub-soil. After the excavated material has been levelled, the topsoil shall be spread to its original depth, and left in a condition suitable for seeding.

All excavated materials, which are excess to the requirements of the Contract, shall be moved downstream to a section of the working area, where it can be properly leveled.

The side slopes of the new channel shall be seeded as soon as the final grading is completed.

Restoration is to be in accordance with the Restoration Specification.

Excavation shall be in accordance with OPSS MUNI 206.

13. Installation of Farm/Residential Culverts

The Contractor shall supply, install, and backfill pipe culverts. Pipe material can be Corrugated Steel Pipe (CSP) or High Density Polyethelyne (HDPE) pipe.

HDPE pipe shall be smooth wall pipe (320 kPa) with bell and spigot joints. HDPE pipe shall be (320 kPa) Boss 2000 or approved equal.

CSP culverts shall be aluminized corrugated steel pipe with a minimum wall thickness of 2.8mm in all cases. All corrugation profiles shall be of helical lockseam using 68mm x 13mm corrugations for 1600mm diameter pipe, and smaller and 125mm x 25mm corrugations for 1800mm diameter pipe and larger. Pipe with 125mm x 25mm corrugations shall be used if 68mm x 13mm corrugations are not available. Future culvert replacements shall be to the same specifications.

It is the Contractors responsibility to ensure that adequate cover is obtained prior to crossing the culvert in accordance with the manufacturer's recommendations. It is the Contractors responsibility to ensure that the minimum cover is achieved when backfilling the culverts. The minimum cover for CSP under Highway Loading shall be 1/6 of the culvert span, and shall be no less than 300mm.

Access culvert lengths are based on using rip rap end protection (1.5H:1.0V).

Culverts shall be installed with the invert 10% of the diameter (or rise) below the grade line of the Drain

The location of the culvert shall be in the general location as the existing culvert, or may be moved at the request of the landowner and discretion of the Drainage Superintendent. The outlet of Culvert 1 shall be in the same location as the existing outlet.

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. Culverts shall have 150mm of bedding below the bottom of the pipe.

Pipe culverts shall be constructed to the depths and grades as shown on the drawings. Any over-excavation will be backfilled with granular material or clear stone. When the pipe has been installed to the proper grade and depth, the excavation shall be backfilled with Granular "A", 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.

Residential access pipe cuvlerts shall be backfilled with Granular "B" material mechanically compacted to 95% standard proctor maximum dry density as detailed on the drawings. The top 300mm of Granular "B" material, shall be mechanically compacted to 98% standard proctor maximum dry density. The backfill shall be placed from the top of the bedding, to within 150mm of the finished grade, less any asphalt. The top 150mm of the lane shall be restored with Granular "A" material for a sufficient distance, to match the existing access road width, and mechanically compacted to 100% standard proctor maximum dry density.

Agricultural access pipe culverts can be backfilled with Granular “B” material or suitable free draining material and compacted to 95% standard proctor maximum dry density. The backfill shall be placed from the top of the bedding, to within 150mm of the finished grade. The top 150mm of Granular “A” material, shall be mechanically compacted to 98% standard proctor maximum dry density. The top 150mm of the access shall be restored with Granular “A” material for a sufficient distance, to match the existing access road width. The location of the agricultural access culverts may be moved a short distance upstream or downstream as necessary, to avoid existing tile outlets subject to the approval of the Drainage Superintendent or Engineer. If a tile outlet cannot be avoided, the tile outlet shall be extended upstream or downstream to an outlet. Any tile outlets extended as a result of extra length requested by an Owner, shall be extended at the Owner’s expense.

The excavated material shall be levelled to a maximum depth of 200mm, and left in a condition suitable for restoration.

The Contractor shall supply any extra backfill material required above the springline. Payment for additional backfill material will be specified in the Contract Documents.

Rip rap end protection shall have a minimum 1.5H:1V sideslopes. The rip rap shall consist of 150mm - 300mm quarry stone, or an approved equal. The area to receive the rip rap shall be graded to a depth of 300mm below the finished grade. Filter fabric (Terrafix 270R or an approved equal) shall then be placed with any joints overlapped at a minimum of 600mm. The quarry stone shall be placed with the smaller pieces placed in the gaps and voids, to give it a uniform appearance.

The Contractor shall maintain a dry working area during construction. The Contractor shall install a silt fence downstream of the work area (at the bottom end of the channel improvement, if all work is completed at the same time).

After completion of construction, the sediment and erosion control measures shall be removed. The final removal shall be the silt fence.

14. **Installation of Road Centreline Culverts**

The Contractor shall supply, install, and backfill pipe culverts. Pipe material can be Corrugated Steel Pipe (CSP) or High Density Polyethelyne (HDPE) pipe.

HDPE pipe shall be smooth wall pipe (320 kPa) with bell and spigot joints. HDPE pipe shall be (320 kPa) Boss 2000 or approved equal.

CSP culverts shall be aluminized corrugated steel pipe with a minimum wall thickness of 2.8mm in all cases. All corrugation profiles shall be of helical lockseam using 68mm x 13mm corrugations for 1600mm diameter pipe, and smaller and 125mm x 25mm corrugations for 1800mm diameter pipe and larger. Pipe with 125mm x 25mm corrugations shall be used if 68mm x 13mm corrugations are not available. Future culvert replacements shall be to the same specifications.

It is the Contractors responsibility to ensure that adequate cover is obtained prior to crossing the culvert in accordance with the manufacturer's recommendations. It is the Contractors responsibility to ensure that the minimum cover is achieved when backfilling the culverts. The minimum cover for CSP under Highway Loading shall be 1/6 of the culvert span, and shall be no less than 300mm.

Access culvert lengths are based on using rip rap end protection (1.5H:1.0V).

Culverts shall be installed with the invert 10% of the diameter (or rise) below the grade line of the Drain. The location of the culvert shall be in the general location as the existing culvert or may be moved at the request of the landowner and discretion of the Drainage Superintendent.

Culverts shall have 150mm of bedding below the bottom of the pipe.

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 top 300mm of Granular "B" material, shall be mechanically compacted to 98% standard proctor maximum dry density. The backfill shall be placed from the top of the bedding, to within 200mm of the finished grade, less any asphalt. The top 200mm of the lane shall be restored with Granular "M" dolomite material, and mechanically compacted to 100% standard proctor maximum dry density. The backfill shall be placed from the top of the bedding, to within 200mm of the finished grade. The top 200mm of the lane shall be restored with Granular "M" dolomite material.

The Contractor shall supply any extra backfill material required above the springline. Payment for additional backfill material will be specified in the Contract Documents.

Pipe culverts shall be constructed to the depths and grades as shown on the drawings. Any over excavation will be backfilled with granular material or clear stone. When the pipe has been installed to the proper grade and depth, the excavation shall be backfilled with Granular "A", 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.

Rip rap end protection shall have a minimum 1.5H:1V sideslopes. The rip rap shall consist of 150mm - 300mm quarry stone, or an approved equal. The area to receive the rip rap shall be graded to a depth of 300mm below the finished grade. Filter fabric (Terrafix 270R or an approved equal) shall then be placed with any joints overlapped at a minimum of 600mm. The quarry stone shall be placed with the smaller pieces placed in the gaps and voids, to give it a uniform appearance.

The Contractor shall maintain a dry working area during construction. The Contractor shall install a silt fence downstream of the work area (at the bottom end of the channel improvement, if all work is completed at the same time).

After completion of construction, the sediment and erosion control measures shall be removed. The final removal shall be the silt fence.

15. Subsurface Drainage

The landowner is responsible to mark all of the tiles or tile outlets entering the drain. The landowner is responsible for all of the costs to maintain private tiles or tile outlets. Any washouts along the channel banks caused by surface or subsurface water entering the channel through private facilities shall be repaired at the direction of the Drainage Superintendent, with the costs assessed to the benefitting landowner.

Tile ends shall be repaired with equivalent sized, non perforated agricultural HDPE pipe with a manufactured coupling, and rodent grate. Tile mains shall be repaired with equivalent sized, non perforated HDPE tile, with a manufactured coupling and rodent grate. In the case of concrete or clay tiles, the tile end shall be excavated into the bank a minimum of 3m. Any washouts from surface water, or at tile ends, shall be repaired with rip rap (100mm X 250mm quarry stone or gabion stone) and filter fabric (Terrafix 270R or an approved equal).

The area to receive rip rap shall be graded to a minimum depth of 300mm. If the washout is greater than 300mm, then excavated or fill material shall be placed to sub-grade. The filter fabric will then be placed with all joints overlapped with a minimum of 600mm. The rip rap will then be placed to a minimum depth of 300mm from the base of the side slope to the top of the tile outlet, with the smaller pieces being placed in the gaps and voids to give it a uniform appearance. The area to receive rip rap shall be graded, and the rip rap is placed to allow any surface water directed to this area to enter the channel over the rip rap. The rip rap shall generally be keyed to a depth of 600mm at the top of the bank. Any native material that has washed into the channel, shall be removed and spread on the adjacent property.

16. Channel Protection (Rip Rap)

The channel protection shall consist of rip rap and filter fabric. Rip rap shall be made up of 150mm - 300mm quarry stone, or an approved equal. The area to receive the rip rap shall be graded first, to allow the placement of the rip rap to a depth of 600mm. After grading, a layer of filter fabric (Terrafix 270R or an approved equal) shall be placed with any joints overlapping a minimum of 600mm. Rip rap shall then be placed with the smaller pieces in the gaps and voids, to give it a uniform appearance.

Channel protection shall be in accordance with OPSS MUNI 511.

17. Levelling of Excavated Material

The excavated material shall be levelled to a maximum depth of 200mm, and left in a condition suitable for cultivation or restoration.

18. Survey Bars

Any survey bars that are removed as a result of construction must be replaced by an Ontario Land Surveyor, registered with the Association of Ontario Land Surveyors. If a property bar is required to be moved or replaced to facilitate construction or maintenance, the costs to reinstate the property bar will be in addition to the contract price.

19. Restoration

Restoration shall be in accordance with the following:

Working Area and Access Restoration

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

South Plympton Road Restoration

- Granular 'M' (Dolomite) to be 200mm in depth.
- Granular 'B' Type 2 to be used for backfill.
- Disturbed areas shall be restored with native topsoil and seed. Native topsoil is to match existing depths.

Seed

- The application rates are as follows:
  a. Primary seed (85 kg/ha.) consisting of 50% red fescue, 40% perennial ryegrass and 5% white clover.
  b. Nurse crop consisting of Italian (annual) ryegrass at 25% total weight.
  c. Fertilizer (300 kg/ha.) consisting of 8-32-16.
- Hand seeding shall be spread on the affected areas on a daily basis with the seed mixture, fertilizer, and application rate as shown above.

As excavation of the channel proceeds, the sideslopes shall be hand seeded on a daily basis. All areas within the road allowances shall be hydro seeded upon completion of construction. It is also intended to establish a buffer strip with a width of 1 metre along the south side of the channel.

Hydro seeded areas specified on the drawings or in these specifications shall be hydro seeded and mulched upon completion of construction in accordance with OPSS 804. 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.
- Hydraulic mulch (2,999 kg/ha.) type "B" and water (52,700 litres/ha.)

Spreading of the seed shall be by use of a mechanical spreader.

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.

20. Silt Fence

Light duty silt fencing shall be installed immediately downstream of the culvert installation, for the duration of construction. The silt fence shall consist of filter fabric, or manufactured silt fence supported with posts.

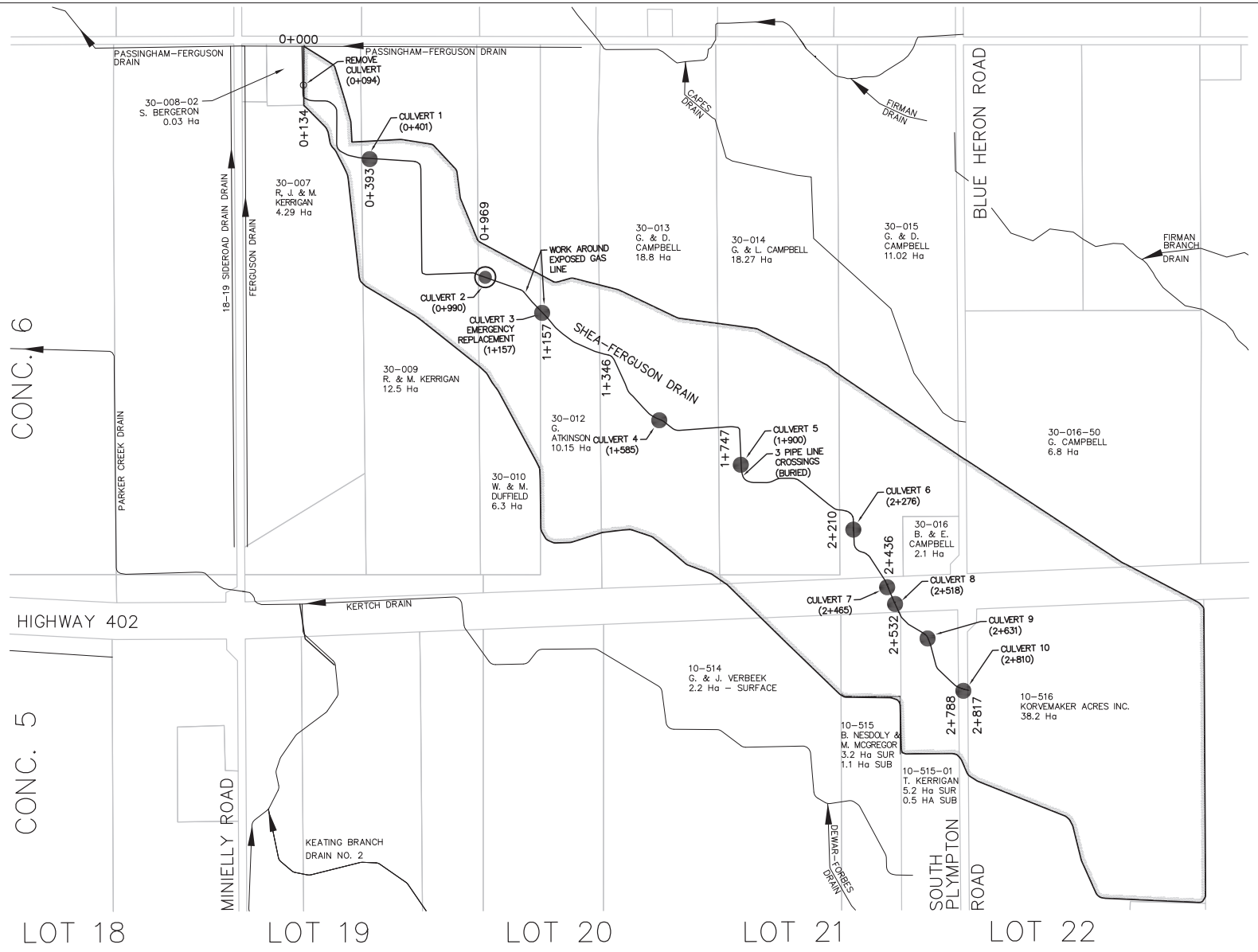
The light duty silt fencing and accumulated sediment shall be removed, once the disturbed area has been revegetated.

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

21. 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 the top of the bank. Material shall not be placed in surface water runs or open inlets that enter the channel.
2. All granular and erosion control materials shall be stockpiled a minimum of 1.5m from the top of bank or surface water runs. Material shall not be placed in surface water runs or open inlets that enter the channel or open inlets that enter the channel.
3. 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 the channel, any surface water runs, or open inlets. All waste materials shall be stockpiled well back from the top of the bank, surface water runs, and open inlets that enter the drain.
4. All construction in the channel shall be carried out during periods of low flow. When possible, the Contractor shall schedule work to avoid periods of high winds and rain. The Contractor shall maintain a dry working area during construction. Prior to construction, the Contractor shall install a silt fence downstream of the work area.



M. GERRITS CONSULTING INC.

No.	REVISIONS	DATE	BY
1	FOR REPORT	AUGUST 15, 2025	MG

SHEA-FERGUSON DRAIN

TOWN OF PLYMPTON–WYOMING

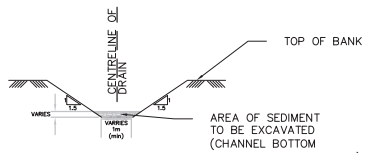
PLAN

SCALE	1:200
DRAWN	MG
CHECKED	EG
DATE	AUGUST 15, 2025
PROJECT NO.	24–01
DRAWN	MG
SHEET	1 OF 6

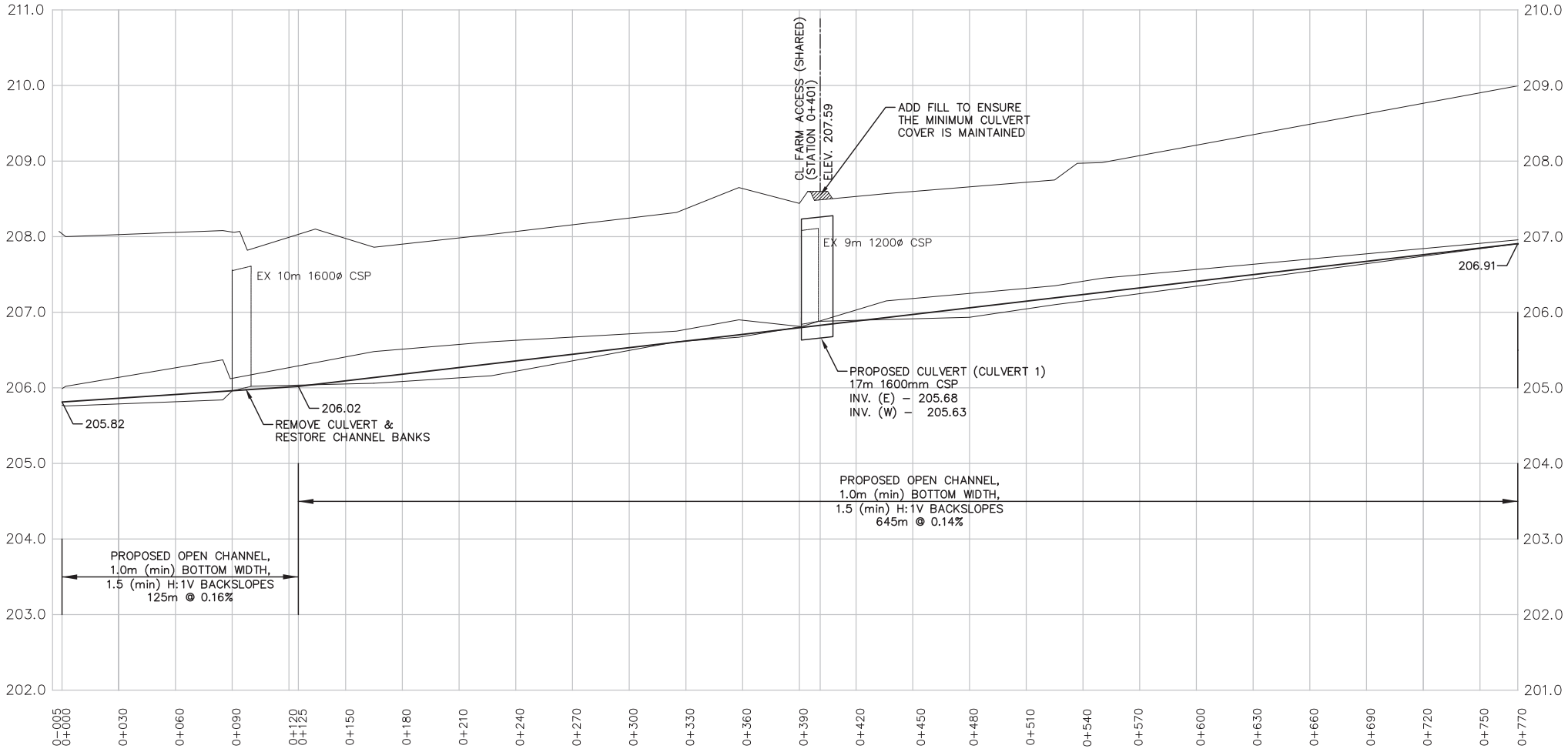
GENERAL NOTES

1. BENCHMARK #1 ELEV. 207.13
   OBVERT OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 0+397.
2. BENCHMARK #2 ELEV. 210.71
   OBVERT (RIB) OF EAST (UPSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+157.
3. BENCHMARK #3 ELEV. 210.60
   OBVERT (RIB) OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+157.
4. BENCHMARK #4 ELEV. 212.79.
   OBVERT OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+585.
5. BENCHMARK #5 ELEV. 214.63
   OBVERT OF SOUTH (UPSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 2+276
6. WHEN THE EXISTING DITCH BOTTOM IS WIDER THAN THE PROPOSED DITCH BOTTOM, THE EXISTING DITCH BOTTOM WIDTH SHALL BE MAINTAINED.
7. WHEN THE OPEN CHANNEL SIDE SLOPES ARE LESS THAN 1.5H:1V, THE EXISTING BANK SLOPE SHALL BE MAINTAINED.
8. 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 COMMENCING ANY WORK.
9. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL LOCATE ANY UTILITIES THAT MAY BE IN CONTACT WITH THE CONSTRUCTION WORKS AND CONFIRM THE ELEVATION TO ENSURE THERE WILL BE NO CONFLICTS WITH A UTILITY. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND UTILITIES.

LICENSED PROFESSIONAL ENGINEER
M.R.M. GERRITS
AUG 15, 2025
24-01
PROVINCE OF ONTARIO



TYPICAL DRAIN CROSS-SECTION
N.T.S.



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No.	REVISIONS	DATE	BY
1	FOR REPORT	AUGUST 15, 2025	MG

SHEA-FERGUSON DRAIN
TOWN OF PLYMPTON-WYOMING

PROFILE – STATION 0-005 TO STATION 0+770

SCALE	1:200
DRAWN	MG
CHECKED	EG
DATE	AUGUST 15, 2025
PROJECT NO.	24-01
DRAWN	MG
SHEET	2 OF 6

GENERAL NOTES

1. BENCHMARK #1 ELEV. 207.13
   OBVERT OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 0+397.
2. BENCHMARK #2 ELEV. 210.71
   OBVERT (RIB) OF EAST (UPSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+157.
3. BENCHMARK #3 ELEV. 210.60
   OBVERT (RIB) OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+157.
4. BENCHMARK #4 ELEV. 212.79.
   OBVERT OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+585.
5. BENCHMARK #5 ELEV. 214.63
   OBVERT OF SOUTH (UPSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 2+276
6. WHEN THE EXISTING DITCH BOTTOM IS WIDER THAN THE PROPOSED DITCH BOTTOM, THE EXISTING DITCH BOTTOM WIDTH SHALL BE MAINTAINED.
7. WHEN THE OPEN CHANNEL SIDE SLOPES ARE LESS THAN 1.5H:1V, THE EXISTING BANK SLOPE SHALL BE MAINTAINED.
8. 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 COMMENCING ANY WORK.
9. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL LOCATE ANY UTILITIES THAT MAY BE IN CONTACT WITH THE CONSTRUCTION WORKS AND CONFIRM THE ELEVATION TO ENSURE THERE WILL BE NO CONFLICTS WITH A UTILITY. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND UTILITIES.

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24-01
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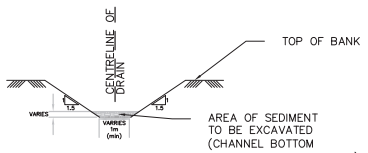
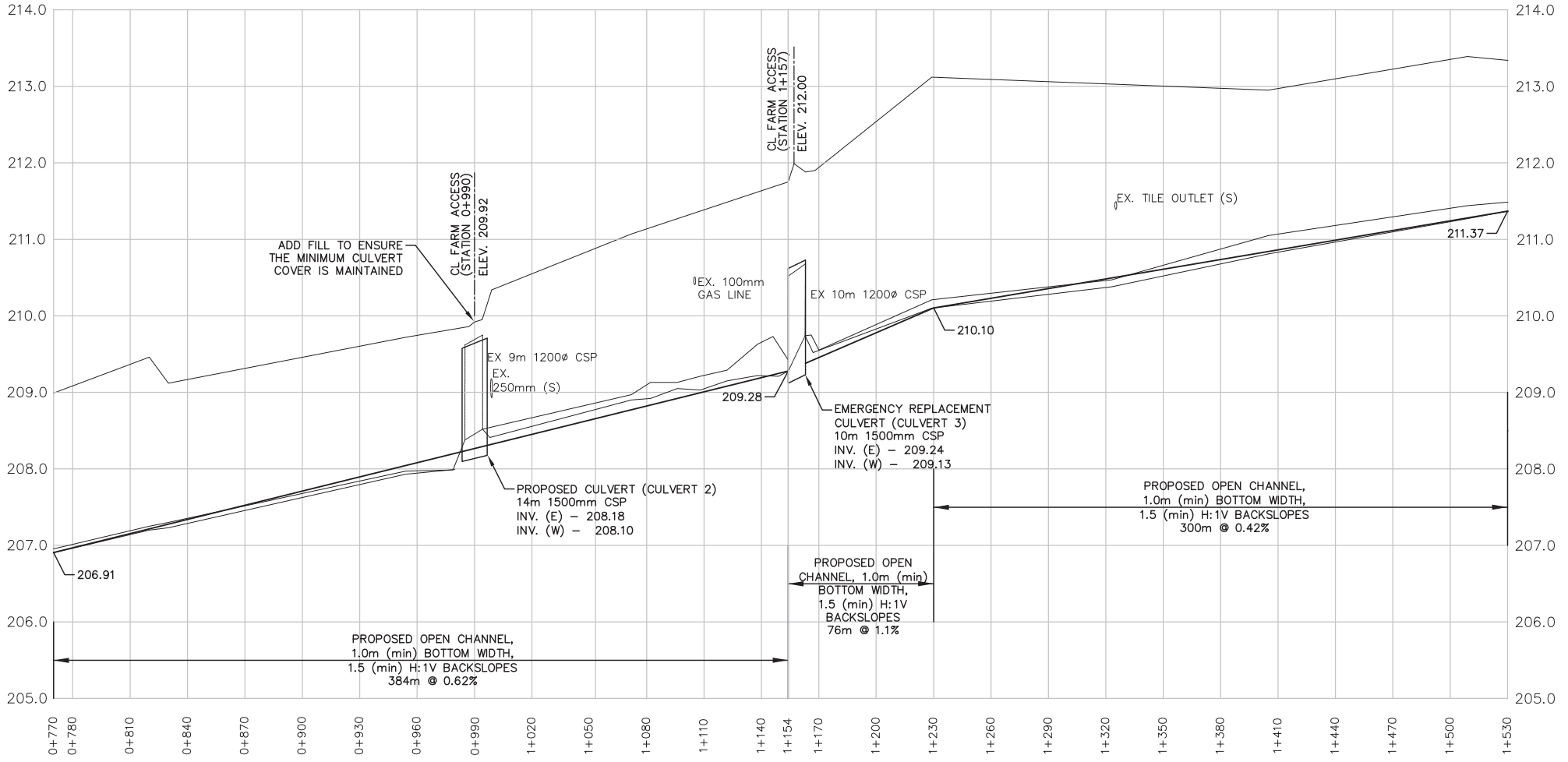


TYPICAL DRAIN CROSS-SECTION
N.T.S.



M. GERRITS CONSULTING INC.

No.	REVISIONS	DATE	BY
1	FOR REPORT	AUGUST 15, 2025	MG

SHEA-FERGUSON DRAIN
TOWN OF PLYMPTON-WYOMING

PROFILE – STATION 0+770 TO STATION 1+530

SCALE	1:200
DRAWN	MG
CHECKED	EG
DATE	AUGUST 15, 2025
PROJECT NO.	24-01
DRAWN	MG
SHEET	3 OF 6

GENERAL NOTES

1. BENCHMARK #1 ELEV. 207.13
   OBVERT OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 0+397.
2. BENCHMARK #2 ELEV. 210.71
   OBVERT (RIB) OF EAST (UPSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+157.
3. BENCHMARK #3 ELEV. 210.60
   OBVERT (RIB) OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+157.
4. BENCHMARK #4 ELEV. 212.79.
   OBVERT OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+585.
5. BENCHMARK #5 ELEV. 214.63
   OBVERT OF SOUTH (UPSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 2+276
6. WHEN THE EXISTING DITCH BOTTOM IS WIDER THAN THE PROPOSED DITCH BOTTOM, THE EXISTING DITCH BOTTOM WIDTH SHALL BE MAINTAINED.
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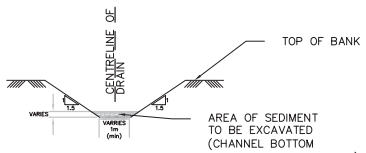
9. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL LOCATE ANY UTILITIES THAT MAY BE IN CONTACT WITH THE CONSTRUCTION WORKS AND CONFIRM THE ELEVATION TO ENSURE THERE WILL BE NO CONFLICTS WITH A UTILITY. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND UTILITIES.

LICENSED PROFESSIONAL ENGINEER
M.R.M. GERRITS
AUG 15, 2025
24-01
PROVINCE OF ONTARIO



TYPICAL DRAIN CROSS-SECTION
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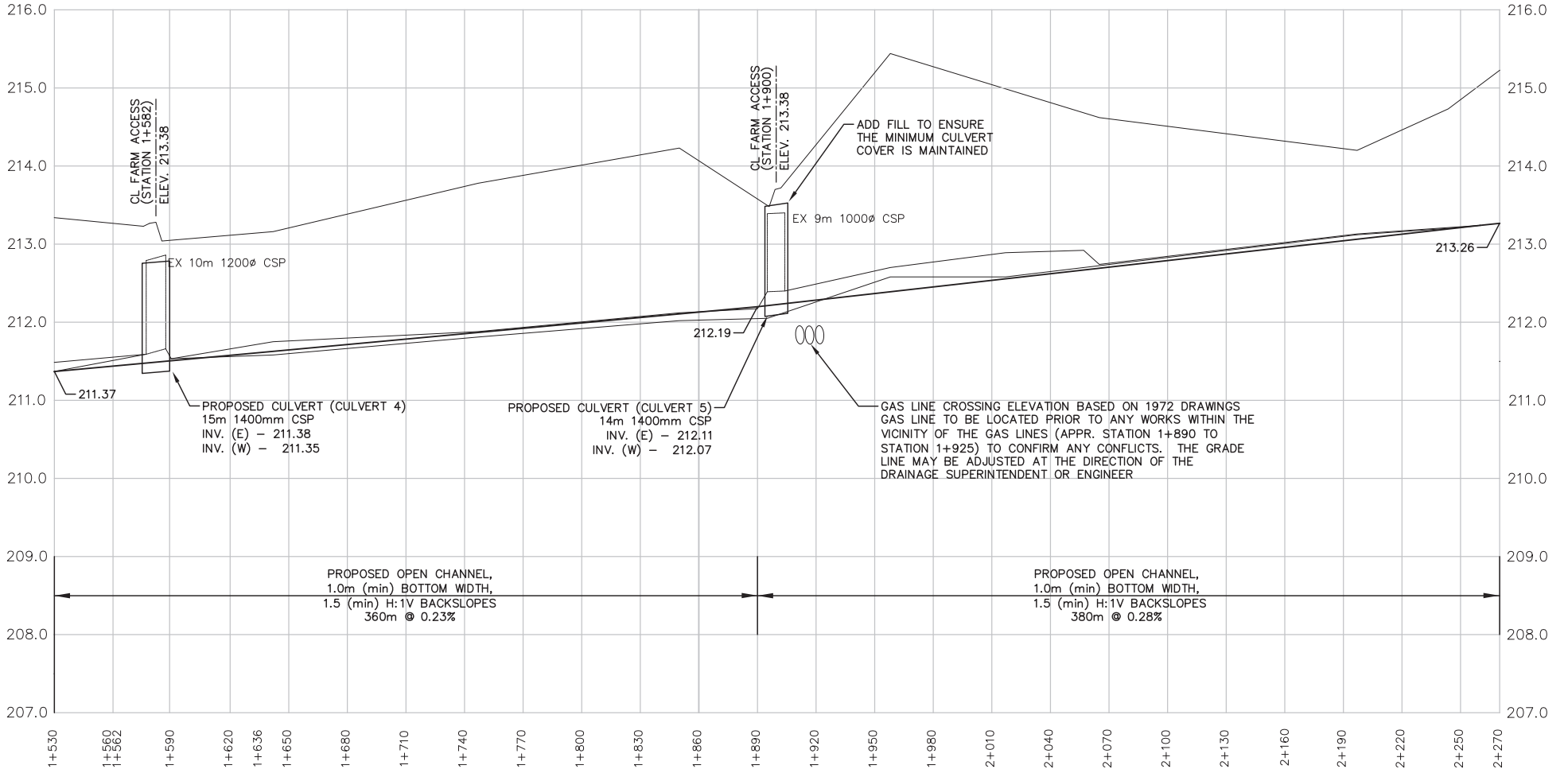

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1	FOR REPORT	AUGUST 15, 2025	MG

SHEA-FERGUSON DRAIN
TOWN OF PLYMPTON-WYOMING

PROFILE – STATION 1+530 TO STATION 2+270

SCALE	1:200
DRAWN	MG
CHECKED	EG
DATE	AUGUST 15, 2025
PROJECT NO.	24-01
DRAWN	MG
SHEET	4 OF 6

GENERAL NOTES

1. BENCHMARK #1 ELEV. 207.13
   OBVERT OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 0+397.
2. BENCHMARK #2 ELEV. 210.71
   OBVERT (RIB) OF EAST (UPSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+157.
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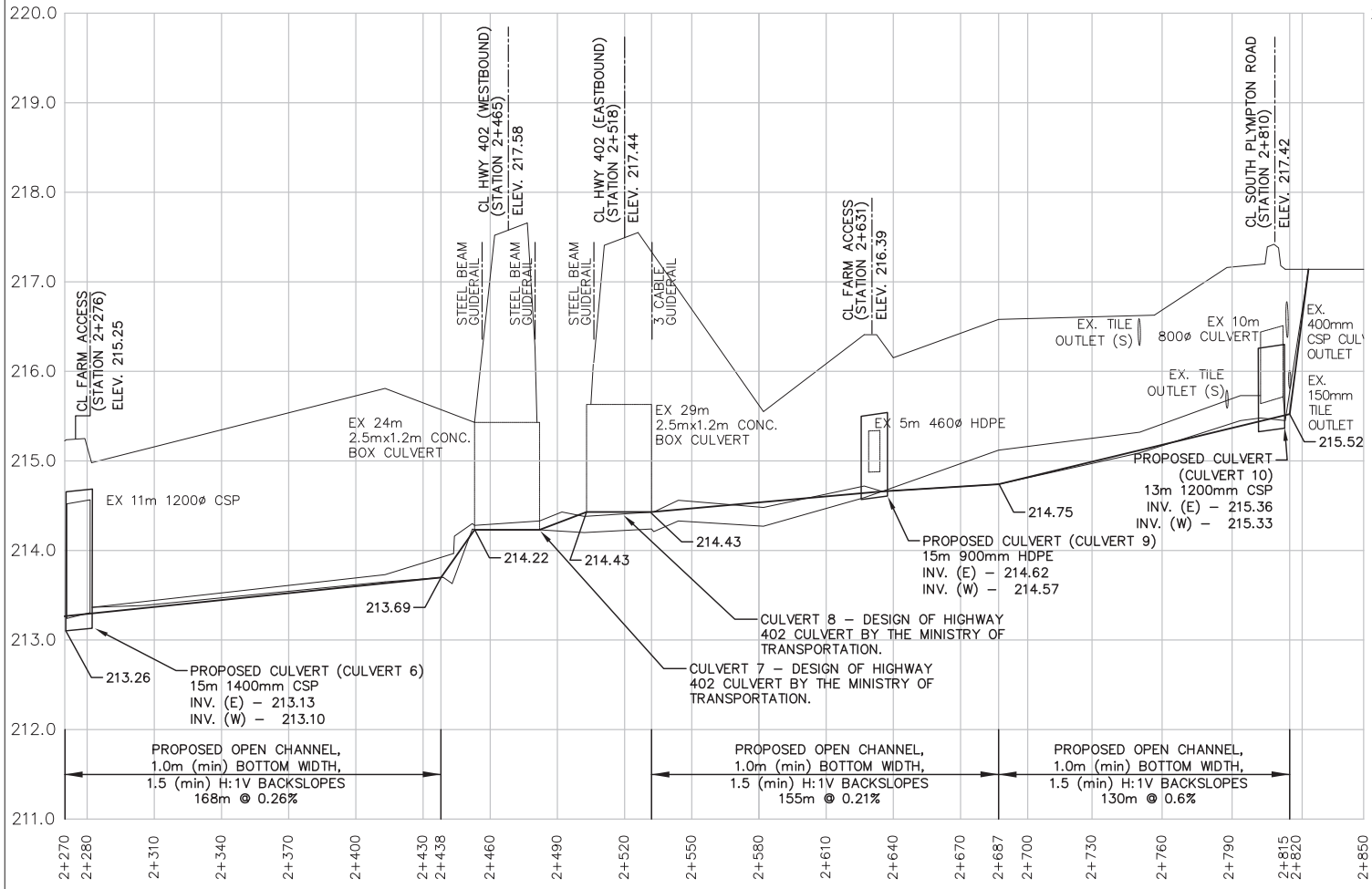
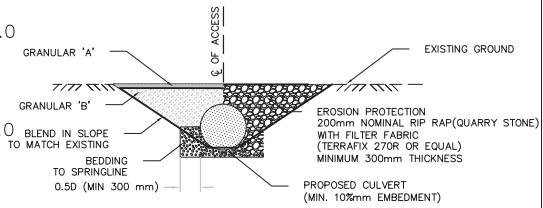
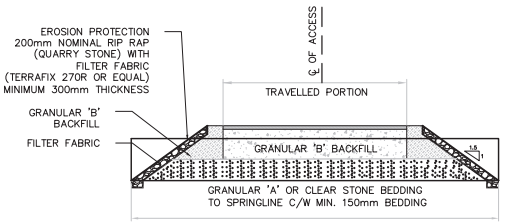
   OBVERT (RIB) OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+157.
4. BENCHMARK #4 ELEV. 212.79.
   OBVERT OF WEST (DOWNSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 1+585.
5. BENCHMARK #5 ELEV. 214.63
   OBVERT OF SOUTH (UPSTREAM) END OF THE EXISTING ACCESS CULVERT AT STATION 2+276
6. WHEN THE EXISTING DITCH BOTTOM IS WIDER THAN THE PROPOSED DITCH BOTTOM, THE EXISTING DITCH BOTTOM WIDTH SHALL BE MAINTAINED.
7. WHEN THE OPEN CHANNEL SIDE SLOPES ARE LESS THAN 1.5H:1V, THE EXISTING BANK SLOPE SHALL BE MAINTAINED.
8. 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 COMMENCING ANY WORK.
9. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL LOCATE ANY UTILITIES THAT MAY BE IN CONTACT WITH THE CONSTRUCTION WORKS AND CONFIRM THE ELEVATION TO ENSURE THERE WILL BE NO CONFLICTS WITH A UTILITY. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND UTILITIES.

LICENSED PROFESSIONAL ENGINEER
M.R.M. GERRITS
AUG 15, 2025
24-01
PROVINCE OF ONTARIO

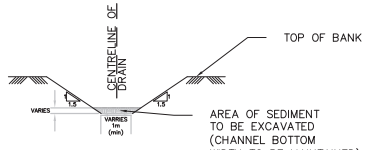




PROPOSED END SECTION
TYPICAL ACCESS CULVERT
N.T.S.



PROPOSED CROSS SECTION
TYPICAL ACCESS CULVERT
N.T.S.



TYPICAL DRAIN CROSS-SECTION
N.T.S.

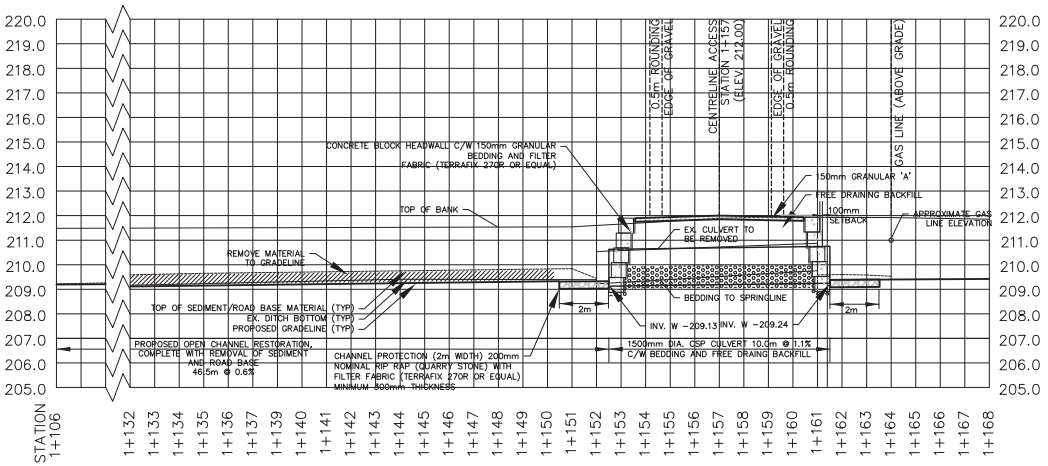
M. GERRITS CONSULTING INC.

No.	REVISIONS	DATE	BY
1	FOR REPORT	AUGUST 15, 2025	MG

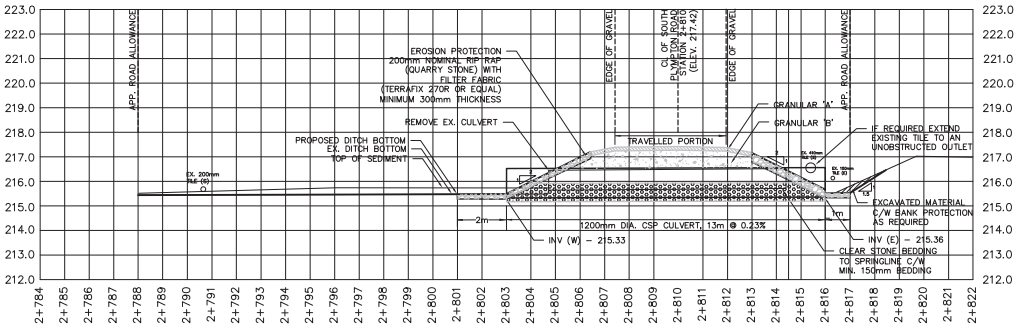
SHEA-FERGUSON DRAIN
TOWN OF PLYMPTON–WYOMING

PROFILE – STATION 2+270 TO STATION 2+820
AND DETAILS

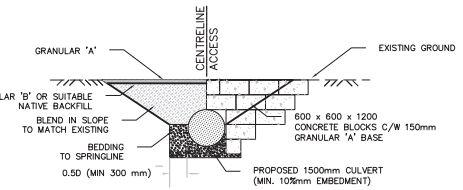
SCALE	1:200
DRAWN	MG
CHECKED	EG
DATE	AUGUST 15, 2025
PROJECT NO.	24-01
DRAWN	MG
SHEET	5 OF 6



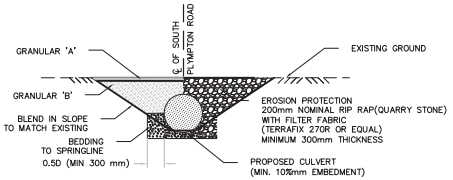
PROFILE ATKINSON ACCESS (EMERGENCY REPLACEMENT)
SCALE 1:200



SOUTH PLYMPTON ROAD CULVERT
CROSS SECTION
1:200



PROPOSED CULVERT BLOCK
ENDWALL END SECTION
N.T.S.



PROPOSED END SECTION
SOUTH PLYMPTON ROAD CULVERT
N.T.S.

LICENSED PROFESSIONAL ENGINEER
M.R.M. GERRITS
AUG 15, 2025
24-01
PROVINCE OF ONTARIO

M. GERRITS CONSULTING INC.

No.	REVISIONS	DATE	BY
1	FOR REPORT	AUGUST 15, 2025	MG

SHEA-FERGUSON DRAIN
TOWN OF PLYMPTON-WYOMING

ATKINSON EMERGENCY REPLACEMENT CULVERT AND SOUTH PLYMPTON ROAD CULVERT DETAILS

SCALE	1:200
DRAWN	MG
CHECKED	EG
DATE	AUGUST 15, 2025
PROJECT NO.	24-01
DRAWN	MG
SHEET	6 OF 6